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ALS Environmental  
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August 29, 2014

Analytical Report for Service Request No: K1407971

Paul Berman  
Anamar Environmental Consulting, Inc.  
2106 NW 67th Place, Suite 5  
Gainesville, FL 32653

**RE: Shipyard Creek**

Dear Paul:

Enclosed are the results of the samples submitted to our laboratory on July 30, 2014. For your reference, these analyses have been assigned our service request number K1407971.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at [www.alsglobal.com](http://www.alsglobal.com). All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3293. You may also contact me via Email at [Shar.Samy@alsglobal.com](mailto:Shar.Samy@alsglobal.com).

Respectfully submitted,

**ALS Group USA Corp. dba ALS Environmental**



Shar Samy, Ph.D.  
Project Manager

SS/kd

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## Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

### **Inorganic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

### **Metals Data Qualifiers**

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.  
  - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.  
  - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

### **Additional Petroleum Hydrocarbon Specific Qualifiers**

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso  
State Certifications, Accreditations, and Licenses**

<b>Agency</b>	<b>Web Site</b>	<b>Number</b>
Alaska DEC UST	<a href="http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx">http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx</a>	UST-040
Arizona DHS	<a href="http://www.azdhs.gov/lab/license/env.htm">http://www.azdhs.gov/lab/license/env.htm</a>	AZ0339
Arkansas - DEQ	<a href="http://www.adeq.state.ar.us/techsvs/labcert.htm">http://www.adeq.state.ar.us/techsvs/labcert.htm</a>	88-0637
California DHS (ELAP)	<a href="http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx">http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx</a>	2795
DOD ELAP	<a href="http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm">http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm</a>	L14-51
Florida DOH	<a href="http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm">http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm</a>	E87412
Hawaii DOH	Not available	-
Idaho DHW	<a href="http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx">http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx</a>	-
ISO 17025	<a href="http://www.pjllabs.com/">http://www.pjllabs.com/</a>	L14-50
Louisiana DEQ	<a href="http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx">http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx</a>	03016
Maine DHS	Not available	WA01276
Michigan DEQ	<a href="http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html">http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html</a>	9949
Minnesota DOH	<a href="http://www.health.state.mn.us/accreditation">http://www.health.state.mn.us/accreditation</a>	053-999-457
Montana DPHHS	<a href="http://www.dphhs.mt.gov/publichealth/">http://www.dphhs.mt.gov/publichealth/</a>	CERT0047
Nevada DEP	<a href="http://ndep.nv.gov/bsdw/labservice.htm">http://ndep.nv.gov/bsdw/labservice.htm</a>	WA01276
New Jersey DEP	<a href="http://www.nj.gov/dep/oqa/">http://www.nj.gov/dep/oqa/</a>	WA005
North Carolina DWQ	<a href="http://www.dwqlab.org/">http://www.dwqlab.org/</a>	605
Oklahoma DEQ	<a href="http://www.deq.state.ok.us/CSDnew/labcert.htm">http://www.deq.state.ok.us/CSDnew/labcert.htm</a>	9801
Oregon – DEQ (NELAP)	<a href="http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx">http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx</a>	WA100010
South Carolina DHEC	<a href="http://www.scdhec.gov/environment/envserv/">http://www.scdhec.gov/environment/envserv/</a>	61002
Texas CEQ	<a href="http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html">http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html</a>	T104704427
Washington DOE	<a href="http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html">http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html</a>	C544
Wisconsin DNR	<a href="http://dnr.wi.gov/">http://dnr.wi.gov/</a>	998386840
Wyoming (EPA Region 8)	<a href="http://www.epa.gov/region8/water/dwhome/wyomingdi.html">http://www.epa.gov/region8/water/dwhome/wyomingdi.html</a>	-
Kelso Laboratory Website	<a href="http://www.alsglobal.com">www.alsglobal.com</a>	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at [www.ALSGlobal.com](http://www.ALSGlobal.com) or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



## Case Narrative

**ALS Environmental—Kelso Laboratory**  
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**ALS ENVIRONMENTAL**

<b>Client:</b>	Anamar Environmental Consulting, Inc.	<b>Service Request No.:</b>	K1407971
<b>Project:</b>	Shipyard Creek	<b>Date Received:</b>	7/30/14
<b>Sample Matrix:</b>	Animal Tissue		

**Case Narrative**

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

**Sample Receipt**

Eighteen animal tissue samples were received for analysis at ALS Environmental on 7/30/14. The samples were received in good condition and consistent with the accompanying chain of custody form, except where noted on the cooler receipt and preservation form included in this report. The samples were stored frozen at -20°C upon receipt at the laboratory.

**Total Metals**

**Matrix Spike Recovery Exceptions:**

The matrix spike recovery of Zinc for sample Nv SYC14-AC Rep.4 was outside the ALS control criteria as a result of the heterogeneous character of the sample. The Relative Percent Difference (RPD) for the replicate analysis supported this. Since the unspiked samples contained high analyte concentrations relative to the amount spiked, the variability between replicates was sufficient to bias the percent recoveries outside normal ALS control criteria. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicated the analysis was in control. No further corrective action was appropriate.

The matrix spike recovery of Silver for sample Nv SYC14-REF Rep.1 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low/high bias in this matrix. No further corrective action was appropriate.

**Relative Percent Difference Exceptions:**

The Relative Percent Difference (RPD) for the replicate analysis of Zinc in samples Nv SYC14-AC Rep.4 and Nv SYC14-REF Rep.1 was outside the project specified control limits. The samples were homogenized, freeze dried, then ground prior to digestion, however this was not sufficient to achieve a completely uniform distribution of Zinc in the tissue.

**Standard Reference Material Exceptions:**

The recovery of Lead in the Standard Reference Material (SRM) N.R.C.C. Dorm-4 was below the normal ALS/Kelso control limit (i.e. 0.259 mg/kg versus a control limit of 0.290 mg/kg). However, the concentration of Lead in the SRM is relatively low compared to the sensitivity of the analytical procedure. The associated QA/QC results (e.g. SRM N.R.C.C. Tort-3, LCS, matrix spike, method blank, calibration standards, etc.) indicate the analysis was in control. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by  \_\_\_\_\_

### **Organotin Compounds**

#### **Sample Notes and Discussion:**

The instrument blank files 0818F024, 0818F036, and 0818F045 were erroneously set to a Continuing Calibration Verification (CCV) vial. As such, no instrument blank was run and a second CCV was instead injected. The second CCV was reported per ALS policy. No evidence of carry over was apparent in the samples. Historically, analyte carry over is not seen for this method. No further correction was deemed necessary.

No other anomalies associated with the analysis of these samples were observed.

### **Polynuclear Aromatic Hydrocarbons by EPA Method 8270**

#### **Elevated Detection Limits:**

The detection limit was elevated for Benzo(a)pyrene in most samples. The chromatograms indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The results were flagged to indicate the matrix interference.

#### **Sample Notes and Discussion:**

The advisory criterion was exceeded for Benzo(a)pyrene in Standard Reference Material (SRM) KWG1411415-6. The true values listed for the SRM are surrogate corrected concentrations while the reported analytical results were not surrogate corrected. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

### **Dioxins and Furans by EPA Method 8290**

The analysis for Dioxins and Furans was performed at ALS Houston, Texas Laboratory. The data for this analysis is included in the corresponding section of this report.

Approved by \_\_\_\_\_





# Chain of Custody

**ALS Environmental—Kelso Laboratory**  
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# CHAIN OF CUSTODY



Shipping: 4770 NE View Dr. Mailing: P.O. Box 216

Port Gamble, WA. 98364

Tel: (360) 297-6045, Fax: (360)297-6901

K1407971

Destination: <b>ALS</b>		Sample Originator (Organization): <b>ENVIRON</b>		Report Results To: <b>ANAMAR</b>		Phone:	
Destination Contact: <b>Shar Samy</b>		PERSON WHO COLLECTED SAMPLE: <b>Hillary Eichler</b>		Contact Name: <b>Paul Berman</b>		Fax:	
Date: <b>7/29/14</b>		Address:		Address:		Email:	
Turn-Around-Time: <b>NA</b>		Phone:		Analyses:		Invoicing To:	
Project Name: <b>Shipyard Creek</b>		Fax:					
Contract/PO:		E-mail:		Please contact Paul Berman for analyte list			

No.	Sample ID	Matrix	Volume & Type of Container	Date & Time	Please contact Paul Berman for analyte list						Preservation	Sample Temp Upon Receipt	LAB ID
1	Mn PreTest Rep. 1	TS	1000mL glass jar	6/27/14, 1015	X						Frozen		
2	Mn PreTest Rep. 2	TS	1000mL glass jar	6/27/14, 1030	X						Frozen		
3	Mn PreTest Rep. 3	TS	1000mL glass jar	6/27/14, 1015	X						Frozen		
4	Mn SYC14-AC Rep. 1	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
5	Mn SYC14-AC Rep. 2	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
6	Mn SYC14-AC Rep. 3	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
7	Mn SYC14-AC Rep. 4	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
8	Mn SYC14-AC Rep. 5	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
9	Mn SYC14-TB Rep. 1	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
10	Mn SYC14-TB Rep. 2	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
11	Mn SYC14-TB Rep. 3	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
12	Mn SYC14-TB Rep. 4	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
13	Mn SYC14-TB Rep. 5	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
14	Mn SYC14-REF Rep. 1	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
15	Mn SYC14-REF Rep. 2	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
16	Mn SYC14-REF Rep. 3	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
17	Mn SYC14-REF Rep. 4	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
18	Mn SYC14-REF Rep. 5	TS	4 oz. glass jar	7/25/14, NA	X						Frozen		
19	Nv PreTest Rep. 1	TS	1000mL glass jar	6/27/14, 1100	X						Frozen		
20	Nv PreTest Rep. 2	TS	1000mL glass jar	6/27/14, 1100	X						Frozen		

<b>Relinquished by:</b>		<b>Received by:</b>		<b>Relinquished by:</b>		<b>Received by:</b>		<b>Matrix Codes</b>	
Print Name: <i>Mary Bacon</i>	Print Name: <i>A. P. ...</i>	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	FW = Fresh Water
Signature: <i>M. Bacon</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:	Signature:	Signature:	Signature:	SB = Salt & Brackish Water
Affiliation: <b>ENVIRON</b>	Affiliation: <i>AS</i>	Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:	SS = Soil & Sediment
Date/Time: <i>7/29/14 1030</i>	Date/Time: <i>7/30/14 1000</i>	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:	TS = Tissue



# CHAIN OF CUSTODY



Shipping: 4770 NE View Dr. Mailing: P.O. Box 216  
 Port Gamble, WA. 98364  
 Tel: (360) 297-6045, Fax: (360)297-6901

121407971

Destination: <b>ALS</b>		Sample Originator (Organization): <b>ENVIRON</b>			Report Results To: <b>ANAMAR</b>			Phone:		
Destination Contact: <b>Shar Samy</b>		PERSON WHO COLLECTED SAMPLE: <b>Hillary Eichler</b>			Contact Name: <b>Paul Berman</b>			Fax:		
Date: <b>7/29/14</b>		Address:			Address:			Email:		
Turn-Around-Time: <b>NA</b>		Phone:			<b>Analyses:</b>			Invoicing To:		
Project Name: <b>Shipyard Creek</b>		Fax:						Comments or Special Instructions:		
Contract/PO:		E-mail:			Please contact Paul Berman for analyte list					
No.	Sample ID	Matrix	Volume & Type of Container	Date & Time				Preservation	Sample Temp Upon Receipt	LAB ID
1	Nv PreTest Rep. 3	TS	1000mL glass jar	6/27/14, 1100	X			Frozen		
2	Nv SYC14-AC Rep. 1	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
3	Nv SYC14-AC Rep. 2	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
4	Nv SYC14-AC Rep. 3	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
5	Nv SYC14-AC Rep. 4	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
6	Nv SYC14-AC Rep. 5	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
7	Nv SYC14-TB Rep. 1	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
8	Nv SYC14-TB Rep. 2	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
9	Nv SYC14-TB Rep. 3	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
10	Nv SYC14-TB Rep. 4	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
11	Nv SYC14-TB Rep. 5	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
12	Nv SYC14-REF Rep. 1	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
13	Nv SYC14-REF Rep. 2	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
14	Nv SYC14-REF Rep. 3	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
15	Nv SYC14-REF Rep. 4	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
16	Nv SYC14-REF Rep. 5	TS	8 oz. glass jar	7/25/14, NA	X			Frozen		
17										
18										
19										
20										
<b>Relinquished by:</b>		<b>Received by:</b>			<b>Relinquished by:</b>			<b>Received by:</b>		<b>Matrix Codes</b> FW = Fresh Water SB = Salt & Brackish Water SS = Soil & Sediment TS = Tissue
Print Name: <b>Mary Bacon</b>		Print Name: <b>A. Pagan</b>			Print Name:			Print Name:		
Signature: <b>M Bacon</b>		Signature: <b>A. Pagan</b>			Signature:			Signature:		
Affiliation: <b>ENVIRON</b>		Affiliation: <b>7/31/14 (100)</b>			Affiliation:			Affiliation:		
Date/Time: <b>7/29/14 1030</b>		Date/Time: <b>AS</b>			Date/Time:			Date/Time:		



### Cooler Receipt and Preservation Form

Client / Project: ENVIRON Service Request K14 7971

Received: 7/30/14 Opened: 7/30/14 By: [Signature] Unloaded: 7/30/14 By: [Signature]

- 1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
- 2. Samples were received in: (circle) Cooler Box Envelope Other NA
- 3. Were custody seals on coolers? NA Y N If yes, how many and where? \_\_\_\_\_
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
<u>6.6</u>	<u>6.6</u>	<u>N/P</u>	<u>-</u>	<u>0</u>	<u>351</u>		<u>770712521456</u>		

- 4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves CARDBOARD
- 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- 6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
- 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- 8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
- 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- 10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
- 11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
- 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		
<u>NV54C14-AC Rep 1</u>				<u>X</u>						
<u>NV54C14-AC Rep 3</u>				<u>X</u>						

Notes, Discrepancies, & Resolutions: ABOVE SAMPLES CONTAINED AND TRANSPORTED INTO 16  
JARS.



# Total Solids

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Analysis Method:** Freeze Dry  
**Prep Method:** None

**Service Request:** K1407971  
**Date Collected:** 06/27/14 - 07/25/14  
**Date Received:** 07/30/14  
**Units:** Percent  
**Basis:** Wet

**Total Solids**

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
Nv PreTest Rep.1	K1407971-001	15.6	-	-	1	08/08/14 01:00	
NV PreTest Rep.2	K1407971-002	15.9	-	-	1	08/08/14 01:00	
NV PreTest Rep.3	K1407971-003	16.4	-	-	1	08/08/14 01:00	
Nv SYC14-AC Rep.1	K1407971-004	16.8	-	-	1	08/08/14 01:00	
Nv SYC14-AC Rep.2	K1407971-005	15.7	-	-	1	08/08/14 01:00	
Nv SYC14-AC Rep.3	K1407971-006	15.0	-	-	1	08/08/14 01:00	
Nv SYC14-AC Rep.4	K1407971-007	14.9	-	-	1	08/08/14 01:00	
Nv SYC14-AC Rep.5	K1407971-008	15.5	-	-	1	08/08/14 01:00	
Nv SYC14-TB Rep.1	K1407971-009	15.7	-	-	1	08/08/14 01:00	
Nv SYC14-TB Rep.2	K1407971-010	15.2	-	-	1	08/08/14 01:00	
Nv SYC14-TB Rep.3	K1407971-011	15.0	-	-	1	08/08/14 01:00	
Nv SYC14-TB Rep.4	K1407971-012	15.5	-	-	1	08/08/14 01:00	
Nv SYC14-TB Rep.5	K1407971-013	15.2	-	-	1	08/08/14 01:00	
Nv SYC14-REF Rep.1	K1407971-014	16.2	-	-	1	08/08/14 01:00	
Nv SYC14-REF Rep.2	K1407971-015	15.3	-	-	1	08/08/14 01:00	
Nv SYC14-REF Rep.3	K1407971-016	15.4	-	-	1	08/08/14 01:00	
Nv SYC14-REF Rep.4	K1407971-017	15.2	-	-	1	08/08/14 01:00	
Nv SYC14-REF Rep.5	K1407971-018	15.2	-	-	1	08/08/14 01:00	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/14  
**Date Received:** 07/30/14  
**Date Analyzed:** 08/08/14

Replicate Sample Summary

Inorganic Parameters

**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Units:** Percent  
**Basis:** Wet

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>MDL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1407971-007DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Total Solids	Freeze Dry	-	-	14.9	15.0	15.0	<1	20

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



# Metals

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)























































































**Metals**  
- 2a -

**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICV Source:** Inorganic Ventures

**CCV Source:** ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	26.1	104	25.0	25.2	101	24.8	99	200.8
Arsenic	25.0	25.9	104	25.0	24.9	100	25.6	102	200.8
Beryllium	2.5	2.6	104	25.0	25.5	102	24.6	98	200.8
Cadmium	12.5	13.6	109	25.0	25.1	100	26.1	104	200.8
Chromium	10.0	10.1	101	25.0	24.3	97	24.8	99	200.8
Copper	12.5	12.9	103	25.0	24.7	99	25.2	101	200.8
Lead	25.0	25.4	102	25.0	24.7	99	23.9	96	200.8
Mercury	5.00	4.90	98	5.00	5.00	100	5.00	100	7471B
Nickel	25.0	25.6	102	25.0	24.5	98	24.5	98	200.8
Selenium	25.0	26.3	105	25.0	24.5	98	25.6	102	200.8
Silver	12.5	13.1	105	25.0	24.8	99	25.3	101	200.8
Thallium	25.0	25.1	100	25.0	24.7	99	23.8	95	200.8
Zinc	25.0	26.4	106	25.0	24.5	98	26.0	104	200.8

**Metals**  
- 2a -

**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICV Source:** Inorganic Ventures

**CCV Source:** ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.0	100	25.3	101	200.8
Arsenic				25.0	25.1	100	24.5	98	200.8
Beryllium				25.0	24.4	98	23.7	95	200.8
Cadmium				25.0	25.8	103	25.9	104	200.8
Chromium				25.0	24.4	98	24.0	96	200.8
Copper				25.0	24.8	99	24.1	96	200.8
Lead				25.0	23.6	94	23.8	95	200.8
Mercury				5.00	5.10	102	5.30	106	7471B
Nickel				25.0	24.0	96	24.1	96	200.8
Selenium				25.0	23.7	95	23.7	95	200.8
Silver				25.0	25.7	103	25.0	100	200.8
Thallium				25.0	23.6	94	23.9	96	200.8
Zinc				25.0	24.8	99	25.6	102	200.8

**Metals**  
- 2a -

**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICV Source:** Inorganic Ventures

**CCV Source:** ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.1	100	25.1	100	200.8
Arsenic				25.0	24.8	99	24.8	99	200.8
Beryllium				25.0	23.7	95	25.3	101	200.8
Cadmium				25.0	25.9	104	26.1	104	200.8
Chromium				25.0	24.5	98	24.7	99	200.8
Copper				25.0	24.7	99	24.3	97	200.8
Lead				25.0	23.7	95	23.7	95	200.8
Mercury				5.00	5.20	104	5.30	106	7471B
Nickel				25.0	24.1	96	24.3	97	200.8
Selenium				25.0	24.4	98	24.6	98	200.8
Silver				25.0	25.0	100	25.2	101	200.8
Thallium				25.0	24.0	96	23.5	94	200.8
Zinc				25.0	25.2	101	24.6	98	200.8

**Metals**  
- 2a -

**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICV Source:** Inorganic Ventures

**CCV Source:** ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.0	100			200.8
Arsenic				25.0	25.0	100			200.8
Beryllium				25.0	23.9	96			200.8
Cadmium				25.0	25.9	104			200.8
Chromium				25.0	24.1	96			200.8
Copper				25.0	24.4	98			200.8
Lead				25.0	24.0	96			200.8
Nickel				25.0	23.5	94			200.8
Selenium				25.0	24.1	96			200.8
Silver				25.0	25.3	101			200.8
Thallium				25.0	23.9	96			200.8
Zinc				25.0	24.7	99			200.8



**Metals**

- 2b -

**CRDL STANDARD FOR AA AND ICP**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Antimony				0.10	0.12	120		
Arsenic				1.00	0.97	97		
Beryllium				0.04	0.039	98		
Cadmium				0.04	0.041	102		
Chromium				0.40	0.40	100		
Copper				0.20	0.21	105		
Lead				0.04	0.040	100		
Mercury				0.10	0.10	100		
Nickel				0.40	0.38	95		
Selenium				2.00	1.94	97		
Silver				0.040	0.043	108		
Thallium				0.04	0.04	100		
Zinc				1.00	0.98	98		

**Metals**

- 3 -

**BLANKS**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**Preparation Blank Matrix (soil/water):** WATER

**Preparation Blank Concentration Units (ug/L or mg/kg):** ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	0.012	J	0.004	U	0.013	J	0.013	J	200.8
Arsenic	0.04	U	0.04	U	0.04	U	0.04	U	200.8
Beryllium	0.006	U	0.006	U	0.006	U	0.006	U	200.8
Cadmium	0.004	U	0.004	U	0.004	U	0.004	U	200.8
Chromium	0.04	U	0.04	U	0.04	U	0.04	U	200.8
Copper	0.04	U	0.04	U	0.04	U	0.04	U	200.8
Lead	0.0010	U	0.0010	U	0.0010	U	0.0010	U	200.8
Mercury	0.02	U	0.02	U	0.02	U	0.02	U	7471B
Nickel	0.04	U	0.04	U	0.04	U	0.04	U	200.8
Selenium	0.4	U	0.4	U	0.4	U	0.4	U	200.8
Silver	0.012	U	0.012	U	0.012	U	0.012	U	200.8
Thallium	0.0018	U	0.0018	U	0.0018	U	0.0018	U	200.8
Zinc	0.12	U	0.12	U	0.12	U	0.60	J	200.8

**Metals**

- 3 -

**BLANKS**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**Preparation Blank Matrix (soil/water):** WATER

**Preparation Blank Concentration Units (ug/L or mg/kg):** ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Method
			1	C	2	C	3	C	
Antimony			0.014	J	0.018	J	0.015	J	200.8
Arsenic			0.04	U	0.04	U	0.04	U	200.8
Beryllium			0.006	U	0.006	U	0.006	U	200.8
Cadmium			0.004	U	0.004	U	0.004	U	200.8
Chromium			0.04	U	0.04	U	0.04	U	200.8
Copper			0.04	U	0.04	U	0.04	U	200.8
Lead			0.0014	J	0.0020	J	0.0011	J	200.8
Mercury			0.02	U	-0.02	J	0.02	U	7471B
Nickel			0.04	U	0.04	U	0.04	U	200.8
Selenium			0.4	U	0.4	U	0.4	U	200.8
Silver			0.012	U	0.012	U	0.012	U	200.8
Thallium			0.0018	U	0.0018	U	0.0018	U	200.8
Zinc			0.12	U	0.12	U	0.12	U	200.8

**Metals**

- 3 -

**BLANKS**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**Preparation Blank Matrix (soil/water):** WATER

**Preparation Blank Concentration Units (ug/L or mg/kg):** ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Method
			1	C	2	C	3	C	
Antimony			0.014	J					200.8
Arsenic			0.04	U					200.8
Beryllium			0.006	U					200.8
Cadmium			0.004	U					200.8
Chromium			0.04	U					200.8
Copper			0.04	U					200.8
Lead			0.0010	U					200.8
Nickel			0.04	U					200.8
Selenium			0.4	U					200.8
Silver			0.012	U					200.8
Thallium			0.0018	U					200.8
Zinc			0.12	U					200.8

**Metals**  
**- 5A -**  
**SPIKE SAMPLE RECOVERY**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971  
**Project No.:** NA      **Units:** MG/KG  
**Project Name:** Shipyard Creek      **Basis:** DRY  
**Matrix:** TISSUE

**Sample Name:** Nv SYC14-AC Rep.4S

**Lab Code:** K1407971-007S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	50.608		0.061		49.342	102.4		200.8
Arsenic	70 - 130	35.88		17.82		16.48	109.6		200.8
Beryllium	70 - 130	5.100		0.003	U	4.934	103.4		200.8
Cadmium	70 - 130	5.523		0.272		4.934	106.4		200.8
Chromium	70 - 130	25.49		4.62		19.74	105.7		200.8
Copper	70 - 130	78.69		53.40		24.67	102.5		200.8
Lead	70 - 130	44.8294		0.3302		49.3421	90.2		200.8
Mercury	80 - 120	0.628		0.156		0.50	94.4		7471B
Nickel	70 - 130	51.42		3.32		49.34	97.5		200.8
Selenium	70 - 130	20.5		2.0		16.5	112.1		200.8
Silver	70 - 130	3.984		0.152		4.934	77.7		200.8
Thallium	70 - 130	14.5879		0.0010	J	16.4803	88.5		200.8
Zinc	70 - 130	114.68		162.85		49.34	-97.6	N	200.8

An empty field in the Control Limit column indicates the control limit is not applicable

**Metals**  
**- 5A -**  
**SPIKE SAMPLE RECOVERY**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971  
**Project No.:** NA      **Units:** MG/KG  
**Project Name:** Shipyard Creek      **Basis:** DRY  
**Matrix:** TISSUE

**Sample Name:** Nv SYC14-REF Rep.1S

**Lab Code:** K1407971-014S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	48.089		0.012	J	50.000	96.2		200.8
Arsenic	70 - 130	34.25		18.25		16.70	95.8		200.8
Beryllium	70 - 130	4.886		0.003	U	5.000	97.7		200.8
Cadmium	70 - 130	5.336		0.278		5.000	101.2		200.8
Chromium	70 - 130	19.50		0.60		20.00	94.5		200.8
Copper	70 - 130	29.13		7.20		25.00	87.7		200.8
Lead	70 - 130	42.8756		0.2662		50.0000	85.2		200.8
Nickel	70 - 130	46.51		0.81		50.00	91.4		200.8
Selenium	70 - 130	19.2		2.0		16.7	103.0		200.8
Silver	70 - 130	3.143		0.138		5.000	60.1	N	200.8
Thallium	70 - 130	13.7113		0.0009	U	16.7000	82.1		200.8
Zinc	70 - 130	216.43		169.23		50.00	94.4		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

**Metals**  
**- 6 -**  
**DUPLICATES**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971  
**Project No.:** NA      **Units:** MG/KG  
**Project Name:** Shipyard Creek      **Basis:** DRY  
**Matrix:** TISSUE

**Sample Name:** Nv SYC14-AC Rep.4D      **Lab Code:** K1407971-007D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.061		0.060		1.7		200.8
Arsenic	30	17.82		17.70		0.7		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium	30	0.272		0.263		3.4		200.8
Chromium	30	4.62		4.35		6.0		200.8
Copper	30	53.40		50.60		5.4		200.8
Lead	30	0.3302		0.3351		1.5		200.8
Mercury		0.156		0.156		0.0		7471B
Nickel	30	3.32		3.14		5.6		200.8
Selenium		2.0		2.0		0.0		200.8
Silver	30	0.152		0.140		8.2		200.8
Thallium		0.0010	J	0.0009	U	200.0		200.8
Zinc	30	162.85		57.36		95.8	*	200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

**Metals**  
**- 6 -**  
**DUPLICATES**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971  
**Project No.:** NA      **Units:** MG/KG  
**Project Name:** Shipyard Creek      **Basis:** DRY  
**Matrix:** TISSUE

**Sample Name:** Nv SYC14-REF Rep.1D      **Lab Code:** K1407971-014D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.012	J	0.011	J	8.7		200.8
Arsenic	30	18.25		18.04		1.2		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium	30	0.278		0.279		0.4		200.8
Chromium		0.60		0.68		12.5		200.8
Copper	30	7.20		7.11		1.3		200.8
Lead	30	0.2662		0.2670		0.3		200.8
Nickel		0.81		0.83		2.4		200.8
Selenium		2.0		2.1		4.9		200.8
Silver	30	0.138		0.126		9.1		200.8
Thallium		0.0009	U	0.0009	U			200.8
Zinc	30	169.23		333.07		65.2	*	200.8

An empty field in the Control Limit column indicates the control limit is not applicable.



**Metals**

- 7 -

**LABORATORY CONTROL SAMPLE**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**Aqueous LCS Source:** ALS MIXED

**Solid LCS Source:** ERA D065540

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	2000.0	2012.7	100.6					
Arsenic	625.0	661.3	105.8					
Beryllium	200.0	187.7	93.8					
Cadmium	200.0	213.5	106.8					
Chromium	800.0	795.1	99.4					
Copper	1000.0	993.7	99.4					
Lead	2000.0	1903.2	95.2					
Mercury	5	4.60	92.0					
Nickel	2000.0	1938.2	96.9					
Selenium	625.0	655.2	104.8					
Silver	200.0	203.1	101.6					
Thallium	625.0	618.7	99.0					
Zinc	2000.0	2030.3	101.5					

**ALS Group USA, Corp.**  
 dba ALS Environmental  
 QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**LCS Matrix:** Tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 08/14/14  
**Date Analyzed:** 08/19/14

Standard Reference Material Summary  
 Total Metals

Sample Name: Standard Reference Material Units: mg/Kg (ppm)  
 Lab Code: K1407971-SRM1 Basis: Dry  
 Test Notes: Dorm-4 Solids = 94.5%  
 Source: N.R.C.C. Dorm-4

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	200.8	6.80	7.42	109	4.93 - 8.93	
Cadmium	PSEP Tissue	200.8	0.306	0.332	108	0.233 - 0.385	
Chromium	PSEP Tissue	200.8	1.87	1.73	93	1.37 - 2.44	
Copper	PSEP Tissue	200.8	15.9	16.0	101	12.0 - 20.2	
Lead	PSEP Tissue	200.8	0.416	0.259	62	0.290 - 0.563	X
Nickel	PSEP Tissue	200.8	1.36	1.28	94	0.912 - 1.90	
Selenium	PSEP Tissue	200.8	3.56	4.19	118	2.58 - 4.68	
Zinc	PSEP Tissue	200.8	52.20	56.2	108	39.2 - 66.5	

**ALS Group USA, Corp.**  
**dba ALS Environmental**  
**QA/QC Report**

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**LCS Matrix:** Tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 08/14,15/14  
**Date Analyzed:** 08/18,19/14

Standard Reference Material Summary  
 Total Metals

Sample Name: Standard Reference Material Units: mg/Kg (ppm)  
 Lab Code: K1407971-SRM2 Basis: Dry  
 Test Notes: Tort-3 Solids = 99.1%

Source: N.R.C.C. Tort-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	200.8	59.5	66.2	111	44.6 - 76.0	
Cadmium	PSEP Tissue	200.8	42.3	41.7	99	32.4 - 52.9	
Chromium	PSEP Tissue	200.8	1.95	1.64	84	1.37 - 2.63	
Copper	PSEP Tissue	200.8	497	428	86	380 - 623	
Lead	PSEP Tissue	200.8	0.225	0.181	80	0.166 - 0.292	
Mercury	PSEP Tissue	7471B	0.41	0.312	76	0.28 - 0.56	
Nickel	PSEP Tissue	200.8	5.3	4.58	86	4.05 - 6.65	
Selenium	PSEP Tissue	200.8	10.90	11.2	103	7.9 - 14.3	
Zinc	PSEP Tissue	200.8	136	132	97	104 - 170	

**Metals**

- 10 -

**DETECTION LIMITS**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICP/ICP-MS ID #:**

**GFAA ID #:**

**AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

**Comments:**

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**Metals**

- 10 -

**DETECTION LIMITS**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**ICP/ICP-MS ID #:** K-ICP-MS-04

**GFAA ID #:**

**AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Antimony	123		0.100	0.004	MS
Arsenic	75		1.00	0.04	MS
Beryllium	9		0.040	0.006	MS
Cadmium	111		0.040	0.004	MS
Chromium	52		0.40	0.04	MS
Copper	65		0.20	0.04	MS
Lead	208		0.0400	0.0010	MS
Nickel	60		0.40	0.04	MS
Selenium	78		2.0	0.4	MS
Silver	107		0.040	0.012	MS
Thallium	205		0.0400	0.0018	MS
Zinc	66		1.00	0.12	MS

**Comments:**

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Metals

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Anamar Environmental Consulting Service Request: K1407971

Project No.: NA

Project Name: Shipyard Creek

ICP ID Number: K-ICP-MS-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	45.000	3000	200.8
Arsenic	45.000	3000	200.8
Beryllium	45.000	3000	200.8
Cadmium	45.000	3000	200.8
Chromium	45.000	3000	200.8
Copper	45.000	3000	200.8
Lead	45.000	3000	200.8
Nickel	45.000	3000	200.8
Selenium	45.000	3000	200.8
Silver	45.000	900	200.8
Thallium	45.000	3000	200.8
Zinc	45.000	3000	200.8

Comments:

**Metals**  
**-13-**  
**PREPARATION LOG**

Client: Anamar Environmental Consulting

Service Request: K1407971

Project No.: NA

Project Name: Shipyard Creek

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1407971-001	08/14/14	0.3010	30.0
K1407971-002	08/14/14	0.3000	30.0
K1407971-003	08/14/14	0.3030	30.0
K1407971-004	08/14/14	0.3040	30.0
K1407971-005	08/14/14	0.3040	30.0
K1407971-006	08/14/14	0.3020	30.0
K1407971-007	08/14/14	0.3000	30.0
K1407971-007D	08/14/14	0.3020	30.0
K1407971-007S	08/14/14	0.3040	30.0
K1407971-008	08/14/14	0.3000	30.0
K1407971-009	08/14/14	0.3020	30.0
K1407971-010	08/14/14	0.3020	30.0
K1407971-011	08/14/14	0.3030	30.0
K1407971-012	08/14/14	0.3020	30.0
K1407971-013	08/14/14	0.3050	30.0
K1407971-014	08/14/14	0.3000	30.0
K1407971-014D	08/14/14	0.3000	30.0
K1407971-014S	08/14/14	0.3000	30.0
K1407971-015	08/14/14	0.3040	30.0
K1407971-016	08/14/14	0.3020	30.0
K1407971-017	08/14/14	0.3000	30.0
K1407971-018	08/14/14	0.3040	30.0
K1407971-MB	08/14/14	0.3000	30.0
K1407971-SRM1	08/14/14	0.30	30.0
K1407971-SRM2	08/14/14	0.30	30.0
LCSW	08/14/14	50.0	50.0

**Metals**  
**-13-**  
**PREPARATION LOG**

**Client:** Anamar Environmental Consulting

**Service Request:** K1407971

**Project No.:** NA

**Project Name:** Shipyard Creek

**Method:** CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1407971-001	08/15/14	0.5050	50.0
K1407971-002	08/15/14	0.5000	50.0
K1407971-003	08/15/14	0.5010	50.0
K1407971-004	08/15/14	0.5090	50.0
K1407971-005	08/15/14	0.5080	50.0
K1407971-006	08/15/14	0.5020	50.0
K1407971-007	08/15/14	0.5010	50.0
K1407971-007D	08/15/14	0.5010	50.0
K1407971-007S	08/15/14	0.5000	50.0
K1407971-008	08/15/14	0.4990	50.0
K1407971-009	08/15/14	0.5030	50.0
K1407971-010	08/15/14	0.5010	50.0
K1407971-011	08/15/14	0.5030	50.0
K1407971-012	08/15/14	0.5000	50.0
K1407971-013	08/15/14	0.5040	50.0
K1407971-014	08/15/14	0.5030	50.0
K1407971-015	08/15/14	0.5000	50.0
K1407971-016	08/15/14	0.5000	50.0
K1407971-017	08/15/14	0.5070	50.0
K1407971-018	08/15/14	0.5020	50.0
K1407971-MB	08/15/14	0.5000	50.0
K1407971-SRM1	08/15/14	0.4990	50.0
LCSW	08/15/14	20.0	20.0



**Metals**  
- 14 -

**ANALYSIS RUN LOG**

Client: Anamar Environmental Consulting

Service Request: K1407971

Project No.: NA

Run Number: 081814B HG2

Project Name: Shipyard Creek

Instrument ID Number: K-CVAA-02

Method: CV

Start Date: 08/18/14

End Date: 08/18/14

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T L	V	Z N	C N
Calibration Blank	1.0	11:36															X										
Standard #1	1.0	11:37															X										
Standard #2	1.0	11:39															X										
Standard #3	1.0	11:40															X										
Standard #4	1.0	11:42															X										
Standard #5	1.0	11:44															X										
Standard #6	1.0	11:45															X										
ICV1	1.0	11:47															X										
ICB1	1.0	11:49															X										
CRDL1	1.0	11:50															X										
CCV1	1.0	11:52															X										
CCB1	1.0	11:54															X										
K1407971-MB	2.0	11:55															X										
LCSW	2.0	11:57															X										
K1407971-SRM1	2.0	11:58																									
ZZZZZZ	2.0	12:00																									
ZZZZZZ	2.0	12:02																									
ZZZZZZ	2.0	12:03																									
ZZZZZZ	2.0	12:05																									
ZZZZZZ	2.0	12:06																									
K1407971-001	2.0	12:08															X										
ZZZZZZ	2.0	12:10																									
CCV2	1.0	12:11															X										
CCB2	1.0	12:13															X										
K1407971-002	2.0	12:15															X										
ZZZZZZ	2.0	12:16																									
K1407971-003	2.0	12:18															X										
ZZZZZZ	2.0	12:19																									
K1407971-004	2.0	12:21															X										
ZZZZZZ	2.0	12:23																									
K1407971-005	2.0	12:24															X										
ZZZZZZ	2.0	12:26																									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**

- 14 -

**ANALYSIS RUN LOG**

Client: Anamar Environmental Consulting

Service Request: K1407971

Project No.: NA

Run Number: 081814B HG2

Project Name: Shipyard Creek

Instrument ID Number: K-CVAA-02

Method: CV

Start Date: 08/18/14

End Date: 08/18/14

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
K1407971-006	2.0	12:27															X										
ZZZZZZ	2.0	12:29																									
CCV3	1.0	12:31															X										
CCB3	1.0	12:32															X										
K1407971-007	2.0	12:34															X										
ZZZZZZ	2.0	12:36																									
K1407971-007D	2.0	12:37															X										
ZZZZZZ	2.0	12:39																									
K1407971-007S	2.0	12:41															X										
ZZZZZZ	2.0	12:42																									
K1407971-008	2.0	12:44															X										
ZZZZZZ	2.0	12:45																									
K1407971-009	2.0	12:47															X										
ZZZZZZ	2.0	12:49																									
CCV4	1.0	12:50															X										
CCB4	1.0	12:52															X										
K1407971-010	2.0	12:53															X										
ZZZZZZ	2.0	12:55																									
K1407971-011	2.0	12:57															X										
ZZZZZZ	2.0	12:58																									
K1407971-012	2.0	13:00															X										
ZZZZZZ	2.0	13:02																									
K1407971-013	2.0	13:03															X										
ZZZZZZ	2.0	13:05																									
K1407971-014	2.0	13:06															X										
ZZZZZZ	2.0	13:08																									
CCV5	1.0	13:10															X										
CCB5	1.0	13:11															X										
K1407971-015	2.0	13:13															X										
ZZZZZZ	2.0	13:14																									
K1407971-016	2.0	13:16															X										
ZZZZZZ	2.0	13:18																									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**  
**- 14 -**

**ANALYSIS RUN LOG**

Client: Anamar Environmental Consulting      Service Request: K1407971  
Project No.: NA      Run Number: 081814B HG2  
Project Name: Shipyard Creek

Instrument ID Number: K-CVAA-02      Method: CV  
Start Date: 08/18/14      End Date: 08/18/14

Sample No.	D/F	Time	% R	Analytes																																
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S E	A G	N A	T L	V	Z N	C N									
K1407971-017	2.0	13:19																									X									
ZZZZZZ	2.0	13:21																																		
K1407971-018	2.0	13:23																									X									
ZZZZZZ	2.0	13:24																																		
CCV6	1.0	13:26																								X										
CCB6	1.0	13:28																								X										

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**  
- 14 -

**ANALYSIS RUN LOG**

Client: Anamar Environmental Consulting Service Request: K1407971  
 Project No.: NA Run Number: 081914b  
 Project Name: Shipyard Creek

Instrument ID Number: K-ICP-MS-04

Method: MS

Start Date: 08/19/14

End Date: 08/19/14

Sample No.	D/F	Time	% R	Analytes																				
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V
Blank	1.0	16:13			X	X		X	X	X		X	X				X	X	X		X		X	
Standard 1	1.0	16:17			X	X		X	X	X		X	X				X	X	X		X		X	
ICV1	1.0	16:22			X	X		X	X	X		X	X				X	X	X		X		X	
CCV1	1.0	16:26			X	X		X	X	X		X	X				X	X	X		X		X	
ICB1	1.0	16:31			X	X		X	X	X		X	X				X	X	X		X		X	
CCB1	1.0	16:36			X	X		X	X	X		X	X				X	X	X		X		X	
CRA	1.0	16:40			X	X		X	X	X		X	X				X	X	X		X		X	
ZZZZZZ	5.0	16:45																						
ZZZZZZ	5.0	16:49																						
ZZZZZZ	5.0	16:54																						
ZZZZZZ	5.0	16:58																						
ZZZZZZ	5.0	17:03																						
ZZZZZZ	5.0	17:08																						
ZZZZZZ	5.0	17:12																						
ZZZZZZ	5.0	17:17																						
CCV2	1.0	17:21			X	X		X	X	X		X	X				X	X	X		X		X	
CCB2	1.0	17:26			X	X		X	X	X		X	X				X	X	X		X		X	
ZZZZZZ	5.0	17:31																						
ZZZZZZ	5.0	17:35																						
ZZZZZZ	5.0	17:40																						
ZZZZZZ	5.0	17:44																						
ZZZZZZ	5.0	17:49																						
ZZZZZZ	20.0	17:53																						
ZZZZZZ	5.0	17:58																						
ZZZZZZ	5.0	18:03																						
ZZZZZZ	5.0	18:07																						
ZZZZZZ	5.0	18:12																						
CCV3	1.0	18:16			X	X		X	X	X		X	X				X	X	X		X		X	
CCB3	1.0	18:21			X	X		X	X	X		X	X				X	X	X		X		X	
ZZZZZZ	5.0	18:26																						
ZZZZZZ	5.0	18:30																						
ZZZZZZ	5.0	18:35																						

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**  
- 14 -

**ANALYSIS RUN LOG**

Client: Anamar Environmental Consulting      Service Request: K1407971  
Project No.: NA      Run Number: 081914b  
Project Name: Shipyard Creek

Instrument ID Number: K-ICP-MS-04

Method: MS

Start Date: 08/19/14

End Date: 08/19/14

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
ZZZZZZ	5.0	18:39																													
ZZZZZZ	5.0	18:44																													
ZZZZZZ	5.0	18:48																													
ZZZZZZ	5.0	18:53																													
ZZZZZZ	5.0	18:58																													
K1407971-MB	5.0	19:02		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-001	5.0	19:07		X	X		X	X		X		X	X					X		X	X		X		X		X				
CCV4	1.0	19:11		X	X		X	X		X		X	X					X		X	X		X		X		X				
CCB4	1.0	19:16		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-002	5.0	19:20		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-003	5.0	19:25		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-004	5.0	19:30		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-005	5.0	19:34		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-006	5.0	19:39		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-007	5.0	19:43		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-007D	5.0	19:48		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-007S	5.0	19:53		X	X		X	X		X		X	X					X		X	X		X		X		X				
LCSW	20.0	19:57		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-SRM1	5.0	20:02																													
CCV5	1.0	20:06		X	X		X	X		X		X	X					X		X	X		X		X		X				
CCB5	1.0	20:11		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-SRM2	5.0	20:15																													
K1407971-008	5.0	20:20		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-009	5.0	20:25		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-010	5.0	20:29		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-011	5.0	20:34		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-012	5.0	20:38		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-013	5.0	20:43		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-014	5.0	20:47		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-014D	5.0	20:52		X	X		X	X		X		X	X					X		X	X		X		X		X				
K1407971-014S	5.0	20:57		X	X		X	X		X		X	X					X		X	X		X		X		X				
CCV6	1.0	21:01		X	X		X	X		X		X	X					X		X	X		X		X		X				

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**  
- 14 -

**ANALYSIS RUN LOG**

**Client:** Anamar Environmental Consulting      **Service Request:** K1407971  
**Project No.:** NA      **Run Number:** 081914b  
**Project Name:** Shipyard Creek

**Instrument ID Number:** K-ICP-MS-04

**Method:** MS

**Start Date:** 08/19/14

**End Date:** 08/19/14

Sample No.	D/F	Time	% R	Analytes																				
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V
CCB6	1.0	21:06			X	X		X	X	X		X	X				X	X	X		X	X		
K1407971-015	5.0	21:10			X	X		X	X	X		X	X				X	X	X		X	X		
K1407971-016	5.0	21:15			X	X		X	X	X		X	X				X	X	X		X	X		
K1407971-017	5.0	21:20			X	X		X	X	X		X	X				X	X	X		X	X		
K1407971-018	5.0	21:24			X	X		X	X	X		X	X				X	X	X		X	X		
ZZZZZZ	1.0	21:29																						
CCV7	1.0	21:33			X	X		X	X	X		X	X				X	X	X		X	X		
CCB7	1.0	21:38			X	X		X	X	X		X	X				X	X	X		X	X		

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

**Metals**

**15-IN**

**ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY**

Lab Name: ALS Group USA, Corp. Contract: \_\_\_\_\_

Lab Code: ALSK Case No.: \_\_\_\_\_ NRAS No.: \_\_\_\_\_ SDG NO.: K1407971

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 08/19/2014 End Date: 08/19/2014

Sample No.	Client ID	Time	Internal Standards %RI For:								
			Element Li-K1_6 Q	Element Ge-K2_72 Q	Element Ge-K3_72 Q	Element RhK3_103 Q	Element In-K2_115 Q	Element In-K1_115 Q			
Blank	Blank	1613	100	100	100	100	100	100	100		
Standard 1	Standard 1	1617	99	99	99	101	102	101			
ICV1	ICV1	1622	99	100	101	100	101	101			
CCV1	CCV	1626	98	98	101	101	102	103			
ICB1	ICB1	1631	96	99	99	99	99	100			
CCB1	CCB	1636	96	98	99	99	98	102			
CRA	CRA	1640	100	98	98	101	100	99			
ZZZZZZ	ZZZZZZ	1645									
ZZZZZZ	ZZZZZZ	1649									
ZZZZZZ	ZZZZZZ	1654									
ZZZZZZ	ZZZZZZ	1658									
ZZZZZZ	ZZZZZZ	1703									
ZZZZZZ	ZZZZZZ	1708									
ZZZZZZ	ZZZZZZ	1712									
ZZZZZZ	ZZZZZZ	1717									
CCV2	CCV	1721	104	97	97	99	99	108			
CCB2	CCB	1726	103	97	98	96	99	104			
ZZZZZZ	ZZZZZZ	1731									
ZZZZZZ	ZZZZZZ	1735									
ZZZZZZ	ZZZZZZ	1740									
ZZZZZZ	ZZZZZZ	1744									
ZZZZZZ	ZZZZZZ	1749									
ZZZZZZ	ZZZZZZ	1753									
ZZZZZZ	ZZZZZZ	1758									
ZZZZZZ	ZZZZZZ	1803									
ZZZZZZ	ZZZZZZ	1807									
ZZZZZZ	ZZZZZZ	1812									
CCV3	CCV	1816	107	97	97	97	99	109			
CCB3	CCB	1821	102	95	96	97	98	102			
ZZZZZZ	ZZZZZZ	1826									
ZZZZZZ	ZZZZZZ	1830									
ZZZZZZ	ZZZZZZ	1835									
ZZZZZZ	ZZZZZZ	1839									
ZZZZZZ	ZZZZZZ	1844									
ZZZZZZ	ZZZZZZ	1848									
ZZZZZZ	ZZZZZZ	1853									
ZZZZZZ	ZZZZZZ	1858									
K1407971-MB	Method Blank	1902	106	96	99	99	99	107			
K1407971-001	Nv PreTest Rep.1	1907	104	92	93	92	94	100			
CCV4	CCV	1911	107	98	98	98	99	106			
CCB4	CCB	1916	100	94	97	97	96	102			
K1407971-002	NV PreTest Rep.2	1920	105	92	93	92	93	96			
K1407971-003	NV PreTest Rep.3	1925	112	94	94	92	95	101			
K1407971-004	Nv SYC14-AC	1930	109	93	93	92	93	101			

**Metals**

**15-IN**

**ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY**

Lab Name: ALS Group USA, Corp. Contract: \_\_\_\_\_  
 Lab Code: ALSK Case No.: \_\_\_\_\_ NRAS No.: \_\_\_\_\_ SDG NO.: K1407971  
 ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 08/19/2014 End Date: 08/19/2014

Sample No.	Client ID	Time	Internal Standards %RI For:							
			Element Li-K1_6 Q	Element Ge-K2_72 Q	Element Ge-K3_72 Q	Element RhK3_103 Q	Element In-K2_115 Q	Element In-K1_115 Q		
K1407971-005	Nv SYC14-AC	1934	110	93	94	92	94	103		
K1407971-006	Nv SYC14-AC	1939	110	94	96	93	94	99		
K1407971-007	Nv SYC14-AC	1943	108	92	93	92	95	102		
K1407971-007D	Nv SYC14-AC	1948	103	92	94	91	94	103		
K1407971-007S	Nv SYC14-AC	1953	102	91	91	90	93	100		
LCSW	Lab Control	1957	108	95	95	96	98	104		
K1407971-SRM1	Standard	2002	104	95	94	93	96	103		
CCV5	CCV	2006	107	95	96	98	97	106		
CCB5	CCB	2011	102	94	94	96	96	102		
K1407971-SRM2	Standard	2015	104	94	95	93	95	104		
K1407971-008	Nv SYC14-AC	2020	109	93	93	92	95	101		
K1407971-009	Nv SYC14-TB	2025	107	92	93	92	94	102		
K1407971-010	Nv SYC14-TB	2029	106	91	93	92	93	95		
K1407971-011	Nv SYC14-TB	2034	106	89	90	89	91	98		
K1407971-012	Nv SYC14-TB	2038	107	91	91	90	92	100		
K1407971-013	Nv SYC14-TB	2043	106	91	92	90	92	99		
K1407971-014	Nv SYC14-REF	2047	104	91	92	91	94	101		
K1407971-014D	Nv SYC14-REF	2052	109	93	93	93	93	101		
K1407971-014S	Nv SYC14-REF	2057	103	91	92	90	92	102		
CCV6	CCV	2101	101	96	95	97	96	106		
CCB6	CCB	2106	103	93	94	96	97	102		
K1407971-015	Nv SYC14-REF	2110	104	91	91	89	93	97		
K1407971-016	Nv SYC14-REF	2115	104	90	91	90	91	99		
K1407971-017	Nv SYC14-REF	2120	106	90	90	91	92	99		
K1407971-018	Nv SYC14-REF	2124	104	89	90	89	91	98		
ZZZZZZ	ZZZZZZ	2129								
CCV7	CCV	2133	105	94	95	96	97	104		
CCB7	CCB	2138	103	92	95	96	96	102		



Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: \_\_\_\_\_  
 Lab Code: ALSK Case No.: \_\_\_\_\_ NRAS No.: \_\_\_\_\_ SDG NO.: K1407971  
 ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 08/19/2014 End Date: 08/19/2014

Sample No.	Client ID	Time	Internal Standards %RI For:																	
			Element LuK1_175	Q	Element	Q	Element	Q	Element	Q	Element	Q								
Blank	Blank	1613	100																	
Standard 1	Standard 1	1617	99																	
ICV1	ICV1	1622	101																	
CCV1	CCV	1626	100																	
ICB1	ICB1	1631	99																	
CCB1	CCB	1636	99																	
CRA	CRA	1640	99																	
ZZZZZZ	ZZZZZZ	1645																		
ZZZZZZ	ZZZZZZ	1649																		
ZZZZZZ	ZZZZZZ	1654																		
ZZZZZZ	ZZZZZZ	1658																		
ZZZZZZ	ZZZZZZ	1703																		
ZZZZZZ	ZZZZZZ	1708																		
ZZZZZZ	ZZZZZZ	1712																		
ZZZZZZ	ZZZZZZ	1717																		
CCV2	CCV	1721	102																	
CCB2	CCB	1726	100																	
ZZZZZZ	ZZZZZZ	1731																		
ZZZZZZ	ZZZZZZ	1735																		
ZZZZZZ	ZZZZZZ	1740																		
ZZZZZZ	ZZZZZZ	1744																		
ZZZZZZ	ZZZZZZ	1749																		
ZZZZZZ	ZZZZZZ	1753																		
ZZZZZZ	ZZZZZZ	1758																		
ZZZZZZ	ZZZZZZ	1803																		
ZZZZZZ	ZZZZZZ	1807																		
ZZZZZZ	ZZZZZZ	1812																		
CCV3	CCV	1816	103																	
CCB3	CCB	1821	99																	
ZZZZZZ	ZZZZZZ	1826																		
ZZZZZZ	ZZZZZZ	1830																		
ZZZZZZ	ZZZZZZ	1835																		
ZZZZZZ	ZZZZZZ	1839																		
ZZZZZZ	ZZZZZZ	1844																		
ZZZZZZ	ZZZZZZ	1848																		
ZZZZZZ	ZZZZZZ	1853																		
ZZZZZZ	ZZZZZZ	1858																		
K1407971-MB	Method Blank	1902	102																	
K1407971-001	Nv PreTest Rep.1	1907	99																	
CCV4	CCV	1911	102																	
CCB4	CCB	1916	99																	
K1407971-002	NV PreTest Rep.2	1920	98																	
K1407971-003	NV PreTest Rep.3	1925	101																	
K1407971-004	Nv SYC14-AC	1930	101																	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: \_\_\_\_\_

Lab Code: ALSK Case No.: \_\_\_\_\_ NRAS No.: \_\_\_\_\_ SDG NO.: K1407971

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 08/19/2014 End Date: 08/19/2014

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element LuK1_175	Q	Element	Q	Element	Q	Element	Q	Element	Q		
K1407971-005	Nv SYC14-AC	1934	100											
K1407971-006	Nv SYC14-AC	1939	101											
K1407971-007	Nv SYC14-AC	1943	101											
K1407971-007D	Nv SYC14-AC	1948	99											
K1407971-007S	Nv SYC14-AC	1953	98											
LCSW	Lab Control	1957	101											
K1407971-SRM1	Standard	2002	100											
CCV5	CCV	2006	101											
CCB5	CCB	2011	99											
K1407971-SRM2	Standard	2015	100											
K1407971-008	Nv SYC14-AC	2020	101											
K1407971-009	Nv SYC14-TB	2025	99											
K1407971-010	Nv SYC14-TB	2029	98											
K1407971-011	Nv SYC14-TB	2034	99											
K1407971-012	Nv SYC14-TB	2038	100											
K1407971-013	Nv SYC14-TB	2043	98											
K1407971-014	Nv SYC14-REF	2047	99											
K1407971-014D	Nv SYC14-REF	2052	101											
K1407971-014S	Nv SYC14-REF	2057	98											
CCV6	CCV	2101	101											
CCB6	CCB	2106	97											
K1407971-015	Nv SYC14-REF	2110	99											
K1407971-016	Nv SYC14-REF	2115	97											
K1407971-017	Nv SYC14-REF	2120	100											
K1407971-018	Nv SYC14-REF	2124	98											
ZZZZZZ	ZZZZZZ	2129												
CCV7	CCV	2133	100											
CCB7	CCB	2138	99											



# LIPIDS

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 6/27/2014  
**Date Received:** 7/30/2014

Lipids, Total

Prep Method: EPA 3541  
Analysis Method: NOAA  
Test Notes:

Units: PERCENT  
Basis: Wet Weight

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
Nv PreTest Rep.1	K1407971-001	0.01	8/12/2014	8/13/2014	0.87	
NV PreTest Rep.2	K1407971-002	0.01	8/12/2014	8/13/2014	0.78	
NV PreTest Rep.3	K1407971-003	0.01	8/12/2014	8/13/2014	0.94	
Method Blank	KWG1411415-5 MB	0.01	8/12/2014	8/13/2014	0.01	U

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 6/27/2014  
**Date Received:** 7/30/2014  
**Date Extracted:** 8/12/2014  
**Date Analyzed:** 8/13/2014

Triplicate Summary  
Lipids, Total

Sample Name: Batch QC  
Lab Code: K1407971-006  
Test Notes:

Units: PERCENT  
Basis: Wet Weight

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Average	Percent Relative Standard Deviation	Result Notes
Lipids, Total	EPA 3541	NOAA	0.01	1.1	1.0	1.0	1.0	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Matrix:** Tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 8/12/2014  
**Date Analyzed:** 8/13/2014

Laboratory Control Sample  
Lipids, Total

Sample Name: KWG1411415-LCS

Units: % (percent)  
Basis: Wet Weight

Test Notes:

Analyte	Prep Method	Analysis Method	Spike Level Percent	Result	CAS Advisory Limits	Result Notes
Lipids, Total	EPA 3541	NOAA	100	84	70-130	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 6/27/2014  
**Date Received:** 7/30/2014

Lipids, Total

Prep Method: EPA 3541  
Analysis Method: NOAA  
Test Notes:

Units: PERCENT  
Basis: Dry

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
Nv PreTest Rep.1	K1407971-001	0.30	8/12/2014	8/13/2014	5.6	
NV PreTest Rep.2	K1407971-002	0.31	8/12/2014	8/13/2014	4.9	
NV PreTest Rep.3	K1407971-003	0.30	8/12/2014	8/13/2014	5.8	
Method Blank	KWG1411415-5MB	0.01	8/12/2014	8/13/2014	0.01	U

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 6/27/2014  
**Date Received:** 7/30/2014  
**Date Extracted:** 8/12/2014  
**Date Analyzed:** 8/13/2014

Triplicate Summary  
 Lipids, Total

Sample Name: Batch QC  
 Lab Code: K1407971-006  
 Test Notes:

Units: PERCENT  
 Basis: Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Percent Relative		Result Notes
							Average	Standard Deviation	
Lipids, Total	EPA 3541	NOAA	0.33	7.0	6.7	6.3	6.7	5	





# Butyltins

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971

**Cover Page - Organic Analysis Data Package  
 Butyltins (as cation)**

<b>Sample Name</b>	<b>Lab Code</b>	<b>Date Collected</b>	<b>Date Received</b>
Nv PreTest Rep.1	K1407971-001	06/27/2014	07/30/2014
NV PreTest Rep.2	K1407971-002	06/27/2014	07/30/2014
NV PreTest Rep.3	K1407971-003	06/27/2014	07/30/2014
Nv SYC14-TB Rep.1	K1407971-009	07/25/2014	07/30/2014
Nv SYC14-TB Rep.2	K1407971-010	07/25/2014	07/30/2014
Nv SYC14-TB Rep.3	K1407971-011	07/25/2014	07/30/2014
Nv SYC14-TB Rep.4	K1407971-012	07/25/2014	07/30/2014
Nv SYC14-TB Rep.5	K1407971-013	07/25/2014	07/30/2014
Nv SYC14-REF Rep.1	K1407971-014	07/25/2014	07/30/2014
Nv SYC14-REF Rep.2	K1407971-015	07/25/2014	07/30/2014
Nv SYC14-REF Rep.3	K1407971-016	07/25/2014	07/30/2014
Nv SYC14-REF Rep.4	K1407971-017	07/25/2014	07/30/2014
Nv SYC14-REF Rep.5	K1407971-018	07/25/2014	07/30/2014
Nv PreTest Rep.1MS	KWG1411689-1	06/27/2014	07/30/2014
Nv PreTest Rep.1DMS	KWG1411689-2	06/27/2014	07/30/2014

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.4	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	85	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	1.7	J	6.3	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	6.3	0.69	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.3	0.69	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	88	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.1	1.1	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	6.1	0.67	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.1	0.67	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	78	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.4	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	3.4	J	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	80	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.5	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	4.7	J	6.5	0.71	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.5	0.71	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	75	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.5	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>1.8</b>	J	6.5	0.72	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.5	0.72	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	86	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.4	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>2.8</b>	J	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.4	0.70	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	98	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.6	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	1.2	J	6.6	0.73	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.6	0.73	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	87	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	1.5	J	6.2	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	5.0	J	6.2	0.68	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.2	0.68	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	86	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	2.3	J	6.4	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	8.3		6.4	0.71	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.4	0.71	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	83	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	1.6	J	6.5	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	4.5	J	6.5	0.71	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.5	0.71	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	80	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	2.0	J	6.6	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	2.9	J	6.6	0.72	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.6	0.72	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	81	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	6.6	1.2	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	1.4	J	6.6	0.72	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	6.6	0.72	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	81	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA

**Butyltins (as cation)**

**Sample Name:** Method Blank  
**Lab Code:** KWG1411689-4  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	59	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.99	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	0.99	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.99	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	85	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	0.26	J	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	88	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	78	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.54</b>	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	80	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.72</b>	J	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	75	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.27</b>	J	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	86	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.43</b>	J	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	98	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.18</b>	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	87	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	0.25	J	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	0.80	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	86	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	0.35	J	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	1.3		0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	83	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	0.24	J	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	0.70	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	80	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	0.31	J	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	0.44	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	81	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

**Butyltins (as cation)**

**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	1.0	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	<b>0.22</b>	J	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	1.0	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	81	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA

**Butyltins (as cation)**

**Sample Name:** Method Blank  
**Lab Code:** KWG1411689-4  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.18	1	08/13/14	08/19/14	KWG1411689	
Di-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	
Tri-n-butyltin Cation	ND	U	0.98	0.11	1	08/13/14	08/19/14	KWG1411689	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	59	23-145	08/19/14	Acceptable

**Comments:** \_\_\_\_\_

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971

**Surrogate Recovery Summary**  
**Butyltins (as cation)**

**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** Percent  
**Level:** Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>
Nv PreTest Rep.1	K1407971-001	85
NV PreTest Rep.2	K1407971-002	88
NV PreTest Rep.3	K1407971-003	78
Nv SYC14-TB Rep.1	K1407971-009	80
Nv SYC14-TB Rep.2	K1407971-010	75
Nv SYC14-TB Rep.3	K1407971-011	86
Nv SYC14-TB Rep.4	K1407971-012	98
Nv SYC14-TB Rep.5	K1407971-013	87
Nv SYC14-REF Rep.1	K1407971-014	86
Nv SYC14-REF Rep.2	K1407971-015	83
Nv SYC14-REF Rep.3	K1407971-016	80
Nv SYC14-REF Rep.4	K1407971-017	81
Nv SYC14-REF Rep.5	K1407971-018	81
Method Blank	KWG1411689-4	59
Nv PreTest Rep.1MS	KWG1411689-1	79
Nv PreTest Rep.1DMS	KWG1411689-2	78
Lab Control Sample	KWG1411689-3	79

**Surrogate Recovery Control Limits (%)**

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Sur1 = Tri-n-propyltin 23-145

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Results flagged with an asterisk (\*) indicate values outside control criteria.  
 Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014  
**Date Analyzed:** 08/19/2014

**Matrix Spike/Duplicate Matrix Spike Summary**  
**Butyltins (as cation)**

**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low  
**Extraction Lot:** KWG1411689

Analyte Name	Sample Result	Nv PreTest Rep.1MS KWG1411689-1 Matrix Spike			Nv PreTest Rep.1DMS KWG1411689-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
n-Butyltin Cation	ND	11.4	15.4	74	10.5	15.5	68	10-152	9	40
Di-n-butyltin Cation	ND	15.4	19.0	81	14.8	19.0	78	10-154	4	40
Tri-n-butyltin Cation	ND	18.1	22.1	82	17.9	22.1	81	10-128	1	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014  
**Date Analyzed:** 08/19/2014

**Lab Control Spike Summary**  
**Butyltins (as cation)**

**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low  
**Extraction Lot:** KWG1411689

Lab Control Sample  
 KWG1411689-3  
**Lab Control Spike**

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
n-Butyltin Cation	10.0	15.5	65	10-152
Di-n-butyltin Cation	15.0	19.1	79	27-141
Tri-n-butyltin Cation	17.3	22.2	78	25-124

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**SRM Matrix:** Animal Tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014  
**Date Analyzed:** 08/20/2014

**Standard Reference Material ERM CE477**  
**Butyltins (as cation)**

**Sample Name** Standard Reference Material **Units:** ug/Kg  
**Lab Code** KWG1411689-5 **Basis:** Wet

Analyte	Prep Method	Analysis Method	Certified Value	Result	Advisory Limits	Result Notes
Tri-n-butyltin Cation	Method	Krone	2200 ± 190	<b>1640</b>	1100 - 3300	D
Di-n-butyltin Cation	Method	Krone	1540 ± 120	<b>834</b>	770 - 2300	D
n-Butyltin Cation	Method	Krone	1500 ± 280	<b>1150</b>	750 - 2300	D

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014  
**Date Analyzed:** 08/19/2014  
**Time Analyzed:** 17:25

**Method Blank Summary**  
**Butyltins (as cation)**

**Sample Name:** Method Blank **Instrument ID:** GC26  
**Lab Code:** KWG1411689-4 **File ID:** J:\GC26\DATA\081914\0818F026.D  
**Extraction Method:** Method **Level:** Low  
**Analysis Method:** Krone **Extraction Lot:** KWG1411689

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1411689-3	J:\GC26\DATA\081914\0818F025.D	08/19/14	17:08
Nv PreTest Rep.1	K1407971-001	J:\GC26\DATA\081914\0818F027.D	08/19/14	17:42
Nv PreTest Rep.1MS	KWG1411689-1	J:\GC26\DATA\081914\0818F028.D	08/19/14	17:59
Nv PreTest Rep.1DMS	KWG1411689-2	J:\GC26\DATA\081914\0818F029.D	08/19/14	18:16
NV PreTest Rep.2	K1407971-002	J:\GC26\DATA\081914\0818F030.D	08/19/14	18:33
NV PreTest Rep.3	K1407971-003	J:\GC26\DATA\081914\0818F031.D	08/19/14	18:50
Nv SYC14-TB Rep.1	K1407971-009	J:\GC26\DATA\081914\0818F032.D	08/19/14	19:07
Nv SYC14-TB Rep.2	K1407971-010	J:\GC26\DATA\081914\0818F033.D	08/19/14	19:24
Nv SYC14-TB Rep.3	K1407971-011	J:\GC26\DATA\081914\0818F034.D	08/19/14	19:40
Nv SYC14-TB Rep.4	K1407971-012	J:\GC26\DATA\081914\0818F037.D	08/19/14	20:31
Nv SYC14-TB Rep.5	K1407971-013	J:\GC26\DATA\081914\0818F038.D	08/19/14	20:48
Nv SYC14-REF Rep.1	K1407971-014	J:\GC26\DATA\081914\0818F039.D	08/19/14	21:05
Nv SYC14-REF Rep.2	K1407971-015	J:\GC26\DATA\081914\0818F040.D	08/19/14	21:22
Nv SYC14-REF Rep.3	K1407971-016	J:\GC26\DATA\081914\0818F041.D	08/19/14	21:39
Nv SYC14-REF Rep.4	K1407971-017	J:\GC26\DATA\081914\0818F042.D	08/19/14	21:56
Nv SYC14-REF Rep.5	K1407971-018	J:\GC26\DATA\081914\0818F043.D	08/19/14	22:13
Standard Reference Material	KWG1411689-5	J:\GC26\DATA\082014\0820F005.D	08/20/14	13:29

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014  
**Date Analyzed:** 08/19/2014  
**Time Analyzed:** 17:08

**Lab Control Sample Summary**  
**Butyltins (as cation)**

**Sample Name:** Lab Control Sample  
**Lab Code:** KWG1411689-3  
**Extraction Method:** Method  
**Analysis Method:** Krone  
**Instrument ID:** GC26  
**File ID:** J:\GC26\DATA\081914\0818F025.D  
**Level:** Low  
**Extraction Lot:** KWG1411689

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1411689-4	J:\GC26\DATA\081914\0818F026.D	08/19/14	17:25
Nv PreTest Rep.1	K1407971-001	J:\GC26\DATA\081914\0818F027.D	08/19/14	17:42
Nv PreTest Rep.1MS	KWG1411689-1	J:\GC26\DATA\081914\0818F028.D	08/19/14	17:59
Nv PreTest Rep.1DMS	KWG1411689-2	J:\GC26\DATA\081914\0818F029.D	08/19/14	18:16
NV PreTest Rep.2	K1407971-002	J:\GC26\DATA\081914\0818F030.D	08/19/14	18:33
NV PreTest Rep.3	K1407971-003	J:\GC26\DATA\081914\0818F031.D	08/19/14	18:50
Nv SYC14-TB Rep.1	K1407971-009	J:\GC26\DATA\081914\0818F032.D	08/19/14	19:07
Nv SYC14-TB Rep.2	K1407971-010	J:\GC26\DATA\081914\0818F033.D	08/19/14	19:24
Nv SYC14-TB Rep.3	K1407971-011	J:\GC26\DATA\081914\0818F034.D	08/19/14	19:40
Nv SYC14-TB Rep.4	K1407971-012	J:\GC26\DATA\081914\0818F037.D	08/19/14	20:31
Nv SYC14-TB Rep.5	K1407971-013	J:\GC26\DATA\081914\0818F038.D	08/19/14	20:48
Nv SYC14-REF Rep.1	K1407971-014	J:\GC26\DATA\081914\0818F039.D	08/19/14	21:05
Nv SYC14-REF Rep.2	K1407971-015	J:\GC26\DATA\081914\0818F040.D	08/19/14	21:22
Nv SYC14-REF Rep.3	K1407971-016	J:\GC26\DATA\081914\0818F041.D	08/19/14	21:39
Nv SYC14-REF Rep.4	K1407971-017	J:\GC26\DATA\081914\0818F042.D	08/19/14	21:56
Nv SYC14-REF Rep.5	K1407971-018	J:\GC26\DATA\081914\0818F043.D	08/19/14	22:13
Standard Reference Material	KWG1411689-5	J:\GC26\DATA\082014\0820F005.D	08/20/14	13:29

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014

**Initial Calibration Summary**  
**Butyltins (as cation)**

**Calibration ID:** CAL13394  
**Instrument ID:** GC26

**Column:** RTX-1

Level ID	File ID	Level ID	File ID
A	J:\GC26\DATA\062314\0623F002.D	F	J:\GC26\DATA\062314\0623F007.D
B	J:\GC26\DATA\062314\0623F003.D	G	J:\GC26\DATA\062314\0623F008.D
C	J:\GC26\DATA\062314\0623F004.D	H	J:\GC26\DATA\062314\0623F009.D
D	J:\GC26\DATA\062314\0623F005.D		
E	J:\GC26\DATA\062314\0623F006.D		

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF
n-Butyltin Cation	A	1.2	1.78E+5	B	3.1	1.68E+5	C	6.2	1.61E+5	D	12	1.68E+5	E	31	1.78E+5
	F	120	1.86E+5	G	310	1.78E+5	H	620	1.66E+5						
Di-n-butyltin Cation	A	1.5	1.31E+5	B	3.8	1.44E+5	C	7.7	1.48E+5	D	15	1.56E+5	E	38	1.63E+5
	F	150	1.73E+5	G	380	1.68E+5	H	770	1.60E+5						
Tri-n-butyltin Cation	A	1.8	88300	B	4.5	92900	C	8.9	91900	D	18	95600	E	45	94600
	F	180	98900	G	450	96500	H	890	92400						
Tri-n-propyltin	A	2.0	80700	B	5.0	89100	C	10	85500	D	20	89100	E	50	94800
	F	200	99200	G	500	97100	H	1000	93400						

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014

**Initial Calibration Summary**  
**Butyltins (as cation)**

**Calibration ID:** CAL13394  
**Instrument ID:** GC26

**Column:** RTX-1

Analyte Name	Compound Type	Calibration Evaluation				Control Criteria
		Fit Type	Eval.	Eval. Result	Q	
n-Butyltin Cation	MS	AverageRF	% RSD	4.8		≤ 20
Di-n-butyltin Cation	MS	AverageRF	% RSD	8.8		≤ 20
Tri-n-butyltin Cation	MS	AverageRF	% RSD	3.5		≤ 20
Tri-n-propyltin	SURR	AverageRF	% RSD	6.8		≤ 20

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014  
**Date Analyzed:** 06/23/2014

**Second Source Calibration Verification**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration ID:** CAL13394  
**Units:** ng/mL

**File ID:** J:\GC26\DATA\062314\0623F010.D

**Column ID:** RTX-1

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	29	173000	161000	-7	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	30	155000	122000	-21	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	47	93900	99700	6	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014

**Initial Calibration Summary**  
**Butyltins (as cation)**

**Calibration ID:** CAL13394  
**Instrument ID:** GC26

**Column:** RTX-35

<b>Level ID</b>	<b>File ID</b>	<b>Level ID</b>	<b>File ID</b>
A	J:\GC26\DATA\062314\0623F002.D\0623F002c.d	F	J:\GC26\DATA\062314\0623F007.D\0623F007c.d
B	J:\GC26\DATA\062314\0623F003.D\0623F003c.d	G	J:\GC26\DATA\062314\0623F008.D\0623F008c.d
C	J:\GC26\DATA\062314\0623F004.D\0623F004c.d	H	J:\GC26\DATA\062314\0623F009.D\0623F009c.d
D	J:\GC26\DATA\062314\0623F005.D\0623F005c.d		
E	J:\GC26\DATA\062314\0623F006.D\0623F006c.d		

Analyte Name	Level			Level			Level			Level					
	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF			
n-Butyltin Cation	A	1.2	50100	B	3.1	56800	C	6.2	53100	D	12	54500	E	31	59300
	F	120	58800	G	310	57400	H	620	54200						
Di-n-butyltin Cation	A	1.5	51100	B	3.8	48700	C	7.7	51600	D	15	53800	E	38	50800
	F	150	56800	G	380	55500	H	770	53100						
Tri-n-butyltin Cation	A	1.8	26300	B	4.5	29500	C	8.9	27900	D	18	28900	E	45	30800
	F	180	32600	G	450	32100	H	890	31000						
Tri-n-propyltin	A	2.0	29800	B	5.0	25900	C	10	29100	D	20	29400	E	50	30300
	F	200	32100	G	500	31500	H	1000	30300						

Results flagged with an asterisk (\*) indicate values outside control criteria.



QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014

**Initial Calibration Summary**  
**Butyltins (as cation)**

**Calibration ID:** CAL13394  
**Instrument ID:** GC26

**Column:** RTX-35

Analyte Name	Compound Type	Calibration Evaluation				Control Criteria
		Fit Type	Eval.	Eval. Result	Q	
n-Butyltin Cation	MS	AverageRF	% RSD	5.6		≤ 20
Di-n-butyltin Cation	MS	AverageRF	% RSD	5.0		≤ 20
Tri-n-butyltin Cation	MS	AverageRF	% RSD	7.2		≤ 20
Tri-n-propyltin	SURR	AverageRF	% RSD	6.3		≤ 20

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 06/23/2014  
**Date Analyzed:** 06/23/2014

**Second Source Calibration Verification**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration ID:** CAL13394  
**Units:** ng/mL

**File ID:** J:\GC26\DATA\062314\0623F010.D\0623F010c.d

**Column ID:** RTX-35

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	29	55500	51000	-8	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	30	52700	41000	-22	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	52	29900	34600	16	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-1

**File ID:** J:\GC26\DATA\081914\0818F024.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	27	173000	152000	-12	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	36	155000	146000	-6	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	40	93900	85300	-9	NA	± 25 %	AverageRF
Tri-n-propyltin	50	46	91100	83800	-8	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-35

**File ID:** J:\GC26\DATA\081914\0818F024.D\0818F024C.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	28	55500	50000	-10	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	34	52700	46400	-12	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	42	29900	28000	-6	NA	± 25 %	AverageRF
Tri-n-propyltin	50	46	29800	27600	-7	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-1

**File ID:** J:\GC26\DATA\081914\0818F036.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	30	173000	164000	-5	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	41	155000	164000	6	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	45	93900	95000	1	NA	± 25 %	AverageRF
Tri-n-propyltin	50	52	91100	95100	4	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-35

**File ID:** J:\GC26\DATA\081914\0818F036.D\0818F036C.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	29	55500	51600	-7	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	37	52700	51000	-3	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	47	29900	31400	5	NA	± 25 %	AverageRF
Tri-n-propyltin	50	51	29800	30300	2	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-1

**File ID:** J:\GC26\DATA\081914\0818F045.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	30	173000	166000	-4	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	42	155000	168000	8	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	46	93900	97400	4	NA	± 25 %	AverageRF
Tri-n-propyltin	50	52	91100	94500	4	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/19/2014

**Continuing Calibration Verification Summary**  
**Butyltins (as cation)**

**Calibration Type:** External Standard  
**Analysis Method:** Krone

**Calibration Date:** 06/23/2014  
**Calibration ID:** CAL13394  
**Analysis Lot:** KWG1411770  
**Units:** ng/mL  
**Column ID:** RTX-35

**File ID:** J:\GC26\DATA\081914\0818F045.D\0818F045C.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	31	55500	54500	-2	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	41	52700	55800	6	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	48	29900	32500	9	NA	± 25 %	AverageRF
Tri-n-propyltin	50	54	29800	32400	9	NA	± 25 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.



**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971

**Analysis Run Log**  
**Butyltins (as cation)**

**Analysis Method:** Krone

**Analysis Lot:** KWG1411770  
**Instrument ID:** GC26  
**Column:** RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0818F002.D	Continuing Calibration Verification	KWG1411770-1	8/19/2014	08:26		8/19/2014	08:37
0818F003.D	Instrument Blank	KWG1411770-2	8/19/2014	08:43		8/19/2014	08:54
0818F004.D	ZZZZZZ	ZZZZZZ	8/19/2014	09:00		8/19/2014	09:11
0818FA04.D	ZZZZZZ	ZZZZZZ	8/19/2014	09:34		8/19/2014	09:45
0818F005.D	ZZZZZZ	ZZZZZZ	8/19/2014	10:07		8/19/2014	10:18
0818F006.D	ZZZZZZ	ZZZZZZ	8/19/2014	10:41		8/19/2014	10:52
0818F007.D	ZZZZZZ	ZZZZZZ	8/19/2014	11:14		8/19/2014	11:25
0818F008.D	ZZZZZZ	ZZZZZZ	8/19/2014	11:48		8/19/2014	11:59
0818F009.D	ZZZZZZ	ZZZZZZ	8/19/2014	12:21		8/19/2014	12:32
0818F010.D	ZZZZZZ	ZZZZZZ	8/19/2014	12:38		8/19/2014	12:49
0818F011.D	ZZZZZZ	ZZZZZZ	8/19/2014	12:55		8/19/2014	13:06
0818F012.D	ZZZZZZ	ZZZZZZ	8/19/2014	13:12		8/19/2014	13:23
0818F013.D	ZZZZZZ	ZZZZZZ	8/19/2014	13:29		8/19/2014	13:40
0818F014.D	ZZZZZZ	ZZZZZZ	8/19/2014	13:46		8/19/2014	13:57
0818F015.D	ZZZZZZ	ZZZZZZ	8/19/2014	14:02		8/19/2014	14:13
0818F016.D	Continuing Calibration Verification	KWG1411770-3	8/19/2014	14:19		8/19/2014	14:30
0818F017.D	Instrument Blank	KWG1411770-4	8/19/2014	14:36		8/19/2014	14:47
0818F018.D	ZZZZZZ	ZZZZZZ	8/19/2014	14:53		8/19/2014	15:04
0818F019.D	ZZZZZZ	ZZZZZZ	8/19/2014	15:10		8/19/2014	15:21
0818F020.D	ZZZZZZ	ZZZZZZ	8/19/2014	15:27		8/19/2014	15:38
0818F021.D	ZZZZZZ	ZZZZZZ	8/19/2014	15:44		8/19/2014	15:55
0818F024.D	Continuing Calibration Verification	KWG1411770-5	8/19/2014	16:35		8/19/2014	16:46
0818F025.D	Lab Control Sample	KWG1411689-3	8/19/2014	17:08		8/19/2014	17:19
0818F026.D	Method Blank	KWG1411689-4	8/19/2014	17:25		8/19/2014	17:36
0818F027.D	Nv PreTest Rep.1	K1407971-001	8/19/2014	17:42		8/19/2014	17:53
0818F028.D	Nv PreTest Rep.1MS	KWG1411689-1	8/19/2014	17:59		8/19/2014	18:10
0818F029.D	Nv PreTest Rep.1DMS	KWG1411689-2	8/19/2014	18:16		8/19/2014	18:28
0818F030.D	NV PreTest Rep.2	K1407971-002	8/19/2014	18:33		8/19/2014	18:44
0818F031.D	NV PreTest Rep.3	K1407971-003	8/19/2014	18:50		8/19/2014	19:01
0818F032.D	Nv SYC14-TB Rep.1	K1407971-009	8/19/2014	19:07		8/19/2014	19:18
0818F033.D	Nv SYC14-TB Rep.2	K1407971-010	8/19/2014	19:24		8/19/2014	19:35
0818F034.D	Nv SYC14-TB Rep.3	K1407971-011	8/19/2014	19:40		8/19/2014	19:51
0818F036.D	Continuing Calibration Verification	KWG1411770-6	8/19/2014	20:14		8/19/2014	20:25
0818F037.D	Nv SYC14-TB Rep.4	K1407971-012	8/19/2014	20:31		8/19/2014	20:42

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971

**Analysis Run Log**  
**Butyltins (as cation)**

**Analysis Method:** Krone

**Analysis Lot:** KWG1411770  
**Instrument ID:** GC26  
**Column:** RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0818F038.D	Nv SYC14-TB Rep.5	K1407971-013	8/19/2014	20:48		8/19/2014	20:59
0818F039.D	Nv SYC14-REF Rep.1	K1407971-014	8/19/2014	21:05		8/19/2014	21:16
0818F040.D	Nv SYC14-REF Rep.2	K1407971-015	8/19/2014	21:22		8/19/2014	21:33
0818F041.D	Nv SYC14-REF Rep.3	K1407971-016	8/19/2014	21:39		8/19/2014	21:50
0818F042.D	Nv SYC14-REF Rep.4	K1407971-017	8/19/2014	21:56		8/19/2014	22:07
0818F043.D	Nv SYC14-REF Rep.5	K1407971-018	8/19/2014	22:13		8/19/2014	22:24
0818F045.D	Continuing Calibration Verification	KWG1411770-7	8/19/2014	22:47		8/19/2014	22:58

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/13/2014

**Extraction Prep Log**  
**Butyltins (as cation)**

**Extraction Method:** Method  
**Analysis Method:** Krone

**Extraction Lot:** KWG1411689  
**Level:** Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Nv PreTest Rep.1	K1407971-001	06/27/14	07/30/14	10.159g	1mL	NA	
NV PreTest Rep.2	K1407971-002	06/27/14	07/30/14	10.034g	1mL	NA	
NV PreTest Rep.3	K1407971-003	06/27/14	07/30/14	10.091g	1mL	NA	
Nv SYC14-TB Rep.1	K1407971-009	07/25/14	07/30/14	10.082g	1mL	NA	
Nv SYC14-TB Rep.2	K1407971-010	07/25/14	07/30/14	10.206g	1mL	NA	
Nv SYC14-TB Rep.3	K1407971-011	07/25/14	07/30/14	10.290g	1mL	NA	
Nv SYC14-TB Rep.4	K1407971-012	07/25/14	07/30/14	10.214g	1mL	NA	
Nv SYC14-TB Rep.5	K1407971-013	07/25/14	07/30/14	10.048g	1mL	NA	
Nv SYC14-REF Rep.1	K1407971-014	07/25/14	07/30/14	10.031g	1mL	NA	
Nv SYC14-REF Rep.2	K1407971-015	07/25/14	07/30/14	10.250g	1mL	NA	
Nv SYC14-REF Rep.3	K1407971-016	07/25/14	07/30/14	10.073g	1mL	NA	
Nv SYC14-REF Rep.4	K1407971-017	07/25/14	07/30/14	10.090g	1mL	NA	
Nv SYC14-REF Rep.5	K1407971-018	07/25/14	07/30/14	10.097g	1mL	NA	
Method Blank	KWG1411689-4	NA	NA	10.290g	1mL	NA	
Nv PreTest Rep.1MS	KWG1411689-1	06/27/14	07/30/14	10.102g	1mL	NA	
Nv PreTest Rep.1DMS	KWG1411689-2	06/27/14	07/30/14	10.080g	1mL	NA	
Lab Control Sample	KWG1411689-3	NA	NA	10.058g	1mL	NA	

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	1.0	0.18	0.26	0.28	7.4	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	1.0	0.11	0.54	0.60	10.5	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.98	0.11	0.72	0.75	4.1	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.98	0.11	0.27	0.30	10.5	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.98	0.11	0.43	0.45	4.5	J	1	08/19/14



Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	1.0	0.11	0.18	0.19	5.4	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	1.0	0.18	0.25	0.26	3.9	J	1	08/19/14
Di-n-butyltin Cation	1.0	0.11	0.80	0.91	12.9	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.98	0.18	0.35	0.38	8.2	J	1	08/19/14
Di-n-butyltin Cation	0.98	0.11	1.3	1.3	0.0		1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	1.0	0.18	0.24	0.25	4.1	J	1	08/19/14
Di-n-butyltin Cation	1.0	0.11	0.70	0.71	1.4	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	1.0	0.18	0.31	0.31	0.0	J	1	08/19/14
Di-n-butyltin Cation	1.0	0.11	0.44	0.45	2.2	J	1	08/19/14

Confirmation Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014  
**Date Extracted:** 08/13/2014

Butyltins (as cation)

**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018  
**Extraction Method:** Method  
**Analysis Method:** Krone

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	1.0	0.11	0.22	0.22	0.0	J	1	08/19/14



# Polynuclear Aromatic Hydrocarbons

**ALS Environmental—Kelso Laboratory**  
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**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971

**Cover Page - Organic Analysis Data Package  
 Polynuclear Aromatic Hydrocarbons**

<b>Sample Name</b>	<b>Lab Code</b>	<b>Date Collected</b>	<b>Date Received</b>
Nv PreTest Rep.1	K1407971-001	06/27/2014	07/30/2014
NV PreTest Rep.2	K1407971-002	06/27/2014	07/30/2014
NV PreTest Rep.3	K1407971-003	06/27/2014	07/30/2014
Nv SYC14-AC Rep.1	K1407971-004	07/25/2014	07/30/2014
Nv SYC14-AC Rep.2	K1407971-005	07/25/2014	07/30/2014
Nv SYC14-AC Rep.3	K1407971-006	07/25/2014	07/30/2014
Nv SYC14-AC Rep.4	K1407971-007	07/25/2014	07/30/2014
Nv SYC14-AC Rep.5	K1407971-008	07/25/2014	07/30/2014
Nv SYC14-TB Rep.1	K1407971-009	07/25/2014	07/30/2014
Nv SYC14-TB Rep.2	K1407971-010	07/25/2014	07/30/2014
Nv SYC14-TB Rep.3	K1407971-011	07/25/2014	07/30/2014
Nv SYC14-TB Rep.4	K1407971-012	07/25/2014	07/30/2014
Nv SYC14-TB Rep.5	K1407971-013	07/25/2014	07/30/2014
Nv SYC14-REF Rep.1	K1407971-014	07/25/2014	07/30/2014
Nv SYC14-REF Rep.2	K1407971-015	07/25/2014	07/30/2014
Nv SYC14-REF Rep.3	K1407971-016	07/25/2014	07/30/2014
Nv SYC14-REF Rep.4	K1407971-017	07/25/2014	07/30/2014
Nv SYC14-REF Rep.5	K1407971-018	07/25/2014	07/30/2014
Nv SYC14-AC Rep.3MS	KWG1411415-1	07/25/2014	07/30/2014
Nv SYC14-AC Rep.3DMS	KWG1411415-2	07/25/2014	07/30/2014



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	31	6.8	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	61	7.4	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>13</b>	J	31	2.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	31	2.9	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>5.2</b>	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	31	23	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	31	5.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	31	3.5	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	31	3.4	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	31	5.3	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	<b>3.9</b>	J	31	3.0	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>7.4</b>	J	31	3.2	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	61	9.2	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>9.8</b>	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>4.8</b>	J	31	3.1	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	39-96	08/20/14	Acceptable
Fluoranthene-d10	67	41-100	08/20/14	Acceptable
Terphenyl-d14	66	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	32	6.9	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	63	7.5	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	16	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	32	2.9	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	32	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	3.0	J	32	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	19	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.0	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	32	3.6	1	08/12/14	08/20/14	KWG1411415	
Chrysene	3.7	J	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.4	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	4.3	J	32	3.1	1	08/12/14	08/20/14	KWG1411415	
Fluorene	7.6	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.0	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	63	9.4	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	9.8	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	4.5	J	32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	80	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	78	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	42		31	6.7	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	39	J	61	7.3	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	51		31	2.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	38		31	2.8	1	08/12/14	08/20/14	KWG1411415	
Anthracene	16	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	6.6	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	31	19	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	31	5.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	31	3.5	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	31	3.4	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	31	5.3	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	8.3	J	31	3.0	1	08/12/14	08/20/14	KWG1411415	
Fluorene	37		31	3.2	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	47	J	61	9.2	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	26	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	8.4	J	31	3.1	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	81	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	29	6.2	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	57	6.8	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	13	J	29	2.7	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	29	2.6	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	29	2.2	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.7	J	29	2.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	29	21	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	5.8	J	29	3.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	29	5.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	29	3.3	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	29	3.1	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	29	4.9	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	28	J	29	2.8	1	08/12/14	08/20/14	KWG1411415	
Fluorene	5.5	J	29	3.0	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	29	5.4	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	57	8.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	6.7	J	29	3.8	1	08/12/14	08/20/14	KWG1411415	
Pyrene	32		29	2.9	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	86	41-100	08/20/14	Acceptable
Terphenyl-d14	83	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	37		31	6.8	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	36	J	62	7.4	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	44		31	2.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	37		31	2.9	1	08/12/14	08/20/14	KWG1411415	
Anthracene	17	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	ND	U	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	31	4.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	31	3.5	1	08/12/14	08/20/14	KWG1411415	
Chrysene	15	J	31	3.4	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	31	5.3	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	39		31	3.0	1	08/12/14	08/20/14	KWG1411415	
Fluorene	33		31	3.2	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	38	J	62	9.2	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	24	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	47		31	3.1	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	90	39-96	08/20/14	Acceptable
Fluoranthene-d10	88	41-100	08/20/14	Acceptable
Terphenyl-d14	85	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	34	7.3	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	67	8.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	13	J	34	3.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	34	3.1	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	34	2.6	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.4	J	34	2.6	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	34	21	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	5.5	J	34	4.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	34	6.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	34	3.8	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	34	3.7	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	34	5.8	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	34		34	3.3	1	08/12/14	08/20/14	KWG1411415	
Fluorene	4.7	J	34	3.5	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	34	6.4	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	67	10	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	7.6	J	34	4.4	1	08/12/14	08/20/14	KWG1411415	
Pyrene	41		34	3.4	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	80	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	48		34	7.3	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	45	J	67	8.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	56		34	3.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	43		34	3.1	1	08/12/14	08/20/14	KWG1411415	
Anthracene	19	J	34	2.6	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.0	J	34	2.6	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	U	34	4.9	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	5.4	J	34	4.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	34	6.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	34	3.8	1	08/12/14	08/20/14	KWG1411415	
Chrysene	6.7	J	34	3.7	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	34	5.7	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	45		34	3.3	1	08/12/14	08/20/14	KWG1411415	
Fluorene	39		34	3.5	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	34	6.4	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	51	J	67	10	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	47		34	4.4	1	08/12/14	08/20/14	KWG1411415	
Pyrene	56		34	3.4	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	08/20/14	Acceptable
Fluoranthene-d10	81	41-100	08/20/14	Acceptable
Terphenyl-d14	79	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	23	J	32	6.9	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	23	J	63	7.5	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	36		32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	21	J	32	2.9	1	08/12/14	08/20/14	KWG1411415	
Anthracene	10	J	32	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	3.8	J	32	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	17	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	32	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	5.9	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	32	3.6	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.4	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	36		32	3.1	1	08/12/14	08/20/14	KWG1411415	
Fluorene	22	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.0	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	25	J	63	9.4	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	16	J	32	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	42		32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	39-96	08/20/14	Acceptable
Fluoranthene-d10	86	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	32	7.0	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	64	7.7	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>10</b>	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>4.8</b>	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	22	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	32	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	<b>4.2</b>	J	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.5	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	<b>43</b>		32	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>5.4</b>	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	64	9.6	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>10</b>	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>38</b>		32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	39-96	08/20/14	Acceptable
Fluoranthene-d10	75	41-100	08/20/14	Acceptable
Terphenyl-d14	73	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	33	7.3	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	66	7.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	15	J	33	3.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	33	3.1	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	3.4	J	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	33	19	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	5.1	J	33	4.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	33	6.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	33	3.8	1	08/12/14	08/20/14	KWG1411415	
Chrysene	5.4	J	33	3.7	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	33	5.7	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	60		33	3.3	1	08/12/14	08/20/14	KWG1411415	
Fluorene	8.1	J	33	3.5	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	33	6.3	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	66	9.9	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	16	J	33	4.4	1	08/12/14	08/20/14	KWG1411415	
Pyrene	54		33	3.3	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	92	39-96	08/20/14	Acceptable
Fluoranthene-d10	89	41-100	08/20/14	Acceptable
Terphenyl-d14	87	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	31	6.7	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	61	7.3	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	14	J	31	2.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	3.6	J	31	2.8	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	5.4	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	31	14	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	7.8	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	31	5.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	4.3	J	31	3.5	1	08/12/14	08/20/14	KWG1411415	
Chrysene	5.0	J	31	3.4	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	31	5.3	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	80		31	3.0	1	08/12/14	08/20/14	KWG1411415	
Fluorene	7.2	J	31	3.2	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	9.9	J	61	9.2	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	7.6	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	74		31	3.1	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	87	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	76	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	32	7.0	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	64	7.6	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>12</b>	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>3.4</b>	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	U	32	4.7	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	<b>6.1</b>	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	<b>3.9</b>	J	32	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	<b>7.0</b>	J	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.5	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	<b>69</b>		32	3.1	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>6.4</b>	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	64	9.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>9.3</b>	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>63</b>		32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	08/20/14	Acceptable
Fluoranthene-d10	82	41-100	08/20/14	Acceptable
Terphenyl-d14	80	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	32	7.0	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	64	7.6	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	12	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.1	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	21	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	5.1	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	3.7	J	32	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.5	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	58		32	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	5.8	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	64	9.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	6.8	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	50		32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	87	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	55		31	6.8	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	54	J	62	7.4	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	61		31	2.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	54		31	2.9	1	08/12/14	08/20/14	KWG1411415	
Anthracene	24	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.0	J	31	2.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	31	20	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	31	5.9	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	31	3.6	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	31	3.4	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	31	5.3	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	11	J	31	3.1	1	08/12/14	08/20/14	KWG1411415	
Fluorene	50		31	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	31	6.0	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	54	J	62	9.3	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	29	J	31	4.1	1	08/12/14	08/20/14	KWG1411415	
Pyrene	11	J	31	3.1	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	81	41-100	08/20/14	Acceptable
Terphenyl-d14	77	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	18	J	32	7.0	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	18	J	64	7.7	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	22	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	15	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	5.9	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.2	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	21	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	32	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	6.2	J	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.5	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	6.2	J	32	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	18	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	21	J	64	9.6	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	20	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	6.3	J	32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	76	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	77		33	7.2	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	75		65	7.8	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	76		33	3.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	74		33	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	32	J	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	4.4	J	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	33	20	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	33	4.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	33	6.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	33	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	33	3.6	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	33	5.6	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	13	J	33	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	63		33	3.4	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	33	6.3	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	82		65	9.7	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	39		33	4.3	1	08/12/14	08/20/14	KWG1411415	
Pyrene	11	J	33	3.3	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	94	39-96	08/20/14	Acceptable
Fluoranthene-d10	87	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	32	7.0	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	64	7.7	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	8.2	J	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	32	3.0	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	3.7	J	32	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	32	15	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	32	3.7	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	32	3.5	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	32	5.5	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	ND	U	32	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	5.8	J	32	3.3	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	32	6.1	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	64	9.6	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	6.8	J	32	4.2	1	08/12/14	08/20/14	KWG1411415	
Pyrene	3.3	J	32	3.2	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	39-96	08/20/14	Acceptable
Fluoranthene-d10	88	41-100	08/20/14	Acceptable
Terphenyl-d14	84	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	33	7.2	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	66	7.9	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	16	J	33	3.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	33	3.1	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	5.0	J	33	2.5	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	33	18	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	33	4.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	33	6.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	33	3.8	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	33	3.6	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	33	5.7	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	5.2	J	33	3.2	1	08/12/14	08/20/14	KWG1411415	
Fluorene	8.2	J	33	3.4	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	33	6.3	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	66	9.8	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	7.7	J	33	4.4	1	08/12/14	08/20/14	KWG1411415	
Pyrene	5.2	J	33	3.3	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	82	41-100	08/20/14	Acceptable
Terphenyl-d14	78	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Method Blank  
**Lab Code:** KWG1411415-5  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	2.3	J	4.6	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	2.3	J	9.2	1.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.0	J	4.6	0.43	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	2.1	J	4.6	0.42	1	08/12/14	08/20/14	KWG1411415	
Anthracene	0.86	J	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.54	J	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.6	2.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	1.0	J	4.6	0.87	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.6	0.52	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.6	0.51	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.6	0.79	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	ND	U	4.6	0.45	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.7	J	4.6	0.48	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.6	0.88	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	3.0	J	9.2	1.4	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.1	J	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.52	J	4.6	0.46	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	39-96	08/20/14	Acceptable
Fluoranthene-d10	80	41-100	08/20/14	Acceptable
Terphenyl-d14	77	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.8	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.6	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.1	J	4.8	0.45	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	4.8	0.44	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.8	0.37	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.81	J	4.8	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.8	3.6	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.8	0.63	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.8	0.91	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.8	0.55	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.8	0.53	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.8	0.82	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	0.61	J	4.8	0.47	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.2	J	4.8	0.50	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.8	0.92	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.6	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.5	J	4.8	0.63	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.74	J	4.8	0.48	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	39-96	08/20/14	Acceptable
Fluoranthene-d10	67	41-100	08/20/14	Acceptable
Terphenyl-d14	66	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.9	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.6	J	5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.48	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.0	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.94	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	0.59	J	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	0.68	J	5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.2	J	5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.9	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.6	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.71	J	5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	80	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	78	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 06/27/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	6.9		5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	6.4	J	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	8.4		5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	6.3		5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	2.6	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	1.1	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.1	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	1.4	J	5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	6.0		5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	7.6	J	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	4.3	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	1.4	J	5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	81	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.8	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.5	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.1	J	4.8	0.45	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	4.8	0.44	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.8	0.36	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.79	J	4.8	0.36	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.8	3.6	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	0.97	J	4.8	0.63	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.8	0.90	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.8	0.54	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.8	0.52	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.8	0.82	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	4.7	J	4.8	0.47	1	08/12/14	08/20/14	KWG1411415	
Fluorene	0.92	J	4.8	0.50	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.8	0.91	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.5	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.1	J	4.8	0.63	1	08/12/14	08/20/14	KWG1411415	
Pyrene	5.4		4.8	0.48	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	86	41-100	08/20/14	Acceptable
Terphenyl-d14	83	39-111	08/20/14	Acceptable

Comments: \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	5.8		4.8	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	5.7	J	9.6	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	7.0		4.8	0.46	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	5.8		4.8	0.45	1	08/12/14	08/20/14	KWG1411415	
Anthracene	2.6	J	4.8	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)anthracene	ND	U	4.8	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.8	0.74	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.8	0.64	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.8	0.92	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.8	0.55	1	08/12/14	08/20/14	KWG1411415	
Chrysene	2.3	J	4.8	0.53	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.8	0.83	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	6.1		4.8	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	5.1		4.8	0.50	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.8	0.93	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	5.9	J	9.6	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	3.8	J	4.8	0.64	1	08/12/14	08/20/14	KWG1411415	
Pyrene	7.4		4.8	0.48	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	90	39-96	08/20/14	Acceptable
Fluoranthene-d10	88	41-100	08/20/14	Acceptable
Terphenyl-d14	85	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.0	J	5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.66	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	0.83	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	5.1		5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	0.71	J	5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.1	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	6.1		5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	80	39-111	08/20/14	Acceptable

Comments: \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	7.2		5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	6.7	J	9.9	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	8.3		5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	6.5		5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	2.9	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.59	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	U	5.0	0.72	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	0.81	J	5.0	0.65	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.94	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	0.99	J	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.85	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	6.7		5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	5.9		5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	7.6	J	9.9	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	7.0		5.0	0.65	1	08/12/14	08/20/14	KWG1411415	
Pyrene	8.4		5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	08/20/14	Acceptable
Fluoranthene-d10	81	41-100	08/20/14	Acceptable
Terphenyl-d14	79	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	3.5	J	4.9	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	3.5	J	9.7	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	5.5		4.9	0.46	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	3.2	J	4.9	0.45	1	08/12/14	08/20/14	KWG1411415	
Anthracene	1.5	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.59	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.9	2.6	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.9	0.92	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.9	0.55	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.9	0.53	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.9	0.83	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	5.6		4.9	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	3.5	J	4.9	0.51	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.9	0.93	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	3.9	J	9.7	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	2.5	J	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Pyrene	6.5		4.9	0.49	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	39-96	08/20/14	Acceptable
Fluoranthene-d10	86	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	1.6	J	5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.75	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.4	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	0.66	J	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	6.7		5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	0.86	J	5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.6	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	5.9		5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	39-96	08/20/14	Acceptable
Fluoranthene-d10	75	41-100	08/20/14	Acceptable
Terphenyl-d14	73	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>2.2</b>	J	5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>0.52</b>	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	2.8	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	<b>0.78</b>	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	<b>0.83</b>	J	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	<b>9.1</b>		5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>1.2</b>	J	5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>2.4</b>	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>8.3</b>		5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	92	39-96	08/20/14	Acceptable
Fluoranthene-d10	89	41-100	08/20/14	Acceptable
Terphenyl-d14	87	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.6	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.2	1.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.1	J	4.6	0.43	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	0.55	J	4.6	0.42	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.81	J	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.6	2.0	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	1.2	J	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.6	0.87	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	0.65	J	4.6	0.52	1	08/12/14	08/20/14	KWG1411415	
Chrysene	0.75	J	4.6	0.51	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.6	0.79	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	12		4.6	0.45	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.1	J	4.6	0.48	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.6	0.88	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	1.5	J	9.2	1.4	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.1	J	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Pyrene	11		4.6	0.46	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	87	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	76	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.9	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.8	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	1.9	J	4.9	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	4.9	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.9	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.53	J	4.9	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	U	4.9	0.72	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	0.94	J	4.9	0.65	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.9	0.94	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	0.60	J	4.9	0.56	1	08/12/14	08/20/14	KWG1411415	
Chrysene	1.1	J	4.9	0.54	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.9	0.85	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	11		4.9	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	0.99	J	4.9	0.51	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.9	0.94	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.8	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.4	J	4.9	0.65	1	08/12/14	08/20/14	KWG1411415	
Pyrene	9.7		4.9	0.49	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	08/20/14	Acceptable
Fluoranthene-d10	82	41-100	08/20/14	Acceptable
Terphenyl-d14	80	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.9	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.7	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>1.8</b>	J	4.9	0.46	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	4.9	0.45	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>0.62</b>	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.9	3.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	<b>0.78</b>	J	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.9	0.92	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	<b>0.57</b>	J	4.9	0.55	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.9	0.53	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.9	0.83	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	<b>8.9</b>		4.9	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>0.89</b>	J	4.9	0.51	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.9	0.93	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.7	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>1.0</b>	J	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>7.6</b>		4.9	0.49	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	87	39-96	08/20/14	Acceptable
Fluoranthene-d10	84	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_



Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	8.9		5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	8.7	J	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	9.8		5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	8.8		5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	3.9	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.65	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	1.8	J	5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	8.2		5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	8.8	J	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	4.7	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	1.7	J	5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	88	39-96	08/20/14	Acceptable
Fluoranthene-d10	81	41-100	08/20/14	Acceptable
Terphenyl-d14	77	39-111	08/20/14	Acceptable

Comments: \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	2.8	J	4.9	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	2.8	J	9.8	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	3.4	J	4.9	0.46	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	2.3	J	4.9	0.45	1	08/12/14	08/20/14	KWG1411415	
Anthracene	0.90	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.65	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.9	3.2	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.9	0.65	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.9	0.93	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.9	0.56	1	08/12/14	08/20/14	KWG1411415	
Chrysene	0.95	J	4.9	0.54	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.9	0.84	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	0.95	J	4.9	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	2.8	J	4.9	0.51	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.9	0.94	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	3.2	J	9.8	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	3.1	J	4.9	0.65	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.96	J	4.9	0.49	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	79	41-100	08/20/14	Acceptable
Terphenyl-d14	76	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	12		5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	12		10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	12		5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	11		5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	4.9	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.68	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	3.0	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	2.0	J	5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	9.7		5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	13		10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	6.0		5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	1.7	J	5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	94	39-96	08/20/14	Acceptable
Fluoranthene-d10	87	41-100	08/20/14	Acceptable
Terphenyl-d14	82	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	4.9	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	9.7	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	<b>1.2</b>	J	4.9	0.46	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	4.9	0.45	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	<b>0.57</b>	J	4.9	0.37	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.9	2.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	4.9	0.92	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.9	0.55	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.9	0.54	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.9	0.83	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	ND	U	4.9	0.48	1	08/12/14	08/20/14	KWG1411415	
Fluorene	<b>0.88</b>	J	4.9	0.51	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.9	0.93	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	9.7	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	<b>1.0</b>	J	4.9	0.64	1	08/12/14	08/20/14	KWG1411415	
Pyrene	<b>0.50</b>	J	4.9	0.49	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	39-96	08/20/14	Acceptable
Fluoranthene-d10	88	41-100	08/20/14	Acceptable
Terphenyl-d14	84	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/2014  
**Date Received:** 07/30/2014

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	5.0	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	ND	U	10	1.2	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.4	J	5.0	0.47	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	ND	U	5.0	0.46	1	08/12/14	08/20/14	KWG1411415	
Anthracene	ND	U	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.76	J	5.0	0.38	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	5.0	2.7	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	ND	U	5.0	0.95	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	5.0	0.57	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	5.0	0.55	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	5.0	0.86	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	0.78	J	5.0	0.49	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.2	J	5.0	0.52	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	0.96	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	ND	U	10	1.5	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.2	J	5.0	0.66	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.78	J	5.0	0.50	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	85	39-96	08/20/14	Acceptable
Fluoranthene-d10	82	41-100	08/20/14	Acceptable
Terphenyl-d14	78	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

Analytical Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA

Polynuclear Aromatic Hydrocarbons

**Sample Name:** Method Blank  
**Lab Code:** KWG1411415-5  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	2.3	J	4.6	1.1	1	08/12/14	08/20/14	KWG1411415	
2-Methylnaphthalene	2.3	J	9.2	1.1	1	08/12/14	08/20/14	KWG1411415	
Acenaphthene	2.0	J	4.6	0.43	1	08/12/14	08/20/14	KWG1411415	
Acenaphthylene	2.1	J	4.6	0.42	1	08/12/14	08/20/14	KWG1411415	
Anthracene	0.86	J	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benz(a)anthracene	0.54	J	4.6	0.35	1	08/12/14	08/20/14	KWG1411415	
Benzo(a)pyrene	ND	Ui	4.6	2.3	1	08/12/14	08/20/14	KWG1411415	
Benzo(b)fluoranthene	ND	U	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Benzo(g,h,i)perylene	1.0	J	4.6	0.87	1	08/12/14	08/20/14	KWG1411415	
Benzo(k)fluoranthene	ND	U	4.6	0.52	1	08/12/14	08/20/14	KWG1411415	
Chrysene	ND	U	4.6	0.51	1	08/12/14	08/20/14	KWG1411415	
Dibenz(a,h)anthracene	ND	U	4.6	0.79	1	08/12/14	08/20/14	KWG1411415	
Fluoranthene	ND	U	4.6	0.45	1	08/12/14	08/20/14	KWG1411415	
Fluorene	1.7	J	4.6	0.48	1	08/12/14	08/20/14	KWG1411415	
Indeno(1,2,3-cd)pyrene	ND	U	4.6	0.88	1	08/12/14	08/20/14	KWG1411415	
Naphthalene	3.0	J	9.2	1.4	1	08/12/14	08/20/14	KWG1411415	
Phenanthrene	1.1	J	4.6	0.61	1	08/12/14	08/20/14	KWG1411415	
Pyrene	0.52	J	4.6	0.46	1	08/12/14	08/20/14	KWG1411415	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	39-96	08/20/14	Acceptable
Fluoranthene-d10	80	41-100	08/20/14	Acceptable
Terphenyl-d14	77	39-111	08/20/14	Acceptable

**Comments:** \_\_\_\_\_

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971

**Surrogate Recovery Summary  
 Polynuclear Aromatic Hydrocarbons**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** Percent  
**Level:** Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>
Nv PreTest Rep.1	K1407971-001	68	67	66
NV PreTest Rep.2	K1407971-002	80	79	78
NV PreTest Rep.3	K1407971-003	88	84	81
Nv SYC14-AC Rep.1	K1407971-004	88	86	83
Nv SYC14-AC Rep.2	K1407971-005	90	88	85
Nv SYC14-AC Rep.3	K1407971-006	85	84	80
Nv SYC14-AC Rep.4	K1407971-007	84	81	79
Nv SYC14-AC Rep.5	K1407971-008	89	86	82
Nv SYC14-TB Rep.1	K1407971-009	77	75	73
Nv SYC14-TB Rep.2	K1407971-010	92	89	87
Nv SYC14-TB Rep.3	K1407971-011	87	79	76
Nv SYC14-TB Rep.4	K1407971-012	84	82	80
Nv SYC14-TB Rep.5	K1407971-013	87	84	82
Nv SYC14-REF Rep.1	K1407971-014	88	81	77
Nv SYC14-REF Rep.2	K1407971-015	85	79	76
Nv SYC14-REF Rep.3	K1407971-016	94	87	82
Nv SYC14-REF Rep.4	K1407971-017	89	88	84
Nv SYC14-REF Rep.5	K1407971-018	85	82	78
Method Blank	KWG1411415-5	83	80	77
Nv SYC14-AC Rep.3MS	KWG1411415-1	87	91	89
Nv SYC14-AC Rep.3DMS	KWG1411415-2	90	89	87
Lab Control Sample	KWG1411415-3	85	84	84
Duplicate Lab Control Sample	KWG1411415-4	84	86	84

**Surrogate Recovery Control Limits (%)**

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Sur1 = Fluorene-d10	39-96
Sur2 = Fluoranthene-d10	41-100
Sur3 = Terphenyl-d14	39-111

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Results flagged with an asterisk (\*) indicate values outside control criteria.  
 Results flagged with a pound (#) indicate the control criteria is not applicable.

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 10:18

**Internal Standard Area and RT Summary**  
**Polynuclear Aromatic Hydrocarbons**

**File ID:** J:\MS14\DATA\082014\0820F002.D  
**Instrument ID:** MS14  
**Analysis Method:** 8270D SIM

**Lab Code:** KWG1411816-2  
**Analysis Lot:** KWG1411816

	Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
<b>Results ==&gt;</b>	141,957	4.67	73,035	6.29	141,853	7.53
<b>Upper Limit ==&gt;</b>	283,914	5.17	146,070	6.79	283,706	8.03
<b>Lower Limit ==&gt;</b>	70,979	4.17	36,518	5.79	70,927	7.03
<b>ICAL Result ==&gt;</b>	131,378	4.69	71,629	6.31	141,192	7.56

*Associated Analyses*

Method Blank	KWG1411415-5	136,783	4.66	71,805	6.29	138,768	7.53
Lab Control Sample	KWG1411415-3	133,110	4.67	69,564	6.29	134,564	7.53
Duplicate Lab Control Sample	KWG1411415-4	136,833	4.66	69,515	6.29	134,563	7.53
Nv SYC14-AC Rep.3MS	KWG1411415-1	131,930	4.66	67,187	6.29	128,630	7.53
Nv SYC14-AC Rep.3DMS	KWG1411415-2	133,567	4.66	68,549	6.29	132,442	7.53
Nv SYC14-AC Rep.3	K1407971-006	134,896	4.66	71,856	6.29	138,458	7.53
Nv PreTest Rep.1	K1407971-001	137,574	4.67	73,145	6.29	141,065	7.53
NV PreTest Rep.2	K1407971-002	139,944	4.66	75,503	6.29	145,040	7.53
NV PreTest Rep.3	K1407971-003	138,882	4.66	74,410	6.29	142,702	7.53
Nv SYC14-AC Rep.1	K1407971-004	135,839	4.66	73,297	6.29	140,837	7.53
Nv SYC14-AC Rep.2	K1407971-005	135,559	4.66	72,785	6.29	139,258	7.53
Nv SYC14-AC Rep.4	K1407971-007	135,826	4.66	72,745	6.29	139,377	7.53
Nv SYC14-AC Rep.5	K1407971-008	136,665	4.66	73,162	6.29	139,086	7.53
Nv SYC14-TB Rep.1	K1407971-009	135,611	4.66	72,930	6.29	139,593	7.53
Nv SYC14-TB Rep.2	K1407971-010	133,740	4.66	72,047	6.29	138,435	7.53
Nv SYC14-TB Rep.3	K1407971-011	134,501	4.66	71,788	6.29	138,474	7.53
Nv SYC14-TB Rep.4	K1407971-012	131,187	4.66	70,695	6.29	135,162	7.53
Nv SYC14-TB Rep.5	K1407971-013	133,479	4.67	73,376	6.29	140,640	7.53
Nv SYC14-REF Rep.1	K1407971-014	130,020	4.67	71,637	6.29	137,642	7.53
Nv SYC14-REF Rep.2	K1407971-015	133,606	4.67	71,577	6.29	136,819	7.53
Nv SYC14-REF Rep.3	K1407971-016	139,642	4.66	74,840	6.29	143,302	7.53
Nv SYC14-REF Rep.4	K1407971-017	136,733	4.66	73,368	6.29	141,134	7.53
Nv SYC14-REF Rep.5	K1407971-018	132,733	4.67	70,999	6.29	136,222	7.53

Results flagged with an asterisk (\*) indicate values outside control criteria.



QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 10:18

**Internal Standard Area and RT Summary**  
**Polynuclear Aromatic Hydrocarbons**

**File ID:** J:\MS14\DATA\082014\0820F002.D  
**Instrument ID:** MS14  
**Analysis Method:** 8270D SIM

**Lab Code:** KWG1411816-2  
**Analysis Lot:** KWG1411816

	Chrysene-d12		Perylene-d12	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
<b>Results ==&gt;</b>	149,772	10.06	152,665	13.15
<b>Upper Limit ==&gt;</b>	299,544	10.56	305,330	13.65
<b>Lower Limit ==&gt;</b>	74,886	9.56	76,333	12.65
<b>ICAL Result ==&gt;</b>	143,575	10.11	157,982	13.25

*Associated Analyses*

Method Blank	KWG1411415-5	149,440	10.06	154,530	13.14
Lab Control Sample	KWG1411415-3	141,661	10.06	151,702	13.15
Duplicate Lab Control Sample	KWG1411415-4	139,437	10.06	132,448	13.15
Nv SYC14-AC Rep.3MS	KWG1411415-1	137,392	10.06	148,181	13.16
Nv SYC14-AC Rep.3DMS	KWG1411415-2	139,805	10.06	149,552	13.16
Nv SYC14-AC Rep.3	K1407971-006	149,552	10.06	155,652	13.16
Nv PreTest Rep.1	K1407971-001	153,134	10.06	158,729	13.16
NV PreTest Rep.2	K1407971-002	156,692	10.06	163,753	13.16
NV PreTest Rep.3	K1407971-003	155,394	10.06	162,315	13.16
Nv SYC14-AC Rep.1	K1407971-004	152,914	10.06	158,783	13.16
Nv SYC14-AC Rep.2	K1407971-005	150,486	10.06	155,264	13.16
Nv SYC14-AC Rep.4	K1407971-007	149,053	10.06	156,603	13.17
Nv SYC14-AC Rep.5	K1407971-008	152,943	10.06	158,604	13.17
Nv SYC14-TB Rep.1	K1407971-009	151,452	10.06	158,882	13.17
Nv SYC14-TB Rep.2	K1407971-010	149,805	10.06	156,921	13.17
Nv SYC14-TB Rep.3	K1407971-011	149,406	10.06	155,814	13.16
Nv SYC14-TB Rep.4	K1407971-012	145,185	10.06	150,594	13.16
Nv SYC14-TB Rep.5	K1407971-013	152,744	10.06	157,883	13.17
Nv SYC14-REF Rep.1	K1407971-014	148,981	10.06	154,485	13.17
Nv SYC14-REF Rep.2	K1407971-015	148,363	10.06	153,759	13.17
Nv SYC14-REF Rep.3	K1407971-016	156,210	10.06	162,473	13.16
Nv SYC14-REF Rep.4	K1407971-017	152,709	10.06	158,686	13.16
Nv SYC14-REF Rep.5	K1407971-018	147,582	10.06	153,205	13.16

Results flagged with an asterisk (\*) indicate values outside control criteria.

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/12/2014  
**Date Analyzed:** 08/20/2014

**Matrix Spike/Duplicate Matrix Spike Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low  
**Extraction Lot:** KWG1411415

Analyte Name	Sample Result	Nv SYC14-AC Rep.3MS KWG1411415-1 Matrix Spike			Nv SYC14-AC Rep.3DMS KWG1411415-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
1-Methylnaphthalene	ND	365	496	74	367	489	75	44-110	0	40
2-Methylnaphthalene	ND	369	496	74	369	489	75	43-114	0	40
Acenaphthene	2.0	426	496	85	419	489	85	52-101	2	40
Acenaphthylene	ND	419	496	85	413	489	84	53-100	2	40
Anthracene	ND	458	496	92	438	489	89	57-103	5	40
Benz(a)anthracene	0.66	429	496	86	411	489	84	55-105	4	40
Benzo(a)pyrene	ND	411	496	83	394	489	80	56-110	4	40
Benzo(b)fluoranthene	0.83	439	496	88	421	489	86	60-107	4	40
Benzo(g,h,i)perylene	ND	408	496	82	397	489	81	56-117	3	40
Benzo(k)fluoranthene	ND	435	496	88	419	489	86	58-115	4	40
Chrysene	ND	454	496	92	435	489	89	58-112	4	40
Dibenz(a,h)anthracene	ND	431	496	87	416	489	85	52-112	4	40
Fluoranthene	5.1	468	496	93	443	489	89	55-108	5	40
Fluorene	0.71	436	496	88	427	489	87	56-104	2	40
Indeno(1,2,3-cd)pyrene	ND	410	496	83	398	489	81	50-117	3	40
Naphthalene	ND	364	496	73	365	489	75	43-102	0	40
Phenanthrene	1.1	453	496	91	433	489	88	54-100	5	40
Pyrene	6.1	399	496	79	416	489	84	48-117	4	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/12/2014  
**Date Analyzed:** 08/20/2014

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Units:** ug/Kg  
**Basis:** Wet  
**Level:** Low  
**Extraction Lot:** KWG1411415

Analyte Name	Lab Control Sample KWG1411415-3 Lab Control Spike			Duplicate Lab Control Sample KWG1411415-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
1-Methylnaphthalene	390	500	78	370	500	74	44-110	5	40
2-Methylnaphthalene	388	500	78	381	500	76	43-114	2	40
Acenaphthene	418	500	84	413	500	83	52-101	1	40
Acenaphthylene	418	500	84	412	500	82	53-100	1	40
Anthracene	437	500	87	428	500	86	57-103	2	40
Benz(a)anthracene	413	500	83	412	500	82	55-105	0	40
Benzo(a)pyrene	406	500	81	432	500	86	56-110	6	40
Benzo(b)fluoranthene	427	500	85	470	500	94	60-107	9	40
Benzo(g,h,i)perylene	391	500	78	403	500	81	56-117	3	40
Benzo(k)fluoranthene	419	500	84	465	500	93	58-115	10	40
Chrysene	436	500	87	432	500	86	58-112	1	40
Dibenz(a,h)anthracene	410	500	82	440	500	88	52-112	7	40
Fluoranthene	441	500	88	434	500	87	55-108	2	40
Fluorene	424	500	85	438	500	88	56-104	3	40
Indeno(1,2,3-cd)pyrene	388	500	78	406	500	81	50-117	4	40
Naphthalene	382	500	76	384	500	77	43-102	1	40
Phenanthrene	427	500	85	417	500	83	54-100	2	40
Pyrene	370	500	74	412	500	82	48-117	11	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**SRM Matrix:** Tissue

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Date Extracted:** 8/12/2014  
**Date Analyzed:** 8/20/2014

Standard Reference Material 1974c  
 Polynuclear Aromatic Hydrocarbons

Sample Name: Standard Reference Material  
 Lab Code: KWG1411415-6  
 Test Notes:

Units: ug/Kg (ppb)  
 Basis: Wet

Analyte	Prep Method	Analysis Method	True Value	Result	ALS Advisory Limits **	Result Notes
Fluorene	EPA 3541	8270D SIM	2.31 ± 0.04	1.68	1.14 - 3.53	J
Phenanthrene	EPA 3541	8270D SIM	19.6 ± 0.4	15.0	9.60 - 30.0	
Anthracene	EPA 3541	8270D SIM	1.17 ± 0.08	0.695	0.545 - 1.88	J
Fluoranthene	EPA 3541	8270D SIM	45.3 ± 0.8	36.1	22.3 - 69.2	
Pyrene	EPA 3541	8270D SIM	23.9 ± 1.6	17.8	11.2 - 38.3	
Benz(a)anthracene	EPA 3541	8270D SIM	5.69 ± 0.11	3.21	2.79 - 8.70	J
Benzo(k)fluoranthene	EPA 3541	8270D SIM	2.75 ± 0.02	2.40	1.37 - 4.16	
Benzo(a)pyrene	EPA 3541	8270D SIM	2.32 ± 0.03	4.10	1.15 - 3.53	*
Benzo(g,h,i)perylene	EPA 3541	8270D SIM	2.82 ± 0.05	3.22	1.39 - 4.31	J

Surrogate	Percent Recovery	Acceptance Limits
Fluorene-d10	80	39-96
Fluoranthene-d10	81	41-100
Terphenyl-d14	77	39-111

\*\* Certified values derived from surrogate corrected results. Surrogate correction was not used when reporting final results.

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/12/2014  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 10:44

**Method Blank Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Sample Name:** Method Blank **Instrument ID:** MS14  
**Lab Code:** KWG1411415-5 **File ID:** J:\MS14\DATA\082014\0820F003.D  
**Extraction Method:** EPA 3541 **Level:** Low  
**Analysis Method:** 8270D SIM **Extraction Lot:** KWG1411415

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1411415-3	J:\MS14\DATA\082014\0820F004.D	08/20/14	11:09
Duplicate Lab Control Sample	KWG1411415-4	J:\MS14\DATA\082014\0820F005.D	08/20/14	11:34
Standard Reference Material	KWG1411415-6	J:\MS14\DATA\082014\0820F006.D	08/20/14	12:00
Nv SYC14-AC Rep.3MS	KWG1411415-1	J:\MS14\DATA\082014\0820F007.D	08/20/14	12:25
Nv SYC14-AC Rep.3DMS	KWG1411415-2	J:\MS14\DATA\082014\0820F008.D	08/20/14	12:51
Nv SYC14-AC Rep.3	K1407971-006	J:\MS14\DATA\082014\0820F009.D	08/20/14	13:17
Nv PreTest Rep.1	K1407971-001	J:\MS14\DATA\082014\0820F010.D	08/20/14	13:42
NV PreTest Rep.2	K1407971-002	J:\MS14\DATA\082014\0820F011.D	08/20/14	14:07
NV PreTest Rep.3	K1407971-003	J:\MS14\DATA\082014\0820F012.D	08/20/14	14:33
Nv SYC14-AC Rep.1	K1407971-004	J:\MS14\DATA\082014\0820F013.D	08/20/14	14:58
Nv SYC14-AC Rep.2	K1407971-005	J:\MS14\DATA\082014\0820F014.D	08/20/14	15:24
Nv SYC14-AC Rep.4	K1407971-007	J:\MS14\DATA\082014\0820F015.D	08/20/14	15:50
Nv SYC14-AC Rep.5	K1407971-008	J:\MS14\DATA\082014\0820F016.D	08/20/14	16:15
Nv SYC14-TB Rep.1	K1407971-009	J:\MS14\DATA\082014\0820F017.D	08/20/14	16:41
Nv SYC14-TB Rep.2	K1407971-010	J:\MS14\DATA\082014\0820F018.D	08/20/14	17:06
Nv SYC14-TB Rep.3	K1407971-011	J:\MS14\DATA\082014\0820F019.D	08/20/14	17:32
Nv SYC14-TB Rep.4	K1407971-012	J:\MS14\DATA\082014\0820F020.D	08/20/14	17:58
Nv SYC14-TB Rep.5	K1407971-013	J:\MS14\DATA\082014\0820F021.D	08/20/14	18:23
Nv SYC14-REF Rep.1	K1407971-014	J:\MS14\DATA\082014\0820F022.D	08/20/14	18:49
Nv SYC14-REF Rep.2	K1407971-015	J:\MS14\DATA\082014\0820F023.D	08/20/14	19:15
Nv SYC14-REF Rep.3	K1407971-016	J:\MS14\DATA\082014\0820F024.D	08/20/14	19:40
Nv SYC14-REF Rep.4	K1407971-017	J:\MS14\DATA\082014\0820F025.D	08/20/14	20:06
Nv SYC14-REF Rep.5	K1407971-018	J:\MS14\DATA\082014\0820F026.D	08/20/14	20:32

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/12/2014  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 11:09

**Lab Control Sample Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Sample Name:** Lab Control Sample  
**Lab Code:** KWG1411415-3  
**Instrument ID:** MS14  
**File ID:** J:\MS14\DATA\082014\0820F004.D  
**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM  
**Level:** Low  
**Extraction Lot:** KWG1411415

This Lab Control Sample applies to the following analyses:

<b>Sample Name</b>	<b>Lab Code</b>	<b>File ID</b>	<b>Date Analyzed</b>	<b>Time Analyzed</b>
Method Blank	KWG1411415-5	J:\MS14\DATA\082014\0820F003.D	08/20/14	10:44
Standard Reference Material	KWG1411415-6	J:\MS14\DATA\082014\0820F006.D	08/20/14	12:00
Nv SYC14-AC Rep.3MS	KWG1411415-1	J:\MS14\DATA\082014\0820F007.D	08/20/14	12:25
Nv SYC14-AC Rep.3DMS	KWG1411415-2	J:\MS14\DATA\082014\0820F008.D	08/20/14	12:51
Nv SYC14-AC Rep.3	K1407971-006	J:\MS14\DATA\082014\0820F009.D	08/20/14	13:17
Nv PreTest Rep.1	K1407971-001	J:\MS14\DATA\082014\0820F010.D	08/20/14	13:42
NV PreTest Rep.2	K1407971-002	J:\MS14\DATA\082014\0820F011.D	08/20/14	14:07
NV PreTest Rep.3	K1407971-003	J:\MS14\DATA\082014\0820F012.D	08/20/14	14:33
Nv SYC14-AC Rep.1	K1407971-004	J:\MS14\DATA\082014\0820F013.D	08/20/14	14:58
Nv SYC14-AC Rep.2	K1407971-005	J:\MS14\DATA\082014\0820F014.D	08/20/14	15:24
Nv SYC14-AC Rep.4	K1407971-007	J:\MS14\DATA\082014\0820F015.D	08/20/14	15:50
Nv SYC14-AC Rep.5	K1407971-008	J:\MS14\DATA\082014\0820F016.D	08/20/14	16:15
Nv SYC14-TB Rep.1	K1407971-009	J:\MS14\DATA\082014\0820F017.D	08/20/14	16:41
Nv SYC14-TB Rep.2	K1407971-010	J:\MS14\DATA\082014\0820F018.D	08/20/14	17:06
Nv SYC14-TB Rep.3	K1407971-011	J:\MS14\DATA\082014\0820F019.D	08/20/14	17:32
Nv SYC14-TB Rep.4	K1407971-012	J:\MS14\DATA\082014\0820F020.D	08/20/14	17:58
Nv SYC14-TB Rep.5	K1407971-013	J:\MS14\DATA\082014\0820F021.D	08/20/14	18:23
Nv SYC14-REF Rep.1	K1407971-014	J:\MS14\DATA\082014\0820F022.D	08/20/14	18:49
Nv SYC14-REF Rep.2	K1407971-015	J:\MS14\DATA\082014\0820F023.D	08/20/14	19:15
Nv SYC14-REF Rep.3	K1407971-016	J:\MS14\DATA\082014\0820F024.D	08/20/14	19:40
Nv SYC14-REF Rep.4	K1407971-017	J:\MS14\DATA\082014\0820F025.D	08/20/14	20:06
Nv SYC14-REF Rep.5	K1407971-018	J:\MS14\DATA\082014\0820F026.D	08/20/14	20:32

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 09:52

**Tune Summary**  
**Polynuclear Aromatic Hydrocarbons**

**File ID:** J:\MS14\DATA\082014\0820F001.D  
**Instrument ID:** MS14  
**Column:**

**Analysis Method:** 8270D SIM  
**Analysis Lot:** KWG1411816

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	31.4	77349	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	34.2	84376	PASS
70	69	0	2	0.6	502	PASS
127	198	10	80	43.7	107885	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	49.5	246720	PASS
199	198	5	9	6.7	16588	PASS
275	198	10	60	33.8	83330	PASS
365	442	1	50	2.5	12421	PASS
441	443	0	100	77.2	74732	PASS
442	442	100	100	100.0	498466	PASS
443	442	15	24	19.4	96789	PASS

Results flagged with an asterisk (\*) indicate the analysis performed outside specified tune window

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/20/2014  
**Time Analyzed:** 09:52

**Tune Summary**  
**Polynuclear Aromatic Hydrocarbons**

**File ID:** J:\MS14\DATA\082014\0820F001.D  
**Instrument ID:** MS14  
**Column:**

**Analysis Method:** 8270D SIM  
**Analysis Lot:** KWG1411816

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
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Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1411816-2	J:\MS14\DATA\082014\0820F002.D	08/20/2014	10:18	
Method Blank	KWG1411415-5	J:\MS14\DATA\082014\0820F003.D	08/20/2014	10:44	
Lab Control Sample	KWG1411415-3	J:\MS14\DATA\082014\0820F004.D	08/20/2014	11:09	
Duplicate Lab Control Sample	KWG1411415-4	J:\MS14\DATA\082014\0820F005.D	08/20/2014	11:34	
Standard Reference Material	KWG1411415-6	J:\MS14\DATA\082014\0820F006.D	08/20/2014	12:00	
Nv SYC14-AC Rep.3MS	KWG1411415-1	J:\MS14\DATA\082014\0820F007.D	08/20/2014	12:25	
Nv SYC14-AC Rep.3DMS	KWG1411415-2	J:\MS14\DATA\082014\0820F008.D	08/20/2014	12:51	
Nv SYC14-AC Rep.3	K1407971-006	J:\MS14\DATA\082014\0820F009.D	08/20/2014	13:17	
Nv PreTest Rep.1	K1407971-001	J:\MS14\DATA\082014\0820F010.D	08/20/2014	13:42	
NV PreTest Rep.2	K1407971-002	J:\MS14\DATA\082014\0820F011.D	08/20/2014	14:07	
NV PreTest Rep.3	K1407971-003	J:\MS14\DATA\082014\0820F012.D	08/20/2014	14:33	
Nv SYC14-AC Rep.1	K1407971-004	J:\MS14\DATA\082014\0820F013.D	08/20/2014	14:58	
Nv SYC14-AC Rep.2	K1407971-005	J:\MS14\DATA\082014\0820F014.D	08/20/2014	15:24	
Nv SYC14-AC Rep.4	K1407971-007	J:\MS14\DATA\082014\0820F015.D	08/20/2014	15:50	
Nv SYC14-AC Rep.5	K1407971-008	J:\MS14\DATA\082014\0820F016.D	08/20/2014	16:15	
Nv SYC14-TB Rep.1	K1407971-009	J:\MS14\DATA\082014\0820F017.D	08/20/2014	16:41	
Nv SYC14-TB Rep.2	K1407971-010	J:\MS14\DATA\082014\0820F018.D	08/20/2014	17:06	
Nv SYC14-TB Rep.3	K1407971-011	J:\MS14\DATA\082014\0820F019.D	08/20/2014	17:32	
Nv SYC14-TB Rep.4	K1407971-012	J:\MS14\DATA\082014\0820F020.D	08/20/2014	17:58	
Nv SYC14-TB Rep.5	K1407971-013	J:\MS14\DATA\082014\0820F021.D	08/20/2014	18:23	
Nv SYC14-REF Rep.1	K1407971-014	J:\MS14\DATA\082014\0820F022.D	08/20/2014	18:49	
Nv SYC14-REF Rep.2	K1407971-015	J:\MS14\DATA\082014\0820F023.D	08/20/2014	19:15	
Nv SYC14-REF Rep.3	K1407971-016	J:\MS14\DATA\082014\0820F024.D	08/20/2014	19:40	
Nv SYC14-REF Rep.4	K1407971-017	J:\MS14\DATA\082014\0820F025.D	08/20/2014	20:06	
Nv SYC14-REF Rep.5	K1407971-018	J:\MS14\DATA\082014\0820F026.D	08/20/2014	20:32	

Results flagged with an asterisk (\*) indicate the analysis performed outside specified tune window



Client: Anamar Environmental Consulting, Inc.  
 Project: Shipyard Creek

Service Request: K1407971  
 Calibration Date: 07/22/2014

**Initial Calibration Summary**  
**Polynuclear Aromatic Hydrocarbons**

Calibration ID: CAL13446  
 Instrument ID: MS14

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS14\DATA\072214\0722F007.D	G	J:\MS14\DATA\072214\0722F013.D
B	J:\MS14\DATA\072214\0722F008.D	H	J:\MS14\DATA\072314\0723F002.D
C	J:\MS14\DATA\072214\0722F009.D	I	J:\MS14\DATA\072314\0723F003.D
D	J:\MS14\DATA\072214\0722F010.D	J	J:\MS14\DATA\072314\0723F004.D
E	J:\MS14\DATA\072214\0722F011.D		
F	J:\MS14\DATA\072214\0722F012.D		

Analyte Name	Level ID			Level ID			Level ID			Level ID			Level ID		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
1-Methylnaphthalene	A	20	0.702	B	100	0.670	C	200	0.687	D	400	0.653	E	1000	0.626
	F	1600	0.588	G	2000	0.590	H	2.0	0.667	I	4.0	0.702	J	8.0	0.640
2-Methylnaphthalene	A	20	0.792	B	100	0.758	C	200	0.783	D	400	0.749	E	1000	0.717
	F	1600	0.667	G	2000	0.669	H	2.0	0.767	I	4.0	0.775	J	8.0	0.734
Acenaphthene	A	20	1.23	B	100	1.20	C	200	1.25	D	400	1.18	E	1000	1.14
	F	1600	1.06	G	2000	1.05	H	2.0	1.17	I	4.0	1.23	J	8.0	1.15
Acenaphthylene	A	20	2.13	B	100	2.09	C	200	2.18	D	400	2.10	E	1000	2.00
	F	1600	1.85	G	2000	1.83	H	2.0	1.98	I	4.0	2.06	J	8.0	1.94
Anthracene	A	20	1.15	B	100	1.12	C	200	1.18	D	400	1.11	E	1000	1.07
	F	1600	0.977	G	2000	0.980	H	2.0	1.10	I	4.0	1.14	J	8.0	1.11
Benz(a)anthracene	A	20	1.20	B	100	1.17	C	200	1.24	D	400	1.22	E	1000	1.23
	F	1600	1.18	G	2000	1.21	H	2.0	1.40	I	4.0	1.27	J	8.0	1.14
Benzo(a)pyrene	A	20	1.39	B	100	1.18	C	200	1.22	D	400	1.17	E	1000	1.17
	F	1600	1.13	G	2000	1.15	H	2.0	1.24	I	4.0	1.11	J	8.0	1.04
Benzo(b)fluoranthene	A	20	1.25	B	100	1.23	C	200	1.32	D	400	1.26	E	1000	1.26
	F	1600	1.20	G	2000	1.23	H	2.0	1.19	I	4.0	1.19	J	8.0	1.15
Benzo(g,h,i)perylene	A	20	1.54	B	100	1.47	C	200	1.51	D	400	1.43	E	1000	1.37
	F	1600	1.29	G	2000	1.30	H	2.0	1.46	I	4.0	1.55	J	8.0	1.43
Benzo(k)fluoranthene	A	20	1.24	B	100	1.22	C	200	1.27	D	400	1.22	E	1000	1.21
	F	1600	1.16	G	2000	1.18	H	2.0	1.42	I	4.0	1.18	J	8.0	1.11
Chrysene	A	20	1.08	B	100	1.06	C	200	1.12	D	400	1.09	E	1000	1.11
	F	1600	1.07	G	2000	1.09	H	2.0	1.15	I	4.0	1.09	J	8.0	1.03
Dibenz(a,h)anthracene	A	20	1.32	B	100	1.32	C	200	1.38	D	400	1.33	E	1000	1.31
	F	1600	1.23	G	2000	1.24	H	2.0	1.12	I	4.0	1.25	J	8.0	1.13
Fluoranthene	A	20	1.40	B	100	1.36	C	200	1.41	D	400	1.31	E	1000	1.24
	F	1600	1.12	G	2000	1.11	H	2.0	1.31	I	4.0	1.34	J	8.0	1.27
Fluorene	A	20	1.55	B	100	1.51	C	200	1.55	D	400	1.47	E	1000	1.40
	F	1600	1.29	G	2000	1.27	H	2.0	1.51	I	4.0	1.55	J	8.0	1.47

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 07/22/2014

**Initial Calibration Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Calibration ID:** CAL13446  
**Instrument ID:** MS14

**Column:** MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	20	1.37	B	100	1.30	C	200	1.42	D	400	1.36	E	1000	1.33
	F	1600	1.26	G	2000	1.28	H	2.0	1.31	I	4.0	1.32	J	8.0	1.23
Naphthalene	A	20	1.11	B	100	1.07	C	200	1.11	D	400	1.08	E	1000	1.05
	F	1600	0.992	G	2000	0.997	H	2.0	1.07	I	4.0	1.10	J	8.0	1.03
Phenanthrene	A	20	1.17	B	100	1.12	C	200	1.17	D	400	1.11	E	1000	1.07
	F	1600	0.970	G	2000	0.971	H	2.0	1.20	I	4.0	1.17	J	8.0	1.10
Pyrene	A	20	1.44	B	100	1.39	C	200	1.44	D	400	1.39	E	1000	1.36
	F	1600	1.28	G	2000	1.30	H	2.0	1.38	I	4.0	1.43	J	8.0	1.40
Fluorene-d10	A	20	1.22	B	100	1.18	C	200	1.22	D	400	1.17	E	1000	1.13
	F	1600	1.04	G	2000	1.04	H	2.0	1.33	I	4.0	1.28	J	8.0	1.20
Fluoranthene-d10	A	20	1.15	B	100	1.15	C	200	1.21	D	400	1.14	E	1000	1.10
	F	1600	1.01	G	2000	1.01	H	2.0	1.17	I	4.0	1.19	J	8.0	1.12
Terphenyl-d14	A	20	0.924	B	100	0.892	C	200	0.929	D	400	0.885	E	1000	0.846
	F	1600	0.787	G	2000	0.782	H	2.0	0.983	I	4.0	1.01	J	8.0	0.957

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 07/22/2014

**Initial Calibration Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Calibration ID:** CAL13446  
**Instrument ID:** MS14

**Column:** MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
1-Methylnaphthalene	MS	AverageRF	% RSD	6.4		≤20	0.653		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.0		≤20	0.741		0.40
Acenaphthene	MS	AverageRF	% RSD	5.9		≤20	1.16		0.90
Acenaphthylene	MS	AverageRF	% RSD	5.8		≤20	2.02		0.90
Anthracene	MS	AverageRF	% RSD	6.2		≤20	1.09		0.70
Benz(a)anthracene	MS	AverageRF	% RSD	5.7		≤20	1.23		0.80
Benzo(a)pyrene	MS	AverageRF	% RSD	7.8		≤20	1.18		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.0		≤20	1.23		0.70
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	6.4		≤20	1.43		0.50
Benzo(k)fluoranthene	MS	AverageRF	% RSD	7.0		≤20	1.22		0.70
Chrysene	MS	AverageRF	% RSD	2.9		≤20	1.09		0.70
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	6.9		≤20	1.26		0.40
Fluoranthene	MS	AverageRF	% RSD	8.0		≤20	1.29		0.60
Fluorene	MS	AverageRF	% RSD	7.3		≤20	1.46		0.90
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	4.1		≤20	1.32		0.50
Naphthalene	MS	AverageRF	% RSD	4.1		≤20	1.06		0.70
Phenanthrene	MS	AverageRF	% RSD	7.4		≤20	1.10		0.70
Pyrene	MS	AverageRF	% RSD	3.9		≤20	1.38		0.60
Fluorene-d10	SURR	AverageRF	% RSD	7.8		≤20	1.18		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	5.9		≤20	1.13		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	8.6		≤20	0.900		0.01

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Calibration Date:** 07/22/2014  
**Date Analyzed:** 07/23/2014

**Second Source Calibration Verification**  
**Polynuclear Aromatic Hydrocarbons**

**Calibration Type:** Internal Standard  
**Analysis Method:** 8270D SIM

**Calibration ID:** CAL13446  
**Units:** ng/ml

**File ID:** J:\MS14\DATA\072314\0723F005.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	390	0.653	0.630	-3	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	360	0.741	0.672	-9	NA	± 30 %	AverageRF
Acenaphthene	400	370	1.16	1.09	-6	NA	± 30 %	AverageRF
Acenaphthylene	400	370	2.02	1.89	-6	NA	± 30 %	AverageRF
Anthracene	400	360	1.09	0.988	-10	NA	± 30 %	AverageRF
Benz(a)anthracene	400	360	1.23	1.10	-11	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	370	1.18	1.09	-8	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	380	1.23	1.17	-4	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	370	1.43	1.33	-7	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	360	1.22	1.11	-9	NA	± 30 %	AverageRF
Chrysene	400	380	1.09	1.03	-6	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	380	1.26	1.21	-4	NA	± 30 %	AverageRF
Fluoranthene	400	370	1.29	1.20	-7	NA	± 30 %	AverageRF
Fluorene	400	370	1.46	1.34	-8	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	390	1.32	1.27	-4	NA	± 30 %	AverageRF
Naphthalene	400	380	1.06	0.998	-6	NA	± 30 %	AverageRF
Phenanthrene	400	370	1.10	1.03	-7	NA	± 30 %	AverageRF
Pyrene	400	360	1.38	1.25	-10	NA	± 30 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971  
**Date Analyzed:** 08/20/2014

**Continuing Calibration Verification Summary**  
**Polynuclear Aromatic Hydrocarbons**

**Calibration Type:** Internal Standard  
**Analysis Method:** 8270D SIM

**Calibration Date:** 07/22/2014  
**Calibration ID:** CAL13446  
**Analysis Lot:** KWG1411816  
**Units:** ng/ml

**File ID:** J:\MS14\DATA\082014\0820F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	390	0.01	0.653	0.643	-1	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	370	0.40	0.741	0.679	-8	NA	± 20 %	AverageRF
Acenaphthene	400	400	0.90	1.16	1.17	0	NA	± 20 %	AverageRF
Acenaphthylene	400	420	0.90	2.02	2.11	5	NA	± 20 %	AverageRF
Anthracene	400	400	0.70	1.09	1.08	-1	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	0.80	1.23	1.09	-11	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	370	0.70	1.18	1.08	-9	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	370	0.70	1.23	1.15	-7	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	330	0.50	1.43	1.17	-18	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	360	0.70	1.22	1.10	-10	NA	± 20 %	AverageRF
Chrysene	400	380	0.70	1.09	1.02	-6	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	350	0.40	1.26	1.11	-12	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.60	1.29	1.24	-4	NA	± 20 %	AverageRF
Fluorene	400	390	0.90	1.46	1.42	-2	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	340	0.50	1.32	1.11	-16	NA	± 20 %	AverageRF
Naphthalene	400	390	0.70	1.06	1.04	-2	NA	± 20 %	AverageRF
Phenanthrene	400	390	0.70	1.10	1.09	-2	NA	± 20 %	AverageRF
Pyrene	400	360	0.60	1.38	1.24	-10	NA	± 20 %	AverageRF
Fluorene-d10	400	410	0.01	1.18	1.21	3	NA	± 20 %	AverageRF
Fluoranthene-d10	400	390	0.01	1.13	1.09	-3	NA	± 20 %	AverageRF
Terphenyl-d14	400	390	0.01	0.900	0.877	-3	NA	± 20 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:** K1407971

**Analysis Run Log**  
**Polynuclear Aromatic Hydrocarbons**

**Analysis Method:** 8270D SIM

**Analysis Lot:** KWG1411816  
**Instrument ID:** MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0820F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1411816-1	8/20/2014	09:52		8/20/2014	10:10
0820F002.D	Continuing Calibration Verification	KWG1411816-2	8/20/2014	10:18		8/20/2014	10:36
0820F003.D	Method Blank	KWG1411415-5	8/20/2014	10:44		8/20/2014	11:02
0820F004.D	Lab Control Sample	KWG1411415-3	8/20/2014	11:09		8/20/2014	11:27
0820F005.D	Duplicate Lab Control Sample	KWG1411415-4	8/20/2014	11:34		8/20/2014	11:52
0820F006.D	Standard Reference Material	KWG1411415-6	8/20/2014	12:00		8/20/2014	12:18
0820F007.D	Nv SYC14-AC Rep.3MS	KWG1411415-1	8/20/2014	12:25		8/20/2014	12:43
0820F008.D	Nv SYC14-AC Rep.3DMS	KWG1411415-2	8/20/2014	12:51		8/20/2014	13:09
0820F009.D	Nv SYC14-AC Rep.3	K1407971-006	8/20/2014	13:17		8/20/2014	13:35
0820F010.D	Nv PreTest Rep.1	K1407971-001	8/20/2014	13:42		8/20/2014	14:00
0820F011.D	NV PreTest Rep.2	K1407971-002	8/20/2014	14:07		8/20/2014	14:25
0820F012.D	NV PreTest Rep.3	K1407971-003	8/20/2014	14:33		8/20/2014	14:51
0820F013.D	Nv SYC14-AC Rep.1	K1407971-004	8/20/2014	14:58		8/20/2014	15:16
0820F014.D	Nv SYC14-AC Rep.2	K1407971-005	8/20/2014	15:24		8/20/2014	15:42
0820F015.D	Nv SYC14-AC Rep.4	K1407971-007	8/20/2014	15:50		8/20/2014	16:08
0820F016.D	Nv SYC14-AC Rep.5	K1407971-008	8/20/2014	16:15		8/20/2014	16:33
0820F017.D	Nv SYC14-TB Rep.1	K1407971-009	8/20/2014	16:41		8/20/2014	16:59
0820F018.D	Nv SYC14-TB Rep.2	K1407971-010	8/20/2014	17:06		8/20/2014	17:24
0820F019.D	Nv SYC14-TB Rep.3	K1407971-011	8/20/2014	17:32		8/20/2014	17:50
0820F020.D	Nv SYC14-TB Rep.4	K1407971-012	8/20/2014	17:58		8/20/2014	18:16
0820F021.D	Nv SYC14-TB Rep.5	K1407971-013	8/20/2014	18:23		8/20/2014	18:41
0820F022.D	Nv SYC14-REF Rep.1	K1407971-014	8/20/2014	18:49		8/20/2014	19:07
0820F023.D	Nv SYC14-REF Rep.2	K1407971-015	8/20/2014	19:15		8/20/2014	19:33
0820F024.D	Nv SYC14-REF Rep.3	K1407971-016	8/20/2014	19:40		8/20/2014	19:58
0820F025.D	Nv SYC14-REF Rep.4	K1407971-017	8/20/2014	20:06		8/20/2014	20:24
0820F026.D	Nv SYC14-REF Rep.5	K1407971-018	8/20/2014	20:32		8/20/2014	20:50
0820F027.D	ZZZZZZ	ZZZZZZ	8/20/2014	20:57		8/20/2014	21:15

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

QA/QC Results

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal tissue

**Service Request:** K1407971  
**Date Extracted:** 08/12/2014

**Extraction Prep Log**  
**Polynuclear Aromatic Hydrocarbons**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8270D SIM

**Extraction Lot:** KWG1411415  
**Level:** Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Nv PreTest Rep.1	K1407971-001	06/27/14	07/30/14	10.512g	10ml	NA	
NV PreTest Rep.2	K1407971-002	06/27/14	07/30/14	10.113g	10ml	NA	
NV PreTest Rep.3	K1407971-003	06/27/14	07/30/14	10.039g	10ml	NA	
Nv SYC14-AC Rep.1	K1407971-004	07/25/14	07/30/14	10.585g	10ml	NA	
Nv SYC14-AC Rep.2	K1407971-005	07/25/14	07/30/14	10.422g	10ml	NA	
Nv SYC14-AC Rep.3	K1407971-006	07/25/14	07/30/14	10.050g	10ml	NA	
Nv SYC14-AC Rep.4	K1407971-007	07/25/14	07/30/14	10.166g	10ml	NA	
Nv SYC14-AC Rep.5	K1407971-008	07/25/14	07/30/14	10.394g	10ml	NA	
Nv SYC14-TB Rep.1	K1407971-009	07/25/14	07/30/14	10.052g	10ml	NA	
Nv SYC14-TB Rep.2	K1407971-010	07/25/14	07/30/14	10.042g	10ml	NA	
Nv SYC14-TB Rep.3	K1407971-011	07/25/14	07/30/14	10.986g	10ml	NA	
Nv SYC14-TB Rep.4	K1407971-012	07/25/14	07/30/14	10.213g	10ml	NA	
Nv SYC14-TB Rep.5	K1407971-013	07/25/14	07/30/14	10.395g	10ml	NA	
Nv SYC14-REF Rep.1	K1407971-014	07/25/14	07/30/14	10.027g	10ml	NA	
Nv SYC14-REF Rep.2	K1407971-015	07/25/14	07/30/14	10.305g	10ml	NA	
Nv SYC14-REF Rep.3	K1407971-016	07/25/14	07/30/14	10.050g	10ml	NA	
Nv SYC14-REF Rep.4	K1407971-017	07/25/14	07/30/14	10.370g	10ml	NA	
Nv SYC14-REF Rep.5	K1407971-018	07/25/14	07/30/14	10.083g	10ml	NA	
Method Blank	KWG1411415-5	NA	NA	10.986g	10ml	NA	
Nv SYC14-AC Rep.3MS	KWG1411415-1	07/25/14	07/30/14	10.083g	10ml	NA	
Nv SYC14-AC Rep.3DMS	KWG1411415-2	07/25/14	07/30/14	10.217g	10ml	NA	
Lab Control Sample	KWG1411415-3	NA	NA	10.000g	10ml	NA	
Duplicate Lab Control Sample	KWG1411415-4	NA	NA	10.000g	10ml	NA	

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis



## Dioxins and Furans

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)





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August 28, 2014

Service Request No: K1407971

Shar Samy, Ph.D.  
ALS Environmental  
1317 South 13<sup>th</sup> Avenue  
Kelso, WA 98626

**Laboratory Result for: Ana mar Environmental Consulting, Inc.**

Dear Shar:

Enclosed are the results of the sample(s) submitted to our laboratory on August 08, 2014. For Your reference, these analyses have been assigned our service request number: **K1407971**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2279. You may also contact me via email at [Arthi.Kodur@alsglobal.com](mailto:Arthi.Kodur@alsglobal.com)

Respectfully submitted,

**ALS Group USA Corp., dba ALS Environmental**

Arthi Kodur  
Project Manager

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*For a specific list of NELAP-accredited analytes, refer to the certifications section at [www.alsglobal.com](http://www.alsglobal.com).*



# Certificate of Analysis

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd, Suite 210, Houston TX 77099  
Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

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## ALS ENVIRONMENTAL

**Client:** Anamar Environmental Consulting, Inc. **Service Request No.:** K1407971  
**Project:** Shipyard Creek **Date Received:** 8/8/14  
**Sample Matrix:** Animal Tissue

### ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

#### Sample Receipt

Eighteen tissue samples were received for analysis at ALS Environmental on 8/8/14. Tissue samples were homogenized at ALS-Kelso. Aliquots were shipped to ALS-Houston for dioxin analysis by method 8290.

Please note the reporting forms are currently referencing the date ALS Environmental-Kelso received the samples (7/30/14) and not the date ALS Environmental-Houston received the samples (8/8/14).

The samples were received at -50°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a freezer at -18°C upon receipt at the laboratory.

#### Data Validation Notes and Discussion

##### B flags – Method Blanks

The Method Blank EQ1400478-01 contained low levels of various analytes at or below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags.

##### MS/MSD

EQ1400478: Laboratory Control Spike (LCS) sample was analyzed and reported in addition to an MS/MSD for this extraction batch. The batch quality control criteria were met.

##### 2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions were sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

##### Y flags – Labeled Standards

Quantification of the native 2,3,7,8-substituted analytes is based on isotopic dilution, which automatically corrects for variation in extraction efficiency and provides accurate values even with poor recovery. Samples that had recoveries of labeled standards outside the acceptance limits are qualified with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1 and detection limit were below the Method Reporting Limit.

### **K flags**

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

### **Detection Limits**

Detection limits are calculated for each congener/analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Where the EDL exceeds the MRL, the MRL is raised to equal the EDL.

### **Manual Integrations**

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

### **The TEQ Summary results for each sample have been calculated by ALS ENVIRONMENTAL/Houston to include:**

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

*The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.*

*Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.*

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek

**Service Request:**K1407971

**SAMPLE CROSS-REFERENCE**

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1407971-001	Nv PreTest Rep.1	6/27/2014	1100
K1407971-002	NV PreTest Rep.2	6/27/2014	1100
K1407971-003	NV PreTest Rep.3	6/27/2014	1100
K1407971-004	Nv SYC14-AC Rep.1	7/25/2014	
K1407971-005	Nv SYC14-AC Rep.2	7/25/2014	
K1407971-006	Nv SYC14-AC Rep.3	7/25/2014	
K1407971-007	Nv SYC14-AC Rep.4	7/25/2014	
K1407971-008	Nv SYC14-AC Rep.5	7/25/2014	
K1407971-009	Nv SYC14-TB Rep.1	7/25/2014	
K1407971-010	Nv SYC14-TB Rep.2	7/25/2014	
K1407971-011	Nv SYC14-TB Rep.3	7/25/2014	
K1407971-012	Nv SYC14-TB Rep.4	7/25/2014	
K1407971-013	Nv SYC14-TB Rep.5	7/25/2014	
K1407971-014	Nv SYC14-REF Rep.1	7/25/2014	
K1407971-015	Nv SYC14-REF Rep.2	7/25/2014	
K1407971-016	Nv SYC14-REF Rep.3	7/25/2014	
K1407971-017	Nv SYC14-REF Rep.4	7/25/2014	
K1407971-018	Nv SYC14-REF Rep.5	7/25/2014	

## Service Request Summary

**Folder #:** K1407971  
**Client Name:** Anamar Environmental Consulting, Inc.  
**Project Name:** Shipyard Creek  
**Project Number:**  
  
**Report To:** Paul Berman  
 Anamar Environmental Consulting, Inc.  
 2106 NW 67th Place, Suite 5  
 Gainesville, FL 32653  
 USA  
**Phone Number:** 352-377-5770  
**Cell Number:**  
**Fax Number:** 352-378-7620  
**E-mail:** pberman@anamarinc.com

**Project Chemist:** Shar Samy, Ph.D.  
**Originating Lab:** KELSO  
**Logged By:** ARYNEVICH  
**Date Received:** 07/30/14  
**Internal Due Date:** 8/21/2014  
**QAP:** LAB QAP  
**Qualifier Set:** Lab Standard  
**Formset:** Lab Standard  
**Merged?:** Y  
**Report to MDL?:** Y  
**P.O. Number:**  
**EDD:** Anamar

53 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
 18 20 mL-Glass Vial NM CLEAR Unpreserved  
 18 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
 18 -N/A N/A  
 13 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved  
 3 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
 2 16 oz-Glass Jar WM Unpreserved  
**Location:** E-Disposed, K-RT-13, K-ATHENA-38, SMO,  
 K-Disposed, In Lab  
**Pressure Gas:**

Lab Samp No.	Client Samp No	Matrix	Collected	KELSO			KELSO		HOUSTON	KELSO
				Frz Dry/Frz Dry	Hg/7471B	Metals T/200.8	BUTYL TINS/Butyltins	LIPIDS/Lipids	PCDD PCDF/8290A	PAH SIM/8270D
K1407971-001	Nv PreTest Rep.1	Animal Tissue	06/27/14 1100	V	V	V	V	V	V	V
K1407971-002	NV PreTest Rep.2	Animal Tissue	06/27/14 1100	V	V	V	V	V	V	V
K1407971-003	NV PreTest Rep.3	Animal Tissue	06/27/14 1100	V	V	V	V	V	V	V
K1407971-004	Nv SYC14-AC Rep.1	Animal Tissue	07/25/14	V	V	V			V	V
K1407971-005	Nv SYC14-AC Rep.2	Animal Tissue	07/25/14	V	V	V			V	V
K1407971-006	Nv SYC14-AC Rep.3	Animal Tissue	07/25/14	V	V	V			V	V
K1407971-007	Nv SYC14-AC Rep.4	Animal Tissue	07/25/14	V	V	V			V	V
K1407971-008	Nv SYC14-AC Rep.5	Animal Tissue	07/25/14	V	V	V			V	V
K1407971-009	Nv SYC14-TB Rep.1	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-010	Nv SYC14-TB Rep.2	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-011	Nv SYC14-TB Rep.3	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-012	Nv SYC14-TB Rep.4	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-013	Nv SYC14-TB Rep.5	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-014	Nv SYC14-REF Rep.1	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-015	Nv SYC14-REF Rep.2	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-016	Nv SYC14-REF Rep.3	Animal Tissue	07/25/14	V	V	V	V		V	V

## Service Request Summary

**Folder #:** K1407971  
**Client Name:** Anamar Environmental Consulting, Inc.  
**Project Name:** Shipyard Creek  
**Project Number:**  
  
**Report To:** Paul Berman  
 Anamar Environmental Consulting, Inc.  
 2106 NW 67th Place, Suite 5  
 Gainesville, FL 32653  
 USA  
**Phone Number:** 352-377-5770  
**Cell Number:**  
**Fax Number:** 352-378-7620  
**E-mail:** pberman@anamarinc.com

**Project Chemist:** Shar Samy, Ph.D.  
**Originating Lab:** KELSO  
**Logged By:** ARYNEVICH  
**Date Received:** 07/30/14  
**Internal Due Date:** 8/21/2014  
**QAP:** LAB QAP  
**Qualifier Set:** Lab Standard  
**Formset:** Lab Standard  
**Merged?:** Y  
**Report to MDL?:** Y  
**P.O. Number:**  
**EDD:** Anamar

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 18 20 mL-Glass Vial NM CLEAR Unpreserved  
 18 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
 18 -N/A N/A  
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 3 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
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**Location:** E-Disposed, K-RT-13, K-ATHENA-38, SMO,  
 K-Disposed, In Lab  
**Pressure Gas:**

Lab Samp No.	Client Samp No	Matrix	Collected	KELSO			KELSO		HOUSTON	KELSO
				Frz Dry/Frz Dry	Hg/7471B	Metals T/200.8	BUTYL TINS/Butyltins	LIPIDS/Lipids	PCDD PCDF/8290A	PAH SIM/8270D
K1407971-017	Nv SYC14-REF Rep.4	Animal Tissue	07/25/14	V	V	V	V		V	V
K1407971-018	Nv SYC14-REF Rep.5	Animal Tissue	07/25/14	V	V	V	V		V	V

**Folder Comments:**  
 Report Tissue Wet and Dry

## Service Request Summary

**Folder #:** K1407971  
**Client Name:** Anamar Environmental Consulting, Inc.  
**Project Name:** Shipyard Creek  
**Project Number:**

**Report To:** Paul Berman  
Anamar Environmental Consulting, Inc.  
2106 NW 67th Place, Suite 5  
Gainesville, FL 32653  
USA

**Phone Number:** 352-377-5770

**Cell Number:**

**Fax Number:** 352-378-7620

**E-mail:** pberman@anamarinc.com

**Project Chemist:** Shar Samy, Ph.D.  
**Originating Lab:** KELSO  
**Logged By:** ARYNEVICH  
**Date Received:** 07/30/14  
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**QAP:** LAB QAP  
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**P.O. Number:**  
**EDD:** Anamar

53 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
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18 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
18 -N/A N/A  
13 40 mL-Glass Vial VOA CLEAR Tef/Silicone Septa Unpreserved  
3 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved  
2 16 oz-Glass Jar WM Unpreserved  
**Location:** E-Disposed, K-RT-13, K-ATHENA-38, SMO,  
K-Disposed, In Lab

**Pressure Gas:**

### **Test Comments:**

<b>Group</b>	<b>Test/Method</b>	<b>Samples</b>	<b>Comments</b>
Metals	Metals T/200.8	18	Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl,Ag,Zn
Semivola GC	BUTYLTINS/Butyltins	13	report all
Semivola GCMS	PCDD PCDF/8290A	18	full list MS/MSD on sample K1407971-005 (ak 8/8/14) batch all the 7971 together please
Semivola GCMS	PAH SIM/8270D	18	See attached list
SMO	Archive -20C/Archive	18	Archive Remaining mass



# Superset Summary

Service Request: K1407971

SuperSet Reference: 14-0000298849 rev 00

Analytical Method: 8290A

Calibrations: 03/25/14

## Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P173109	P173101	P230753	K1407971-001
P173110	P173101	P230753	K1407971-002
P173111	P173101	P230753	K1407971-003
P173118	P173114	P230753	K1407971-004
P173119	P173114	P230753	K1407971-005
P173120	P173114	P230753	K1407971-006
P173121	P173114	P230753	K1407971-007
P173122	P173114	P230753	K1407971-008
P173123	P173114	P230753	K1407971-009
P173124	P173114	P230753	K1407971-010
P173125	P173114	P230753	K1407971-011

Calibrations: 07/31/14

## Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
U150519	U150516	P230753	EQ1400478-02
U150520	U150516	P230753	EQ1400478-03
U150521	U150516	P230753	EQ1400478-04

Calibrations: 08/24/14

## Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P230753	P230751	P230753	EQ1400478-01
P230808	P230803	P230753	K1407971-012
P230809	P230803	P230753	K1407971-013
P230810	P230803	P230753	K1407971-014
P230811	P230803	P230753	K1407971-015
P230812	P230803	P230753	K1407971-016
P230813	P230803	P230753	K1407971-017
P230814	P230803	P230753	K1407971-018

## Data Qualifier Flags – Dioxin/Furans

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- B** Indicates the associated analyte is found in the method blank, as well as in the sample
- C** 2378-TCDF is detected on the DB-5 column above the MRL, confirmation analysis was performed on a second column (DB-225.) The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result are used in determining the TEQ value for TCDF.
- E** The reported result is above the instrument calibration range and is an estimated value.
- J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL)
- K** Ion abundance ratios between the primary and secondary ions were outside of theoretical acceptance limits. The reported result is an estimated maximum possible concentration (EMPC)
- i** The associated MRL/MDL has been elevated due to matrix interference.
- U** Indicates the compound was analyzed for, but not detected (ND)
- Y** C13-Labeled standard percent recoveries are outside of method acceptance limits
- S** Peak is saturated; data not reportable
- P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
- X** See case narrative

# ALS Laboratory Group

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## Acronyms

Cal	Calibration
Conc	CONCEntration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

### State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2014
Arizona Department of Health Services	AZ0793	5/27/2015
Arkansas Department of Environmental Quality	14-038-0	6/16/2015
California Department of Health Services	2452	2/28/2015
Florida Department of Health	E87611	6/30/2015
Hawaii Department of Health	TX02694	6/30/2015
Illinois Environmental Protection Agency	200057	10/6/2014
Kansas Department of Health and Environment	E-10406	1/31/2015
Louisiana Department of Environmental Quality	03048	12/31/2014
Louisiana Department of Health and Hospitals	TX2694	6/30/2015
Maryland Department of the Environment	343	6/30/2015
Michigan Department of Environmental Quality	9971	6/30/2015
Minnesota Department of Health	TX02694	12/31/2014
Nebraska Department of Health and Human Services	NE-OS-25-13	6/30/2015
Nevada Department of Conservation and Natural Resources	TX014112013-2	7/31/2015
New Jersey Department of Environmental Protection	NLC140001	6/30/2015
New Mexico Environment Department	TX02694	6/30/2015
New York Department of Health	11707	4/1/2015
Oklahoma Department of Environmental Quality	2013-132	8/31/2014
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2015
Pennsylvania Department of Environmental Protection	68-03441	6/30/2015
Tennessee Department of Environment and Conservation	04016	6/30/2015
Texas Commission on Environmental Quality	TX104704216-14-5	6/30/2015
United States Department of Agriculture	P330-14-00067	2/21/2017
Utah Department of Health Environmental Laboratory Certification	TX02694	7/31/2015
Washington Department of Health	c819	11/14/2014
West Virginia Department of Environmental Protection	347	6/30/2015

ALS Environmental – Houston HRMS  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

K1407971

DB-5MSUI

DB-225

SPB-Octyl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Analyst:	Samples:
08/27/14	JC	-001, -002, -003

**Second Level - Data Review – to be filled by person doing peer review**

Date:	Analyst:	Samples:
08/27/14	UM	001-003

ALS ENVIRONMENTAL – Houston  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1407971 DB-5 DB-5MSU DB-225 SPB-Octyl

**First Level - Data Processing - to be filled by person generating the forms**

Date: <u>08/27/14</u>	Analyst: <u>Jc</u>	Samples: <u>004-011</u>

**Second Level - Data Review – to be filled by person doing peer review**

Date:	Analyst:	Samples:
<u>08/28/14</u>	<u>UM</u>	<u>004-011</u>

ALS Environmental – Houston HRMS  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID


K1407971

OB-5MSUI


DB-225

SPB-Octyl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Analyst:	Samples:
082714		012, 013, 014, 015, 016, 017, 018

**Second Level - Data Review – to be filled by person doing peer review**

Date:	Analyst:	Samples:
08/28/14		012-018

ALS Environmental – Houston HRMS  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID <sup>082714</sup>  
~~E14-K1400~~ K1407971

DB-5MSUI DB-225 SPB-Octyl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Analyst:	Samples:
08-27-14	<i>[Signature]</i>	005ms, 005DMS

**Second Level - Data Review – to be filled by person doing peer review**

Date:	Analyst:	Samples:
08/28/14	<i>[Signature]</i>	00547K:03,04





# Chain of Custody

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd, Suite 210, Houston TX 77099  
Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

# Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Shar Samy, Ph.D.

**Project Name:** Shipyard Creek  
**Project Number:**  
**Project Manager:** Paul Berman  
**Company:** Anamar Environmental Consulting, Inc.

PCDD PCDF  
8290A

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample		Date Received	Send To	
				Date	Time			
K1407971-001	Nv PreTest Rep.1	1	Animal Tissue	6/27/14	1100	7/30/14	HOUSTON	V
K1407971-002	NV PreTest Rep.2	1	Animal Tissue	6/27/14	1100	7/30/14	HOUSTON	V
K1407971-003	NV PreTest Rep.3	1	Animal Tissue	6/27/14	1100	7/30/14	HOUSTON	V
K1407971-004	Nv SYC14-AC Rep.1	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-005	Nv SYC14-AC Rep.2	3 (MS/MS)	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-006	Nv SYC14-AC Rep.3	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-007	Nv SYC14-AC Rep.4	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-008	Nv SYC14-AC Rep.5	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-009	Nv SYC14-TB Rep.1	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-010	Nv SYC14-TB Rep.2	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-011	Nv SYC14-TB Rep.3	1	Animal Tissue	7/25/14		7/30/14	HOUSTON	V

<b>Special Instructions/Comments</b> Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.  <div style="font-size: 1.2em; font-family: cursive;">                     Attention: Arthi K.                       Bench Sheet Attached                 </div> pH Checked _____	<b>Turnaround Requirements</b> _____ RUSH (Surcharges Apply) <b>PLEASE CIRCLE WORK DAYS</b> 1 2 3 4 5 ✓ STANDARD Requested FAX Date: _____ Requested Report Date: <u>8/15/14</u>	<b>Report Requirements</b> _____ I. Results Only _____ II. Results + QC Summaries _____ III. Results + QC and Calibration Summaries ✓ IV. Data Validation Report with Raw Data PQL/MDL/J <u>Y</u> EDD <u>Y</u>	<b>Invoice Information</b>  PO# K1407971  Bill to
--	--	--	--

Relinquished By: Sue 8/7/14 1200  
 K1407971

Received By: Jan M... 8/8/14 Airbill Number: \_\_\_\_\_  
 18 of 1194  
 227

0950

# Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Shar Samy, Ph.D.

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PCDD PCDF  
8290A

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				Date	Time			
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K1407971-013	Nv SYC14-TB Rep.5	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-014	Nv SYC14-REF Rep.1	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-015	Nv SYC14-REF Rep.2	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-016	Nv SYC14-REF Rep.3	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-017	Nv SYC14-REF Rep.4	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V
K1407971-018	Nv SYC14-REF Rep.5	/	Animal Tissue	7/25/14		7/30/14	HOUSTON	V

**Folder Comments:**  
Report Tissue Wet and Dry

<p><b>Special Instructions/Comments</b> Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.</p>	<p><b>Turnaround Requirements</b> RUSH (Surcharges Apply)  PLEASE CIRCLE WORK DAYS 1 2 3 4 5 <input checked="" type="checkbox"/> STANDARD</p>	<p><b>Report Requirements</b> <input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries <input type="checkbox"/> III. Results + QC and Calibration Summaries <input checked="" type="checkbox"/> IV. Data Validation Report with Raw Data</p>	<p><b>Invoice Information</b>  PO# K1407971  Bill to</p>
pH Checked _____	Requested FAX Date: _____ Requested Report Date: 08/15/14	PQL/MDL/J <input type="checkbox"/> Y EDD <input type="checkbox"/> Y	

Relinquished By: SW 8/7/14 1200  
K1407971

Received By: Tom Allen 8/8/14  
19 of 1194  
228  
0950

Airbill Number: \_\_\_\_\_



# Cooler Receipt Form

Project Chemist

AK

Client/Project

kelso

Thermometer ID

SMD

Date/Time Received:

8/8/14 0950

Initials:

JM

Date/Time Logged in:

Initials

1. Method of delivery:  US Mail  Fed Ex  UPS  DHL  Courier  Client

2. Samples received in:  Cooler  Box  Envelope  Other

3. Were custody seals on coolers?  Yes  No If yes, how many and where?

Were they intact?  Yes  No  N/A

Were they signed and dated?  Yes  No  N/A

one front seal

4. Packing Material:  Inserts  Baggies  Bubble Wrap  Gel Packs  Wet Ice  Sleeves  Other dry ice

5. Foreign or Regulated Soil?  Yes  No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
5478 9735 9544		8/8/14	1025	JM	-50	<input checked="" type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

6. Were custody papers properly filled out (ink, signed, dated, etc)?  Yes  No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)?  Yes  No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)?  Yes  No

9. Were appropriate bottles/containers and volumes received for the requested tests?  Yes  No

10. Did sample labels and tags agree with custody documents?  Yes  No

Notes, Discrepancies, & Resolutions:

# of containers on COC:

# of containers received:

Service request Label:

K1407971

5

Anamar Environmental Consulting, Inc.  
Shipyard Creek





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## SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

### **Cooler Custody Seals (desirable, mandatory if specified in SAP):**

- ✓ Intact on outside of cooler, signed and dated

### **Chain-of-Custody (COC) documentation (mandatory):**

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample. The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

### **Sample Integrity (mandatory):**

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

### **Temperature Requirement (varies by sample matrix):**

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report



# Preparation Information Benchsheets

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd., Suite 210, Houston, TX 77099  
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RIGHT SOLUTIONS | RIGHT PARTNER

# Preparation Information Benchsheet

**Prep Run#:** 215864  
**Team:** Semivoa GCMS/DEDWARDS

**Prep WorkFlow:** OrgExtDioxT(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/18/14 01:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ1400478-01	MB		8290A/PCDD PCDF		Tissue	1.108g	
2	EQ1400478-02	LCS		8290A/PCDD PCDF		Tissue	1.013g	
3	EQ1400478-03	Nv SYC14-AC Rep.2 MS	.01	8290A/PCDD PCDF		Tissue	6.991g	
4	EQ1400478-04	Nv SYC14-AC Rep.2 DMS	.01	8290A/PCDD PCDF		Tissue	7.216g	
5	K1407971-001	Nv PreTest Rep.1	.06	8290A/PCDD PCDF		Animal Tissue	7.482g	Dark Brown Color, Slime, Foul Ordor Smell
6	K1407971-002	NV PreTest Rep.2	.01	8290A/PCDD PCDF		Animal Tissue	7.825g	Dark Brown Color, Slime, Foul Ordor Smell
7	K1407971-003	NV PreTest Rep.3	.01	8290A/PCDD PCDF		Animal Tissue	8.300g	Dark Brown Color, Slime, Foul Ordor Smell
8	K1407971-004	Nv SYC14-AC Rep.1	.01	8290A/PCDD PCDF		Animal Tissue	6.930g	Dark Brown Color, Slime, Foul Ordor Smell
9	K1407971-005	Nv SYC14-AC Rep.2	.01	8290A/PCDD PCDF		Animal Tissue	7.630g	Dark Brown Color, Slime, Foul Ordor Smell
10	K1407971-006	Nv SYC14-AC Rep.3	.01	8290A/PCDD PCDF		Animal Tissue	8.162g	Dark Brown Color, Slime, Foul Ordor Smell
11	K1407971-007	Nv SYC14-AC Rep.4	.01	8290A/PCDD PCDF		Animal Tissue	6.721g	Dark Brown Color, Slime, Foul Ordor Smell
12	K1407971-008	Nv SYC14-AC Rep.5	.01	8290A/PCDD PCDF		Animal Tissue	7.783g	Dark Brown Color, Slime, Foul Ordor Smell
13	K1407971-009	Nv SYC14-TB Rep.1	.01	8290A/PCDD PCDF		Animal Tissue	6.872g	Dark Brown Color, Slime, Foul Ordor Smell
14	K1407971-010	Nv SYC14-TB Rep.2	.01	8290A/PCDD PCDF		Animal Tissue	7.299g	Dark Brown Color, Slime, Foul Ordor Smell
15	K1407971-011	Nv SYC14-TB Rep.3	.01	8290A/PCDD PCDF		Animal Tissue	6.305g	Dark Brown Color, Slime, Foul Ordor Smell
16	K1407971-012	Nv SYC14-TB Rep.4	.01	8290A/PCDD PCDF		Animal Tissue	7.702g	Dark Brown Color, Slime, Foul Ordor Smell
17	K1407971-013	Nv SYC14-TB Rep.5	.01	8290A/PCDD PCDF		Animal Tissue	7.189g	Dark Brown Color, Slime, Foul Ordor Smell
18	K1407971-014	Nv SYC14-REF Rep.1	.01	8290A/PCDD PCDF		Animal Tissue	6.462g	Dark Brown Color, Slime, Foul Ordor Smell
19	K1407971-015	Nv SYC14-REF Rep.2	.01	8290A/PCDD PCDF		Animal Tissue	7.225g	Dark Brown Color, Slime, Foul Ordor Smell
20	K1407971-016	Nv SYC14-REF Rep.3	.01	8290A/PCDD PCDF		Animal Tissue	6.692g	Dark Brown Color, Slime, Foul Ordor Smell
21	K1407971-017	Nv SYC14-REF Rep.4	.01	8290A/PCDD PCDF		Animal Tissue	6.896g	Dark Brown Color, Slime, Foul Ordor Smell
22	K1407971-018	Nv SYC14-REF Rep.5	.01	8290A/PCDD PCDF		Animal Tissue	7.092g	Dark Brown Color, Slime, Foul Ordor Smell

# Preparation Information Benchsheet

**Prep Run#:** 215864  
**Team:** Semivoa GCMS/DEDWARDS

**Prep WorkFlow:** OrgExtDioxT(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/18/14 01:00 PM

## Spiking Solutions

Name: 1613B Matrix Working Standard	Inventory ID: 73564	Logbook Ref: 2-20ng/mL 73564 TL 8/13	Expires On: 08/13/2015
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EQ1400478-02 100.00µL    EQ1400478-03 100.00µL    EQ1400478-04 100.00µL

Name: 1613B Labeled Working Standard	Inventory ID: 73658	Logbook Ref: 2-4 ng/ml 73658 8/18/14 WM	Expires On: 08/18/2015
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EQ1400478-01 1,000.00µL

Name: 1613B Labeled Working Standard	Inventory ID: 73660	Logbook Ref: 2-4 ng/ml 73660 8/18/14 WM	Expires On: 08/18/2015
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EQ1400478-02 1,000.00µL	EQ1400478-03 1,000.00µL	EQ1400478-04 1,000.00µL	K1407971-001 1,000.00µL	K1407971-002 1,000.00µL	K1407971-003 1,000.00µL
K1407971-004 1,000.00µL	K1407971-005 1,000.00µL	K1407971-006 1,000.00µL	K1407971-007 1,000.00µL	K1407971-008 1,000.00µL	K1407971-009 1,000.00µL
K1407971-010 1,000.00µL	K1407971-011 1,000.00µL	K1407971-012 1,000.00µL	K1407971-013 1,000.00µL	K1407971-014 1,000.00µL	K1407971-015 1,000.00µL
K1407971-016 1,000.00µL	K1407971-017 1,000.00µL	K1407971-018 1,000.00µL			

Name: 8290/1613B Cleanup Working Standard	Inventory ID: 73662	Logbook Ref: 73662 CID 08/18/2014	Expires On: 02/14/2015
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EQ1400478-01 100.00µL	EQ1400478-02 100.00µL	EQ1400478-03 100.00µL	EQ1400478-04 100.00µL	K1407971-001 100.00µL	K1407971-002 100.00µL
K1407971-003 100.00µL	K1407971-004 100.00µL	K1407971-005 100.00µL	K1407971-006 100.00µL	K1407971-007 100.00µL	K1407971-008 100.00µL
K1407971-009 100.00µL	K1407971-010 100.00µL	K1407971-011 100.00µL	K1407971-012 100.00µL	K1407971-013 100.00µL	K1407971-014 100.00µL
K1407971-015 100.00µL	K1407971-016 100.00µL	K1407971-017 100.00µL	K1407971-018 100.00µL		

## Preparation Materials

Carbon, High Purity	TL 7/9/14 (72330)	Canola Oil (Hill Country Fare)	60277 HLEUNG 7/24/13 (60277)	Ethyl Acetate 99.9% Minimum	AL 04/01/14 (71228)
Hexanes 95%	AL 08/13/14 (73545)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	TL 8/12/14 (73534)	EtOAc	
Toluene 99.9% Minimum	AL 08/18/14 (73646)	Glass Wool	AL 08/06/14 (73215)	Tridecane (n-Tridecane)	LM 7/9/14 (72332)
Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 07/29/14 (72944)	Sulfuric Acid Reagent Grade H2SO4	73285 TL 8/6/14 (73285)
Silica Gel Reagent Grade	AL 05/21/14 (70718)			Sodium Hydroxide Reagent Grade NaOH	C2-73-7 (53023)

## Preparation Steps

Step: Extraction	Step: Acid Clean	Step: Silica Gel Clean	Step: Final Volume
Started: 8/18/14 13:00	Started: 8/20/14 09:10	Started: 8/20/14 12:00	Started: 8/21/14 14:20
Finished: 8/20/14 07:26	Finished: 8/20/14 09:45	Finished: 8/20/14 14:25	Finished: 8/21/14 14:46
By: DEDWARDS	By: CDIAZ	By: CDIAZ	By: DEDWARDS
Comments	Comments	Comments	Comments



# Preparation Information Benchsheet

**Prep Run#:** 215864  
**Team:** Semivoa GCMS/DEDWARDS

**Prep Workflow:** OrgExtDioxT(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/18/14 01:00 PM

Comments: \_\_\_\_\_

Reviewed By: JWP 082114 Date: \_\_\_\_\_

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No



# Analytical Results

**ALS Environmental - Houston HRMS**  
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Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	3.04	4.28			1	8/26/14	1837	8/18/14
1,2,3,7,8-PeCDD	ND	U	1.87	21.4			1	8/26/14	1837	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.986	21.4			1	8/26/14	1837	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.892	21.4			1	8/26/14	1837	8/18/14
1,2,3,7,8,9-HxCDD	<b>1.39</b>	BJK	0.871	21.4	0.46	1.007	1	8/26/14	1837	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>12.3</b>	BJK	1.68	21.4	1.54	1.000	1	8/26/14	1837	8/18/14
OCDD	<b>89.7</b>	B	1.62	42.8	0.83	1.000	1	8/26/14	1837	8/18/14
2,3,7,8-TCDF	ND	U	6.05	6.05			1	8/26/14	1837	8/18/14
1,2,3,7,8-PeCDF	ND	U	1.31	21.4			1	8/26/14	1837	8/18/14
2,3,4,7,8-PeCDF	ND	U	1.22	21.4			1	8/26/14	1837	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.797	21.4			1	8/26/14	1837	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.09	21.4			1	8/26/14	1837	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.914	21.4			1	8/26/14	1837	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.917	21.4			1	8/26/14	1837	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>4.60</b>	BJK	0.687	21.4	2.08	1.000	1	8/26/14	1837	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.919	21.4			1	8/26/14	1837	8/18/14
OCDF	ND	U	3.35	42.8			1	8/26/14	1837	8/18/14
Total Tetra-Dioxins	ND	U	3.04	4.28			1	8/26/14	1837	8/18/14
Total Penta-Dioxins	ND	U	1.87	21.4			1	8/26/14	1837	8/18/14
Total Hexa-Dioxins	ND	U	0.916	21.4			1	8/26/14	1837	8/18/14
Total Hepta-Dioxins	<b>14.6</b>	J	1.68	21.4	0.92		1	8/26/14	1837	8/18/14
Total Tetra-Furans	ND	U	6.05	6.05			1	8/26/14	1837	8/18/14
Total Penta-Furans	ND	U	1.66	21.4			1	8/26/14	1837	8/18/14
Total Hexa-Furans	ND	U	0.919	21.4			1	8/26/14	1837	8/18/14
Total Hepta-Furans	ND	U	0.793	21.4			1	8/26/14	1837	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.04	4.28	1	1	
1,2,3,7,8-PeCDD	ND	1.87	21.4	1	1	
1,2,3,6,7,8-HxCDD	ND	0.986	21.4	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.892	21.4	1	0.1	
1,2,3,7,8,9-HxCDD	<b>1.39</b>	0.871	21.4	1	0.1	0.0217
1,2,3,4,6,7,8-HpCDD	<b>12.3</b>	1.68	21.4	1	0.01	0.0193
OCDD	<b>89.7</b>	1.62	42.8	1	0.0003	0.00420
2,3,7,8-TCDF	ND	6.05	6.05	1	0.1	
1,2,3,7,8-PeCDF	ND	1.31	21.4	1	0.03	
2,3,4,7,8-PeCDF	ND	1.22	21.4	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.797	21.4	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.09	21.4	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.914	21.4	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.917	21.4	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>4.60</b>	0.687	21.4	1	0.01	0.00718
1,2,3,4,7,8,9-HpCDF	ND	0.919	21.4	1	0.01	
OCDF	ND	3.35	42.8	1	0.0003	
Total TEQ						0.0524

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.474	0.668			1	8/26/14	1837	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.291	3.34			1	8/26/14	1837	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.154	3.34			1	8/26/14	1837	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.140	3.34			1	8/26/14	1837	8/18/14
1,2,3,7,8,9-HxCDD	<b>0.217</b>	BJK	0.136	3.34	0.46	1.007	1	8/26/14	1837	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.93</b>	BJK	0.262	3.34	1.54	1.000	1	8/26/14	1837	8/18/14
OCDD	<b>14.0</b>	B	0.252	6.68	0.83	1.000	1	8/26/14	1837	8/18/14
2,3,7,8-TCDF	ND	U	0.944	0.944			1	8/26/14	1837	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.204	3.34			1	8/26/14	1837	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.190	3.34			1	8/26/14	1837	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.125	3.34			1	8/26/14	1837	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.170	3.34			1	8/26/14	1837	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.143	3.34			1	8/26/14	1837	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.144	3.34			1	8/26/14	1837	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.718</b>	BJK	0.108	3.34	2.08	1.000	1	8/26/14	1837	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.144	3.34			1	8/26/14	1837	8/18/14
OCDF	ND	U	0.522	6.68			1	8/26/14	1837	8/18/14
Total Tetra-Dioxins	ND	U	0.474	0.668			1	8/26/14	1837	8/18/14
Total Penta-Dioxins	ND	U	0.291	3.34			1	8/26/14	1837	8/18/14
Total Hexa-Dioxins	ND	U	0.143	3.34			1	8/26/14	1837	8/18/14
Total Hepta-Dioxins	<b>2.28</b>	J	0.262	3.34	0.92		1	8/26/14	1837	8/18/14
Total Tetra-Furans	ND	U	0.944	0.944			1	8/26/14	1837	8/18/14
Total Penta-Furans	ND	U	0.259	3.34			1	8/26/14	1837	8/18/14
Total Hexa-Furans	ND	U	0.144	3.34			1	8/26/14	1837	8/18/14
Total Hepta-Furans	ND	U	0.124	3.34			1	8/26/14	1837	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	818.469	41		40-135	0.74	1.023
13C-1,2,3,7,8-PeCDD	2000	1040.846	52		40-135	1.53	1.197
13C-1,2,3,4,7,8-HxCDD	2000	1095.141	55		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1019.868	51		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	993.468	50		40-135	1.07	1.066
13C-OCDD	4000	1691.168	42		17-157	0.87	1.139
13C-2,3,7,8-TCDF	2000	776.224	39		24-169	0.76	0.993
13C-1,2,3,7,8-PeCDF	2000	815.416	41		40-135	1.61	1.153
13C-2,3,4,7,8-PeCDF	2000	876.143	44		40-135	1.60	1.187
13C-1,2,3,4,7,8-HxCDF	2000	913.579	46		40-135	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1039.884	52		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	933.562	47		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	969.678	48		40-135	0.49	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	968.440	48		40-135	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	970.399	49		40-135	0.42	1.079
37Cl-2,3,7,8-TCDD	800	267.776	33	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv PreTest Rep.1  
**Lab Code:** K1407971-001

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.474	0.668	1	1	
1,2,3,7,8-PeCDD	ND	0.291	3.34	1	1	
1,2,3,6,7,8-HxCDD	ND	0.154	3.34	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.140	3.34	1	0.1	
1,2,3,7,8,9-HxCDD	<b>0.217</b>	0.136	3.34	1	0.1	0.0217
1,2,3,4,6,7,8-HpCDD	<b>1.93</b>	0.262	3.34	1	0.01	0.0193
OCDD	<b>14.0</b>	0.252	6.68	1	0.0003	0.00420
2,3,7,8-TCDF	ND	0.944	0.944	1	0.1	
1,2,3,7,8-PeCDF	ND	0.204	3.34	1	0.03	
2,3,4,7,8-PeCDF	ND	0.190	3.34	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.125	3.34	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.170	3.34	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.143	3.34	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.144	3.34	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.718</b>	0.108	3.34	1	0.01	0.00718
1,2,3,4,7,8,9-HpCDF	ND	0.144	3.34	1	0.01	
OCDF	ND	0.522	6.68	1	0.0003	
Total TEQ						0.0524

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14

**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	7.03	7.03			1	8/26/14	1925	8/18/14
1,2,3,7,8-PeCDD	ND	U	3.30	20.1			1	8/26/14	1925	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.865	20.1			1	8/26/14	1925	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.783	20.1			1	8/26/14	1925	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.764	20.1			1	8/26/14	1925	8/18/14
1,2,3,4,6,7,8-HpCDD	11.1	BJ	0.943	20.1	1.08	1.000	1	8/26/14	1925	8/18/14
OCDD	84.3	B	0.882	40.2	0.88	1.000	1	8/26/14	1925	8/18/14
2,3,7,8-TCDF	ND	U	7.41	7.41			1	8/26/14	1925	8/18/14
1,2,3,7,8-PeCDF	ND	U	1.80	20.1			1	8/26/14	1925	8/18/14
2,3,4,7,8-PeCDF	ND	U	1.71	20.1			1	8/26/14	1925	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.674	20.1			1	8/26/14	1925	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.879	20.1			1	8/26/14	1925	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.779	20.1			1	8/26/14	1925	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.798	20.1			1	8/26/14	1925	8/18/14
1,2,3,4,6,7,8-HpCDF	5.90	BJ	0.554	20.1	1.08	1.000	1	8/26/14	1925	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.705	20.1			1	8/26/14	1925	8/18/14
OCDF	5.39	BJK	2.31	40.2	1.07	1.005	1	8/26/14	1925	8/18/14
Total Tetra-Dioxins	ND	U	7.03	7.03			1	8/26/14	1925	8/18/14
Total Penta-Dioxins	ND	U	3.30	20.1			1	8/26/14	1925	8/18/14
Total Hexa-Dioxins	ND	U	0.803	20.1			1	8/26/14	1925	8/18/14
Total Hepta-Dioxins	28.7		0.943	20.1	0.97		1	8/26/14	1925	8/18/14
Total Tetra-Furans	ND	U	7.41	7.41			1	8/26/14	1925	8/18/14
Total Penta-Furans	ND	U	1.88	20.1			1	8/26/14	1925	8/18/14
Total Hexa-Furans	ND	U	0.775	20.1			1	8/26/14	1925	8/18/14
Total Hepta-Furans	5.90	J	0.624	20.1	1.08		1	8/26/14	1925	8/18/14



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	7.03	7.03	1	1	
1,2,3,7,8-PeCDD	ND	3.30	20.1	1	1	
1,2,3,6,7,8-HxCDD	ND	0.865	20.1	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.783	20.1	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.764	20.1	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>11.1</b>	0.943	20.1	1	0.01	0.0177
OCDD	<b>84.3</b>	0.882	40.2	1	0.0003	0.00402
2,3,7,8-TCDF	ND	7.41	7.41	1	0.1	
1,2,3,7,8-PeCDF	ND	1.80	20.1	1	0.03	
2,3,4,7,8-PeCDF	ND	1.71	20.1	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.674	20.1	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.879	20.1	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.779	20.1	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.798	20.1	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>5.90</b>	0.554	20.1	1	0.01	0.00939
1,2,3,4,7,8,9-HpCDF	ND	0.705	20.1	1	0.01	
OCDF	<b>5.39</b>	2.31	40.2	1	0.0003	0.000257
Total TEQ						0.0314

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	1.12	1.12			1	8/26/14	1925	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.524	3.19			1	8/26/14	1925	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.138	3.19			1	8/26/14	1925	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.125	3.19			1	8/26/14	1925	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.122	3.19			1	8/26/14	1925	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.77</b>	BJ	0.150	3.19	1.08	1.000	1	8/26/14	1925	8/18/14
OCDD	<b>13.4</b>	B	0.141	6.39	0.88	1.000	1	8/26/14	1925	8/18/14
2,3,7,8-TCDF	ND	U	1.18	1.18			1	8/26/14	1925	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.287	3.19			1	8/26/14	1925	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.272	3.19			1	8/26/14	1925	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.108	3.19			1	8/26/14	1925	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.140	3.19			1	8/26/14	1925	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.124	3.19			1	8/26/14	1925	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.127	3.19			1	8/26/14	1925	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.939</b>	BJ	0.0881	3.19	1.08	1.000	1	8/26/14	1925	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.113	3.19			1	8/26/14	1925	8/18/14
OCDF	<b>0.857</b>	BJK	0.367	6.39	1.07	1.005	1	8/26/14	1925	8/18/14
Total Tetra-Dioxins	ND	U	1.12	1.12			1	8/26/14	1925	8/18/14
Total Penta-Dioxins	ND	U	0.524	3.19			1	8/26/14	1925	8/18/14
Total Hexa-Dioxins	ND	U	0.128	3.19			1	8/26/14	1925	8/18/14
Total Hepta-Dioxins	<b>4.56</b>		0.150	3.19	0.97		1	8/26/14	1925	8/18/14
Total Tetra-Furans	ND	U	1.18	1.18			1	8/26/14	1925	8/18/14
Total Penta-Furans	ND	U	0.298	3.19			1	8/26/14	1925	8/18/14
Total Hexa-Furans	ND	U	0.124	3.19			1	8/26/14	1925	8/18/14
Total Hepta-Furans	<b>0.939</b>	J	0.0992	3.19	1.08		1	8/26/14	1925	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	653.915	33	Y	40-135	0.74	1.022
13C-1,2,3,7,8-PeCDD	2000	888.125	44		40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDD	2000	919.556	46		40-135	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	871.831	44		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	923.981	46		40-135	1.06	1.066
13C-OCDD	4000	1720.310	43		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	610.168	31		24-169	0.81	0.992
13C-1,2,3,7,8-PeCDF	2000	671.145	34	Y	40-135	1.64	1.152
13C-2,3,4,7,8-PeCDF	2000	717.469	36	Y	40-135	1.55	1.186
13C-1,2,3,4,7,8-HxCDF	2000	754.759	38	Y	40-135	0.49	0.970
13C-1,2,3,6,7,8-HxCDF	2000	863.637	43		40-135	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	821.141	41		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	785.595	39	Y	40-135	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	863.407	43		40-135	0.43	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	894.638	45		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	203.157	25	Y	35-197	NA	1.023

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.2  
**Lab Code:** K1407971-002

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.12	1.12	1	1	
1,2,3,7,8-PeCDD	ND	0.524	3.19	1	1	
1,2,3,6,7,8-HxCDD	ND	0.138	3.19	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.125	3.19	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.122	3.19	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.77</b>	0.150	3.19	1	0.01	0.0177
OCDD	<b>13.4</b>	0.141	6.39	1	0.0003	0.00402
2,3,7,8-TCDF	ND	1.18	1.18	1	0.1	
1,2,3,7,8-PeCDF	ND	0.287	3.19	1	0.03	
2,3,4,7,8-PeCDF	ND	0.272	3.19	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.108	3.19	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.140	3.19	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.124	3.19	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.127	3.19	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.939</b>	0.0881	3.19	1	0.01	0.00939
1,2,3,4,7,8,9-HpCDF	ND	0.113	3.19	1	0.01	
OCDF	<b>0.857</b>	0.367	6.39	1	0.0003	0.000257
Total TEQ						0.0314

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	5.51	5.51			1	8/26/14	2014	8/18/14
1,2,3,7,8-PeCDD	ND	U	1.80	18.4			1	8/26/14	2014	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.56	18.4			1	8/26/14	2014	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.39	18.4			1	8/26/14	2014	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.37	18.4			1	8/26/14	2014	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>10.5</b>	BJ	0.490	18.4	1.09	1.000	1	8/26/14	2014	8/18/14
OCDD	<b>87.1</b>	B	0.836	36.7	0.97	1.000	1	8/26/14	2014	8/18/14
2,3,7,8-TCDF	ND	U	6.57	6.57			1	8/26/14	2014	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.18	18.4			1	8/26/14	2014	8/18/14
2,3,4,7,8-PeCDF	ND	U	2.03	18.4			1	8/26/14	2014	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.700	18.4			1	8/26/14	2014	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.900	18.4			1	8/26/14	2014	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.806	18.4			1	8/26/14	2014	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.765	18.4			1	8/26/14	2014	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>6.18</b>	BJK	0.360	18.4	0.66	1.001	1	8/26/14	2014	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.472	18.4			1	8/26/14	2014	8/18/14
OCDF	<b>9.58</b>	BJK	3.97	36.7	0.63	1.005	1	8/26/14	2014	8/18/14
Total Tetra-Dioxins	ND	U	5.51	5.51			1	8/26/14	2014	8/18/14
Total Penta-Dioxins	ND	U	1.80	18.4			1	8/26/14	2014	8/18/14
Total Hexa-Dioxins	ND	U	1.44	18.4			1	8/26/14	2014	8/18/14
Total Hepta-Dioxins	<b>25.5</b>		0.490	18.4	0.91		1	8/26/14	2014	8/18/14
Total Tetra-Furans	ND	U	6.57	6.57			1	8/26/14	2014	8/18/14
Total Penta-Furans	ND	U	2.54	18.4			1	8/26/14	2014	8/18/14
Total Hexa-Furans	ND	U	0.787	18.4			1	8/26/14	2014	8/18/14
Total Hepta-Furans	ND	U	0.413	18.4			1	8/26/14	2014	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.51	5.51	1	1	
1,2,3,7,8-PeCDD	ND	1.80	18.4	1	1	
1,2,3,6,7,8-HxCDD	ND	1.56	18.4	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.39	18.4	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.37	18.4	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>10.5</b>	0.490	18.4	1	0.01	0.0172
OCDD	<b>87.1</b>	0.836	36.7	1	0.0003	0.00429
2,3,7,8-TCDF	ND	6.57	6.57	1	0.1	
1,2,3,7,8-PeCDF	ND	2.18	18.4	1	0.03	
2,3,4,7,8-PeCDF	ND	2.03	18.4	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.700	18.4	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.900	18.4	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.806	18.4	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.765	18.4	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>6.18</b>	0.360	18.4	1	0.01	0.0101
1,2,3,4,7,8,9-HpCDF	ND	0.472	18.4	1	0.01	
OCDF	<b>9.58</b>	3.97	36.7	1	0.0003	0.000471
Total TEQ						0.0321

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.904	0.904			1	8/26/14	2014	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.294	3.01			1	8/26/14	2014	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.255	3.01			1	8/26/14	2014	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.227	3.01			1	8/26/14	2014	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.224	3.01			1	8/26/14	2014	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.72</b>	BJ	0.0803	3.01	1.09	1.000	1	8/26/14	2014	8/18/14
OCDD	<b>14.3</b>	B	0.137	6.02	0.97	1.000	1	8/26/14	2014	8/18/14
2,3,7,8-TCDF	ND	U	1.08	1.08			1	8/26/14	2014	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.358	3.01			1	8/26/14	2014	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.332	3.01			1	8/26/14	2014	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.115	3.01			1	8/26/14	2014	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.148	3.01			1	8/26/14	2014	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.133	3.01			1	8/26/14	2014	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.126	3.01			1	8/26/14	2014	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.01</b>	BJK	0.0591	3.01	0.66	1.001	1	8/26/14	2014	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0774	3.01			1	8/26/14	2014	8/18/14
OCDF	<b>1.57</b>	BJK	0.651	6.02	0.63	1.005	1	8/26/14	2014	8/18/14
Total Tetra-Dioxins	ND	U	0.904	0.904			1	8/26/14	2014	8/18/14
Total Penta-Dioxins	ND	U	0.294	3.01			1	8/26/14	2014	8/18/14
Total Hexa-Dioxins	ND	U	0.235	3.01			1	8/26/14	2014	8/18/14
Total Hepta-Dioxins	<b>4.18</b>		0.0803	3.01	0.91		1	8/26/14	2014	8/18/14
Total Tetra-Furans	ND	U	1.08	1.08			1	8/26/14	2014	8/18/14
Total Penta-Furans	ND	U	0.416	3.01			1	8/26/14	2014	8/18/14
Total Hexa-Furans	ND	U	0.129	3.01			1	8/26/14	2014	8/18/14
Total Hepta-Furans	ND	U	0.0676	3.01			1	8/26/14	2014	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	653.659	33	Y	40-135	0.76	1.023
13C-1,2,3,7,8-PeCDD	2000	876.686	44		40-135	1.57	1.198
13C-1,2,3,4,7,8-HxCDD	2000	935.256	47		40-135	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	846.667	42		40-135	1.22	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	891.600	45		40-135	1.04	1.067
13C-OCDD	4000	1554.513	39		17-157	0.84	1.139
13C-2,3,7,8-TCDF	2000	603.490	30		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	667.809	33	Y	40-135	1.59	1.153
13C-2,3,4,7,8-PeCDF	2000	704.858	35	Y	40-135	1.52	1.187
13C-1,2,3,4,7,8-HxCDF	2000	748.586	37	Y	40-135	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	843.994	42		40-135	0.50	0.974
13C-1,2,3,7,8,9-HxCDF	2000	790.774	40		40-135	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	800.877	40		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	825.424	41		40-135	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	853.655	43		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	233.223	29	Y	35-197	NA	1.024



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** NV PreTest Rep.3  
**Lab Code:** K1407971-003

**Service Request:** K1407971  
**Date Collected:** 6/27/14 1100  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.904	0.904	1	1	
1,2,3,7,8-PeCDD	ND	0.294	3.01	1	1	
1,2,3,6,7,8-HxCDD	ND	0.255	3.01	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.227	3.01	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.224	3.01	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.72</b>	0.0803	3.01	1	0.01	0.0172
OCDD	<b>14.3</b>	0.137	6.02	1	0.0003	0.00429
2,3,7,8-TCDF	ND	1.08	1.08	1	0.1	
1,2,3,7,8-PeCDF	ND	0.358	3.01	1	0.03	
2,3,4,7,8-PeCDF	ND	0.332	3.01	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.115	3.01	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.148	3.01	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.133	3.01	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.126	3.01	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.01</b>	0.0591	3.01	1	0.01	0.0101
1,2,3,4,7,8,9-HpCDF	ND	0.0774	3.01	1	0.01	
OCDF	<b>1.57</b>	0.651	6.02	1	0.0003	0.000471
Total TEQ						0.0321

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	6.77	6.77			1	8/27/14	0150	8/18/14
1,2,3,7,8-PeCDD	ND	U	3.35	21.5			1	8/27/14	0150	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.25	21.5			1	8/27/14	0150	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.09	21.5			1	8/27/14	0150	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.08	21.5			1	8/27/14	0150	8/18/14
1,2,3,4,6,7,8-HpCDD	7.73	BJK	0.595	21.5	1.22	1.000	1	8/27/14	0150	8/18/14
OCDD	44.1	B	1.82	42.9	0.83	1.000	1	8/27/14	0150	8/18/14
2,3,7,8-TCDF	ND	U	8.47	8.47			1	8/27/14	0150	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.13	21.5			1	8/27/14	0150	8/18/14
2,3,4,7,8-PeCDF	ND	U	1.87	21.5			1	8/27/14	0150	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.911	21.5			1	8/27/14	0150	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.25	21.5			1	8/27/14	0150	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	1.06	21.5			1	8/27/14	0150	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.997	21.5			1	8/27/14	0150	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	1.13	21.5			1	8/27/14	0150	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	1.48	21.5			1	8/27/14	0150	8/18/14
OCDF	ND	U	3.34	42.9			1	8/27/14	0150	8/18/14
Total Tetra-Dioxins	ND	U	6.77	6.77			1	8/27/14	0150	8/18/14
Total Penta-Dioxins	ND	U	3.35	21.5			1	8/27/14	0150	8/18/14
Total Hexa-Dioxins	ND	U	1.14	21.5			1	8/27/14	0150	8/18/14
Total Hepta-Dioxins	17.9	J	0.595	21.5	0.95		1	8/27/14	0150	8/18/14
Total Tetra-Furans	ND	U	8.47	8.47			1	8/27/14	0150	8/18/14
Total Penta-Furans	ND	U	2.65	21.5			1	8/27/14	0150	8/18/14
Total Hexa-Furans	ND	U	1.05	21.5			1	8/27/14	0150	8/18/14
Total Hepta-Furans	ND	U	1.29	21.5			1	8/27/14	0150	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	6.77	6.77	1	1	
1,2,3,7,8-PeCDD	ND	3.35	21.5	1	1	
1,2,3,6,7,8-HxCDD	ND	1.25	21.5	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.09	21.5	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.08	21.5	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>7.73</b>	0.595	21.5	1	0.01	0.0130
OCDD	<b>44.1</b>	1.82	42.9	1	0.0003	0.00222
2,3,7,8-TCDF	ND	8.47	8.47	1	0.1	
1,2,3,7,8-PeCDF	ND	2.13	21.5	1	0.03	
2,3,4,7,8-PeCDF	ND	1.87	21.5	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.911	21.5	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.25	21.5	1	0.1	
1,2,3,4,7,8-HxCDF	ND	1.06	21.5	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.997	21.5	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	1.13	21.5	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	1.48	21.5	1	0.01	
OCDF	ND	3.34	42.9	1	0.0003	
Total TEQ						0.0152

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	1.14	1.14			1	8/27/14	0150	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.562	3.61			1	8/27/14	0150	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.210	3.61			1	8/27/14	0150	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.182	3.61			1	8/27/14	0150	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.182	3.61			1	8/27/14	0150	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.30</b>	BJK	0.0999	3.61	1.22	1.000	1	8/27/14	0150	8/18/14
OCDD	<b>7.41</b>	B	0.305	7.22	0.83	1.000	1	8/27/14	0150	8/18/14
2,3,7,8-TCDF	ND	U	1.43	1.43			1	8/27/14	0150	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.358	3.61			1	8/27/14	0150	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.313	3.61			1	8/27/14	0150	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.153	3.61			1	8/27/14	0150	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.209	3.61			1	8/27/14	0150	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.179	3.61			1	8/27/14	0150	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.168	3.61			1	8/27/14	0150	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	0.190	3.61			1	8/27/14	0150	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.248	3.61			1	8/27/14	0150	8/18/14
OCDF	ND	U	0.561	7.22			1	8/27/14	0150	8/18/14
Total Tetra-Dioxins	ND	U	1.14	1.14			1	8/27/14	0150	8/18/14
Total Penta-Dioxins	ND	U	0.562	3.61			1	8/27/14	0150	8/18/14
Total Hexa-Dioxins	ND	U	0.191	3.61			1	8/27/14	0150	8/18/14
Total Hepta-Dioxins	<b>3.00</b>	J	0.0999	3.61	0.95		1	8/27/14	0150	8/18/14
Total Tetra-Furans	ND	U	1.43	1.43			1	8/27/14	0150	8/18/14
Total Penta-Furans	ND	U	0.445	3.61			1	8/27/14	0150	8/18/14
Total Hexa-Furans	ND	U	0.175	3.61			1	8/27/14	0150	8/18/14
Total Hepta-Furans	ND	U	0.217	3.61			1	8/27/14	0150	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	811.729	41		40-135	0.76	1.022
13C-1,2,3,7,8-PeCDD	2000	971.554	49		40-135	1.61	1.197
13C-1,2,3,4,7,8-HxCDD	2000	1084.397	54		40-135	1.37	0.991
13C-1,2,3,6,7,8-HxCDD	2000	996.848	50		40-135	1.21	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1081.924	54		40-135	1.07	1.067
13C-OCDD	4000	1933.134	48		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	797.200	40		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	752.998	38	Y	40-135	1.58	1.152
13C-2,3,4,7,8-PeCDF	2000	844.311	42		40-135	1.62	1.187
13C-1,2,3,4,7,8-HxCDF	2000	876.780	44		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1050.158	53		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	949.881	47		40-135	0.49	1.009
13C-2,3,4,6,7,8-HxCDF	2000	968.155	48		40-135	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1019.269	51		40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1053.218	53		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	282.024	35		35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.1  
**Lab Code:** K1407971-004

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.14	1.14	1	1	
1,2,3,7,8-PeCDD	ND	0.562	3.61	1	1	
1,2,3,6,7,8-HxCDD	ND	0.210	3.61	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.182	3.61	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.182	3.61	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.30</b>	0.0999	3.61	1	0.01	0.0130
OCDD	<b>7.41</b>	0.305	7.22	1	0.0003	0.00222
2,3,7,8-TCDF	ND	1.43	1.43	1	0.1	
1,2,3,7,8-PeCDF	ND	0.358	3.61	1	0.03	
2,3,4,7,8-PeCDF	ND	0.313	3.61	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.153	3.61	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.209	3.61	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.179	3.61	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.168	3.61	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.190	3.61	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.248	3.61	1	0.01	
OCDF	ND	0.561	7.22	1	0.0003	
Total TEQ						0.0152

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	5.64	5.64			1	8/27/14	0239	8/18/14
1,2,3,7,8-PeCDD	ND	U	3.03	20.9			1	8/27/14	0239	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.47	20.9			1	8/27/14	0239	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.28	20.9			1	8/27/14	0239	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.28	20.9			1	8/27/14	0239	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.27</b>	BJK	1.40	20.9	0.49	1.001	1	8/27/14	0239	8/18/14
OCDD	<b>33.1</b>	BJK	0.980	41.7	1.18	1.000	1	8/27/14	0239	8/18/14
2,3,7,8-TCDF	ND	U	7.36	7.36			1	8/27/14	0239	8/18/14
1,2,3,7,8-PeCDF	ND	U	3.25	20.9			1	8/27/14	0239	8/18/14
2,3,4,7,8-PeCDF	ND	U	3.09	20.9			1	8/27/14	0239	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.553	20.9			1	8/27/14	0239	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.732	20.9			1	8/27/14	0239	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.623	20.9			1	8/27/14	0239	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.601	20.9			1	8/27/14	0239	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.87</b>	BJK	0.989	20.9	1.56	1.000	1	8/27/14	0239	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	1.27	20.9			1	8/27/14	0239	8/18/14
OCDF	ND	U	4.50	41.7			1	8/27/14	0239	8/18/14
Total Tetra-Dioxins	ND	U	5.64	5.64			1	8/27/14	0239	8/18/14
Total Penta-Dioxins	ND	U	3.03	20.9			1	8/27/14	0239	8/18/14
Total Hexa-Dioxins	ND	U	1.34	20.9			1	8/27/14	0239	8/18/14
Total Hepta-Dioxins	ND	U	1.40	20.9			1	8/27/14	0239	8/18/14
Total Tetra-Furans	ND	U	7.36	7.36			1	8/27/14	0239	8/18/14
Total Penta-Furans	ND	U	2.46	20.9			1	8/27/14	0239	8/18/14
Total Hexa-Furans	<b>2.87</b>	J	0.622	20.9	1.21		1	8/27/14	0239	8/18/14
Total Hepta-Furans	ND	U	1.12	20.9			1	8/27/14	0239	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.64	5.64	1	1	
1,2,3,7,8-PeCDD	ND	3.03	20.9	1	1	
1,2,3,6,7,8-HxCDD	ND	1.47	20.9	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.28	20.9	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.28	20.9	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.27</b>	1.40	20.9	1	0.01	0.00827
OCDD	<b>33.1</b>	0.980	41.7	1	0.0003	0.00156
2,3,7,8-TCDF	ND	7.36	7.36	1	0.1	
1,2,3,7,8-PeCDF	ND	3.25	20.9	1	0.03	
2,3,4,7,8-PeCDF	ND	3.09	20.9	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.553	20.9	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.732	20.9	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.623	20.9	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.601	20.9	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.87</b>	0.989	20.9	1	0.01	0.00293
1,2,3,4,7,8,9-HpCDF	ND	1.27	20.9	1	0.01	
OCDF	ND	4.50	41.7	1	0.0003	
Total TEQ						0.0128

2005 WHO TEFs, ND = 0



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.886	0.886			1	8/27/14	0239	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.475	3.28			1	8/27/14	0239	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.231	3.28			1	8/27/14	0239	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.201	3.28			1	8/27/14	0239	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.200	3.28			1	8/27/14	0239	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.827</b>	BJK	0.220	3.28	0.49	1.001	1	8/27/14	0239	8/18/14
OCDD	<b>5.20</b>	BJK	0.154	6.55	1.18	1.000	1	8/27/14	0239	8/18/14
2,3,7,8-TCDF	ND	U	1.16	1.16			1	8/27/14	0239	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.511	3.28			1	8/27/14	0239	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.485	3.28			1	8/27/14	0239	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0868	3.28			1	8/27/14	0239	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.115	3.28			1	8/27/14	0239	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0978	3.28			1	8/27/14	0239	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0943	3.28			1	8/27/14	0239	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.293</b>	BJK	0.156	3.28	1.56	1.000	1	8/27/14	0239	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.199	3.28			1	8/27/14	0239	8/18/14
OCDF	ND	U	0.706	6.55			1	8/27/14	0239	8/18/14
Total Tetra-Dioxins	ND	U	0.886	0.886			1	8/27/14	0239	8/18/14
Total Penta-Dioxins	ND	U	0.475	3.28			1	8/27/14	0239	8/18/14
Total Hexa-Dioxins	ND	U	0.211	3.28			1	8/27/14	0239	8/18/14
Total Hepta-Dioxins	ND	U	0.220	3.28			1	8/27/14	0239	8/18/14
Total Tetra-Furans	ND	U	1.16	1.16			1	8/27/14	0239	8/18/14
Total Penta-Furans	ND	U	0.386	3.28			1	8/27/14	0239	8/18/14
Total Hexa-Furans	<b>0.450</b>	J	0.0976	3.28	1.21		1	8/27/14	0239	8/18/14
Total Hepta-Furans	ND	U	0.176	3.28			1	8/27/14	0239	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	691.622	35	Y	40-135	0.75	1.022
13C-1,2,3,7,8-PeCDD	2000	909.774	45		40-135	1.59	1.197
13C-1,2,3,4,7,8-HxCDD	2000	958.243	48		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	913.120	46		40-135	1.23	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	938.788	47		40-135	1.06	1.067
13C-OCDD	4000	1748.223	44		17-157	0.87	1.139
13C-2,3,7,8-TCDF	2000	633.654	32		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	693.228	35	Y	40-135	1.53	1.152
13C-2,3,4,7,8-PeCDF	2000	733.277	37	Y	40-135	1.55	1.186
13C-1,2,3,4,7,8-HxCDF	2000	761.753	38	Y	40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	886.386	44		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	834.676	42		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	825.538	41		40-135	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	907.914	45		40-135	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	959.552	48		40-135	0.42	1.079
37Cl-2,3,7,8-TCDD	800	234.085	29	Y	35-197	NA	1.023

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.886	0.886	1	1	
1,2,3,7,8-PeCDD	ND	0.475	3.28	1	1	
1,2,3,6,7,8-HxCDD	ND	0.231	3.28	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.201	3.28	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.200	3.28	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.827</b>	0.220	3.28	1	0.01	0.00827
OCDD	<b>5.20</b>	0.154	6.55	1	0.0003	0.00156
2,3,7,8-TCDF	ND	1.16	1.16	1	0.1	
1,2,3,7,8-PeCDF	ND	0.511	3.28	1	0.03	
2,3,4,7,8-PeCDF	ND	0.485	3.28	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0868	3.28	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.115	3.28	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0978	3.28	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0943	3.28	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.293</b>	0.156	3.28	1	0.01	0.00293
1,2,3,4,7,8,9-HpCDF	ND	0.199	3.28	1	0.01	
OCDF	ND	0.706	6.55	1	0.0003	
Total TEQ						0.0128

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	5.52	5.52			1	8/27/14	0327	8/18/14
1,2,3,7,8-PeCDD	ND	U	2.48	20.4			1	8/27/14	0327	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.83	20.4			1	8/27/14	0327	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.71	20.4			1	8/27/14	0327	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.65	20.4			1	8/27/14	0327	8/18/14
1,2,3,4,6,7,8-HpCDD	5.47	BJK	1.50	20.4	1.54	1.000	1	8/27/14	0327	8/18/14
OCDD	26.3	BJK	2.34	40.8	1.19	1.000	1	8/27/14	0327	8/18/14
2,3,7,8-TCDF	ND	U	5.85	5.85			1	8/27/14	0327	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.06	20.4			1	8/27/14	0327	8/18/14
2,3,4,7,8-PeCDF	ND	U	1.80	20.4			1	8/27/14	0327	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.850	20.4			1	8/27/14	0327	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.14	20.4			1	8/27/14	0327	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.984	20.4			1	8/27/14	0327	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.865	20.4			1	8/27/14	0327	8/18/14
1,2,3,4,6,7,8-HpCDF	1.85	BJ	0.435	20.4	1.00	1.000	1	8/27/14	0327	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.576	20.4			1	8/27/14	0327	8/18/14
OCDF	ND	U	2.62	40.8			1	8/27/14	0327	8/18/14
Total Tetra-Dioxins	ND	U	5.52	5.52			1	8/27/14	0327	8/18/14
Total Penta-Dioxins	ND	U	2.48	20.4			1	8/27/14	0327	8/18/14
Total Hexa-Dioxins	ND	U	1.73	20.4			1	8/27/14	0327	8/18/14
Total Hepta-Dioxins	ND	U	1.50	20.4			1	8/27/14	0327	8/18/14
Total Tetra-Furans	ND	U	5.85	5.85			1	8/27/14	0327	8/18/14
Total Penta-Furans	ND	U	3.48	20.4			1	8/27/14	0327	8/18/14
Total Hexa-Furans	ND	U	0.946	20.4			1	8/27/14	0327	8/18/14
Total Hepta-Furans	1.85	J	0.500	20.4	1.00		1	8/27/14	0327	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.52	5.52	1	1	
1,2,3,7,8-PeCDD	ND	2.48	20.4	1	1	
1,2,3,6,7,8-HxCDD	ND	1.83	20.4	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.71	20.4	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.65	20.4	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.47</b>	1.50	20.4	1	0.01	0.00820
OCDD	<b>26.3</b>	2.34	40.8	1	0.0003	0.00118
2,3,7,8-TCDF	ND	5.85	5.85	1	0.1	
1,2,3,7,8-PeCDF	ND	2.06	20.4	1	0.03	
2,3,4,7,8-PeCDF	ND	1.80	20.4	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.850	20.4	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.14	20.4	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.984	20.4	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.865	20.4	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.85</b>	0.435	20.4	1	0.01	0.00278
1,2,3,4,7,8,9-HpCDF	ND	0.576	20.4	1	0.01	
OCDF	ND	2.62	40.8	1	0.0003	
Total TEQ						0.0122

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.828	0.828			1	8/27/14	0327	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.372	3.06			1	8/27/14	0327	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.275	3.06			1	8/27/14	0327	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.256	3.06			1	8/27/14	0327	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.247	3.06			1	8/27/14	0327	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.820</b>	BJK	0.225	3.06	1.54	1.000	1	8/27/14	0327	8/18/14
OCDD	<b>3.94</b>	BJK	0.350	6.13	1.19	1.000	1	8/27/14	0327	8/18/14
2,3,7,8-TCDF	ND	U	0.878	0.878			1	8/27/14	0327	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.308	3.06			1	8/27/14	0327	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.269	3.06			1	8/27/14	0327	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.128	3.06			1	8/27/14	0327	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.170	3.06			1	8/27/14	0327	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.148	3.06			1	8/27/14	0327	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.130	3.06			1	8/27/14	0327	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.278</b>	BJ	0.0652	3.06	1.00	1.000	1	8/27/14	0327	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0863	3.06			1	8/27/14	0327	8/18/14
OCDF	ND	U	0.393	6.13			1	8/27/14	0327	8/18/14
Total Tetra-Dioxins	ND	U	0.828	0.828			1	8/27/14	0327	8/18/14
Total Penta-Dioxins	ND	U	0.372	3.06			1	8/27/14	0327	8/18/14
Total Hexa-Dioxins	ND	U	0.259	3.06			1	8/27/14	0327	8/18/14
Total Hepta-Dioxins	ND	U	0.225	3.06			1	8/27/14	0327	8/18/14
Total Tetra-Furans	ND	U	0.878	0.878			1	8/27/14	0327	8/18/14
Total Penta-Furans	ND	U	0.522	3.06			1	8/27/14	0327	8/18/14
Total Hexa-Furans	ND	U	0.142	3.06			1	8/27/14	0327	8/18/14
Total Hepta-Furans	<b>0.278</b>	J	0.0750	3.06	1.00		1	8/27/14	0327	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	691.306	35	Y	40-135	0.78	1.023
13C-1,2,3,7,8-PeCDD	2000	882.618	44		40-135	1.56	1.197
13C-1,2,3,4,7,8-HxCDD	2000	953.278	48		40-135	1.34	0.991
13C-1,2,3,6,7,8-HxCDD	2000	951.496	48		40-135	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1021.641	51		40-135	1.03	1.067
13C-OCDD	4000	1899.668	47		17-157	0.92	1.140
13C-2,3,7,8-TCDF	2000	658.991	33		24-169	0.75	0.993
13C-1,2,3,7,8-PeCDF	2000	648.521	32	Y	40-135	1.61	1.153
13C-2,3,4,7,8-PeCDF	2000	763.740	38	Y	40-135	1.54	1.187
13C-1,2,3,4,7,8-HxCDF	2000	760.924	38	Y	40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	914.157	46		40-135	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	867.639	43		40-135	0.53	1.009
13C-2,3,4,6,7,8-HxCDF	2000	915.989	46		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	924.916	46		40-135	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	946.190	47		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	204.151	26	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.3  
**Lab Code:** K1407971-006

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.828	0.828	1	1	
1,2,3,7,8-PeCDD	ND	0.372	3.06	1	1	
1,2,3,6,7,8-HxCDD	ND	0.275	3.06	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.256	3.06	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.247	3.06	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.820</b>	0.225	3.06	1	0.01	0.00820
OCDD	<b>3.94</b>	0.350	6.13	1	0.0003	0.00118
2,3,7,8-TCDF	ND	0.878	0.878	1	0.1	
1,2,3,7,8-PeCDF	ND	0.308	3.06	1	0.03	
2,3,4,7,8-PeCDF	ND	0.269	3.06	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.128	3.06	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.170	3.06	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.148	3.06	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.130	3.06	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.278</b>	0.0652	3.06	1	0.01	0.00278
1,2,3,4,7,8,9-HpCDF	ND	0.0863	3.06	1	0.01	
OCDF	ND	0.393	6.13	1	0.0003	
Total TEQ						0.0122

2005 WHO TEFs, ND = 0



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	5.43	5.43			1	8/27/14	0415	8/18/14
1,2,3,7,8-PeCDD	ND	U	3.56	25.0			1	8/27/14	0415	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.70	25.0			1	8/27/14	0415	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.55	25.0			1	8/27/14	0415	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.51	25.0			1	8/27/14	0415	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>9.06</b>	BJK	1.41	25.0	0.77	1.000	1	8/27/14	0415	8/18/14
OCDD	<b>46.8</b>	BJ	2.10	49.9	0.83	1.001	1	8/27/14	0415	8/18/14
2,3,7,8-TCDF	ND	U	8.85	8.85			1	8/27/14	0415	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.09	25.0			1	8/27/14	0415	8/18/14
2,3,4,7,8-PeCDF	ND	U	1.89	25.0			1	8/27/14	0415	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	1.02	25.0			1	8/27/14	0415	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.43	25.0			1	8/27/14	0415	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	1.17	25.0			1	8/27/14	0415	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	1.17	25.0			1	8/27/14	0415	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.99</b>	BJK	0.441	25.0	0.40	1.000	1	8/27/14	0415	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.565	25.0			1	8/27/14	0415	8/18/14
OCDF	ND	U	4.66	49.9			1	8/27/14	0415	8/18/14
Total Tetra-Dioxins	ND	U	5.43	5.43			1	8/27/14	0415	8/18/14
Total Penta-Dioxins	ND	U	3.56	25.0			1	8/27/14	0415	8/18/14
Total Hexa-Dioxins	<b>5.76</b>	J	1.59	25.0	1.23		1	8/27/14	0415	8/18/14
Total Hepta-Dioxins	ND	U	1.41	25.0			1	8/27/14	0415	8/18/14
Total Tetra-Furans	ND	U	8.85	8.85			1	8/27/14	0415	8/18/14
Total Penta-Furans	ND	U	4.04	25.0			1	8/27/14	0415	8/18/14
Total Hexa-Furans	ND	U	1.18	25.0			1	8/27/14	0415	8/18/14
Total Hepta-Furans	ND	U	0.499	25.0			1	8/27/14	0415	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.43	5.43	1	1	
1,2,3,7,8-PeCDD	ND	3.56	25.0	1	1	
1,2,3,6,7,8-HxCDD	ND	1.70	25.0	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.55	25.0	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.51	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>9.06</b>	1.41	25.0	1	0.01	0.0135
OCDD	<b>46.8</b>	2.10	49.9	1	0.0003	0.00209
2,3,7,8-TCDF	ND	8.85	8.85	1	0.1	
1,2,3,7,8-PeCDF	ND	2.09	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.89	25.0	1	0.3	
1,2,3,6,7,8-HxCDF	ND	1.02	25.0	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.43	25.0	1	0.1	
1,2,3,4,7,8-HxCDF	ND	1.17	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.17	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.99</b>	0.441	25.0	1	0.01	0.00296
1,2,3,4,7,8,9-HpCDF	ND	0.565	25.0	1	0.01	
OCDF	ND	4.66	49.9	1	0.0003	
Total TEQ						0.0186

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.809	0.809			1	8/27/14	0415	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.530	3.72			1	8/27/14	0415	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.254	3.72			1	8/27/14	0415	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.230	3.72			1	8/27/14	0415	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.225	3.72			1	8/27/14	0415	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.35</b>	BJK	0.210	3.72	0.77	1.000	1	8/27/14	0415	8/18/14
OCDD	<b>6.97</b>	BJ	0.313	7.44	0.83	1.001	1	8/27/14	0415	8/18/14
2,3,7,8-TCDF	ND	U	1.32	1.32			1	8/27/14	0415	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.311	3.72			1	8/27/14	0415	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.282	3.72			1	8/27/14	0415	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.151	3.72			1	8/27/14	0415	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.212	3.72			1	8/27/14	0415	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.175	3.72			1	8/27/14	0415	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.174	3.72			1	8/27/14	0415	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.296</b>	BJK	0.0657	3.72	0.40	1.000	1	8/27/14	0415	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0841	3.72			1	8/27/14	0415	8/18/14
OCDF	ND	U	0.694	7.44			1	8/27/14	0415	8/18/14
Total Tetra-Dioxins	ND	U	0.809	0.809			1	8/27/14	0415	8/18/14
Total Penta-Dioxins	ND	U	0.530	3.72			1	8/27/14	0415	8/18/14
Total Hexa-Dioxins	<b>0.858</b>	J	0.236	3.72	1.23		1	8/27/14	0415	8/18/14
Total Hepta-Dioxins	ND	U	0.210	3.72			1	8/27/14	0415	8/18/14
Total Tetra-Furans	ND	U	1.32	1.32			1	8/27/14	0415	8/18/14
Total Penta-Furans	ND	U	0.602	3.72			1	8/27/14	0415	8/18/14
Total Hexa-Furans	ND	U	0.176	3.72			1	8/27/14	0415	8/18/14
Total Hepta-Furans	ND	U	0.0743	3.72			1	8/27/14	0415	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	870.534	44		40-135	0.73	1.022
13C-1,2,3,7,8-PeCDD	2000	1053.766	53		40-135	1.57	1.197
13C-1,2,3,4,7,8-HxCDD	2000	1077.475	54		40-135	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1064.289	53		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1143.593	57		40-135	1.06	1.067
13C-OCDD	4000	2167.067	54		17-157	0.85	1.139
13C-2,3,7,8-TCDF	2000	827.995	41		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	831.747	42		40-135	1.57	1.152
13C-2,3,4,7,8-PeCDF	2000	912.312	46		40-135	1.58	1.187
13C-1,2,3,4,7,8-HxCDF	2000	874.787	44		40-135	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1027.117	51		40-135	0.50	0.974
13C-1,2,3,7,8,9-HxCDF	2000	925.609	46		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	940.776	47		40-135	0.49	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1026.056	51		40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1085.793	54		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	262.351	33	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.4  
**Lab Code:** K1407971-007

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.809	0.809	1	1	
1,2,3,7,8-PeCDD	ND	0.530	3.72	1	1	
1,2,3,6,7,8-HxCDD	ND	0.254	3.72	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.230	3.72	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.225	3.72	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.35</b>	0.210	3.72	1	0.01	0.0135
OCDD	<b>6.97</b>	0.313	7.44	1	0.0003	0.00209
2,3,7,8-TCDF	ND	1.32	1.32	1	0.1	
1,2,3,7,8-PeCDF	ND	0.311	3.72	1	0.03	
2,3,4,7,8-PeCDF	ND	0.282	3.72	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.151	3.72	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.212	3.72	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.175	3.72	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.174	3.72	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.296</b>	0.0657	3.72	1	0.01	0.00296
1,2,3,4,7,8,9-HpCDF	ND	0.0841	3.72	1	0.01	
OCDF	ND	0.694	7.44	1	0.0003	
Total TEQ						0.0186

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	4.35	4.35			1	8/27/14	0503	8/18/14
1,2,3,7,8-PeCDD	ND	U	2.00	20.7			1	8/27/14	0503	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.551	20.7			1	8/27/14	0503	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.509	20.7			1	8/27/14	0503	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.492	20.7			1	8/27/14	0503	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.00</b>	BJK	1.54	20.7	0.54	1.000	1	8/27/14	0503	8/18/14
OCDD	<b>30.1</b>	BJK	1.07	41.4	0.61	1.000	1	8/27/14	0503	8/18/14
2,3,7,8-TCDF	ND	U	8.27	8.27			1	8/27/14	0503	8/18/14
1,2,3,7,8-PeCDF	ND	U	3.35	20.7			1	8/27/14	0503	8/18/14
2,3,4,7,8-PeCDF	ND	U	3.12	20.7			1	8/27/14	0503	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	1.09	20.7			1	8/27/14	0503	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.44	20.7			1	8/27/14	0503	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	1.24	20.7			1	8/27/14	0503	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	1.17	20.7			1	8/27/14	0503	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	0.504	20.7			1	8/27/14	0503	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.688	20.7			1	8/27/14	0503	8/18/14
OCDF	<b>8.03</b>	BJ	3.25	41.4	0.76	1.004	1	8/27/14	0503	8/18/14
Total Tetra-Dioxins	ND	U	4.35	4.35			1	8/27/14	0503	8/18/14
Total Penta-Dioxins	ND	U	2.00	20.7			1	8/27/14	0503	8/18/14
Total Hexa-Dioxins	ND	U	0.518	20.7			1	8/27/14	0503	8/18/14
Total Hepta-Dioxins	ND	U	1.54	20.7			1	8/27/14	0503	8/18/14
Total Tetra-Furans	ND	U	8.27	8.27			1	8/27/14	0503	8/18/14
Total Penta-Furans	ND	U	2.37	20.7			1	8/27/14	0503	8/18/14
Total Hexa-Furans	ND	U	1.22	20.7			1	8/27/14	0503	8/18/14
Total Hepta-Furans	<b>1.08</b>	J	0.589	20.7	1.12		1	8/27/14	0503	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	4.35	4.35	1	1	
1,2,3,7,8-PeCDD	ND	2.00	20.7	1	1	
1,2,3,6,7,8-HxCDD	ND	0.551	20.7	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.509	20.7	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.492	20.7	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.00</b>	1.54	20.7	1	0.01	0.00774
OCDD	<b>30.1</b>	1.07	41.4	1	0.0003	0.00140
2,3,7,8-TCDF	ND	8.27	8.27	1	0.1	
1,2,3,7,8-PeCDF	ND	3.35	20.7	1	0.03	
2,3,4,7,8-PeCDF	ND	3.12	20.7	1	0.3	
1,2,3,6,7,8-HxCDF	ND	1.09	20.7	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.44	20.7	1	0.1	
1,2,3,4,7,8-HxCDF	ND	1.24	20.7	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.17	20.7	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.504	20.7	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.688	20.7	1	0.01	
OCDF	<b>8.03</b>	3.25	41.4	1	0.0003	0.000372
Total TEQ						0.00951

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.674	0.674			1	8/27/14	0503	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.309	3.21			1	8/27/14	0503	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0854	3.21			1	8/27/14	0503	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0789	3.21			1	8/27/14	0503	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0762	3.21			1	8/27/14	0503	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.774</b>	BJK	0.239	3.21	0.54	1.000	1	8/27/14	0503	8/18/14
OCDD	<b>4.67</b>	BJK	0.165	6.42	0.61	1.000	1	8/27/14	0503	8/18/14
2,3,7,8-TCDF	ND	U	1.29	1.29			1	8/27/14	0503	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.519	3.21			1	8/27/14	0503	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.483	3.21			1	8/27/14	0503	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.169	3.21			1	8/27/14	0503	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.223	3.21			1	8/27/14	0503	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.191	3.21			1	8/27/14	0503	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.181	3.21			1	8/27/14	0503	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	0.0782	3.21			1	8/27/14	0503	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.107	3.21			1	8/27/14	0503	8/18/14
OCDF	<b>1.24</b>	BJ	0.503	6.42	0.76	1.004	1	8/27/14	0503	8/18/14
Total Tetra-Dioxins	ND	U	0.674	0.674			1	8/27/14	0503	8/18/14
Total Penta-Dioxins	ND	U	0.309	3.21			1	8/27/14	0503	8/18/14
Total Hexa-Dioxins	ND	U	0.0802	3.21			1	8/27/14	0503	8/18/14
Total Hepta-Dioxins	ND	U	0.239	3.21			1	8/27/14	0503	8/18/14
Total Tetra-Furans	ND	U	1.29	1.29			1	8/27/14	0503	8/18/14
Total Penta-Furans	ND	U	0.367	3.21			1	8/27/14	0503	8/18/14
Total Hexa-Furans	ND	U	0.189	3.21			1	8/27/14	0503	8/18/14
Total Hepta-Furans	<b>0.167</b>	J	0.0913	3.21	1.12		1	8/27/14	0503	8/18/14



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	722.800	36	Y	40-135	0.74	1.022
13C-1,2,3,7,8-PeCDD	2000	893.260	45		40-135	1.68	1.197
13C-1,2,3,4,7,8-HxCDD	2000	941.747	47		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	949.393	47		40-135	1.23	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	991.217	50		40-135	1.03	1.067
13C-OCDD	4000	1812.516	45		17-157	0.89	1.139
13C-2,3,7,8-TCDF	2000	680.717	34		24-169	0.75	0.993
13C-1,2,3,7,8-PeCDF	2000	681.424	34	Y	40-135	1.47	1.152
13C-2,3,4,7,8-PeCDF	2000	736.739	37	Y	40-135	1.55	1.186
13C-1,2,3,4,7,8-HxCDF	2000	781.809	39	Y	40-135	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	922.406	46		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	856.820	43		40-135	0.52	1.009
13C-2,3,4,6,7,8-HxCDF	2000	875.475	44		40-135	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	922.052	46		40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	934.283	47		40-135	0.42	1.079
37Cl-2,3,7,8-TCDD	800	233.555	29	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.5  
**Lab Code:** K1407971-008

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.674	0.674	1	1	
1,2,3,7,8-PeCDD	ND	0.309	3.21	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0854	3.21	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0789	3.21	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0762	3.21	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.774</b>	0.239	3.21	1	0.01	0.00774
OCDD	<b>4.67</b>	0.165	6.42	1	0.0003	0.00140
2,3,7,8-TCDF	ND	1.29	1.29	1	0.1	
1,2,3,7,8-PeCDF	ND	0.519	3.21	1	0.03	
2,3,4,7,8-PeCDF	ND	0.483	3.21	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.169	3.21	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.223	3.21	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.191	3.21	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.181	3.21	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.0782	3.21	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.107	3.21	1	0.01	
OCDF	<b>1.24</b>	0.503	6.42	1	0.0003	0.000372
Total TEQ						0.00951

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	5.39	5.39			1	8/27/14	0551	8/18/14
1,2,3,7,8-PeCDD	ND	U	2.57	23.2			1	8/27/14	0551	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.40	23.2			1	8/27/14	0551	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.21	23.2			1	8/27/14	0551	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.21	23.2			1	8/27/14	0551	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.12</b>	BJK	1.42	23.2	0.80	1.000	1	8/27/14	0551	8/18/14
OCDD	<b>35.9</b>	BJ	1.54	46.3	0.84	1.001	1	8/27/14	0551	8/18/14
2,3,7,8-TCDF	ND	U	8.69	8.69			1	8/27/14	0551	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.52	23.2			1	8/27/14	0551	8/18/14
2,3,4,7,8-PeCDF	ND	U	2.27	23.2			1	8/27/14	0551	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	1.24	23.2			1	8/27/14	0551	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	1.63	23.2			1	8/27/14	0551	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	1.47	23.2			1	8/27/14	0551	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	1.36	23.2			1	8/27/14	0551	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>3.20</b>	BJ	0.495	23.2	1.10	1.001	1	8/27/14	0551	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.615	23.2			1	8/27/14	0551	8/18/14
OCDF	ND	U	4.09	46.3			1	8/27/14	0551	8/18/14
Total Tetra-Dioxins	ND	U	5.39	5.39			1	8/27/14	0551	8/18/14
Total Penta-Dioxins	ND	U	2.57	23.2			1	8/27/14	0551	8/18/14
Total Hexa-Dioxins	<b>15.3</b>	J	1.27	23.2	1.32		1	8/27/14	0551	8/18/14
Total Hepta-Dioxins	ND	U	1.42	23.2			1	8/27/14	0551	8/18/14
Total Tetra-Furans	ND	U	8.69	8.69			1	8/27/14	0551	8/18/14
Total Penta-Furans	ND	U	2.30	23.2			1	8/27/14	0551	8/18/14
Total Hexa-Furans	ND	U	1.41	23.2			1	8/27/14	0551	8/18/14
Total Hepta-Furans	<b>3.20</b>	J	0.553	23.2	1.10		1	8/27/14	0551	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.39	5.39	1	1	
1,2,3,7,8-PeCDD	ND	2.57	23.2	1	1	
1,2,3,6,7,8-HxCDD	ND	1.40	23.2	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.21	23.2	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.21	23.2	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.12</b>	1.42	23.2	1	0.01	0.00805
OCDD	<b>35.9</b>	1.54	46.3	1	0.0003	0.00169
2,3,7,8-TCDF	ND	8.69	8.69	1	0.1	
1,2,3,7,8-PeCDF	ND	2.52	23.2	1	0.03	
2,3,4,7,8-PeCDF	ND	2.27	23.2	1	0.3	
1,2,3,6,7,8-HxCDF	ND	1.24	23.2	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.63	23.2	1	0.1	
1,2,3,4,7,8-HxCDF	ND	1.47	23.2	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.36	23.2	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>3.20</b>	0.495	23.2	1	0.01	0.00503
1,2,3,4,7,8,9-HpCDF	ND	0.615	23.2	1	0.01	
OCDF	ND	4.09	46.3	1	0.0003	
Total TEQ						0.0148

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.846	0.846			1	8/27/14	0551	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.403	3.64			1	8/27/14	0551	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.220	3.64			1	8/27/14	0551	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.190	3.64			1	8/27/14	0551	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.190	3.64			1	8/27/14	0551	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.805</b>	BJK	0.223	3.64	0.80	1.000	1	8/27/14	0551	8/18/14
OCDD	<b>5.64</b>	BJ	0.242	7.28	0.84	1.001	1	8/27/14	0551	8/18/14
2,3,7,8-TCDF	ND	U	1.37	1.37			1	8/27/14	0551	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.396	3.64			1	8/27/14	0551	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.356	3.64			1	8/27/14	0551	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.195	3.64			1	8/27/14	0551	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.255	3.64			1	8/27/14	0551	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.230	3.64			1	8/27/14	0551	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.213	3.64			1	8/27/14	0551	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.503</b>	BJ	0.0778	3.64	1.10	1.001	1	8/27/14	0551	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0965	3.64			1	8/27/14	0551	8/18/14
OCDF	ND	U	0.641	7.28			1	8/27/14	0551	8/18/14
Total Tetra-Dioxins	ND	U	0.846	0.846			1	8/27/14	0551	8/18/14
Total Penta-Dioxins	ND	U	0.403	3.64			1	8/27/14	0551	8/18/14
Total Hexa-Dioxins	<b>2.40</b>	J	0.199	3.64	1.32		1	8/27/14	0551	8/18/14
Total Hepta-Dioxins	ND	U	0.223	3.64			1	8/27/14	0551	8/18/14
Total Tetra-Furans	ND	U	1.37	1.37			1	8/27/14	0551	8/18/14
Total Penta-Furans	ND	U	0.361	3.64			1	8/27/14	0551	8/18/14
Total Hexa-Furans	ND	U	0.221	3.64			1	8/27/14	0551	8/18/14
Total Hepta-Furans	<b>0.503</b>	J	0.0868	3.64	1.10		1	8/27/14	0551	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	807.773	40		40-135	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	1100.260	55		40-135	1.53	1.197
13C-1,2,3,4,7,8-HxCDD	2000	1139.831	57		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1006.803	50		40-135	1.23	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1152.256	58		40-135	1.09	1.067
13C-OCDD	4000	2163.952	54		17-157	0.89	1.139
13C-2,3,7,8-TCDF	2000	778.639	39		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	815.029	41		40-135	1.59	1.153
13C-2,3,4,7,8-PeCDF	2000	905.988	45		40-135	1.62	1.187
13C-1,2,3,4,7,8-HxCDF	2000	887.024	44		40-135	0.49	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1023.855	51		40-135	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	958.062	48		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	931.230	47		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1029.281	51		40-135	0.46	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1139.882	57		40-135	0.45	1.079
37Cl-2,3,7,8-TCDD	800	253.324	32	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.1  
**Lab Code:** K1407971-009

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.846	0.846	1	1	
1,2,3,7,8-PeCDD	ND	0.403	3.64	1	1	
1,2,3,6,7,8-HxCDD	ND	0.220	3.64	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.190	3.64	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.190	3.64	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.805</b>	0.223	3.64	1	0.01	0.00805
OCDD	<b>5.64</b>	0.242	7.28	1	0.0003	0.00169
2,3,7,8-TCDF	ND	1.37	1.37	1	0.1	
1,2,3,7,8-PeCDF	ND	0.396	3.64	1	0.03	
2,3,4,7,8-PeCDF	ND	0.356	3.64	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.195	3.64	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.255	3.64	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.230	3.64	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.213	3.64	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.503</b>	0.0778	3.64	1	0.01	0.00503
1,2,3,4,7,8,9-HpCDF	ND	0.0965	3.64	1	0.01	
OCDF	ND	0.641	7.28	1	0.0003	
Total TEQ						0.0148

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	7.32	7.32			1	8/27/14	0639	8/18/14
1,2,3,7,8-PeCDD	ND	U	2.32	22.5			1	8/27/14	0639	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.944	22.5			1	8/27/14	0639	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.853	22.5			1	8/27/14	0639	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.833	22.5			1	8/27/14	0639	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>4.64</b>	BJK	1.01	22.5	1.76	1.001	1	8/27/14	0639	8/18/14
OCDD	<b>38.4</b>	BJ	1.96	45.1	0.79	1.000	1	8/27/14	0639	8/18/14
2,3,7,8-TCDF	ND	U	6.48	6.48			1	8/27/14	0639	8/18/14
1,2,3,7,8-PeCDF	ND	U	2.57	22.5			1	8/27/14	0639	8/18/14
2,3,4,7,8-PeCDF	ND	U	2.32	22.5			1	8/27/14	0639	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.453	22.5			1	8/27/14	0639	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.657	22.5			1	8/27/14	0639	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.558	22.5			1	8/27/14	0639	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.518	22.5			1	8/27/14	0639	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.09</b>	BJK	0.555	22.5	0.68	1.000	1	8/27/14	0639	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.753	22.5			1	8/27/14	0639	8/18/14
OCDF	ND	U	2.56	45.1			1	8/27/14	0639	8/18/14
Total Tetra-Dioxins	ND	U	7.32	7.32			1	8/27/14	0639	8/18/14
Total Penta-Dioxins	ND	U	2.32	22.5			1	8/27/14	0639	8/18/14
Total Hexa-Dioxins	ND	U	0.876	22.5			1	8/27/14	0639	8/18/14
Total Hepta-Dioxins	ND	U	1.01	22.5			1	8/27/14	0639	8/18/14
Total Tetra-Furans	ND	U	6.48	6.48			1	8/27/14	0639	8/18/14
Total Penta-Furans	ND	U	3.31	22.5			1	8/27/14	0639	8/18/14
Total Hexa-Furans	<b>1.60</b>	J	0.538	22.5	1.42		1	8/27/14	0639	8/18/14
Total Hepta-Furans	<b>1.93</b>	J	0.647	22.5	1.00		1	8/27/14	0639	8/18/14



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	7.32	7.32	1	1	
1,2,3,7,8-PeCDD	ND	2.32	22.5	1	1	
1,2,3,6,7,8-HxCDD	ND	0.944	22.5	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.853	22.5	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.833	22.5	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>4.64</b>	1.01	22.5	1	0.01	0.00705
OCDD	<b>38.4</b>	1.96	45.1	1	0.0003	0.00175
2,3,7,8-TCDF	ND	6.48	6.48	1	0.1	
1,2,3,7,8-PeCDF	ND	2.57	22.5	1	0.03	
2,3,4,7,8-PeCDF	ND	2.32	22.5	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.453	22.5	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.657	22.5	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.558	22.5	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.518	22.5	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.09</b>	0.555	22.5	1	0.01	0.00165
1,2,3,4,7,8,9-HpCDF	ND	0.753	22.5	1	0.01	
OCDF	ND	2.56	45.1	1	0.0003	
Total TEQ						0.0105

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	1.12	1.12			1	8/27/14	0639	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.352	3.43			1	8/27/14	0639	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.144	3.43			1	8/27/14	0639	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.130	3.43			1	8/27/14	0639	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.127	3.43			1	8/27/14	0639	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.705</b>	BJK	0.154	3.43	1.76	1.001	1	8/27/14	0639	8/18/14
OCDD	<b>5.84</b>	BJ	0.297	6.85	0.79	1.000	1	8/27/14	0639	8/18/14
2,3,7,8-TCDF	ND	U	0.985	0.985			1	8/27/14	0639	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.391	3.43			1	8/27/14	0639	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.352	3.43			1	8/27/14	0639	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0688	3.43			1	8/27/14	0639	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0998	3.43			1	8/27/14	0639	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0847	3.43			1	8/27/14	0639	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0787	3.43			1	8/27/14	0639	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.165</b>	BJK	0.0843	3.43	0.68	1.000	1	8/27/14	0639	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.115	3.43			1	8/27/14	0639	8/18/14
OCDF	ND	U	0.388	6.85			1	8/27/14	0639	8/18/14
Total Tetra-Dioxins	ND	U	1.12	1.12			1	8/27/14	0639	8/18/14
Total Penta-Dioxins	ND	U	0.352	3.43			1	8/27/14	0639	8/18/14
Total Hexa-Dioxins	ND	U	0.134	3.43			1	8/27/14	0639	8/18/14
Total Hepta-Dioxins	ND	U	0.154	3.43			1	8/27/14	0639	8/18/14
Total Tetra-Furans	ND	U	0.985	0.985			1	8/27/14	0639	8/18/14
Total Penta-Furans	ND	U	0.504	3.43			1	8/27/14	0639	8/18/14
Total Hexa-Furans	<b>0.244</b>	J	0.0817	3.43	1.42		1	8/27/14	0639	8/18/14
Total Hepta-Furans	<b>0.294</b>	J	0.0983	3.43	1.00		1	8/27/14	0639	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	780.911	39	Y	40-135	0.76	1.023
13C-1,2,3,7,8-PeCDD	2000	965.229	48		40-135	1.52	1.198
13C-1,2,3,4,7,8-HxCDD	2000	1043.923	52		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	939.183	47		40-135	1.23	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1018.684	51		40-135	1.09	1.067
13C-OCDD	4000	1981.041	50		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	710.614	36		24-169	0.77	0.993
13C-1,2,3,7,8-PeCDF	2000	736.249	37	Y	40-135	1.61	1.153
13C-2,3,4,7,8-PeCDF	2000	828.782	41		40-135	1.56	1.187
13C-1,2,3,4,7,8-HxCDF	2000	809.047	40		40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	979.918	49		40-135	0.48	0.974
13C-1,2,3,7,8,9-HxCDF	2000	863.200	43		40-135	0.48	1.009
13C-2,3,4,6,7,8-HxCDF	2000	896.500	45		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	979.747	49		40-135	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1004.435	50		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	242.574	30	Y	35-197	NA	1.024

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.2  
**Lab Code:** K1407971-010

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.12	1.12	1	1	
1,2,3,7,8-PeCDD	ND	0.352	3.43	1	1	
1,2,3,6,7,8-HxCDD	ND	0.144	3.43	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.130	3.43	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.127	3.43	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.705</b>	0.154	3.43	1	0.01	0.00705
OCDD	<b>5.84</b>	0.297	6.85	1	0.0003	0.00175
2,3,7,8-TCDF	ND	0.985	0.985	1	0.1	
1,2,3,7,8-PeCDF	ND	0.391	3.43	1	0.03	
2,3,4,7,8-PeCDF	ND	0.352	3.43	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0688	3.43	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0998	3.43	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0847	3.43	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0787	3.43	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.165</b>	0.0843	3.43	1	0.01	0.00165
1,2,3,4,7,8,9-HpCDF	ND	0.115	3.43	1	0.01	
OCDF	ND	0.388	6.85	1	0.0003	
Total TEQ						0.0105

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	6.88	6.88			1	8/27/14	0727	8/18/14
1,2,3,7,8-PeCDD	ND	U	5.57	26.4			1	8/27/14	0727	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	1.46	26.4			1	8/27/14	0727	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	1.32	26.4			1	8/27/14	0727	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	1.29	26.4			1	8/27/14	0727	8/18/14
1,2,3,4,6,7,8-HpCDD	11.2	BJK	3.38	26.4	1.28	1.000	1	8/27/14	0727	8/18/14
OCDD	68.2	B	2.83	52.9	0.79	1.000	1	8/27/14	0727	8/18/14
2,3,7,8-TCDF	ND	U	8.29	8.29			1	8/27/14	0727	8/18/14
1,2,3,7,8-PeCDF	ND	U	3.07	26.4			1	8/27/14	0727	8/18/14
2,3,4,7,8-PeCDF	ND	U	2.84	26.4			1	8/27/14	0727	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	1.88	26.4			1	8/27/14	0727	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	2.50	26.4			1	8/27/14	0727	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	2.26	26.4			1	8/27/14	0727	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	1.86	26.4			1	8/27/14	0727	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	1.13	26.4			1	8/27/14	0727	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	1.51	26.4			1	8/27/14	0727	8/18/14
OCDF	ND	U	5.06	52.9			1	8/27/14	0727	8/18/14
Total Tetra-Dioxins	ND	U	6.88	6.88			1	8/27/14	0727	8/18/14
Total Penta-Dioxins	ND	U	5.57	26.4			1	8/27/14	0727	8/18/14
Total Hexa-Dioxins	ND	U	1.35	26.4			1	8/27/14	0727	8/18/14
Total Hepta-Dioxins	18.2	J	3.38	26.4	1.16		1	8/27/14	0727	8/18/14
Total Tetra-Furans	ND	U	8.29	8.29			1	8/27/14	0727	8/18/14
Total Penta-Furans	ND	U	3.70	26.4			1	8/27/14	0727	8/18/14
Total Hexa-Furans	ND	U	2.09	26.4			1	8/27/14	0727	8/18/14
Total Hepta-Furans	ND	U	1.31	26.4			1	8/27/14	0727	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	6.88	6.88	1	1	
1,2,3,7,8-PeCDD	ND	5.57	26.4	1	1	
1,2,3,6,7,8-HxCDD	ND	1.46	26.4	1	0.1	
1,2,3,4,7,8-HxCDD	ND	1.32	26.4	1	0.1	
1,2,3,7,8,9-HxCDD	ND	1.29	26.4	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>11.2</b>	3.38	26.4	1	0.01	0.0168
OCDD	<b>68.2</b>	2.83	52.9	1	0.0003	0.00306
2,3,7,8-TCDF	ND	8.29	8.29	1	0.1	
1,2,3,7,8-PeCDF	ND	3.07	26.4	1	0.03	
2,3,4,7,8-PeCDF	ND	2.84	26.4	1	0.3	
1,2,3,6,7,8-HxCDF	ND	1.88	26.4	1	0.1	
1,2,3,7,8,9-HxCDF	ND	2.50	26.4	1	0.1	
1,2,3,4,7,8-HxCDF	ND	2.26	26.4	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.86	26.4	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	1.13	26.4	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	1.51	26.4	1	0.01	
OCDF	ND	5.06	52.9	1	0.0003	
Total TEQ						0.0199

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	1.04	1.04			1	8/27/14	0727	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.835	3.97			1	8/27/14	0727	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.219	3.97			1	8/27/14	0727	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.197	3.97			1	8/27/14	0727	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.193	3.97			1	8/27/14	0727	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.68</b>	BJK	0.506	3.97	1.28	1.000	1	8/27/14	0727	8/18/14
OCDD	<b>10.2</b>	B	0.424	7.93	0.79	1.000	1	8/27/14	0727	8/18/14
2,3,7,8-TCDF	ND	U	1.25	1.25			1	8/27/14	0727	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.460	3.97			1	8/27/14	0727	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.426	3.97			1	8/27/14	0727	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.281	3.97			1	8/27/14	0727	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.375	3.97			1	8/27/14	0727	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.339	3.97			1	8/27/14	0727	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.279	3.97			1	8/27/14	0727	8/18/14
1,2,3,4,6,7,8-HpCDF	ND	U	0.169	3.97			1	8/27/14	0727	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.227	3.97			1	8/27/14	0727	8/18/14
OCDF	ND	U	0.759	7.93			1	8/27/14	0727	8/18/14
Total Tetra-Dioxins	ND	U	1.04	1.04			1	8/27/14	0727	8/18/14
Total Penta-Dioxins	ND	U	0.835	3.97			1	8/27/14	0727	8/18/14
Total Hexa-Dioxins	ND	U	0.203	3.97			1	8/27/14	0727	8/18/14
Total Hepta-Dioxins	<b>2.73</b>	J	0.506	3.97	1.16		1	8/27/14	0727	8/18/14
Total Tetra-Furans	ND	U	1.25	1.25			1	8/27/14	0727	8/18/14
Total Penta-Furans	ND	U	0.554	3.97			1	8/27/14	0727	8/18/14
Total Hexa-Furans	ND	U	0.313	3.97			1	8/27/14	0727	8/18/14
Total Hepta-Furans	ND	U	0.196	3.97			1	8/27/14	0727	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	646.900	32	Y	40-135	0.78	1.022
13C-1,2,3,7,8-PeCDD	2000	823.472	41		40-135	1.72	1.197
13C-1,2,3,4,7,8-HxCDD	2000	905.013	45		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	837.677	42		40-135	1.21	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	905.920	45		40-135	1.02	1.067
13C-OCDD	4000	1688.720	42		17-157	0.88	1.139
13C-2,3,7,8-TCDF	2000	624.203	31		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	614.847	31	Y	40-135	1.59	1.153
13C-2,3,4,7,8-PeCDF	2000	684.525	34	Y	40-135	1.51	1.187
13C-1,2,3,4,7,8-HxCDF	2000	682.284	34	Y	40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	834.561	42		40-135	0.53	0.973
13C-1,2,3,7,8,9-HxCDF	2000	746.457	37	Y	40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	836.021	42		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	814.336	41		40-135	0.46	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	839.574	42		40-135	0.46	1.079
37Cl-2,3,7,8-TCDD	800	219.270	27	Y	35-197	NA	1.024



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.3  
**Lab Code:** K1407971-011

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.04	1.04	1	1	
1,2,3,7,8-PeCDD	ND	0.835	3.97	1	1	
1,2,3,6,7,8-HxCDD	ND	0.219	3.97	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.197	3.97	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.193	3.97	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.68</b>	0.506	3.97	1	0.01	0.0168
OCDD	<b>10.2</b>	0.424	7.93	1	0.0003	0.00306
2,3,7,8-TCDF	ND	1.25	1.25	1	0.1	
1,2,3,7,8-PeCDF	ND	0.460	3.97	1	0.03	
2,3,4,7,8-PeCDF	ND	0.426	3.97	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.281	3.97	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.375	3.97	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.339	3.97	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.279	3.97	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.169	3.97	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.227	3.97	1	0.01	
OCDF	ND	0.759	7.93	1	0.0003	
Total TEQ						0.0199

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.665	4.19			1	8/27/14	0334	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.496	20.9			1	8/27/14	0334	8/18/14
1,2,3,6,7,8-HxCDD	<b>0.484</b>	J	0.109	20.9	1.39	1.001	1	8/27/14	0334	8/18/14
1,2,3,4,7,8-HxCDD	<b>0.519</b>	JK	0.102	20.9	2.92	1.000	1	8/27/14	0334	8/18/14
1,2,3,7,8,9-HxCDD	<b>0.599</b>	BJK	0.0972	20.9	1.55	1.007	1	8/27/14	0334	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.76</b>	BJ	0.0771	20.9	1.07	1.000	1	8/27/14	0334	8/18/14
OCDD	<b>36.6</b>	BJ	0.578	41.9	0.95	1.000	1	8/27/14	0334	8/18/14
2,3,7,8-TCDF	<b>3.70</b>	JK	0.513	4.19	0.59	1.002	1	8/27/14	0334	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.471	20.9			1	8/27/14	0334	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.447	20.9			1	8/27/14	0334	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.353	20.9			1	8/27/14	0334	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.497	20.9			1	8/27/14	0334	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.419	20.9			1	8/27/14	0334	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.429	20.9			1	8/27/14	0334	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.36</b>	BJ	0.204	20.9	1.17	1.000	1	8/27/14	0334	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.274	20.9			1	8/27/14	0334	8/18/14
OCDF	ND	U	0.844	41.9			1	8/27/14	0334	8/18/14
Total Tetra-Dioxins	ND	U	0.665	4.19			1	8/27/14	0334	8/18/14
Total Penta-Dioxins	<b>3.95</b>	J	0.496	20.9	1.38		1	8/27/14	0334	8/18/14
Total Hexa-Dioxins	<b>10.6</b>	J	0.103	20.9	1.33		1	8/27/14	0334	8/18/14
Total Hepta-Dioxins	<b>20.1</b>	J	0.0771	20.9	1.11		1	8/27/14	0334	8/18/14
Total Tetra-Furans	<b>1.64</b>	J	0.513	4.19	0.68		1	8/27/14	0334	8/18/14
Total Penta-Furans	ND	U	0.257	20.9			1	8/27/14	0334	8/18/14
Total Hexa-Furans	ND	U	0.418	20.9			1	8/27/14	0334	8/18/14
Total Hepta-Furans	<b>1.36</b>	J	0.235	20.9	1.17		1	8/27/14	0334	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.665	4.19	1	1	
1,2,3,7,8-PeCDD	ND	0.496	20.9	1	1	
1,2,3,6,7,8-HxCDD	<b>0.484</b>	0.109	20.9	1	0.1	0.00750
1,2,3,4,7,8-HxCDD	<b>0.519</b>	0.102	20.9	1	0.1	0.00805
1,2,3,7,8,9-HxCDD	<b>0.599</b>	0.0972	20.9	1	0.1	0.00928
1,2,3,4,6,7,8-HpCDD	<b>5.76</b>	0.0771	20.9	1	0.01	0.00892
OCDD	<b>36.6</b>	0.578	41.9	1	0.0003	0.00170
2,3,7,8-TCDF	<b>3.70</b>	0.513	4.19	1	0.1	0.0573
1,2,3,7,8-PeCDF	ND	0.471	20.9	1	0.03	
2,3,4,7,8-PeCDF	ND	0.447	20.9	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.353	20.9	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.497	20.9	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.419	20.9	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.429	20.9	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.36</b>	0.204	20.9	1	0.01	0.00210
1,2,3,4,7,8,9-HpCDF	ND	0.274	20.9	1	0.01	
OCDF	ND	0.844	41.9	1	0.0003	
Total TEQ						0.0949

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.103	0.649			1	8/27/14	0334	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.0769	3.25			1	8/27/14	0334	8/18/14
1,2,3,6,7,8-HxCDD	<b>0.0750</b>	J	0.0168	3.25	1.39	1.001	1	8/27/14	0334	8/18/14
1,2,3,4,7,8-HxCDD	<b>0.0805</b>	JK	0.0158	3.25	2.92	1.000	1	8/27/14	0334	8/18/14
1,2,3,7,8,9-HxCDD	<b>0.0928</b>	BJK	0.0151	3.25	1.55	1.007	1	8/27/14	0334	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.892</b>	BJ	0.0120	3.25	1.07	1.000	1	8/27/14	0334	8/18/14
OCDD	<b>5.67</b>	BJ	0.0896	6.49	0.95	1.000	1	8/27/14	0334	8/18/14
2,3,7,8-TCDF	<b>0.573</b>	JK	0.0795	0.649	0.59	1.002	1	8/27/14	0334	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.0730	3.25			1	8/27/14	0334	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.0693	3.25			1	8/27/14	0334	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0547	3.25			1	8/27/14	0334	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0770	3.25			1	8/27/14	0334	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0650	3.25			1	8/27/14	0334	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0664	3.25			1	8/27/14	0334	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.210</b>	BJ	0.0316	3.25	1.17	1.000	1	8/27/14	0334	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0424	3.25			1	8/27/14	0334	8/18/14
OCDF	ND	U	0.131	6.49			1	8/27/14	0334	8/18/14
Total Tetra-Dioxins	ND	U	0.103	0.649			1	8/27/14	0334	8/18/14
Total Penta-Dioxins	<b>0.613</b>	J	0.0769	3.25	1.38		1	8/27/14	0334	8/18/14
Total Hexa-Dioxins	<b>1.65</b>	J	0.0159	3.25	1.33		1	8/27/14	0334	8/18/14
Total Hepta-Dioxins	<b>3.11</b>	J	0.0120	3.25	1.11		1	8/27/14	0334	8/18/14
Total Tetra-Furans	<b>0.255</b>	J	0.0795	0.649	0.68		1	8/27/14	0334	8/18/14
Total Penta-Furans	ND	U	0.0398	3.25			1	8/27/14	0334	8/18/14
Total Hexa-Furans	ND	U	0.0648	3.25			1	8/27/14	0334	8/18/14
Total Hepta-Furans	<b>0.210</b>	J	0.0364	3.25	1.17		1	8/27/14	0334	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1020.946	51		40-135	0.79	1.021
13C-1,2,3,7,8-PeCDD	2000	1214.154	61		40-135	1.57	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1171.042	59		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1162.946	58		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1111.354	56		40-135	1.07	1.066
13C-OCDD	4000	1989.784	50		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	965.638	48		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1031.704	52		40-135	1.60	1.139
13C-2,3,4,7,8-PeCDF	2000	1088.852	54		40-135	1.56	1.172
13C-1,2,3,4,7,8-HxCDF	2000	1042.434	52		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1207.325	60		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1207.425	60		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1091.718	55		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1071.674	54		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1346.700	67		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	306.227	38		35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.4  
**Lab Code:** K1407971-012

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.103	0.649	1	1	
1,2,3,7,8-PeCDD	ND	0.0769	3.25	1	1	
1,2,3,6,7,8-HxCDD	<b>0.0750</b>	0.0168	3.25	1	0.1	0.00750
1,2,3,4,7,8-HxCDD	<b>0.0805</b>	0.0158	3.25	1	0.1	0.00805
1,2,3,7,8,9-HxCDD	<b>0.0928</b>	0.0151	3.25	1	0.1	0.00928
1,2,3,4,6,7,8-HpCDD	<b>0.892</b>	0.0120	3.25	1	0.01	0.00892
OCDD	<b>5.67</b>	0.0896	6.49	1	0.0003	0.00170
2,3,7,8-TCDF	<b>0.573</b>	0.0795	0.649	1	0.1	0.0573
1,2,3,7,8-PeCDF	ND	0.0730	3.25	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0693	3.25	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0547	3.25	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0770	3.25	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0650	3.25	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0664	3.25	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.210</b>	0.0316	3.25	1	0.01	0.00210
1,2,3,4,7,8,9-HpCDF	ND	0.0424	3.25	1	0.01	
OCDF	ND	0.131	6.49	1	0.0003	
Total TEQ						0.0949

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.587	4.58			1	8/27/14	0422	8/18/14
1,2,3,7,8-PeCDD	<b>1.63</b>	JK	0.633	22.9	0.80	1.000	1	8/27/14	0422	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.177	22.9			1	8/27/14	0422	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.173	22.9			1	8/27/14	0422	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.162	22.9			1	8/27/14	0422	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>6.82</b>	BJK	0.211	22.9	1.21	1.000	1	8/27/14	0422	8/18/14
OCDD	<b>45.7</b>	BJ	0.876	45.8	0.98	1.000	1	8/27/14	0422	8/18/14
2,3,7,8-TCDF	<b>4.67</b>	C	0.604	4.58	0.71	1.001	1	8/27/14	0422	8/18/14
1,2,3,7,8-PeCDF	ND	U	1.05	22.9			1	8/27/14	0422	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.966	22.9			1	8/27/14	0422	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.291	22.9			1	8/27/14	0422	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.377	22.9			1	8/27/14	0422	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.337	22.9			1	8/27/14	0422	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.338	22.9			1	8/27/14	0422	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>2.32</b>	BJP	0.164	22.9	1.17	1.000	1	8/27/14	0422	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>0.768</b>	BJK	0.210	22.9	1.46	1.000	1	8/27/14	0422	8/18/14
OCDF	<b>3.47</b>	BJK	0.942	45.8	0.66	1.005	1	8/27/14	0422	8/18/14
Total Tetra-Dioxins	ND	U	0.587	4.58			1	8/27/14	0422	8/18/14
Total Penta-Dioxins	ND	U	0.633	22.9			1	8/27/14	0422	8/18/14
Total Hexa-Dioxins	<b>16.8</b>	J	0.171	22.9	1.14		1	8/27/14	0422	8/18/14
Total Hepta-Dioxins	<b>18.9</b>	J	0.211	22.9	1.10		1	8/27/14	0422	8/18/14
Total Tetra-Furans	<b>4.67</b>		0.604	4.58	0.71		1	8/27/14	0422	8/18/14
Total Penta-Furans	<b>2.77</b>	J	0.401	22.9	1.61		1	8/27/14	0422	8/18/14
Total Hexa-Furans	ND	U	0.333	22.9			1	8/27/14	0422	8/18/14
Total Hepta-Furans	<b>4.38</b>	J	0.185	22.9	1.17		1	8/27/14	0422	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.587	4.58	1	1	
1,2,3,7,8-PeCDD	<b>1.63</b>	0.633	22.9	1	1	0.247
1,2,3,6,7,8-HxCDD	ND	0.177	22.9	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.173	22.9	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.162	22.9	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>6.82</b>	0.211	22.9	1	0.01	0.0104
OCDD	<b>45.7</b>	0.876	45.8	1	0.0003	0.00209
2,3,7,8-TCDF	<b>4.67</b>	0.604	4.58	1	0.1	0.0710
1,2,3,7,8-PeCDF	ND	1.05	22.9	1	0.03	
2,3,4,7,8-PeCDF	ND	0.966	22.9	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.291	22.9	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.377	22.9	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.337	22.9	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.338	22.9	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>2.32</b>	0.164	22.9	1	0.01	0.00352
1,2,3,4,7,8,9-HpCDF	<b>0.768</b>	0.210	22.9	1	0.01	0.00117
OCDF	<b>3.47</b>	0.942	45.8	1	0.0003	0.000158
Total TEQ						0.335

2005 WHO TEFs, ND = 0



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.0892	0.696			1	8/27/14	0422	8/18/14
1,2,3,7,8-PeCDD	<b>0.247</b>	JK	0.0962	3.48	0.80	1.000	1	8/27/14	0422	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0269	3.48			1	8/27/14	0422	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0262	3.48			1	8/27/14	0422	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0247	3.48			1	8/27/14	0422	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>1.04</b>	BJK	0.0320	3.48	1.21	1.000	1	8/27/14	0422	8/18/14
OCDD	<b>6.95</b>	BJ	0.134	6.96	0.98	1.000	1	8/27/14	0422	8/18/14
2,3,7,8-TCDF	<b>0.710</b>		0.0917	0.696	0.71	1.001	1	8/27/14	0422	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.159	3.48			1	8/27/14	0422	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.147	3.48			1	8/27/14	0422	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0441	3.48			1	8/27/14	0422	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0572	3.48			1	8/27/14	0422	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0512	3.48			1	8/27/14	0422	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0514	3.48			1	8/27/14	0422	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.352</b>	BJP	0.0249	3.48	1.17	1.000	1	8/27/14	0422	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>0.117</b>	BJK	0.0319	3.48	1.46	1.000	1	8/27/14	0422	8/18/14
OCDF	<b>0.527</b>	BJK	0.144	6.96	0.66	1.005	1	8/27/14	0422	8/18/14
Total Tetra-Dioxins	ND	U	0.0892	0.696			1	8/27/14	0422	8/18/14
Total Penta-Dioxins	ND	U	0.0962	3.48			1	8/27/14	0422	8/18/14
Total Hexa-Dioxins	<b>2.56</b>	J	0.0259	3.48	1.14		1	8/27/14	0422	8/18/14
Total Hepta-Dioxins	<b>2.87</b>	J	0.0320	3.48	1.10		1	8/27/14	0422	8/18/14
Total Tetra-Furans	<b>0.710</b>		0.0917	0.696	0.71		1	8/27/14	0422	8/18/14
Total Penta-Furans	<b>0.420</b>	J	0.0610	3.48	1.61		1	8/27/14	0422	8/18/14
Total Hexa-Furans	ND	U	0.0505	3.48			1	8/27/14	0422	8/18/14
Total Hepta-Furans	<b>0.666</b>	J	0.0281	3.48	1.17		1	8/27/14	0422	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	858.637	43		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1093.294	55		40-135	1.57	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1112.658	56		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1100.621	55		40-135	1.28	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1049.573	52		40-135	1.07	1.066
13C-OCDD	4000	1948.540	49		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	819.355	41		24-169	0.81	0.993
13C-1,2,3,7,8-PeCDF	2000	917.962	46		40-135	1.57	1.139
13C-2,3,4,7,8-PeCDF	2000	992.994	50		40-135	1.59	1.171
13C-1,2,3,4,7,8-HxCDF	2000	980.756	49		40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1108.627	55		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1144.858	57		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1017.752	51		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	984.440	49		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1279.691	64		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	272.027	34	Y	35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-TB Rep.5  
**Lab Code:** K1407971-013

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0892	0.696	1	1	
1,2,3,7,8-PeCDD	<b>0.247</b>	0.0962	3.48	1	1	0.247
1,2,3,6,7,8-HxCDD	ND	0.0269	3.48	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0262	3.48	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0247	3.48	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>1.04</b>	0.0320	3.48	1	0.01	0.0104
OCDD	<b>6.95</b>	0.134	6.96	1	0.0003	0.00209
2,3,7,8-TCDF	<b>0.710</b>	0.0917	0.696	1	0.1	0.0710
1,2,3,7,8-PeCDF	ND	0.159	3.48	1	0.03	
2,3,4,7,8-PeCDF	ND	0.147	3.48	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0441	3.48	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0572	3.48	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0512	3.48	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0514	3.48	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.352</b>	0.0249	3.48	1	0.01	0.00352
1,2,3,4,7,8,9-HpCDF	<b>0.117</b>	0.0319	3.48	1	0.01	0.00117
OCDF	<b>0.527</b>	0.144	6.96	1	0.0003	0.000158
Total TEQ						0.335

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.854	4.78			1	8/27/14	0510	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.443	23.9			1	8/27/14	0510	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.153	23.9			1	8/27/14	0510	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.150	23.9			1	8/27/14	0510	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.141	23.9			1	8/27/14	0510	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.10</b>	BJ	0.0860	23.9	0.99	1.000	1	8/27/14	0510	8/18/14
OCDD	<b>38.2</b>	BJ	0.280	47.8	0.85	1.000	1	8/27/14	0510	8/18/14
2,3,7,8-TCDF	<b>4.70</b>	J	0.923	4.78	0.79	1.001	1	8/27/14	0510	8/18/14
1,2,3,7,8-PeCDF	ND	U	1.08	23.9			1	8/27/14	0510	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.997	23.9			1	8/27/14	0510	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.246	23.9			1	8/27/14	0510	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.328	23.9			1	8/27/14	0510	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.293	23.9			1	8/27/14	0510	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.287	23.9			1	8/27/14	0510	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.15</b>	BJ	0.186	23.9	0.97	1.000	1	8/27/14	0510	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>0.503</b>	BJ	0.237	23.9	0.96	1.000	1	8/27/14	0510	8/18/14
OCDF	<b>2.84</b>	BJK	0.846	47.8	1.41	1.006	1	8/27/14	0510	8/18/14
Total Tetra-Dioxins	ND	U	0.854	4.78			1	8/27/14	0510	8/18/14
Total Penta-Dioxins	ND	U	0.443	23.9			1	8/27/14	0510	8/18/14
Total Hexa-Dioxins	ND	U	0.148	23.9			1	8/27/14	0510	8/18/14
Total Hepta-Dioxins	<b>14.0</b>	J	0.0860	23.9	1.14		1	8/27/14	0510	8/18/14
Total Tetra-Furans	<b>4.70</b>	J	0.923	4.78	0.79		1	8/27/14	0510	8/18/14
Total Penta-Furans	ND	U	0.406	23.9			1	8/27/14	0510	8/18/14
Total Hexa-Furans	ND	U	0.285	23.9			1	8/27/14	0510	8/18/14
Total Hepta-Furans	<b>1.65</b>	J	0.209	23.9	0.97		1	8/27/14	0510	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.854	4.78	1	1	
1,2,3,7,8-PeCDD	ND	0.443	23.9	1	1	
1,2,3,6,7,8-HxCDD	ND	0.153	23.9	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.150	23.9	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.141	23.9	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.10</b>	0.0860	23.9	1	0.01	0.00826
OCDD	<b>38.2</b>	0.280	47.8	1	0.0003	0.00186
2,3,7,8-TCDF	<b>4.70</b>	0.923	4.78	1	0.1	0.0762
1,2,3,7,8-PeCDF	ND	1.08	23.9	1	0.03	
2,3,4,7,8-PeCDF	ND	0.997	23.9	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.246	23.9	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.328	23.9	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.293	23.9	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.287	23.9	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.15</b>	0.186	23.9	1	0.01	0.00186
1,2,3,4,7,8,9-HpCDF	<b>0.503</b>	0.237	23.9	1	0.01	0.000816
OCDF	<b>2.84</b>	0.846	47.8	1	0.0003	0.000138
Total TEQ						0.0891

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.139	0.774			1	8/27/14	0510	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.0717	3.87			1	8/27/14	0510	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0248	3.87			1	8/27/14	0510	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0242	3.87			1	8/27/14	0510	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0228	3.87			1	8/27/14	0510	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.826</b>	BJ	0.0140	3.87	0.99	1.000	1	8/27/14	0510	8/18/14
OCDD	<b>6.19</b>	BJ	0.0454	7.74	0.85	1.000	1	8/27/14	0510	8/18/14
2,3,7,8-TCDF	<b>0.762</b>	J	0.150	0.774	0.79	1.001	1	8/27/14	0510	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.174	3.87			1	8/27/14	0510	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.162	3.87			1	8/27/14	0510	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0398	3.87			1	8/27/14	0510	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0531	3.87			1	8/27/14	0510	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0474	3.87			1	8/27/14	0510	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0465	3.87			1	8/27/14	0510	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.186</b>	BJ	0.0301	3.87	0.97	1.000	1	8/27/14	0510	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>0.0816</b>	BJ	0.0384	3.87	0.96	1.000	1	8/27/14	0510	8/18/14
OCDF	<b>0.459</b>	BJK	0.137	7.74	1.41	1.006	1	8/27/14	0510	8/18/14
Total Tetra-Dioxins	ND	U	0.139	0.774			1	8/27/14	0510	8/18/14
Total Penta-Dioxins	ND	U	0.0717	3.87			1	8/27/14	0510	8/18/14
Total Hexa-Dioxins	ND	U	0.0239	3.87			1	8/27/14	0510	8/18/14
Total Hepta-Dioxins	<b>2.26</b>	J	0.0140	3.87	1.14		1	8/27/14	0510	8/18/14
Total Tetra-Furans	<b>0.762</b>	J	0.150	0.774	0.79		1	8/27/14	0510	8/18/14
Total Penta-Furans	ND	U	0.0658	3.87			1	8/27/14	0510	8/18/14
Total Hexa-Furans	ND	U	0.0462	3.87			1	8/27/14	0510	8/18/14
Total Hepta-Furans	<b>0.267</b>	J	0.0338	3.87	0.97		1	8/27/14	0510	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	778.071	39	Y	40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1047.449	52		40-135	1.61	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1037.463	52		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1026.241	51		40-135	1.27	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1026.010	51		40-135	1.08	1.066
13C-OCDD	4000	1854.577	46		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	730.057	37		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	854.396	43		40-135	1.56	1.139
13C-2,3,4,7,8-PeCDF	2000	924.414	46		40-135	1.60	1.172
13C-1,2,3,4,7,8-HxCDF	2000	918.761	46		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1060.224	53		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1087.682	54		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	961.513	48		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	980.176	49		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1243.789	62		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	239.167	30	Y	35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.1  
**Lab Code:** K1407971-014

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.139	0.774	1	1	
1,2,3,7,8-PeCDD	ND	0.0717	3.87	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0248	3.87	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0242	3.87	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0228	3.87	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.826</b>	0.0140	3.87	1	0.01	0.00826
OCDD	<b>6.19</b>	0.0454	7.74	1	0.0003	0.00186
2,3,7,8-TCDF	<b>0.762</b>	0.150	0.774	1	0.1	0.0762
1,2,3,7,8-PeCDF	ND	0.174	3.87	1	0.03	
2,3,4,7,8-PeCDF	ND	0.162	3.87	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0398	3.87	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0531	3.87	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0474	3.87	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0465	3.87	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.186</b>	0.0301	3.87	1	0.01	0.00186
1,2,3,4,7,8,9-HpCDF	<b>0.0816</b>	0.0384	3.87	1	0.01	0.000816
OCDF	<b>0.459</b>	0.137	7.74	1	0.0003	0.000138
Total TEQ						0.0891

2005 WHO TEFs, ND = 0



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.926	4.52			1	8/27/14	0557	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.786	22.6			1	8/27/14	0557	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.338	22.6			1	8/27/14	0557	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.328	22.6			1	8/27/14	0557	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.309	22.6			1	8/27/14	0557	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>4.64</b>	BJK	0.0742	22.6	0.81	1.000	1	8/27/14	0557	8/18/14
OCDD	<b>21.6</b>	BJ	0.730	45.2	0.84	1.000	1	8/27/14	0557	8/18/14
2,3,7,8-TCDF	<b>4.72</b>	CK	0.536	4.52	0.57	1.001	1	8/27/14	0557	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.634	22.6			1	8/27/14	0557	8/18/14
2,3,4,7,8-PeCDF	<b>1.53</b>	BJK	0.626	22.6	1.10	1.001	1	8/27/14	0557	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.162	22.6			1	8/27/14	0557	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.228	22.6			1	8/27/14	0557	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.192	22.6			1	8/27/14	0557	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.205	22.6			1	8/27/14	0557	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.71</b>	BJ	0.200	22.6	1.15	1.000	1	8/27/14	0557	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.282	22.6			1	8/27/14	0557	8/18/14
OCDF	ND	U	0.713	45.2			1	8/27/14	0557	8/18/14
Total Tetra-Dioxins	ND	U	0.926	4.52			1	8/27/14	0557	8/18/14
Total Penta-Dioxins	ND	U	0.786	22.6			1	8/27/14	0557	8/18/14
Total Hexa-Dioxins	<b>3.57</b>	J	0.325	22.6	1.16		1	8/27/14	0557	8/18/14
Total Hepta-Dioxins	<b>6.59</b>	J	0.0742	22.6	1.07		1	8/27/14	0557	8/18/14
Total Tetra-Furans	ND	U	0.536	4.52			1	8/27/14	0557	8/18/14
Total Penta-Furans	<b>5.38</b>	J	0.560	22.6	1.47		1	8/27/14	0557	8/18/14
Total Hexa-Furans	<b>1.36</b>	J	0.194	22.6	1.28		1	8/27/14	0557	8/18/14
Total Hepta-Furans	<b>2.90</b>	J	0.236	22.6	1.15		1	8/27/14	0557	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.926	4.52	1	1	
1,2,3,7,8-PeCDD	ND	0.786	22.6	1	1	
1,2,3,6,7,8-HxCDD	ND	0.338	22.6	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.328	22.6	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.309	22.6	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>4.64</b>	0.0742	22.6	1	0.01	0.00709
OCDD	<b>21.6</b>	0.730	45.2	1	0.0003	0.000993
2,3,7,8-TCDF	<b>4.72</b>	0.536	4.52	1	0.1	0.0722
1,2,3,7,8-PeCDF	ND	0.634	22.6	1	0.03	
2,3,4,7,8-PeCDF	<b>1.53</b>	0.626	22.6	1	0.3	0.0702
1,2,3,6,7,8-HxCDF	ND	0.162	22.6	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.228	22.6	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.192	22.6	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.205	22.6	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.71</b>	0.200	22.6	1	0.01	0.00262
1,2,3,4,7,8,9-HpCDF	ND	0.282	22.6	1	0.01	
OCDF	ND	0.713	45.2	1	0.0003	
Total TEQ						0.153

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.142	0.692			1	8/27/14	0557	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.121	3.46			1	8/27/14	0557	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0517	3.46			1	8/27/14	0557	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0502	3.46			1	8/27/14	0557	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0472	3.46			1	8/27/14	0557	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.709</b>	BJK	0.0114	3.46	0.81	1.000	1	8/27/14	0557	8/18/14
OCDD	<b>3.31</b>	BJ	0.112	6.92	0.84	1.000	1	8/27/14	0557	8/18/14
2,3,7,8-TCDF	<b>0.722</b>	K	0.0820	0.692	0.57	1.001	1	8/27/14	0557	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.0969	3.46			1	8/27/14	0557	8/18/14
2,3,4,7,8-PeCDF	<b>0.234</b>	BJK	0.0957	3.46	1.10	1.001	1	8/27/14	0557	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0248	3.46			1	8/27/14	0557	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0348	3.46			1	8/27/14	0557	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0294	3.46			1	8/27/14	0557	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0313	3.46			1	8/27/14	0557	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.262</b>	BJ	0.0306	3.46	1.15	1.000	1	8/27/14	0557	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0431	3.46			1	8/27/14	0557	8/18/14
OCDF	ND	U	0.110	6.92			1	8/27/14	0557	8/18/14
Total Tetra-Dioxins	ND	U	0.142	0.692			1	8/27/14	0557	8/18/14
Total Penta-Dioxins	ND	U	0.121	3.46			1	8/27/14	0557	8/18/14
Total Hexa-Dioxins	<b>0.545</b>	J	0.0497	3.46	1.16		1	8/27/14	0557	8/18/14
Total Hepta-Dioxins	<b>1.01</b>	J	0.0114	3.46	1.07		1	8/27/14	0557	8/18/14
Total Tetra-Furans	ND	U	0.0820	0.692			1	8/27/14	0557	8/18/14
Total Penta-Furans	<b>0.823</b>	J	0.0857	3.46	1.47		1	8/27/14	0557	8/18/14
Total Hexa-Furans	<b>0.207</b>	J	0.0297	3.46	1.28		1	8/27/14	0557	8/18/14
Total Hepta-Furans	<b>0.444</b>	J	0.0360	3.46	1.15		1	8/27/14	0557	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	934.154	47		40-135	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	1080.864	54		40-135	1.57	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1060.428	53		40-135	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1048.956	52		40-135	1.25	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1011.660	51		40-135	1.06	1.066
13C-OCDD	4000	1906.809	48		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	892.187	45		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	956.347	48		40-135	1.58	1.139
13C-2,3,4,7,8-PeCDF	2000	955.434	48		40-135	1.62	1.171
13C-1,2,3,4,7,8-HxCDF	2000	950.020	48		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1091.770	55		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1079.482	54		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	941.367	47		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	999.971	50		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1191.612	60		40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	305.707	38		35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.2  
**Lab Code:** K1407971-015

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.142	0.692	1	1	
1,2,3,7,8-PeCDD	ND	0.121	3.46	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0517	3.46	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0502	3.46	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0472	3.46	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.709</b>	0.0114	3.46	1	0.01	0.00709
OCDD	<b>3.31</b>	0.112	6.92	1	0.0003	0.000993
2,3,7,8-TCDF	<b>0.722</b>	0.0820	0.692	1	0.1	0.0722
1,2,3,7,8-PeCDF	ND	0.0969	3.46	1	0.03	
2,3,4,7,8-PeCDF	<b>0.234</b>	0.0957	3.46	1	0.3	0.0702
1,2,3,6,7,8-HxCDF	ND	0.0248	3.46	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0348	3.46	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0294	3.46	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0313	3.46	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.262</b>	0.0306	3.46	1	0.01	0.00262
1,2,3,4,7,8,9-HpCDF	ND	0.0431	3.46	1	0.01	
OCDF	ND	0.110	6.92	1	0.0003	
Total TEQ						0.153

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.625	4.85			1	8/27/14	0645	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.745	24.3			1	8/27/14	0645	8/18/14
1,2,3,6,7,8-HxCDD	<b>0.736</b>	JK	0.352	24.3	0.92	1.002	1	8/27/14	0645	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.342	24.3			1	8/27/14	0645	8/18/14
1,2,3,7,8,9-HxCDD	<b>0.597</b>	BJ	0.323	24.3	1.15	1.009	1	8/27/14	0645	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.35</b>	BJ	0.411	24.3	0.98	1.000	1	8/27/14	0645	8/18/14
OCDD	<b>24.2</b>	BJK	0.527	48.5	1.22	1.000	1	8/27/14	0645	8/18/14
2,3,7,8-TCDF	<b>3.86</b>	J	0.538	4.85	0.73	1.001	1	8/27/14	0645	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.649	24.3			1	8/27/14	0645	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.601	24.3			1	8/27/14	0645	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.367	24.3			1	8/27/14	0645	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.490	24.3			1	8/27/14	0645	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.439	24.3			1	8/27/14	0645	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.413	24.3			1	8/27/14	0645	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.53</b>	BJK	0.0476	24.3	0.69	1.000	1	8/27/14	0645	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0651	24.3			1	8/27/14	0645	8/18/14
OCDF	<b>2.45</b>	BJ	0.882	48.5	0.81	1.006	1	8/27/14	0645	8/18/14
Total Tetra-Dioxins	ND	U	0.625	4.85			1	8/27/14	0645	8/18/14
Total Penta-Dioxins	ND	U	0.745	24.3			1	8/27/14	0645	8/18/14
Total Hexa-Dioxins	<b>0.597</b>	J	0.338	24.3	1.15		1	8/27/14	0645	8/18/14
Total Hepta-Dioxins	<b>13.0</b>	J	0.411	24.3	1.10		1	8/27/14	0645	8/18/14
Total Tetra-Furans	<b>3.86</b>	J	0.538	4.85	0.73		1	8/27/14	0645	8/18/14
Total Penta-Furans	ND	U	0.395	24.3			1	8/27/14	0645	8/18/14
Total Hexa-Furans	ND	U	0.423	24.3			1	8/27/14	0645	8/18/14
Total Hepta-Furans	<b>1.54</b>	J	0.0554	24.3	1.05		1	8/27/14	0645	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.625	4.85	1	1	
1,2,3,7,8-PeCDD	ND	0.745	24.3	1	1	
1,2,3,6,7,8-HxCDD	<b>0.736</b>	0.352	24.3	1	0.1	0.0113
1,2,3,4,7,8-HxCDD	ND	0.342	24.3	1	0.1	
1,2,3,7,8,9-HxCDD	<b>0.597</b>	0.323	24.3	1	0.1	0.00919
1,2,3,4,6,7,8-HpCDD	<b>5.35</b>	0.411	24.3	1	0.01	0.00824
OCDD	<b>24.2</b>	0.527	48.5	1	0.0003	0.00112
2,3,7,8-TCDF	<b>3.86</b>	0.538	4.85	1	0.1	0.0595
1,2,3,7,8-PeCDF	ND	0.649	24.3	1	0.03	
2,3,4,7,8-PeCDF	ND	0.601	24.3	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.367	24.3	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.490	24.3	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.439	24.3	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.413	24.3	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.53</b>	0.0476	24.3	1	0.01	0.00236
1,2,3,4,7,8,9-HpCDF	ND	0.0651	24.3	1	0.01	
OCDF	<b>2.45</b>	0.882	48.5	1	0.0003	0.000113
Total TEQ						0.0918

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.0963	0.747			1	8/27/14	0645	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.115	3.74			1	8/27/14	0645	8/18/14
1,2,3,6,7,8-HxCDD	<b>0.113</b>	JK	0.0541	3.74	0.92	1.002	1	8/27/14	0645	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0527	3.74			1	8/27/14	0645	8/18/14
1,2,3,7,8,9-HxCDD	<b>0.0919</b>	BJ	0.0497	3.74	1.15	1.009	1	8/27/14	0645	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.824</b>	BJ	0.0633	3.74	0.98	1.000	1	8/27/14	0645	8/18/14
OCDD	<b>3.72</b>	BJK	0.0812	7.47	1.22	1.000	1	8/27/14	0645	8/18/14
2,3,7,8-TCDF	<b>0.595</b>	J	0.0828	0.747	0.73	1.001	1	8/27/14	0645	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.0999	3.74			1	8/27/14	0645	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.0925	3.74			1	8/27/14	0645	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0565	3.74			1	8/27/14	0645	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0754	3.74			1	8/27/14	0645	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0676	3.74			1	8/27/14	0645	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0636	3.74			1	8/27/14	0645	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.236</b>	BJK	0.00733	3.74	0.69	1.000	1	8/27/14	0645	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0101	3.74			1	8/27/14	0645	8/18/14
OCDF	<b>0.377</b>	BJ	0.136	7.47	0.81	1.006	1	8/27/14	0645	8/18/14
Total Tetra-Dioxins	ND	U	0.0963	0.747			1	8/27/14	0645	8/18/14
Total Penta-Dioxins	ND	U	0.115	3.74			1	8/27/14	0645	8/18/14
Total Hexa-Dioxins	<b>0.0919</b>	J	0.0521	3.74	1.15		1	8/27/14	0645	8/18/14
Total Hepta-Dioxins	<b>2.00</b>	J	0.0633	3.74	1.10		1	8/27/14	0645	8/18/14
Total Tetra-Furans	<b>0.595</b>	J	0.0828	0.747	0.73		1	8/27/14	0645	8/18/14
Total Penta-Furans	ND	U	0.0609	3.74			1	8/27/14	0645	8/18/14
Total Hexa-Furans	ND	U	0.0651	3.74			1	8/27/14	0645	8/18/14
Total Hepta-Furans	<b>0.238</b>	J	0.00852	3.74	1.05		1	8/27/14	0645	8/18/14



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1095.579	55		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1434.325	72		40-135	1.60	1.180
13C-1,2,3,4,7,8-HxCDD	2000	1439.492	72		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1423.920	71		40-135	1.26	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1369.146	68		40-135	1.07	1.067
13C-OCDD	4000	2512.835	63		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1002.248	50		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1201.076	60		40-135	1.58	1.139
13C-2,3,4,7,8-PeCDF	2000	1268.917	63		40-135	1.62	1.171
13C-1,2,3,4,7,8-HxCDF	2000	1248.639	62		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1445.406	72		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1464.733	73		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	1315.834	66		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1320.547	66		40-135	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1601.564	80		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	326.256	41		35-197	NA	1.020

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.3  
**Lab Code:** K1407971-016

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0963	0.747	1	1	
1,2,3,7,8-PeCDD	ND	0.115	3.74	1	1	
1,2,3,6,7,8-HxCDD	<b>0.113</b>	0.0541	3.74	1	0.1	0.0113
1,2,3,4,7,8-HxCDD	ND	0.0527	3.74	1	0.1	
1,2,3,7,8,9-HxCDD	<b>0.0919</b>	0.0497	3.74	1	0.1	0.00919
1,2,3,4,6,7,8-HpCDD	<b>0.824</b>	0.0633	3.74	1	0.01	0.00824
OCDD	<b>3.72</b>	0.0812	7.47	1	0.0003	0.00112
2,3,7,8-TCDF	<b>0.595</b>	0.0828	0.747	1	0.1	0.0595
1,2,3,7,8-PeCDF	ND	0.0999	3.74	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0925	3.74	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0565	3.74	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0754	3.74	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0676	3.74	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0636	3.74	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.236</b>	0.00733	3.74	1	0.01	0.00236
1,2,3,4,7,8,9-HpCDF	ND	0.0101	3.74	1	0.01	
OCDF	<b>0.377</b>	0.136	7.47	1	0.0003	0.000113
Total TEQ						0.0918

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.953	4.77			1	8/27/14	0733	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.576	23.9			1	8/27/14	0733	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.258	23.9			1	8/27/14	0733	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.250	23.9			1	8/27/14	0733	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.236	23.9			1	8/27/14	0733	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>4.02</b>	BJK	0.207	23.9	1.38	1.000	1	8/27/14	0733	8/18/14
OCDD	<b>25.6</b>	BJK	0.617	47.7	0.72	1.000	1	8/27/14	0733	8/18/14
2,3,7,8-TCDF	<b>3.00</b>	J	0.373	4.77	0.72	1.001	1	8/27/14	0733	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.628	23.9			1	8/27/14	0733	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.588	23.9			1	8/27/14	0733	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.210	23.9			1	8/27/14	0733	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.284	23.9			1	8/27/14	0733	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.247	23.9			1	8/27/14	0733	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.251	23.9			1	8/27/14	0733	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.61</b>	BJK	0.168	23.9	1.47	1.000	1	8/27/14	0733	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.234	23.9			1	8/27/14	0733	8/18/14
OCDF	ND	U	1.10	47.7			1	8/27/14	0733	8/18/14
Total Tetra-Dioxins	ND	U	0.953	4.77			1	8/27/14	0733	8/18/14
Total Penta-Dioxins	ND	U	0.576	23.9			1	8/27/14	0733	8/18/14
Total Hexa-Dioxins	<b>3.09</b>	J	0.248	23.9	1.18		1	8/27/14	0733	8/18/14
Total Hepta-Dioxins	<b>8.24</b>	J	0.207	23.9	1.10		1	8/27/14	0733	8/18/14
Total Tetra-Furans	<b>3.00</b>	J	0.373	4.77	0.72		1	8/27/14	0733	8/18/14
Total Penta-Furans	<b>2.06</b>	J	0.510	23.9	1.50		1	8/27/14	0733	8/18/14
Total Hexa-Furans	ND	U	0.245	23.9			1	8/27/14	0733	8/18/14
Total Hepta-Furans	ND	U	0.198	23.9			1	8/27/14	0733	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.953	4.77	1	1	
1,2,3,7,8-PeCDD	ND	0.576	23.9	1	1	
1,2,3,6,7,8-HxCDD	ND	0.258	23.9	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.250	23.9	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.236	23.9	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>4.02</b>	0.207	23.9	1	0.01	0.00612
OCDD	<b>25.6</b>	0.617	47.7	1	0.0003	0.00117
2,3,7,8-TCDF	<b>3.00</b>	0.373	4.77	1	0.1	0.0456
1,2,3,7,8-PeCDF	ND	0.628	23.9	1	0.03	
2,3,4,7,8-PeCDF	ND	0.588	23.9	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.210	23.9	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.284	23.9	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.247	23.9	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.251	23.9	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.61</b>	0.168	23.9	1	0.01	0.00245
1,2,3,4,7,8,9-HpCDF	ND	0.234	23.9	1	0.01	
OCDF	ND	1.10	47.7	1	0.0003	
Total TEQ						0.0553

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.145	0.725			1	8/27/14	0733	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.0875	3.63			1	8/27/14	0733	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0392	3.63			1	8/27/14	0733	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0380	3.63			1	8/27/14	0733	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0359	3.63			1	8/27/14	0733	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.612</b>	BJK	0.0314	3.63	1.38	1.000	1	8/27/14	0733	8/18/14
OCDD	<b>3.89</b>	BJK	0.0937	7.25	0.72	1.000	1	8/27/14	0733	8/18/14
2,3,7,8-TCDF	<b>0.456</b>	J	0.0566	0.725	0.72	1.001	1	8/27/14	0733	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.0955	3.63			1	8/27/14	0733	8/18/14
2,3,4,7,8-PeCDF	ND	U	0.0894	3.63			1	8/27/14	0733	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0320	3.63			1	8/27/14	0733	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0431	3.63			1	8/27/14	0733	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0375	3.63			1	8/27/14	0733	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0382	3.63			1	8/27/14	0733	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.245</b>	BJK	0.0256	3.63	1.47	1.000	1	8/27/14	0733	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0356	3.63			1	8/27/14	0733	8/18/14
OCDF	ND	U	0.167	7.25			1	8/27/14	0733	8/18/14
Total Tetra-Dioxins	ND	U	0.145	0.725			1	8/27/14	0733	8/18/14
Total Penta-Dioxins	ND	U	0.0875	3.63			1	8/27/14	0733	8/18/14
Total Hexa-Dioxins	<b>0.470</b>	J	0.0376	3.63	1.18		1	8/27/14	0733	8/18/14
Total Hepta-Dioxins	<b>1.25</b>	J	0.0314	3.63	1.10		1	8/27/14	0733	8/18/14
Total Tetra-Furans	<b>0.456</b>	J	0.0566	0.725	0.72		1	8/27/14	0733	8/18/14
Total Penta-Furans	<b>0.313</b>	J	0.0775	3.63	1.50		1	8/27/14	0733	8/18/14
Total Hexa-Furans	ND	U	0.0372	3.63			1	8/27/14	0733	8/18/14
Total Hepta-Furans	ND	U	0.0301	3.63			1	8/27/14	0733	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	992.984	50		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1232.967	62		40-135	1.56	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1218.318	61		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1205.139	60		40-135	1.28	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1130.728	57		40-135	1.05	1.066
13C-OCDD	4000	2005.447	50		17-157	0.90	1.142
13C-2,3,7,8-TCDF	2000	964.809	48		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1060.293	53		40-135	1.59	1.139
13C-2,3,4,7,8-PeCDF	2000	1124.671	56		40-135	1.61	1.172
13C-1,2,3,4,7,8-HxCDF	2000	1075.826	54		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1228.824	61		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1242.314	62		40-135	0.52	1.009
13C-2,3,4,6,7,8-HxCDF	2000	1106.339	55		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1088.601	54		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1327.701	66		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	328.451	41		35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.4  
**Lab Code:** K1407971-017

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.145	0.725	1	1	
1,2,3,7,8-PeCDD	ND	0.0875	3.63	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0392	3.63	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0380	3.63	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0359	3.63	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.612</b>	0.0314	3.63	1	0.01	0.00612
OCDD	<b>3.89</b>	0.0937	7.25	1	0.0003	0.00117
2,3,7,8-TCDF	<b>0.456</b>	0.0566	0.725	1	0.1	0.0456
1,2,3,7,8-PeCDF	ND	0.0955	3.63	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0894	3.63	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0320	3.63	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0431	3.63	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0375	3.63	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0382	3.63	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.245</b>	0.0256	3.63	1	0.01	0.00245
1,2,3,4,7,8,9-HpCDF	ND	0.0356	3.63	1	0.01	
OCDF	ND	0.167	7.25	1	0.0003	
Total TEQ						0.0553

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.531	4.64			1	8/27/14	0821	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.491	23.2			1	8/27/14	0821	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.215	23.2			1	8/27/14	0821	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.209	23.2			1	8/27/14	0821	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.197	23.2			1	8/27/14	0821	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>5.03</b>	BJ	0.210	23.2	0.97	1.000	1	8/27/14	0821	8/18/14
OCDD	<b>25.8</b>	BJ	0.540	46.4	1.00	1.000	1	8/27/14	0821	8/18/14
2,3,7,8-TCDF	<b>3.74</b>	JK	0.420	4.64	1.23	1.001	1	8/27/14	0821	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.546	23.2			1	8/27/14	0821	8/18/14
2,3,4,7,8-PeCDF	<b>0.875</b>	BJK	0.540	23.2	1.03	1.000	1	8/27/14	0821	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.205	23.2			1	8/27/14	0821	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.268	23.2			1	8/27/14	0821	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.242	23.2			1	8/27/14	0821	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.242	23.2			1	8/27/14	0821	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>1.52</b>	BJ	0.162	23.2	1.20	1.000	1	8/27/14	0821	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.219	23.2			1	8/27/14	0821	8/18/14
OCDF	<b>2.47</b>	BJ	0.635	46.4	0.79	1.005	1	8/27/14	0821	8/18/14
Total Tetra-Dioxins	ND	U	0.531	4.64			1	8/27/14	0821	8/18/14
Total Penta-Dioxins	ND	U	0.491	23.2			1	8/27/14	0821	8/18/14
Total Hexa-Dioxins	<b>2.50</b>	J	0.206	23.2	1.32		1	8/27/14	0821	8/18/14
Total Hepta-Dioxins	<b>12.0</b>	J	0.210	23.2	1.16		1	8/27/14	0821	8/18/14
Total Tetra-Furans	ND	U	0.420	4.64			1	8/27/14	0821	8/18/14
Total Penta-Furans	ND	U	0.434	23.2			1	8/27/14	0821	8/18/14
Total Hexa-Furans	ND	U	0.236	23.2			1	8/27/14	0821	8/18/14
Total Hepta-Furans	<b>2.84</b>	J	0.188	23.2	1.20		1	8/27/14	0821	8/18/14



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.531	4.64	1	1	
1,2,3,7,8-PeCDD	ND	0.491	23.2	1	1	
1,2,3,6,7,8-HxCDD	ND	0.215	23.2	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.209	23.2	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.197	23.2	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>5.03</b>	0.210	23.2	1	0.01	0.00764
OCDD	<b>25.8</b>	0.540	46.4	1	0.0003	0.00118
2,3,7,8-TCDF	<b>3.74</b>	0.420	4.64	1	0.1	0.0568
1,2,3,7,8-PeCDF	ND	0.546	23.2	1	0.03	
2,3,4,7,8-PeCDF	<b>0.875</b>	0.540	23.2	1	0.3	0.0399
1,2,3,6,7,8-HxCDF	ND	0.205	23.2	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.268	23.2	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.242	23.2	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.242	23.2	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.52</b>	0.162	23.2	1	0.01	0.00231
1,2,3,4,7,8,9-HpCDF	ND	0.219	23.2	1	0.01	
OCDF	<b>2.47</b>	0.635	46.4	1	0.0003	0.000113
Total TEQ						0.108

2005 WHO TEFs, ND = 0

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.0807	0.705			1	8/27/14	0821	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.0746	3.53			1	8/27/14	0821	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.0326	3.53			1	8/27/14	0821	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.0318	3.53			1	8/27/14	0821	8/18/14
1,2,3,7,8,9-HxCDD	ND	U	0.0299	3.53			1	8/27/14	0821	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>0.764</b>	BJ	0.0319	3.53	0.97	1.000	1	8/27/14	0821	8/18/14
OCDD	<b>3.92</b>	BJ	0.0821	7.05	1.00	1.000	1	8/27/14	0821	8/18/14
2,3,7,8-TCDF	<b>0.568</b>	JK	0.0638	0.705	1.23	1.001	1	8/27/14	0821	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.0830	3.53			1	8/27/14	0821	8/18/14
2,3,4,7,8-PeCDF	<b>0.133</b>	BJK	0.0821	3.53	1.03	1.000	1	8/27/14	0821	8/18/14
1,2,3,6,7,8-HxCDF	ND	U	0.0311	3.53			1	8/27/14	0821	8/18/14
1,2,3,7,8,9-HxCDF	ND	U	0.0407	3.53			1	8/27/14	0821	8/18/14
1,2,3,4,7,8-HxCDF	ND	U	0.0367	3.53			1	8/27/14	0821	8/18/14
2,3,4,6,7,8-HxCDF	ND	U	0.0367	3.53			1	8/27/14	0821	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>0.231</b>	BJ	0.0246	3.53	1.20	1.000	1	8/27/14	0821	8/18/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.0333	3.53			1	8/27/14	0821	8/18/14
OCDF	<b>0.376</b>	BJ	0.0965	7.05	0.79	1.005	1	8/27/14	0821	8/18/14
Total Tetra-Dioxins	ND	U	0.0807	0.705			1	8/27/14	0821	8/18/14
Total Penta-Dioxins	ND	U	0.0746	3.53			1	8/27/14	0821	8/18/14
Total Hexa-Dioxins	<b>0.381</b>	J	0.0314	3.53	1.32		1	8/27/14	0821	8/18/14
Total Hepta-Dioxins	<b>1.83</b>	J	0.0319	3.53	1.16		1	8/27/14	0821	8/18/14
Total Tetra-Furans	ND	U	0.0638	0.705			1	8/27/14	0821	8/18/14
Total Penta-Furans	ND	U	0.0659	3.53			1	8/27/14	0821	8/18/14
Total Hexa-Furans	ND	U	0.0359	3.53			1	8/27/14	0821	8/18/14
Total Hepta-Furans	<b>0.432</b>	J	0.0285	3.53	1.20		1	8/27/14	0821	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

<b>Labeled Compounds</b>	<b>Spike Conc.(pg)</b>	<b>Conc. Found (pg)</b>	<b>%Rec</b>	<b>Q</b>	<b>Control Limits</b>	<b>Ion Ratio</b>	<b>RRT</b>
13C-2,3,7,8-TCDD	2000	1292.319	65		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1579.560	79		40-135	1.55	1.181
13C-1,2,3,4,7,8-HxCDD	2000	1561.859	78		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1544.964	77		40-135	1.29	0.991
13C-1,2,3,4,6,7,8-HpCDD	2000	1470.732	74		40-135	1.07	1.066
13C-OCDD	4000	2702.683	68		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1223.906	61		24-169	0.81	0.993
13C-1,2,3,7,8-PeCDF	2000	1344.982	67		40-135	1.60	1.139
13C-2,3,4,7,8-PeCDF	2000	1389.802	69		40-135	1.58	1.171
13C-1,2,3,4,7,8-HxCDF	2000	1359.440	68		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1549.059	77		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1614.295	81		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1422.436	71		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1431.064	72		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1750.893	88		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	404.446	51		35-197	NA	1.021

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-REF Rep.5  
**Lab Code:** K1407971-018

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Toxicity Equivalency Quotient**

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0807	0.705	1	1	
1,2,3,7,8-PeCDD	ND	0.0746	3.53	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0326	3.53	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0318	3.53	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0299	3.53	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.764</b>	0.0319	3.53	1	0.01	0.00764
OCDD	<b>3.92</b>	0.0821	7.05	1	0.0003	0.00118
2,3,7,8-TCDF	<b>0.568</b>	0.0638	0.705	1	0.1	0.0568
1,2,3,7,8-PeCDF	ND	0.0830	3.53	1	0.03	
2,3,4,7,8-PeCDF	<b>0.133</b>	0.0821	3.53	1	0.3	0.0399
1,2,3,6,7,8-HxCDF	ND	0.0311	3.53	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0407	3.53	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0367	3.53	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0367	3.53	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>0.231</b>	0.0246	3.53	1	0.01	0.00231
1,2,3,4,7,8,9-HpCDF	ND	0.0333	3.53	1	0.01	
OCDF	<b>0.376</b>	0.0965	7.05	1	0.0003	0.000113
Total TEQ						0.108

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Method Blank  
**Lab Code:** EQ1400478-01

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analytical Method:** 8290A  
**Prep Method:** Method

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.904	4.51			1	8/25/14	0542	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.651	22.6			1	8/25/14	0542	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.375	22.6			1	8/25/14	0542	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.339	22.6			1	8/25/14	0542	8/18/14
1,2,3,7,8,9-HxCDD	<b>2.03</b>	JK	0.332	22.6	1.04	1.004	1	8/25/14	0542	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>6.36</b>	J	0.266	22.6	1.13	1.000	1	8/25/14	0542	8/18/14
OCDD	<b>9.44</b>	J	0.871	45.1	0.78	1.000	1	8/25/14	0542	8/18/14
2,3,7,8-TCDF	ND	U	1.25	4.51			1	8/25/14	0542	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.491	22.6			1	8/25/14	0542	8/18/14
2,3,4,7,8-PeCDF	<b>1.18</b>	JK	0.445	22.6	2.16	1.001	1	8/25/14	0542	8/18/14
1,2,3,6,7,8-HxCDF	<b>0.563</b>	JK	0.104	22.6	1.93	1.000	1	8/25/14	0542	8/18/14
1,2,3,7,8,9-HxCDF	<b>1.38</b>	JK	0.154	22.6	0.72	1.000	1	8/25/14	0542	8/18/14
1,2,3,4,7,8-HxCDF	<b>0.857</b>	J	0.121	22.6	1.17	1.000	1	8/25/14	0542	8/18/14
2,3,4,6,7,8-HxCDF	<b>1.22</b>	J	0.121	22.6	1.14	1.001	1	8/25/14	0542	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>4.48</b>	J	0.269	22.6	1.16	1.000	1	8/25/14	0542	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>4.37</b>	J	0.428	22.6	1.07	1.001	1	8/25/14	0542	8/18/14
OCDF	<b>4.17</b>	JK	1.48	45.1	0.66	1.005	1	8/25/14	0542	8/18/14
Total Tetra-Dioxins	ND	U	0.904	4.51			1	8/25/14	0542	8/18/14
Total Penta-Dioxins	ND	U	0.651	22.6			1	8/25/14	0542	8/18/14
Total Hexa-Dioxins	ND	U	0.348	22.6			1	8/25/14	0542	8/18/14
Total Hepta-Dioxins	<b>6.36</b>	J	0.266	22.6	1.13		1	8/25/14	0542	8/18/14
Total Tetra-Furans	ND	U	1.25	4.51			1	8/25/14	0542	8/18/14
Total Penta-Furans	ND	U	0.615	22.6			1	8/25/14	0542	8/18/14
Total Hexa-Furans	<b>2.08</b>	J	0.122	22.6	1.17		1	8/25/14	0542	8/18/14
Total Hepta-Furans	<b>8.85</b>	J	0.334	22.6	1.16		1	8/25/14	0542	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Method Blank  
**Lab Code:** EQ1400478-01

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	ND	U	0.904	4.51			1	8/25/14	0542	8/18/14
1,2,3,7,8-PeCDD	ND	U	0.651	22.6			1	8/25/14	0542	8/18/14
1,2,3,6,7,8-HxCDD	ND	U	0.375	22.6			1	8/25/14	0542	8/18/14
1,2,3,4,7,8-HxCDD	ND	U	0.339	22.6			1	8/25/14	0542	8/18/14
1,2,3,7,8,9-HxCDD	<b>2.03</b>	JK	0.332	22.6	1.04	1.004	1	8/25/14	0542	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>6.36</b>	J	0.266	22.6	1.13	1.000	1	8/25/14	0542	8/18/14
OCDD	<b>9.44</b>	J	0.871	45.1	0.78	1.000	1	8/25/14	0542	8/18/14
2,3,7,8-TCDF	ND	U	1.25	4.51			1	8/25/14	0542	8/18/14
1,2,3,7,8-PeCDF	ND	U	0.491	22.6			1	8/25/14	0542	8/18/14
2,3,4,7,8-PeCDF	<b>1.18</b>	JK	0.445	22.6	2.16	1.001	1	8/25/14	0542	8/18/14
1,2,3,6,7,8-HxCDF	<b>0.563</b>	JK	0.104	22.6	1.93	1.000	1	8/25/14	0542	8/18/14
1,2,3,7,8,9-HxCDF	<b>1.38</b>	JK	0.154	22.6	0.72	1.000	1	8/25/14	0542	8/18/14
1,2,3,4,7,8-HxCDF	<b>0.857</b>	J	0.121	22.6	1.17	1.000	1	8/25/14	0542	8/18/14
2,3,4,6,7,8-HxCDF	<b>1.22</b>	J	0.121	22.6	1.14	1.001	1	8/25/14	0542	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>4.48</b>	J	0.269	22.6	1.16	1.000	1	8/25/14	0542	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>4.37</b>	J	0.428	22.6	1.07	1.001	1	8/25/14	0542	8/18/14
OCDF	<b>4.17</b>	JK	1.48	45.1	0.66	1.005	1	8/25/14	0542	8/18/14
Total Tetra-Dioxins	ND	U	0.904	4.51			1	8/25/14	0542	8/18/14
Total Penta-Dioxins	ND	U	0.651	22.6			1	8/25/14	0542	8/18/14
Total Hexa-Dioxins	ND	U	0.348	22.6			1	8/25/14	0542	8/18/14
Total Hepta-Dioxins	<b>6.36</b>	J	0.266	22.6	1.13		1	8/25/14	0542	8/18/14
Total Tetra-Furans	ND	U	1.25	4.51			1	8/25/14	0542	8/18/14
Total Penta-Furans	ND	U	0.615	22.6			1	8/25/14	0542	8/18/14
Total Hexa-Furans	<b>2.08</b>	J	0.122	22.6	1.17		1	8/25/14	0542	8/18/14
Total Hepta-Furans	<b>8.85</b>	J	0.334	22.6	1.16		1	8/25/14	0542	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Method Blank  
**Lab Code:** EQ1400478-01

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	770.508	39	Y	40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1056.798	53		40-135	1.58	1.180
13C-1,2,3,4,7,8-HxCDD	2000	1071.253	54		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1031.092	52		40-135	1.24	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	988.970	49		40-135	1.07	1.067
13C-OCDD	4000	1730.705	43		17-157	0.91	1.142
13C-2,3,7,8-TCDF	2000	720.635	36		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	882.632	44		40-135	1.61	1.139
13C-2,3,4,7,8-PeCDF	2000	956.068	48		40-135	1.58	1.171
13C-1,2,3,4,7,8-HxCDF	2000	968.109	48		40-135	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1086.946	54		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1005.538	50		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	993.609	50		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	954.940	48		40-135	0.46	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1001.639	50		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	240.259	30	Y	35-197	NA	1.020



# Accuracy & Precision

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ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue

**Service Request:** K1407971  
**Date Analyzed:** 08/23/14  
**Date Extracted:** 08/18/14

Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

**Analysis Method:** 8290A  
**Prep Method:** Method

**Units:** ng/Kg  
**Basis:** Dry  
**Analysis Lot:** 408920

Lab Control Sample  
EQ1400478-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2,3,4,6,7,8-HpCDD	932	987	94	70-130
1,2,3,4,6,7,8-HpCDD	932	987	94	70-130
1,2,3,4,7,8-HxCDD	795	987	81	70-130
1,2,3,4,7,8-HxCDD	795	987	81	70-130
1,2,3,6,7,8-HxCDD	954	987	97	70-130
1,2,3,6,7,8-HxCDD	954	987	97	70-130
1,2,3,7,8,9-HxCDD	903	987	92	70-130
1,2,3,7,8,9-HxCDD	903	987	92	70-130
1,2,3,7,8-PeCDD	909	987	92	70-130
1,2,3,7,8-PeCDD	909	987	92	70-130
2,3,7,8-TCDD	209	197	106	70-130
2,3,7,8-TCDD	209	197	106	70-130
OCDD	1830	1970	93	70-130
OCDD	1830	1970	93	70-130
1,2,3,4,6,7,8-HpCDF	992	987	101	70-130
1,2,3,4,6,7,8-HpCDF	992	987	101	70-130
1,2,3,4,7,8,9-HpCDF	991	987	100	70-130
1,2,3,4,7,8,9-HpCDF	991	987	100	70-130
1,2,3,4,7,8-HxCDF	1050	987	106	70-130
1,2,3,4,7,8-HxCDF	1050	987	106	70-130
1,2,3,6,7,8-HxCDF	919	987	93	70-130
1,2,3,6,7,8-HxCDF	919	987	93	70-130
1,2,3,7,8,9-HxCDF	1050	987	107	70-130
1,2,3,7,8,9-HxCDF	1050	987	107	70-130
1,2,3,7,8-PeCDF	1060	987	107	70-130
1,2,3,7,8-PeCDF	1060	987	107	70-130
2,3,4,6,7,8-HxCDF	1020	987	103	70-130
2,3,4,6,7,8-HxCDF	1020	987	103	70-130
2,3,4,7,8-PeCDF	1030	987	104	70-130
2,3,4,7,8-PeCDF	1030	987	104	70-130
2,3,7,8-TCDF	193	197	98	70-130
2,3,7,8-TCDF	193	197	98	70-130
OCDF	2050	1970	104	70-130
OCDF	2050	1970	104	70-130

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Lab Control Sample  
**Lab Code:** EQ1400478-02

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

<b>Analyte Name</b>	<b>Result</b>	<b>Q</b>	<b>EDL</b>	<b>MRL</b>	<b>Ion Ratio</b>	<b>RRT</b>	<b>Dilution Factor</b>	<b>Date Analyzed</b>	<b>Time Analyzed</b>	<b>Date Extracted</b>
2,3,7,8-TCDD	209		12.3	12.3	0.82	1.001	1	8/23/14	1341	8/18/14
1,2,3,7,8-PeCDD	909		6.66	24.7	1.66	1.000	1	8/23/14	1341	8/18/14
1,2,3,6,7,8-HxCDD	954		5.62	24.7	1.31	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8-HxCDD	795		5.09	24.7	1.26	1.000	1	8/23/14	1341	8/18/14
1,2,3,7,8,9-HxCDD	903		4.95	24.7	1.21	1.007	1	8/23/14	1341	8/18/14
1,2,3,4,6,7,8-HpCDD	932		5.74	24.7	1.03	1.000	1	8/23/14	1341	8/18/14
OCDD	1830		7.52	49.4	0.89	1.000	1	8/23/14	1341	8/18/14
2,3,7,8-TCDF	193		10.5	10.5	0.76	1.001	1	8/23/14	1341	8/18/14
1,2,3,7,8-PeCDF	1060		4.65	24.7	1.58	1.001	1	8/23/14	1341	8/18/14
2,3,4,7,8-PeCDF	1030		4.32	24.7	1.58	1.001	1	8/23/14	1341	8/18/14
1,2,3,6,7,8-HxCDF	919		4.38	24.7	1.27	1.000	1	8/23/14	1341	8/18/14
1,2,3,7,8,9-HxCDF	1050		6.34	24.7	1.28	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8-HxCDF	1050		5.08	24.7	1.28	1.000	1	8/23/14	1341	8/18/14
2,3,4,6,7,8-HxCDF	1020		4.97	24.7	1.18	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,6,7,8-HpCDF	992		6.38	24.7	1.05	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8,9-HpCDF	991		8.91	24.7	1.00	1.000	1	8/23/14	1341	8/18/14
OCDF	2050		12.2	49.4	0.92	1.005	1	8/23/14	1341	8/18/14
Total Tetra-Dioxins	209		12.3	12.3	0.82		1	8/23/14	1341	8/18/14
Total Penta-Dioxins	909		6.66	24.7	1.66		1	8/23/14	1341	8/18/14
Total Hexa-Dioxins	2660		5.38	24.7	1.26		1	8/23/14	1341	8/18/14
Total Hepta-Dioxins	978		5.74	24.7	1.03		1	8/23/14	1341	8/18/14
Total Tetra-Furans	193		10.5	10.5	0.76		1	8/23/14	1341	8/18/14
Total Penta-Furans	2100		5.34	24.7			1	8/23/14	1341	8/18/14
Total Hexa-Furans	4040		5.09	24.7	1.28		1	8/23/14	1341	8/18/14
Total Hepta-Furans	1990		7.52	24.7	1.05		1	8/23/14	1341	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Lab Control Sample  
**Lab Code:** EQ1400478-02

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	209		12.3	12.3	0.82	1.001	1	8/23/14	1341	8/18/14
1,2,3,7,8-PeCDD	909		6.66	24.7	1.66	1.000	1	8/23/14	1341	8/18/14
1,2,3,6,7,8-HxCDD	954		5.62	24.7	1.31	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8-HxCDD	795		5.09	24.7	1.26	1.000	1	8/23/14	1341	8/18/14
1,2,3,7,8,9-HxCDD	903		4.95	24.7	1.21	1.007	1	8/23/14	1341	8/18/14
1,2,3,4,6,7,8-HpCDD	932		5.74	24.7	1.03	1.000	1	8/23/14	1341	8/18/14
OCDD	1830		7.52	49.4	0.89	1.000	1	8/23/14	1341	8/18/14
2,3,7,8-TCDF	193		10.5	10.5	0.76	1.001	1	8/23/14	1341	8/18/14
1,2,3,7,8-PeCDF	1060		4.65	24.7	1.58	1.001	1	8/23/14	1341	8/18/14
2,3,4,7,8-PeCDF	1030		4.32	24.7	1.58	1.001	1	8/23/14	1341	8/18/14
1,2,3,6,7,8-HxCDF	919		4.38	24.7	1.27	1.000	1	8/23/14	1341	8/18/14
1,2,3,7,8,9-HxCDF	1050		6.34	24.7	1.28	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8-HxCDF	1050		5.08	24.7	1.28	1.000	1	8/23/14	1341	8/18/14
2,3,4,6,7,8-HxCDF	1020		4.97	24.7	1.18	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,6,7,8-HpCDF	992		6.38	24.7	1.05	1.000	1	8/23/14	1341	8/18/14
1,2,3,4,7,8,9-HpCDF	991		8.91	24.7	1.00	1.000	1	8/23/14	1341	8/18/14
OCDF	2050		12.2	49.4	0.92	1.005	1	8/23/14	1341	8/18/14
Total Tetra-Dioxins	209		12.3	12.3	0.82		1	8/23/14	1341	8/18/14
Total Penta-Dioxins	909		6.66	24.7	1.66		1	8/23/14	1341	8/18/14
Total Hexa-Dioxins	2660		5.38	24.7	1.26		1	8/23/14	1341	8/18/14
Total Hepta-Dioxins	978		5.74	24.7	1.03		1	8/23/14	1341	8/18/14
Total Tetra-Furans	193		10.5	10.5	0.76		1	8/23/14	1341	8/18/14
Total Penta-Furans	2100		5.34	24.7			1	8/23/14	1341	8/18/14
Total Hexa-Furans	4040		5.09	24.7	1.28		1	8/23/14	1341	8/18/14
Total Hepta-Furans	1990		7.52	24.7	1.05		1	8/23/14	1341	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Lab Control Sample  
**Lab Code:** EQ1400478-02

**Service Request:** K1407971  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	826.703	41		40-135	0.74	1.025
13C-1,2,3,7,8-PeCDD	2000	1060.276	53		40-135	1.55	1.207
13C-1,2,3,4,7,8-HxCDD	2000	1141.880	57		40-135	1.40	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1031.923	52		40-135	1.23	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1111.814	56		40-135	1.08	1.068
13C-OCDD	4000	2312.358	58		17-157	0.91	1.142
13C-2,3,7,8-TCDF	2000	801.492	40		24-169	0.81	0.993
13C-1,2,3,7,8-PeCDF	2000	839.038	42		40-135	1.56	1.160
13C-2,3,4,7,8-PeCDF	2000	887.930	44		40-135	1.55	1.196
13C-1,2,3,4,7,8-HxCDF	2000	919.014	46		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1083.973	54		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1021.388	51		40-135	0.50	1.009
13C-2,3,4,6,7,8-HxCDF	2000	953.596	48		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1016.660	51		40-135	0.43	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1204.510	60		40-135	0.43	1.081
37Cl-2,3,7,8-TCDD	800	277.202	35		35-197	NA	1.026

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue

**Service Request:** K1407971  
**Date Collected:** 07/25/14  
**Date Received:** 07/30/14  
**Date Analyzed:** 08/23/14  
**Date Extracted:** 08/18/14

**Duplicate Matrix Spike Summary**

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** K1407971-005  
**Analysis Method:** 8290A  
**Prep Method:** Method

**Units:** ng/Kg  
**Basis:** Wet

Analyte Name	Sample Result	Matrix Spike EQ1400478-03			Duplicate Matrix Spike EQ1400478-04			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,3,4,6,7,8-HpCDD	0.827 BJK	150	143	104	140	139	101	70-130	7	25
1,2,3,4,7,8-HxCDD	ND U	128	143	89	122	139	88	70-130	5	25
1,2,3,6,7,8-HxCDD	ND U	141	143	99	134	139	97	70-130	5	25
1,2,3,7,8,9-HxCDD	ND U	138	143	96	129	139	93	70-130	7	25
1,2,3,7,8-PeCDD	ND U	137	143	96	128	139	93	70-130	6	25
2,3,7,8-TCDD	ND U	29.8	28.6	104	30.0	27.7	108	70-130	<1	25
OCDD	5.20 BJK	304	286	105	286	277	101	70-130	6	25
1,2,3,4,6,7,8-HpCDF	0.293 BJK	150	143	104	145	139	104	70-130	3	25
1,2,3,4,7,8,9-HpCDF	ND U	154	143	108	136	139	98	70-130	12	25
1,2,3,4,7,8-HxCDF	ND U	160	143	112	152	139	110	70-130	5	25
1,2,3,6,7,8-HxCDF	ND U	143	143	100	130	139	94	70-130	10	25
1,2,3,7,8,9-HxCDF	ND U	156	143	109	151	139	109	70-130	4	25
1,2,3,7,8-PeCDF	ND U	160	143	112	154	139	111	70-130	4	25
2,3,4,6,7,8-HxCDF	ND U	159	143	111	142	139	103	70-130	11	25
2,3,4,7,8-PeCDF	ND U	155	143	108	145	139	105	70-130	6	25
2,3,7,8-TCDF	ND U	29.0	28.6	101	28.0	27.7	101	70-130	3	25
OCDF	ND U	342	286	119	322	277	116	70-130	6	25

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-03  
**Run Type:** Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14

**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	190		8.37	8.37	0.77	1.001	1	8/23/14	1429	8/18/14
1,2,3,7,8-PeCDD	871		6.30	22.8	1.67	1.000	1	8/23/14	1429	8/18/14
1,2,3,6,7,8-HxCDD	899		5.08	22.8	1.26	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8-HxCDD	813		4.55	22.8	1.23	1.000	1	8/23/14	1429	8/18/14
1,2,3,7,8,9-HxCDD	878		4.45	22.8	1.29	1.007	1	8/23/14	1429	8/18/14
1,2,3,4,6,7,8-HpCDD	957		5.93	22.8	1.03	1.000	1	8/23/14	1429	8/18/14
OCDD	1940		9.54	45.6	0.89	1.000	1	8/23/14	1429	8/18/14
2,3,7,8-TCDF	185		9.26	9.26	0.80	1.001	1	8/23/14	1429	8/18/14
1,2,3,7,8-PeCDF	1020		5.65	22.8	1.53	1.001	1	8/23/14	1429	8/18/14
2,3,4,7,8-PeCDF	987		5.06	22.8	1.56	1.001	1	8/23/14	1429	8/18/14
1,2,3,6,7,8-HxCDF	913		4.20	22.8	1.30	1.000	1	8/23/14	1429	8/18/14
1,2,3,7,8,9-HxCDF	995		6.12	22.8	1.22	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8-HxCDF	1020		5.22	22.8	1.31	1.000	1	8/23/14	1429	8/18/14
2,3,4,6,7,8-HxCDF	1010		4.90	22.8	1.19	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,6,7,8-HpCDF	953		7.15	22.8	1.02	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8,9-HpCDF	981		9.45	22.8	1.09	1.000	1	8/23/14	1429	8/18/14
OCDF	2180		11.4	45.6	0.87	1.004	1	8/23/14	1429	8/18/14
Total Tetra-Dioxins	190		8.37	8.37	0.77		1	8/23/14	1429	8/18/14
Total Penta-Dioxins	871		6.30	22.8	1.67		1	8/23/14	1429	8/18/14
Total Hexa-Dioxins	2590		4.83	22.8	1.23		1	8/23/14	1429	8/18/14
Total Hepta-Dioxins	982		5.93	22.8	0.90		1	8/23/14	1429	8/18/14
Total Tetra-Furans	185		9.26	9.26	0.80		1	8/23/14	1429	8/18/14
Total Penta-Furans	2010		4.63	22.8			1	8/23/14	1429	8/18/14
Total Hexa-Furans	3940		5.02	22.8	1.31		1	8/23/14	1429	8/18/14
Total Hepta-Furans	1930		8.17	22.8	1.02		1	8/23/14	1429	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-03  
**Run Type:** Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14

**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

<b>Analyte Name</b>	<b>Result</b>	<b>Q</b>	<b>EDL</b>	<b>MRL</b>	<b>Ion Ratio</b>	<b>RRT</b>	<b>Dilution Factor</b>	<b>Date Analyzed</b>	<b>Time Analyzed</b>	<b>Date Extracted</b>
2,3,7,8-TCDD	<b>29.8</b>		1.32	1.32	0.77	1.001	1	8/23/14	1429	8/18/14
1,2,3,7,8-PeCDD	<b>137</b>		0.989	3.58	1.67	1.000	1	8/23/14	1429	8/18/14
1,2,3,6,7,8-HxCDD	<b>141</b>		0.797	3.58	1.26	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8-HxCDD	<b>128</b>		0.714	3.58	1.23	1.000	1	8/23/14	1429	8/18/14
1,2,3,7,8,9-HxCDD	<b>138</b>		0.699	3.58	1.29	1.007	1	8/23/14	1429	8/18/14
1,2,3,4,6,7,8-HpCDD	<b>150</b>		0.930	3.58	1.03	1.000	1	8/23/14	1429	8/18/14
OCDD	<b>304</b>		1.50	7.15	0.89	1.000	1	8/23/14	1429	8/18/14
2,3,7,8-TCDF	<b>29.0</b>		1.46	1.46	0.80	1.001	1	8/23/14	1429	8/18/14
1,2,3,7,8-PeCDF	<b>160</b>		0.887	3.58	1.53	1.001	1	8/23/14	1429	8/18/14
2,3,4,7,8-PeCDF	<b>155</b>		0.794	3.58	1.56	1.001	1	8/23/14	1429	8/18/14
1,2,3,6,7,8-HxCDF	<b>143</b>		0.659	3.58	1.30	1.000	1	8/23/14	1429	8/18/14
1,2,3,7,8,9-HxCDF	<b>156</b>		0.960	3.58	1.22	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8-HxCDF	<b>160</b>		0.819	3.58	1.31	1.000	1	8/23/14	1429	8/18/14
2,3,4,6,7,8-HxCDF	<b>159</b>		0.769	3.58	1.19	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,6,7,8-HpCDF	<b>150</b>		1.13	3.58	1.02	1.000	1	8/23/14	1429	8/18/14
1,2,3,4,7,8,9-HpCDF	<b>154</b>		1.49	3.58	1.09	1.000	1	8/23/14	1429	8/18/14
OCDF	<b>342</b>		1.78	7.15	0.87	1.004	1	8/23/14	1429	8/18/14
Total Tetra-Dioxins	<b>29.8</b>		1.32	1.32	0.77		1	8/23/14	1429	8/18/14
Total Penta-Dioxins	<b>137</b>		0.989	3.58	1.67		1	8/23/14	1429	8/18/14
Total Hexa-Dioxins	<b>407</b>		0.759	3.58	1.23		1	8/23/14	1429	8/18/14
Total Hepta-Dioxins	<b>154</b>		0.930	3.58	0.90		1	8/23/14	1429	8/18/14
Total Tetra-Furans	<b>29.0</b>		1.46	1.46	0.80		1	8/23/14	1429	8/18/14
Total Penta-Furans	<b>315</b>		0.726	3.58			1	8/23/14	1429	8/18/14
Total Hexa-Furans	<b>618</b>		0.787	3.58	1.31		1	8/23/14	1429	8/18/14
Total Hepta-Furans	<b>304</b>		1.29	3.58	1.02		1	8/23/14	1429	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-03  
**Run Type:** Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	909.635	45		40-135	0.76	1.024
13C-1,2,3,7,8-PeCDD	2000	1125.431	56		40-135	1.57	1.207
13C-1,2,3,4,7,8-HxCDD	2000	1098.387	55		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1018.622	51		40-135	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	999.783	50		40-135	1.20	1.068
13C-OCDD	4000	2124.796	53		17-157	0.90	1.142
13C-2,3,7,8-TCDF	2000	907.323	45		24-169	0.81	0.993
13C-1,2,3,7,8-PeCDF	2000	885.330	44		40-135	1.53	1.160
13C-2,3,4,7,8-PeCDF	2000	932.971	47		40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDF	2000	918.903	46		40-135	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1042.594	52		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1022.158	51		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	929.847	46		40-135	0.48	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	963.767	48		40-135	0.45	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1131.760	57		40-135	0.43	1.081
37Cl-2,3,7,8-TCDD	800	313.768	39		35-197	NA	1.025



**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-04  
**Run Type:** Duplicate Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14

**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	191		8.53	8.53	0.87	1.001	1	8/23/14	1518	8/18/14
1,2,3,7,8-PeCDD	818		6.39	22.1	1.66	1.001	1	8/23/14	1518	8/18/14
1,2,3,6,7,8-HxCDD	852		4.72	22.1	1.23	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8-HxCDD	777		4.29	22.1	1.24	1.000	1	8/23/14	1518	8/18/14
1,2,3,7,8,9-HxCDD	823		4.17	22.1	1.25	1.007	1	8/23/14	1518	8/18/14
1,2,3,4,6,7,8-HpCDD	894		4.99	22.1	1.08	1.000	1	8/23/14	1518	8/18/14
OCDD	1820		7.00	44.1	0.85	1.000	1	8/23/14	1518	8/18/14
2,3,7,8-TCDF	179		9.01	9.01	0.77	1.001	1	8/23/14	1518	8/18/14
1,2,3,7,8-PeCDF	978		4.54	22.1	1.61	1.001	1	8/23/14	1518	8/18/14
2,3,4,7,8-PeCDF	926		4.29	22.1	1.58	1.001	1	8/23/14	1518	8/18/14
1,2,3,6,7,8-HxCDF	827		3.99	22.1	1.21	1.000	1	8/23/14	1518	8/18/14
1,2,3,7,8,9-HxCDF	960		5.92	22.1	1.15	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8-HxCDF	971		4.60	22.1	1.22	1.000	1	8/23/14	1518	8/18/14
2,3,4,6,7,8-HxCDF	905		4.55	22.1	1.20	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,6,7,8-HpCDF	921		5.90	22.1	1.03	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8,9-HpCDF	869		7.72	22.1	1.08	1.000	1	8/23/14	1518	8/18/14
OCDF	2050		12.9	44.1	0.92	1.005	1	8/23/14	1518	8/18/14
Total Tetra-Dioxins	191		8.53	8.53	0.87		1	8/23/14	1518	8/18/14
Total Penta-Dioxins	818		6.39	22.1	1.66		1	8/23/14	1518	8/18/14
Total Hexa-Dioxins	2450		4.52	22.1	1.24		1	8/23/14	1518	8/18/14
Total Hepta-Dioxins	894		4.99	22.1	1.08		1	8/23/14	1518	8/18/14
Total Tetra-Furans	179		9.01	9.01	0.77		1	8/23/14	1518	8/18/14
Total Penta-Furans	1900		3.83	22.1			1	8/23/14	1518	8/18/14
Total Hexa-Furans	3660		4.67	22.1	1.22		1	8/23/14	1518	8/18/14
Total Hepta-Furans	1790		6.71	22.1	1.03		1	8/23/14	1518	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-04  
**Run Type:** Duplicate Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** ng/Kg  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Native Analyte Results**

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor	Date Analyzed	Time Analyzed	Date Extracted
2,3,7,8-TCDD	30.0		1.34	1.34	0.87	1.001	1	8/23/14	1518	8/18/14
1,2,3,7,8-PeCDD	128		1.01	3.46	1.66	1.001	1	8/23/14	1518	8/18/14
1,2,3,6,7,8-HxCDD	134		0.741	3.46	1.23	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8-HxCDD	122		0.673	3.46	1.24	1.000	1	8/23/14	1518	8/18/14
1,2,3,7,8,9-HxCDD	129		0.654	3.46	1.25	1.007	1	8/23/14	1518	8/18/14
1,2,3,4,6,7,8-HpCDD	140		0.783	3.46	1.08	1.000	1	8/23/14	1518	8/18/14
OCDD	286		1.10	6.93	0.85	1.000	1	8/23/14	1518	8/18/14
2,3,7,8-TCDF	28.0		1.42	1.42	0.77	1.001	1	8/23/14	1518	8/18/14
1,2,3,7,8-PeCDF	154		0.712	3.46	1.61	1.001	1	8/23/14	1518	8/18/14
2,3,4,7,8-PeCDF	145		0.673	3.46	1.58	1.001	1	8/23/14	1518	8/18/14
1,2,3,6,7,8-HxCDF	130		0.626	3.46	1.21	1.000	1	8/23/14	1518	8/18/14
1,2,3,7,8,9-HxCDF	151		0.929	3.46	1.15	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8-HxCDF	152		0.722	3.46	1.22	1.000	1	8/23/14	1518	8/18/14
2,3,4,6,7,8-HxCDF	142		0.713	3.46	1.20	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,6,7,8-HpCDF	145		0.925	3.46	1.03	1.000	1	8/23/14	1518	8/18/14
1,2,3,4,7,8,9-HpCDF	136		1.22	3.46	1.08	1.000	1	8/23/14	1518	8/18/14
OCDF	322		2.02	6.93	0.92	1.005	1	8/23/14	1518	8/18/14
Total Tetra-Dioxins	30.0		1.34	1.34	0.87		1	8/23/14	1518	8/18/14
Total Penta-Dioxins	128		1.01	3.46	1.66		1	8/23/14	1518	8/18/14
Total Hexa-Dioxins	385		0.710	3.46	1.24		1	8/23/14	1518	8/18/14
Total Hepta-Dioxins	140		0.783	3.46	1.08		1	8/23/14	1518	8/18/14
Total Tetra-Furans	28.0		1.42	1.42	0.77		1	8/23/14	1518	8/18/14
Total Penta-Furans	299		0.602	3.46			1	8/23/14	1518	8/18/14
Total Hexa-Furans	575		0.732	3.46	1.22		1	8/23/14	1518	8/18/14
Total Hepta-Furans	281		1.06	3.46	1.03		1	8/23/14	1518	8/18/14

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

**Client:** Anamar Environmental Consulting, Inc.  
**Project:** Shipyard Creek  
**Sample Matrix:** Animal Tissue  
**Sample Name:** Nv SYC14-AC Rep.2  
**Lab Code:** EQ1400478-04  
**Run Type:** Duplicate Matrix Spike

**Service Request:** K1407971  
**Date Collected:** 7/25/14  
**Date Received:** 7/30/14  
**Units:** Percent  
**Basis:** Wet

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290A  
**Prep Method:** Method

**Labeled Standard Results**

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	928.477	46		40-135	0.77	1.025
13C-1,2,3,7,8-PeCDD	2000	1104.297	55		40-135	1.53	1.207
13C-1,2,3,4,7,8-HxCDD	2000	1120.957	56		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1009.336	50		40-135	1.34	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1009.156	50		40-135	1.06	1.068
13C-OCDD	4000	1974.425	49		17-157	0.88	1.141
13C-2,3,7,8-TCDF	2000	908.802	45		24-169	0.82	0.993
13C-1,2,3,7,8-PeCDF	2000	871.736	44		40-135	1.60	1.160
13C-2,3,4,7,8-PeCDF	2000	906.839	45		40-135	1.60	1.196
13C-1,2,3,4,7,8-HxCDF	2000	923.051	46		40-135	0.53	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1046.547	52		40-135	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	998.357	50		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	967.510	48		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	947.581	47		40-135	0.47	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1109.892	55		40-135	0.43	1.081
37Cl-2,3,7,8-TCDD	800	309.546	39		35-197	NA	1.026



## Raw Data

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)



## Total Solids

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

## Freeze Dry Solids

# Benchsheet

Service Request #: K1407971, KQ1409199  
 Test: Frz Dry  
 Method: Frz Dry

Run #: 405375  
 Balance ID: K-Balance-21B

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1407971-001	16.551	10.205	18.148	1.60	15.6	
	K1407971-002	16.550	10.263	18.180	1.63	15.9	
	K1407971-003	16.758	10.227	18.433	1.68	16.4	
	K1407971-004	16.773	10.013	18.455	1.68	16.8	
	K1407971-005	16.392	10.044	17.971	1.58	15.7	
	K1407971-006	16.520	10.043	18.025	1.51	15.0	
	K1407971-007	16.572	10.133	18.086	1.51	14.9	
	K1407971-007DUP	16.853	10.062	18.359	1.51	15.0	<1
	K1407971-008	16.770	10.063	18.330	1.56	15.5	
	K1407971-009	16.788	10.094	18.372	1.58	15.7	
	K1407971-010	16.701	10.062	18.231	1.53	15.2	
	K1407971-011	16.595	10.022	18.103	1.51	15.0	
	K1407971-012	16.299	10.032	17.854	1.56	15.5	
	K1407971-013	16.594	10.207	18.149	1.56	15.2	
	K1407971-014	16.744	10.016	18.364	1.62	16.2	
	K1407971-015	16.547	10.006	18.078	1.53	15.3	
	K1407971-016	16.830	10.079	18.381	1.55	15.4	
	K1407971-017	16.437	10.005	17.959	1.52	15.2	
	K1407971-018	16.819	10.080	18.350	1.53	15.2	

FreezeDryer ID	Date In	Time In	Date Out	Time Out	Thermometer ID
FreezeDry	8/8/2014	01:00	8/11/2014	07:10	

Calibration	Cal EQID	Cal Start Value	Cal End Value	Start Date	Start Time	End Date	End Time
Calibration1	K-Balance-37			8/7/2014		8/11/2014	
Calibration2	K-Balance-21B			8/7/2014		8/11/2014	

*OK  
 8/14/14*

Comments:

# Benchsheet

Service Request #: K1407971, KQ1409199  
 Test: Frz Dry  
 Method: Frz Dry

Run #: 405375  
 Balance ID: K-Balance-21B

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1407971-001	16.551	10.205	18.148	0.000		
	K1407971-002	16.550	10.263	18.180	0.000		
	K1407971-003	16.7858	10.227	18.433	0.000		
	K1407971-004	16.773	10.013	18.455	0.000		
	K1407971-005	16.392	10.044	17.971	0.000		
	K1407971-006	16.520	10.043	18.025	0.000		
	K1407971-007	16.572	10.133	18.086	0.000		
	K1407971-007DUP	16.853	10.062	18.359	0.000		
	K1407971-008	16.770	10.063	18.330	0.000		
	K1407971-009	16.788	10.094	18.372	0.000		
	K1407971-010	16.701	10.062	18.231	0.000		
	K1407971-011	16.595	10.022	18.103	0.000		
	K1407971-012	16.299	10.032	17.854	0.000		
	K1407971-013	16.594	10.207	18.145	0.000		
	K1407971-014				0.000		
	K1407971-015				0.000		
	K1407971-016				0.000		
	K1407971-017				0.000		
	K1407971-018				0.000		

FreezeDryer ID: FreezeDry      Date In: 8/18/14      Time In: 13:00      Date Out: 8/19/14      Time Out: 7:10      Thermometer ID:

Cal EQID:      Cal Start Value:      Cal End Value:      Start Date: 8/17/14      Start Time:      End Date: 8/19/14      End Time:

Comments:



**Columbia Analytical Services, Inc.**

Service Request #:

K140 7971

Analysis For:

Freeze Dried Solids

Lab Code	Wet Weight (g)	Tare (g)	Tare + Dry Wt.(g)	Dry Weight (g)	% Total Solids
K1407971 - 14	10.016	16.744	18.364		
15	10.006	16.547	18.078		
16	10.079	16.830	18.381		
17	10.005	16.437	17.959		
18	10.080	16.819	18.350		
5 8/12/14					

Date/Time in Freeze Dryer: \_\_\_\_\_ Date/Time out of Freeze Dryer: \_\_\_\_\_

Balance ID: 37 Initial Date Balance checked: 8/7/14

After Freeze Drying Balance Check: 8/11/14 → 8/12/14

Weigh 8 to 10 grams

Comments: \_\_\_\_\_  
 \_\_\_\_\_

High - Low / Average = RPD x = RPD

Analyst: <u>T. Newhart</u>	Date: <u>8/12/14</u>
Reviewed By: <u>[Signature]</u>	Date: <u>8/12/14</u>







**Columbia Analytical Services, Inc.**

Service Request Number(s): K1407971

Analysis for:  
PAH

**PAH ALIQUOT DATA**

Service Request #	Wet Wt. (g)	Tare Wt. (g)	Matrix
K1407971-004	10.585	198.707	
K1407971-005	10.422	198.814	
K1407971-006	10.050	199.777	
K1407971-006 MS	10.083	199.490	
K1407971-006 DMS	10.217	198.759	
K1407971-007	10.166	198.577	
K1407971-008	10.394	199.757	
K1407971-009	10.052	200.416	
K1407971-010	10.042	199.928	
K1407971-011	10.986	199.737	
K1407971-012	10.213	198.711	
K1407971-013	10.395	200.076	
K1407971-014			
K1407971-015			
K1407971-016			
K1407971-017			
K1407971-018			

Comments: Please weigh approximately 10 g 8oz Glass Jar with MS/DMS

Balance ID: 213	Date Balance Checked: 8/7/14
Analyst: Keith J	Date: 8/7/14
Reviewed:	Date:

**Columbia Analytical Services, Inc.**

Service Request Number(s): K1407971

Analysis for:  
Houston

**HOUSTON**

Service Request #	Wet Wt. (g)	Tare Wt. (g)	Matrix
K1407971-001	10.258	198.798	
K1407971-002	10.141	199.235	
K1407971-003	10.848	199.217	
K1407971-004	10.106	199.158	
K1407971-005	10.579	199.322	
K1407971-005 MS	10.040	199.152	
K1407971-005 DMS	10.238	200.267	
K1407971-006	10.460	200.057	
K1407971-007	10.161	199.975	
K1407971-008	10.211	200.126	
K1407971-009	10.043	200.169	
K1407971-010	10.172	199.135	
K1407971-011	10.209	200.194	
K1407971-012	10.260	200.069	
K1407971-013	10.034	199.524	
K1407971-014			
K1407971-015			
K1407971-016			
K1407971-017			
K1407971-018			

Comments: Please weigh approximately 10 g in 8oz jar

Balance ID: 218	Date Balance Checked: 8/7/14
Analyst: Keith J D	Date: 8/7/14
Reviewed:	Date:











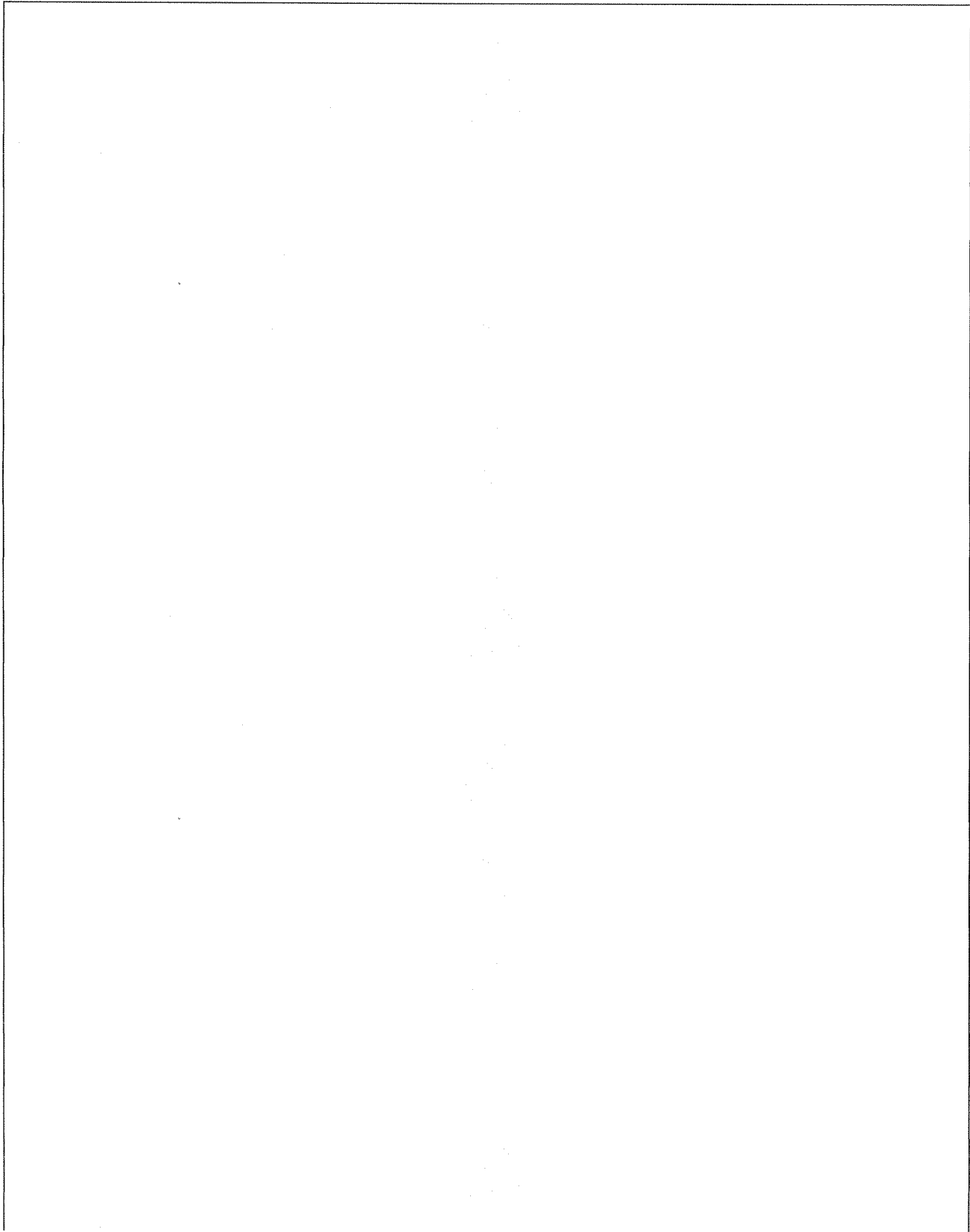


# Metals

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

**Preparation Information Benchsheet**

<b>Prep Run:</b> 215591	<b>Prep Workflow:</b> MetDigTissMS	<b>Status:</b> Prepped	<b>Prep Date:</b> 08/14/2014
<b>Team:</b> Metals	<b>Prep Method:</b> PSEP Metals	<b>Current Step:</b> Digestion	11:24
<b>Analyst:</b> Lance	<b>Rush/NPDES:</b> N/A		<b>Due Date:</b> 08/20/2014
Jording			<b>Hold Date:</b> 12/24/2014



Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1409636-01	Method Blank		0.300 g		30 mL			15% HNO3
KQ1409636-02	Lab Control Sample		g		30 mL	0.05 mL 0.3 mL 0.05 mL	72393 73152 73162	15% HNO3
KQ1409636-03	Standard Reference Material		0.304 g	As Received	30 mL	0.3 g	65838	15% HNO3
KQ1409636-04	Standard Reference Material		0.304 g	As Received	30 mL	0.3 g	65841	15% HNO3
K1407971-001	Nv PreTest Rep.1	.07	0.301 g	Freeze Dried	30 mL			15% HNO3
K1407971-002	NV PreTest Rep.2	.07	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-003	NV PreTest Rep.3	.07	0.303 g	Freeze Dried	30 mL			15% HNO3
K1407971-004	Nv SYC14-AC Rep.1	.06	0.304 g	Freeze Dried	30 mL			15% HNO3
K1407971-005	Nv SYC14-AC Rep.2	.08	0.304 g	Freeze Dried	30 mL			15% HNO3
K1407971-006	Nv SYC14-AC Rep.3	.08	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-007	Nv SYC14-AC Rep.4	.06	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-007: KQ1409636-05	Duplicate	.06	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-007: KQ1409636-06	Matrix Spike	.06	0.304 g	Freeze Dried	30 mL	0.05 mL 0.3 mL 0.05 mL	72393 73152 73162	15% HNO3
K1407971-008	Nv SYC14-AC Rep.5	.06	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-009	Nv SYC14-TB Rep.1	.07	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-010	Nv SYC14-TB Rep.2	.07	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-011	Nv SYC14-TB Rep.3	.07	0.303 g	Freeze Dried	30 mL			15% HNO3
K1407971-012	Nv SYC14-TB Rep.4	.07	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-013	Nv SYC14-TB Rep.5	.07	0.305 g	Freeze Dried	30 mL			15% HNO3
K1407971-014	Nv SYC14-REF Rep.1	.07	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-014: KQ1409636-07	Duplicate	.07	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-014: KQ1409636-08	Matrix Spike	.07	0.300 g	Freeze Dried	30 mL	0.05 mL 0.3 mL 0.05 mL	72393 73152 73162	15% HNO3
K1407971-015	Nv SYC14-REF Rep.2	.07	0.304 g	Freeze Dried	30 mL			15% HNO3
K1407971-016	Nv SYC14-REF Rep.3	.07	0.302 g	Freeze Dried	30 mL			15% HNO3
K1407971-017	Nv SYC14-REF Rep.4	.07	0.300 g	Freeze Dried	30 mL			15% HNO3
K1407971-018	Nv SYC14-REF Rep.5	.07	0.304 g	Freeze Dried	30 mL			15% HNO3

26 Total Samples consisting of 18 Client Samples, 4 Client QC Samples, 4 Batch QC Samples associated with the current Prep Run.

**Spiking Solutions**

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET DORM-4	Spike	65838	1/6/2015	K-MET TORT-3	Spike	65841	1/6/2015
K-MET SS3	Spike	73162	10/1/2014	K-MET-SS1	Spike	73152	1/31/2015

K-MET SS4	Spike	72393	1/6/2015
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**Preparation Materials**

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	63655	Digestion	K-MET HNO3 ULTREX	70317

**Preparation Hardware / Equipment**

Step	Name	Property	Value
Digestion	K-Balance-21B	Date Checked	8/14/14

**Preparation Steps**

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	14-AUG-14 11:24	15-AUG-14 09:25	Lance Jording	Keith Linn	N	

**Comments**

In Oven Temp: 105 In Oven Time: 11:24 Out of Oven Temp: 105 Out of Oven Time: 9:25

**Review**

Reviewed by: Emma Date: 8/21/14

**METALS SPIKING SOLUTIONS CONCENTRATIONS FORM**

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag ✓	100*	1000ml	5	
	Ba	100*	1000ml	200	
	Be ✓	100*	1000ml	5	
	Cd ✓	100*	1000ml	5	
	Co ✓	100*	1000ml	50	
	Cr ✓	100*	1000ml	20	
	Cu ✓	100*	1000ml	25	
	Fe ✓	100*	1000ml	100	
	Pb ✓	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni ✓	100*	1000ml	50	
	Sb*** ✓	50	1000ml	50	
V	100*	1000ml	50		
Zn ✓	100*	1000ml	50		
*** Add after HNO3 and before cas cal -14 when making the solution					
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
	Pb	2.0	500ml	4	
	Se	2.0	500ml	4	
	Tl	2.0	500ml	4	
	Cu	2.0	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As ✓	50.0	500ml	100	
	Se ✓	50.0	500ml	100	
	Tl ✓	50.0	500ml	100	
	Hg	6	500	12	
K-MET SS4	HNO3	25	500ml	-	
	B	50	500ml	100	
	Mo	50	500ml	100	
K-MET SS5	HNO3	10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	

K-MET GFLCSW	HNO3	10.0	1000ml	-	
	As, Pb, Se, Tl	5.0	1000ml	2.5	
	Cd	-	-	1.25	
	Cu	2.5	1000ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-2	Sb	no dilution	-	500	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

\* Denotes volume of mixed stock standard.

\*\* Denotes 10,000 ppm individual stock standards.

Standard	mLs of standard	ppm	Logbook #	Exp. Date







**CVAA Mercury Data Review Form**  
K-CVAA-02

Element: Hg  
 Analysis Lot #: 081814B HG2  
 Starlims #: 407218  
 Cal. STD/CCV Source: HG2-54-Q

Service Request Numbers:

K1407251, K1407971 (TISSUE)

	Yes	No	NA
1) Appropriate standardization completed	<u>X</u>	<u>          </u>	<u>          </u>
2) ICV within 10% of true value	<u>X</u>	<u>          </u>	<u>          </u>
3) CCVs in control (+/- 10%)	<u>X</u>	<u>          </u>	<u>          </u>
4) CCBs and or ICBs below MRL	<u>X</u>	<u>          </u>	<u>          </u>
5) CCV/CCB check run every 10 samples	<u>X</u>	<u>          </u>	<u>          </u>
6) All reported samples within calibration range	<u>X</u>	<u>          </u>	<u>          </u>
7) Calculations correct	<u>X</u>	<u>          </u>	<u>          </u>

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: AEM (Initials)

Primary Reviewed By: AEM

Date: 8/18/14

Secondary Reviewed By: JDB

Date: 8/19/14

## CVAA Hg ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471B) 245.1	Service Request #:
Analysis For: Hg	

### DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	MSA Calculated (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	Cal. Blk.	~	50	~	0.00			0.00
2	Std 0.1	*0.05	50	~	0.10			0.10
3	Std 0.2	*0.1	50	~	0.20			0.20
4	Std 0.5	*0.25	50	~	0.50			0.50
5	Std 1.0	*0.5	50	~	1.00			1.00
6	Std 5.0	*2.5	50	~	5.00			5.00
7	Std 10.0	*5.0	50	~	10.00			10.00
8	ICV1	**0.25	50	~	4.900			98%
9	ICB1	~	50	~	-0.010			-0.010
10	LLICV1	*0.05	50	~	0.100			100%
11	CCV1	*2.5	50	~	5.000			100%
12	CCB1	~	50	~	-0.010			-0.010
13	KQ1409752-02	0.556	50	2	-0.010			-0.010
14	KQ1409752-01	~	50	2	2.300			92%
15	KQ1409752-03	0.499	50	2	1.400	1.56	0.312	76%
16	KQ1409752-03A	~	50	2	5.900	90%		
17	K1407251-001	0.508	50	2	0.240	0.27	0.053	
18	K1407251-001A	~	50	2	4.700	89%		
19	K1407251-002	0.500	50	2	0.240	0.27	0.054	
20	K1407251-002A	~	50	2	4.700	89%		
21	K1407971-001	0.505	50	2	0.760	0.88	0.173	
22	K1407971-001A	~	50	2	5.100	87%		
23	CCV2	*2.5	50	~	5.000			100%
24	CCB2	~	50	~	-0.010			-0.010
25	K1407971-002	0.500	50	2	0.860	1.01	0.203	

Comments:	Cal. Inter. Std* (100ppb) <u>HG2-54-Q</u> 2nd Source Inter Std** (1ppm) <u>HG2-53-X</u>																																										
Soil/Tissue Spike Level:																																											
Soil/Tissue Spike Level:																																											
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 20%;">Method</th> <th style="width: 10%;">Spike Level</th> <th style="width: 10%;">MRL</th> <th style="width: 10%;">LCS Limit</th> <th style="width: 10%;">MS Limit</th> <th style="width: 10%;">RPD</th> <th style="width: 10%;">Post-Spike @ 5ppb</th> </tr> </thead> <tbody> <tr> <td>7470A Water</td> <td>1.0 µg/L</td> <td>0.2 µg/L</td> <td>80-120%</td> <td>75-125%</td> <td>20%</td> <td>+/- 20%</td> </tr> <tr> <td>245.1 Water</td> <td>1.0 µg/L</td> <td>0.2 µg/L</td> <td>85-115%</td> <td>70-130%</td> <td>20%</td> <td>N/A</td> </tr> <tr> <td>7470A TCLP</td> <td>5.0 µg/L</td> <td>1.0 µg/L</td> <td>80-120%</td> <td>75-125%</td> <td>20%</td> <td>+/- 20%</td> </tr> <tr> <td>7471A Soil LCSS</td> <td>19.9mg/kg</td> <td>0.02 mg/kg</td> <td>48-137%</td> <td>80-120%</td> <td>20%</td> <td>+/- 20%</td> </tr> <tr> <td>7471A DORM</td> <td>0.410 mg/kg</td> <td>0.02 mg/kg</td> <td>74-129%</td> <td>80-120%</td> <td>20%</td> <td>+/- 20%</td> </tr> </tbody> </table>	Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb	7470A Water	1.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%	245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A	7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%	7471A Soil LCSS	19.9mg/kg	0.02 mg/kg	48-137%	80-120%	20%	+/- 20%	7471A DORM	0.410 mg/kg	0.02 mg/kg	74-129%	80-120%	20%	+/- 20%	
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb																																					
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Analyst:	Date: 8/18/14	Page Number: 1
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## CVAA Hg ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471B) 245.1	Service Request #:
Analysis For: Hg	

### DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	MSA Calculated (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	K1407971-002A	~	50	2	5.100	85%		
27	K1407971-003	0.501	50	2	0.830	0.95	0.190	
28	K1407971-003A	~	50	2	5.200	87%		
29	K1407971-004	0.509	50	2	0.680	0.79	0.155	
30	K1407971-004A	~	50	2	5.000	86%		
31	K1407971-005	0.508	50	2	0.640	0.73	0.144	
32	K1407971-005A	~	50	2	5.000	87%		
33	K1407971-006	0.502	50	2	0.730	0.82	0.163	
34	K1407971-006A	~	50	2	5.200	89%		
35	CCV3	*2.5	50	~	5.100			102%
36	CCB3	~	50	~	-0.010			-0.010
37	K1407971-007	0.501	50	2	0.690	0.78	0.156	
38	K1407971-007A	~	50	2	5.100	88%		
39	K1407971-007D	0.501	50	2	0.690	0.78	0.156	
40	K1407971-007DA	~	50	2	5.100	88%		
41	K1407971-007S	0.500	50	2	2.700	3.14	0.628	94%
42	K1407971-007SA	~	50	2	7.000	86%		
43	K1407971-008	0.499	50	2	0.640	0.77	0.154	
44	K1407971-008A	~	50	2	4.800	83%		
45	K1407971-009	0.503	50	2	0.670	0.79	0.157	
46	K1407971-009A	~	50	2	4.900	85%		
47	CCV4	*2.5	50	~	5.300			106%
48	CCB4	~	50	~	0.000			0.000
49	K1407971-010	0.501	50	2	0.720	0.82	0.164	
50	K1407971-010A	~	50	2	5.100	88%		

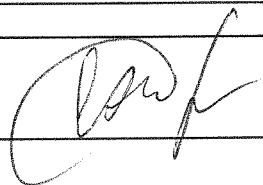
**Comments:**

Soil/Tissue Spike Level: K1407971-007S=0.500 mg/kg

Soil/Tissue Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	1.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCSS	19.9mg/kg	0.02 mg/kg	48-137%	80-120%	20%	+/- 20%
7471A DORM	0.410 mg/kg	0.02 mg/kg	74-129%	80-120%	20%	+/- 20%

Analyst:



Date:

8/18/14

Page Number:

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## CVAA Hg ANALYTICAL WORKSHEET

Method: (Circle One) 7470A (7471B) 245.1	Service Request # :
Analysis For: Hg	

### DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	MSA Calculated (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
51	K1407971-011	0.503	50	2	0.740	0.85	0.169	
52	K1407971-011A	~	50	2	5.100	87%		
53	K1407971-012	0.500	50	2	0.740	0.85	0.170	
54	K1407971-012A	~	50	2	5.100	87%		
55	K1407971-013	0.504	50	2	0.790	0.88	0.174	
56	K1407971-013A	~	50	2	5.300	90%		
57	K1407971-014	0.503	50	2	0.810	0.90	0.179	
58	K1407971-014A	~	50	2	5.300	90%		
59	CCV5	*2.5	50	~	5.200			104%
60	CCB5	~	50	~	-0.020			-0.020
61	K1407971-015	0.500	50	2	0.910	0.99	0.198	
62	K1407971-015A	~	50	2	5.500	92%		
63	K1407971-016	0.500	50	2	0.740	0.89	0.178	
64	K1407971-016A	~	50	2	4.900	83%		
65	K1407971-017	0.507	50	2	0.760	0.84	0.165	
66	K1407971-017A	~	50	2	5.300	91%		
67	K1407971-018	0.502	50	2	0.790	0.88	0.174	
68	K1407971-018A	~	50	2	5.300	90%		
69	CCV6	*2.5	50	~	5.300			106%
70	CCB6	~	50	~	-0.010			-0.010
71								
72								
73								
74								
75								

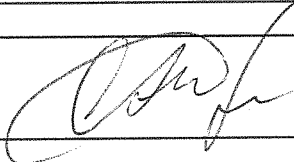
**Comments:**

Soil/Tissue Spike Level:

Soil/Tissue Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	1.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	N/A
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCSS	19.9mg/kg	0.02 mg/kg	48-137%	80-120%	20%	+/- 20%
7471A DORM	0.410 mg/kg	0.02 mg/kg	74-129%	80-120%	20%	+/- 20%

Analyst:



Date:

8/18/14

Page Number:

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Analyst: alkls.alklsp196

Worksheet file: C:\Program Files\QuickTrace\Worksheets\081814B HG2.wsz

Date Started: 8/18/2014 9:51:36 AM

Comment:

## Results

Sample Name					Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
Calibration Blank					STD	08/18/14 11:36:08 am	0.00	62	63.62	
Replicates	60.2	23.3	48.0	116.5						
Standard #1					STD	08/18/14 11:37:45 am	0.10	461	5.20	
Replicates	433.8	456.8	463.3	492.1						
Standard #2					STD	08/18/14 11:39:22 am	0.20	841	2.77	
Replicates	806.1	855.6	849.1	852.4						
Standard #3					STD	08/18/14 11:40:59 am	0.50	2063	1.08	
Replicates	2062.4	2087.4	2033.5	2067.4						
Standard #4					STD	08/18/14 11:42:38 am	1.00	3984	1.01	
Replicates	4007.2	3999.6	3923.4	4004.6						
Standard #5					STD	08/18/14 11:44:16 am	5.00	20448	0.16	
Replicates	20495.7	20434.7	20423.8	20436.8						
Standard #6					STD	08/18/14 11:45:56 am	10.00	40013	0.71	
Replicates	40345.6	40128.9	39879.3	39699.8						

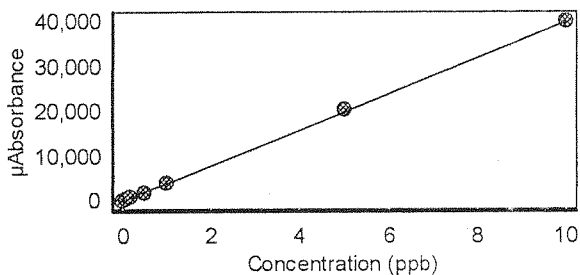
### Calibration

Equation:  $A = 62.019 + 4010.766C$

R2: 0.99989

SEE: 189.1342

Flags:



ICV1					ICV	08/18/14 11:47:35 am	4.90	19900	0.44	
Replicates	19983.8	19953.2	19873.4	19788.2						
% Recovery	98.92									



Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
K1407971-001	UNK	08/18/14 12:08:34 pm	0.76	3099	0.91	
Replicates		3121.6 3059.1 3099.6 3115.1				
K1407971-001A	UNK	08/18/14 12:10:12 pm	5.10	20598	0.19	
Replicates		20651.5 20560.3 20580.5 20600.6				
CCV2	CCV	08/18/14 12:11:51 pm	5.00	20271	0.64	
Replicates		20432.4 20307.1 20211.5 20131.3				
% Recovery		100.77				
CCB2	CCB	08/18/14 12:13:26 pm	-0.01	12	52.35	
Replicates		3.7 17.0 10.3 15.9				
K1407971-002	UNK	08/18/14 12:15:05 pm	0.86	3492	0.75	
Replicates		3500.3 3466.0 3477.9 3525.3				
K1407971-002A	UNK	08/18/14 12:16:44 pm	5.10	20570	0.25	
Replicates		20621.5 20539.7 20514.2 20604.7				
K1407971-003	UNK	08/18/14 12:18:20 pm	0.83	3385	0.42	
Replicates		3400.9 3366.0 3384.7 3387.3				
K1407971-003A	UNK	08/18/14 12:19:56 pm	5.20	20967	2.39	
Replicates		20733.1 20683.6 20731.7 21719.4				
K1407971-004	UNK	08/18/14 12:21:32 pm	0.68	2789	2.29	
Replicates		2715.7 2754.5 2841.3 2843.0				
K1407971-004A	UNK	08/18/14 12:23:08 pm	5.00	20122	0.36	
Replicates		20062.7 20082.8 20117.1 20225.0				
K1407971-005	UNK	08/18/14 12:24:45 pm	0.64	2611	1.06	
Replicates		2624.5 2578.0 2600.1 2641.1				
K1407971-005A	UNK	08/18/14 12:26:22 pm	5.00	20122	0.24	
Replicates		20174.9 20093.2 20071.5 20148.1				



Sample Name				Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
K1407971-006				UNK	08/18/14 12:27:59 pm	0.73	2996	1.14	
Replicates	2965.2	3021.0	2968.3	3029.9					
K1407971-006A				UNK	08/18/14 12:29:37 pm	5.20	20967	0.64	
Replicates	20937.6	20841.8	20931.8	21158.7					
CCV3				CCV	08/18/14 12:31:15 pm	5.10	20682	0.71	
Replicates	20844.4	20764.9	20586.9	20533.7					
% Recovery	102.83								
CCB3				CCB	08/18/14 12:32:51 pm	-0.01	31	91.04	
Replicates	15.9	3.7	35.2	67.4					
K1407971-007				UNK	08/18/14 12:34:29 pm	0.69	2823	1.99	
Replicates	2758.1	2811.1	2830.5	2894.3					
K1407971-007A				UNK	08/18/14 12:36:07 pm	5.10	20428	0.21	
Replicates	20389.2	20418.8	20415.4	20490.3					
K1407971-007D				UNK	08/18/14 12:37:45 pm	0.69	2832	0.87	
Replicates	2856.1	2819.6	2802.9	2847.4					
K1407971-007DA				UNK	08/18/14 12:39:24 pm	5.10	20514	0.20	
Replicates	20526.3	20455.3	20522.1	20552.2					
K1407971-007S				UNK	08/18/14 12:41:00 pm	2.70	10880	0.32	
Replicates	10885.8	10834.8	10880.2	10919.4					
K1407971-007SA				UNK	08/18/14 12:42:36 pm	7.00	28004	0.14	
Replicates	28023.5	27946.8	28012.3	28031.9					
K1407971-008				UNK	08/18/14 12:44:12 pm	0.64	2641	0.72	
Replicates	2644.0	2653.5	2613.2	2653.0					
K1407971-008A				UNK	08/18/14 12:45:48 pm	4.80	19501	0.21	
Replicates	19462.9	19490.2	19492.5	19558.0					

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
K1407971-009 Replicates	UNK	08/18/14 12:47:25 pm	0.67	2741	0.94	
		2705.7 2745.9 2744.3 2767.4				
K1407971-009A Replicates	UNK	08/18/14 12:49:01 pm	4.90	19908	0.21	
		19849.8 19909.0 19921.8 19950.3				
CCV4 Replicates % Recovery	CCV	08/18/14 12:50:40 pm	5.30	21217	0.08	
		21237.6 21220.7 21197.7 21210.7 105.49				
CCB4 Replicates	CCB	08/18/14 12:52:16 pm	0.00	78	27.39	
		73.0 50.1 90.0 98.5				
K1407971-010 Replicates	UNK	08/18/14 12:53:53 pm	0.72	2966	0.84	
		2949.3 2940.2 2985.4 2989.0				
K1407971-010A Replicates	UNK	08/18/14 12:55:31 pm	5.10	20617	0.27	
		20542.6 20626.0 20625.1 20675.1				
K1407971-011 Replicates	UNK	08/18/14 12:57:08 pm	0.74	3011	1.34	
		3037.5 2970.6 3052.6 2982.7				
K1407971-011A Replicates	UNK	08/18/14 12:58:46 pm	5.10	20406	0.20	
		20377.3 20375.0 20407.6 20462.7				
K1407971-012 Replicates	UNK	08/18/14 01:00:25 pm	0.74	3047	3.43	
		2981.9 3017.5 2986.0 3201.7				
K1407971-012A Replicates	UNK	08/18/14 01:02:03 pm	5.10	20439	0.09	
		20465.0 20433.5 20433.8 20422.3				
K1407971-013 Replicates	UNK	08/18/14 01:03:39 pm	0.79	3245	3.11	
		3168.7 3187.3 3233.4 3391.1				
K1407971-013A Replicates	UNK	08/18/14 01:05:15 pm	5.30	21196	0.36	
		21282.1 21233.4 21112.5 21154.5				



Sample Name				Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
CCV6				CCV	08/18/14 01:26:47 pm	5.30	21448	0.73	
Replicates	21650.3	21489.4	21361.1	21292.5					
% Recovery	106.64								
CCB6				CCB	08/18/14 01:28:23 pm	-0.01	5	596.19	
Replicates	-11.4	5.3	-18.7	43.5					

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1409752-02	Method Blank		0.556 g	FREEZE DRY	50 mL			
KQ1409752-01	Lab Control Sample		g	FREEZE DRY	50 mL	0.25 mL	73100	
KQ1409752-03	Lab Control Sample		<del>0.499</del> 0.499 g	FREEZE DRY	50 mL	0.5 g	65838	
K1407251-001	Shad whole fish sample 1	.03	0.508 g	FREEZE DRY	50 mL			
K1407251-002	Shad whole fish sample 2	.04	0.500 g	FREEZE DRY	50 mL			
K1407971-001	Nv PreTest Rep.1	.07	0.505 g	FREEZE DRY	50 mL			
K1407971-002	NV PreTest Rep.2	.07	0.500 g	FREEZE DRY	50 mL			
K1407971-003	NV PreTest Rep.3	.07	0.501 g	FREEZE DRY	50 mL			
K1407971-004	Nv SYC14-AC Rep.1	.06	0.509 g	FREEZE DRY	50 mL			
K1407971-005	Nv SYC14-AC Rep.2	.08	0.508 g	FREEZE DRY	50 mL			
K1407971-006	Nv SYC14-AC Rep.3	.08	0.502 g	FREEZE DRY	50 mL			
K1407971-007	Nv SYC14-AC Rep.4	.06	0.501 g	FREEZE DRY	50 mL			
K1407971-007: KQ1409752-04	Duplicate	.06	0.501 g	FREEZE DRY	50 mL			
K1407971-007: KQ1409752-05	Matrix Spike	.06	0.500 g	FREEZE DRY	50 mL	0.25 mL	73100	
K1407971-008	Nv SYC14-AC Rep.5	.06	0.499 g	FREEZE DRY	50 mL			
K1407971-009	Nv SYC14-TB Rep.1	.07	0.503 g	FREEZE DRY	50 mL			
K1407971-010	Nv SYC14-TB Rep.2	.07	0.501 g	FREEZE DRY	50 mL			
K1407971-011	Nv SYC14-TB Rep.3	.07	0.503 g	FREEZE DRY	50 mL			
K1407971-012	Nv SYC14-TB Rep.4	.07	0.500 g	FREEZE DRY	50 mL			
K1407971-013	Nv SYC14-TB Rep.5	.07	0.504 g	FREEZE DRY	50 mL			
K1407971-014	Nv SYC14-REF Rep.1	.07	0.503 g	FREEZE DRY	50 mL			
K1407971-015	Nv SYC14-REF Rep.2	.07	0.500 g	FREEZE DRY	50 mL			
K1407971-016	Nv SYC14-REF Rep.3	.07	0.500 g	FREEZE DRY	50 mL			
K1407971-017	Nv SYC14-REF Rep.4	.07	0.507 g	FREEZE DRY	50 mL			
K1407971-018	Nv SYC14-REF Rep.5	.07	0.502 g	FREEZE DRY	50 mL			

25 Total Samples consisting of 20 Client Samples, 2 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

**Spiking Solutions**

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET DORM-4	Spike	65838	1/6/2015	K-MET Hg Source Standard 1000 ug/L	Spike	73100	9/1/2014

**Preparation Materials**

Step	Name	ID	Step	Name	ID
Digestion	K-MET NACL Hg	62753	Digestion	K-MET HCl Hg	71523
Digestion	K-MET 100ml Centrifuge Tube	64551	Digestion	K-MET NH2OH-HCl Hg	71524
Digestion	Teflon Chips	69101	Digestion	K-MET KMnO4 Hg	71525
Digestion	K-MET HNO3 Hg	71521	Digestion	K-MET SnCl Hg	71526

**Preparation Hardware / Equipment**

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-Balance-37	Date Calibrated	08/15/14	Digestion	K-BlockDigester-03	Observed Temperature	95 deg C
Digestion	K-BlockDigester-03	Correction Factor	0	Digestion	K-BlockDigester-03	Thermometer ID 1134911	NONE
Digestion	K-BlockDigester-03	Corrected Temperature	95 deg C	Digestion	K-BlockDigester-03	Thermometer Location	4 NONE

**Preparation Steps**

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	15-AUG-14 13:15	15-AUG-14 13:45	AMCKORNEY		N	

**Comments**

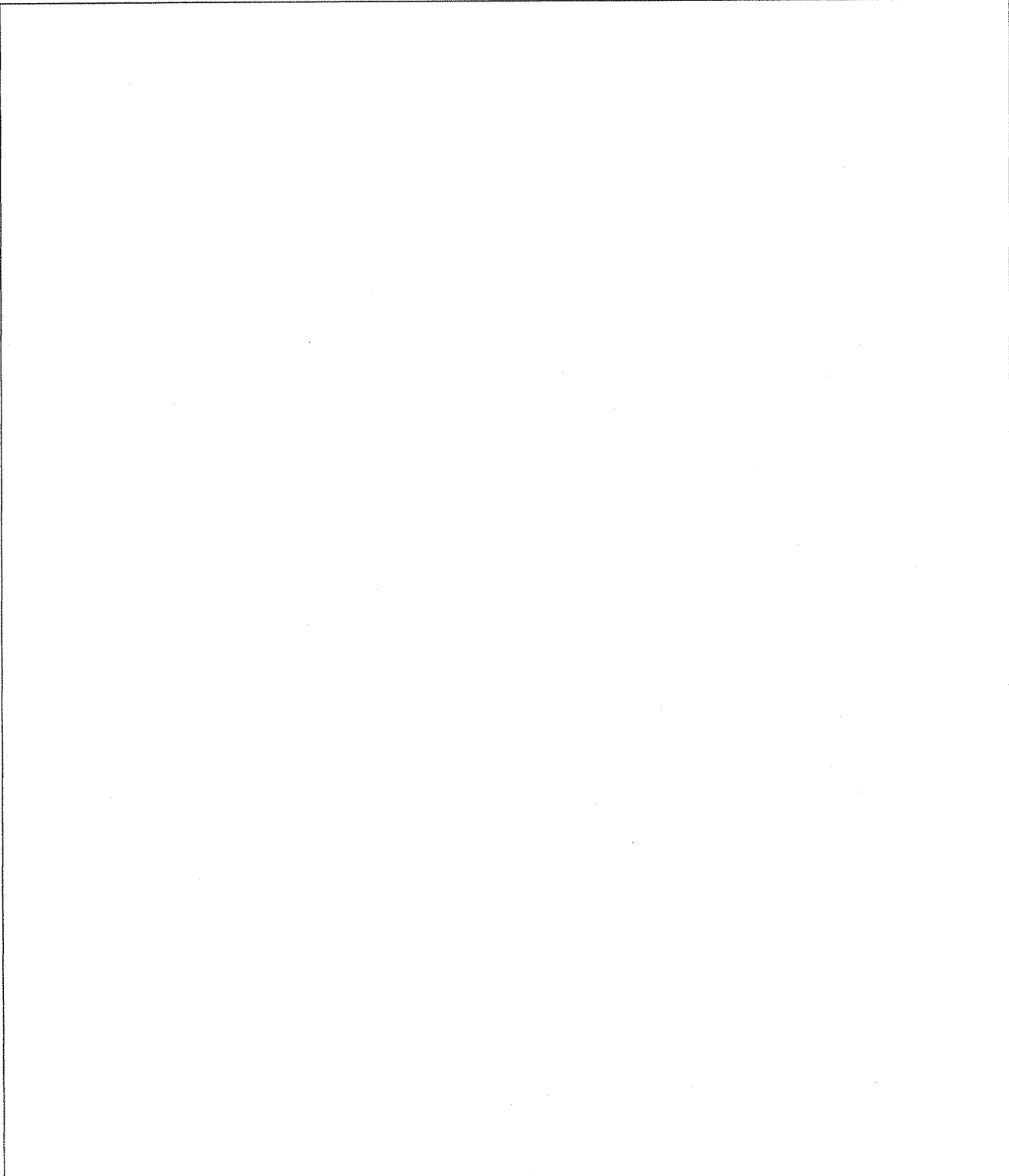
CAL. STD/CCV SOURCE: HG2-54-Q

**Review**

Reviewed by: JDB Date: 8/19/14

**Preparation Information Benchsheet**

<b>Prep Run:</b> 215736	<b>Prep Workflow:</b> HgDigTiss	<b>Status:</b> Prepped	<b>Prep Date:</b> 08/15/2014
<b>Team:</b> Metals	<b>Prep Method:</b> Method	<b>Current Step:</b> Digestion	13:15
<b>Analyst:</b> AMCKORNEY	<b>Rush/NPDES:</b> N/A		<b>Due Date:</b> 08/07/2014
			<b>Hold Date:</b> 07/08/2014



**Preparation Information Benchsheet**

**Prep Run:** 215736      **Prep Workflow:** HgDigTiss      **Status:** Draft      **Prep Date:** 08/15/2014  
**Team:** Metals      **Prep Method:** Method      **Current Step:** Digestion      08:36  
**Analyst:** AMCKORNEY      **Rush/NPDES:** N/A      **Due Date:** 07/25/2014  
**Hold Date:** 07/08/2014

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1409752-02	Method Blank							0.556
KQ1409752-01	Lab Control Sample					0.25 mL	73100	NA
KQ1409752-03	Lab Control Sample					0.5 g	65838	0.499
K1407251-001	Shad whole fish sample 1	.03						0.508
K1407251-002	Shad whole fish sample 2	.04						0.500
K1407971-001	Nv PreTest Rep.1	.07						0.505
K1407971-002	NV PreTest Rep.2	.07						0.500
K1407971-003	NV PreTest Rep.3	.07						0.501
K1407971-004	Nv SYC14-AC Rep.1	.06						0.509
K1407971-005	Nv SYC14-AC Rep.2	.08						0.508
K1407971-006	Nv SYC14-AC Rep.3	.08						0.502
K1407971-007	Nv SYC14-AC Rep.4	.06						0.501
K1407971-007: KQ1409752-04	Duplicate	.06						0.501
K1407971-007: KQ1409752-05	Matrix Spike	.06				0.25 mL	73100	0.500
K1407971-008	Nv SYC14-AC Rep.5	.06						0.499
K1407971-009	Nv SYC14-TB Rep.1	.07						0.503
K1407971-010	Nv SYC14-TB Rep.2	.07						0.501
K1407971-011	Nv SYC14-TB Rep.3	.07						0.503
K1407971-012	Nv SYC14-TB Rep.4	.07						0.500
K1407971-013	Nv SYC14-TB Rep.5	.07						0.504
K1407971-014	Nv SYC14-REF Rep.1	.07						0.503
K1407971-015	Nv SYC14-REF Rep.2	.07						0.500
K1407971-016	Nv SYC14-REF Rep.3	.07						0.500
K1407971-017	Nv SYC14-REF Rep.4	.07						0.507
K1407971-018	Nv SYC14-REF Rep.5	.07						0.502

13.15 8/15/14

HG2-54-Q



25 Total Samples consisting of 20 Client Samples, 2 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

**Spiking Solutions**

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET DORM-4	Spike	65838	1/6/2015	K-MET Hg Source Standard 1000 ug/L	Spike	73100	9/1/2014

**Preparation Materials**

Step	Name	ID	Step	Name	ID
Digestion	K-MET NaCl Hg	62753	Digestion	K-MET HCl Hg	71523
Digestion	K-MET 100ml Centrifuge Tube	64551	Digestion	K-MET NH2OH-HCl Hg	71524
Digestion	Teflon Chips	69101	Digestion	K-MET KMnO4 Hg	71525
Digestion	K-MET HNO3 Hg	71521	Digestion	K-MET SnCl Hg	71526

**Preparation Hardware / Equipment**

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-Balance-37	Date Calibrated		Digestion	K-BlockDigester-03	Observed Temperature	_____ deg C
Digestion	K-BlockDigester-03	Correction Factor	_____ deg C	Digestion	K-BlockDigester-03	Thermometer ID 1134911	_____ NONE
Digestion	K-BlockDigester-03	Corrected Temperature	_____ deg C	Digestion	K-BlockDigester-03	Thermometer Location	4 _____ NONE

**Preparation Steps**

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion						

**Comments**

Service Request # K1407971  
 Calibration 081914B  
 QC in calibration 081914B  
 QC Service Request # K1407971  
 STARLIMS run # 407471

## 200.8 ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control (+/- 10%)	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control (+/-15%)	X		
7. Spike (+/-30) and duplicate (<20%) in control	X	X	
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control (60-125%)	X		
11. Interferences checked	X		
12. Se over MRL	X		
13. CRA run (MDL-199%)	X		
14. Cd Correction Applied		X	
15. ICSA and ICSAB in control			X
16. Serial dilution run			X
17. Post spike in control			X
18. Was run stop prematurely, If so why?		X	

Comments:      QC#7: Dup/MS fails Zn  
                     QC#14: Dup fails Zn, MS Ag 60%

*Samples were 1/5 dilution  
 SRM were 1/5 dilution  
 LCS was 1/20 dil.*

Pb DORM low, TORT and LCS in control.

Primary Review by REM  
 Secondary Review by 3

Date 8/19/14  
 Date 8/20/14

## Dataset Report

User Name: ALKLS.ALKLSXP373

Computer Name: ALKLSXP373

Dataset File Path: C:\NexIONData\DataSet\081914B\

Report Date/Time: Wednesday, August 20, 2014 10:32:25

### The Dataset

Sample ID	Date and Time	Read Type	Description	Samp. File Name
Rinse	16:08:41 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\Rinse.001
Blank	16:13:15 Tue 19-Aug-14	Blank		C:\NexIONData\DataSet\081914B\Blank.002
Standard 1	16:17:48 Tue 19-Aug-14	Standard #1		C:\NexIONData\DataSet\081914B\Standard 1.0
ICV1	16:22:23 Tue 19-Aug-14	QC Std #1		C:\NexIONData\DataSet\081914B\ICV1.004
CCV	16:26:57 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.005
ICB1	16:31:32 Tue 19-Aug-14	QC Std #3		C:\NexIONData\DataSet\081914B\ICB1.006
CCB	16:36:06 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.007
CRA	16:40:41 Tue 19-Aug-14	QC Std #5		C:\NexIONData\DataSet\081914B\CRA.008
KQ1409601-01	16:45:15 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\KQ1409601-
K1407970-001	16:49:50 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-002	16:54:24 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-003	16:58:59 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-004	17:03:33 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-005	17:08:08 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-006	17:12:42 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-007	17:17:17 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
CCV	17:21:53 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.017
CCB	17:26:27 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.018
K1407970-008	17:31:03 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-009	17:35:38 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-010	17:40:12 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-010D	17:44:47 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-010S	17:49:21 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
KQ1409601-02	17:53:56 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\KQ1409601-
KQ1409601-03	17:58:30 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\KQ1409601-
KQ1409601-04	18:03:05 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\KQ1409601-
K1407970-011	18:07:39 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-012	18:12:14 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
CCV	18:16:50 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.029
CCB	18:21:25 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.030
K1407970-013	18:26:01 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-014	18:30:35 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-015	18:35:10 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-016	18:39:45 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-017	18:44:19 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-018	18:48:54 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-018D	18:53:29 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
K1407970-018S	18:58:03 Tue 19-Aug-14	Sample		C:\NexIONData\DataSet\081914B\K1407970-0
KQ1409636-01	19:02:38 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\KQ1409636-
K1407971-001	19:07:12 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
CCV	19:11:48 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.041
CCB	19:16:23 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.042
K1407971-002	19:20:59 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-003	19:25:33 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-004	19:30:08 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-005	19:34:42 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-006	19:39:17 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-007	19:43:51 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-007D	19:48:26 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-007S	19:53:01 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0

KQ1409636-02	19:57:35 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\KQ1409636-
KQ1409636-03	20:02:10 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\KQ1409636-
CCV	20:06:45 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.053
CCB	20:11:20 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.054
KQ1409636-04	20:15:56 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\KQ1409636-
K1407971-008	20:20:31 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-009	20:25:05 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-010	20:29:40 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-011	20:34:14 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-012	20:38:49 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-013	20:43:23 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-014	20:47:58 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-014D	20:52:33 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-014S	20:57:07 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
CCV	21:01:43 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.065
CCB	21:06:18 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.066
K1407971-015	21:10:53 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-016	21:15:28 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-017	21:20:03 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
K1407971-018	21:24:37 Tue 19-Aug-14	Sample	5	C:\NexIONData\DataSet\081914B\K1407971-0
Mo Std	21:29:13 Tue 19-Aug-14	Sample	50ppb	C:\NexIONData\DataSet\081914B\Mo Std.071
CCV	21:33:49 Tue 19-Aug-14	QC Std #2		C:\NexIONData\DataSet\081914B\CCV.072
CCB	21:38:24 Tue 19-Aug-14	QC Std #4		C:\NexIONData\DataSet\081914B\CCB.073

## SmartTune Wizard - Details

### Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\CAS SmartTune Full FAST.swz

### Optimization Status

Start Time: 8/19/2014 10:28:21 AM

### Mass Calibration and Resolution

#### Optimization Settings:

Method: C:\NexIONData\Method\CAS Tuning.mth.

MassCal File: C:\NexIONData\MassCal\Default.tun

Iterations: 6

Target accuracy (+/- amu): 0.1 for Mass Cal. and 0.1 for Resolution

Peak height (%) for Res. Opt.: 5

#### Optimization Results:

##### Initial Try

Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.692)

Target/Obtained mass (9.0122/8.975), Target/Obtained resolution (0.7/0.716)

Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.729)

Target/Obtained mass (58.9332/58.975), Target/Obtained resolution (0.7/0.736)

Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.733)

Target/Obtained mass (139.905/139.875), Target/Obtained resolution (0.7/0.696)

Target/Obtained mass (207.977/207.975), Target/Obtained resolution (0.7/0.755)

Target/Obtained mass (208.98/208.975), Target/Obtained resolution (0.7/0.772)

Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.761)

[Passed] Optimum value(s): N/A

## Daily Performance Report

### Sample ID: Daily Performance Check

Sample Date/Time: Tuesday, August 19, 2014 10:35:15

Sample Description:

Method File: C:\NexIONData\Method\CAS Daily Performance.mth

Dataset File: C:\NexIONData\Dataset\Default\Daily Performance Check.2900

MassCal File: C:\NexIONData\MassCal\Default.tun

Conditions File: C:\NexIONData\Conditions\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time (ns): 35

Current Dead Time (ns): 35

Torch Z position (mm): 0.00

### Summary

Analyte	Mass	Meas. Intens.	Mean	Net Intens.	Mean	Net Intens.	SD	Net Intens.	RSD	Mode
Li	7.0	66508.5	66508.472	66508.472	699.547	1.1	Standard			
Be	9.0	18881.4	18881.404	18881.404	196.212	1.0	Standard			
Mg	24.0	81491.9	81491.923	81491.923	803.321	1.0	Standard			
Co	58.9	67306.8	67306.765	67306.765	1299.823	1.9	Standard			
In	114.9	95024.0	95024.002	95024.002	2781.658	2.9	Standard			
Pb	208.0	91045.3	91045.261	91045.261	1085.540	1.2	Standard			
Bi	209.0	76661.6	76661.566	76661.566	876.220	1.1	Standard			
U	238.1	73171.5	73171.458	73171.458	620.223	0.8	Standard			
[ CeO	155.9	1076.3	0.015	0.001	6.3	Standard				
> Ce	139.9	69979.5	69979.536	69979.536	883.151	1.3	Standard			
[ Ce++	70.0	2561.3	0.037	0.001	3.7	Standard				
Bkgd	220.0	0.0	0.000	0.000		Standard				

### Current Conditions File Data

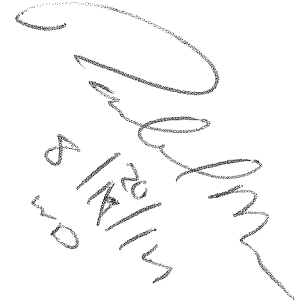
Current Value	Description
0.94	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
16.00	Plasma Gas Flow
-8.50	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.00	Cell Rod Offset STD [CRO]
8.00	Discriminator Threshold
-5.50	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.94	DRC Mode NEB
-6.50	DRC Mode QRO
-1.50	DRC Mode CRO
-10.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
280.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-4.00	KED Mode Cell Entrance Voltage
-40.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
0.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Base Vacuum \_\_\_\_\_

Running Vacuum \_\_\_\_\_

## LABWORKS - Summary Report

Sample ID: Blank  
Sample Date/Time: Tuesday, August 19, 2014 16:13:15  
Sample Description:  
Autosampler Position: 1  
Number of Replicates: 3  
Dataset File: C:\NexIONData\DataSet\081914B\Blank.002  
User Name: RRM



### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9				ppb
[ Cr-KED3	52				ppb
Cr-KED3	53				ppb
Ni-KED3	60				ppb
Ni-KED3	62				ppb
Cu-KED3	63				ppb
Cu-KED3	65				ppb
Zn-KED3	66				ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75				ppb
Se-KED2	77				ppb
Se-KED2	78				ppb
[ Se-KED2	82				ppb
[ Mo-KED2	95				ppb
Mo-KED2	97				ppb
Mo-KED2	98				ppb
Cd-KED2	111				ppb
Cd-KED2	112				ppb
Cd-KED2	114				ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107				ppb
[ Ag-KED3	109				ppb
[> In-KED1	115				ppb
Sb-KED1	121				ppb
[ Sb-KED1	123				ppb
[> Lu-KED1	175				ppb
Tl-KED1	203				ppb
Tl-KED1	205				ppb
[ Pb-KED1	208				ppb

## LABWORKS - Summary Report

Sample ID: Standard 1  
 Sample Date/Time: Tuesday, August 19, 2014 16:17:48  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\Standard 1.003  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	25.00000		0.8	ppb
[ Cr-KED3	52	25.00000		1.0	ppb
[ Cr-KED3	53	25.00000		4.1	ppb
[ Ni-KED3	60	25.00000		0.8	ppb
[ Ni-KED3	62	25.00000		2.2	ppb
[ Cu-KED3	63	25.00000		2.3	ppb
[ Cu-KED3	65	25.00000		2.5	ppb
[ Zn-KED3	66	25.00000		2.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	25.00000		2.2	ppb
[ Se-KED2	77	25.00000		2.1	ppb
[ Se-KED2	78	25.00000		3.9	ppb
[ Se-KED2	82	25.00000		6.6	ppb
[ Mo-KED2	95	25.00000		0.9	ppb
[ Mo-KED2	97	25.00000		0.8	ppb
[ Mo-KED2	98	25.00000		2.1	ppb
[ Cd-KED2	111	25.00000		0.9	ppb
[ Cd-KED2	112	25.00000		1.2	ppb
[ Cd-KED2	114	25.00000		1.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	25.00000		0.8	ppb
[ Ag-KED3	109	25.00000		1.5	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	25.00000		1.6	ppb
[ Sb-KED1	123	25.00000		3.0	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	25.00000		0.7	ppb
[ Ti-KED1	205	25.00000		1.5	ppb
[ Pb-KED1	208	25.00000		0.9	ppb



## LABWORKS - Summary Report

Sample ID: ICV1

Sample Date/Time: Tuesday, August 19, 2014 16:22:23

Sample Description:

Autosampler Position: 3

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\ICV1.004

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	2.61173		5.7	ppb
[ Cr-KED3	52	10.09957		1.2	ppb
[ Cr-KED3	53	10.14709		2.0	ppb
[ Ni-KED3	60	25.61129		0.5	ppb
[ Ni-KED3	62	25.63281		2.4	ppb
[ Cu-KED3	63	12.84974		2.2	ppb
[ Cu-KED3	65	12.89393		3.5	ppb
[ Zn-KED3	66	26.37798		3.1	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	25.93933		1.4	ppb
[ Se-KED2	77	27.99456		6.8	ppb
[ Se-KED2	78	26.25294		3.1	ppb
[ Se-KED2	82	26.32077		4.1	ppb
[ Mo-KED2	95	25.29138		3.0	ppb
[ Mo-KED2	97	25.09681		2.4	ppb
[ Mo-KED2	98	25.89675		1.7	ppb
[ Cd-KED2	111	13.58854		2.0	ppb
[ Cd-KED2	112	13.18052		2.2	ppb
[ Cd-KED2	114	13.26939		2.7	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	13.10529		1.6	ppb
[ Ag-KED3	109	13.39909		0.9	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	26.44501		1.8	ppb
[ Sb-KED1	123	26.05145		2.1	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	24.87004		1.2	ppb
[ Tl-KED1	205	25.13500		1.1	ppb
[ Pb-KED1	208	25.38717		1.5	ppb

Sample ID: ICV1

Report Date/Time: Wednesday, August 20, 2014 10:04:51

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				99.3	
[	Be-KED1	9	104.5				
[	Cr-KED3	52	101.0				
	Cr-KED3	53					
	Ni-KED3	60	102.4				
	Ni-KED3	62	102.5				
	Cu-KED3	63	102.8				
	Cu-KED3	65	103.2				
	Zn-KED3	66	105.5				
[>	Ge-KED3	72			100.8		
[>	Ge-KED2	72			99.7		
	As-KED2	75	103.8				
	Se-KED2	77	112.0				
	Se-KED2	78	105.0				
[	Se-KED2	82	105.3				
[	Mo-KED2	95	101.2				
	Mo-KED2	97	100.4				
	Mo-KED2	98	103.6				
	Cd-KED2	111	108.7				
	Cd-KED2	112	105.4				
	Cd-KED2	114	106.2				
[>	In-KED2	115			101.3		
[>	Rh-KED3	103			100.2		
	Ag-KED3	107	104.8				
[	Ag-KED3	109	107.2				
[>	In-KED1	115			101.4		
	Sb-KED1	121	105.8				
[	Sb-KED1	123	104.2				
[>	Lu-KED1	175			100.6		
	Tl-KED1	203	99.5				
	Tl-KED1	205	100.5				
[	Pb-KED1	208	101.5				

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Se-KED2	77	Out of Control

## LABWORKS - Summary Report

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 16:26:57  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCV.005  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	25.53274		2.7	ppb
[ Cr-KED3	52	24.28016		2.0	ppb
Cr-KED3	53	24.65804		2.5	ppb
Ni-KED3	60	24.45299		1.8	ppb
Ni-KED3	62	23.99690		2.3	ppb
Cu-KED3	63	24.71100		0.8	ppb
Cu-KED3	65	24.67353		0.8	ppb
Zn-KED3	66	24.53026		2.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	24.94060		3.4	ppb
Se-KED2	77	25.76073		5.0	ppb
Se-KED2	78	24.46465		4.8	ppb
[ Se-KED2	82	24.28294		4.7	ppb
[ Mo-KED2	95	24.34073		0.8	ppb
Mo-KED2	97	24.00414		0.4	ppb
Mo-KED2	98	24.62685		0.4	ppb
Cd-KED2	111	25.11737		0.4	ppb
Cd-KED2	112	24.82088		0.7	ppb
Cd-KED2	114	24.86151		0.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	24.83533		0.5	ppb
[ Ag-KED3	109	25.32650		1.1	ppb
[> In-KED1	115				ppb
Sb-KED1	121	24.91690		1.6	ppb
[ Sb-KED1	123	25.22497		3.3	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	24.76413		3.2	ppb
Tl-KED1	205	24.68963		4.8	ppb
[ Pb-KED1	208	24.69401		5.0	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				97.9	
[	Be-KED1	9		102.1			
[	Cr-KED3	52		97.1			
	Cr-KED3	53					
	Ni-KED3	60		97.8			
	Ni-KED3	62		96.0			
	Cu-KED3	63		98.8			
	Cu-KED3	65		98.7			
	Zn-KED3	66		98.1			
[>	Ge-KED3	72				100.6	
[>	Ge-KED2	72				98.3	
	As-KED2	75		99.8			
	Se-KED2	77		103.0			
	Se-KED2	78		97.9			
[	Se-KED2	82		97.1			
[	Mo-KED2	95		97.4			
	Mo-KED2	97		96.0			
	Mo-KED2	98		98.5			
	Cd-KED2	111		100.5			
	Cd-KED2	112		99.3			
	Cd-KED2	114		99.4			
[>	In-KED2	115				102.1	
[>	Rh-KED3	103				101.3	
	Ag-KED3	107		99.3			
[	Ag-KED3	109		101.3			
[>	In-KED1	115				102.7	
	Sb-KED1	121		99.7			
[	Sb-KED1	123		100.9			
[>	Lu-KED1	175				99.8	
	Tl-KED1	203		99.1			
	Tl-KED1	205		98.8			
[	Pb-KED1	208		98.8			

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: ICB1  
 Sample Date/Time: Tuesday, August 19, 2014 16:31:32  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\ICB1.006  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00201		31.3	ppb
[ Cr-KED3	52	0.00008		4871.4	ppb
Cr-KED3	53	-0.03351		0.8	ppb
Ni-KED3	60	-0.00480		297.8	ppb
Ni-KED3	62	-0.00584		175.5	ppb
Cu-KED3	63	-0.00066		93.1	ppb
Cu-KED3	65	-0.00273		114.3	ppb
Zn-KED3	66	0.02117		61.5	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.01148		47.0	ppb
Se-KED2	77	0.07969		72.8	ppb
Se-KED2	78	0.13255		159.6	ppb
[ Se-KED2	82	0.10765		89.8	ppb
[ Mo-KED2	95	0.01961		49.0	ppb
Mo-KED2	97	0.01175		99.9	ppb
Mo-KED2	98	0.01527		14.6	ppb
Cd-KED2	111	0.00154		90.3	ppb
Cd-KED2	112	0.00031		290.9	ppb
Cd-KED2	114	-0.00108		77.9	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00381		110.2	ppb
[ Ag-KED3	109	0.00424		72.2	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01216		14.3	ppb
[ Sb-KED1	123	0.01209		9.9	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00274		16.8	ppb
Tl-KED1	205	0.00158		15.0	ppb
[ Pb-KED1	208	0.00057		68.5	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		95.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		99.2			
[>	Ge-KED2	72		98.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		99.4			
[>	Rh-KED3	103		99.0			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		100.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.1			
	Ti-KED1	203					
	Ti-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB  
 Sample Date/Time: Tuesday, August 19, 2014 16:36:06  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914\CCB.007  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00052		68.2	ppb
[ Cr-KED3	52	-0.00488		25.1	ppb
[ Cr-KED3	53	-0.02195		119.0	ppb
[ Ni-KED3	60	0.00630		286.0	ppb
[ Ni-KED3	62	0.00667		422.0	ppb
[ Cu-KED3	63	-0.00101		60.0	ppb
[ Cu-KED3	65	-0.00338		71.0	ppb
[ Zn-KED3	66	-0.02006		72.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	-0.00865		61.6	ppb
[ Se-KED2	77	0.00500		1568.7	ppb
[ Se-KED2	78	-0.05351		224.1	ppb
[ Se-KED2	82	-0.19128		96.7	ppb
[ Mo-KED2	95	0.00198		110.0	ppb
[ Mo-KED2	97	0.00454		100.8	ppb
[ Mo-KED2	98	0.00262		98.0	ppb
[ Cd-KED2	111	0.00009		2566.0	ppb
[ Cd-KED2	112	0.00181		90.3	ppb
[ Cd-KED2	114	-0.00110		145.1	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.00005		2364.1	ppb
[ Ag-KED3	109	0.00192		145.0	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.00281		14.4	ppb
[ Sb-KED1	123	0.00207		39.6	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.00119		85.3	ppb
[ Tl-KED1	205	0.00075		51.2	ppb
[ Pb-KED1	208	-0.00003		1498.1	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		95.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		98.6			
[>	Ge-KED2	72		97.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		98.2			
[>	Rh-KED3	103		98.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CRA

Sample Date/Time: Tuesday, August 19, 2014 16:40:41

Sample Description:

Autosampler Position: 4

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\CRA.008

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.03910		2.6	ppb
[ Cr-KED3	52	0.39584		0.9	ppb
[ Cr-KED3	53	0.41701		21.4	ppb
[ Ni-KED3	60	0.37792		6.5	ppb
[ Ni-KED3	62	0.37956		18.4	ppb
[ Cu-KED3	63	0.20219		11.3	ppb
[ Cu-KED3	65	0.20641		4.2	ppb
[ Zn-KED3	66	0.97611		7.9	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	0.96501		5.6	ppb
[ Se-KED2	77	1.98136		9.2	ppb
[ Se-KED2	78	1.93655		9.1	ppb
[ Se-KED2	82	2.21893		19.1	ppb
[ Mo-KED2	95	0.09175		16.6	ppb
[ Mo-KED2	97	0.09185		21.7	ppb
[ Mo-KED2	98	0.09095		14.7	ppb
[ Cd-KED2	111	0.04097		23.9	ppb
[ Cd-KED2	112	0.03967		8.4	ppb
[ Cd-KED2	114	0.04137		4.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.04259		6.5	ppb
[ Ag-KED3	109	0.04349		18.8	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.10662		2.2	ppb
[ Sb-KED1	123	0.11608		2.4	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.03722		7.0	ppb
[ Tl-KED1	205	0.03791		6.1	ppb
[ Pb-KED1	208	0.03977		2.7	ppb

Sample ID: CRA

Report Date/Time: Wednesday, August 20, 2014 10:05:10

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				99.6	
[	Be-KED1	9		97.7			
[	Cr-KED3	52		99.0			
	Cr-KED3	53					
	Ni-KED3	60		94.5			
	Ni-KED3	62		94.9			
	Cu-KED3	63		101.1			
	Cu-KED3	65		103.2			
	Zn-KED3	66		97.6			
[>	Ge-KED3	72				98.2	
[>	Ge-KED2	72				98.3	
	As-KED2	75		96.5			
	Se-KED2	77		99.1			
	Se-KED2	78		96.8			
[	Se-KED2	82		110.9			
[	Mo-KED2	95		91.8			
	Mo-KED2	97		91.9			
	Mo-KED2	98		91.0			
	Cd-KED2	111		102.4			
	Cd-KED2	112		99.2			
	Cd-KED2	114		103.4			
[>	In-KED2	115				100.1	
[>	Rh-KED3	103				101.1	
	Ag-KED3	107		106.5			
[	Ag-KED3	109		108.7			
[>	In-KED1	115				99.2	
	Sb-KED1	121		106.6			
[	Sb-KED1	123		116.1			
[>	Lu-KED1	175				99.0	
	Tl-KED1	203		93.1			
	Tl-KED1	205		94.8			
[	Pb-KED1	208		99.4			

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409601-01

Sample Date/Time: Tuesday, August 19, 2014 16:45:15

Sample Description:

Autosampler Position: 101

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\KQ1409601-01.009

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00271		241.8	ppb
[ Cr-KED3	52	-0.00074		863.2	ppb
Cr-KED3	53	-0.03373		49.7	ppb
Ni-KED3	60	0.00153		843.4	ppb
Ni-KED3	62	-0.02412		42.9	ppb
Cu-KED3	63	0.01617		25.0	ppb
Cu-KED3	65	0.01952		30.5	ppb
Zn-KED3	66	0.04017		19.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	0.03263		41.5	ppb
Se-KED2	77	0.05622		84.5	ppb
Se-KED2	78	0.21469		38.5	ppb
[ Se-KED2	82	0.07073		200.0	ppb
[ Mo-KED2	95	0.00428		79.6	ppb
Mo-KED2	97	0.00368		84.5	ppb
Mo-KED2	98	0.00074		249.2	ppb
Cd-KED2	111	-0.00054		123.2	ppb
Cd-KED2	112	0.00076		225.3	ppb
Cd-KED2	114	0.00006		2295.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	-0.00123		92.1	ppb
[ Ag-KED3	109	-0.00209		95.0	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.00620		136.4	ppb
[ Sb-KED1	123	0.00661		181.8	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00485		170.4	ppb
Tl-KED1	205	0.00553		148.3	ppb
[ Pb-KED1	208	0.00526		130.7	ppb

Sample ID: KQ1409601-01

Report Date/Time: Wednesday, August 20, 2014 10:05:14

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		96.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		101.1			
[>	Ge-KED2	72		96.1			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		98.9			
[>	Rh-KED3	103		99.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-001

Sample Date/Time: Tuesday, August 19, 2014 16:49:50

Sample Description:

Autosampler Position: 102

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-001.010

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.01184		13.6	ppb
[ Cr-KED3	52	2.70997		7.4	ppb
[ Cr-KED3	53	2.80653		14.9	ppb
[ Ni-KED3	60	4.96981		4.7	ppb
[ Ni-KED3	62	4.95724		8.0	ppb
[ Cu-KED3	63	54.91338		3.4	ppb
[ Cu-KED3	65	55.47167		3.1	ppb
[ Zn-KED3	66	225.20138		3.0	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	48.19471		0.6	ppb
[ Se-KED2	77	5.94883		14.3	ppb
[ Se-KED2	78	4.91001		1.9	ppb
[ Se-KED2	82	5.97259		7.1	ppb
[ Mo-KED2	95	5.12504		3.1	ppb
[ Mo-KED2	97	5.14822		3.5	ppb
[ Mo-KED2	98	5.21081		2.4	ppb
[ Cd-KED2	111	0.51110		2.4	ppb
[ Cd-KED2	112	0.49385		5.8	ppb
[ Cd-KED2	114	0.50322		5.1	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.45357		6.4	ppb
[ Ag-KED3	109	0.50901		4.9	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.16001		0.5	ppb
[ Sb-KED1	123	0.16581		4.5	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.00602		20.5	ppb
[ Tl-KED1	205	0.00592		11.5	ppb
[ Pb-KED1	208	1.18775		4.0	ppb

Sample ID: K1407970-001

Report Date/Time: Wednesday, August 20, 2014 10:05:18

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		97.0			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.2			
[>	Ge-KED2	72		92.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.4			
[>	Rh-KED3	103		91.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		98.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.4			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-002

Sample Date/Time: Tuesday, August 19, 2014 16:54:24

Sample Description:

Autosampler Position: 103

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-002.011

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00635		51.1	ppb
[ Cr-KED3	52	1.02894		3.7	ppb
[ Cr-KED3	53	1.24225		11.4	ppb
[ Ni-KED3	60	1.93903		6.4	ppb
[ Ni-KED3	62	1.85799		11.4	ppb
[ Cu-KED3	63	24.61631		2.1	ppb
[ Cu-KED3	65	24.81053		1.4	ppb
[ Zn-KED3	66	86.69352		2.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	18.53221		2.8	ppb
[ Se-KED2	77	2.39454		1.5	ppb
[ Se-KED2	78	2.02978		4.6	ppb
[ Se-KED2	82	2.36213		20.1	ppb
[ Mo-KED2	95	1.78562		3.8	ppb
[ Mo-KED2	97	1.78106		2.7	ppb
[ Mo-KED2	98	1.76844		2.1	ppb
[ Cd-KED2	111	0.18225		1.5	ppb
[ Cd-KED2	112	0.16409		4.4	ppb
[ Cd-KED2	114	0.17123		4.9	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.20685		6.5	ppb
[ Ag-KED3	109	0.21815		3.2	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.05991		2.4	ppb
[ Sb-KED1	123	0.06059		4.3	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.00295		37.4	ppb
[ Tl-KED1	205	0.00275		32.7	ppb
[ Pb-KED1	208	0.48996		3.2	ppb

Sample ID: K1407970-002

Report Date/Time: Wednesday, August 20, 2014 10:05:21

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		99.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		95.5			
[>	Ge-KED2	72		93.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		92.9			
[>	Rh-KED3	103		90.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		95.9			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-003

Sample Date/Time: Tuesday, August 19, 2014 16:58:59

Sample Description:

Autosampler Position: 104

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914BK\K1407970-003.012

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.01190	33.1	ppb
[ Cr-KED3	52	2.42407	0.4	ppb
[ Cr-KED3	53	2.52310	9.9	ppb
[ Ni-KED3	60	4.41286	2.4	ppb
[ Ni-KED3	62	4.47321	9.6	ppb
[ Cu-KED3	63	52.96821	1.1	ppb
[ Cu-KED3	65	52.83263	2.5	ppb
[ Zn-KED3	66	222.63890	2.3	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	45.28596	1.3	ppb
[ Se-KED2	77	6.62229	9.0	ppb
[ Se-KED2	78	4.95446	5.3	ppb
[ Se-KED2	82	5.75283	8.5	ppb
[ Mo-KED2	95	5.53136	4.7	ppb
[ Mo-KED2	97	5.50339	1.6	ppb
[ Mo-KED2	98	5.64005	2.0	ppb
[ Cd-KED2	111	0.47190	3.7	ppb
[ Cd-KED2	112	0.46366	0.8	ppb
[ Cd-KED2	114	0.47498	3.2	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.50259	1.0	ppb
[ Ag-KED3	109	0.49045	4.1	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.17482	5.0	ppb
[ Sb-KED1	123	0.18125	3.6	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.00832	1.4	ppb
[ Ti-KED1	205	0.00741	15.5	ppb
[ Pb-KED1	208	1.15242	2.1	ppb

Sample ID: K1407970-003

Report Date/Time: Wednesday, August 20, 2014 10:05:24

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		90.6			
[>	Ge-KED2	72		91.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.0			
[>	Rh-KED3	103		88.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		96.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.9			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-004

Sample Date/Time: Tuesday, August 19, 2014 17:03:33

Sample Description:

Autosampler Position: 105

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-004.013

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.08703		9.5	ppb
[ Cr-KED3	52	6.57409		5.4	ppb
[ Cr-KED3	53	7.57965		1.8	ppb
[ Ni-KED3	60	7.74316		6.0	ppb
[ Ni-KED3	62	8.19815		7.4	ppb
[ Cu-KED3	63	35.42361		2.4	ppb
[ Cu-KED3	65	35.46140		2.2	ppb
[ Zn-KED3	66	233.25913		1.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	53.24803		1.2	ppb
[ Se-KED2	77	7.04647		5.9	ppb
[ Se-KED2	78	5.27960		2.7	ppb
[ Se-KED2	82	6.74726		8.2	ppb
[ Mo-KED2	95	6.58245		6.5	ppb
[ Mo-KED2	97	6.59898		3.0	ppb
[ Mo-KED2	98	6.70821		2.6	ppb
[ Cd-KED2	111	0.60359		2.1	ppb
[ Cd-KED2	112	0.60499		1.9	ppb
[ Cd-KED2	114	0.60998		1.2	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.39010		2.9	ppb
[ Ag-KED3	109	0.42886		8.0	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.21417		1.3	ppb
[ Sb-KED1	123	0.21200		1.2	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.05625		7.1	ppb
[ Ti-KED1	205	0.05416		6.5	ppb
[ Pb-KED1	208	2.50218		0.8	ppb

Sample ID: K1407970-004

Report Date/Time: Wednesday, August 20, 2014 10:05:28

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		104.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.7			
[>	Ge-KED2	72		92.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.9			
[>	Rh-KED3	103		90.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		97.9			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.6			
	Ti-KED1	203					
	Ti-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-005

Sample Date/Time: Tuesday, August 19, 2014 17:08:08

Sample Description:

Autosampler Position: 106

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-005.014

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.10767		11.1	ppb
[ Cr-KED3	52	7.29027		2.6	ppb
[ Cr-KED3	53	7.44952		1.2	ppb
[ Ni-KED3	60	6.41775		3.7	ppb
[ Ni-KED3	62	6.59431		9.2	ppb
[ Cu-KED3	63	49.08326		1.6	ppb
[ Cu-KED3	65	49.00394		1.9	ppb
[ Zn-KED3	66	205.24008		1.4	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	49.07713		2.0	ppb
[ Se-KED2	77	7.23971		8.9	ppb
[ Se-KED2	78	5.31993		4.0	ppb
[ Se-KED2	82	6.55442		3.0	ppb
[ Mo-KED2	95	5.75565		0.2	ppb
[ Mo-KED2	97	5.60436		4.1	ppb
[ Mo-KED2	98	5.84491		3.7	ppb
[ Cd-KED2	111	0.45503		4.9	ppb
[ Cd-KED2	112	0.42753		5.6	ppb
[ Cd-KED2	114	0.43224		2.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.44470		3.8	ppb
[ Ag-KED3	109	0.45274		5.1	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.15350		1.1	ppb
[ Sb-KED1	123	0.14501		3.7	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.04782		9.5	ppb
[ Tl-KED1	205	0.05030		8.8	ppb
[ Pb-KED1	208	4.48405		2.7	ppb

Sample ID: K1407970-005

Report Date/Time: Wednesday, August 20, 2014 10:05:31

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.9			
[>	Ge-KED2	72		92.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.1			
[>	Rh-KED3	103		90.8			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		97.5			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-006

Sample Date/Time: Tuesday, August 19, 2014 17:12:42

Sample Description:

Autosampler Position: 107

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-006.015

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.08499		7.0	ppb
[ Cr-KED3	52	6.94299		4.8	ppb
Cr-KED3	53	7.17318		5.4	ppb
Ni-KED3	60	6.41885		2.0	ppb
Ni-KED3	62	6.26270		2.1	ppb
Cu-KED3	63	49.74613		1.1	ppb
Cu-KED3	65	49.70243		0.6	ppb
Zn-KED3	66	224.24044		0.5	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	51.53531		0.3	ppb
Se-KED2	77	7.53307		9.9	ppb
Se-KED2	78	5.30812		2.7	ppb
[ Se-KED2	82	7.10225		5.7	ppb
[ Mo-KED2	95	5.92917		1.8	ppb
Mo-KED2	97	6.11305		2.3	ppb
Mo-KED2	98	6.03606		0.5	ppb
Cd-KED2	111	0.45709		2.7	ppb
Cd-KED2	112	0.45450		1.3	ppb
Cd-KED2	114	0.44889		3.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.42513		2.3	ppb
[ Ag-KED3	109	0.42604		3.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.15626		1.9	ppb
[ Sb-KED1	123	0.15254		3.6	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.04268		5.9	ppb
Tl-KED1	205	0.04450		3.5	ppb
[ Pb-KED1	208	2.16158		3.5	ppb

Sample ID: K1407970-006

Report Date/Time: Wednesday, August 20, 2014 10:05:34

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.3			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.8			
[>	Ge-KED2	72		93.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.0			
[>	Rh-KED3	103		92.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.6			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-007

Sample Date/Time: Tuesday, August 19, 2014 17:17:17

Sample Description:

Autosampler Position: 108

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-007.016

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.13223		4.1	ppb
[ Cr-KED3	52	10.09634		2.7	ppb
Cr-KED3	53	10.84968		9.1	ppb
Ni-KED3	60	8.32436		3.4	ppb
Ni-KED3	62	8.29218		4.2	ppb
Cu-KED3	63	49.23550		1.3	ppb
Cu-KED3	65	48.92092		1.9	ppb
Zn-KED3	66	241.26201		1.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	50.23856		3.1	ppb
Se-KED2	77	8.06473		4.4	ppb
Se-KED2	78	5.66326		4.1	ppb
Se-KED2	82	7.47727		6.9	ppb
[ Mo-KED2	95	6.23425		4.3	ppb
Mo-KED2	97	6.05649		4.3	ppb
Mo-KED2	98	6.27263		0.2	ppb
Cd-KED2	111	0.66951		4.7	ppb
Cd-KED2	112	0.68428		3.5	ppb
Cd-KED2	114	0.66005		1.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.51730		0.8	ppb
[ Ag-KED3	109	0.51245		4.3	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.15795		4.3	ppb
[ Sb-KED1	123	0.16694		8.0	ppb
[> Lu-KED1	175				ppb
Ti-KED1	203	0.06552		7.4	ppb
Ti-KED1	205	0.06568		6.0	ppb
[ Pb-KED1	208	5.73753		3.6	ppb

Sample ID: K1407970-007

Report Date/Time: Wednesday, August 20, 2014 10:05:38

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.2			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.6			
[>	Ge-KED2	72		92.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.1			
[>	Rh-KED3	103		91.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		103.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 17:21:53  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCV.017  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	24.63862		2.1	ppb
[ Cr-KED3	52	24.76562		2.0	ppb
Cr-KED3	53	25.02732		3.5	ppb
Ni-KED3	60	24.49907		2.2	ppb
Ni-KED3	62	23.91289		2.2	ppb
Cu-KED3	63	25.00742		0.1	ppb
Cu-KED3	65	25.18618		1.1	ppb
Zn-KED3	66	25.97730		0.8	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	25.63927		3.4	ppb
Se-KED2	77	26.69795		3.3	ppb
Se-KED2	78	25.58615		1.4	ppb
[ Se-KED2	82	26.56147		5.1	ppb
[ Mo-KED2	95	25.63090		2.8	ppb
Mo-KED2	97	25.88002		1.6	ppb
Mo-KED2	98	26.06349		1.4	ppb
Cd-KED2	111	26.05157		2.7	ppb
Cd-KED2	112	25.74987		3.2	ppb
Cd-KED2	114	25.75642		4.5	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	25.29727		0.6	ppb
[ Ag-KED3	109	26.04486		1.2	ppb
[> In-KED1	115				ppb
Sb-KED1	121	24.20812		1.1	ppb
[ Sb-KED1	123	24.81031		1.3	ppb
[> Lu-KED1	175				ppb
Ti-KED1	203	24.25166		1.9	ppb
Ti-KED1	205	23.83234		2.1	ppb
[ Pb-KED1	208	23.85506		1.5	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				104.1	
[	Be-KED1	9	98.6				
[	Cr-KED3	52	99.1				
	Cr-KED3	53					
	Ni-KED3	60	98.0				
	Ni-KED3	62	95.7				
	Cu-KED3	63	100.0				
	Cu-KED3	65	100.7				
	Zn-KED3	66	103.9				
[>	Ge-KED3	72				97.2	
[>	Ge-KED2	72				96.9	
	As-KED2	75	102.6				
	Se-KED2	77	106.8				
	Se-KED2	78	102.3				
[	Se-KED2	82	106.2				
[	Mo-KED2	95	102.5				
	Mo-KED2	97	103.5				
	Mo-KED2	98	104.3				
	Cd-KED2	111	104.2				
	Cd-KED2	112	103.0				
	Cd-KED2	114	103.0				
[>	In-KED2	115				98.9	
[>	Rh-KED3	103				99.3	
	Ag-KED3	107	101.2				
[	Ag-KED3	109	104.2				
[>	In-KED1	115				107.9	
	Sb-KED1	121	96.8				
[	Sb-KED1	123	99.2				
[>	Lu-KED1	175				102.2	
	Ti-KED1	203	97.0				
	Ti-KED1	205	95.3				
[	Pb-KED1	208	95.4				

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB

Sample Date/Time: Tuesday, August 19, 2014 17:26:27

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914\CCB.018

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00068		96.7	ppb
[ Cr-KED3	52	0.00014	3196.5		ppb
Cr-KED3	53	-0.03904		25.4	ppb
Ni-KED3	60	-0.01623		52.4	ppb
Ni-KED3	62	0.00080	4009.3		ppb
Cu-KED3	63	0.00248		25.2	ppb
Cu-KED3	65	0.00082		298.4	ppb
Zn-KED3	66	0.02223		68.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.00638		28.8	ppb
Se-KED2	77	0.14694		107.4	ppb
Se-KED2	78	0.04957		189.1	ppb
[ Se-KED2	82	0.08998		246.9	ppb
[ Mo-KED2	95	0.01492		37.8	ppb
Mo-KED2	97	0.01537		28.4	ppb
Mo-KED2	98	0.01483		36.1	ppb
Cd-KED2	111	-0.00057		230.7	ppb
Cd-KED2	112	-0.00034		325.7	ppb
Cd-KED2	114	-0.00017		554.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00195		116.5	ppb
[ Ag-KED3	109	0.00154		81.8	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01141		17.8	ppb
[ Sb-KED1	123	0.01266		29.7	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00014		308.2	ppb
Tl-KED1	205	0.00038		121.4	ppb
[ Pb-KED1	208	0.00050		101.0	ppb

Sample ID: CCB

Report Date/Time: Wednesday, August 20, 2014 10:05:44

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.3			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		98.2			
[>	Ge-KED2	72		96.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		99.3			
[>	Rh-KED3	103		95.8			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.6			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-008

Sample Date/Time: Tuesday, August 19, 2014 17:31:03

Sample Description:

Autosampler Position: 109

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-008.019

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.06929		2.7	ppb
[ Cr-KED3	52	5.32296		2.2	ppb
[ Cr-KED3	53	5.76748		2.0	ppb
[ Ni-KED3	60	5.77776		1.6	ppb
[ Ni-KED3	62	5.91543		1.4	ppb
[ Cu-KED3	63	39.38467		2.1	ppb
[ Cu-KED3	65	39.22834		2.2	ppb
[ Zn-KED3	66	200.53365		0.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	49.70861		0.2	ppb
[ Se-KED2	77	6.32602		6.3	ppb
[ Se-KED2	78	5.25255		3.4	ppb
[ Se-KED2	82	6.82849		9.7	ppb
[ Mo-KED2	95	5.91206		3.5	ppb
[ Mo-KED2	97	5.88005		3.2	ppb
[ Mo-KED2	98	6.05461		1.7	ppb
[ Cd-KED2	111	0.51056		6.1	ppb
[ Cd-KED2	112	0.52517		5.9	ppb
[ Cd-KED2	114	0.50772		7.4	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.45671		4.2	ppb
[ Ag-KED3	109	0.45950		0.4	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.17724		0.6	ppb
[ Sb-KED1	123	0.17417		3.9	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.03800		9.4	ppb
[ Ti-KED1	205	0.03646		7.2	ppb
[ Pb-KED1	208	2.21967		1.9	ppb

Sample ID: K1407970-008

Report Date/Time: Wednesday, August 20, 2014 10:05:48

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		104.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.8			
[>	Ge-KED2	72		94.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.4			
[>	Rh-KED3	103		93.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-009

Sample Date/Time: Tuesday, August 19, 2014 17:35:38

Sample Description:

Autosampler Position: 110

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-009.020

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.07951		4.0	ppb
[ Cr-KED3	52	9.56039		1.8	ppb
[ Cr-KED3	53	9.26874		3.3	ppb
[ Ni-KED3	60	6.35056		1.3	ppb
[ Ni-KED3	62	6.39576		5.2	ppb
[ Cu-KED3	63	51.42443		3.1	ppb
[ Cu-KED3	65	50.67789		1.5	ppb
[ Zn-KED3	66	200.09432		0.9	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	56.47597		2.2	ppb
[ Se-KED2	77	6.11545		9.1	ppb
[ Se-KED2	78	5.10721		9.7	ppb
[ Se-KED2	82	6.44011		12.6	ppb
[ Mo-KED2	95	6.15640		2.0	ppb
[ Mo-KED2	97	6.05469		3.1	ppb
[ Mo-KED2	98	6.07363		2.5	ppb
[ Cd-KED2	111	0.42775		0.5	ppb
[ Cd-KED2	112	0.43009		3.8	ppb
[ Cd-KED2	114	0.42238		1.0	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.55263		1.8	ppb
[ Ag-KED3	109	0.56013		1.4	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.10419		6.5	ppb
[ Sb-KED1	123	0.11190		7.1	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.02209		9.1	ppb
[ Tl-KED1	205	0.01997		3.4	ppb
[ Pb-KED1	208	2.53291		2.0	ppb

Sample ID: K1407970-009

Report Date/Time: Wednesday, August 20, 2014 10:05:51

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.2			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.0			
[>	Ge-KED2	72		93.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.7			
[>	Rh-KED3	103		91.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.9			
	Ti-KED1	203					
	Ti-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-010  
 Sample Date/Time: Tuesday, August 19, 2014 17:40:12  
 Sample Description:  
 Autosampler Position: 111  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407970-010.021  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.08159	4.5	ppb
[ Cr-KED3	52	7.68675	3.5	ppb
[ Cr-KED3	53	7.44288	3.2	ppb
[ Ni-KED3	60	5.78343	3.2	ppb
[ Ni-KED3	62	5.40475	8.6	ppb
[ Cu-KED3	63	44.10147	1.5	ppb
[ Cu-KED3	65	45.11235	3.4	ppb
[ Zn-KED3	66	204.88920	3.5	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	46.30081	2.6	ppb
[ Se-KED2	77	6.38968	3.0	ppb
[ Se-KED2	78	5.49108	2.2	ppb
[ Se-KED2	82	7.47201	0.4	ppb
[ Mo-KED2	95	6.40083	3.6	ppb
[ Mo-KED2	97	6.25310	1.0	ppb
[ Mo-KED2	98	6.55549	0.3	ppb
[ Cd-KED2	111	0.54492	3.1	ppb
[ Cd-KED2	112	0.53774	1.0	ppb
[ Cd-KED2	114	0.53391	1.7	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.57017	3.5	ppb
[ Ag-KED3	109	0.56134	8.1	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.13308	11.3	ppb
[ Sb-KED1	123	0.13683	4.8	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.02249	9.8	ppb
[ Ti-KED1	205	0.02320	11.3	ppb
[ Pb-KED1	208	2.98421	0.6	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6					
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72				92.9	
[>	Ge-KED2	72				93.3	
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115				95.8	
[>	Rh-KED3	103				93.2	
	Ag-KED3	107					
	Ag-KED3	109					
[>	In-KED1	115				101.4	
	Sb-KED1	121					
	Sb-KED1	123					
[>	Lu-KED1	175				103.7	
	Tl-KED1	203					
	Tl-KED1	205					
	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-010D

Sample Date/Time: Tuesday, August 19, 2014 17:44:47

Sample Description:

Autosampler Position: 112

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-010D.022

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.06462	6.9	ppb
[ Cr-KED3	52	6.61444	2.1	ppb
Cr-KED3	53	7.00429	2.7	ppb
Ni-KED3	60	5.10201	2.2	ppb
Ni-KED3	62	5.05006	13.2	ppb
Cu-KED3	63	42.73238	2.0	ppb
Cu-KED3	65	42.51807	1.3	ppb
Zn-KED3	66	188.77058	0.3	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	42.58638	1.4	ppb
Se-KED2	77	5.63932	2.4	ppb
Se-KED2	78	4.76063	8.9	ppb
[ Se-KED2	82	5.88318	19.9	ppb
[ Mo-KED2	95	5.74592	4.4	ppb
Mo-KED2	97	5.75793	5.0	ppb
Mo-KED2	98	5.93558	3.3	ppb
Cd-KED2	111	0.50847	2.2	ppb
Cd-KED2	112	0.48555	3.9	ppb
Cd-KED2	114	0.50061	3.6	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	0.68275	3.2	ppb
[ Ag-KED3	109	0.69839	5.7	ppb
[> In-KED1	115			ppb
Sb-KED1	121	0.12599	3.6	ppb
[ Sb-KED1	123	0.12936	8.4	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	0.01960	9.1	ppb
Tl-KED1	205	0.02022	8.7	ppb
[ Pb-KED1	208	2.69156	1.1	ppb

Sample ID: K1407970-010D

Report Date/Time: Wednesday, August 20, 2014 10:05:59

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		110.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.9			
[>	Ge-KED2	72		95.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.2			
[>	Rh-KED3	103		93.8			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.5			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-010S

Sample Date/Time: Tuesday, August 19, 2014 17:49:21

Sample Description:

Autosampler Position: 113

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-010S.023

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	10.07964	0.5	ppb
[ Cr-KED3	52	47.36127	3.1	ppb
[ Cr-KED3	53	48.06656	1.8	ppb
[ Ni-KED3	60	101.45588	2.1	ppb
[ Ni-KED3	62	101.90852	3.5	ppb
[ Cu-KED3	63	93.18711	2.3	ppb
[ Cu-KED3	65	93.88222	2.5	ppb
[ Zn-KED3	66	302.82342	0.9	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	82.39811	0.8	ppb
[ Se-KED2	77	44.49830	2.5	ppb
[ Se-KED2	78	41.24507	4.1	ppb
[ Se-KED2	82	42.39437	1.3	ppb
[ Mo-KED2	95	40.37693	2.2	ppb
[ Mo-KED2	97	39.97329	2.5	ppb
[ Mo-KED2	98	40.68017	1.5	ppb
[ Cd-KED2	111	10.79404	2.4	ppb
[ Cd-KED2	112	10.80439	2.9	ppb
[ Cd-KED2	114	10.61118	2.3	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	5.79539	0.6	ppb
[ Ag-KED3	109	5.94351	1.6	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	64.52922	2.4	ppb
[ Sb-KED1	123	63.83907	4.3	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	28.92721	2.4	ppb
[ Ti-KED1	205	28.95471	2.5	ppb
[ Pb-KED1	208	90.75024	1.9	ppb

Sample ID: K1407970-010S

Report Date/Time: Wednesday, August 20, 2014 10:06:04

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		109.1			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		95.5			
[>	Ge-KED2	72		93.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.9			
[>	Rh-KED3	103		93.0			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		103.1			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409601-02

Sample Date/Time: Tuesday, August 19, 2014 17:53:56

Sample Description:

Autosampler Position: 114

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\KQ1409601-02.024

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	9.85024	0.8	ppb
[ Cr-KED3	52	39.25003	3.4	ppb
[ Cr-KED3	53	39.06886	2.0	ppb
[ Ni-KED3	60	94.68540	2.2	ppb
[ Ni-KED3	62	93.60642	1.5	ppb
[ Cu-KED3	63	50.68796	2.0	ppb
[ Cu-KED3	65	50.39818	1.5	ppb
[ Zn-KED3	66	100.80502	2.3	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	33.08190	1.5	ppb
[ Se-KED2	77	34.11334	4.3	ppb
[ Se-KED2	78	32.49776	3.1	ppb
[ Se-KED2	82	33.76590	1.9	ppb
[ Mo-KED2	95	31.70949	0.6	ppb
[ Mo-KED2	97	31.70378	2.2	ppb
[ Mo-KED2	98	32.24721	2.3	ppb
[ Cd-KED2	111	10.24518	1.9	ppb
[ Cd-KED2	112	10.14622	1.2	ppb
[ Cd-KED2	114	10.02656	1.5	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	10.32344	2.4	ppb
[ Ag-KED3	109	10.28916	1.0	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	98.14147	3.3	ppb
[ Sb-KED1	123	98.92126	3.2	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	30.98344	2.0	ppb
[ Ti-KED1	205	30.49833	1.6	ppb
[ Pb-KED1	208	95.63117	1.9	ppb

Sample ID: KQ1409601-02

Report Date/Time: Wednesday, August 20, 2014 10:06:08

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		102.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		98.5			
[>	Ge-KED2	72		97.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		100.7			
[>	Rh-KED3	103		98.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		108.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.7			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409601-03

Sample Date/Time: Tuesday, August 19, 2014 17:58:30

Sample Description:

Autosampler Position: 115

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\KQ1409601-03.025

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.03399	16.5	ppb
[ Cr-KED3	52	3.20545	4.3	ppb
[ Cr-KED3	53	3.10290	2.3	ppb
[ Ni-KED3	60	2.46520	5.3	ppb
[ Ni-KED3	62	2.37281	8.4	ppb
[ Cu-KED3	63	29.73654	0.3	ppb
[ Cu-KED3	65	29.41442	1.0	ppb
[ Zn-KED3	66	104.73339	1.5	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	14.05845	1.4	ppb
[ Se-KED2	77	9.13264	7.3	ppb
[ Se-KED2	78	7.96284	3.1	ppb
[ Se-KED2	82	8.23724	8.5	ppb
[ Mo-KED2	95	0.54208	8.7	ppb
[ Mo-KED2	97	0.57214	1.9	ppb
[ Mo-KED2	98	0.55856	4.2	ppb
[ Cd-KED2	111	0.64118	1.2	ppb
[ Cd-KED2	112	0.62627	6.6	ppb
[ Cd-KED2	114	0.63951	3.4	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.05691	4.9	ppb
[ Ag-KED3	109	0.05516	10.5	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.01026	16.3	ppb
[ Sb-KED1	123	0.01302	20.9	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.01842	6.8	ppb
[ Ti-KED1	205	0.01997	1.2	ppb
[ Pb-KED1	208	0.49930	1.7	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		106.8			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		96.6			
[>	Ge-KED2	72		96.1			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		97.2			
[>	Rh-KED3	103		96.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		104.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409601-04

Sample Date/Time: Tuesday, August 19, 2014 18:03:05

Sample Description:

Autosampler Position: 116

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\KQ1409601-04.026

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
> Li-KED1	6			ppb
[ Be-KED1	9	0.02140	9.9	ppb
+ Cr-KED3	52	3.44909	4.1	ppb
Cr-KED3	53	3.42826	3.2	ppb
+ Ni-KED3	60	9.51711	1.5	ppb
Ni-KED3	62	11.19590	5.1	ppb
Cu-KED3	63	866.46630	1.3	ppb
+ Cu-KED3	65	871.89246	0.7	ppb
+ Zn-KED3	66	263.72637	1.7	ppb
> Ge-KED3	72			ppb
> Ge-KED2	72			ppb
+ As-KED2	75	132.82744	0.3	ppb
Se-KED2	77	24.80711	8.1	ppb
Se-KED2	78	22.00011	3.1	ppb
Se-KED2	82	24.77517	4.3	ppb
Mo-KED2	95	6.56747	3.9	ppb
Mo-KED2	97	6.57357	3.7	ppb
+ Mo-KED2	98	6.70704	1.9	ppb
+ Cd-KED2	111	82.49589	0.7	ppb
Cd-KED2	112	81.26976	1.1	ppb
Cd-KED2	114	80.92601	1.8	ppb
> In-KED2	115			ppb
> Rh-KED3	103			ppb
Ag-KED3	107	3.64727	1.0	ppb
Ag-KED3	109	3.70859	1.5	ppb
> In-KED1	115			ppb
Sb-KED1	121	0.10837	6.9	ppb
Sb-KED1	123	0.11212	3.2	ppb
> Lu-KED1	175			ppb
Tl-KED1	203	0.01979	7.6	ppb
Tl-KED1	205	0.01885	3.4	ppb
+ Pb-KED1	208	0.35885	2.6	ppb

Sample ID: KQ1409601-04

Report Date/Time: Wednesday, August 20, 2014 10:06:15

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		97.2			
[>	Ge-KED2	72		96.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		98.1			
[>	Rh-KED3	103		96.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		106.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-011

Sample Date/Time: Tuesday, August 19, 2014 18:07:39

Sample Description:

Autosampler Position: 117

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-011.027

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.08539	11.1	ppb
[ Cr-KED3	52	6.30470	4.3	ppb
[ Cr-KED3	53	7.19079	5.3	ppb
[ Ni-KED3	60	5.72157	1.3	ppb
[ Ni-KED3	62	5.70289	3.9	ppb
[ Cu-KED3	63	56.99841	2.9	ppb
[ Cu-KED3	65	57.26652	4.0	ppb
[ Zn-KED3	66	204.78944	4.6	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	55.08463	3.3	ppb
[ Se-KED2	77	6.49908	5.9	ppb
[ Se-KED2	78	5.73109	5.7	ppb
[ Se-KED2	82	6.50233	5.4	ppb
[ Mo-KED2	95	5.67049	3.6	ppb
[ Mo-KED2	97	5.78132	4.1	ppb
[ Mo-KED2	98	5.85722	1.9	ppb
[ Cd-KED2	111	0.46447	2.1	ppb
[ Cd-KED2	112	0.45961	3.0	ppb
[ Cd-KED2	114	0.43452	5.7	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.56689	4.8	ppb
[ Ag-KED3	109	0.60212	5.6	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.12478	6.2	ppb
[ Sb-KED1	123	0.12169	4.0	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.02289	11.2	ppb
[ Ti-KED1	205	0.02029	4.7	ppb
[ Pb-KED1	208	2.79793	2.6	ppb

Sample ID: K1407970-011

Report Date/Time: Wednesday, August 20, 2014 10:06:20

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		111.5			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		97.4			
[>	Ge-KED2	72		95.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.3			
[>	Rh-KED3	103		94.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		105.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		103.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-012

Sample Date/Time: Tuesday, August 19, 2014 18:12:14

Sample Description:

Autosampler Position: 118

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-012.028

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.05423	4.8	ppb
[ Cr-KED3	52	8.00944	1.6	ppb
[ Cr-KED3	53	8.55827	6.3	ppb
[ Ni-KED3	60	6.28302	2.2	ppb
[ Ni-KED3	62	6.67862	8.7	ppb
[ Cu-KED3	63	73.45769	1.9	ppb
[ Cu-KED3	65	73.53647	2.2	ppb
[ Zn-KED3	66	204.42561	2.0	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	57.54830	1.2	ppb
[ Se-KED2	77	6.94531	3.5	ppb
[ Se-KED2	78	5.03476	4.7	ppb
[ Se-KED2	82	7.29591	2.8	ppb
[ Mo-KED2	95	6.00480	3.6	ppb
[ Mo-KED2	97	6.00266	2.0	ppb
[ Mo-KED2	98	6.34714	1.6	ppb
[ Cd-KED2	111	0.41682	3.4	ppb
[ Cd-KED2	112	0.40846	4.6	ppb
[ Cd-KED2	114	0.41084	6.8	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.62862	4.9	ppb
[ Ag-KED3	109	0.64389	4.5	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.12880	2.7	ppb
[ Sb-KED1	123	0.13606	1.5	ppb
[> Lu-KED1	175			ppb
[ Tl-KED1	203	0.01440	2.9	ppb
[ Tl-KED1	205	0.01480	6.9	ppb
[ Pb-KED1	208	2.11785	2.8	ppb

Sample ID: K1407970-012

Report Date/Time: Wednesday, August 20, 2014 10:06:23

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		111.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.3			
[>	Ge-KED2	72		93.7			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.0			
[>	Rh-KED3	103		92.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.6			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		103.4			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 18:16:50  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCV.029  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	24.38768	3.2	ppb
[ Cr-KED3	52	24.42210	1.4	ppb
Cr-KED3	53	23.82977	0.3	ppb
Ni-KED3	60	24.04967	3.5	ppb
Ni-KED3	62	24.53874	4.2	ppb
Cu-KED3	63	24.60644	1.9	ppb
Cu-KED3	65	24.81100	1.0	ppb
Zn-KED3	66	24.77927	3.2	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	25.12070	2.5	ppb
Se-KED2	77	25.08471	3.1	ppb
Se-KED2	78	23.73386	5.0	ppb
[ Se-KED2	82	24.82287	5.9	ppb
[ Mo-KED2	95	25.05465	2.4	ppb
Mo-KED2	97	24.81489	1.4	ppb
Mo-KED2	98	25.03919	1.5	ppb
Cd-KED2	111	25.81550	1.5	ppb
Cd-KED2	112	25.22401	1.1	ppb
Cd-KED2	114	25.23512	2.8	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	25.65448	4.4	ppb
[ Ag-KED3	109	25.85070	5.1	ppb
[> In-KED1	115			ppb
Sb-KED1	121	24.03542	1.2	ppb
[ Sb-KED1	123	25.01038	1.7	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	24.13682	2.4	ppb
Tl-KED1	205	23.58017	3.1	ppb
[ Pb-KED1	208	23.62812	2.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				106.8	
[	Be-KED1	9		97.6			
[	Cr-KED3	52		97.7			
	Cr-KED3	53					
	Ni-KED3	60		96.2			
	Ni-KED3	62		98.2			
	Cu-KED3	63		98.4			
	Cu-KED3	65		99.2			
	Zn-KED3	66		99.1			
[>	Ge-KED3	72				96.9	
[>	Ge-KED2	72				97.2	
	As-KED2	75	100.5				
	Se-KED2	77	100.3				
	Se-KED2	78	94.9				
[	Se-KED2	82	99.3				
[	Mo-KED2	95	100.2				
	Mo-KED2	97	99.3				
	Mo-KED2	98	100.2				
	Cd-KED2	111	103.3				
	Cd-KED2	112	100.9				
	Cd-KED2	114	100.9				
[>	In-KED2	115				99.1	
[>	Rh-KED3	103				96.8	
	Ag-KED3	107	102.6				
[	Ag-KED3	109	103.4				
[>	In-KED1	115				109.0	
	Sb-KED1	121	96.1				
[	Sb-KED1	123	100.0				
[>	Lu-KED1	175				103.0	
	Tl-KED1	203	96.5				
	Tl-KED1	205	94.3				
[	Pb-KED1	208	94.5				

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB  
 Sample Date/Time: Tuesday, August 19, 2014 18:21:25  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCB.030  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00049		237.9	ppb
[ Cr-KED3	52	-0.00048		524.9	ppb
Cr-KED3	53	-0.02126		47.9	ppb
Ni-KED3	60	-0.02602		6.8	ppb
Ni-KED3	62	-0.01106		97.1	ppb
Cu-KED3	63	0.00258		46.2	ppb
Cu-KED3	65	-0.00045		279.3	ppb
Zn-KED3	66	0.59579		7.9	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.00486		136.3	ppb
Se-KED2	77	0.07569		136.8	ppb
Se-KED2	78	-0.01250		926.2	ppb
[ Se-KED2	82	0.04316		747.1	ppb
[ Mo-KED2	95	0.02040		23.2	ppb
Mo-KED2	97	0.01283		48.8	ppb
Mo-KED2	98	0.01182		26.5	ppb
Cd-KED2	111	0.00101		262.6	ppb
Cd-KED2	112	0.00008		399.0	ppb
Cd-KED2	114	0.00014		663.5	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00699		70.7	ppb
[ Ag-KED3	109	0.00173		41.3	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01373		0.9	ppb
[ Sb-KED1	123	0.01280		15.1	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00071		146.1	ppb
Tl-KED1	205	0.00054		67.3	ppb
[ Pb-KED1	208	0.00063		92.8	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		102.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		96.1			
[>	Ge-KED2	72		95.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		98.1			
[>	Rh-KED3	103		97.1			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.6			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-013

Sample Date/Time: Tuesday, August 19, 2014 18:26:01

Sample Description:

Autosampler Position: 119

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-013.031

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.06778		2.8	ppb
[ Cr-KED3	52	5.82876		0.2	ppb
Cr-KED3	53	5.86535		8.0	ppb
Ni-KED3	60	5.12109		5.3	ppb
Ni-KED3	62	4.94720		9.7	ppb
Cu-KED3	63	50.99283		3.6	ppb
Cu-KED3	65	51.67858		1.2	ppb
Zn-KED3	66	223.18790		1.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	57.92858		2.7	ppb
Se-KED2	77	7.88718		2.8	ppb
Se-KED2	78	5.38773		4.7	ppb
[ Se-KED2	82	6.71095		7.1	ppb
[ Mo-KED2	95	5.42481		2.3	ppb
Mo-KED2	97	5.40258		3.7	ppb
Mo-KED2	98	5.49597		2.2	ppb
Cd-KED2	111	0.43813		6.3	ppb
Cd-KED2	112	0.43671		2.8	ppb
Cd-KED2	114	0.43556		7.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.49795		3.4	ppb
[ Ag-KED3	109	0.49996		0.8	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.12975		3.1	ppb
[ Sb-KED1	123	0.13406		0.2	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.01836		12.4	ppb
Tl-KED1	205	0.01685		11.8	ppb
[ Pb-KED1	208	2.37793		0.9	ppb

Sample ID: K1407970-013

Report Date/Time: Wednesday, August 20, 2014 10:06:36

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.8			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		91.6			
[>	Ge-KED2	72		91.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.6			
[>	Rh-KED3	103		89.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.7			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-014

Sample Date/Time: Tuesday, August 19, 2014 18:30:35

Sample Description:

Autosampler Position: 120

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-014.032

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.05131	11.5	ppb
[ Cr-KED3	52	8.05225	2.0	ppb
[ Cr-KED3	53	8.31699	2.8	ppb
[ Ni-KED3	60	6.87556	4.3	ppb
[ Ni-KED3	62	6.85293	6.4	ppb
[ Cu-KED3	63	43.68102	3.1	ppb
[ Cu-KED3	65	43.49111	2.6	ppb
[ Zn-KED3	66	193.03491	2.0	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	53.27742	2.5	ppb
[ Se-KED2	77	7.01805	4.2	ppb
[ Se-KED2	78	5.36032	3.6	ppb
[ Se-KED2	82	6.74991	5.9	ppb
[ Mo-KED2	95	5.22684	0.9	ppb
[ Mo-KED2	97	5.23812	1.2	ppb
[ Mo-KED2	98	5.30059	0.3	ppb
[ Cd-KED2	111	0.39195	5.7	ppb
[ Cd-KED2	112	0.39731	5.2	ppb
[ Cd-KED2	114	0.38128	4.0	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.41025	1.2	ppb
[ Ag-KED3	109	0.42331	4.5	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.18159	5.1	ppb
[ Sb-KED1	123	0.18106	3.2	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.01584	6.3	ppb
[ Ti-KED1	205	0.01412	11.7	ppb
[ Pb-KED1	208	1.52382	2.8	ppb

Sample ID: K1407970-014

Report Date/Time: Wednesday, August 20, 2014 10:06:40

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		110.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.0			
[>	Ge-KED2	72		91.7			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.0			
[>	Rh-KED3	103		91.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		100.6			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.1			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-015  
 Sample Date/Time: Tuesday, August 19, 2014 18:35:10  
 Sample Description:  
 Autosampler Position: 121  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407970-015.033  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.03592	22.4	ppb
[ Cr-KED3	52	5.50843	2.4	ppb
Cr-KED3	53	5.92818	6.3	ppb
Ni-KED3	60	6.21344	1.9	ppb
Ni-KED3	62	6.45401	17.2	ppb
Cu-KED3	63	37.11391	1.2	ppb
Cu-KED3	65	36.67222	1.2	ppb
Zn-KED3	66	191.91761	0.1	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	54.10204	2.3	ppb
Se-KED2	77	6.94267	9.4	ppb
Se-KED2	78	5.44221	5.3	ppb
[ Se-KED2	82	7.12784	7.5	ppb
[ Mo-KED2	95	5.76215	2.6	ppb
Mo-KED2	97	5.67016	5.6	ppb
Mo-KED2	98	5.85614	3.5	ppb
Cd-KED2	111	0.43851	3.5	ppb
Cd-KED2	112	0.42396	4.4	ppb
Cd-KED2	114	0.43680	4.3	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	0.29710	2.6	ppb
[ Ag-KED3	109	0.30994	3.7	ppb
[> In-KED1	115			ppb
Sb-KED1	121	0.19711	1.4	ppb
[ Sb-KED1	123	0.20074	2.8	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	0.01516	10.6	ppb
Tl-KED1	205	0.01346	8.1	ppb
[ Pb-KED1	208	1.51985	0.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		107.2			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.4			
[>	Ge-KED2	72		93.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.8			
[>	Rh-KED3	103		93.1			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-016

Sample Date/Time: Tuesday, August 19, 2014 18:39:45

Sample Description:

Autosampler Position: 122

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407970-016.034

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.03148		16.3	ppb
[ Cr-KED3	52	6.15215		2.3	ppb
[ Cr-KED3	53	6.39600		3.8	ppb
[ Ni-KED3	60	6.40247		1.7	ppb
[ Ni-KED3	62	6.46111		1.3	ppb
[ Cu-KED3	63	51.82649		3.9	ppb
[ Cu-KED3	65	51.40014		3.5	ppb
[ Zn-KED3	66	216.95979		4.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	56.38743		1.4	ppb
[ Se-KED2	77	5.83113		8.0	ppb
[ Se-KED2	78	5.27538		5.2	ppb
[ Se-KED2	82	7.01665		3.5	ppb
[ Mo-KED2	95	5.96536		4.8	ppb
[ Mo-KED2	97	6.02802		3.0	ppb
[ Mo-KED2	98	6.04414		1.5	ppb
[ Cd-KED2	111	0.54878		7.7	ppb
[ Cd-KED2	112	0.52307		4.9	ppb
[ Cd-KED2	114	0.51886		3.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.43437		9.2	ppb
[ Ag-KED3	109	0.41717		2.1	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.21239		3.3	ppb
[ Sb-KED1	123	0.22872		4.9	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00989		28.1	ppb
[ Ti-KED1	205	0.01012		8.2	ppb
[ Pb-KED1	208	1.30402		1.0	ppb

Sample ID: K1407970-016

Report Date/Time: Wednesday, August 20, 2014 10:06:48

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		112.3			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		95.3			
[>	Ge-KED2	72		93.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.4			
[>	Rh-KED3	103		93.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.0			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		103.3			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-017  
 Sample Date/Time: Tuesday, August 19, 2014 18:44:19  
 Sample Description:  
 Autosampler Position: 123  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407970-017.035  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.04921	11.8	ppb
[ Cr-KED3	52	5.43446	2.3	ppb
Cr-KED3	53	5.99263	5.5	ppb
Ni-KED3	60	6.07516	1.5	ppb
Ni-KED3	62	6.38758	6.7	ppb
Cu-KED3	63	34.79269	1.3	ppb
Cu-KED3	65	34.80293	1.9	ppb
Zn-KED3	66	193.90142	1.1	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	49.53568	2.0	ppb
Se-KED2	77	6.17160	9.1	ppb
Se-KED2	78	5.33573	12.2	ppb
Se-KED2	82	7.26616	1.4	ppb
[ Mo-KED2	95	6.04093	2.1	ppb
Mo-KED2	97	6.09495	6.9	ppb
Mo-KED2	98	6.39090	0.9	ppb
Cd-KED2	111	0.45442	2.3	ppb
Cd-KED2	112	0.44688	2.4	ppb
Cd-KED2	114	0.45801	0.9	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	0.54933	6.7	ppb
[ Ag-KED3	109	0.56411	4.0	ppb
[> In-KED1	115			ppb
Sb-KED1	121	0.20683	1.3	ppb
[ Sb-KED1	123	0.20153	1.5	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	0.01263	15.4	ppb
Tl-KED1	205	0.01373	3.8	ppb
[ Pb-KED1	208	1.65151	2.0	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		109.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.5			
[>	Ge-KED2	72		93.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		97.5			
[>	Rh-KED3	103		92.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		104.5			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-018  
 Sample Date/Time: Tuesday, August 19, 2014 18:48:54  
 Sample Description:  
 Autosampler Position: 124  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407970-018.036  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.04506		3.3	ppb
[ Cr-KED3	52	6.04085		3.2	ppb
Cr-KED3	53	5.90724		4.4	ppb
Ni-KED3	60	5.54279		1.8	ppb
Ni-KED3	62	5.82756		5.8	ppb
Cu-KED3	63	35.67882		2.2	ppb
Cu-KED3	65	36.25486		0.5	ppb
Zn-KED3	66	221.95344		0.5	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	50.16974		1.8	ppb
Se-KED2	77	6.39783		12.1	ppb
Se-KED2	78	4.76990		4.9	ppb
[ Se-KED2	82	6.95208		6.8	ppb
[ Mo-KED2	95	5.45986		4.7	ppb
Mo-KED2	97	5.43442		5.9	ppb
Mo-KED2	98	5.44333		2.8	ppb
Cd-KED2	111	0.57984		6.1	ppb
Cd-KED2	112	0.56444		4.1	ppb
Cd-KED2	114	0.57116		2.2	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.41240		3.9	ppb
[ Ag-KED3	109	0.40280		7.0	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.18566		1.2	ppb
[ Sb-KED1	123	0.18443		5.0	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.01588		19.1	ppb
Tl-KED1	205	0.01474		8.1	ppb
[ Pb-KED1	208	1.41023		3.0	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		109.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.6			
[>	Ge-KED2	72		93.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.2			
[>	Rh-KED3	103		92.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.4			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.6			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-018D

Sample Date/Time: Tuesday, August 19, 2014 18:53:29

Sample Description:

Autosampler Position: 125

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914BK\K1407970-018D.037

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.04362	13.2	ppb
[ Cr-KED3	52	6.05662	2.6	ppb
Cr-KED3	53	6.02868	3.5	ppb
Ni-KED3	60	5.58300	3.2	ppb
Ni-KED3	62	5.61894	4.3	ppb
Cu-KED3	63	33.07548	2.4	ppb
Cu-KED3	65	32.57149	1.3	ppb
Zn-KED3	66	221.73999	2.8	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	51.11851	3.0	ppb
Se-KED2	77	6.45076	1.8	ppb
Se-KED2	78	5.37276	8.7	ppb
[ Se-KED2	82	6.49864	7.5	ppb
[ Mo-KED2	95	5.12442	6.3	ppb
Mo-KED2	97	5.13597	1.2	ppb
Mo-KED2	98	5.28395	1.5	ppb
Cd-KED2	111	0.56479	8.4	ppb
Cd-KED2	112	0.52679	3.2	ppb
Cd-KED2	114	0.53804	0.6	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	0.37629	2.9	ppb
[ Ag-KED3	109	0.36942	1.5	ppb
[> In-KED1	115			ppb
Sb-KED1	121	0.15934	0.4	ppb
[ Sb-KED1	123	0.16957	0.8	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	0.01224	32.8	ppb
Tl-KED1	205	0.01282	7.3	ppb
[ Pb-KED1	208	1.25203	2.8	ppb

Sample ID: K1407970-018D

Report Date/Time: Wednesday, August 20, 2014 10:06:58

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.6			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.6			
[>	Ge-KED2	72		91.1			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		93.7			
[>	Rh-KED3	103		90.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.0			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.6			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407970-018S

Sample Date/Time: Tuesday, August 19, 2014 18:58:03

Sample Description:

Autosampler Position: 126

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914BK\K1407970-018S.038

User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	9.42783	2.1	ppb
[ Cr-KED3	52	45.13592	1.5	ppb
Cr-KED3	53	45.48576	1.5	ppb
Ni-KED3	60	97.71967	2.8	ppb
Ni-KED3	62	98.68323	4.3	ppb
Cu-KED3	63	78.97512	0.7	ppb
Cu-KED3	65	78.94258	1.6	ppb
Zn-KED3	66	317.72519	1.4	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	84.69553	1.5	ppb
Se-KED2	77	45.69990	3.6	ppb
Se-KED2	78	41.14733	2.6	ppb
[ Se-KED2	82	43.25993	2.8	ppb
[ Mo-KED2	95	37.32734	2.9	ppb
Mo-KED2	97	37.42772	1.0	ppb
Mo-KED2	98	38.70388	0.9	ppb
Cd-KED2	111	10.86724	0.9	ppb
Cd-KED2	112	10.74942	0.8	ppb
Cd-KED2	114	10.69368	1.2	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	6.71502	3.5	ppb
[ Ag-KED3	109	6.82301	2.2	ppb
[> In-KED1	115			ppb
Sb-KED1	121	89.85129	2.3	ppb
[ Sb-KED1	123	90.79591	1.4	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	28.05470	1.8	ppb
Tl-KED1	205	28.16304	1.8	ppb
[ Pb-KED1	208	86.18330	2.3	ppb

Sample ID: K1407970-018S

Report Date/Time: Wednesday, August 20, 2014 10:07:01

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike %	ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		106.4				
[	Be-KED1	9						
[	Cr-KED3	52						
	Cr-KED3	53						
	Ni-KED3	60						
	Ni-KED3	62						
	Cu-KED3	63						
	Cu-KED3	65						
	Zn-KED3	66						
[>	Ge-KED3	72		92.1				
[>	Ge-KED2	72		90.1			°	
	As-KED2	75						
	Se-KED2	77						
	Se-KED2	78						
[	Se-KED2	82						
[	Mo-KED2	95						
	Mo-KED2	97						
	Mo-KED2	98						
	Cd-KED2	111						
	Cd-KED2	112						
	Cd-KED2	114						
[>	In-KED2	115		92.4				
[>	Rh-KED3	103		89.7				
	Ag-KED3	107						
[	Ag-KED3	109						
[>	In-KED1	115		99.1				
	Sb-KED1	121						
[	Sb-KED1	123						
[>	Lu-KED1	175		100.6				
	Tl-KED1	203						
	Tl-KED1	205						
[	Pb-KED1	208						

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409636-01  
 Sample Date/Time: Tuesday, August 19, 2014 19:02:38  
 Sample Description: 5  
 Autosampler Position: 127  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\KQ1409636-01.039  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00207		0.8	ppb
[ Cr-KED3	52	-0.00060		735.9	ppb
[ Cr-KED3	53	-0.03914		25.1	ppb
[ Ni-KED3	60	-0.00744		100.4	ppb
[ Ni-KED3	62	-0.00555		382.7	ppb
[ Cu-KED3	63	0.02428		12.1	ppb
[ Cu-KED3	65	0.01883		18.9	ppb
[ Zn-KED3	66	0.11416		58.9	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	0.00016		2090.8	ppb
[ Se-KED2	77	0.07011		92.2	ppb
[ Se-KED2	78	0.10235		248.6	ppb
[ Se-KED2	82	0.21962		103.8	ppb
[ Mo-KED2	95	0.03653		20.6	ppb
[ Mo-KED2	97	0.03076		11.3	ppb
[ Mo-KED2	98	0.03468		21.7	ppb
[ Cd-KED2	111	-0.00088		92.6	ppb
[ Cd-KED2	112	0.00181		46.0	ppb
[ Cd-KED2	114	0.00073		179.4	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.00151		141.3	ppb
[ Ag-KED3	109	-0.00020		1773.2	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.00442		24.0	ppb
[ Sb-KED1	123	0.00442		8.5	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00244		35.2	ppb
[ Ti-KED1	205	0.00149		39.6	ppb
[ Pb-KED1	208	0.00161		20.4	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		106.2			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		98.6			
[>	Ge-KED2	72		96.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		99.3			
[>	Rh-KED3	103		99.1			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		107.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		102.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-001  
 Sample Date/Time: Tuesday, August 19, 2014 19:07:12  
 Sample Description: 5  
 Autosampler Position: 128  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-001.040  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	0.00478	25.0	ppb
[ Cr-KED3	52	2.36112	2.2	ppb
[ Cr-KED3	53	2.50658	2.9	ppb
[ Ni-KED3	60	3.34608	0.7	ppb
[ Ni-KED3	62	3.52782	9.6	ppb
[ Cu-KED3	63	17.61029	2.4	ppb
[ Cu-KED3	65	17.95312	1.3	ppb
[ Zn-KED3	66	121.71625	3.1	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
[ As-KED2	75	44.66211	2.3	ppb
[ Se-KED2	77	5.60959	7.3	ppb
[ Se-KED2	78	4.40002	9.6	ppb
[ Se-KED2	82	6.26804	5.1	ppb
[ Mo-KED2	95	2.34824	3.3	ppb
[ Mo-KED2	97	2.24801	5.1	ppb
[ Mo-KED2	98	2.35800	3.4	ppb
[ Cd-KED2	111	0.46423	3.2	ppb
[ Cd-KED2	112	0.44457	11.5	ppb
[ Cd-KED2	114	0.41080	7.2	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
[ Ag-KED3	107	0.25351	6.6	ppb
[ Ag-KED3	109	0.27137	6.7	ppb
[> In-KED1	115			ppb
[ Sb-KED1	121	0.04159	6.1	ppb
[ Sb-KED1	123	0.04231	2.9	ppb
[> Lu-KED1	175			ppb
[ Ti-KED1	203	0.00296	10.9	ppb
[ Ti-KED1	205	0.00243	24.0	ppb
[ Pb-KED1	208	0.69316	2.4	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
┌>	Li-KED1	6		104.0			
└	Be-KED1	9					
┌	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
┌>	Ge-KED3	72		93.0			
┌>	Ge-KED2	72		91.7			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
└	Se-KED2	82					
┌	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
┌>	In-KED2	115		93.6			
┌>	Rh-KED3	103		92.2			
	Ag-KED3	107					
└	Ag-KED3	109					
┌>	In-KED1	115		100.3			
	Sb-KED1	121					
└	Sb-KED1	123					
┌>	Lu-KED1	175		99.0			
	Tl-KED1	203					
	Tl-KED1	205					
└	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 19:11:48  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet081914B\CCV.041  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc. Mean	Conc. RSD	Sample Unit
[> Li-KED1	6			ppb
[ Be-KED1	9	23.65420	3.6	ppb
[ Cr-KED3	52	24.02096	4.7	ppb
Cr-KED3	53	23.93536	3.0	ppb
Ni-KED3	60	24.08877	3.4	ppb
Ni-KED3	62	23.70299	1.2	ppb
Cu-KED3	63	24.68401	3.8	ppb
Cu-KED3	65	24.10428	2.7	ppb
Zn-KED3	66	25.62854	2.3	ppb
[> Ge-KED3	72			ppb
[> Ge-KED2	72			ppb
As-KED2	75	24.51377	3.0	ppb
Se-KED2	77	26.38484	4.4	ppb
Se-KED2	78	23.68681	3.5	ppb
[ Se-KED2	82	24.75190	4.5	ppb
[ Mo-KED2	95	24.69748	6.1	ppb
Mo-KED2	97	24.48551	2.9	ppb
Mo-KED2	98	25.46315	2.1	ppb
Cd-KED2	111	25.88454	3.9	ppb
Cd-KED2	112	25.32367	4.3	ppb
Cd-KED2	114	25.32426	2.7	ppb
[> In-KED2	115			ppb
[> Rh-KED3	103			ppb
Ag-KED3	107	24.95507	0.5	ppb
[ Ag-KED3	109	25.43752	0.3	ppb
[> In-KED1	115			ppb
Sb-KED1	121	24.60552	1.6	ppb
[ Sb-KED1	123	25.29407	1.8	ppb
[> Lu-KED1	175			ppb
Tl-KED1	203	23.85902	1.5	ppb
Tl-KED1	205	23.94570	1.7	ppb
[ Pb-KED1	208	23.80984	2.8	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				106.9	
[	Be-KED1	9	94.6				
[	Cr-KED3	52	96.1				
	Cr-KED3	53					
	Ni-KED3	60	96.4				
	Ni-KED3	62	94.8				
	Cu-KED3	63	98.7				
	Cu-KED3	65	96.4				
	Zn-KED3	66	102.5				
[>	Ge-KED3	72				97.8	
[>	Ge-KED2	72				97.5	
	As-KED2	75	98.1				
	Se-KED2	77	105.5				
	Se-KED2	78	94.7				
[	Se-KED2	82	99.0				
[	Mo-KED2	95	98.8				
	Mo-KED2	97	97.9				
	Mo-KED2	98	101.9				
	Cd-KED2	111	103.5				
	Cd-KED2	112	101.3				
	Cd-KED2	114	101.3				
[>	In-KED2	115				99.2	
[>	Rh-KED3	103				98.4	
	Ag-KED3	107	99.8				
[	Ag-KED3	109	101.8				
[>	In-KED1	115				105.7	
	Sb-KED1	121	98.4				
[	Sb-KED1	123	101.2				
[>	Lu-KED1	175				101.6	
	Tl-KED1	203	95.4				
	Tl-KED1	205	95.8				
[	Pb-KED1	208	95.2				

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB  
 Sample Date/Time: Tuesday, August 19, 2014 19:16:23  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCB.042  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00122		78.9	ppb
[ Cr-KED3	52	0.00239		183.9	ppb
Cr-KED3	53	-0.03893		25.7	ppb
Ni-KED3	60	-0.01709		9.3	ppb
Ni-KED3	62	-0.02383		88.9	ppb
Cu-KED3	63	0.00536		22.1	ppb
Cu-KED3	65	0.00156		383.8	ppb
Zn-KED3	66	0.04878		39.8	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.00396		210.9	ppb
Se-KED2	77	0.06165		207.5	ppb
Se-KED2	78	0.02148		206.4	ppb
[ Se-KED2	82	0.21058		161.1	ppb
[ Mo-KED2	95	0.01936		50.9	ppb
Mo-KED2	97	0.01386		25.5	ppb
Mo-KED2	98	0.01296		20.4	ppb
Cd-KED2	111	-0.00040		703.3	ppb
Cd-KED2	112	0.00068		53.5	ppb
Cd-KED2	114	0.00115		36.0	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00318		49.7	ppb
[ Ag-KED3	109	0.00260		84.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01507		5.7	ppb
[ Sb-KED1	123	0.01368		5.7	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00092		89.1	ppb
Tl-KED1	205	0.00034		134.3	ppb
[ Pb-KED1	208	0.00143		13.2	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		100.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		96.9			
[>	Ge-KED2	72		94.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.0			
[>	Rh-KED3	103		96.5			
	Ag-KED3	107					
	Ag-KED3	109					
[>	In-KED1	115		102.3			
	Sb-KED1	121					
	Sb-KED1	123					
[>	Lu-KED1	175		98.7			
	Tl-KED1	203					
	Tl-KED1	205					
	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-002  
 Sample Date/Time: Tuesday, August 19, 2014 19:20:59  
 Sample Description: 5  
 Autosampler Position: 129  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-002.043  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00359		66.5	ppb
[ Cr-KED3	52	2.37013		2.6	ppb
[ Cr-KED3	53	2.29183		4.7	ppb
[ Ni-KED3	60	3.32584		7.2	ppb
[ Ni-KED3	62	3.41601		10.1	ppb
[ Cu-KED3	63	18.93027		2.7	ppb
[ Cu-KED3	65	18.84547		2.7	ppb
[ Zn-KED3	66	126.30651		1.8	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	45.05399		1.5	ppb
[ Se-KED2	77	5.25085		6.8	ppb
[ Se-KED2	78	4.63612		10.1	ppb
[ Se-KED2	82	5.84519		5.0	ppb
[ Mo-KED2	95	2.32341		3.0	ppb
[ Mo-KED2	97	2.19071		2.6	ppb
[ Mo-KED2	98	2.35528		1.6	ppb
[ Cd-KED2	111	0.44822		3.5	ppb
[ Cd-KED2	112	0.44852		2.1	ppb
[ Cd-KED2	114	0.44132		2.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.35521		7.6	ppb
[ Ag-KED3	109	0.37311		6.7	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.03773		6.2	ppb
[ Sb-KED1	123	0.04137		4.7	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.00280		31.8	ppb
[ Tl-KED1	205	0.00301		14.6	ppb
[ Pb-KED1	208	0.66364		2.5	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		104.5			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.9			
[>	Ge-KED2	72		91.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		93.1			
[>	Rh-KED3	103		91.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		95.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.9			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-003  
 Sample Date/Time: Tuesday, August 19, 2014 19:25:33  
 Sample Description: 5  
 Autosampler Position: 130  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-003.044  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00394		51.5	ppb
[ Cr-KED3	52	2.56275		2.2	ppb
[ Cr-KED3	53	2.59186		2.5	ppb
[ Ni-KED3	60	3.44500		1.7	ppb
[ Ni-KED3	62	3.83469		9.9	ppb
[ Cu-KED3	63	18.87514		1.2	ppb
[ Cu-KED3	65	19.00149		1.3	ppb
[ Zn-KED3	66	124.17770		1.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	46.61380		2.8	ppb
[ Se-KED2	77	5.25509		1.5	ppb
[ Se-KED2	78	4.25361		1.3	ppb
[ Se-KED2	82	6.34694		16.3	ppb
[ Mo-KED2	95	2.28523		3.8	ppb
[ Mo-KED2	97	2.33514		7.9	ppb
[ Mo-KED2	98	2.31395		0.9	ppb
[ Cd-KED2	111	0.45484		2.1	ppb
[ Cd-KED2	112	0.45944		1.4	ppb
[ Cd-KED2	114	0.45155		1.1	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.24079		8.8	ppb
[ Ag-KED3	109	0.24705		9.3	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.04238		11.5	ppb
[ Sb-KED1	123	0.04083		10.4	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	0.00255		51.0	ppb
[ Tl-KED1	205	0.00238		30.0	ppb
[ Pb-KED1	208	0.66405		1.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		111.5			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.4			
[>	Ge-KED2	72		93.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.0			
[>	Rh-KED3	103		92.0			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.4			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.9			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-004  
 Sample Date/Time: Tuesday, August 19, 2014 19:30:08  
 Sample Description: 5  
 Autosampler Position: 131  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-004.045  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.04363		18.5	ppb
[ Cr-KED3	52	6.35263		1.0	ppb
Cr-KED3	53	6.49653		7.9	ppb
Ni-KED3	60	4.67533		4.8	ppb
Ni-KED3	62	4.84270		5.1	ppb
Cu-KED3	63	15.59656		1.4	ppb
Cu-KED3	65	15.78452		1.8	ppb
Zn-KED3	66	834.32284		2.1	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	30.50910		2.3	ppb
Se-KED2	77	5.08708		5.3	ppb
Se-KED2	78	4.21623		7.2	ppb
[ Se-KED2	82	8.35274		7.9	ppb
[ Mo-KED2	95	2.60694		4.4	ppb
Mo-KED2	97	2.61107		4.2	ppb
Mo-KED2	98	2.66640		2.0	ppb
Cd-KED2	111	0.54636		1.5	ppb
Cd-KED2	112	0.53982		2.5	ppb
[ Cd-KED2	114	0.51981		3.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.21734		3.6	ppb
[ Ag-KED3	109	0.22766		2.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.04318		5.0	ppb
[ Sb-KED1	123	0.04102		4.6	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.02293		3.1	ppb
Tl-KED1	205	0.02081		9.3	ppb
[ Pb-KED1	208	1.12118		0.4	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		109.2			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.8			
[>	Ge-KED2	72		92.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		92.9			
[>	Rh-KED3	103		92.2			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		100.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.1			
	Ti-KED1	203					
	Ti-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-005

Sample Date/Time: Tuesday, August 19, 2014 19:34:42

Sample Description: 5

Autosampler Position: 132

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-005.046

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00216		63.1	ppb
[ Cr-KED3	52	1.02629		2.9	ppb
Cr-KED3	53	0.95342		10.6	ppb
Ni-KED3	60	2.61996		1.5	ppb
Ni-KED3	62	2.68847		5.8	ppb
Cu-KED3	63	13.41755		1.6	ppb
Cu-KED3	65	13.18751		1.8	ppb
Zn-KED3	66	513.83863		0.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	31.59282		2.2	ppb
Se-KED2	77	4.00408		6.2	ppb
Se-KED2	78	3.95518		11.3	ppb
[ Se-KED2	82	6.61939		4.7	ppb
[ Mo-KED2	95	2.04213		2.1	ppb
Mo-KED2	97	2.03581		4.0	ppb
Mo-KED2	98	2.07658		1.7	ppb
Cd-KED2	111	0.51606		6.3	ppb
Cd-KED2	112	0.51340		3.3	ppb
Cd-KED2	114	0.52832		2.0	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.20744		9.2	ppb
[ Ag-KED3	109	0.22502		2.8	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.03094		2.4	ppb
[ Sb-KED1	123	0.02628		21.1	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00168		39.5	ppb
Tl-KED1	205	0.00236		14.3	ppb
[ Pb-KED1	208	0.54815		1.0	ppb

Sample ID: K1407971-005

Report Date/Time: Wednesday, August 20, 2014 10:07:28

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		110.0			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.7			
[>	Ge-KED2	72		93.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.4			
[>	Rh-KED3	103		92.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-006

Sample Date/Time: Tuesday, August 19, 2014 19:39:17

Sample Description: 5

Autosampler Position: 133

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-006.047

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00528		30.8	ppb
[ Cr-KED3	52	2.05732		5.4	ppb
Cr-KED3	53	2.11296		13.8	ppb
Ni-KED3	60	3.27630		1.8	ppb
Ni-KED3	62	3.54094		10.0	ppb
Cu-KED3	63	18.33136		1.9	ppb
Cu-KED3	65	18.42277		0.8	ppb
Zn-KED3	66	272.87763		1.0	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	32.88040		0.7	ppb
Se-KED2	77	5.09969		14.1	ppb
Se-KED2	78	4.11554		4.3	ppb
[ Se-KED2	82	5.81174		4.9	ppb
[ Mo-KED2	95	2.23177		3.2	ppb
Mo-KED2	97	2.23066		3.4	ppb
Mo-KED2	98	2.39845		3.5	ppb
Cd-KED2	111	0.54186		7.8	ppb
Cd-KED2	112	0.53009		0.7	ppb
Cd-KED2	114	0.51930		6.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.27763		6.2	ppb
[ Ag-KED3	109	0.26262		1.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.03370		6.8	ppb
[ Sb-KED1	123	0.03204		6.1	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00377		18.7	ppb
Tl-KED1	205	0.00387		23.6	ppb
[ Pb-KED1	208	0.66458		1.8	ppb

Sample ID: K1407971-006

Report Date/Time: Wednesday, August 20, 2014 10:07:31

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				110.3	
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		95.7			
[>	Ge-KED2	72		93.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.3			
[>	Rh-KED3	103		92.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		99.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-007  
 Sample Date/Time: Tuesday, August 19, 2014 19:43:51  
 Sample Description: 5  
 Autosampler Position: 134  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-007.048  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00246		20.1	ppb
[ Cr-KED3	52	9.24455		0.7	ppb
Cr-KED3	53	9.63042		8.2	ppb
Ni-KED3	60	6.63754		2.2	ppb
Ni-KED3	62	7.13847		7.3	ppb
Cu-KED3	63	106.36968		1.2	ppb
Cu-KED3	65	106.79938		1.3	ppb
Zn-KED3	66	325.70246		0.5	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	35.64843		1.5	ppb
Se-KED2	77	4.42520		12.2	ppb
Se-KED2	78	3.96995		7.0	ppb
[ Se-KED2	82	6.11368		7.1	ppb
[ Mo-KED2	95	2.42827		3.3	ppb
Mo-KED2	97	2.51779		2.1	ppb
Mo-KED2	98	2.58336		2.1	ppb
Cd-KED2	111	0.54364		3.2	ppb
Cd-KED2	112	0.51486		1.9	ppb
Cd-KED2	114	0.50780		0.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.30316		3.3	ppb
[ Ag-KED3	109	0.30312		6.5	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.12502		3.0	ppb
[ Sb-KED1	123	0.12254		1.5	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00198		40.1	ppb
Tl-KED1	205	0.00191		1.9	ppb
[ Pb-KED1	208	0.66049		1.0	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		107.6			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.5			
[>	Ge-KED2	72		92.0			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.8			
[>	Rh-KED3	103		91.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.1			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-007D

Sample Date/Time: Tuesday, August 19, 2014 19:48:26

Sample Description: 5

Autosampler Position: 135

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-007D.049

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00331		37.4	ppb
[ Cr-KED3	52	8.76583		2.1	ppb
Cr-KED3	53	8.60885		2.4	ppb
Ni-KED3	60	6.32763		3.9	ppb
Ni-KED3	62	6.12477		5.6	ppb
Cu-KED3	63	101.55870		0.4	ppb
Cu-KED3	65	101.88003		0.9	ppb
Zn-KED3	66	115.48199		1.0	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	35.63504		2.1	ppb
Se-KED2	77	4.49135		16.4	ppb
Se-KED2	78	4.11428		5.2	ppb
[ Se-KED2	82	5.45384		8.3	ppb
[ Mo-KED2	95	2.53643		4.7	ppb
Mo-KED2	97	2.57314		1.8	ppb
Mo-KED2	98	2.55641		2.9	ppb
Cd-KED2	111	0.52981		4.4	ppb
Cd-KED2	112	0.51593		4.1	ppb
Cd-KED2	114	0.52888		4.4	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.28161		8.1	ppb
[ Ag-KED3	109	0.28138		5.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.12333		1.0	ppb
[ Sb-KED1	123	0.12012		7.8	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00253		81.8	ppb
Tl-KED1	205	0.00163		19.6	ppb
[ Pb-KED1	208	0.67466		1.2	ppb

Sample ID: K1407971-007D

Report Date/Time: Wednesday, August 20, 2014 10:07:38

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.0			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.6			
[>	Ge-KED2	72		92.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		93.8			
[>	Rh-KED3	103		90.9			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-007S

Sample Date/Time: Tuesday, August 19, 2014 19:53:01

Sample Description: 5

Autosampler Position: 136

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-007S.050

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	10.33694		2.3	ppb
[ Cr-KED3	52	51.65683		3.3	ppb
Cr-KED3	53	51.22627		1.6	ppb
Ni-KED3	60	104.21815		2.8	ppb
Ni-KED3	62	104.67011		3.1	ppb
Cu-KED3	63	157.89924		1.2	ppb
Cu-KED3	65	159.47468		2.2	ppb
Zn-KED3	66	232.40950		1.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	72.70746		0.9	ppb
Se-KED2	77	43.20112		7.3	ppb
Se-KED2	78	41.51535		0.1	ppb
[ Se-KED2	82	44.19615		4.5	ppb
[ Mo-KED2	95	37.51821		0.8	ppb
Mo-KED2	97	37.18840		2.3	ppb
Mo-KED2	98	37.81768		0.5	ppb
Cd-KED2	111	11.19293		1.1	ppb
Cd-KED2	112	11.04527		2.0	ppb
Cd-KED2	114	10.88576		2.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	8.07453		0.9	ppb
[ Ag-KED3	109	8.16130		0.8	ppb
[> In-KED1	115				ppb
Sb-KED1	121	101.43341		1.6	ppb
[ Sb-KED1	123	102.56542		2.1	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	30.08295		1.6	ppb
Tl-KED1	205	29.56482		1.7	ppb
[ Pb-KED1	208	90.85415		2.9	ppb

Sample ID: K1407971-007S

Report Date/Time: Wednesday, August 20, 2014 10:07:41

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		101.8			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		90.6			
[>	Ge-KED2	72		90.9			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		92.6			
[>	Rh-KED3	103		89.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		99.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409636-02  
 Sample Date/Time: Tuesday, August 19, 2014 19:57:35  
 Sample Description: 5  
 Autosampler Position: 137  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\KQ1409636-02.051  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	9.38686		2.5	ppb
[ Cr-KED3	52	39.75645		1.0	ppb
[ Cr-KED3	53	39.48844		0.6	ppb
[ Ni-KED3	60	96.91180		2.9	ppb
[ Ni-KED3	62	97.83921		2.3	ppb
[ Cu-KED3	63	49.66780		2.2	ppb
[ Cu-KED3	65	49.68647		2.1	ppb
[ Zn-KED3	66	101.51418		3.0	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	33.06347		1.4	ppb
[ Se-KED2	77	35.63732		4.8	ppb
[ Se-KED2	78	32.75859		2.7	ppb
[ Se-KED2	82	33.90303		3.3	ppb
[ Mo-KED2	95	32.85482		4.0	ppb
[ Mo-KED2	97	32.46232		2.6	ppb
[ Mo-KED2	98	33.21859		0.9	ppb
[ Cd-KED2	111	10.67425		1.2	ppb
[ Cd-KED2	112	10.32891		2.5	ppb
[ Cd-KED2	114	10.32027		2.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	10.15344		1.7	ppb
[ Ag-KED3	109	10.35943		3.0	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	98.58136		2.0	ppb
[ Sb-KED1	123	100.63704		1.4	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	30.70920		1.0	ppb
[ Tl-KED1	205	30.93533		1.7	ppb
[ Pb-KED1	208	95.15858		0.6	ppb

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		107.5			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.8			
[>	Ge-KED2	72		95.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		97.5			
[>	Rh-KED3	103		96.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		104.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.1			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409636-03

Sample Date/Time: Tuesday, August 19, 2014 20:02:10

Sample Description: 5

Autosampler Position: 138

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\KQ1409636-03.052

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
> Li-KED1	6				ppb
Be-KED1	9	0.03139		25.1	ppb
Cr-KED3	52	3.31285		7.2	ppb
Cr-KED3	53	3.66272		7.6	ppb
Ni-KED3	60	2.45131		5.3	ppb
Ni-KED3	62	2.47056		4.3	ppb
Cu-KED3	63	30.54931		3.8	ppb
Cu-KED3	65	30.70801		4.2	ppb
Zn-KED3	66	107.68800		3.8	ppb
> Ge-KED3	72				ppb
> Ge-KED2	72				ppb
As-KED2	75	14.22035		2.9	ppb
Se-KED2	77	8.60839		12.3	ppb
Se-KED2	78	8.03266		4.4	ppb
Se-KED2	82	9.03877		5.4	ppb
Mo-KED2	95	0.56485		6.5	ppb
Mo-KED2	97	0.55158		1.8	ppb
Mo-KED2	98	0.59178		2.9	ppb
Cd-KED2	111	0.63574		1.9	ppb
Cd-KED2	112	0.64469		2.7	ppb
Cd-KED2	114	0.63310		0.3	ppb
> In-KED2	115				ppb
> Rh-KED3	103				ppb
Ag-KED3	107	0.05743		17.6	ppb
Ag-KED3	109	0.05551		9.4	ppb
> In-KED1	115				ppb
Sb-KED1	121	0.01366		14.4	ppb
Sb-KED1	123	0.01338		27.5	ppb
> Lu-KED1	175				ppb
Tl-KED1	203	0.01906		18.8	ppb
Tl-KED1	205	0.01976		9.2	ppb
Pb-KED1	208	0.49682		1.2	ppb

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.1			
[>	Ge-KED2	72		94.5			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.7			
[>	Rh-KED3	103		93.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.5			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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**LABWORKS - Summary Report**

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 20:06:45  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCV.053  
 User Name: RRM

*Concentration Results*

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	23.71371		1.7	ppb
[ Cr-KED3	52	24.48816		1.8	ppb
[ Cr-KED3	53	23.96241		1.8	ppb
[ Ni-KED3	60	24.10695		2.3	ppb
[ Ni-KED3	62	23.96438		1.2	ppb
[ Cu-KED3	63	24.36390		0.8	ppb
[ Cu-KED3	65	24.72190		0.9	ppb
[ Zn-KED3	66	25.17506		2.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	24.81725		1.5	ppb
[ Se-KED2	77	25.44848		3.6	ppb
[ Se-KED2	78	24.39731		2.0	ppb
[ Se-KED2	82	24.84349		5.6	ppb
[ Mo-KED2	95	25.22884		2.1	ppb
[ Mo-KED2	97	24.94129		0.2	ppb
[ Mo-KED2	98	25.41370		1.4	ppb
[ Cd-KED2	111	25.91234		0.5	ppb
[ Cd-KED2	112	25.80287		1.8	ppb
[ Cd-KED2	114	25.42921		2.2	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	25.04116		0.5	ppb
[ Ag-KED3	109	25.22276		1.1	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	24.27426		0.2	ppb
[ Sb-KED1	123	25.05806		1.9	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	23.97265		2.1	ppb
[ Tl-KED1	205	24.00282		2.0	ppb
[ Pb-KED1	208	23.65995		1.1	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				106.6	
[	Be-KED1	9		94.9			
[	Cr-KED3	52		98.0			
	Cr-KED3	53					
	Ni-KED3	60		96.4			
	Ni-KED3	62		95.9			
	Cu-KED3	63		97.5			
	Cu-KED3	65		98.9			
	Zn-KED3	66		100.7			
[>	Ge-KED3	72				96.0	
[>	Ge-KED2	72				95.2	
	As-KED2	75		99.3			
	Se-KED2	77		101.8			
	Se-KED2	78		97.6			
[	Se-KED2	82		99.4			
[	Mo-KED2	95		100.9			
	Mo-KED2	97		99.8			
	Mo-KED2	98		101.7			
	Cd-KED2	111		103.6			
	Cd-KED2	112		103.2			
	Cd-KED2	114		101.7			
[>	In-KED2	115				97.0	
[>	Rh-KED3	103				97.9	
	Ag-KED3	107		100.2			
[	Ag-KED3	109		100.9			
[>	In-KED1	115				106.0	
	Sb-KED1	121		97.1			
[	Sb-KED1	123		100.2			
[>	Lu-KED1	175				101.0	
	Tl-KED1	203		95.9			
	Tl-KED1	205		96.0			
[	Pb-KED1	208		94.6			

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB  
 Sample Date/Time: Tuesday, August 19, 2014 20:11:20  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCB.054  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00126		70.9	ppb
[ Cr-KED3	52	-0.00108		239.4	ppb
Cr-KED3	53	-0.03852		26.9	ppb
Ni-KED3	60	-0.01780		0.7	ppb
Ni-KED3	62	-0.03606		0.0	ppb
Cu-KED3	63	0.00558		39.1	ppb
Cu-KED3	65	0.00693		30.9	ppb
Zn-KED3	66	0.03035		77.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	0.00468		107.0	ppb
Se-KED2	77	0.09589		83.3	ppb
Se-KED2	78	0.16671		117.1	ppb
[ Se-KED2	82	-0.00664		1551.6	ppb
[ Mo-KED2	95	0.01402		31.4	ppb
Mo-KED2	97	0.02304		5.1	ppb
Mo-KED2	98	0.01218		9.1	ppb
Cd-KED2	111	0.00121		272.9	ppb
Cd-KED2	112	0.00246		42.8	ppb
Cd-KED2	114	-0.00027		381.1	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00140		145.9	ppb
[ Ag-KED3	109	0.00177		42.0	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01317		6.4	ppb
[ Sb-KED1	123	0.01787		3.7	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00170		42.9	ppb
Tl-KED1	205	0.00099		24.4	ppb
[ Pb-KED1	208	0.00198		34.7	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		101.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.1			
[>	Ge-KED2	72		94.0			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.6			
[>	Rh-KED3	103		96.4			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.3			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.7			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: KQ1409636-04  
 Sample Date/Time: Tuesday, August 19, 2014 20:15:56  
 Sample Description: 5  
 Autosampler Position: 139  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\KQ1409636-04.055  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
> Li-KED1	6				ppb
Be-KED1	9	0.02357		20.9	ppb
Cr-KED3	52	3.28893		2.4	ppb
Cr-KED3	53	3.31516		4.2	ppb
Ni-KED3	60	9.20745		5.0	ppb
Ni-KED3	62	10.58902		2.2	ppb
Cu-KED3	63	871.72536		0.6	ppb
Cu-KED3	65	860.31117		0.5	ppb
Zn-KED3	66	265.67380		1.1	ppb
> Ge-KED3	72				ppb
> Ge-KED2	72				ppb
As-KED2	75	133.03950		2.0	ppb
Se-KED2	77	23.79254		5.9	ppb
Se-KED2	78	22.57530		1.8	ppb
Se-KED2	82	24.63308		1.1	ppb
Mo-KED2	95	6.54713		2.9	ppb
Mo-KED2	97	6.44086		3.4	ppb
Mo-KED2	98	6.71453		1.6	ppb
Cd-KED2	111	83.83279		1.3	ppb
Cd-KED2	112	82.51744		2.0	ppb
Cd-KED2	114	82.73264		2.2	ppb
> In-KED2	115				ppb
> Rh-KED3	103				ppb
Ag-KED3	107	5.77696		2.6	ppb
Ag-KED3	109	5.78055		1.6	ppb
> In-KED1	115				ppb
Sb-KED1	121	0.11081		1.1	ppb
Sb-KED1	123	0.10984		2.5	ppb
> Lu-KED1	175				ppb
Tl-KED1	203	0.01819		23.6	ppb
Tl-KED1	205	0.02066		7.5	ppb
Pb-KED1	208	0.36434		2.7	ppb

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.6			
[>	Ge-KED2	72		93.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		95.1			
[>	Rh-KED3	103		93.2			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.7			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-008

Sample Date/Time: Tuesday, August 19, 2014 20:20:31

Sample Description: 5

Autosampler Position: 140

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-008.056

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00577		7.1	ppb
[ Cr-KED3	52	1.40135		1.3	ppb
[ Cr-KED3	53	1.54164		26.0	ppb
[ Ni-KED3	60	2.68329		1.6	ppb
[ Ni-KED3	62	2.79133		2.4	ppb
[ Cu-KED3	63	14.12274		3.0	ppb
[ Cu-KED3	65	14.19663		3.4	ppb
[ Zn-KED3	66	565.18260		1.4	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	32.78389		2.5	ppb
[ Se-KED2	77	4.90012		3.9	ppb
[ Se-KED2	78	4.47722		7.1	ppb
[ Se-KED2	82	7.43535		7.8	ppb
[ Mo-KED2	95	2.37192		4.8	ppb
[ Mo-KED2	97	2.24820		5.9	ppb
[ Mo-KED2	98	2.36991		3.2	ppb
[ Cd-KED2	111	0.50780		4.8	ppb
[ Cd-KED2	112	0.49528		4.4	ppb
[ Cd-KED2	114	0.49799		0.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.23622		2.8	ppb
[ Ag-KED3	109	0.25566		6.2	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.04022		7.1	ppb
[ Sb-KED1	123	0.03692		1.5	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00286		62.4	ppb
[ Ti-KED1	205	0.00240		36.9	ppb
[ Pb-KED1	208	0.66435		1.1	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.8			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.1			
[>	Ge-KED2	72		92.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.6			
[>	Rh-KED3	103		92.1			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		100.6			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.5			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-009  
 Sample Date/Time: Tuesday, August 19, 2014 20:25:05  
 Sample Description: 5  
 Autosampler Position: 141  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-009.057  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00248		24.9	ppb
[ Cr-KED3	52	2.78172		7.6	ppb
Cr-KED3	53	2.92626		12.2	ppb
Ni-KED3	60	2.69353		1.1	ppb
Ni-KED3	62	2.77040		4.9	ppb
Cu-KED3	63	31.60262		2.4	ppb
Cu-KED3	65	31.34412		2.0	ppb
Zn-KED3	66	376.32914		1.1	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	32.93567		2.2	ppb
Se-KED2	77	4.59506		7.9	ppb
Se-KED2	78	4.23078		3.9	ppb
[ Se-KED2	82	6.24462		6.4	ppb
[ Mo-KED2	95	2.50086		7.0	ppb
Mo-KED2	97	2.43788		6.5	ppb
Mo-KED2	98	2.35054		1.8	ppb
Cd-KED2	111	0.52026		1.5	ppb
Cd-KED2	112	0.51763		1.0	ppb
Cd-KED2	114	0.52201		2.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.21742		1.3	ppb
[ Ag-KED3	109	0.21724		4.2	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02778		7.7	ppb
[ Sb-KED1	123	0.02291		3.3	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00106		28.9	ppb
Tl-KED1	205	0.00189		36.6	ppb
[ Pb-KED1	208	0.65325		2.2	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		107.4			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.5			
[>	Ge-KED2	72		91.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.0			
[>	Rh-KED3	103		91.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-010  
 Sample Date/Time: Tuesday, August 19, 2014 20:29:40  
 Sample Description: 5  
 Autosampler Position: 142  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-010.058  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00721		37.4	ppb
[ Cr-KED3	52	3.58109		4.3	ppb
Cr-KED3	53	3.44617		10.1	ppb
Ni-KED3	60	2.91134		4.8	ppb
Ni-KED3	62	3.14043		9.7	ppb
Cu-KED3	63	62.01063		0.5	ppb
Cu-KED3	65	62.15331		0.6	ppb
Zn-KED3	66	590.52023		1.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	31.71894		1.7	ppb
Se-KED2	77	4.51451		7.4	ppb
Se-KED2	78	4.35498		2.2	ppb
[ Se-KED2	82	6.89352		6.7	ppb
[ Mo-KED2	95	2.44633		3.2	ppb
Mo-KED2	97	2.33668		2.0	ppb
Mo-KED2	98	2.43354		0.5	ppb
Cd-KED2	111	0.55066		5.0	ppb
Cd-KED2	112	0.53169		1.4	ppb
Cd-KED2	114	0.53246		0.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.28489		9.4	ppb
[ Ag-KED3	109	0.30473		0.7	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02759		0.9	ppb
[ Sb-KED1	123	0.02881		7.4	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00174		40.5	ppb
Tl-KED1	205	0.00080		38.9	ppb
[ Pb-KED1	208	0.67997		3.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike %	ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.8				
[	Be-KED1	9						
[	Cr-KED3	52						
	Cr-KED3	53						
	Ni-KED3	60						
	Ni-KED3	62						
	Cu-KED3	63						
	Cu-KED3	65						
	Zn-KED3	66						
[>	Ge-KED3	72		92.6				
[>	Ge-KED2	72		91.1				
	As-KED2	75						
	Se-KED2	77						
	Se-KED2	78						
[	Se-KED2	82						
[	Mo-KED2	95						
	Mo-KED2	97						
	Mo-KED2	98						
	Cd-KED2	111						
	Cd-KED2	112						
	Cd-KED2	114						
[>	In-KED2	115		93.4				
[>	Rh-KED3	103		91.7				
	Ag-KED3	107						
[	Ag-KED3	109						
[>	In-KED1	115		94.9				
	Sb-KED1	121						
[	Sb-KED1	123						
[>	Lu-KED1	175		97.8				
	Tl-KED1	203						
	Tl-KED1	205						
[	Pb-KED1	208						

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-011

Sample Date/Time: Tuesday, August 19, 2014 20:34:14

Sample Description: 5

Autosampler Position: 143

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-011.059

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.01871		13.1	ppb
[ Cr-KED3	52	2.24725		1.6	ppb
Cr-KED3	53	2.43289		10.8	ppb
Ni-KED3	60	2.21506		2.5	ppb
Ni-KED3	62	2.11323		16.3	ppb
Cu-KED3	63	15.67181		1.1	ppb
Cu-KED3	65	15.45094		2.2	ppb
Zn-KED3	66	452.67986		0.5	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	30.32215		1.9	ppb
Se-KED2	77	5.06915		7.2	ppb
Se-KED2	78	4.31331		8.8	ppb
[ Se-KED2	82	6.27729		7.9	ppb
[ Mo-KED2	95	2.25626		5.6	ppb
Mo-KED2	97	2.15066		2.6	ppb
Mo-KED2	98	2.26721		1.8	ppb
Cd-KED2	111	0.55711		7.3	ppb
Cd-KED2	112	0.55273		3.3	ppb
Cd-KED2	114	0.56081		1.9	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.24784		7.1	ppb
[ Ag-KED3	109	0.25777		1.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02491		13.7	ppb
[ Sb-KED1	123	0.02165		26.5	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00546		24.7	ppb
Tl-KED1	205	0.00429		22.1	ppb
[ Pb-KED1	208	0.84914		1.9	ppb

Sample ID: K1407971-011

Report Date/Time: Wednesday, August 20, 2014 10:08:12

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike %	ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.9				
[	Be-KED1	9						
[	Cr-KED3	52						
	Cr-KED3	53						
	Ni-KED3	60						
	Ni-KED3	62						
	Cu-KED3	63						
	Cu-KED3	65						
	Zn-KED3	66						
[>	Ge-KED3	72		89.9				
[>	Ge-KED2	72		89.4				
	As-KED2	75						
	Se-KED2	77						
	Se-KED2	78						
[	Se-KED2	82						
[	Mo-KED2	95						
	Mo-KED2	97						
	Mo-KED2	98						
	Cd-KED2	111						
	Cd-KED2	112						
	Cd-KED2	114						
[>	In-KED2	115		91.2				
[>	Rh-KED3	103		89.0				
	Ag-KED3	107						
[	Ag-KED3	109						
[>	In-KED1	115		98.2				
	Sb-KED1	121						
[	Sb-KED1	123						
[>	Lu-KED1	175		99.4				
	Tl-KED1	203						
	Tl-KED1	205						
[	Pb-KED1	208						

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-012  
 Sample Date/Time: Tuesday, August 19, 2014 20:38:49  
 Sample Description: 5  
 Autosampler Position: 144  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-012.060  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00415		77.8	ppb
[ Cr-KED3	52	2.14055		3.1	ppb
[ Cr-KED3	53	2.24177		13.4	ppb
[ Ni-KED3	60	2.23121		11.2	ppb
[ Ni-KED3	62	2.30096		7.1	ppb
[ Cu-KED3	63	27.86791		4.1	ppb
[ Cu-KED3	65	27.87509		3.0	ppb
[ Zn-KED3	66	119.16632		2.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	31.09099		2.1	ppb
[ Se-KED2	77	3.95961		13.7	ppb
[ Se-KED2	78	4.40306		2.9	ppb
[ Se-KED2	82	5.80299		10.1	ppb
[ Mo-KED2	95	2.53772		5.1	ppb
[ Mo-KED2	97	2.49928		7.3	ppb
[ Mo-KED2	98	2.48578		3.2	ppb
[ Cd-KED2	111	0.56569		4.5	ppb
[ Cd-KED2	112	0.58564		2.4	ppb
[ Cd-KED2	114	0.58088		4.5	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.38540		6.6	ppb
[ Ag-KED3	109	0.37623		10.7	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.02505		12.3	ppb
[ Sb-KED1	123	0.02599		9.0	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00195		48.2	ppb
[ Ti-KED1	205	0.00162		26.7	ppb
[ Pb-KED1	208	0.64167		0.9	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		106.8			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		90.8			
[>	Ge-KED2	72		90.8			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		91.6			
[>	Rh-KED3	103		89.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		99.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.0			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-013

Sample Date/Time: Tuesday, August 19, 2014 20:43:23

Sample Description: 5

Autosampler Position: 145

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-013.061

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00371		40.8	ppb
[ Cr-KED3	52	1.09030		2.9	ppb
Cr-KED3	53	1.22334		2.8	ppb
Ni-KED3	60	2.24169		0.6	ppb
Ni-KED3	62	2.28944		4.0	ppb
Cu-KED3	63	15.14791		2.1	ppb
Cu-KED3	65	14.90620		2.9	ppb
Zn-KED3	66	322.87854		2.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	34.94673		0.8	ppb
Se-KED2	77	5.02992		8.9	ppb
Se-KED2	78	4.43839		7.1	ppb
[ Se-KED2	82	6.81246		8.1	ppb
[ Mo-KED2	95	2.54218		4.0	ppb
Mo-KED2	97	2.52135		3.9	ppb
Mo-KED2	98	2.56231		1.3	ppb
Cd-KED2	111	0.52680		8.3	ppb
Cd-KED2	112	0.55618		4.0	ppb
Cd-KED2	114	0.54606		6.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.30731		4.7	ppb
[ Ag-KED3	109	0.32143		4.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02941		8.5	ppb
[ Sb-KED1	123	0.02929		16.9	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00151		38.9	ppb
Tl-KED1	205	0.00103		21.5	ppb
[ Pb-KED1	208	0.67419		1.8	ppb

Sample ID: K1407971-013

Report Date/Time: Wednesday, August 20, 2014 10:08:18

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		92.0			
[>	Ge-KED2	72		90.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		92.4			
[>	Rh-KED3	103		89.7			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		99.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.9			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-014

Sample Date/Time: Tuesday, August 19, 2014 20:47:58

Sample Description: 5

Autosampler Position: 146

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-014.062

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00171		167.3	ppb
[ Cr-KED3	52	1.20771		2.2	ppb
Cr-KED3	53	1.24978		7.0	ppb
Ni-KED3	60	1.62662		6.4	ppb
Ni-KED3	62	1.76912		10.0	ppb
Cu-KED3	63	14.01365		1.8	ppb
Cu-KED3	65	14.39811		0.0	ppb
Zn-KED3	66	338.46607		1.4	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	36.50682		1.2	ppb
Se-KED2	77	4.58442		25.1	ppb
Se-KED2	78	3.96208		0.6	ppb
[ Se-KED2	82	6.01017		5.2	ppb
[ Mo-KED2	95	2.12516		3.3	ppb
Mo-KED2	97	2.16146		6.1	ppb
Mo-KED2	98	2.19261		2.9	ppb
Cd-KED2	111	0.55575		3.6	ppb
Cd-KED2	112	0.55533		2.1	ppb
Cd-KED2	114	0.53453		3.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.27523		9.1	ppb
[ Ag-KED3	109	0.27775		9.4	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02272		8.8	ppb
[ Sb-KED1	123	0.02422		10.4	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00198		24.9	ppb
Tl-KED1	205	0.00152		42.7	ppb
[ Pb-KED1	208	0.53244		2.5	ppb

Sample ID: K1407971-014

Report Date/Time: Wednesday, August 20, 2014 10:08:22

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		91.8			
[>	Ge-KED2	72		91.3			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		94.3			
[>	Rh-KED3	103		91.2			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		100.9			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.3			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-014D

Sample Date/Time: Tuesday, August 19, 2014 20:52:33

Sample Description: 5

Autosampler Position: 147

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-014D.063

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00247		103.7	ppb
[ Cr-KED3	52	1.36659		2.2	ppb
Cr-KED3	53	1.34374		6.6	ppb
Ni-KED3	60	1.65692		7.3	ppb
Ni-KED3	62	1.61280		2.7	ppb
Cu-KED3	63	14.07784		1.1	ppb
Cu-KED3	65	14.21222		0.9	ppb
Zn-KED3	66	666.13912		0.8	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	36.08098		1.2	ppb
Se-KED2	77	4.83750		14.7	ppb
Se-KED2	78	4.15362		1.2	ppb
[ Se-KED2	82	7.46961		3.9	ppb
[ Mo-KED2	95	2.19917		2.6	ppb
Mo-KED2	97	2.16979		3.8	ppb
Mo-KED2	98	2.23253		2.4	ppb
Cd-KED2	111	0.55805		4.7	ppb
Cd-KED2	112	0.53184		7.2	ppb
Cd-KED2	114	0.53842		6.3	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.25279		5.8	ppb
[ Ag-KED3	109	0.27095		8.8	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.02341		3.0	ppb
[ Sb-KED1	123	0.02200		11.0	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00234		40.0	ppb
Tl-KED1	205	0.00180		9.2	ppb
[ Pb-KED1	208	0.53398		1.0	ppb

Sample ID: K1407971-014D

Report Date/Time: Wednesday, August 20, 2014 10:08:25

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		108.5			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		93.3			
[>	Ge-KED2	72		92.5			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		93.3			
[>	Rh-KED3	103		92.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.0			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		100.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-014S

Sample Date/Time: Tuesday, August 19, 2014 20:57:07

Sample Description: 5

Autosampler Position: 148

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-014S.064

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	9.77270		2.0	ppb
[ Cr-KED3	52	39.00959		0.9	ppb
Cr-KED3	53	38.95408		1.4	ppb
Ni-KED3	60	93.01388		1.1	ppb
Ni-KED3	62	91.61951		1.5	ppb
Cu-KED3	63	57.97651		1.4	ppb
Cu-KED3	65	58.26240		0.5	ppb
Zn-KED3	66	432.86287		2.6	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	68.49016		1.7	ppb
Se-KED2	77	38.85524		4.5	ppb
Se-KED2	78	38.48795		3.5	ppb
[ Se-KED2	82	40.44271		4.8	ppb
[ Mo-KED2	95	34.52559		2.3	ppb
Mo-KED2	97	34.33921		1.8	ppb
Mo-KED2	98	35.02758		0.4	ppb
Cd-KED2	111	10.67288		1.1	ppb
Cd-KED2	112	10.53706		1.0	ppb
Cd-KED2	114	10.58248		0.7	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	6.28641		3.0	ppb
[ Ag-KED3	109	6.47178		1.1	ppb
[> In-KED1	115				ppb
Sb-KED1	121	94.59548		4.5	ppb
[ Sb-KED1	123	96.17801		5.8	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	27.67799		0.5	ppb
Tl-KED1	205	27.42251		0.3	ppb
[ Pb-KED1	208	85.75118		1.4	ppb

Sample ID: K1407971-014S

Report Date/Time: Wednesday, August 20, 2014 10:08:29

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike %	ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		102.5				
[	Be-KED1	9						
[	Cr-KED3	52						
	Cr-KED3	53						
	Ni-KED3	60						
	Ni-KED3	62						
	Cu-KED3	63						
	Cu-KED3	65						
	Zn-KED3	66						
[>	Ge-KED3	72		91.6				
[>	Ge-KED2	72		90.7				
	As-KED2	75						
	Se-KED2	77						
	Se-KED2	78						
[	Se-KED2	82						
[	Mo-KED2	95						
	Mo-KED2	97						
	Mo-KED2	98						
	Cd-KED2	111						
	Cd-KED2	112						
	Cd-KED2	114						
[>	In-KED2	115		92.1				
[>	Rh-KED3	103		89.7				
	Ag-KED3	107						
[	Ag-KED3	109						
[>	In-KED1	115		101.6				
	Sb-KED1	121						
[	Sb-KED1	123						
[>	Lu-KED1	175		98.4				
	Tl-KED1	203						
	Tl-KED1	205						
[	Pb-KED1	208						

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCV

Sample Date/Time: Tuesday, August 19, 2014 21:01:43

Sample Description:

Autosampler Position: 2

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\CCV.065

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	25.28216		0.6	ppb
[ Cr-KED3	52	24.67171		0.6	ppb
Cr-KED3	53	24.20914		3.7	ppb
Ni-KED3	60	24.30609		2.1	ppb
Ni-KED3	62	23.94815		1.6	ppb
Cu-KED3	63	24.54635		0.7	ppb
Cu-KED3	65	24.27060		1.0	ppb
Zn-KED3	66	24.63052		4.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	24.79196		2.1	ppb
Se-KED2	77	25.24465		5.6	ppb
Se-KED2	78	24.58196		2.3	ppb
[ Se-KED2	82	24.39534		1.2	ppb
[ Mo-KED2	95	24.97677		2.3	ppb
Mo-KED2	97	24.88487		1.8	ppb
Mo-KED2	98	25.41906		1.7	ppb
Cd-KED2	111	26.14057		0.8	ppb
Cd-KED2	112	25.49286		1.5	ppb
Cd-KED2	114	25.60491		2.4	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	25.20675		0.8	ppb
[ Ag-KED3	109	25.62271		1.2	ppb
[> In-KED1	115				ppb
Sb-KED1	121	24.44724		2.5	ppb
[ Sb-KED1	123	25.14110		2.3	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	24.08100		1.4	ppb
Tl-KED1	205	23.49432		0.8	ppb
[ Pb-KED1	208	23.66375		0.3	ppb

Sample ID: CCV

Report Date/Time: Wednesday, August 20, 2014 10:08:32

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				101.0	
[	Be-KED1	9		101.1			
[	Cr-KED3	52		98.7			
	Cr-KED3	53					
	Ni-KED3	60		97.2			
	Ni-KED3	62		95.8			
	Cu-KED3	63		98.2			
	Cu-KED3	65		97.1			
	Zn-KED3	66		98.5			
L>	Ge-KED3	72				94.7	
[>	Ge-KED2	72				95.7	
	As-KED2	75		99.2			
	Se-KED2	77		101.0			
	Se-KED2	78		98.3			
[	Se-KED2	82		97.6			
[	Mo-KED2	95		99.9			
	Mo-KED2	97		99.5			
	Mo-KED2	98		101.7			
	Cd-KED2	111		104.6			
	Cd-KED2	112		102.0			
	Cd-KED2	114		102.4			
L>	In-KED2	115				96.4	
[>	Rh-KED3	103				97.3	
	Ag-KED3	107		100.8			
[	Ag-KED3	109		102.5			
[>	In-KED1	115				106.4	
	Sb-KED1	121		97.8			
[	Sb-KED1	123		100.6			
[>	Lu-KED1	175				100.8	
	Tl-KED1	203		96.3			
	Tl-KED1	205		94.0			
[	Pb-KED1	208		94.7			

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB

Sample Date/Time: Tuesday, August 19, 2014 21:06:18

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\CCB.066

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00126		26.4	ppb
[ Cr-KED3	52	-0.00109		427.4	ppb
Cr-KED3	53	-0.03276		54.2	ppb
Ni-KED3	60	-0.01986		18.1	ppb
Ni-KED3	62	-0.03606		0.0	ppb
Cu-KED3	63	0.00811		21.0	ppb
Cu-KED3	65	0.00396		81.1	ppb
Zn-KED3	66	0.02525		127.0	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.00578		119.9	ppb
Se-KED2	77	0.32764		18.3	ppb
Se-KED2	78	0.09561		163.7	ppb
[ Se-KED2	82	-0.03567		399.6	ppb
[ Mo-KED2	95	0.01895		36.9	ppb
Mo-KED2	97	0.02628		30.9	ppb
Mo-KED2	98	0.02452		5.0	ppb
Cd-KED2	111	0.00075		180.2	ppb
Cd-KED2	112	0.00125		75.5	ppb
Cd-KED2	114	-0.00021		471.4	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00398		112.2	ppb
[ Ag-KED3	109	0.00401		36.1	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01549		3.3	ppb
[ Sb-KED1	123	0.01460		10.2	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00067		94.6	ppb
Tl-KED1	205	0.00089		23.0	ppb
[ Pb-KED1	208	0.00108		69.0	ppb

Sample ID: CCB

Report Date/Time: Wednesday, August 20, 2014 10:08:37

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		102.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.4			
[>	Ge-KED2	72		92.7			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		97.4			
[>	Rh-KED3	103		96.0			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		102.2			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.2			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-015  
 Sample Date/Time: Tuesday, August 19, 2014 21:10:53  
 Sample Description: 5  
 Autosampler Position: 149  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-015.067  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00318		43.5	ppb
[ Cr-KED3	52	3.90915		4.9	ppb
Cr-KED3	53	4.29982		5.7	ppb
Ni-KED3	60	2.80108		5.6	ppb
Ni-KED3	62	2.81363		3.8	ppb
Cu-KED3	63	55.99861		2.0	ppb
Cu-KED3	65	55.97695		1.6	ppb
Zn-KED3	66	269.22596		4.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	41.13091		2.1	ppb
Se-KED2	77	4.37465		6.5	ppb
Se-KED2	78	4.31015		9.5	ppb
[ Se-KED2	82	6.12430		11.4	ppb
[ Mo-KED2	95	2.24160		0.8	ppb
Mo-KED2	97	2.39198		1.8	ppb
Mo-KED2	98	2.37398		1.9	ppb
Cd-KED2	111	0.56685		2.8	ppb
Cd-KED2	112	0.56779		2.3	ppb
Cd-KED2	114	0.57051		4.9	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.31842		2.2	ppb
[ Ag-KED3	109	0.34395		2.0	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.03411		4.6	ppb
[ Sb-KED1	123	0.03014		6.4	ppb
[> Lu-KED1	175				ppb
Ti-KED1	203	0.00206		23.2	ppb
Ti-KED1	205	0.00182		22.7	ppb
[ Pb-KED1	208	0.57602		1.5	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		104.3			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		91.3			
[>	Ge-KED2	72		90.5			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		93.0			
[>	Rh-KED3	103		89.2			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		96.7			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-016

Sample Date/Time: Tuesday, August 19, 2014 21:15:28

Sample Description: 5

Autosampler Position: 150

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\081914B\K1407971-016.068

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00676		33.6	ppb
[ Cr-KED3	52	1.70032		3.4	ppb
Cr-KED3	53	1.86487		7.4	ppb
Ni-KED3	60	2.05840		5.5	ppb
Ni-KED3	62	2.02715		5.3	ppb
Cu-KED3	63	18.03168		0.6	ppb
Cu-KED3	65	18.05450		3.2	ppb
Zn-KED3	66	117.11369		2.1	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	35.87182		2.4	ppb
Se-KED2	77	4.35116		2.7	ppb
Se-KED2	78	4.33557		8.4	ppb
[ Se-KED2	82	5.16874		9.0	ppb
[ Mo-KED2	95	2.43004		3.2	ppb
Mo-KED2	97	2.42395		3.5	ppb
Mo-KED2	98	2.49767		2.4	ppb
Cd-KED2	111	0.59954		2.2	ppb
Cd-KED2	112	0.58481		4.5	ppb
Cd-KED2	114	0.58590		3.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.25125		2.8	ppb
[ Ag-KED3	109	0.24568		7.6	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.04432		5.1	ppb
[ Sb-KED1	123	0.04215		6.3	ppb
[> Lu-KED1	175				ppb
Ti-KED1	203	0.00203		61.2	ppb
Ti-KED1	205	0.00175		24.0	ppb
[ Pb-KED1	208	0.69307		1.7	ppb

Sample ID: K1407971-016

Report Date/Time: Wednesday, August 20, 2014 10:08:43

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**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike %	ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6					103.8	
[	Be-KED1	9						
[	Cr-KED3	52						
	Cr-KED3	53						
	Ni-KED3	60						
	Ni-KED3	62						
	Cu-KED3	63						
	Cu-KED3	65						
	Zn-KED3	66						
[>	Ge-KED3	72		91.1				
[>	Ge-KED2	72		90.1				
	As-KED2	75						
	Se-KED2	77						
	Se-KED2	78						
[	Se-KED2	82						
[	Mo-KED2	95						
	Mo-KED2	97						
	Mo-KED2	98						
	Cd-KED2	111						
	Cd-KED2	112						
	Cd-KED2	114						
[>	In-KED2	115		90.9				
[>	Rh-KED3	103		89.8				
	Ag-KED3	107						
[	Ag-KED3	109						
[>	In-KED1	115		99.3				
	Sb-KED1	121						
[	Sb-KED1	123						
[>	Lu-KED1	175		97.1				
	Tl-KED1	203						
	Tl-KED1	205						
[	Pb-KED1	208						

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-017

Sample Date/Time: Tuesday, August 19, 2014 21:20:03

Sample Description: 5

Autosampler Position: 151

Number of Replicates: 3

Dataset File: C:\NexlONData\DataSet\081914B\K1407971-017.069

User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00352		41.6	ppb
[ Cr-KED3	52	1.53217		1.9	ppb
[ Cr-KED3	53	1.51413		2.6	ppb
[ Ni-KED3	60	2.20466		8.3	ppb
[ Ni-KED3	62	2.31316		2.9	ppb
[ Cu-KED3	63	15.20799		2.0	ppb
[ Cu-KED3	65	15.14811		4.0	ppb
[ Zn-KED3	66	126.26497		3.1	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	39.77195		1.6	ppb
[ Se-KED2	77	4.49854		12.2	ppb
[ Se-KED2	78	4.74138		1.6	ppb
[ Se-KED2	82	5.84248		0.4	ppb
[ Mo-KED2	95	2.36799		2.9	ppb
[ Mo-KED2	97	2.47458		3.6	ppb
[ Mo-KED2	98	2.38415		5.4	ppb
[ Cd-KED2	111	0.58339		3.6	ppb
[ Cd-KED2	112	0.59826		5.5	ppb
[ Cd-KED2	114	0.58275		4.8	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.25058		4.5	ppb
[ Ag-KED3	109	0.26590		4.7	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.03296		5.7	ppb
[ Sb-KED1	123	0.02786		6.8	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00225		21.2	ppb
[ Ti-KED1	205	0.00156		12.3	ppb
[ Pb-KED1	208	0.63899		0.8	ppb

Sample ID: K1407971-017

Report Date/Time: Wednesday, August 20, 2014 10:08:47

Page 1

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		105.9			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		90.3			
[>	Ge-KED2	72		89.7			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		92.4			
[>	Rh-KED3	103		90.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		98.5			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		99.6			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: K1407971-018  
 Sample Date/Time: Tuesday, August 19, 2014 21:24:37  
 Sample Description: 5  
 Autosampler Position: 152  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\K1407971-018.070  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	0.00267		58.8	ppb
[ Cr-KED3	52	1.52982		4.0	ppb
[ Cr-KED3	53	1.90631		14.7	ppb
[ Ni-KED3	60	2.05070		4.2	ppb
[ Ni-KED3	62	1.91891		8.2	ppb
[ Cu-KED3	63	16.92959		1.6	ppb
[ Cu-KED3	65	16.89507		1.7	ppb
[ Zn-KED3	66	262.65815		1.3	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	35.01858		1.6	ppb
[ Se-KED2	77	4.89998		6.4	ppb
[ Se-KED2	78	4.17916		5.1	ppb
[ Se-KED2	82	6.20733		5.0	ppb
[ Mo-KED2	95	2.36373		4.9	ppb
[ Mo-KED2	97	2.33623		5.4	ppb
[ Mo-KED2	98	2.35799		0.8	ppb
[ Cd-KED2	111	0.64788		3.3	ppb
[ Cd-KED2	112	0.62975		3.1	ppb
[ Cd-KED2	114	0.60416		1.9	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	0.28637		4.5	ppb
[ Ag-KED3	109	0.27109		7.8	ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.02753		7.1	ppb
[ Sb-KED1	123	0.02608		6.5	ppb
[> Lu-KED1	175				ppb
[ Ti-KED1	203	0.00186		61.9	ppb
[ Ti-KED1	205	0.00133		33.0	ppb
[ Pb-KED1	208	0.59599		0.8	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		103.6			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		90.4			
[>	Ge-KED2	72		89.2			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		91.4			
[>	Rh-KED3	103		88.5			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		98.1			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		97.9			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: Mo Std  
 Sample Date/Time: Tuesday, August 19, 2014 21:29:13  
 Sample Description: 50ppb  
 Autosampler Position: 160  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\Mo Std.071  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00129		26.3	ppb
[ Cr-KED3	52	0.00031	2189.3		ppb
[ Cr-KED3	53	-0.03861		26.6	ppb
[ Ni-KED3	60	-0.01486		36.6	ppb
[ Ni-KED3	62	-0.02995		35.4	ppb
[ Cu-KED3	63	0.00440		31.1	ppb
[ Cu-KED3	65	0.00169		66.8	ppb
[ Zn-KED3	66	0.06286		19.2	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
[ As-KED2	75	-0.00268	435.4		ppb
[ Se-KED2	77	0.18157		86.9	ppb
[ Se-KED2	78	0.02632	492.8		ppb
[ Se-KED2	82	0.10736	207.8		ppb
[ Mo-KED2	95	47.88690		3.2	ppb
[ Mo-KED2	97	47.45446		0.6	ppb
[ Mo-KED2	98	49.06405		0.7	ppb
[ Cd-KED2	111	0.03387		13.5	ppb
[ Cd-KED2	112	0.01594		22.4	ppb
[ Cd-KED2	114	0.02248		9.6	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
[ Ag-KED3	107	-0.00120		72.6	ppb
[ Ag-KED3	109	-0.00020	431.9		ppb
[> In-KED1	115				ppb
[ Sb-KED1	121	0.00083		39.5	ppb
[ Sb-KED1	123	0.00198		50.5	ppb
[> Lu-KED1	175				ppb
[ Tl-KED1	203	-0.00029		83.2	ppb
[ Tl-KED1	205	0.00008	349.8		ppb
[ Pb-KED1	208	0.00118		37.7	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		104.7			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		95.8			
[>	Ge-KED2	72		95.6			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.0			
[>	Rh-KED3	103		98.3			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		103.0			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		101.1			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCV  
 Sample Date/Time: Tuesday, August 19, 2014 21:33:49  
 Sample Description:  
 Autosampler Position: 2  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCV.072  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	23.92425		3.1	ppb
[ Cr-KED3	52	24.14306		4.0	ppb
Cr-KED3	53	25.02648		6.0	ppb
Ni-KED3	60	23.54945		3.2	ppb
Ni-KED3	62	24.67801		3.6	ppb
Cu-KED3	63	24.47434		1.2	ppb
Cu-KED3	65	24.44491		1.5	ppb
Zn-KED3	66	24.65558		2.7	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	24.98129		1.5	ppb
Se-KED2	77	25.50865		3.4	ppb
Se-KED2	78	24.12360		1.0	ppb
[ Se-KED2	82	24.59314		4.0	ppb
[ Mo-KED2	95	24.51835		4.4	ppb
Mo-KED2	97	24.43838		3.9	ppb
Mo-KED2	98	25.38692		0.8	ppb
Cd-KED2	111	25.86172		1.1	ppb
Cd-KED2	112	25.16320		2.9	ppb
Cd-KED2	114	25.31433		3.1	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	25.26057		1.0	ppb
[ Ag-KED3	109	25.99634		1.4	ppb
[> In-KED1	115				ppb
Sb-KED1	121	24.68449		0.9	ppb
[ Sb-KED1	123	25.03581		1.8	ppb
[> Lu-KED1	175				ppb
Ti-KED1	203	23.80850		1.8	ppb
Ti-KED1	205	23.93704		1.2	ppb
[ Pb-KED1	208	24.03136		1.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6				104.8	
[	Be-KED1	9		95.7			
[	Cr-KED3	52		96.6			
	Cr-KED3	53					
	Ni-KED3	60		94.2			
	Ni-KED3	62		98.7			
	Cu-KED3	63		97.9			
	Cu-KED3	65		97.8			
	Zn-KED3	66		98.6			
[>	Ge-KED3	72				94.9	
[>	Ge-KED2	72				94.4	
	As-KED2	75		99.9			
	Se-KED2	77		102.0			
	Se-KED2	78		96.5			
[	Se-KED2	82		98.4			
[	Mo-KED2	95		98.1			
	Mo-KED2	97		97.8			
	Mo-KED2	98		101.5			
	Cd-KED2	111		103.4			
	Cd-KED2	112		100.7			
	Cd-KED2	114		101.3			
[>	In-KED2	115				96.9	
[>	Rh-KED3	103				95.6	
	Ag-KED3	107		101.0			
[	Ag-KED3	109		104.0			
[>	In-KED1	115				103.9	
	Sb-KED1	121		98.7			
[	Sb-KED1	123		100.1			
[>	Lu-KED1	175				99.5	
	Tl-KED1	203		95.2			
	Tl-KED1	205		95.7			
[	Pb-KED1	208		96.1			

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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## LABWORKS - Summary Report

Sample ID: CCB  
 Sample Date/Time: Tuesday, August 19, 2014 21:38:24  
 Sample Description:  
 Autosampler Position: 1  
 Number of Replicates: 3  
 Dataset File: C:\NexIONData\DataSet\081914B\CCB.073  
 User Name: RRM

### Concentration Results

Analyte	Mass	Conc.	MeanConc.	RSD	Sample Unit
[> Li-KED1	6				ppb
[ Be-KED1	9	-0.00185		49.9	ppb
[ Cr-KED3	52	-0.00261		97.7	ppb
Cr-KED3	53	-0.03272		54.2	ppb
Ni-KED3	60	-0.02194		28.9	ppb
Ni-KED3	62	-0.01704		111.4	ppb
Cu-KED3	63	0.00193		111.6	ppb
Cu-KED3	65	-0.00038		328.3	ppb
Zn-KED3	66	0.00340		767.8	ppb
[> Ge-KED3	72				ppb
[> Ge-KED2	72				ppb
As-KED2	75	-0.00062		891.5	ppb
Se-KED2	77	0.16520		26.5	ppb
Se-KED2	78	0.08274		31.0	ppb
[ Se-KED2	82	0.10955		138.1	ppb
[ Mo-KED2	95	0.02720		15.6	ppb
Mo-KED2	97	0.01913		26.0	ppb
Mo-KED2	98	0.01674		33.1	ppb
Cd-KED2	111	0.00145		93.0	ppb
Cd-KED2	112	0.00126		1.6	ppb
Cd-KED2	114	0.00053		329.0	ppb
[> In-KED2	115				ppb
[> Rh-KED3	103				ppb
Ag-KED3	107	0.00529		28.5	ppb
[ Ag-KED3	109	0.00291		56.2	ppb
[> In-KED1	115				ppb
Sb-KED1	121	0.01397		4.3	ppb
[ Sb-KED1	123	0.01367		21.0	ppb
[> Lu-KED1	175				ppb
Tl-KED1	203	0.00107		47.3	ppb
Tl-KED1	205	0.00054		52.4	ppb
[ Pb-KED1	208	0.00039		177.3	ppb

**QC Calculated Values**

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % ReDuplicate	Rel. % Difference	Dilution % Difference
[>	Li-KED1	6		102.6			
[	Be-KED1	9					
[	Cr-KED3	52					
	Cr-KED3	53					
	Ni-KED3	60					
	Ni-KED3	62					
	Cu-KED3	63					
	Cu-KED3	65					
	Zn-KED3	66					
[>	Ge-KED3	72		94.8			
[>	Ge-KED2	72		92.4			
	As-KED2	75					
	Se-KED2	77					
	Se-KED2	78					
[	Se-KED2	82					
[	Mo-KED2	95					
	Mo-KED2	97					
	Mo-KED2	98					
	Cd-KED2	111					
	Cd-KED2	112					
	Cd-KED2	114					
[>	In-KED2	115		96.2			
[>	Rh-KED3	103		95.6			
	Ag-KED3	107					
[	Ag-KED3	109					
[>	In-KED1	115		101.8			
	Sb-KED1	121					
[	Sb-KED1	123					
[>	Lu-KED1	175		98.8			
	Tl-KED1	203					
	Tl-KED1	205					
[	Pb-KED1	208					

**QC Out of Limits**

Measurement Type	Analyte	Mass	Out of Limits Message
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# LIPIDS

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

% Lipids - Dry Weight Basis - Electronic Benchsheet

wo #	wet wt	% solids	dry wt	dish	dish/lip	% lip	mb corr	% lipids (rounded)	MRL
K1407971-001	10.512	15.6	1.640	1.30141	1.31966	5.564459	0.0000	5.6	0.30
K1407971-002	10.113	15.9	1.608	1.27949	1.29536	4.934803	0.0000	4.9	0.31
K1407971-003	10.039	16.4	1.646	1.28732	1.30629	5.761068	0.0000	5.8	0.30
K1407970-006	10.050	15.0	1.508	1.28669	1.30772	6.975124	0.0000	7.0	0.33
Method Blank	10.986	100.0	10.986	1.29481	1.29482	0.000455	0.0000	0.00	0.05
K1407971-006 DUP	10.083	15.0	1.512	1.29219	1.31247	6.704354	0.0000	6.7	0.33
K1407971-006 TRP	10.217	15.0	1.533	1.29170	1.31114	6.342371	0.0000	6.3	0.33

Reviewed By: Elissa Banno Date: 8/20/14

% Lipids - As Received - Electronic Benchsheet

wo #	wet wt	dish	dish/lip	% lip	mb corr	% lipids (rounded)	MRL
K1407971-001	10.512	1.30141	1.31966	0.867580	0.00001	0.87	0.01
K1407971-002	10.113	1.27949	1.29536	0.784139	0.00001	0.78	0.01
K1407971-003	10.039	1.28732	1.30629	0.944317	0.00001	0.94	0.01
K1407971-006	10.050	1.28669	1.30772	1.045771	0.00001	1.0	0.01
KWG1411415-5 MB	10.986	1.29481	1.29482	0.000000	0.00001	0.00	0.01
K1407971-006 DUP	10.083	1.29219	1.31247	1.005157	0.00001	1.0	0.01
K1407971-006 TRP	10.217	1.29170	1.31114	0.950866	0.00001	0.95	0.01
KWG1411415-LCS	0.924	1.28779	1.44322	84.10173	0.00001	84.1	0.01

Reviewed By: Elissa Bonino Date: 8/20/14

# Lipids Raw Benchsheet

Lab ID	Client ID	Sample Weight (g)	Wt. Dish (g)	Wt. Dish + Lipid (g)
K1407971-001	Nv PreTest Rep.1	10.612	1.30141	1.31966
K1407971-002	NV PreTest Rep.2	10.113	1.27949	1.29536
K1407971-003	NV PreTest Rep.3	10.034	1.28732	1.30629
K1407971-006	Batch QC	10.050	1.28664	1.30772
KWG1411415-5 MB	Method Blank	10.486	1.29481	1.29482
K1407971-006 DUP	Sample Duplicate	10.08 <sup>0</sup> 3	1.29214	1.31247
K1407971-006 TRP	Sample Triplicate	10.217	1.29170	1.31114
K1407971-LCS	Laboratory Control Sample	0.924	1.28774	1.441322

Extraction Start Time/Date: <u>10:15 8/12/14</u> Extraction Stop Time/Date: <u>0800 8/13/14</u> Extracted By: <u>CH</u>	Extraction Method: <u>3541</u> DCM Lot #: <u>PK 774</u> Sulfate Lot #: <u>132318</u>
Intermediate Volume of Extracts: <u>10ml</u>	Aliquot used for % Lipids: <u>2ml</u>
Date Analyzed: <u>8/13/14</u> Analyzed By: <u>CV</u>	Balance ID: <u>0.1K-AB-03</u>

Prep Run #: 215340

① CV ee 8/13/14

Reviewed By: Elissa Bruno

Date: 8/20/14







# Butyltins

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

# Exception Report

Data File: J:\GC26\DATA\081914\0818F027.D  
Lab ID: K1407971-001  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 17:42  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: FM Blom

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F027.D\0818F027C.D  
**Lab ID:** K1407971-001  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 17:42  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: SM SAM

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F027.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F027.D\0818F027c.d	<b>Vial:</b>	21
<b>Acqu Date:</b>	08/19/2014 17:42	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-001	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	06/27/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367783	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.08 <sup>+0.03</sup>	7.03 <sup>+0.03</sup>	18832021	6364841	206.66	213.53			85 OK
			%Recovery =		83 OK	85 OK	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Final Conc. Units:		Rpt
							ug/Kg #1	ug/Kg #2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.70U	0.70U	0.70U
Di-n-butyltin Cation	9.75	9.60	99033	44323	0.6380	0.8410	0.70U	0.70U	0.70U
n-Butyltin Cation	10.71	10.61	180945	42961	1.05	0.7740	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.159 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15.6 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F027.D\FPD1A.CH Vial: 21  
 Signal #2 : J:\GC26\DATA\081914\0818F027.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:42 pm Operator: SMURRAY  
 Sample : K140797-001 Inst : GC26  
 Misc : *5/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:23 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

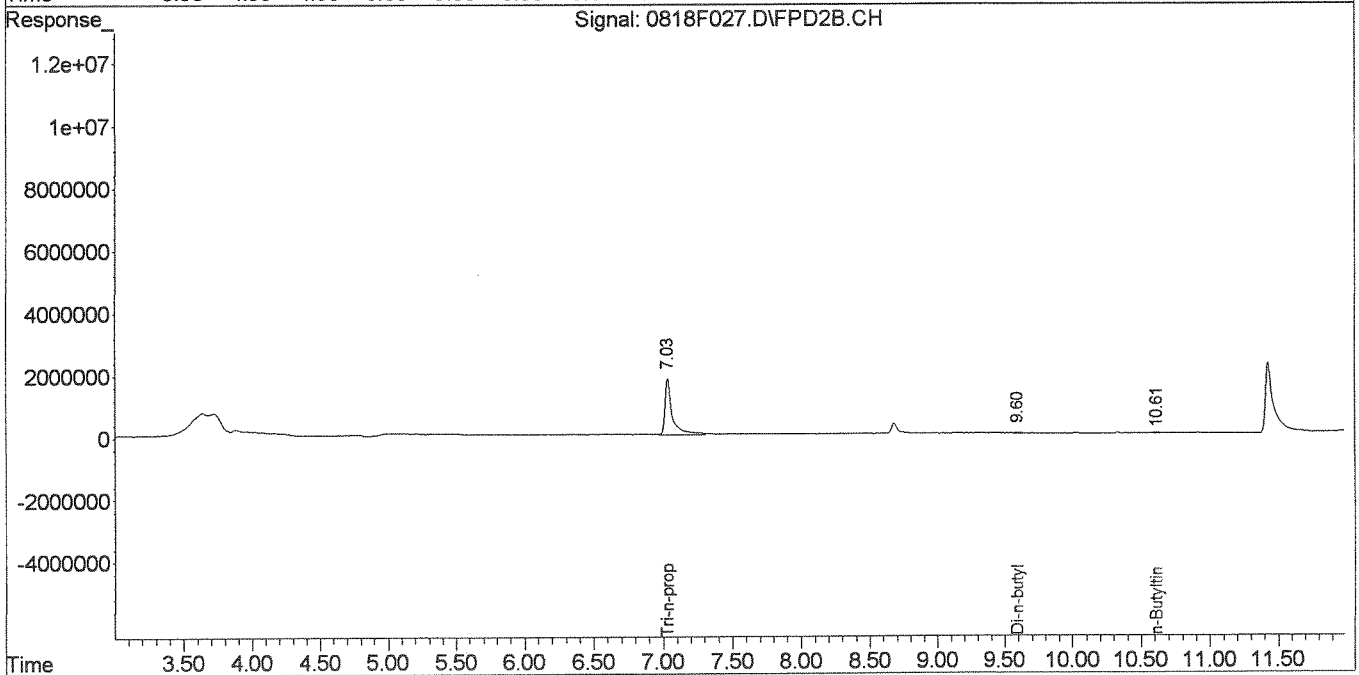
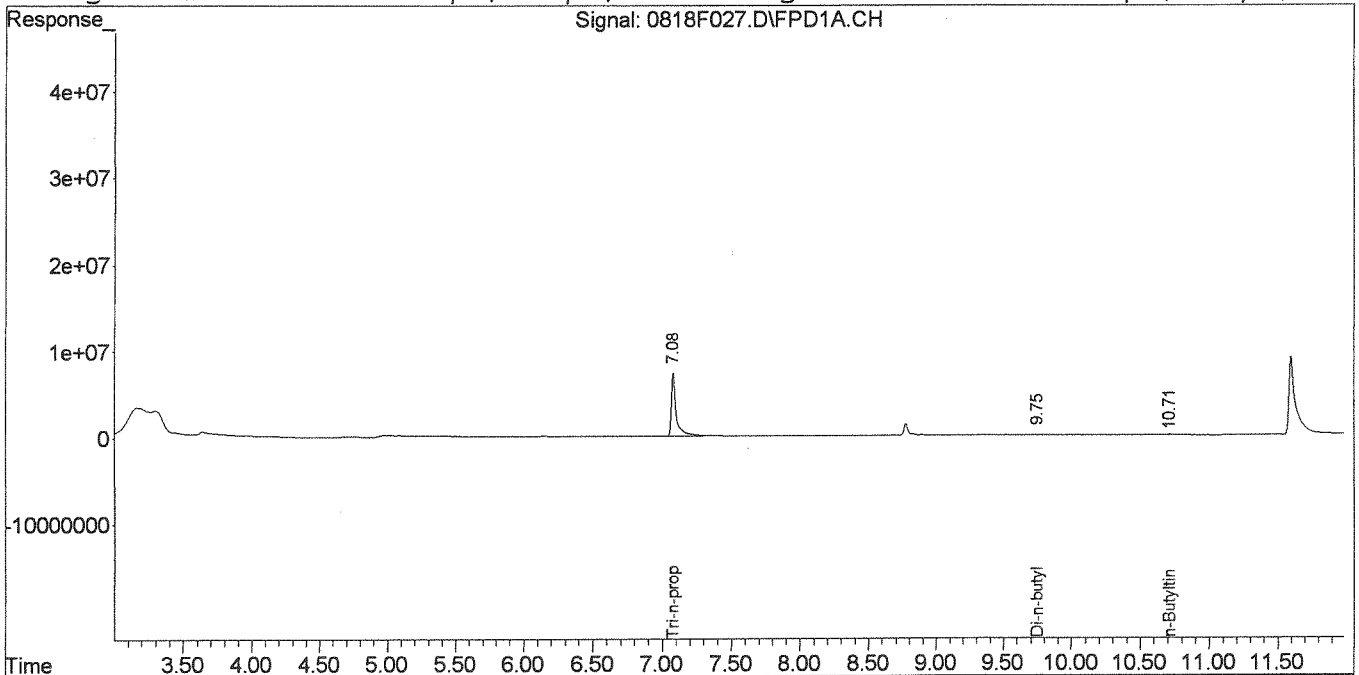
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.08	7.03	18832021	6364841	206.659	213.531
Target Compounds						
4) Di-n-butyltin	9.75	9.60	99033	44323	0.638	0.841 #
5) n-Butyltin	10.71	10.61	180945	42961	1.047	0.774 #

Signal #1 : J:\GC26\DATA\081914\0818F027.D\FPD1A.CH Vial: 21  
 Signal #2 : J:\GC26\DATA\081914\0818F027.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:42 pm Operator: SMURRAY  
 Sample : K140797-001 Inst : GC26  
 Misc : *SS 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F030.D  
**Lab ID:** K1407971-002  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

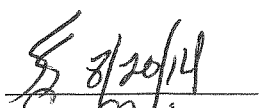

**Date Acquired:** 08/19/2014 18:33  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: \_\_\_\_\_

Secondary Review: \_\_\_\_\_



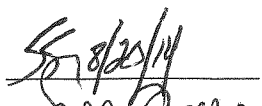
## Exception Report

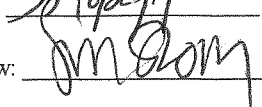
**Data File:** J:\GC26\DATA\081914\0818F030.D\0818F030C.D  
**Lab ID:** K1407971-002  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 18:33  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 

Secondary Review: 

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F030.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F030.D\0818F030c.d	<b>Vial:</b>	24
<b>Acqu Date:</b>	08/19/2014 18:33	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-002	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	06/27/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367784	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Rpt	
Tri-n-propyltin	7.09 <sup>+0.04</sup>	7.04 <sup>+0.04</sup>	19752709	6574082	216.76	220.55	88	OK
%Recovery =					87 OK	88 OK	Limits =	23-145

## Target Compounds

Parameter Name	Final Conc. Units:		ug/Kg Dry Weight		ng/mL		ug/Kg		Rpt
	RT #1	RT #2	Resp #1	Resp #2	#1	#2	#1	#2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.69U	0.69U	0.69U
Di-n-butyltin Cation	9.76 <sup>+0.01</sup>	9.61 <sup>+0.01</sup>	122318	30585	0.7880	0.5800	0.69U	0.69U	0.69U
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	458319	158696	2.65	2.86	1.7J	1.8J	1.7J

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.034 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.9 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F030.D\FPD1A.CH Vial: 24  
 Signal #2 : J:\GC26\DATA\081914\0818F030.D\FPD2B.CH  
 Acq On : 19 Aug 2014 6:33 pm Operator: SMURRAY  
 Sample : K140797-002 Inst : GC26  
 Misc : *5/8/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:25 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

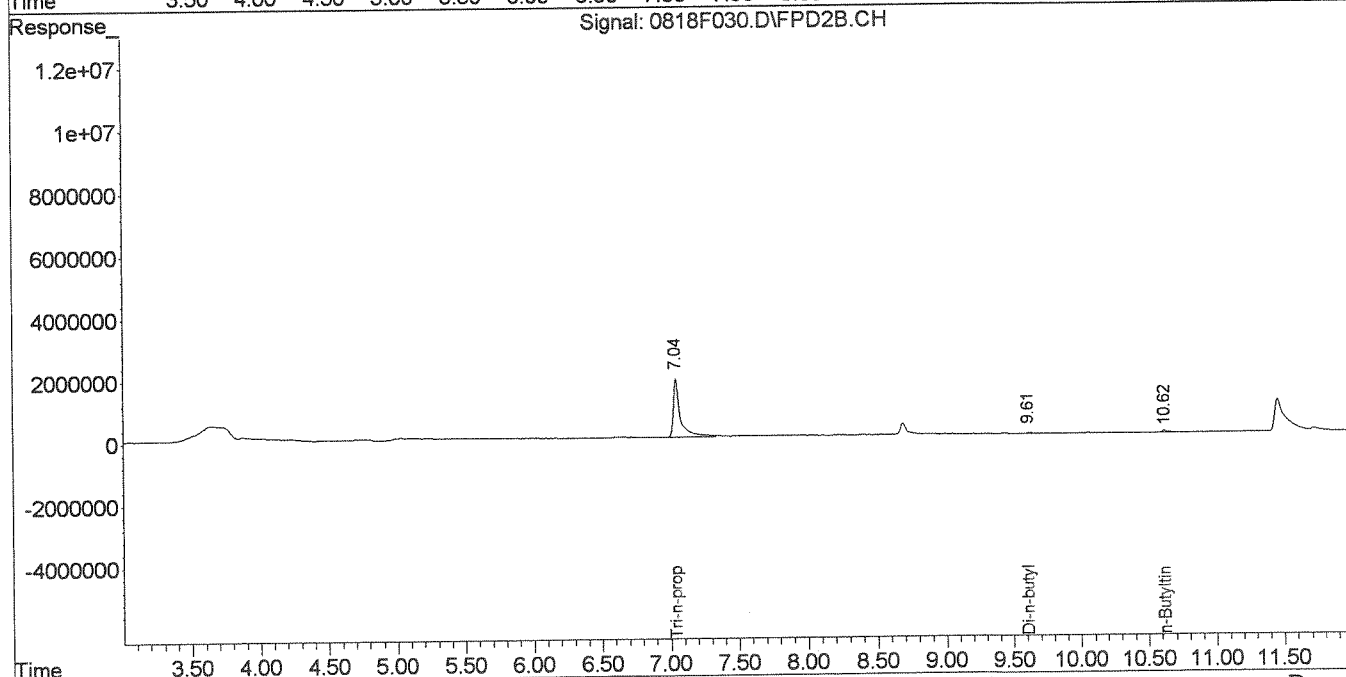
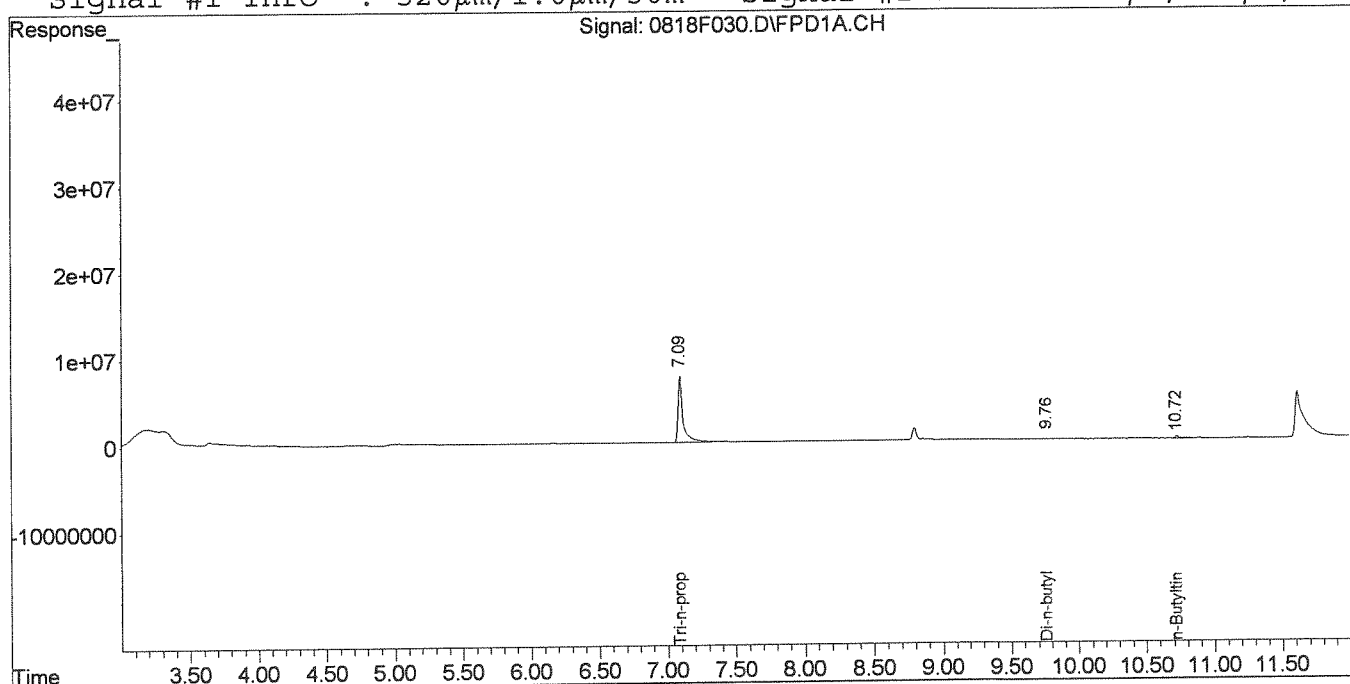
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.04f	19752709	6574082	216.762	220.551
Target Compounds						
4) Di-n-butyltin	9.76	9.61	122318	30585	0.788	0.580 #
5) n-Butyltin	10.72	10.62	458319	158696	2.652	2.859

Signal #1 : J:\GC26\DATA\081914\0818F030.D\FPD1A.CH Vial: 24  
Signal #2 : J:\GC26\DATA\081914\0818F030.D\FPD2B.CH  
Acq On : 19 Aug 2014 6:33 pm Operator: SMURRAY  
Sample : K140797-002 Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F031.D  
Lab ID: K1407971-003  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 18:50  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: FM 8/20/14

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F031.D\0818F031C.D  
**Lab ID:** K1407971-003  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 18:50  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
 Secondary Review: Simon

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F031.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F031.D\0818F031c.d	<b>Vial:</b>	25
<b>Acqu Date:</b>	08/19/2014 18:50	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-003	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	06/27/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367785	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt
Tri-n-propyltin	7.09 <sup>+0.04</sup>	7.05 <sup>+0.05</sup>	17035556	5795595	186.95	194.43	75 OK	78 OK	78 OK
			%Recovery =		75 OK	78 OK	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.67U	0.67U	0.67U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.62 <sup>+0.02</sup>	97094	38838	0.6250	0.7370	0.67U	0.67U	0.67U
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.63 <sup>+0.02</sup>	241903	63564	1.40	1.15	1.1U	1.1U	1.1U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.091 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 16.4 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F031.D\FPD1A.CH Vial: 25  
 Signal #2 : J:\GC26\DATA\081914\0818F031.D\FPD2B.CH  
 Acq On : 19 Aug 2014 6:50 pm Operator: SMURRAY  
 Sample : K140797-003 Inst : GC26  
 Misc : *§ rtscl4* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:26 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

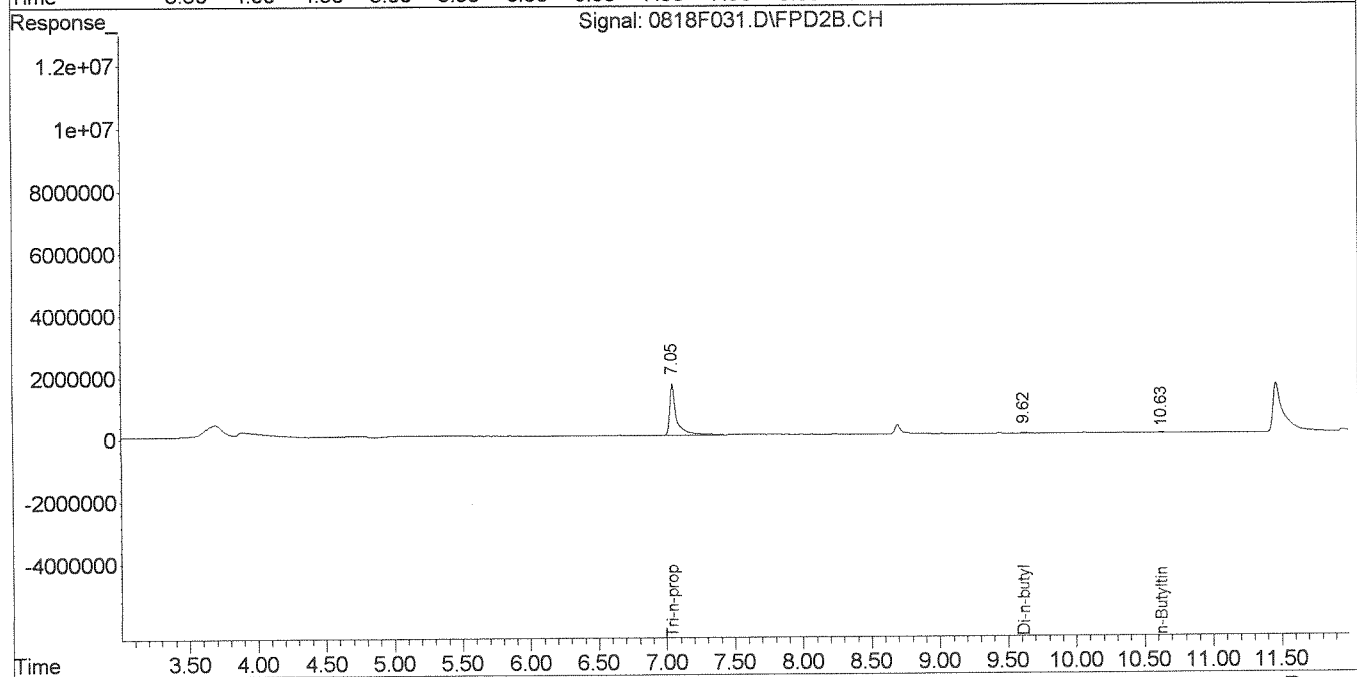
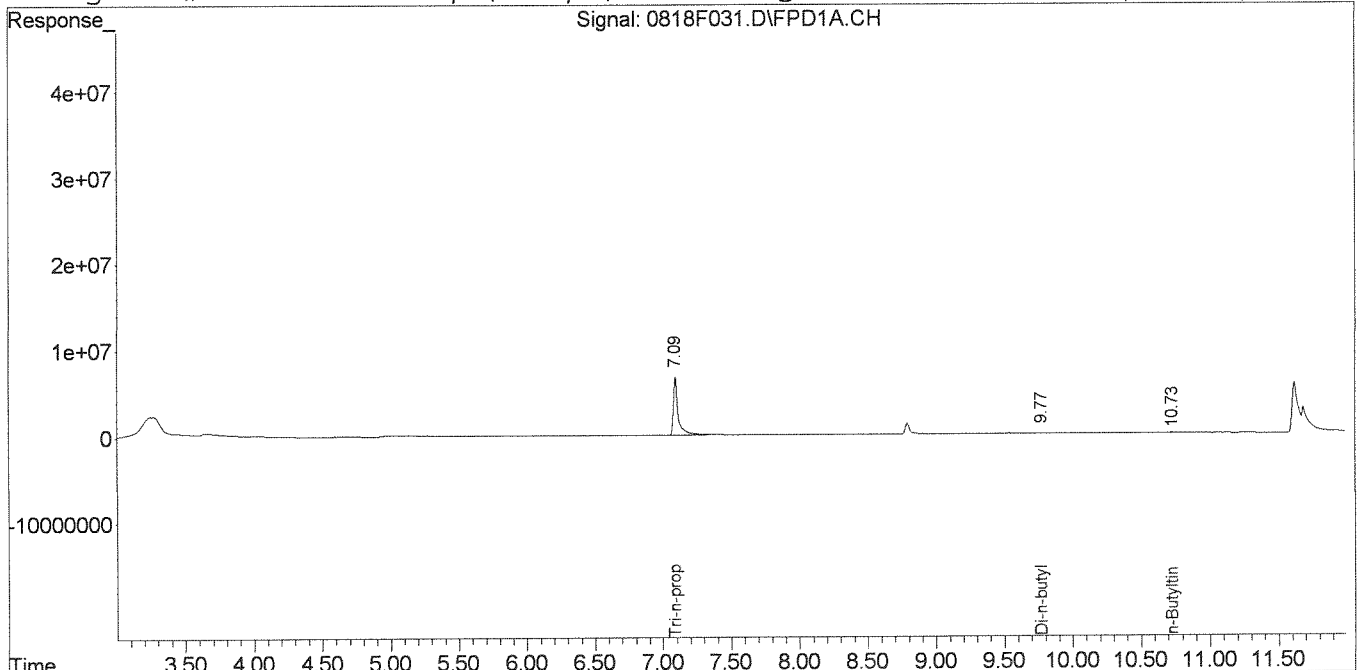
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.05f	17035556	5795595	186.945	194.434
Target Compounds						
4) Di-n-butyltin	9.77f	9.62	97094	38838	0.625	0.737
5) n-Butyltin	10.73	10.63	241903	63564	1.400	1.145



Signal #1 : J:\GC26\DATA\081914\0818F031.D\FPD1A.CH Vial: 25  
Signal #2 : J:\GC26\DATA\081914\0818F031.D\FPD2B.CH  
Acq On : 19 Aug 2014 6:50 pm Operator: SMURRAY  
Sample : K140797-003 Inst : GC26  
Misc : *8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F032.D  
Lab ID: K1407971-009  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 19:07  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: fm 8/20/14

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F032.D\0818F032C.D  
**Lab ID:** K1407971-009  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 19:07  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: fm Blom

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F032.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F032.D\0818F032c.d	<b>Vial:</b>	26
<b>Acqu Date:</b>	08/19/2014 19:07	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-009	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367786	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.09 <sup>+0.04</sup>	7.04 <sup>+0.04</sup>	17126165	5950777	187.94	199.64			80 OK
			%Recovery =		75 OK	80 OK	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL		ug/Kg		Rpt
					#1	#2	#1	#2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.70U	0.70U	0.70U
Di-n-butyltin Cation	9.76 <sup>+0.01</sup>	9.62 <sup>+0.02</sup>	939527	285146	6.05	5.41	3.8J	3.4J	3.4J
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	279642	99094	1.62	1.79	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.082 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15.7 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F032.D\FPD1A.CH Vial: 26  
 Signal #2 : J:\GC26\DATA\081914\0818F032.D\FPD2B.CH  
 Acq On : 19 Aug 2014 7:07 pm Operator: SMURRAY  
 Sample : K140797-009 Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:27 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

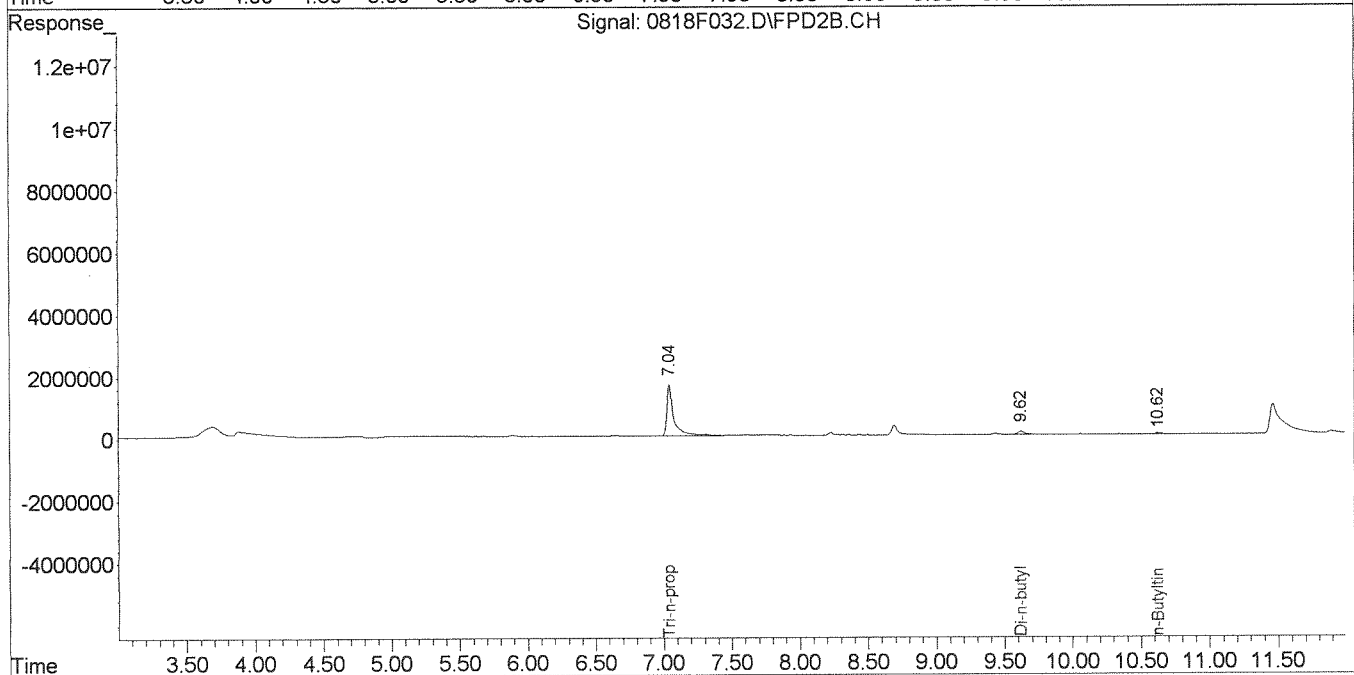
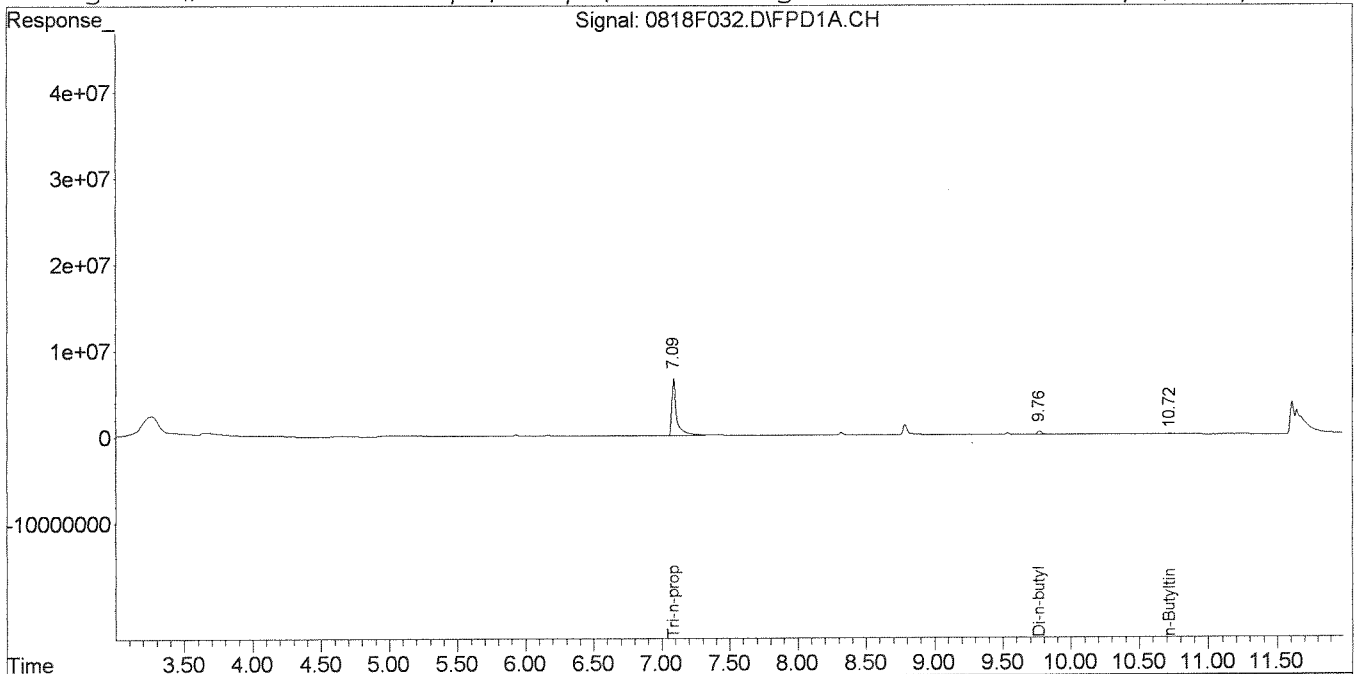
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.04	17126165	5950777	187.939	199.640
Target Compounds						
4) Di-n-butyltin	9.76f	9.62	939527	285146	6.050	5.411
5) n-Butyltin	10.72	10.62	279642	99094	1.618	1.785

Signal #1 : J:\GC26\DATA\081914\0818F032.D\FPD1A.CH Vial: 26  
 Signal #2 : J:\GC26\DATA\081914\0818F032.D\FPD2B.CH  
 Acq On : 19 Aug 2014 7:07 pm Operator: SMURRAY  
 Sample : K140797-009 Inst : GC26  
 Misc : *5x 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F033.D  
**Lab ID:** K1407971-010  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 19:24  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: hm 8/20/14

## Exception Report


**Data File:** J:\GC26\DATA\081914\0818F033.D\0818F033C.D  
**Lab ID:** K1407971-010  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 19:24  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 

Secondary Review: 



# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F033.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F033.D\0818F033c.d	<b>Vial:</b>	27
<b>Acqu Date:</b>	08/19/2014 19:24	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-010	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367787	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt
Tri-n-propyltin	7.10 <sup>+0.05</sup>	7.05 <sup>+0.05</sup>	17036486	5472477	186.96	183.59	75 OK	73 OK	75 OK
<b>%Recovery =</b>					75 OK	73 OK	<b>Limits = 23-145</b>		

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.71U	0.71U	0.71U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	1138512	404510	7.33	7.68	4.7J	4.9J	4.7J
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.63 <sup>+0.02</sup>	242125	75042	1.40	1.35	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.206 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F033.D\FPD1A.CH Vial: 27  
 Signal #2 : J:\GC26\DATA\081914\0818F033.D\FPD2B.CH  
 Acq On : 19 Aug 2014 7:24 pm Operator: SMURRAY  
 Sample : K140797-010 Inst : GC26  
 Misc : *SS 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:28 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

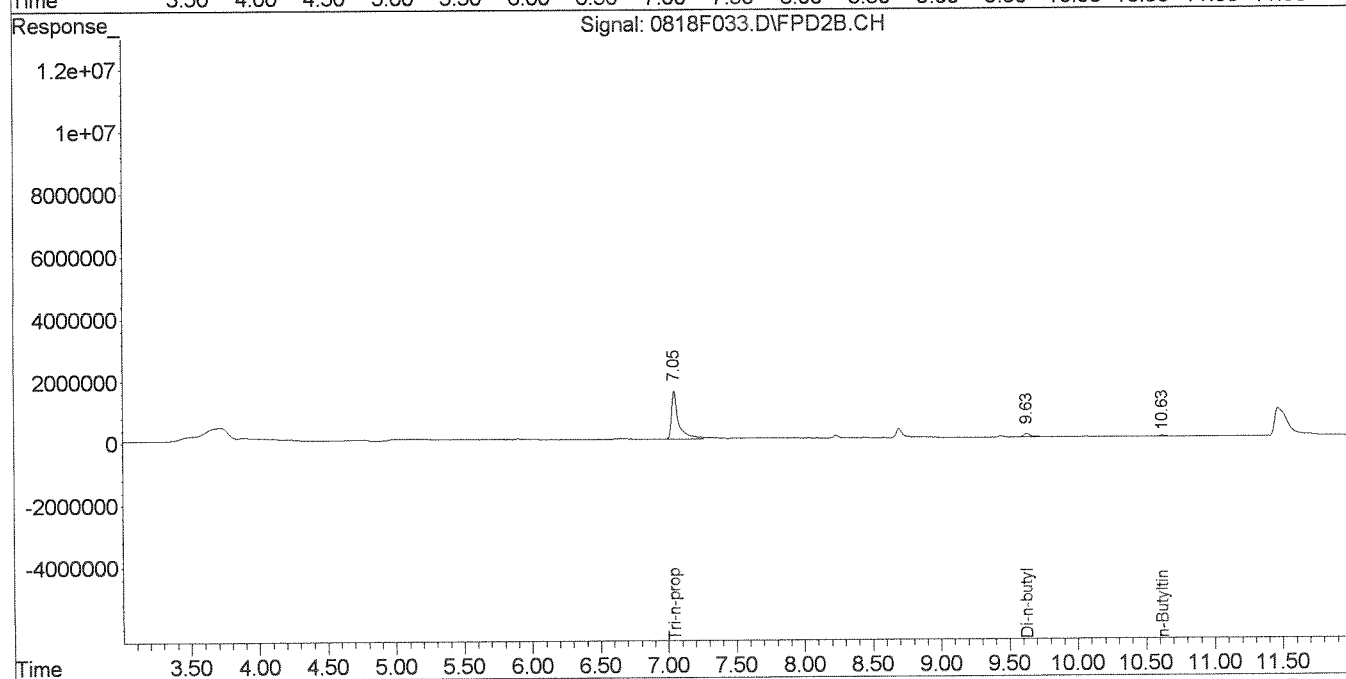
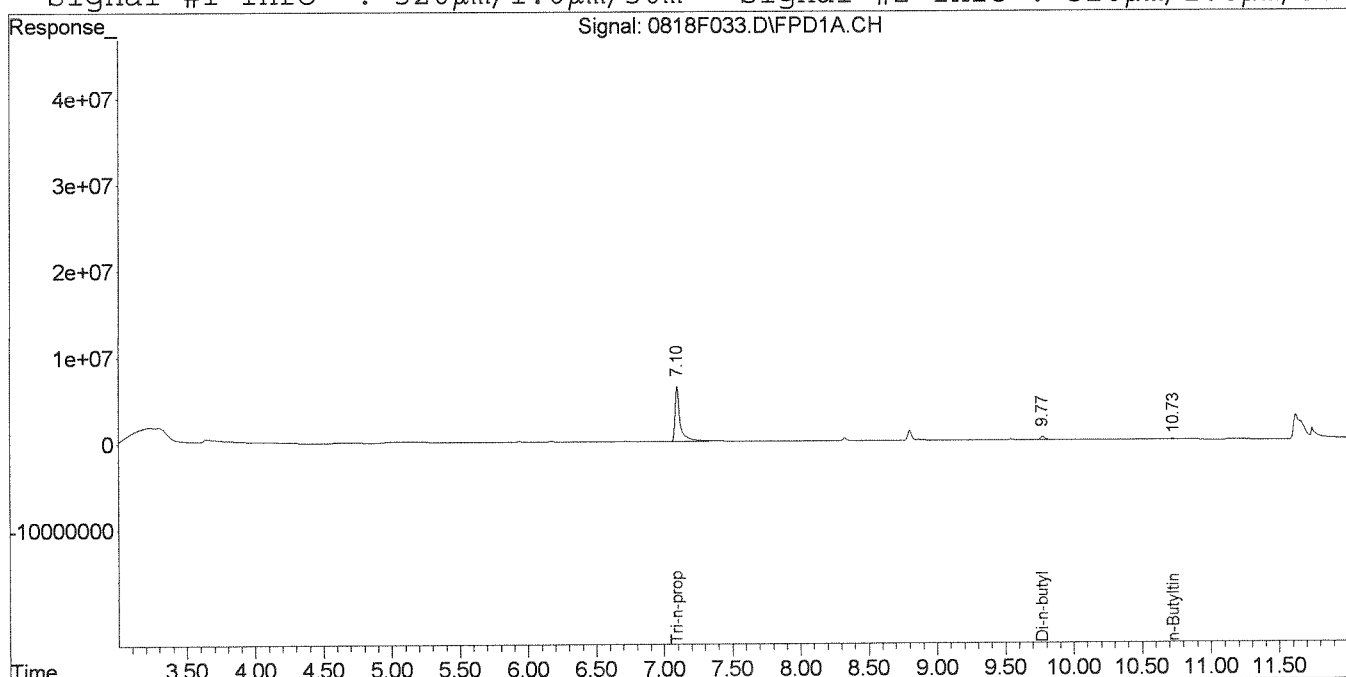
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.10f	7.05f	17036486	5472477	186.955	183.594
Target Compounds						
4) Di-n-butyltin	9.77f	9.63	1138512	404510	7.331	7.676
5) n-Butyltin	10.73	10.63	242125	75042	1.401	1.352

Signal #1 : J:\GC26\DATA\081914\0818F033.D\FPD1A.CH Vial: 27  
Signal #2 : J:\GC26\DATA\081914\0818F033.D\FPD2B.CH  
Acq On : 19 Aug 2014 7:24 pm Operator: SMURRAY  
Sample : K140797A-010 Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F034.D  
Lab ID: K1407971-011  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 19:40  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: RM 8/20/14

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F034.D\0818F034C.D  
**Lab ID:** K1407971-011  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 19:40  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
 Secondary Review: fm 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F034.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F034.D\0818F034c.d	<b>Vial:</b>	28
<b>Acqu Date:</b>	08/19/2014 19:40	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-011	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367788	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt	
Tri-n-propyltin	7.10 <sup>+0.05</sup>	7.05 <sup>+0.05</sup>	19057461	6393255	209.13	214.48	86	OK
<b>%Recovery =</b>					84 OK	86 OK	<b>Limits =</b>	23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt
							ug/Kg #1	ug/Kg #2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.72U	0.72U	0.72U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.62 <sup>+0.02</sup>	483654	146995	3.11	2.79	2.0J	1.8J	<b>1.8J</b>
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.63 <sup>+0.02</sup>	232450	73536	1.35	1.33	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.290 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F034.D\FPD1A.CH Vial: 28  
 Signal #2 : J:\GC26\DATA\081914\0818F034.D\FPD2B.CH  
 Acq On : 19 Aug 2014 7:40 pm Operator: SMURRAY  
 Sample : K140797-011 Inst : GC26  
 Misc : *8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:28 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
----------	------	------	--------	--------	-------	-------

System Monitoring Compounds

1) S	Tri-n-propyltin	7.10f	7.05f	19057461	6393255	209.132	214.484
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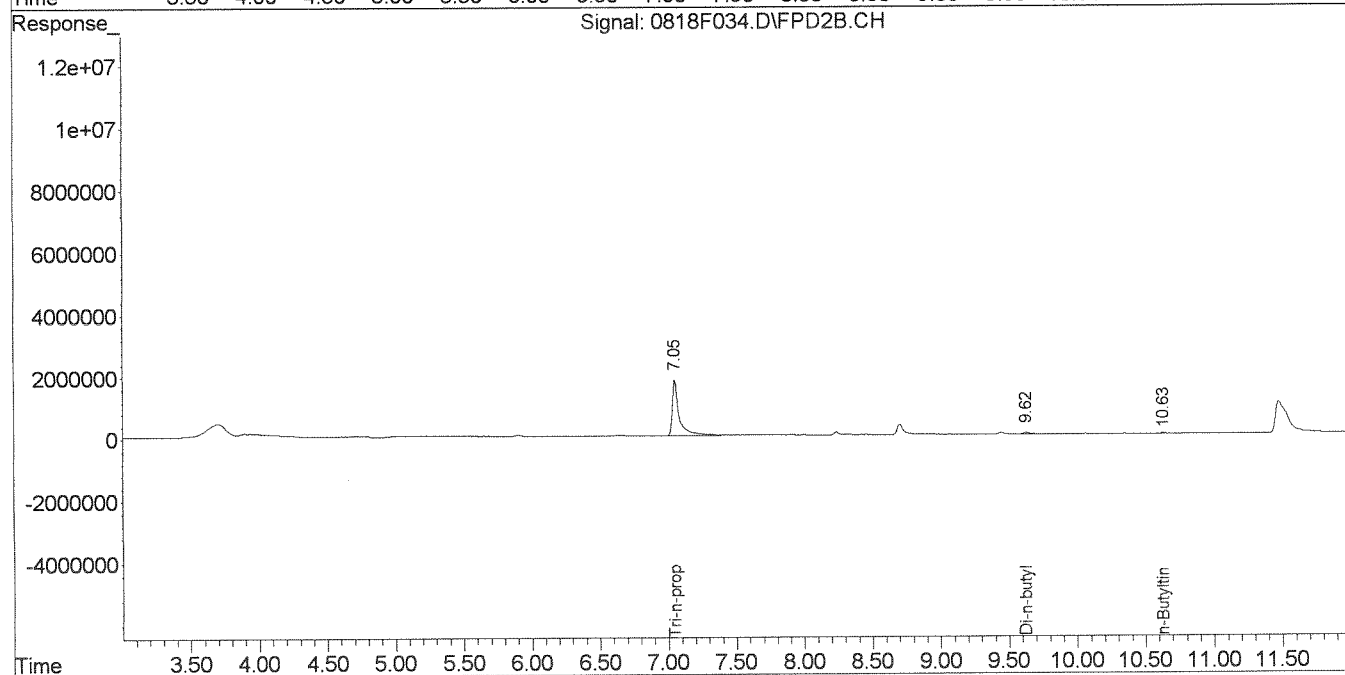
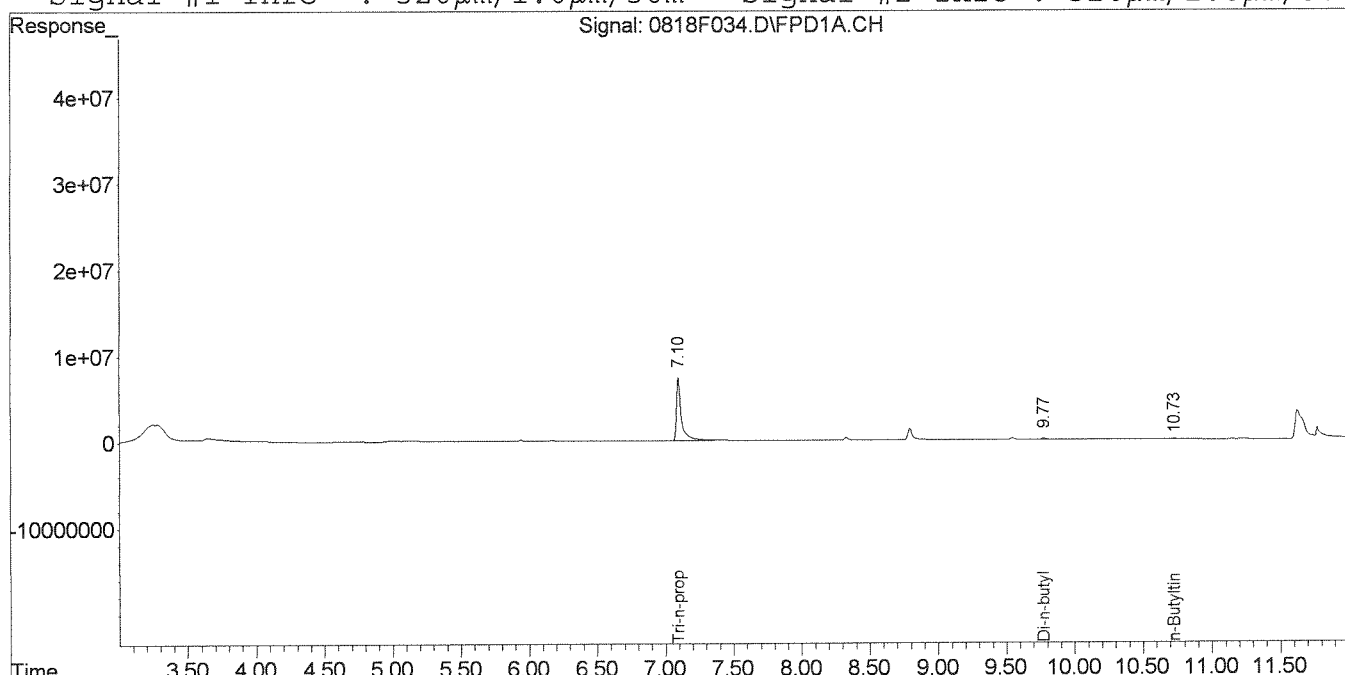
Target Compounds

4)	Di-n-butyltin	9.77f	9.62	483654	146995	3.114	2.790
5)	n-Butyltin	10.73	10.63	232450	73536	1.345	1.325

Signal #1 : J:\GC26\DATA\081914\0818F034.D\FPD1A.CH Vial: 28  
 Signal #2 : J:\GC26\DATA\081914\0818F034.D\FPD2B.CH  
 Acq On : 19 Aug 2014 7:40 pm Operator: SMURRAY  
 Sample : K140797-011 Inst : GC26  
 Misc : *ss 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m





## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F037.D  
**Lab ID:** K1407971-012  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 20:31  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: Jim Szony



# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F037.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F037.D\0818F037c.d	<b>Vial:</b>	29
<b>Acqu Date:</b>	08/19/2014 20:31	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-012	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367789	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt	
Tri-n-propyltin	7.08 <sup>+0.02</sup>	7.03 <sup>+0.03</sup>	21849691	7291058	239.77	244.60	96 OK	98 OK	23-145	98 OK
%Recovery =										

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.70U	0.70U	0.70U
Di-n-butyltin Cation	9.75	9.60	713106	233396	4.59	4.43	2.9J	2.8J	2.8J
n-Butyltin Cation	10.71	10.61	237878	83277	1.38	1.50	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.214 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15.5 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F037.D\FPD1A.CH Vial: 29  
 Signal #2 : J:\GC26\DATA\081914\0818F037.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:31 pm Operator: SMURRAY  
 Sample : K140797A-012 Inst : GC26  
 Misc : *SS 7/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:30 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

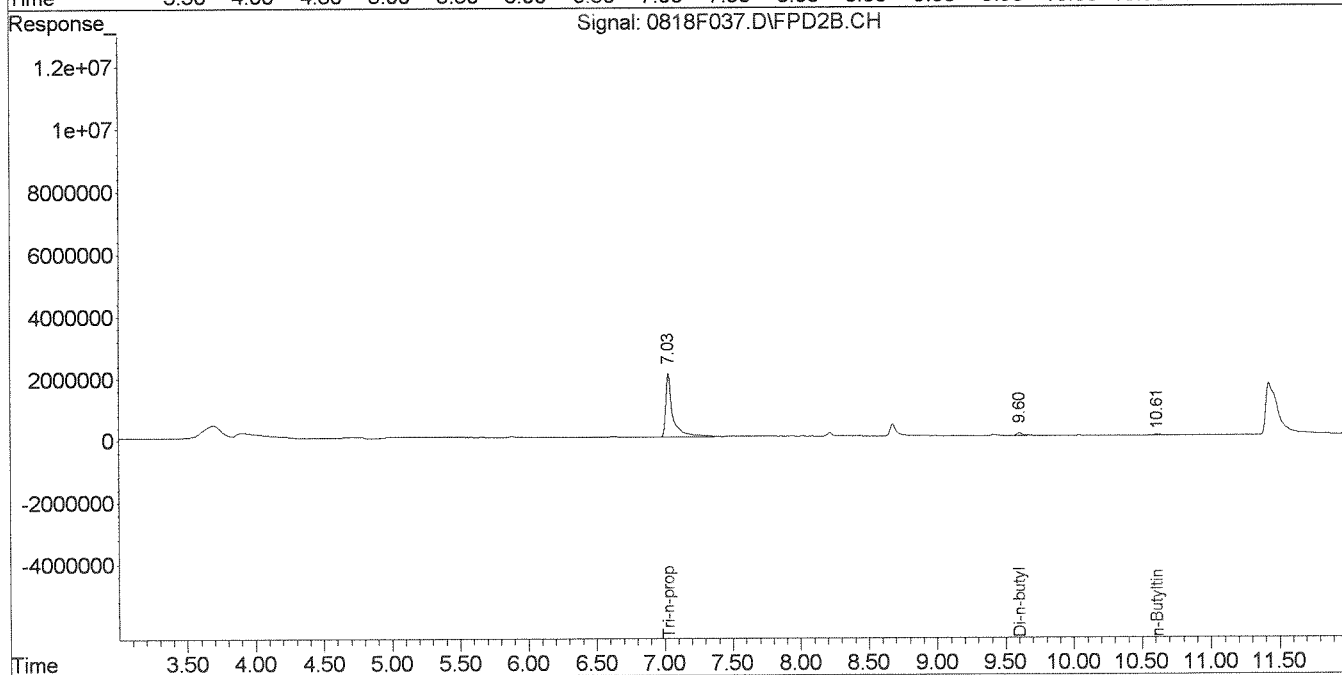
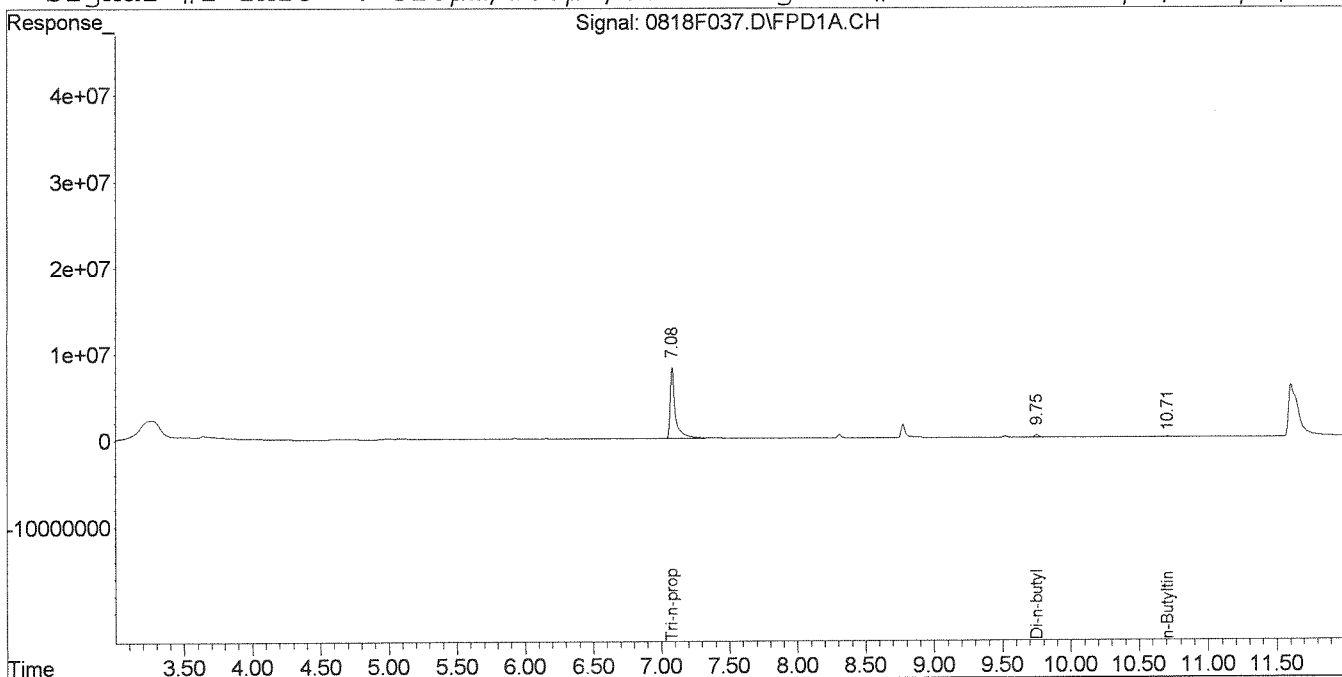
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.08	7.03	21849691	7291058	239.774	244.604
Target Compounds						
4) Di-n-butyltin	9.75	9.60	713106	233396	4.592	4.429
5) n-Butyltin	10.71	10.61	237878	83277	1.377	1.500

Signal #1 : J:\GC26\DATA\081914\0818F037.D\FPD1A.CH Vial: 29  
Signal #2 : J:\GC26\DATA\081914\0818F037.D\FPD2B.CH  
Acq On : 19 Aug 2014 8:31 pm Operator: SMURRAY  
Sample : K140797-012 Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F038.D  
Lab ID: K1407971-013  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 20:48  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: RM 8/20/14



## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F038.D\0818F038C.D  
**Lab ID:** K1407971-013  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 20:48  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:   
 Secondary Review: 

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F038.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F038.D\0818F038c.d	<b>Vial:</b>	30
<b>Acqu Date:</b>	08/19/2014 20:48	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-013	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367790	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt	
Tri-n-propyltin	7.09 <sup>+0.03</sup>	7.04 <sup>+0.04</sup>	19274103	6495173	211.51	217.90	85 OK	87 OK	23-145	87 OK
<b>%Recovery =</b>										

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.73U	0.73U	0.73U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	296787	97800	1.91	1.86	1.3J	1.2J	1.2J
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	306029	88278	1.77	1.59	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.048 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL, also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Signal #1 : J:\GC26\DATA\081914\0818F038.D\FPD1A.CH Vial: 30  
 Signal #2 : J:\GC26\DATA\081914\0818F038.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:48 pm Operator: SMURRAY  
 Sample : K140797-013 Inst : GC26  
 Misc : *§ 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:31 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

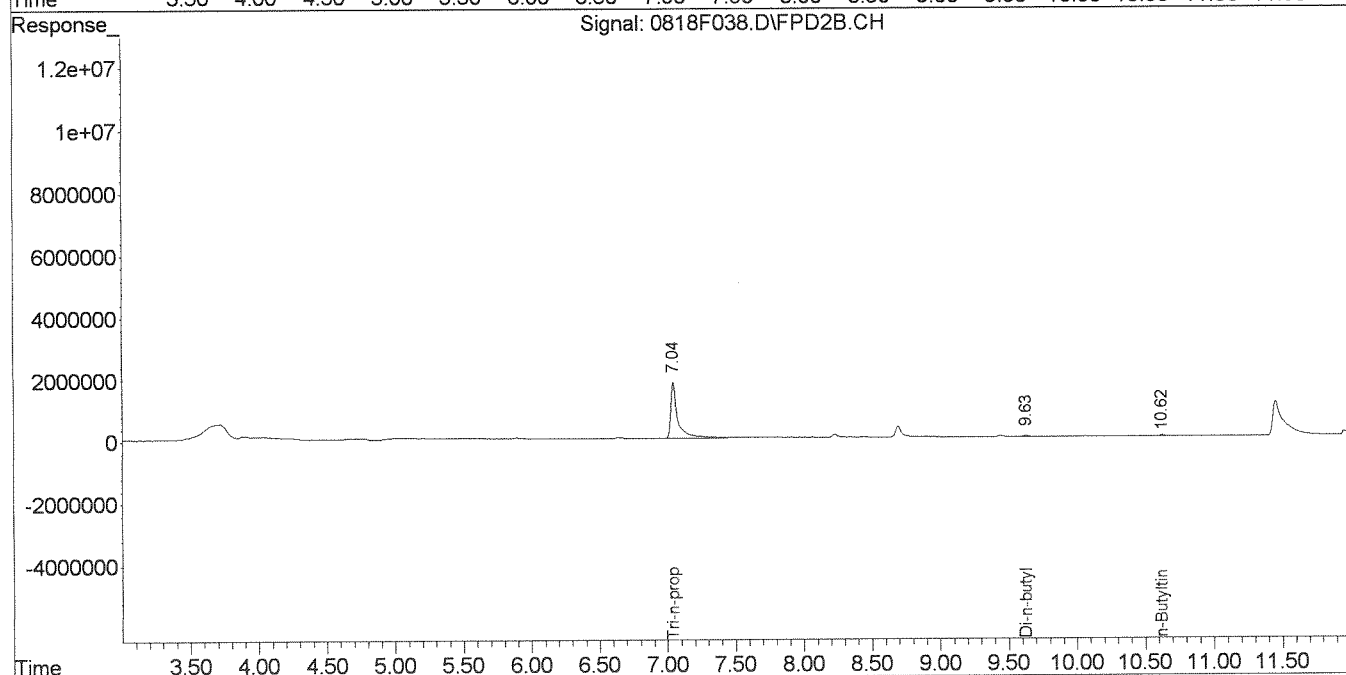
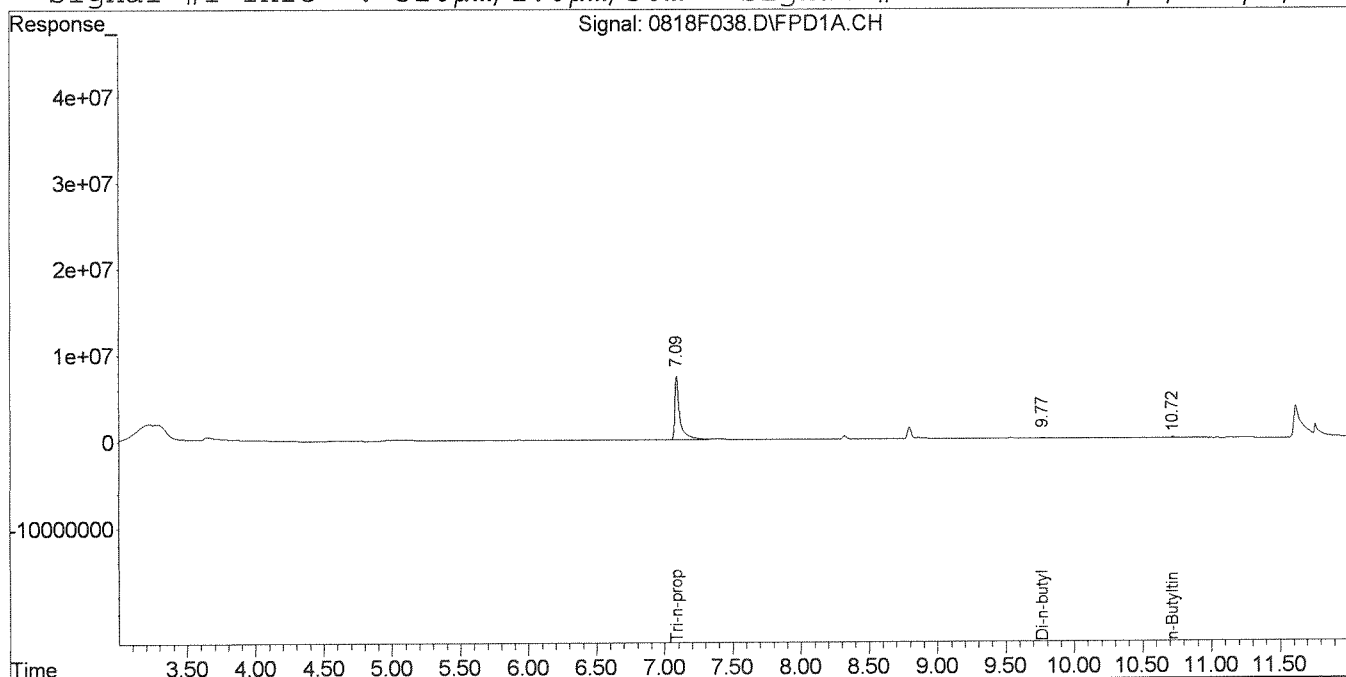
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.04f	19274103	6495173	211.510	217.903
Target Compounds						
4) Di-n-butyltin	9.77f	9.63	296787	97800	1.911	1.856
5) n-Butyltin	10.72	10.62	306029	88278	1.771	1.590

Signal #1 : J:\GC26\DATA\081914\0818F038.D\FPD1A.CH Vial: 30  
Signal #2 : J:\GC26\DATA\081914\0818F038.D\FPD2B.CH  
Acq On : 19 Aug 2014 8:48 pm Operator: SMURRAY  
Sample : K140797-013 Inst : GC26  
Misc : SS *8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F039.D  
**Lab ID:** K1407971-014  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:05  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
 Secondary Review: [Signature]

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F039.D\0818F039C.D  
**Lab ID:** K1407971-014  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:05  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: fm2014

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F039.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F039.D\0818F039c.d	<b>Vial:</b>	31
<b>Acqu Date:</b>	08/19/2014 21:05	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-014	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367791	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt	
Tri-n-propyltin	7.09 <sup>+0.03</sup>	7.04 <sup>+0.04</sup>	19698852	6456017	216.17	216.59	86	OK
%Recovery =					86 OK	87 OK	Limits =	23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	Final Conc. Units: ug/Kg Dry Weight				Rpt
					ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.68U	0.68U	0.68U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.62 <sup>+0.02</sup>	1422666	424094	9.16	8.05	5.6J	5.0J	5.0J
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	449453	139223	2.60	2.51	1.6J	1.5J	1.5J

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.031 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 16.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F039.D\FPD1A.CH Vial: 31  
 Signal #2 : J:\GC26\DATA\081914\0818F039.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:05 pm Operator: SMURRAY  
 Sample : K140797-014 Inst : GC26  
 Misc : *S 2/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:32 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

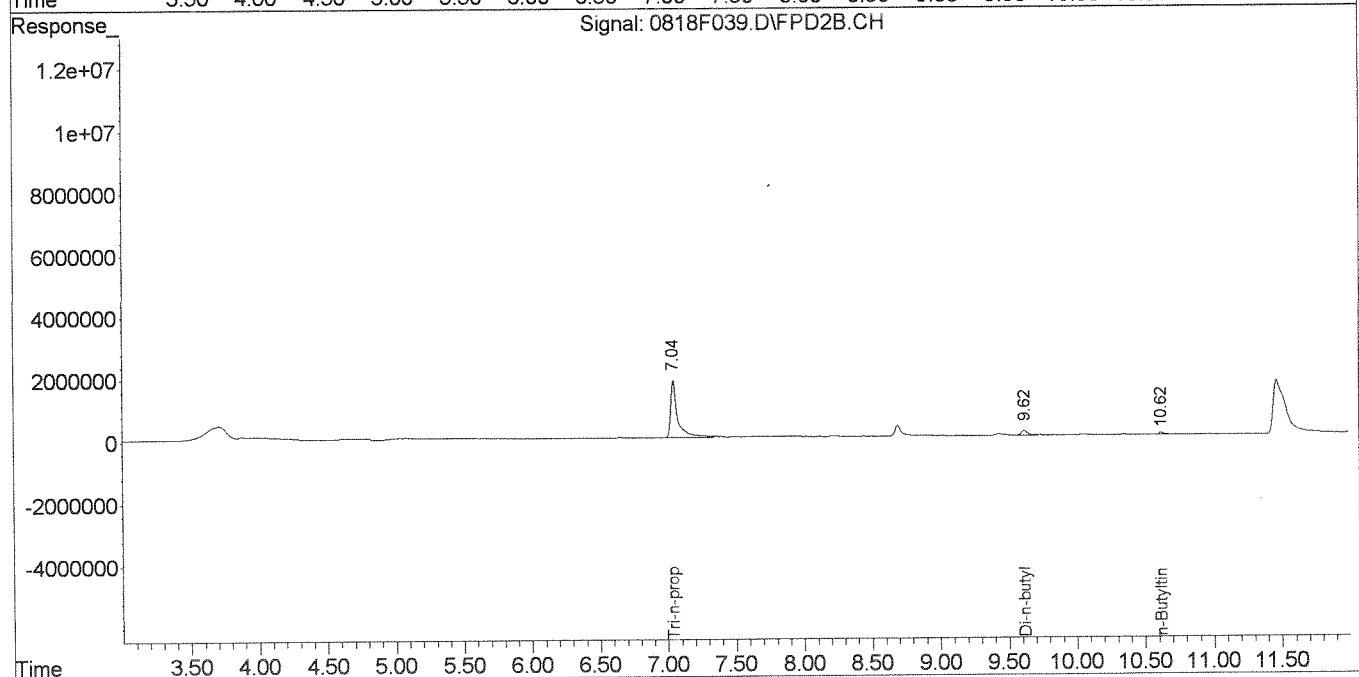
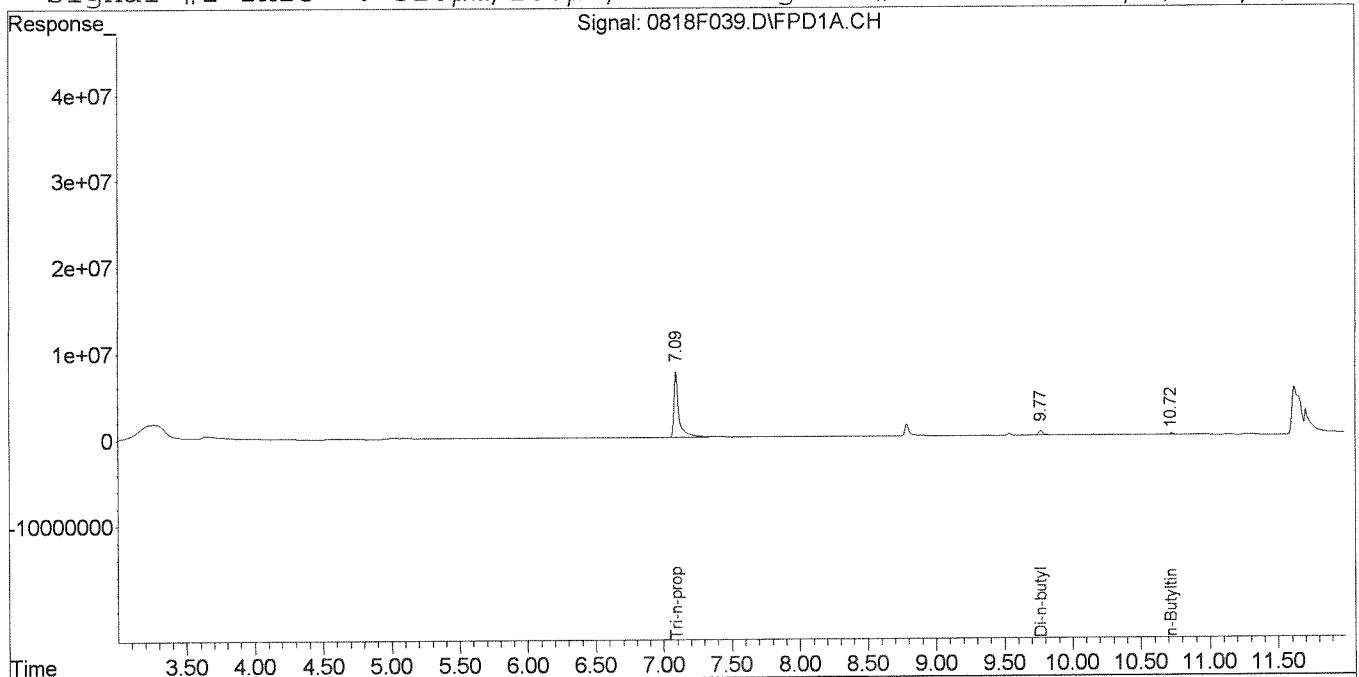
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.04f	19698852	6456017	216.171	216.590
Target Compounds						
4) Di-n-butyltin	9.77f	9.62	1422666	424094	9.161	8.048
5) n-Butyltin	10.72	10.62	449453	139223	2.601	2.508

Signal #1 : J:\GC26\DATA\081914\0818F039.D\FPD1A.CH Vial: 31  
Signal #2 : J:\GC26\DATA\081914\0818F039.D\FPD2B.CH  
Acq On : 19 Aug 2014 9:05 pm Operator: SMURRAY  
Sample : K140797-014 Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F040.D  
**Lab ID:** K1407971-015  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:22  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: mscom



# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F040.D\0818F040C.D  
**Lab ID:** K1407971-015  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:22  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SK 8/20/14

Secondary Review: om 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F040.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F040.D\0818F040c.d	<b>Vial:</b>	32
<b>Acqu Date:</b>	08/19/2014 21:22	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-015	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367792	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt	
Tri-n-propyltin	7.09 <sup>+0.03</sup>	7.05 <sup>+0.05</sup>	18713190	6154637	205.36	206.48	83	OK
%Recovery =					82 OK	83 OK	Limits =	23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	Final Conc. Units: ug/Kg Dry Weight				Rpt
					ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.71U	0.71U	0.71U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	2131235	689766	13.72	13.09	8.8	8.3	8.3
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.62 <sup>+0.01</sup>	667365	199711	3.86	3.60	2.5J	2.3J	2.3J

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.250 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.3 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL, also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F040.D\FPD1A.CH Vial: 32  
 Signal #2 : J:\GC26\DATA\081914\0818F040.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:22 pm Operator: SMURRAY  
 Sample : K140797-015 Inst : GC26  
 Misc : *SS 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:32 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
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System Monitoring Compounds

1) S	Tri-n-propyltin	7.09	7.05f	18713190	6154637	205.355	206.479
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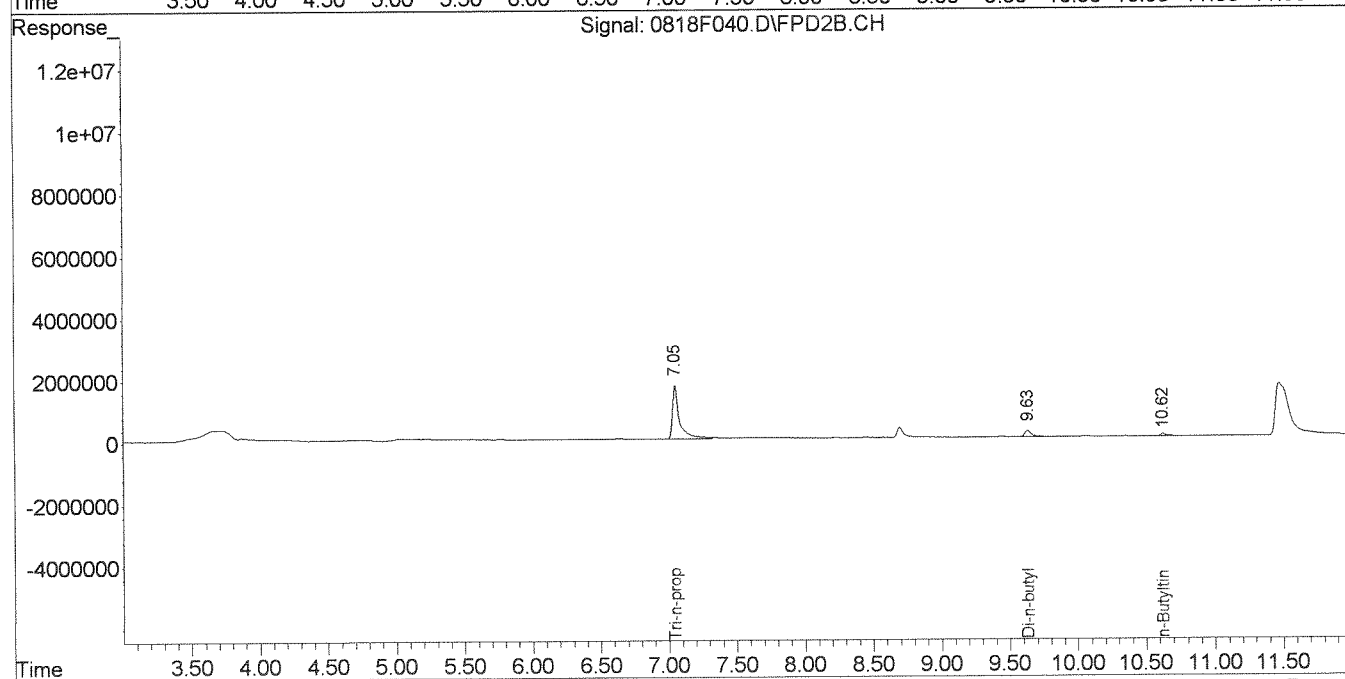
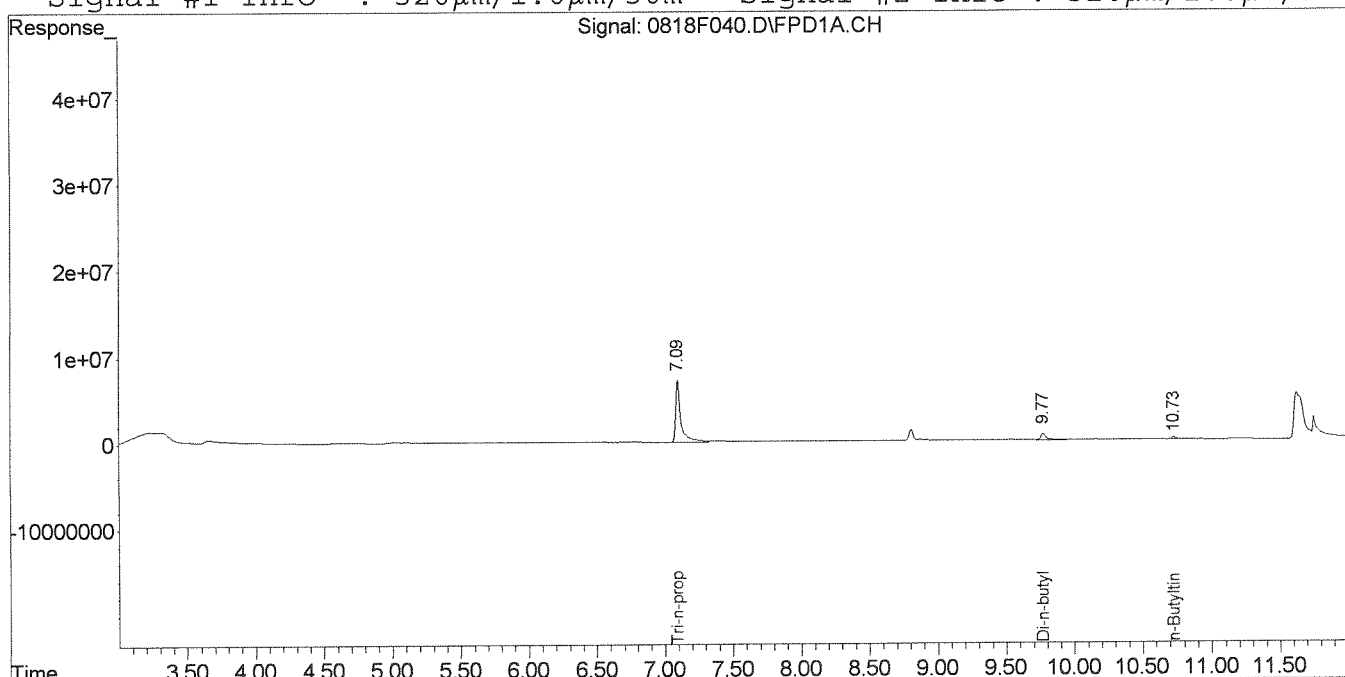
Target Compounds

4)	Di-n-butyltin	9.77f	9.63	2131235	689766	13.724	13.090
5)	n-Butyltin	10.73	10.62	667365	199711	3.862	3.597

Signal #1 : J:\GC26\DATA\081914\0818F040.D\FPD1A.CH Vial: 32  
Signal #2 : J:\GC26\DATA\081914\0818F040.D\FPD2B.CH  
Acq On : 19 Aug 2014 9:22 pm Operator: SMURRAY  
Sample : K140797-015 Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F041.D  
**Lab ID:** K1407971-016  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:39  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: Amerson

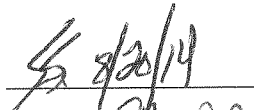

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F041.D\0818F041C.D  
**Lab ID:** K1407971-016  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:39  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:   
 Secondary Review: 

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F041.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F041.D\0818F041c.d	<b>Vial:</b>	33
<b>Acqu Date:</b>	08/19/2014 21:39	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-016	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367793	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt	
Tri-n-propyltin	7.10 <sup>+0.04</sup>	7.05 <sup>+0.05</sup>	17937092	5988039	196.84	200.89	80	OK
<b>%Recovery =</b>					79 OK	80 OK	<b>Limits =</b>	23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	Final Conc. Units: ug/Kg Dry Weight				Rpt
					ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.71U	0.71U	0.71U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	1107799	369420	7.13	7.01	4.6J	4.5J	4.5J
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.63 <sup>+0.02</sup>	442942	136929	2.56	2.47	1.7J	1.6J	1.6J

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.073 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.4 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F041.D\FPD1A.CH Vial: 33  
 Signal #2 : J:\GC26\DATA\081914\0818F041.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:39 pm Operator: SMURRAY  
 Sample : K140797-016 Inst : GC26  
 Misc : *SS 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:33 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

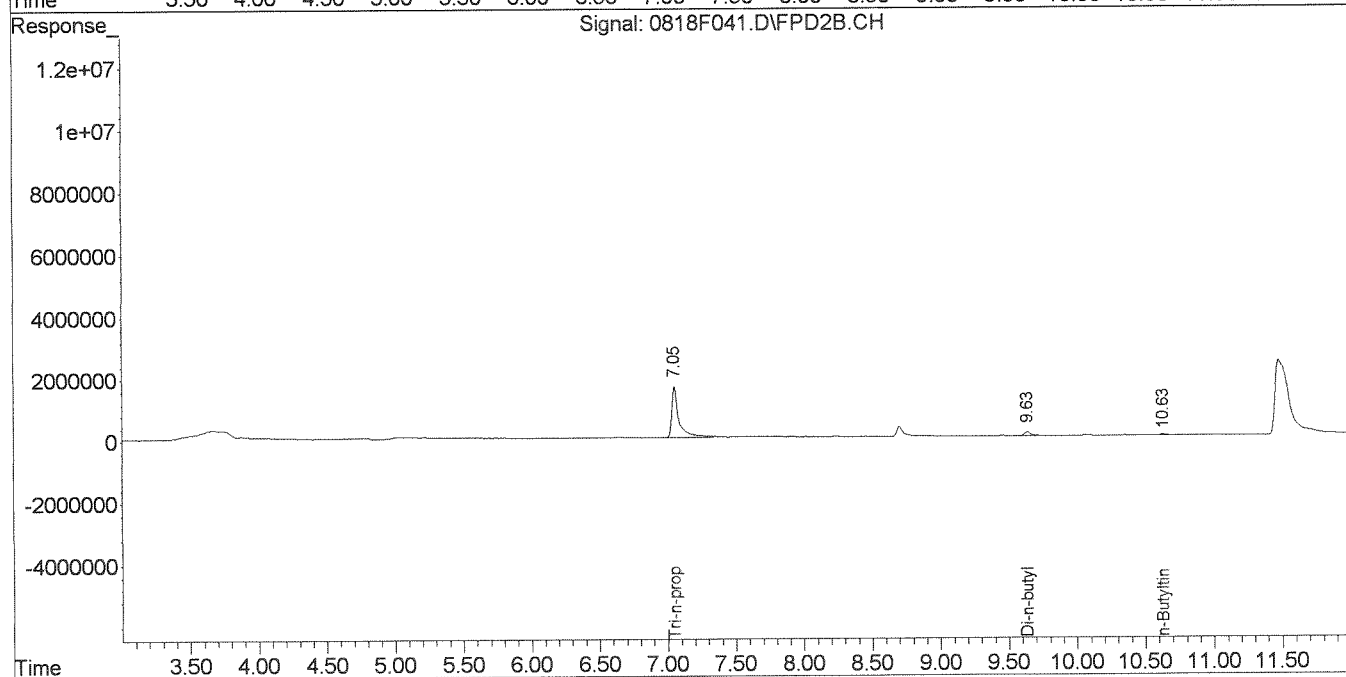
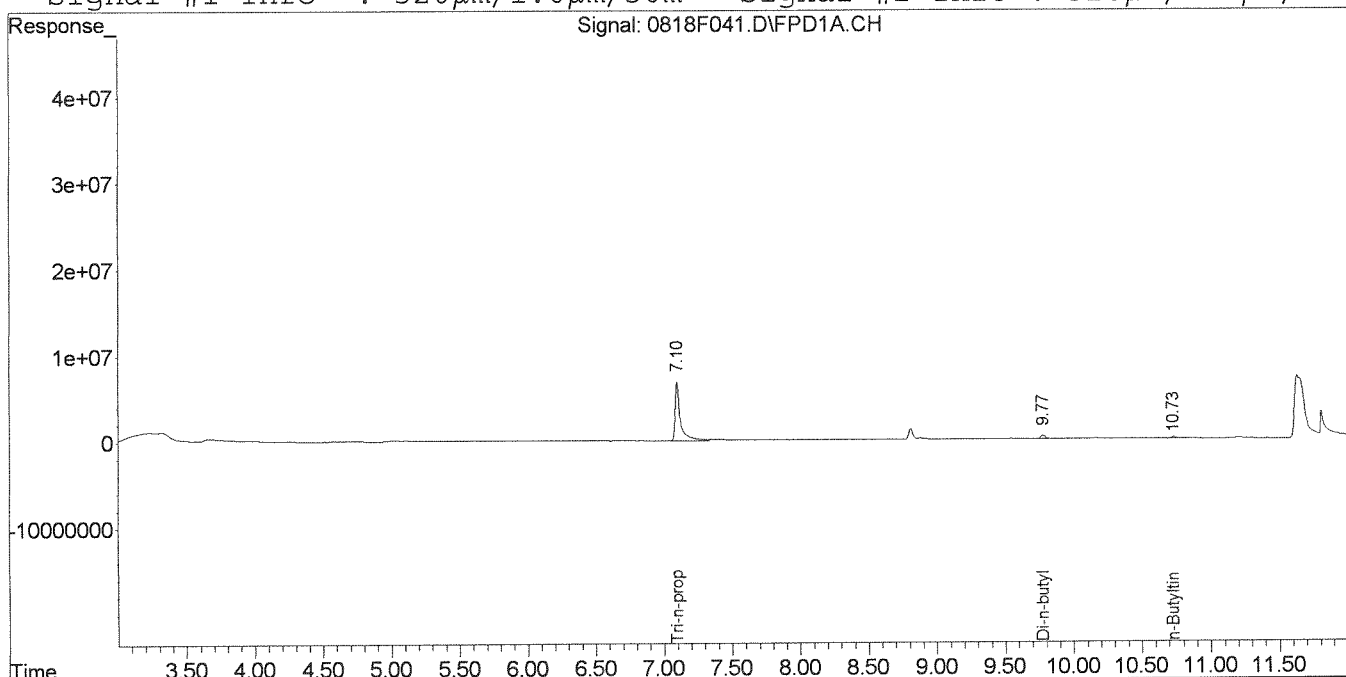
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.10f	7.05f	17937092	5988039	196.838	200.890
Target Compounds						
4) Di-n-butyltin	9.77f	9.63	1107799	369420	7.134	7.011
5) n-Butyltin	10.73	10.63	442942	136929	2.563	2.466



Signal #1 : J:\GC26\DATA\081914\0818F041.D\FPD1A.CH Vial: 33  
 Signal #2 : J:\GC26\DATA\081914\0818F041.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:39 pm Operator: SMURRAY  
 Sample : K140797-016 Inst : GC26  
 Misc : *ss 2/2/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m







# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F042.D\0818F042C.D  
**Lab ID:** K1407971-017  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 21:56  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**ListJoinID:** LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:   
Secondary Review: 

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F042.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F042.D\0818F042c.d	<b>Vial:</b>	34
<b>Acqu Date:</b>	08/19/2014 21:56	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-017	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367794	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt	
Tri-n-propyltin	7.09 <sup>+0.03</sup>	7.05 <sup>+0.05</sup>	17995731	6017134	197.48	201.87	79 OK	81 OK	Limits = 23-145	81 OK

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.72U	0.72U	0.72U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	699861	236547	4.51	4.49	2.9J	2.9J	2.9J
n-Butyltin Cation	10.73 <sup>+0.02</sup>	10.63 <sup>+0.02</sup>	542100	171770	3.14	3.09	2.0J	2.0J	2.0J

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.090 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F042.D\FPD1A.CH Vial: 34  
 Signal #2 : J:\GC26\DATA\081914\0818F042.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:56 pm Operator: SMURRAY  
 Sample : K140797-017 Inst : GC26  
 Misc : *\$ 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:34 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

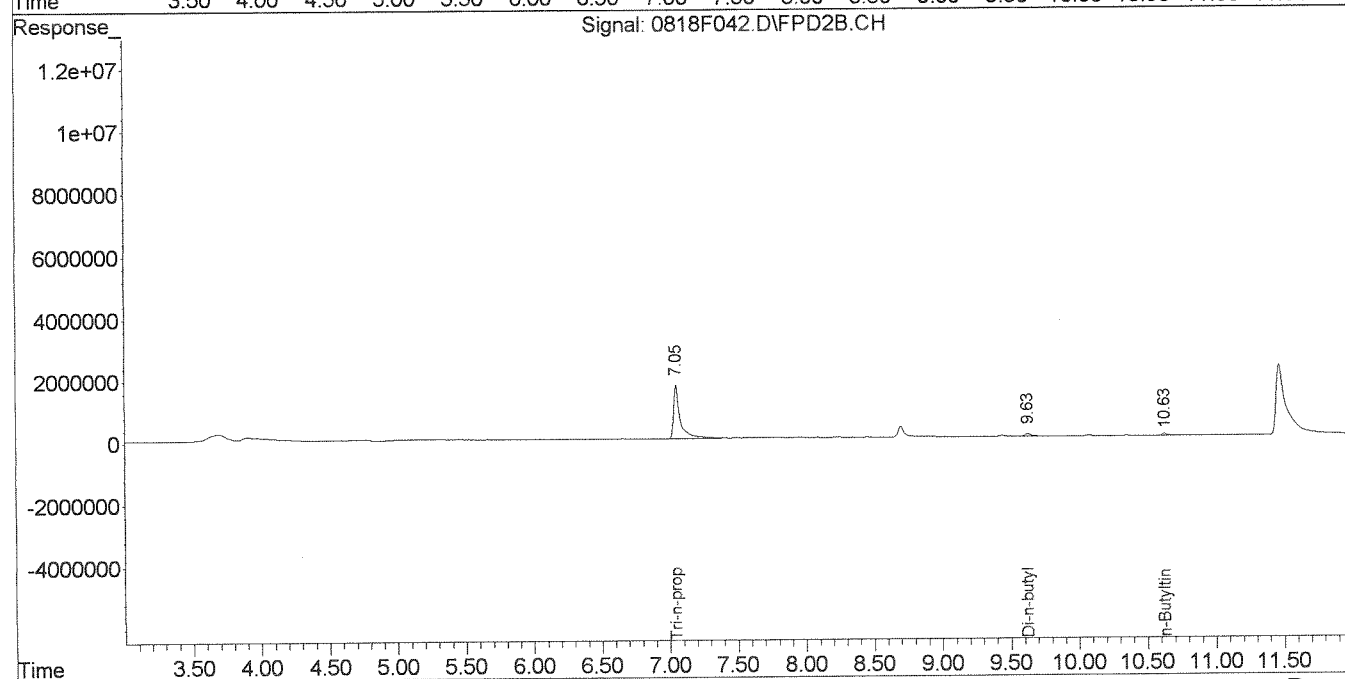
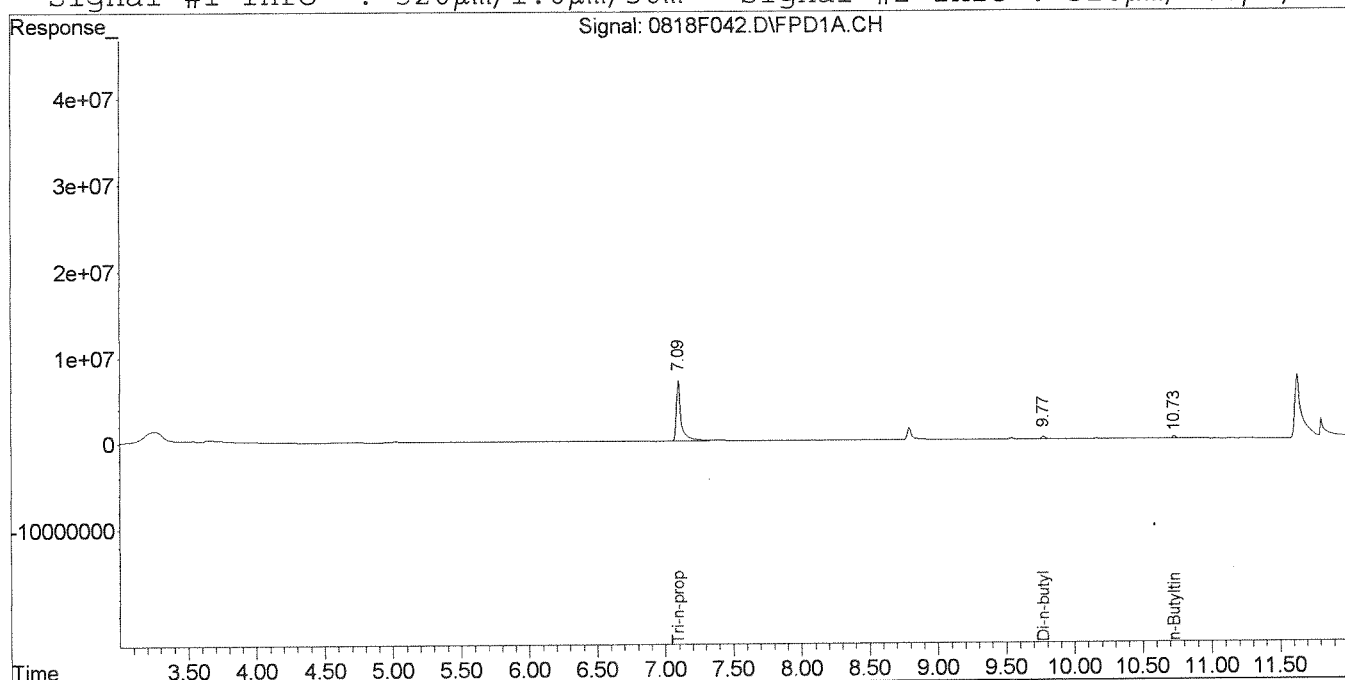
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09f	7.05f	17995731	6017134	197.481	201.866
Target Compounds						
4) Di-n-butyltin	9.77f	9.63	699861	236547	4.507	4.489
5) n-Butyltin	10.73	10.63	542100	171770	3.137	3.094

Signal #1 : J:\GC26\DATA\081914\0818F042.D\FPD1A.CH Vial: 34  
 Signal #2 : J:\GC26\DATA\081914\0818F042.D\FPD2B.CH  
 Acq On : 19 Aug 2014 9:56 pm Operator: SMURRAY  
 Sample : K140797-017 *SS 7/20/14* Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m





# Exception Report

Data File: J:\GC26\DATA\081914\0818F043.D\0818F043C.D  
Lab ID: K1407971-018  
RunType: SMPL  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 22:13  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
ListJoinID: LJ12468

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: fm 8/20/14



# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F043.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F043.D\0818F043c.d	<b>Vial:</b>	35
<b>Acqu Date:</b>	08/19/2014 22:13	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	SMPL	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	K1407971-018	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367795	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>	Butyltins (as cation)	<b>Report List ID:</b>	LJ12468
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Method ID:</b>	MJ329
		<b>Quant based on Report List</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg Dry Weight		Rpt
Tri-n-propyltin	7.09 <sup>+0.03</sup>	7.05 <sup>+0.05</sup>	17698850	6041574	194.22	202.69			81 OK
<b>%Recovery =</b>					78 OK	81 OK	<b>Limits =</b>	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.72U	0.72U	0.72U
Di-n-butyltin Cation	9.77 <sup>+0.02</sup>	9.63 <sup>+0.03</sup>	350756	115762	2.26	2.20	1.5J	1.4J	1.4J
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	282455	74786	1.63	1.35	1.2U	1.2U	1.2U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.097 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F043.D\FPD1A.CH Vial: 35  
 Signal #2 : J:\GC26\DATA\081914\0818F043.D\FPD2B.CH  
 Acq On : 19 Aug 2014 10:13 pm Operator: SMURRAY  
 Sample : K140797-018 *SS 8/20/14* Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:34 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
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System Monitoring Compounds

1) S	Tri-n-propyltin	7.09	7.05f	17698850	6041574	194.223	202.686
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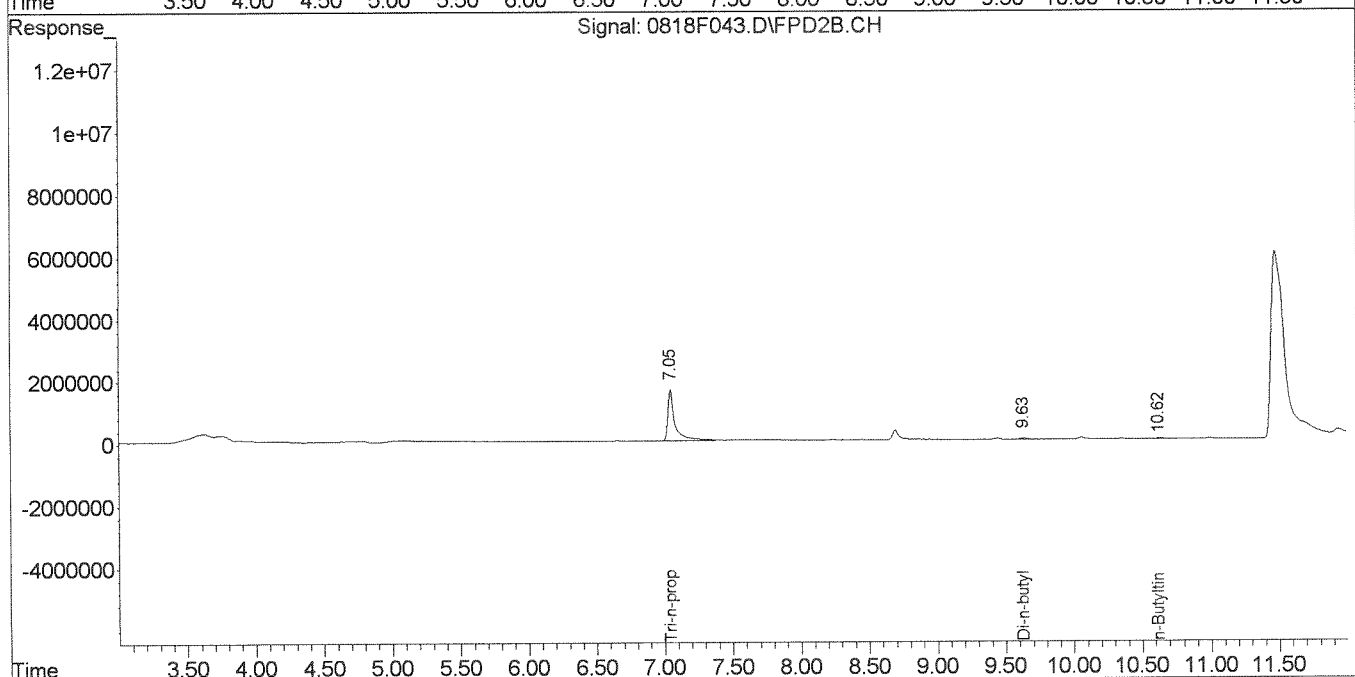
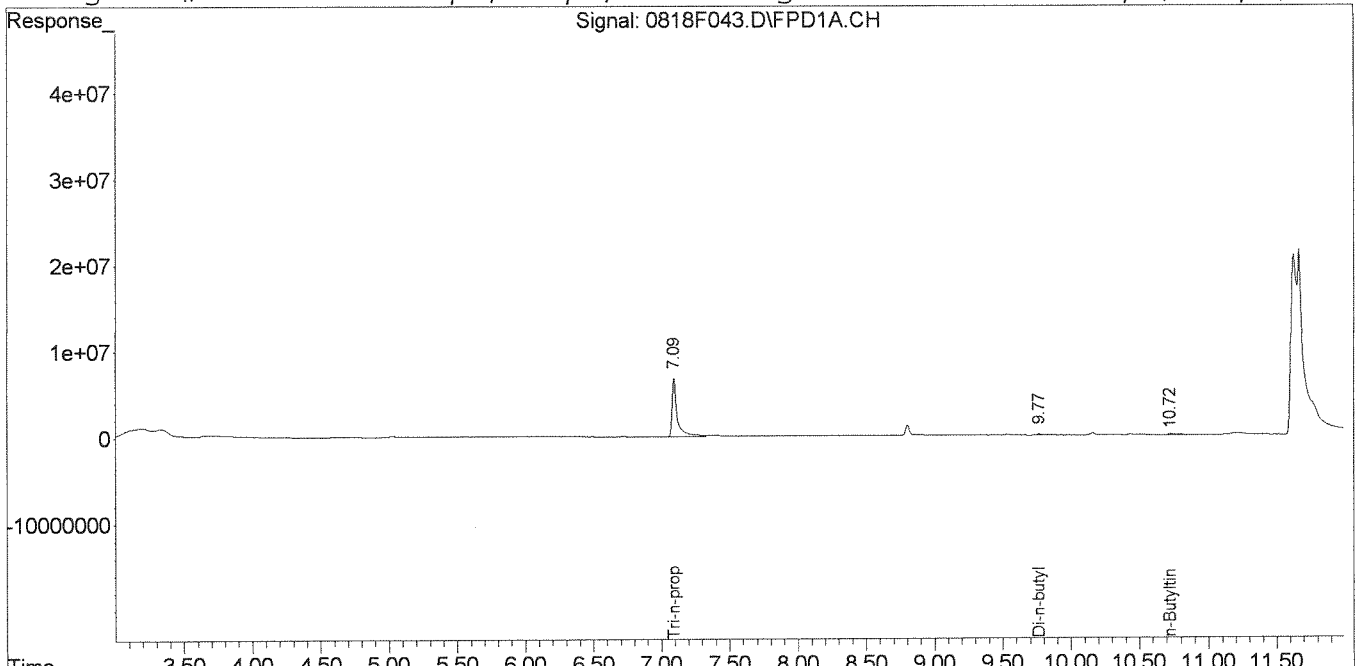
Target Compounds

4)	Di-n-butyltin	9.77f	9.63	350756	115762	2.259	2.197
5)	n-Butyltin	10.72	10.62	282455	74786	1.634	1.347

Signal #1 : J:\GC26\DATA\081914\0818F043.D\FPD1A.CH Vial: 35  
Signal #2 : J:\GC26\DATA\081914\0818F043.D\FPD2B.CH  
Acq On : 19 Aug 2014 10:13 pm Operator: SMURRAY  
Sample : K140797-018 *SS 8/20/14* Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F026.D  
Lab ID: KWG1411689-4  
RunType: MB  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 17:25  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: RM 8/20/14

## Exception Report

**Data File:** J:\GC26\DATA\081914\0818F026.D\0818F026C.D  
**Lab ID:** KWG1411689-4  
**RunType:** MB  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 17:25  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**MethodJoinID:** MJ329

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: \_\_\_\_\_

Secondary Review: \_\_\_\_\_

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F026.D\0818F026c.d	<b>Vial:</b>	20
<b>Acqu Date:</b>	08/19/2014 17:25	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	MB	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411689-4	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/18/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367799	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.07 <sup>+0.02</sup>	7.02 <sup>+0.02</sup>	12857019	4373545	141.09	146.73	56 OK	59 OK	59 OK
<b>%Recovery =</b>					56 OK	59 OK	<b>Limits =</b>	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin			0	0	0.0000	0.0000	0.15U	0.15U	0.15U
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.11U	0.11U	0.11U
Di-n-butyltin Cation			0	0	0.0000	0.0000	0.11U	0.11U	0.11U
n-Butyltin Cation	10.71	10.61	55332	34215	0.3200	0.6160	0.18U	0.18U	0.18U

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.290 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F026.D\FPD1A.CH Vial: 20  
 Signal #2 : J:\GC26\DATA\081914\0818F026.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:25 pm Operator: SMURRAY  
 Sample : KWG1411689-4 MB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:23 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

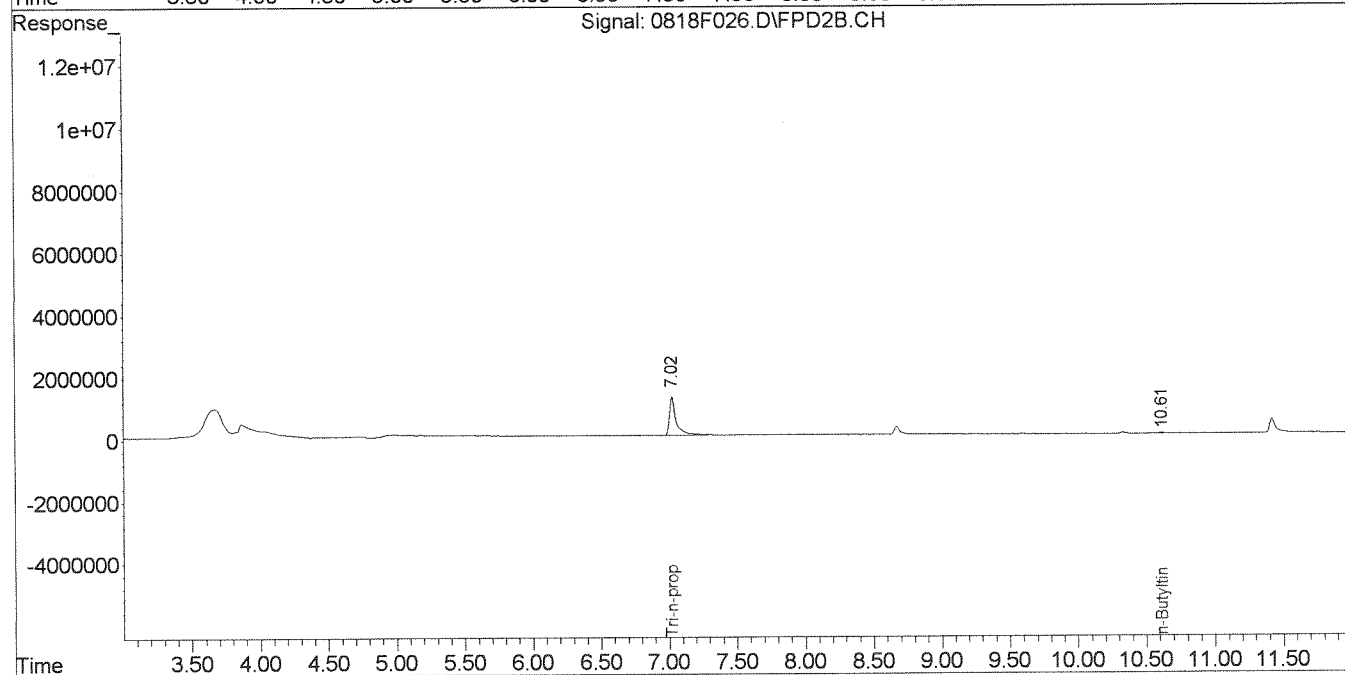
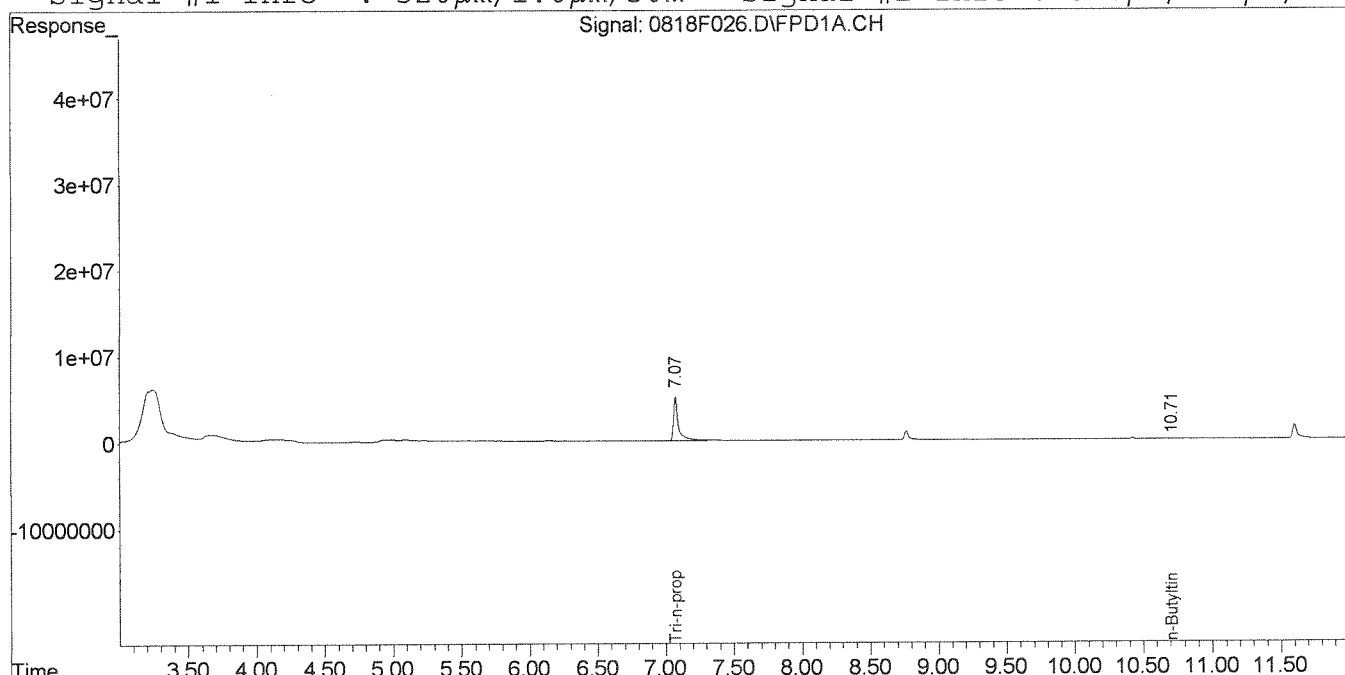
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.07	7.02	12857019	4373545	141.090	146.726
Target Compounds						
5) n-Butyltin	10.71	10.61	55332	34215	0.320	0.616 #

Signal #1 : J:\GC26\DATA\081914\0818F026.D\FPD1A.CH Vial: 20  
 Signal #2 : J:\GC26\DATA\081914\0818F026.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:25 pm Operator: SMURRAY  
 Sample : KWG1411689-4 MB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m





# Exception Report

Data File: J:\GC26\DATA\081914\0818F028.D  
Lab ID: KWG1411689-1 -- K1407971-001MS  
RunType: MS  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 17:59  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

*SS 8/20/14*

Secondary Review:

*fm 8/20/14*

# Exception Report

Data File: J:\GC26\DATA\081914\0818F028.D\0818F028C.D  
Lab ID: KWG1411689-1 -- K1407971-001MS  
RunType: MS  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 17:59  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: KS 8/20/14

Secondary Review: SM 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F028.D	<b>Instrument:</b>	GC26	
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F028.D\0818F028c.d	<b>Vial:</b>	22	
<b>Acqu Date:</b>	08/19/2014 17:59	<b>Quant Date:</b>	08/20/2014 11:29	
<b>Run Type:</b>	MS	<b>Dilution:</b>	1.0	
<b>Lab ID:</b>	KWG1411689-1 -- K1407971-001MS		<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35	

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/18/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367796	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	7.08 <sup>+0.03</sup>	7.03 <sup>+0.03</sup>	17910945	5752424	196.55	192.99	79 OK
%Recovery =					79 OK	77 OK	Limits = 23-145

## Target Compounds

Parameter Name	RT		Resp		ng/mL		ug/Kg		Rpt
	#1	#2	#1	#2	#1	#2	#1	#2	
Tetra-n-butyltin	7.39 <sup>+0.03</sup>	7.28 <sup>+0.03</sup>	11815420	4148112	135.37	143.54	85.9	91.1	85.9
Tri-n-butyltin Cation	8.56 <sup>+0.01</sup>	8.44 <sup>+0.02</sup>	17145543	5652615	182.60	189.20	116	120	116
Di-n-butyltin Cation	9.76 <sup>+0.01</sup>	9.61 <sup>+0.01</sup>	25924747	8196296	166.94	155.54	106	98.7	98.7
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	19983233	6506776	115.64	117.21	73.4	74.4	73.4

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.102 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** 15.6 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F028.D\FPD1A.CH Vial: 22  
 Signal #2 : J:\GC26\DATA\081914\0818F028.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:59 pm Operator: SMURRAY  
 Sample : K140797-001 MS Inst : GC26  
 Misc : *SS 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:24 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

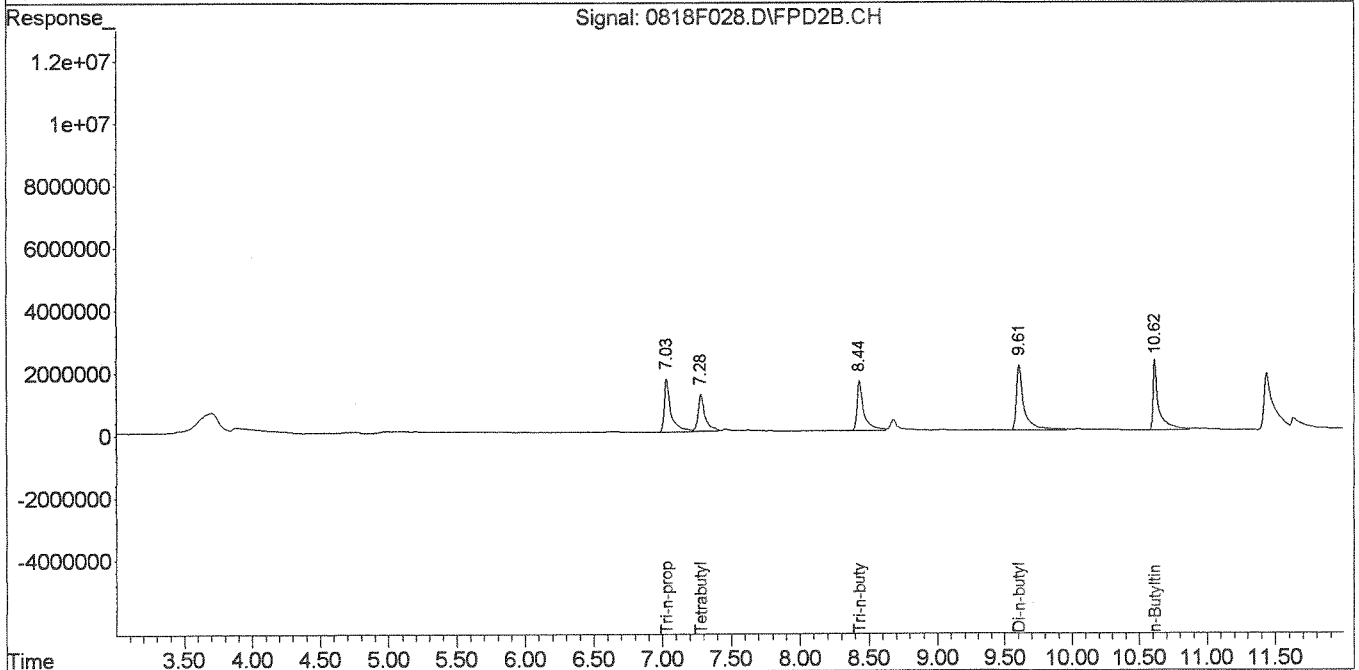
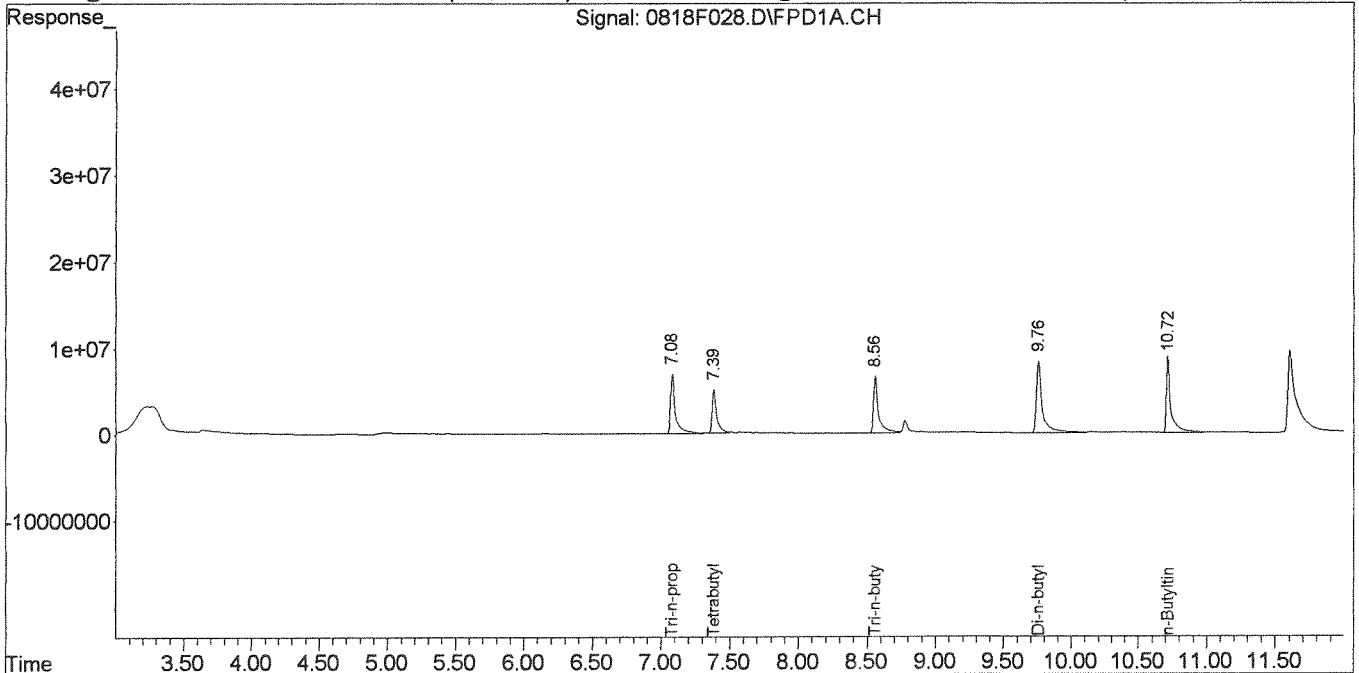
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.08	7.03	17910945	5752424	196.551	192.985
Target Compounds						
2) Tetrabutyltin	7.39	7.28	11815420	4148112	135.372	143.543
3) Tri-n-butyltin	8.56	8.44	17145543	5652615	182.603	189.196
4) Di-n-butyltin	9.76	9.61	25924747	8196296	166.941	155.543
5) n-Butyltin	10.72	10.62	19983233	6506776	115.638	117.205

Signal #1 : J:\GC26\DATA\081914\0818F028.D\FPD1A.CH Vial: 22  
Signal #2 : J:\GC26\DATA\081914\0818F028.D\FPD2B.CH  
Acq On : 19 Aug 2014 5:59 pm Operator: SMURRAY  
Sample : K140797-001 MS Inst : GC26  
Misc : *SS 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F029.D  
Lab ID: KWG1411689-2 -- K1407971-001DMS  
RunType: DMS  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 18:16  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: \_\_\_\_\_

Secondary Review: \_\_\_\_\_

*[Handwritten Signature]*  
8/20/14  
*[Handwritten Signature]*

# Exception Report

Data File: J:\GC26\DATA\081914\0818F029.D\0818F029C.D  
Lab ID: KWG1411689-2 -- K1407971-001DMS  
RunType: DMS  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 18:16  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: SM 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F029.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F029.D\0818F029c.d	<b>Vial:</b>	23
<b>Acqu Date:</b>	08/19/2014 18:16	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	DMS	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411689-2 -- K1407971-001DMS		
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/18/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367797	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Limits =		Rpt
Tri-n-propyltin	7.09 <sup>+0.04</sup>	7.04 <sup>+0.04</sup>	17658559	5801862	193.78	194.64	78 OK	78 OK	78 OK
%Recovery =					78 OK	78 OK	23-145		

## Target Compounds

Parameter Name	RT		Resp		ng/mL		ug/Kg		Rpt
	#1	#2	#1	#2	#1	#2	#1	#2	
Tetra-n-butyltin	7.39 <sup>+0.03</sup>	7.29 <sup>+0.04</sup>	12219089	4064146	140.00	140.64	89.0	89.4	<b>89.0</b>
Tri-n-butyltin Cation	8.57 <sup>+0.02</sup>	8.44 <sup>+0.02</sup>	16973999	5606997	180.78	187.67	115	119	<b>115</b>
Di-n-butyltin Cation	9.76 <sup>+0.01</sup>	9.62 <sup>+0.02</sup>	25319905	7879913	163.05	149.54	104	95.1	<b>95.1</b>
n-Butyltin Cation	10.72 <sup>+0.01</sup>	10.62 <sup>+0.01</sup>	18205082	6508879	105.35	117.24	67.0	74.6	<b>67.0</b>

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.080 g                      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL                      **Unit Factor:** 1  
**Solids:** 15.6 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Signal #1 : J:\GC26\DATA\081914\0818F029.D\FPD1A.CH Vial: 23  
 Signal #2 : J:\GC26\DATA\081914\0818F029.D\FPD2B.CH  
 Acq On : 19 Aug 2014 6:16 pm Operator: SMURRAY  
 Sample : K140797-001 DMS Inst : GC26  
 Misc : *55 8/20/14* Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:25 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

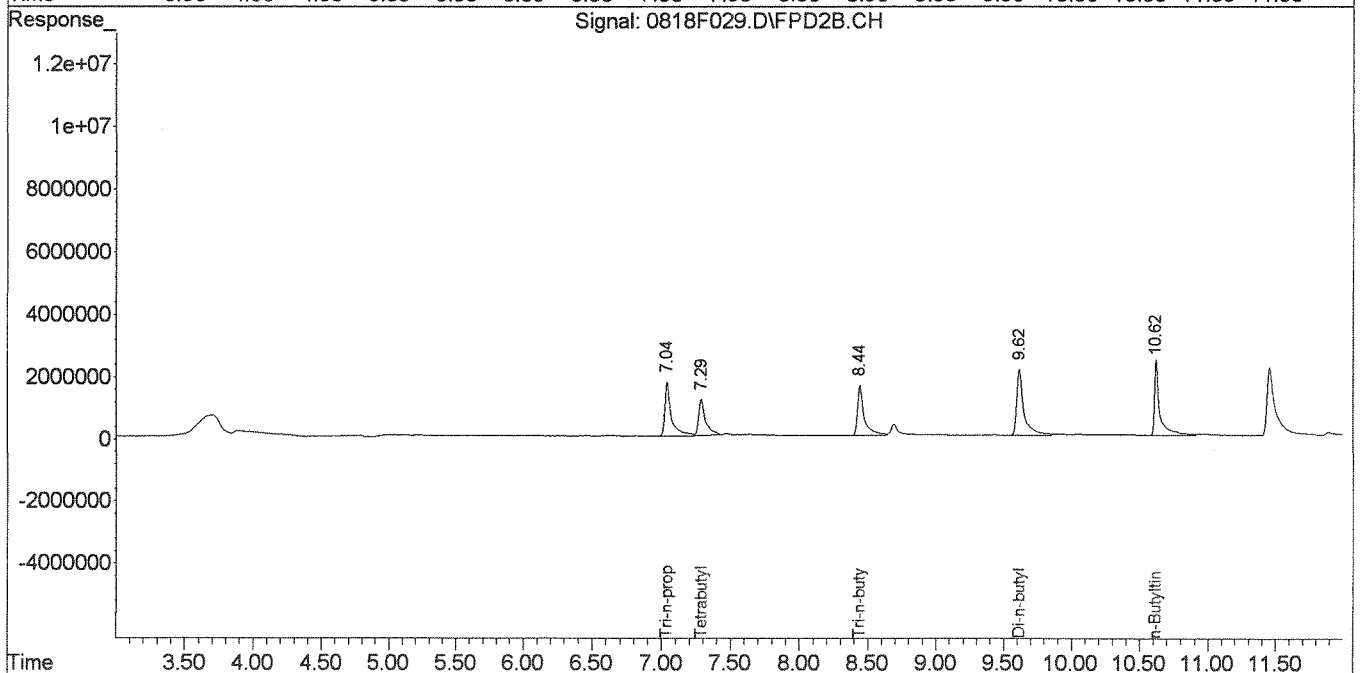
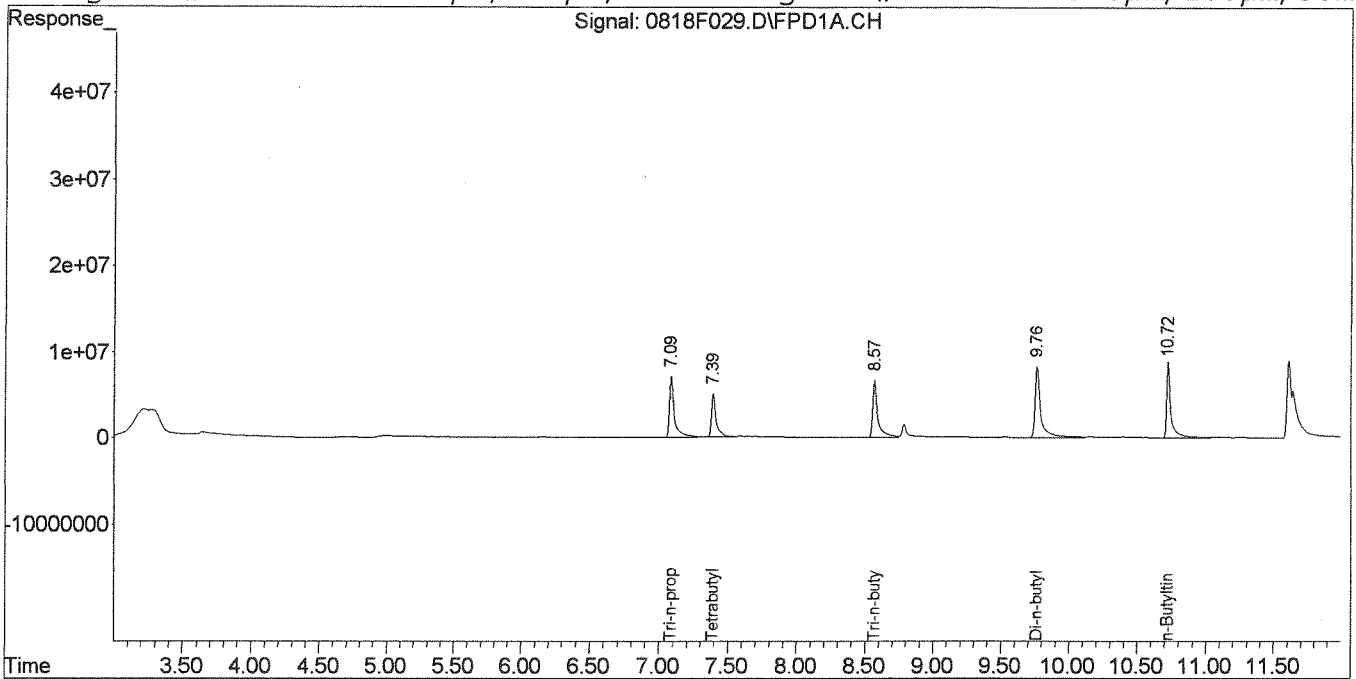
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.09	7.04	17658559	5801862	193.781	194.644
Target Compounds						
2) Tetrabutyltin	7.39	7.29	12219089	4064146	139.997	140.638
3) Tri-n-butyltin	8.57	8.44	16973999	5606997	180.776	187.669
4) Di-n-butyltin	9.76f	9.62	25319905	7879913	163.046	149.539
5) n-Butyltin	10.72	10.62	18205082	6508879	105.348	117.243

Signal #1 : J:\GC26\DATA\081914\0818F029.D\FPD1A.CH Vial: 23  
Signal #2 : J:\GC26\DATA\081914\0818F029.D\FPD2B.CH  
Acq On : 19 Aug 2014 6:16 pm Operator: SMURRAY  
Sample : K140797-001 DMS Inst : GC26  
Misc : *SK 8/20/14* Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F025.D  
**Lab ID:** KWG1411689-3  
**RunType:** LCS  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/19/2014 17:08  
**Date Quantitated:** 08/20/2014 11:29  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**MethodJoinID:** MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: sm 8/20/14

# Exception Report

Data File: J:\GC26\DATA\081914\0818F025.D\0818F025C.D  
Lab ID: KWG1411689-3  
RunType: LCS  
Matrix: ANIMAL TISSUE

Date Acquired: 08/19/2014 17:08  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: fm 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F025.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F025.D\0818F025c.d	<b>Vial:</b>	19
<b>Acqu Date:</b>	08/19/2014 17:08	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	LCS	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411689-3	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/18/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367798	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.06 <sup>+0.01</sup>	7.01 <sup>+0.01</sup>	17915096	5801775	196.60	194.64	79 OK	78 OK	79 OK
<b>%Recovery =</b>					79 OK	78 OK	<b>Limits =</b>	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.37 <sup>+0.01</sup>	7.26 <sup>+0.01</sup>	16072508	5340475	184.15	184.80	18.3	18.4	18.3
Tri-n-butyltin Cation	8.54 <sup>-0.01</sup>	8.41 <sup>-0.01</sup>	16291768	5451410	173.51	182.46	17.3	18.1	17.3
Di-n-butyltin Cation	9.74 <sup>-0.01</sup>	9.59 <sup>-0.01</sup>	24389723	7952128	157.06	150.91	15.6	15.0	15.0
n-Butyltin Cation	10.71	10.61	17776333	5597512	102.87	100.83	10.2	10.0	10.0

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 10.058 g      **Dilution:** 1.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F025.D\FPD1A.CH Vial: 19  
 Signal #2 : J:\GC26\DATA\081914\0818F025.D\FPD2B.CH  
 Acq On : 19 Aug 2014 5:08 pm Operator: SMURRAY  
 Sample : KWG1411689-3 LCS Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:22 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
----------	------	------	--------	--------	-------	-------

System Monitoring Compounds

1) S	Tri-n-propyltin	7.06	7.01	17915096	5801775	196.596	194.641
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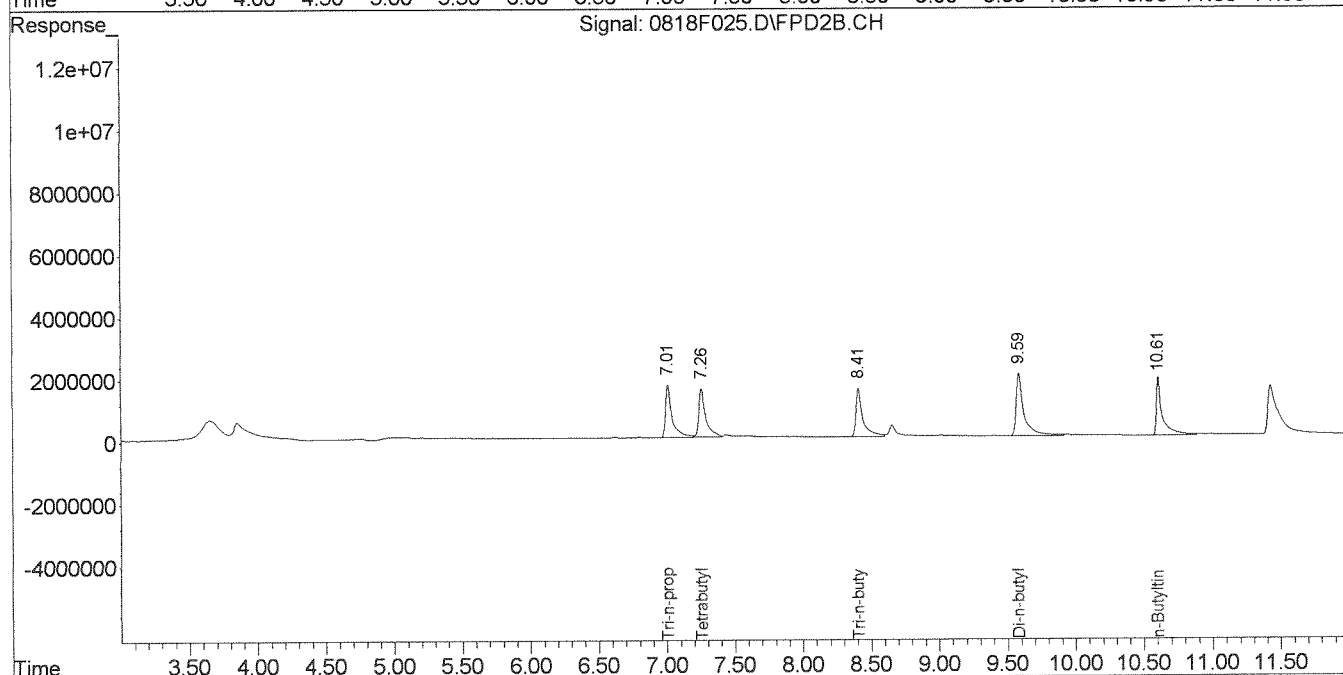
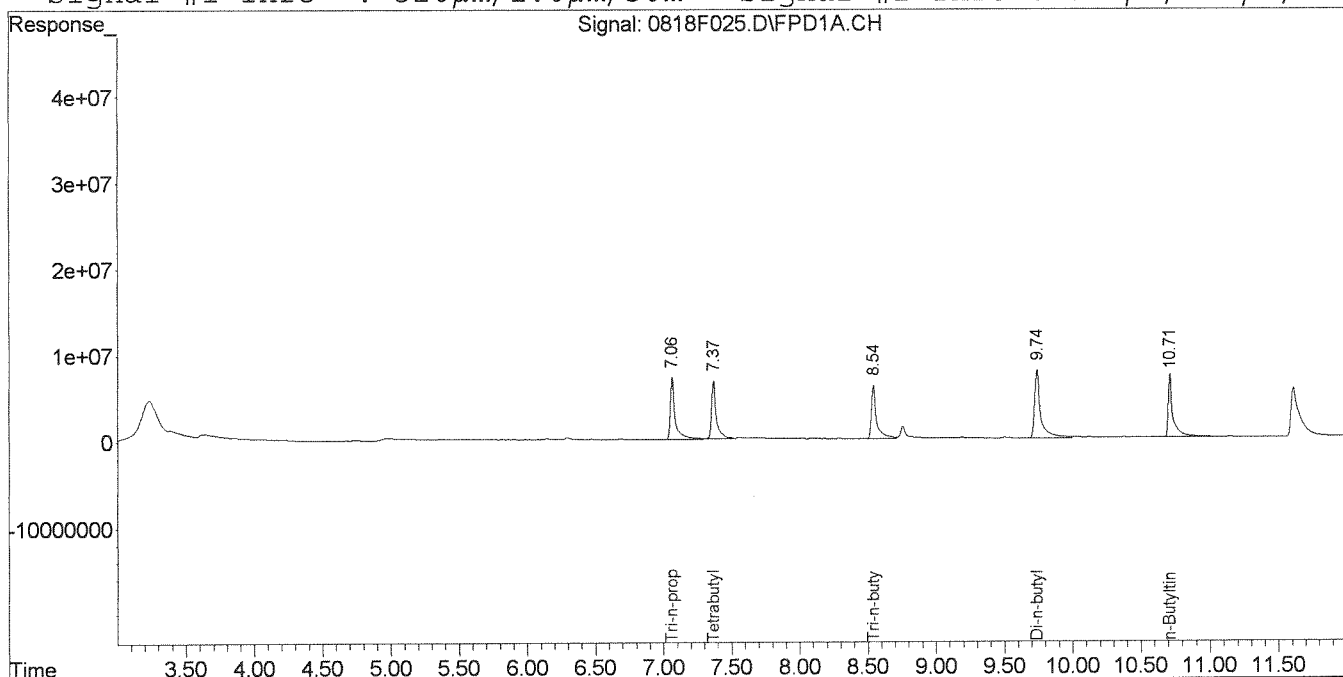
Target Compounds

2)	Tetrabutyltin	7.37	7.26	16072508	5340475	184.146	184.804
3)	Tri-n-butyltin	8.54	8.41	16291768	5451410	173.510	182.462
4)	Di-n-butyltin	9.74	9.59	24389723	7952128	157.056	150.909
5)	n-Butyltin	10.71	10.61	17776333	5597512	102.867	100.827

Signal #1 : J:\GC26\DATA\081914\0818F025.D\FPD1A.CH Vial: 19  
Signal #2 : J:\GC26\DATA\081914\0818F025.D\FPD2B.CH  
Acq On : 19 Aug 2014 5:08 pm Operator: SMURRAY  
Sample : KWG1411689-3 LCS Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\082014\0820F005.D  
Lab ID: KWG1411689-5  
Run Type: SRM  
Matrix: ANIMAL TISSUE

Date Acquired: 08/20/2014 13:29  
Date Quantitated: 08/20/2014 13:56  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: [Signature]



## Exception Report

**Data File:** J:\GC26\DATA\082014\0820F005.D\0820F005C.D  
**Lab ID:** KWG1411689-5  
**RunType:** SRM  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 13:29  
**Date Quantitated:** 08/20/2014 13:56  
**Batch ID:** KWG1411783  
**Analysis Method:** Krone  
**MethodJoinID:** MJ329

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: SM 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\082014\0820F005.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\082014\0820F005.D\0820F005c.d	<b>Vial:</b>	2
<b>Acqu Date:</b>	08/20/2014 13:29	<b>Quant Date:</b>	08/20/2014 13:56
<b>Run Type:</b>	SRM	<b>Dilution:</b>	10.0
<b>Lab ID:</b>	KWG1411689-5	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/18/2014

<b>Analysis Lot:</b>	KWG1411783	<b>Prep Lot:</b>	KWG1411689	<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>	Method		
<b>Prep Ref:</b>	1367800	<b>Prep Date:</b>	08/13/2014		

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>	J:\GC26\DATA\081914\0818F026.D	<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units:		Rpt
Tri-n-propyltin	7.05 <sup>+0.02</sup>	6.99 <sup>+0.02</sup>	1811936	585355	19.88	19.64	80 OK	79 OK	80 OK
%Recovery =					80 OK	79 OK	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin			0	0	0.0000	0.0000	15U	15U	15U
Tri-n-butyltin Cation	8.54 <sup>+0.02</sup>	8.41 <sup>+0.01</sup>	15818984	5137208	168.48	171.95	1640D	1680D	1640D
Di-n-butyltin Cation	9.74 <sup>+0.02</sup>	9.58 <sup>+0.01</sup>	14314651	4502856	92.18	85.45	899D	834D	834D
n-Butyltin Cation	10.70	10.60	20332718	6686824	117.66	120.45	1150D	1180D	1150D

The +/- after Retention Time symbolize the direction of the RT shift

**Prep Amount:** 1.025 g      **Dilution:** 10.0  
**Prep Final Vol:** 1 mL      **Unit Factor:** 1  
**Solids:** %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\082014\0820F005.D\FPD1A.CH Vial: 2  
 Signal #2 : J:\GC26\DATA\082014\0820F005.D\FPD2B.CH  
 Acq On : 20 Aug 2014 1:29 pm Operator: SSULLIVAN  
 Sample : KWG1411689-5 SRM 10X Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 13:56:59 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

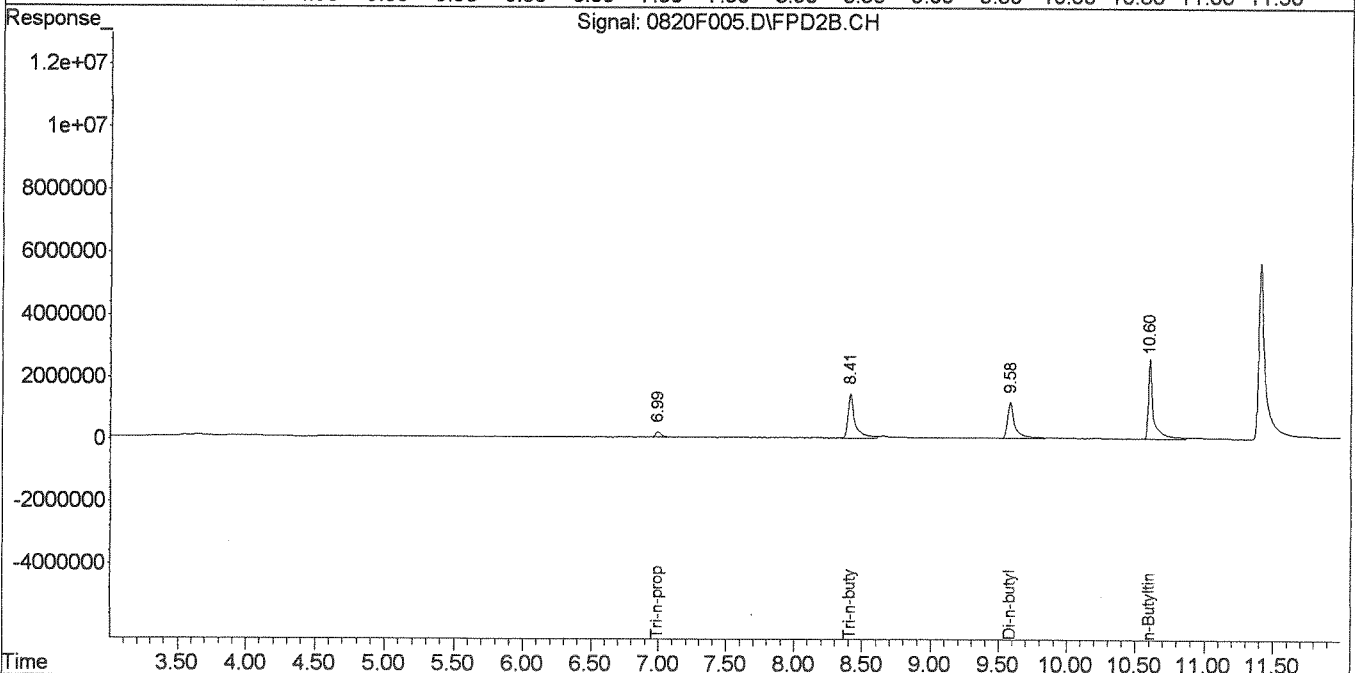
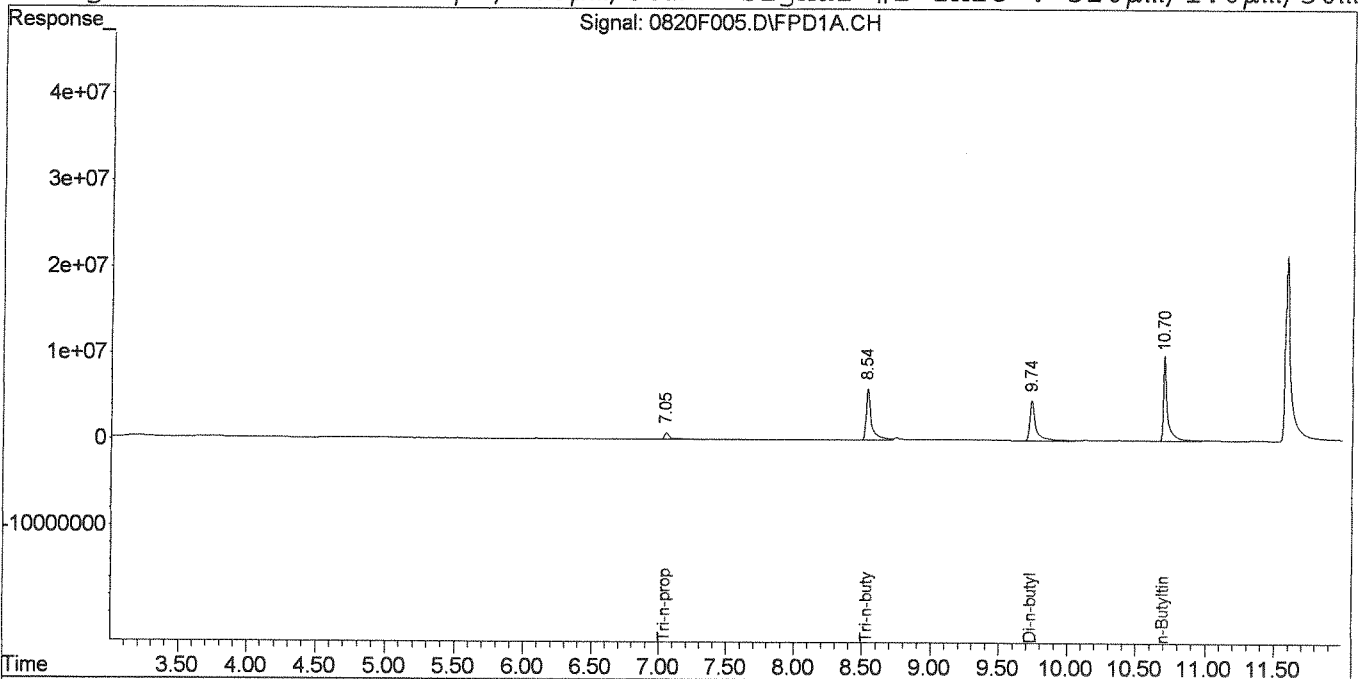
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.05	6.99	1811936	585355	19.884	19.638
Target Compounds						
3) Tri-n-butyltin	8.54	8.41	15818984	5137208	168.475	171.945
4) Di-n-butyltin	9.74	9.58	14314651	4502856	92.178	85.452
5) n-Butyltin	10.70	10.60	20332718	6686824	117.660	120.448

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\082014\0820F005.D\FPD1A.CH Vial: 2  
Signal #2 : J:\GC26\DATA\082014\0820F005.D\FPD2B.CH  
Acq On : 20 Aug 2014 1:29 pm Operator: SSULLIVAN  
Sample : KWG1411689-5 SRM 10X Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 13:56 2014 Quant Results File: 062314-HTIN.RES

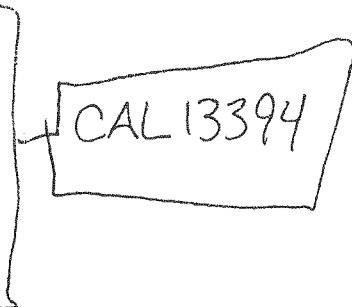
Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

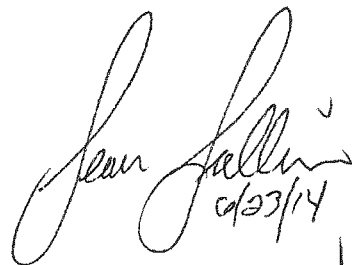
Volume Inj. : 25  $\mu$ L  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320 $\mu$ m/1.0 $\mu$ m/30m Signal #2 Info : 320 $\mu$ m/1.0 $\mu$ m/30m



# Injection Log

Directory: J:\GC26\DATA\062314

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	0623F001.D	1.	IB		06/23/22014 12:2'
2	91	0623F002.D	1.	O'TINS @ 2ppb OT5-01I		06/23/22014 12:4
3	92	0623F003.D	1.	O'TINS @ 5ppb OT5-01J		06/23/22014 1:00
4	93	0623F004.D	1.	O'TINS @ 10ppb OT5-01K		06/23/22014 1:16
5	94	0623F005.D	1.	O'TINS @ 20ppb OT5-01L		06/23/22014 1:33
6	95	0623F006.D	1.	O'TINS @ 50ppb OT5-01H		06/23/22014 1:49
7	96	0623F007.D	1.	O'TINS @ 200ppb OT5-01M		06/23/22014 2:05
8	97	0623F008.D	1.	O'TINS @ 500ppb OT5-01N		06/23/22014 2:22
9	98	0623F009.D	1.	O'TINS @ 1000ppb OT5-02A		06/23/22014 2:38
10	99	0623F010.D	1.	O'TINS ICV @ 50ppb OT5-02B		06/23/22014 2:54
11	100	0623F011.D	1.	IB	06/23/22014 3:12	

  
 6/23/14  
 6/25/14

Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
 Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
 Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:13 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.00	6.94	161346	59611	1.920	2.030
Target Compounds						
2) Tetrabutyltin	7.31	7.20	144359	54761	1.665m	1.806
3) Tri-n-butyltin	8.50	8.37	157405	46830	1.740	1.423m
4) Di-n-butyltin	9.69	9.54	200635	78354	1.432	1.563
5) n-Butyltin	10.68	10.58	221461	62366	1.590m	1.194

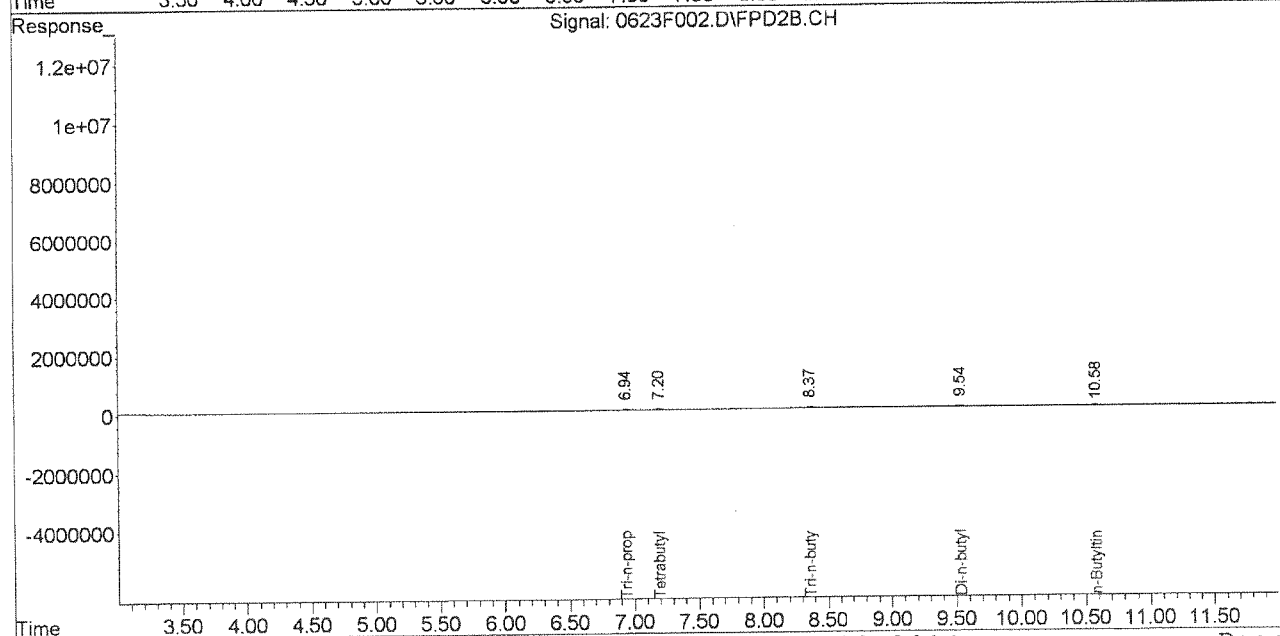
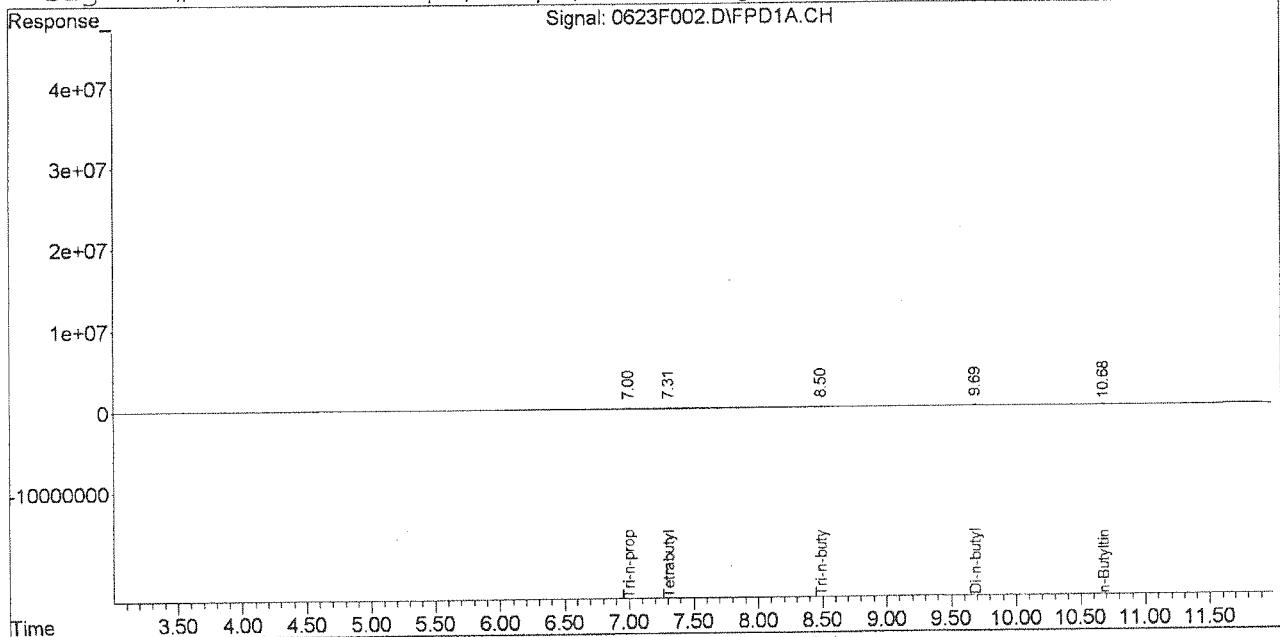
*SS 6/23/14*

Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:22 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

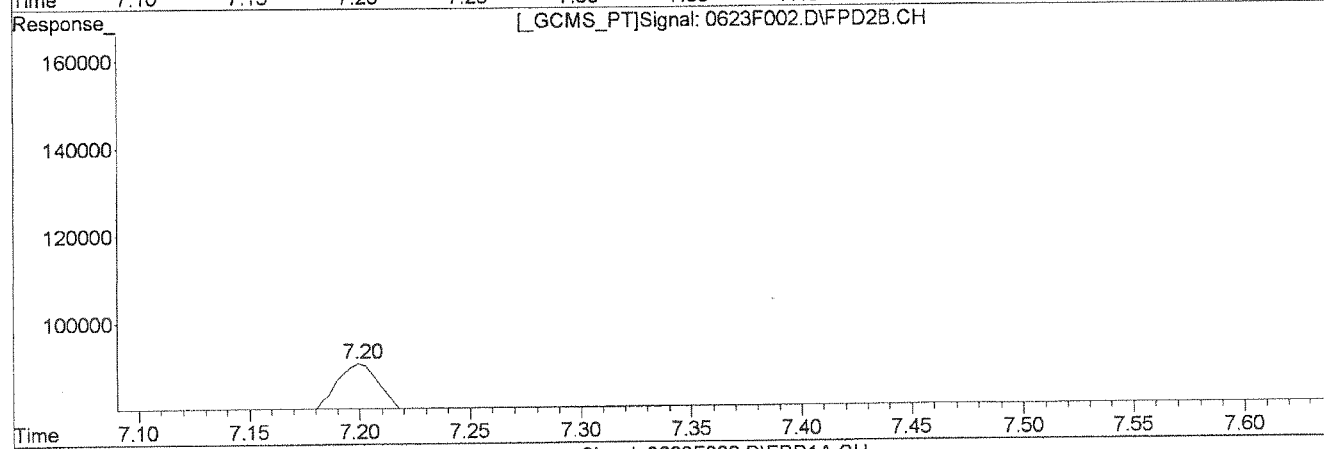
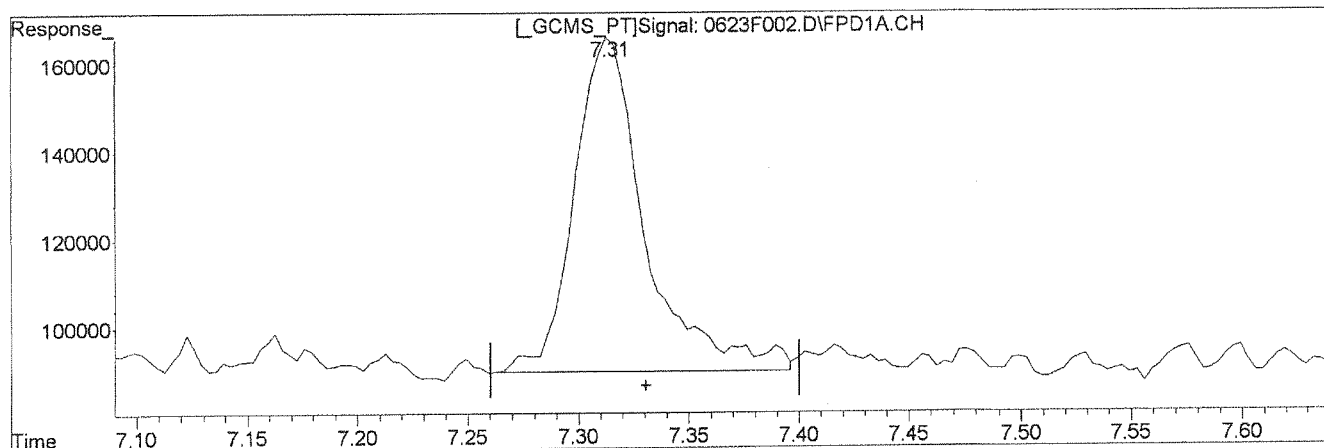
Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F002.D\FPD1A.CH	
(2) Tetrabutyltin	Manual Integration:
7.31min 1.980ng/mL	Before
response 171682	06/23/14 <i>SS</i>
(2) Tetrabutyltin #2	
7.20min 1.806ng/mL	<i>[Signature]</i>
response 54761	

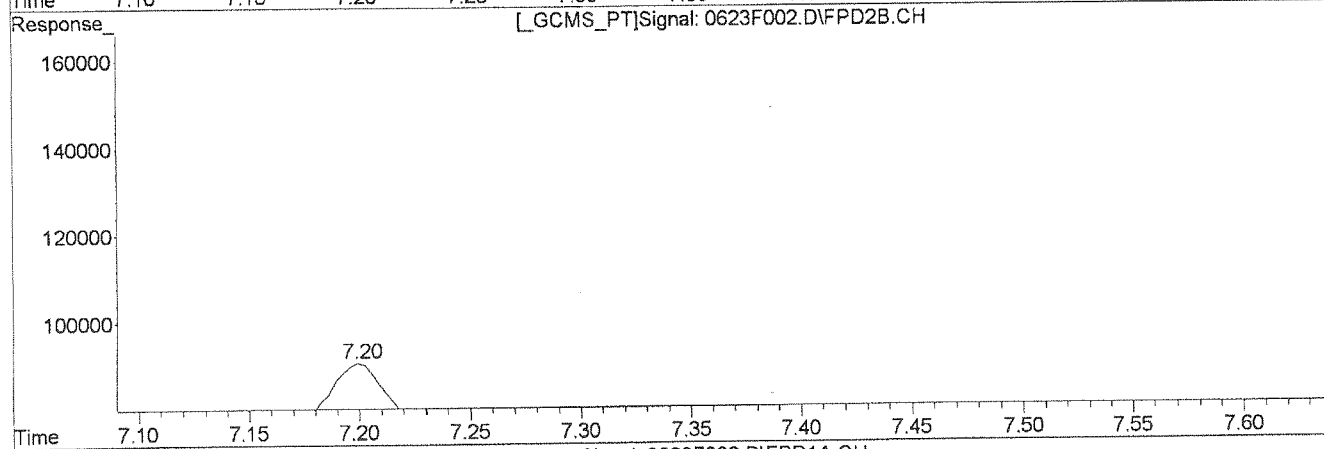
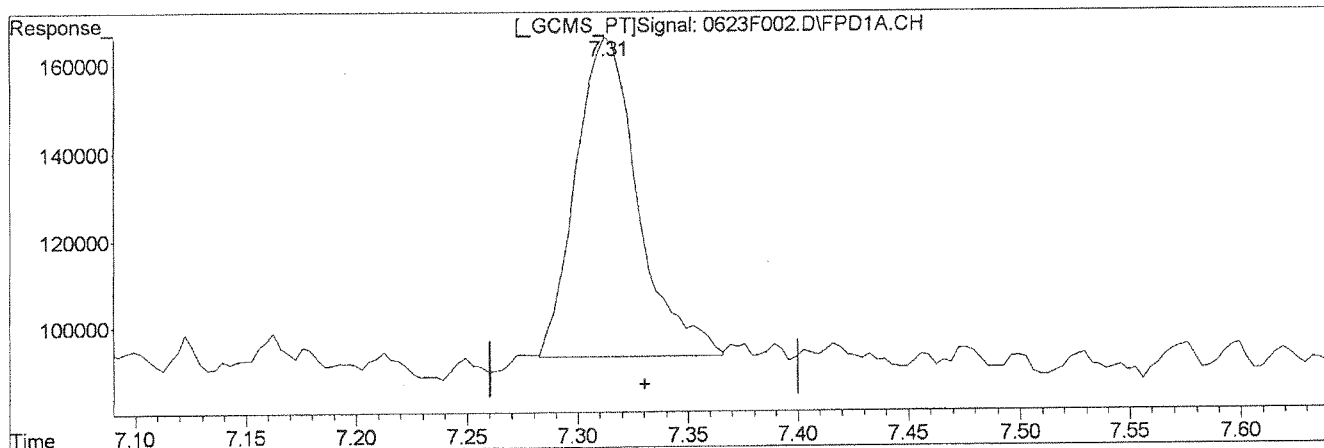
(+) = Expected Retention Time  
0623F002.D 062314-HTIN.M Mon Jun 23 15:21:25 2014



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
 Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
 Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Multiple Level Calibration



(2) Tetrabutyltin  
 7.31min 1.665ng/mL m  
 response 144359

(2) Tetrabutyltin #2  
 7.20min 1.806ng/mL  
 response 54761

Manual Integration:  
 After  
 Baseline/Shoulder  
 06/23/14

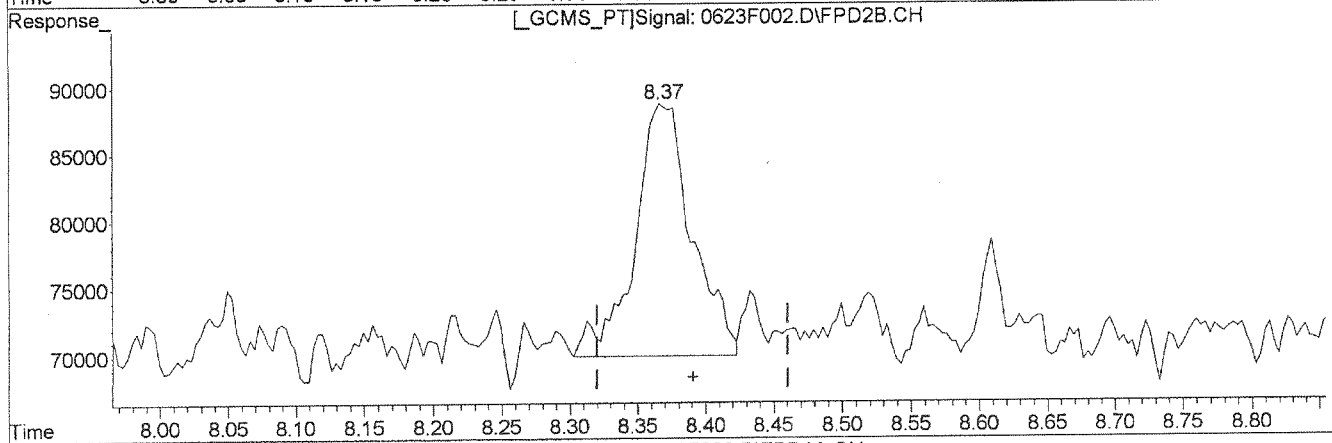
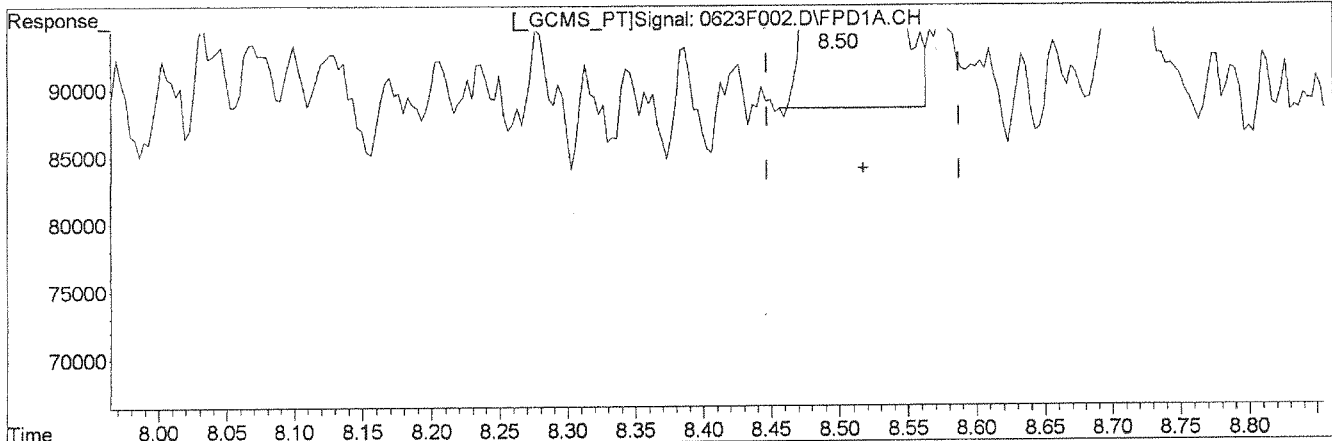
(+) = Expected Retention Time  
 0623F002.D 062314-HTIN.M

Mon Jun 23 15:21:34 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F002.D\FPD1A.CH

(3) Tri-n-butyltin  
8.50min 1.740ng/mL  
response 157405

(3) Tri-n-butyltin #2  
8.37min 1.653ng/mL  
response 54407

Manual Integration:  
Before

06/23/14

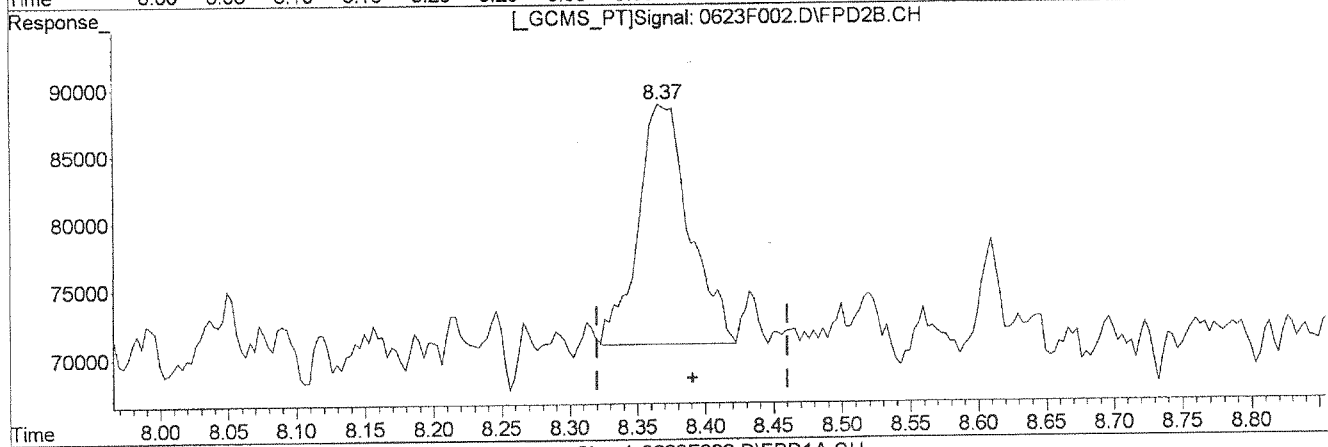
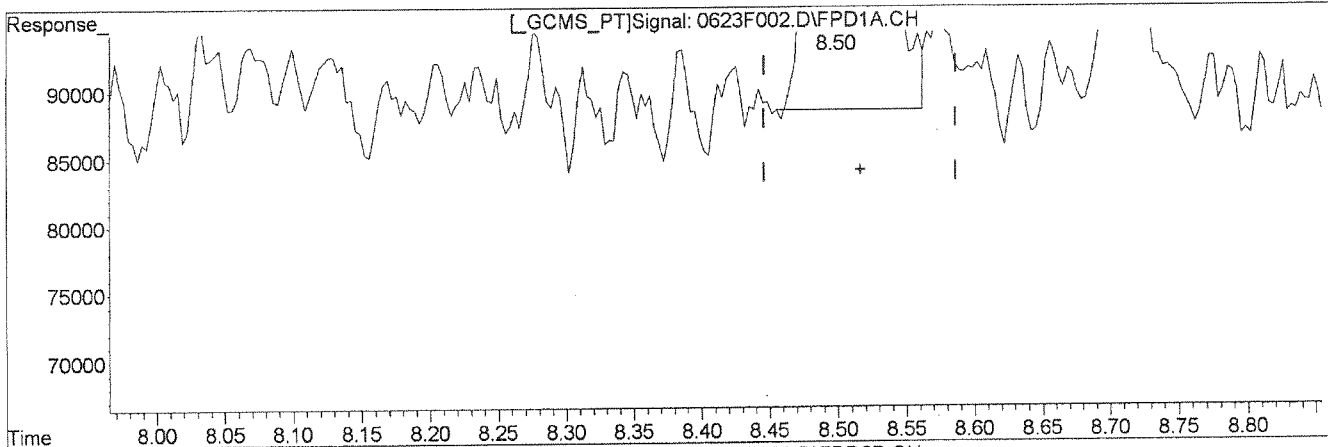
(+) = Expected Retention Time  
0623F002.D 062314-HTIN.M

Mon Jun 23 15:21:46 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES


Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F002.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response	Notes
8.50	1.740	157405	(3) Tri-n-butyltin
8.37	1.423	46830	(3) Tri-n-butyltin #2

Manual Integration:  
After  
Baseline/Shoulder  
06/23/14

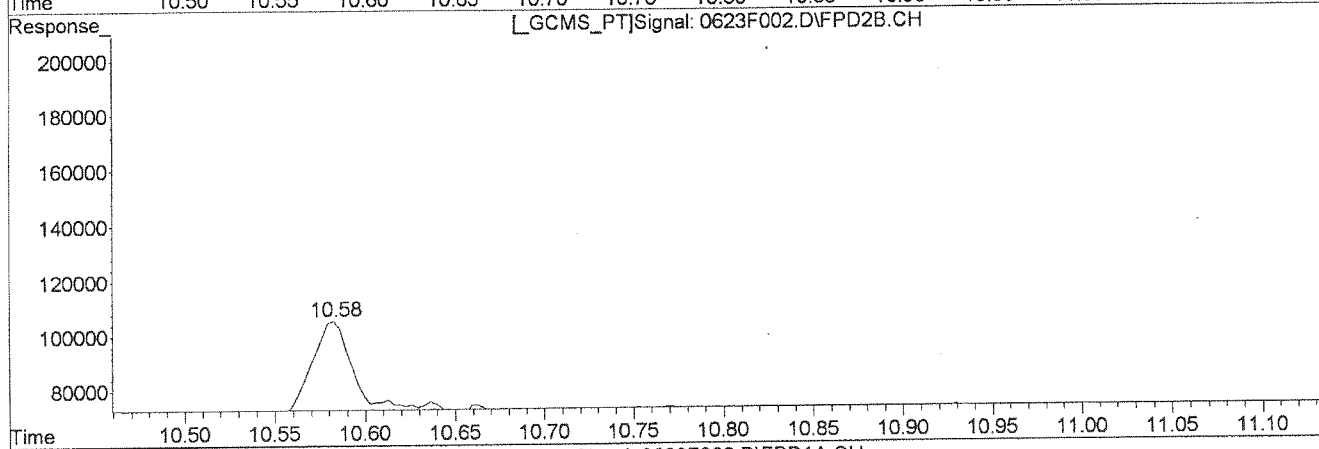
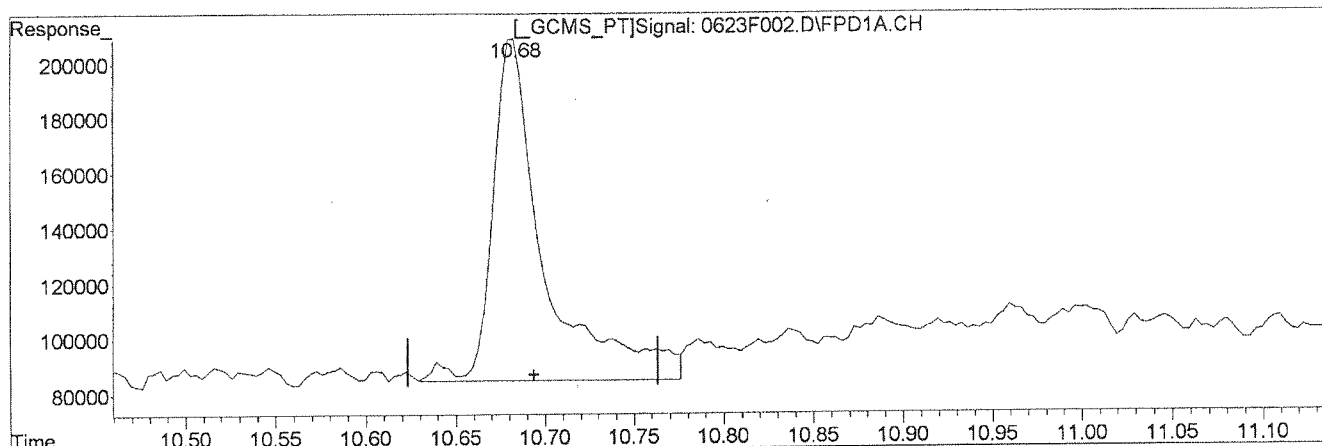


(+) = Expected Retention Time  
0623F002.D 062314-HTIN.M Mon Jun 23 15:21:56 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

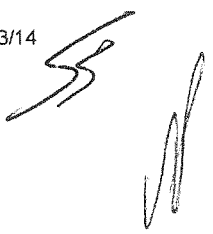
Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F002.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response
(5) n-Butyltin	1.788	249056
(5) n-Butyltin #2	1.194	62366

Manual Integration:  
Before  
06/23/14



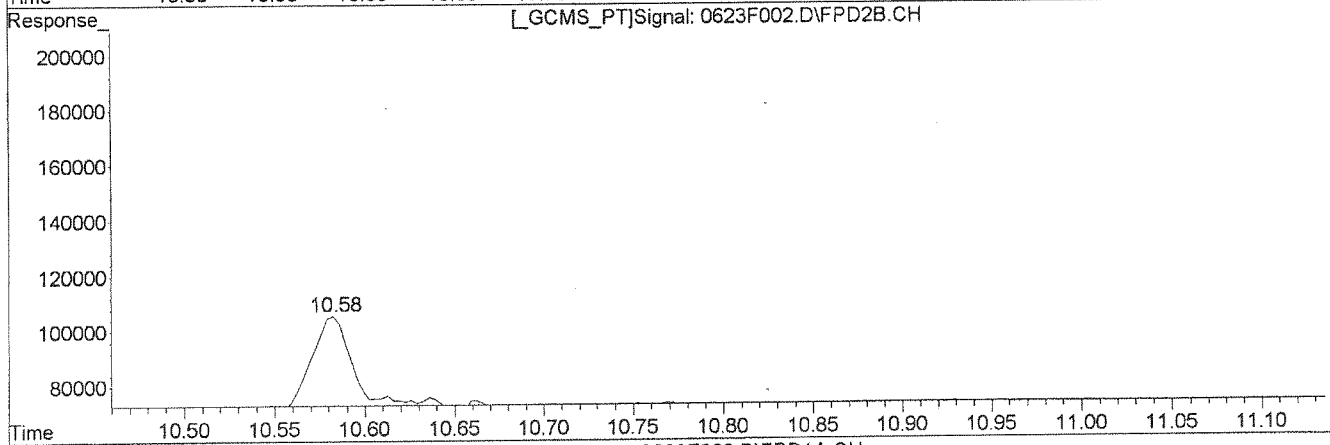
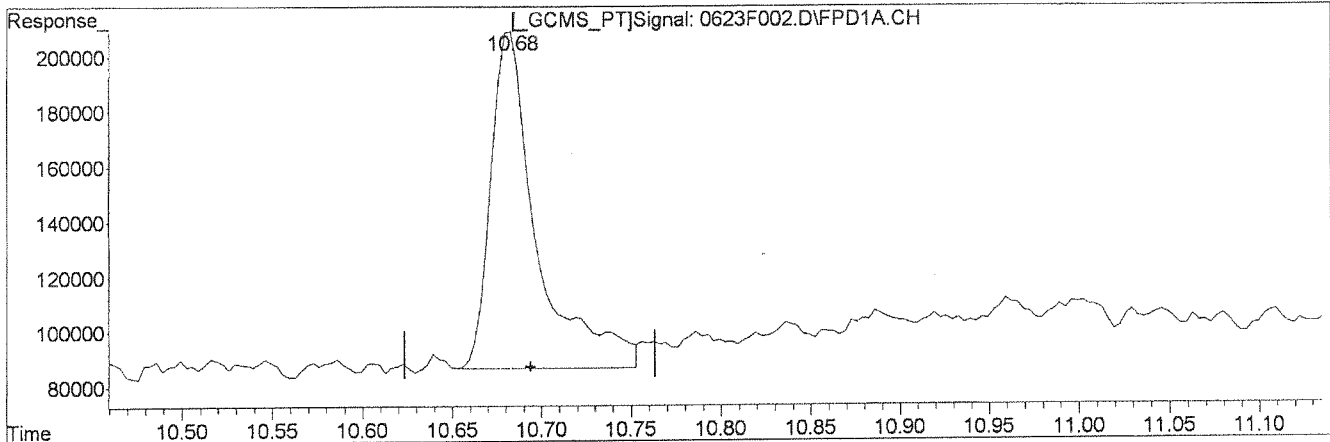
(+) = Expected Retention Time  
0623F002.D 062314-HTIN.M

Mon Jun 23 15:22:05 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F002.D\FPD1A.CH Vial: 91  
Signal #2 : J:\GC26\DATA\062314\0623F002.D\FPD2B.CH  
Acq On : 23 Jun 2014 12:44 pm Operator: SSULLIVAN  
Sample : O'TINS @ 2ppb OT5-01I Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F002.D\FPD1A.CH	
(5) n-Butyltin	Manual Integration:
10.68min 1.590ng/mL m	After
response 221461	Baseline/Shoulder
	06/23/14
(5) n-Butyltin #2	
10.58min 1.194ng/mL	
response 62366	

(+) = Expected Retention Time  
0623F002.D 062314-HTIN.M Mon Jun 23 15:22:16 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F003.D\FPD1A.CH Vial: 92  
 Signal #2 : J:\GC26\DATA\062314\0623F003.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:00 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 5ppb OT5-01J Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:14 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.01	6.96	445506	129647	5.300	4.414m
Target Compounds						
2) Tetrabutyltin	7.32	7.21	453244	135134	5.227	4.457
3) Tri-n-butyltin	8.51	8.37	413931	131495	4.575	3.996
4) Di-n-butyltin	9.70	9.54	552592	186799	3.944	3.726
5) n-Butyltin	10.68	10.58	523261	176938	3.758	3.388

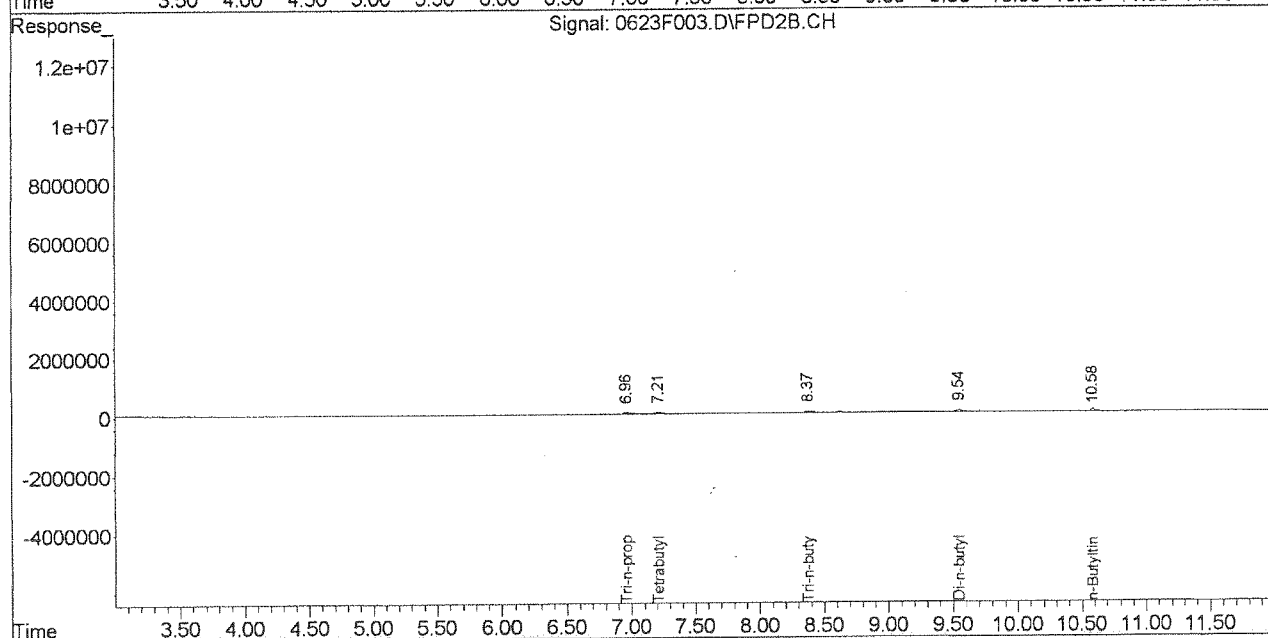
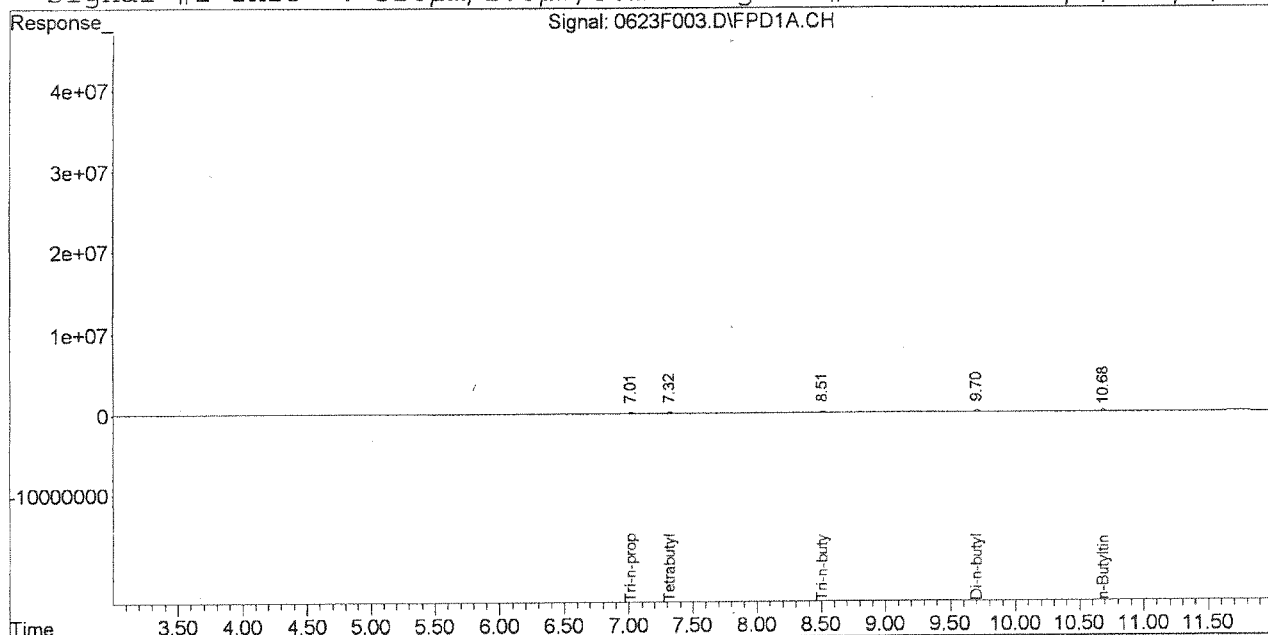
SS 6/23/14

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F003.D\FPD1A.CH Vial: 92  
 Signal #2 : J:\GC26\DATA\062314\0623F003.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:00 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 5ppb OT5-01J Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:22 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

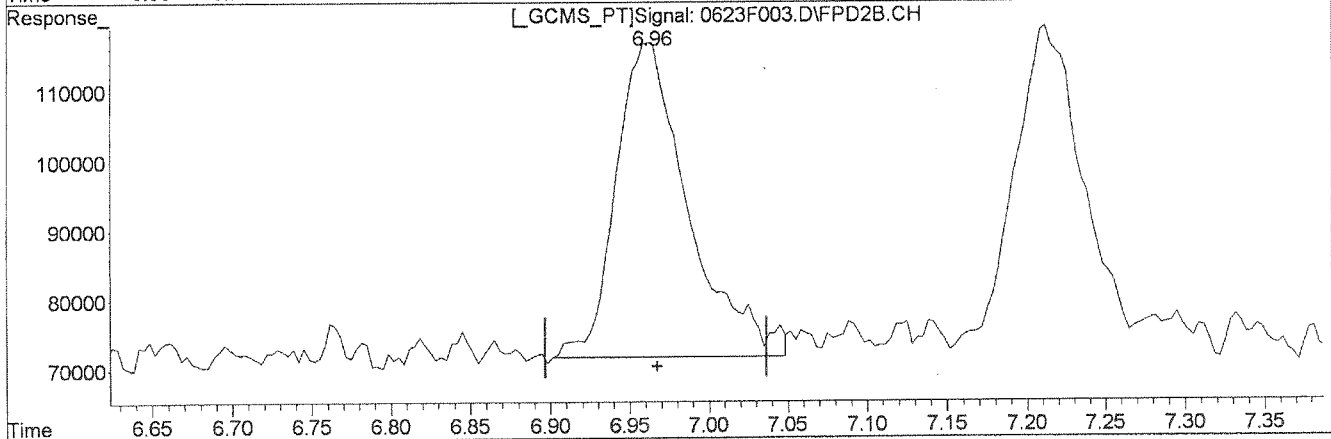
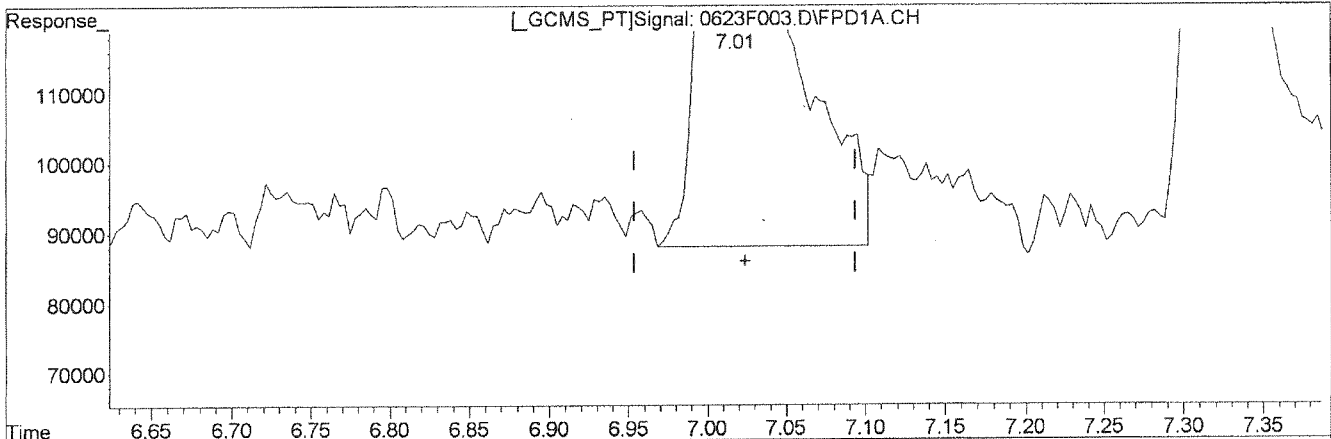
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F003.D\FPD1A.CH Vial: 92  
Signal #2 : J:\GC26\DATA\062314\0623F003.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:00 pm Operator: SSULLIVAN  
Sample : O'TINS @ 5ppb OT5-01J Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F003.D\FPD1A.CH	
(1) Tri-n-propyltin (S)	Manual Integration:
7.01min 5.300ng/mL	Before
response 445506	06/23/14
(1) Tri-n-propyltin #2 (S)	
6.96min 4.894ng/mL	
response 143726	

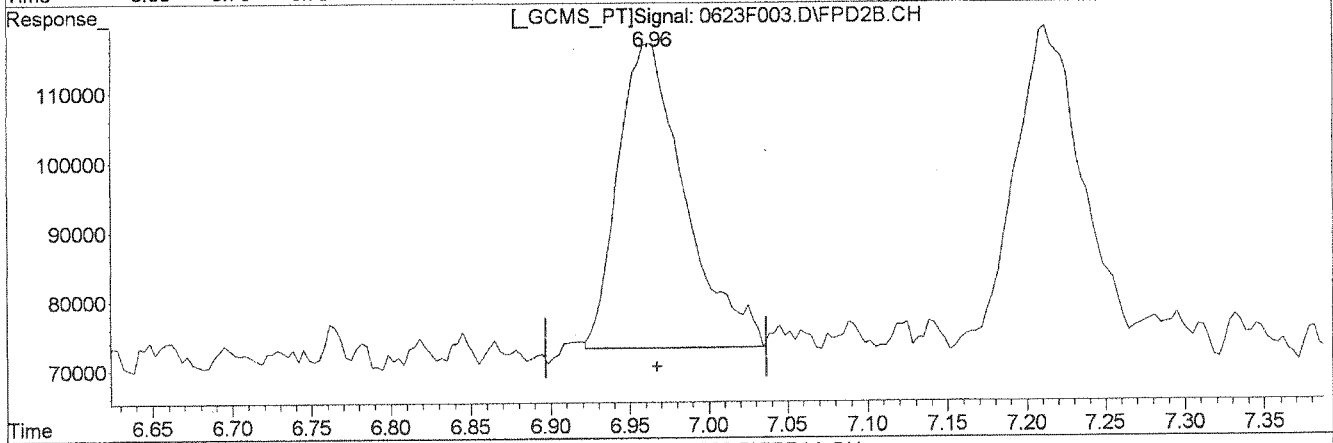
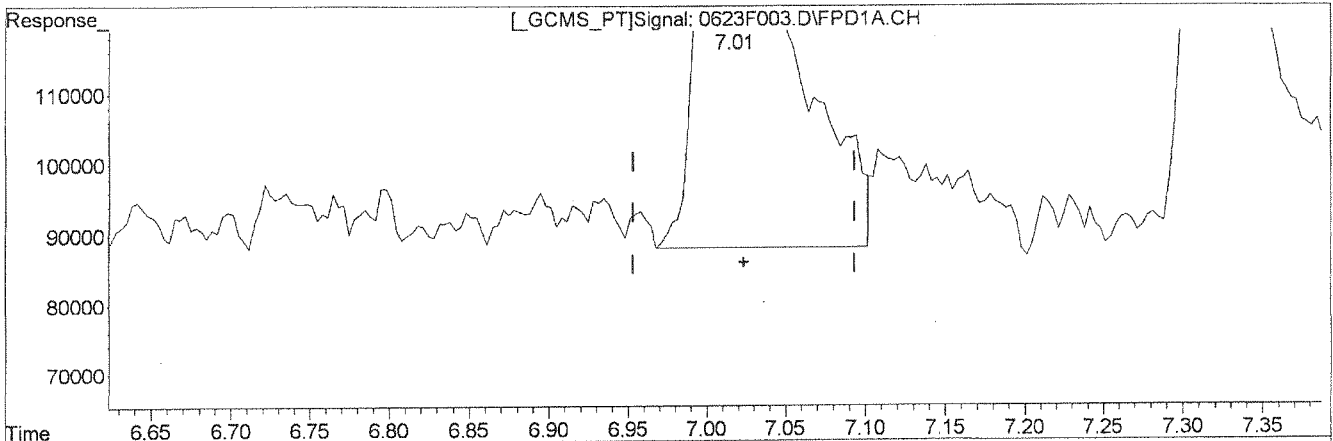
(+) = Expected Retention Time  
0623F003.D 062314-HTIN.M Mon Jun 23 15:22:29 2014



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F003.D\FPD1A.CH Vial: 92  
Signal #2 : J:\GC26\DATA\062314\0623F003.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:00 pm Operator: SSULLIVAN  
Sample : O'TINS @ 5ppb OT5-01J Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F003.D\FPD1A.CH

(1) Tri-n-propyltin (S)  
7.01min 5.300ng/mL  
response 445506

(1) Tri-n-propyltin #2 (S)  
6.96min 4.414ng/mL m  
response 129647

Manual Integration:  
After  
Baseline/Shoulder  
06/23/14

(+) = Expected Retention Time  
0623F003.D 062314-HTIN.M

Mon Jun 23 15:22:48 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
 Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:14 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.02	6.97	855359	290644	10.176m	9.896
Target Compounds						
2) Tetrabutyltin	7.33	7.22	837718	296139	9.661	9.767
3) Tri-n-butyltin	8.51	8.39	818645	248579	9.048	7.554
4) Di-n-butyltin	9.71	9.55	1131167	395748	8.073m	7.893
5) n-Butyltin	10.69	10.59	1003410	330611	7.206	6.330

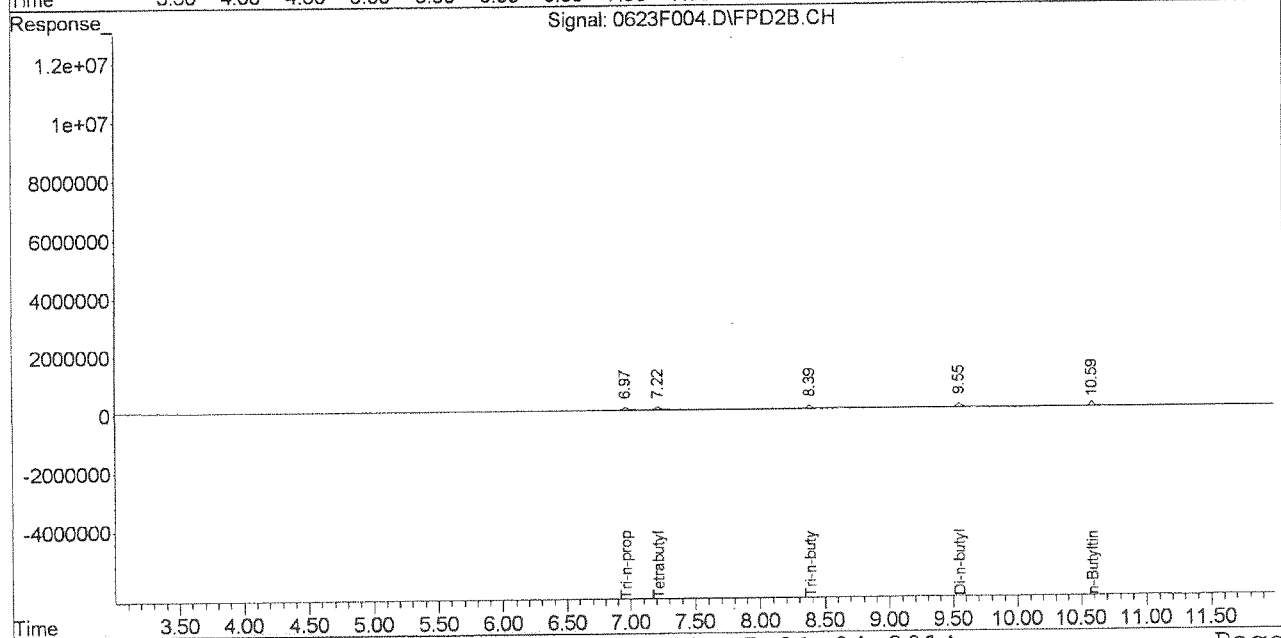
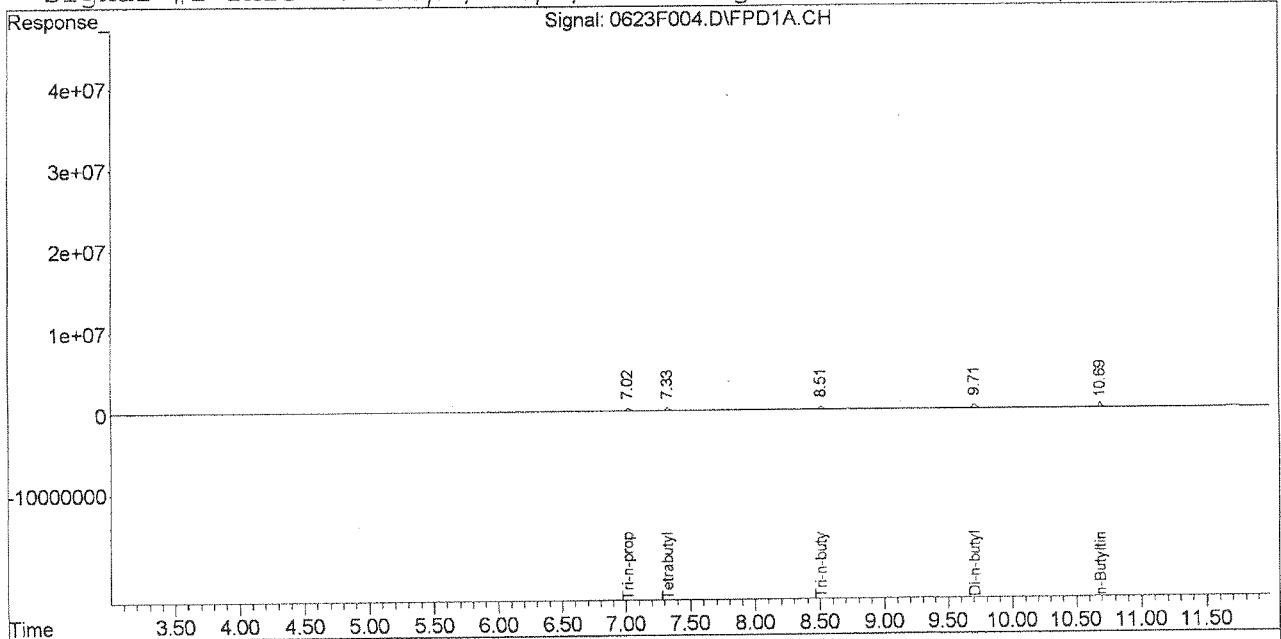
SS 6/23/14

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:23 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

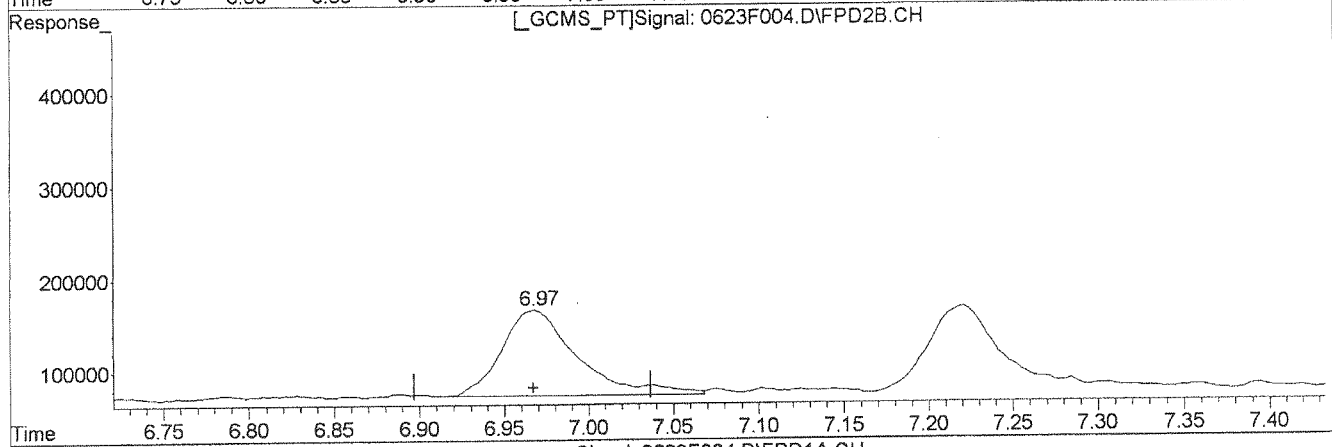
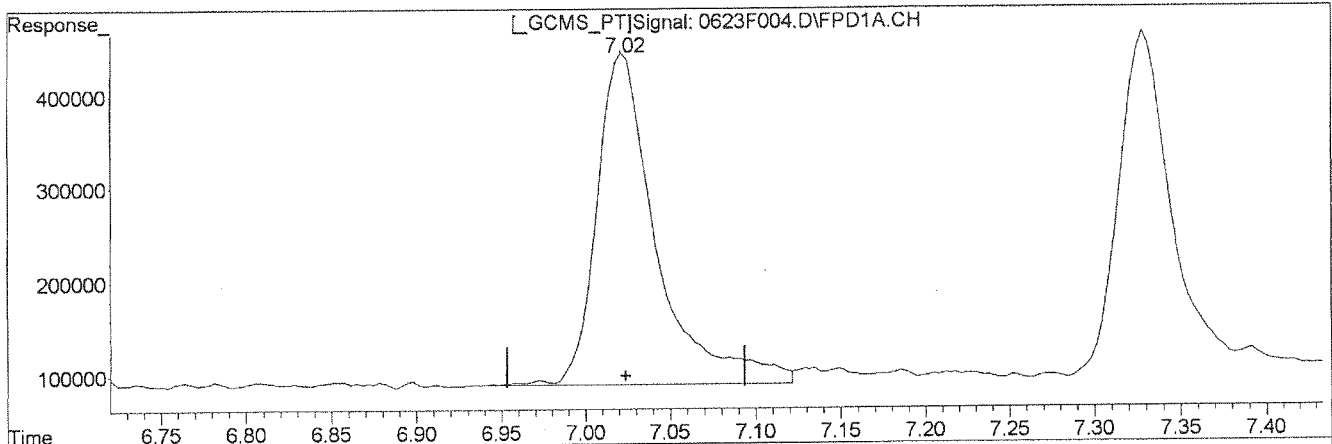
Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F004.D\FPD1A.CH

(1) Tri-n-propyltin (S)  
7.02min 10.459ng/mL  
response 879156

(1) Tri-n-propyltin #2 (S)  
6.97min 9.896ng/mL  
response 290644

Manual Integration:  
Before

06/23/14

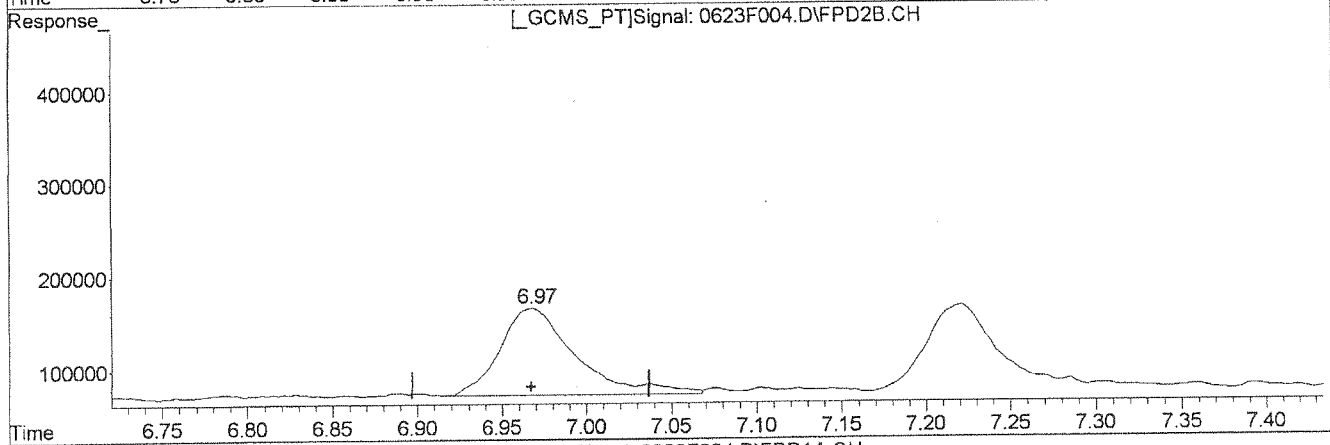
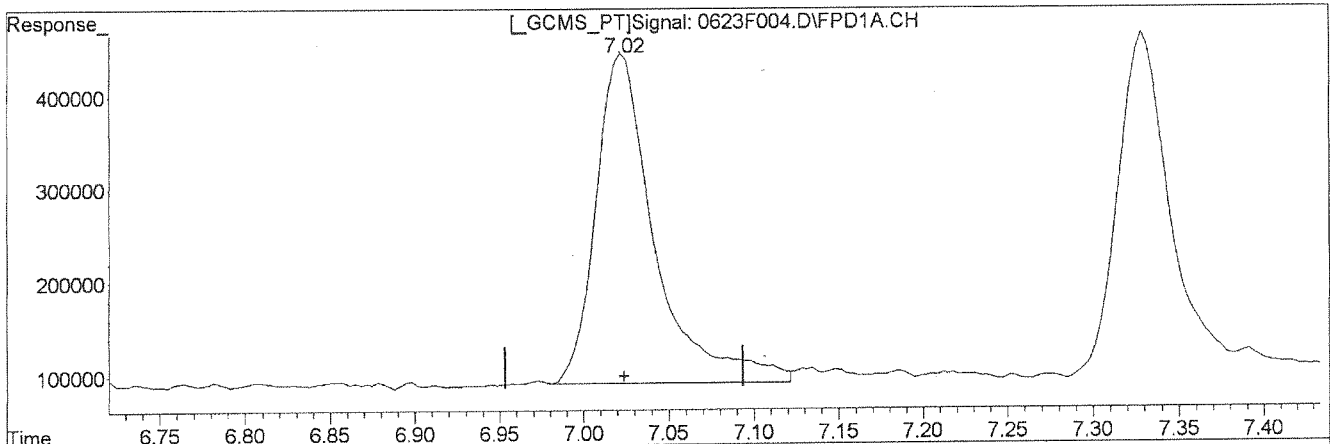
(+) = Expected Retention Time  
0623F004.D 062314-HTIN.M

Mon Jun 23 15:23:15 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F004.D\FPD1A.CH

(1) Tri-n-propyltin (S)  
7.02min 10.176ng/mL m  
response 855359

(1) Tri-n-propyltin #2 (S)  
6.97min 9.896ng/mL  
response 290644

Manual Integration:

After

Baseline/Shoulder

06/23/14

Detailed description: This block contains handwritten text and markings. It features a signature that appears to be 'SS' or similar, followed by a large, stylized scribble or signature. The text '06/23/14' is written below the signature.

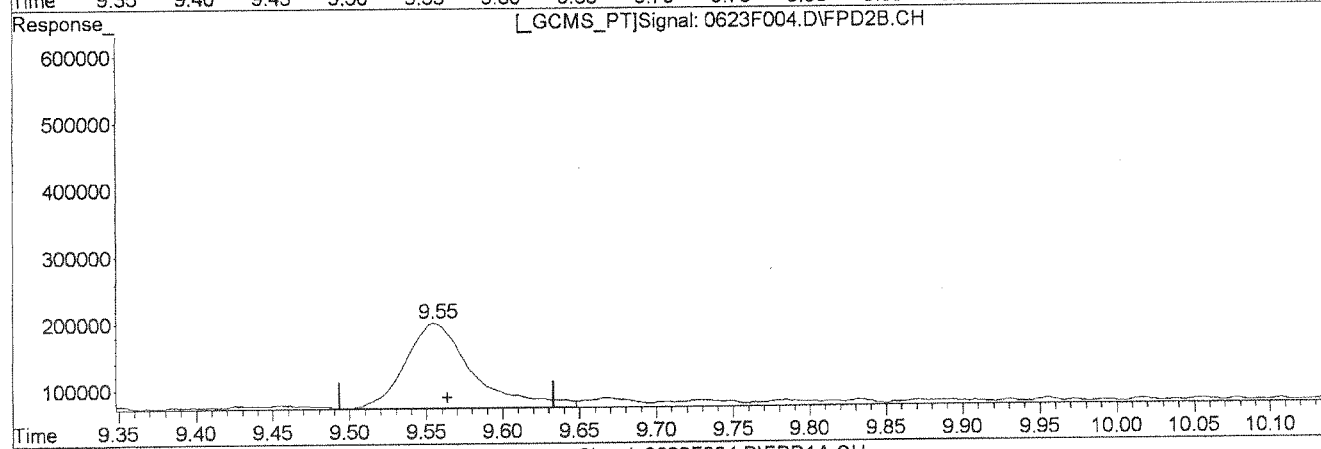
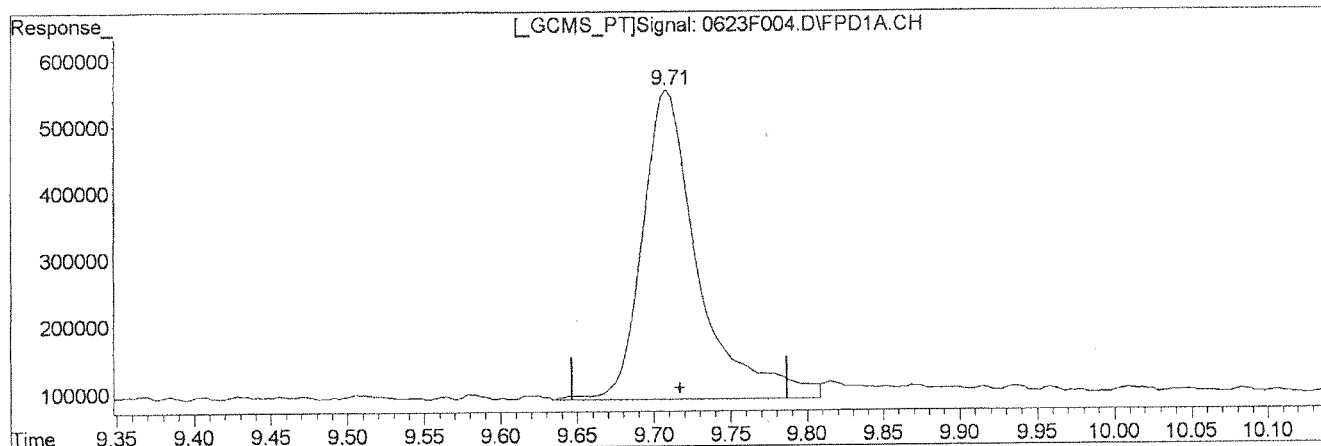
(+) = Expected Retention Time  
0623F004.D 062314-HTIN.M

Mon Jun 23 15:23:29 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
 Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Multiple Level Calibration



Signal: 0623F004.D\FPD1A.CH

(4) Di-n-butyltin  
 9.71min 8.441ng/mL  
 response 1182737

(4) Di-n-butyltin #2  
 9.55min 7.893ng/mL  
 response 395748

Manual Integration:  
 Before

06/23/14

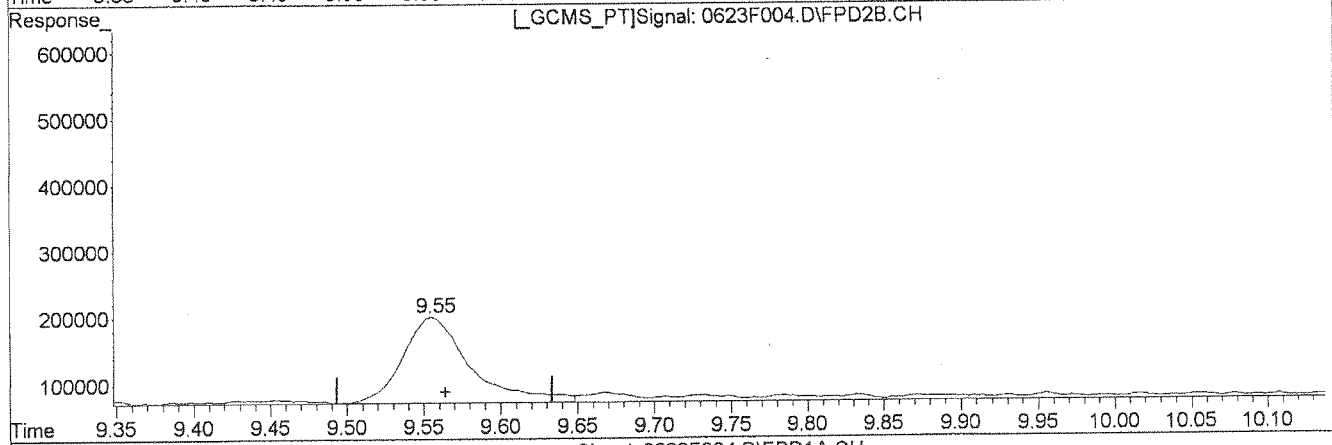
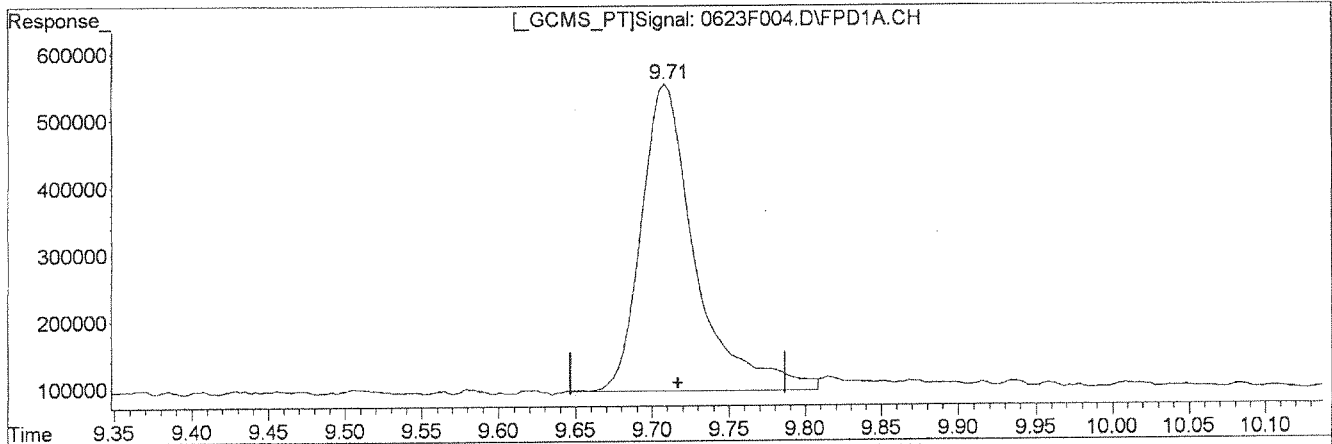
(+) = Expected Retention Time  
 0623F004.D 062314-HTIN.M

Mon Jun 23 15:23:39 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F004.D\FPD1A.CH Vial: 93  
Signal #2 : J:\GC26\DATA\062314\0623F004.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:16 pm Operator: SSULLIVAN  
Sample : O'TINS @ 10ppb OT5-01K Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F004.D\FPD1A.CH	
(4) Di-n-butyltin	Manual Integration:
9.71min 8.073ng/mL m	After
response 1131167	Baseline/Shoulder
	06/23/14
(4) Di-n-butyltin #2	
9.55min 7.893ng/mL	
response 395748	

(+) = Expected Retention Time  
0623F004.D 062314-HTIN.M Mon Jun 23 15:23:52 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F005.D\FPD1A.CH Vial: 94  
 Signal #2 : J:\GC26\DATA\062314\0623F005.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:33 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 20ppb OT5-01L Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:15 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.02	6.97	1782117	588121	21.202	20.025
Target Compounds						
2) Tetrabutyltin	7.33	7.22	1731442	578171	19.969	19.068
3) Tri-n-butyltin	8.52	8.39	1703961	515367	18.832	15.661
4) Di-n-butyltin	9.71	9.56	2396135	825439	17.102	16.463
5) n-Butyltin	10.69	10.59	2095744	679680	15.050	13.013

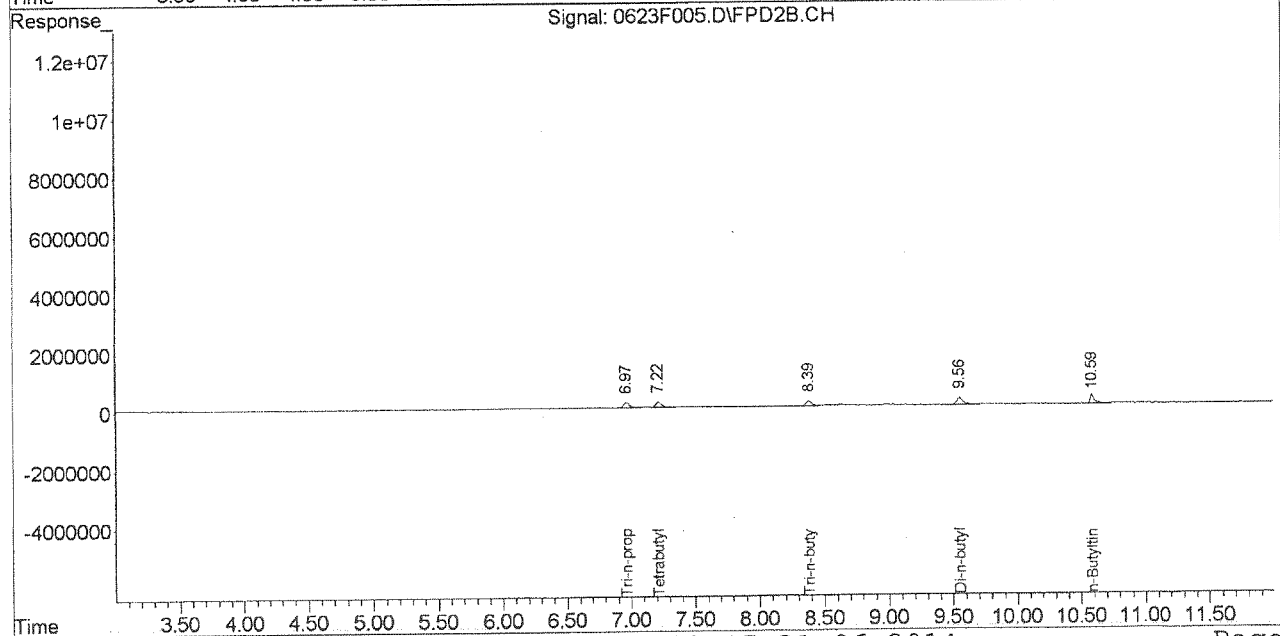
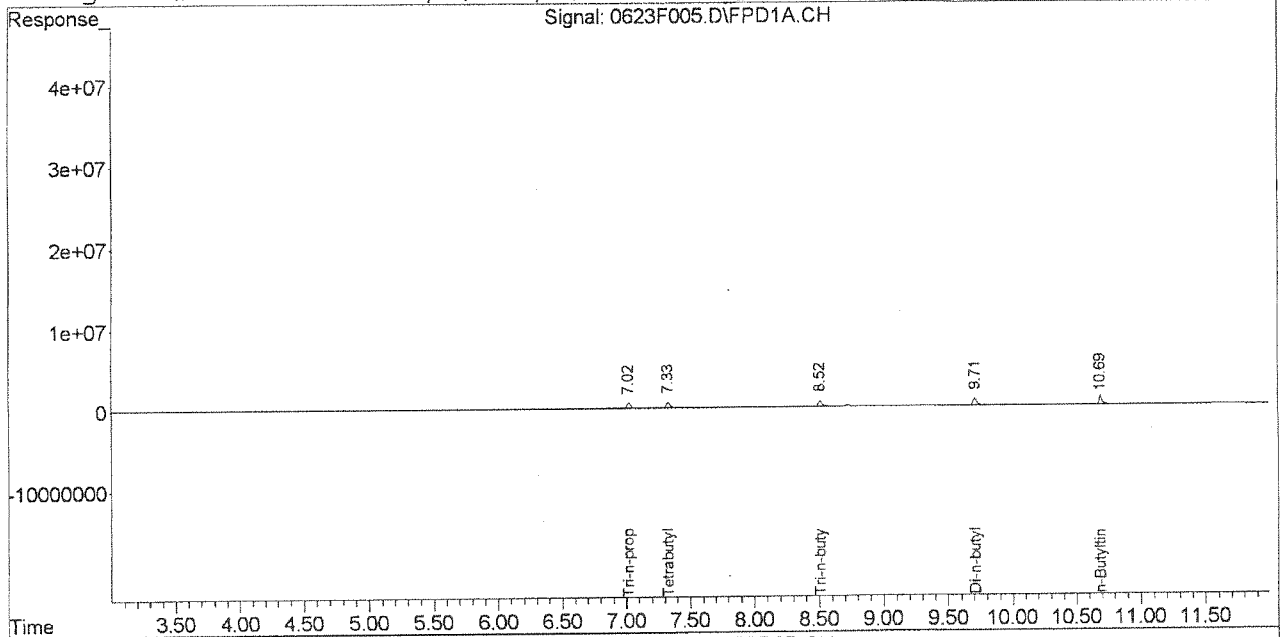


Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F005.D\FPD1A.CH Vial: 94  
Signal #2 : J:\GC26\DATA\062314\0623F005.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:33 pm Operator: SSULLIVAN  
Sample : O'TINS @ 20ppb OT5-01L Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F006.D\FPD1A.CH Vial: 95  
 Signal #2 : J:\GC26\DATA\062314\0623F006.D\FPD2B.CH  
 Acq On : 23 Jun 2014 1:49 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:16 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

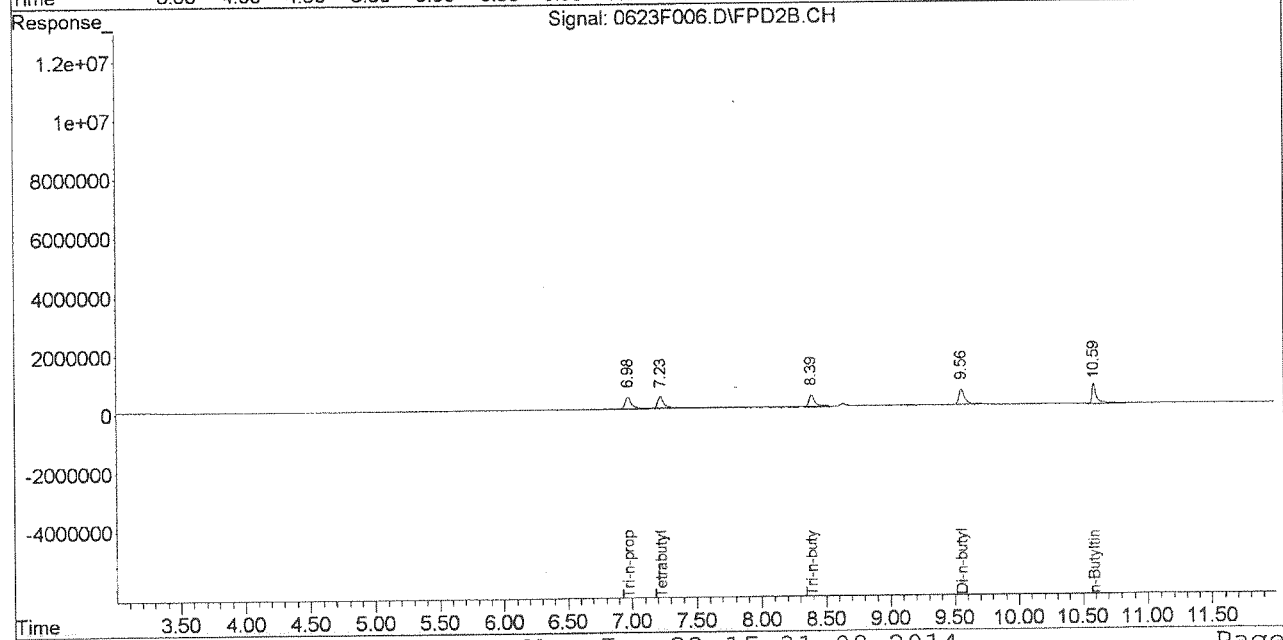
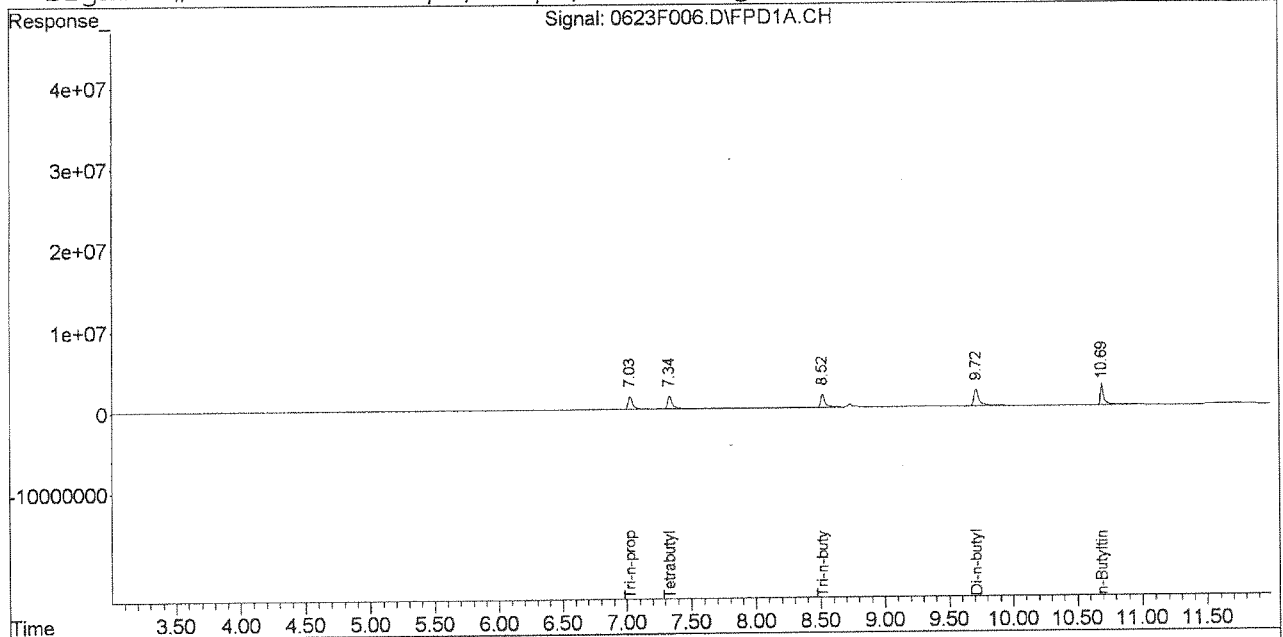
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.03	6.98	4741560	1514650	56.410	51.572
Target Compounds						
2) Tetrabutyltin	7.34	7.23	4498415	1410509	51.880m	46.519m
3) Tri-n-butyltin	8.52	8.39	4213591	1370647	46.569	41.652
4) Di-n-butyltin	9.72	9.56	6250976	1945207	44.614	38.797
5) n-Butyltin	10.69	10.59	5543899	1847942	39.811	35.381

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F006.D\FPD1A.CH Vial: 95  
Signal #2 : J:\GC26\DATA\062314\0623F006.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:49 pm Operator: SSULLIVAN  
Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:24 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

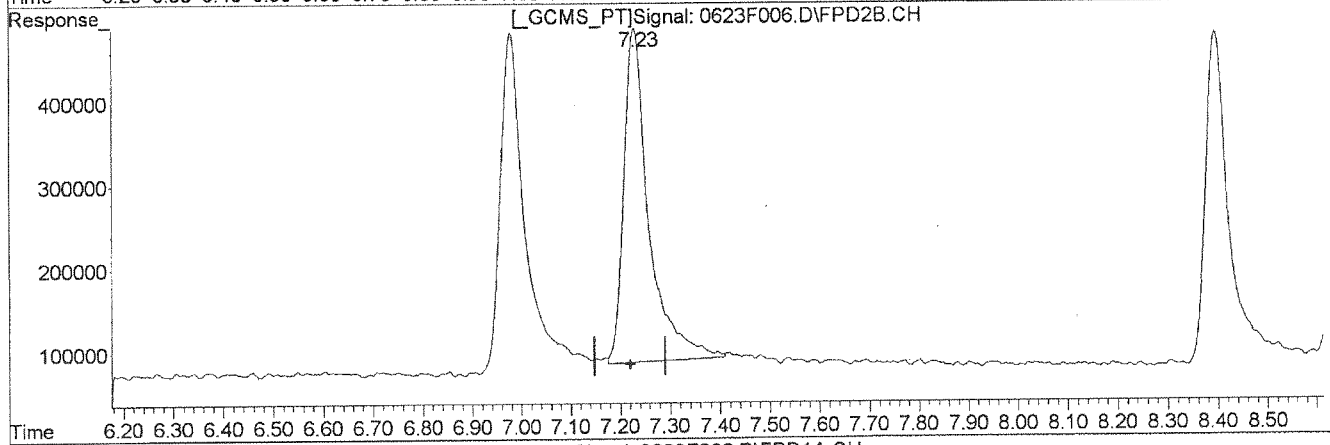
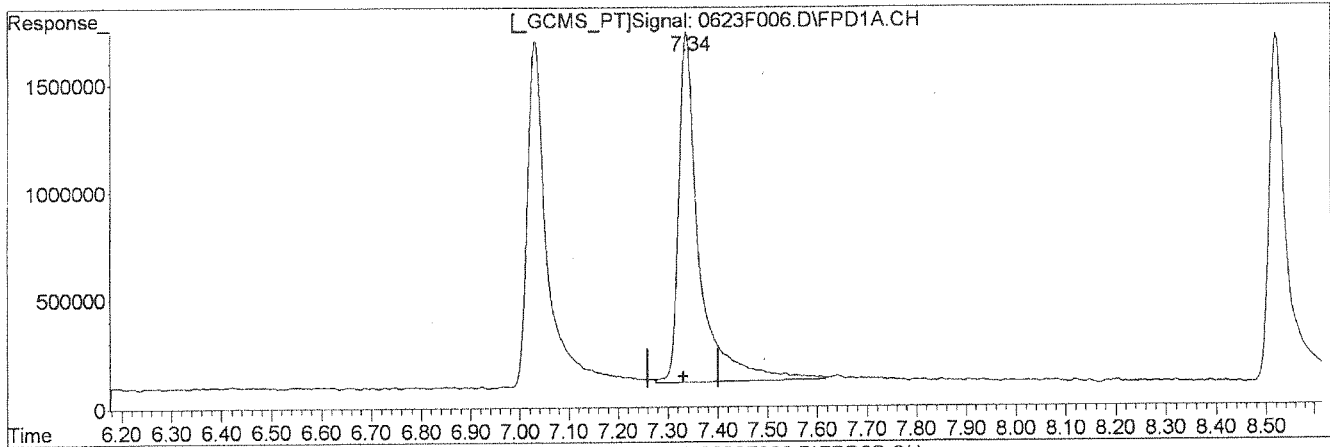
Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F006.D\FPD1A.CH Vial: 95  
Signal #2 : J:\GC26\DATA\062314\0623F006.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:49 pm Operator: SSULLIVAN  
Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F006.D\FPD1A.CH

(2) Tetrabutyltin  
7.34min 53.326ng/mL  
response 4623762

(2) Tetrabutyltin #2  
7.23min 46.784ng/mL  
response 1418530

Manual Integration:  
Before

06/23/14

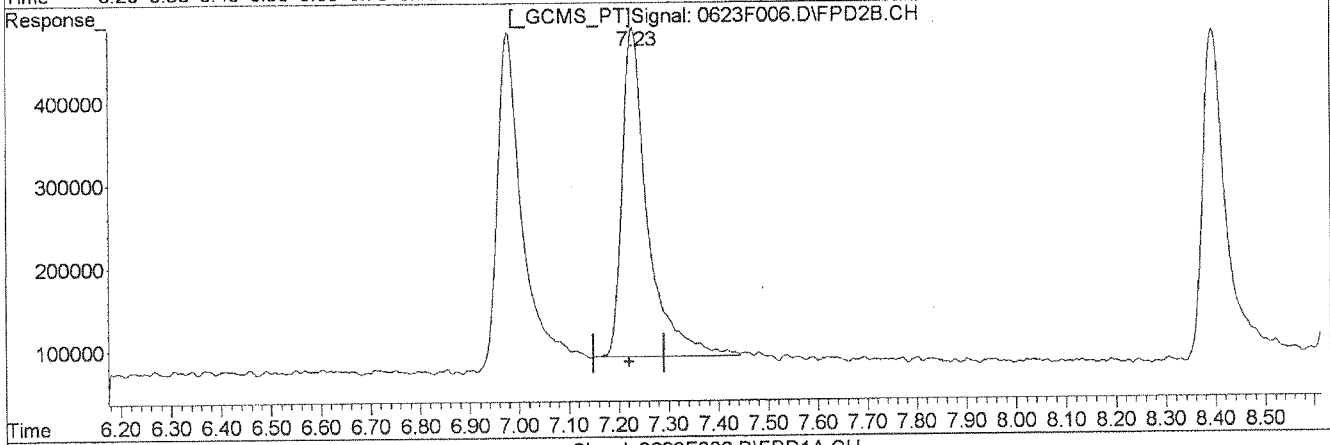
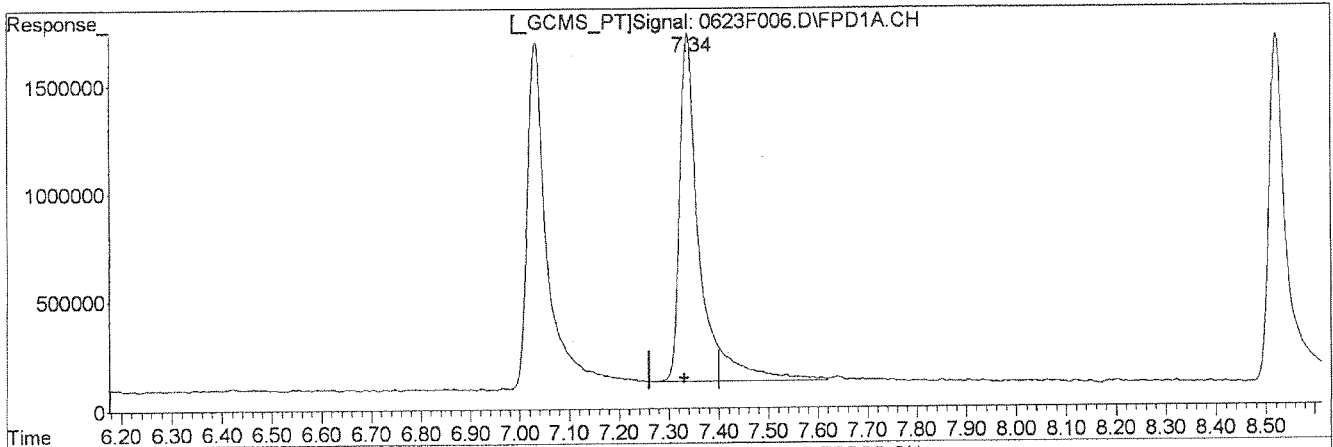
(+) = Expected Retention Time  
0623F006.D 062314-HTIN.M

Mon Jun 23 15:24:33 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F006.D\FPD1A.CH Vial: 95  
Signal #2 : J:\GC26\DATA\062314\0623F006.D\FPD2B.CH  
Acq On : 23 Jun 2014 1:49 pm Operator: SSULLIVAN  
Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES


Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F006.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response
7.34	51.880	4498415
7.23	46.519	1410509

Manual Integration:  
After  
Baseline/Shoulder  
06/23/14



(+) = Expected Retention Time  
0623F006.D 062314-HTIN.M Mon Jun 23 15:24:54 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F007.D\FPD1A.CH Vial: 96  
 Signal #2 : J:\GC26\DATA\062314\0623F007.D\FPD2B.CH  
 Acq On : 23 Jun 2014 2:05 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 200ppb OT5-01M Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:16 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.03	6.98	19842970	6423977	236.069	218.730
Target Compounds						
2) Tetrabutyltin	7.34	7.23	18885163	5923048	217.803m	195.346m
3) Tri-n-butyltin	8.52	8.39	17625682	5807666	194.799	176.486
4) Di-n-butyltin	9.71	9.56	26457922	8705392	188.834	173.627
5) n-Butyltin	10.69	10.59	23152721	7321538	166.261	140.180

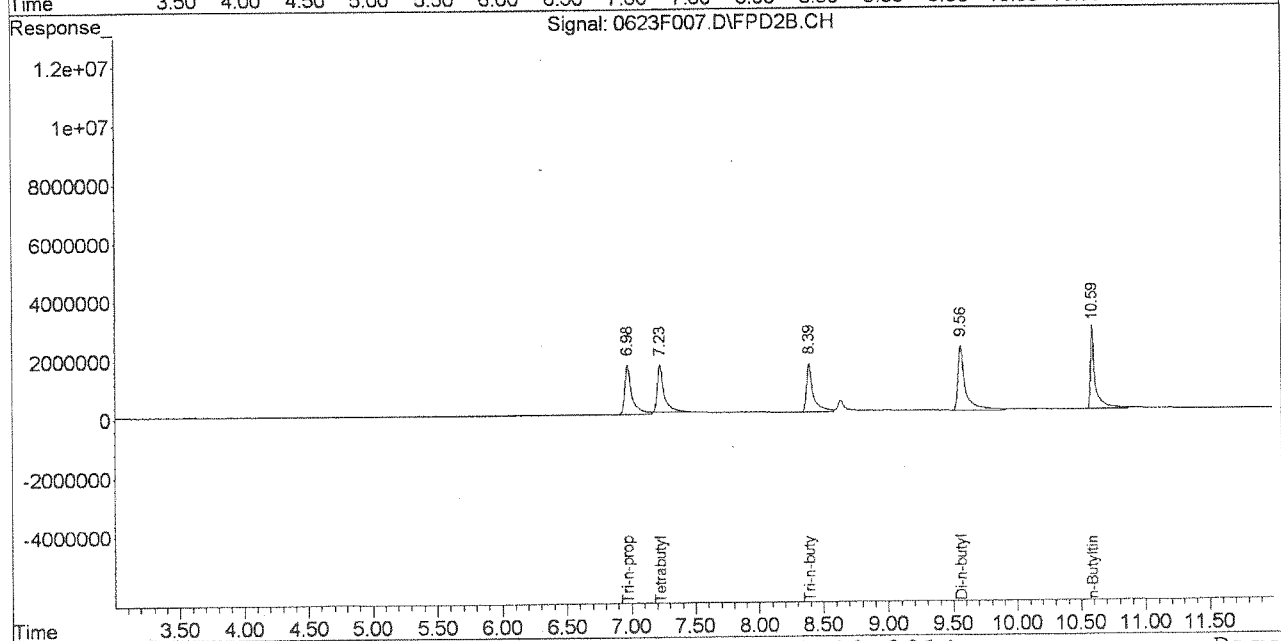
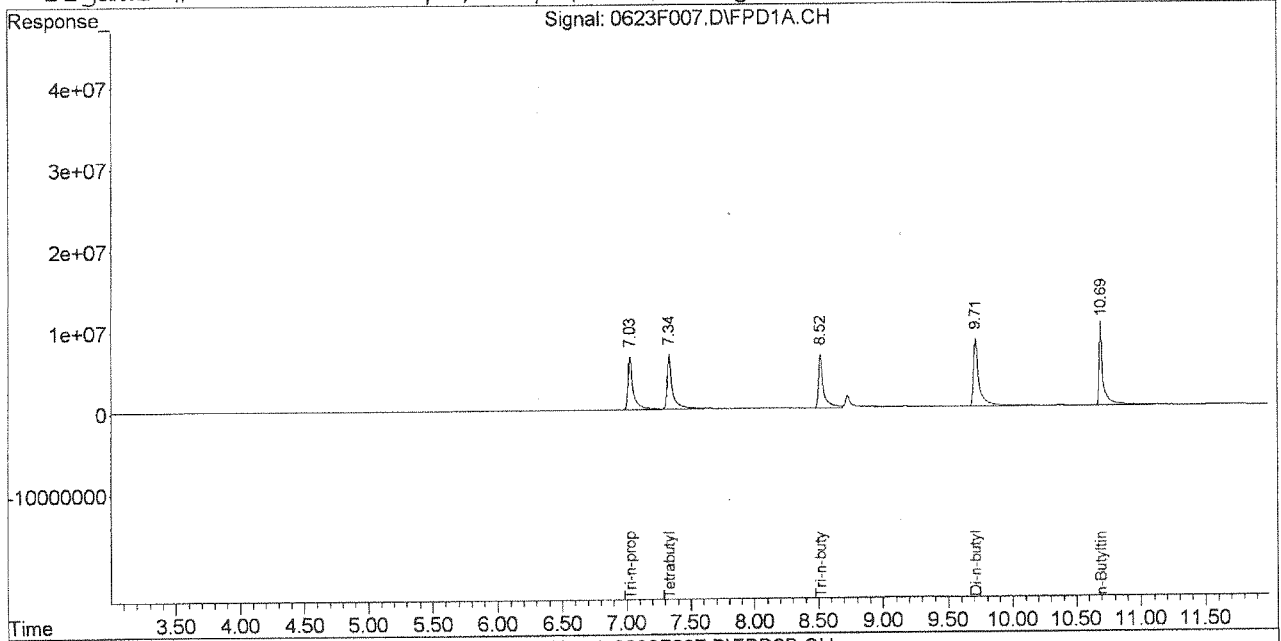
*SS 6/23/14*

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F007.D\FPD1A.CH Vial: 96  
Signal #2 : J:\GC26\DATA\062314\0623F007.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:05 pm Operator: SSULLIVAN  
Sample : O'TINS @ 200ppb OT5-01M Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:25 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

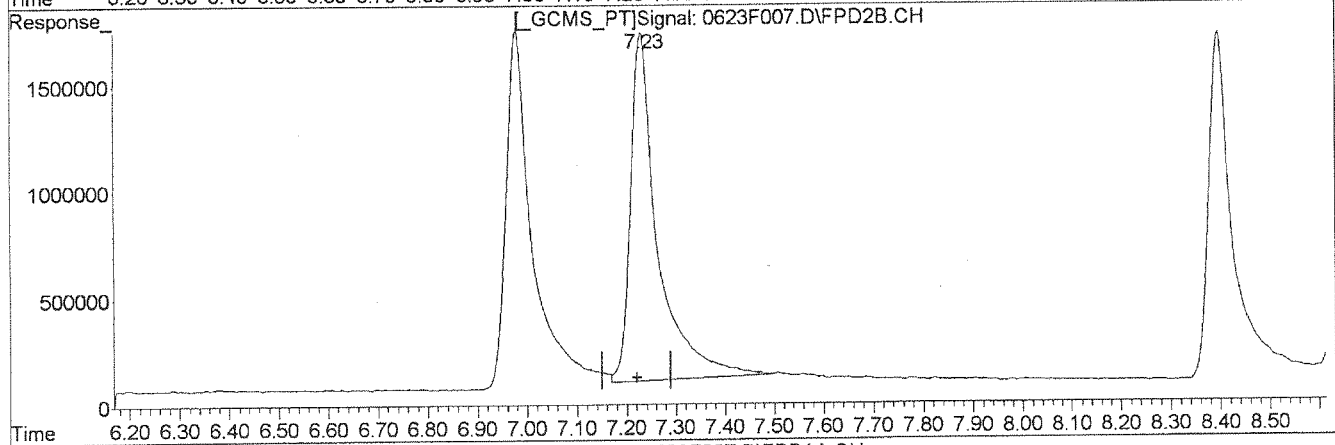
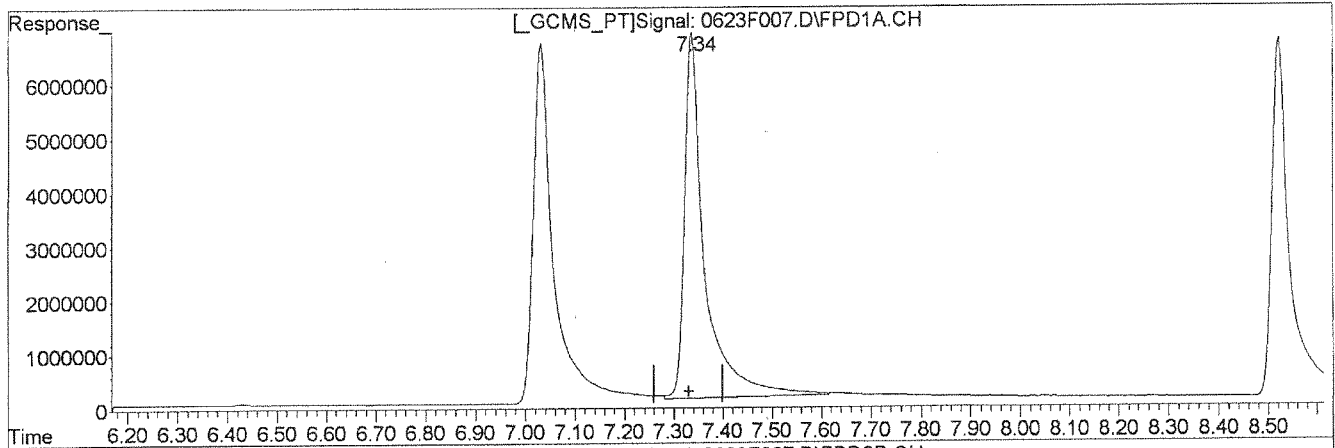
Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F007.D\FPD1A.CH Vial: 96  
Signal #2 : J:\GC26\DATA\062314\0623F007.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:05 pm Operator: SSULLIVAN  
Sample : O'TINS @ 200ppb OT5-01M Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F007.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response
7.34	222.711	19310738
7.23	208.070	6308844

Manual Integration:  
Before  
06/23/14

(+) = Expected Retention Time

0623F007.D 062314-HTIN.M

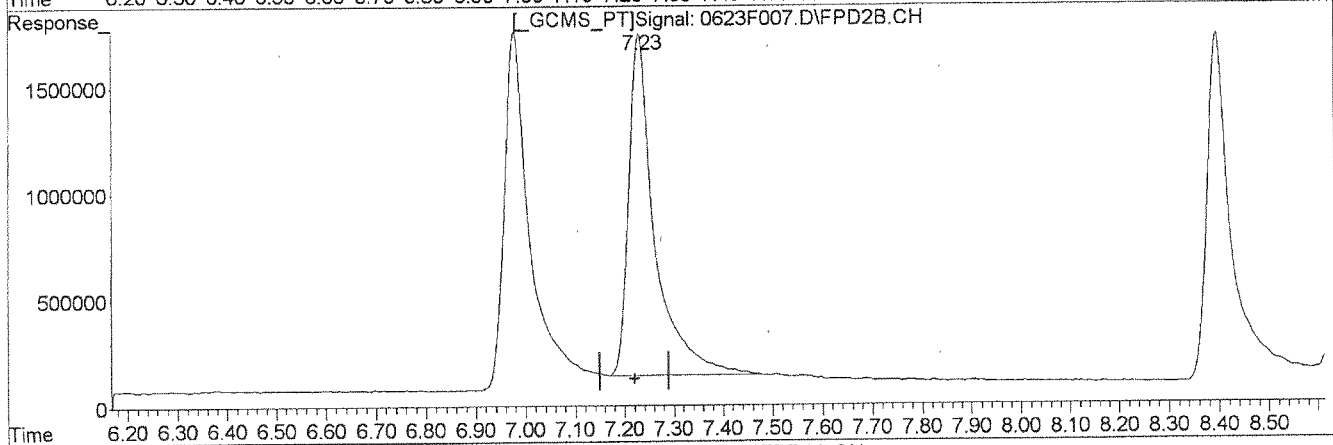
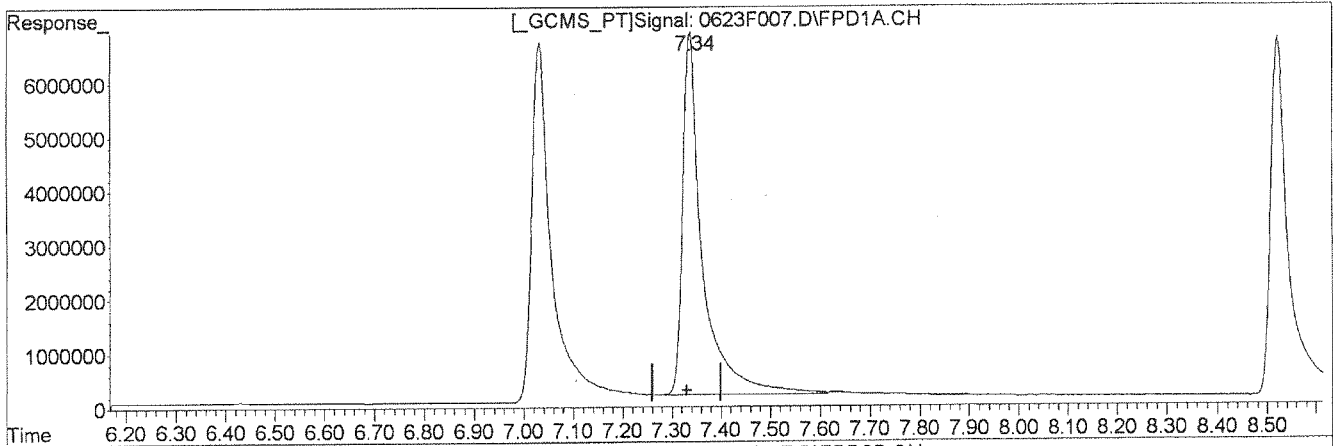
Mon Jun 23 15:25:09 2014



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F007.D\FPD1A.CH Vial: 96  
Signal #2 : J:\GC26\DATA\062314\0623F007.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:05 pm Operator: SSULLIVAN  
Sample : O'TINS @ 200ppb OT5-01M Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

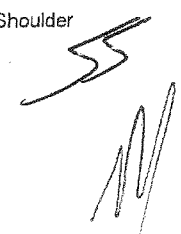
Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F007.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response
7.34	217.803	18885163
7.23	195.346	5923048

Manual Integration:  
After  
Baseline/Shoulder  
06/23/14



(+) = Expected Retention Time  
0623F007.D 062314-HTIN.M Mon Jun 23 15:25:31 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F008.D\FPD1A.CH Vial: 97  
 Signal #2 : J:\GC26\DATA\062314\0623F008.D\FPD2B.CH  
 Acq On : 23 Jun 2014 2:22 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 500ppb OT5-01N Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:17 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.03	6.98	48569075	15753823	577.820	536.403
Target Compounds						
2) Tetrabutyltin	7.34	7.23	46346808	15076589	534.518m	497.236m
3) Tri-n-butyltin	8.52	8.39	43008432	14285119	475.329	434.102
4) Di-n-butyltin	9.72	9.56	64284572	21288310	458.807	424.591
5) n-Butyltin	10.69	10.59	55357238	17865778	397.524	342.063

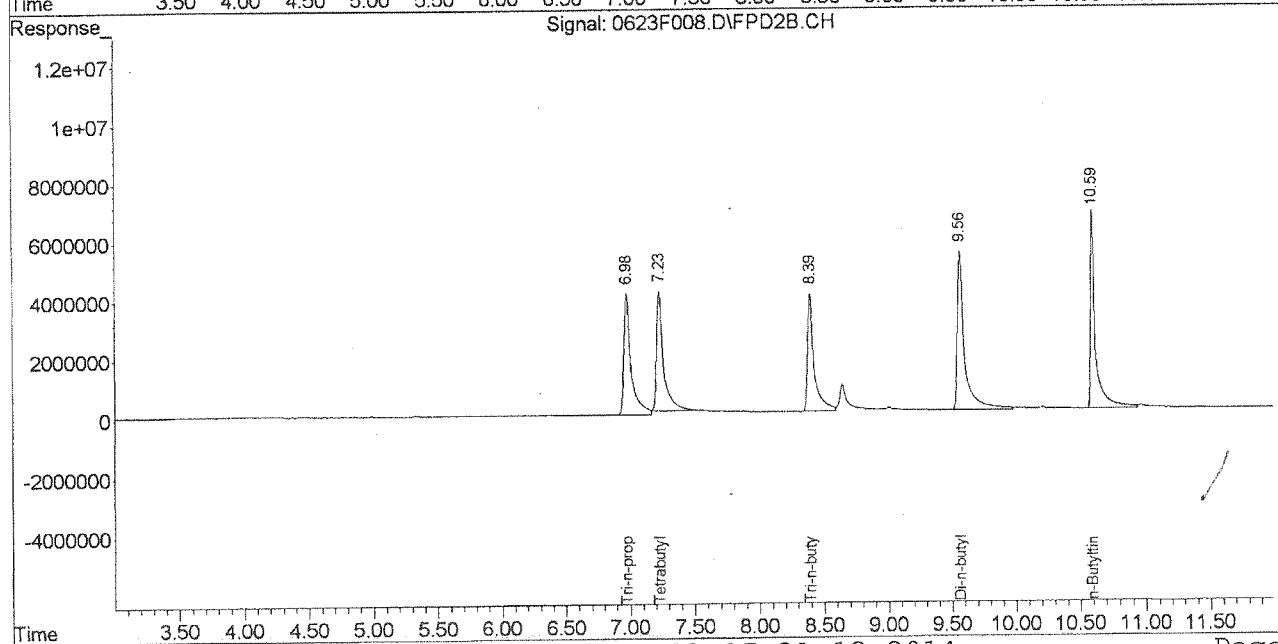
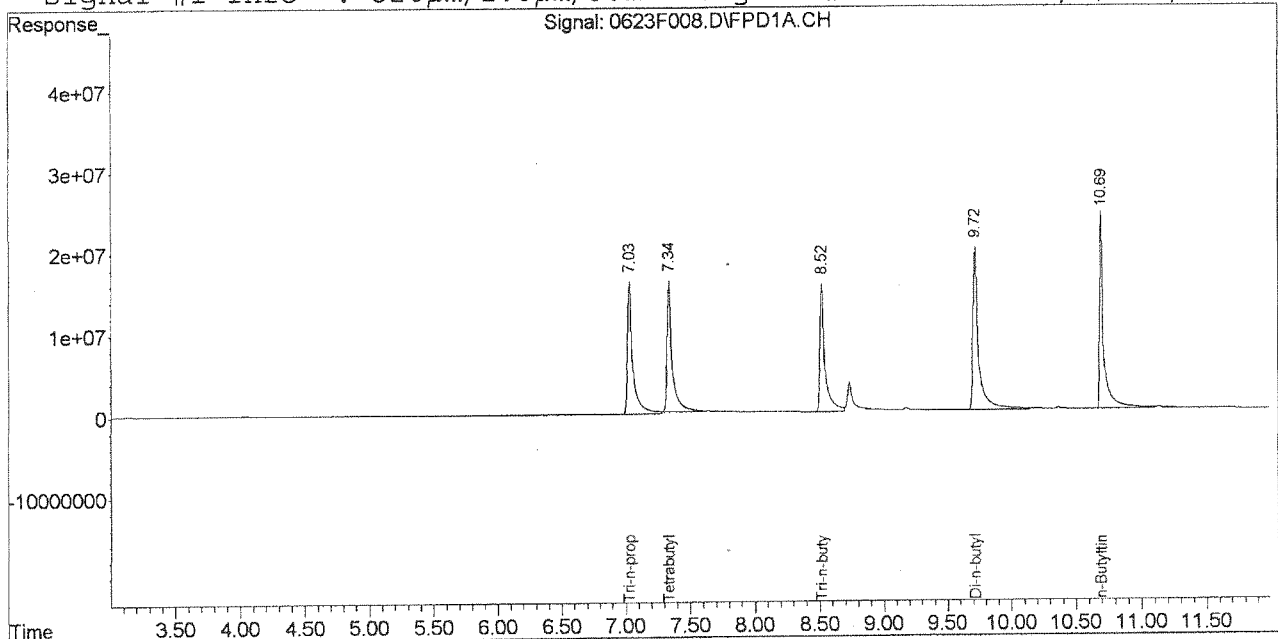
SS 6/23/14

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F008.D\FPD1A.CH Vial: 97  
Signal #2 : J:\GC26\DATA\062314\0623F008.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:22 pm Operator: SSULLIVAN  
Sample : O'TINS @ 500ppb OT5-01N Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:26 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

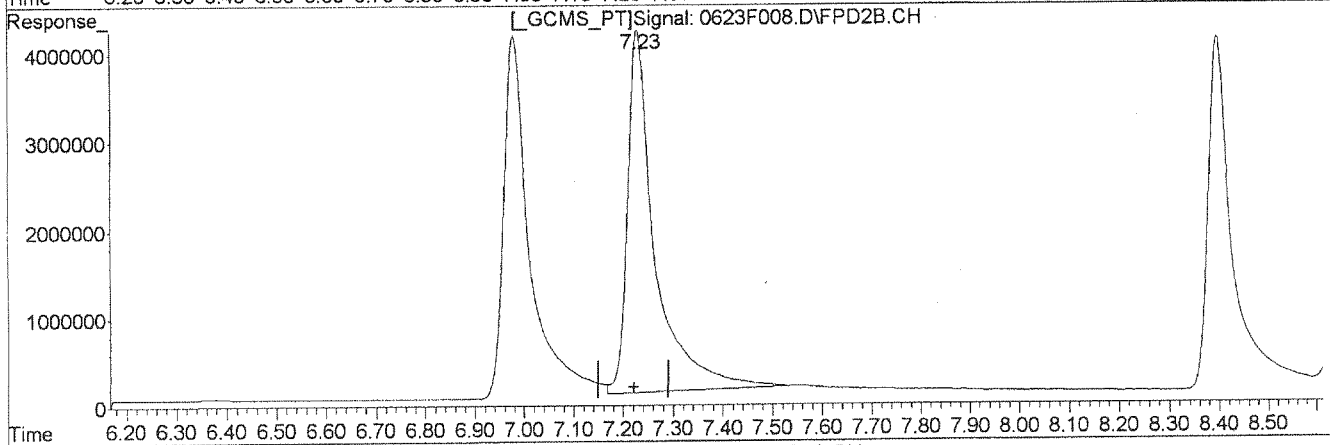
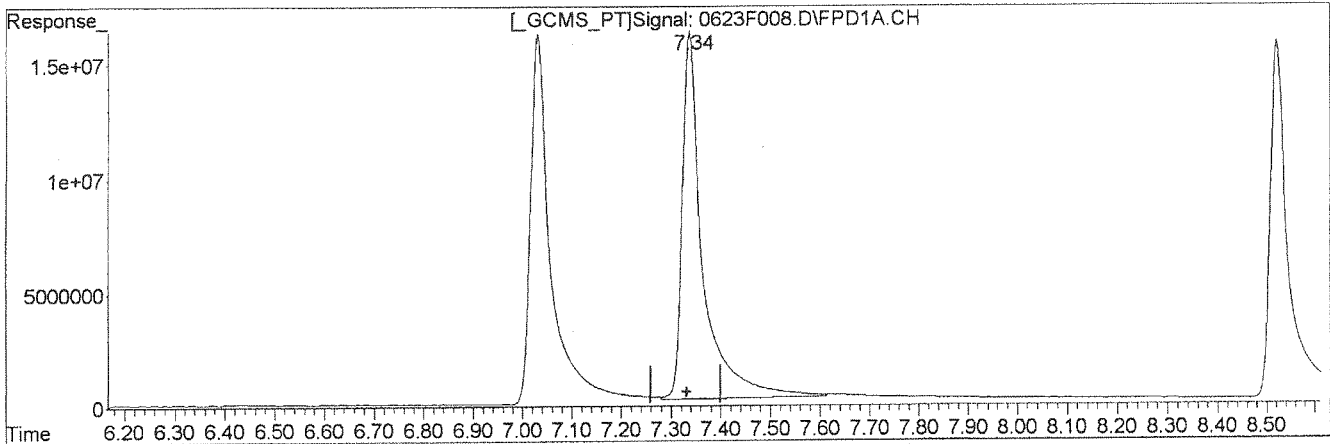
Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F008.D\FPD1A.CH Vial: 97  
Signal #2 : J:\GC26\DATA\062314\0623F008.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:22 pm Operator: SSULLIVAN  
Sample : O'TINS @ 500ppb OT5-01N Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F008.D\FPD1A.CH

(2) Tetrabutyltin  
7.34min 544.160ng/mL  
response 47182913

(2) Tetrabutyltin #2  
7.23min 522.607ng/mL  
response 15845885

Manual Integration:

Before

06/23/14

Handwritten signature or initials, possibly 'SS', in black ink.

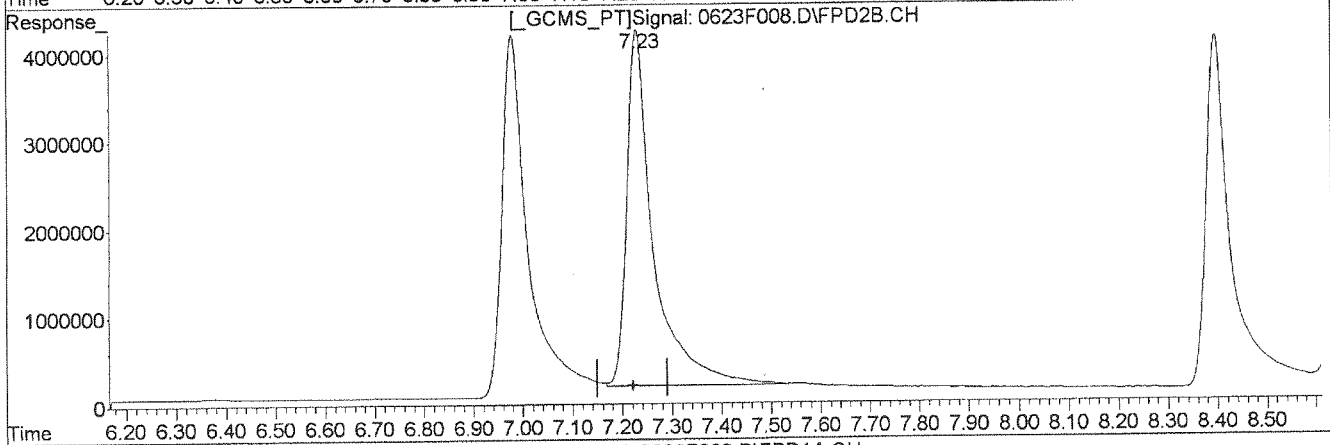
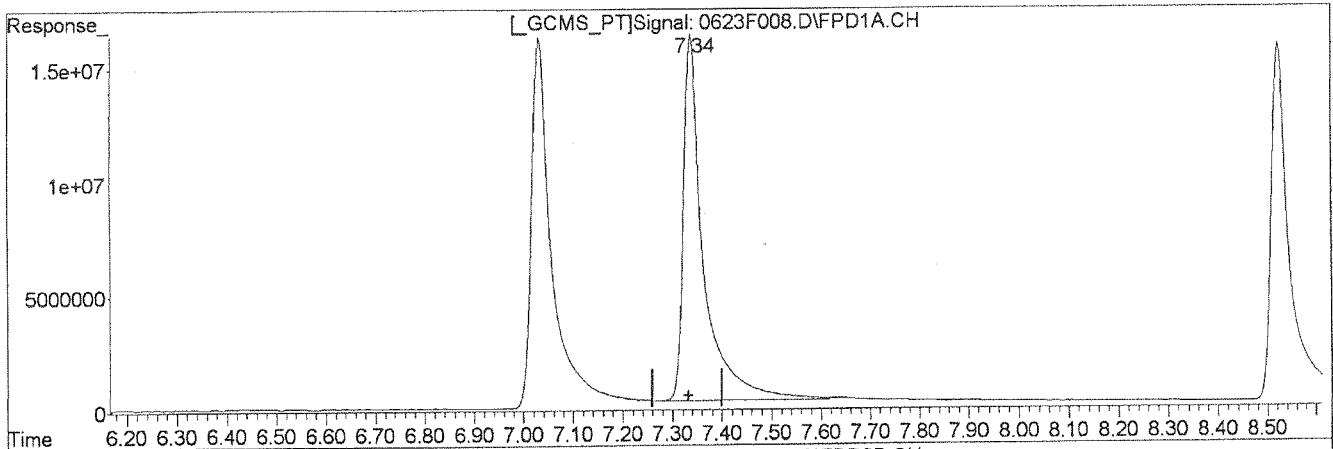
(+) = Expected Retention Time  
0623F008.D 062314-HTIN.M

Mon Jun 23 15:25:47 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F008.D\FPD1A.CH Vial: 97  
Signal #2 : J:\GC26\DATA\062314\0623F008.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:22 pm Operator: SSULLIVAN  
Sample : O'TINS @ 500ppb OT5-01N Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F008.D\FPD1A.CH

Retention Time (min)	Concentration (ng/mL)	Response
7.34	534.518	46346808
7.23	497.236	15076589

Manual Integration:  
After  
Baseline/Shoulder  
06/23/14

(+) = Expected Retention Time  
0623F008.D 062314-HTIN.M Mon Jun 23 15:26:10 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F009.D\FPD1A.CH Vial: 98  
 Signal #2 : J:\GC26\DATA\062314\0623F009.D\FPD2B.CH  
 Acq On : 23 Jun 2014 2:38 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 1000ppb OT5-02A Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:18 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

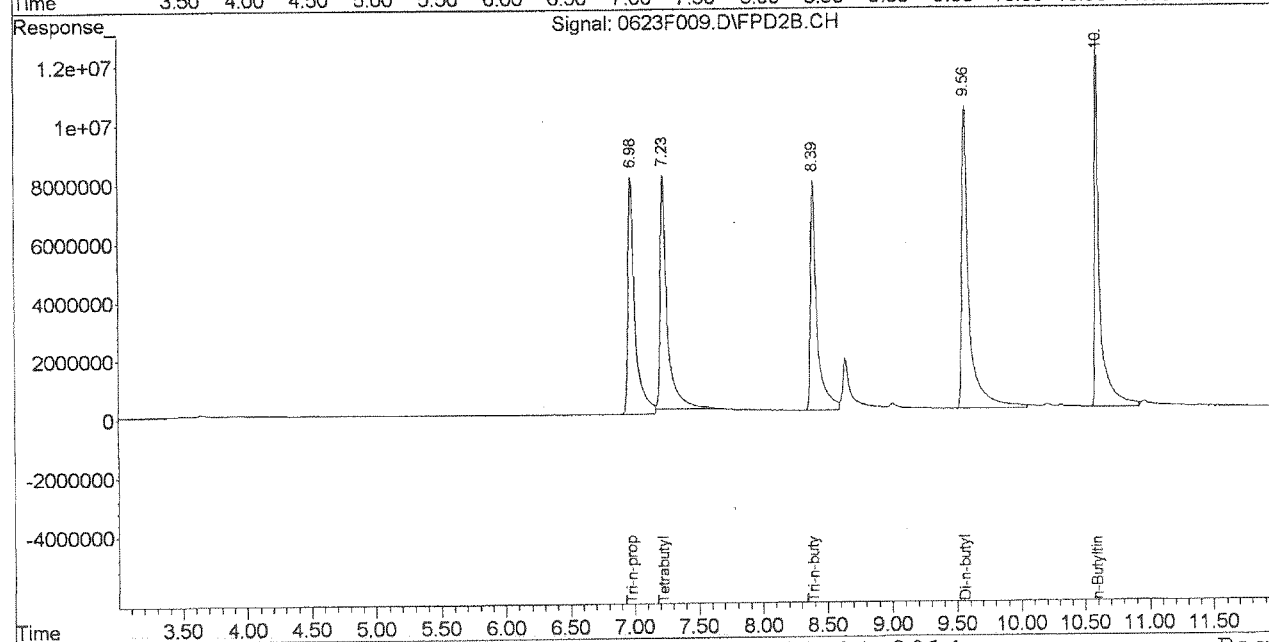
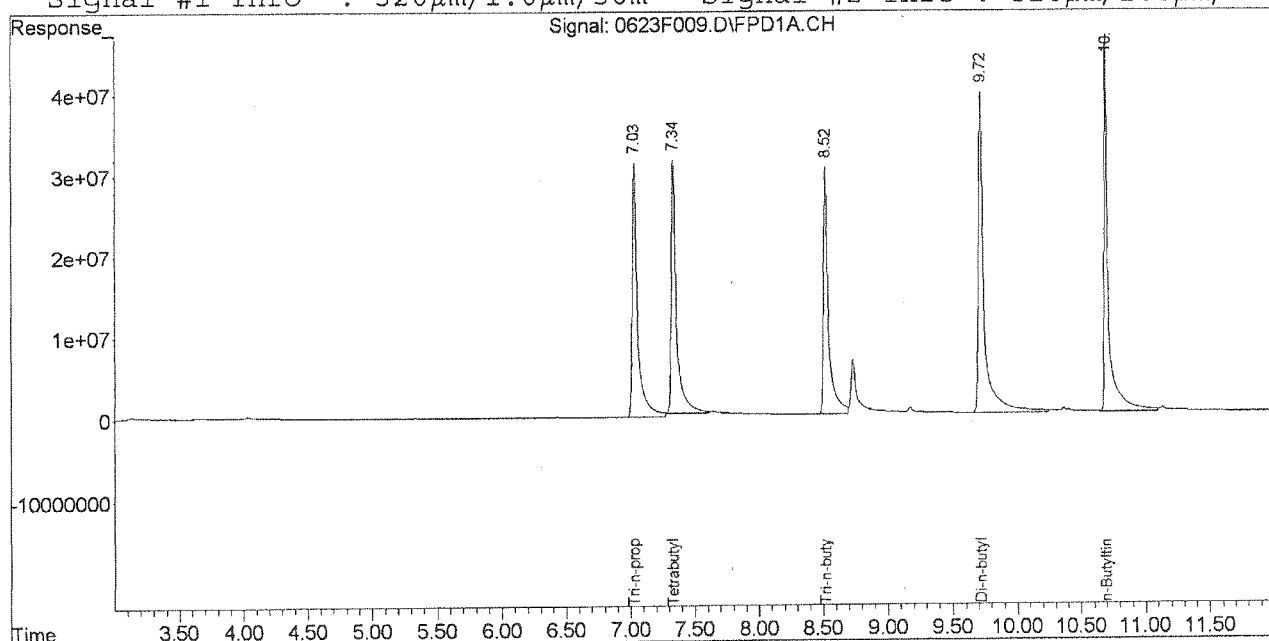
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.03	6.98	93409873	30334657	1111.284	1032.866
Target Compounds						
2) Tetrabutyltin	7.34	7.23	87989274	30275489	1014.780m	998.505m
3) Tri-n-butyltin	8.52	8.39	82318040	27601628	909.779	838.769
4) Di-n-butyltin	9.72	9.56	122.6E6	40732712	875.154	812.405
5) n-Butyltin	10.70	10.60	103.4E6	33778270	742.601	646.729

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F009.D\FPD1A.CH Vial: 98  
Signal #2 : J:\GC26\DATA\062314\0623F009.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:38 pm Operator: SSULLIVAN  
Sample : O'TINS @ 1000ppb OT5-02A Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:26 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F010.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\062314\0623F010.D\FPD2B.CH  
 Acq On : 23 Jun 2014 2:54 pm Operator: SSULLIVAN  
 Sample : O'TINS ICV @ 50ppb OT5-02B Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18:18 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
----------	------	------	--------	--------	-------	-------

System Monitoring Compounds

Target Compounds

2)	Tetrabutyltin	7.34	7.23	3721312	1206273	42.918	39.784
3)	Tri-n-butyltin	8.52	8.39	4445380	1542684	49.130	46.880
4)	Di-n-butyltin	9.72	9.56	4673129	1570153	33.353	31.316
5)	n-Butyltin	10.69	10.59	5038336	1591558	36.181	30.472

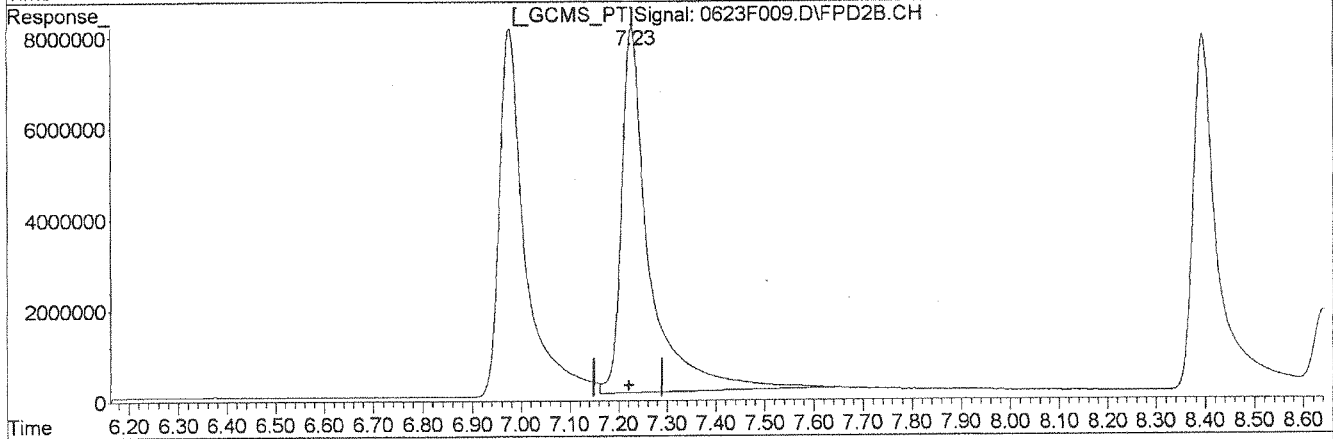
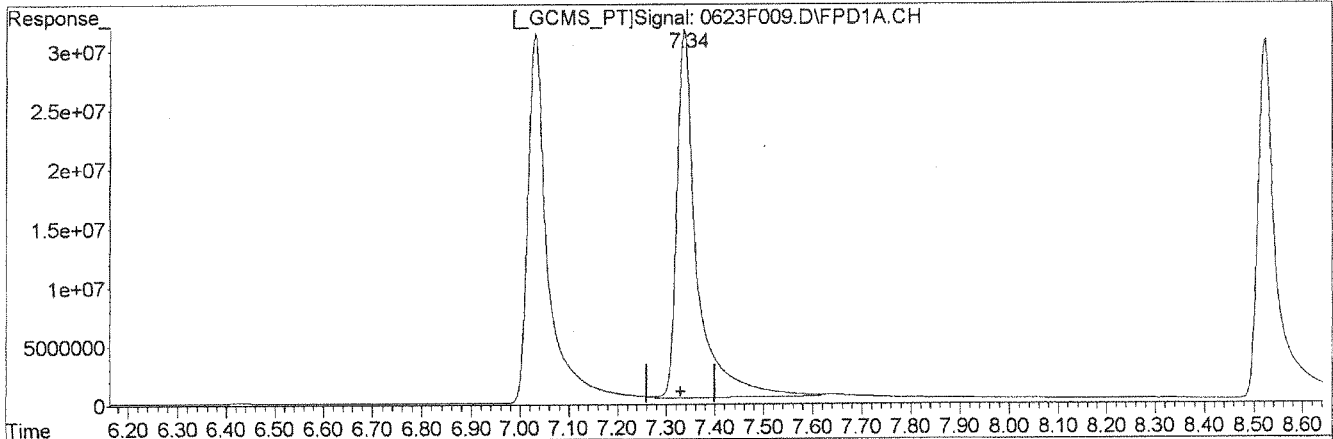
*SS 6/23/14*



Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F009.D\FPD1A.CH Vial: 98  
Signal #2 : J:\GC26\DATA\062314\0623F009.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:38 pm Operator: SSULLIVAN  
Sample : O'TINS @ 1000ppb OT5-02A Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F009.D\FPD1A.CH

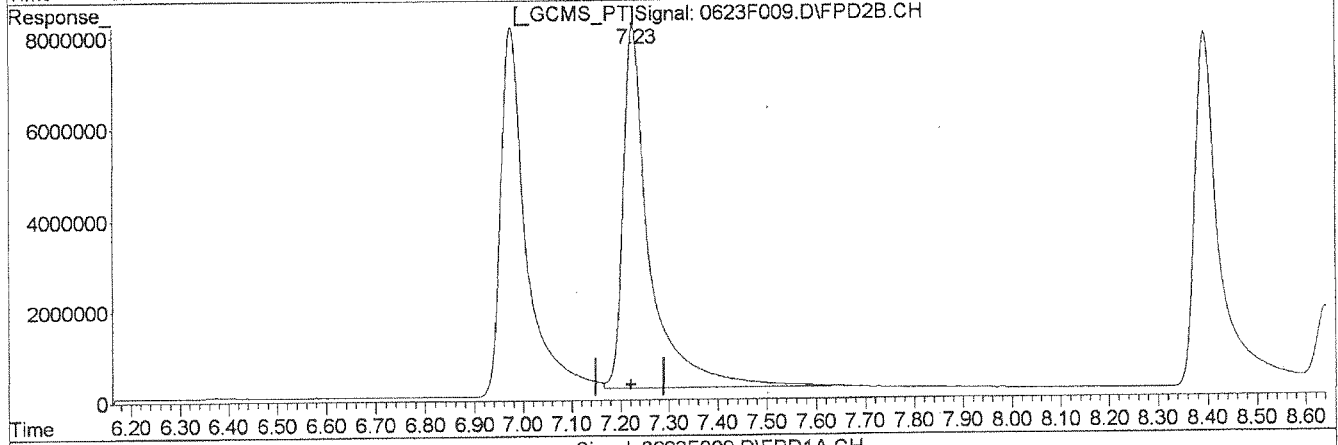
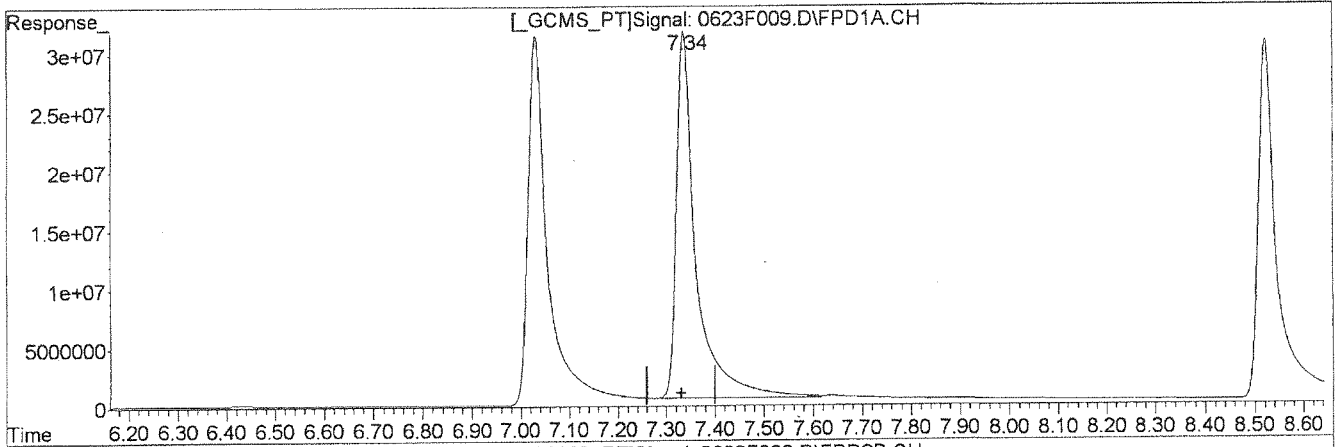
(2) Tetrabutyltin	Manual Integration:
7.34min 1027.490ng/mL	Before
response 89091373	06/23/14
(2) Tetrabutyltin #2	
7.23min 1051.398ng/mL	
response 31879243	

(+) = Expected Retention Time  
0623F009.D 062314-HTIN.M Mon Jun 23 15:26:27 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062314\0623F009.D\FPD1A.CH Vial: 98  
Signal #2 : J:\GC26\DATA\062314\0623F009.D\FPD2B.CH  
Acq On : 23 Jun 2014 2:38 pm Operator: SSULLIVAN  
Sample : O'TINS @ 1000ppb OT5-02A Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Fri Jun 20 09:17:03 2014  
Response via : Multiple Level Calibration



Signal: 0623F009.D\FPD1A.CH		Manual Integration:
(2) Tetrabutyltin		After
7.34min 1014.780ng/mL m		Baseline/Shoulder
response 87989274		06/23/14
(2) Tetrabutyltin #2		
7.23min 998.505ng/mL m		
response 30275489		

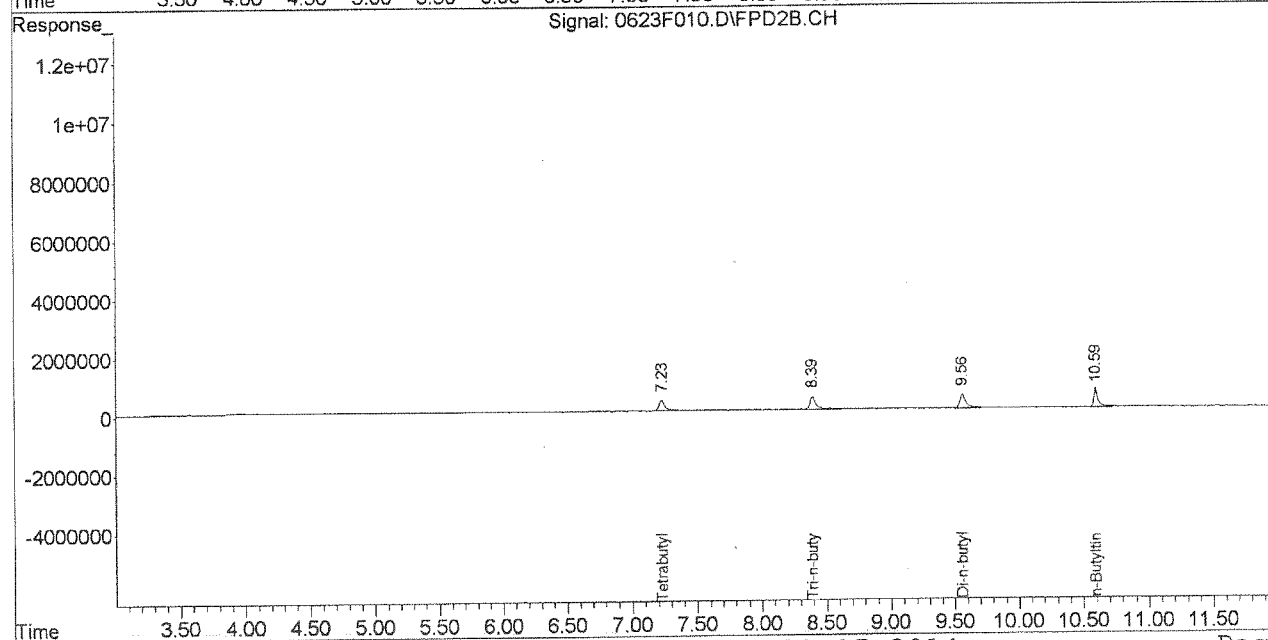
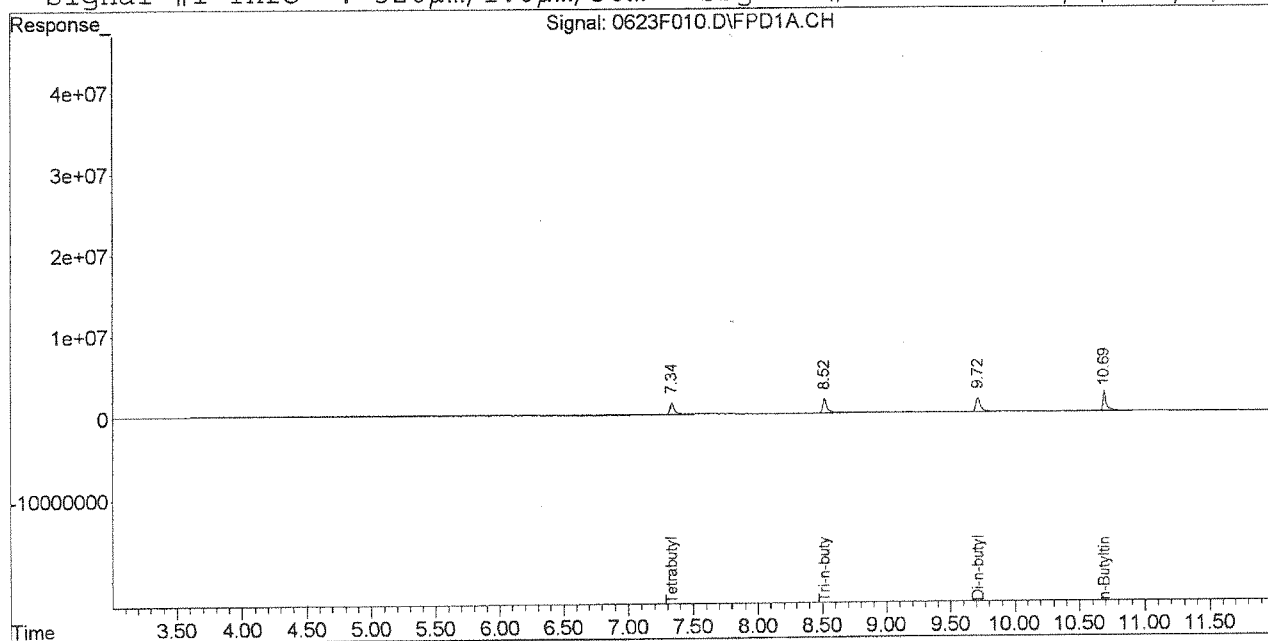
(+) = Expected Retention Time  
0623F009.D 062314-HTIN.M Mon Jun 23 15:26:48 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F010.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\062314\0623F010.D\FPD2B.CH  
 Acq On : 23 Jun 2014 2:54 pm Operator: SSULLIVAN  
 Sample : O'TINS ICV @ 50ppb OT5-02B Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:18 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Fri Jun 20 09:17:03 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F011.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\062314\0623F011.D\FPD2B.CH  
 Acq On : 23 Jun 2014 3:12 pm Operator: SSULLIVAN  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Jun 23 15:31:35 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13???  
 Last Update : Mon Jun 23 15:30:23 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
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System Monitoring Compounds

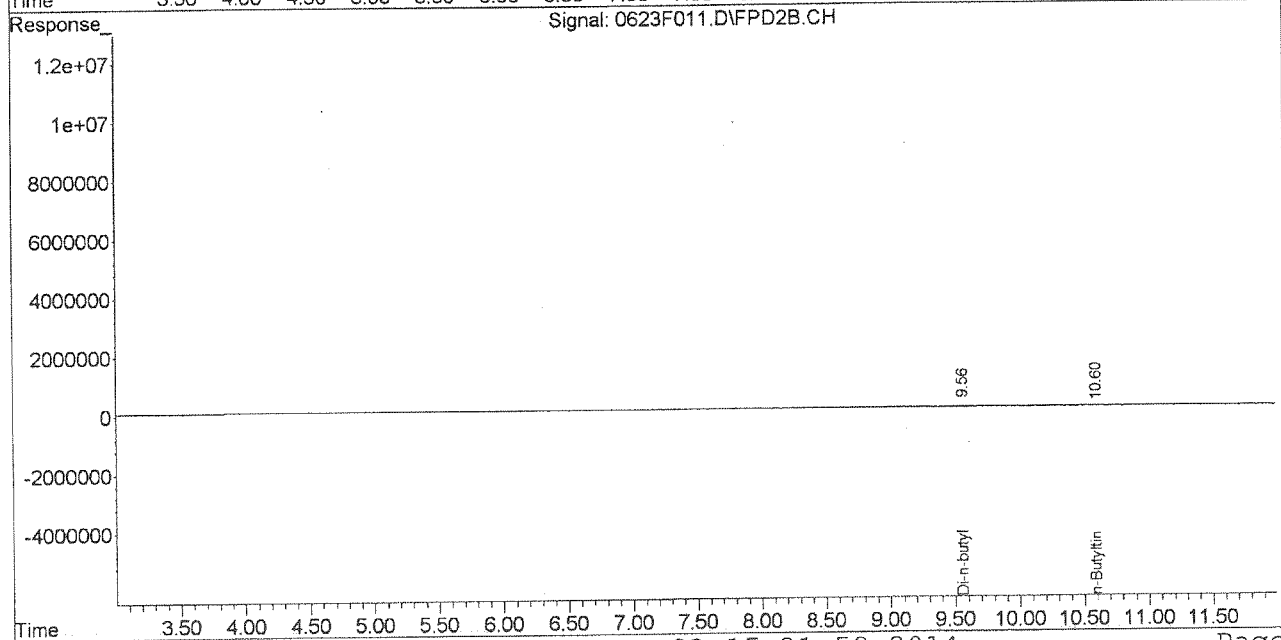
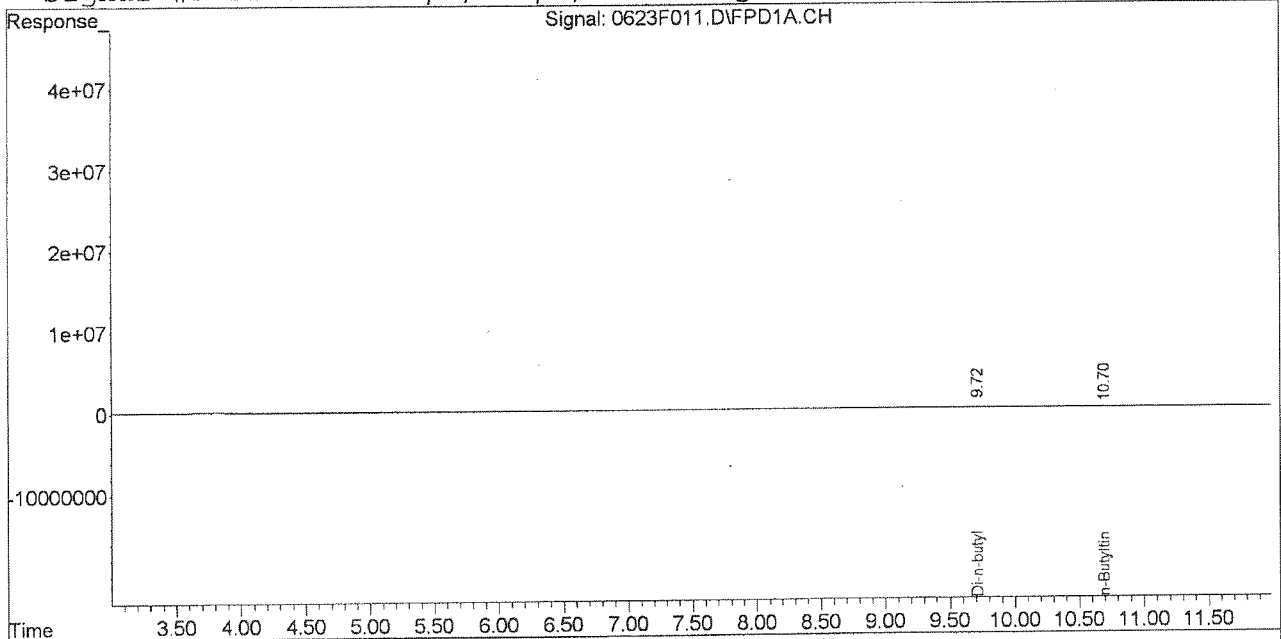
Target Compounds						
4)	Di-n-butyltin	9.72	9.56	33400	24382	0.215 0.463 #
5)	n-Butyltin	10.70	10.60	61792	22529	0.358 0.406

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062314\0623F011.D\FPD1A.CH Vial: 100  
Signal #2 : J:\GC26\DATA\062314\0623F011.D\FPD2B.CH  
Acq On : 23 Jun 2014 3:12 pm Operator: SSULLIVAN  
Sample : IB Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Jun 23 15:31 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13???  
Last Update : Mon Jun 23 15:30:23 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Preparation Information

<b>Group ID:</b>	KWG1411689	<b>Prep Method:</b>	Method	<b>Prep Date:</b>	08/13/14 15:08
<b>Department:</b>	Semivoa GC				

ab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
1407971-001	Nv PreTest Rep.1	Butyltins BUTYLTINS	ANIMAL	10.159g	1mL	
1407971-002	NV PreTest Rep.2	Butyltins BUTYLTINS	ANIMAL	10.034g	1mL	
1407971-003	NV PreTest Rep.3	Butyltins BUTYLTINS	ANIMAL	10.091g	1mL	
1407971-009	Nv SYC14-TB Rep.1	Butyltins BUTYLTINS	ANIMAL	10.082g	1mL	
1407971-010	Nv SYC14-TB Rep.2	Butyltins BUTYLTINS	ANIMAL	10.206g	1mL	
1407971-011	Nv SYC14-TB Rep.3	Butyltins BUTYLTINS	ANIMAL	10.290g	1mL	
1407971-012	Nv SYC14-TB Rep.4	Butyltins BUTYLTINS	ANIMAL	10.214g	1mL	
1407971-013	Nv SYC14-TB Rep.5	Butyltins BUTYLTINS	ANIMAL	10.048g	1mL	
1407971-014	Nv SYC14-REF Rep.1	Butyltins BUTYLTINS	ANIMAL	10.031g	1mL	
1407971-015	Nv SYC14-REF Rep.2	Butyltins BUTYLTINS	ANIMAL	10.250g	1mL	
1407971-016	Nv SYC14-REF Rep.3	Butyltins BUTYLTINS	ANIMAL	10.073g	1mL	
1407971-017	Nv SYC14-REF Rep.4	Butyltins BUTYLTINS	ANIMAL	10.090g	1mL	
1407971-018	Nv SYC14-REF Rep.5	Butyltins BUTYLTINS	ANIMAL	10.097g	1mL	
WG1411689-1	Matrix Spike	Butyltins BUTYLTINS	ANIMAL	10.102g	1mL	
WG1411689-2	Duplicate Matrix Spike	Butyltins BUTYLTINS	ANIMAL	10.080g	1mL	
WG1411689-3	Lab Control Sample	Butyltins BUTYLTINS	ANIMAL	10.058g	1mL	
WG1411689-4	Method Blank	Butyltins BUTYLTINS	ANIMAL	10.290g	1mL	
WG1411689-5	Standard Reference Material	Butyltins BUTYLTINS	ANIMAL	1.025g	1mL	

Lab Code	Parent Lab Code	Comments
KWG1411689-1	K1407971-001	KQ1409568-01
KWG1411689-2	K1407971-001	KQ1409568-02
KWG1411689-3		KQ1409568-03
KWG1411689-4		KQ1409568-04
KWG1411689-5		KQ1409568-05

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1407971-001	1367783					OFlores
K1407971-002	1367784					OFlores
K1407971-003	1367785					OFlores
K1407971-009	1367786					OFlores
K1407971-010	1367787					OFlores
K1407971-011	1367788					OFlores
K1407971-012	1367789					OFlores
K1407971-013	1367790					OFlores
K1407971-014	1367791					OFlores

Comments: \_\_\_\_\_

Started By: <u>ZDumke</u>	Assisted By: _____	Training Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Completed By: <u>CVecchit</u>	Assisted By: _____	Yes <input type="checkbox"/> No <input type="checkbox"/>
Reviewed By: <u>[Signature]</u>	Date: <u>8/20/14</u>	Storage: _____

Relinquished By: <u>[Signature]</u>	Date: <u>8/19/14</u>	Extracts Examined
Received By: <u>[Signature]</u>	Date: <u>8/19/14</u>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Group ID: KWG1411689      Prep Method: Method      Prep Date: 08/13/14 15:08  
 Department: Semivoa GC

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1407971-015	1367792					OFlores
K1407971-016	1367793					OFlores
K1407971-017	1367794					OFlores
K1407971-018	1367795					OFlores
KWG1411689-1	1367796					OFlores
KWG1411689-2	1367797					OFlores
KWG1411689-3	1367798					OFlores
KWG1411689-4	1367799					OFlores
KWG1411689-5	1367800					OFlores

Comments: \_\_\_\_\_

Started By: ZDumke      Assisted By: \_\_\_\_\_      Training: No  
 Completed By: CVecchit      Assisted By: \_\_\_\_\_      Yes No  
 Reviewed By: [Signature]      Date: 8/20/14      Storage: \_\_\_\_\_

Chain of Custody

Relinquished By: <u>[Signature]</u> Date: <u>8/18/14</u>	Extracts Examined
Received By: <u>[Signature]</u> Date: <u>8/19/14</u>	Yes      No


**Preparation Information Benchsheet**

**Prep Run:** 215502    **Prep Workflow:** OrgExtT (14)    **Status:** Draft    **Prep Date:** 08/13/2014 11:11  
**Team:** Semivoa    **Prep Method:** Method    **Current Step:** Extraction    **Due Date:** 08/08/2014  
**Analyst:** ZDUMKE    **Rush/NPDES:** N/A    **Hold Date:** 07/11/2014

Lab Code	Client ID	Bottle #	✓	Target Amt	Initial Amount	Inter. Volume	Final Volume	Surr Amt	Spike Amt	TestNo List
K1407971-001	Nv PreTest Rep.1	.05		NA	g 10.159	NA	ml 1	50ul	NA	BUTYL TINS
K1407971-002	NV PreTest Rep.2	.05			10.034		1			BUTYL TINS
K1407971-003	NV PreTest Rep.3	.05			10.091		1			BUTYL TINS
K1407971-009	Nv SYC14-TB Rep.1	.05			10.082		1			BUTYL TINS
K1407971-010	Nv SYC14-TB Rep.2	.05			10.206		1			BUTYL TINS
K1407971-011	Nv SYC14-TB Rep.3	.05			10.290		1			BUTYL TINS
K1407971-012	Nv SYC14-TB Rep.4	.05			10.214		1			BUTYL TINS
K1407971-013	Nv SYC14-TB Rep.5	.05			10.048		1			BUTYL TINS
K1407971-014	Nv SYC14-REF Rep.1	.05			10.071		1			BUTYL TINS
K1407971-015	Nv SYC14-REF Rep.2	.05			10.250		1			BUTYL TINS
K1407971-016	Nv SYC14-REF Rep.3	.05			10.073		1			BUTYL TINS
K1407971-017	Nv SYC14-REF Rep.4	.05			10.090		1			BUTYL TINS
K1407971-018	Nv SYC14-REF Rep.5	.05			10.097		1			BUTYL TINS
K1407971-001: KQ1409568-01	Matrix Spike	.05		g	10.102		1		50ul	BUTYL TINS
K1407971-001: KQ1409568-02	Duplicate Matrix Spike	.05		g	10.080		1			BUTYL TINS
KQ1409568-03	Lab Control Sample			g	10.058		1			BUTYL TINS
KQ1409568-04	Method Blank			g	10.290		1		NA	BUTYL TINS
KQ1409568-05	Standard Reference Material			g	1.015		1			BUTYL TINS

18 Total Samples consisting of 13 Client Samples, 2 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

**Spiking Solutions**

**Witness:**  8/13/14

Surrogate: OTS-OC, 5ppm, 50ul, Epp 20, Exp 8/11/15

Spike: OTS-OF, 5ppm, 50ul, Epp 20, Exp 11/28/14

**Preparation Steps**



<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Extraction	8/13/14		ZMN			
Final Volume	8/18/14		CV			

**Comments**

## Additional Prep Information For Organotin Tissue Extractions

Service Request # K1407971

Work Group Number 215502

### Prep Information:

0.1% Tropolone DCM Lot #: Ext-002-111 1.5M HCl Lot #: Ext-002-715

1<sup>st</sup> Tumble (time/date/initial)

Start: 3:08pm / 8/18/14 / JB  
Stop: 4:08pm / 8/18/14 / JB

2nd Tumble (time/date/initial)

Start: 10:10am / 8/14/14 / JB  
Stop: 11:10am / 8/14/14 / JB

3<sup>rd</sup> Tumble (time/date/initial)

Start: 11:25pm / 8/14/14 / JB  
Stop: 1:25pm / 8/14/14 / JB

### Cleanup Information:

Solvent Exchanged to Hexane (date/time/initials): 8/15/14 14:00 CV Thermometer ID: X-SVM-004  
Temp as measured: 21 °C Correction factor: 0.0 °C Adjusted temp: 21 °C

Hexane Lot #: 73791

Date Derivatization started (time/date/initial): 11:00 8/15/14 CV Grignard Lot # svotinol-72C  
Date Derivatization ended (time/date/initial): 18:10 8/15/14 CV HCl Lot #: 52295 H<sub>2</sub>O Lot #: DI H<sub>2</sub>O

Florisil (3620)/Silica Gel (3630) (time/date/initial): 13:40 8/18/14 CV  
Florisil Lot #: 31030 Silica Gel Lot #: svotinol-77E Pentane Lot #: 53008

N-Evap (Time/Date/Initial): 14:10 8/18/14 CV

Vial: Blue

Vial Storage: Tins C-D18

Comments/Observations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Bench Sheet Review Check List

- Hold Times Met (if no, Reason: \_\_\_\_\_)
- Prep date, dept, method, product code correct in stealth
- Spike Information correct
- Weights/Volumes and units correct on raw and final bench sheets
- Sample IDs have been checked—Bottle numbers appended if required
- Names present for: Started by, Completed by, relinquished by, and witnessed by.
- Training has been circled
- Extract Storage recorded
- Additional Prep Sheet completely filled out ( NA or line out Blanks)
- All clean-ups have been noted on additional prep sheet
- Signed service request with Form V, if applicable, has been attached

Service Request Number(s): K1407971

---

Analysis for:  
Butyltins

ALIQOT DATA FOR PESTICIDES

Service Request #	Wet Wt. (g)	Tare Wt. (g)	Matrix
K1407971-001	10.159	22.228	
K1407971-002	10.034	22.167	
K1407971-003	10.091	21.910	
K1407971-009	10.082	22.322	
K1407971-010	10.206	21.853	
K1407971-011	10.290	22.139	
K1407971-012	10.214	21.766	
K1407971-013	10.048	21.965	
K1407971-014			
K1407971-015			
K1407971-016			
K1407971-017			
K1407971-018			

Comments: Please weigh approximately 10 g in 40mL Vial

Balance ID: Z1B	Date Balance Checked: 8/7/14
Analyst: Keith J	Date: 8/7/14
Reviewed:	Date:





Columbia Analytical Services, Inc.

Service Request Number(s): K1407971

Analysis for:  
PAH

PAH ALIQUOT DATA

Service Request #	Wet Wt. (g)	Tare Wt. (g)	Matrix
K1407971-004	10.585	198.707	
K1407971-005	10.422	198.814	
K1407971-006	10.050	199.777	
K1407971-006 MS	10.083	199.490	
K1407971-006 DMS	10.217	198.759	
K1407971-007	10.166	198.577	
K1407971-008	10.394	199.757	
K1407971-009	10.052	200.416	
K1407971-010	10.042	199.928	
K1407971-011	10.986	199.737	
K1407971-012	10.213	198.711	
K1407971-013	10.395	200.076	
K1407971-014			
K1407971-015			
K1407971-016			
K1407971-017			
K1407971-018			

Comments: Please weigh approximately 10 g 8oz Glass Jar with MS/DMS

Balance ID: 213	Date Balance Checked: 8/7/14
Analyst: Keith J	Date: 8/7/14
Reviewed:	Date:



Columbia Analytical Services, Inc.

Service Request Number(s): K1407971
Analysis for: Houston

HOUSTON

Service Request #	Wet Wt. (g)	Tare Wt. (g)	Matrix
K1407971-001	10.258	198.798	
K1407971-002	10.141	199.235	
K1407971-003	10.848	199.217	
K1407971-004	10.106	199.158	
K1407971-005	10.579	199.322	
K1407971-005 MS	10.040	199.152	
K1407971-005 DMS	10.238	200.267	
K1407971-006	10.460	200.057	
K1407971-007	10.161	199.975	
K1407971-008	10.211	200.126	
K1407971-009	10.043	200.169	
K1407971-010	10.172	199.135	
K1407971-011	10.209	200.194	
K1407971-012	10.260	200.069	
K1407971-013	10.034	199.524	
K1407971-014			
K1407971-015			
K1407971-016			
K1407971-017			
K1407971-018			

Comments: Please weigh approximately 10 g in 8oz jar

Balance ID: 21B	Date Balance Checked: 8/7/14
Analyst: <i>Keith J</i>	Date: 8/7/14
Reviewed:	Date:





Sequence Name: C:\GC26\SEQUENCE\081914.S  
 Comment: Butyltins by Krone  
 Operator: SMURRAY  
 Data Path: C:\GC26\DATA\081914\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
 (X) Full Method                    (X) Inject Anyway  
 ( ) Reprocessing Only            ( ) Don't Inject

*Analysis: KWG1411776*

*CAL 13394*

*Run# 407649*

Line Type	Vial	DataFile	Method	Sample Name
1	IB	90	0818F001	OTIN PRIMER BLANK
2	CCV	99	0818F002	OTIN O'TINS @ 50ppb OT5-01H
3	IB	100	0818F003	OTIN IB
4	LCS	1	0818F004	OTIN KWG1411681-LCS
5	IB	90	0818FX01	OTIN CARRYOVER BLANK
6	DLCS	2	0818FA04	OTIN KWG1411681-DLCS
7	IB	90	0818FX50	OTIN CARRYOVER BLANK
8	MB	3	0818F005	OTIN KWG1411681-MB
9	IB	90	0818FX02	OTIN CARRYOVER BLANK
10	SMPL	4	0818F006	OTIN K1407970-001
11	IB	90	0818FX03	OTIN CARRYOVER BLANK
12	SMPL	5	0818F007	OTIN K1407970-002
13	IB	90	0818FX04	OTIN CARRYOVER BLANK
14	SMPL	6	0818F008	OTIN K1407970-003
15	IB	90	0818FX05	OTIN CARRYOVER BLANK
16	SMPL	7	0818F009	OTIN K1407970-009
17	SMPL	8	0818F010	OTIN K1407970-010
18	SMPL	9	0818F011	OTIN K1407970-011
19	SMPL	10	0818F012	OTIN K1407970-012
20	SMPL	11	0818F013	OTIN K1407970-013
21	SMPL	12	0818F014	OTIN K1407970-014
22	SMPL	13	0818F015	OTIN K1407970-015
23	CCV	99	0818F016	OTIN O'TINS @ 50ppb OT5-01H
24	IB	100	0818F017	OTIN IB
25	SMPL	14	0818F018	OTIN K1407970-016
26	SMPL	15	0818F019	OTIN K1407970-017
27	DUP	16	0818F020	OTIN K1407970-017DUP
28	SMPL	17	0818F021	OTIN K1407970-018
29	SMPL	18	0818F022	OTIN KWG1411681-SRM - <i>Need 10X</i>
30	CCV	98	0818F023	OTIN O'TINS @ 50ppb OT5-01H
31	IB	99	0818F024	OTIN IB - <i>CCV vial position - Reported as CCV</i>
32	LCS	19	0818F025	OTIN KWG1411689-3 LCS
33	MB	20	0818F026	OTIN KWG1411689-4 MB
34	SMPL	21	0818F027	OTIN K1407970-001
35	MS	22	0818F028	OTIN K1407970-001 MS
36	DMS	23	0818F029	OTIN K1407970-001 DMS
37	SMPL	24	0818F030	OTIN K1407970-002
38	SMPL	25	0818F031	OTIN K1407970-003
39	SMPL	26	0818F032	OTIN K1407970-009
40	SMPL	27	0818F033	OTIN K1407970-010
41	SMPL	28	0818F034	OTIN K1407970-011
42	CCV	98	0818F035	OTIN O'TINS @ 50ppb OT5-01H
43	IB	99	0818F036	OTIN IB - <i>CCV vial position. Reported as CCV</i>

Line Type	Vial	DataFile	Method	Sample Name
44	SMPL	29 0818F037	OTIN	K140797-012
45	SMPL	30 0818F038	OTIN	K140797-013
46	SMPL	31 0818F039	OTIN	K140797-014
47	SMPL	32 0818F040	OTIN	K140797-015
48	SMPL	33 0818F041	OTIN	K140797-016
49	SMPL	34 0818F042	OTIN	K140797-017
50	SMPL	35 0818F043	OTIN	K140797-018
51	CCV	98 0818F044	OTIN	O'TINS @ 50ppb OT5-01H
52	IB	99 0818F045	OTIN	IB - ccv vial position reported as CCV
53				

# Exception Report

Data File: J:\GC26\DATA\081914\0818F002.D  
Lab ID: KWG1411770-1  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 08:26  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: AM 8/20/14

# Exception Report

Data File: J:\GC26\DATA\081914\0818F002.D\0818F002C.D  
Lab ID: KWG1411770-1  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 08:26  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: Smerson

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F002.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F002.D\0818F002c.d	<b>Vial:</b>	99
<b>Acqu Date:</b>	08/19/2014 08:26	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-1	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.02	6.97	4365311	1333186	47.90	44.73	NA	NA	NA
%Recovery =					NA	NA	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.33	7.22	4241454	1321002	48.60	45.71			
Tri-n-butyltin Cation	8.51	8.39	4059208	1301223	43.23	43.55			
Di-n-butyltin Cation	9.71	9.55	5995542	1892997	38.61	35.92			
n-Butyltin Cation	10.69	10.59	5076424	1561865	29.38	28.13			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F002.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F002.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:26 am Operator: SMURRAY  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:06 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

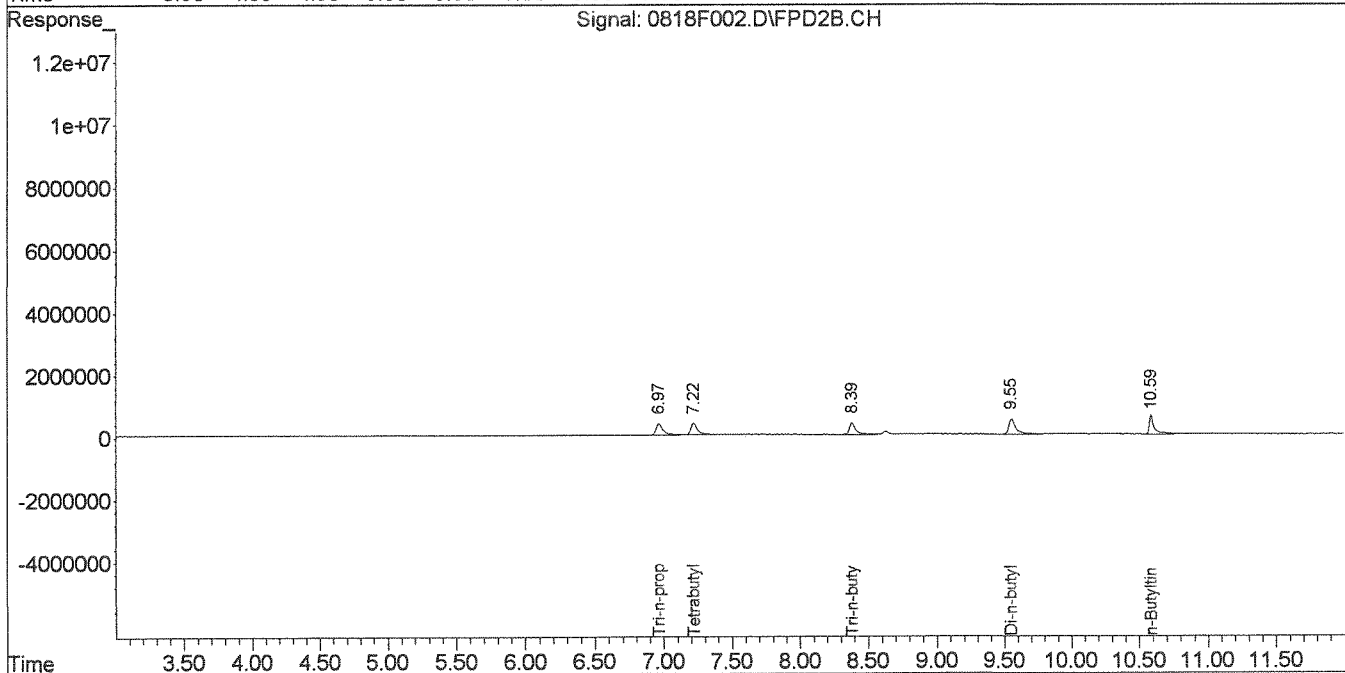
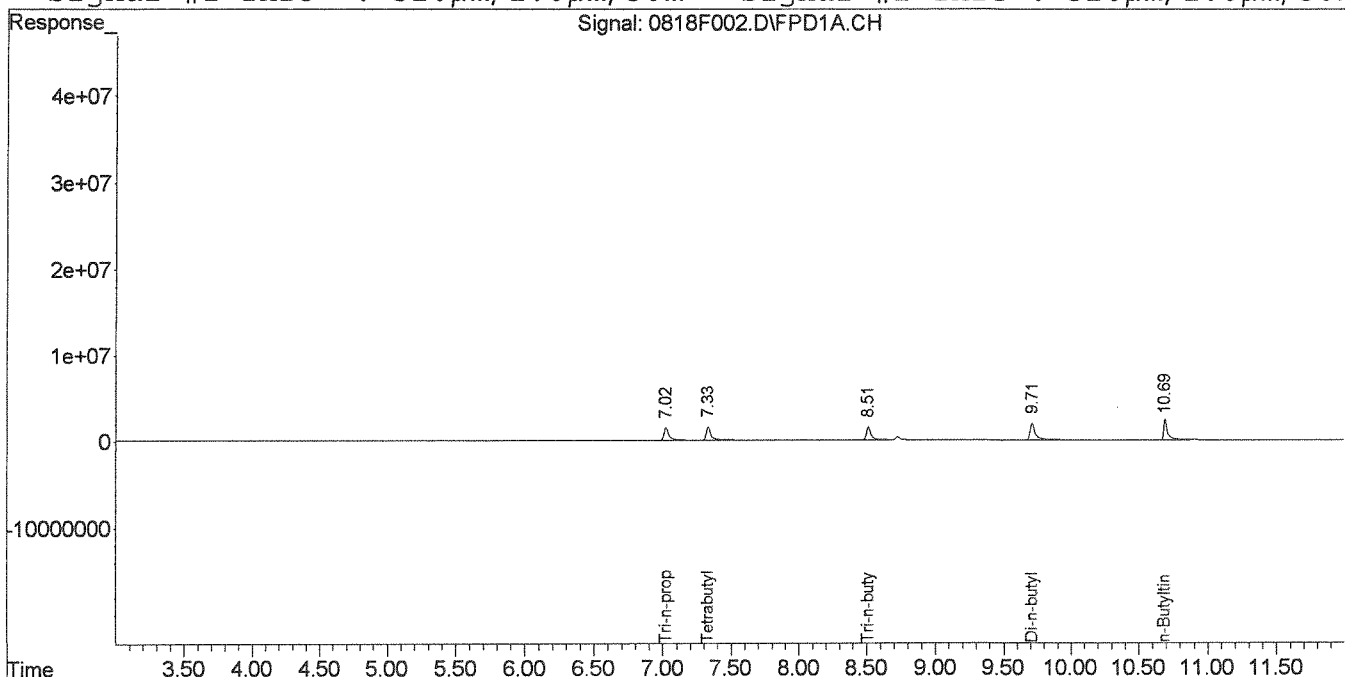
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.02f	6.97f	4365311	1333186	47.904	44.726
Target Compounds						
2) Tetrabutyltin	7.33	7.22	4241454	1321002	48.595	45.713
3) Tri-n-butyltin	8.51	8.39	4059208	1301223	43.231	43.553
4) Di-n-butyltin	9.71	9.55f	5995542	1892997	38.608	35.924
5) n-Butyltin	10.69	10.59	5076424	1561865	29.376	28.134

Signal #1 : J:\GC26\DATA\081914\0818F002.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F002.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:26 am Operator: SMURRAY  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25  $\mu$ L  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320 $\mu$ m/1.0 $\mu$ m/30m Signal #2 Info : 320 $\mu$ m/1.0 $\mu$ m/30m





# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F003.D  
**Lab ID:** KWG1411770-2  
**RunType:** IB  
**Matrix:** NOT APPLICABLE

**Date Acquired:** 08/19/2014 08:43  
**Date Quantitated:** 08/20/2014 11:36  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**MethodJoinID:** MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 8/20/14

Secondary Review: [Signature]

# Exception Report

**Data File:** J:\GC26\DATA\081914\0818F003.D\0818F003C.D  
**Lab ID:** KWG1411770-2  
**RunType:** IB  
**Matrix:** NOT APPLICABLE

**Date Acquired:** 08/19/2014 08:43  
**Date Quantitated:** 08/20/2014 11:36  
**Batch ID:** KWG1411770  
**Analysis Method:** Krone  
**MethodJoinID:** MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: SM 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F003.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F003.D\0818F003c.d	<b>Vial:</b>	100
<b>Acqu Date:</b>	08/19/2014 08:43	<b>Quant Date:</b>	08/20/2014 11:36
<b>Run Type:</b>	IB	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-2	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	0.00		0d	0		0.0000			NA
					%Recovery =	NA	NA	Limits =	23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin			0	0	0.0000	0.0000			
Tri-n-butyltin Cation			0d	0	0.0000	0.0000			
Di-n-butyltin Cation			0d	0	0.0000	0.0000			
n-Butyltin Cation			0d	0	0.0000	0.0000			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\081914\0818F003.D\FPD1A.CH Vial: 100  
Signal #2 : J:\GC26\DATA\081914\0818F003.D\FPD2B.CH  
Acq On : 19 Aug 2014 8:43 am Operator: SMURRAY  
Sample : IB Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29:07 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Initial Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
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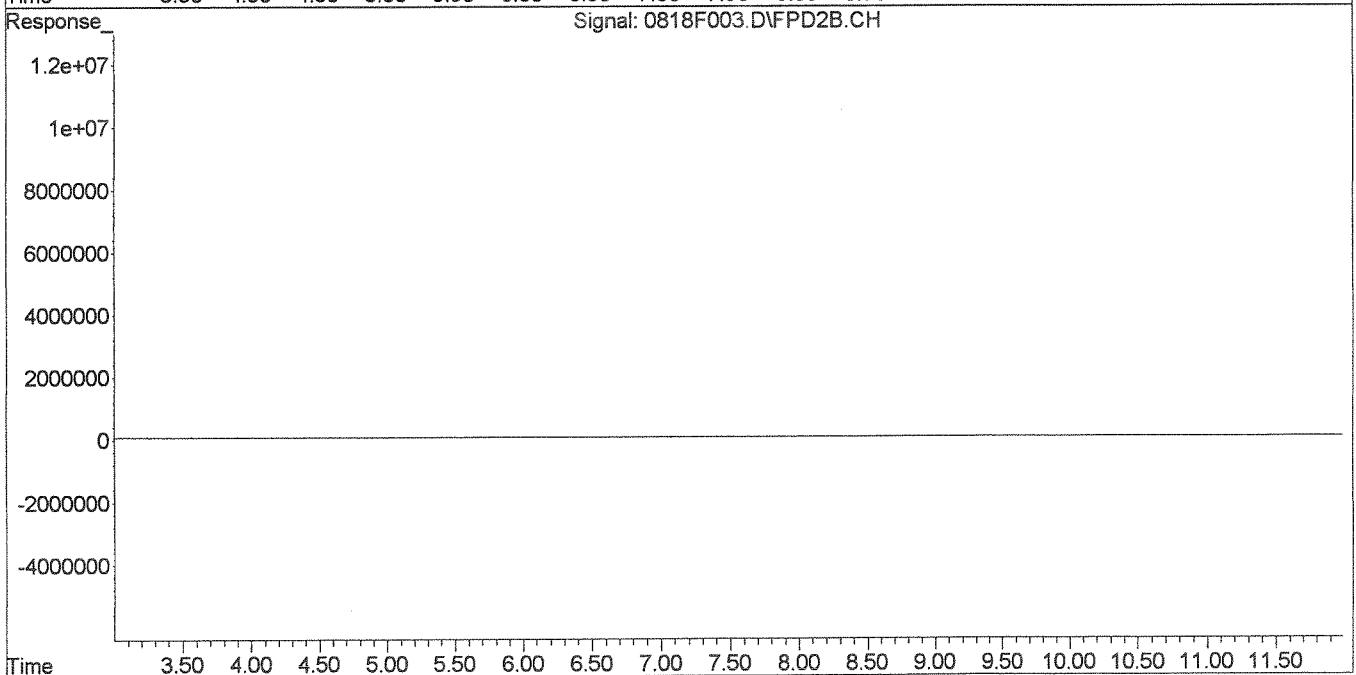
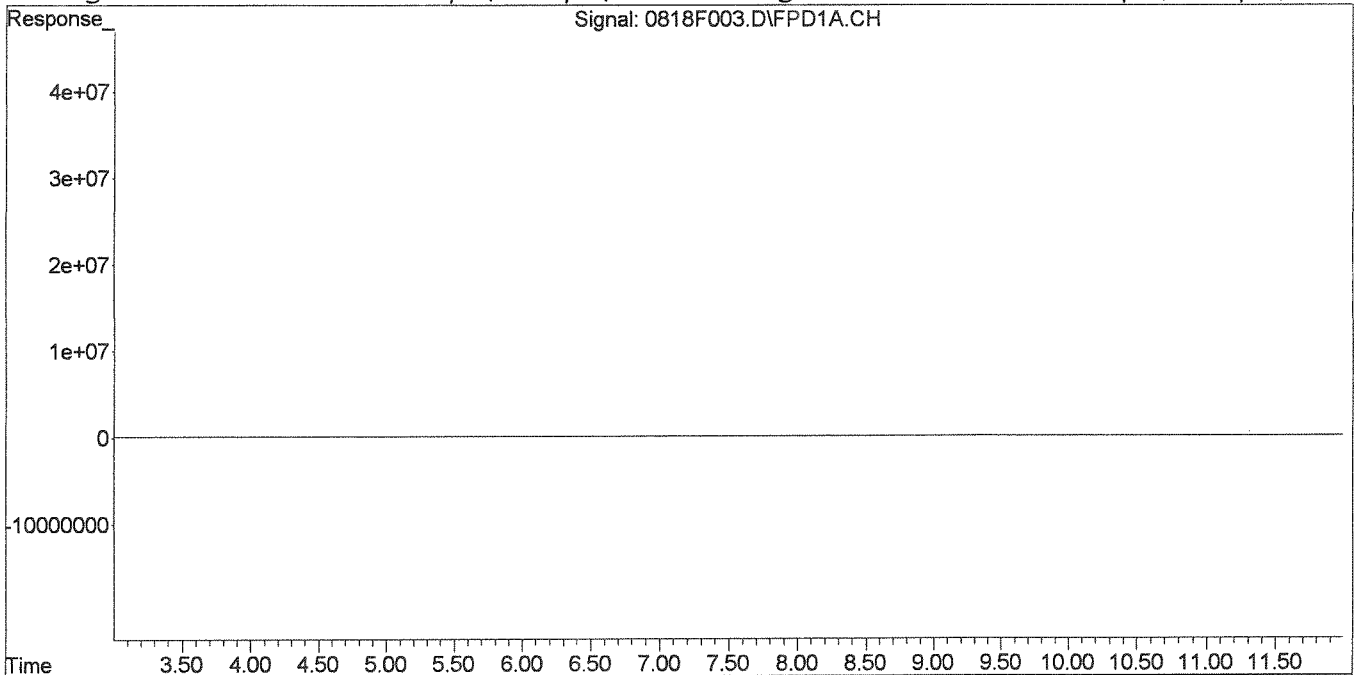
System Monitoring Compounds

Target Compounds

Signal #1 : J:\GC26\DATA\081914\0818F003.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\081914\0818F003.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:43 am Operator: SMURRAY  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:36 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25  $\mu$ L  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320 $\mu$ m/1.0 $\mu$ m/30m Signal #2 Info : 320 $\mu$ m/1.0 $\mu$ m/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F016.D  
Lab ID: KWG1411770-3  
Run Type: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 14:19  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: AM 8/20/14

# Exception Report

Data File: J:\GC26\DATA\081914\0818F016.D\0818F016C.D  
Lab ID: KWG1411770-3  
Run Type: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 14:19  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: [Signature]

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F016.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F016.D\0818F016c.d	<b>Vial:</b>	99
<b>Acqu Date:</b>	08/19/2014 14:19	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-3	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	7.06	7.01	4674475	1505984	51.30	50.52	NA
%Recovery =					NA	NA	Limits = 23-145

## Target Compounds

Parameter Name	RT		Resp		ng/mL		Final Conc. Units: ug/Kg		Rpt
	#1	#2	#1	#2	#1	#2	#1	#2	
Tetra-n-butyltin	7.36	7.26	4463016	1347534	51.13	46.63			
Tri-n-butyltin Cation	8.55	8.42	4369070	1345824	46.53	45.05			
Di-n-butyltin Cation	9.75	9.60	6352910	1848104	40.91	35.07			
n-Butyltin Cation	10.71	10.61	4986770	1609425	28.86	28.99			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Signal #1 : J:\GC26\DATA\081914\0818F016.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F016.D\FPD2B.CH  
 Acq On : 19 Aug 2014 2:19 pm Operator: SMURRAY  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:16 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

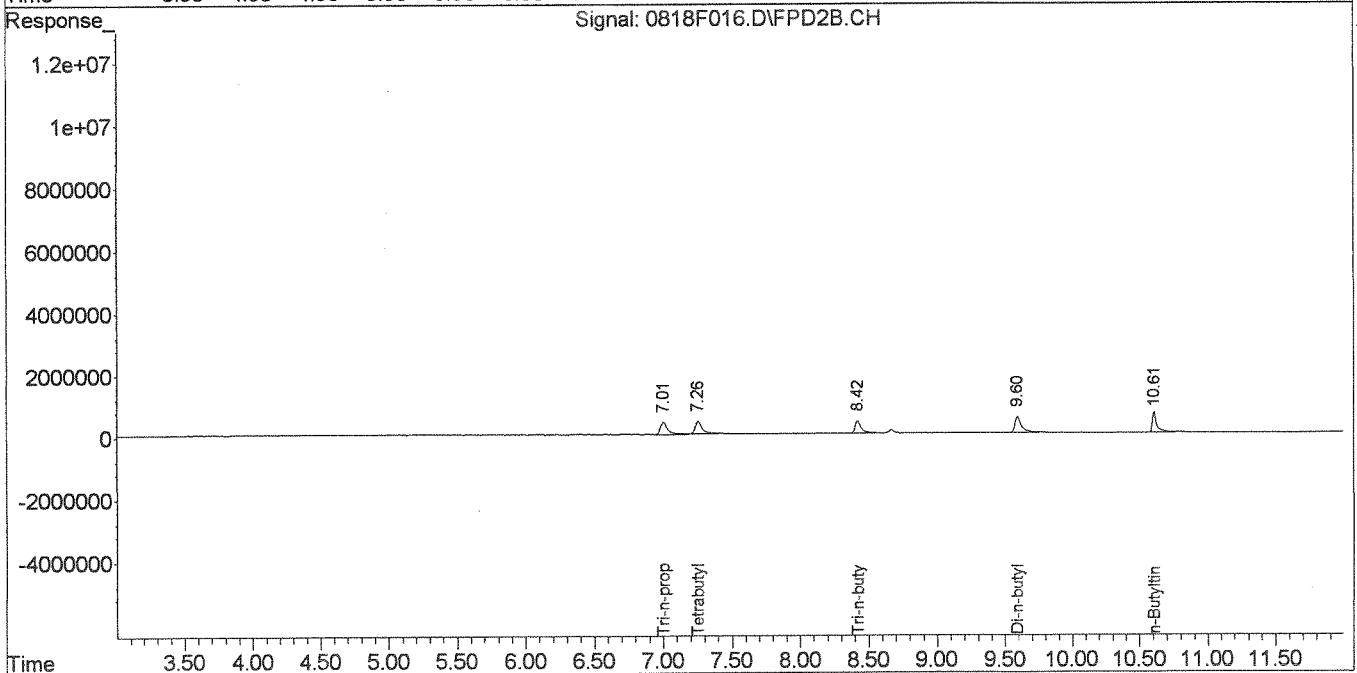
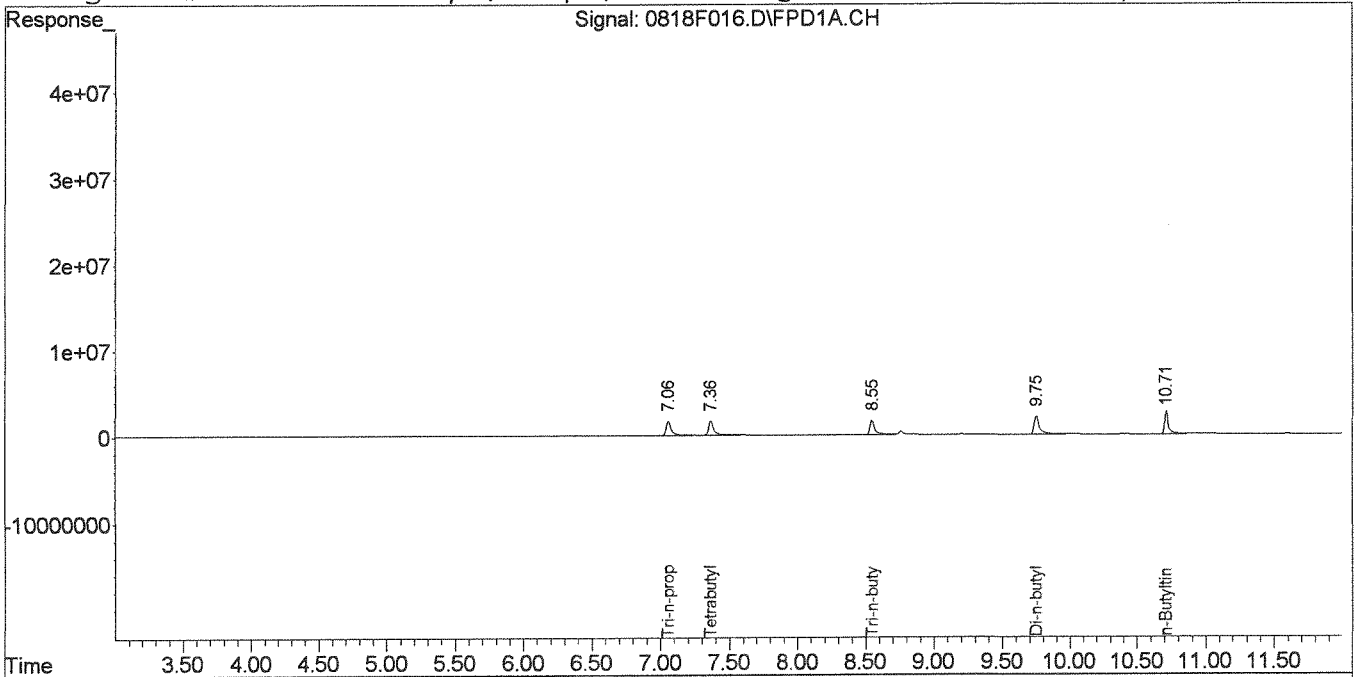
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.06	7.01	4674475	1505984	51.297	50.524
Target Compounds						
2) Tetrabutyltin	7.36	7.26	4463016	1347534	51.134	46.631
3) Tri-n-butyltin	8.55	8.42	4369070	1345824	46.531	45.045
4) Di-n-butyltin	9.75	9.60	6352910	1848104	40.909	35.072
5) n-Butyltin	10.71	10.61	4986770	1609425	28.857	28.990

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\081914\0818F016.D\FPD1A.CH Vial: 99  
Signal #2 : J:\GC26\DATA\081914\0818F016.D\FPD2B.CH  
Acq On : 19 Aug 2014 2:19 pm Operator: SMURRAY  
Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m





# Exception Report

Data File: J:\GC26\DATA\081914\0818F017.D\0818F017C.D  
Lab ID: KWG1411770-4  
RunType: IB  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 14:36  
Date Quantitated: 08/20/2014 11:38  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: [Signature]

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F017.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F017.D\0818F017c.d	<b>Vial:</b>	100
<b>Acqu Date:</b>	08/19/2014 14:36	<b>Quant Date:</b>	08/20/2014 11:38
<b>Run Type:</b>	IB	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-4	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits = 23-145		

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin			0d	0	0.0000	0.0000			
Tri-n-butyltin Cation			0	0	0.0000	0.0000			
Di-n-butyltin Cation			0	0d	0.0000	0.0000			
n-Butyltin Cation			0d	0	0.0000	0.0000			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F017.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\081914\0818F017.D\FPD2B.CH  
 Acq On : 19 Aug 2014 2:36 pm Operator: SMURRAY  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:16 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
----------	------	------	--------	--------	-------	-------

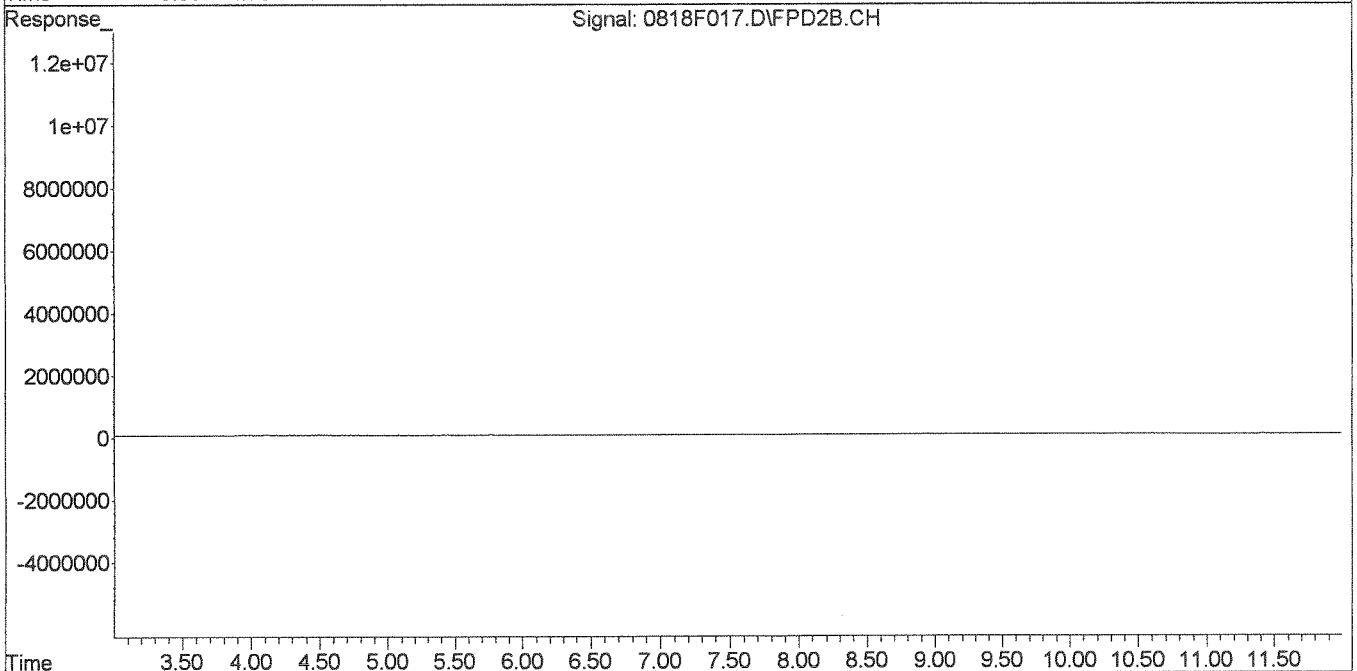
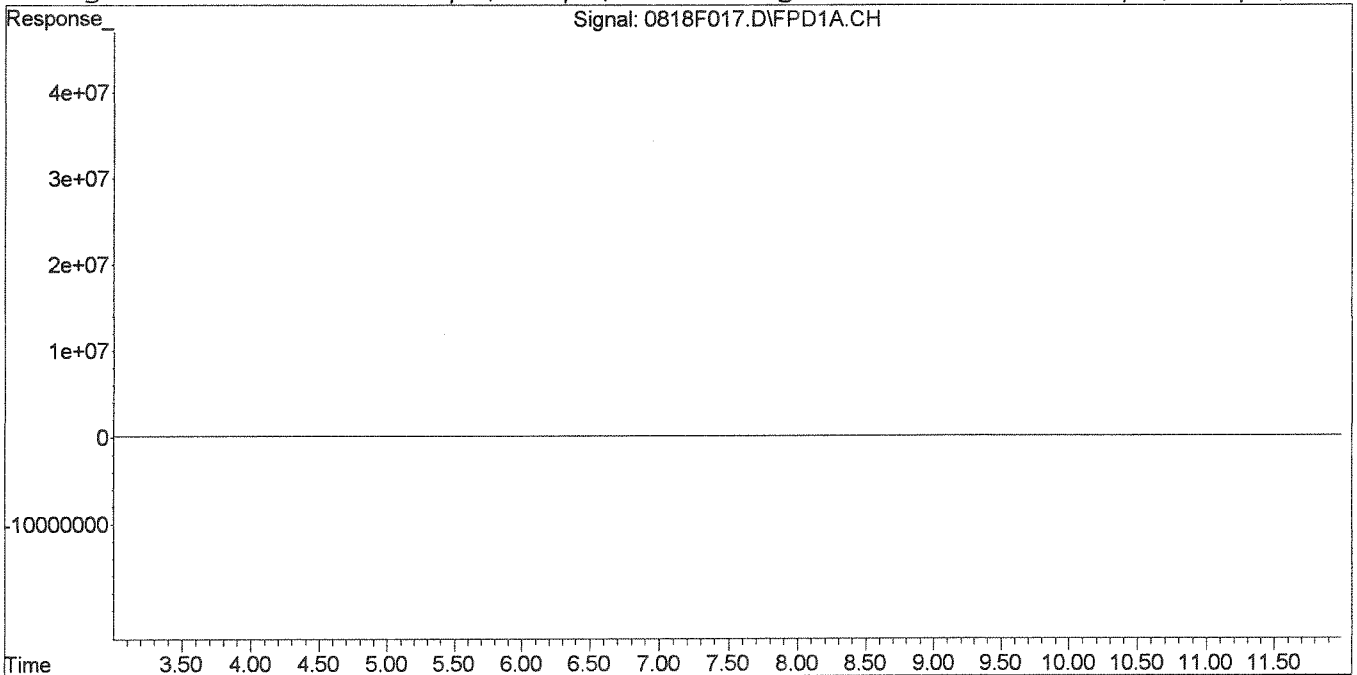
System Monitoring Compounds

Target Compounds

Signal #1 : J:\GC26\DATA\081914\0818F017.D\FPD1A.CH Vial: 100  
Signal #2 : J:\GC26\DATA\081914\0818F017.D\FPD2B.CH  
Acq On : 19 Aug 2014 2:36 pm Operator: SMURRAY  
Sample : IB Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:38 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F024.D  
Lab ID: KWG1411770-5  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 16:35  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: SM 8/20/14



# Exception Report

Data File: J:\GC26\DATA\081914\0818F024.D\0818F024C.D  
Lab ID: KWG1411770-5  
Run Type: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 16:35  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: JM 8/20/14

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F024.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F024.D\0818F024c.d	<b>Vial:</b>	99
<b>Acqu Date:</b>	08/19/2014 16:35	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-5	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.05	7.00	4189243	1382299	45.97	46.37	NA	NA	NA
			%Recovery =				Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.36	7.25	4022559	1375511	46.09	47.60			
Tri-n-butyltin Cation	8.55	8.42	3801009	1249205	40.48	41.81			
Di-n-butyltin Cation	9.75	9.60	5599884	1778653	36.06	33.75			
n-Butyltin Cation	10.71	10.61	4733643	1557137	27.39	28.05			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F024.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F024.D\FPD2B.CH  
 Acq On : 19 Aug 2014 4:35 pm Operator: SMURRAY  
 Sample : ~~IB~~ GCV OTINS @ seppb OT5-01H SS 8/20/14 Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:21 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

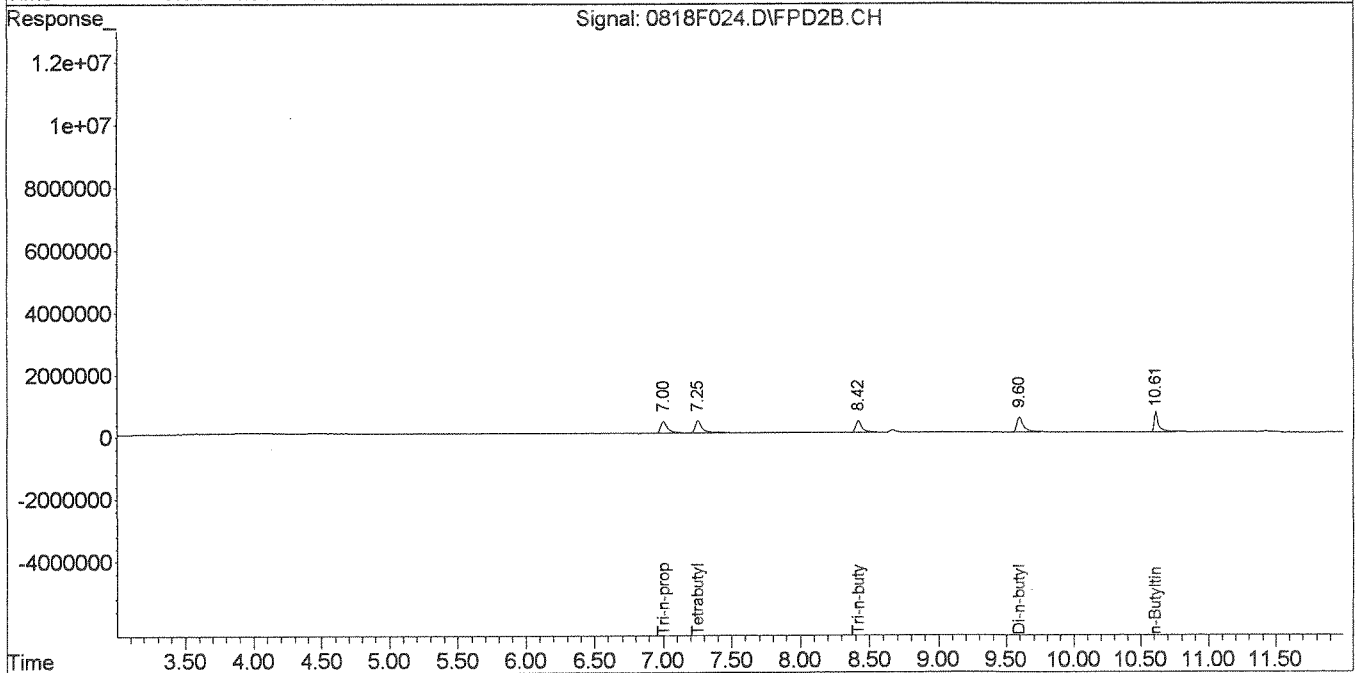
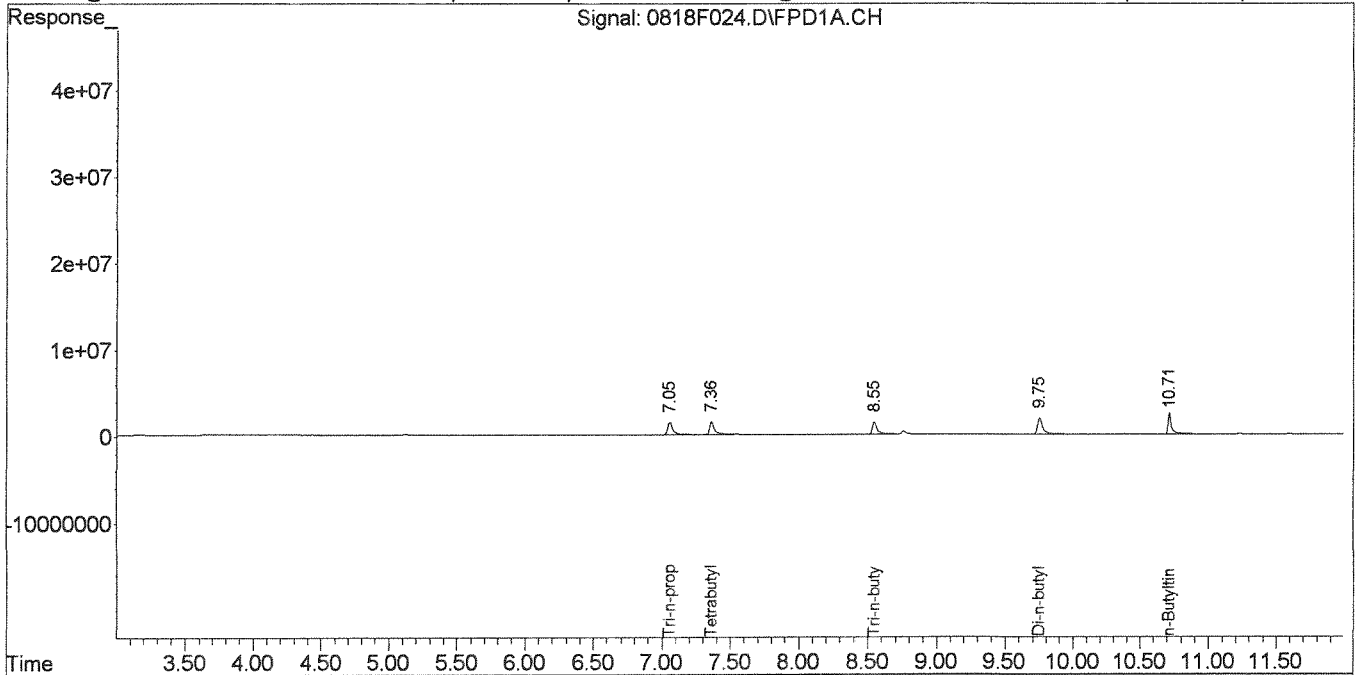
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.05	7.00	4189243	1382299	45.972	46.374
Target Compounds						
2) Tetrabutyltin	7.36	7.25	4022559	1375511	46.087	47.599
3) Tri-n-butyltin	8.55	8.42	3801009	1249205	40.481	41.812
4) Di-n-butyltin	9.75	9.60	5599884	1778653	36.060	33.754
5) n-Butyltin	10.71	10.61	4733643	1557137	27.392	28.048

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\081914\0818F024.D\FPD1A.CH Vial: 99  
Signal #2 : J:\GC26\DATA\081914\0818F024.D\FPD2B.CH  
Acq On : 19 Aug 2014 4:35 pm Operator: SMURRAY  
Sample : ~~IB~~ CCU OTINS @ 50ppb OTS-01H SS 8/20/14 Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



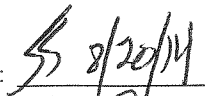
# Exception Report

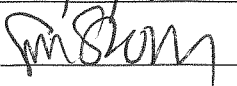
Data File: J:\GC26\DATA\081914\0818F036.D  
Lab ID: KWG1411770-6  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 20:14  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 

Secondary Review: 

# Exception Report

Data File: J:\GC26\DATA\081914\0818F036.D\0818F036C.D  
Lab ID: KWG1411770-6  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 20:14  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14  
Secondary Review: Sm...

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F036.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F036.D\0818F036c.d	<b>Vial:</b>	99
<b>Acqu Date:</b>	08/19/2014 20:14	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-6	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.06	7.00	4755688	1513662	52.19	50.78	NA	NA	NA
			<b>%Recovery =</b>				<b>Limits =</b>	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.36	7.26	4449089	1467562	50.97	50.78			
Tri-n-butyltin Cation	8.55	8.42	4230504	1397060	45.06	46.76			
Di-n-butyltin Cation	9.75	9.60	6295915	1956262	40.54	37.12			
n-Butyltin Cation	10.71	10.61	5123621	1606218	29.65	28.93			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F036.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F036.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:14 pm Operator: SMURRAY  
 Sample : ~~IB~~ CCV OTINS @ Soppb OTS-014 SS 8/20/14 Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:30 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

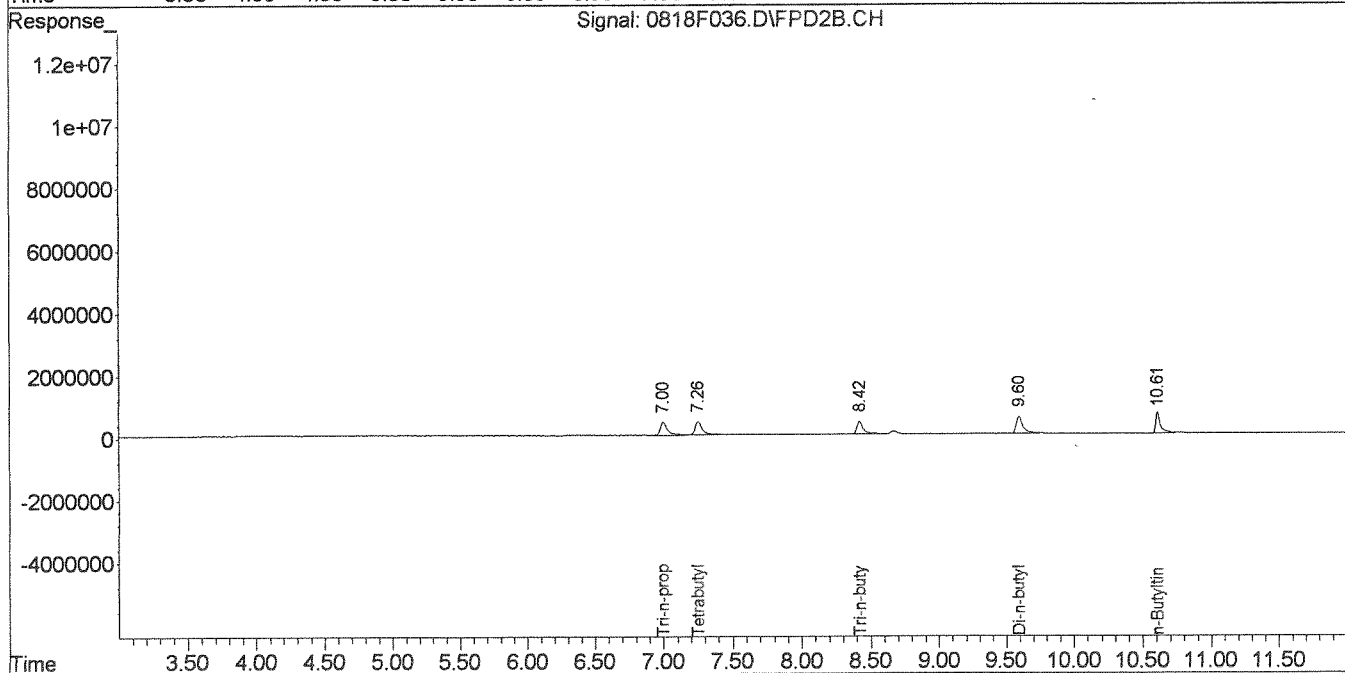
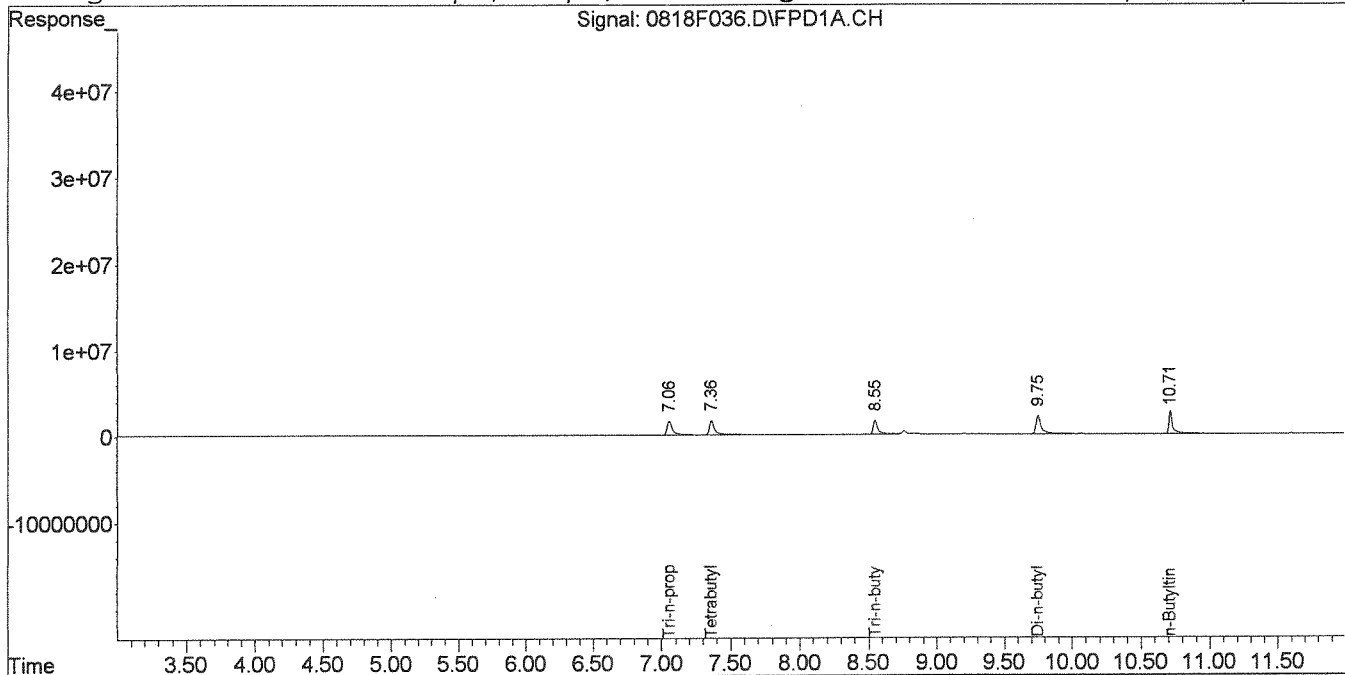
Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.06	7.00	4755688	1513662	52.188	50.781
Target Compounds						
2) Tetrabutyltin	7.36	7.26	4449089	1467562	50.974	50.784
3) Tri-n-butyltin	8.55	8.42	4230504	1397060	45.055	46.760
4) Di-n-butyltin	9.75	9.60	6295915	1956262	40.542	37.124
5) n-Butyltin	10.71	10.61	5123621	1606218	29.649	28.932



Signal #1 : J:\GC26\DATA\081914\0818F036.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F036.D\FPD2B.CH  
 Acq On : 19 Aug 2014 8:14 pm Operator: SMURRAY  
 Sample : ~~IB~~ CCV OTINS @ 50ppb OTS-014 SS 8/20/14 Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\081914\0818F045.D  
Lab ID: KWG1411770-7  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 22:47  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: JM 8/20/14

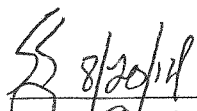
# Exception Report

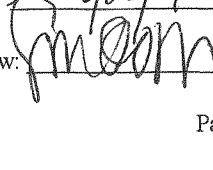
Data File: J:\GC26\DATA\081914\0818F045.D\0818F045C.D  
Lab ID: KWG1411770-7  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/19/2014 22:47  
Date Quantitated: 08/20/2014 11:29  
Batch ID: KWG1411770  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 

Secondary Review: 

## Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\081914\0818F045.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\081914\0818F045.D\0818F045c.d	<b>Vial:</b>	99
<b>Acqu Date:</b>	08/19/2014 22:47	<b>Quant Date:</b>	08/20/2014 11:29
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411770-7	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411770	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

### Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.06	7.00	4723436	1619829	51.83	54.34	NA	NA	NA
%Recovery =					NA	NA	Limits =	23-145	

### Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.36	7.25	4675655	1570728	53.57	54.35			
Tri-n-butyltin Cation	8.55	8.42	4340320	1446200	46.23	48.41			
Di-n-butyltin Cation	9.75	9.60	6448799	2136742	41.53	40.55			
n-Butyltin Cation	10.71	10.61	5170870	1697898	29.92	30.58			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\081914\0818F045.D\FPD1A.CH Vial: 99  
 Signal #2 : J:\GC26\DATA\081914\0818F045.D\FPD2B.CH  
 Acq On : 19 Aug 2014 10:47 pm Operator: SMURRAY  
 Sample : *IB CCV OTINs @ 50ppb OTS-014 55 8/20/14* Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 11:29:36 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

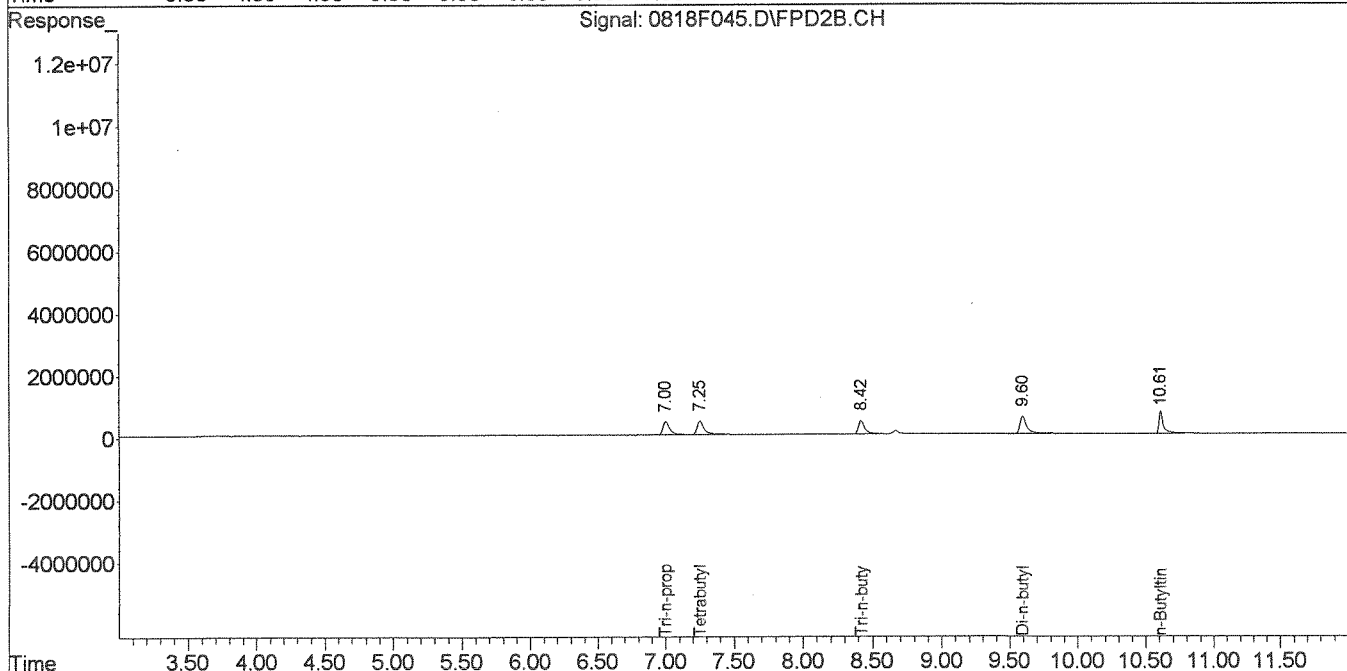
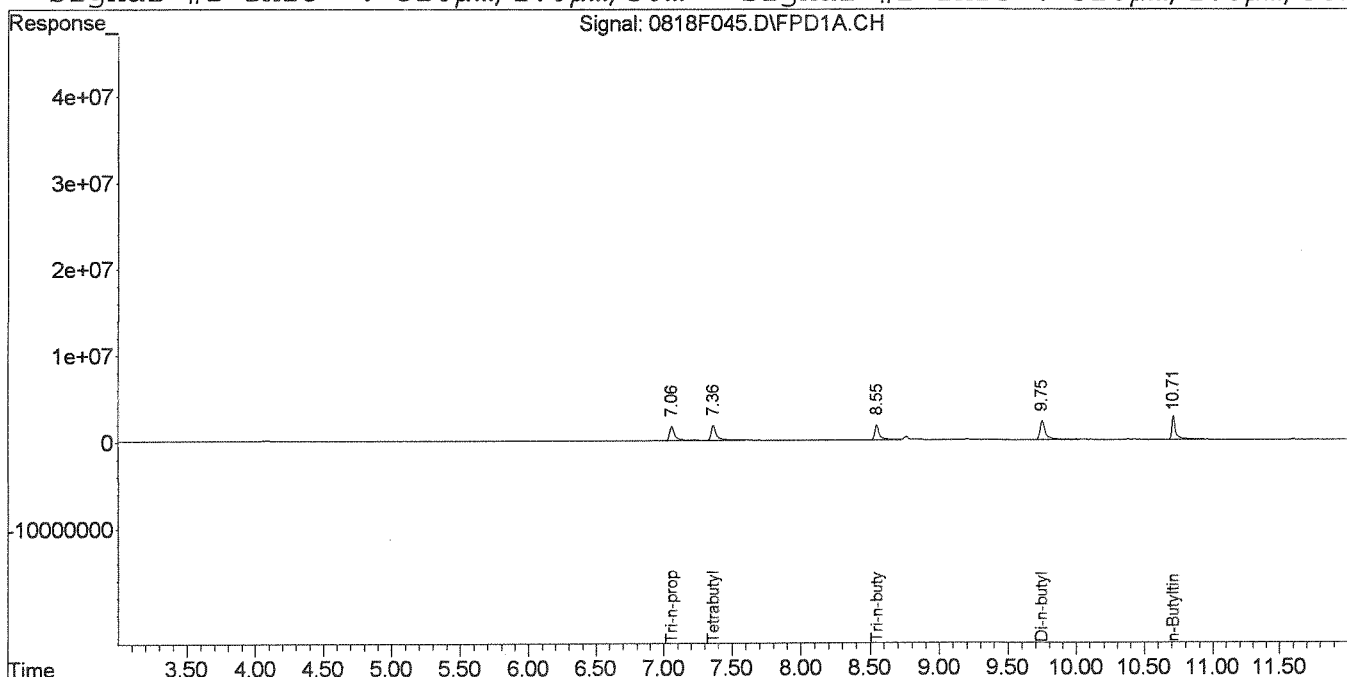
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.06	7.00	4723436	1619829	51.834	54.343
Target Compounds						
2) Tetrabutyltin	7.36	7.25	4675655	1570728	53.570	54.354
3) Tri-n-butyltin	8.55	8.42	4340320	1446200	46.225	48.405
4) Di-n-butyltin	9.75	9.60	6448799	2136742	41.527	40.549
5) n-Butyltin	10.71	10.61	5170870	1697898	29.923	30.584

Signal #1 : J:\GC26\DATA\081914\0818F045.D\FPD1A.CH Vial: 99  
Signal #2 : J:\GC26\DATA\081914\0818F045.D\FPD2B.CH  
Acq On : 19 Aug 2014 10:47 pm Operator: SMURRAY  
Sample : ~~HB~~ CCV OTINS @ 50ppb OTS-0111 SS 8/20/14 Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 11:29 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Injection Log

Directory: J:\GC26\DATA\082014

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	0820F001.D	1.	PRIMER BLANK		08/20/22014 12:2:
2	96	0820F002.D	1.	O'TINS @ 50ppb OT5-01H		08/20/22014 12:3:
3	100	0820F003.D	1.	IB		08/20/22014 12:5:
4	1	0820F004.D	1.	KWG1411681-5 SRM 10X		08/20/22014 1:13
5	2	0820F005.D	1.	KWG1411689-5 SRM 10X		08/20/22014 1:29
6	96	0820F006.D	1.	O'TINS @ 50ppb OT5-01H		08/20/22014 1:46
7	100	0820F007.D	1.	IB		08/20/22014 2:03

# Exception Report

Data File: J:\GC26\DATA\082014\0820F002.D  
Lab ID: KWG1411783-1  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 12:39  
Date Quantitated: 08/20/2014 13:56  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: [Signature]



# Exception Report

Data File: J:\GC26\DATA\082014\0820F002.D\0820F002C.D  
Lab ID: KWG1411783-1  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 12:39  
Date Quantitated: 08/20/2014 13:56  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review:

*SS 8/20/14*  
*gm 8/20/14*

Secondary Review:

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\082014\0820F002.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\082014\0820F002.D\0820F002c.d	<b>Vial:</b>	96
<b>Acqu Date:</b>	08/20/2014 12:39	<b>Quant Date:</b>	08/20/2014 13:56
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411783-1	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411783	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	7.03	6.97	5029095	1625165	55.19	54.52	NA	NA	NA
%Recovery =					NA	NA	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin	7.34	7.23	4809238	1566150	55.10	54.20			
Tri-n-butyltin Cation	8.52	8.40	4538988	1497545	48.34	50.12			
Di-n-butyltin Cation	9.72	9.57	6725719	2140687	43.31	40.62			
n-Butyltin Cation	10.70	10.60	5810337	1806540	33.62	32.54			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\082014\0820F002.D\FPD1A.CH Vial: 96  
 Signal #2 : J:\GC26\DATA\082014\0820F002.D\FPD2B.CH  
 Acq On : 20 Aug 2014 12:39 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 13:56:25 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

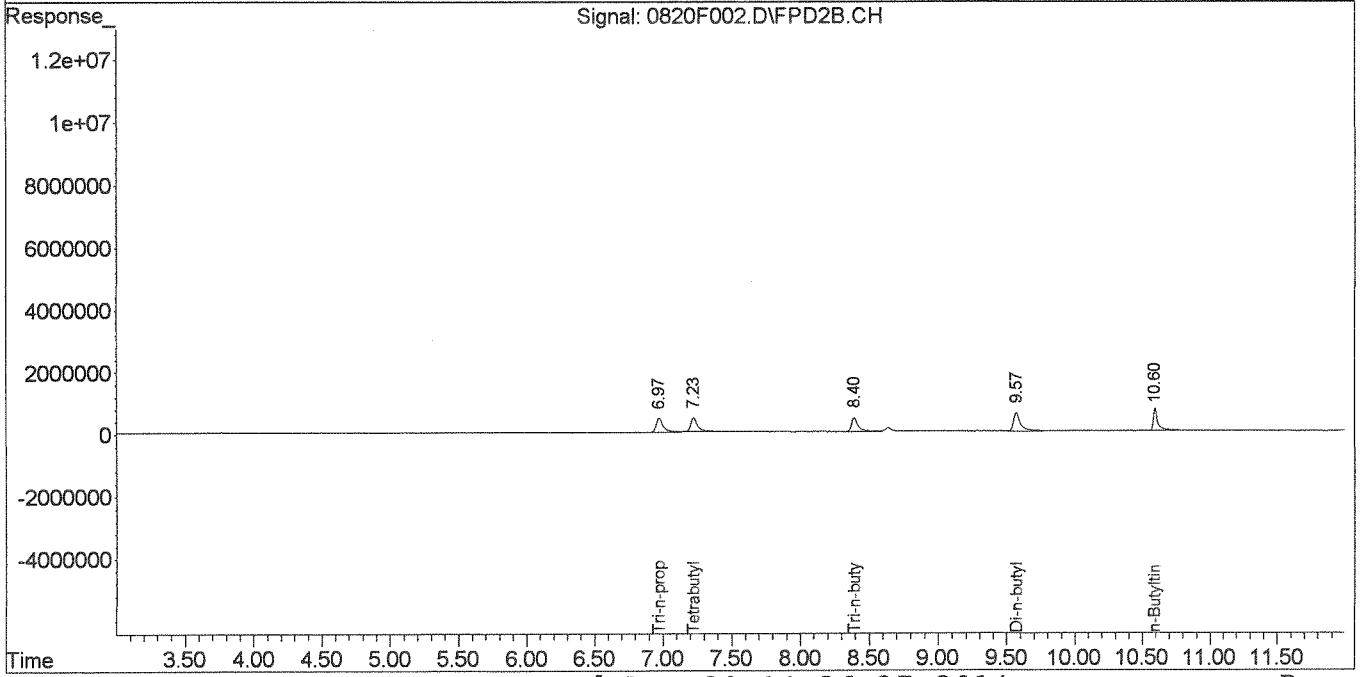
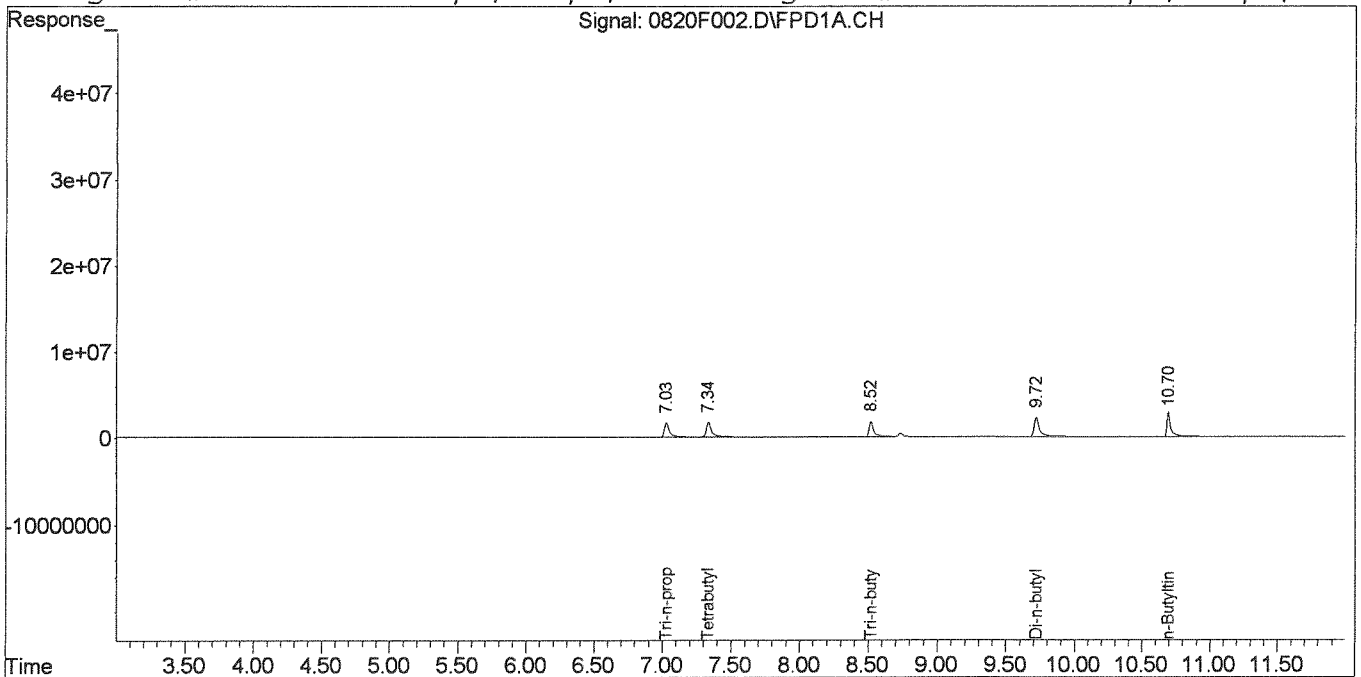
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.03	6.97	5029095	1625165	55.188	54.522
Target Compounds						
2) Tetrabutyltin	7.34	7.23	4809238	1566150	55.101	54.196
3) Tri-n-butyltin	8.52	8.40	4538988	1497545	48.341	50.124
4) Di-n-butyltin	9.72	9.57	6725719	2140687	43.310	40.624
5) n-Butyltin	10.70	10.60	5810337	1806540	33.623	32.541

Signal #1 : J:\GC26\DATA\082014\0820F002.D\FPD1A.CH Vial: 96  
Signal #2 : J:\GC26\DATA\082014\0820F002.D\FPD2B.CH  
Acq On : 20 Aug 2014 12:39 pm Operator: SSULLIVAN  
Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 13:56 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\082014\0820F003.D  
Lab ID: KWG1411783-2  
RunType: IB  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 12:56  
Date Quantitated: 08/20/2014 14:25  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: MS 8/20/14

# Exception Report

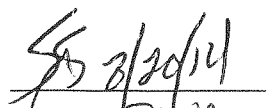
Data File: J:\GC26\DATA\082014\0820F003.D\0820F003C.D  
Lab ID: KWG1411783-2  
RunType: IB  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 12:56  
Date Quantitated: 08/20/2014 14:25  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review:



Secondary Review:



# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\082014\0820F003.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\082014\0820F003.D\0820F003c.d	<b>Vial:</b>	100
<b>Acqu Date:</b>	08/20/2014 12:56	<b>Quant Date:</b>	08/20/2014 14:25
<b>Run Type:</b>	IB	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411783-2	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411783	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	0.00		0d	0		0.0000	NA
%Recovery =					NA	NA	Limits = 23-145

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	Final Conc. Units:		Rpt
					ng/mL #1	ng/mL #2	
Tetra-n-butyltin			0d	0	0.0000	0.0000	
Tri-n-butyltin Cation			0	0d	0.0000	0.0000	
Di-n-butyltin Cation			0d	0	0.0000	0.0000	
n-Butyltin Cation			0	0	0.0000	0.0000	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\082014\0820F003.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\082014\0820F003.D\FPD2B.CH  
 Acq On : 20 Aug 2014 12:56 pm Operator: SSULLIVAN  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 14:25:22 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
----------	------	------	--------	--------	-------	-------

System Monitoring Compounds

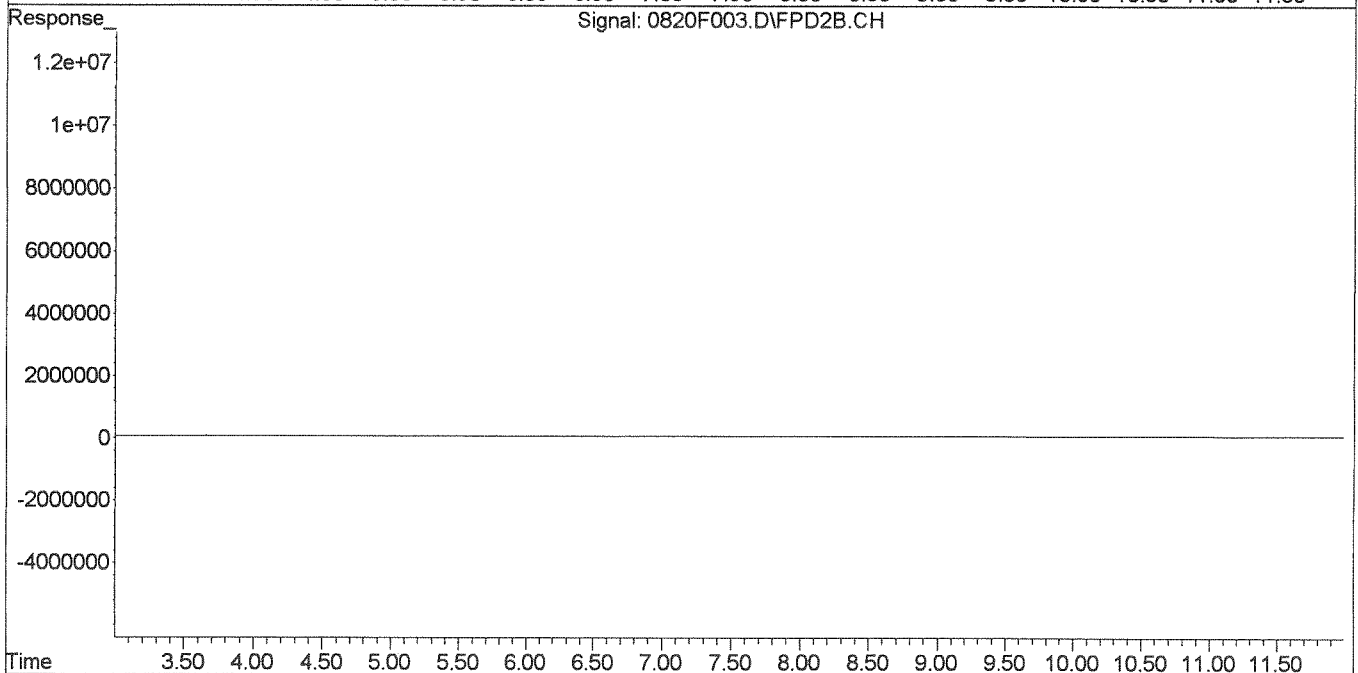
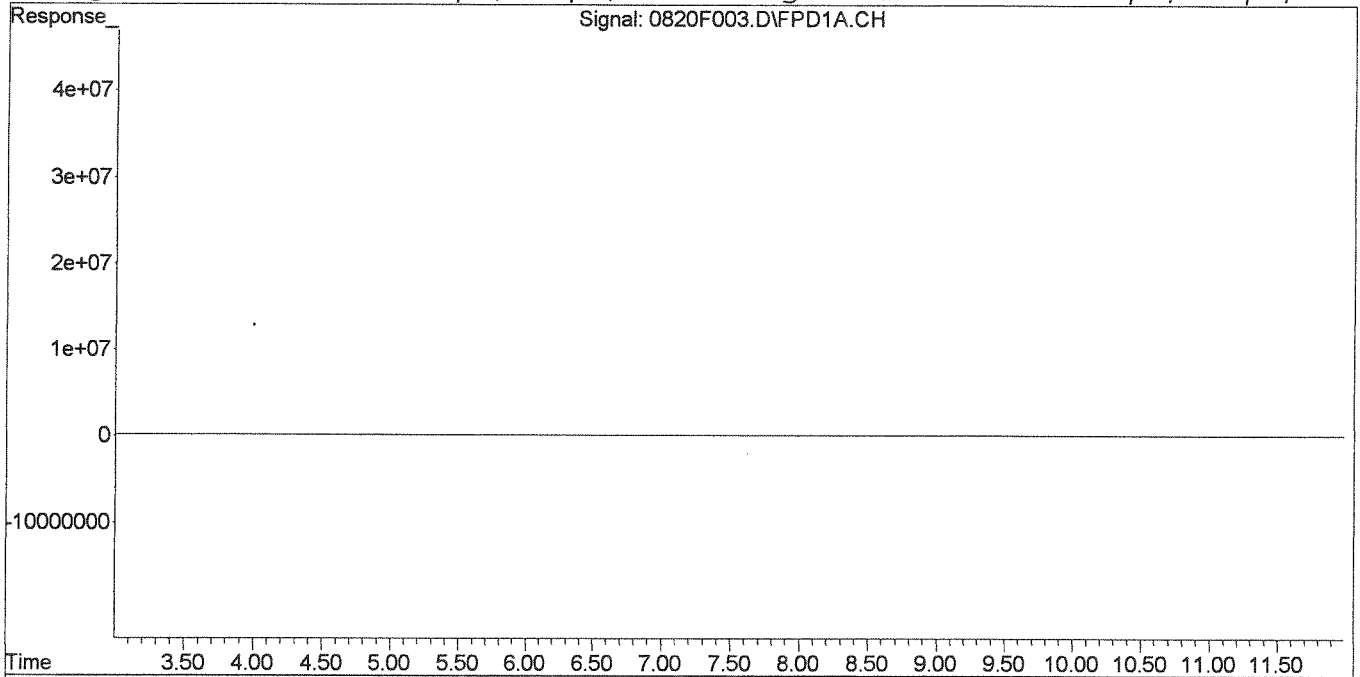
Target Compounds



Signal #1 : J:\GC26\DATA\082014\0820F003.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\082014\0820F003.D\FPD2B.CH  
 Acq On : 20 Aug 2014 12:56 pm Operator: SSULLIVAN  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 14:25 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\082014\0820F006.D  
Lab ID: KWG1411783-3  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 13:46  
Date Quantitated: 08/20/2014 14:13  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: MSM

# Exception Report

Data File: J:\GC26\DATA\082014\0820F006.D\0820F006C.D  
Lab ID: KWG1411783-3  
RunType: CCV  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 13:46  
Date Quantitated: 08/20/2014 14:13  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: msom

# Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\082014\0820F006.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\082014\0820F006.D\0820F006c.d	<b>Vial:</b>	96
<b>Acqu Date:</b>	08/20/2014 13:46	<b>Quant Date:</b>	08/20/2014 14:13
<b>Run Type:</b>	CCV	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411783-3	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411783	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

## Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.05	6.99	4882045	1593351	53.58	53.46			NA
%Recovery =					NA	NA	Limits =	23-145	

## Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	Final Conc. Units: ug/Kg				Rpt
					ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	
Tetra-n-butyltin	7.35	7.25	4678268	1580372	53.60	54.69			
Tri-n-butyltin Cation	8.54	8.41	4549030	1468336	48.45	49.15			
Di-n-butyltin Cation	9.74	9.58	6789568	2032150	43.72	38.57			
n-Butyltin Cation	10.71	10.60	5437733	1867503	31.47	33.64			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\082014\0820F006.D\FPD1A.CH Vial: 96  
 Signal #2 : J:\GC26\DATA\082014\0820F006.D\FPD2B.CH  
 Acq On : 20 Aug 2014 1:46 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 14:13:35 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

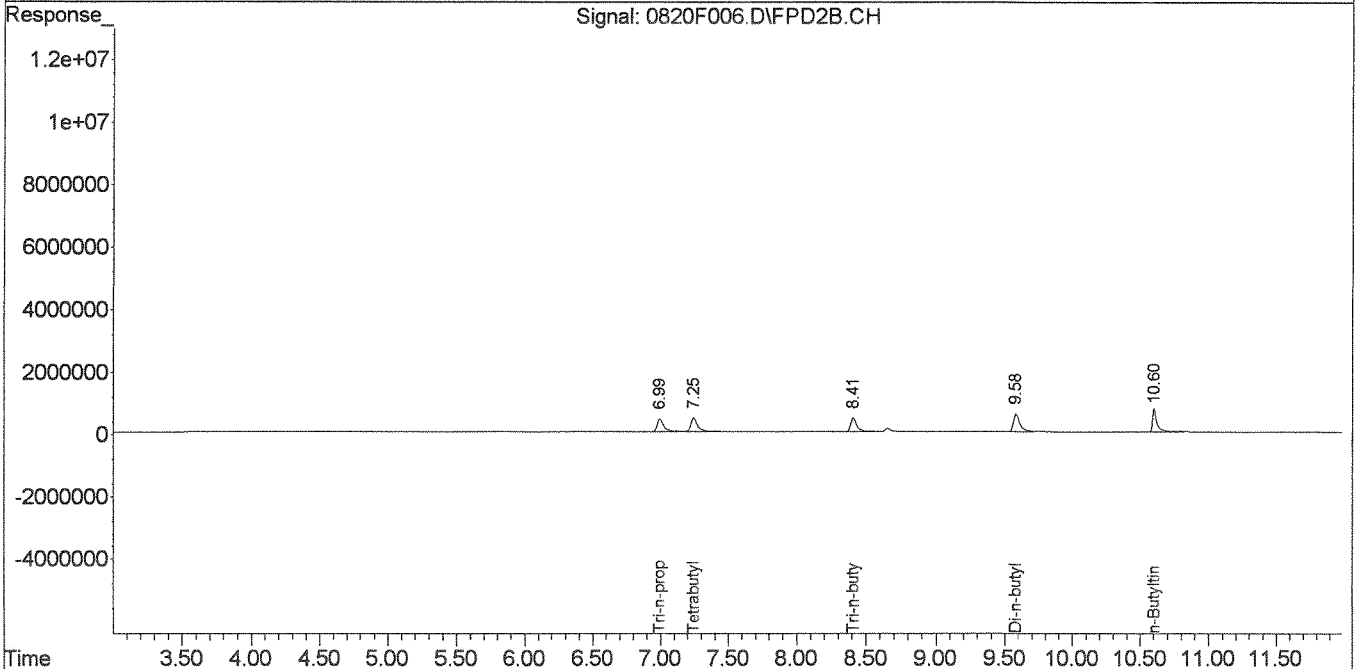
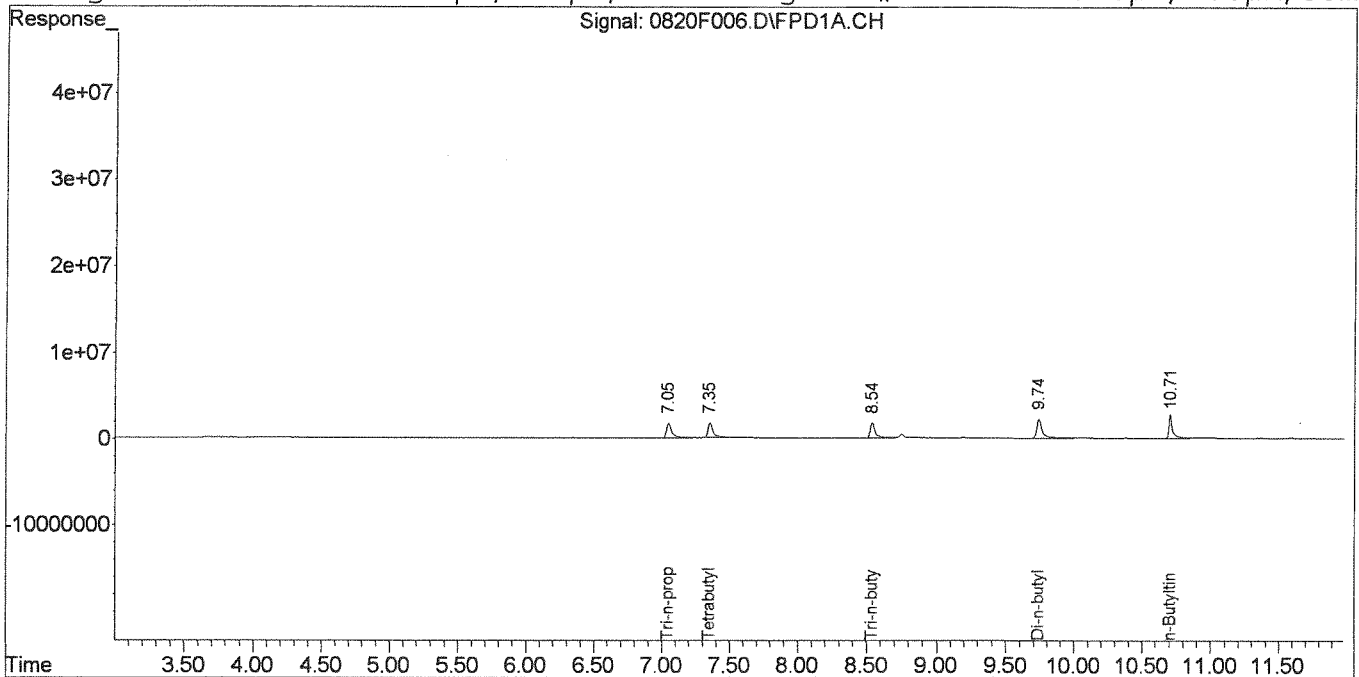
Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
-----						
System Monitoring Compounds						
1) S Tri-n-propyltin	7.05	6.99	4882045	1593351	53.575	53.455
Target Compounds						
2) Tetrabutyltin	7.35	7.25	4678268	1580372	53.600	54.688
3) Tri-n-butyltin	8.54	8.41	4549030	1468336	48.448	49.146
4) Di-n-butyltin	9.74	9.58	6789568	2032150	43.721	38.565
5) n-Butyltin	10.71	10.60	5437733	1867503	31.467	33.639

Signal #1 : J:\GC26\DATA\082014\0820F006.D\FPD1A.CH Vial: 96  
 Signal #2 : J:\GC26\DATA\082014\0820F006.D\FPD2B.CH  
 Acq On : 20 Aug 2014 1:46 pm Operator: SSULLIVAN  
 Sample : O'TINS @ 50ppb OT5-01H Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 14:13 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Multiple Level Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



# Exception Report

Data File: J:\GC26\DATA\082014\0820F007.D  
Lab ID: KWG1411783-4  
RunType: IB  
Matrix: NOT APPLICABLE

Date Acquired: 08/20/2014 14:03  
Date Quantitated: 08/20/2014 14:26  
Batch ID: KWG1411783  
Analysis Method: Krone  
MethodJoinID: MJ329

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: SS 8/20/14

Secondary Review: fm 8/20/14





## Quantitation Report

<b>Data File #1:</b>	J:\GC26\DATA\082014\0820F007.D	<b>Instrument:</b>	GC26
<b>Data File #2:</b>	J:\GC26\DATA\082014\0820F007.D\0820F007c.d	<b>Vial:</b>	100
<b>Acqu Date:</b>	08/20/2014 14:03	<b>Quant Date:</b>	08/20/2014 14:26
<b>Run Type:</b>	IB	<b>Dilution:</b>	1.0
<b>Lab ID:</b>	KWG1411783-4	<b>Soln Conc. Units:</b>	ng/mL
<b>Signal #1:</b>	RTX-1	<b>Signal #2:</b>	RTX-35

<b>Bottle ID:</b>		<b>Tier:</b>		<b>Matrix:</b>	NOT APPLICABLE
<b>Prod Code:</b>	Butyltins BUTYL	<b>Collect Date:</b>		<b>Receive Date:</b>	08/20/2014

<b>Analysis Lot:</b>	KWG1411783	<b>Prep Lot:</b>		<b>Report Group:</b>	
<b>Analysis Method:</b>	Krone	<b>Prep Method:</b>			
<b>Prep Ref:</b>		<b>Prep Date:</b>			

<b>Quant Method:</b>	J:\GC26\METHODS\062314-HTIN.	<b>Calibration ID:</b>	CAL13394
<b>Title:</b>		<b>Method ID:</b>	MJ329
<b>MB Ref:</b>		<b>Quant based on Method</b>	

### Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Final Conc. Units: ug/Kg		Rpt
Tri-n-propyltin	0.00		0	0		0.0000			NA
%Recovery =					NA	NA	Limits =	23-145	

### Target Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Tetra-n-butyltin			0d	0	0.0000	0.0000			
Tri-n-butyltin Cation			0	0	0.0000	0.0000			
Di-n-butyltin Cation			0	0	0.0000	0.0000			
n-Butyltin Cation			0d	0d	0.0000	0.0000			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Signal #1 : J:\GC26\DATA\082014\0820F007.D\FPD1A.CH Vial: 100  
 Signal #2 : J:\GC26\DATA\082014\0820F007.D\FPD2B.CH  
 Acq On : 20 Aug 2014 2:03 pm Operator: SSULLIVAN  
 Sample : IB Inst : GC26  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
 Quant Time: Aug 20 14:25:23 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
 Title : Hexylated Butyltins MJ132 CAL13394  
 Last Update : Sat Aug 09 08:39:49 2014  
 Response via : Initial Calibration  
 DataAcq Meth : OTIN.M

Volume Inj. : 25 µL  
 Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
 Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
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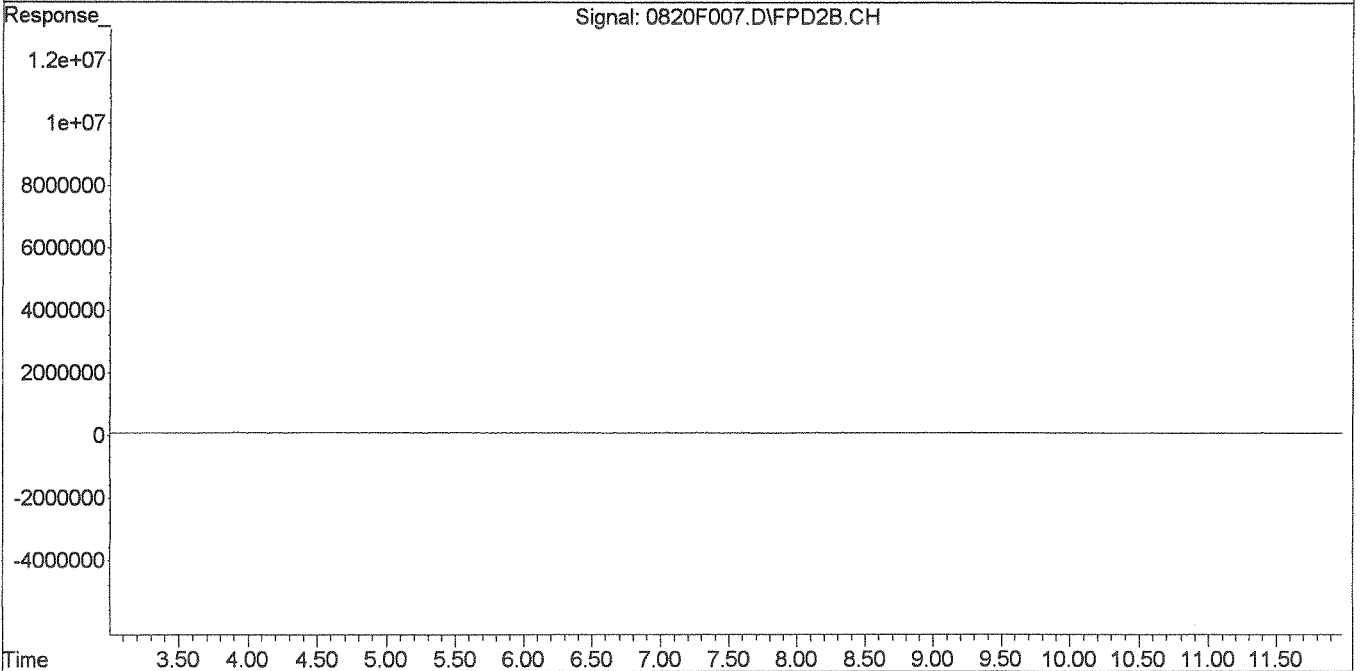
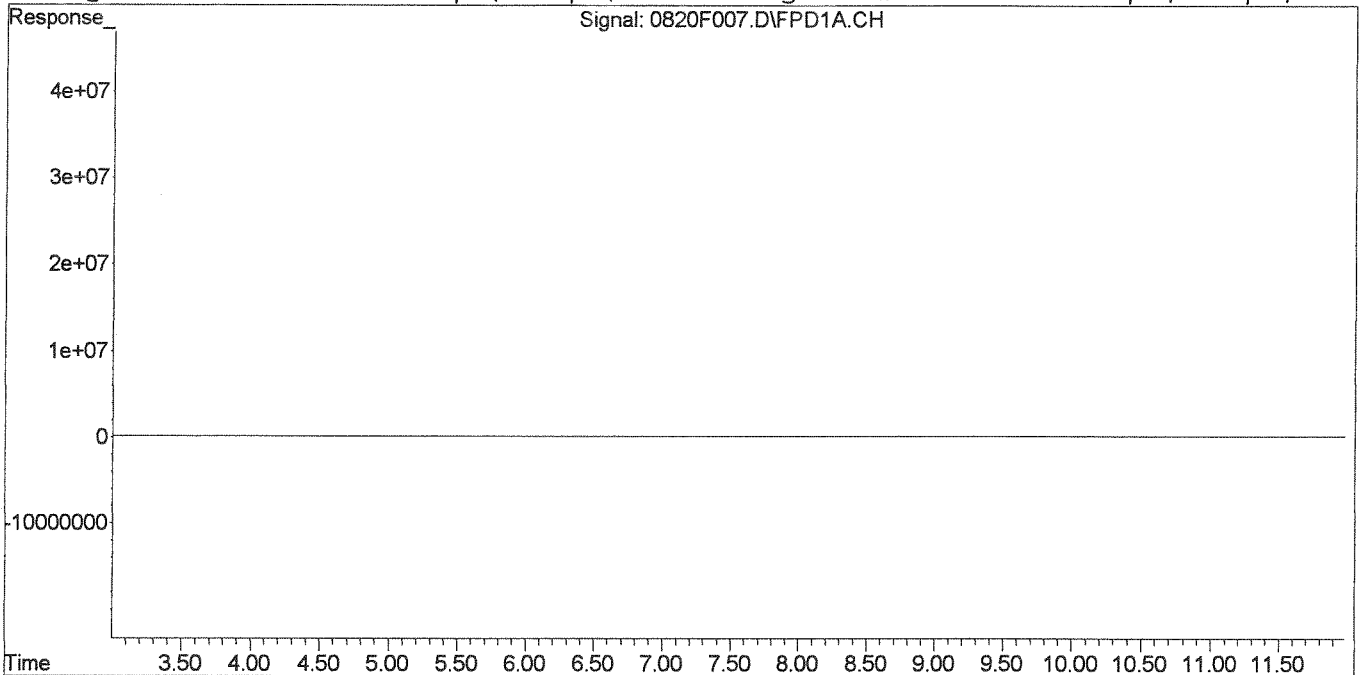
System Monitoring Compounds

Target Compounds

Signal #1 : J:\GC26\DATA\082014\0820F007.D\FPD1A.CH Vial: 100  
Signal #2 : J:\GC26\DATA\082014\0820F007.D\FPD2B.CH  
Acq On : 20 Aug 2014 2:03 pm Operator: SSULLIVAN  
Sample : IB Inst : GC26  
Misc : Multiplr: 1.00  
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P  
Quant Time: Aug 20 14:26 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)  
Title : Hexylated Butyltins MJ132 CAL13394  
Last Update : Sat Aug 09 08:39:49 2014  
Response via : Multiple Level Calibration  
DataAcq Meth : OTIN.M

Volume Inj. : 25  $\mu$ L  
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35  
Signal #1 Info : 320 $\mu$ m/1.0 $\mu$ m/30m Signal #2 Info : 320 $\mu$ m/1.0 $\mu$ m/30m







# Polynuclear Aromatic Hydrocarbons

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F010.D  
**Lab ID:** K1407971-001  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 13:42  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

*X: Benzol(a) & Chryseno collecting*

*AUG 21 2014*

Primary Review: *CA* **AUG 21 2014**  
 Secondary Review: *LB* **AUG 21 2014**

# Quantitation Report

<b>Data File:</b>	J:\MS14\DATA\082014\0820F010.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 13:42	<b>Quant Date:</b>	08/21/2014 09:36
<b>Run Type:</b>	SMPL	<b>Vial:</b>	10
<b>Lab ID:</b>	K1407971-001	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	8270D PAH SIM	<b>Collect Date:</b>	06/27/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411816	<b>Prep Lot:</b>	KWG1411415	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	8270D SIM	<b>Prep Method:</b>	EPA 3541		
<b>Prep Ref:</b>	1365426	<b>Prep Date:</b>	08/12/2014		

<b>Quant Method:</b>	J:\MS14\METHODS\SIM072214SIMPAH	<b>Calibration ID:</b>	CAL13446
<b>Title:</b>	Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b>	LJ15942
<b>Tune Ref:</b>	J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b>	MJ1238
<b>MB Ref:</b>	J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>	

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	137574	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	73145	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	141065	200.00	OK
4	Chrysene-d12	10.06	0.00	240	153134	200.00	OK
5	Perylene-d12	13.16	0.01	264	158729	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	59087	136.93	68	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	107187	134.94	67	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	90945	132.03	66	39-111	OK

## Target Compounds

							Final Conc. Units:		ug/Kg Dry Weight	
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	653	0.9000	9.2	U	
1	2-Methylnaphthalene	5.37		0.00	142	321	0.6300	7.4	U	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	309	0.6900	6.8	U	
2	Acenaphthylene	6.17	0.01	0.00	152	118	0.1600	2.9	U	
2	Acenaphthene	6.31		0.00	154	930	2.18	13	J	
2	Fluorene	6.75		0.00	166	646	1.21	7.4	J	
3	Phenanthrene	7.55		0.00	178	1244	1.60	9.8	J	
3	Anthracene	7.59		0.00	178	138	0.1800	2.4	U	
3	Fluoranthene	8.53		0.00	202	584m	0.6400	3.9	J	
4	Pyrene	8.73		0.00	202	820m	0.7800	4.8	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	802	0.8500	5.2	J	
4	Chrysene				228	0d		3.4	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F010.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 13:42	<b>Quant Date:</b>	08/21/2014 09:36
<b>Run Type:</b>	SMPL	<b>Vial:</b>	10
<b>Lab ID:</b>	K1407971-001	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

**Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.1	U	
5	Benzo(k)fluoranthene				252	0d		3.5	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	3499	3.74	23	Ui	
5	Indeno(1,2,3-cd)pyrene	15.40	0.01	0.00	276	139	0.1300	5.9	U	
5	Dibenz(a,h)anthracene				278	0d		5.3	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	326	0.2900	5.8	U	

**Prep Amount:** 10.512 g      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml      **Unit Factor:** 1  
**Solids:** 15.6 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution



Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:19 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAH.RE

Quant Method : J:\MS14\M...\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.67	136	137574	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	73145	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	141065	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	153134	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	158729	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	59087	136.93	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	13.69%	
21) Fluoranthene-d10	8.52	212	107187	134.94	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	13.49%	
24) Terphenyl-d14	8.87	244	90945	132.03	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	13.20%	

Target Compounds

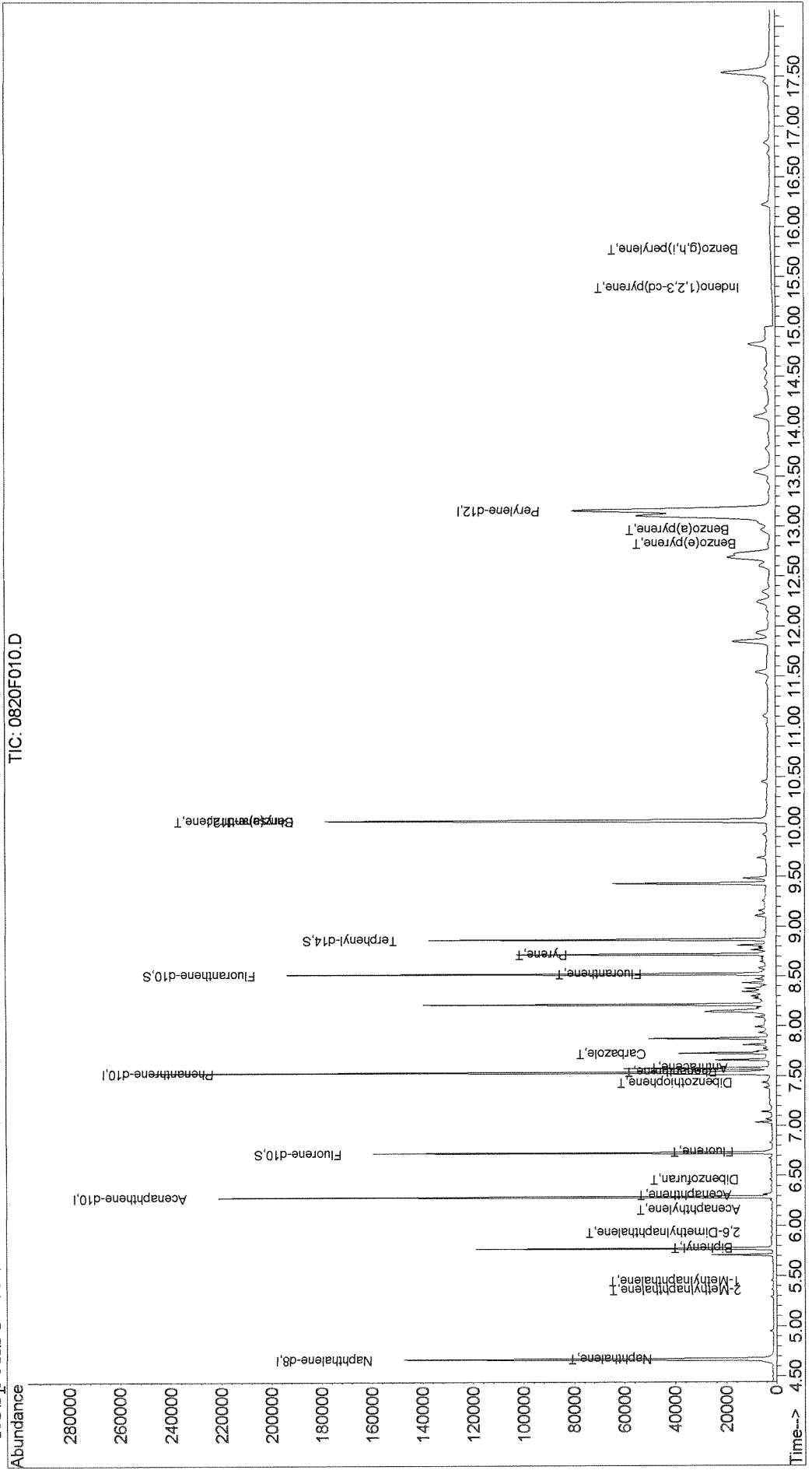
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	653	0.90	ng/ml	96
3) 2-Methylnaphthalene	5.37	142	321	0.63	ng/ml	96
4) 1-Methylnaphthalene	5.45	142	309	0.69	ng/ml	85
5) Biphenyl	5.79	154	197	0.33	ng/ml	95
6) 2,6-Dimethylnaphthalene	5.94	156	247	0.55	ng/ml	92
8) Acenaphthylene	6.17	152	118	0.16	ng/ml	59
9) Acenaphthene	6.31	154	930	2.18	ng/ml	88
10) Dibenzofuran	6.46	168	520	0.77	ng/ml	98
13) Fluorene	6.75	166	646	1.21	ng/ml	91
15) Dibenzothiophene	7.45	184	187m	0.25	ng/ml	
16) Phenanthrene	7.55	178	1244	1.60	ng/ml	98
17) Anthracene	7.59	178	138	0.18	ng/ml	81
18) Carbazole	7.73	167	453m	0.67	ng/ml	
20) Fluoranthene	8.53	202	584m	0.64	ng/ml	
23) Pyrene	8.73	202	820m	0.78	ng/ml	
25) Benz(a)anthracene	10.06	228	802	0.85	ng/ml	84
30) Benzo(e)pyrene	12.83	252	262	0.28	ng/ml	55
31) Benzo(a)pyrene	12.97	252	3499	3.74	ng/ml#	1
33) Indeno(1,2,3-cd)pyrene	15.40	276	139	0.13	ng/ml	96
35) Benzo(g,h,i)perylene	15.78	276	326	0.29	ng/ml	88

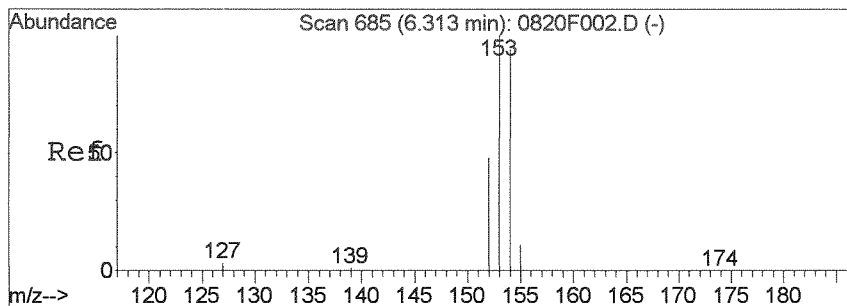
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 10  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

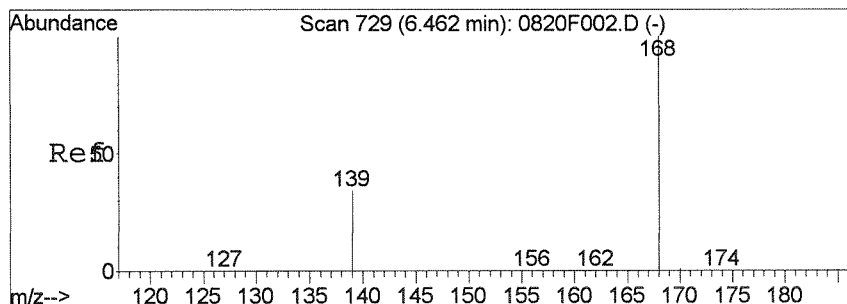
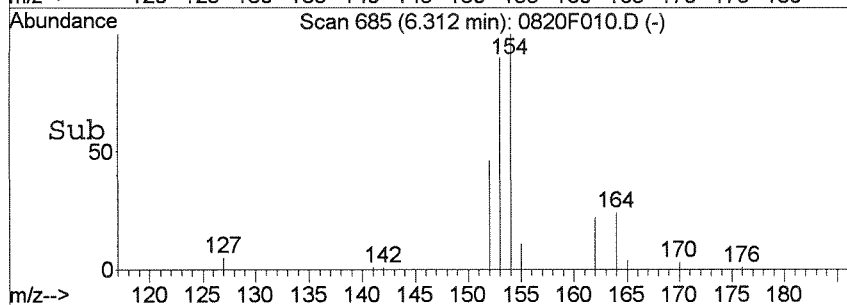
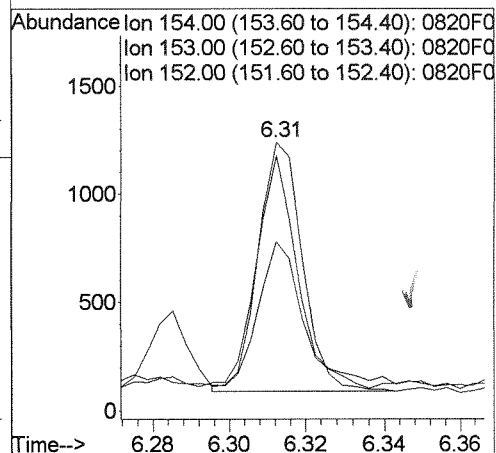
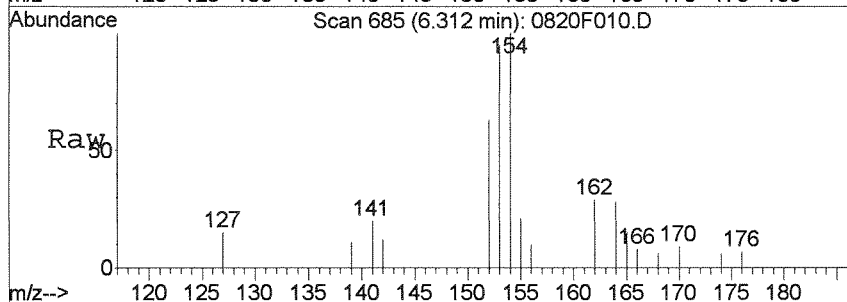
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





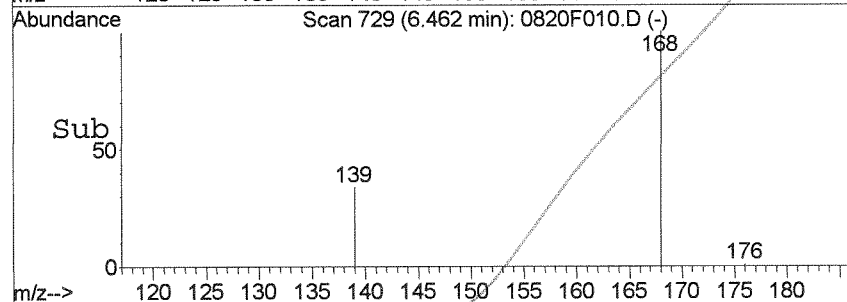
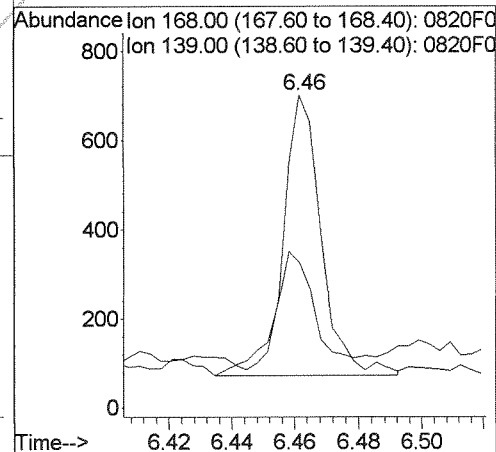
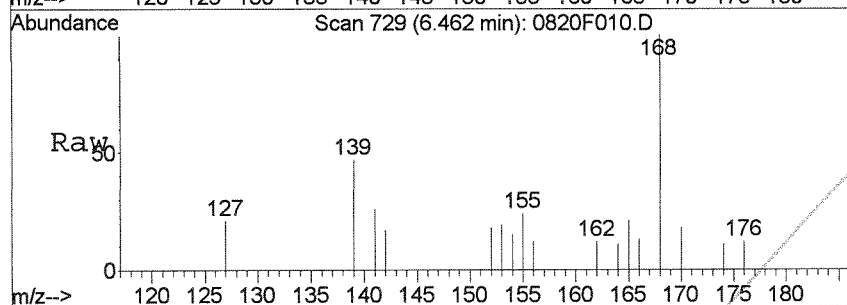
#9  
 Acenaphthene  
 Concen: 2.18 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

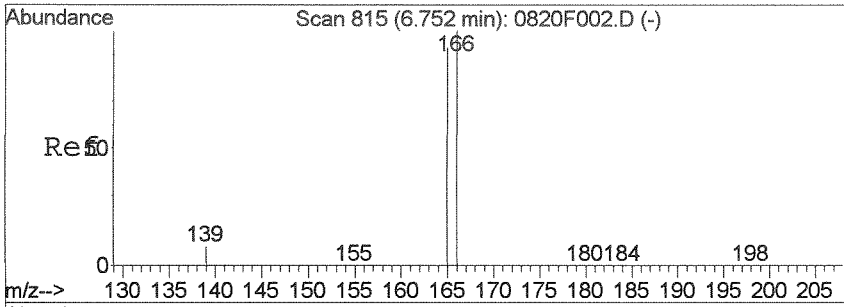
Tgt Ion	Resp	Lower	Upper
154	100		
153	91.8	72.5	132.5
152	57.4	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.77 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

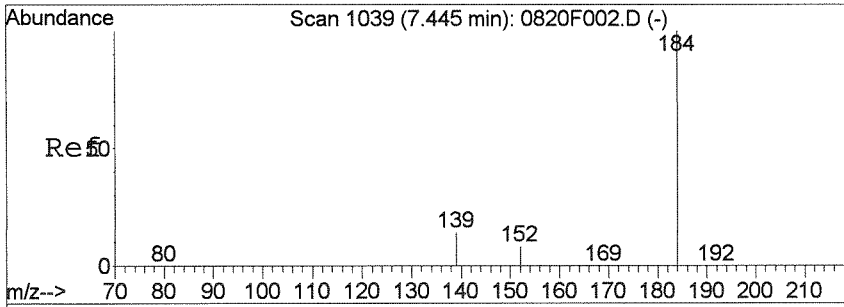
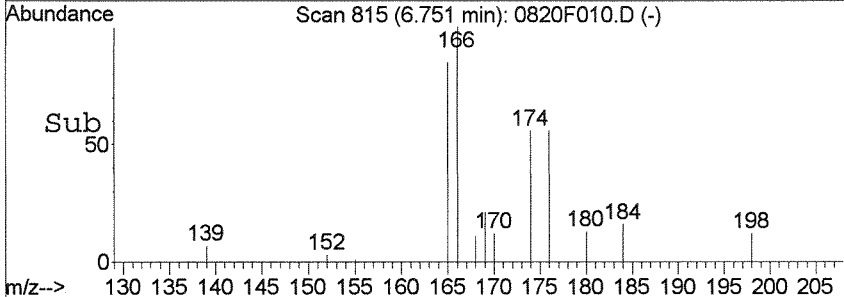
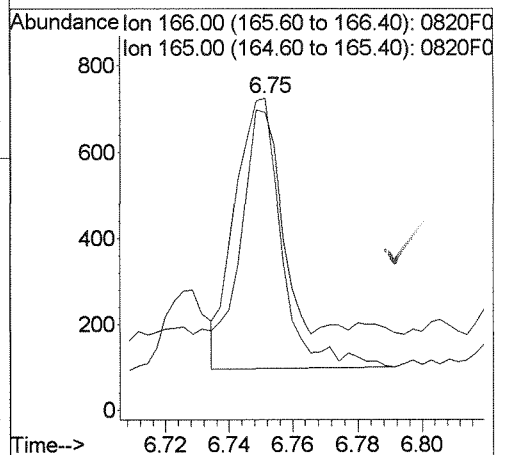
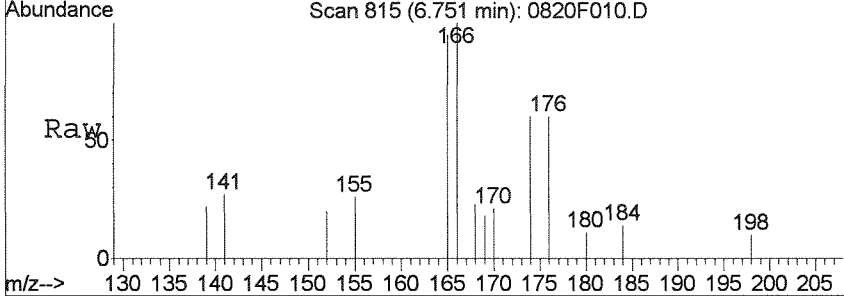
Tgt Ion	Resp	Lower	Upper
168	100		
139	33.8	2.7	62.7





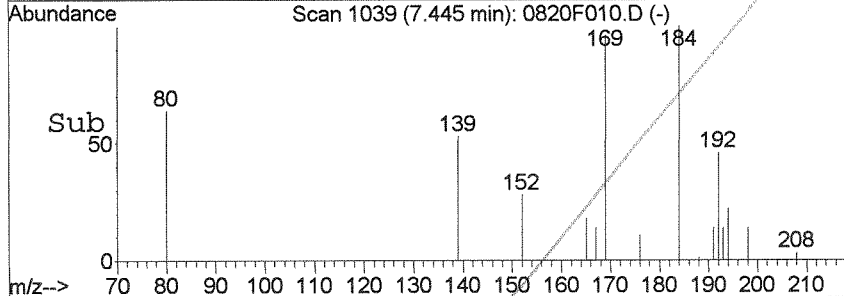
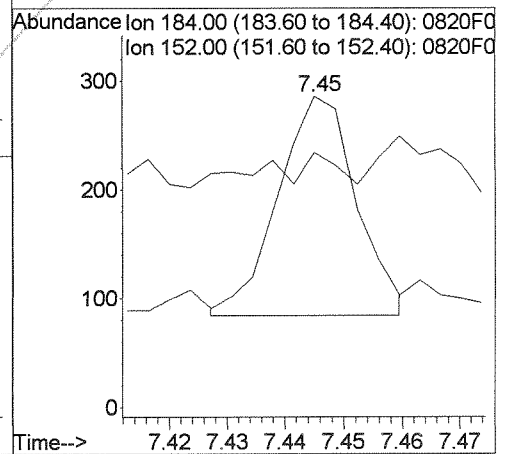
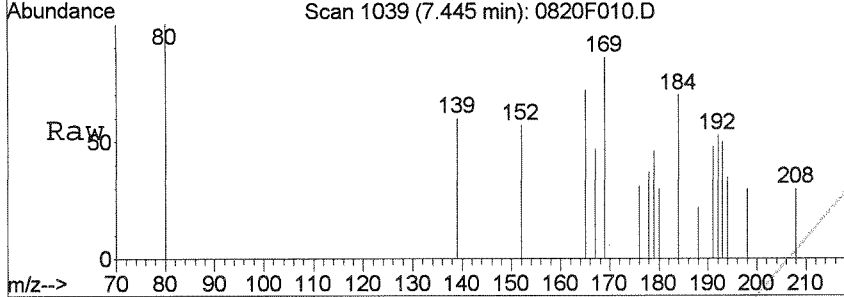
#13  
 Fluorene  
 Concen: 1.21 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

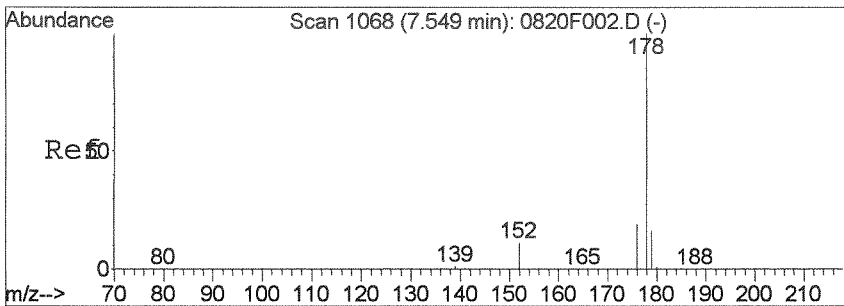
Tgt Ion	Resp	Lower	Upper
166	100		
165	81.9	60.9	120.9



#15  
 Dibenzothiophene  
 Concen: 0.25 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

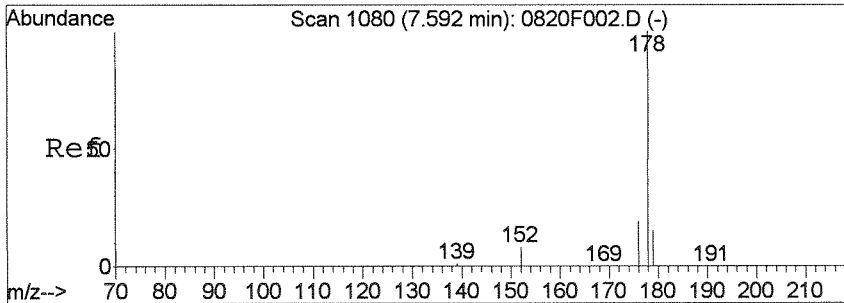
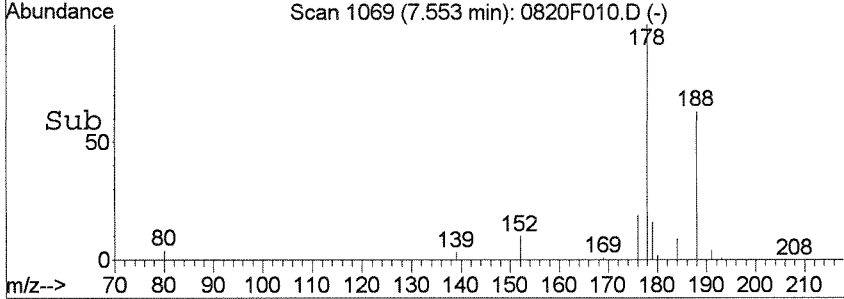
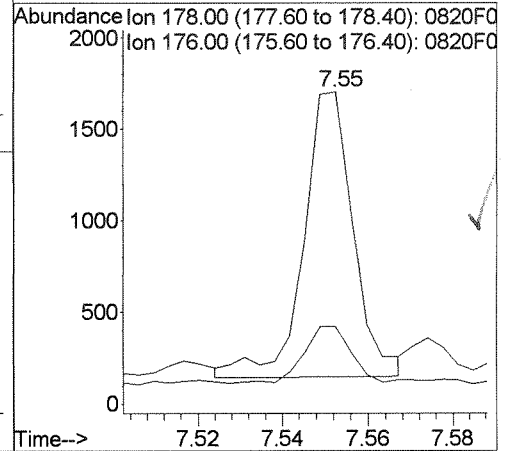
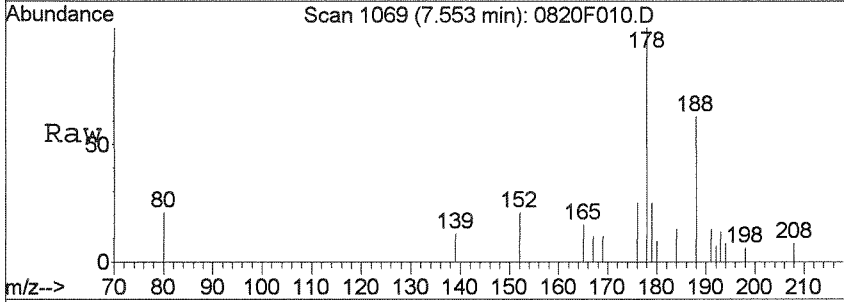
Tgt Ion	Resp	Lower	Upper
184	100		
152	81.8	0.0	39.9#





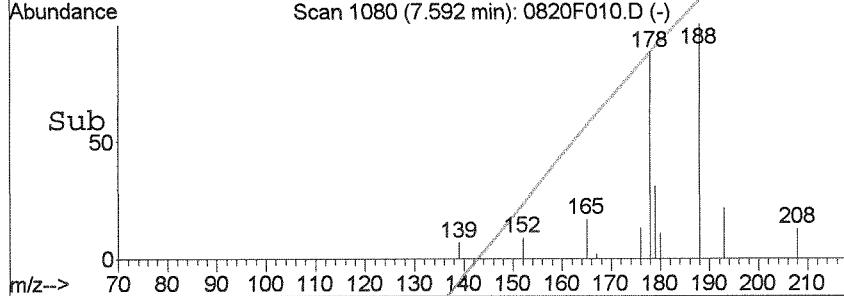
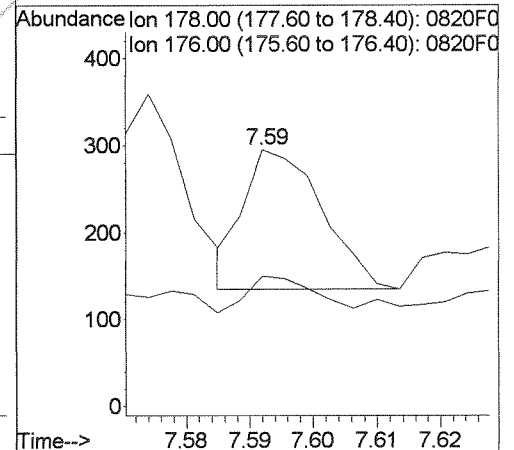
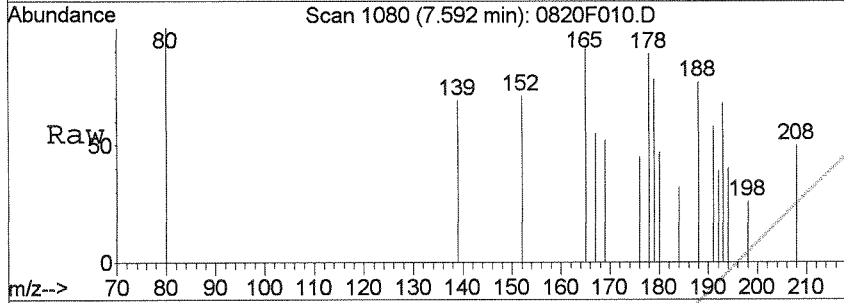
#16  
 Phenanthrene  
 Concen: 1.60 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

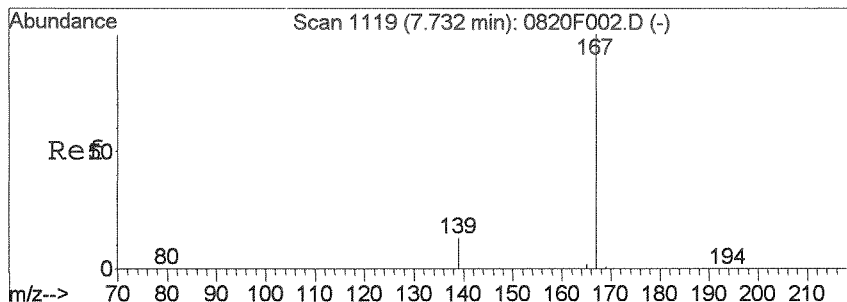
Tgt Ion	Resp	Lower	Upper
178	1244	100	
176	19.9	0.0	48.9



#17  
 Anthracene  
 Concen: 0.18 ng/ml  
 RT: 7.59 min Scan# 1080  
 Delta R.T. -0.01 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

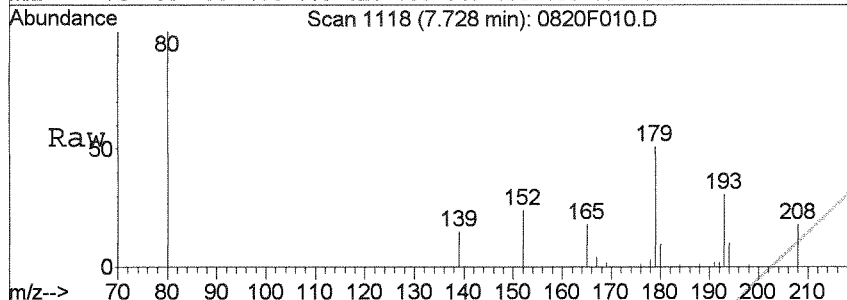
Tgt Ion	Resp	Lower	Upper
178	138	100	
176	26.3	0.0	47.7



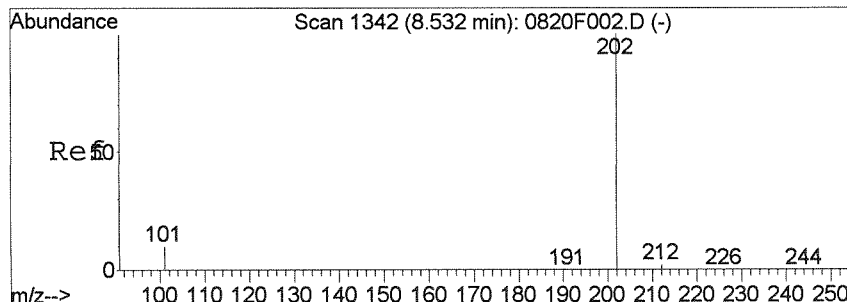
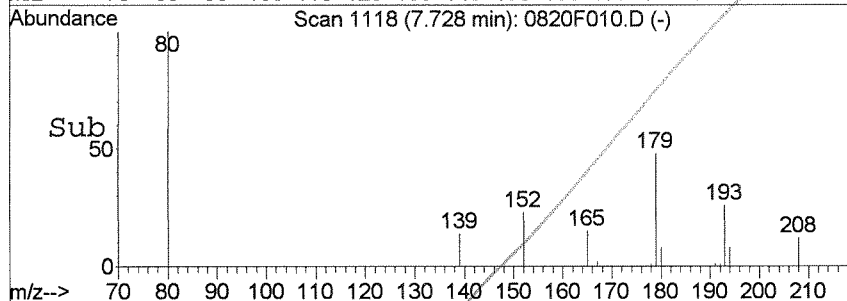
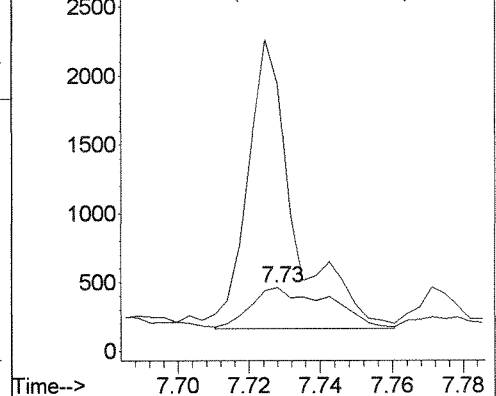


#18  
 Carbazole  
 Concen: 0.67 ng/ml m  
 RT: 7.73 min Scan# 1118  
 Delta R.T. -0.01 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

Tgt Ion: 167 Resp: 453  
 Ion Ratio Lower Upper  
 167 100  
 139 419.3 0.0 43.1#

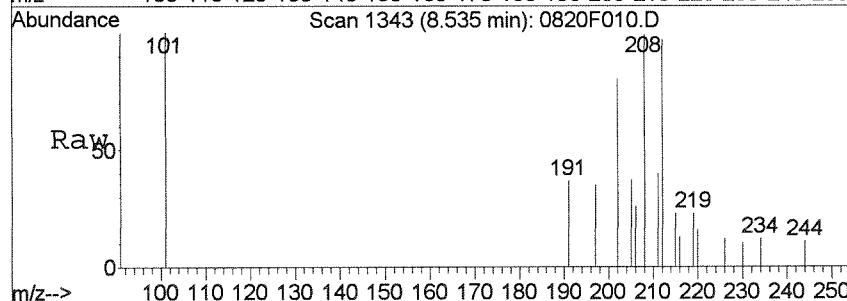


Abundance Ion 167.00 (166.60 to 167.40): 0820F0  
 Ion 139.00 (138.60 to 139.40): 0820F0

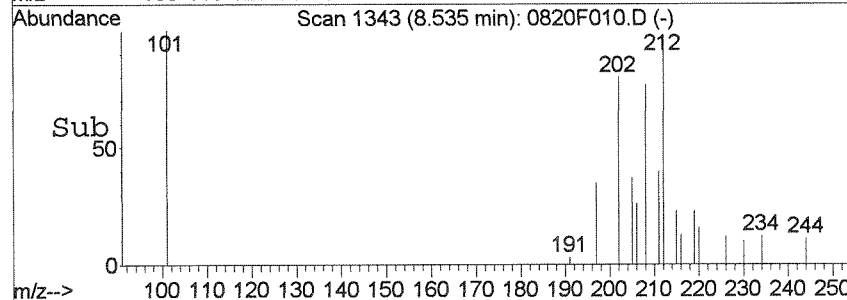
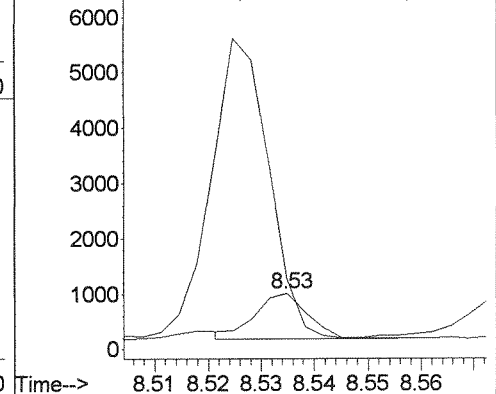


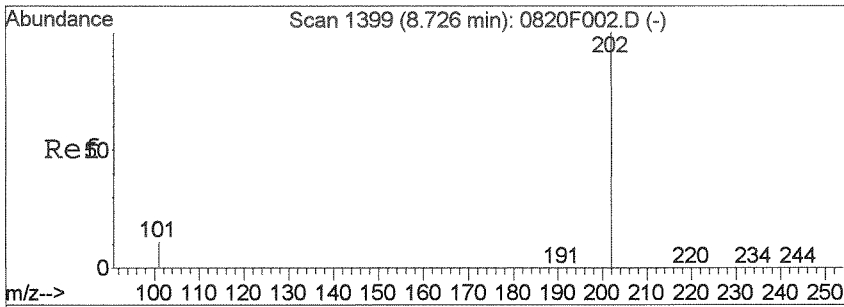
#20  
 Fluoranthene  
 Concen: 0.64 ng/ml m  
 RT: 8.53 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

Tgt Ion: 202 Resp: 584  
 Ion Ratio Lower Upper  
 202 100  
 101 124.3 0.0 37.0#



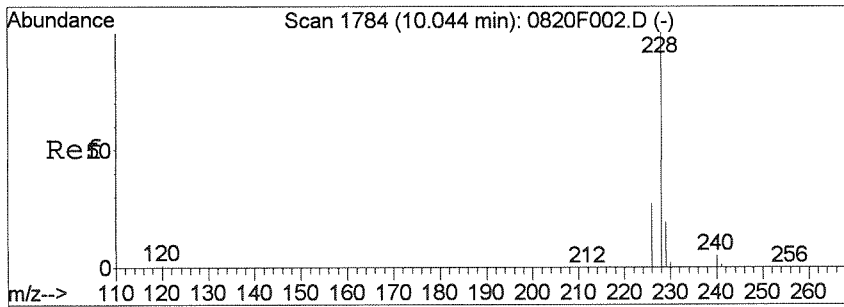
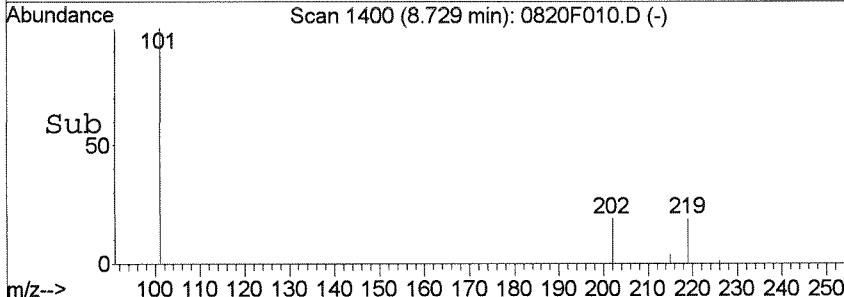
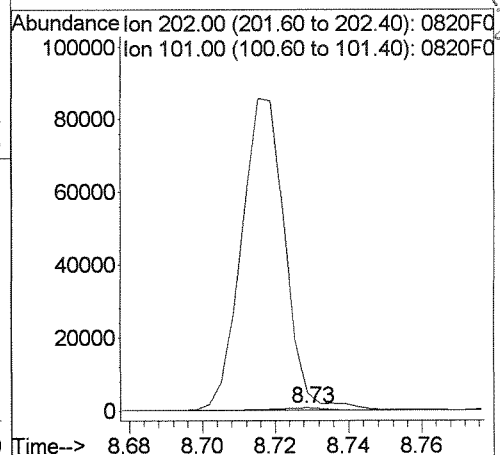
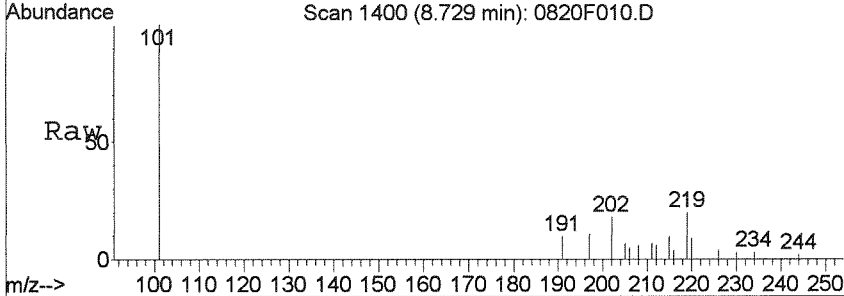
Abundance Ion 202.00 (201.60 to 202.40): 0820F0  
 Ion 101.00 (100.60 to 101.40): 0820F0





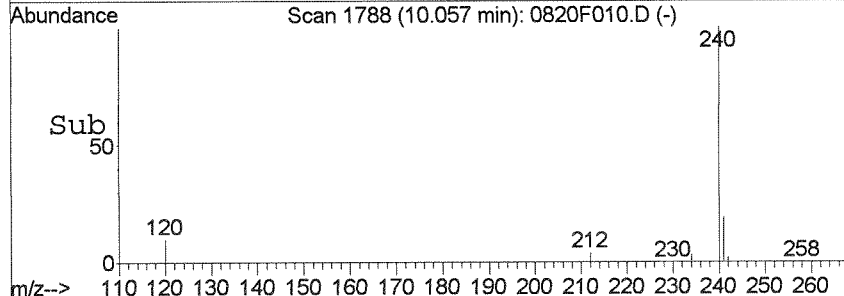
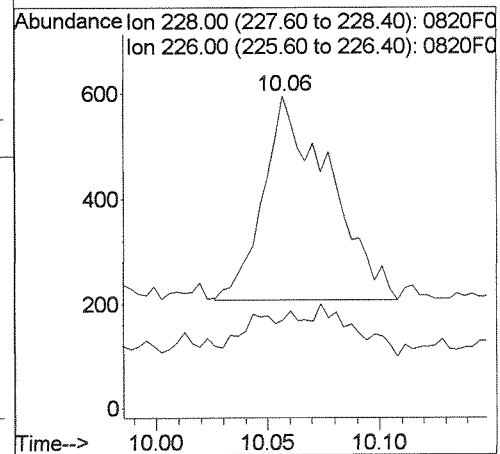
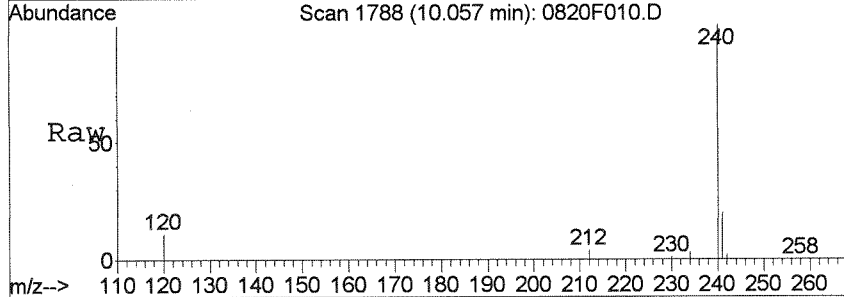
#23  
 Pyrene  
 Concen: 0.78 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

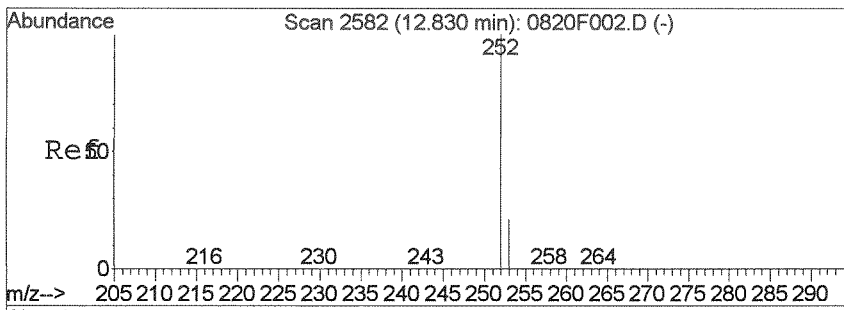
Tgt Ion	Ratio	Lower	Upper
202	100		
101	543.2	0.0	38.3#



#25  
 Benz (a) anthracene  
 Concen: 0.85 ng/ml  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

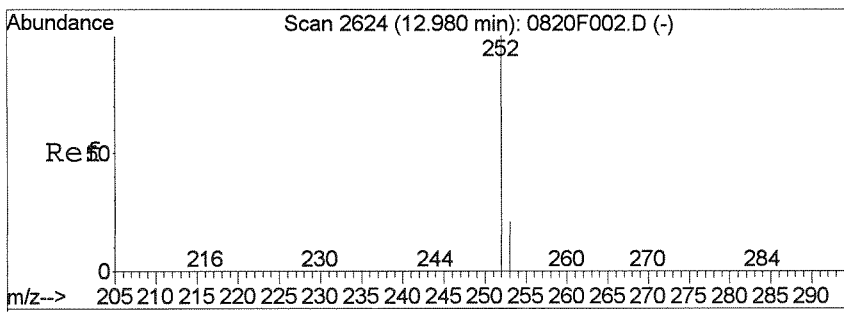
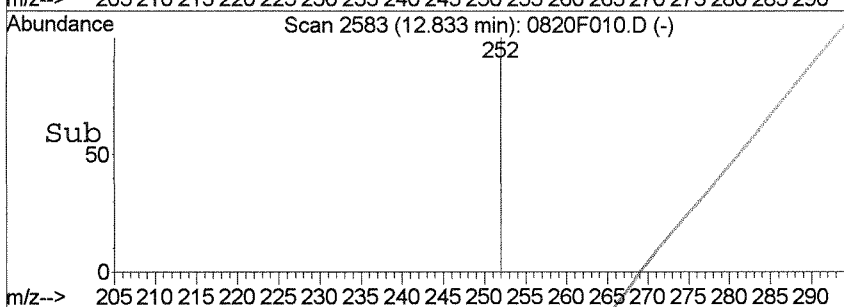
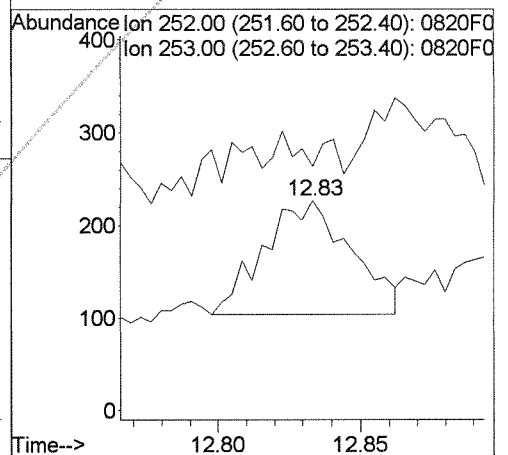
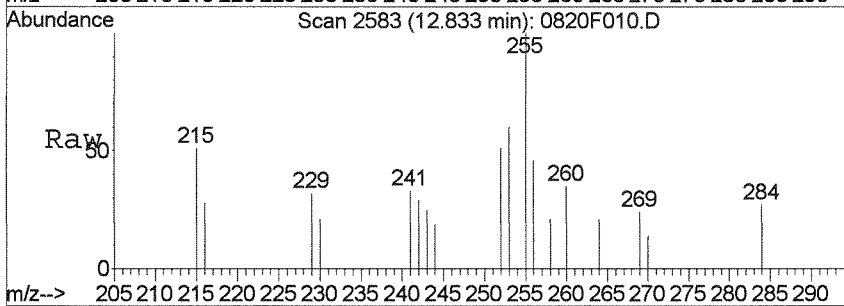
Tgt Ion	Ratio	Lower	Upper
228	100		
226	18.0	0.0	56.4





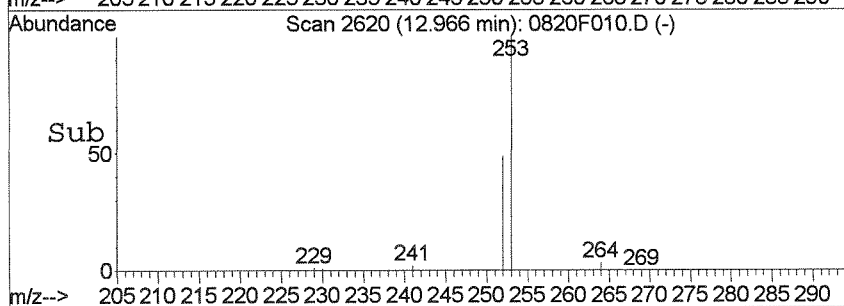
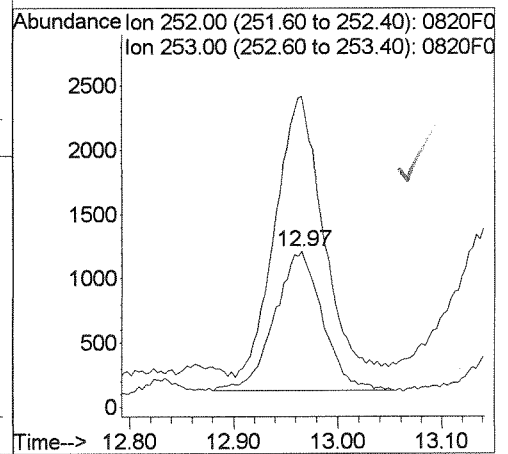
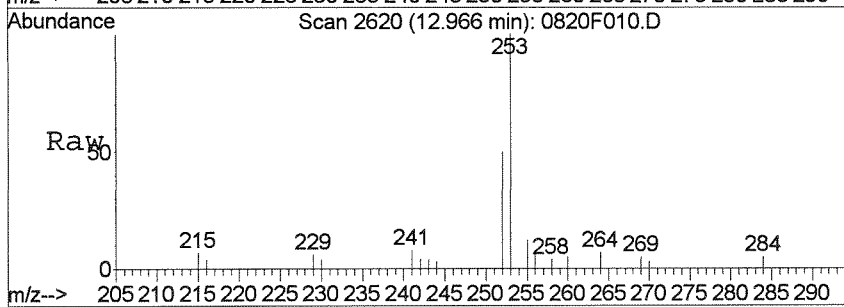
#30  
 Benzo (e) pyrene  
 Concen: 0.28 ng/ml  
 RT: 12.83 min Scan# 2583  
 Delta R.T. -0.01 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	0.0	0.0	51.4



#31  
 Benzo (a) pyrene  
 Concen: 3.74 ng/ml  
 RT: 12.97 min Scan# 2620  
 Delta R.T. -0.02 min  
 Lab File: 0820F010.D  
 Acq: 20 Aug 2014 1:42 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	193.8	0.0	52.2#





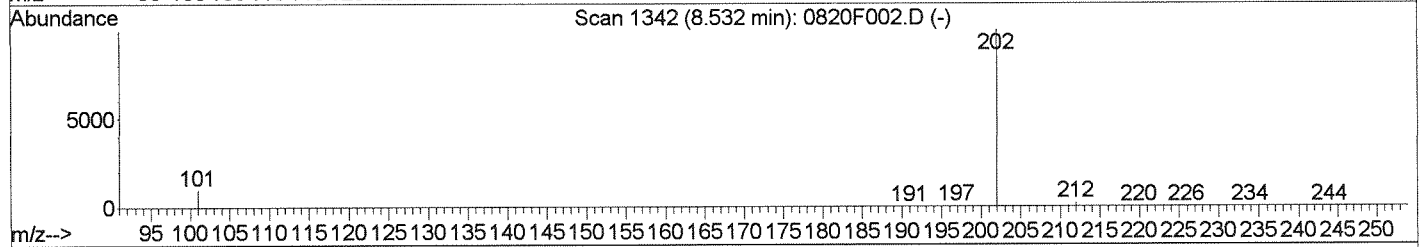
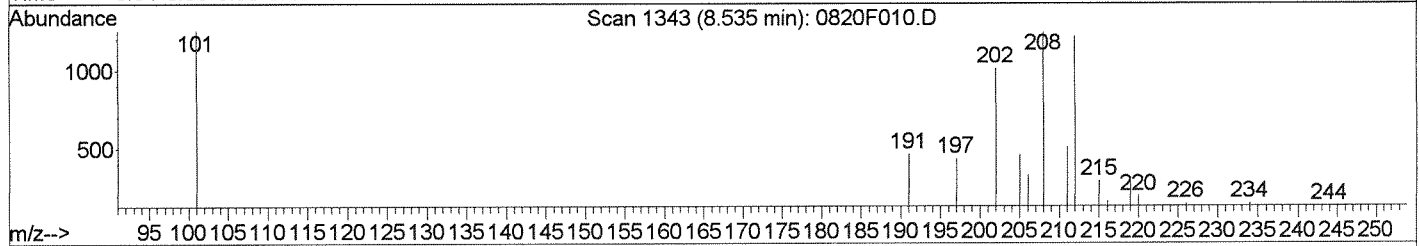
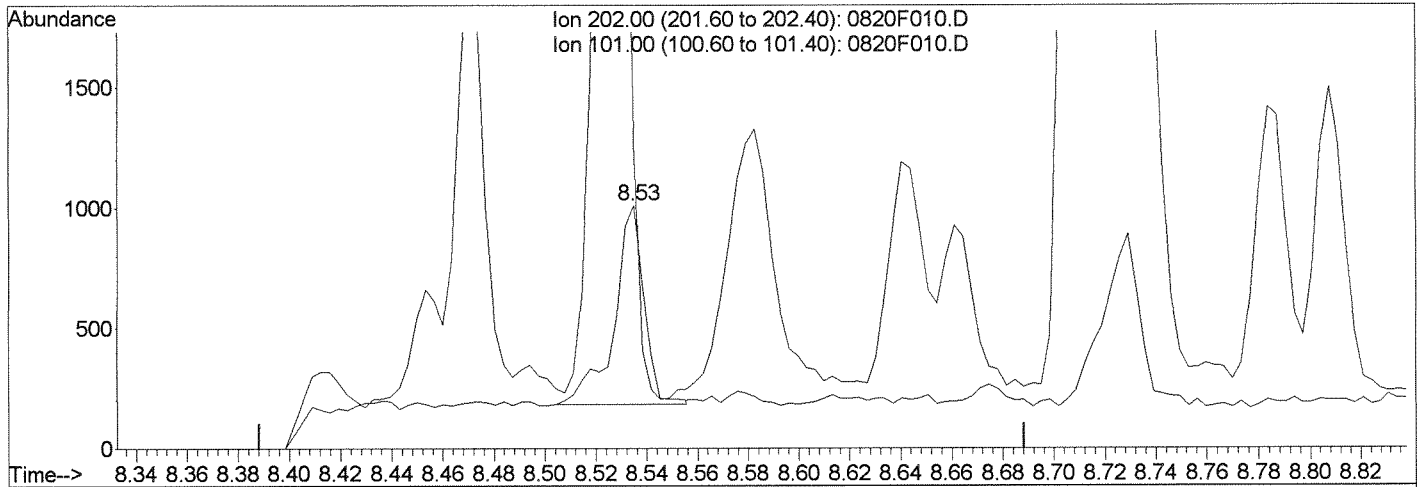
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:01 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F010.D

(20) Fluoranthene (T)

8.53min 0.74ng/ml

response 676

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	122.10#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CA

LB

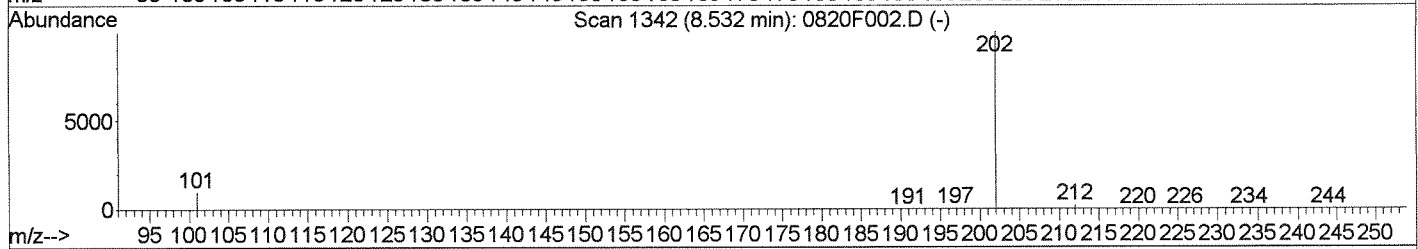
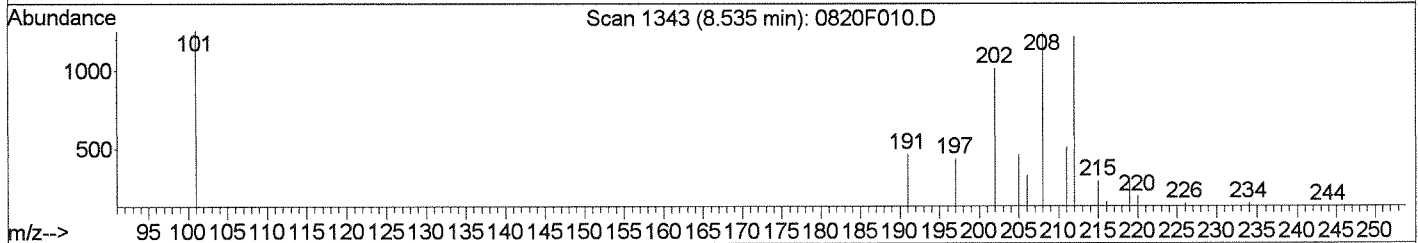
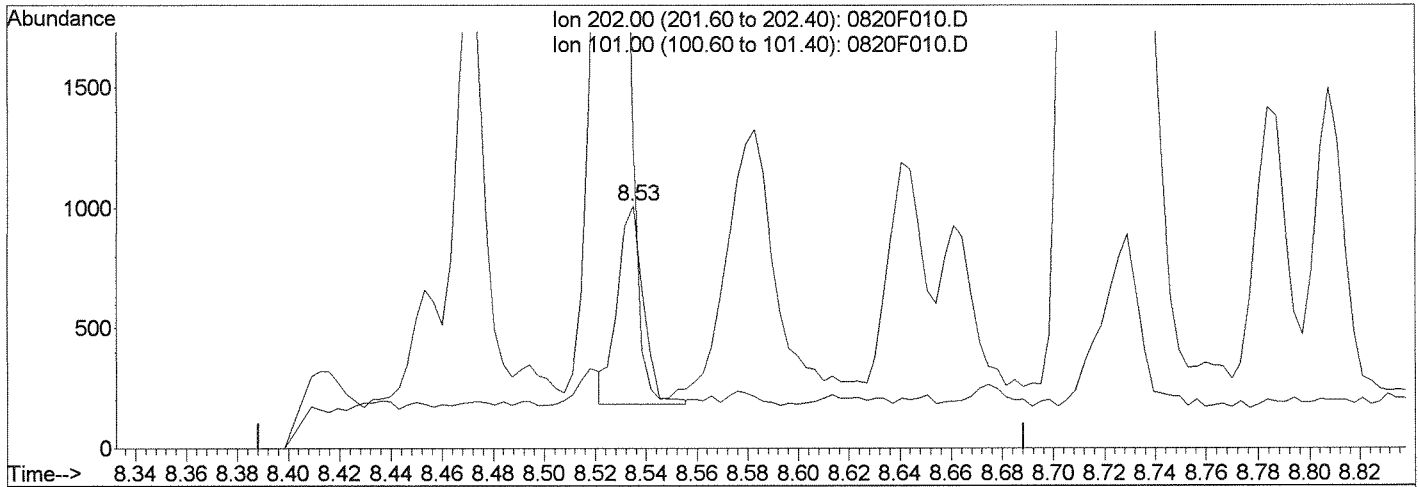
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:01 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F010.D

(20) Fluoranthene (T)		
8.53min	0.64ng/ml m	
response	584	
Ion	Exp%	Act%
202.00	100	100
101.00	7.00	124.31#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*Handwritten notes:*  
 CA - i  
 KB  
 8/21/14  
 KB

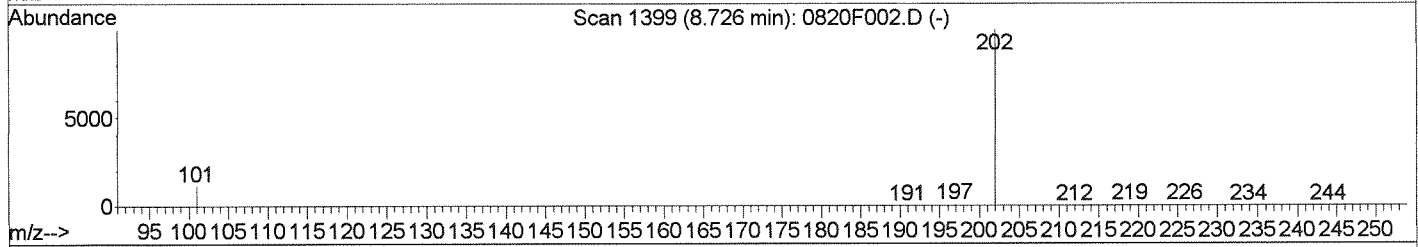
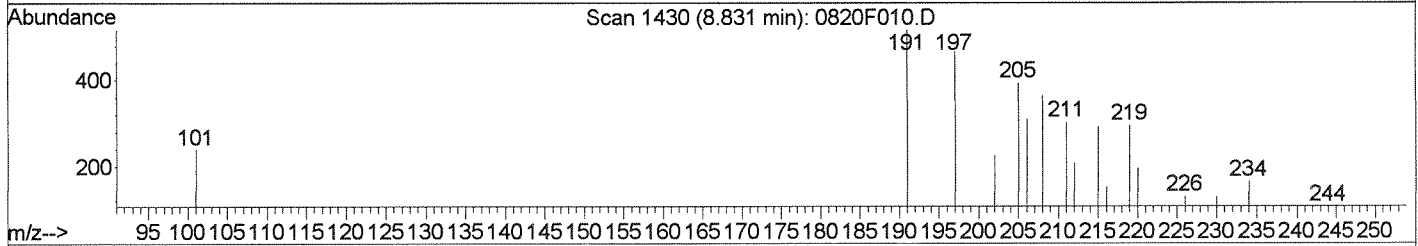
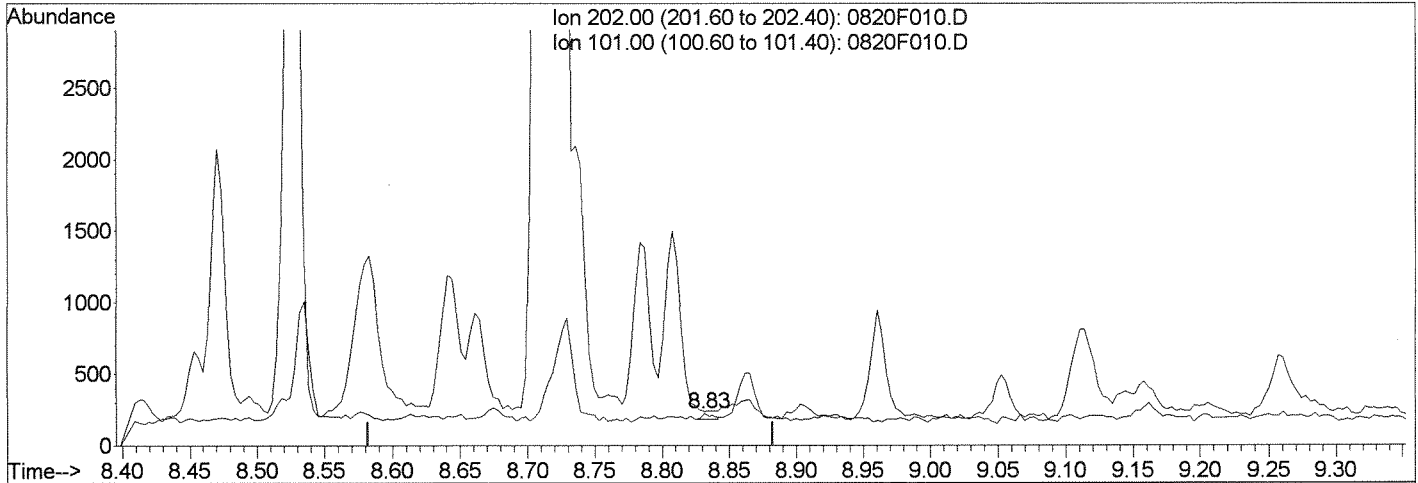
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:01 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F010.D

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

(23) Pyrene (T)  
 8.83min 0.02ng/ml  
 response 24  
 Manual Integration:  
 Before  
 08/21/14

*WA*  
*LB*

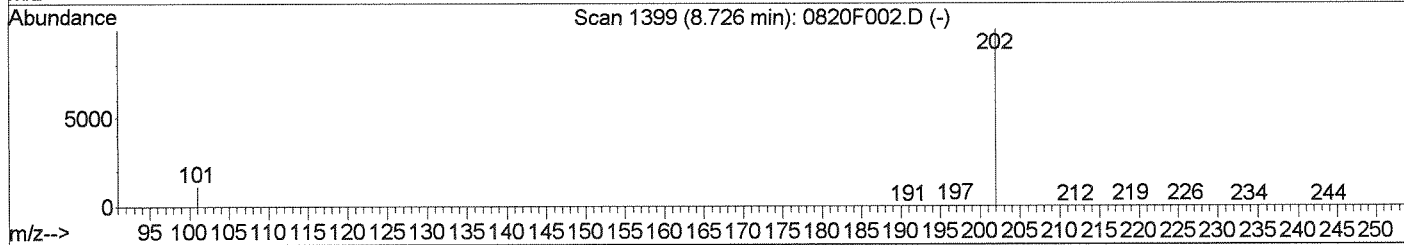
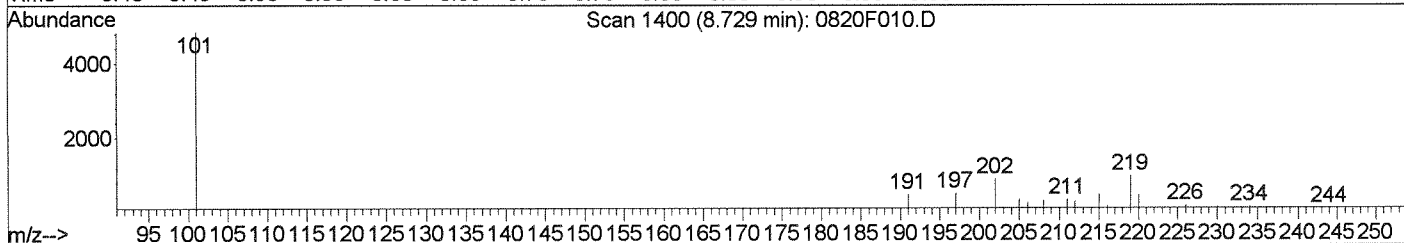
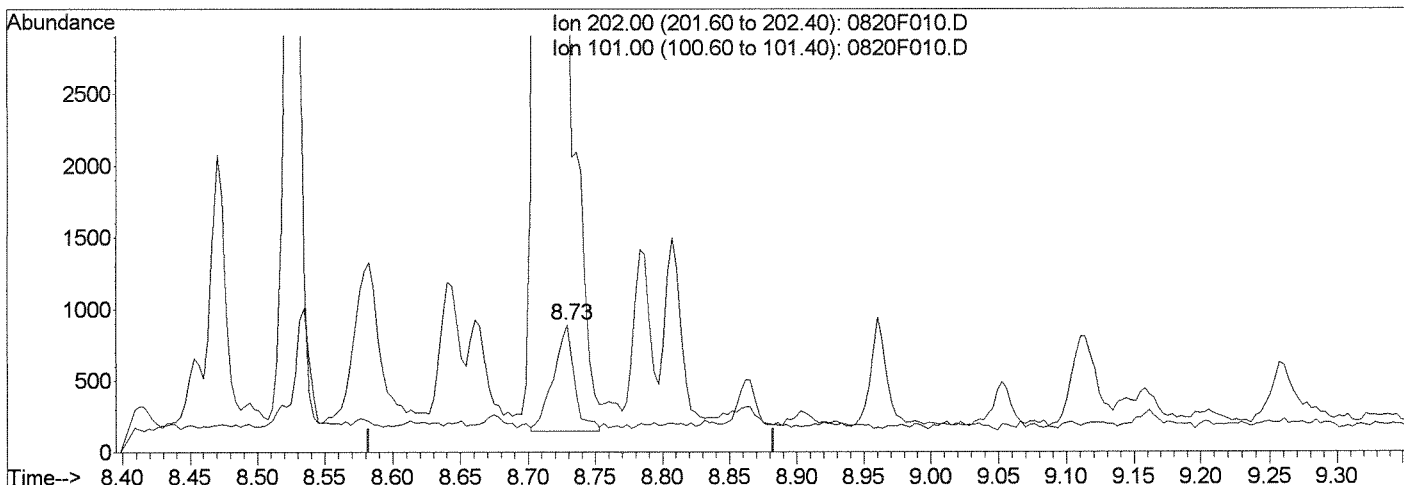
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F010.D  
 Acq On : 20 Aug 2014 1:42 pm  
 Sample : K1407971-001  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:01 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F010.D

(23) Pyrene (T)

8.73min 0.78ng/ml m

response 820

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	543.23#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten notes:*  
 WA - i LB  
 8/21/14  
 LB

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F011.D  
**Lab ID:** K1407971-002  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 14:07  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CA AUG 21 2014  
 Secondary Review: LB AUG 21 2014

## Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F011.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 14:07	<b>Quant Date:</b> 08/21/2014 09:36
<b>Run Type:</b> SMPL	<b>Vial:</b> 11
<b>Lab ID:</b> K1407971-002	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 06/27/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365427	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	139944	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	75503	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	145040	200.00	OK
4	Chrysene-d12	10.06	0.00	240	156692	200.00	OK
5	Perylene-d12	13.16	0.01	264	163753	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	71332	160.15	80	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	129241	158.24	79	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	109481	155.33	78	39-111	OK

### Target Compounds

							Final Conc. Units:		ug/Kg Dry Weight	
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	808	1.09	9.4	U	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	319	0.6200	7.5	U	
1	1-Methylnaphthalene	5.46		0.00	142	378	0.8300	6.9	U	
2	Acenaphthylene	6.16		0.00	152	178	0.2300	2.9	U	
2	Acenaphthene	6.31		0.00	154	1134	2.58	16	J	
2	Fluorene	6.75		0.00	166	677	1.23	7.6	J	
3	Phenanthrene	7.55		0.00	178	1253	1.57	9.8	J	
3	Anthracene				178	0d		2.4	U	
3	Fluoranthene	8.54	0.01	0.00	202	647m	0.6900	4.3	J	
4	Pyrene	8.73		0.00	202	779m	0.7200	4.5	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	469	0.4900	3.0	J	
4	Chrysene	10.07	-0.03	0.00	228	511m	0.6000	3.7	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 C: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F011.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 14:07	<b>Quant Date:</b>	08/21/2014 09:36
<b>Run Type:</b>	SMPL	<b>Vial:</b>	11
<b>Lab ID:</b>	K1407971-002	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.2	U	
5	Benzo(k)fluoranthene				252	0d		3.6	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2916	3.02	19	Ui	
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	170	0.1600	6.0	U	
5	Dibenz(a,h)anthracene				278	0d		5.4	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	387m	0.3300	6.0	U	

Prep Amount: 10.113 g                      Dilution: 1.0  
 Prep Final Vol: 10 ml                      Unit Factor: 1  
 Solids: 15.9 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:20 2014

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	139944	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	75503	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	145040	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	156692	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	163753	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	71332	160.15	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.02%	
21) Fluoranthene-d10	8.52	212	129241	158.24	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.82%	
24) Terphenyl-d14	8.87	244	109481	155.33	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.53%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	808	1.09	ng/ml	97
3) 2-Methylnaphthalene	5.36	142	319	0.62	ng/ml	83
4) 1-Methylnaphthalene	5.46	142	378	0.83	ng/ml	87
5) Biphenyl	5.79	154	273	0.45	ng/ml	66
6) 2,6-Dimethylnaphthalene	5.93	156	112	0.24	ng/ml	91
8) Acenaphthylene	6.16	152	178	0.23	ng/ml	51
9) Acenaphthene	6.31	154	1134	2.58	ng/ml	86
10) Dibenzofuran	6.46	168	666	0.96	ng/ml	94
13) Fluorene	6.75	166	677	1.23	ng/ml	93
15) Dibenzothiophene	7.45	184	212m	0.28	ng/ml	
16) Phenanthrene	7.55	178	1253	1.57	ng/ml	99
18) Carbazole	7.72	167	350m	0.50	ng/ml	
20) Fluoranthene	8.54	202	647m	0.69	ng/ml	
23) Pyrene	8.73	202	779m	0.72	ng/ml	
25) Benz(a)anthracene	10.06	228	469	0.49	ng/ml	63
26) Chrysene	10.07	228	511m	0.60	ng/ml	
30) Benzo(e)pyrene	12.83	252	357	0.37	ng/ml	85
31) Benzo(a)pyrene	12.96	252	2916	3.02	ng/ml#	1
33) Indeno(1,2,3-cd)pyrene	15.39	276	170	0.16	ng/ml	51
35) Benzo(g,h,i)perylene	15.78	276	387m	0.33	ng/ml	

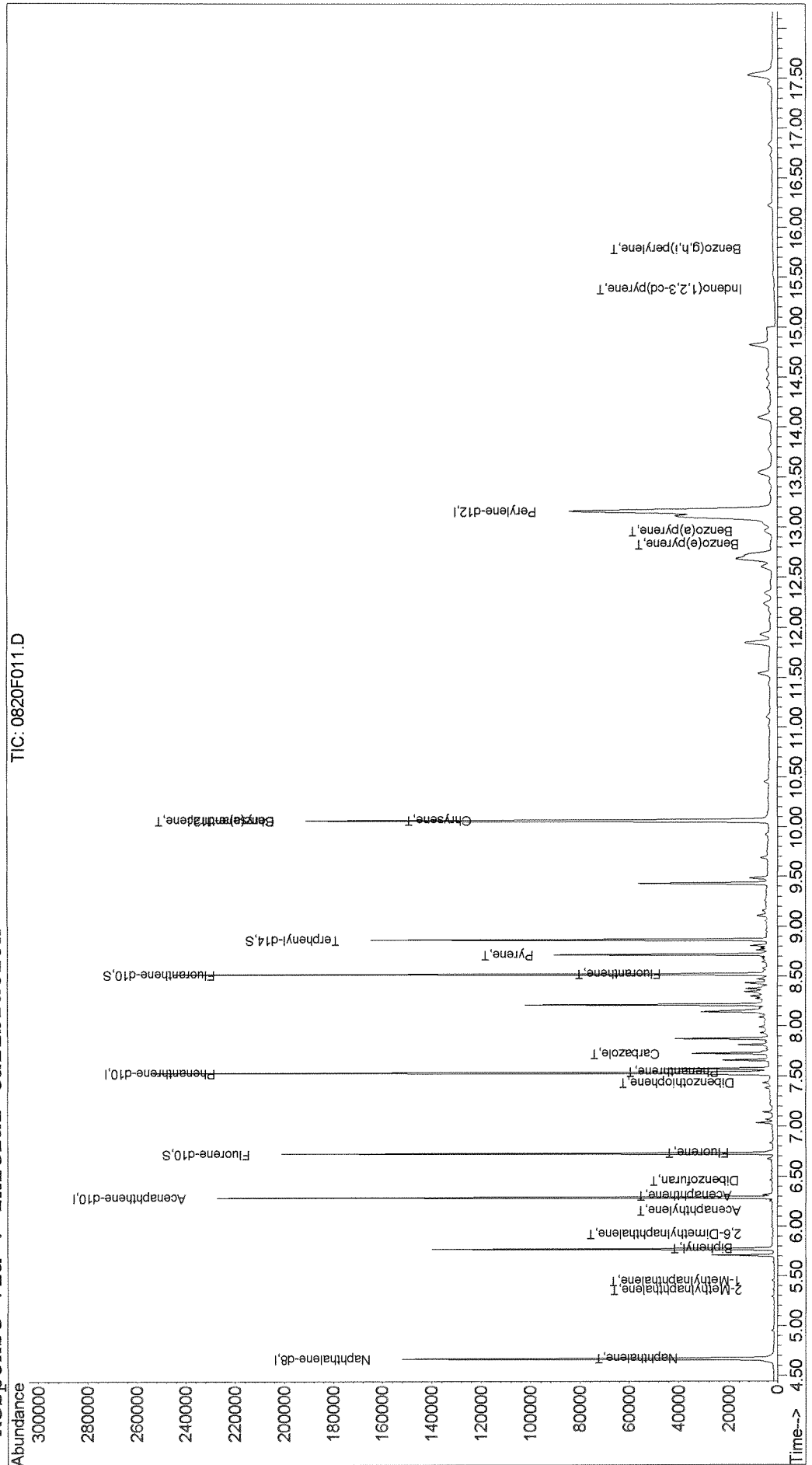
(#) = qualifier out of range (m) = manual integration

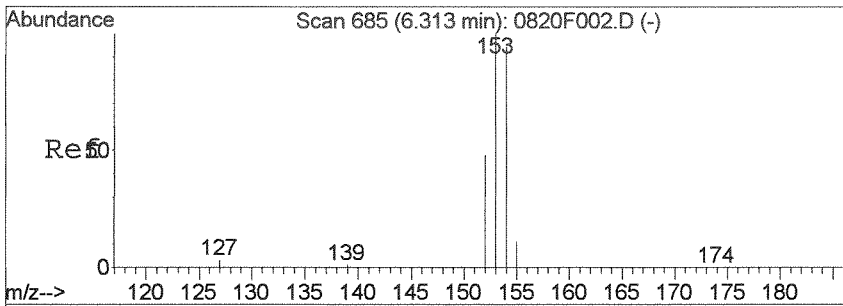


Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 11  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

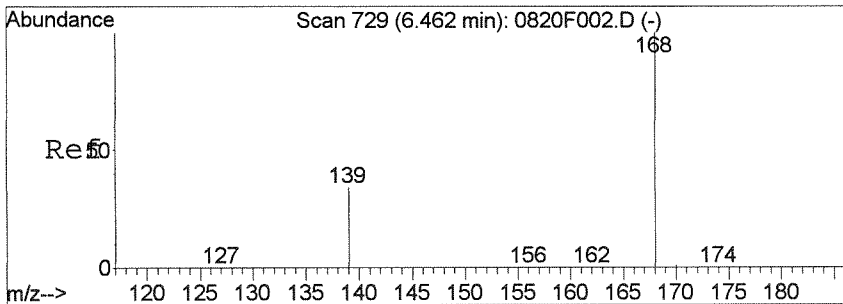
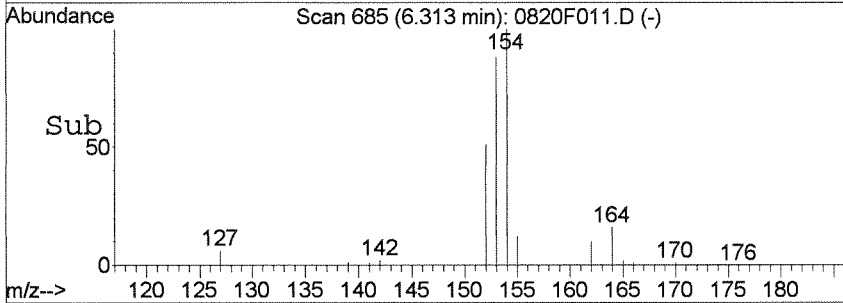
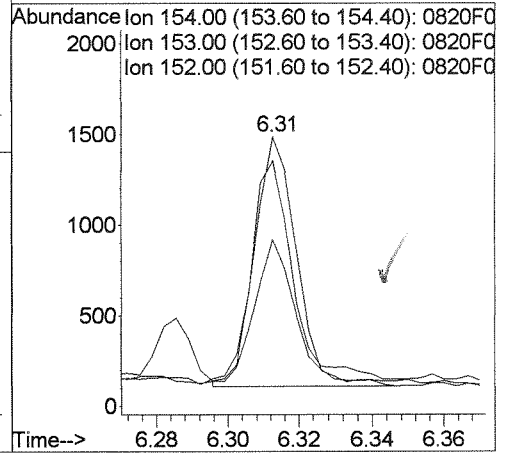
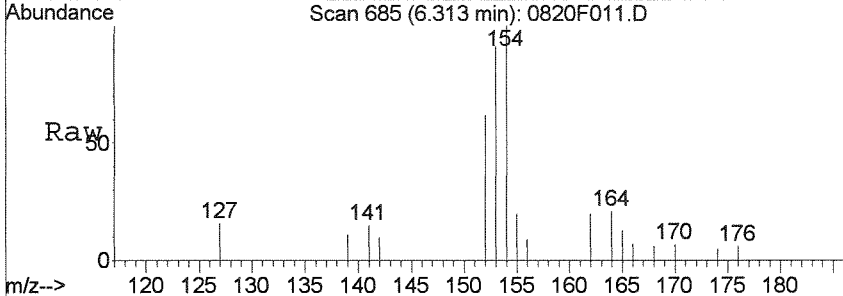
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





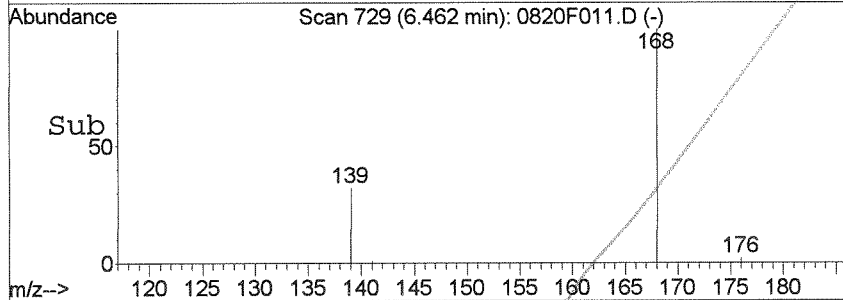
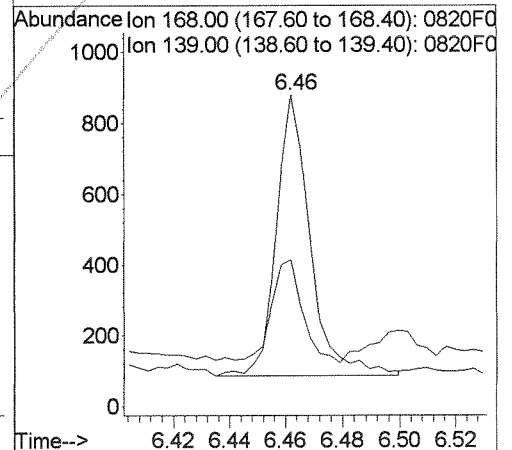
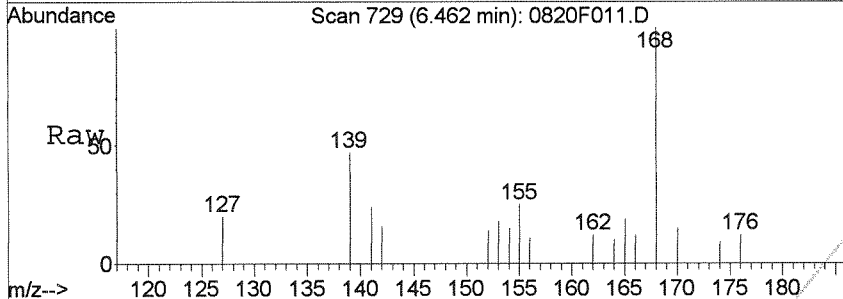
#9  
 Acenaphthene  
 Concen: 2.58 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

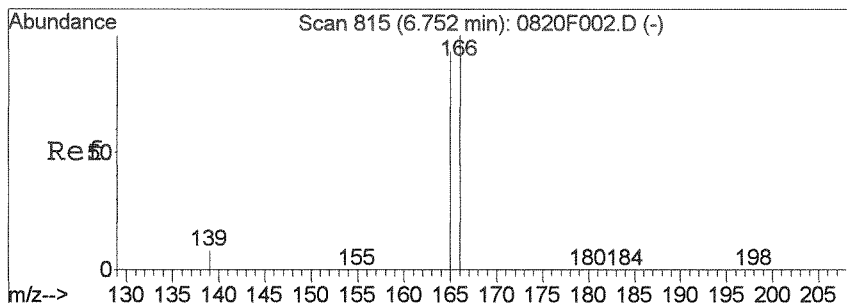
Tgt Ion	Resp	Lower	Upper
154	1134		
154	100		
153	87.7	72.5	132.5
152	56.9	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.96 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

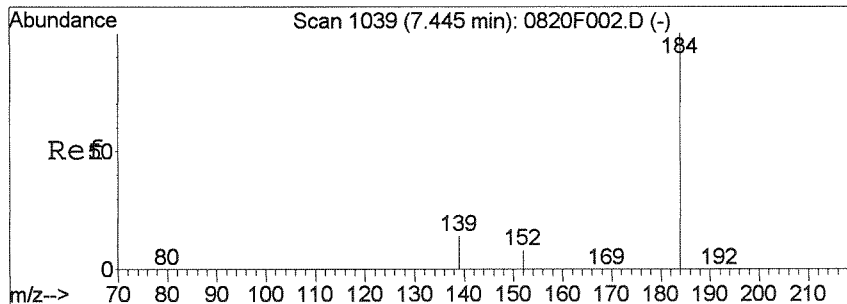
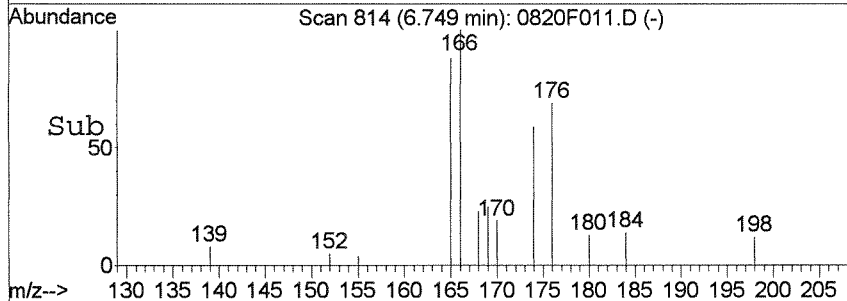
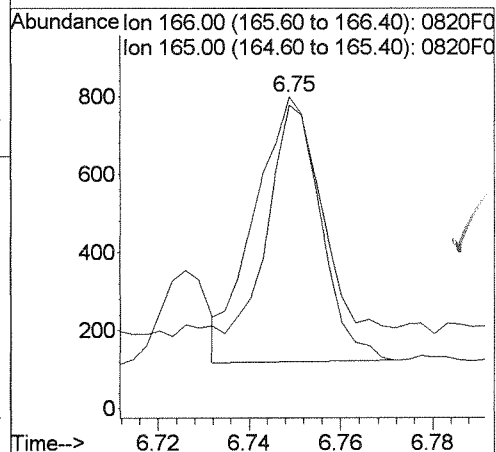
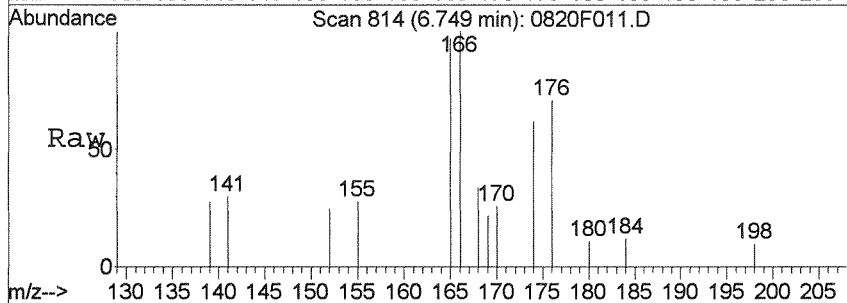
Tgt Ion	Resp	Lower	Upper
168	666		
168	100		
139	35.9	2.7	62.7





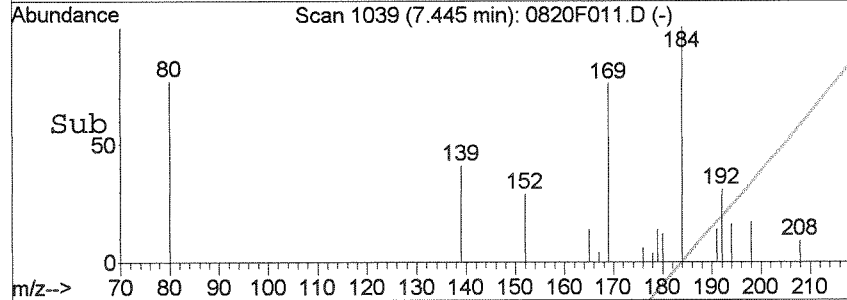
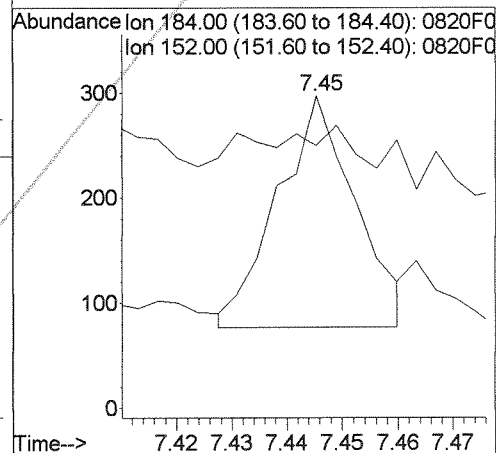
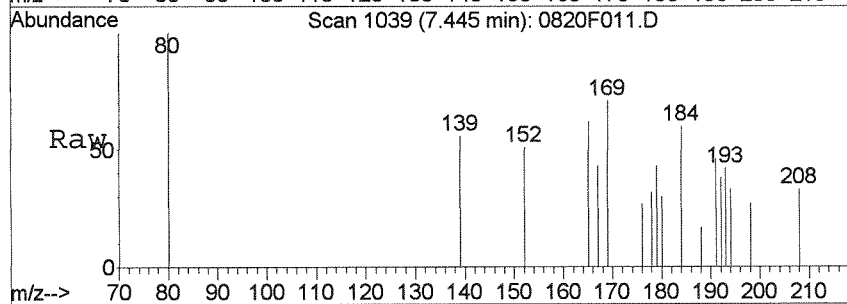
#13  
 Fluorene  
 Concen: 1.23 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

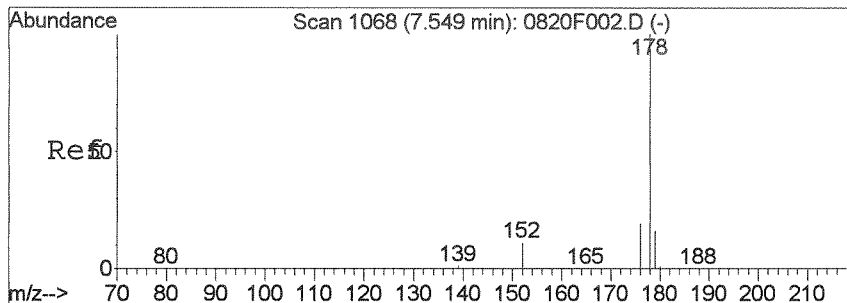
Tgt Ion	Resp	Lower	Upper
166	100		
165	84.6	60.9	120.9



#15  
 Dibenzothiophene  
 Concen: 0.28 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

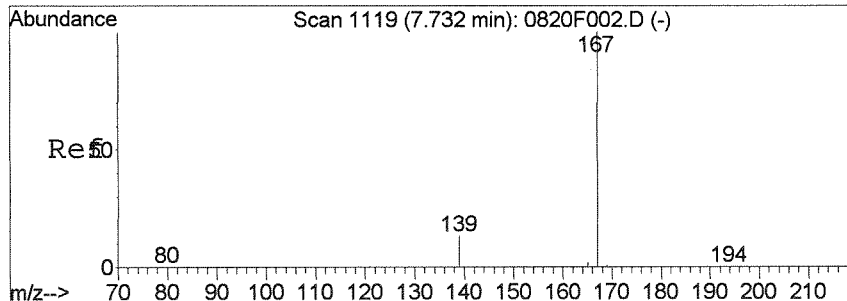
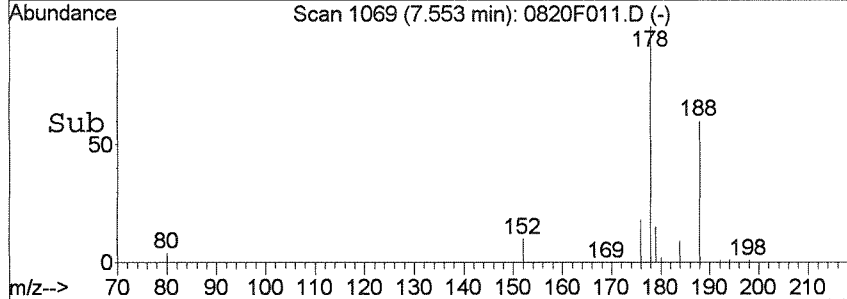
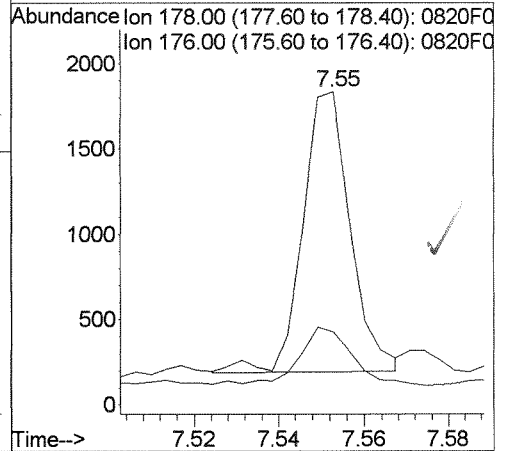
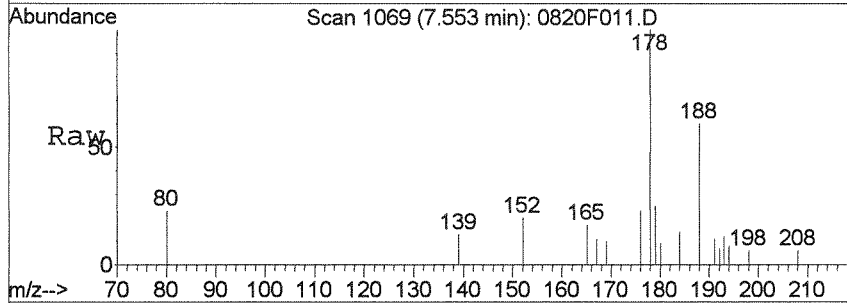
Tgt Ion	Resp	Lower	Upper
184	100		
152	84.2	0.0	39.9#





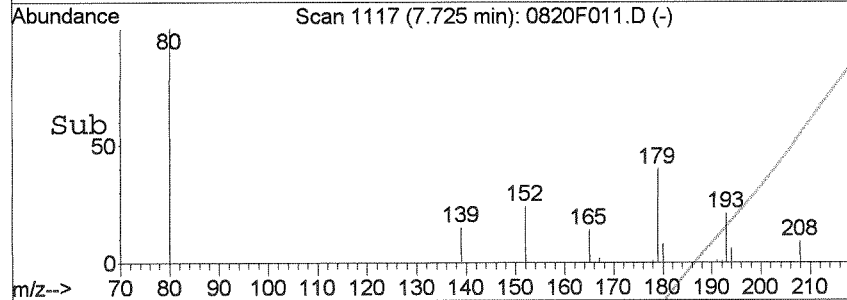
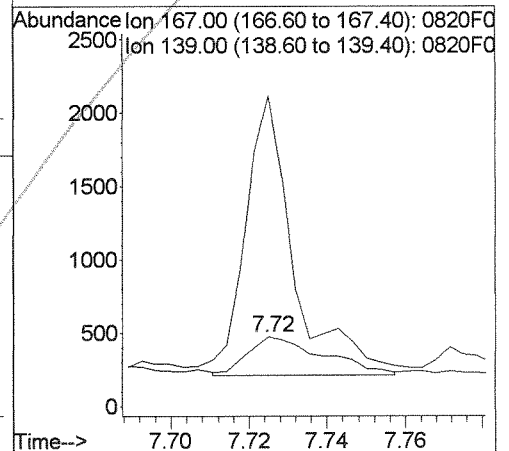
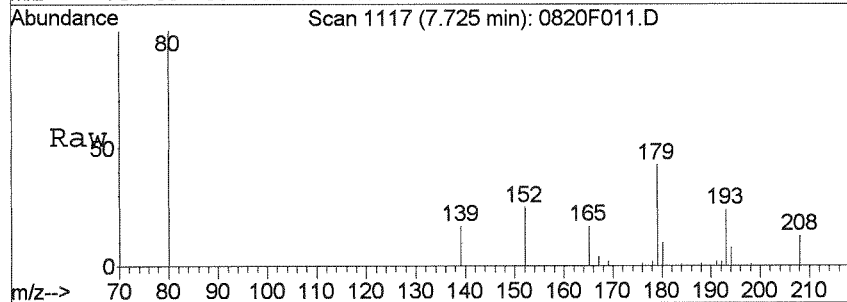
#16  
 Phenanthrene  
 Concen: 1.57 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

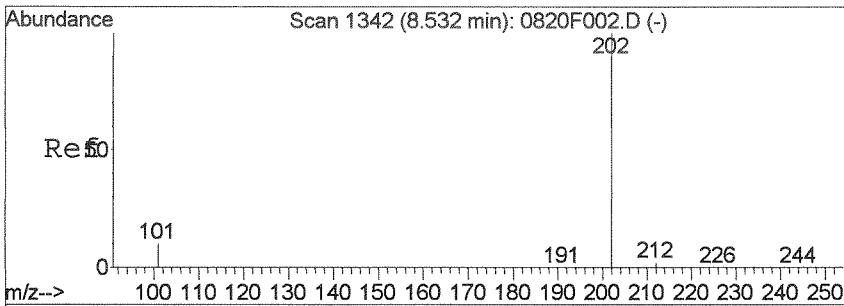
Tgt Ion:178 Resp: 1253  
 Ion Ratio Lower Upper  
 178 100  
 176 18.6 0.0 48.9



#18  
 Carbazole  
 Concen: 0.50 ng/ml m  
 RT: 7.72 min Scan# 1117  
 Delta R.T. -0.01 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

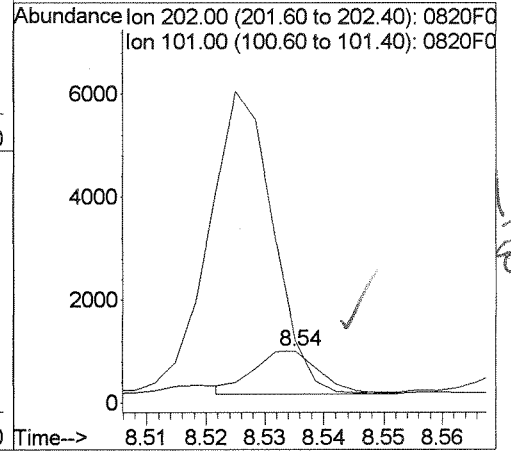
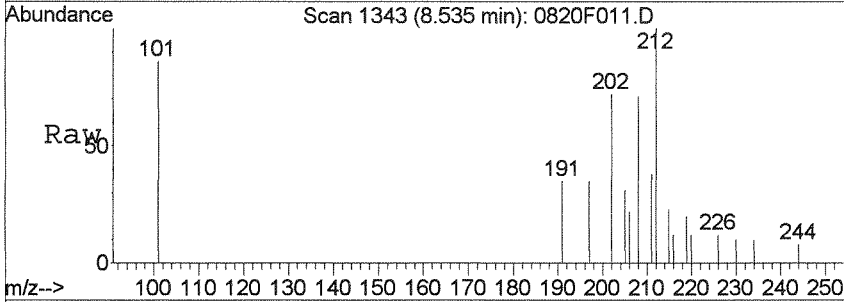
Tgt Ion:167 Resp: 350  
 Ion Ratio Lower Upper  
 167 100  
 139 445.2 0.0 43.1#



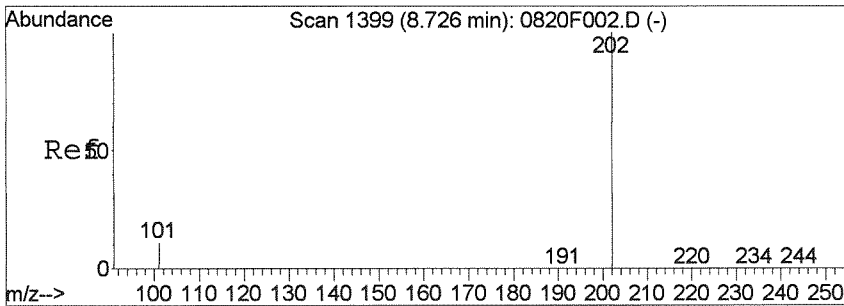
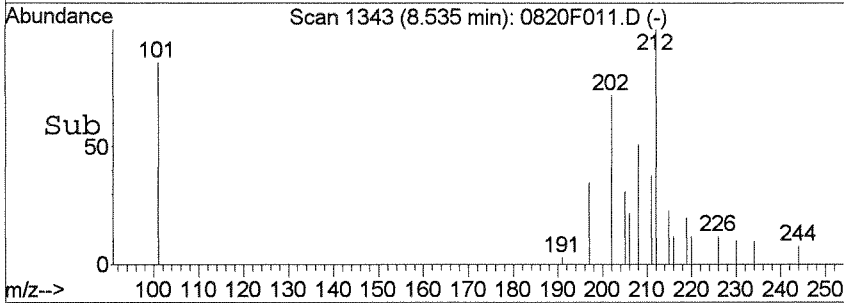


#20  
 Fluoranthene  
 Concen: 0.69 ng/ml m  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

Tgt Ion	Resp	Lower	Upper
202	100		
101	119.7	0.0	37.0#



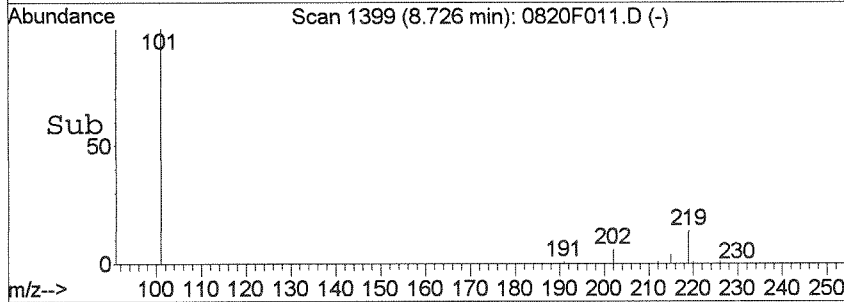
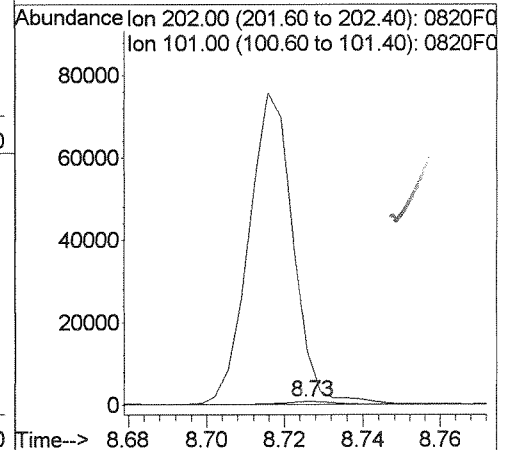
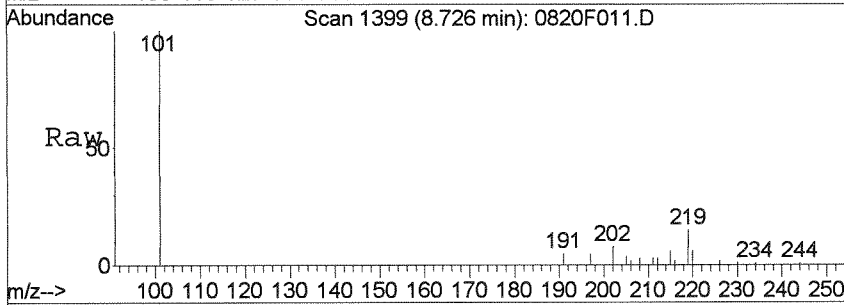
*LB*  
*8/21/14*

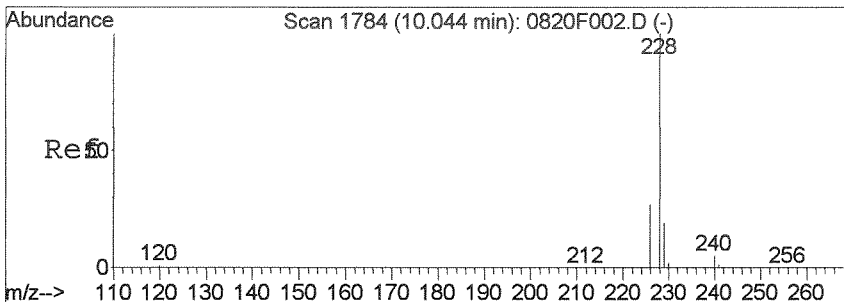


#23  
 Pyrene  
 Concen: 0.72 ng/ml m  
 RT: 8.73 min Scan# 1399  
 Delta R.T. -0.01 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

Tgt Ion	Resp	Lower	Upper
202	100		
101	1331.5	0.0	38.3#

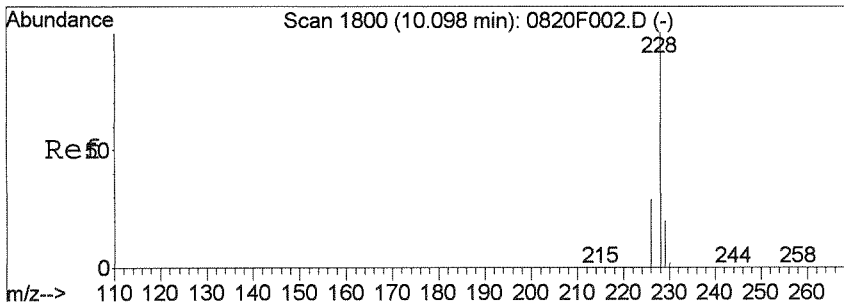
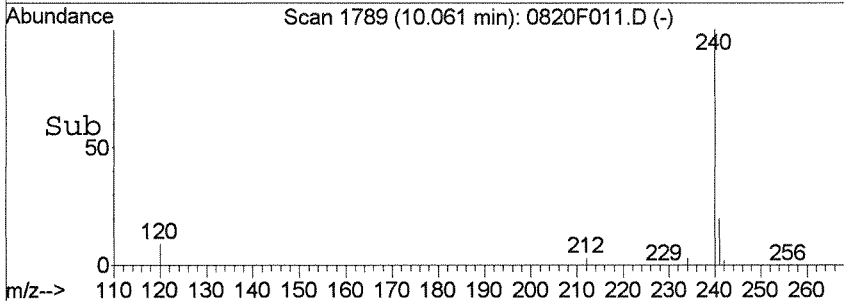
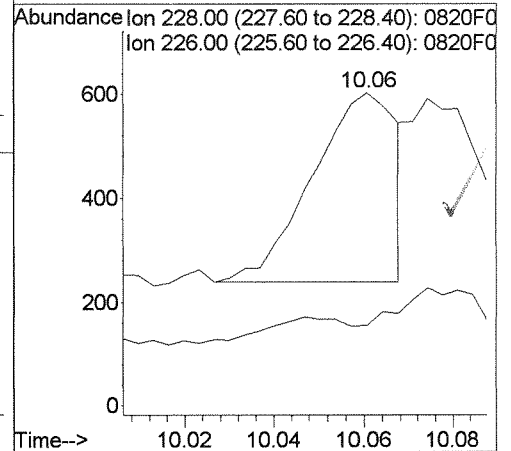
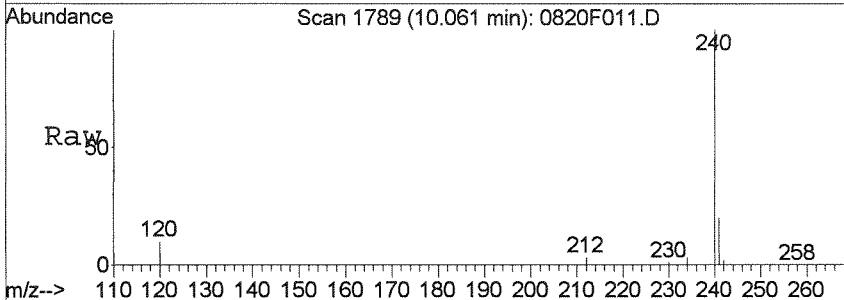
*LB*  
*8/21/14*





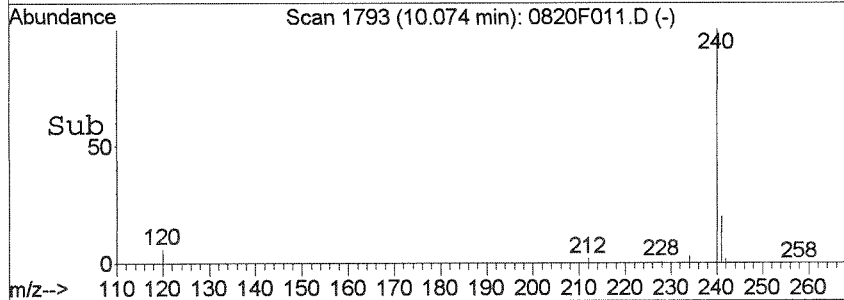
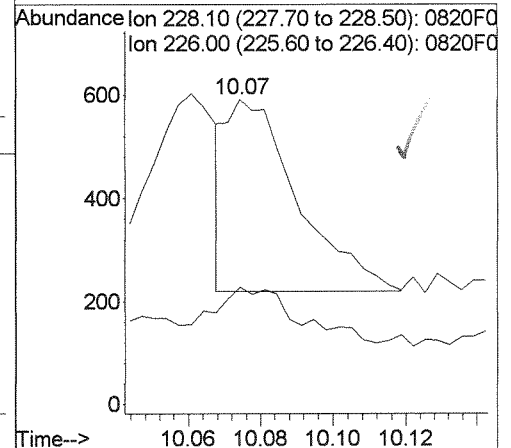
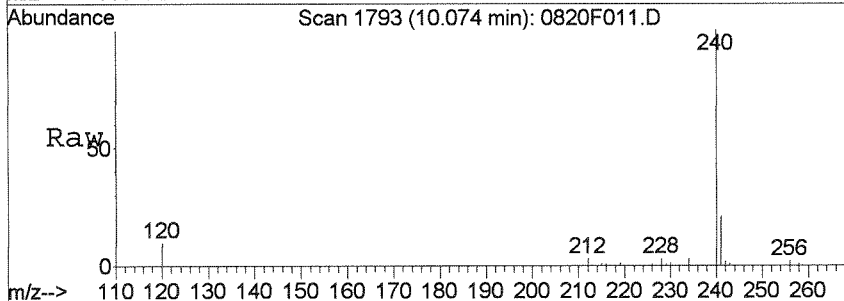
#25  
 Benz (a) anthracene  
 Concen: 0.49 ng/ml  
 RT: 10.06 min Scan# 1789  
 Delta R.T. 0.01 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

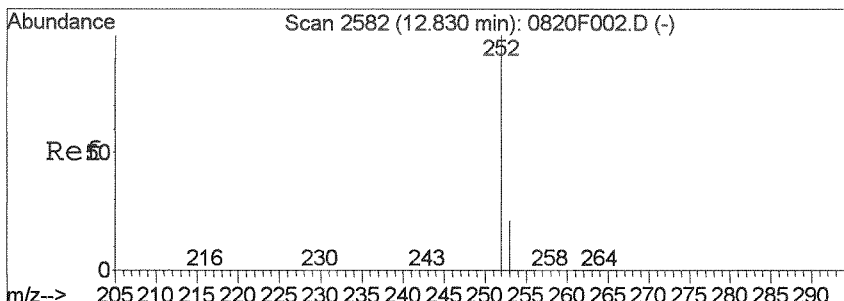
Tgt Ion	Resp	Lower	Upper
228	100	0.0	56.4
226	7.4	0.0	56.4



#26  
 Chrysene  
 Concen: 0.60 ng/ml m  
 RT: 10.07 min Scan# 1793  
 Delta R.T. -0.03 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

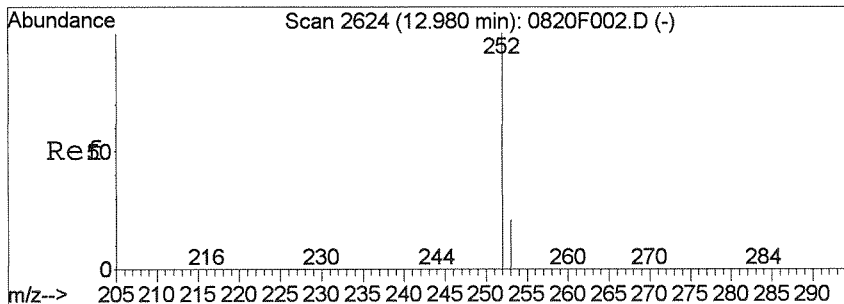
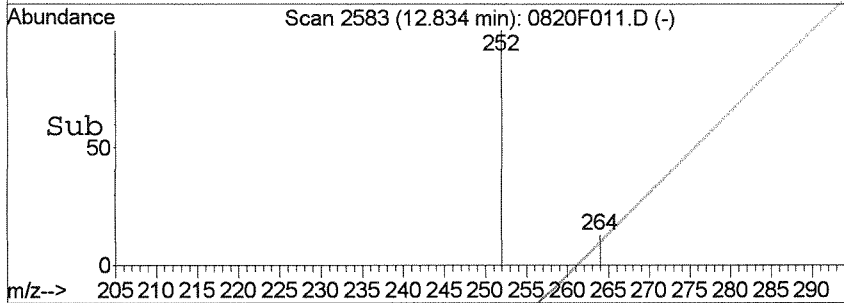
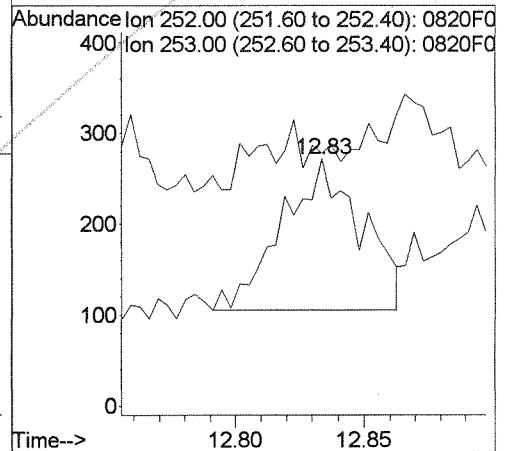
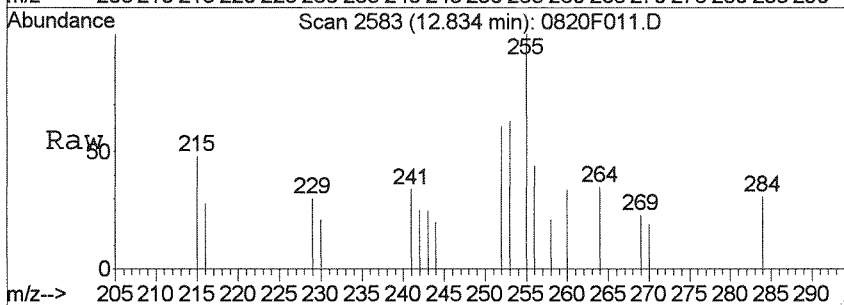
Tgt Ion	Resp	Lower	Upper
228	100	0.0	58.6
226	38.5	0.0	58.6





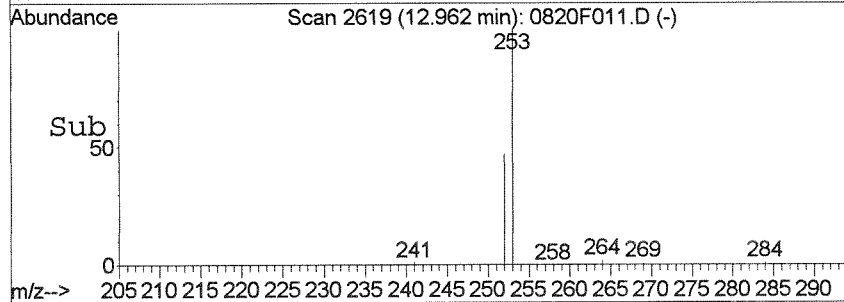
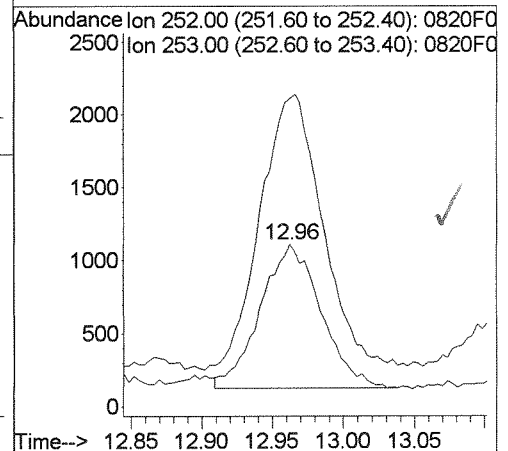
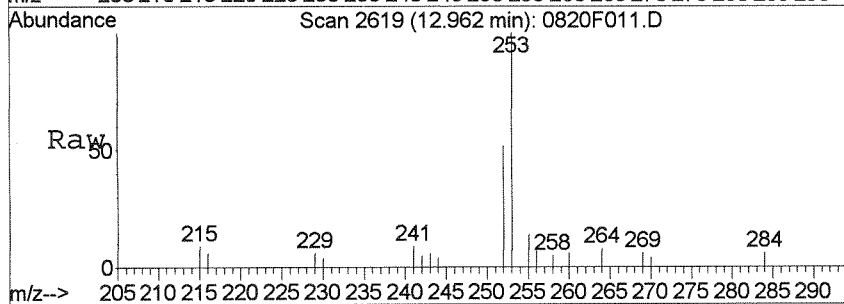
#30  
 Benzo (e) pyrene  
 Concen: 0.37 ng/ml  
 RT: 12.83 min Scan# 2583  
 Delta R.T. -0.01 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	14.4	0.0	51.4



#31  
 Benzo (a) pyrene  
 Concen: 3.02 ng/ml  
 RT: 12.96 min Scan# 2619  
 Delta R.T. -0.03 min  
 Lab File: 0820F011.D  
 Acq: 20 Aug 2014 2:07 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	187.0	0.0	52.2#

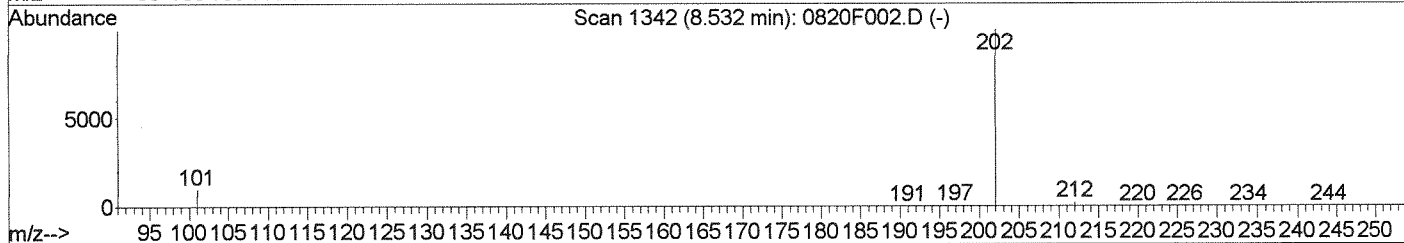
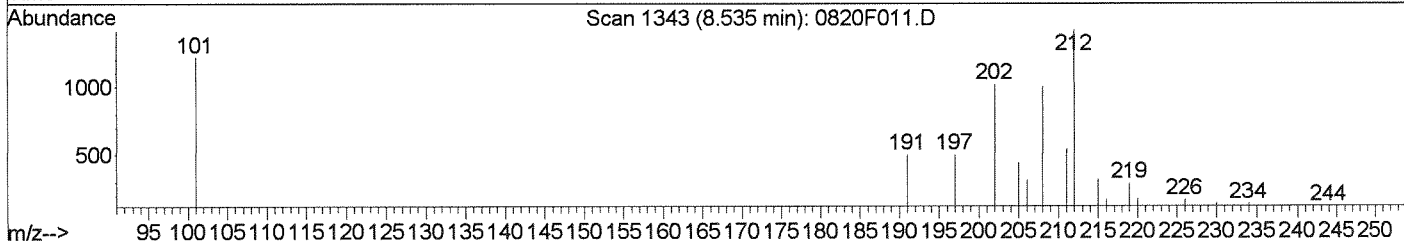
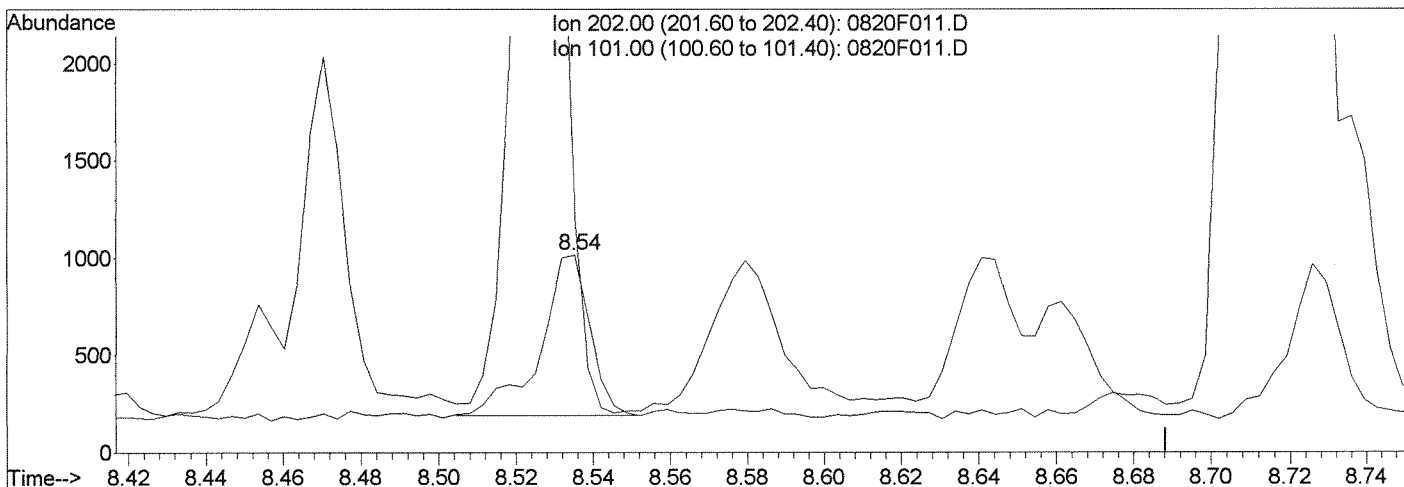


Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00  
 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(20) Fluoranthene (T)	Manual Integration:	
8.54min 0.79ng/ml	Before	
response 741	08/21/14	
Ion	Exp%	Act%
202.00	100	100
101.00	7.00	121.31#
0.00	0.00	0.00
0.00	0.00	0.00

CA LB



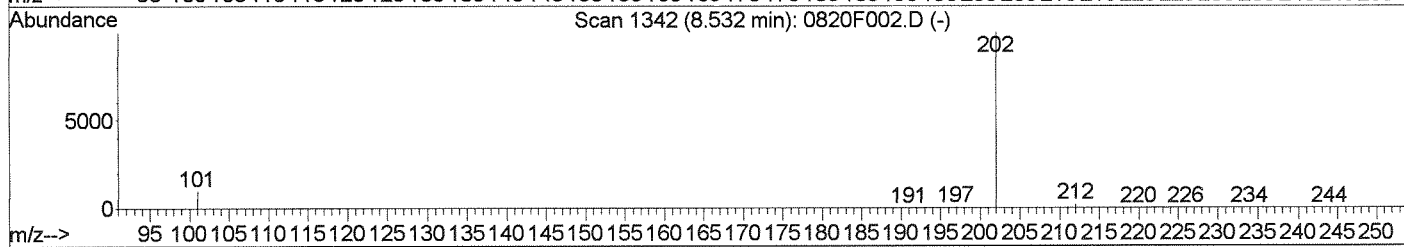
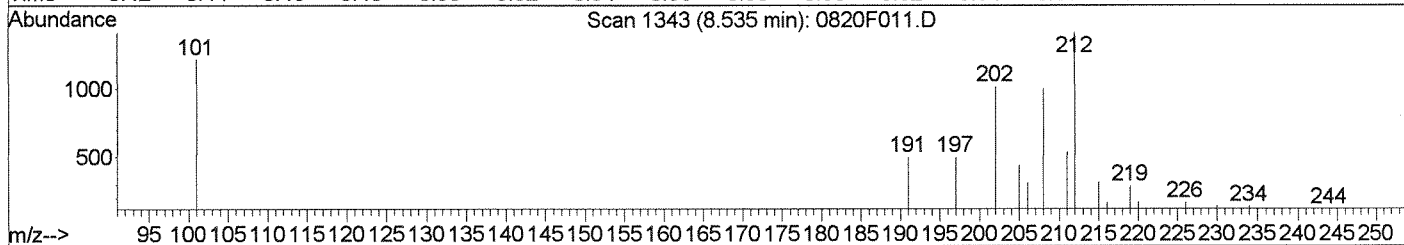
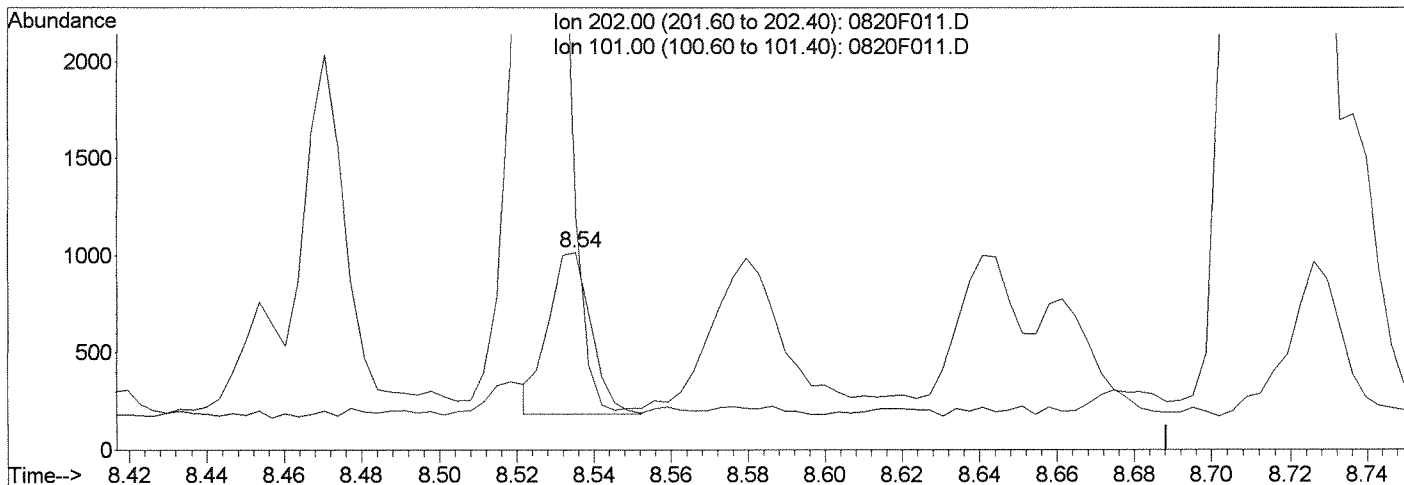
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(20) Fluoranthene (T)		
8.54min	0.69ng/ml m	
response	647	
Ion	Exp%	Act%
202.00	100	100
101.00	7.00	119.69#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 IC-Overintegrated  
 08/21/14

*Handwritten notes:*  
 CA  
 LB  
 8/21/14  
 LB

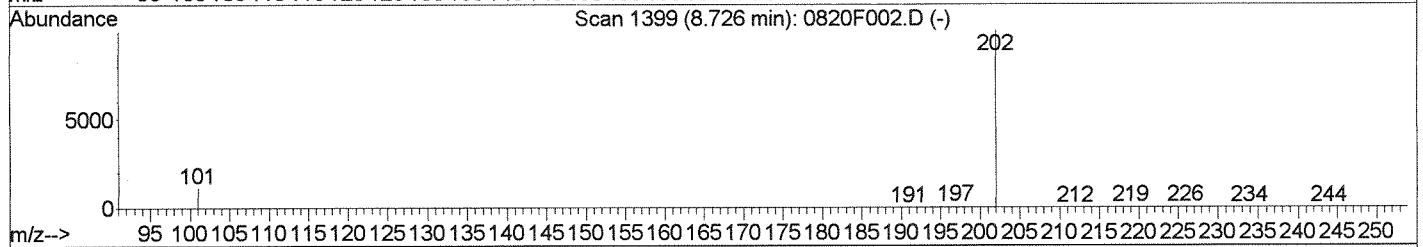
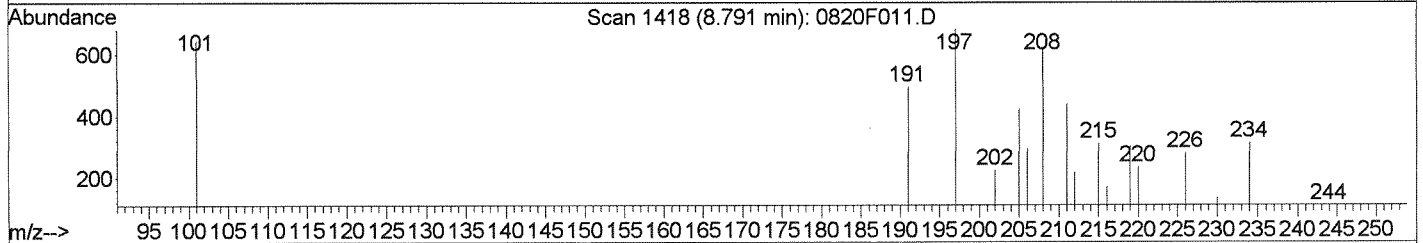
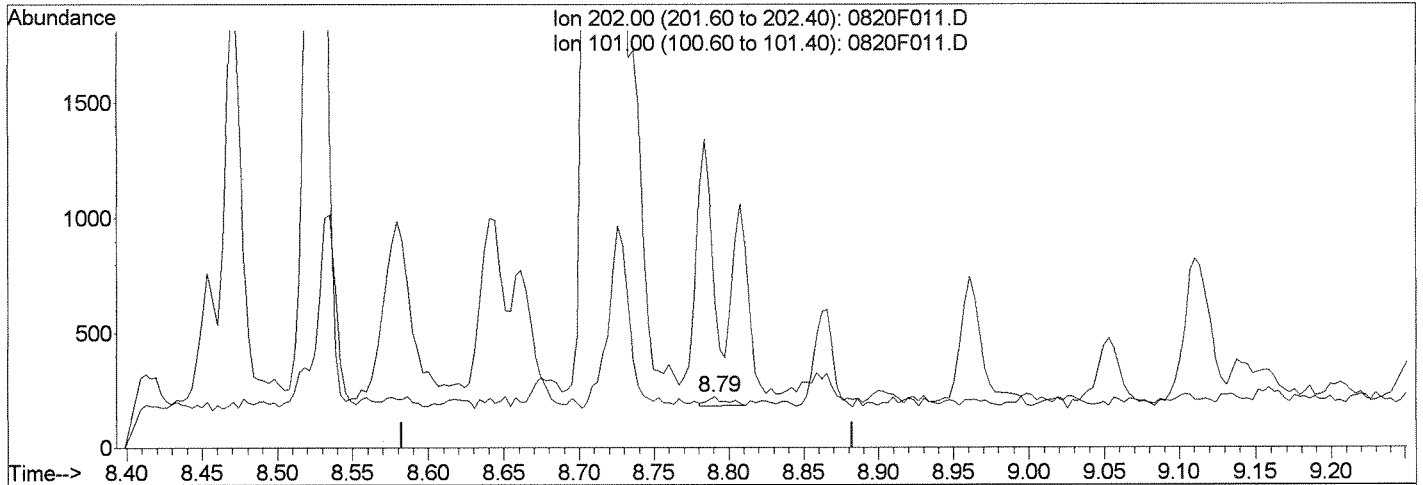
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(23) Pyrene (T)	Manual Integration:	
8.79min 0.03ng/ml	Before	
response 34	08/21/14	
Ion	Exp%	Act%
202.00	100	100
101.00	8.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*CA*  
*LB*

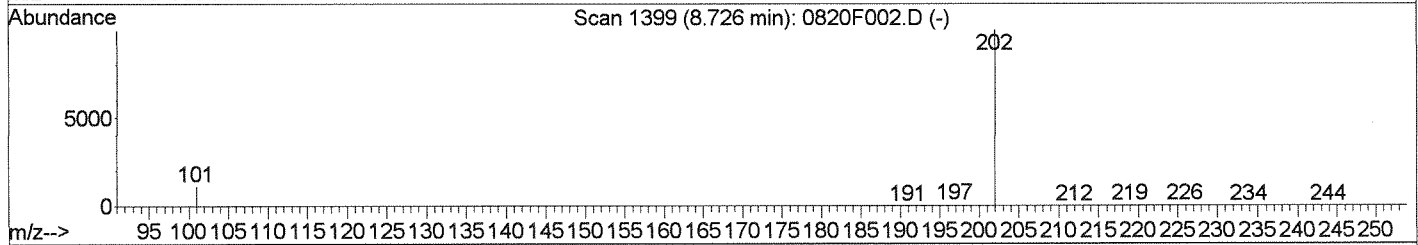
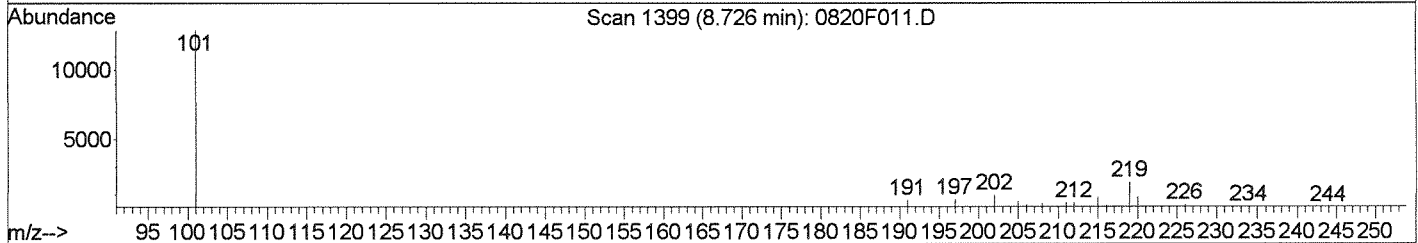
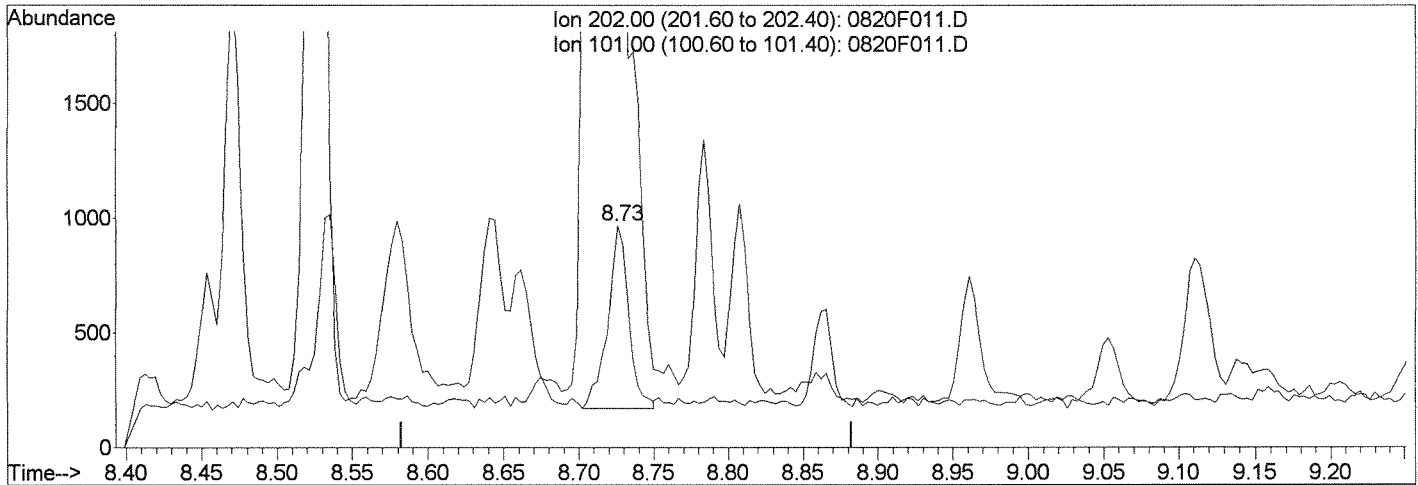
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(23) Pyrene (T)		
8.73min	0.72ng/ml m	
response	779	
Ion	Exp%	Act%
202.00	100	100
101.00	8.30	1331.48#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten signature: CA*

*Handwritten signature: KB*

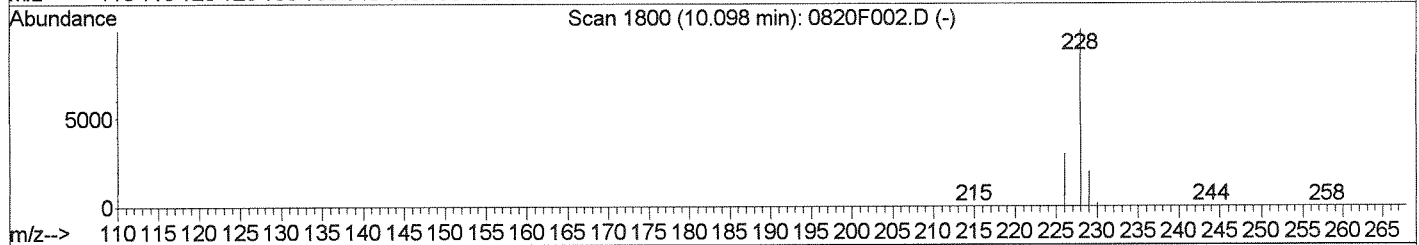
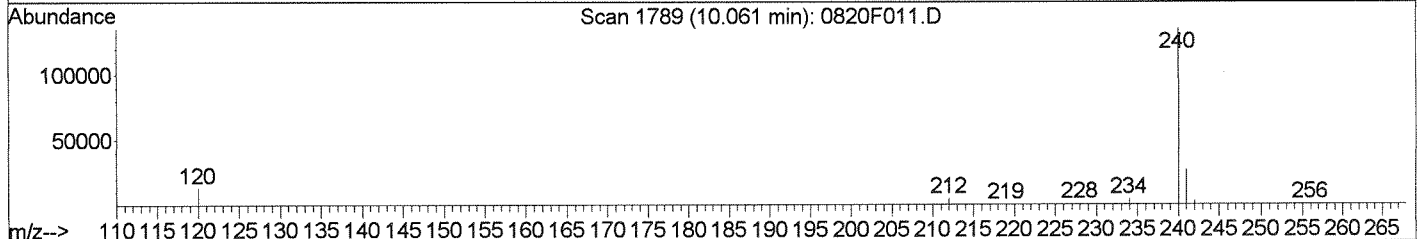
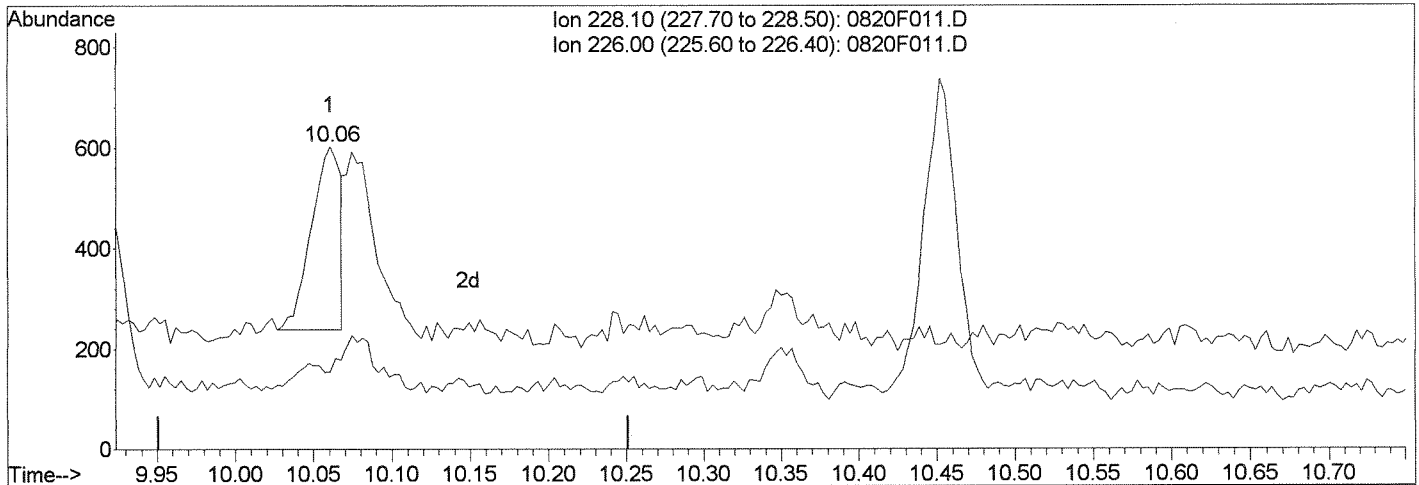
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(26) Chrysene (T)	Manual Integration:
10.06min 0.55ng/ml	Before
response 469	08/21/14
Ion Exp% Act%	
228.10 100 100	
226.00 28.60 7.42	
0.00 0.00 0.00	
0.00 0.00 0.00	

CA

L2B

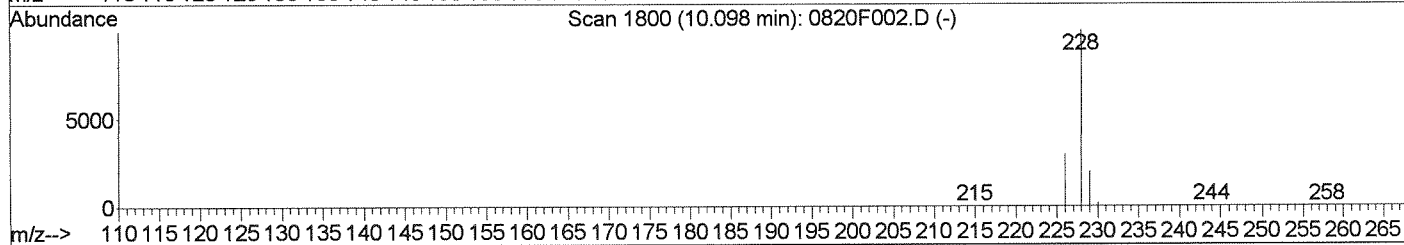
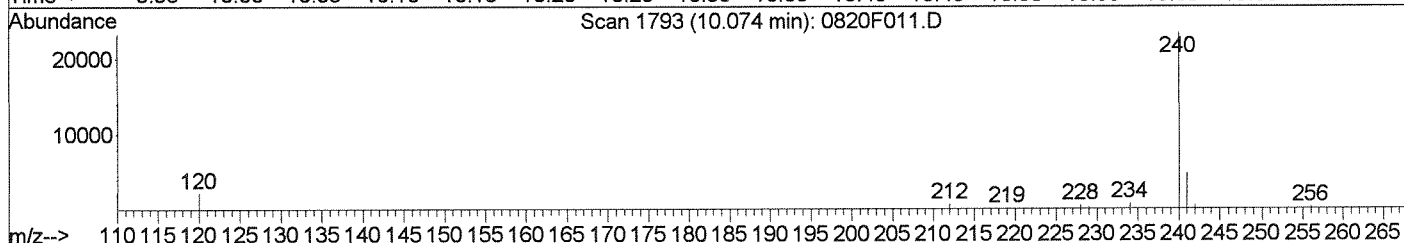
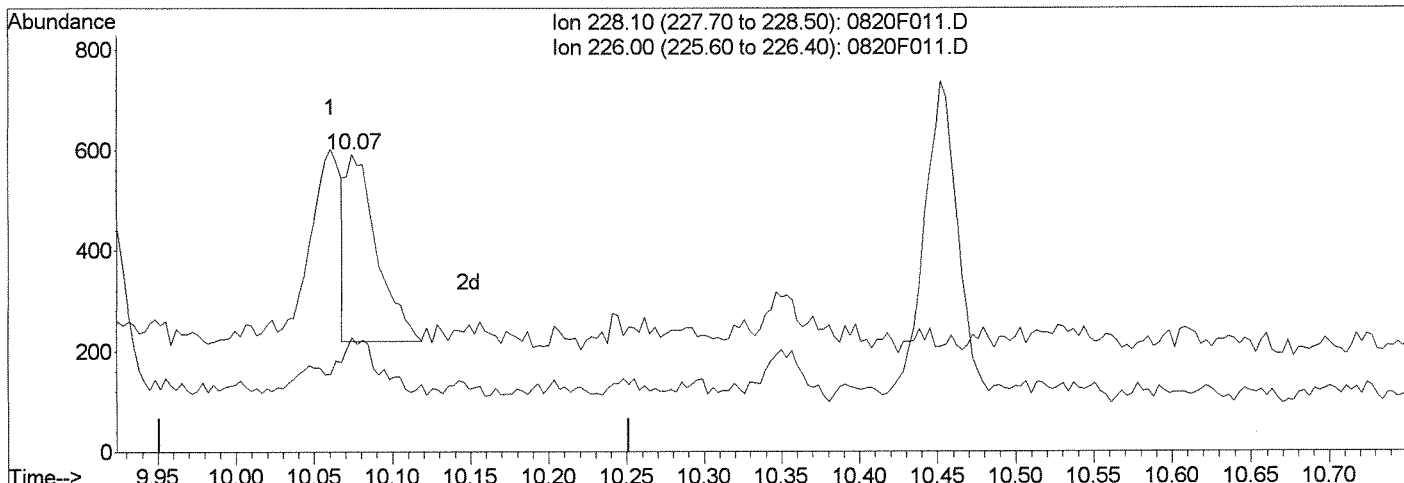
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F011.D  
 Acq On : 20 Aug 2014 2:07 pm  
 Sample : K1407971-002  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:03 2014

Vial: 11  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F011.D

(26) Chrysene (T)		
10.07min	0.60ng/ml m	
response	511	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	38.51
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*CH*

*LB*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F012.D  
**Lab ID:** K1407971-003  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 14:33  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

~~X: Benz(a) and Chrysene coeluting~~ AUG 21 2014 LB

Primary Review: CA AUG 21 2014

Secondary Review: LB AUG 21 2014

## Quantitation Report

<b>Data File:</b>	J:\MS14\DATA\082014\0820F012.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 14:33	<b>Quant Date:</b>	08/21/2014 09:36
<b>Run Type:</b>	SMPL	<b>Vial:</b>	12
<b>Lab ID:</b>	K1407971-003	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	8270D PAH SIM	<b>Collect Date:</b>	06/27/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411816	<b>Prep Lot:</b>	KWG1411415	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	8270D SIM	<b>Prep Method:</b>	EPA 3541		
<b>Prep Ref:</b>	1365428	<b>Prep Date:</b>	08/12/2014		

<b>Quant Method:</b>	J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b>	CAL13446
<b>Title:</b>	Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b>	LJ15942
<b>Tune Ref:</b>	J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b>	MJ1238
<b>MB Ref:</b>	J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>	

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	138882	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	74410	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	142702	200.00	OK
4	Chrysene-d12	10.06	0.00	240	155394	200.00	OK
5	Perylene-d12	13.16	0.01	264	162315	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	76952	175.30	88	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	135110	168.14	84	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	113107	161.82	81	39-111	OK

### Target Compounds

							Final Conc. Units:		ug/Kg Dry Weight	
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	5638	7.66	47	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	3326	6.46	39	J	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	3137	6.92	42		
2	Acenaphthylene	6.16		0.00	152	4730	6.31	38		
2	Acenaphthene	6.31		0.00	154	3635	8.39	51		
2	Fluorene	6.75		0.00	166	3270	6.04	37		
3	Phenanthrene	7.55		0.00	178	3414	4.33	26	J	
3	Anthracene	7.60	0.01	0.00	178	2018	2.58	16	J	
3	Fluoranthene	8.54	0.01	0.00	202	1261m	1.37	8.3	J	
4	Pyrene	8.73		0.00	202	1479m	1.38	8.4	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	1037m	1.09	6.6	J	
4	Chrysene				228	0d		3.4	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F012.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 14:33	<b>Quant Date:</b>	08/21/2014 09:36
<b>Run Type:</b>	SMPL	<b>Vial:</b>	12
<b>Lab ID:</b>	K1407971-003	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

						Final Conc. Units:		ug/Kg Dry Weight		
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	254m	0.2500	4.1	U	
5	Benzo(k)fluoranthene	12.18		0.00	252	222m	0.2200	3.5	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2966	3.10	19	Ui	
5	Indeno(1,2,3-cd)pyrene	15.40	0.01	0.00	276	210m	0.2000	5.9	U	
5	Dibenz(a,h)anthracene				278	0d		5.3	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	375	0.3200	5.8	U	

**Prep Amount:** 10.039 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 16.4 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
F: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution



Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:21 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	138882	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	74410	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	142702	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	155394	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	162315	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	76952	175.30	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.53%	
21) Fluoranthene-d10	8.52	212	135110	168.14	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.81%	
24) Terphenyl-d14	8.87	244	113107	161.82	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.18%	

Target Compounds

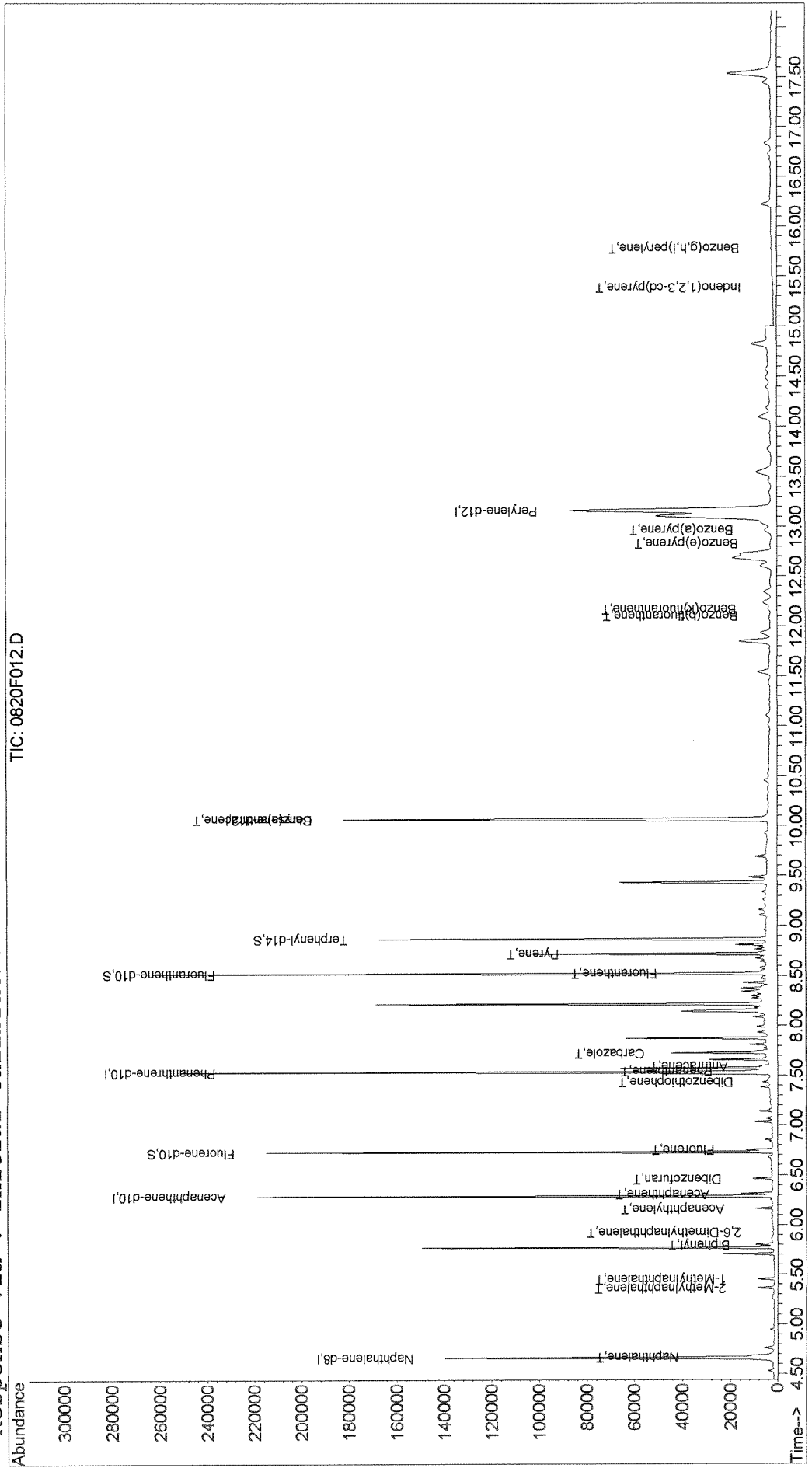
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	5638	7.66	ng/ml	96
3) 2-Methylnaphthalene	5.36	142	3326	6.46	ng/ml	98
4) 1-Methylnaphthalene	5.45	142	3137	6.92	ng/ml	95
5) Biphenyl	5.79	154	278m	0.46	ng/ml	
6) 2,6-Dimethylnaphthalene	5.93	156	141	0.31	ng/ml	93
8) Acenaphthylene	6.16	152	4730	6.31	ng/ml	100
9) Acenaphthene	6.31	154	3635	8.39	ng/ml	97
10) Dibenzofuran	6.46	168	4480	6.55	ng/ml	98
13) Fluorene	6.75	166	3270	6.04	ng/ml	98
15) Dibenzothiophene	7.45	184	234m	0.31	ng/ml	
16) Phenanthrene	7.55	178	3414	4.33	ng/ml	99
17) Anthracene	7.60	178	2018	2.58	ng/ml	97
18) Carbazole	7.74	167	1211	1.76	ng/ml	54
20) Fluoranthene	8.54	202	1261m	1.37	ng/ml	
23) Pyrene	8.73	202	1479m	1.38	ng/ml	
25) Benz(a)anthracene	10.06	228	1037m	1.09	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	254m	0.25	ng/ml	
29) Benzo(k)fluoranthene	12.18	252	222m	0.22	ng/ml	
30) Benzo(e)pyrene	12.83	252	380	0.40	ng/ml	90
31) Benzo(a)pyrene	12.96	252	2966	3.10	ng/ml#	1
33) Indeno(1,2,3-cd)pyrene	15.40	276	210m	0.20	ng/ml	
35) Benzo(g,h,i)perylene	15.78	276	375	0.32	ng/ml	91

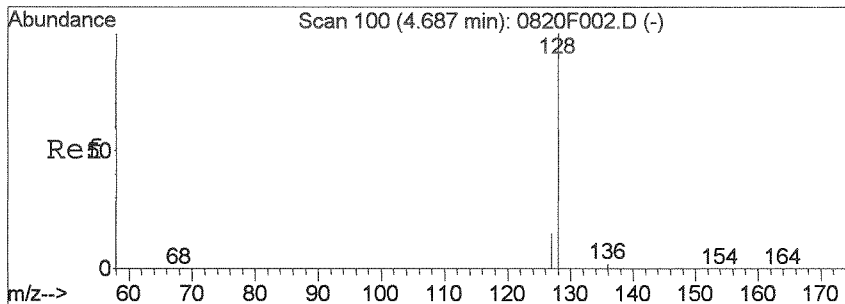
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F012.D  
Acq On : 20 Aug 2014 2:33 pm  
Sample : K1407971-003  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:36 2014  
Quant Results File: 072214SIMPAAH.RES

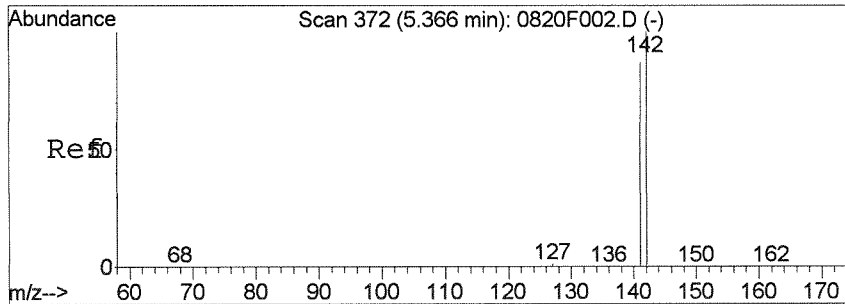
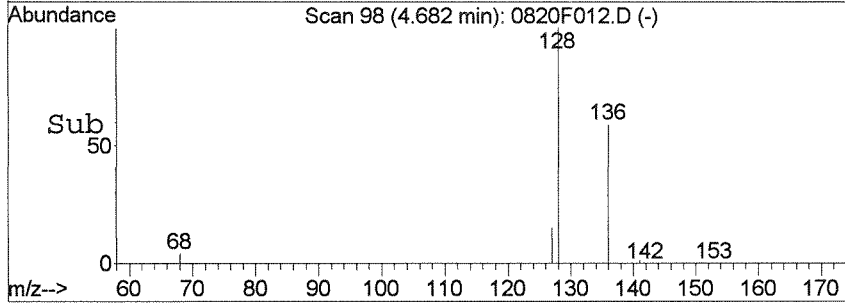
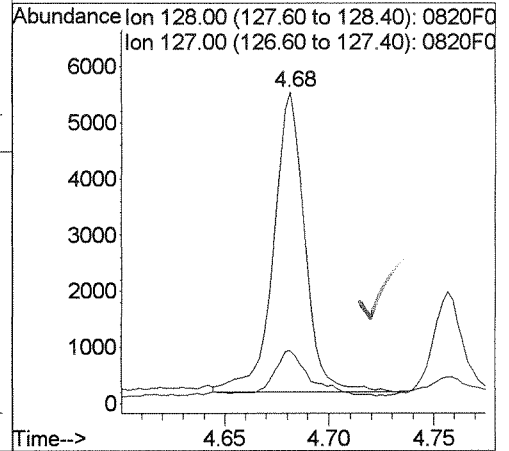
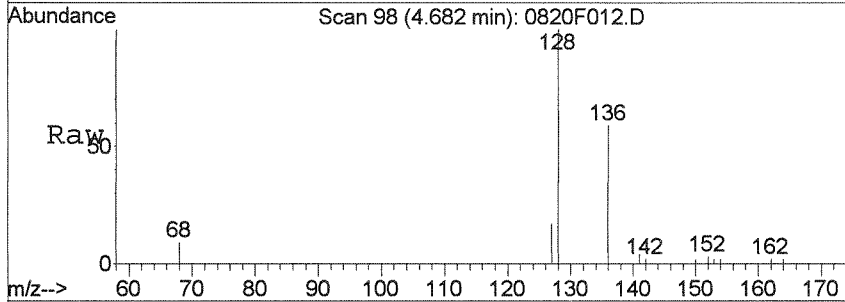
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Initial Calibration





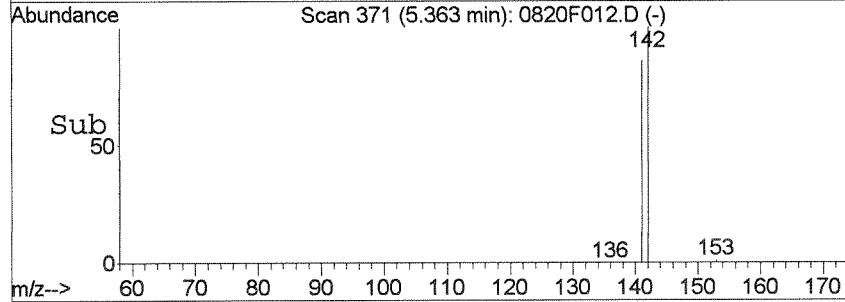
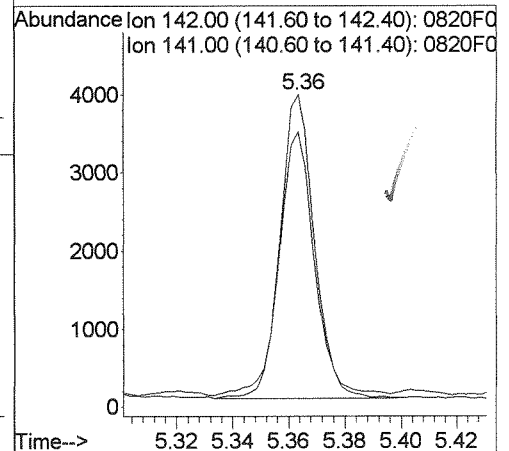
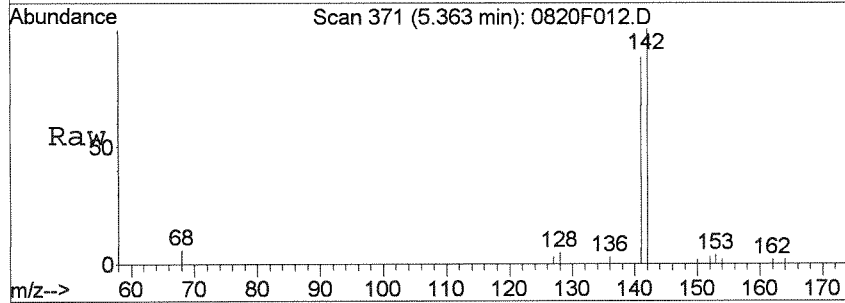
#2  
 Naphthalene  
 Concen: 7.66 ng/ml  
 RT: 4.68 min Scan# 98  
 Delta R.T. -0.01 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

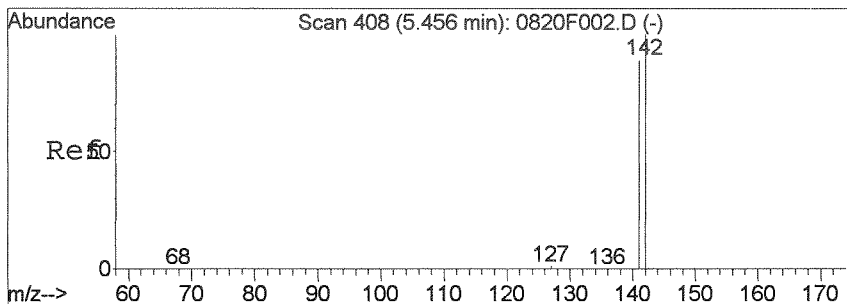
Tgt Ion	Resp	Lower	Upper
128	5638	100	
127	14.3	0.0	42.6



#3  
 2-Methylnaphthalene  
 Concen: 6.46 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

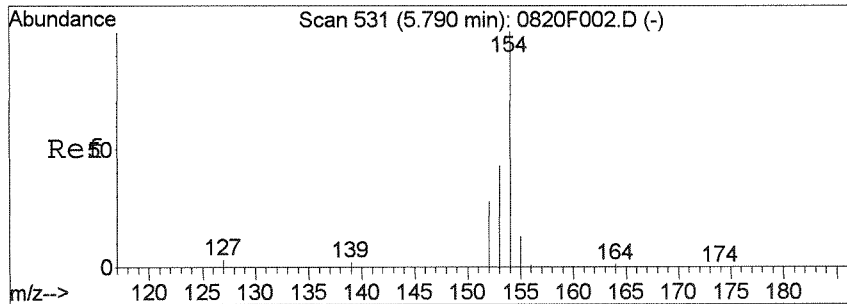
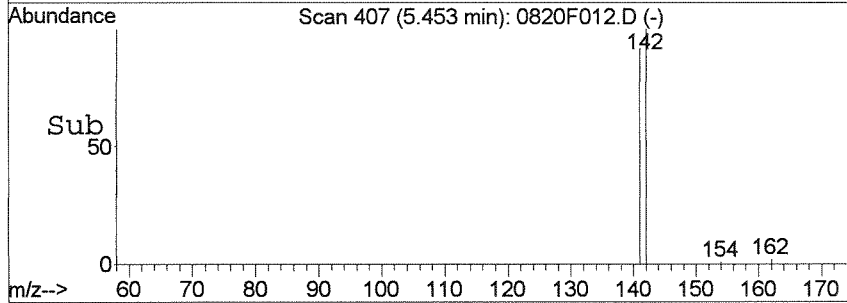
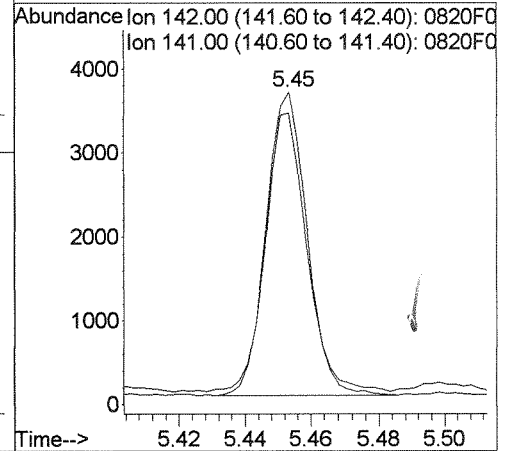
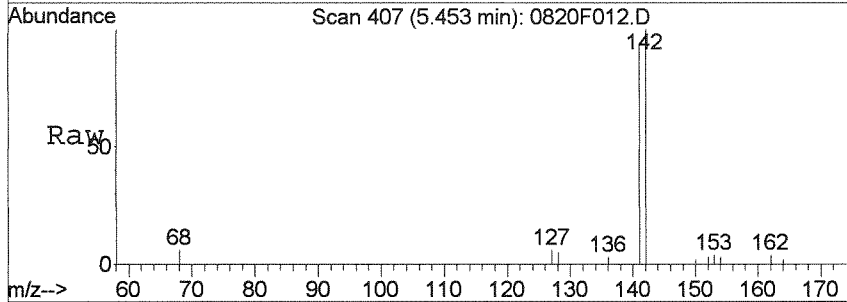
Tgt Ion	Resp	Lower	Upper
142	3326	100	
141	86.6	54.8	114.8





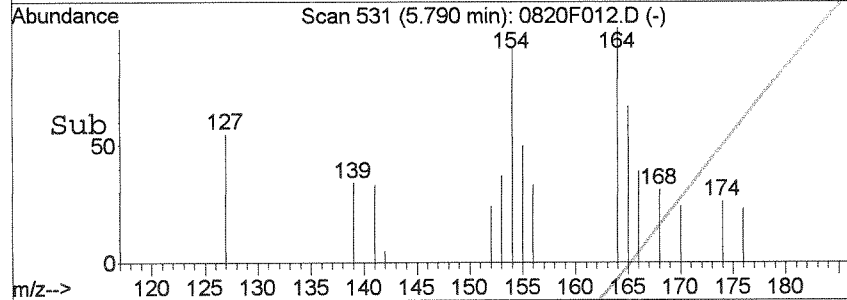
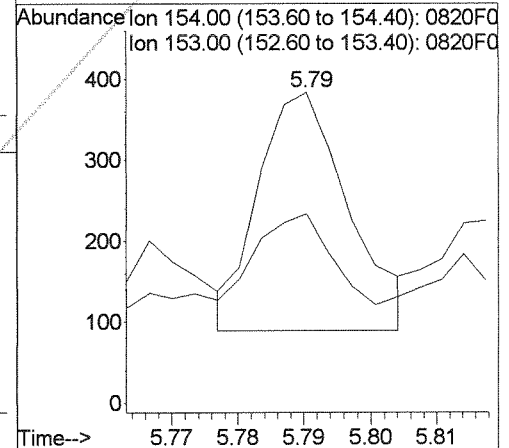
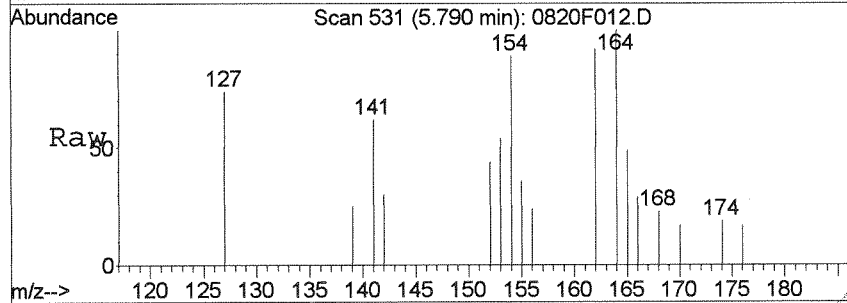
#4  
 1-Methylnaphthalene  
 Concen: 6.92 ng/ml  
 RT: 5.45 min Scan# 407  
 Delta R.T. -0.01 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

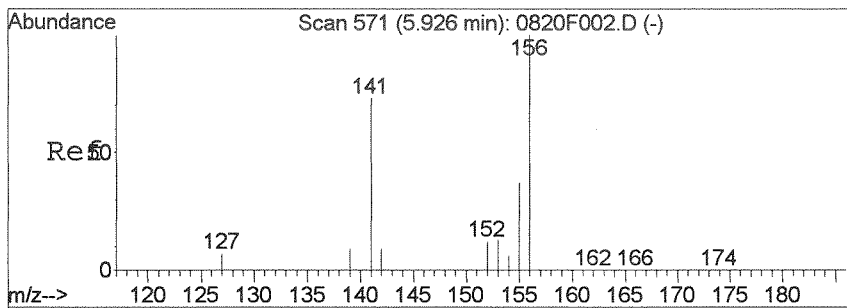
Tgt Ion:142 Resp: 3137  
 Ion Ratio Lower Upper  
 142 100  
 141 91.0 56.4 116.4



#5  
 Biphenyl  
 Concen: 0.46 ng/ml m  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

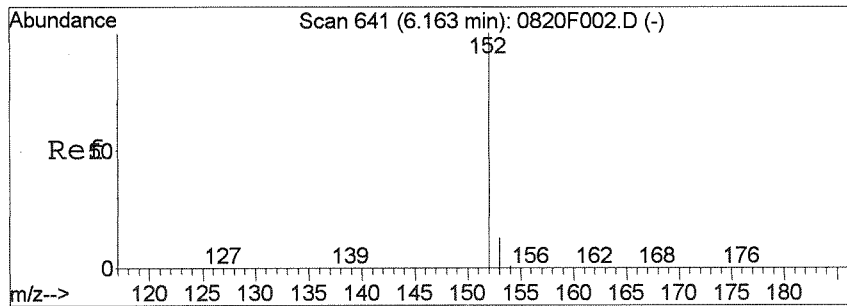
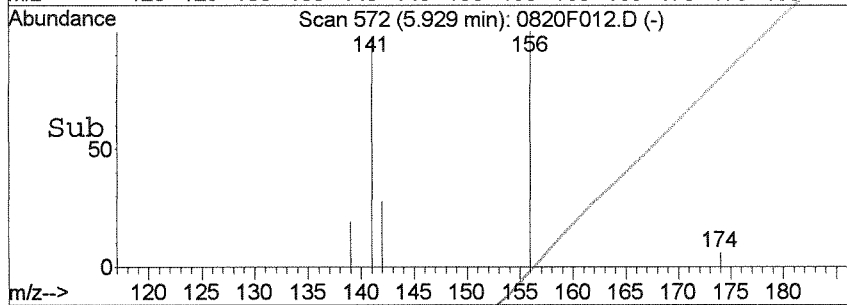
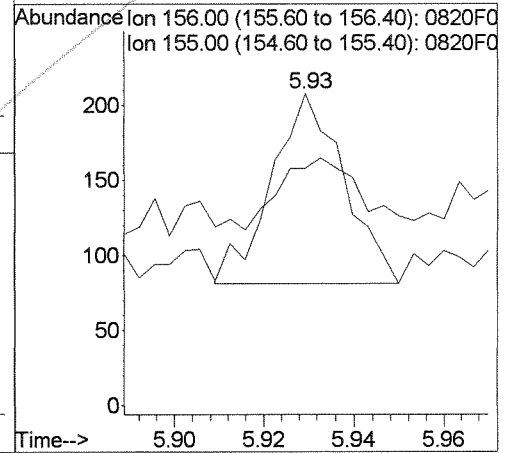
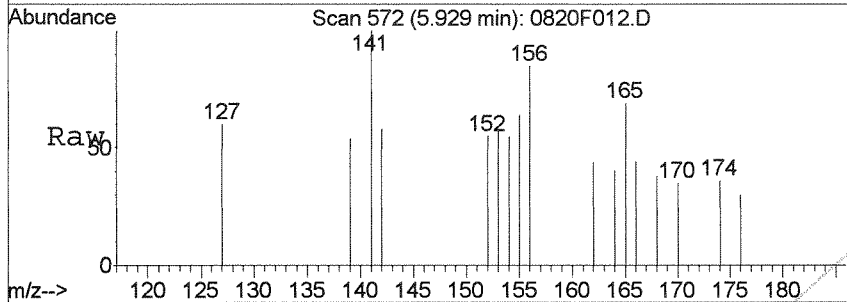
Tgt Ion:154 Resp: 278  
 Ion Ratio Lower Upper  
 154 100  
 153 60.9 9.6 69.6





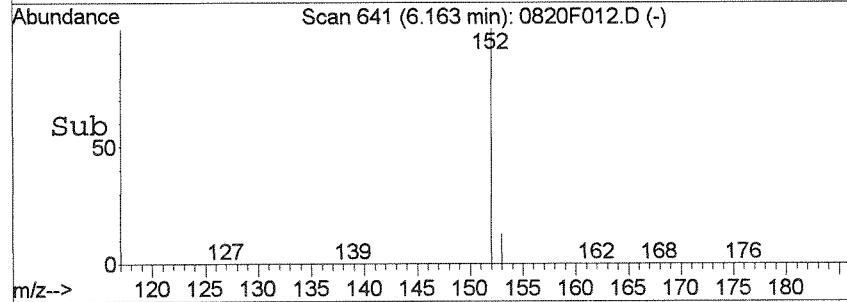
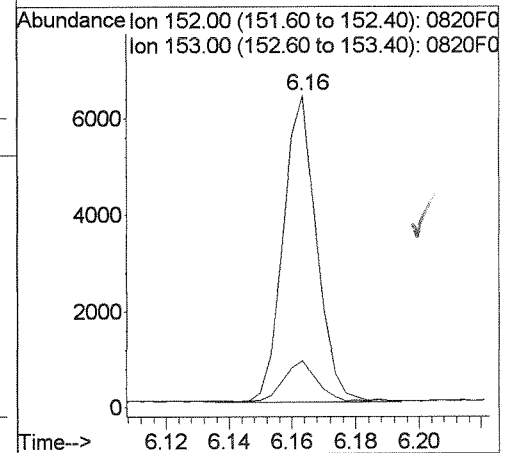
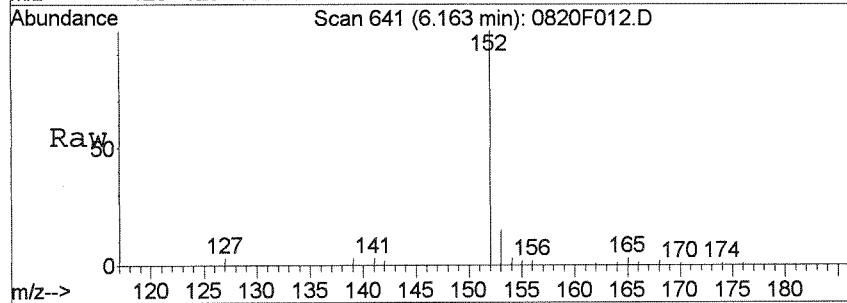
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.31 ng/ml  
 RT: 5.93 min Scan# 572  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

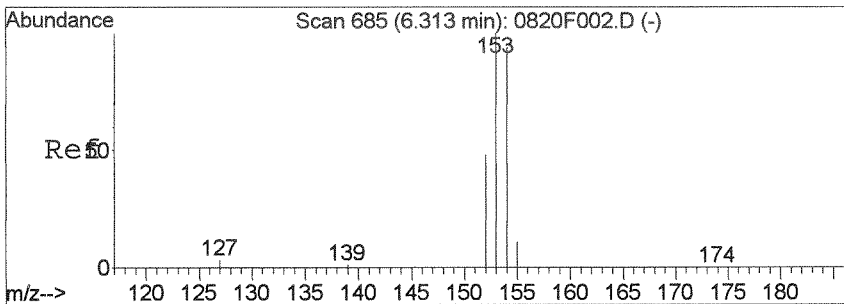
Tgt Ion	Resp	Lower	Upper
156	100		
155	30.7	4.9	64.9



#8  
 Acenaphthylene  
 Concen: 6.31 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

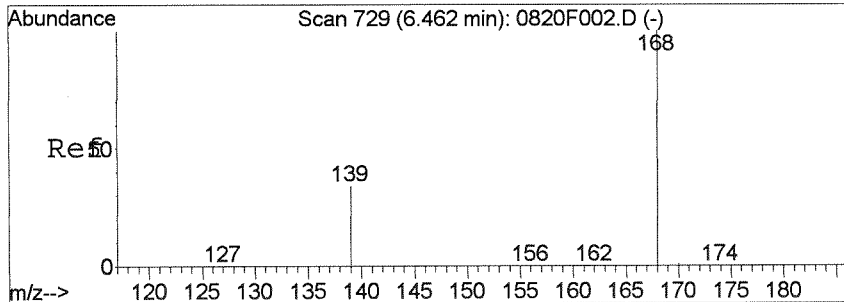
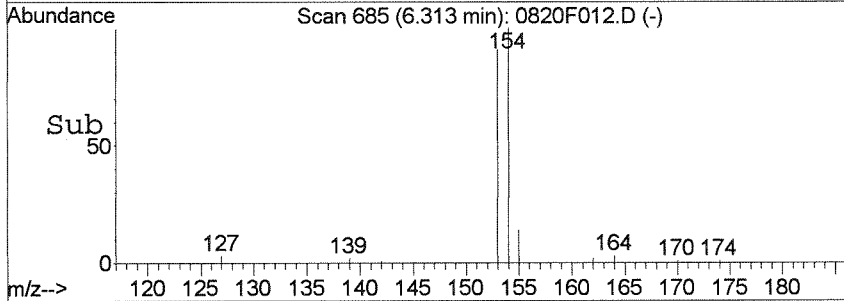
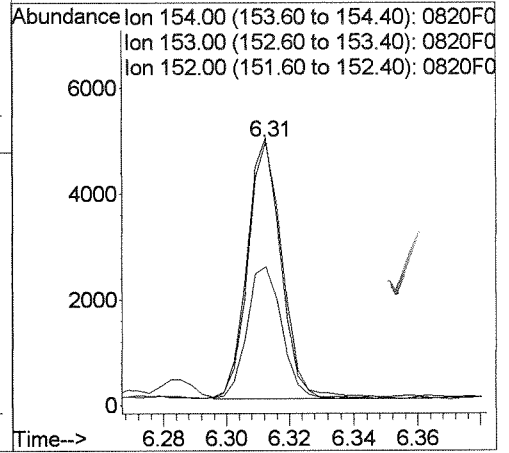
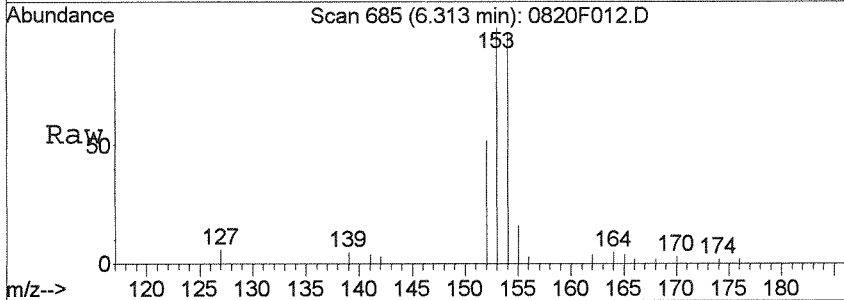
Tgt Ion	Resp	Lower	Upper
152	100		
153	13.3	0.0	43.2





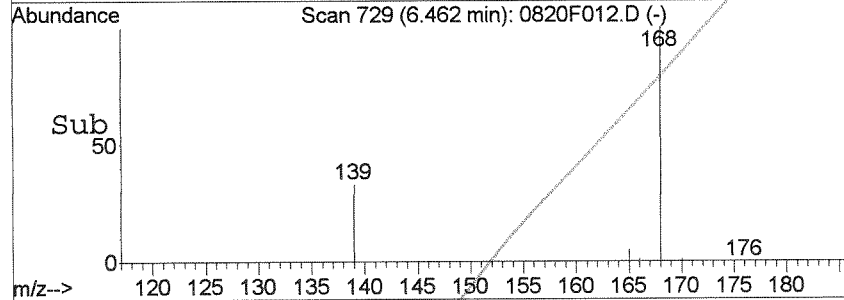
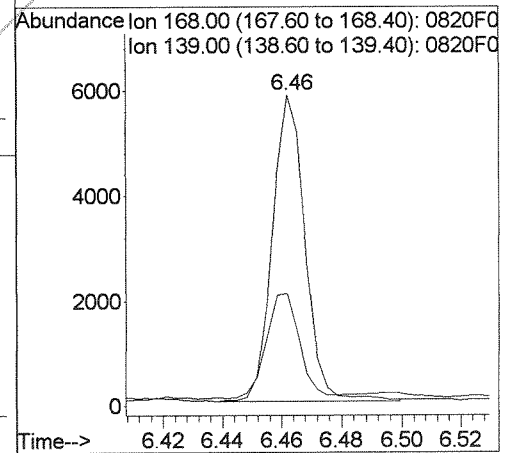
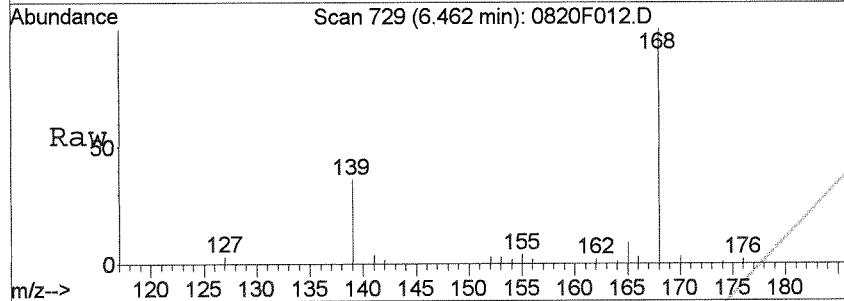
#9  
 Acenaphthene  
 Concen: 8.39 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

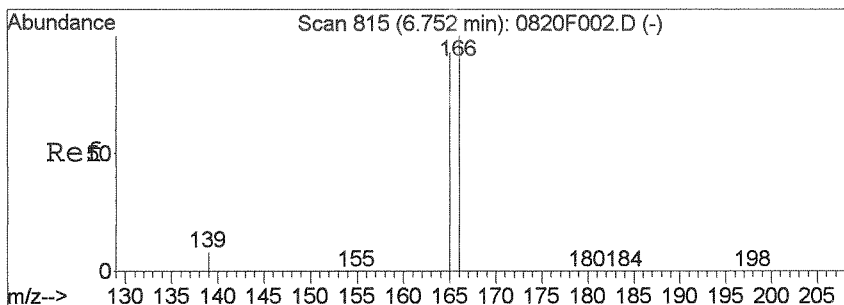
Tgt Ion	Resp	Lower	Upper
154	3635		
153	101.3	72.5	132.5
152	51.6	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 6.55 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

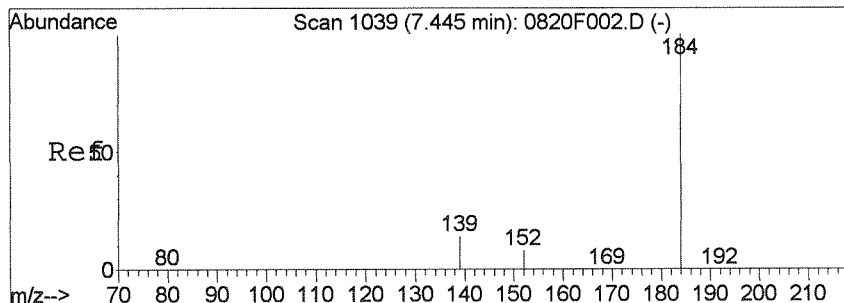
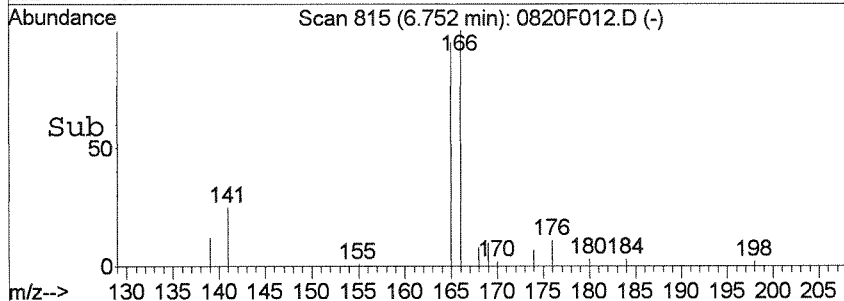
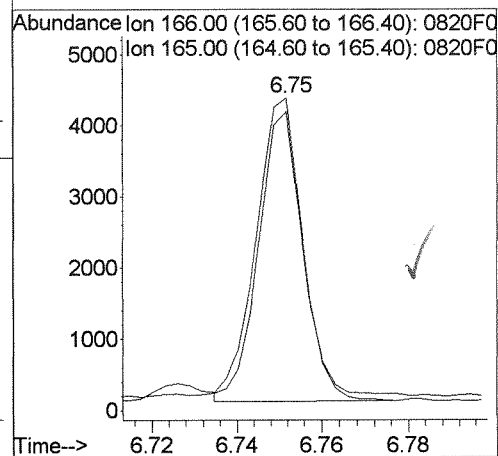
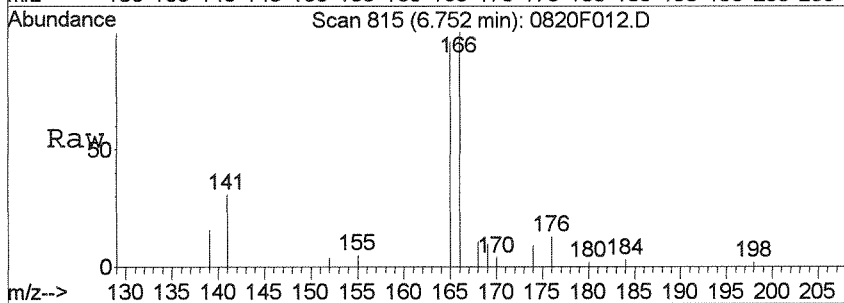
Tgt Ion	Resp	Lower	Upper
168	4480		
139	33.9	2.7	62.7





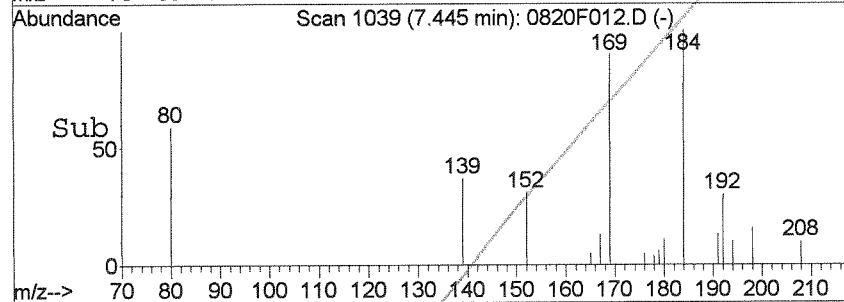
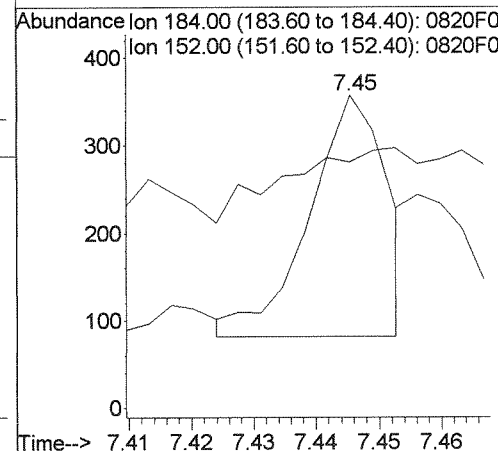
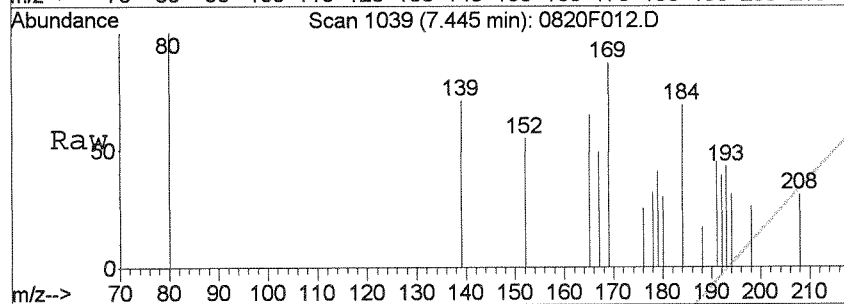
#13  
 Fluorene  
 Concen: 6.04 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

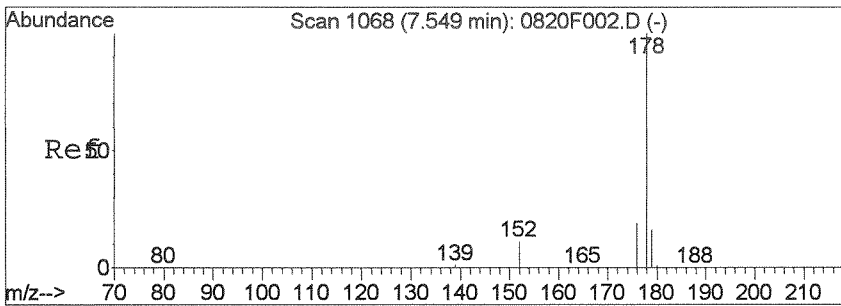
Tgt Ion: 166 Resp: 3270  
 Ion Ratio Lower Upper  
 166 100  
 165 93.2 60.9 120.9



#15  
 Dibenzothiophene  
 Concen: 0.31 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

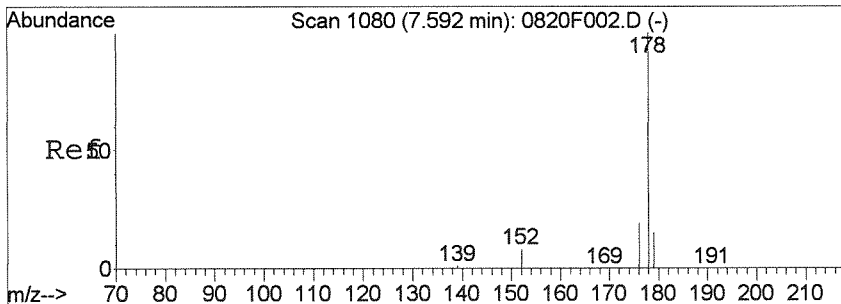
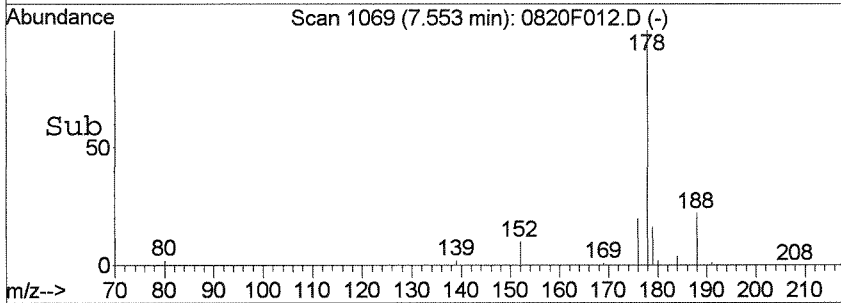
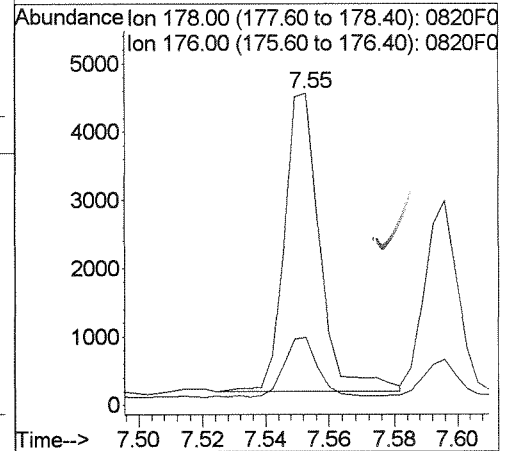
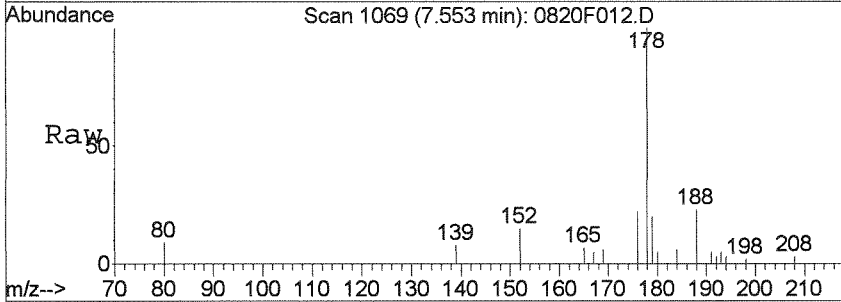
Tgt Ion: 184 Resp: 234  
 Ion Ratio Lower Upper  
 184 100  
 152 78.7 0.0 39.9#





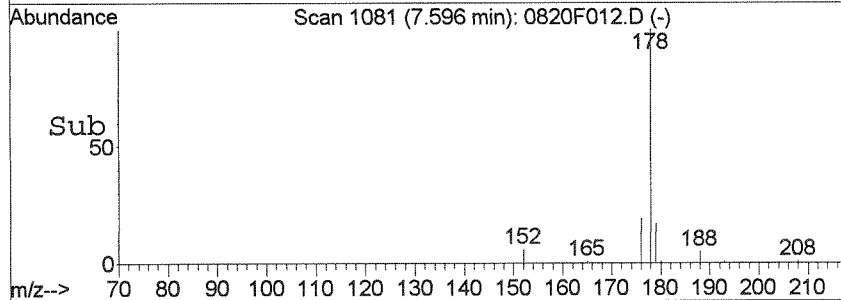
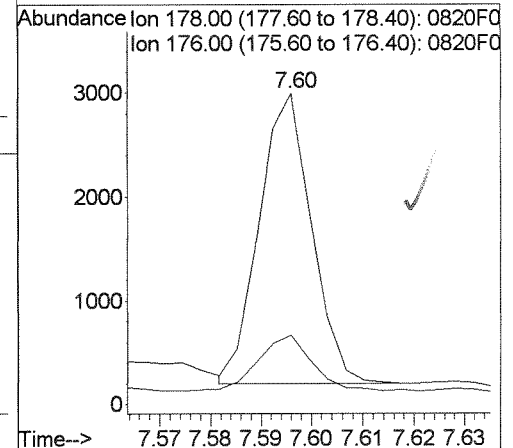
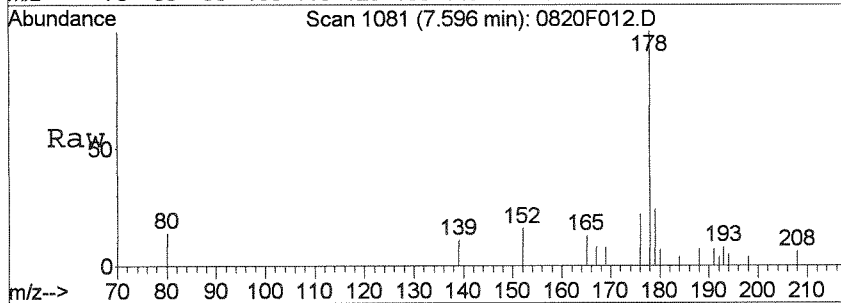
#16  
 Phenanthrene  
 Concen: 4.33 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

Tgt Ion: 178 Resp: 3414  
 Ion Ratio Lower Upper  
 178 100  
 176 19.6 0.0 48.9

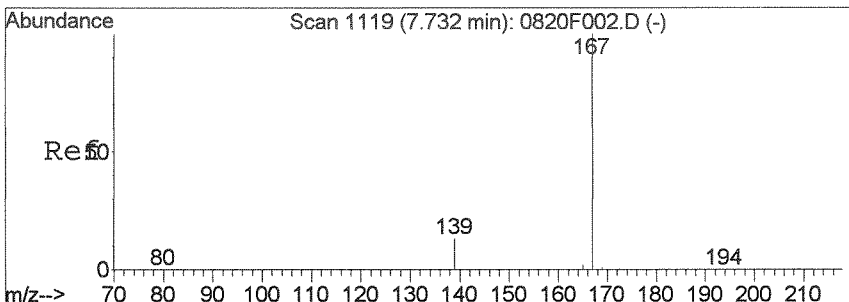


#17  
 Anthracene  
 Concen: 2.58 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

Tgt Ion: 178 Resp: 2018  
 Ion Ratio Lower Upper  
 178 100  
 176 18.9 0.0 47.7



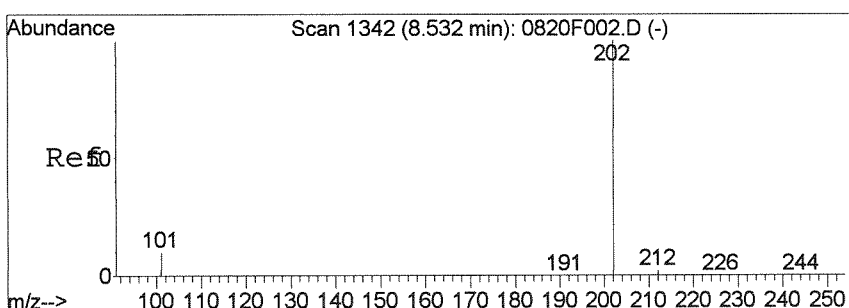
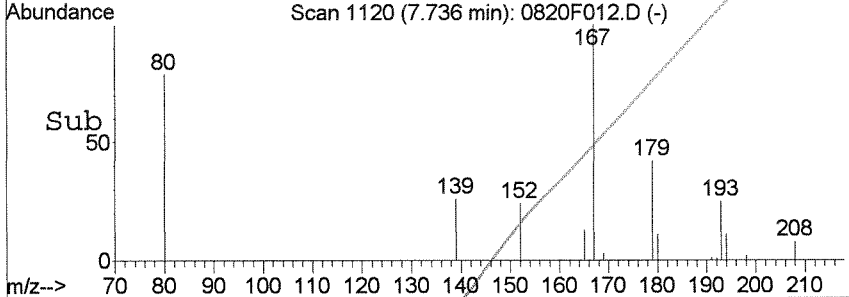
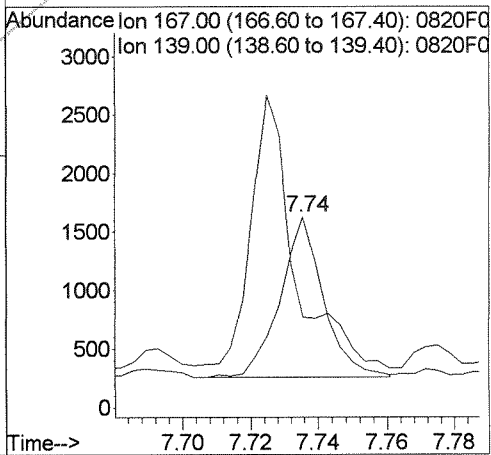
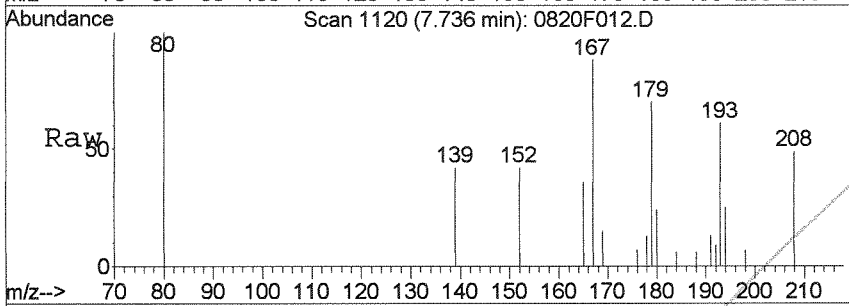




#18  
 Carbazole  
 Concen: 1.76 ng/ml  
 RT: 7.74 min Scan# 1120  
 Delta R.T. 0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

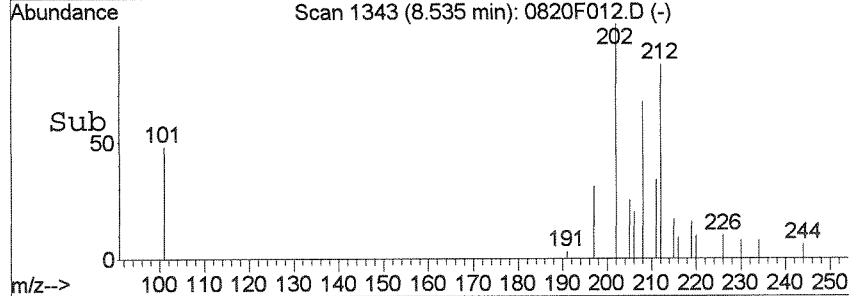
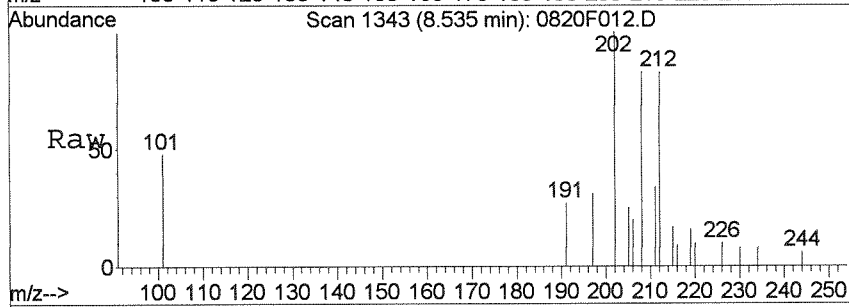
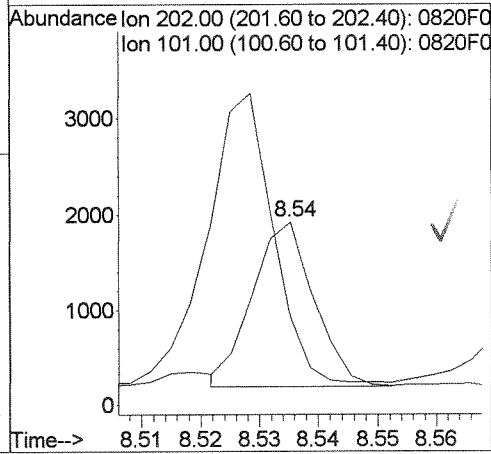
NT

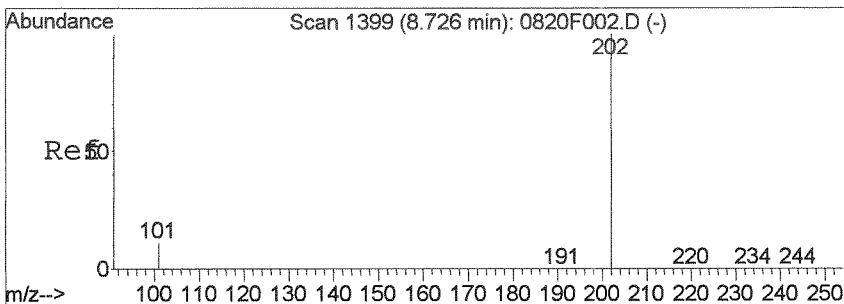
Tgt Ion	Resp	Lower	Upper
167	1211		
139	31.6	0.0	43.1



#20  
 Fluoranthene  
 Concen: 1.37 ng/ml m  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

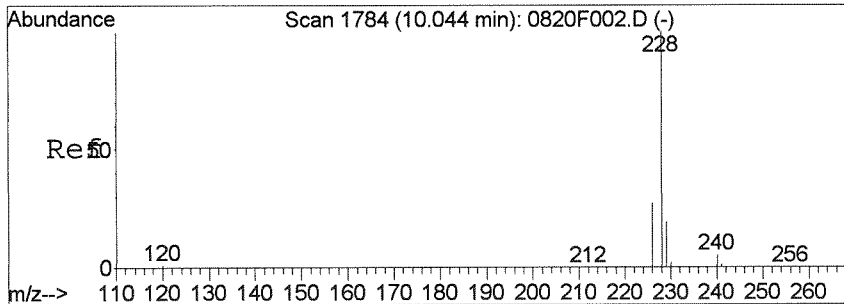
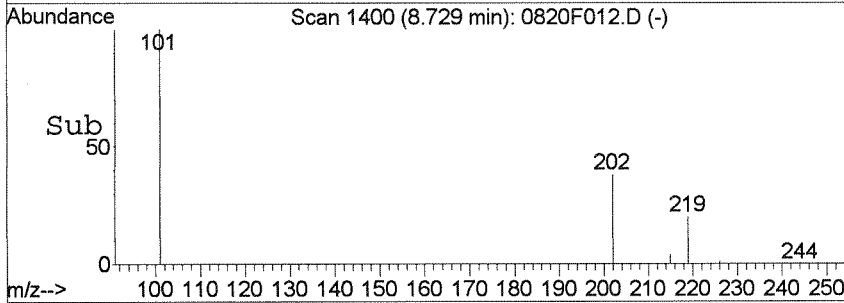
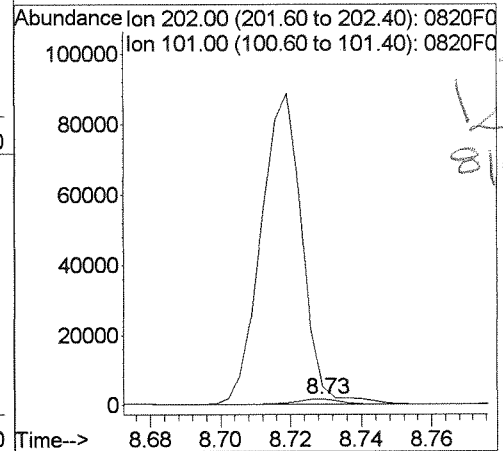
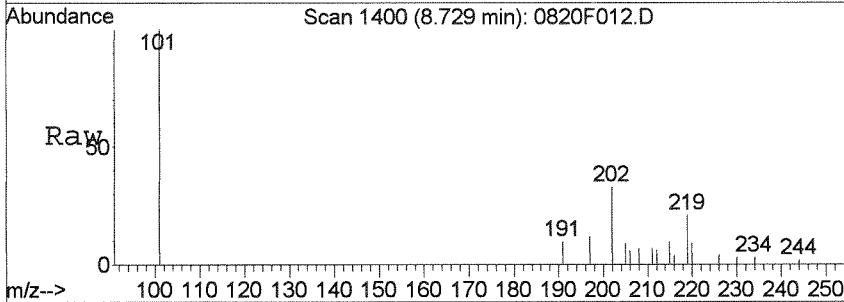
Tgt Ion	Resp	Lower	Upper
202	1261		
101	48.0	0.0	37.0#





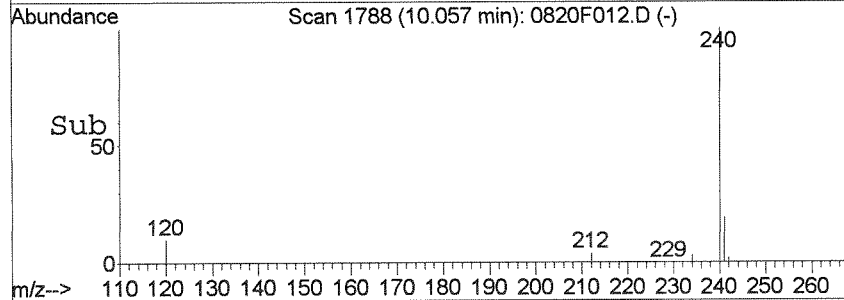
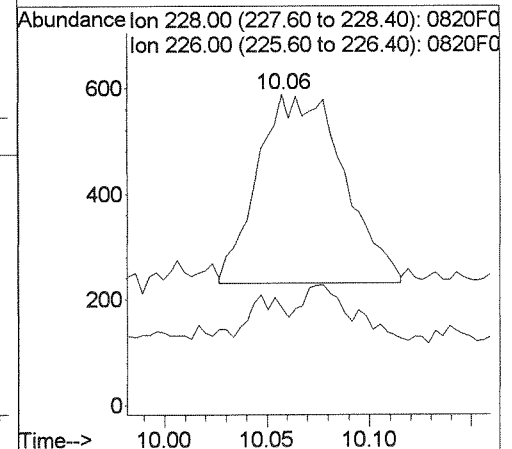
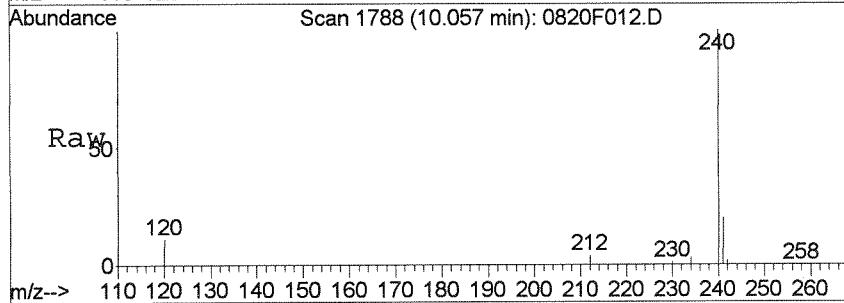
#23  
 Pyrene  
 Concen: 1.38 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

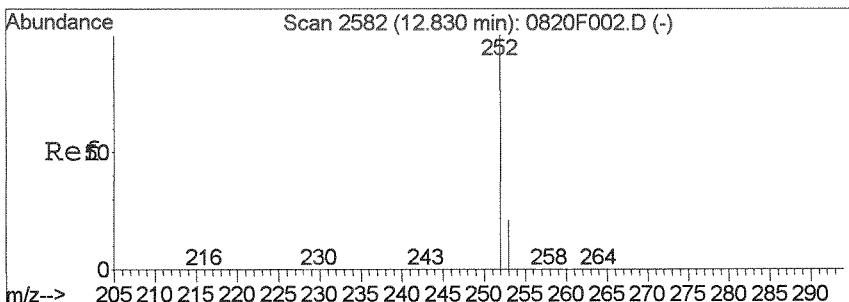
Tgt Ion: 202 Resp: 1479  
 Ion Ratio Lower Upper  
 202 100  
 101 303.5 0.0 38.3#



#25  
 Benz (a) anthracene  
 Concen: 1.09 ng/ml m  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

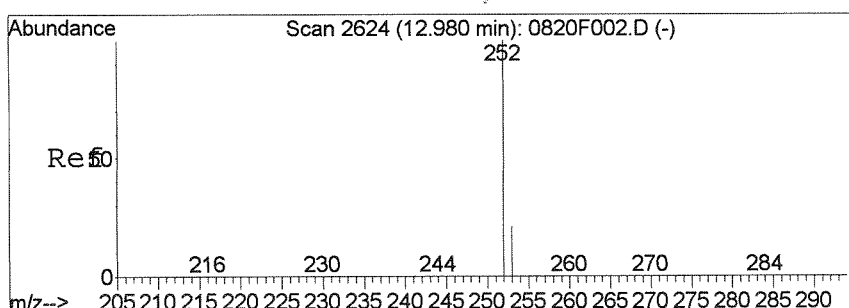
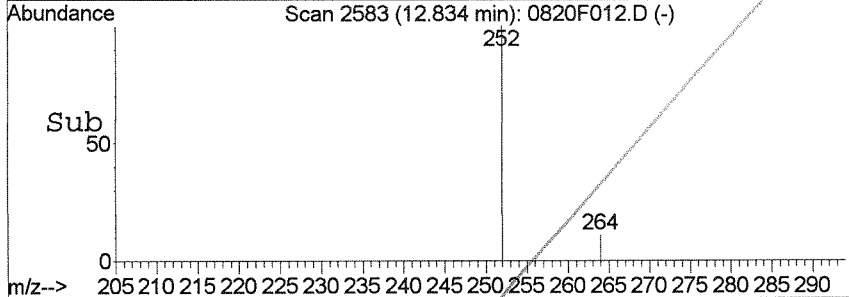
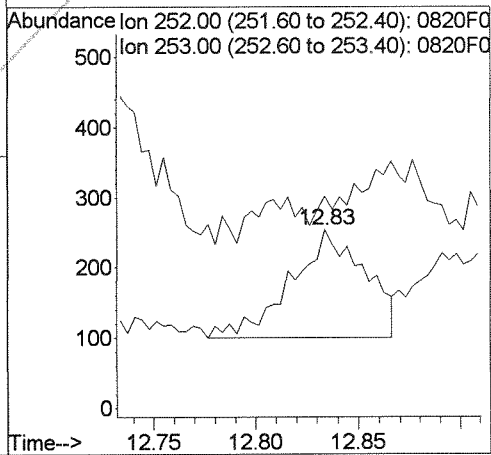
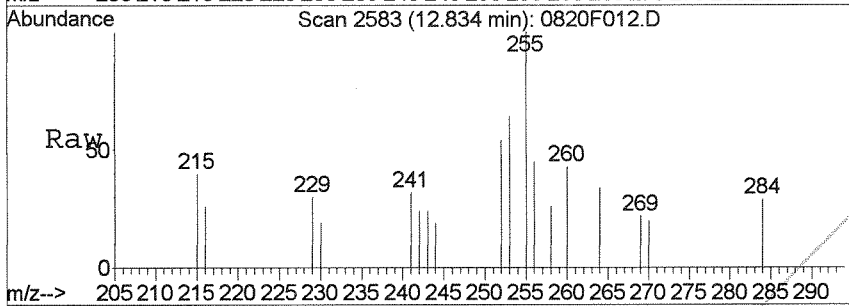
Tgt Ion: 228 Resp: 1037  
 Ion Ratio Lower Upper  
 228 100  
 226 31.5 0.0 56.4





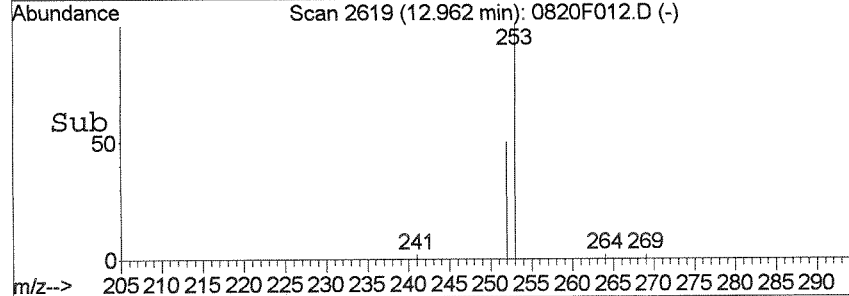
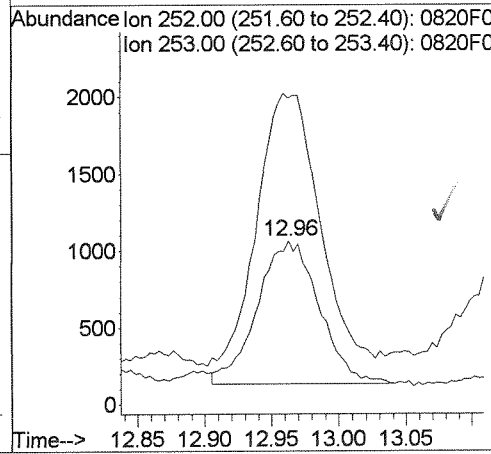
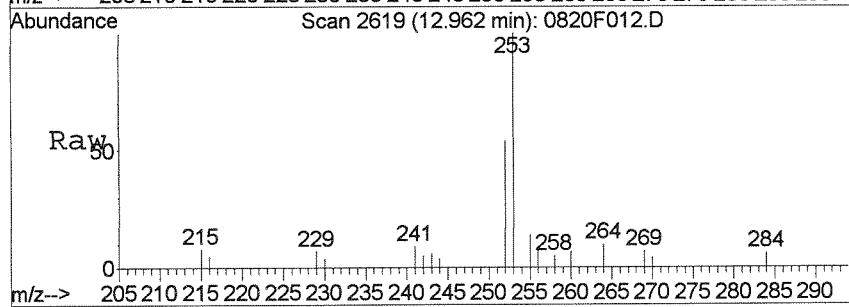
#30  
 Benzo (e) pyrene  
 Concen: 0.40 ng/ml  
 RT: 12.83 min Scan# 2583  
 Delta R.T. -0.01 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	26.0	0.0	51.4



#31  
 Benzo (a) pyrene  
 Concen: 3.10 ng/ml  
 RT: 12.96 min Scan# 2619  
 Delta R.T. -0.03 min  
 Lab File: 0820F012.D  
 Acq: 20 Aug 2014 2:33 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	180.9	0.0	52.2#



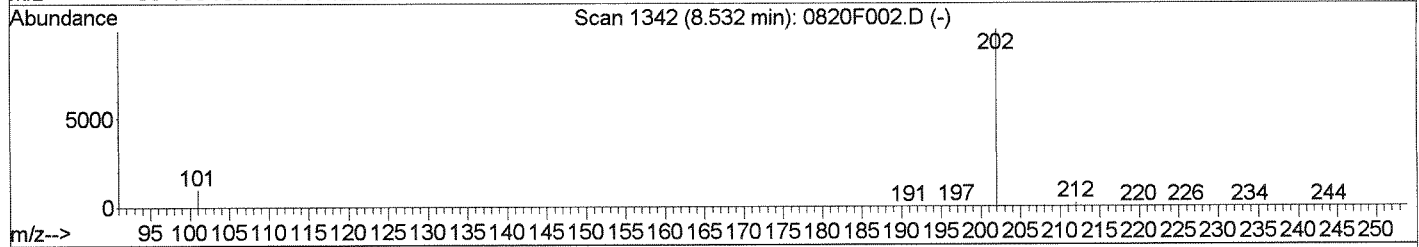
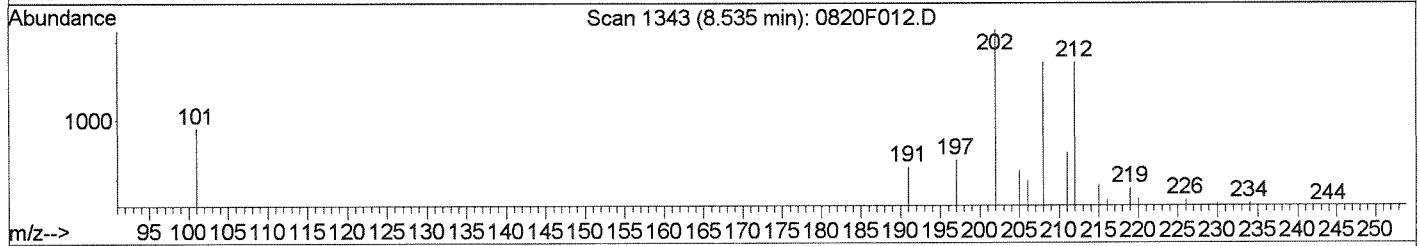
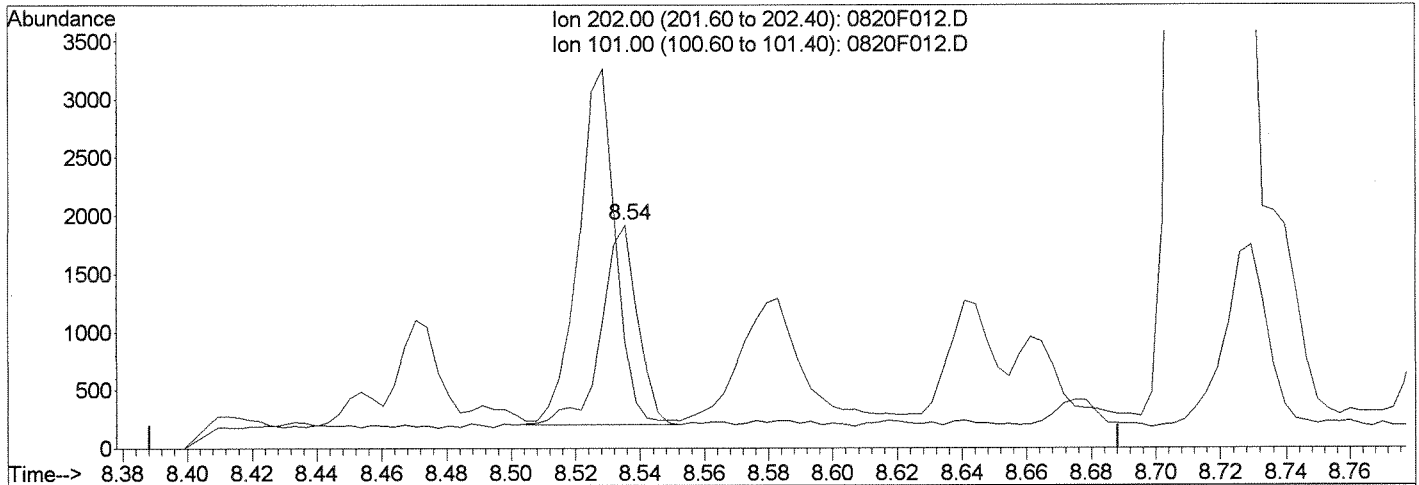
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:14 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F012.D

(20) Fluoranthene (T)	Manual Integration:	
8.54min 1.47ng/ml	Before	
response 1346	08/21/14	
Ion	Exp%	Act%
202.00	100	100
101.00	7.00	40.00#
0.00	0.00	0.00
0.00	0.00	0.00

Handwritten initials: CA, LB

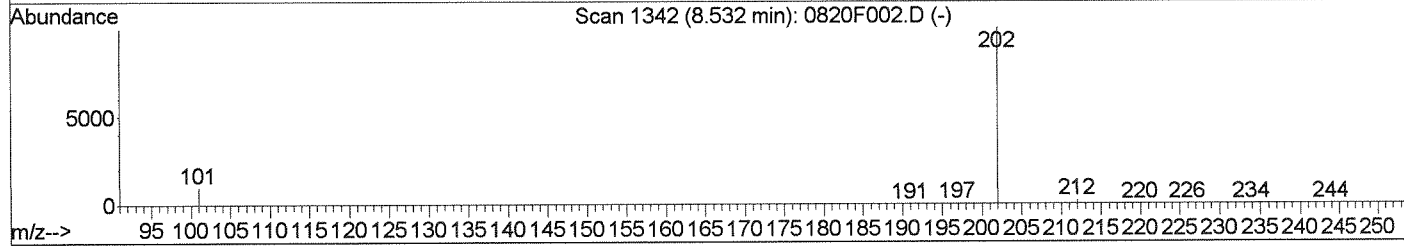
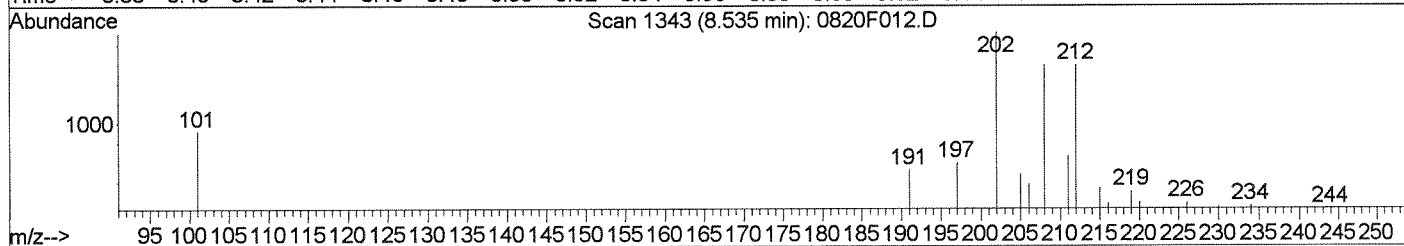
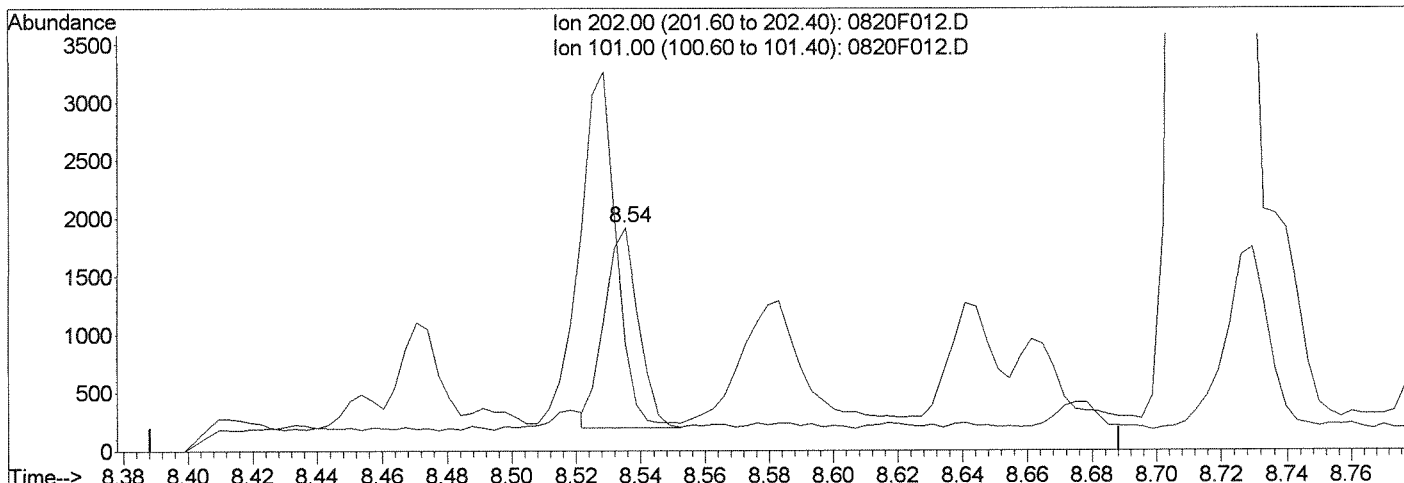
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:14 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F012.D

(20) Fluoranthene (T)

8.54min 1.37ng/ml m  
 response 1261

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	47.97#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CH*

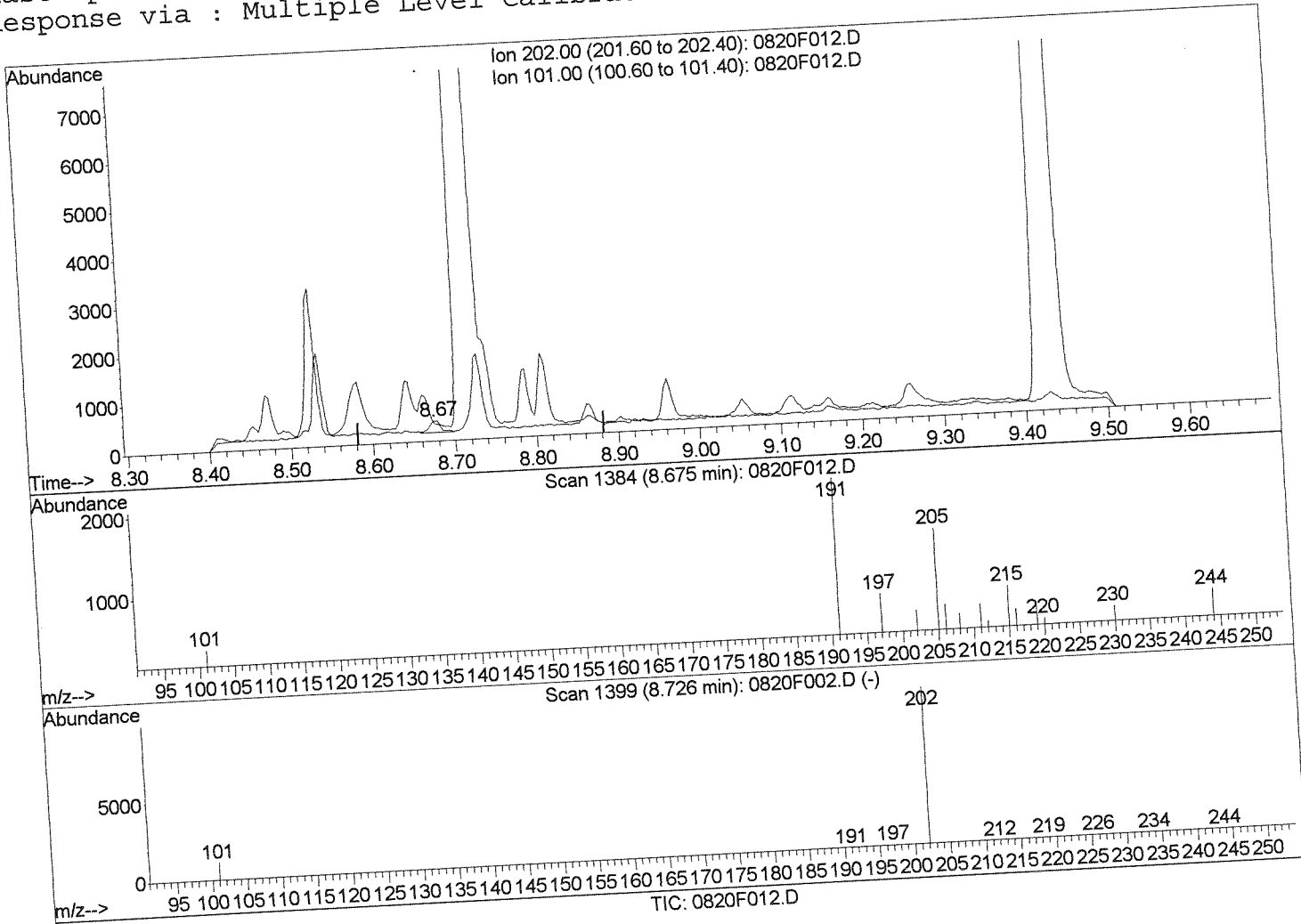
*1/B*

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:14 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(23) Pyrene (T)

8.67min 0.21ng/ml

response 228

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*LAB*

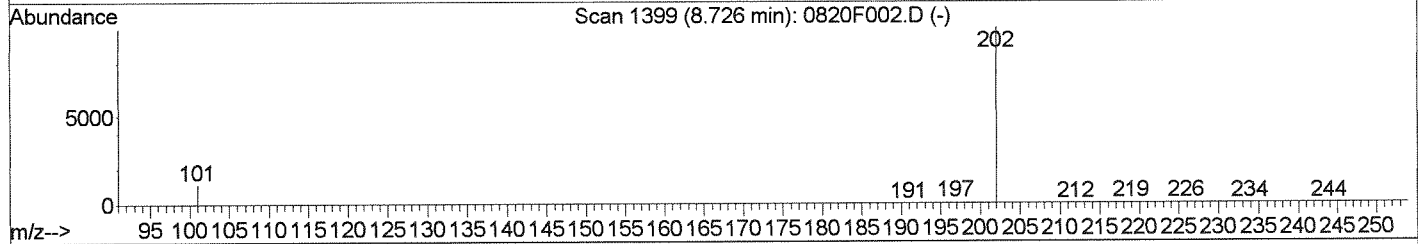
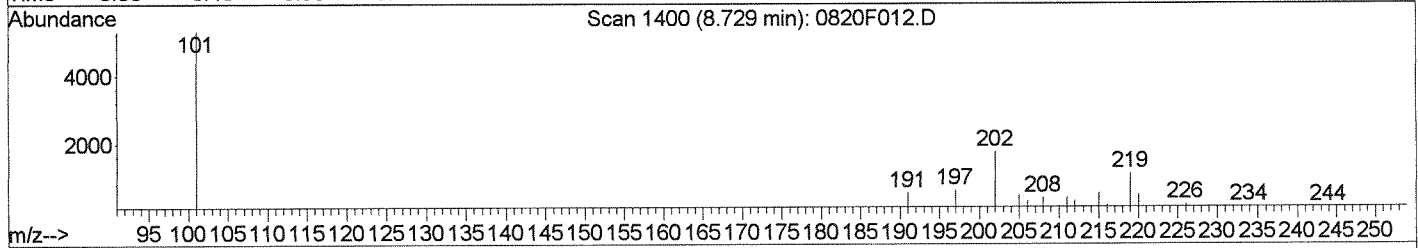
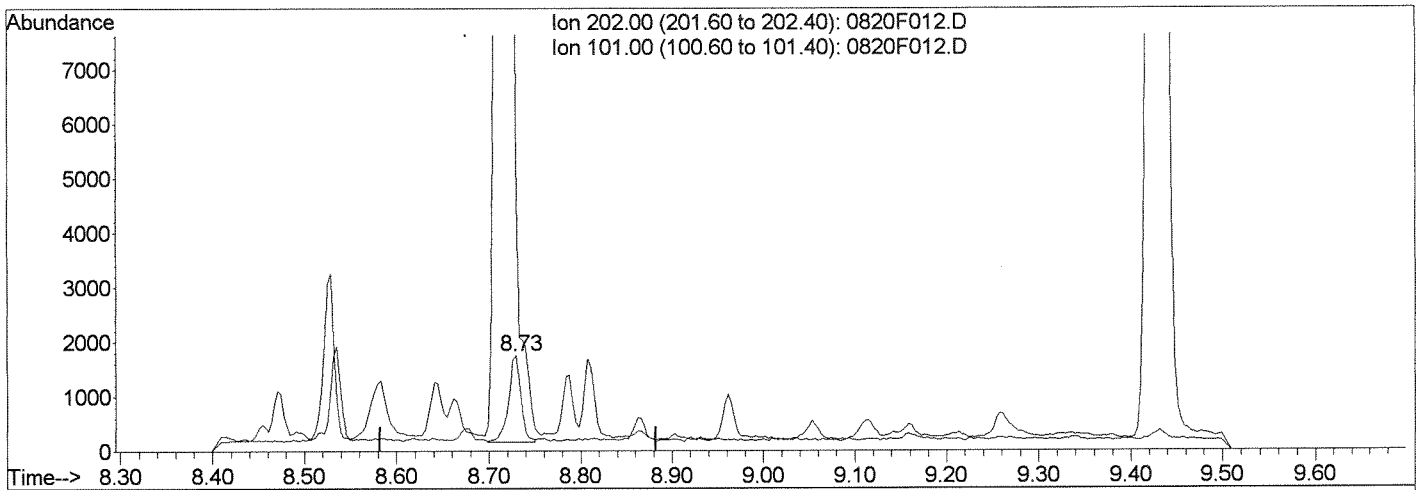
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:14 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F012.D

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	303.48#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*Handwritten notes:*  
 CA - i  
 LB  
 8/21/14  
 LB

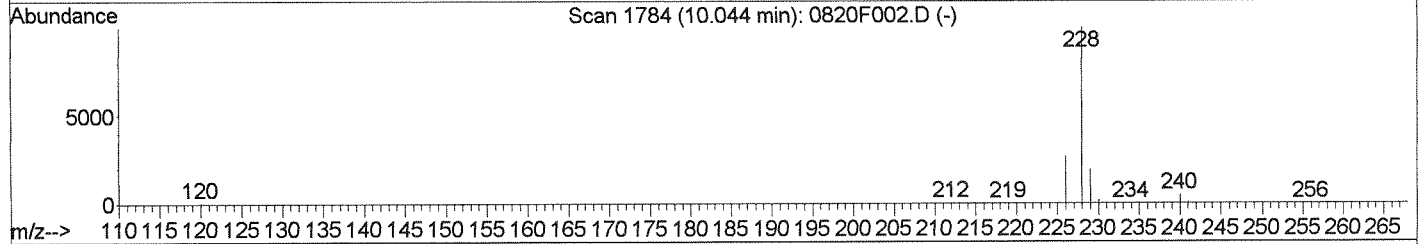
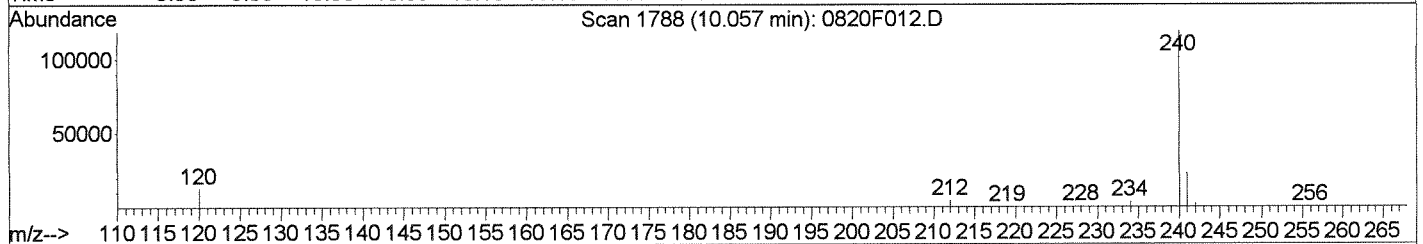
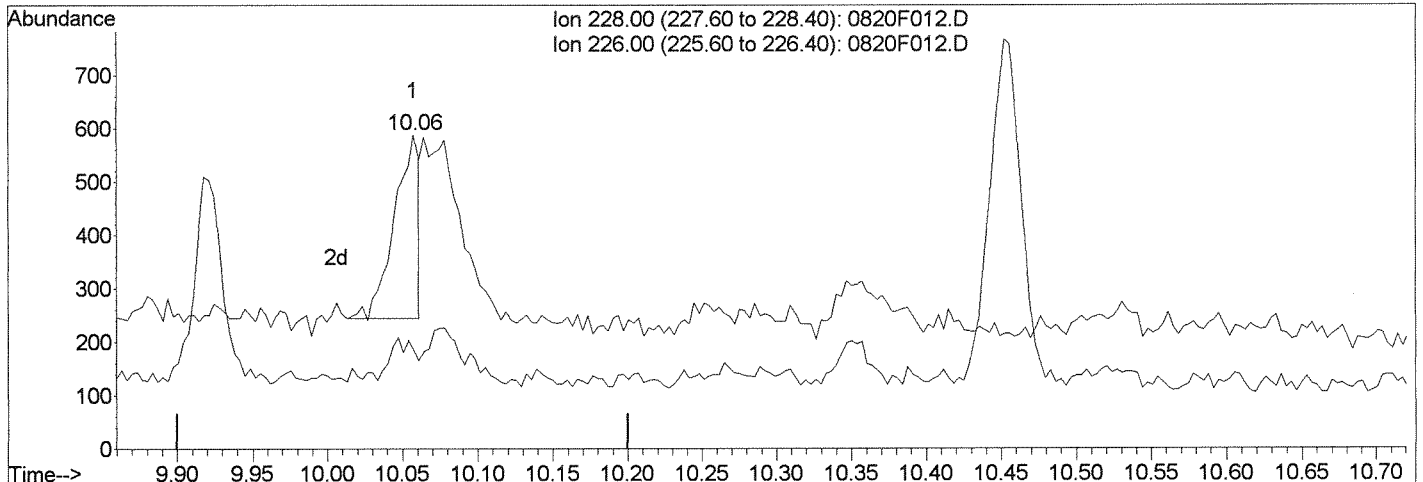
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:14 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F012.D

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	17.15
0.00	0.00	0.00
0.00	0.00	0.00

(25) Benz(a)anthracene (T)  
 10.06min 0.41ng/ml  
 response 394  
 Manual Integration:  
 Before  
 08/21/14

*CH*



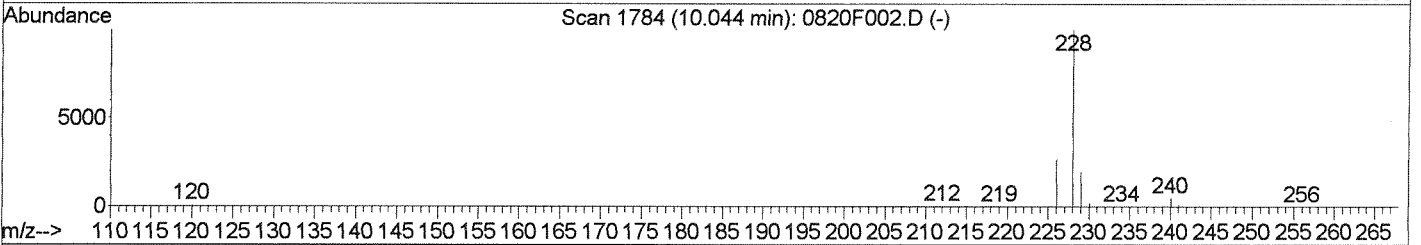
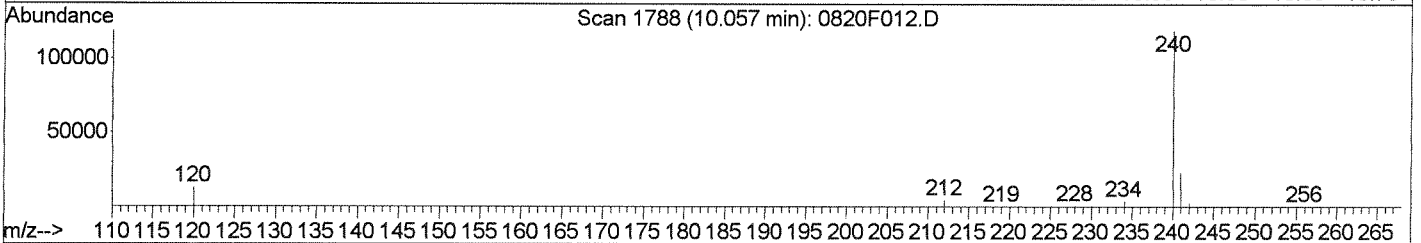
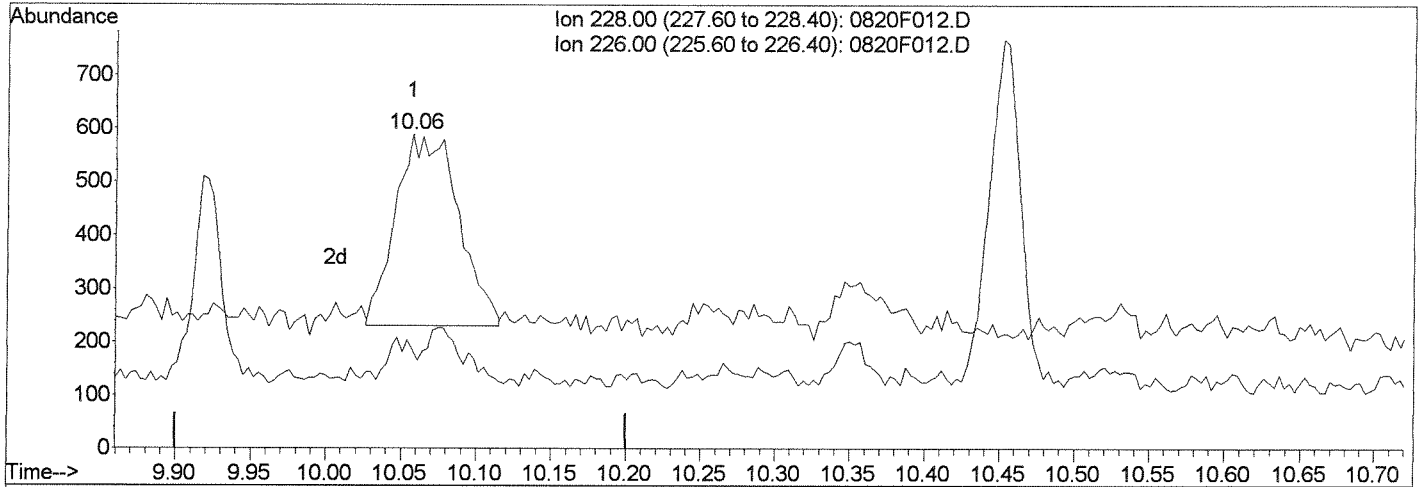
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F012.D  
 Acq On : 20 Aug 2014 2:33 pm  
 Sample : K1407971-003  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:15 2014

Vial: 12  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMP.AH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F012.D

(25) Benz(a)anthracene (T)			Manual Integration:	
10.06min	1.09ng/ml	m	After	
response	1037		IC-Incomplete	
Ion	Exp%	Act%	08/21/14	
228.00	100	100		
226.00	26.40	31.46		
0.00	0.00	0.00		
0.00	0.00	0.00		

Handwritten notes: UA, \* B 8/21/14, B

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F013.D  
**Lab ID:** K1407971-004  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 14:58  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CA AUG 21 2014  
 Secondary Review: KB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F013.D <b>Acqu Date:</b> 08/20/2014 14:58 <b>Run Type:</b> SMPL <b>Lab ID:</b> K1407971-004	<b>Quant Date:</b> 08/21/2014 09:36	<b>Instrument:</b> MS14 <b>Vial:</b> 13 <b>Dilution:</b> 1.0 <b>Soln Conc. Units:</b> ng/ml
<b>Bottle ID:</b> <b>Prod Code:</b> 8270D PAH SIM	<b>Tier:</b> V <b>Collect Date:</b> 07/25/2014	<b>Matrix:</b> ANIMAL TISSUE <b>Receive Date:</b> 07/30/2014
<b>Analysis Lot:</b> KWG1411816 <b>Analysis Method:</b> 8270D SIM <b>Prep Ref:</b> 1365429	<b>Prep Lot:</b> KWG1411415 <b>Prep Method:</b> EPA 3541 <b>Prep Date:</b> 08/12/2014	<b>Report Group:</b> K1407971
<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAAH <b>Title:</b> Polynuclear Aromatic Hydrocarbons <b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D <b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Calibration ID:</b> CAL13446 <b>Report List ID:</b> LJ15942 <b>Method ID:</b> MJ1238 <b>Quant based on Report List</b>	

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	135839	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	73297	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	140837	200.00	OK
4	Chrysene-d12	10.06	0.00	240	152914	200.00	OK
5	Perylene-d12	13.16	0.01	264	158783	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	75687	175.04	88	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	137065	172.83	86	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	114617	166.64	83	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?	
							Final Conc. Units:	ug/Kg Dry Weight			
1	Naphthalene	4.68	-0.01	0.00	128	851	1.18	8.5	U		
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	381	0.7600	6.8	U		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	380	0.8600	6.2	U		
2	Acenaphthylene	6.16		0.00	152	298	0.4000	2.6	U		
2	Acenaphthene	6.31		0.00	154	952	2.23	13	J		
2	Fluorene	6.75		0.00	166	519	0.9700	5.5	J		
3	Phenanthrene	7.55		0.00	178	922	1.19	6.7	J		
3	Anthracene	7.59		0.00	178	229	0.3000	2.2	U		
3	Fluoranthene	8.54	0.01	0.00	202	4535	5.00	28	J		
4	Pyrene	8.73		0.00	202	5991	5.68	32			
4	Benz(a)anthracene	10.06	0.02	0.00	228	787	0.8400	4.7	J		
4	Chrysene	10.10		0.00	228	410m	0.4900	3.1	U		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File:	J:\MS14\DATA\082014\0820F013.D	Instrument:	MS14
Acqu Date:	08/20/2014 14:58	Quant Date:	08/21/2014 09:36
Run Type:	SMPL	Vial:	13
Lab ID:	K1407971-004	Dilution:	1.0
		Soln Conc. Units:	ng/ml

**Target Compounds**

						Final Conc. Units:	ug/Kg Dry Weight			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	1008	1.03	5.8	J	
5	Benzo(k)fluoranthene	12.18		0.00	252	506m	0.5200	3.3	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	3481	3.71	21	Ui	
5	Indeno(1,2,3-cd)pyrene	15.40	0.01	0.00	276	351	0.3400	5.4	U	
5	Dibenz(a,h)anthracene				278	0d		4.9	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	471	0.4100	5.4	U	

Prep Amount: 10.585 g                      Dilution: 1.0  
 Prep Final Vol: 10 ml                      Unit Factor: 1  
 Solids: 16.8 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F013.D  
 Acq On : 20 Aug 2014 2:58 pm  
 Sample : K1407971-004  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:22 2014

Vial: 13  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	135839	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	73297	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	140837	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	152914	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	158783	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	75687	175.04	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.50%	
21) Fluoranthene-d10	8.52	212	137065	172.83	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.28%	
24) Terphenyl-d14	8.87	244	114617	166.64	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.66%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	851	1.18	ng/ml	98
3) 2-Methylnaphthalene	5.36	142	381	0.76	ng/ml	98
4) 1-Methylnaphthalene	5.45	142	380	0.86	ng/ml	95
5) Biphenyl	5.79	154	248m	0.42	ng/ml	
6) 2,6-Dimethylnaphthalene	5.93	156	171	0.39	ng/ml	54
8) Acenaphthylene	6.16	152	298	0.40	ng/ml	94
9) Acenaphthene	6.31	154	952	2.23	ng/ml	77
10) Dibenzofuran	6.46	168	363	0.54	ng/ml	93
11) 2,3,5-Trimethylnaphthalene	6.63	170	209m	0.49	ng/ml	
13) Fluorene	6.75	166	519	0.97	ng/ml	76
15) Dibenzothiophene	7.45	184	175m	0.24	ng/ml	
16) Phenanthrene	7.55	178	922	1.19	ng/ml	92
17) Anthracene	7.59	178	229	0.30	ng/ml	98
18) Carbazole	7.74	167	310m	0.46	ng/ml	
19) 1-Methylphenanthrene	8.06	192	92m	0.15	ng/ml	
20) Fluoranthene	8.54	202	4535	5.00	ng/ml	95
23) Pyrene	8.73	202	5991	5.68	ng/ml#	1
25) Benz(a)anthracene	10.06	228	787	0.84	ng/ml	77
26) Chrysene	10.10	228	410m	0.49	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	1008	1.03	ng/ml	94
29) Benzo(k)fluoranthene	12.18	252	506m	0.52	ng/ml	
30) Benzo(e)pyrene	12.83	252	689	0.74	ng/ml	82
31) Benzo(a)pyrene	12.97	252	3481	3.71	ng/ml#	1
32) Perylene	13.23	252	267	0.30	ng/ml	83
33) Indeno(1,2,3-cd)pyrene	15.40	276	351	0.34	ng/ml	89
35) Benzo(g,h,i)perylene	15.79	276	471	0.41	ng/ml	85

(#) = qualifier out of range (m) = manual integration

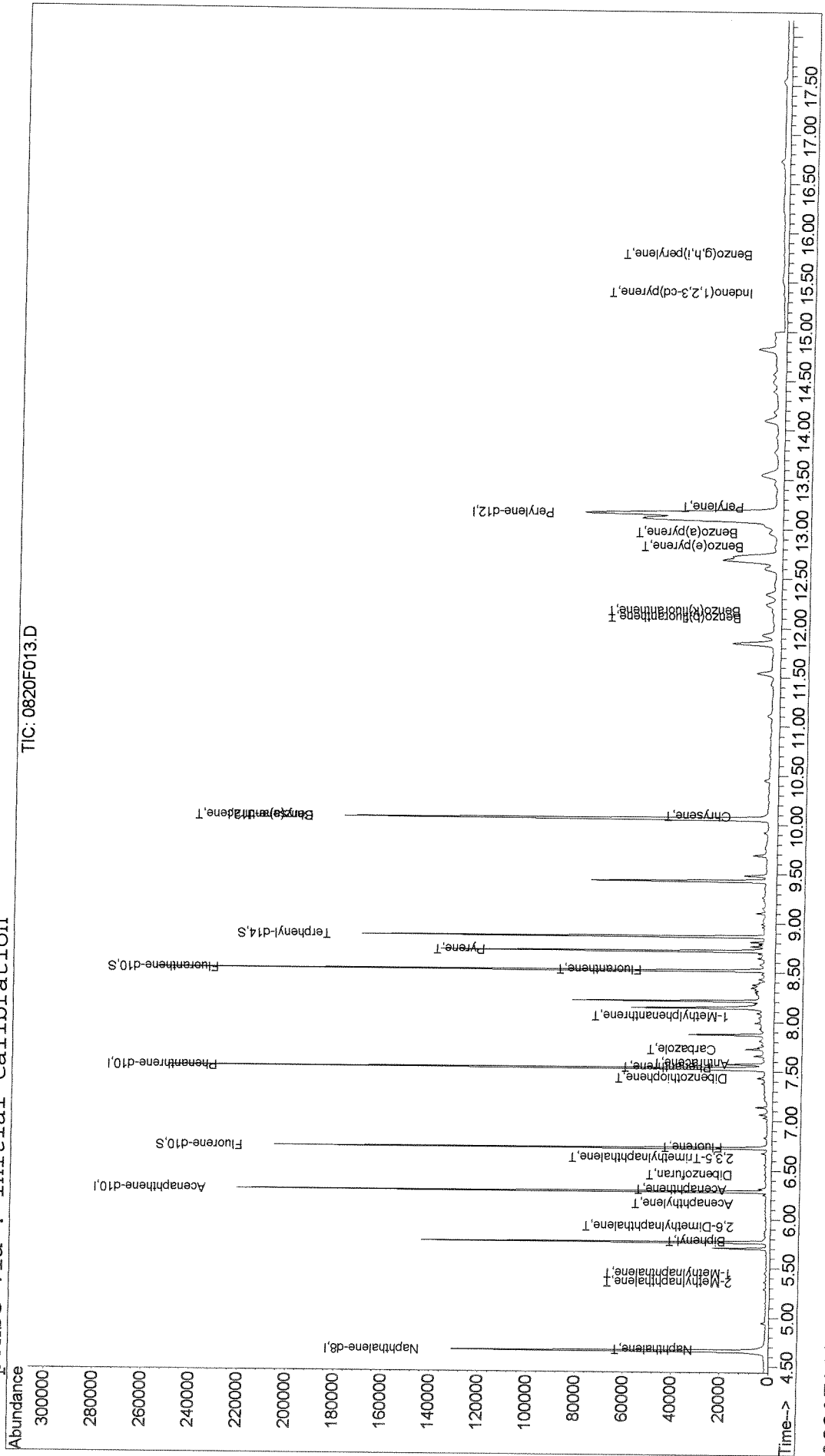
Quantitation Report (QT Reviewed)

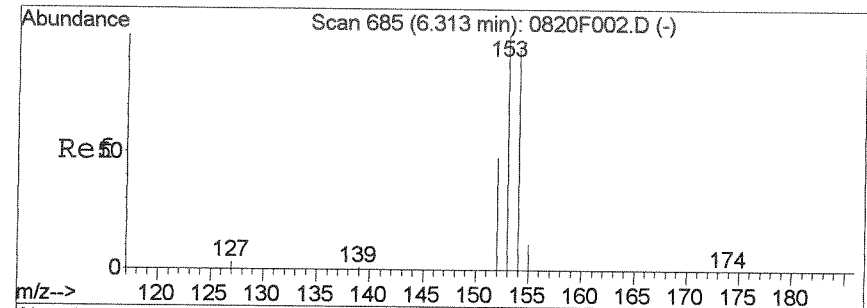
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 Acq On : 20 Aug 2014 2:58 pm  
 Sample : K1407971-004  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014

Vial: 13  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RES

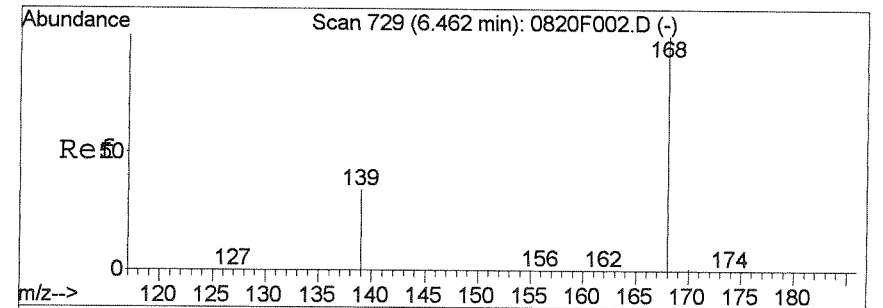
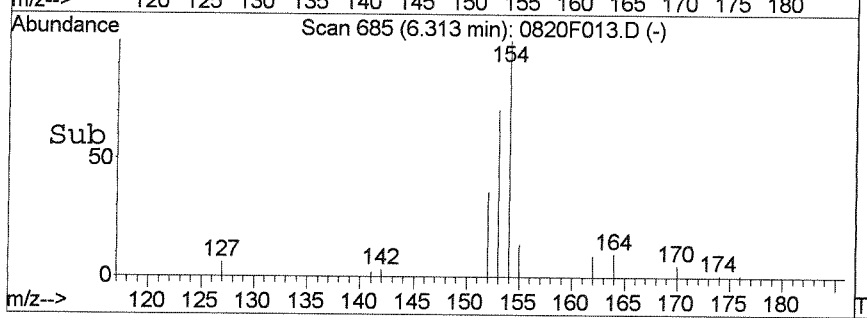
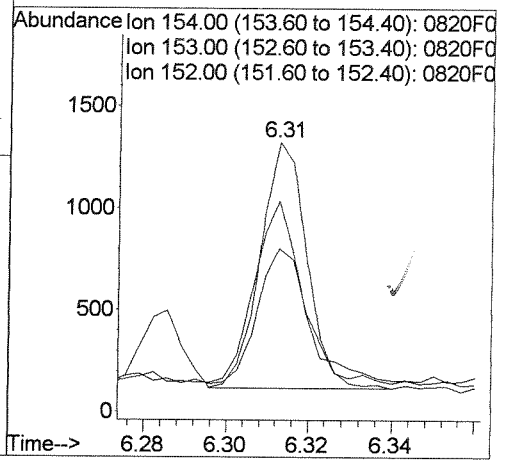
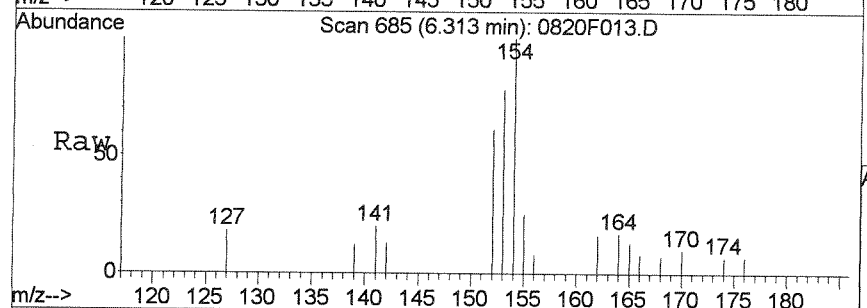
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





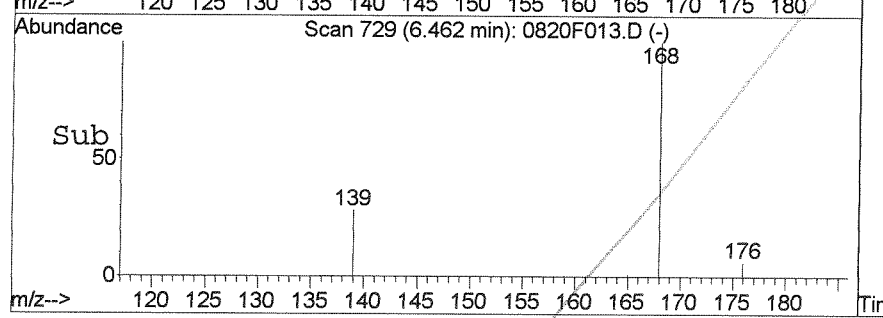
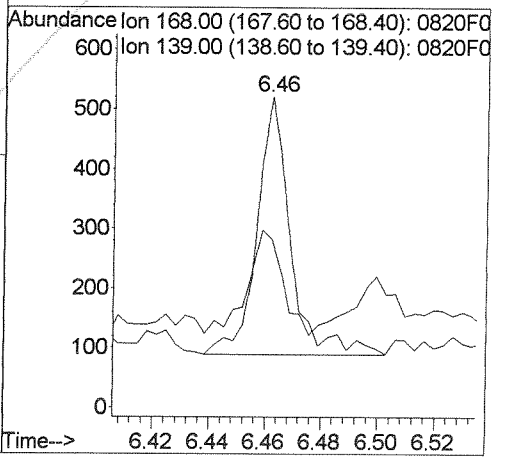
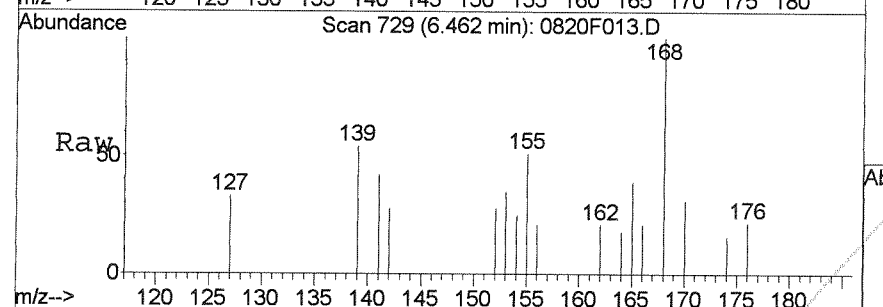
#9  
 Acenaphthene  
 Concen: 2.23 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

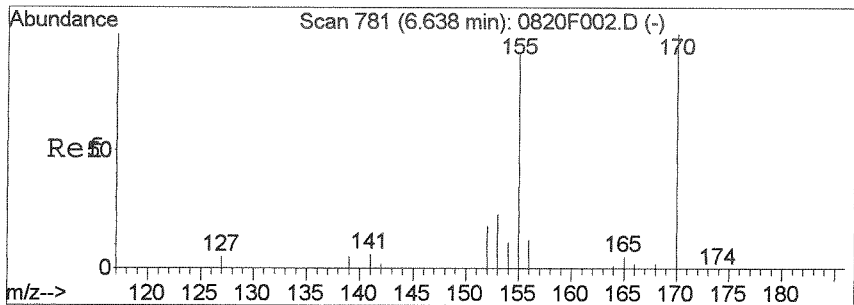
Tgt Ion	Resp	Lower	Upper
154	100		
153	73.8	72.5	132.5
152	55.1	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.54 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

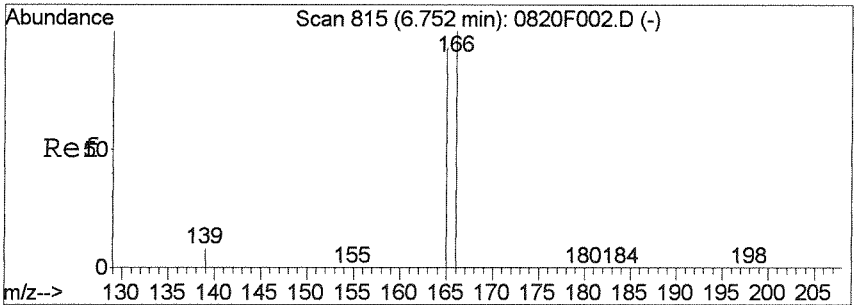
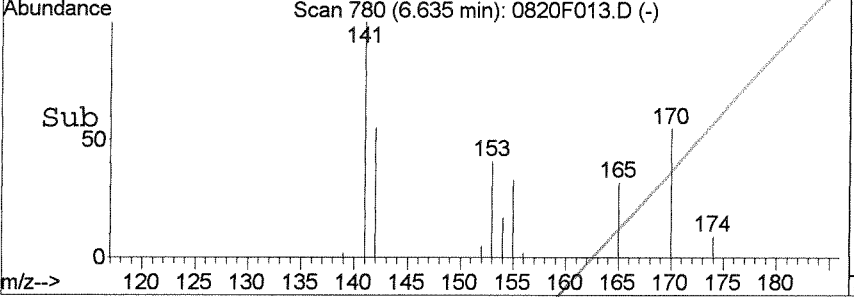
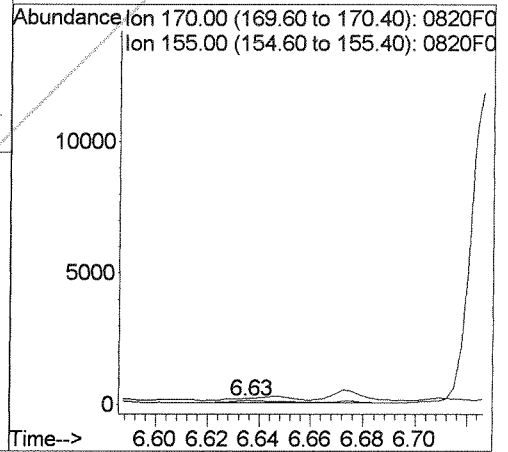
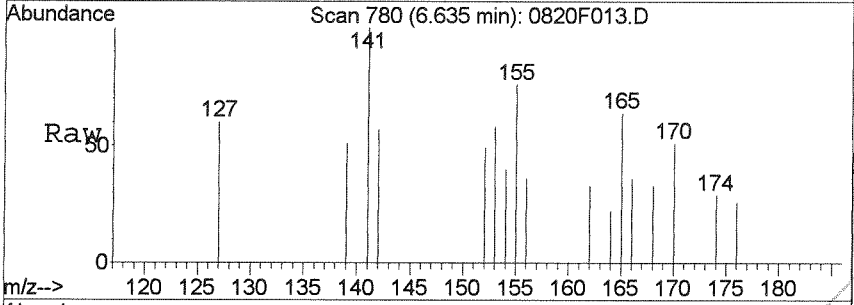
Tgt Ion	Resp	Lower	Upper
168	100		
139	36.6	2.7	62.7





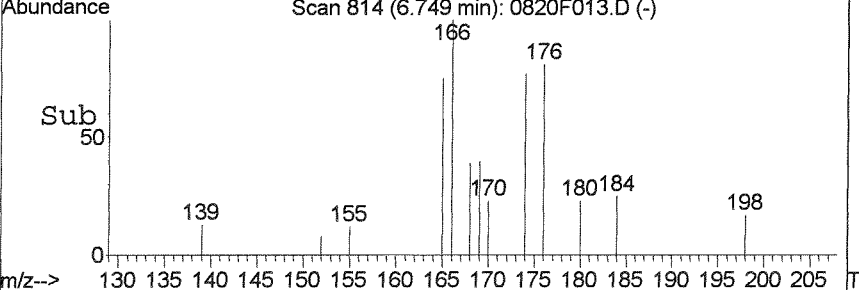
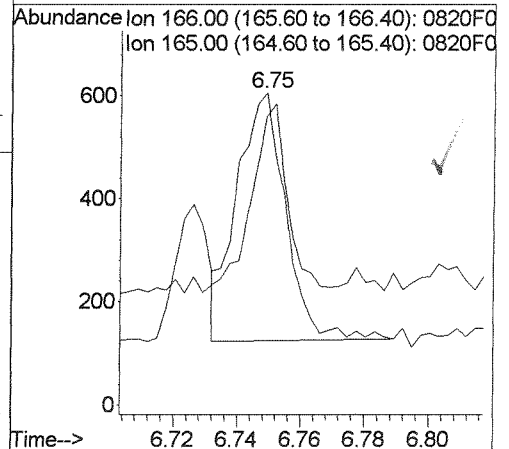
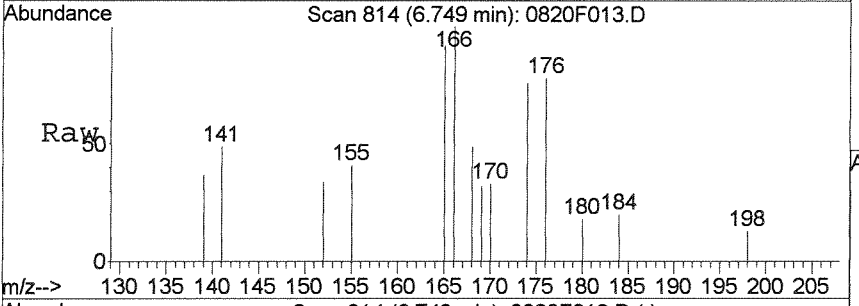
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.49 ng/ml  
 RT: 6.63 min Scan# 780  
 Delta R.T. -0.01 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion: 170 Resp: 209  
 Ion Ratio Lower Upper  
 170 100  
 155 149.1 64.1 124.1#

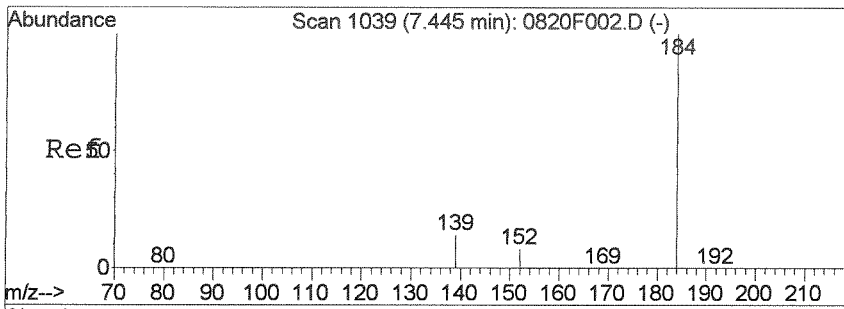


#13  
 Fluorene  
 Concen: 0.97 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion: 166 Resp: 519  
 Ion Ratio Lower Upper  
 166 100  
 165 68.4 60.9 120.9

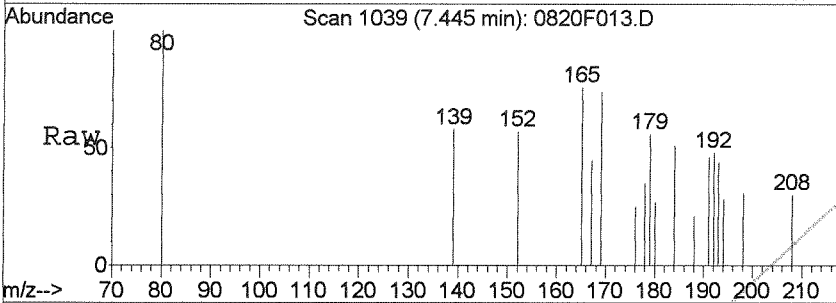




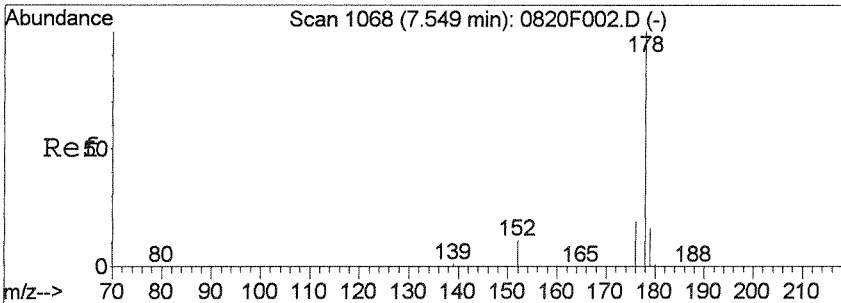
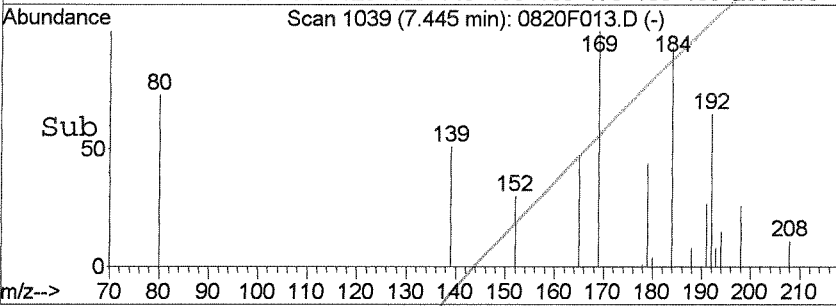
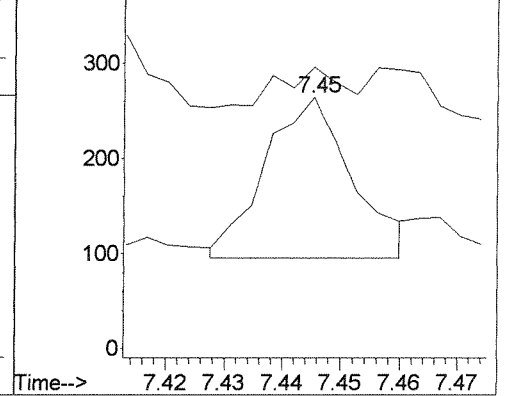


#15  
 Dibenzothiophene  
 Concen: 0.24 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion	Resp	Lower	Upper
184	175		
152	112.1	0.0	39.9#

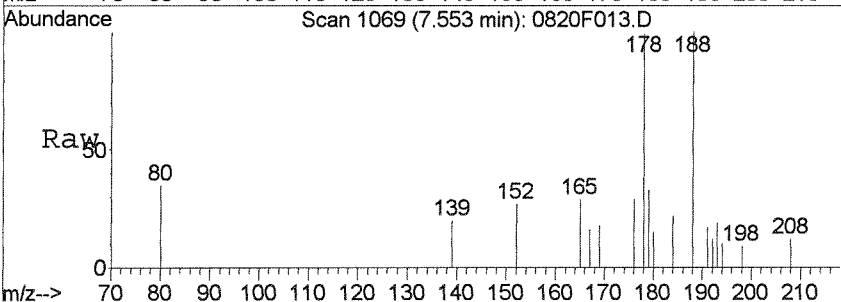


Abundance Ion 184.00 (183.60 to 184.40): 0820F0  
 Ion 152.00 (151.60 to 152.40): 0820F0

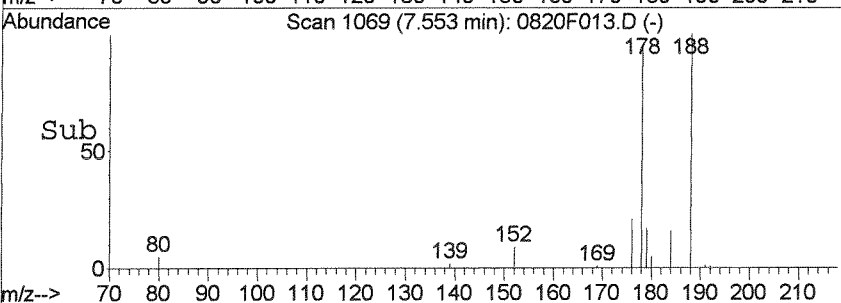
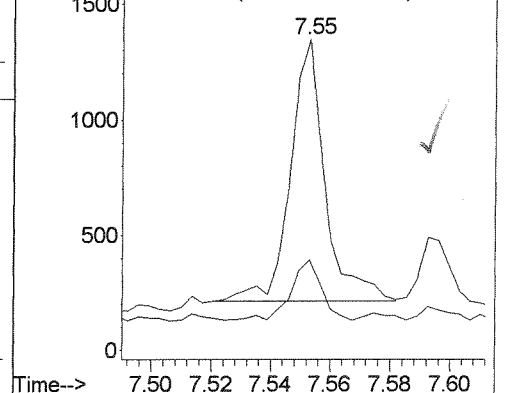


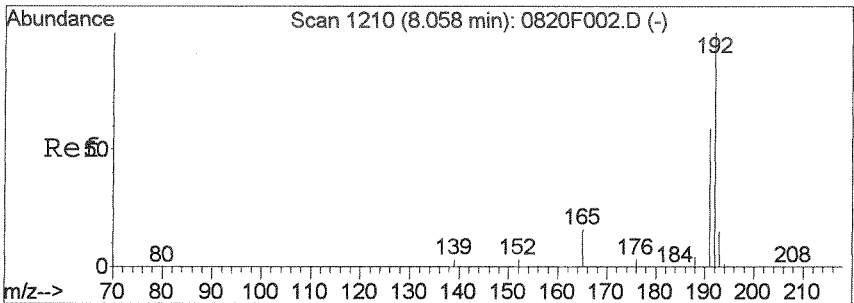
#16  
 Phenanthrene  
 Concen: 1.19 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion	Resp	Lower	Upper
178	922		
176	22.4	0.0	48.9



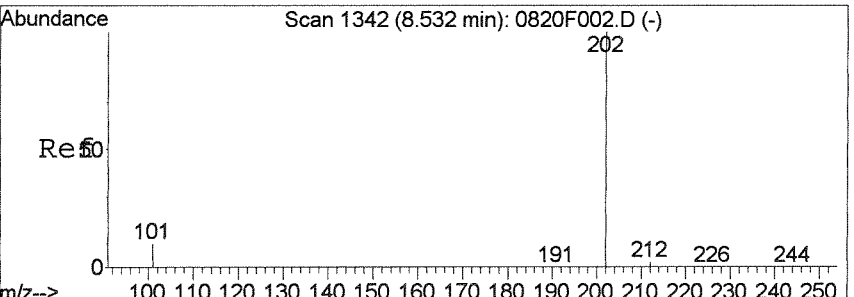
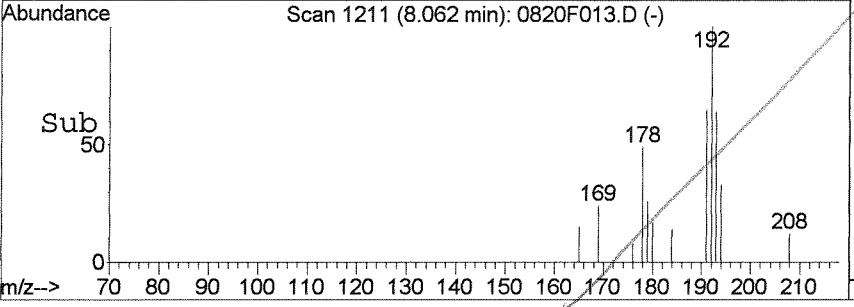
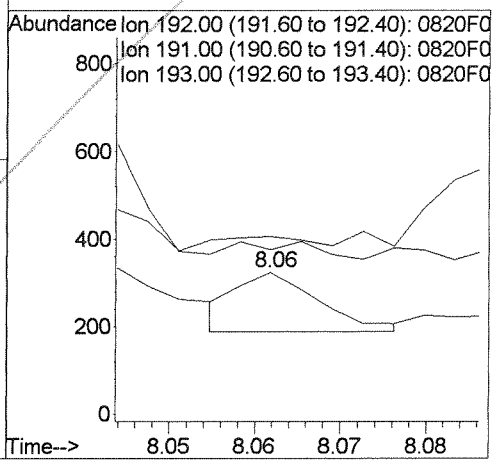
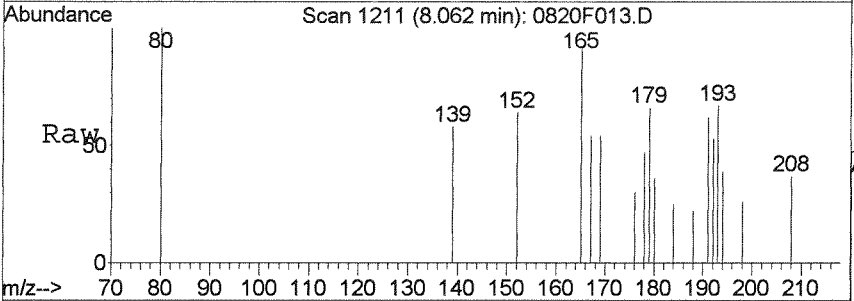
Abundance Ion 178.00 (177.60 to 178.40): 0820F0  
 Ion 176.00 (175.60 to 176.40): 0820F0





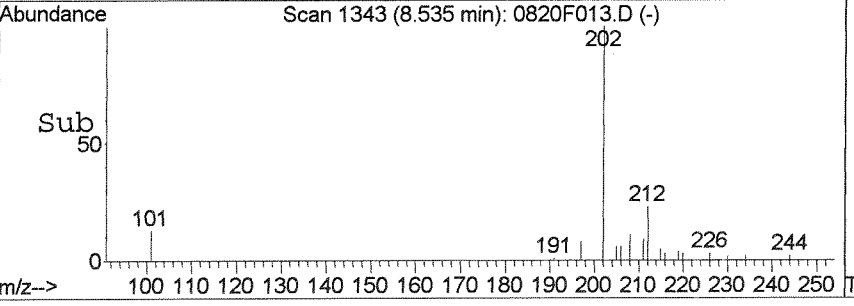
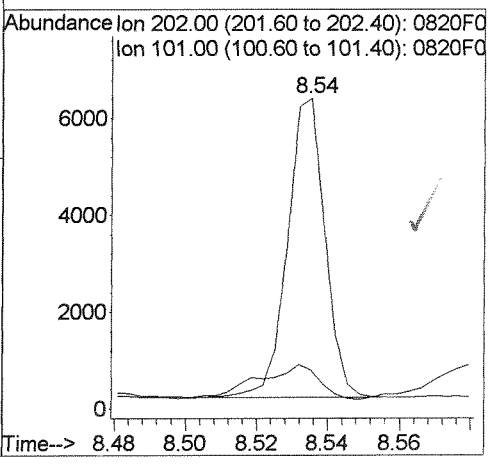
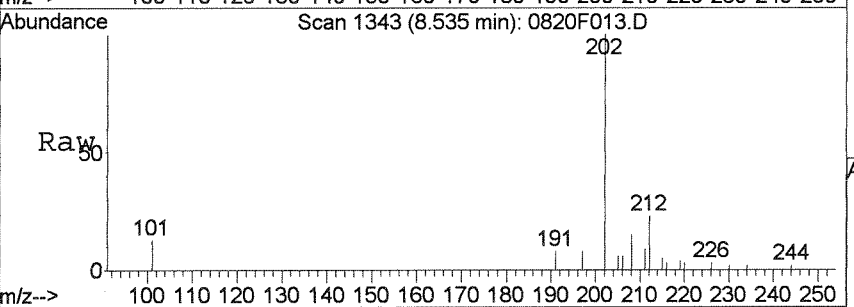
#19  
 1-Methylphenanthrene  
 Concen: 0.15 ng/ml m  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

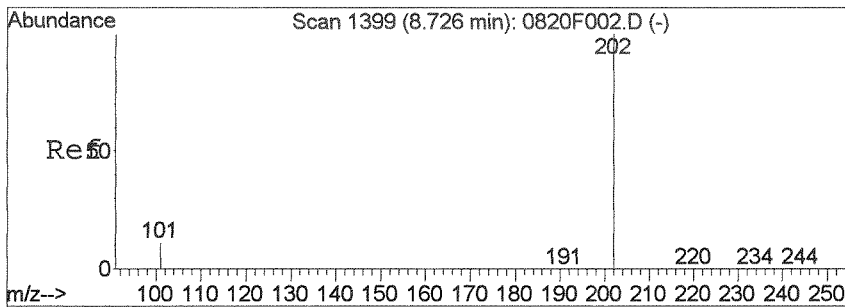
Tgt Ion	Resp	Lower	Upper
192	100		
191	116.0	25.5	85.5#
193	125.3	0.0	45.7#



#20  
 Fluoranthene  
 Concen: 5.00 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

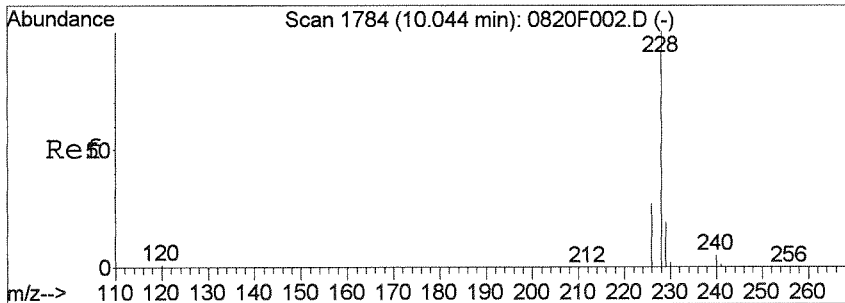
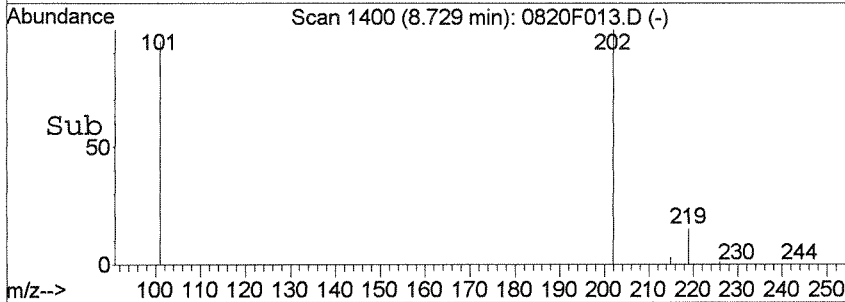
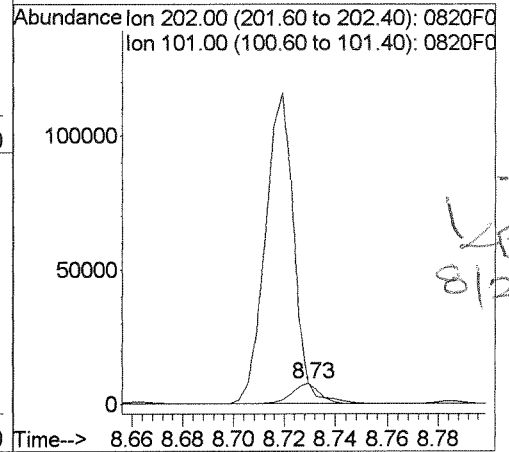
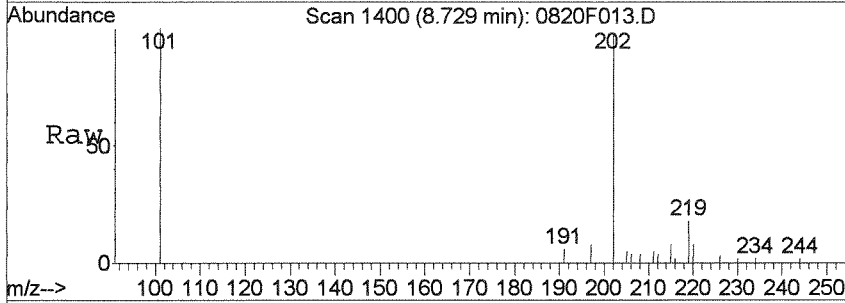
Tgt Ion	Resp	Lower	Upper
202	100		
101	8.6	0.0	37.0





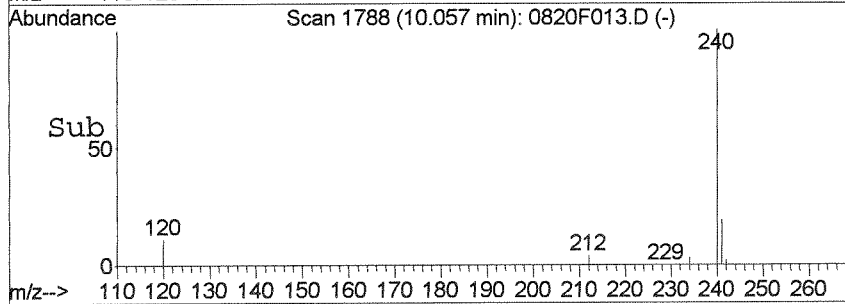
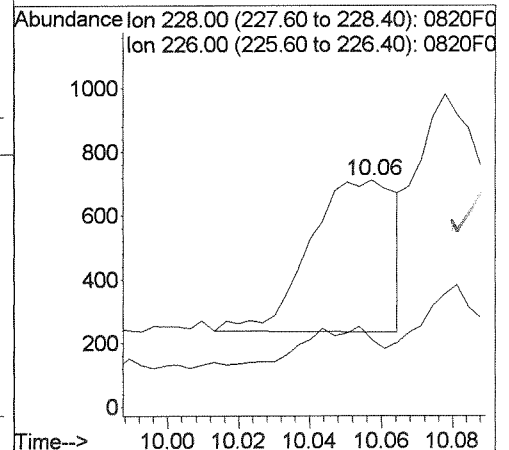
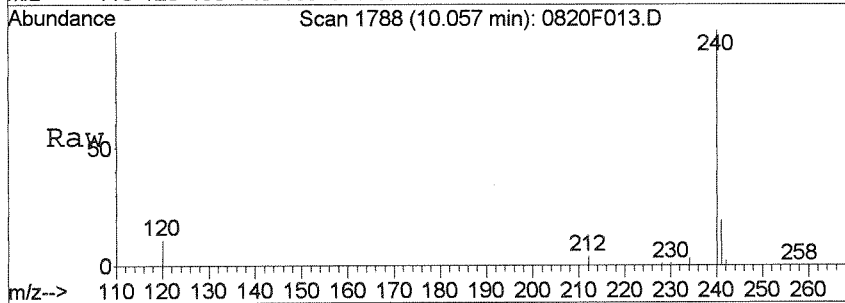
#23  
 Pyrene  
 Concen: 5.68 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

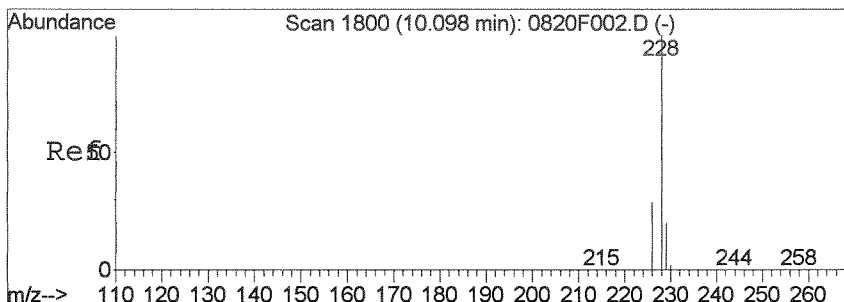
Tgt Ion	Resp	Lower	Upper
202	5991	100	
101	102.6	0.0	38.3#



#25  
 Benz (a) anthracene  
 Concen: 0.84 ng/ml  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

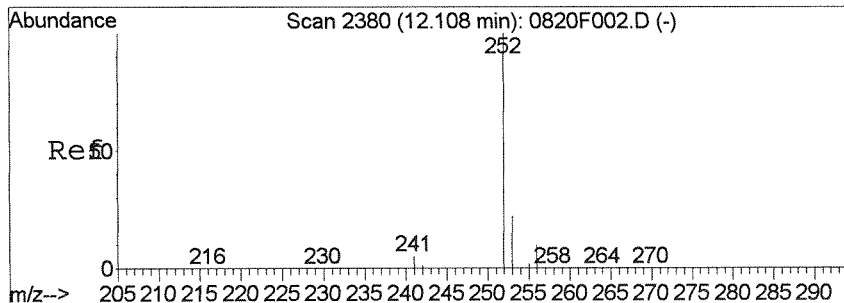
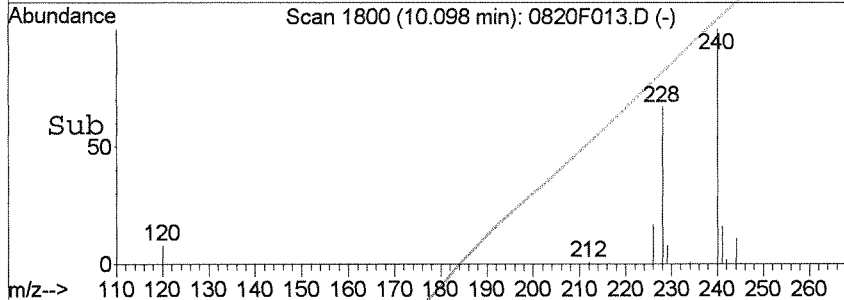
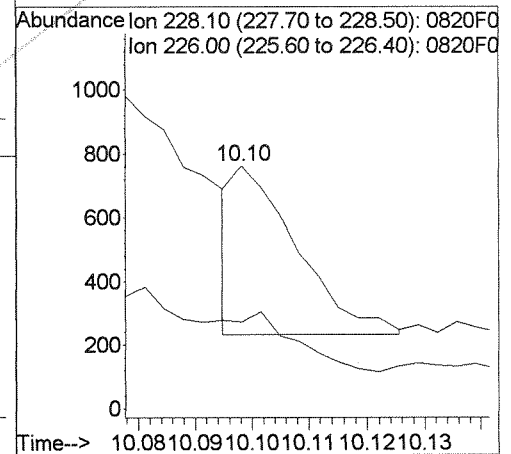
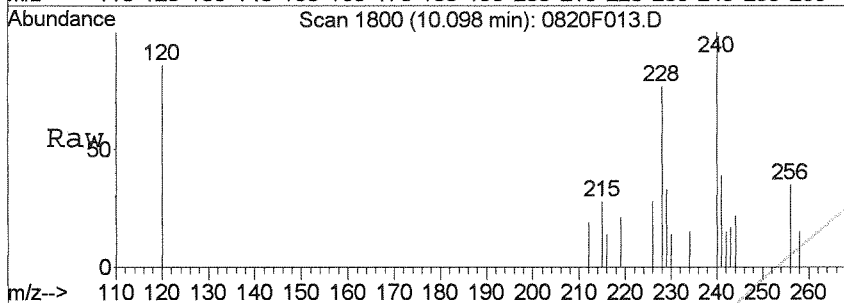
Tgt Ion	Resp	Lower	Upper
228	787	100	
226	14.8	0.0	56.4





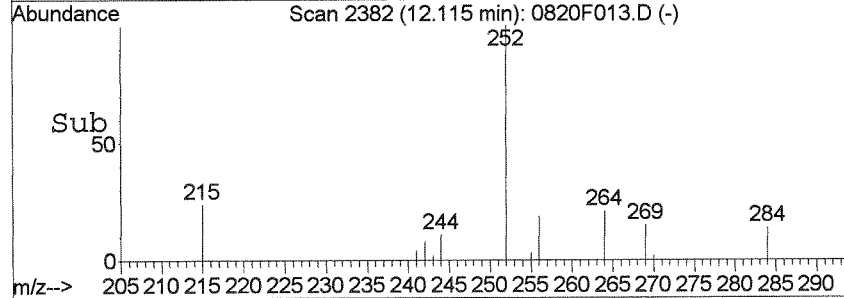
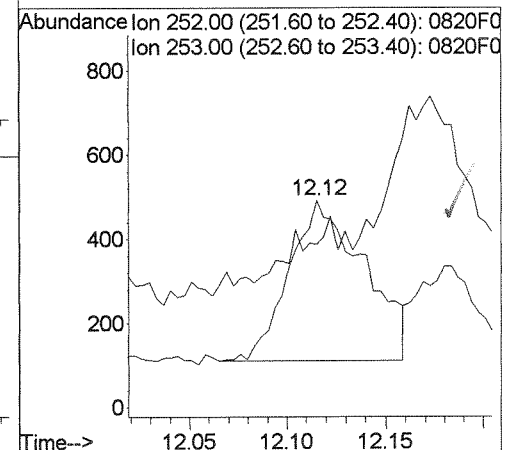
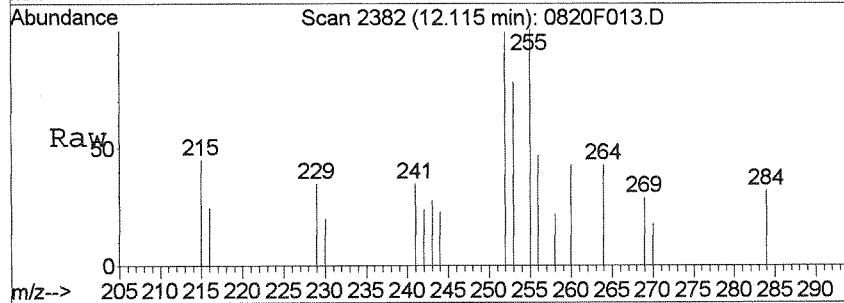
#26  
 Chrysene  
 Concen: 0.49 ng/ml m *< MDL*  
 RT: 10.10 min Scan# 1800  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

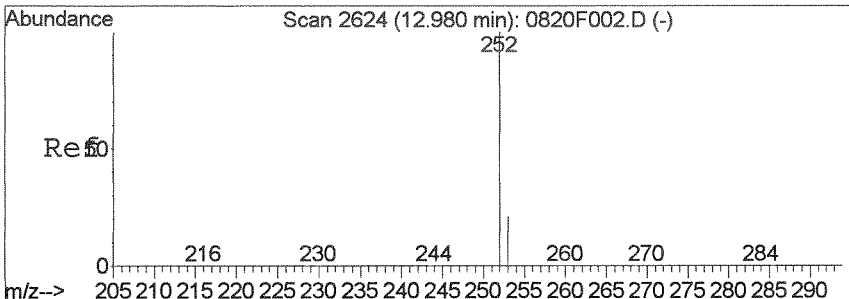
Tgt Ion	Ratio	Lower	Upper
228	100		
226	35.8	0.0	58.6



#28  
 Benzo(b) fluoranthene  
 Concen: 1.03 ng/ml  
 RT: 12.12 min Scan# 2382  
 Delta R.T. -0.00 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

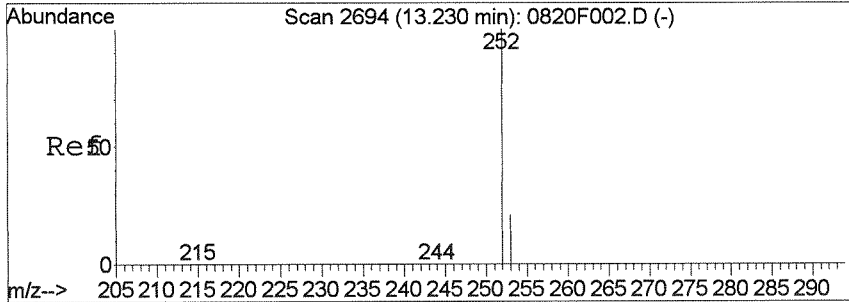
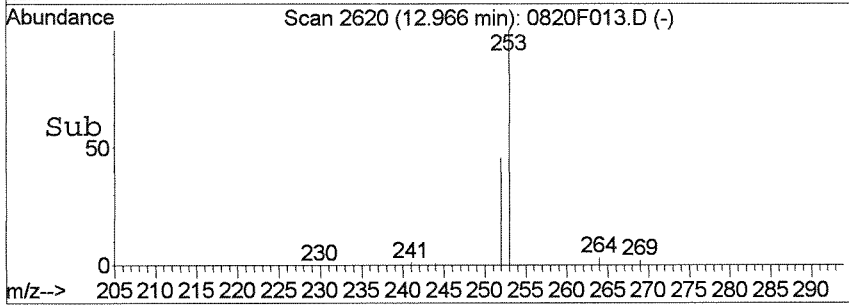
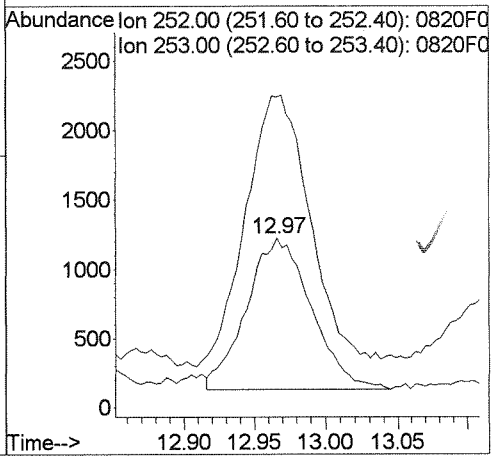
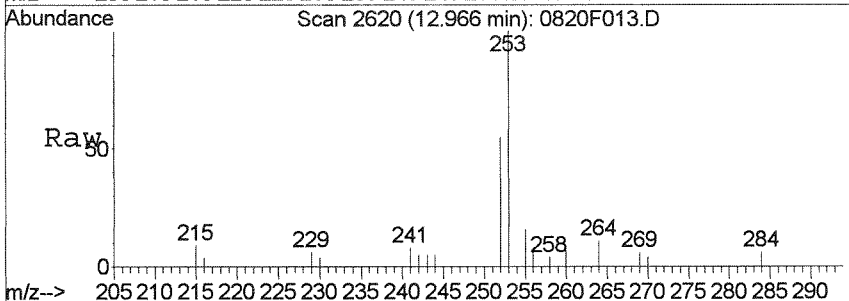
Tgt Ion	Ratio	Lower	Upper
252	100		
253	25.2	0.0	52.1





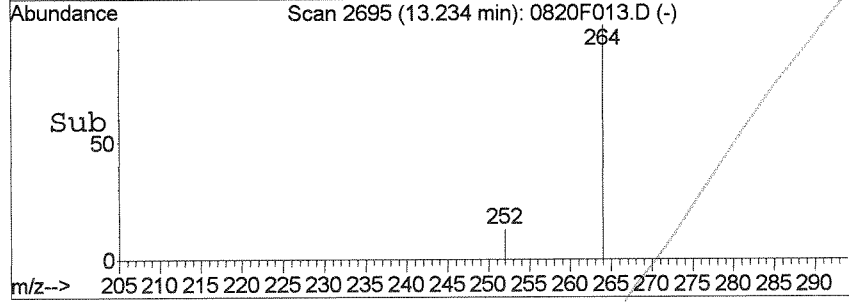
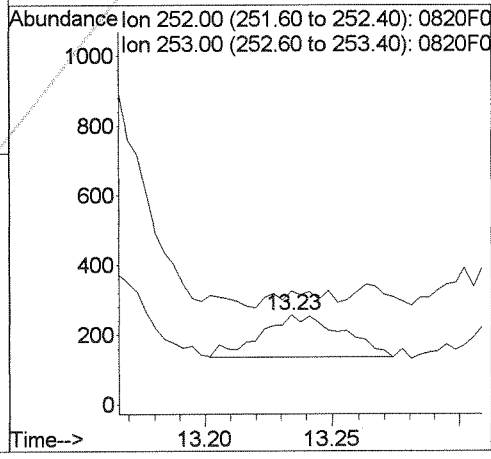
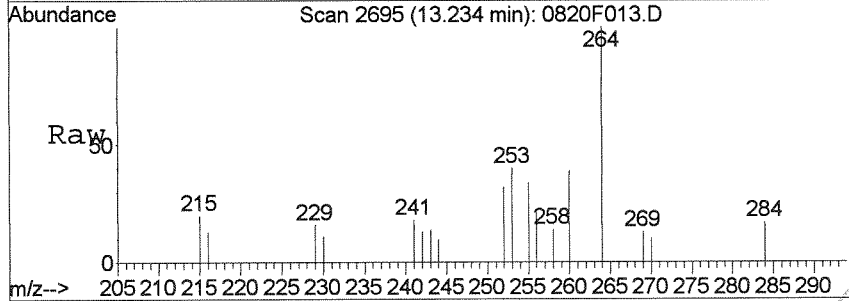
#31  
 Benzo(a)pyrene  
 Concen: 3.71 ng/ml  
 RT: 12.97 min Scan# 2620  
 Delta R.T. -0.02 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion	Resp	Lower	Upper
252	3481	100	
253	170.6	0.0	52.2#



#32  
 Perylene  
 Concen: 0.30 ng/ml  
 RT: 13.23 min Scan# 2695  
 Delta R.T. -0.01 min  
 Lab File: 0820F013.D  
 Acq: 20 Aug 2014 2:58 pm

Tgt Ion	Resp	Lower	Upper
252	267	100	
253	13.9	0.0	51.8



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F014.D  
**Lab ID:** K1407971-005  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 15:24  
**Date Quantitated:** 08/21/2014 09:19  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

*X: Benz(a) and Chrysene coelution* AUG 21 2014

Primary Review: *CA* AUG 21 2014  
 Secondary Review: *AS* AUG 21 2014

## Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F014.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 15:24	<b>Quant Date:</b> 08/21/2014 09:19
<b>Run Type:</b> SMPL	<b>Vial:</b> 14
<b>Lab ID:</b> K1407971-005	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365430	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	135559	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	72785	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	139258	200.00	OK
4	Chrysene-d12	10.06	0.00	240	150486	200.00	OK
5	Perylene-d12	13.16	0.01	264	155264	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	77231	179.87	90	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	137733	175.64	88	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	115058	169.98	85	39-111	OK

### Target Compounds

							Final Conc. Units:		ug/Kg Dry Weight	
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	4416	6.15	38	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	2973	5.92	36	J	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	2691	6.08	37		
2	Acenaphthylene	6.16		0.00	152	4419	6.03	37		
2	Acenaphthene	6.31		0.00	154	3081	7.27	44		
2	Fluorene	6.75		0.00	166	2843	5.36	33		
3	Phenanthrene	7.55		0.00	178	3063	3.98	24	J	
3	Anthracene	7.60	0.01	0.00	178	2078	2.73	17	J	
3	Fluoranthene	8.53		0.00	202	5717	6.38	39		
4	Pyrene	8.73		0.00	202	7963	7.67	47		
4	Benz(a)anthracene				228	0d		2.4	U	
4	Chrysene	10.08	-0.02	0.00	228	1977	2.42	15	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 #: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F014.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 15:24	<b>Quant Date:</b>	08/21/2014 09:19
<b>Run Type:</b>	SMPL	<b>Vial:</b>	14
<b>Lab ID:</b>	K1407971-005	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Target Compounds</b>						<b>Final Conc. Units:</b>		<b>ug/Kg Dry Weight</b>		
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.13	0.02	0.00	252	503	0.5300	4.1	U	
5	Benzo(k)fluoranthene	12.18		0.00	252	348m	0.3700	3.5	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	702m	0.7700	4.8	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		5.9	U	
5	Dibenz(a,h)anthracene				278	0d		5.3	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	310m	0.2800	5.9	U	

**Prep Amount:** 10.422 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 15.7 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution



Data File : J:\MS14\DATA\082014\0820F014.D  
 Acq On : 20 Aug 2014 3:24 pm  
 Sample : K1407971-005  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:23 2014

Vial: 14  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	135559	200.00	ng/ml	-0.02
7) Acenaphthene-d10	6.29	164	72785	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	139258	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	150486	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	155264	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	77231	179.87	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.99%	
21) Fluoranthene-d10	8.52	212	137733	175.64	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.56%	
24) Terphenyl-d14	8.87	244	115058	169.98	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.00%	

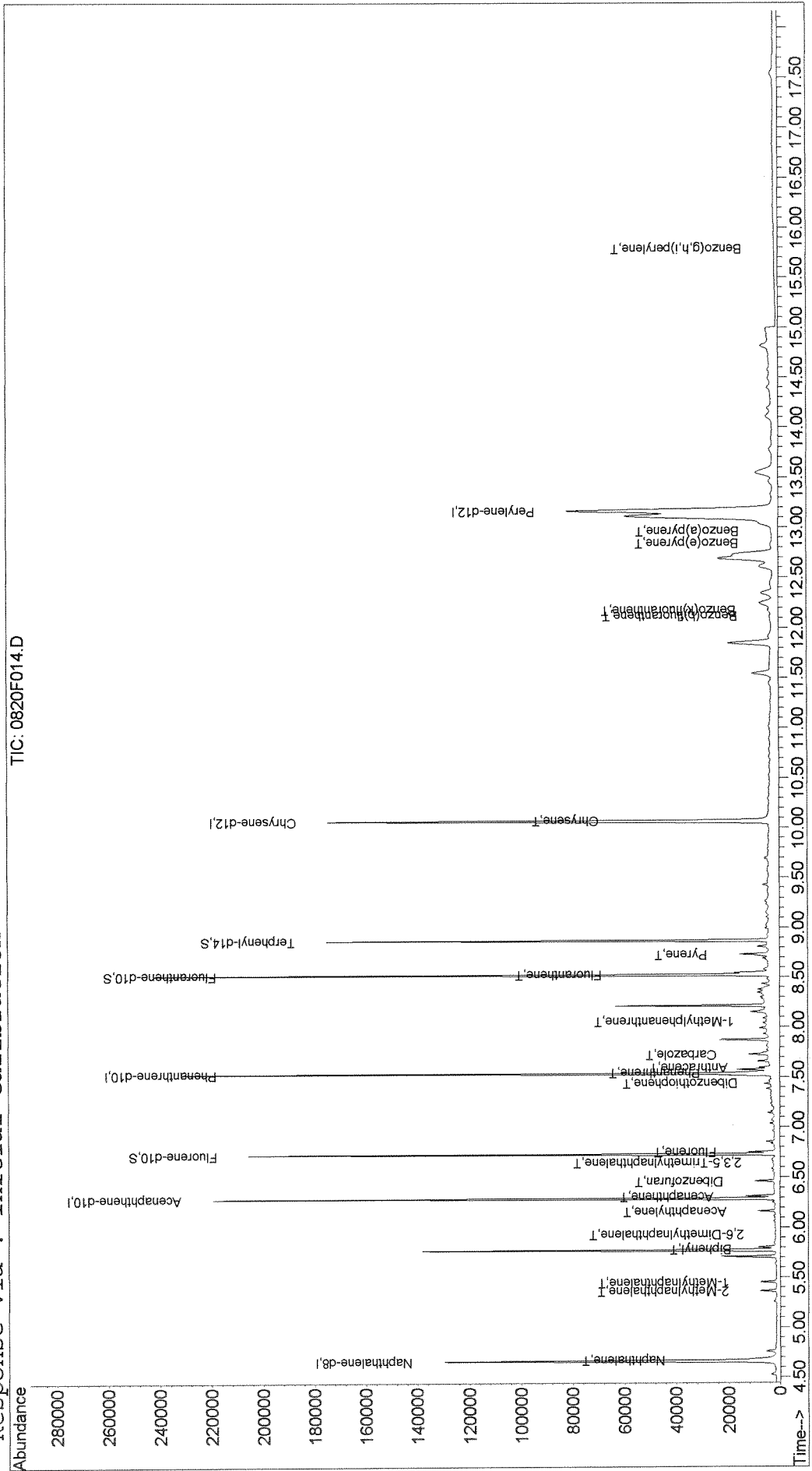
Target Compounds

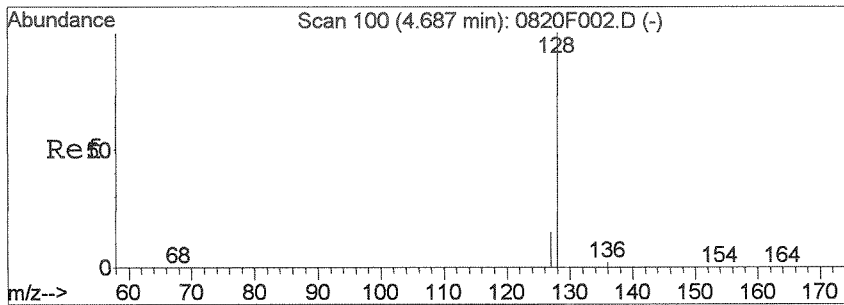
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	4416	6.15	ng/ml	95
3) 2-Methylnaphthalene	5.36	142	2973	5.92	ng/ml	98
4) 1-Methylnaphthalene	5.45	142	2691	6.08	ng/ml	98
5) Biphenyl	5.79	154	258m	0.43	ng/ml	
6) 2,6-Dimethylnaphthalene	5.94	156	237	0.54	ng/ml	92
8) Acenaphthylene	6.16	152	4419	6.03	ng/ml	100
9) Acenaphthene	6.31	154	3081	7.27	ng/ml	96
10) Dibenzofuran	6.46	168	3987	5.96	ng/ml	96
11) 2,3,5-Trimethylnaphthalene	6.64	170	138m	0.33	ng/ml	
13) Fluorene	6.75	166	2843	5.36	ng/ml	100
15) Dibenzothiophene	7.45	184	170m	0.23	ng/ml	
16) Phenanthrene	7.55	178	3063	3.98	ng/ml	100
17) Anthracene	7.60	178	2078	2.73	ng/ml	97
18) Carbazole	7.74	167	1013	1.51	ng/ml	79
19) 1-Methylphenanthrene	8.06	192	99	0.16	ng/ml	79
20) Fluoranthene	8.53	202	5717	6.38	ng/ml	93
23) Pyrene	8.73	202	7963	7.67	ng/ml	92
26) Chrysene	10.08	228	1977	2.42	ng/ml	92
28) Benzo(b)fluoranthene	12.13	252	503	0.53	ng/ml	96
29) Benzo(k)fluoranthene	12.18	252	348m	0.37	ng/ml	
30) Benzo(e)pyrene	12.84	252	476	0.52	ng/ml	94
31) Benzo(a)pyrene	12.96	252	702m	0.77	ng/ml	
35) Benzo(g,h,i)perylene	15.78	276	310m	0.28	ng/ml	

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F014.D  
 Acq On : 20 Aug 2014 3:24 pm  
 Sample : K1407971-005  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:19 2014  
 Quant Results File: 072214SIMPAAH.RES

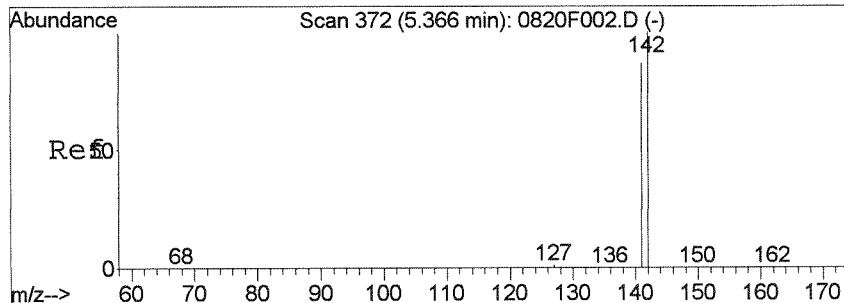
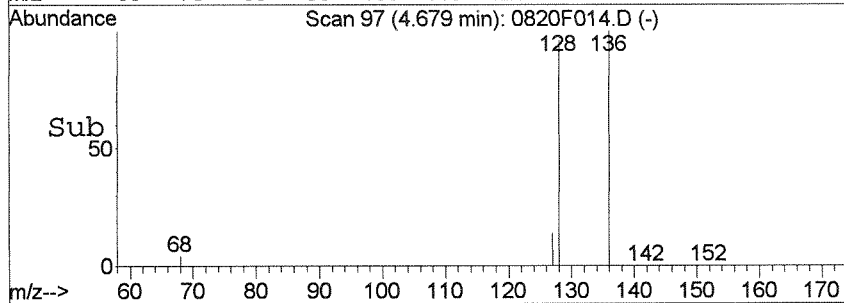
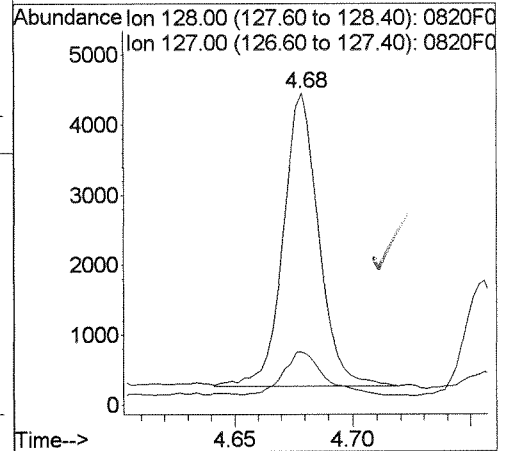
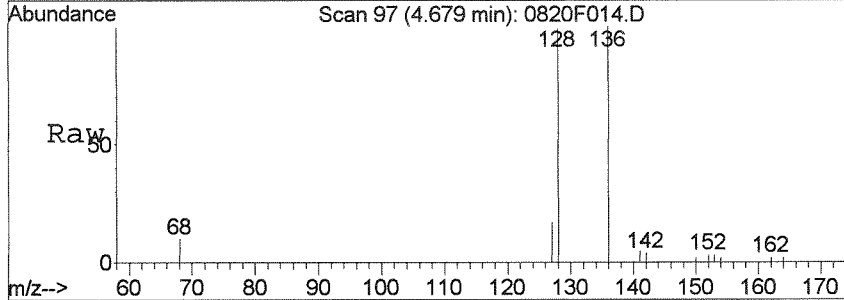
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





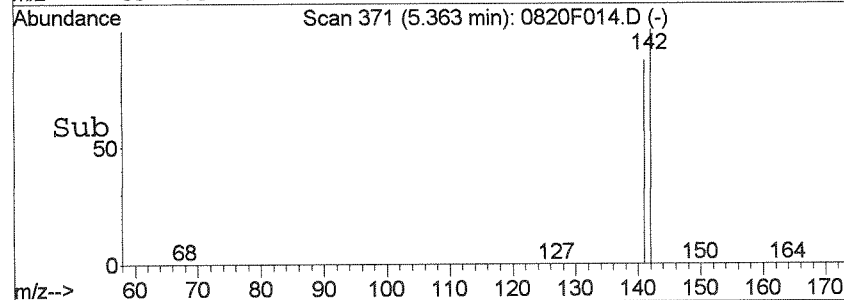
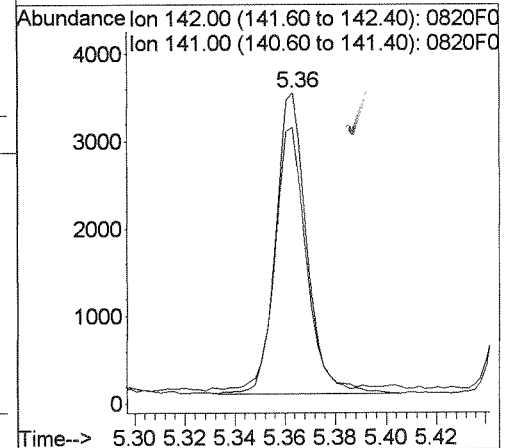
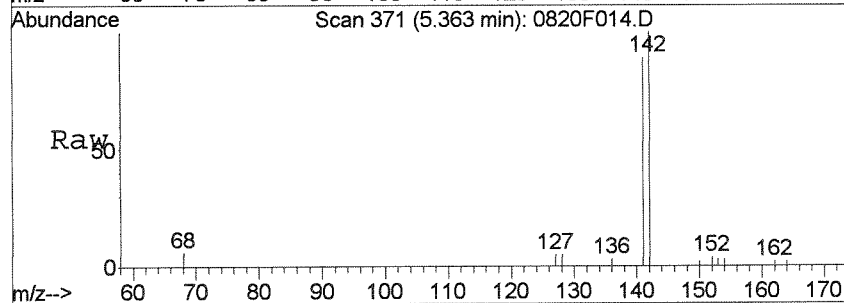
#2  
 Naphthalene  
 Concen: 6.15 ng/ml  
 RT: 4.68 min Scan# 97  
 Delta R.T. -0.01 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

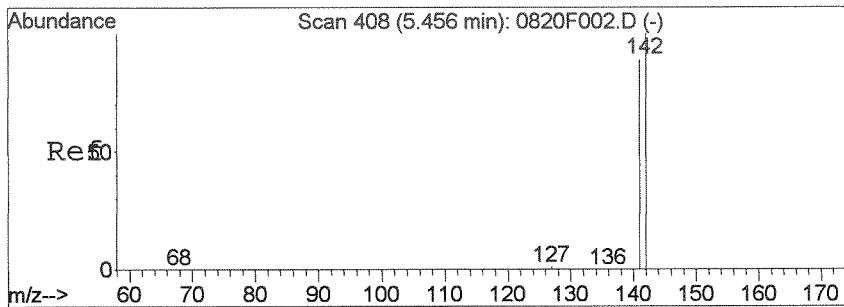
Tgt Ion	Resp	Lower	Upper
128	4416	100	
127	14.7	0.0	42.6



#3  
 2-Methylnaphthalene  
 Concen: 5.92 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

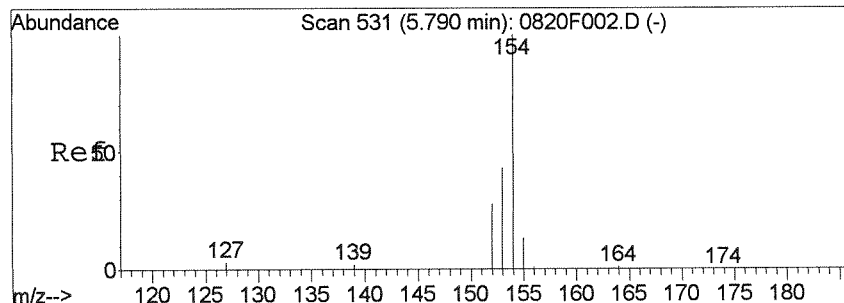
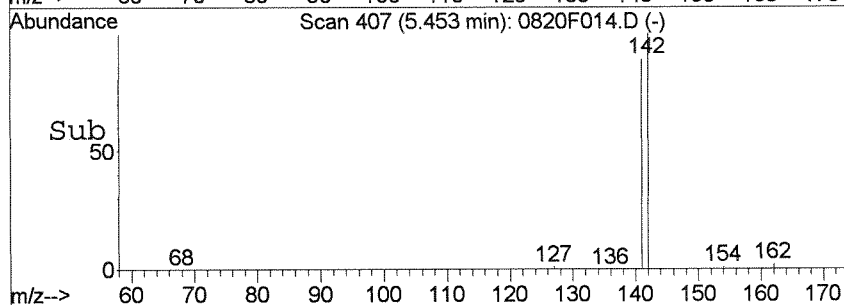
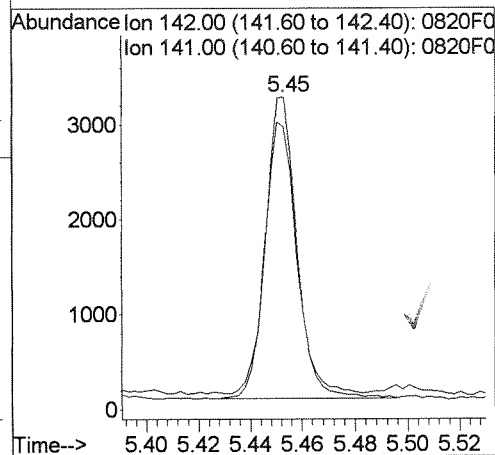
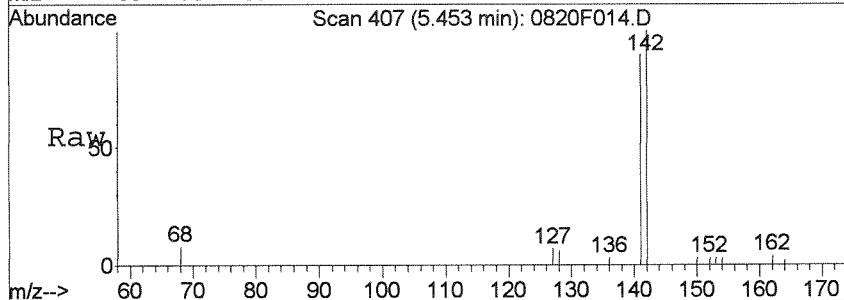
Tgt Ion	Resp	Lower	Upper
142	2973	100	
141	86.7	54.8	114.8





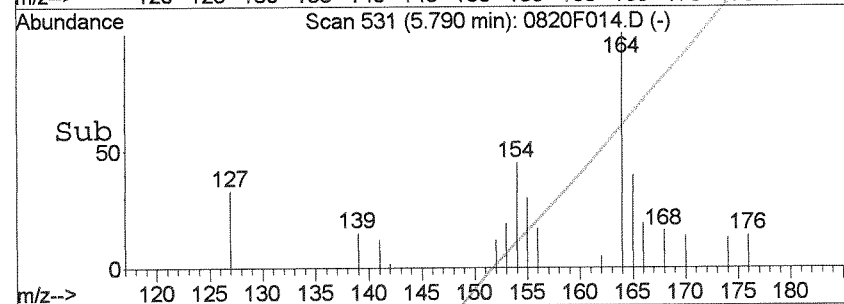
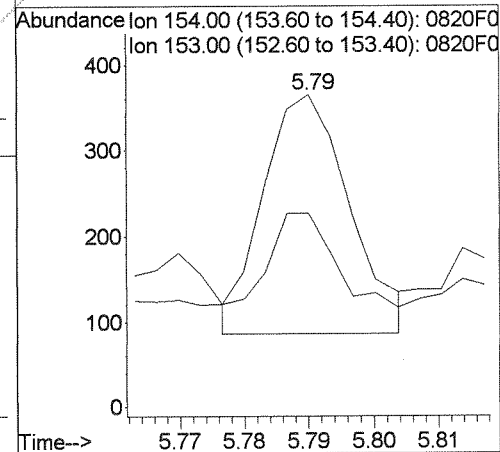
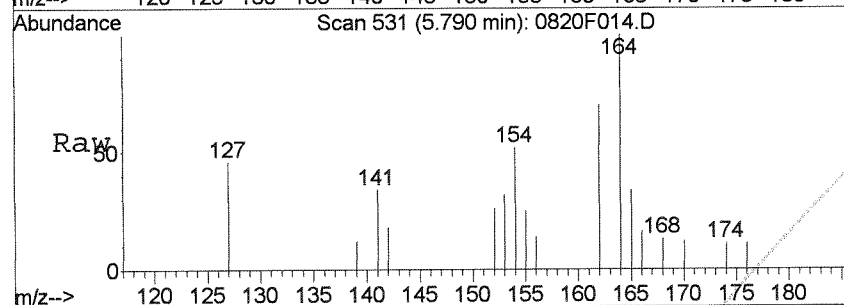
#4  
 1-Methylnaphthalene  
 Concen: 6.08 ng/ml  
 RT: 5.45 min Scan# 407  
 Delta R.T. -0.01 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

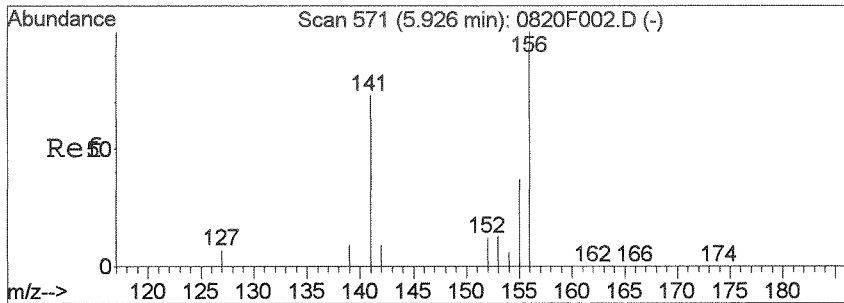
Tgt Ion	Resp	Lower	Upper
142	100		
141	87.8	56.4	116.4



#5  
 Biphenyl  
 Concen: 0.43 ng/ml m  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion	Resp	Lower	Upper
154	100		
153	62.2	9.6	69.6

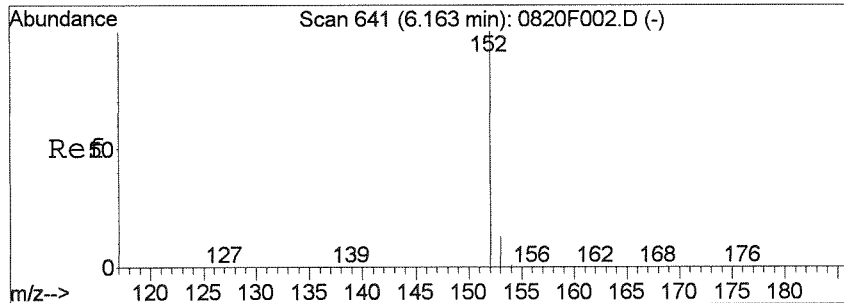
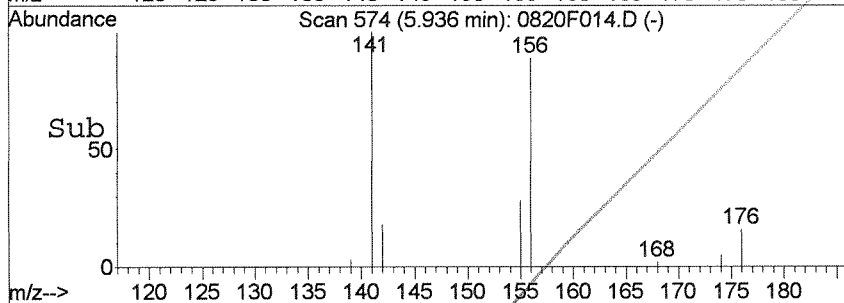
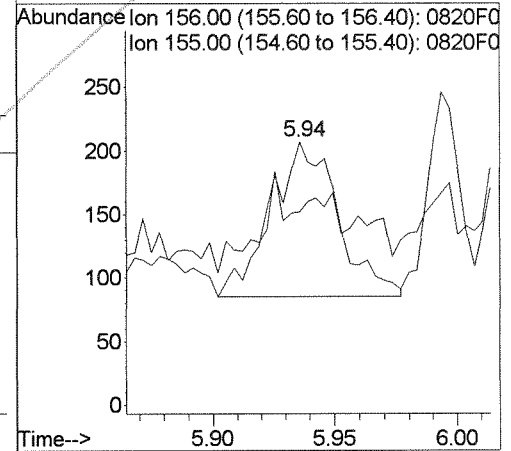
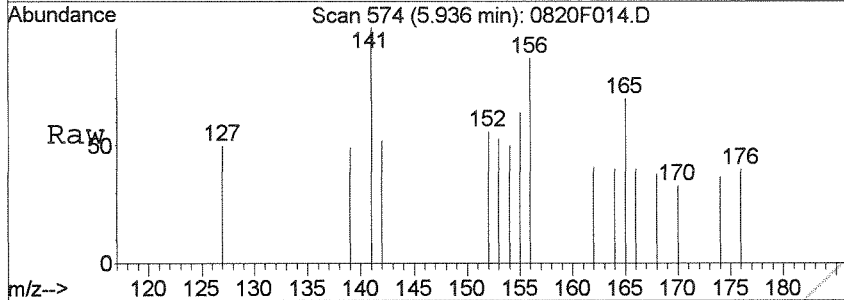




#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.54 ng/ml  
 RT: 5.94 min Scan# 574  
 Delta R.T. 0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

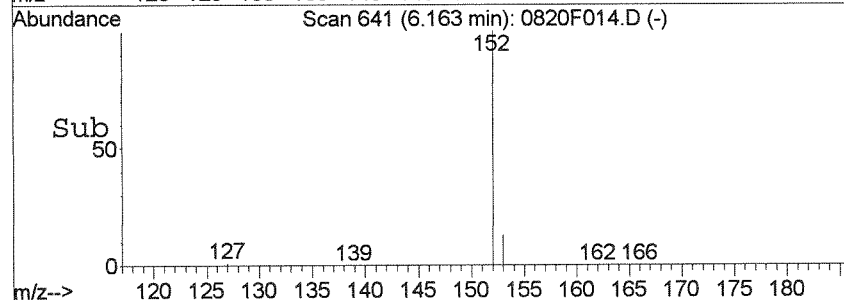
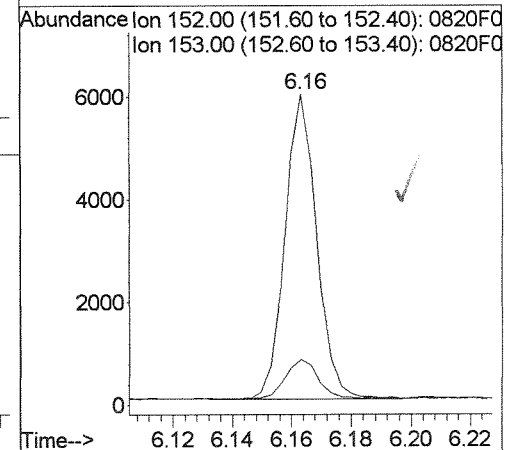
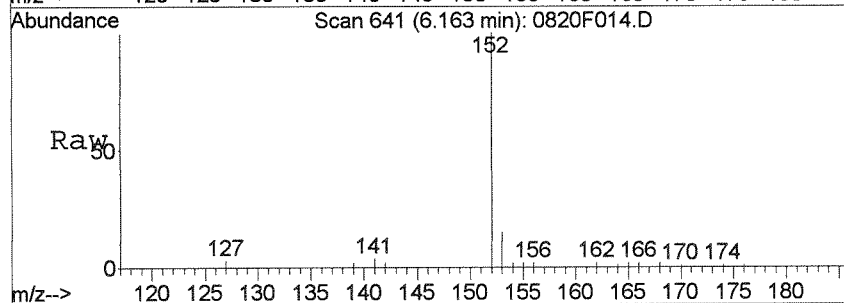
NT

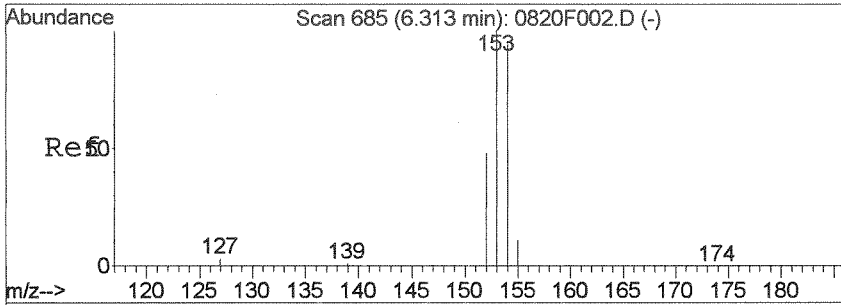
Tgt Ion: 156 Resp: 237  
 Ion Ratio Lower Upper  
 156 100  
 155 39.3 4.9 64.9



#8  
 Acenaphthylene  
 Concen: 6.03 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

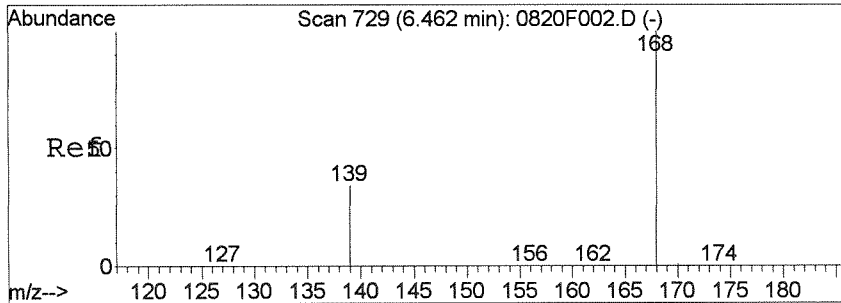
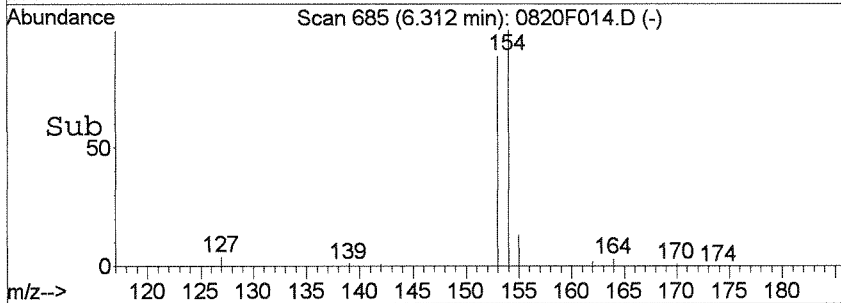
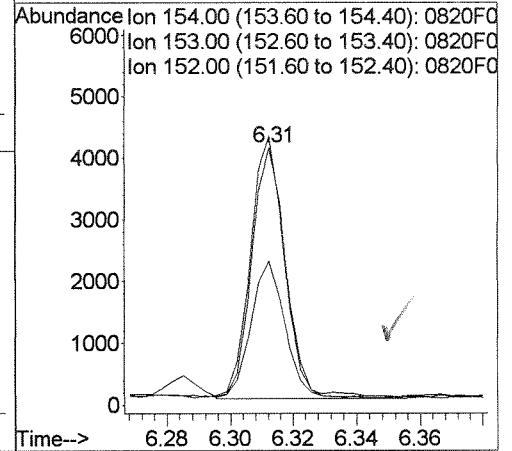
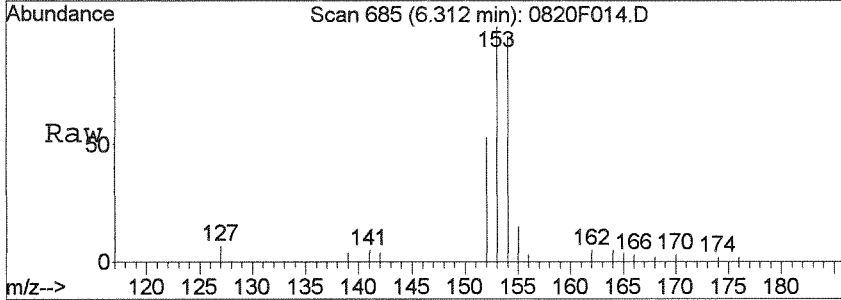
Tgt Ion: 152 Resp: 4419  
 Ion Ratio Lower Upper  
 152 100  
 153 13.0 0.0 43.2





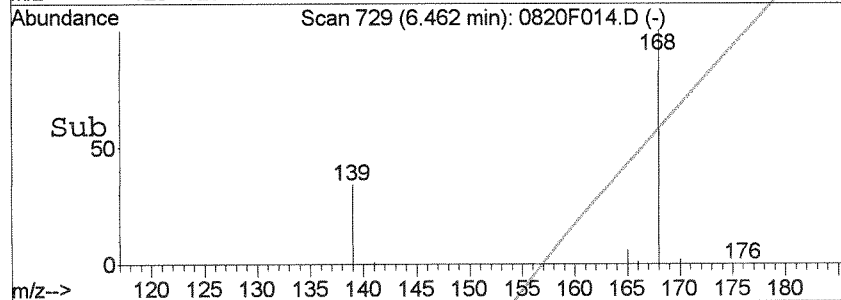
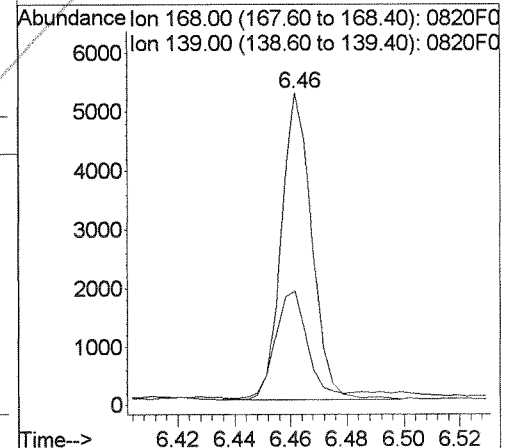
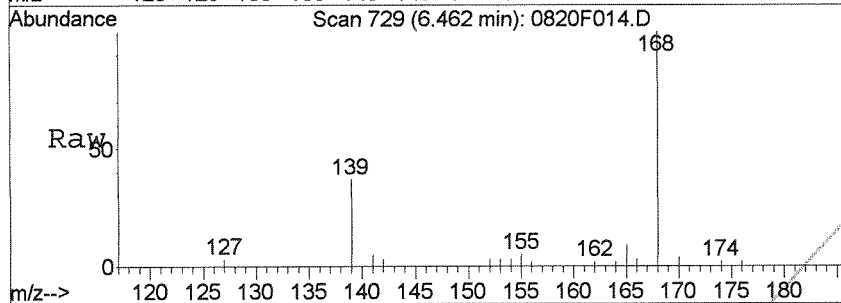
#9  
 Acenaphthene  
 Concen: 7.27 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

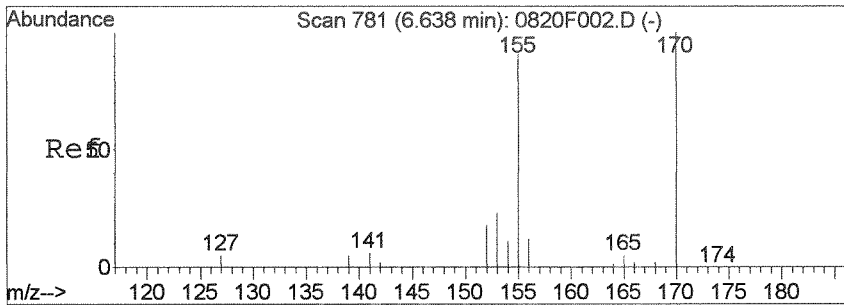
Tgt Ion	Resp	Lower	Upper
154	100		
153	103.8	72.5	132.5
152	54.1	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 5.96 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

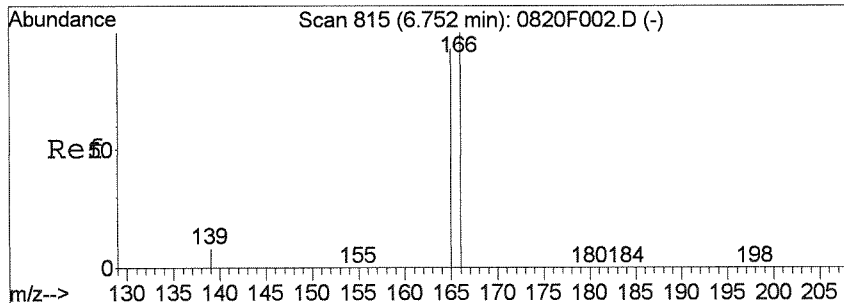
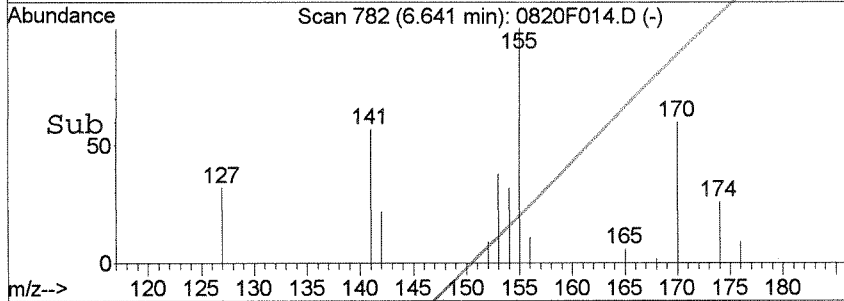
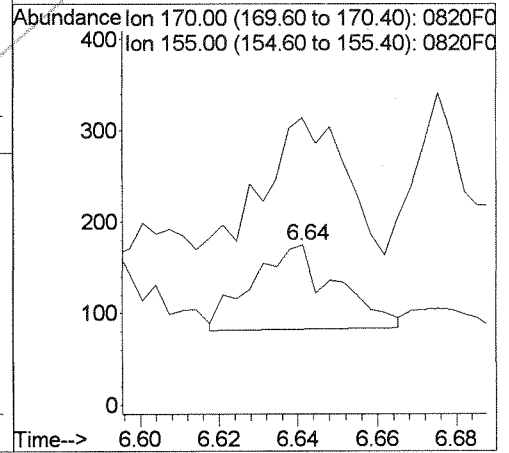
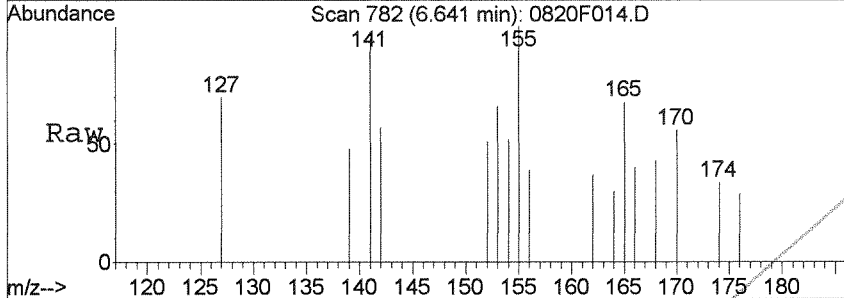
Tgt Ion	Resp	Lower	Upper
168	100		
139	34.9	2.7	62.7





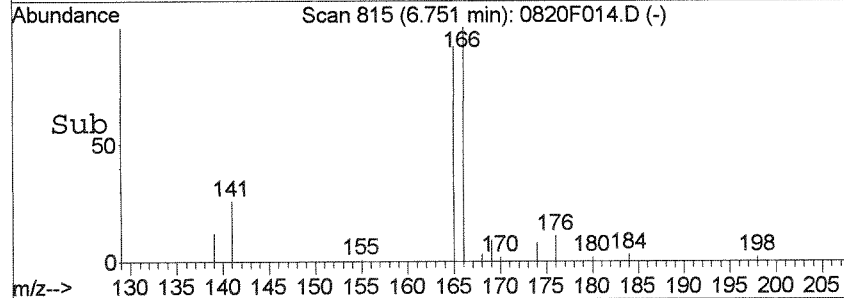
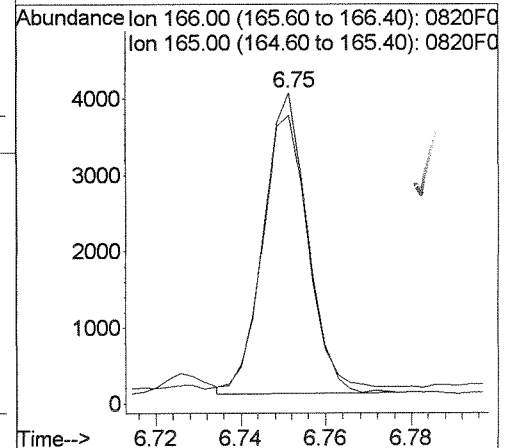
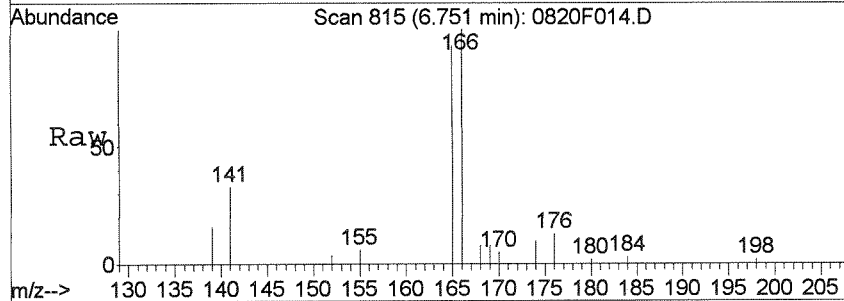
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.33 ng/ml m  
 RT: 6.64 min Scan# 782  
 Delta R.T. 0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

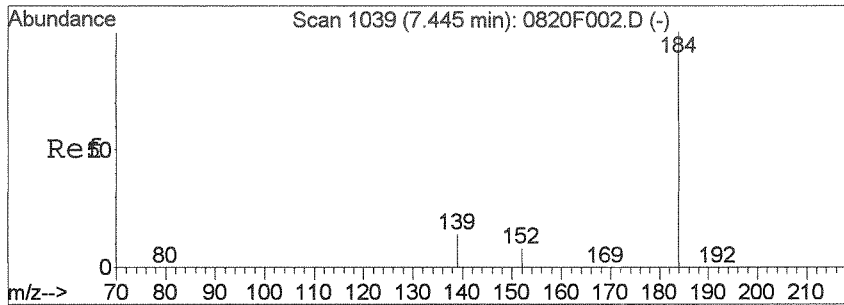
Tgt Ion:170 Resp: 138  
 Ion Ratio Lower Upper  
 170 100  
 155 179.4 64.1 124.1#



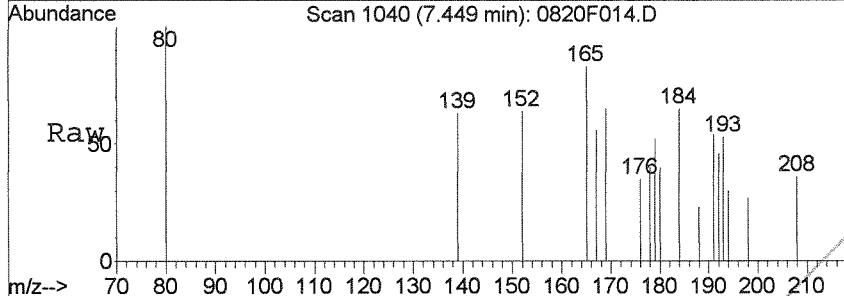
#13  
 Fluorene  
 Concen: 5.36 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion:166 Resp: 2843  
 Ion Ratio Lower Upper  
 166 100  
 165 90.6 60.9 120.9

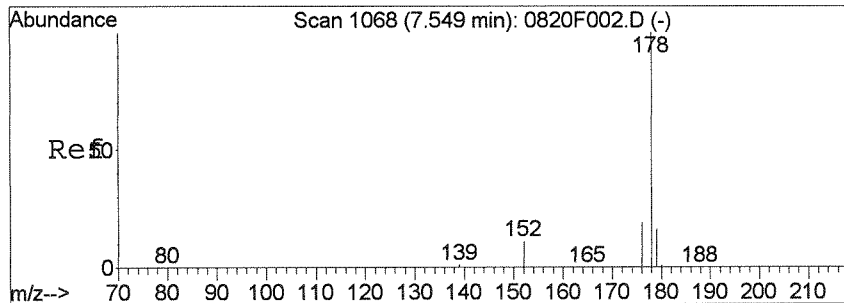
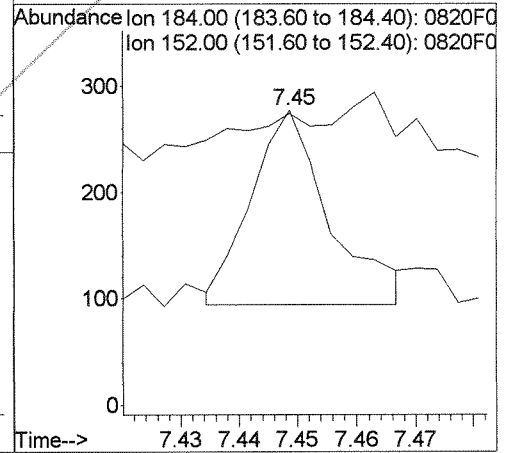
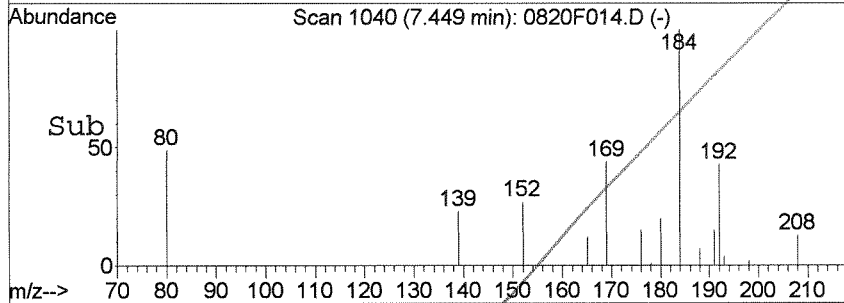




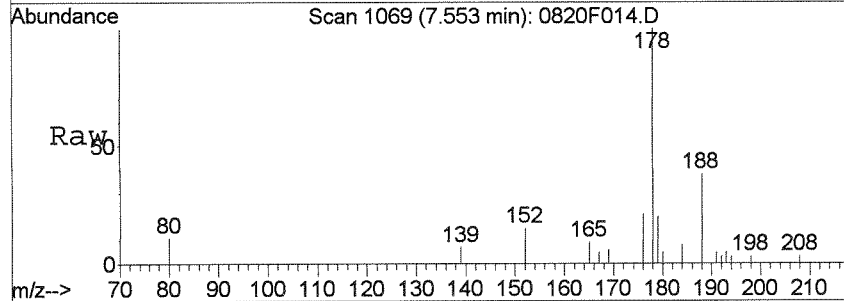
#15  
 Dibenzothiophene  
 Concen: 0.23 ng/ml m  
 RT: 7.45 min Scan# 1040  
 Delta R.T. 0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm



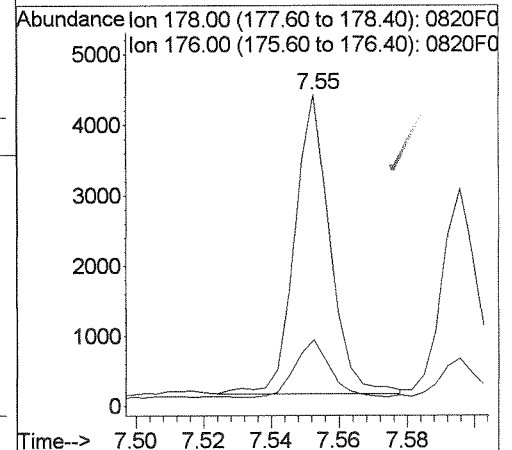
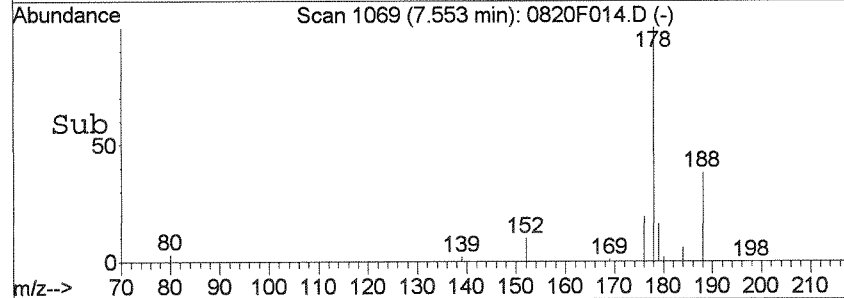
Tgt Ion: 184 Resp: 170  
 Ion Ratio Lower Upper  
 184 100  
 152 98.9 0.0 39.9#



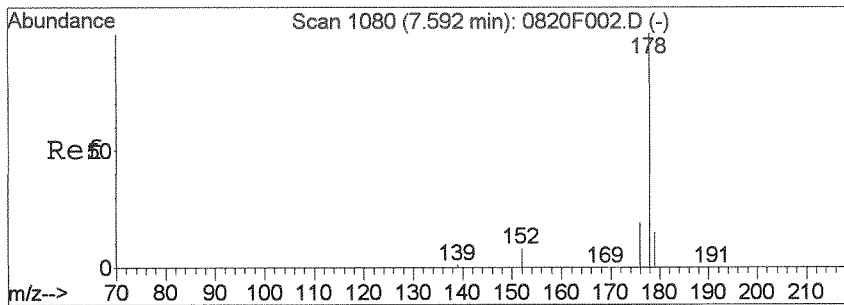
#16  
 Phenanthrene  
 Concen: 3.98 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm



Tgt Ion: 178 Resp: 3063  
 Ion Ratio Lower Upper  
 178 100  
 176 19.1 0.0 48.9

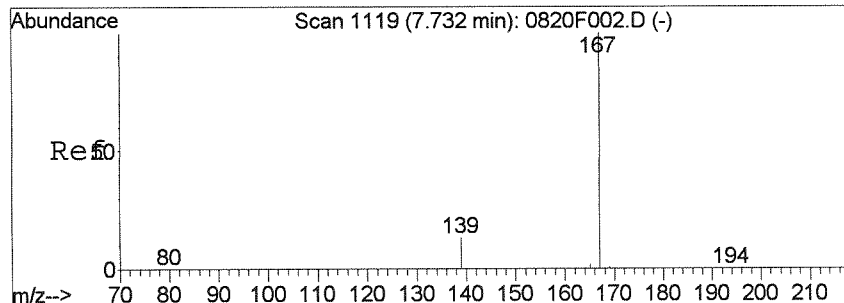
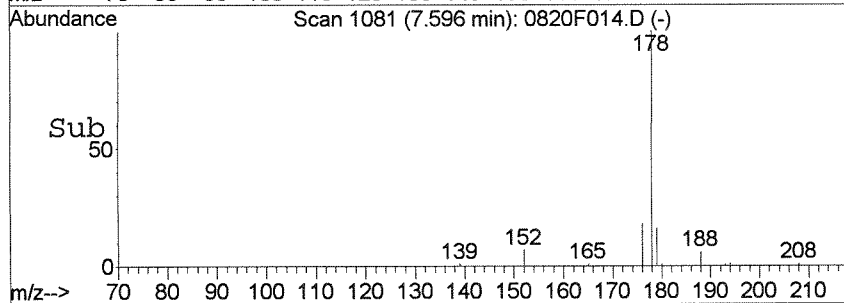
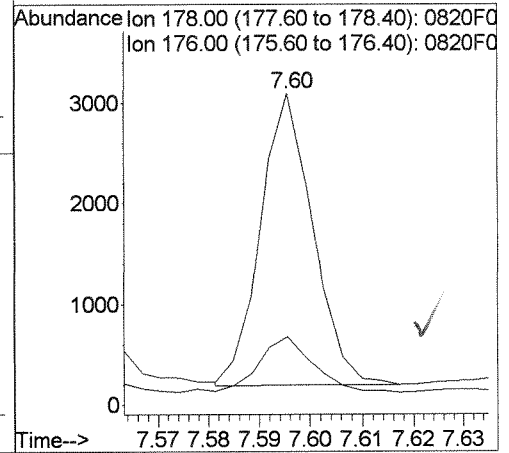
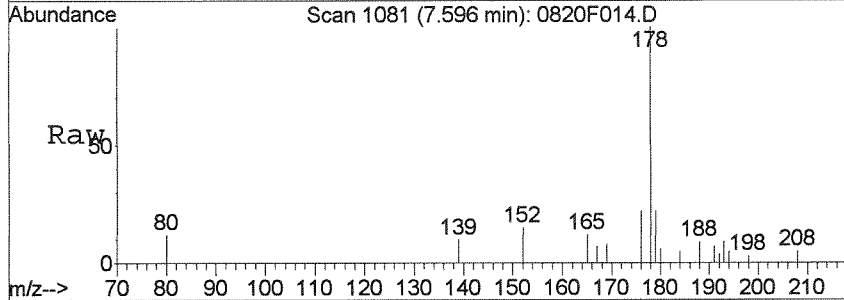






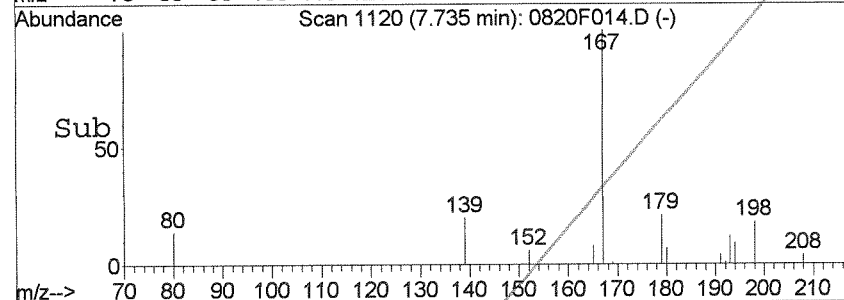
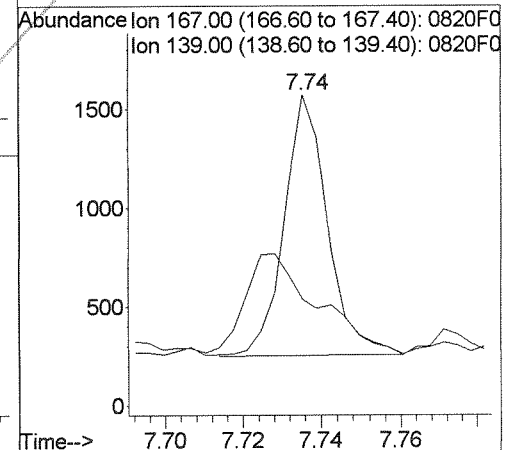
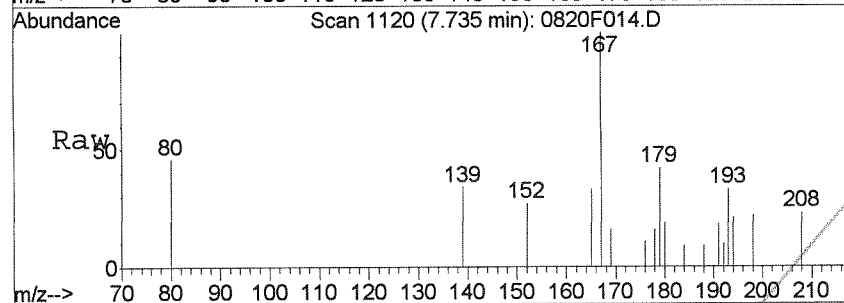
#17  
 Anthracene  
 Concen: 2.73 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion	Resp	Lower	Upper
178	100		
176	19.2	0.0	47.7

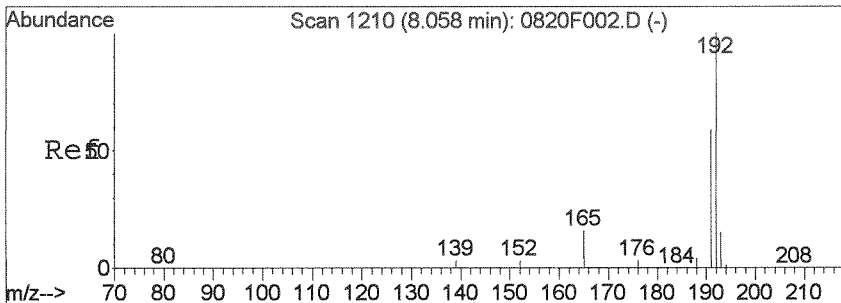


#18  
 Carbazole  
 Concen: 1.51 ng/ml  
 RT: 7.74 min Scan# 1120  
 Delta R.T. 0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion	Resp	Lower	Upper
167	100		
139	21.4	0.0	43.1

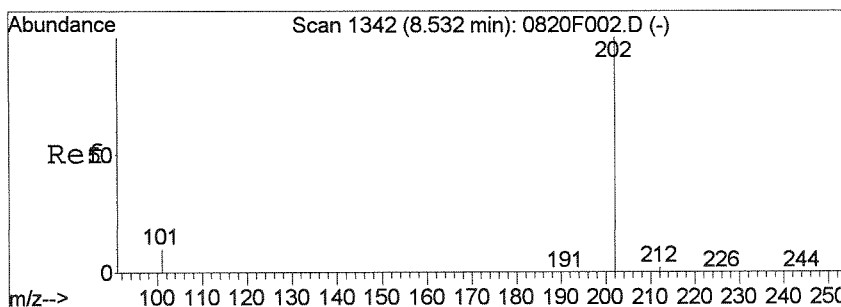
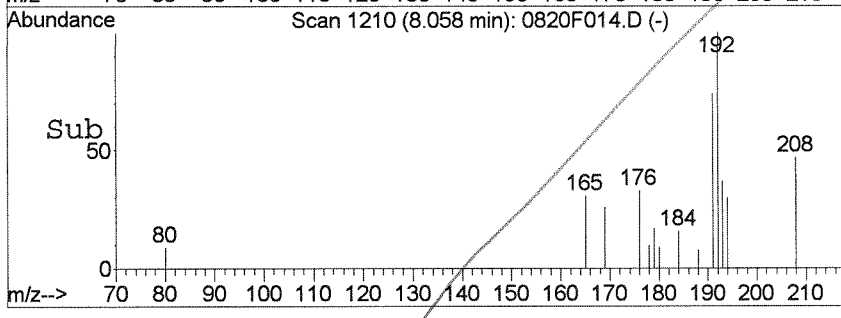
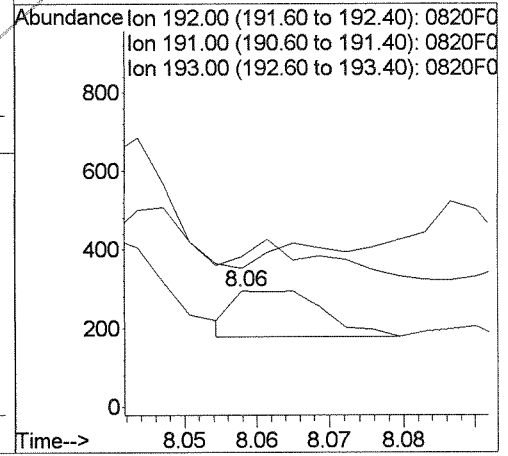
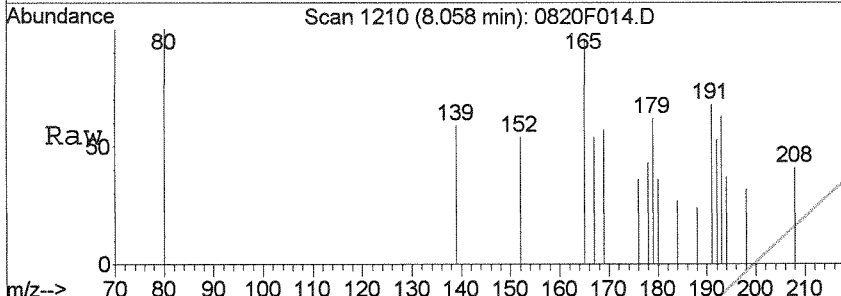


NT



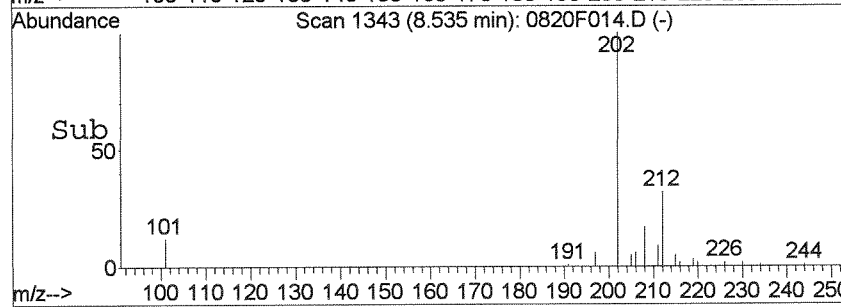
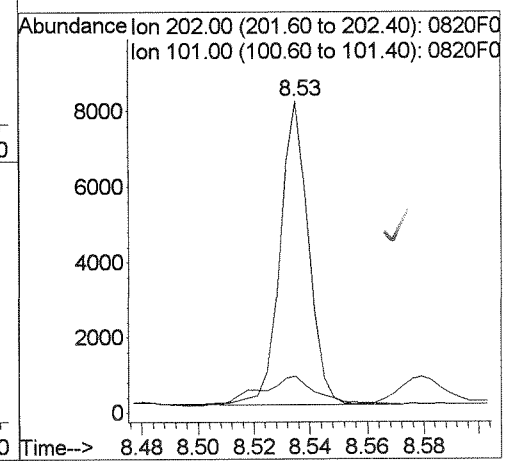
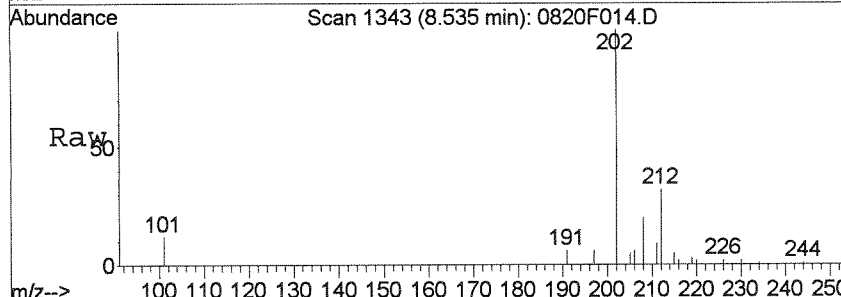
#19  
 1-Methylphenanthrene  
 Concen: 0.16 ng/ml  
 RT: 8.06 min Scan# 1210  
 Delta R.T. -0.01 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

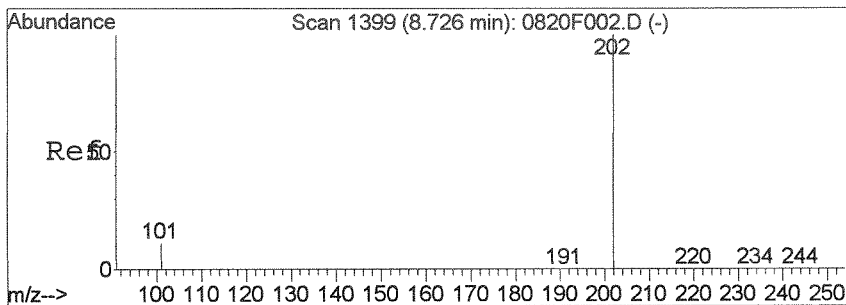
Tgt Ion	Ratio	Lower	Upper
192	100		
191	43.5	25.5	85.5
193	0.0	0.0	45.7



#20  
 Fluoranthene  
 Concen: 6.38 ng/ml  
 RT: 8.53 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

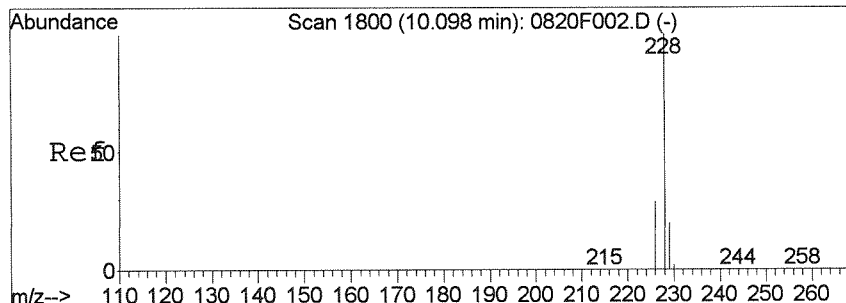
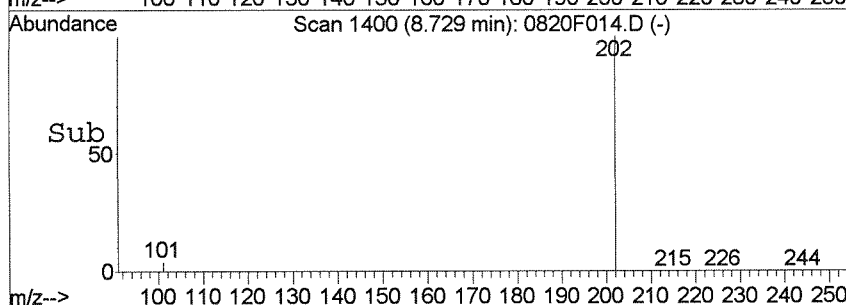
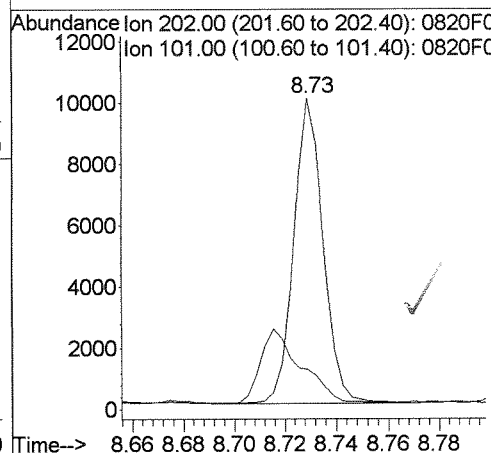
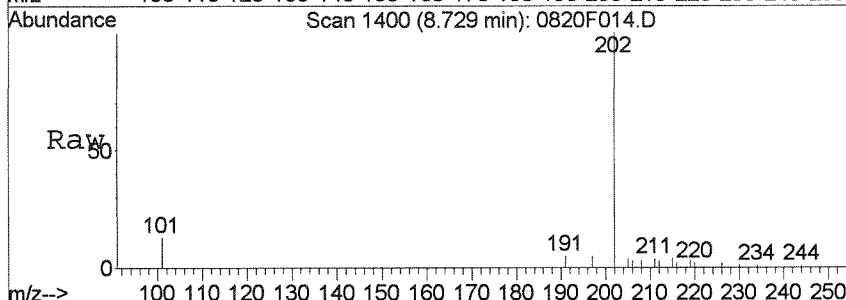
Tgt Ion	Ratio	Lower	Upper
202	100		
101	9.3	0.0	37.0





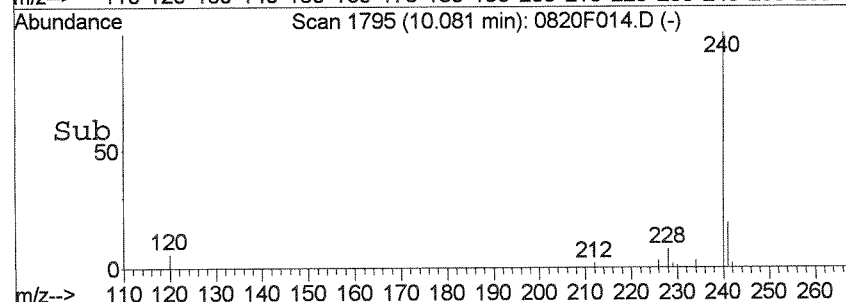
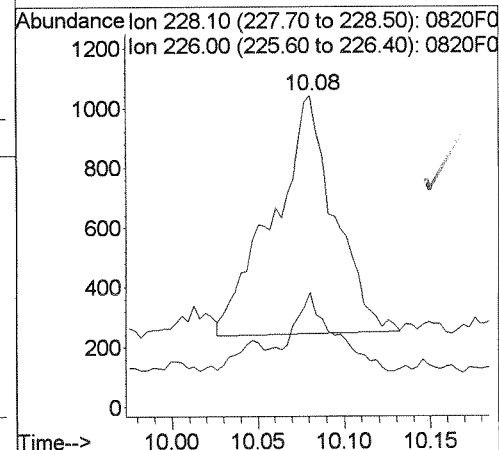
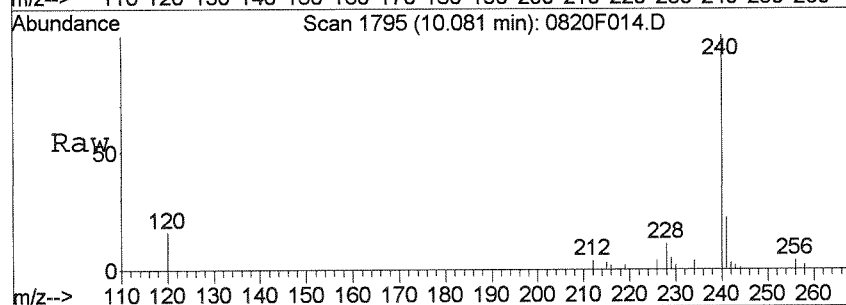
#23  
 Pyrene  
 Concen: 7.67 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

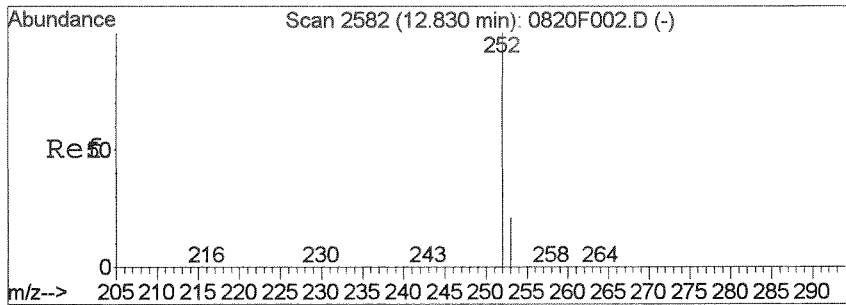
Tgt Ion: 202 Resp: 7963  
 Ion Ratio Lower Upper  
 202 100  
 101 11.2 0.0 38.3



#26  
 Chrysene  
 Concen: 2.42 ng/ml  
 RT: 10.08 min Scan# 1795  
 Delta R.T. -0.02 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

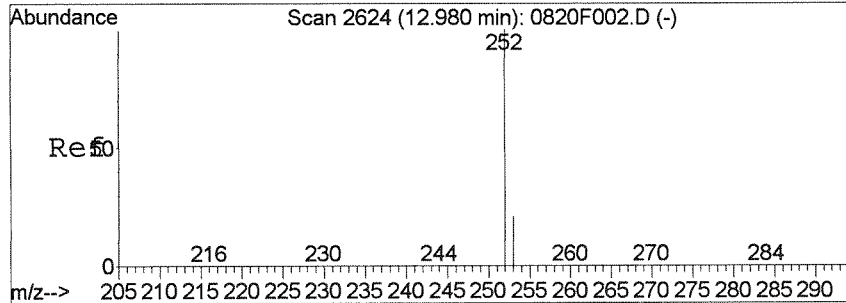
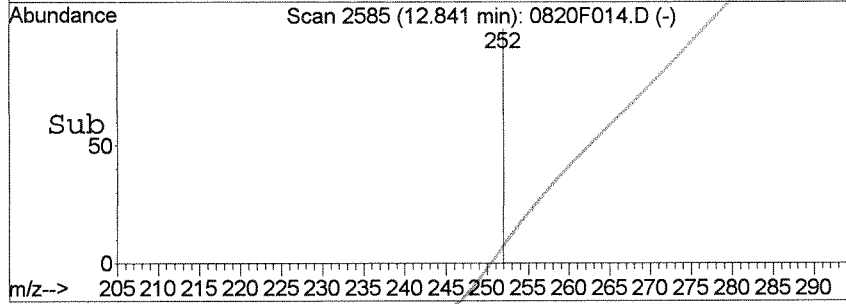
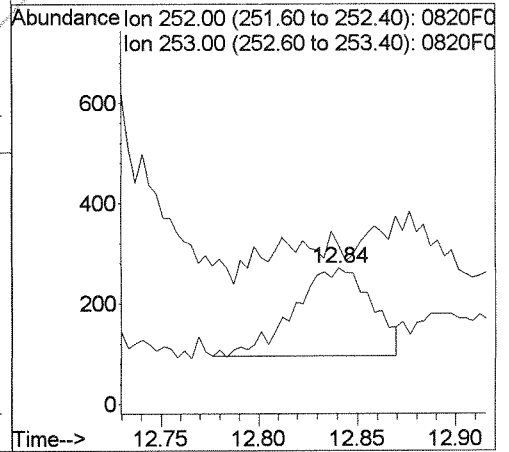
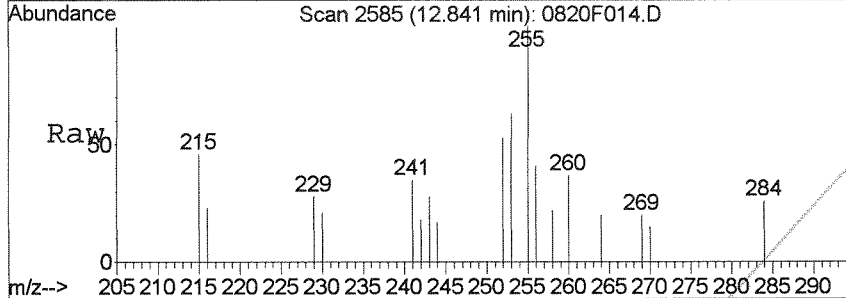
Tgt Ion: 228 Resp: 1977  
 Ion Ratio Lower Upper  
 228 100  
 226 32.8 0.0 58.6





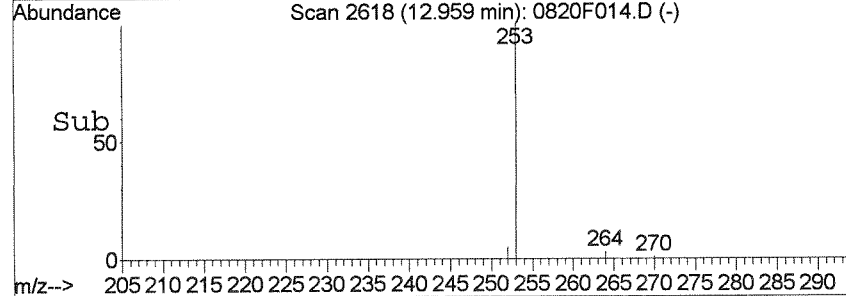
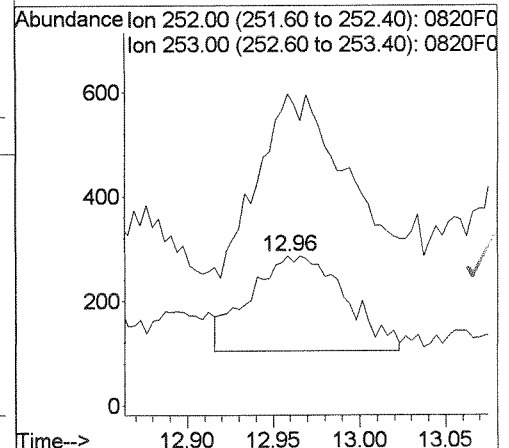
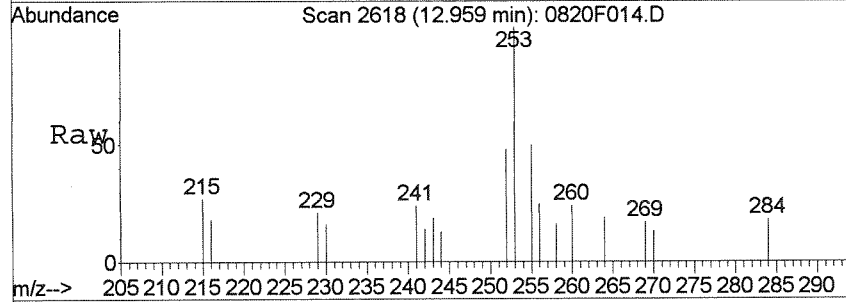
#30  
 Benzo (e) pyrene  
 Concen: 0.52 ng/ml  
 RT: 12.84 min Scan# 2585  
 Delta R.T. 0.00 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion: 252 Resp: 476  
 Ion Ratio Lower Upper  
 252 100  
 253 24.0 0.0 51.4



#31  
 Benzo (a) pyrene  
 Concen: 0.77 ng/ml m  
 RT: 12.96 min Scan# 2618  
 Delta R.T. -0.03 min  
 Lab File: 0820F014.D  
 Acq: 20 Aug 2014 3:24 pm

Tgt Ion: 252 Resp: 702  
 Ion Ratio Lower Upper  
 252 100  
 253 208.7 0.0 52.2#



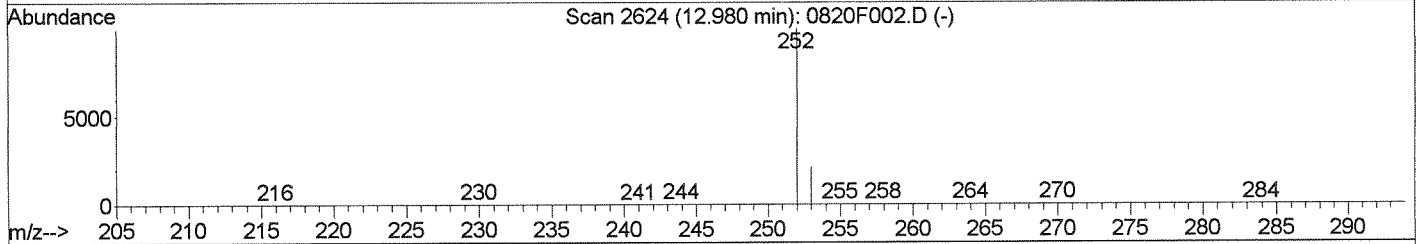
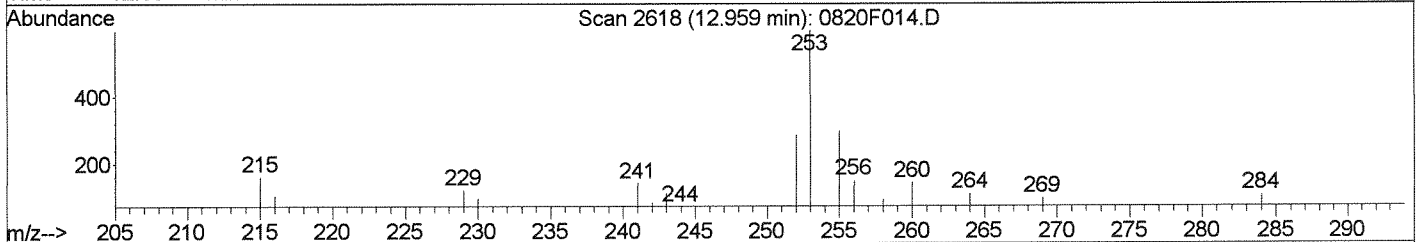
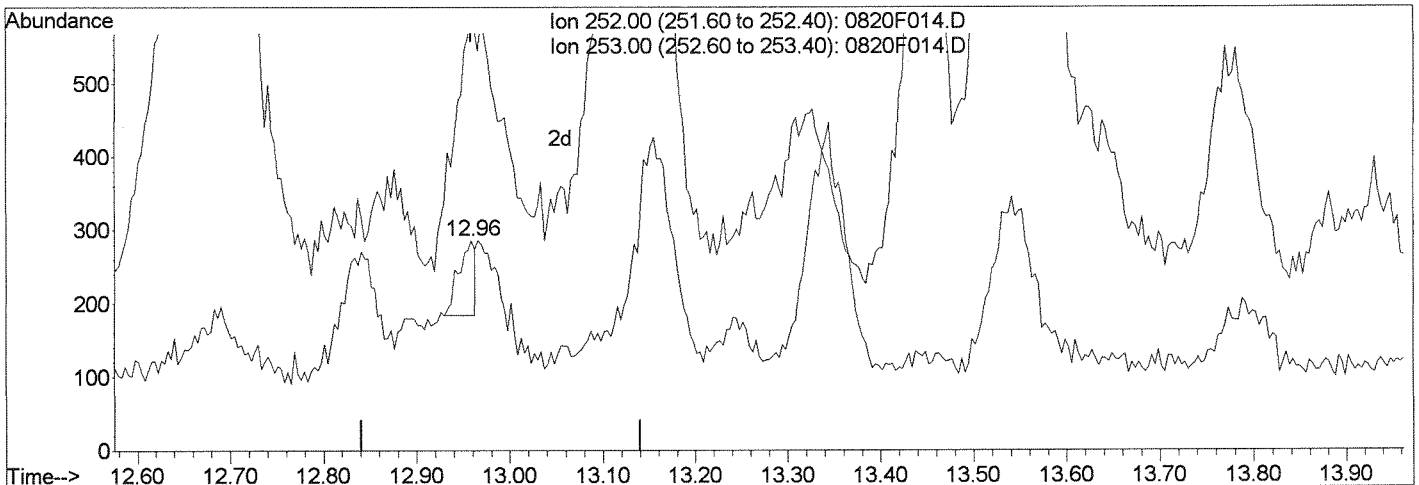
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F014.D  
 Acq On : 20 Aug 2014 3:24 pm  
 Sample : K1407971-005  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:18 2014

Vial: 14  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F014.D

(31) Benzo(a)pyrene (T)	Manual Integration:
12.96min 0.13ng/ml	Before
response 122	
	08/21/14
Ion Exp% Act%	<i>CA</i>
252.00 100 100	
253.00 22.20 253.92#	
0.00 0.00 0.00	
0.00 0.00 0.00	<i>LB</i>

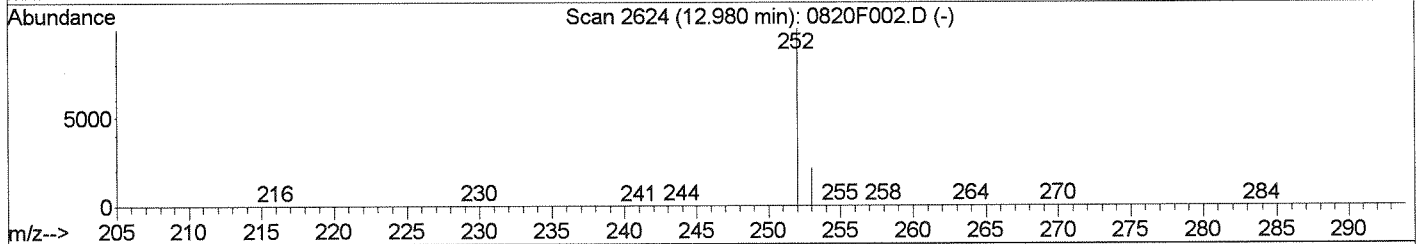
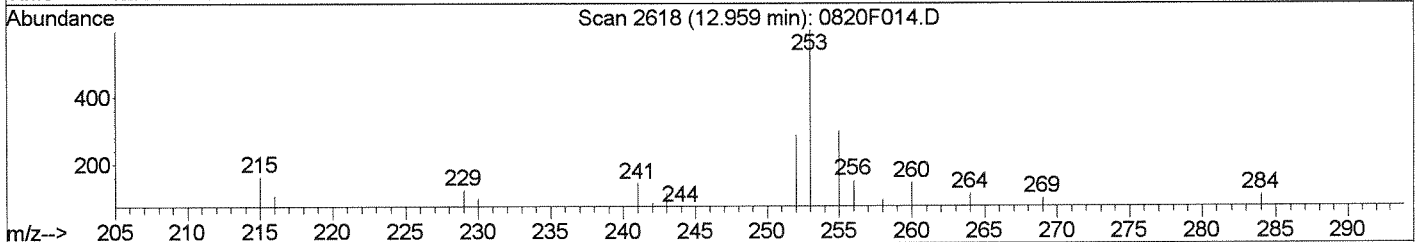
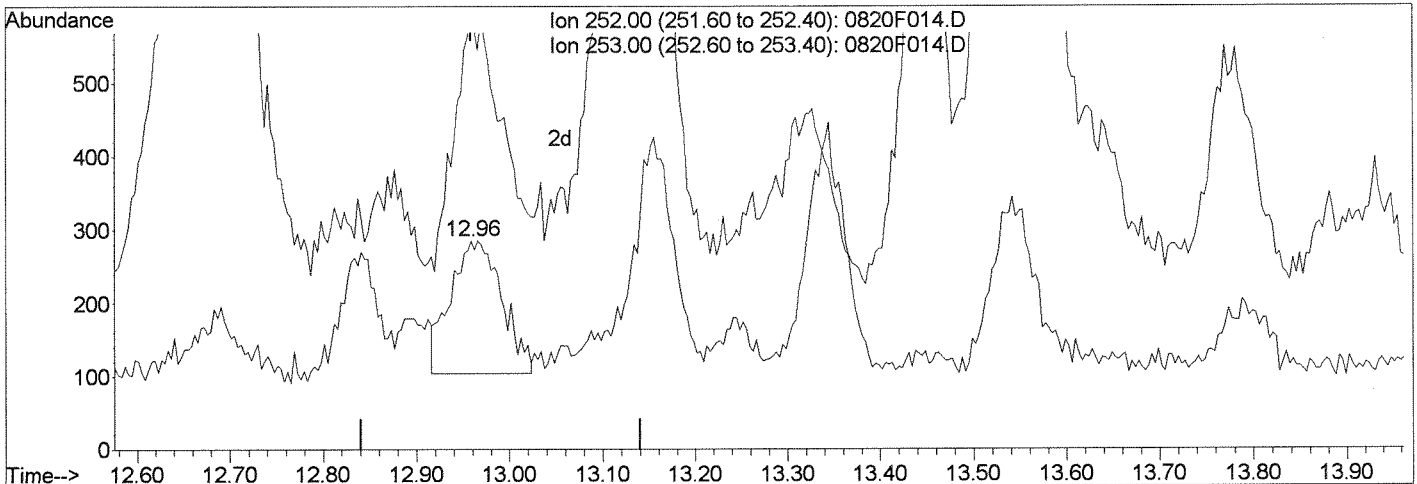
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F014.D  
 Acq On : 20 Aug 2014 3:24 pm  
 Sample : K1407971-005  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:18 2014

Vial: 14  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F014.D

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	208.74#
0.00	0.00	0.00
0.00	0.00	0.00

(31) Benzo(a)pyrene (T)  
 12.96min 0.77ng/ml m  
 response 702

Manual Integration:  
 After  
 WP  
 08/21/14

*CH* *i*  
*LB*

# Exception Report

**Data File:** J:\MS14\DATA\082014\0820F009.D  
**Lab ID:** K1407971-006  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 13:17  
**Date Quantitated:** 08/21/2014 09:00  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC  
 K07849

Primary Review: CA AUG 21 2014  
 Secondary Review: LB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F009.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 13:17	<b>Quant Date:</b> 08/21/2014 09:00
<b>Run Type:</b> SMPL	<b>Vial:</b> 9
<b>Lab ID:</b> K1407971-006	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365431	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	134896	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71856	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	138458	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149552	200.00	OK
5	Perylene-d12	13.16	0.01	264	155652	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	71972	169.79	85	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	130260	167.07	84	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	108028	160.59	80	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	865	1.21	10	U	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	350	0.7000	8.0	U	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	300	0.6800	7.3	U	
2	Acenaphthylene	6.16		0.00	152	169m	0.2300	3.1	U	
2	Acenaphthene	6.31		0.00	154	819	1.96	13	J	
2	Fluorene	6.75		0.00	166	369	0.7100	4.7	J	
3	Phenanthrene	7.55		0.00	178	877m	1.15	7.6	J	
3	Anthracene	7.60	0.01	0.00	178	148	0.2000	2.6	U	
3	Fluoranthene	8.54	0.01	0.00	202	4609	5.17	34		
4	Pyrene	8.73		0.00	202	6334m	6.14	41		
4	Benz(a)anthracene	10.06	0.02	0.00	228	603m	0.6600	4.4	J	
4	Chrysene	10.10		0.00	228	367m	0.4500	3.7	U	
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	789	0.8300	5.5	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ? : Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Data File: J:\MS14\DATA\082014\0820F009.D  
 Acqu Date: 08/20/2014 13:17  
 Run Type: SMPL  
 Lab ID: K1407971-006

Quant Date: 08/21/2014 09:00

Instrument: MS14  
 Vial: 9  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.18		0.00	252	376	0.4000	3.8	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2904	3.16	21	Ui	
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	564	0.5500	6.4	U	
5	Dibenz(a,h)anthracene	15.45	0.01	0.00	278	363	0.3700	5.8	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	900	0.8100	6.4	U	

Prep Amount: 10.050 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: 15 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ? : Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:19 2014

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	134896	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	71856	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	138458	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149552	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	155652	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	71972	169.79	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.98%	
21) Fluoranthene-d10	8.52	212	130260	167.07	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.71%	
24) Terphenyl-d14	8.87	244	108028	160.59	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.06%	

Target Compounds

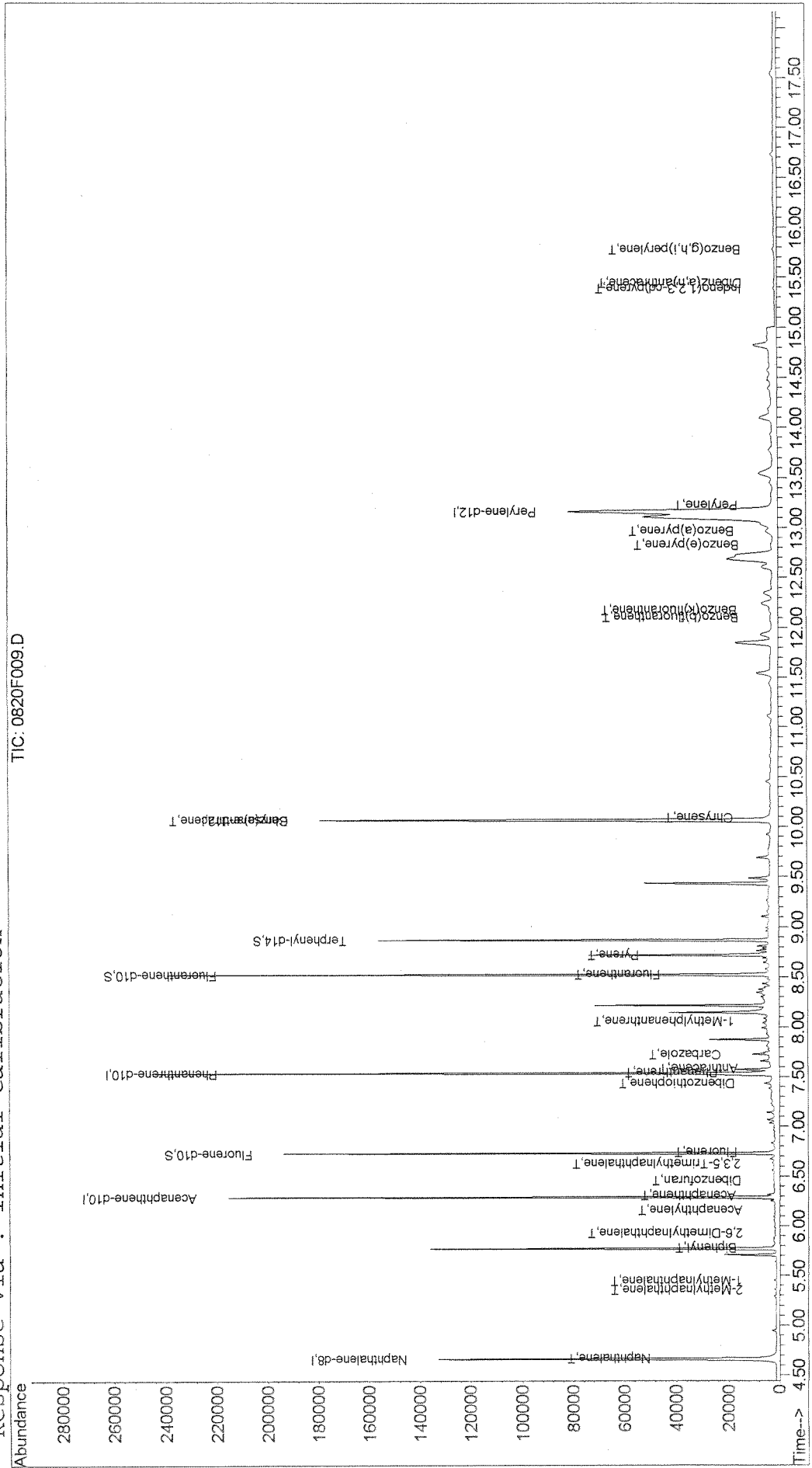
						Qvalue
2) Naphthalene	4.68	128	865	1.21	ng/ml	99
3) 2-Methylnaphthalene	5.36	142	350	0.70	ng/ml	97
4) 1-Methylnaphthalene	5.45	142	300	0.68	ng/ml	84
5) Biphenyl	5.79	154	270	0.46	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.94	156	214	0.49	ng/ml	89
8) Acenaphthylene	6.16	152	169m	0.23	ng/ml	
9) Acenaphthene	6.31	154	819	1.96	ng/ml	82
10) Dibenzofuran	6.46	168	293	0.44	ng/ml	94
11) 2,3,5-Trimethylnaphthalene	6.64	170	139m	0.33	ng/ml	
13) Fluorene	6.75	166	369	0.71	ng/ml	88
15) Dibenzothiophene	7.45	184	229m	0.31	ng/ml	
16) Phenanthrene	7.55	178	877m	1.15	ng/ml	
17) Anthracene	7.60	178	148	0.20	ng/ml	91
18) Carbazole	7.73	167	323m	0.48	ng/ml	
19) 1-Methylphenanthrene	8.06	192	186	0.31	ng/ml	93
20) Fluoranthene	8.54	202	4609	5.17	ng/ml	98
23) Pyrene	8.73	202	6334m	6.14	ng/ml	
25) Benz(a)anthracene	10.06	228	603m	0.66	ng/ml	
26) Chrysene	10.10	228	367m	0.45	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	789	0.83	ng/ml	71
29) Benzo(k)fluoranthene	12.18	252	376	0.40	ng/ml	70
30) Benzo(e)pyrene	12.83	252	671	0.73	ng/ml	92
31) Benzo(a)pyrene	12.96	252	2904	3.16	ng/ml#	1
32) Perylene	13.23	252	318m	0.37	ng/ml	
33) Indeno(1,2,3-cd)pyrene	15.39	276	564	0.55	ng/ml	91
34) Dibenz(a,h)anthracene	15.45	278	363	0.37	ng/ml	97
35) Benzo(g,h,i)perylene	15.78	276	900	0.81	ng/ml	97

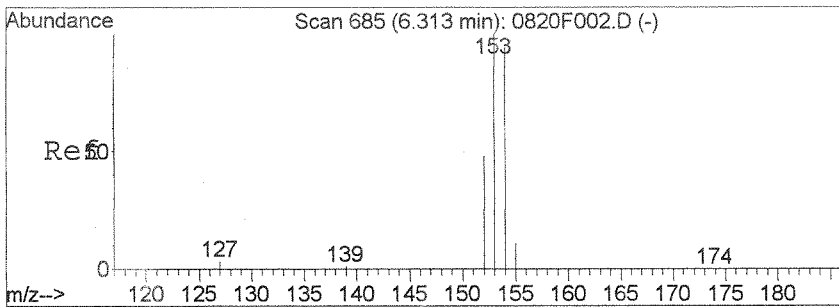
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:00 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 9  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

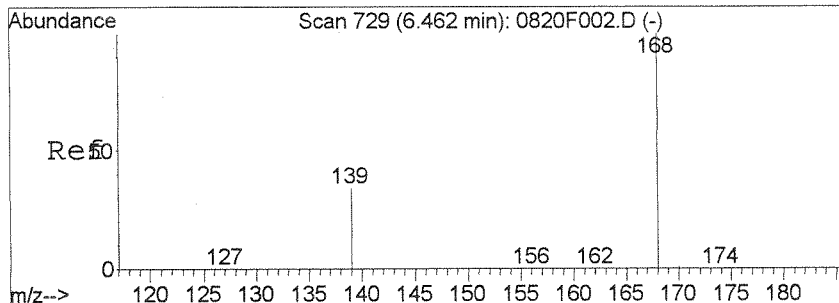
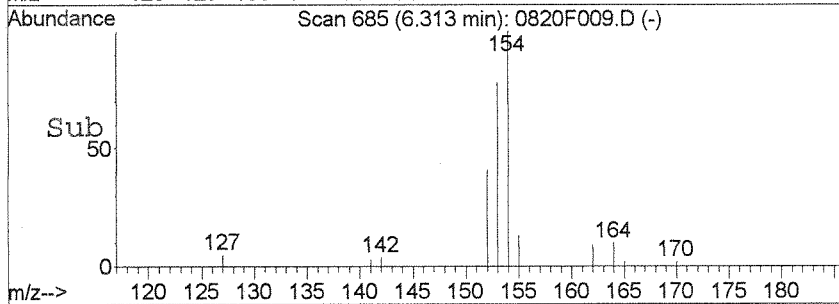
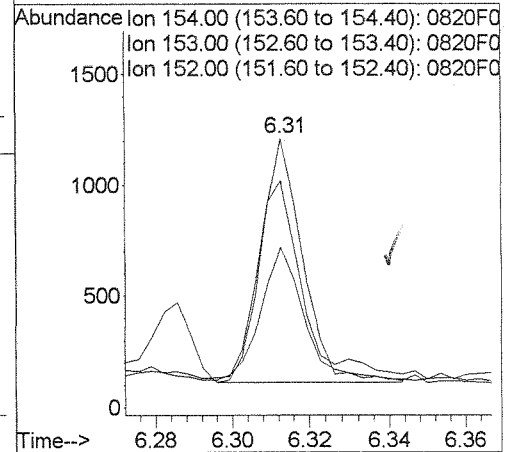
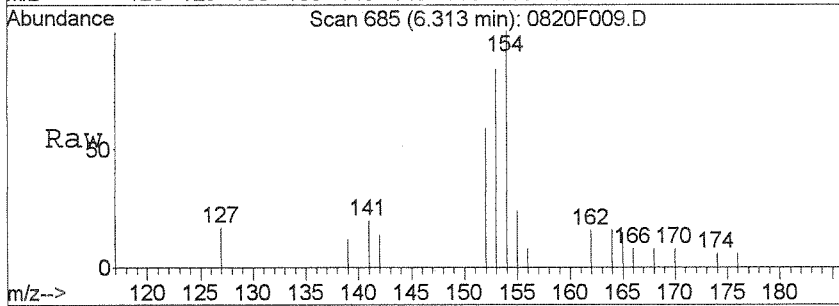
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





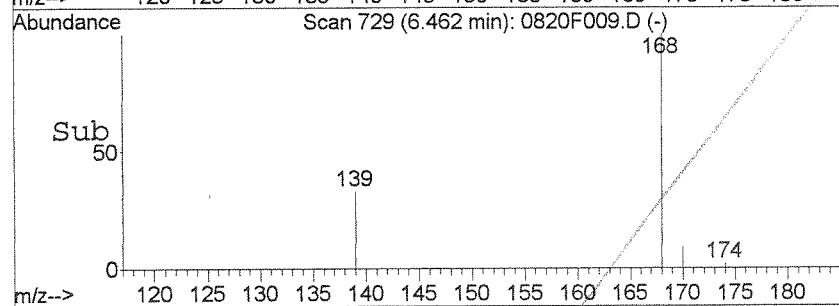
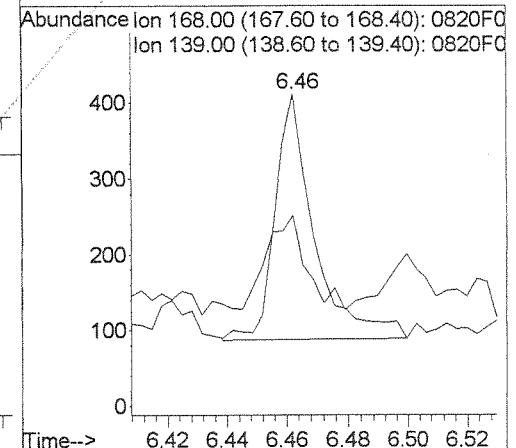
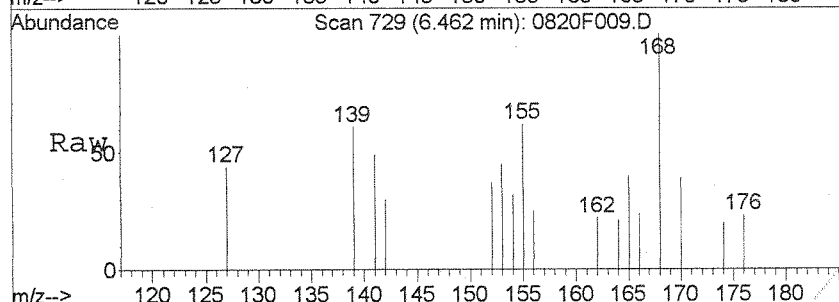
#9  
 Acenaphthene  
 Concen: 1.96 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion	Resp	Lower	Upper
154	100		
153	80.8	72.5	132.5
152	54.5	17.7	77.7

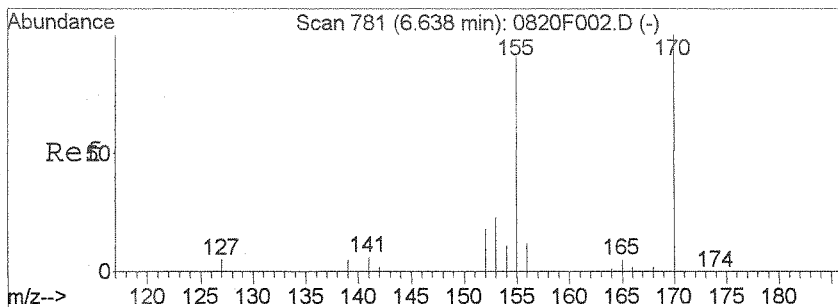


#10  
 Dibenzofuran  
 Concen: 0.44 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion	Resp	Lower	Upper
168	100		
139	36.2	2.7	62.7

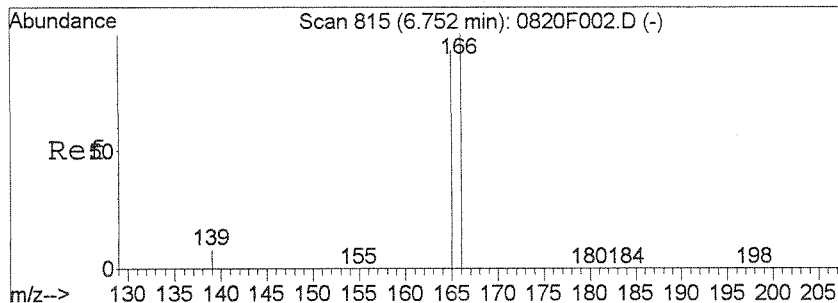
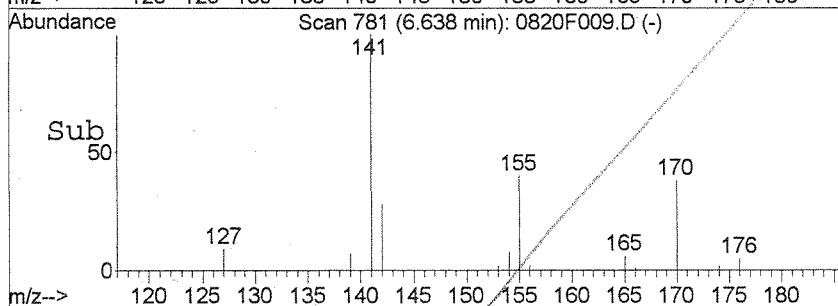
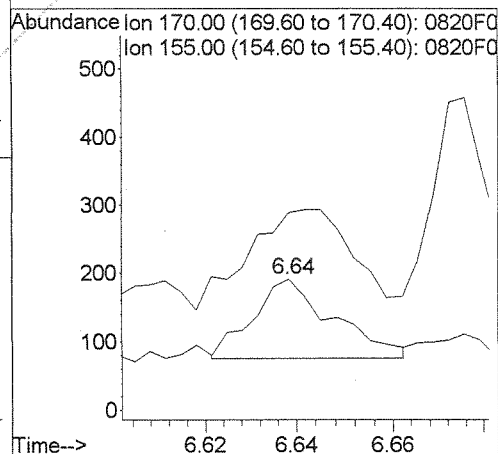
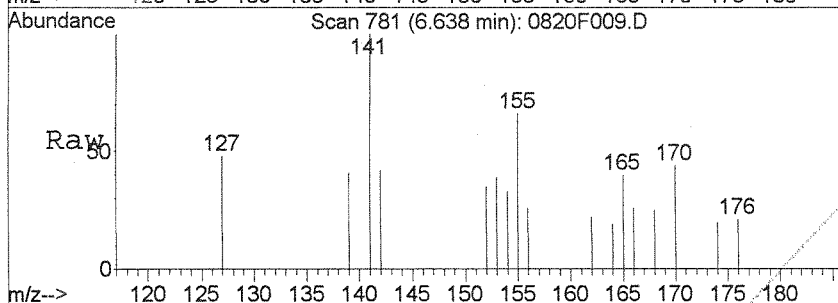


21



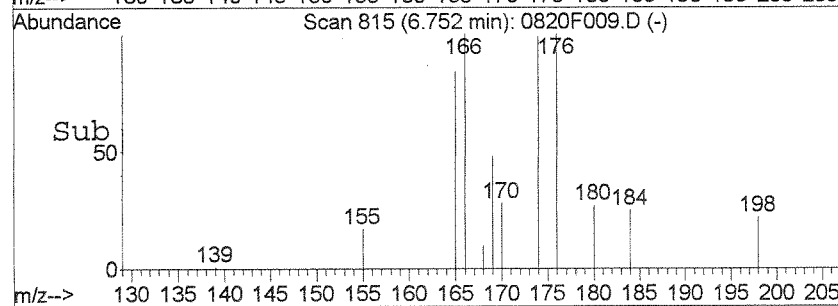
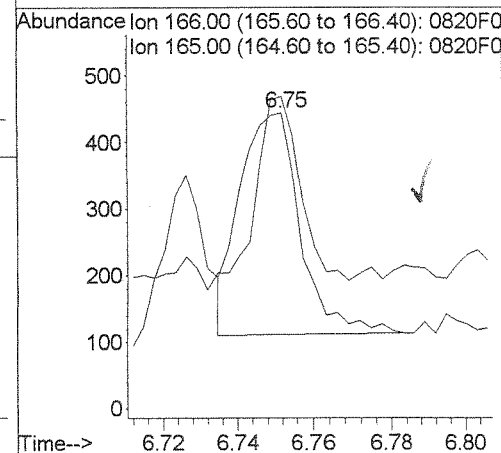
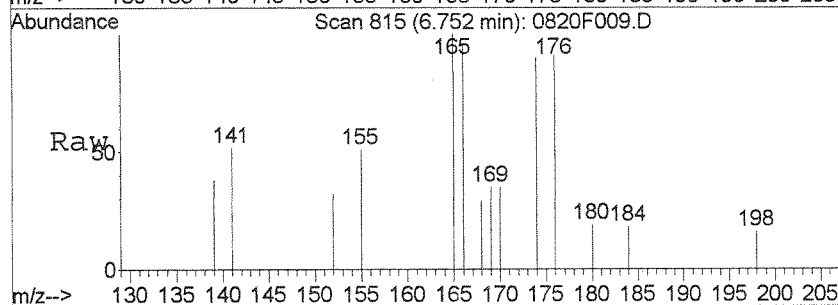
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.33 ng/ml  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

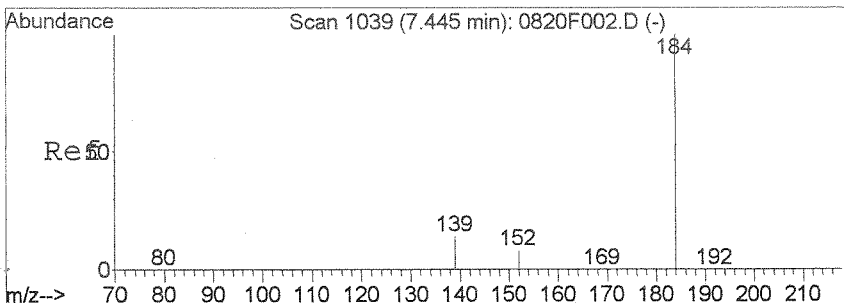
Tgt Ion: 170	Resp: 139
Ion Ratio Lower	Upper
170	100
155	151.3 64.1 124.1#



#13  
 Fluorene  
 Concen: 0.71 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion: 166	Resp: 369
Ion Ratio Lower	Upper
166	100
165	80.0 60.9 120.9

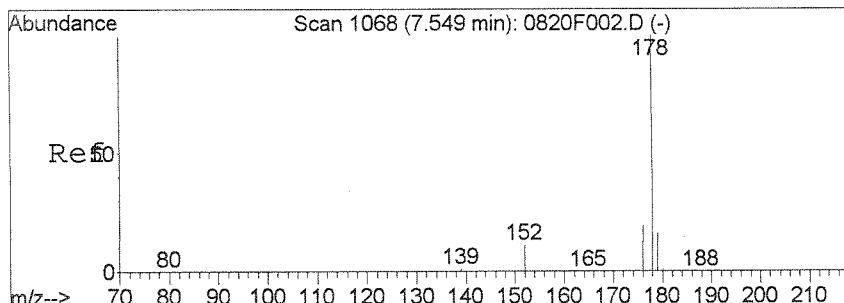
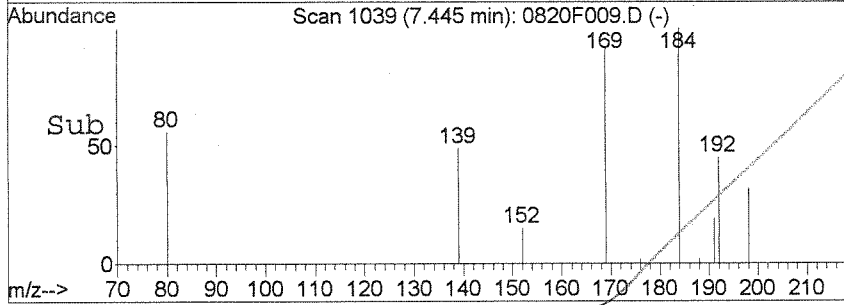
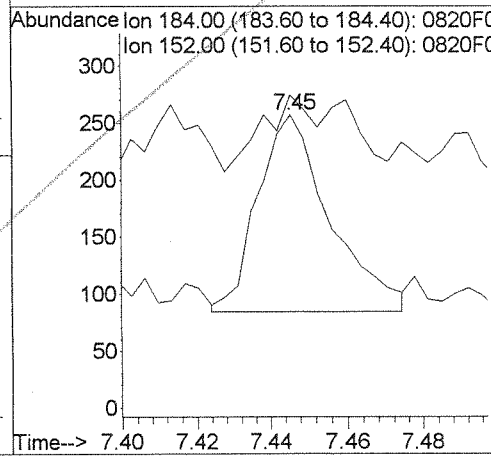
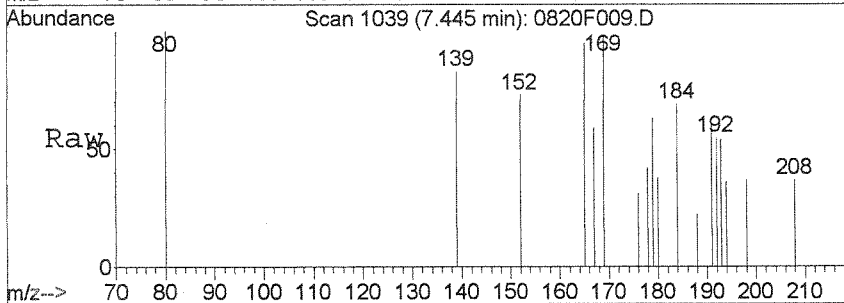




#15  
 Dibenzothiophene  
 Concen: 0.31 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

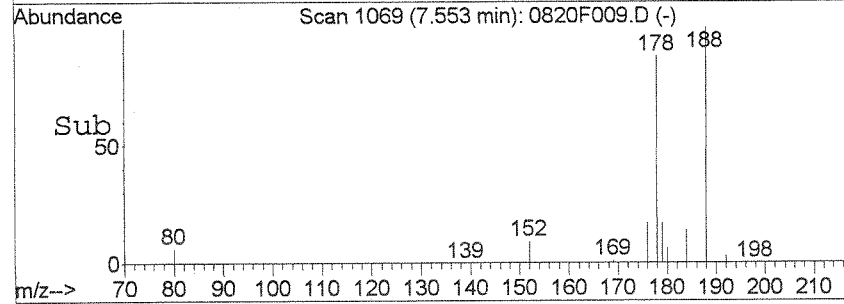
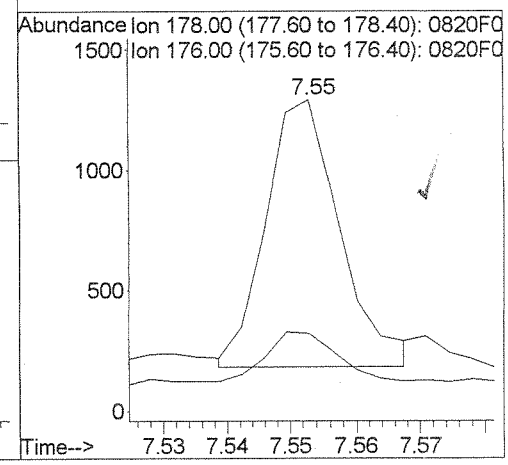
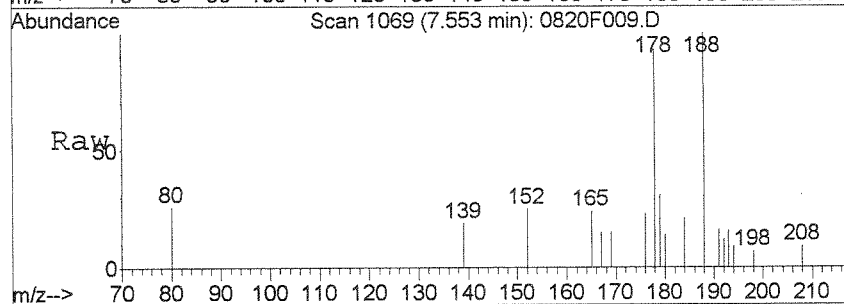
NT

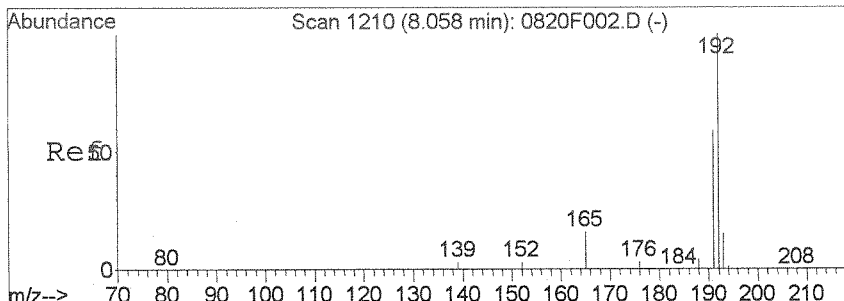
Tgt Ion	Resp	Lower	Upper
184	100		
152	106.6	0.0	39.9#



#16  
 Phenanthrene  
 Concen: 1.15 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

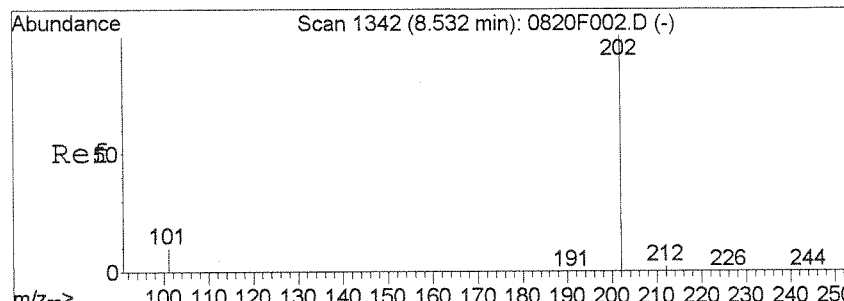
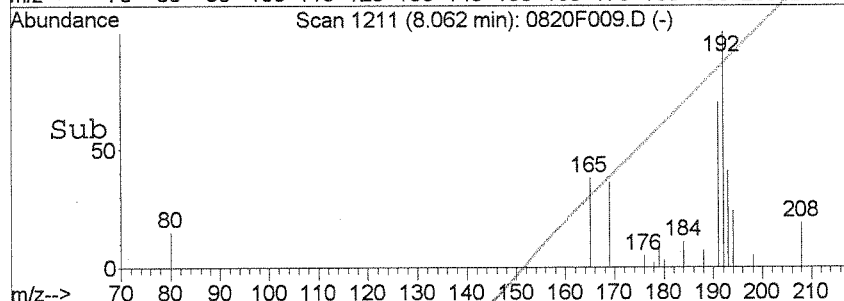
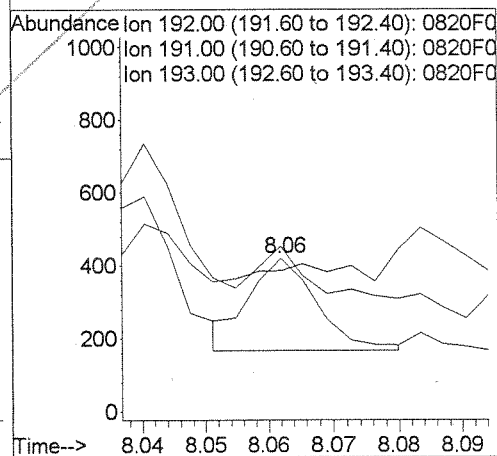
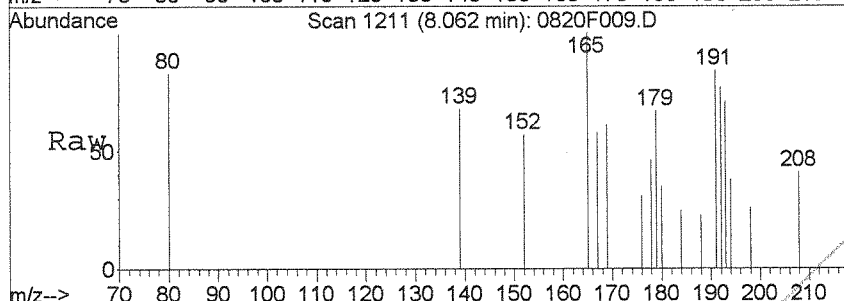
Tgt Ion	Resp	Lower	Upper
178	100		
176	24.9	0.0	48.9





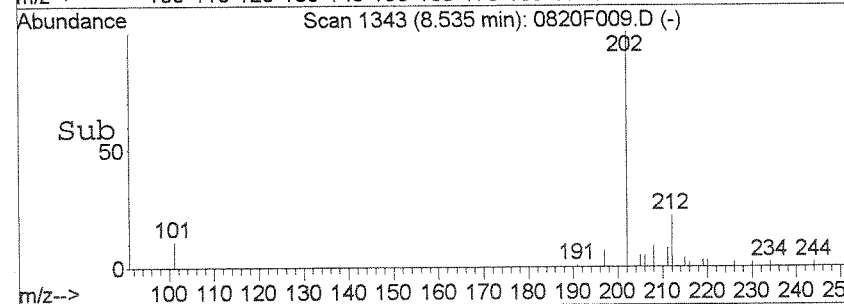
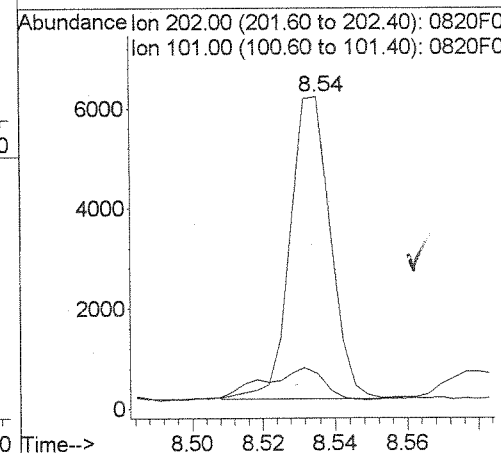
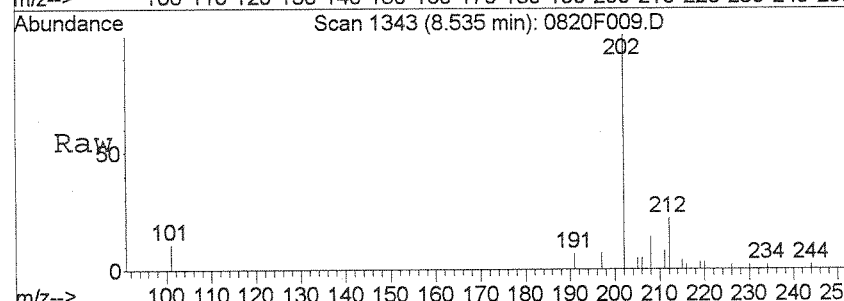
#19  
 1-Methylphenanthrene  
 Concen: 0.31 ng/ml  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

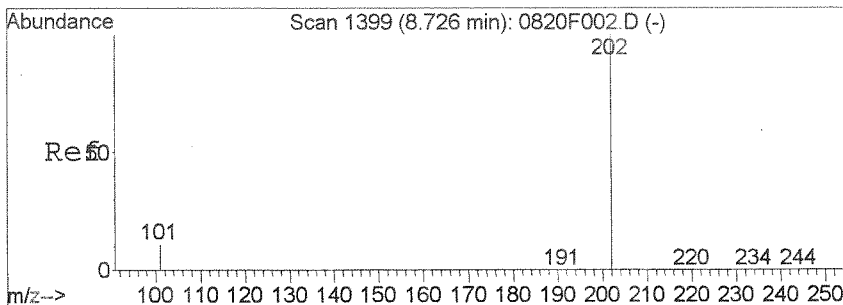
Tgt Ion	Ratio	Resp	Lower	Upper
192	100	186		
191	60.5	25.5	85.5	
193	12.6	0.0	45.7	



#20  
 Fluoranthene  
 Concen: 5.17 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

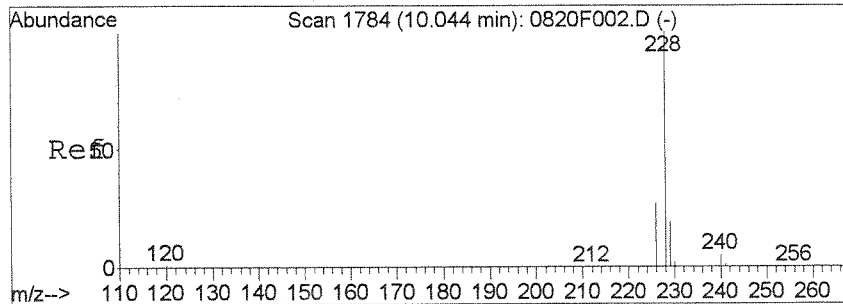
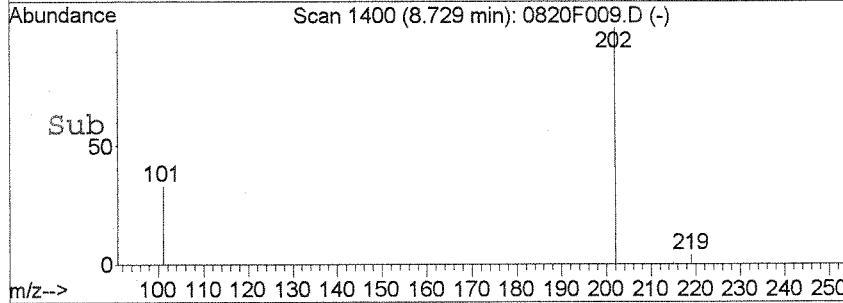
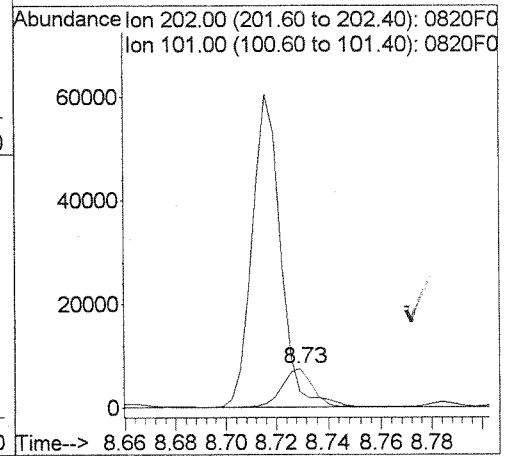
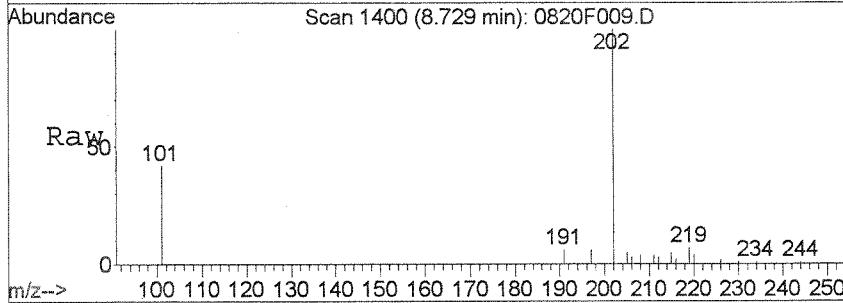
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	4609		
101	7.7	0.0	37.0	





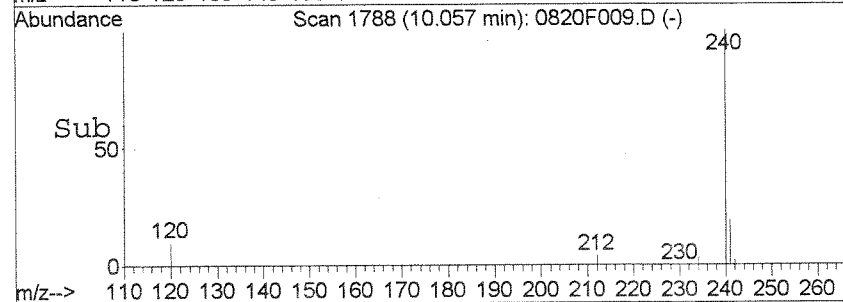
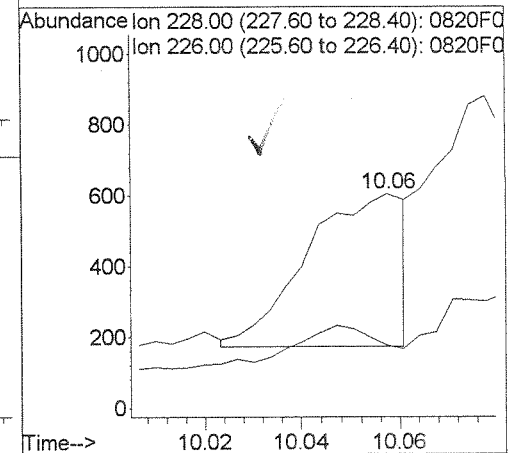
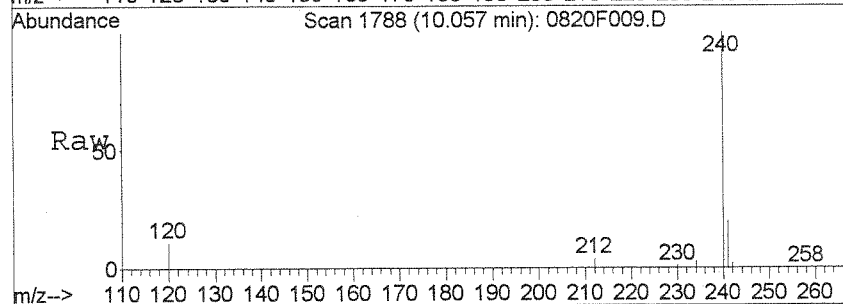
#23  
 Pyrene  
 Concen: 6.14 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion: 202 Resp: 6334  
 Ion Ratio Lower Upper  
 202 100  
 101 41.6 0.0 38.3#



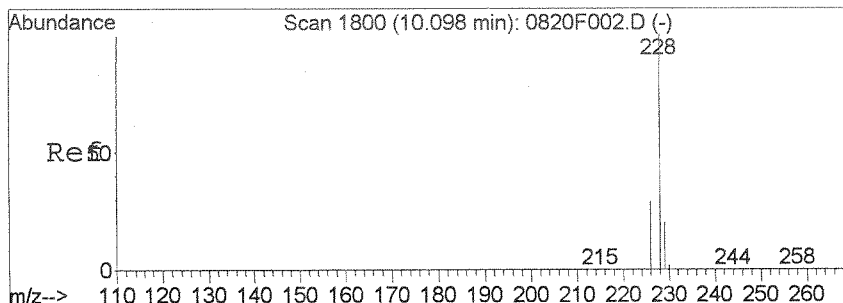
#25  
 Benz(a)anthracene  
 Concen: 0.66 ng/ml m  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion: 228 Resp: 603  
 Ion Ratio Lower Upper  
 228 100  
 226 29.1 0.0 56.4



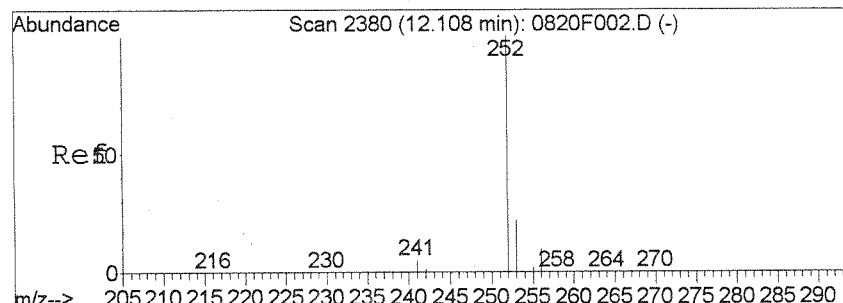
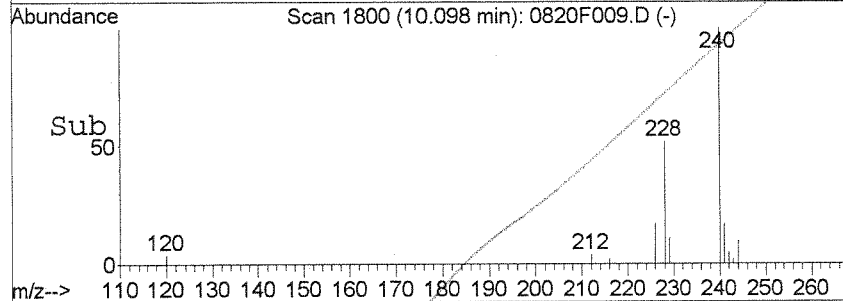
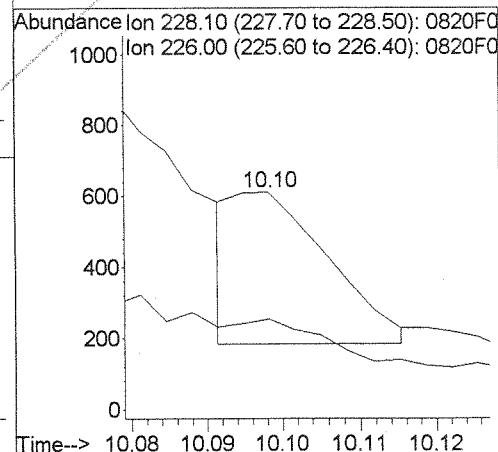
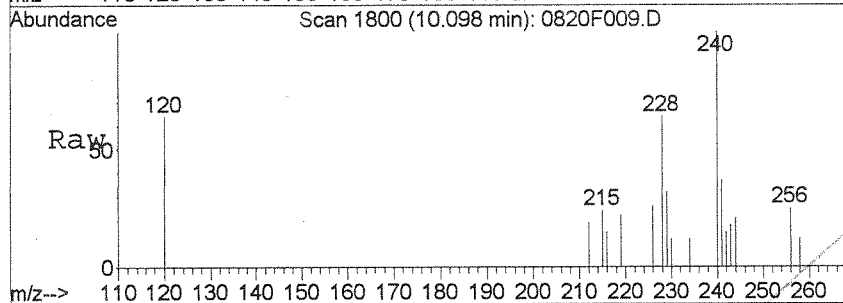


4MDC



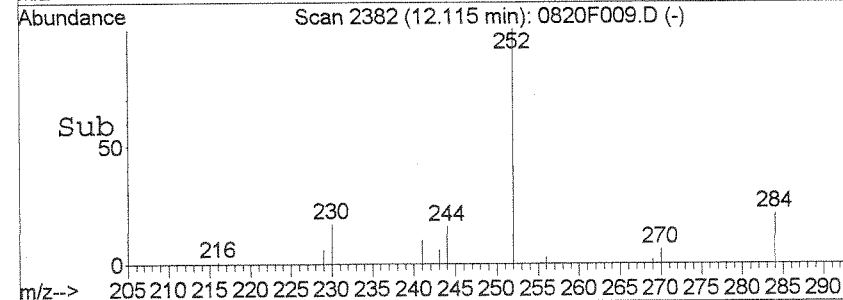
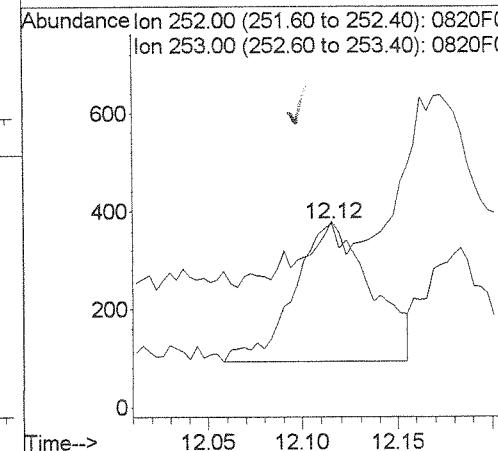
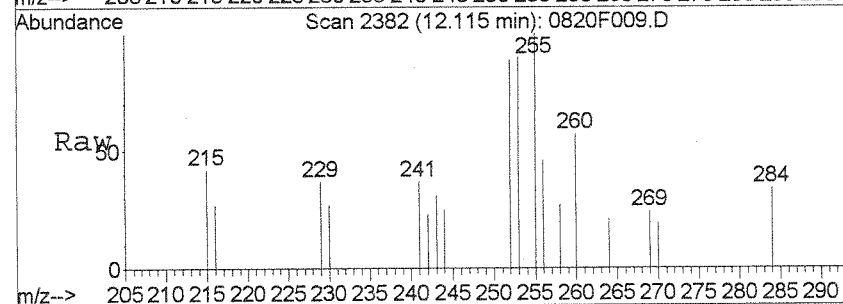
#26  
 Chrysene  
 Concen: 0.45 ng/ml m  
 RT: 10.10 min Scan# 1800  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

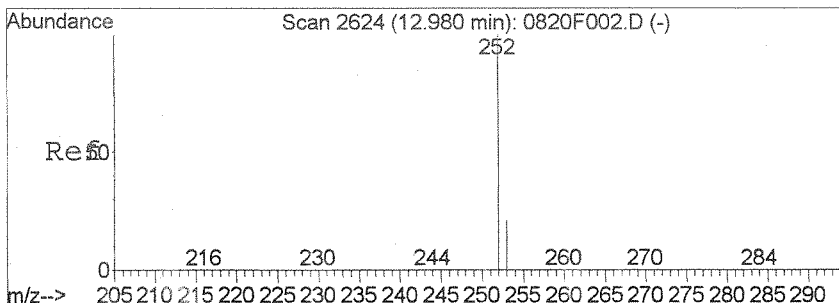
Tgt Ion	Resp	Ion Ratio	Lower	Upper
228	367	100		
226	41.6		0.0	58.6



#28  
 Benzo(b) fluoranthene  
 Concen: 0.83 ng/ml  
 RT: 12.12 min Scan# 2382  
 Delta R.T. -0.00 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

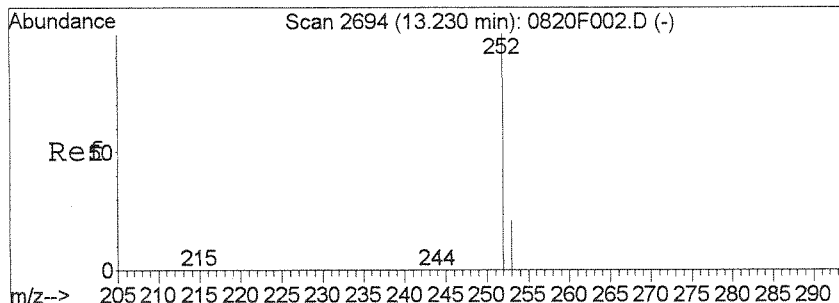
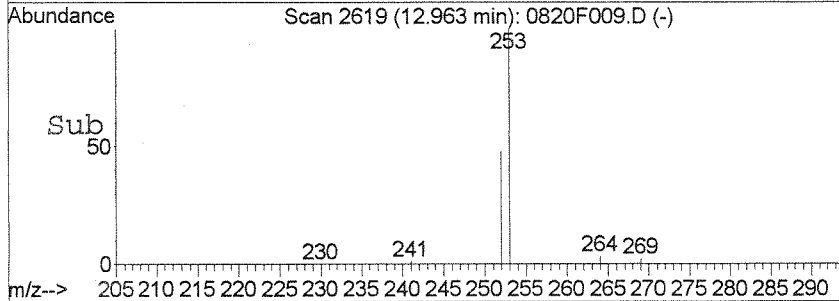
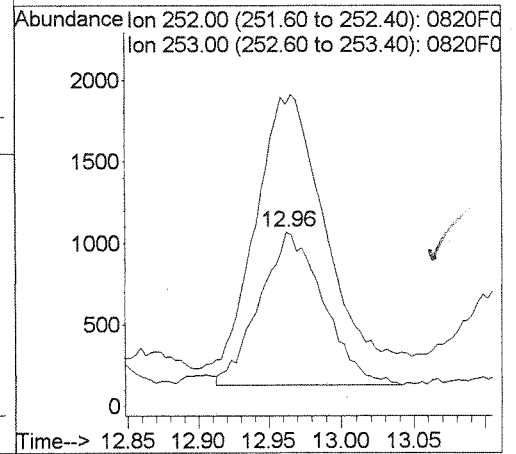
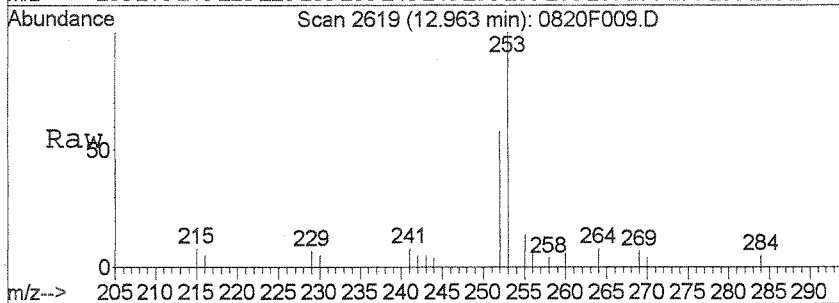
Tgt Ion	Resp	Ion Ratio	Lower	Upper
252	789	100		
253	35.8		0.0	52.1





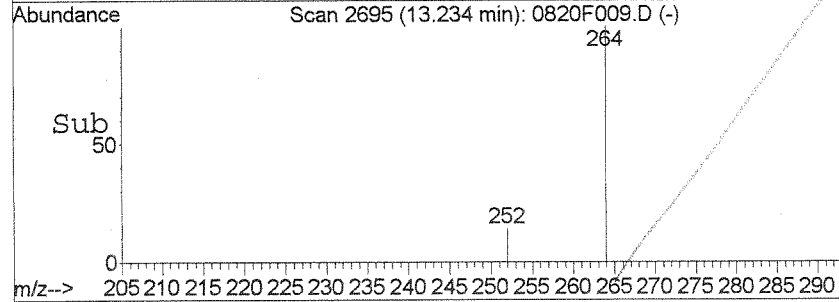
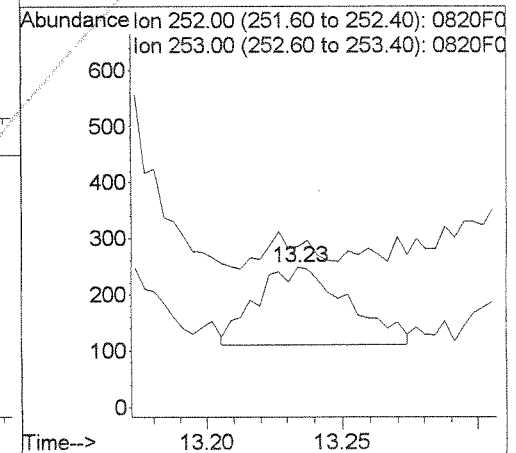
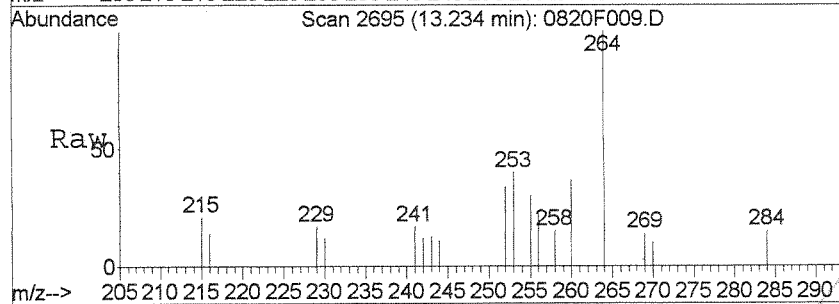
#31  
 Benzo (a) pyrene  
 Concen: 3.16 ng/ml  
 RT: 12.96 min Scan# 2619  
 Delta R.T. -0.03 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion: 252 Resp: 2904  
 Ion Ratio Lower Upper  
 252 100  
 253 167.0 0.0 52.2#



#32  
 Perylene NT  
 Concen: 0.37 ng/ml m  
 RT: 13.23 min Scan# 2695  
 Delta R.T. -0.01 min  
 Lab File: 0820F009.D  
 Acq: 20 Aug 2014 1:17 pm

Tgt Ion: 252 Resp: 318  
 Ion Ratio Lower Upper  
 252 100  
 253 114.9 0.0 51.8#



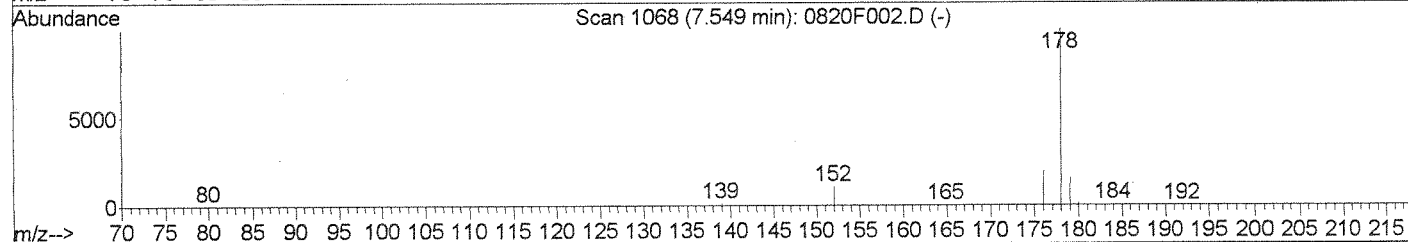
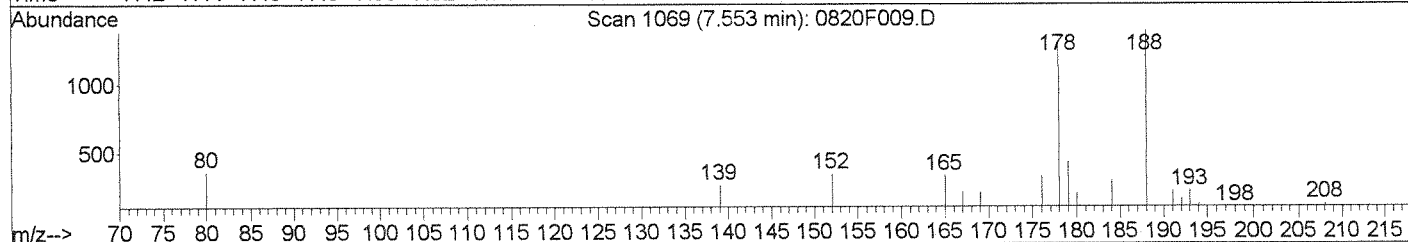
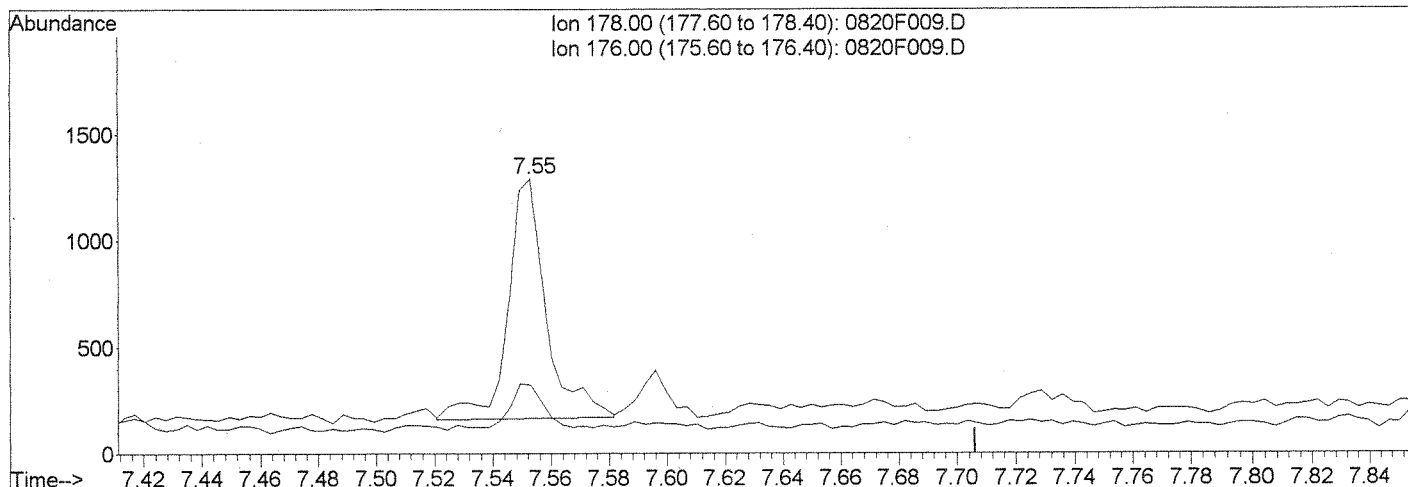
Data File : J:\MS14\DATA\082014\0820F009.D  
Acq On : 20 Aug 2014 1:17 pm  
Sample : K1407971-006  
Misc :

Vial: 9  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:59 2014

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F009.D

(16) Phenanthrene (T)

7.55min 1.36ng/ml

response 1042

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	17.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

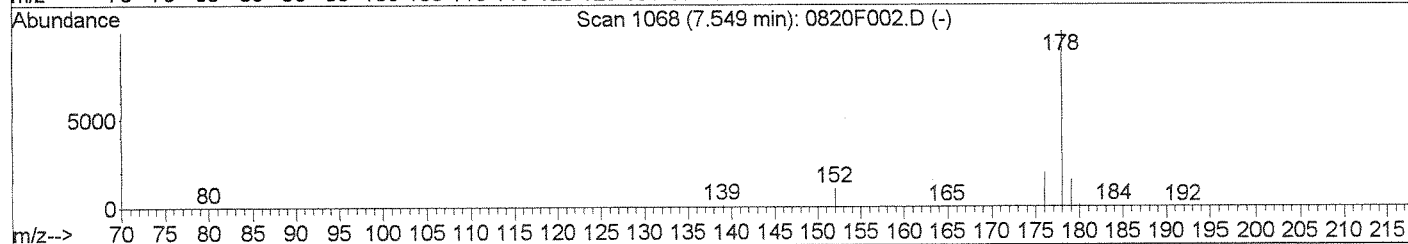
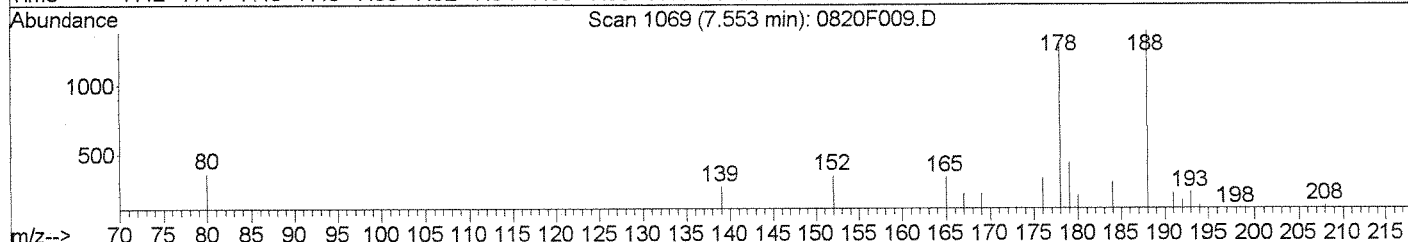
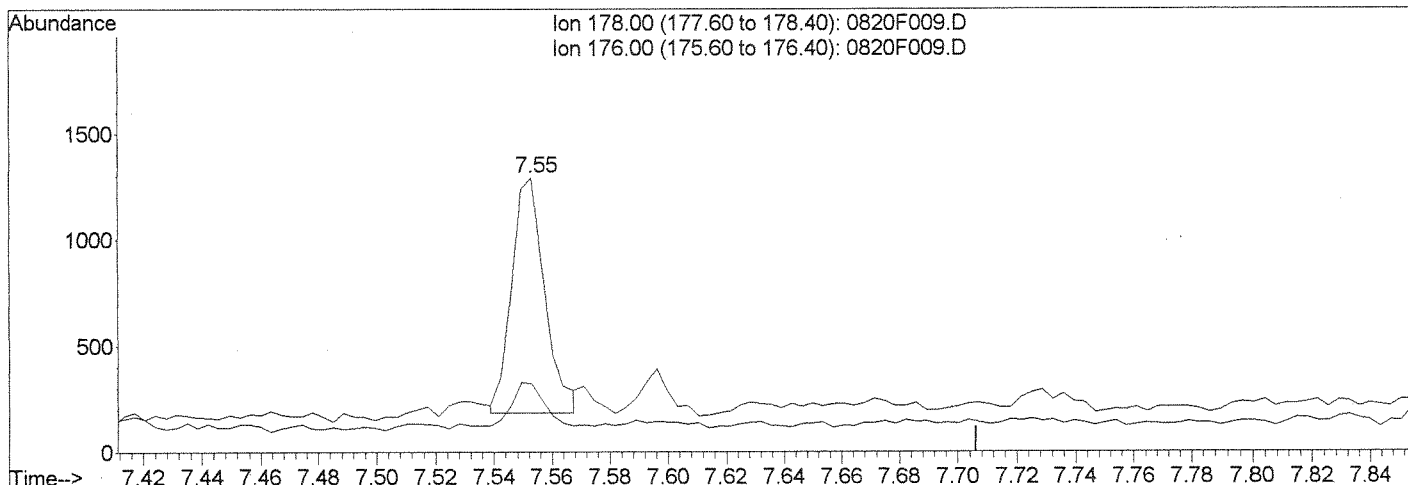
*AB*  
AUG 21 2014

Data File : J:\MS14\DATA\082014\0820F009.D  
Acq On : 20 Aug 2014 1:17 pm  
Sample : K1407971-006  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:59 2014

Vial: 9  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F009.D

(16) Phenanthrene (T)

7.55min 1.15ng/ml m

response 877

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	24.92
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

*AB*  
AUG 21 2014

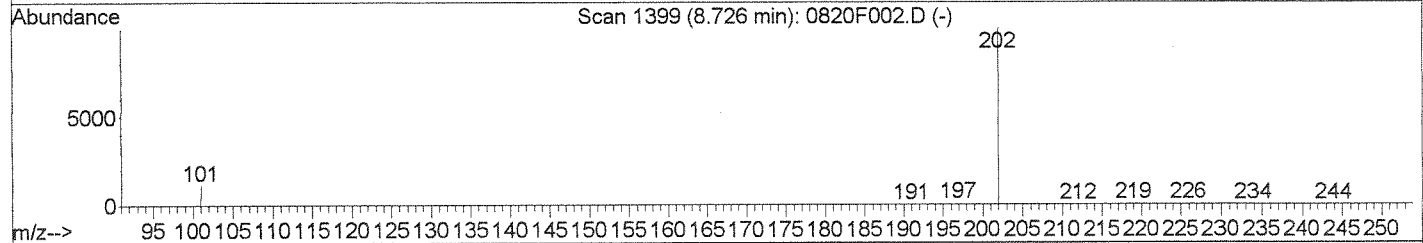
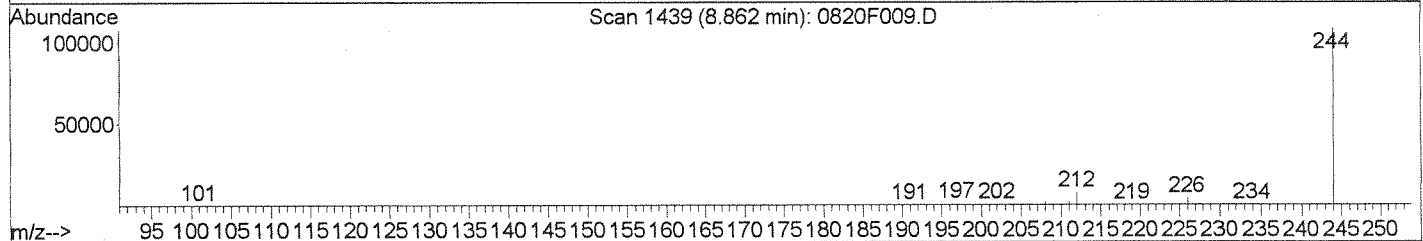
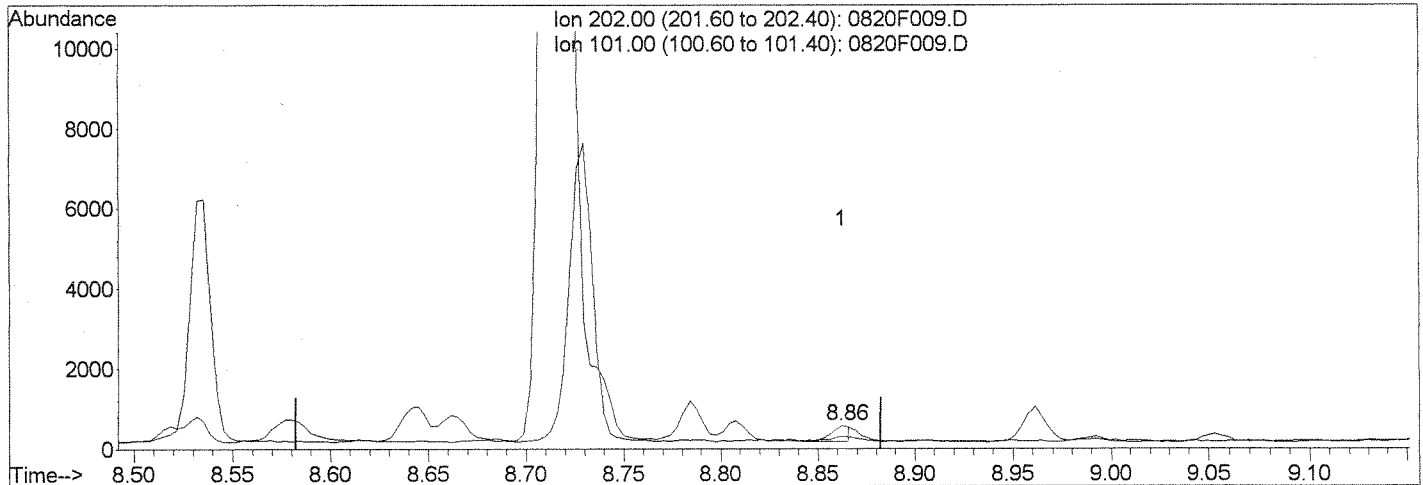
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:59 2014

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F009.D

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	26.07
0.00	0.00	0.00
0.00	0.00	0.00

(23) Pyrene (T)  
 8.86min 0.27ng/ml  
 response 275  
 Manual Integration: Before  
 08/21/14

*Handwritten signature*

AUG 21 2014

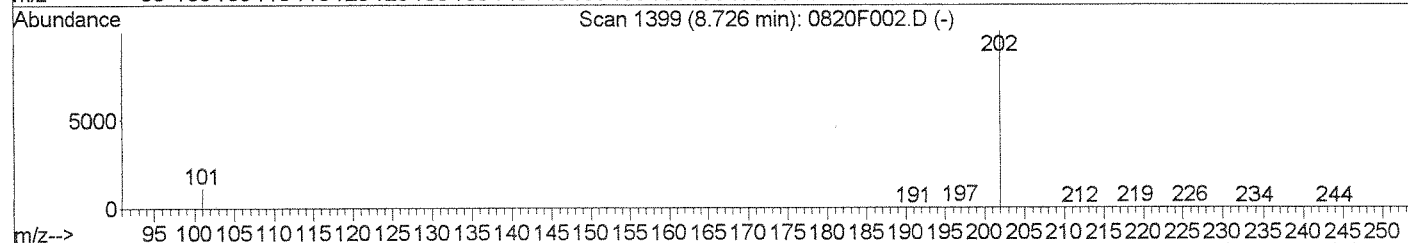
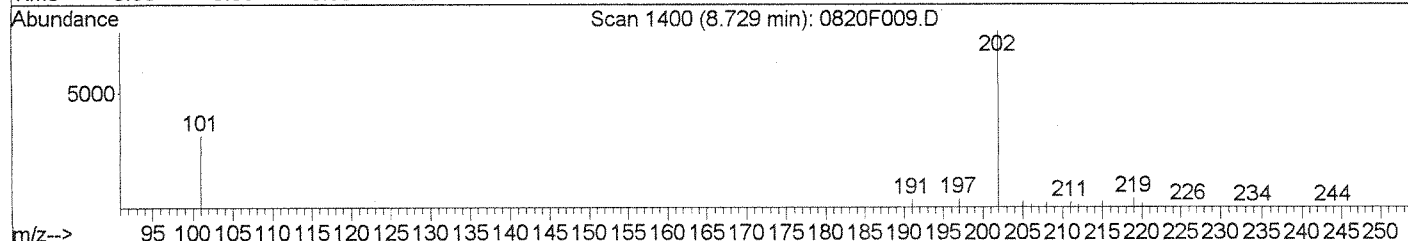
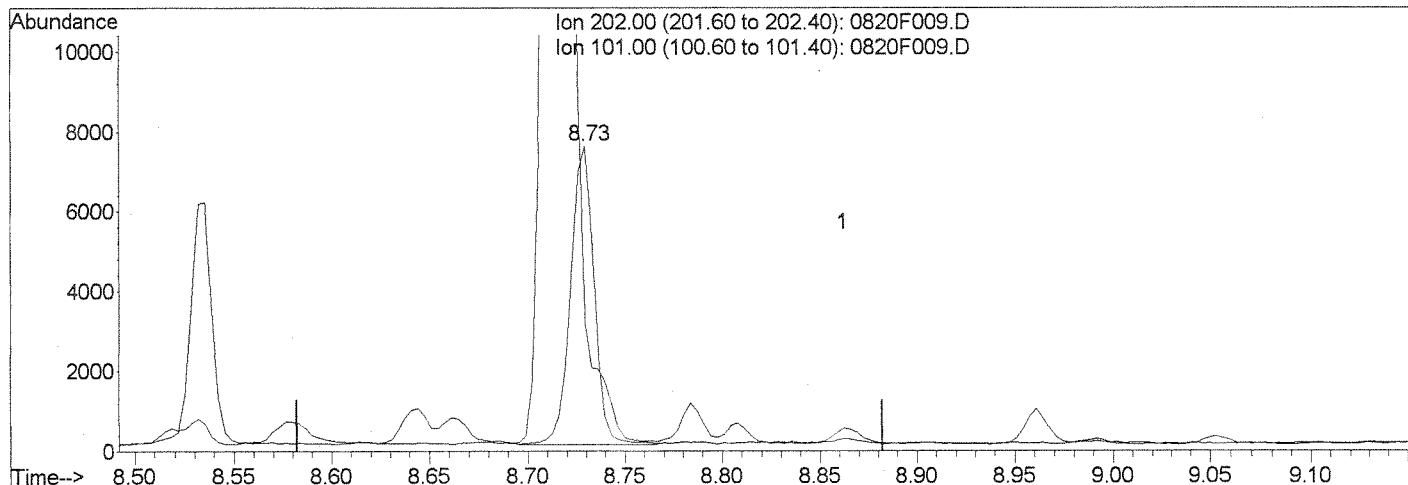
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:59 2014

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F009.D

(23) Pyrene (T)

8.73min 6.14ng/ml m

response 6334

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	41.61#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*CHA*

AUG 21 2014

Quantitation Report (Qedit)

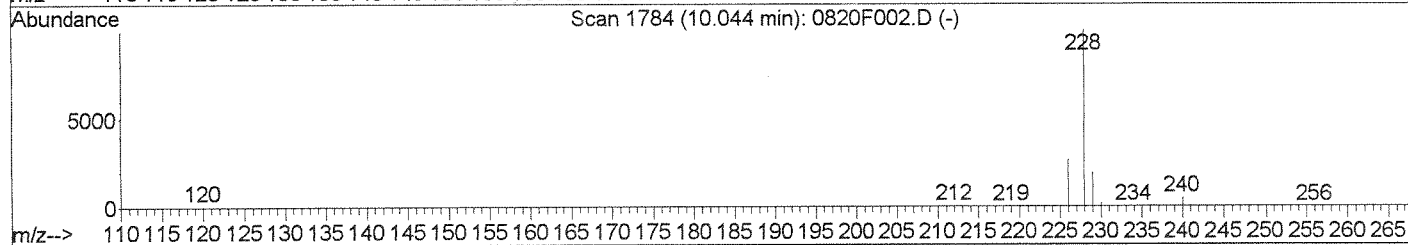
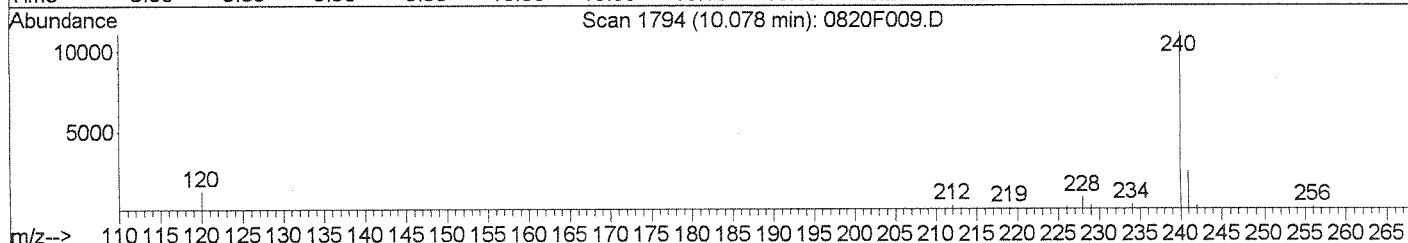
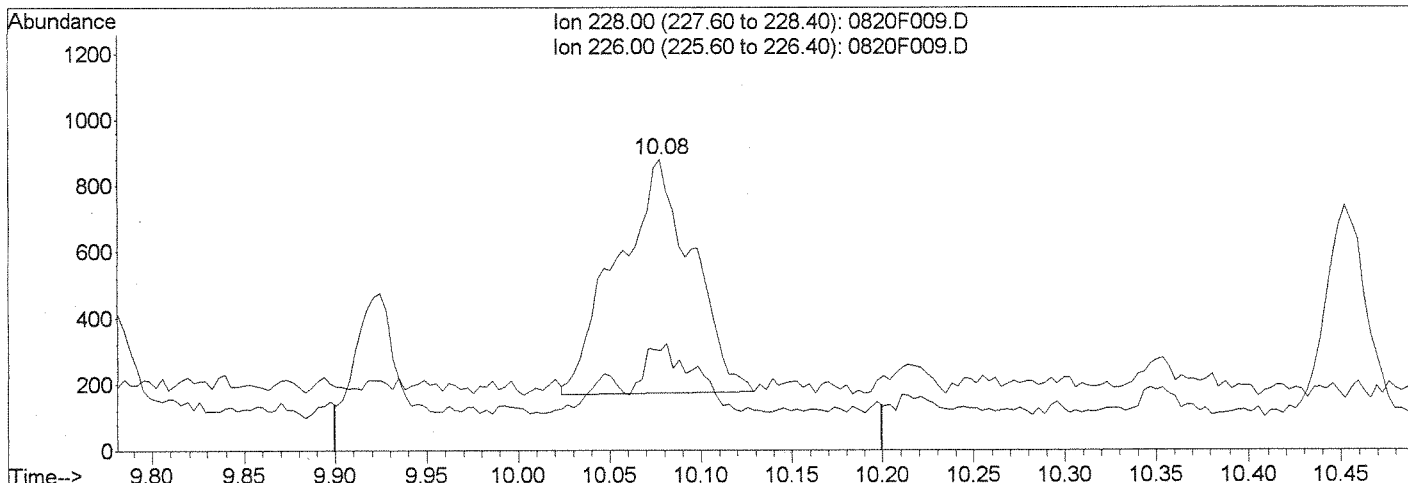
Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:59 2014

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F009.D

(25) Benz(a)anthracene (T)

10.08min 2.20ng/ml

response 2022

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	25.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*UA*

*1/3*  
 AUG 21 2014

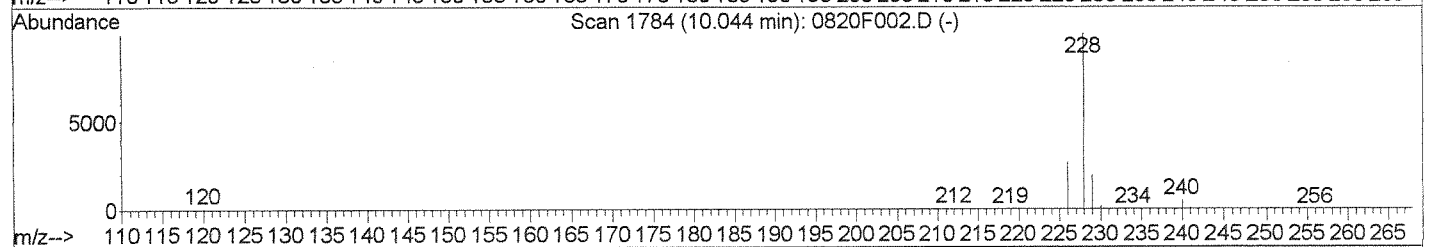
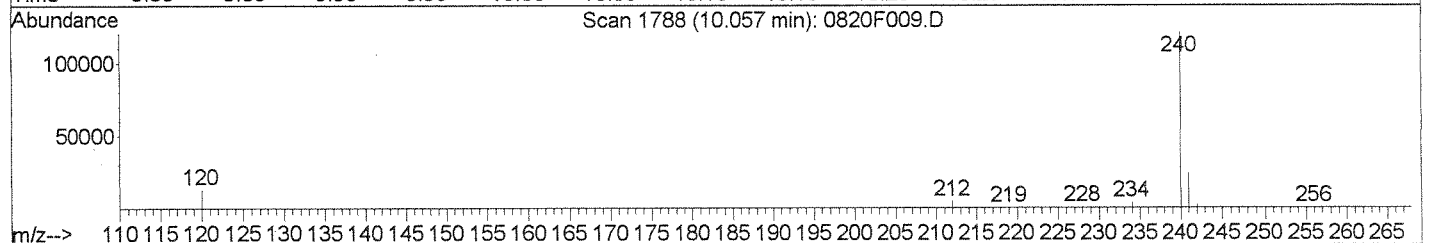
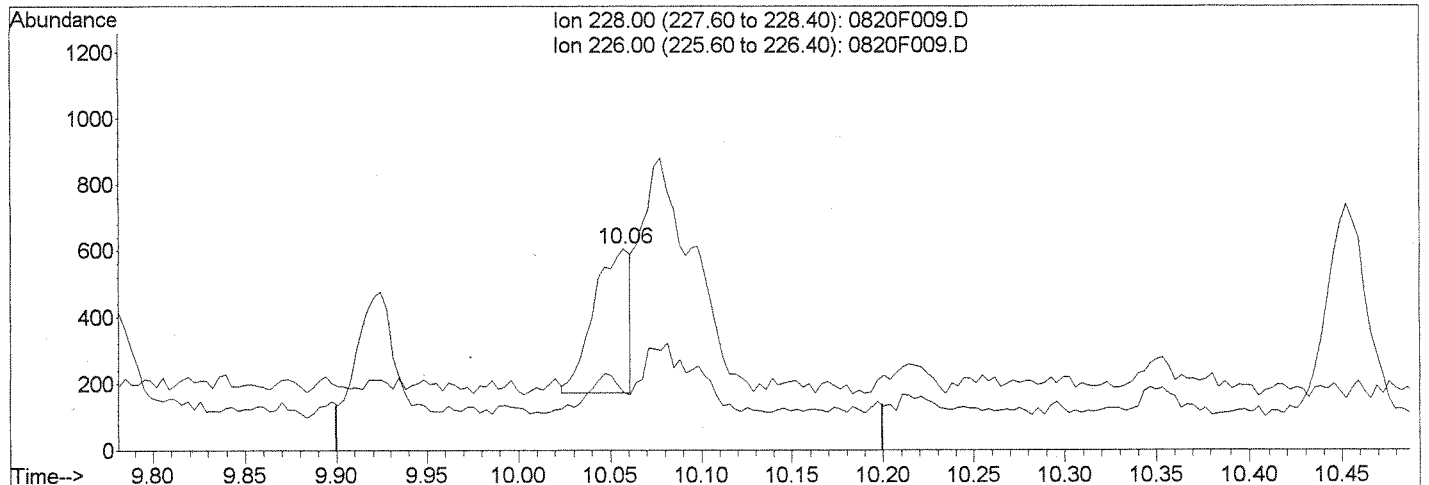
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F009.D  
 Acq On : 20 Aug 2014 1:17 pm  
 Sample : K1407971-006  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:59 2014

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F009.D

(25) Benz(a)anthracene (T)

10.06min 0.66ng/ml m

response 603

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	29.09
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

AUG 21 2014



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F015.D  
**Lab ID:** K1407971-007  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 15:50  
**Date Quantitated:** 08/21/2014 09:20  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: *CA* AUG 21 2014  
 Secondary Review: *LB* AUG 21 2014

## Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F015.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 15:50	<b>Quant Date:</b> 08/21/2014 11:55
<b>Run Type:</b> SMPL	<b>Vial:</b> 15
<b>Lab ID:</b> K1407971-007	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365432	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	135826	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	72745	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	139377	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149053	200.00	OK
5	Perylene-d12	13.17	0.02	264	156603	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	72100	168.01	84	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	127259	162.15	81	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	106444	158.76	79	39-111	OK

### Target Compounds

Final Conc. Units: ug/Kg Dry Weight										
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	5539	7.69	51	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	3440	6.83	45	J	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	3235	7.30	48		
2	Acenaphthylene	6.16		0.00	152	4820	6.58	43		
2	Acenaphthene	6.31		0.00	154	3581	8.46	56		
2	Fluorene	6.75		0.00	166	3162	5.97	39		
3	Phenanthrene	7.55		0.00	178	5437	7.07	47		
3	Anthracene	7.60	0.01	0.00	178	2217	2.91	19	J	
3	Fluoranthene	8.54	0.01	0.00	202	6069	6.77	45		
4	Pyrene	8.73		0.00	202	8790	8.55	56		
4	Benz(a)anthracene	10.06	0.02	0.00	228	552m	0.6000	4.0	J	
4	Chrysene	10.09	-0.01	0.00	228	821m	1.01	6.7	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F015.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 15:50	<b>Quant Date:</b>	08/21/2014 11:55
<b>Run Type:</b>	SMPL	<b>Vial:</b>	15
<b>Lab ID:</b>	K1407971-007	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Target Compounds</b>		<b>Final Conc. Units:</b>		<b>ug/Kg Dry Weight</b>						
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	793	0.8200	5.4	J	
5	Benzo(k)fluoranthene	12.19	0.01	0.00	252	321m	0.3400	3.8	U	
5	Benzo(a)pyrene	12.98		0.00	252	498	0.5400	4.9	U	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.4	U	
5	Dibenz(a,h)anthracene				278	0d		5.7	U	
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	258m	0.2300	6.3	U	

**Prep Amount:** 10.166 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 14.9 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:23 2014

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	135826	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	72745	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	139377	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149053	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	156603	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	72100	168.01	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.80%	
21) Fluoranthene-d10	8.52	212	127259	162.15	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.22%	
24) Terphenyl-d14	8.87	244	106444	158.76	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.88%	

Target Compounds

						Qvalue
2) Naphthalene	4.68	128	5539	7.69	ng/ml	96
3) 2-Methylnaphthalene	5.36	142	3440	6.83	ng/ml	96
4) 1-Methylnaphthalene	5.45	142	3235	7.30	ng/ml	94
5) Biphenyl	5.79	154	316m	0.53	ng/ml	
6) 2,6-Dimethylnaphthalene	5.94	156	408	0.92	ng/ml	98
8) Acenaphthylene	6.16	152	4820	6.58	ng/ml	99
9) Acenaphthene	6.31	154	3581	8.46	ng/ml	96
10) Dibenzofuran	6.46	168	4308	6.45	ng/ml	98
11) 2,3,5-Trimethylnaphthalene	6.64	170	556	1.31	ng/ml	93
13) Fluorene	6.75	166	3162	5.97	ng/ml	96
15) Dibenzothiophene	7.45	184	465m	0.63	ng/ml	
16) Phenanthrene	7.55	178	5437	7.07	ng/ml	100
17) Anthracene	7.60	178	2217	2.91	ng/ml	97
18) Carbazole	7.74	167	1246	1.85	ng/ml	90
19) 1-Methylphenanthrene	8.06	192	2150	3.53	ng/ml	94
20) Fluoranthene	8.54	202	6069	6.77	ng/ml	97
23) Pyrene	8.73	202	8790	8.55	ng/ml	95
25) Benz(a)anthracene	10.06	228	552m	0.60	ng/ml	
26) Chrysene	10.08	228	3578m	4.41	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	793	0.82	ng/ml	85
29) Benzo(k)fluoranthene	12.19	252	321m	0.34	ng/ml	
30) Benzo(e)pyrene	12.84	252	1265	1.37	ng/ml	83
31) Benzo(a)pyrene	12.98	252	498	0.54	ng/ml#	1
32) Perylene	13.24	252	243	0.28	ng/ml	98
35) Benzo(g,h,i)perylene	15.78	276	258m	0.23	ng/ml	

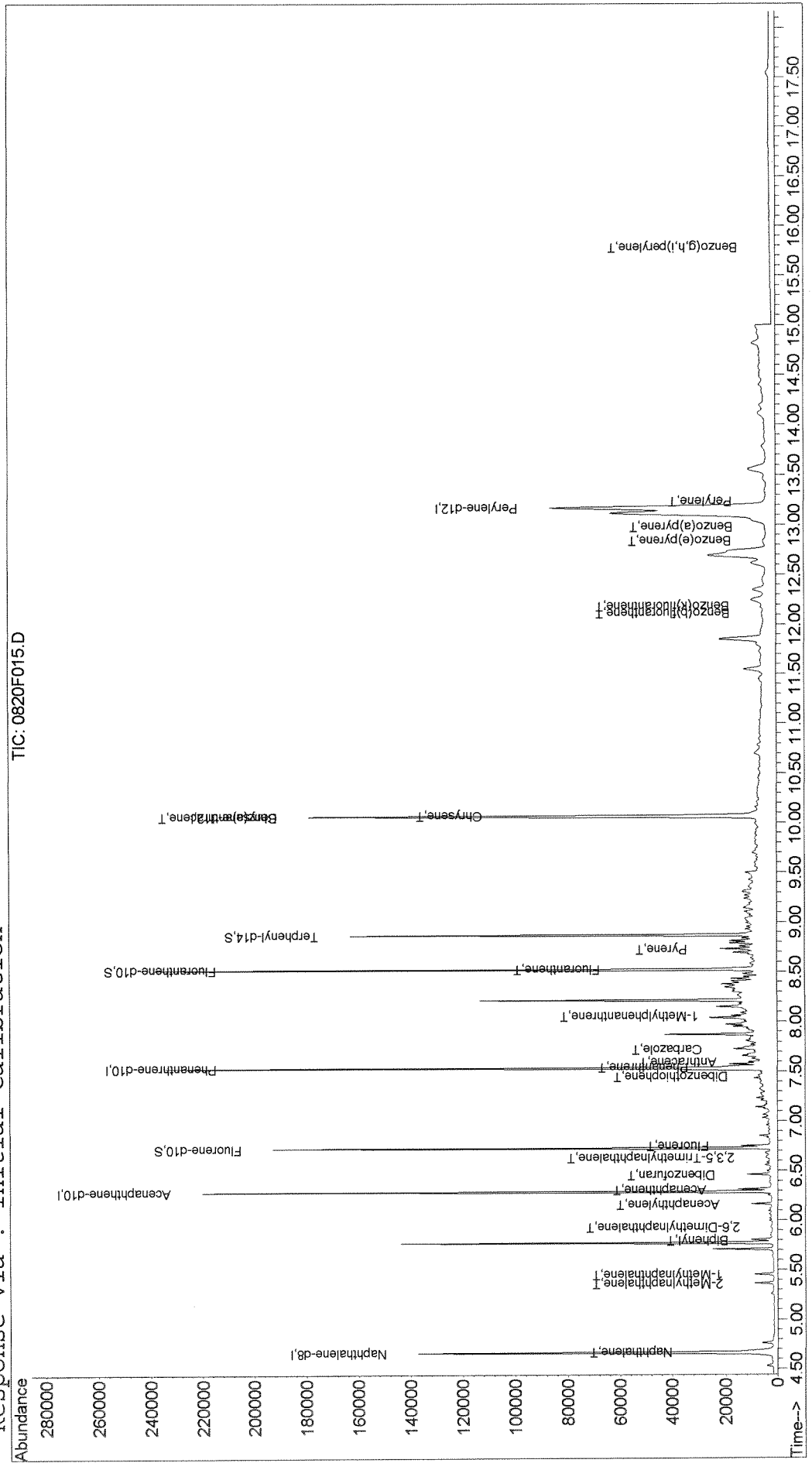
(#) = qualifier out of range (m) = manual integration

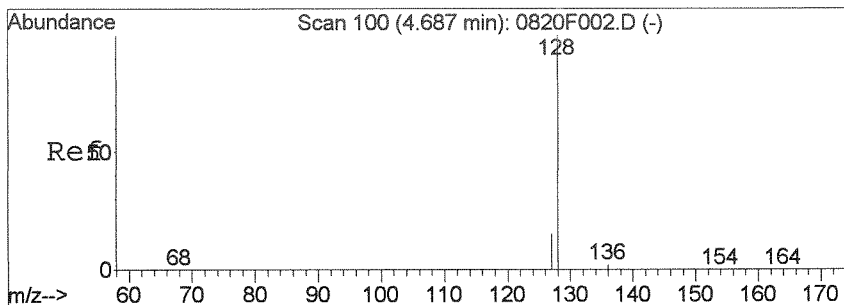
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:20 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

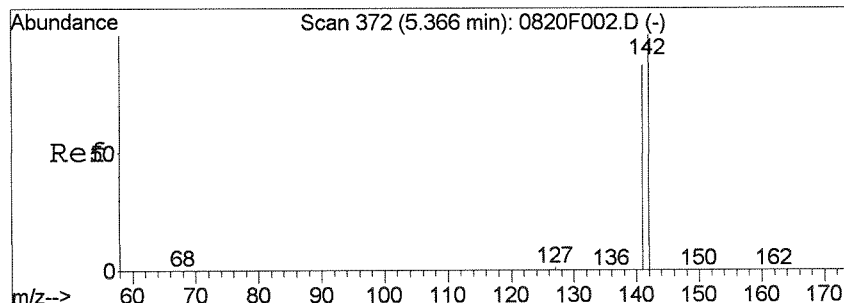
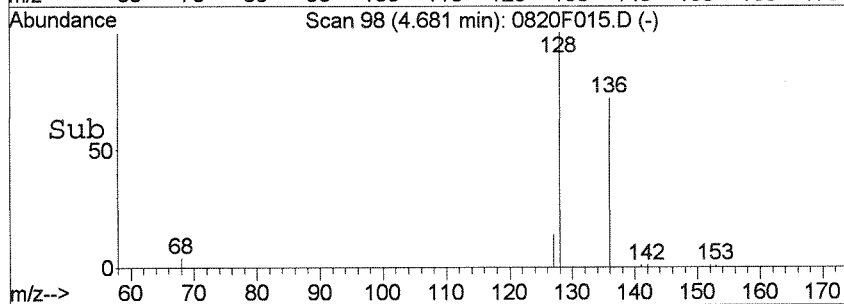
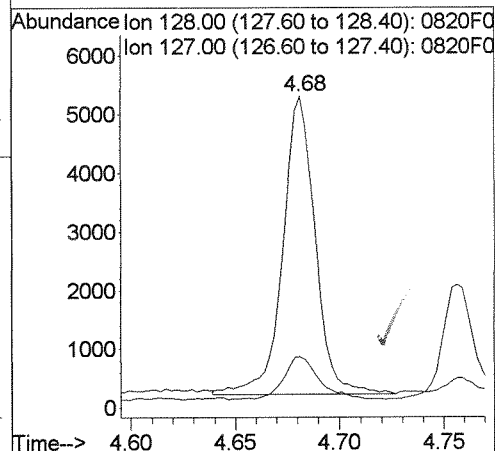
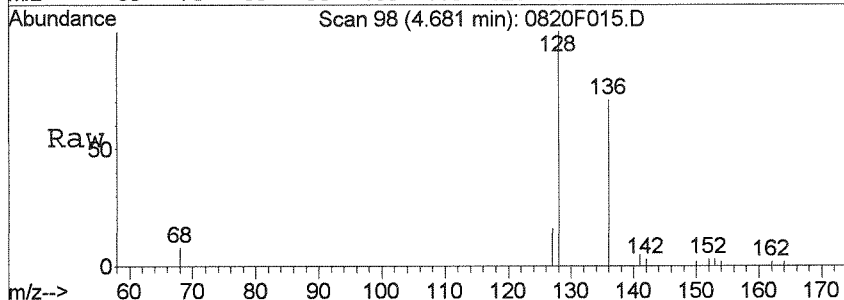
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





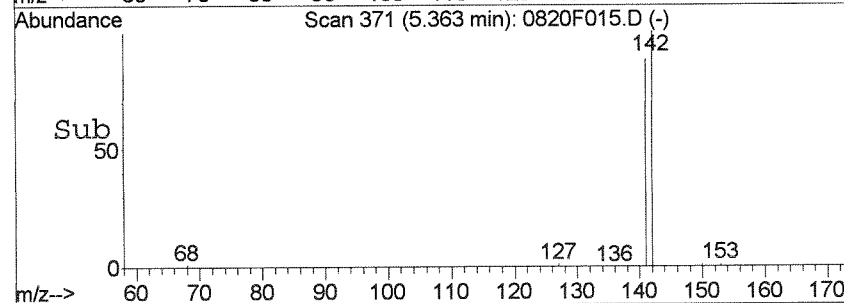
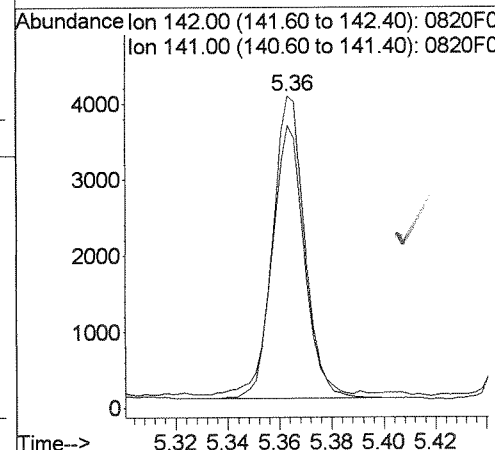
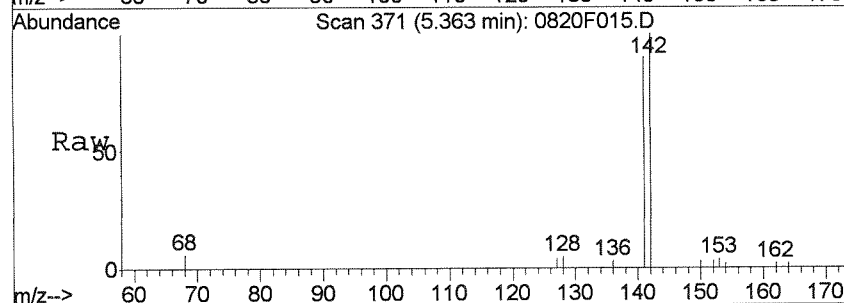
#2  
 Naphthalene  
 Concen: 7.69 ng/ml  
 RT: 4.68 min Scan# 98  
 Delta R.T. -0.01 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

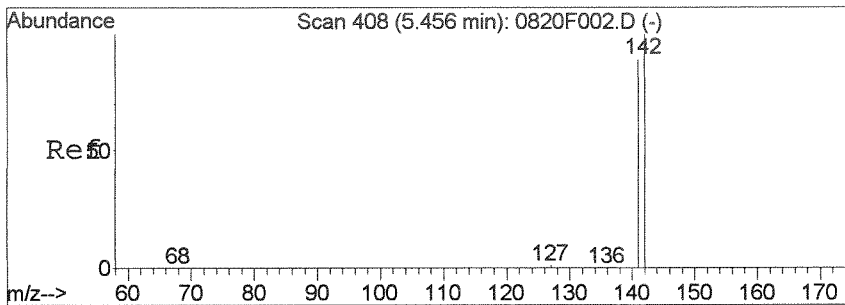
Tgt Ion:128 Resp: 5539  
 Ion Ratio Lower Upper  
 128 100  
 127 14.1 0.0 42.6



#3  
 2-Methylnaphthalene  
 Concen: 6.83 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

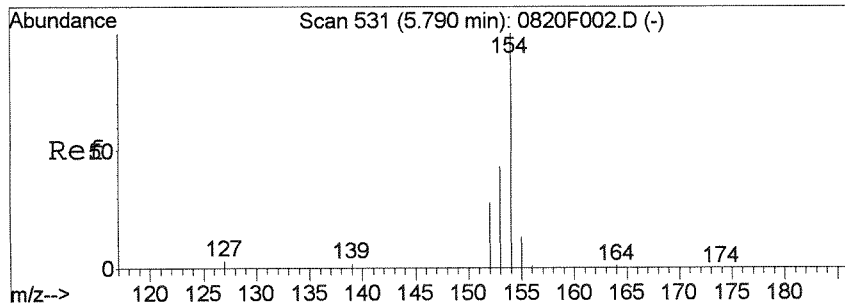
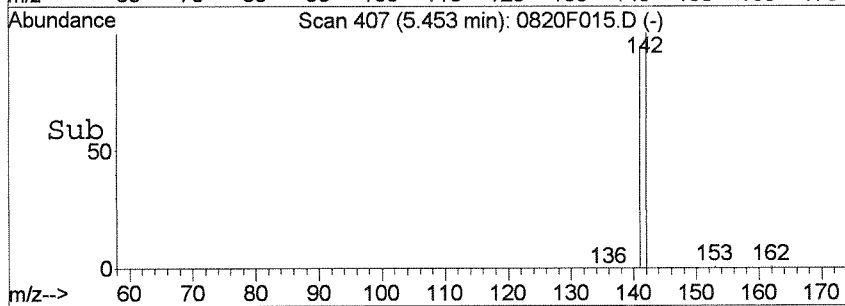
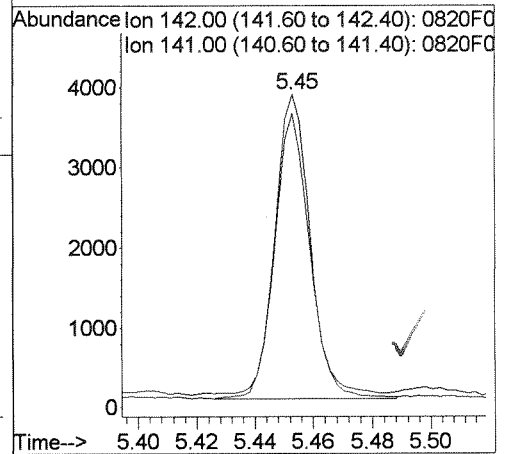
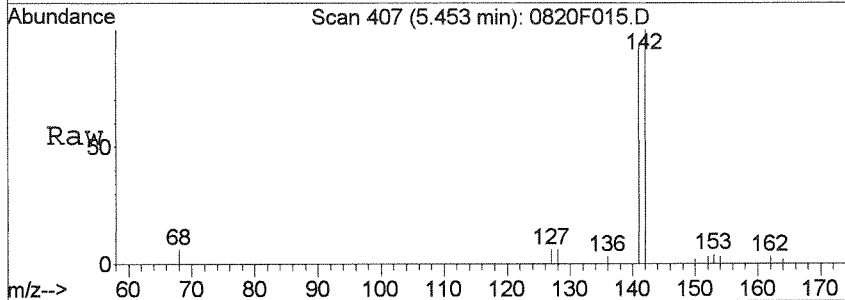
Tgt Ion:142 Resp: 3440  
 Ion Ratio Lower Upper  
 142 100  
 141 88.1 54.8 114.8





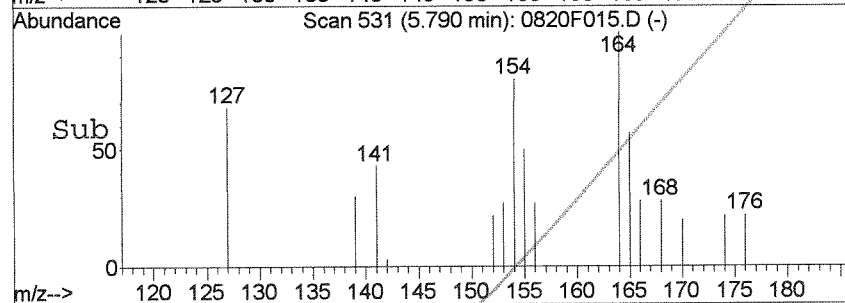
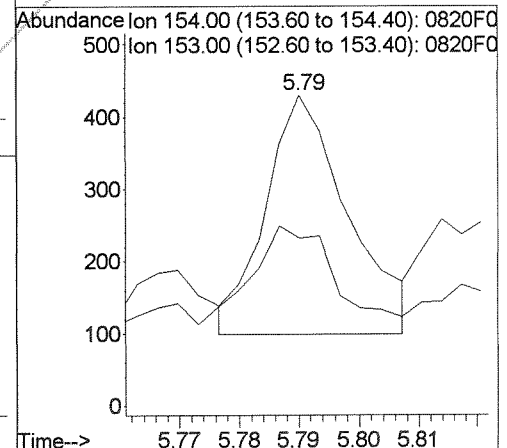
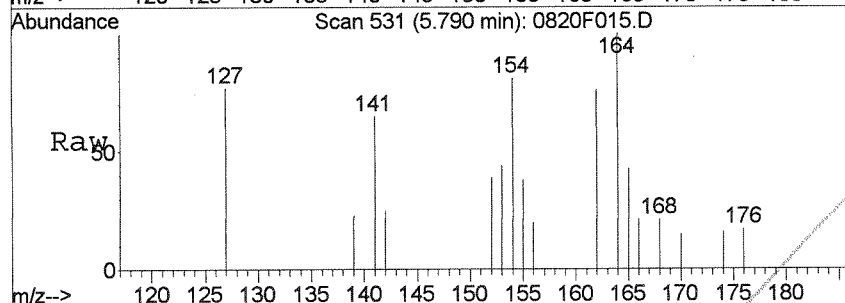
#4  
 1-Methylnaphthalene  
 Concen: 7.30 ng/ml  
 RT: 5.45 min Scan# 407  
 Delta R.T. -0.01 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

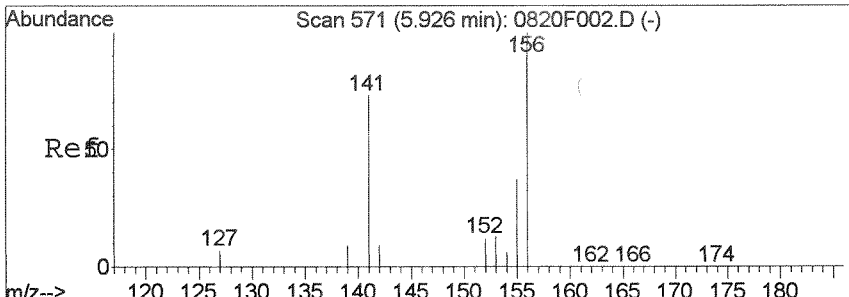
Tgt Ion: 142 Resp: 3235  
 Ion Ratio Lower Upper  
 142 100  
 141 92.0 56.4 116.4



#5  
 Biphenyl  
 Concen: 0.53 ng/ml m  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion: 154 Resp: 316  
 Ion Ratio Lower Upper  
 154 100  
 153 54.0 9.6 69.6

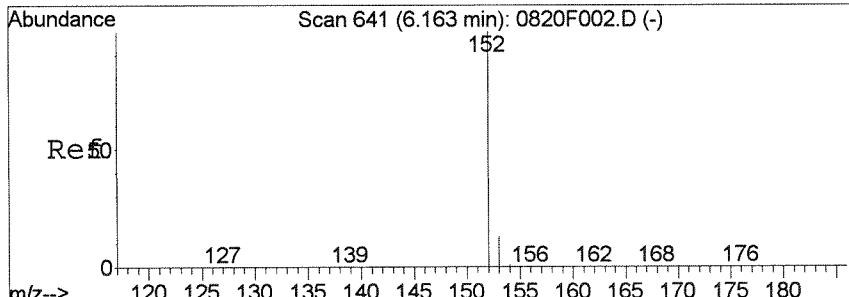
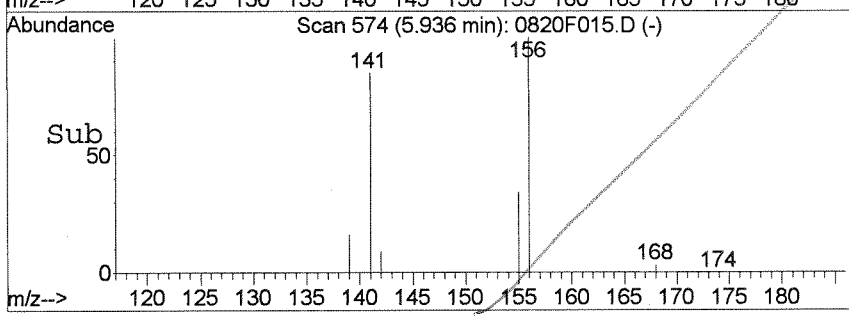
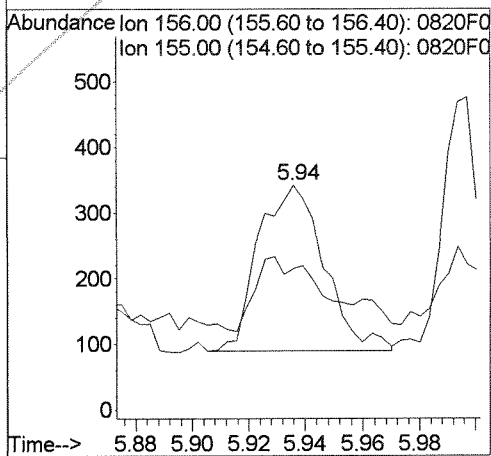
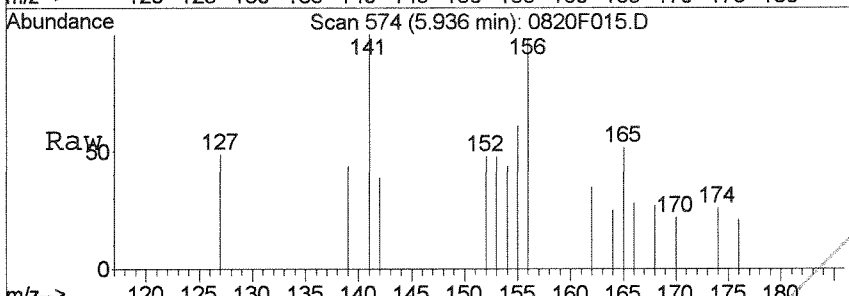




#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.92 ng/ml  
 RT: 5.94 min Scan# 574  
 Delta R.T. 0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

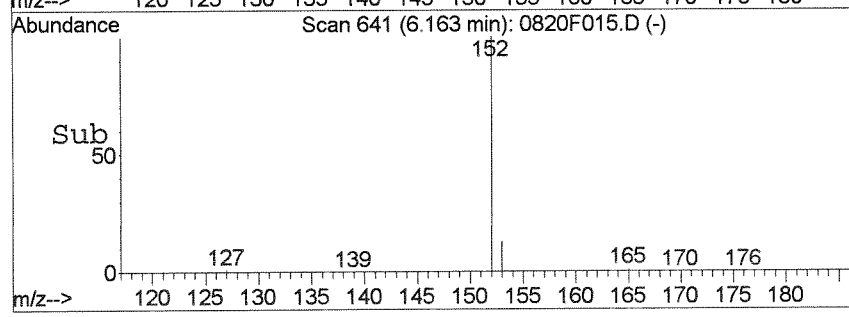
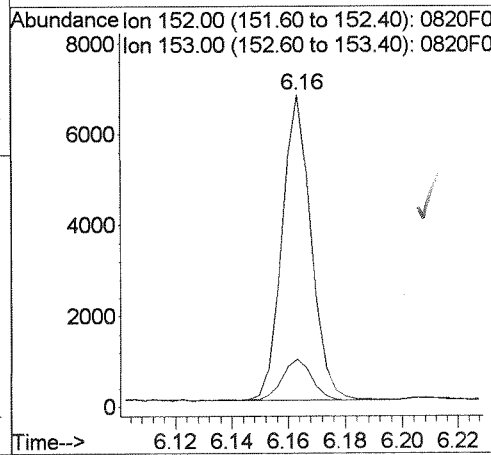
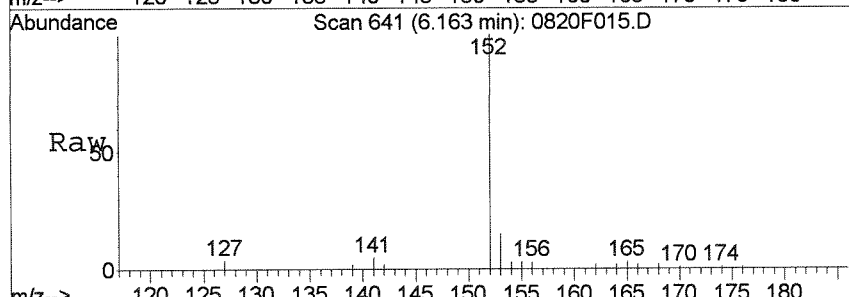
NT

Tgt Ion	Ratio	Lower	Upper
156	100		
155	34.0	4.9	64.9

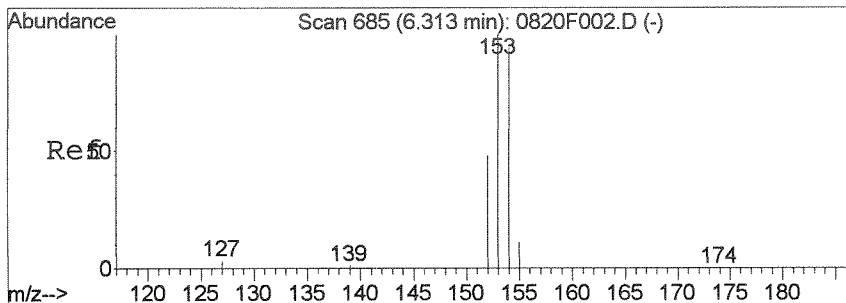


#8  
 Acenaphthylene  
 Concen: 6.58 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion	Ratio	Lower	Upper
152	100		
153	13.7	0.0	43.2

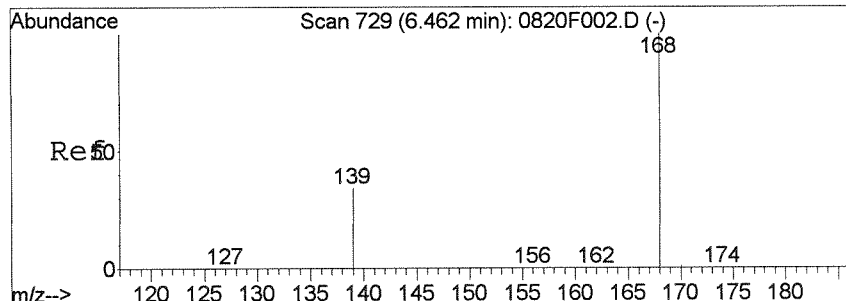
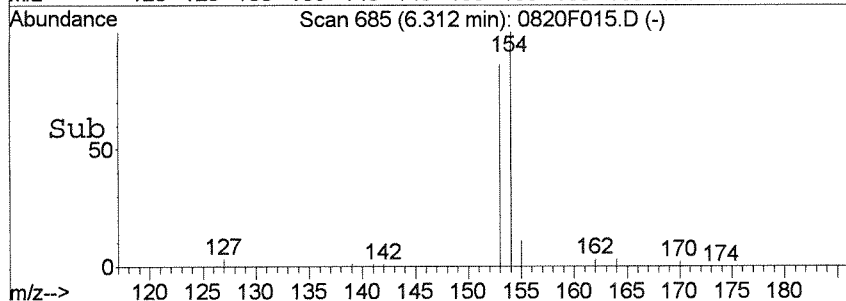
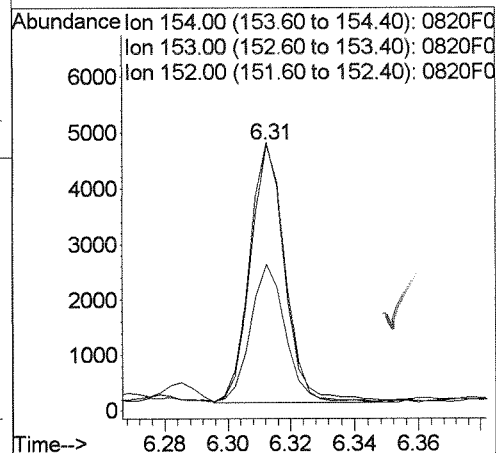
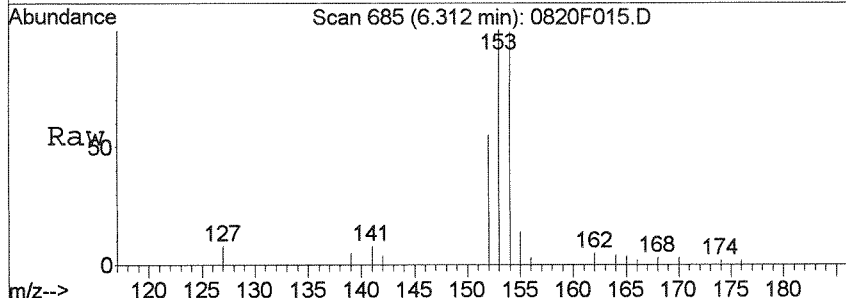






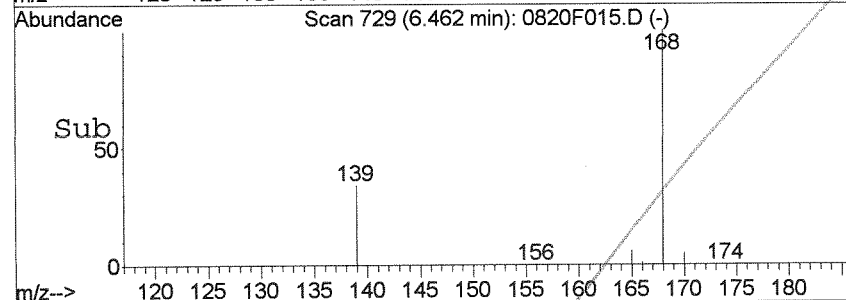
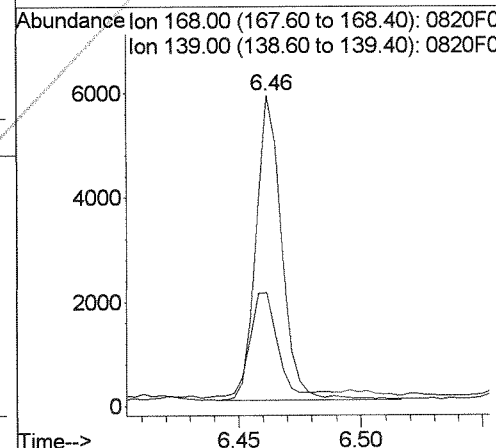
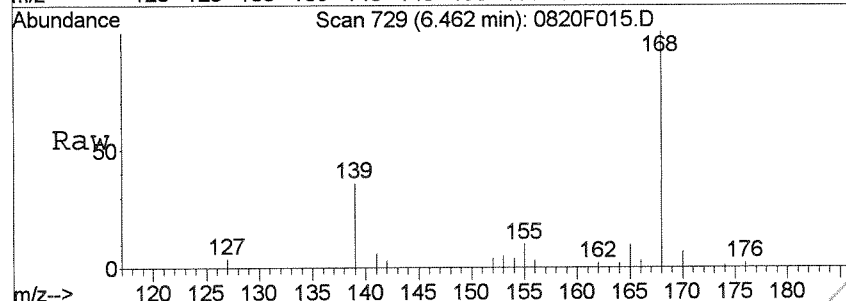
#9  
 Acenaphthene  
 Concen: 8.46 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

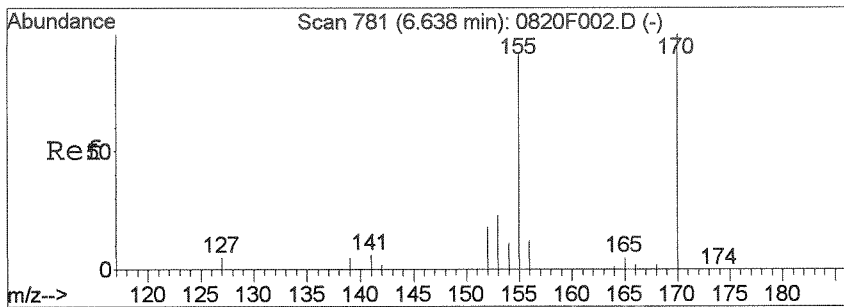
Tgt Ion	Resp	Lower	Upper
154	3581		
153	100	72.5	132.5
152	53.2	17.7	77.7



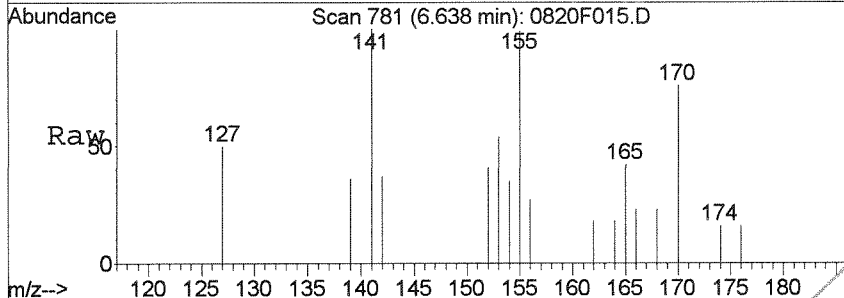
#10  
 Dibenzofuran  
 Concen: 6.45 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion	Resp	Lower	Upper
168	4308		
168	100		
139	33.9	2.7	62.7

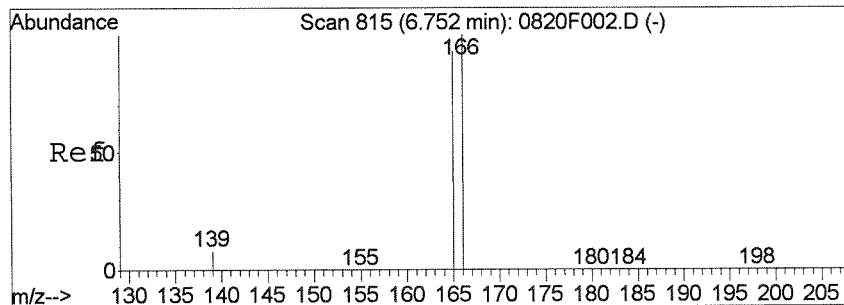
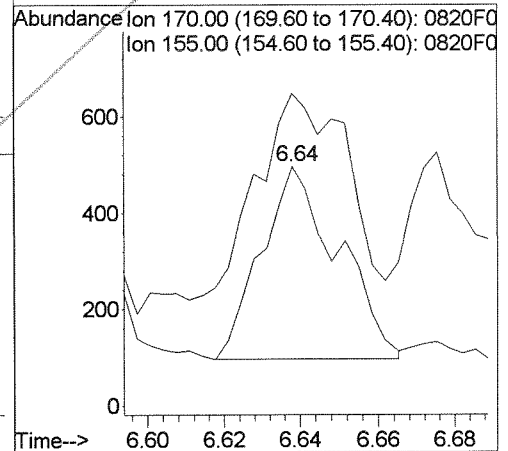
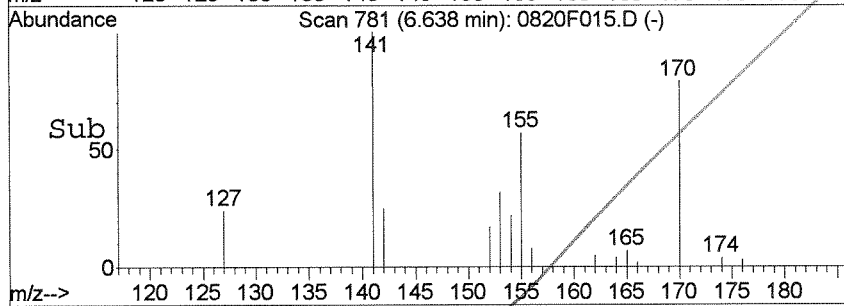




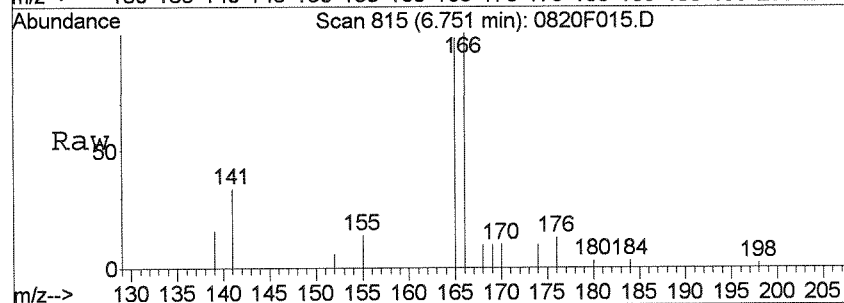
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 1.31 ng/ml  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm



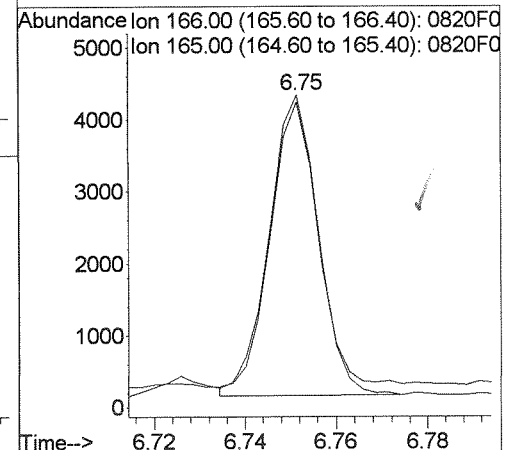
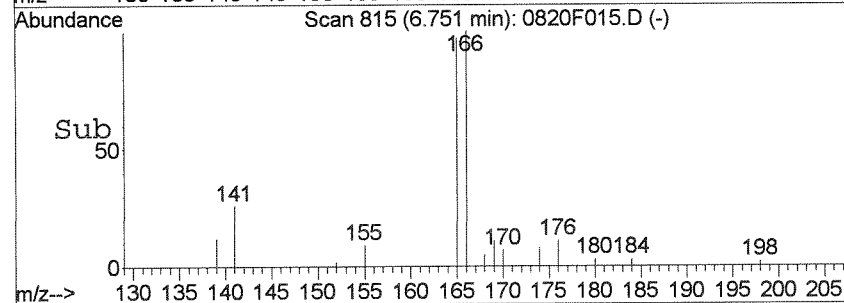
Tgt Ion: 170 Resp: 556  
 Ion Ratio Lower Upper  
 170 100  
 155 100.5 64.1 124.1

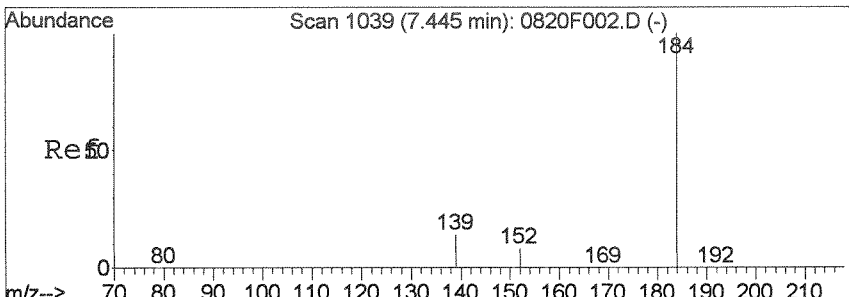


#13  
 Fluorene  
 Concen: 5.97 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm



Tgt Ion: 166 Resp: 3162  
 Ion Ratio Lower Upper  
 166 100  
 165 94.8 60.9 120.9

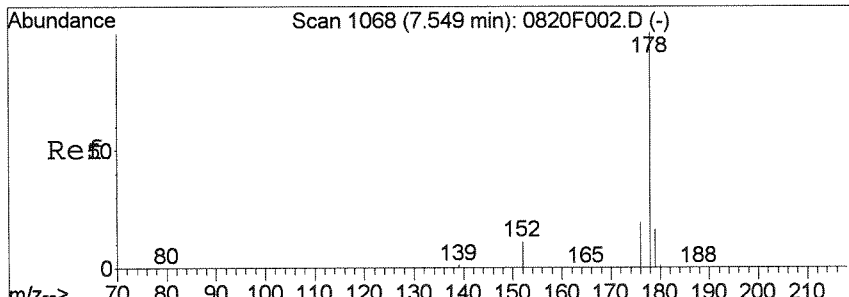
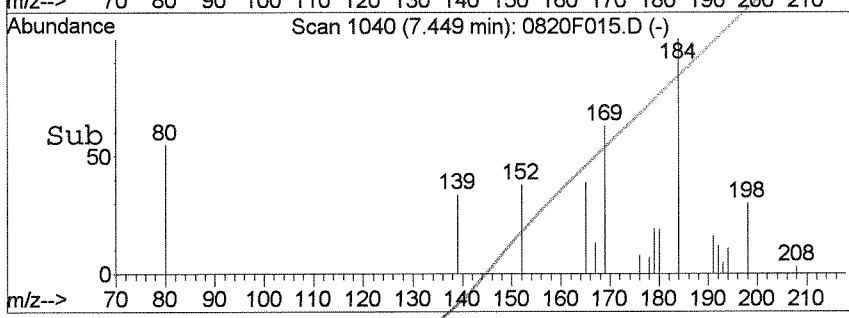
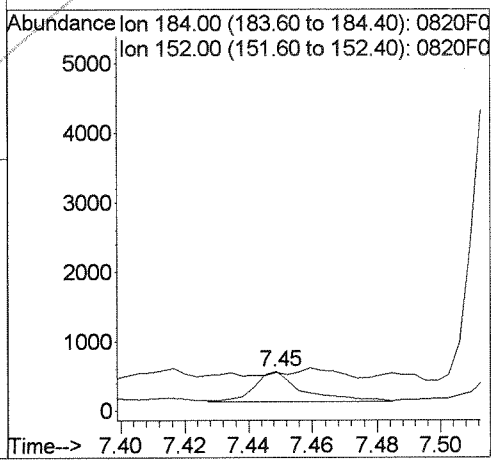
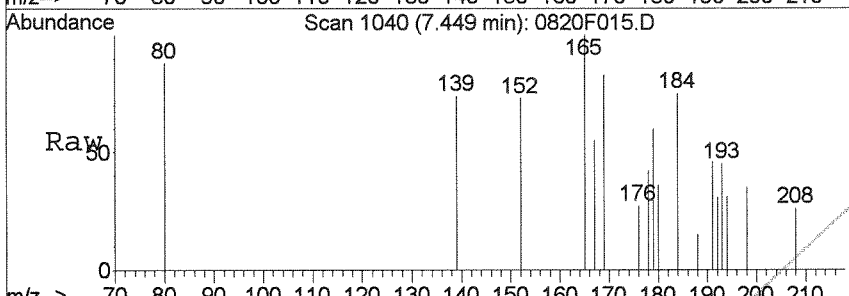




#15  
 Dibenzothiophene  
 Concen: 0.63 ng/ml m  
 RT: 7.45 min Scan# 1040  
 Delta R.T. 0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

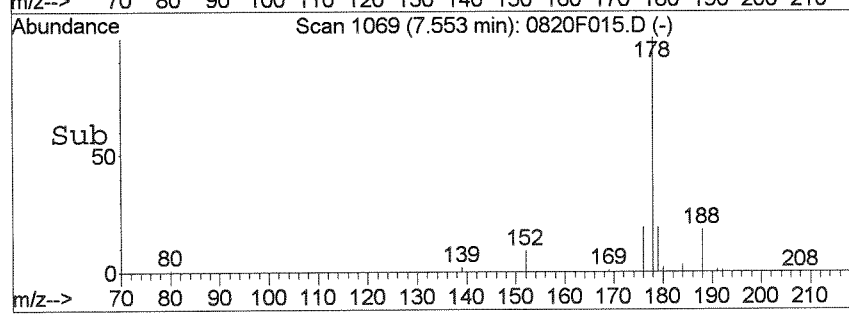
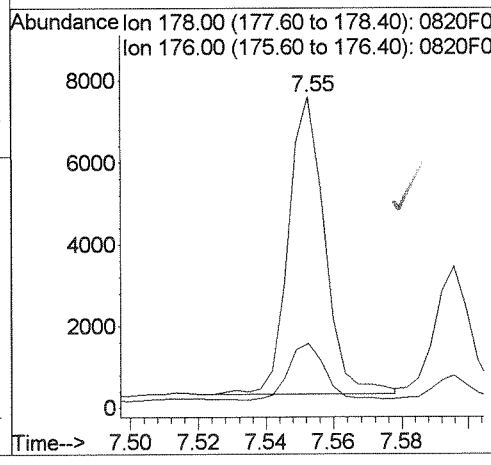
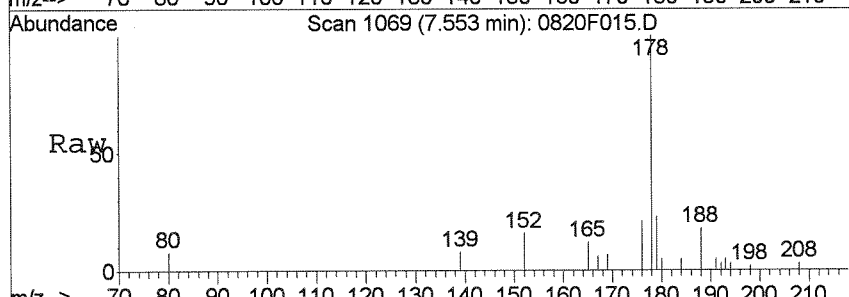
NT

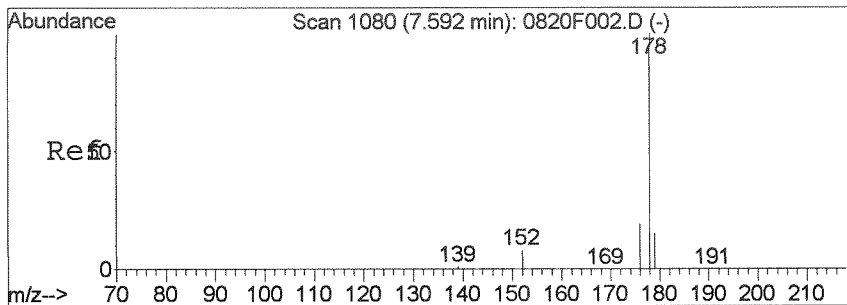
Tgt Ion	Ratio	Lower	Upper
184	100		
152	97.5	0.0	39.9#



#16  
 Phenanthrene  
 Concen: 7.07 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

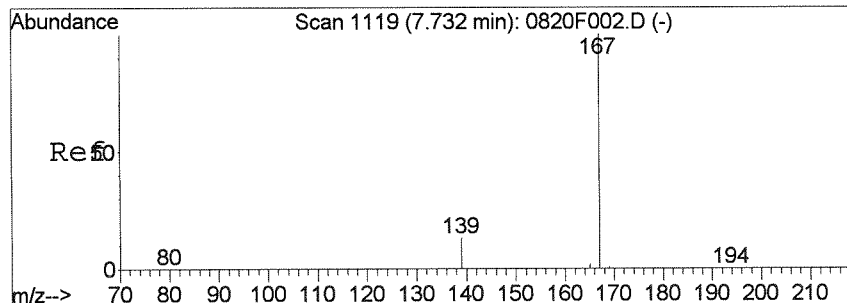
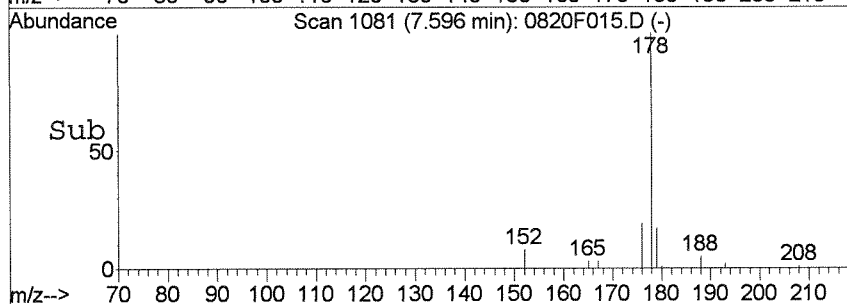
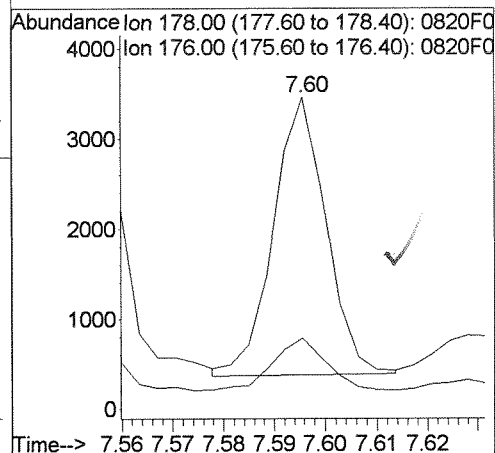
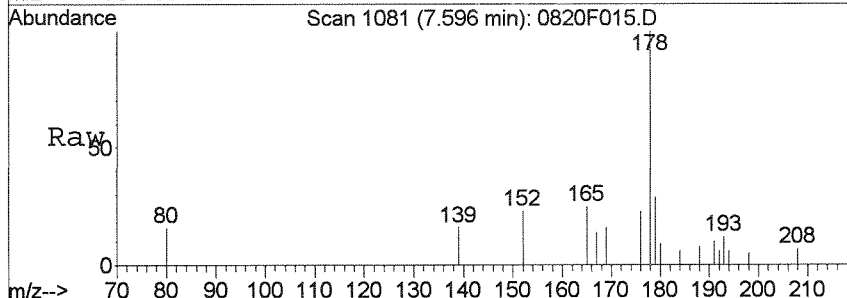
Tgt Ion	Ratio	Lower	Upper
178	100		
176	18.8	0.0	48.9





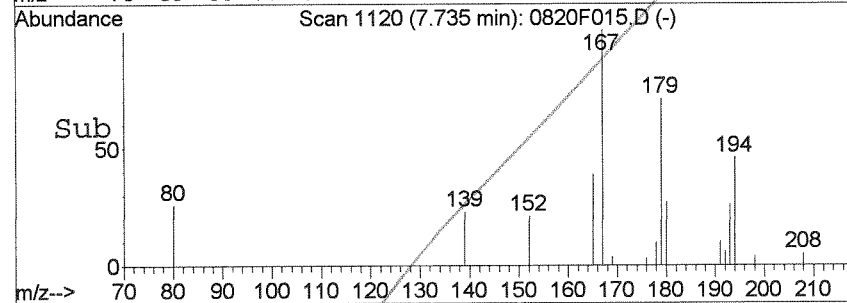
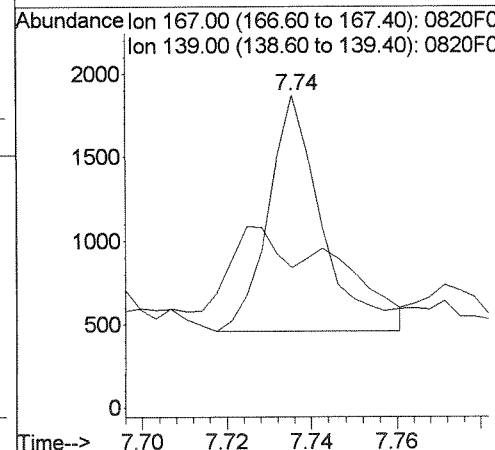
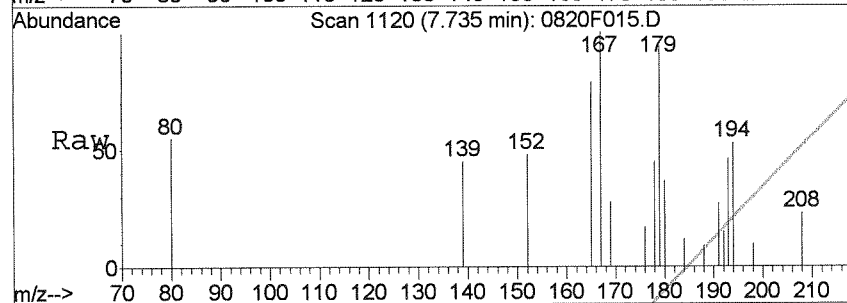
#17  
 Anthracene  
 Concen: 2.91 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion: 178 Resp: 2217  
 Ion Ratio Lower Upper  
 178 100  
 176 19.2 0.0 47.7

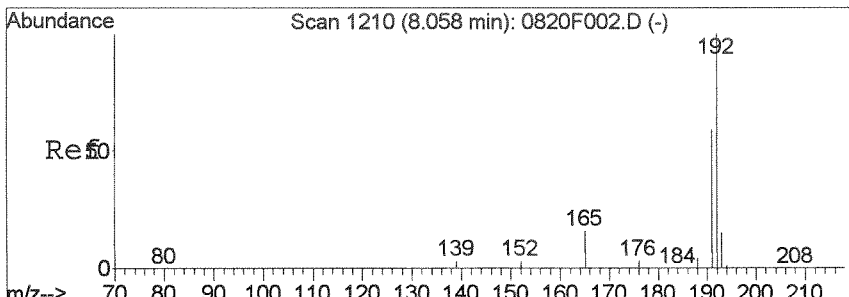


#18  
 Carbazole  
 Concen: 1.85 ng/ml  
 RT: 7.74 min Scan# 1120  
 Delta R.T. 0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion: 167 Resp: 1246  
 Ion Ratio Lower Upper  
 167 100  
 139 17.0 0.0 43.1

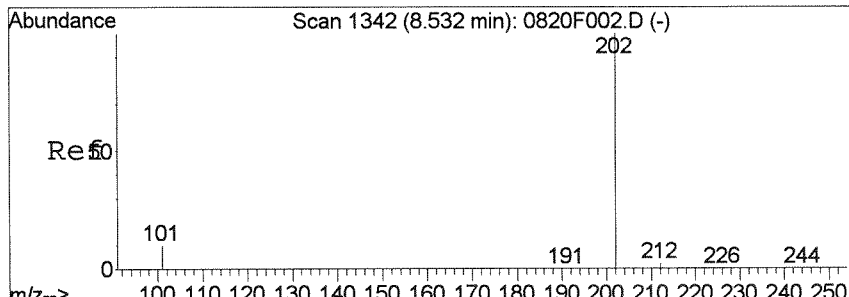
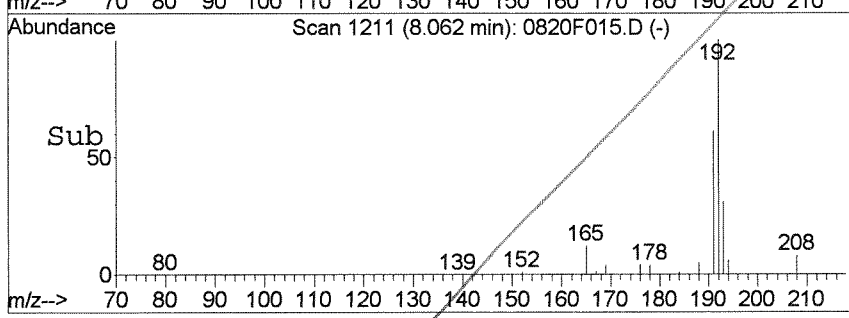
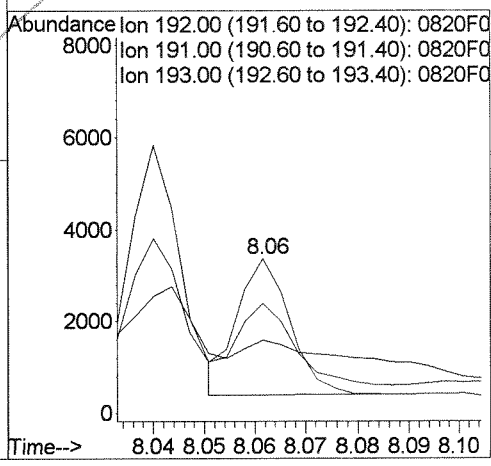
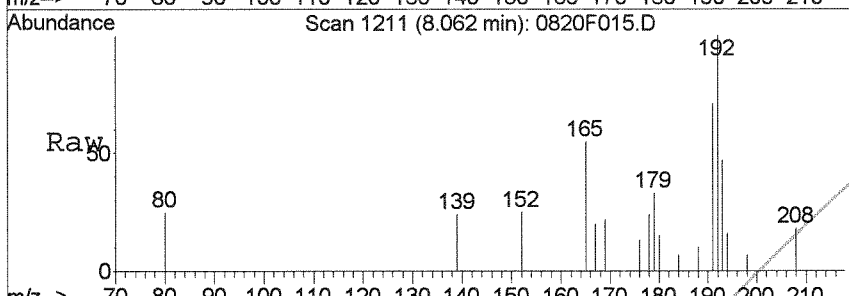


NT



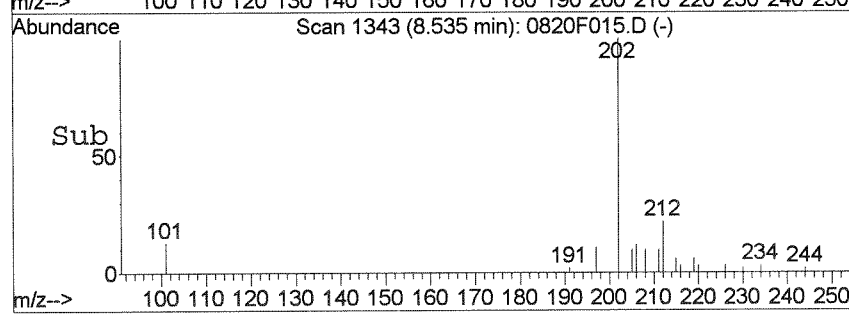
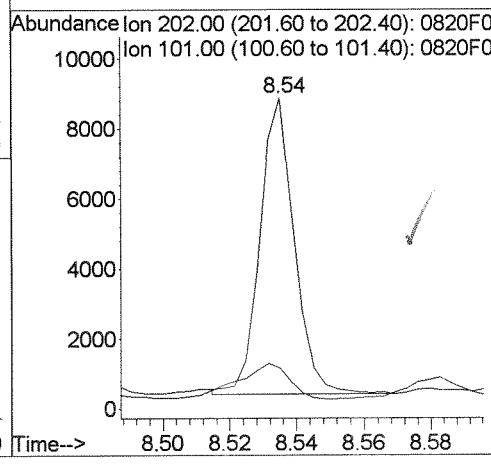
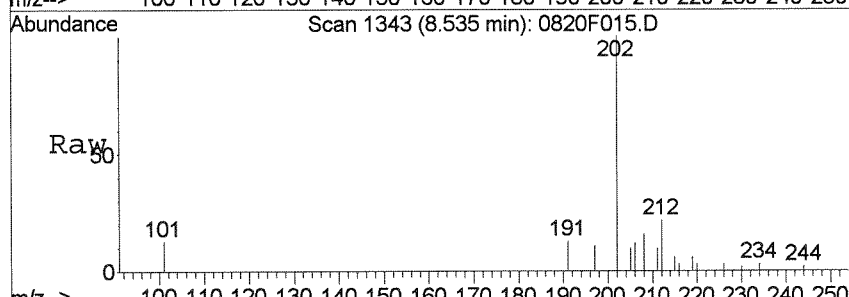
#19  
 1-Methylphenanthrene  
 Concen: 3.53 ng/ml  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

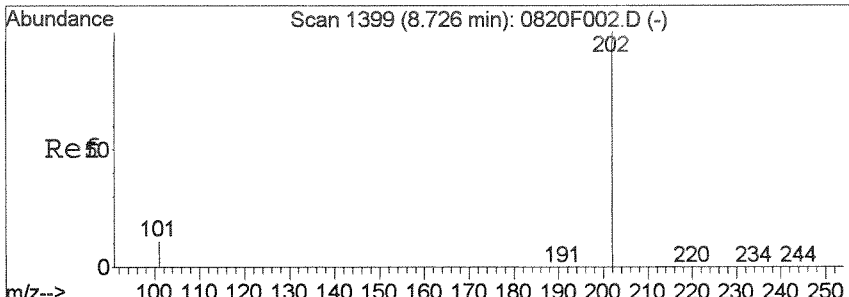
Tgt Ion	Ratio	Resp	Lower	Upper
192	100	2150		
191	60.5	25.5	85.5	
193	16.2	0.0	45.7	



#20  
 Fluoranthene  
 Concen: 6.77 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

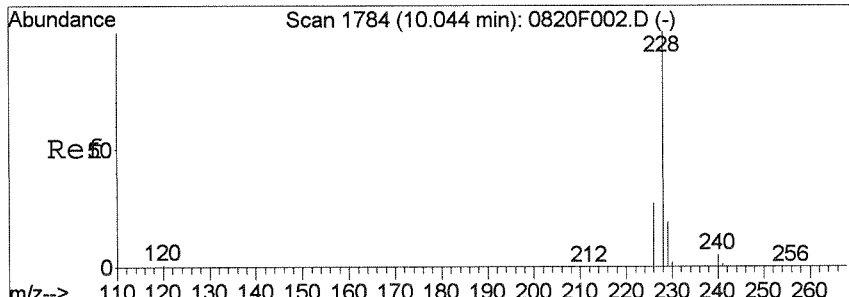
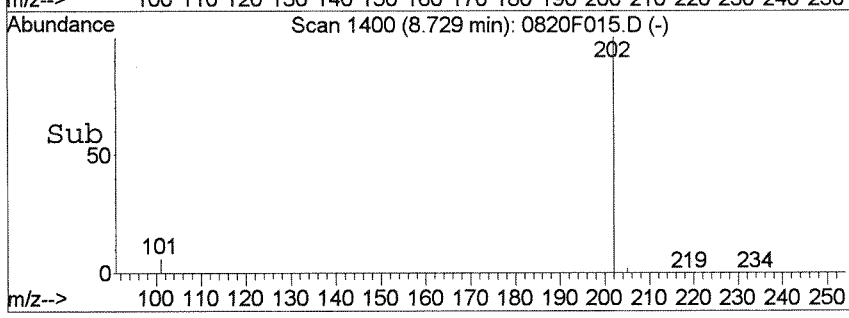
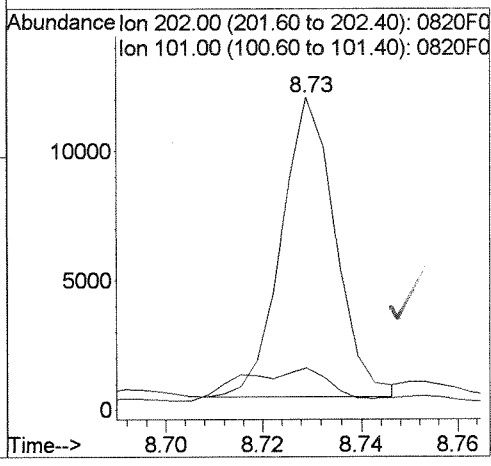
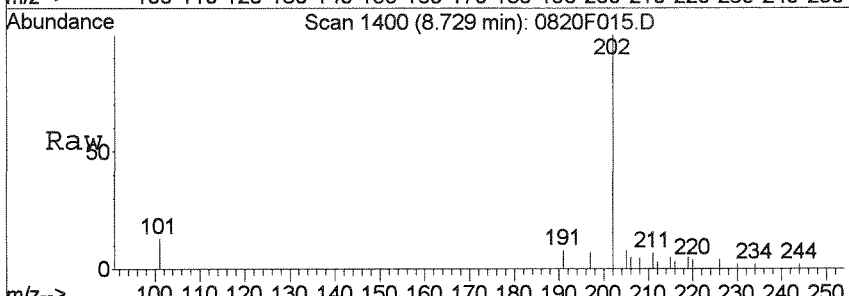
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	6069		
101	8.1	0.0	37.0	





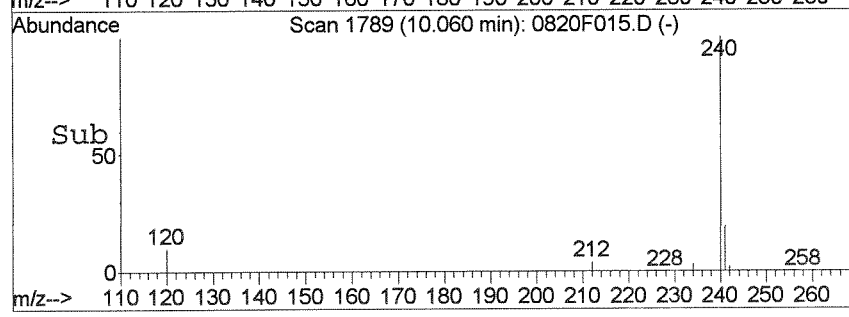
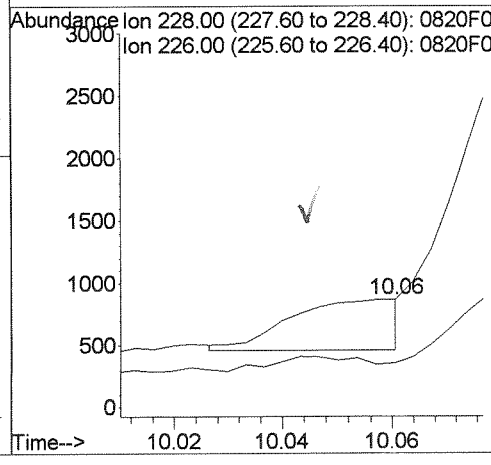
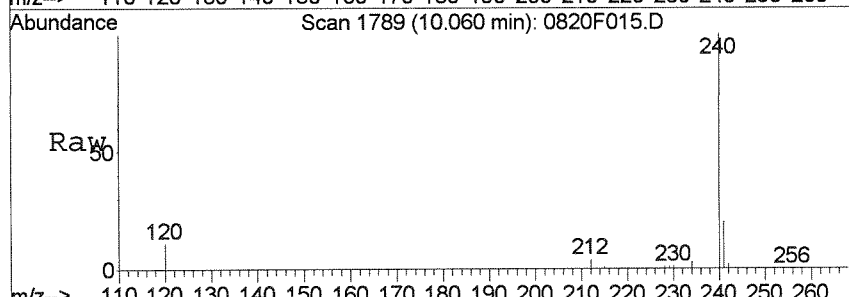
#23  
 Pyrene  
 Concen: 8.55 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

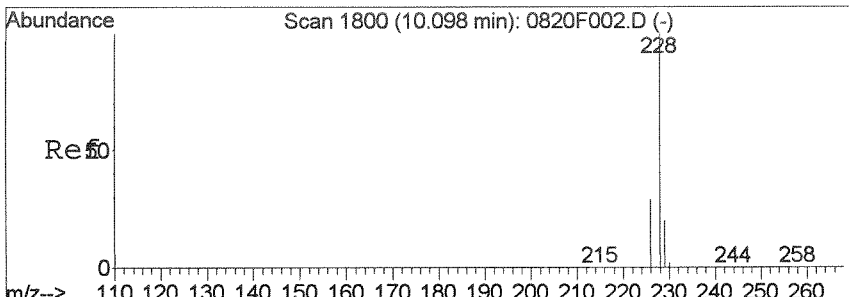
Tgt Ion	Ratio	Lower	Upper
202	100		
101	10.0	0.0	38.3



#25  
 Benz (a) anthracene  
 Concen: 0.60 ng/ml m  
 RT: 10.06 min Scan# 1789  
 Delta R.T. 0.01 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

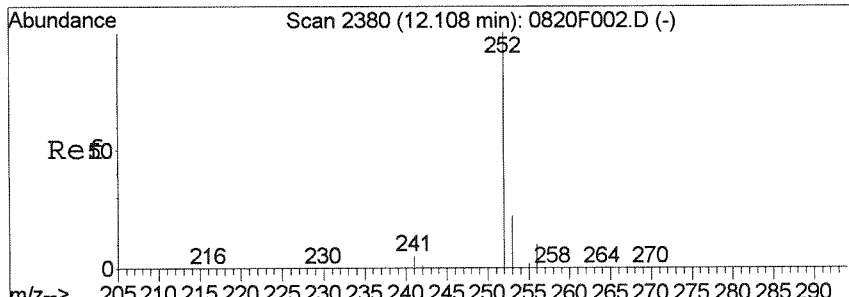
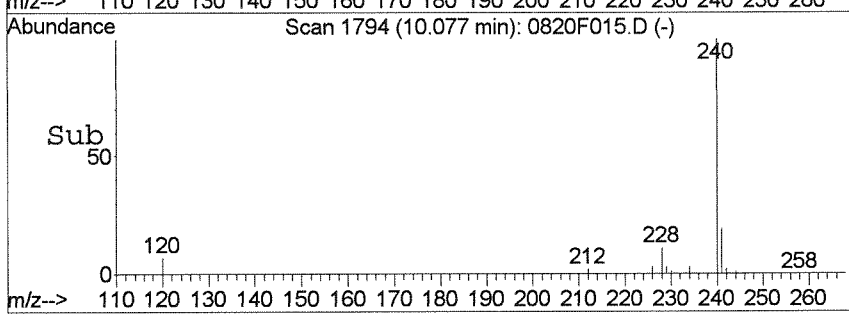
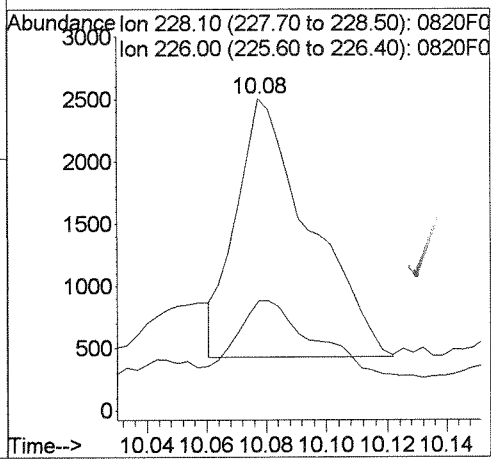
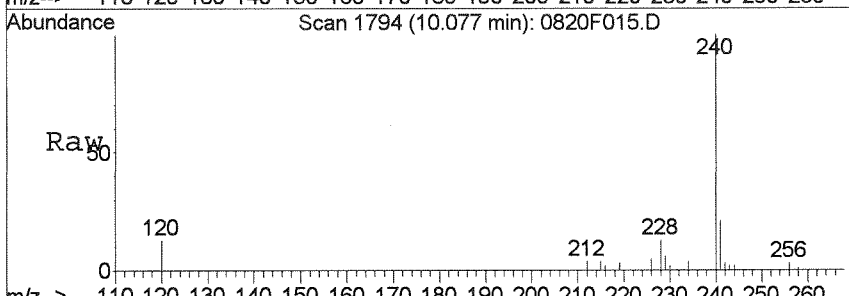
Tgt Ion	Ratio	Lower	Upper
228	100		
226	41.2	0.0	56.4





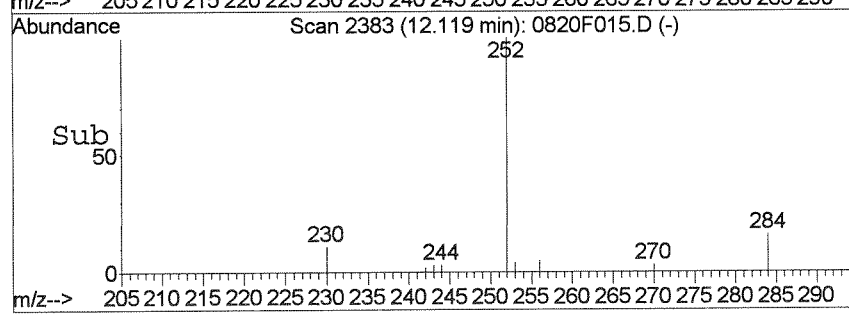
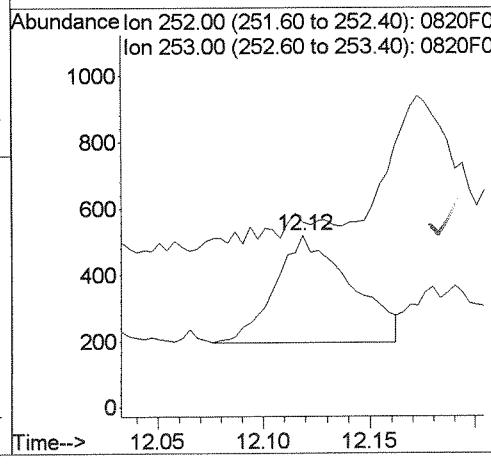
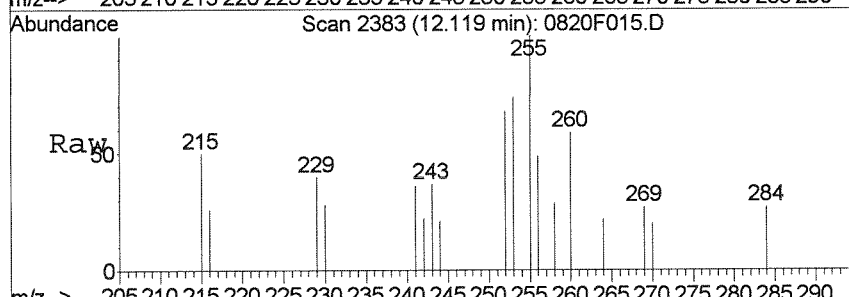
#26 *See man. int'g.*  
 Chrysene  
 Concen: 4.41 ng/ml m  
 RT: 10.08 min Scan# 1794  
 Delta R.T. -0.02 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	35.1	0.0	58.6



#28  
 Benzo (b) fluoranthene  
 Concen: 0.82 ng/ml  
 RT: 12.12 min Scan# 2383  
 Delta R.T. 0.00 min  
 Lab File: 0820F015.D  
 Acq: 20 Aug 2014 3:50 pm

Tgt Ion	Ratio	Lower	Upper
252	100		
253	15.2	0.0	52.1



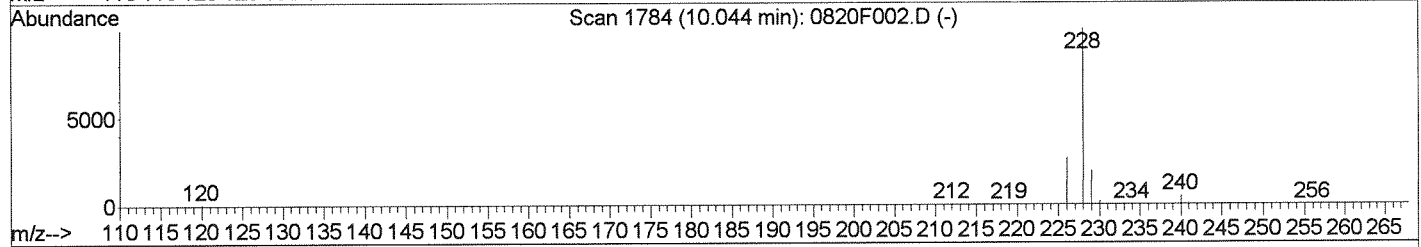
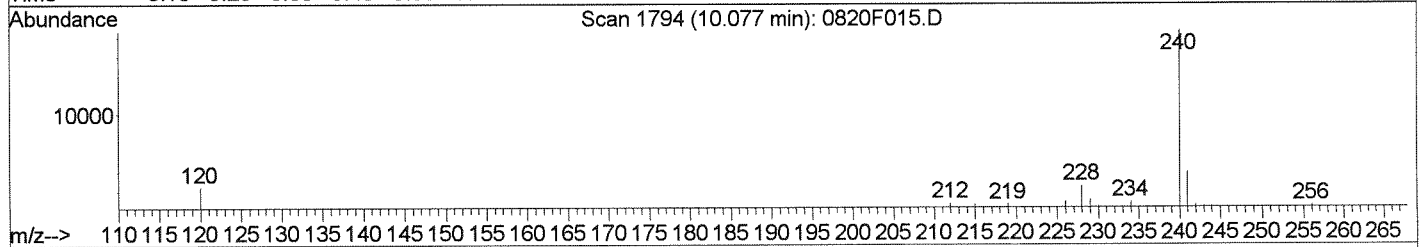
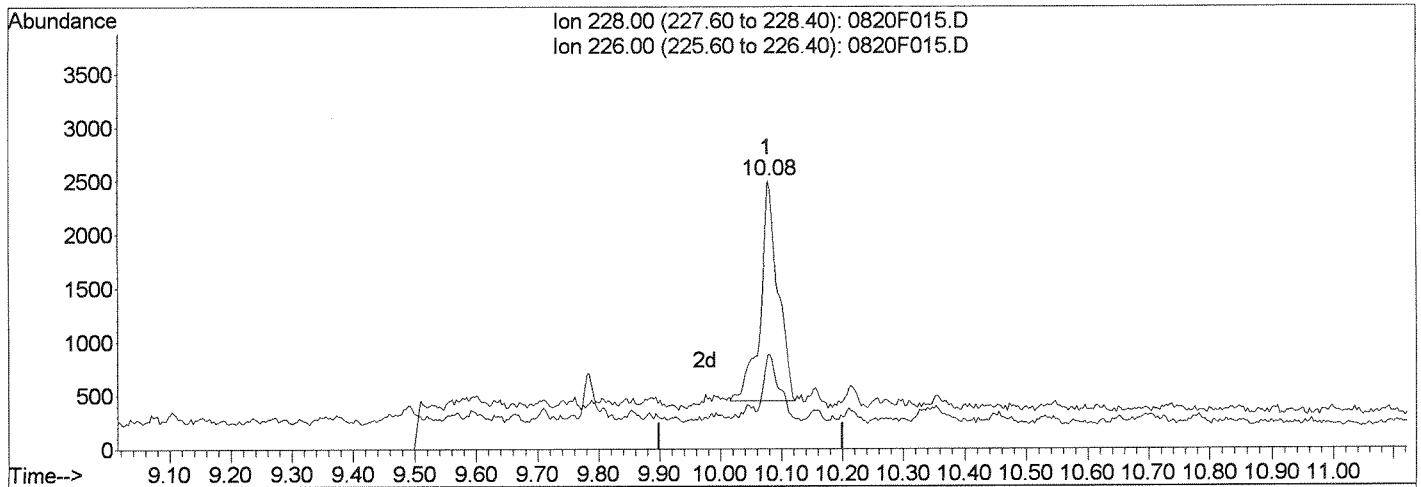
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:19 2014

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(25) Benz(a)anthracene (T)

10.08min 4.51ng/ml

response 4123

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	28.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*

*LB*



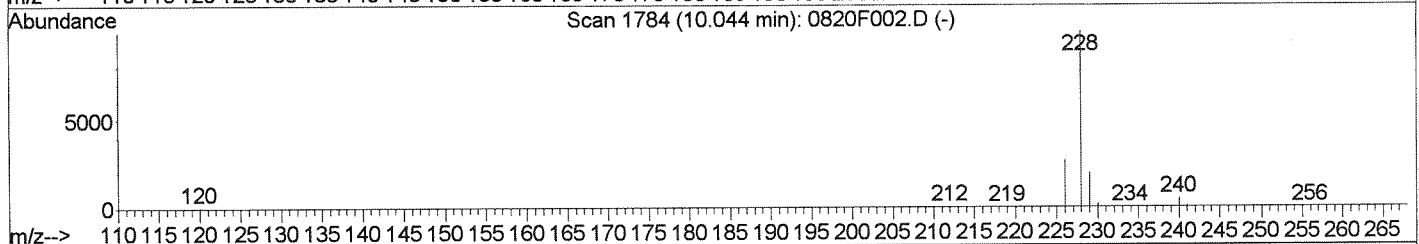
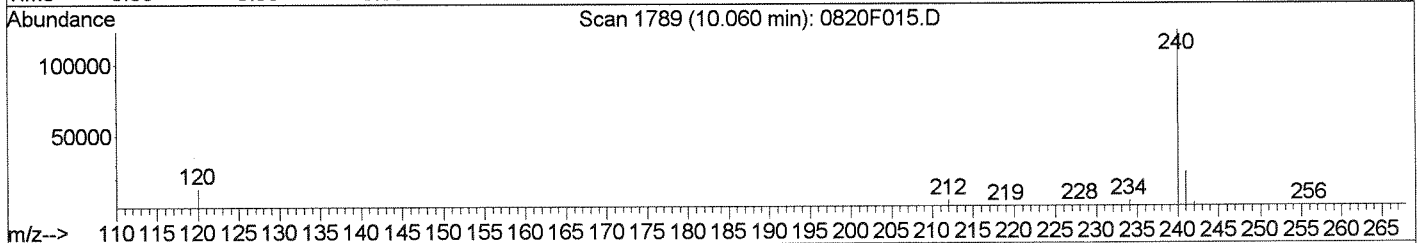
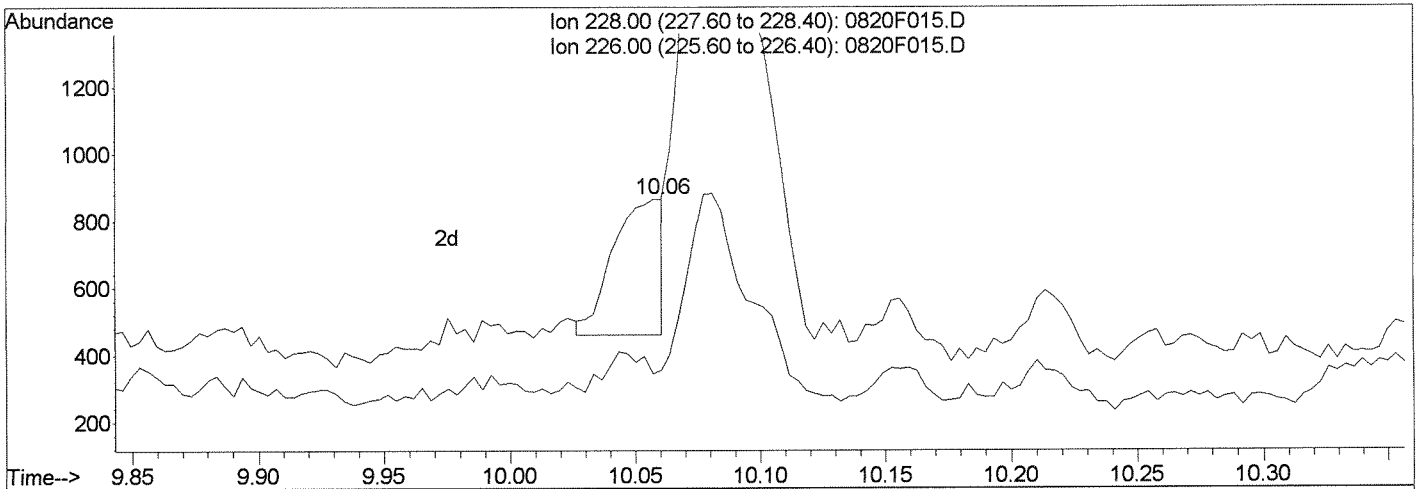
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:20 2014

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F015.D

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	41.16
0.00	0.00	0.00
0.00	0.00	0.00

(25) Benz(a)anthracene (T)  
 10.06min 0.60ng/ml m  
 response 552

Manual Integration:  
 After  
 WP  
 08/21/14

*CA*  
*LB*

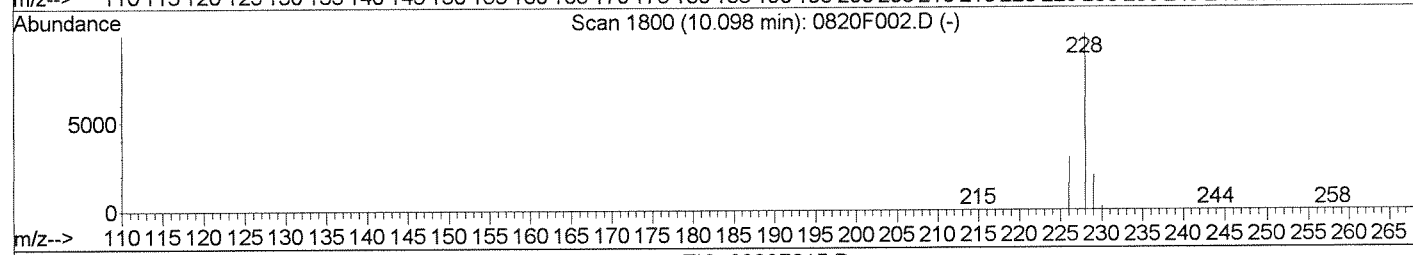
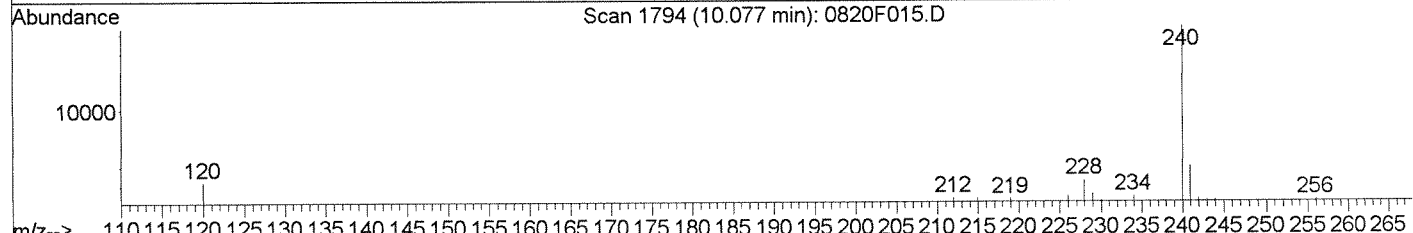
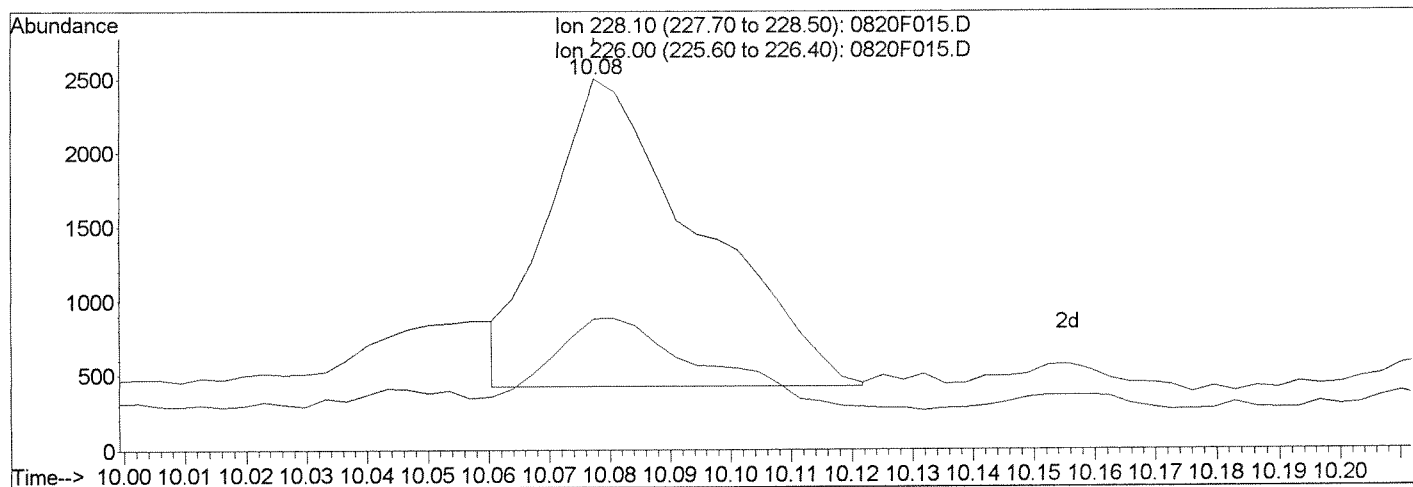
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:20 2014

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F015.D

(26) Chrysene (T)		
10.08min	4.41ng/ml m	
response	3578	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	35.13
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 Before

08/21/14

*Handwritten initials: LB*

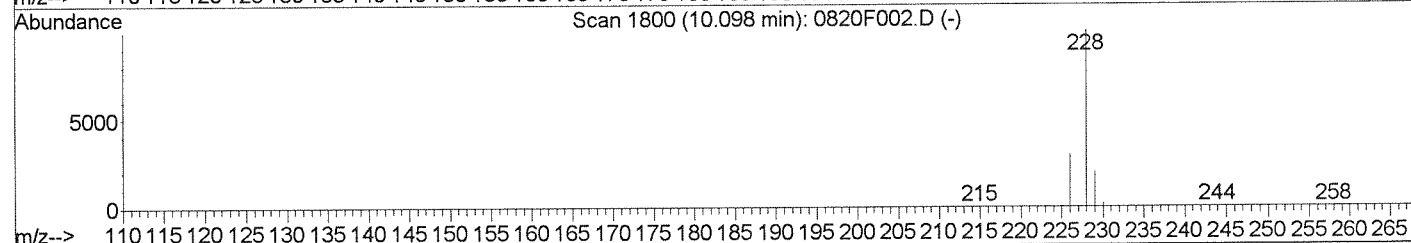
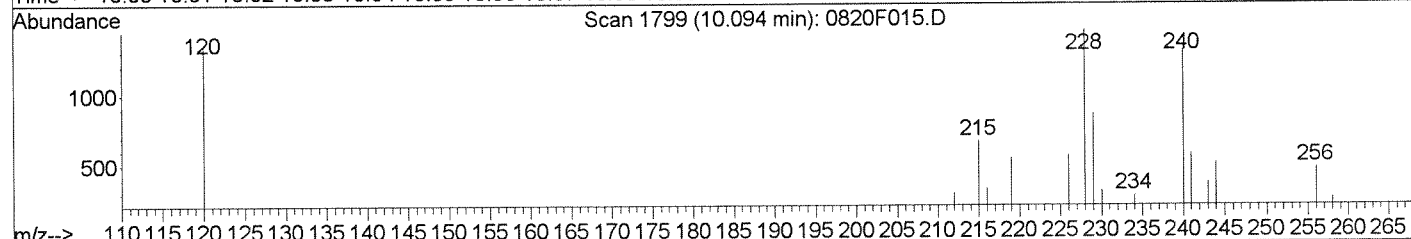
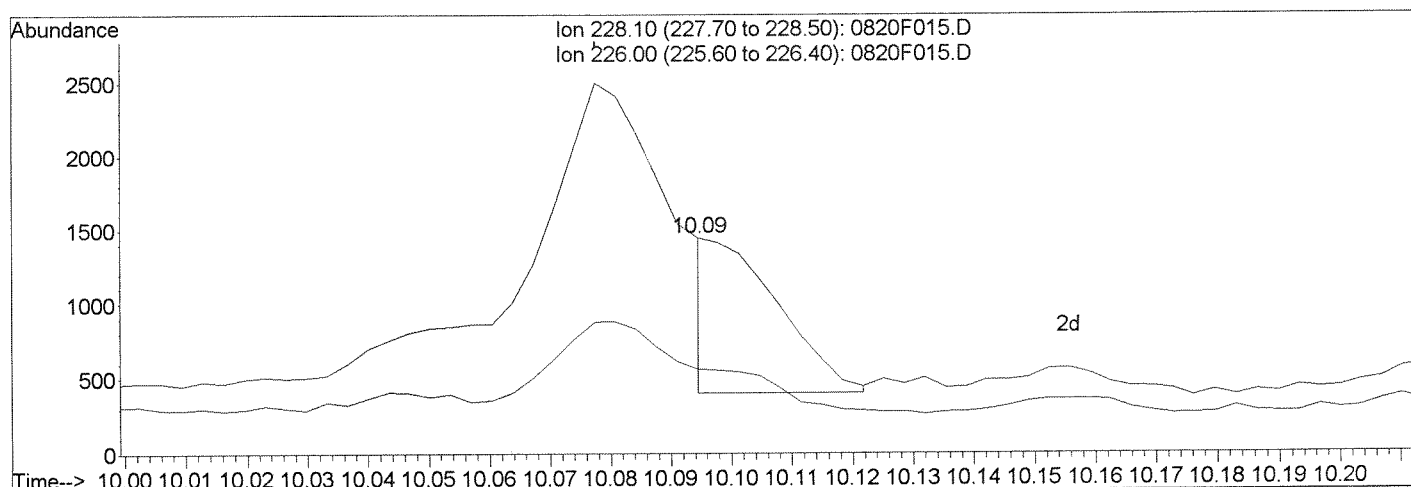
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F015.D  
 Acq On : 20 Aug 2014 3:50 pm  
 Sample : K1407971-007  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 11:55 2014

Vial: 15  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F015.D

(26) Chrysene (T)

10.09min 1.01ng/ml m

response 821

Ion	Exp%	Act%
228.10	100	100
226.00	28.60	38.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten initials: LB and a scribble.*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F016.D  
**Lab ID:** K1407971-008  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 16:15  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: GA AUG 21 2014  
 Secondary Review: LB AUG 21 2014

## Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F016.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 16:15	<b>Quant Date:</b> 08/21/2014 12:03
<b>Run Type:</b> SMPL	<b>Vial:</b> 16
<b>Lab ID:</b> K1407971-008	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365433	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	136665	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	73162	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	139086	200.00	OK
4	Chrysene-d12	10.06	0.00	240	152943	200.00	OK
5	Perylene-d12	13.17	0.02	264	158604	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	76767	177.87	89	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	134078	171.19	86	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	112448	163.45	82	39-111	OK

### Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	2904	4.01	25	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	1839	3.63	23	J	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	1640	3.68	23	J	
2	Acenaphthylene	6.16		0.00	152	2450	3.32	21	J	
2	Acenaphthene	6.31		0.00	154	2439	5.73	36		
2	Fluorene	6.75		0.00	166	1913	3.59	22	J	
3	Phenanthrene	7.55		0.00	178	2021	2.63	16	J	
3	Anthracene	7.60	0.01	0.00	178	1224	1.61	10	J	
3	Fluoranthene	8.54	0.01	0.00	202	5225	5.84	36		
4	Pyrene	8.73		0.00	202	7148m	6.77	42		
4	Benz(a)anthracene	10.06	0.02	0.00	228	571m	0.6100	3.8	J	
4	Chrysene	10.09	-0.01	0.00	228	376m	0.4500	3.5	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F016.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 16:15	<b>Quant Date:</b>	08/21/2014 12:03
<b>Run Type:</b>	SMPL	<b>Vial:</b>	16
<b>Lab ID:</b>	K1407971-008	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	632	0.6500	4.1	U	
5	Benzo(k)fluoranthene	12.19	0.01	0.00	252	388m	0.4000	3.6	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	2518	2.69	17	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.0	U	
5	Dibenz(a,h)anthracene				278	0d		5.4	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	262m	0.2300	5.9	U	

Prep Amount: 10.394 g                      Dilution: 1.0  
 Prep Final Vol: 10 ml                      Unit Factor: 1  
 Solids: 15.5 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:24 2014

Vial: 16  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAH.RE

Quant Method : J:\MS14\M...\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	136665	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	73162	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	139086	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	152943	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	158604	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	76767	177.87	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.79%	
21) Fluoranthene-d10	8.52	212	134078	171.19	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.12%	
24) Terphenyl-d14	8.87	244	112448	163.45	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.34%	

Target Compounds

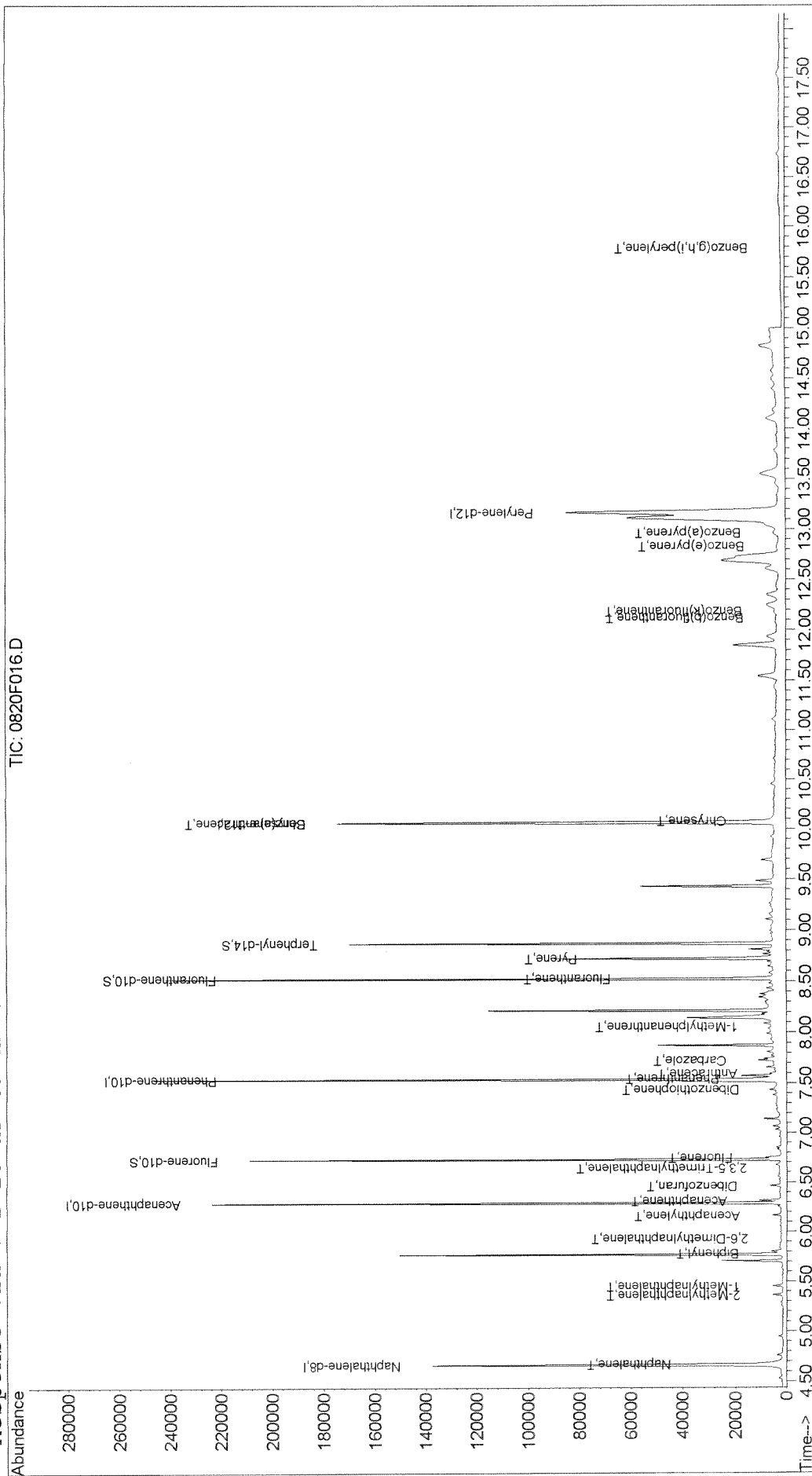
						Qvalue
2) Naphthalene	4.68	128	2904	4.01	ng/ml	94
3) 2-Methylnaphthalene	5.36	142	1839	3.63	ng/ml	98
4) 1-Methylnaphthalene	5.45	142	1640	3.68	ng/ml	91
5) Biphenyl	5.79	154	301	0.50	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.94	156	290	0.65	ng/ml	90
8) Acenaphthylene	6.16	152	2450	3.32	ng/ml	99
9) Acenaphthene	6.31	154	2439	5.73	ng/ml	90
10) Dibenzofuran	6.46	168	2242	3.34	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.64	170	221m	0.52	ng/ml	
13) Fluorene	6.75	166	1913	3.59	ng/ml	100
15) Dibenzothiophene	7.45	184	196m	0.27	ng/ml	
16) Phenanthrene	7.55	178	2021	2.63	ng/ml	94
17) Anthracene	7.60	178	1224	1.61	ng/ml	99
18) Carbazole	7.74	167	695	1.04	ng/ml	54
19) 1-Methylphenanthrene	8.06	192	80m	0.13	ng/ml	
20) Fluoranthene	8.54	202	5225	5.84	ng/ml	91
23) Pyrene	8.73	202	7148m	6.77	ng/ml	
25) Benz(a)anthracene	10.06	228	571m	0.61	ng/ml	
26) Chrysene	10.09	228	376m	0.45	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	632	0.65	ng/ml	76
29) Benzo(k)fluoranthene	12.19	252	388m	0.40	ng/ml	
30) Benzo(e)pyrene	12.84	252	478	0.51	ng/ml	89
31) Benzo(a)pyrene	12.97	252	2518	2.69	ng/ml#	1
35) Benzo(g,h,i)perylene	15.79	276	262m	0.23	ng/ml	

(#) = qualifier out of range (m) = manual integration

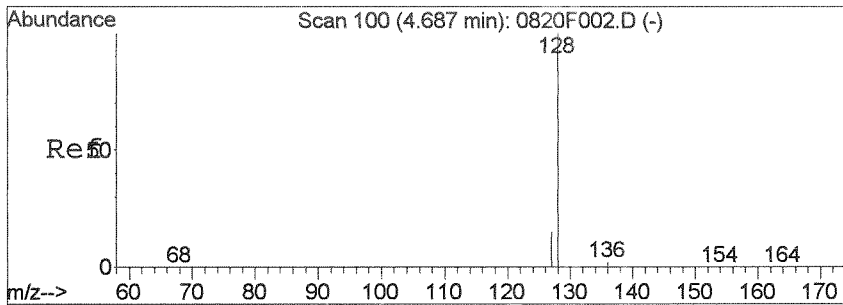
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 12:03 2014  
 Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration

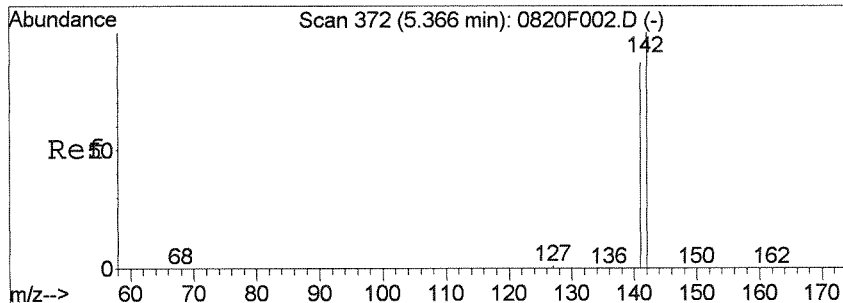
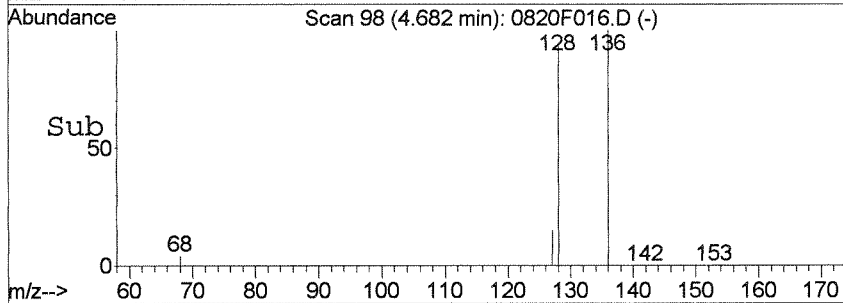
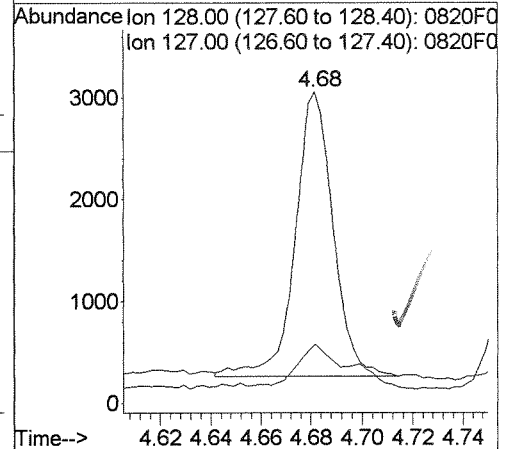
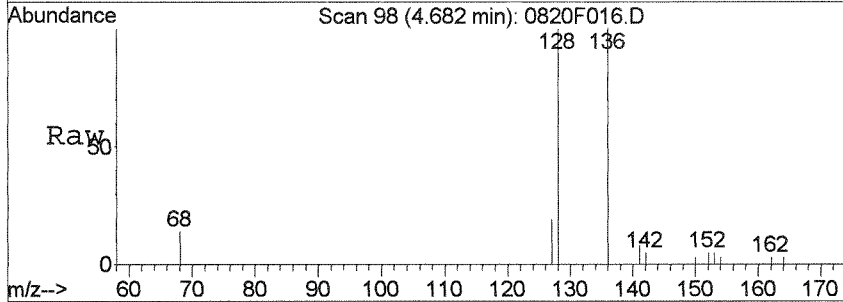






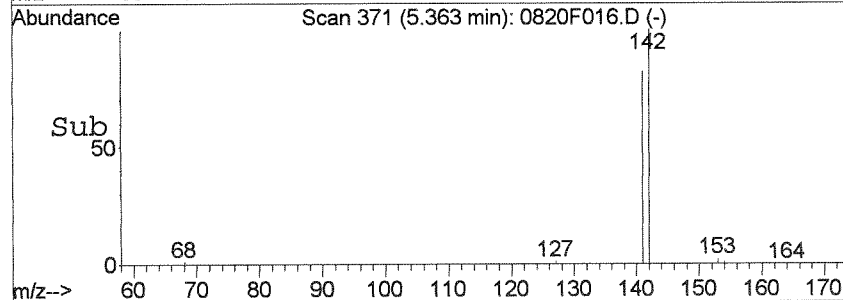
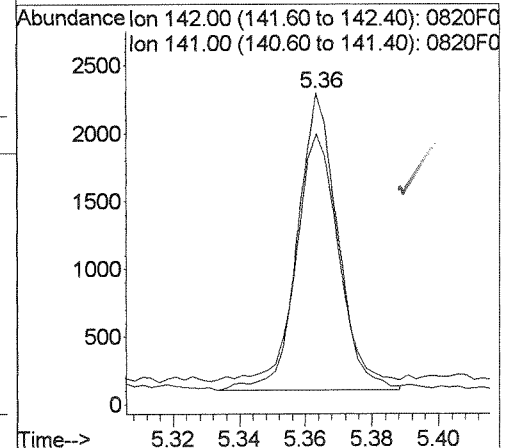
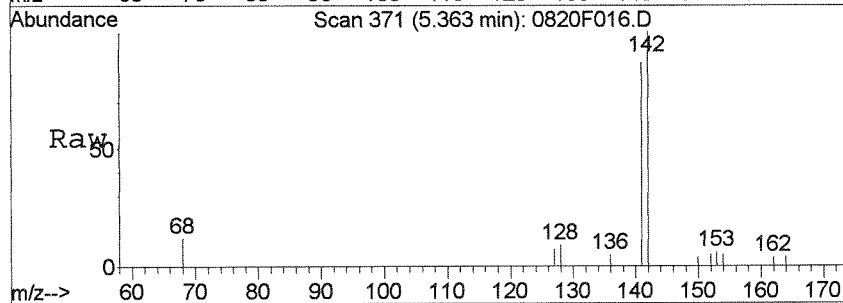
#2  
 Naphthalene  
 Concen: 4.01 ng/ml  
 RT: 4.68 min Scan# 98  
 Delta R.T. -0.01 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

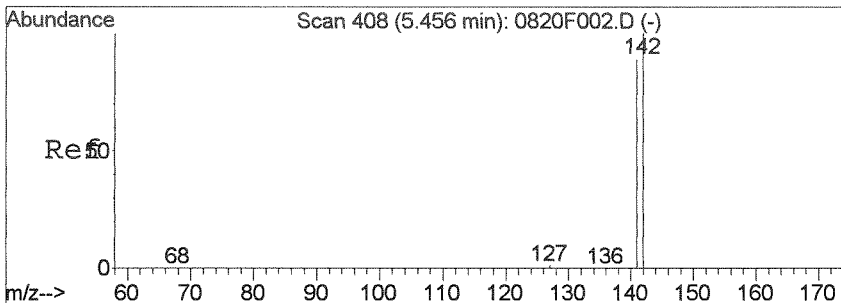
Tgt Ion:128 Resp: 2904  
 Ion Ratio Lower Upper  
 128 100  
 127 15.1 0.0 42.6



#3  
 2-Methylnaphthalene  
 Concen: 3.63 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

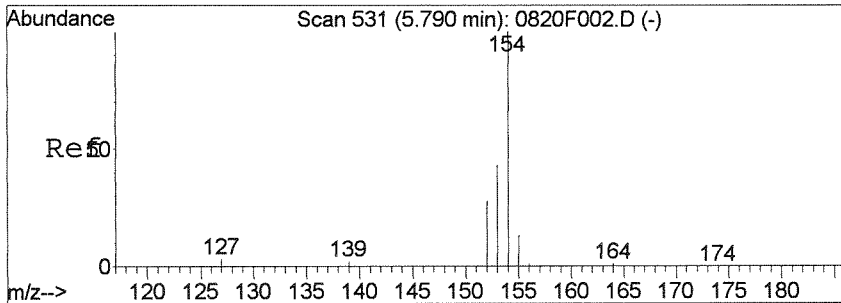
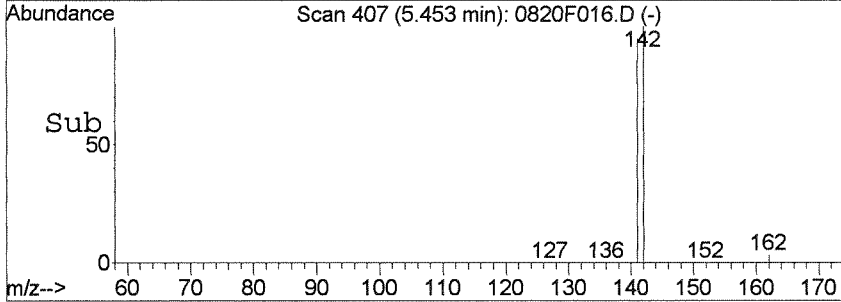
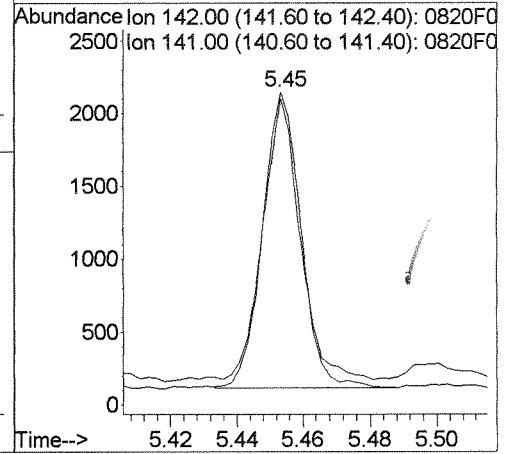
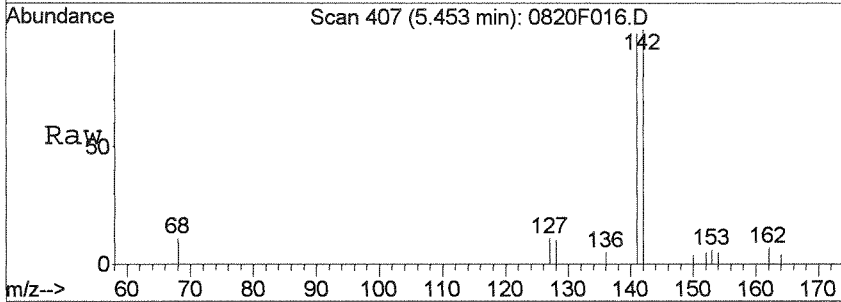
Tgt Ion:142 Resp: 1839  
 Ion Ratio Lower Upper  
 142 100  
 141 82.8 54.8 114.8





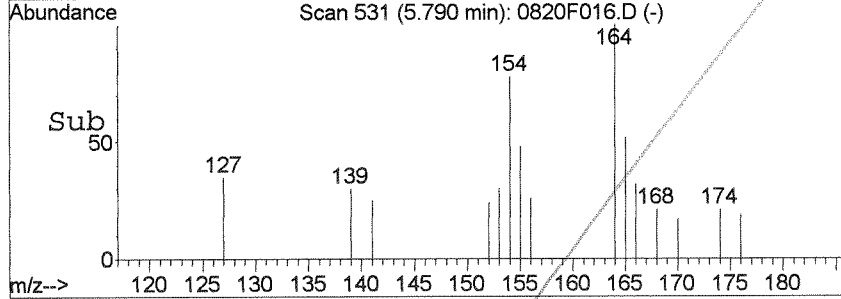
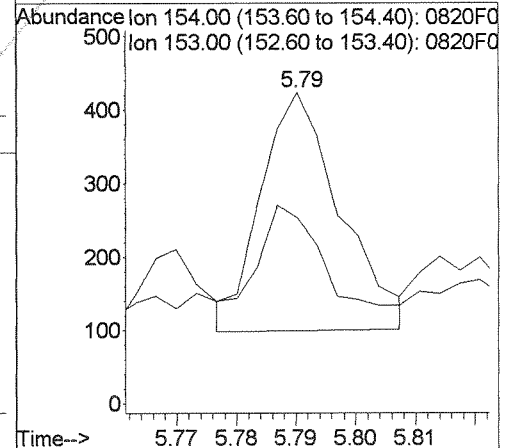
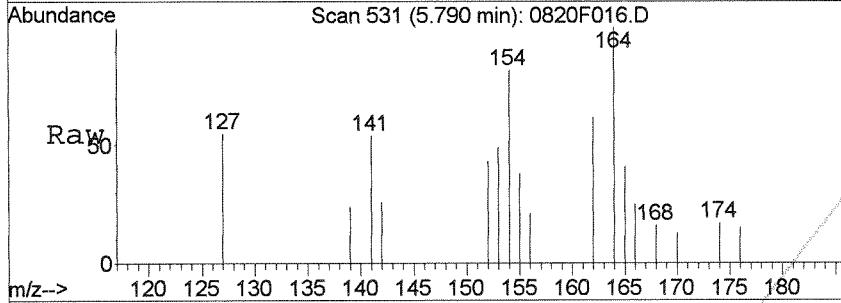
#4  
 1-Methylnaphthalene  
 Concen: 3.68 ng/ml  
 RT: 5.45 min Scan# 407  
 Delta R.T. -0.01 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

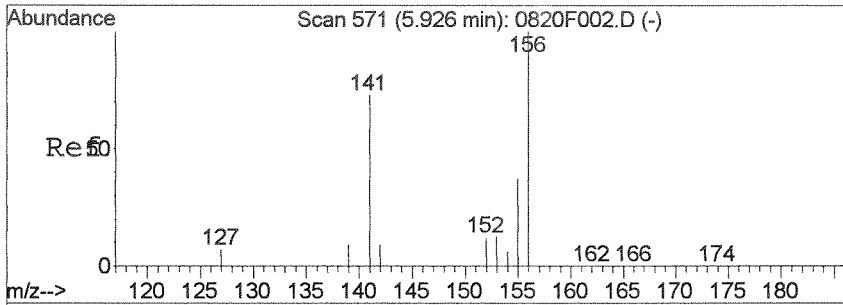
Tgt Ion:142 Resp: 1640  
 Ion Ratio Lower Upper  
 142 100  
 141 94.2 56.4 116.4



#5  
 Biphenyl  
 Concen: 0.50 ng/ml  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

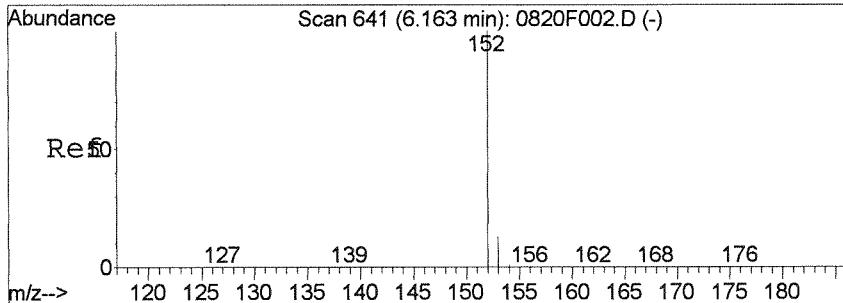
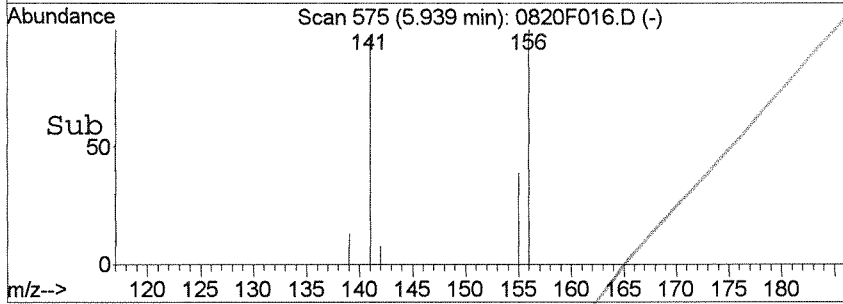
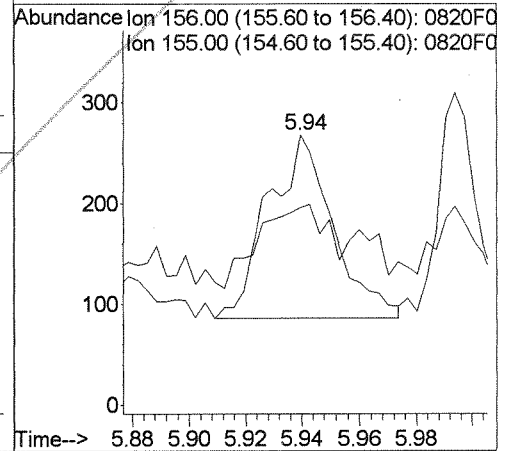
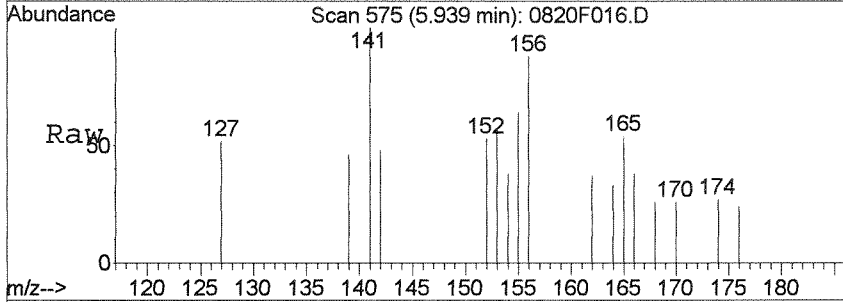
Tgt Ion:154 Resp: 301  
 Ion Ratio Lower Upper  
 154 100  
 153 42.3 9.6 69.6





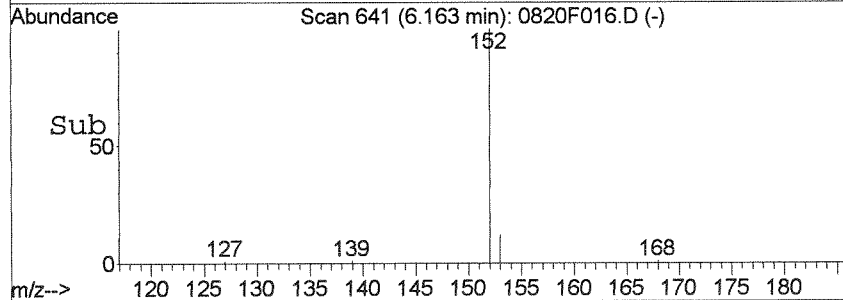
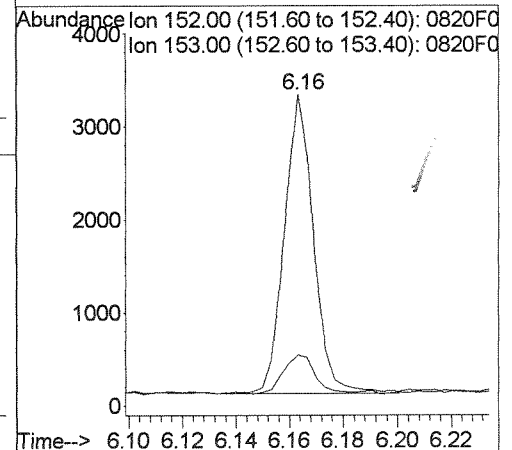
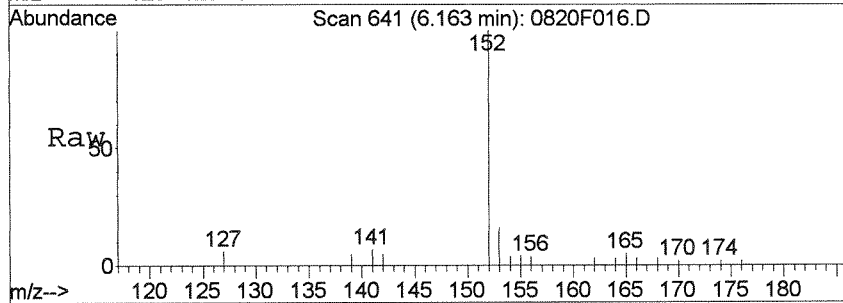
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.65 ng/ml  
 RT: 5.94 min Scan# 575  
 Delta R.T. 0.01 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

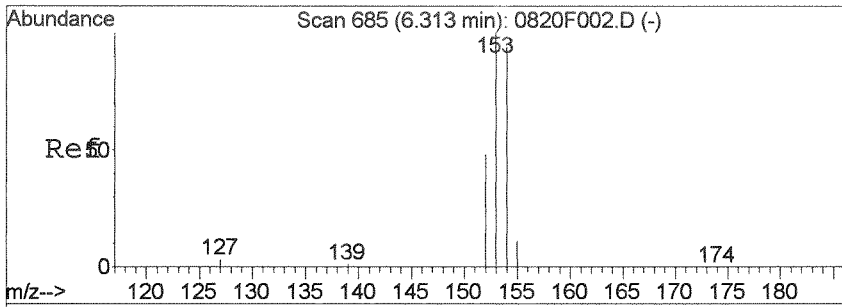
Tgt Ion:156 Resp: 290  
 Ion Ratio Lower Upper  
 156 100  
 155 40.7 4.9 64.9



#8  
 Acenaphthylene  
 Concen: 3.32 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

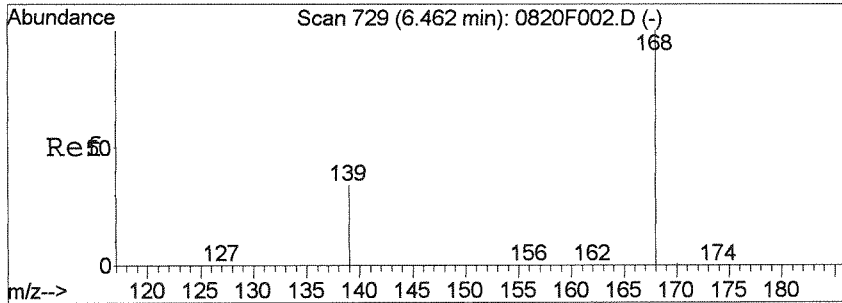
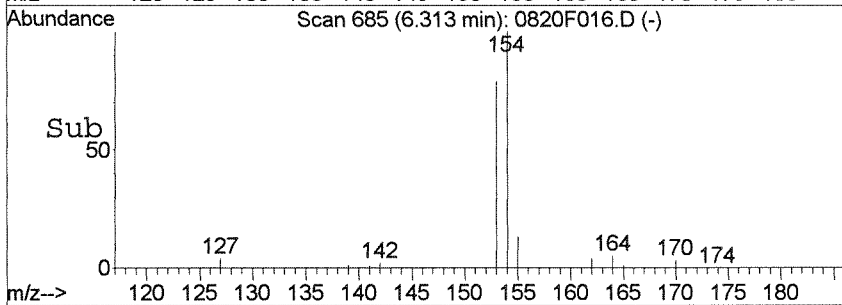
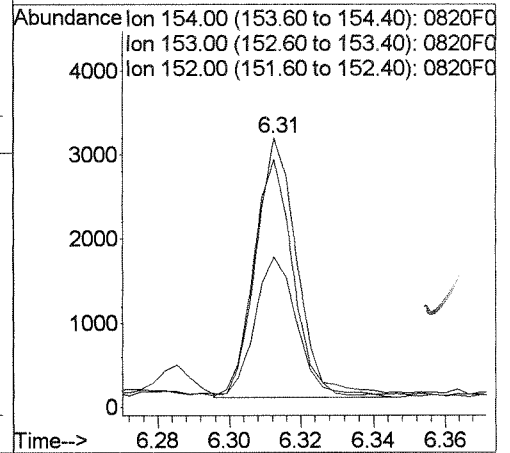
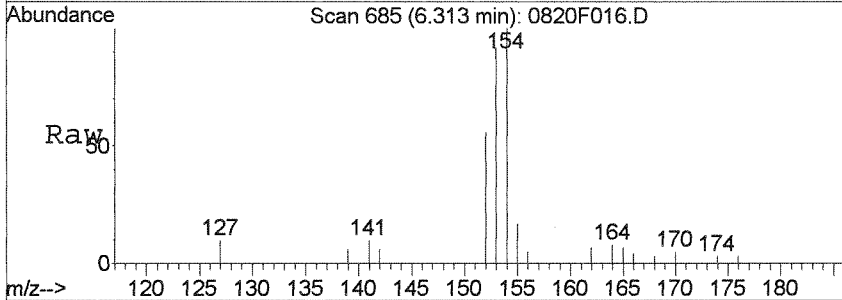
Tgt Ion:152 Resp: 2450  
 Ion Ratio Lower Upper  
 152 100  
 153 12.9 0.0 43.2





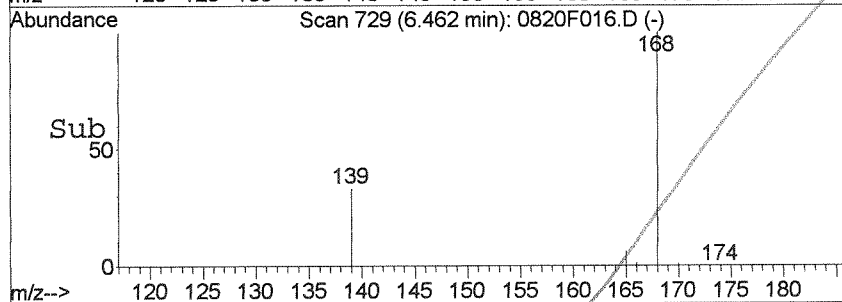
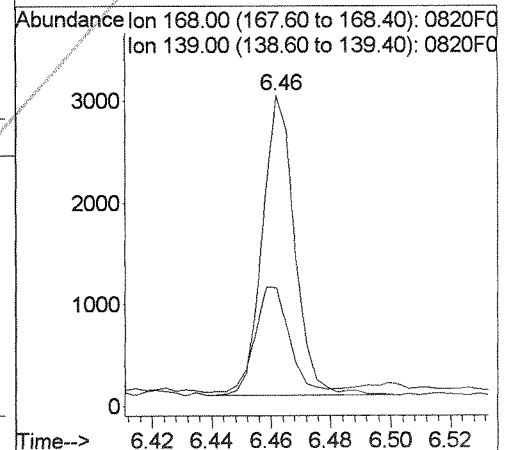
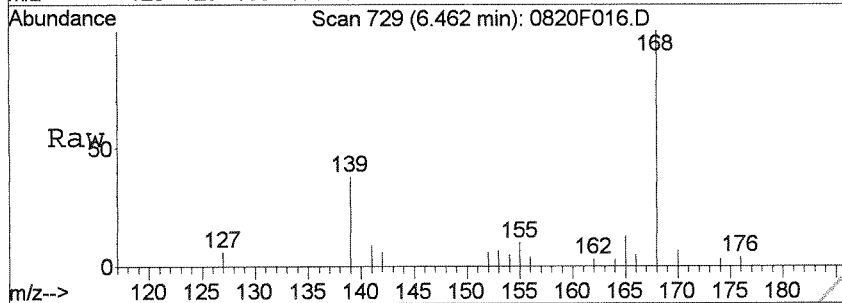
#9  
 Acenaphthene  
 Concen: 5.73 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

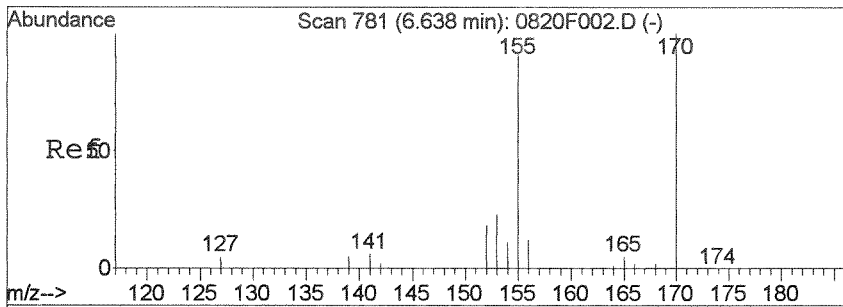
Tgt Ion	Ratio	Lower	Upper
154	100		
153	90.9	72.5	132.5
152	52.8	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 3.34 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

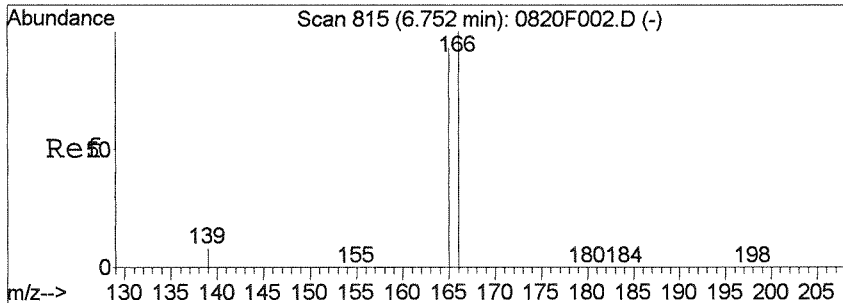
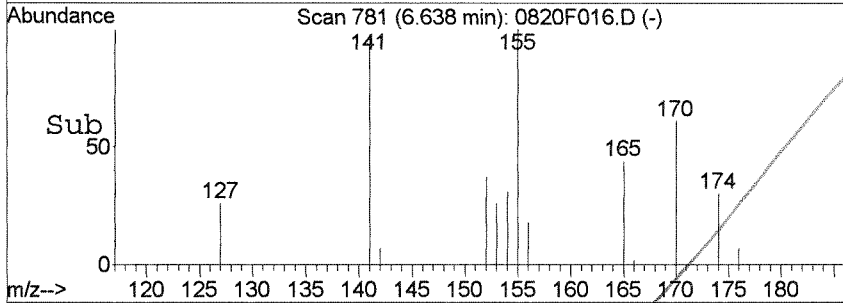
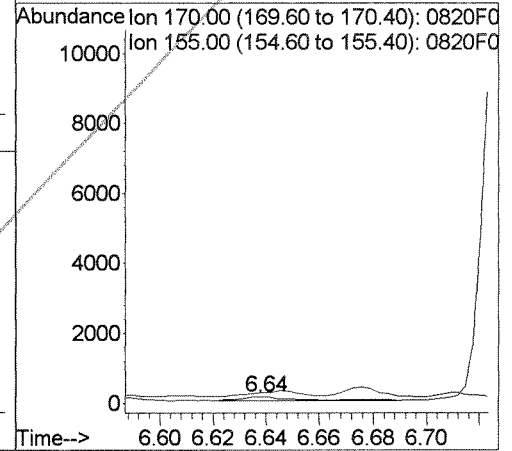
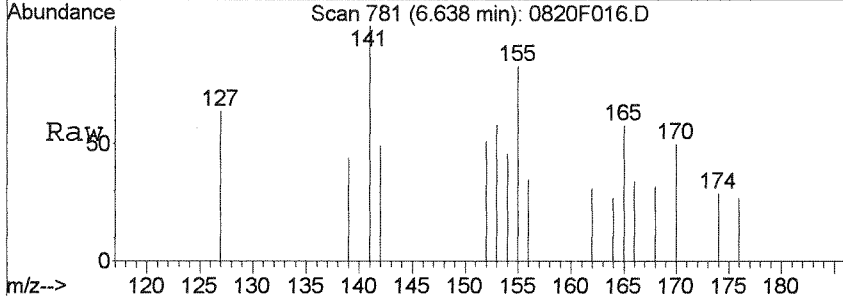
Tgt Ion	Ratio	Lower	Upper
168	100		
139	34.7	2.7	62.7





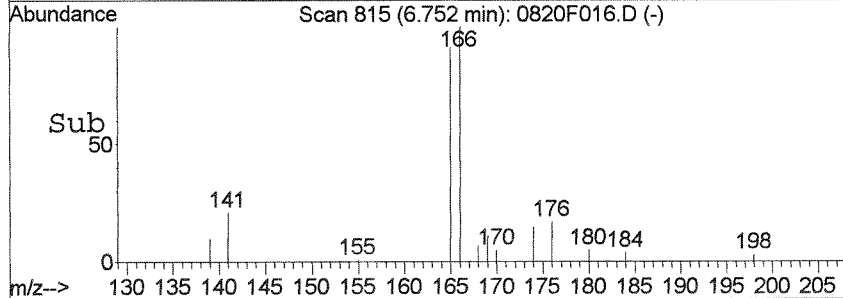
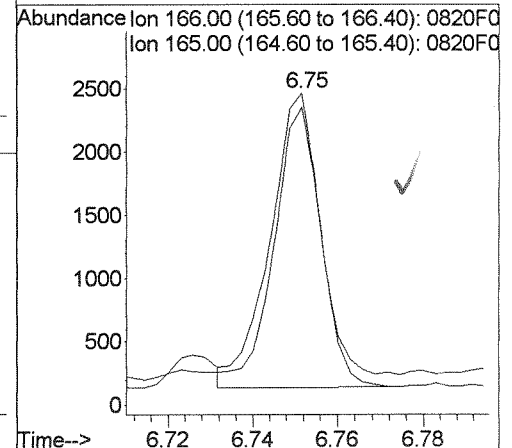
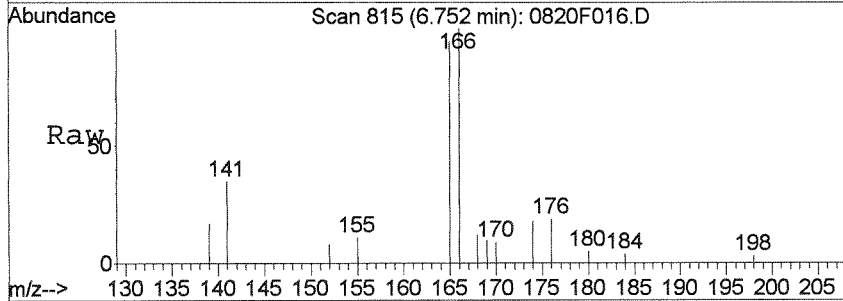
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.52 ng/ml m  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

Tgt Ion:170 Resp: 221  
 Ion Ratio Lower Upper  
 170 100  
 155 163.7 64.1 124.1#

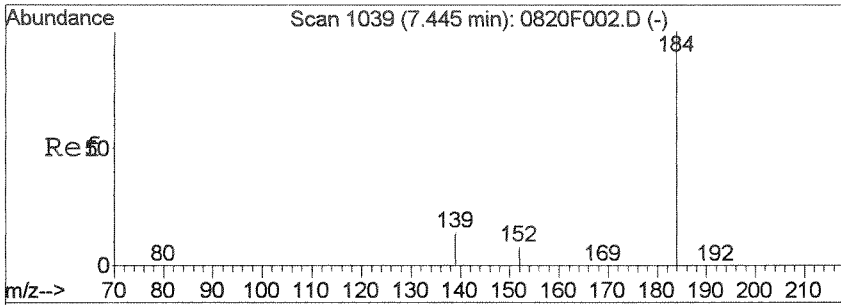


#13  
 Fluorene  
 Concen: 3.59 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

Tgt Ion:166 Resp: 1913  
 Ion Ratio Lower Upper  
 166 100  
 165 91.1 60.9 120.9

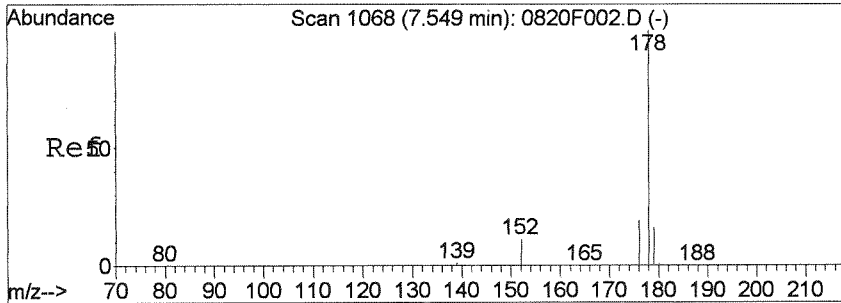
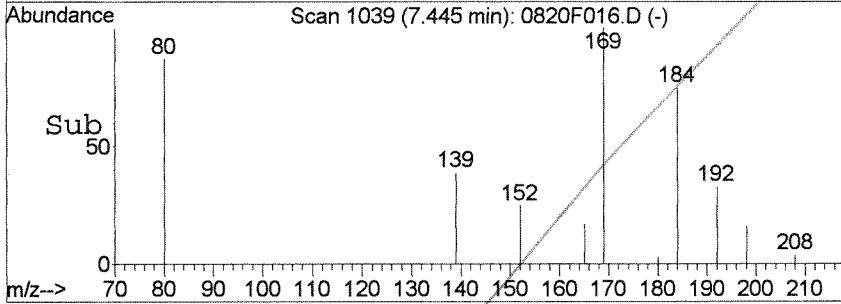
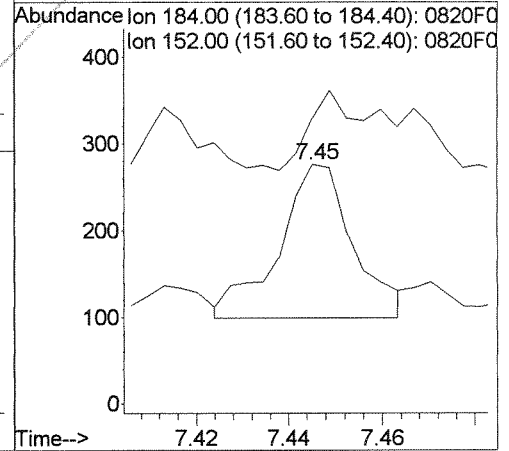
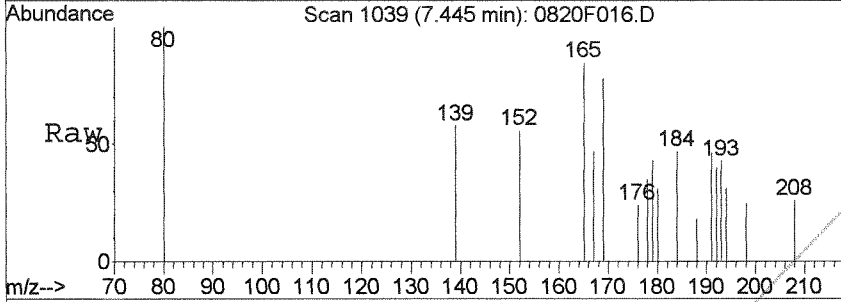


NT



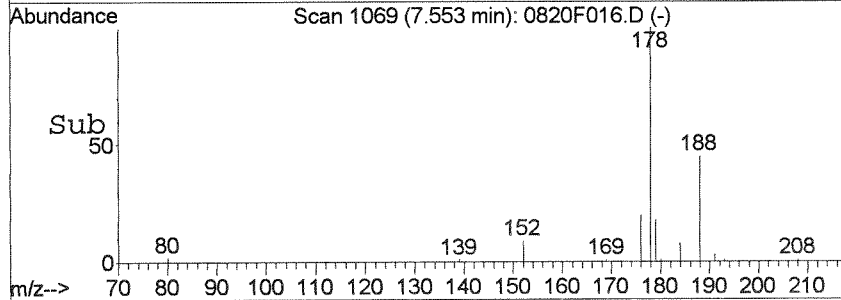
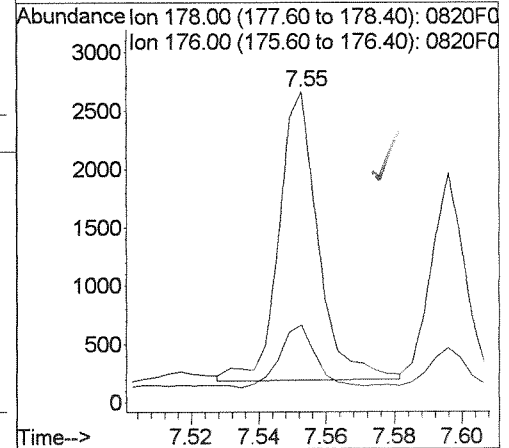
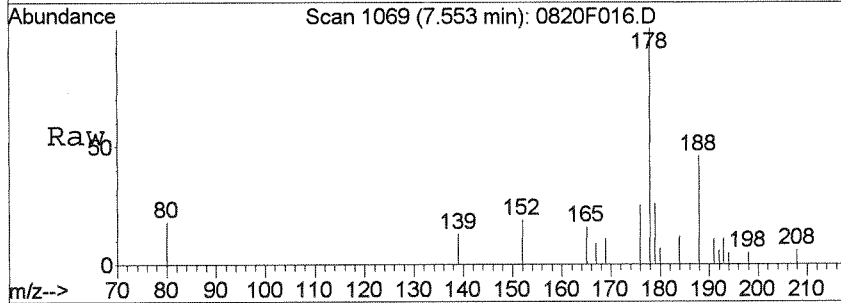
#15  
 Dibenzothiophene  
 Concen: 0.27 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

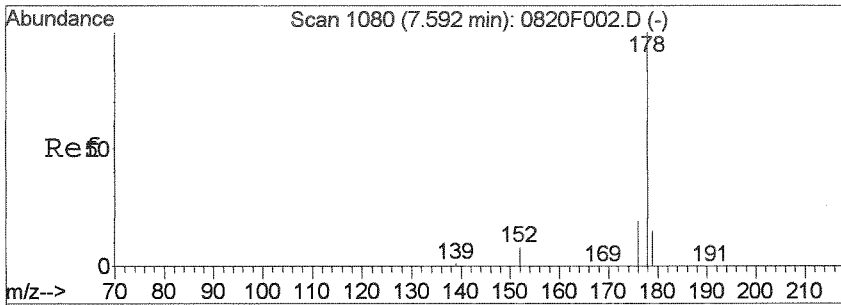
Tgt Ion: 184 Resp: 196  
 Ion Ratio Lower Upper  
 184 100  
 152 119.2 0.0 39.9#



#16  
 Phenanthrene  
 Concen: 2.63 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

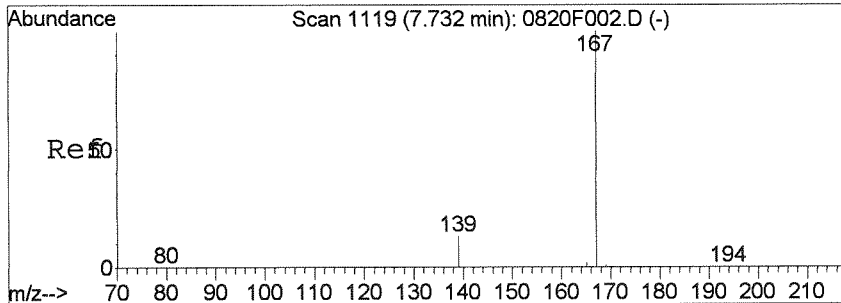
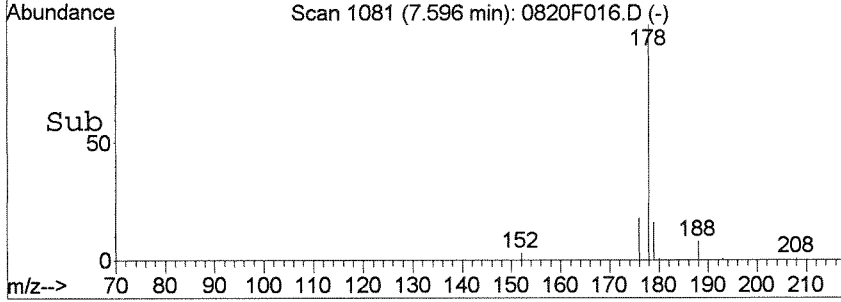
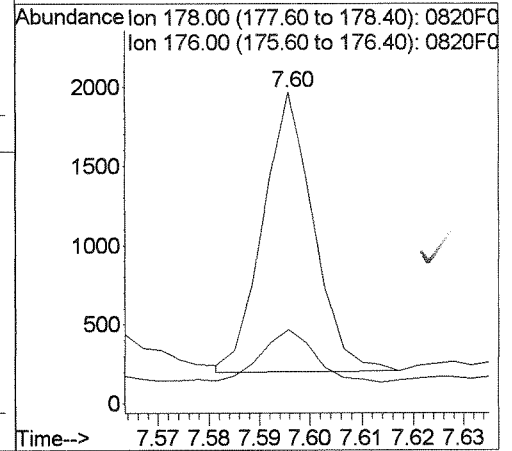
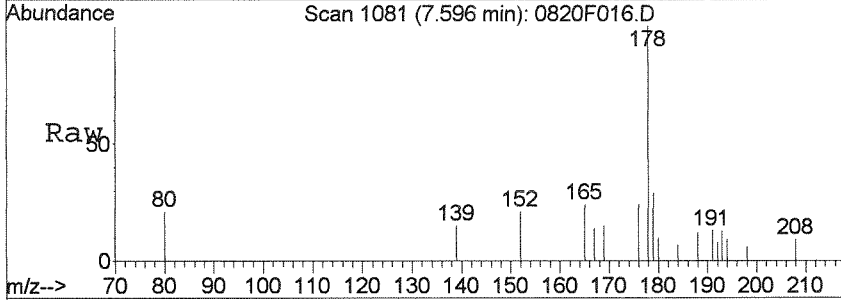
Tgt Ion: 178 Resp: 2021  
 Ion Ratio Lower Upper  
 178 100  
 176 21.4 0.0 48.9





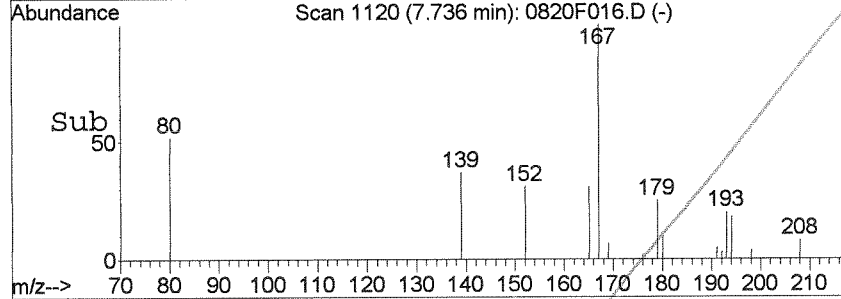
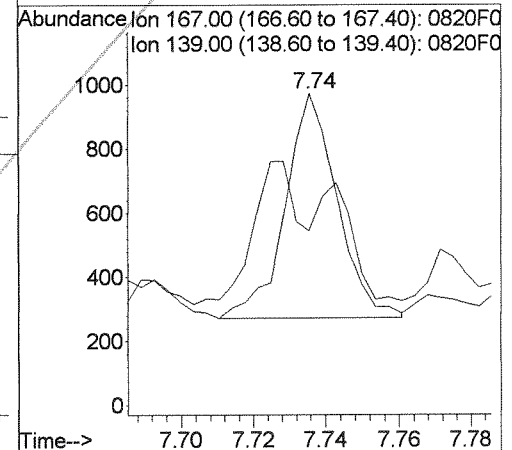
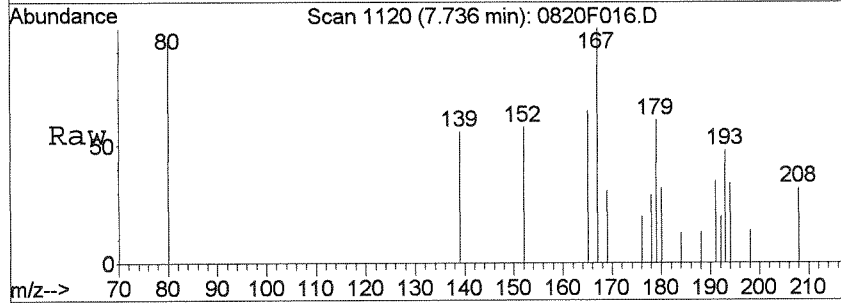
#17  
 Anthracene  
 Concen: 1.61 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

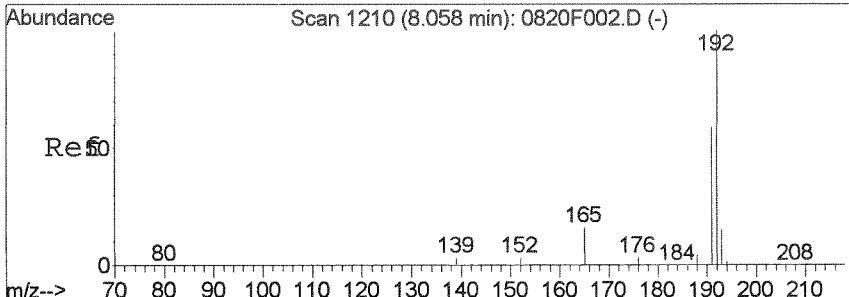
Tgt Ion:178 Resp: 1224  
 Ion Ratio Lower Upper  
 178 100  
 176 18.3 0.0 47.7



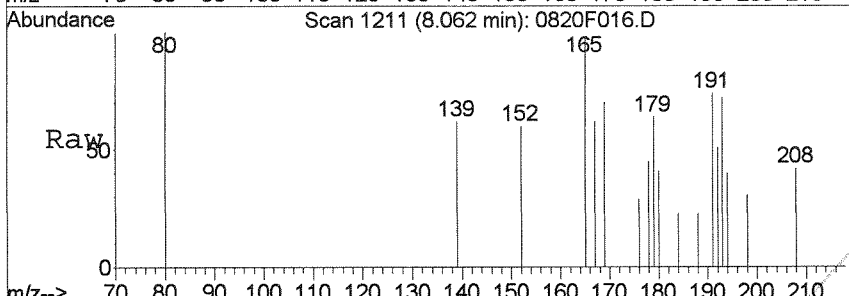
#18  
 Carbazole  
 Concen: 1.04 ng/ml  
 RT: 7.74 min Scan# 1120  
 Delta R.T. 0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

Tgt Ion:167 Resp: 695  
 Ion Ratio Lower Upper  
 167 100  
 139 31.2 0.0 43.1

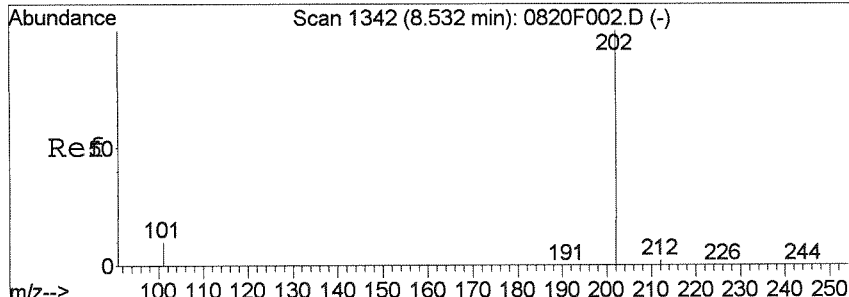
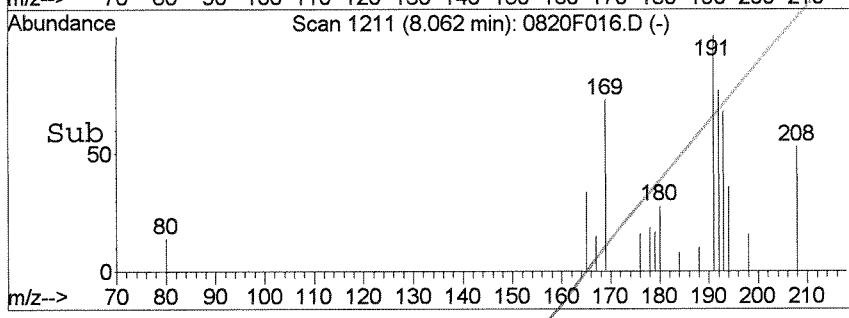
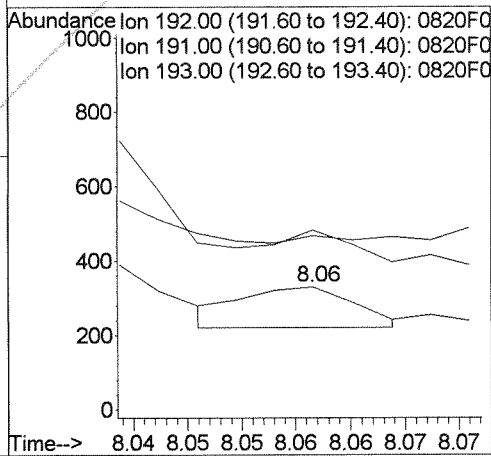




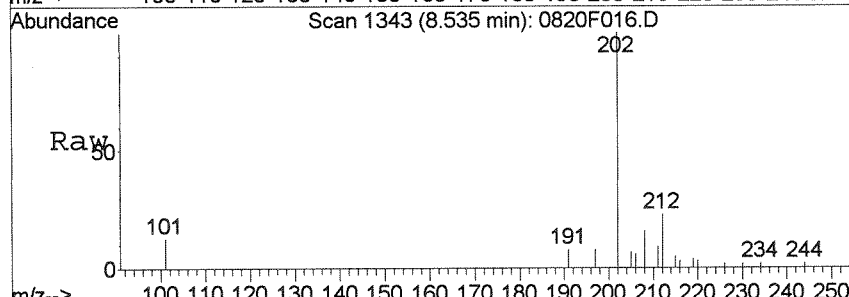
#19  
 1-Methylphenanthrene  
 Concen: 0.13 ng/ml m  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm



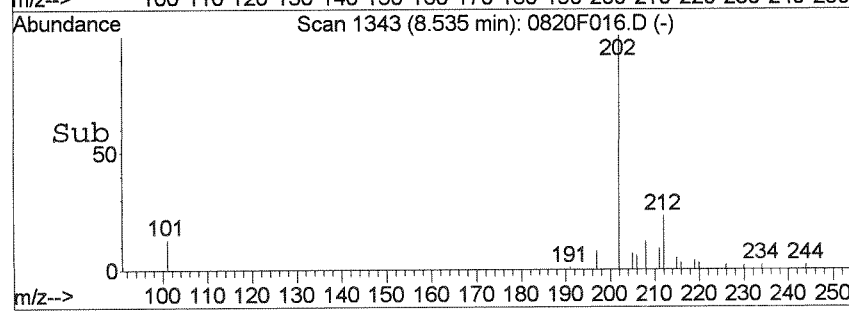
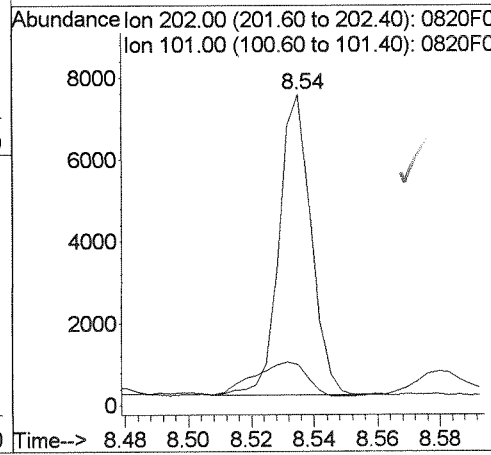
Tgt Ion	Ratio	Lower	Upper
192	100		
191	146.4	25.5	85.5#
193	141.8	0.0	45.7#



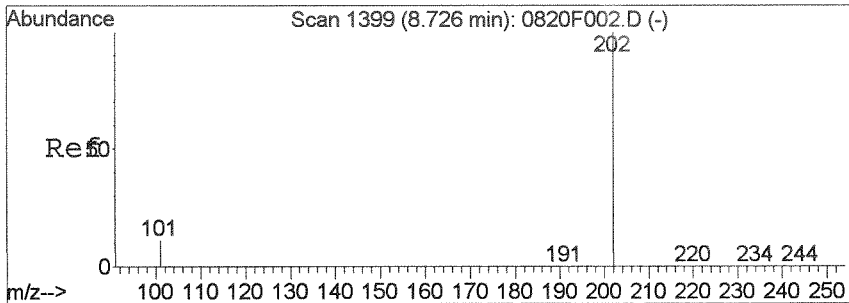
#20  
 Fluoranthene  
 Concen: 5.84 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm



Tgt Ion	Ratio	Lower	Upper
202	100		
101	10.0	0.0	37.0

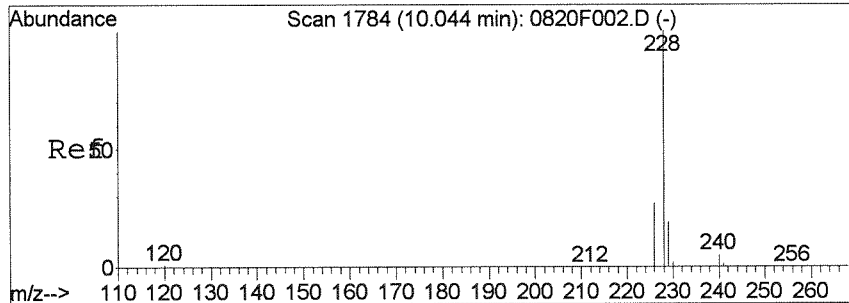
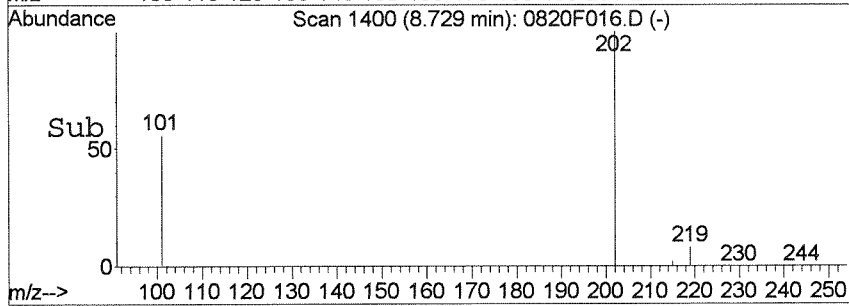
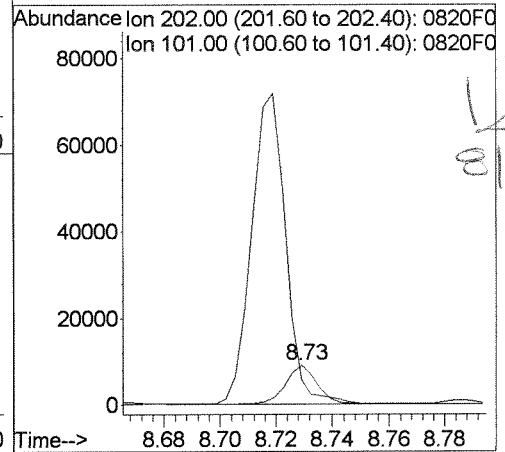
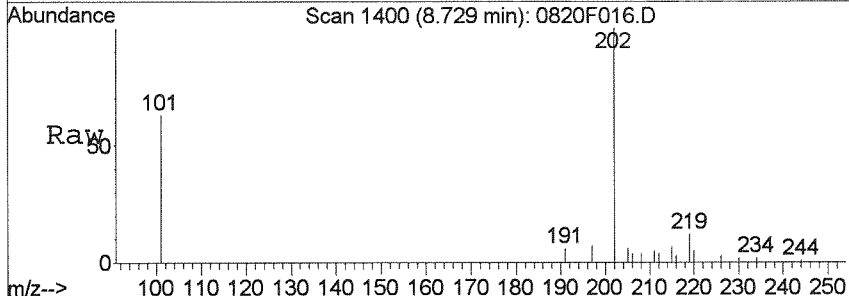






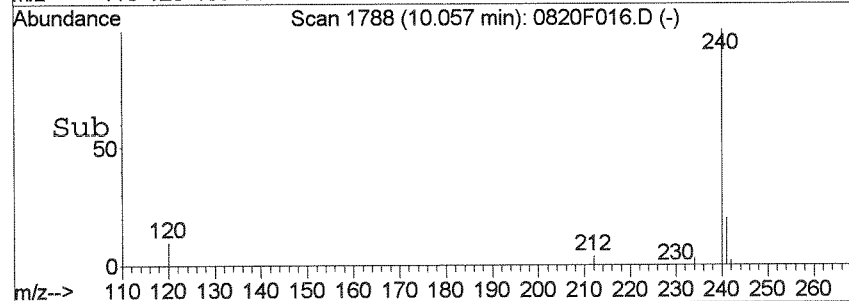
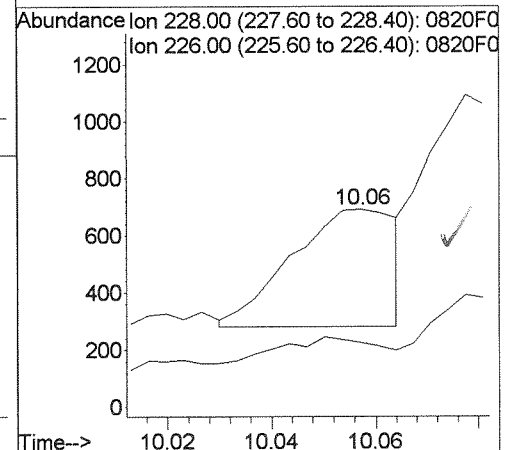
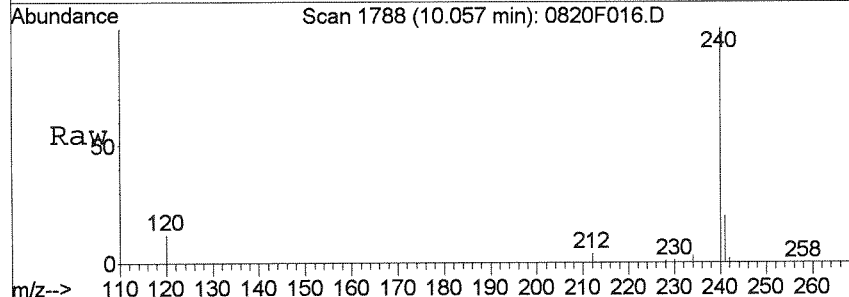
#23  
 Pyrene  
 Concen: 6.77 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

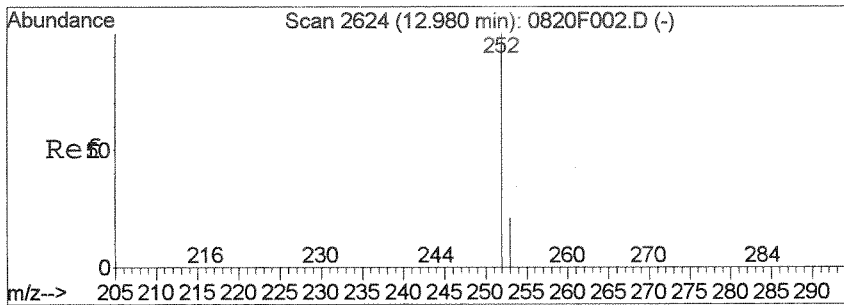
Tgt Ion: 202 Resp: 7148  
 Ion Ratio Lower Upper  
 202 100  
 101 63.3 0.0 38.3#



#25  
 Benz (a) anthracene  
 Concen: 0.61 ng/ml m  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

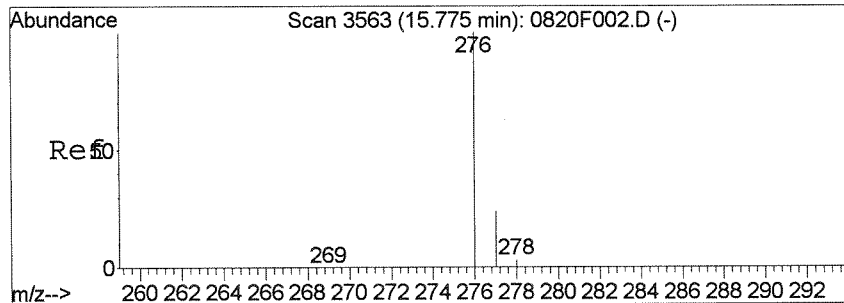
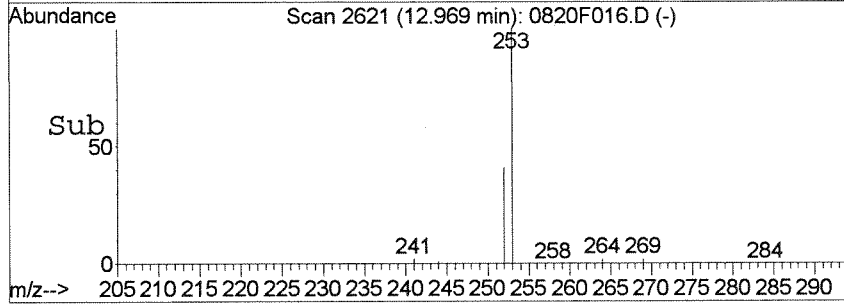
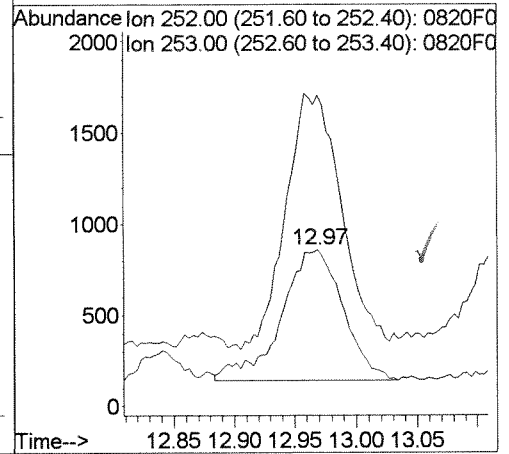
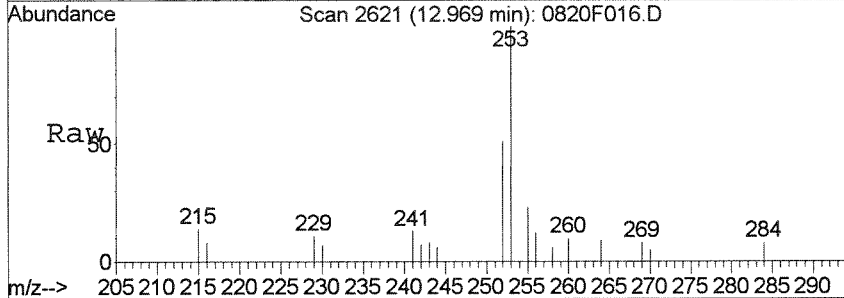
Tgt Ion: 228 Resp: 571  
 Ion Ratio Lower Upper  
 228 100  
 226 32.7 0.0 56.4





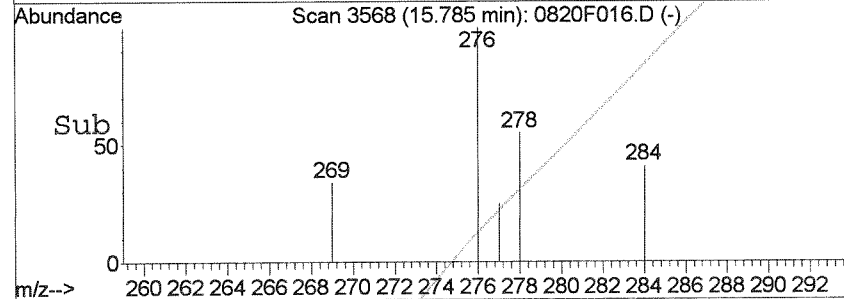
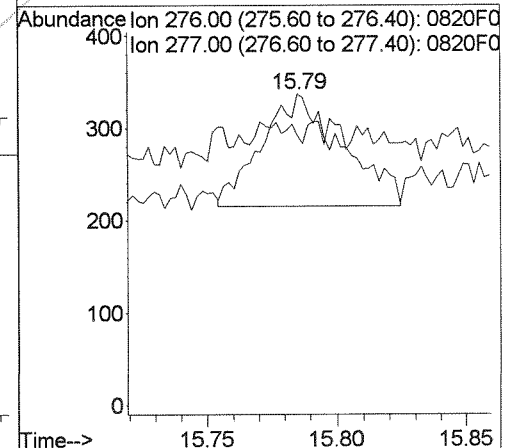
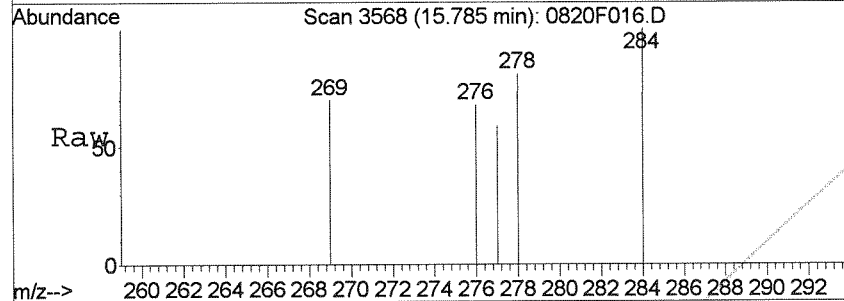
#31  
 Benzo(a)pyrene  
 Concen: 2.69 ng/ml  
 RT: 12.97 min Scan# 2621  
 Delta R.T. -0.02 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

Tgt Ion: 252 Resp: 2518  
 Ion Ratio Lower Upper  
 252 100  
 253 185.5 0.0 52.2#



#35  
 Benzo(g,h,i)perylene  
 Concen: 0.23 ng/ml  
 RT: 15.79 min Scan# 3568  
 Delta R.T. 0.00 min  
 Lab File: 0820F016.D  
 Acq: 20 Aug 2014 4:15 pm

Tgt Ion: 276 Resp: 262  
 Ion Ratio Lower Upper  
 276 100  
 277 86.6 0.0 53.6#



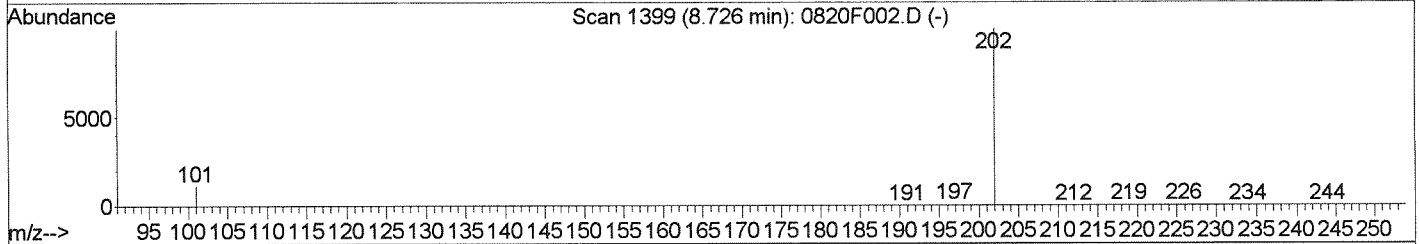
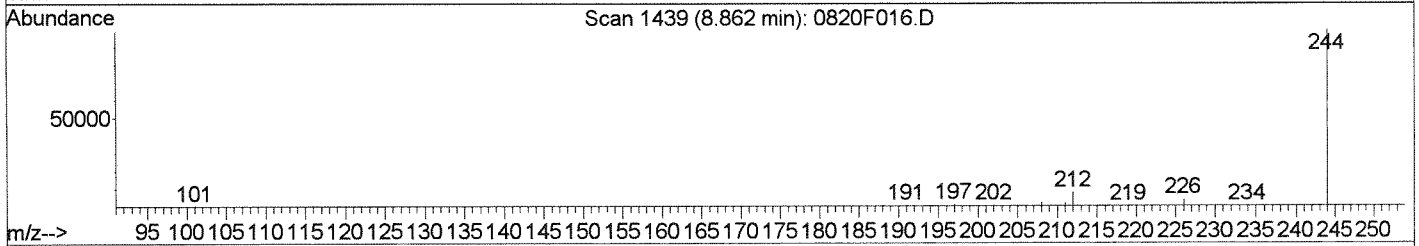
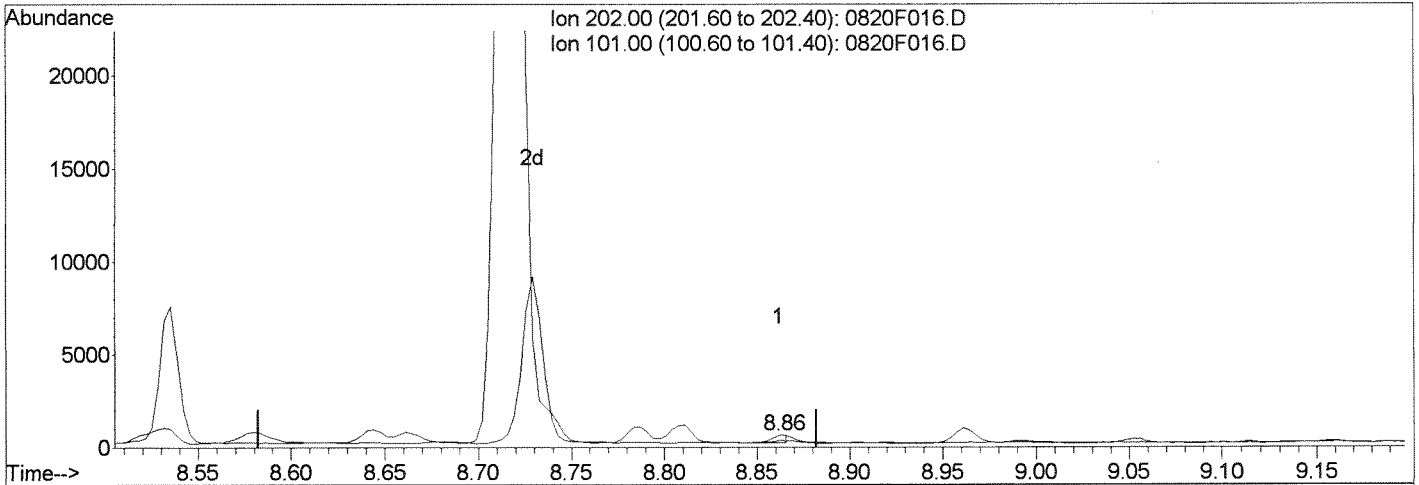
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:21 2014

Vial: 16  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F016.D

(23) Pyrene (T)  
 8.86min 0.27ng/ml  
 response 282

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	32.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 Before  
 08/21/14

*CH*

*LB*

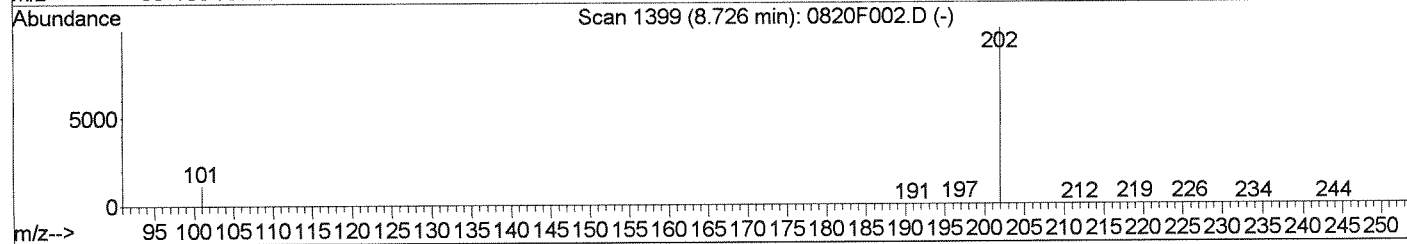
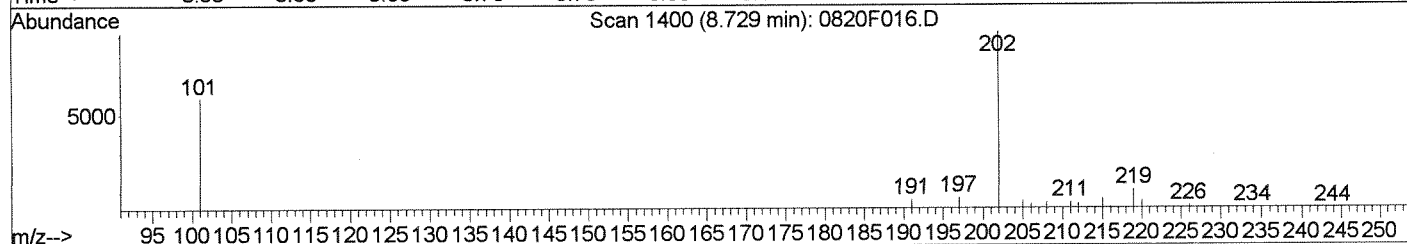
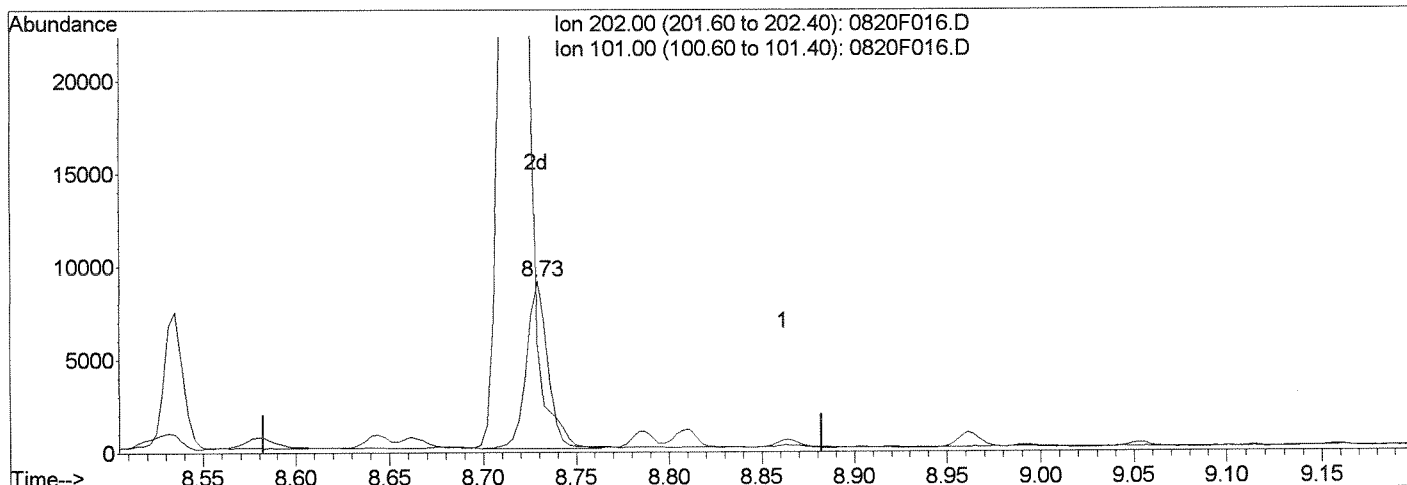
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:21 2014

Vial: 16  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F016.D

(23) Pyrene (T)

8.73min 6.77ng/ml m

response 7148

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	63.33#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*CA* → *LAB*  
 8/21/14  
*LAB*

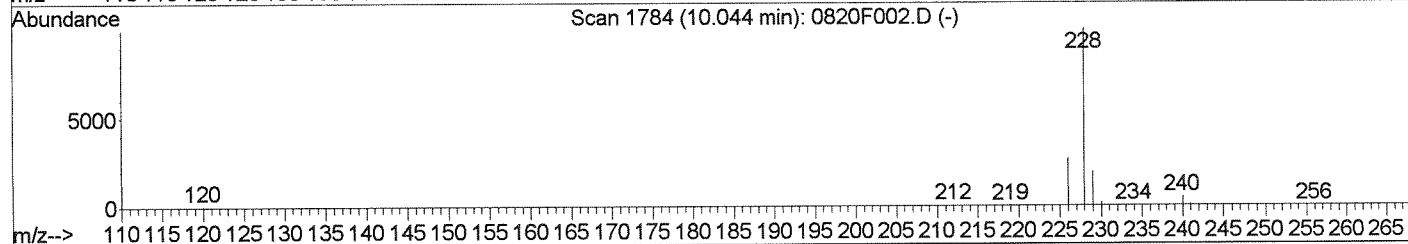
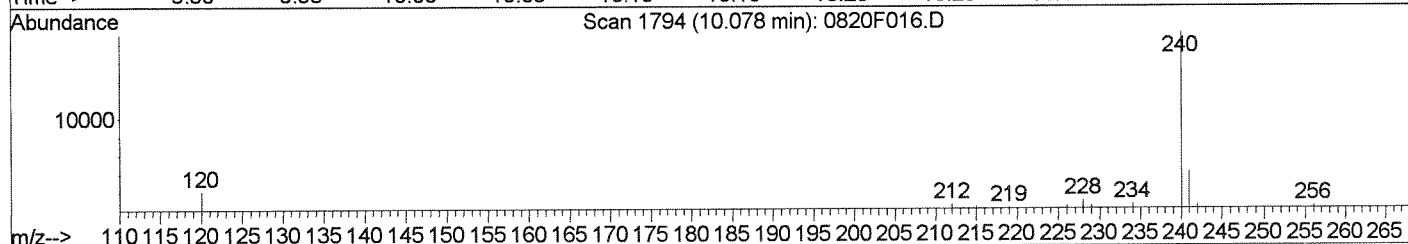
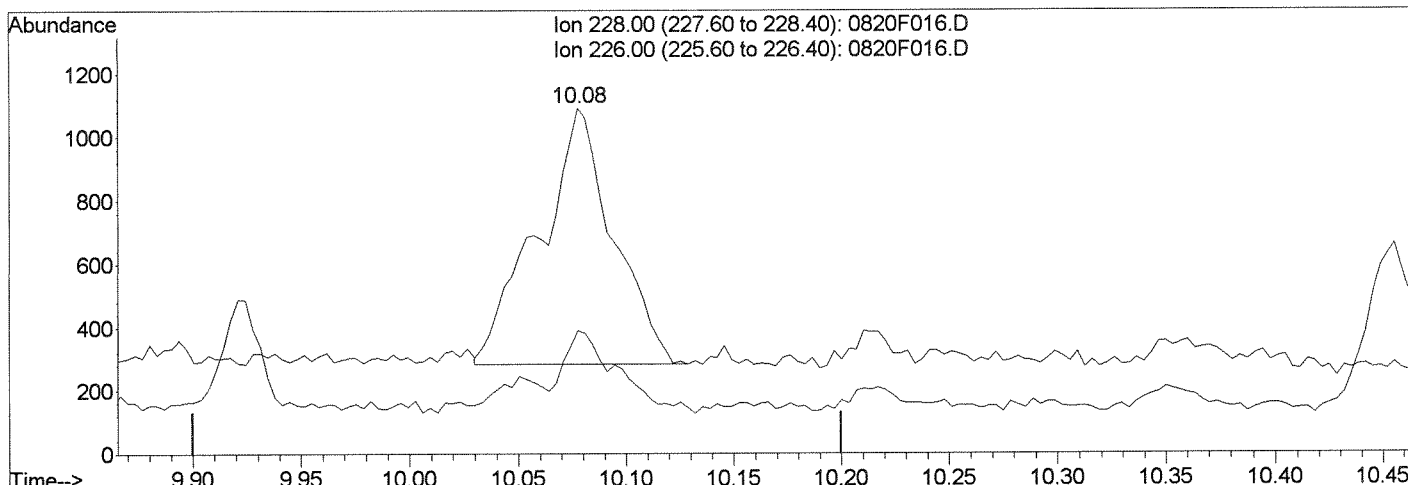
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:21 2014

Vial: 16  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F016.D

(25) Benz(a)anthracene (T)

10.08min 2.07ng/ml

response 1945

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	30.28
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*LB*

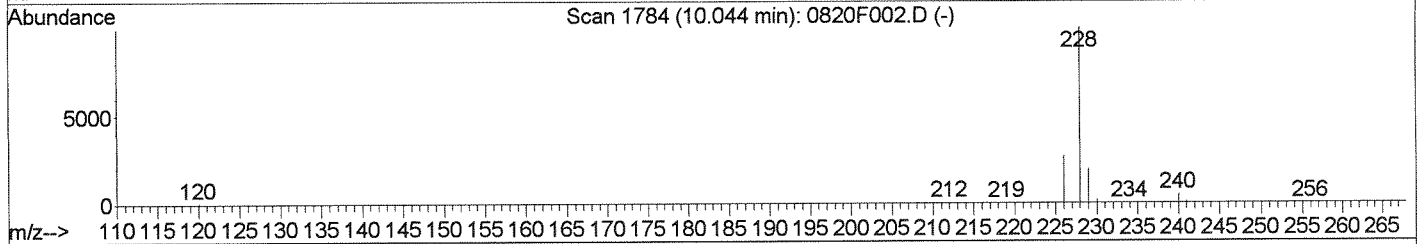
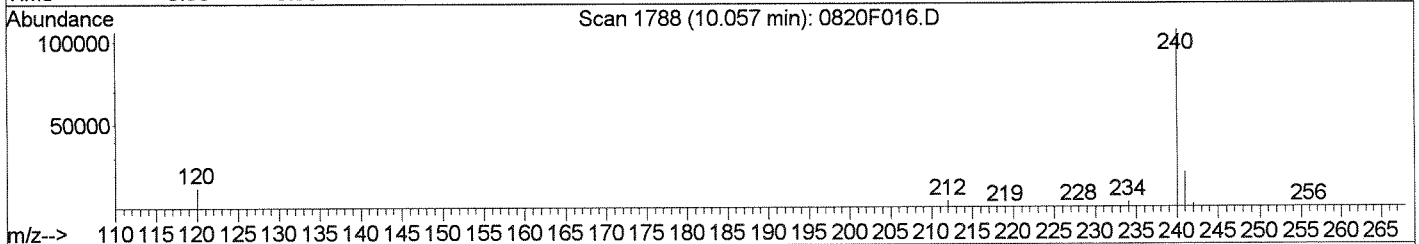
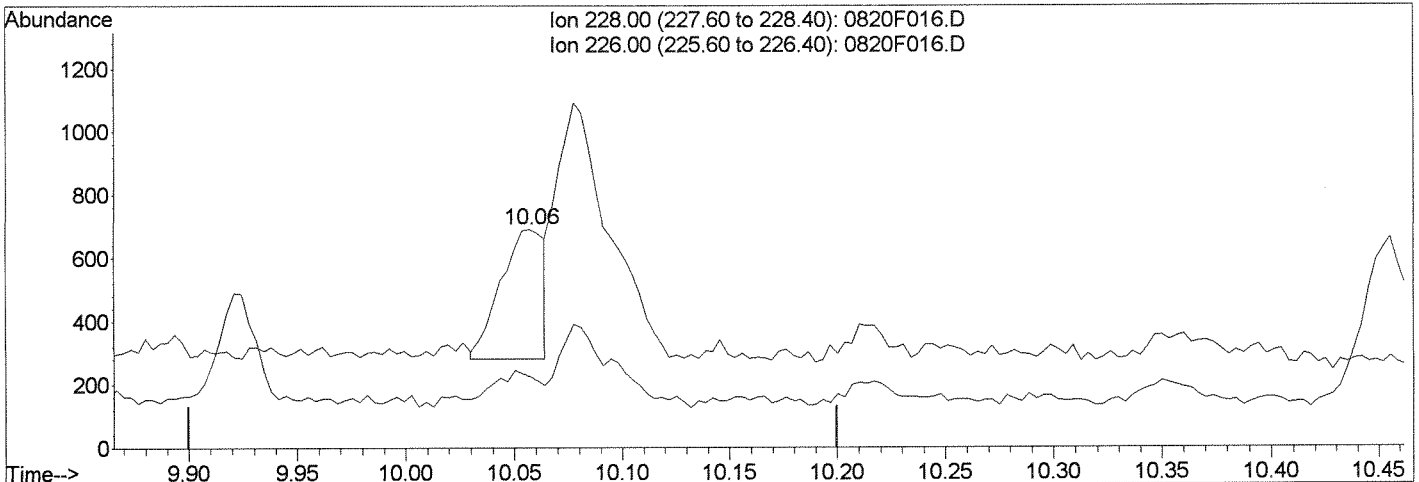
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F016.D  
 Acq On : 20 Aug 2014 4:15 pm  
 Sample : K1407971-008  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:22 2014

Vial: 16  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F016.D

(25) Benz(a)anthracene (T)			Manual Integration:	
10.06min	0.61ng/ml	m	After	
response	571		IC-Overintegrated	
Ion	Exp%	Act%	08/21/14	
228.00	100	100		
226.00	26.40	32.71		
0.00	0.00	0.00		
0.00	0.00	0.00		

*CA*  
*LB*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F017.D  
**Lab ID:** K1407971-009  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 16:41  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: GA AUG 21 2014

Secondary Review: VB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F017.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 16:41	<b>Quant Date:</b> 08/21/2014 12:08
<b>Run Type:</b> SMPL	<b>Vial:</b> 17
<b>Lab ID:</b> K1407971-009	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365434	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	135611	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	72930	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	139593	200.00	OK
4	Chrysene-d12	10.06	0.00	240	151452	200.00	OK
5	Perylene-d12	13.17	0.02	264	158882	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	66040	153.50	77	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	117459	149.43	75	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	98875	145.14	73	39-111	OK

## Target Compounds

										Final Conc. Units:	ug/Kg Dry Weight
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?	
1	Naphthalene	4.68	-0.01	0.00	128	1039	1.45	9.6	U		
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	411	0.8200	7.7	U		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	354	0.8000	7.0	U		
2	Acenaphthylene	6.16		0.00	152	319	0.4300	3.0	U		
2	Acenaphthene	6.31		0.00	154	679	1.60	10	J		
2	Fluorene	6.75		0.00	166	454	0.8600	5.4	J		
3	Phenanthrene	7.55		0.00	178	1215m	1.58	10	J		
3	Anthracene	7.60	0.01	0.00	178	211	0.2800	2.5	U		
3	Fluoranthene	8.54	0.01	0.00	202	6057	6.74	43			
4	Pyrene	8.73		0.00	202	6254	5.98	38			
4	Benz(a)anthracene	10.06	0.02	0.00	228	693m	0.7500	4.8	J		
4	Chrysene	10.09	-0.01	0.00	228	546m	0.6600	4.2	J		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



<b>Data File:</b>	J:\MS14\DATA\082014\0820F017.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 16:41	<b>Quant Date:</b>	08/21/2014 12:08
<b>Run Type:</b>	SMPL	<b>Vial:</b>	17
<b>Lab ID:</b>	K1407971-009	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	642	0.6600	4.2	U	
5	Benzo(k)fluoranthene	12.19	0.01	0.00	252	445m	0.4600	3.7	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	3170	3.38	22	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.1	U	
5	Dibenz(a,h)anthracene				278	0d		5.5	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	219	0.1900	6.1	U	

Prep Amount: 10.052 g                      Dilution: 1.0  
 Prep Final Vol: 10 ml                      Unit Factor: 1  
 Solids: 15.7 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:25 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	135611	200.00	ng/ml	-0.02
7) Acenaphthene-d10	6.29	164	72930	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	139593	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	151452	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	158882	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	66040	153.50	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.35%	
21) Fluoranthene-d10	8.52	212	117459	149.43	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	14.94%	
24) Terphenyl-d14	8.87	244	98875	145.14	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	14.51%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	1039	1.45	ng/ml	91
3) 2-Methylnaphthalene	5.36	142	411	0.82	ng/ml	99
4) 1-Methylnaphthalene	5.45	142	354	0.80	ng/ml	91
5) Biphenyl	5.79	154	249m	0.42	ng/ml	
6) 2,6-Dimethylnaphthalene	5.94	156	223	0.50	ng/ml	75
8) Acenaphthylene	6.16	152	319	0.43	ng/ml	97
9) Acenaphthene	6.31	154	679	1.60	ng/ml	80
10) Dibenzofuran	6.46	168	448	0.67	ng/ml	95
11) 2,3,5-Trimethylnaphthalene	6.64	170	223m	0.53	ng/ml	
13) Fluorene	6.75	166	454	0.86	ng/ml	86
15) Dibenzothiophene	7.45	184	205m	0.28	ng/ml	
16) Phenanthrene	7.55	178	1215m	1.58	ng/ml	
17) Anthracene	7.60	178	211	0.28	ng/ml	93
18) Carbazole	7.74	167	310m	0.46	ng/ml	
19) 1-Methylphenanthrene	8.06	192	313	0.51	ng/ml	90
20) Fluoranthene	8.54	202	6057	6.74	ng/ml	95
23) Pyrene	8.73	202	6254	5.98	ng/ml#	1
25) Benz(a)anthracene	10.06	228	693m	0.75	ng/ml	
26) Chrysene	10.08	228	2331m	2.83	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	642	0.66	ng/ml	65
29) Benzo(k)fluoranthene	12.19	252	445m	0.46	ng/ml	
30) Benzo(e)pyrene	12.84	252	622	0.66	ng/ml	90
31) Benzo(a)pyrene	12.97	252	3170	3.38	ng/ml#	1
35) Benzo(g,h,i)perylene	15.79	276	219	0.19	ng/ml	65

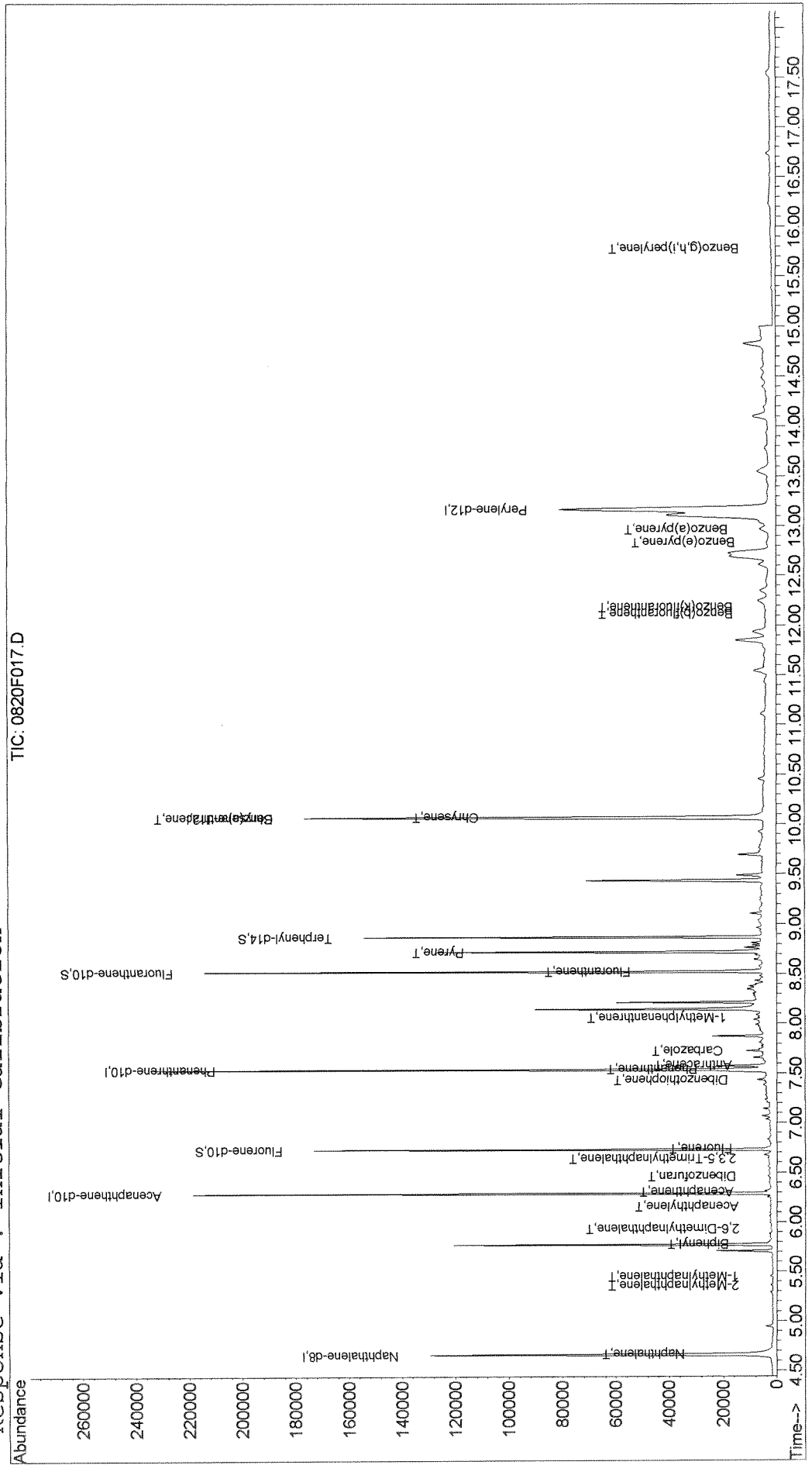
(#) = qualifier out of range (m) = manual integration

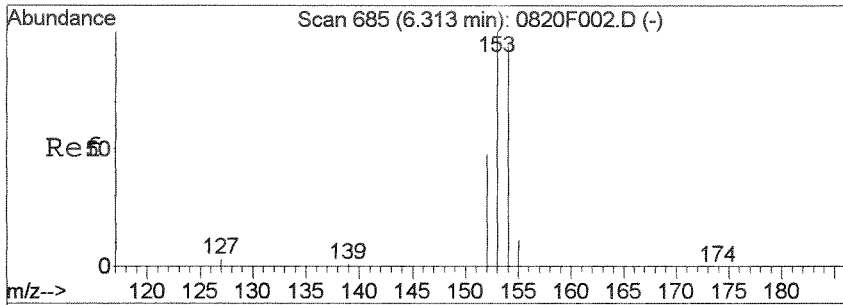
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014  
 Quant Results File: 072214SIMP.AH.RES

Vial: 17  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

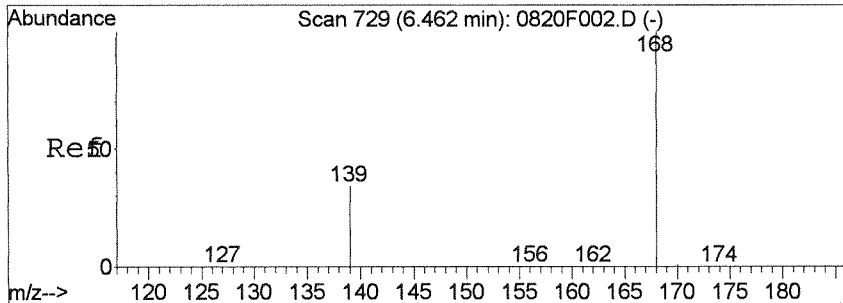
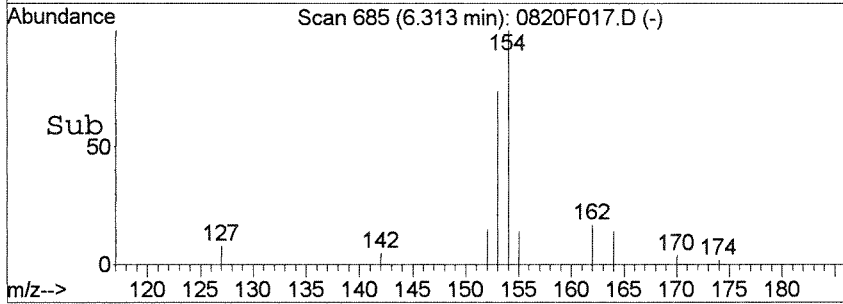
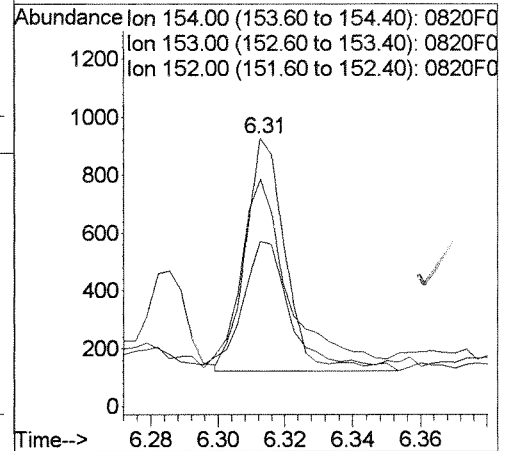
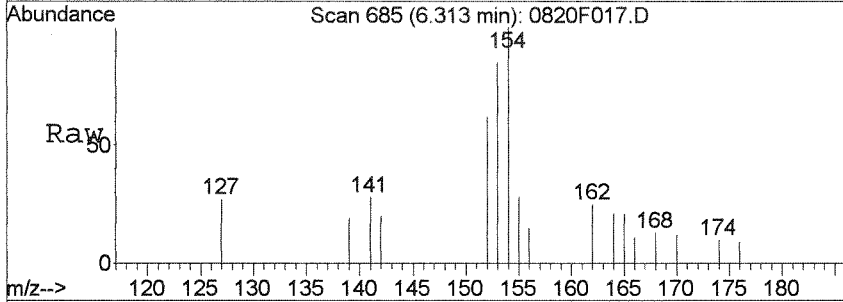
Method : J:\MS14\METHODS\SIM\072214SIMP.AH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





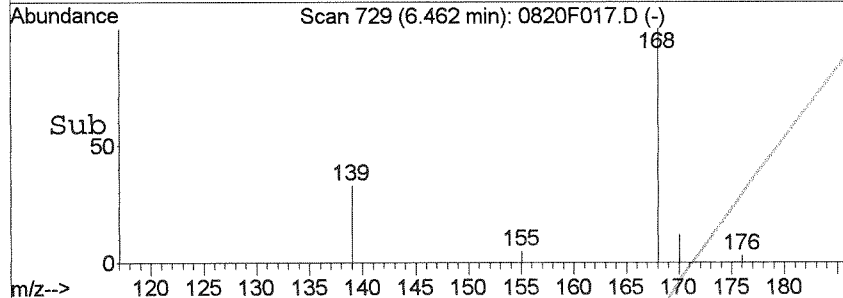
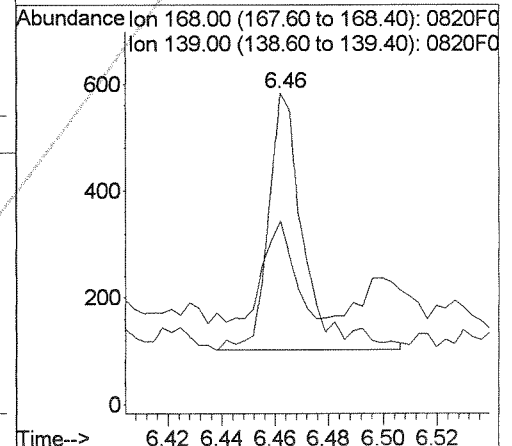
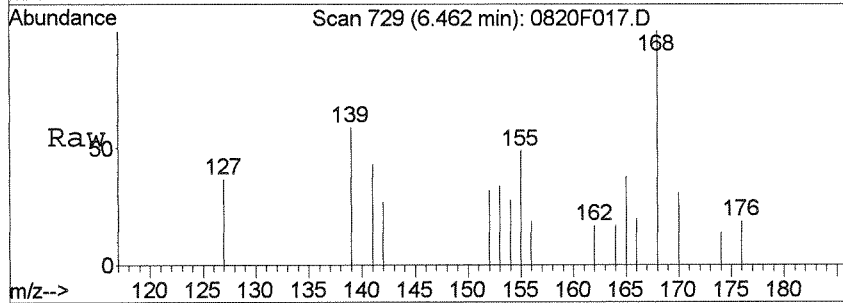
#9  
 Acenaphthene  
 Concen: 1.60 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

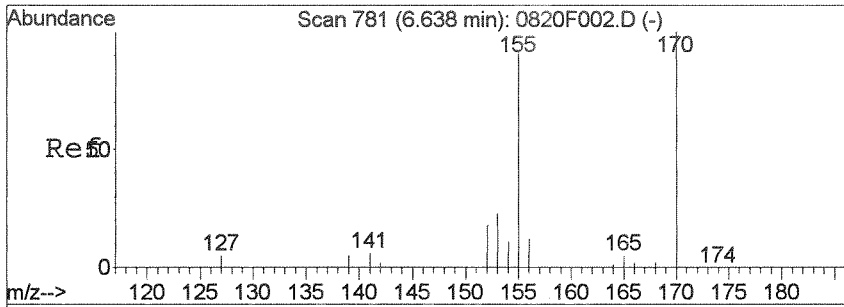
Tgt Ion	Ratio	Lower	Upper
154	100		
153	75.6	72.5	132.5
152	52.2	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.67 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

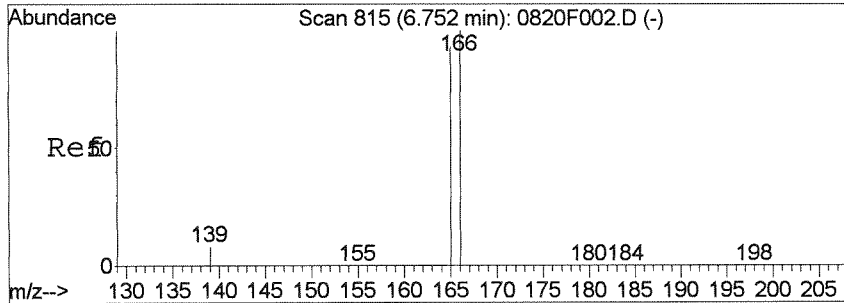
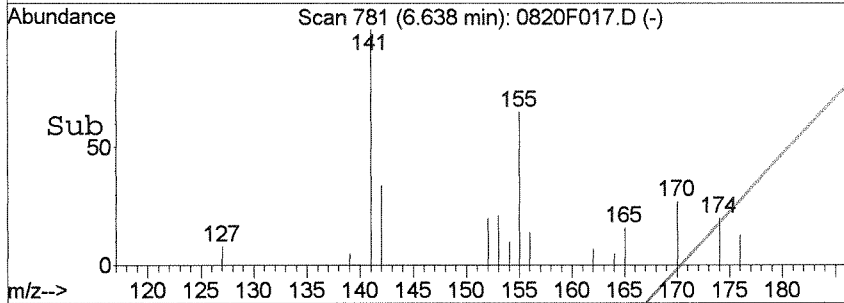
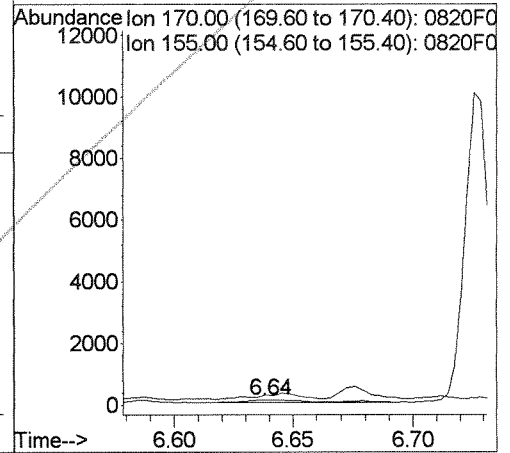
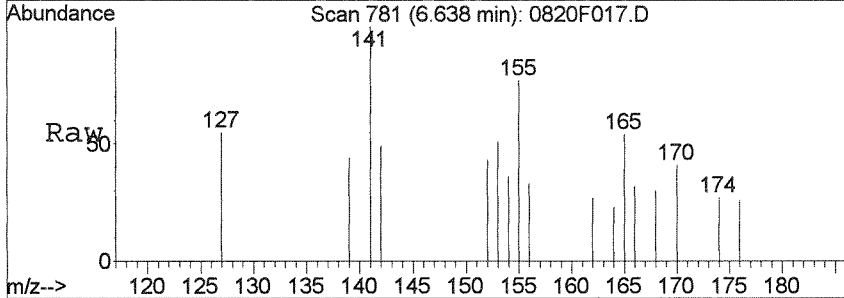
Tgt Ion	Ratio	Lower	Upper
168	100		
139	35.8	2.7	62.7





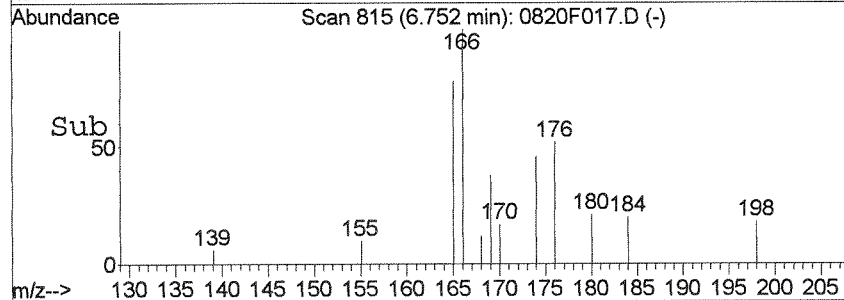
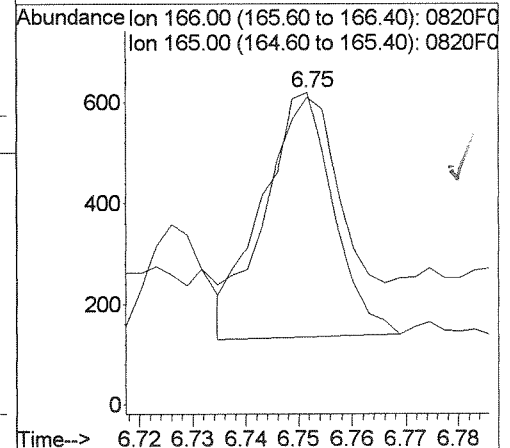
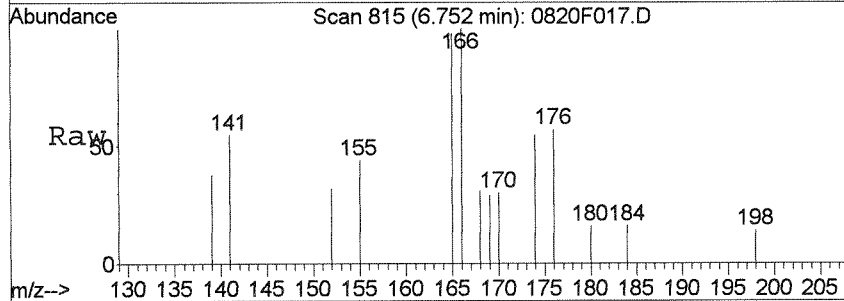
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.53 ng/ml m  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

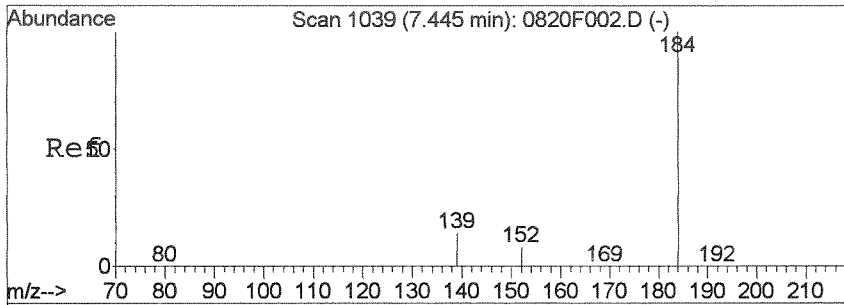
Tgt Ion:170 Resp: 223  
 Ion Ratio Lower Upper  
 170 100  
 155 185.8 64.1 124.1#



#13  
 Fluorene  
 Concen: 0.86 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

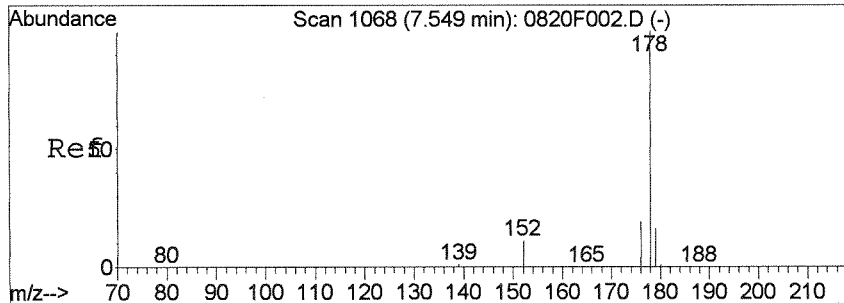
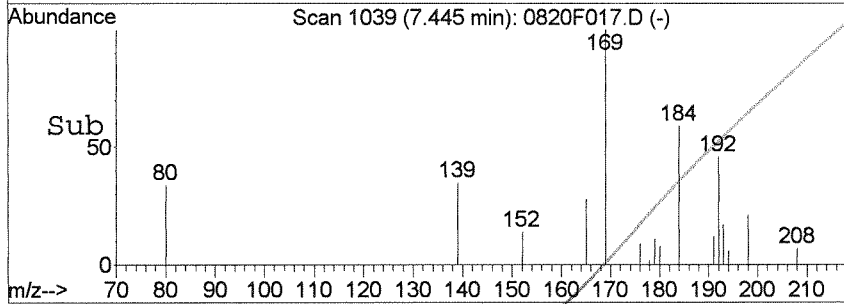
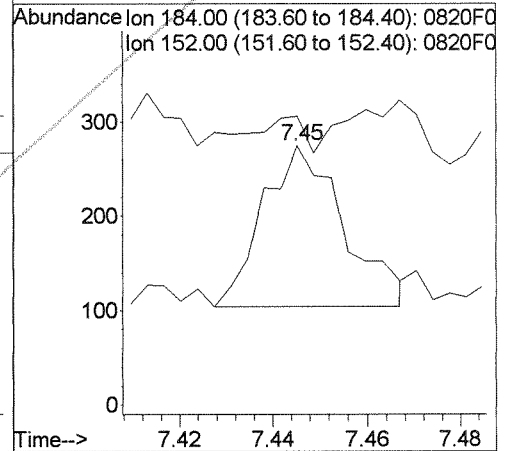
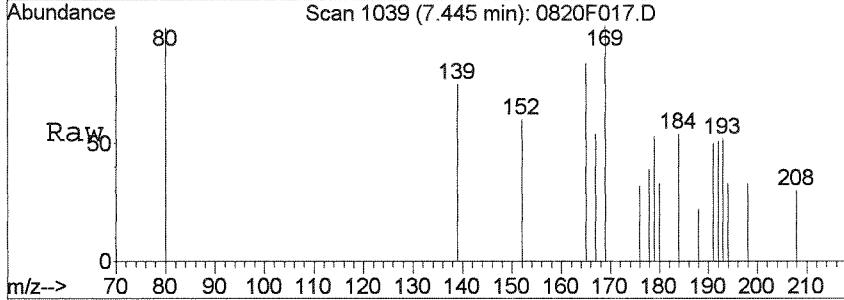
Tgt Ion:166 Resp: 454  
 Ion Ratio Lower Upper  
 166 100  
 165 77.3 60.9 120.9





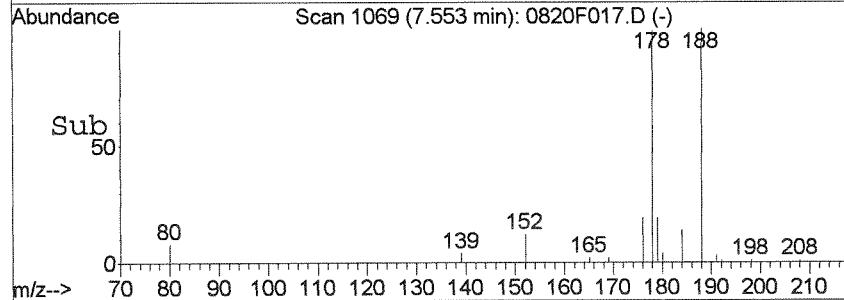
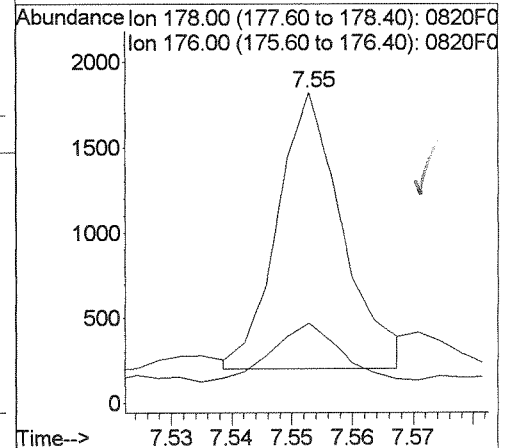
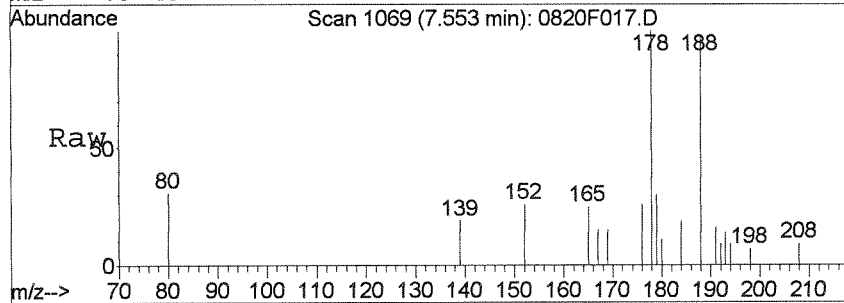
#15  
 Dibenzothiophene  
 Concen: 0.28 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

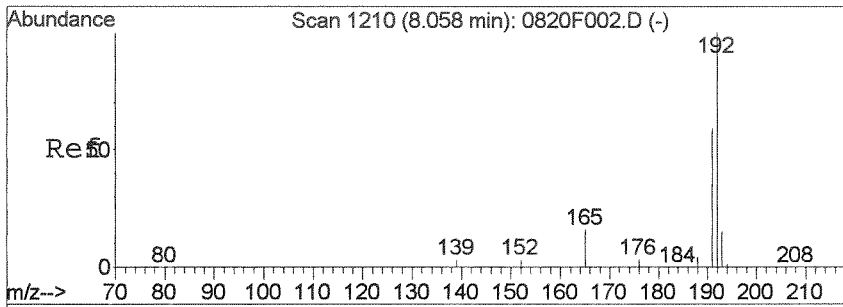
Tgt Ion: 184 Resp: 205  
 Ion Ratio Lower Upper  
 184 100  
 152 111.3 0.0 39.9#



#16  
 Phenanthrene  
 Concen: 1.58 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

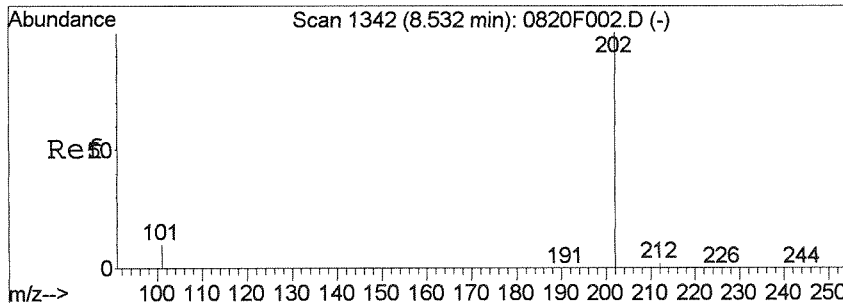
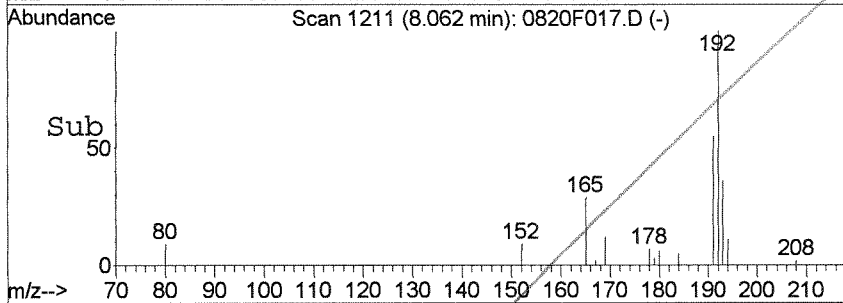
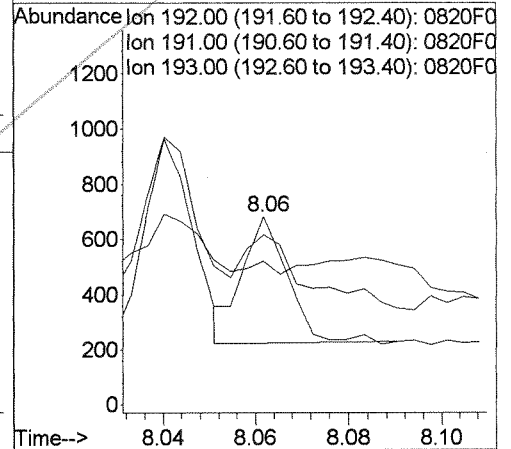
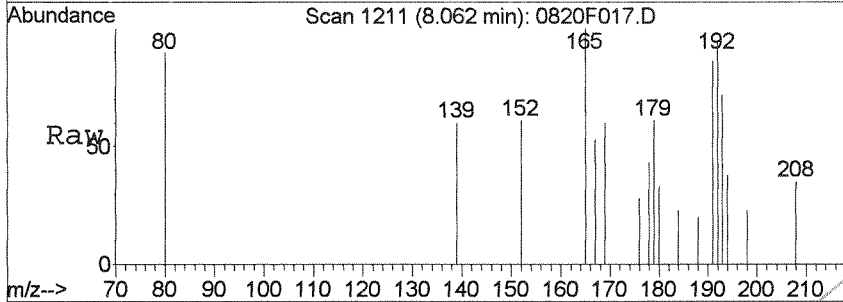
Tgt Ion: 178 Resp: 1215  
 Ion Ratio Lower Upper  
 178 100  
 176 25.9 0.0 48.9





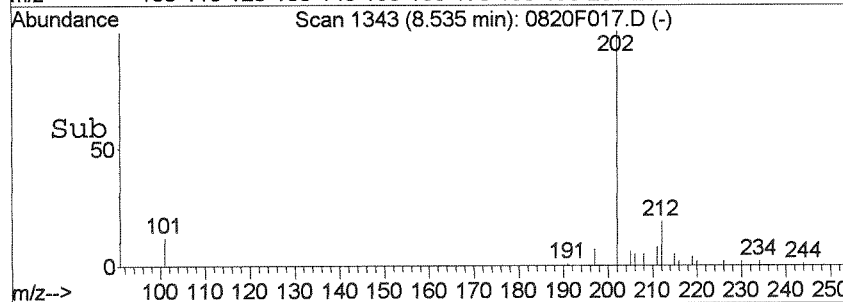
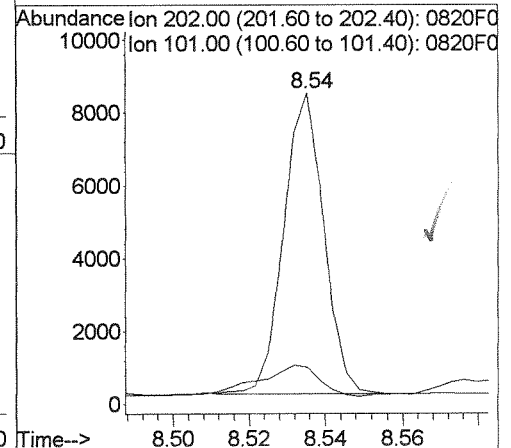
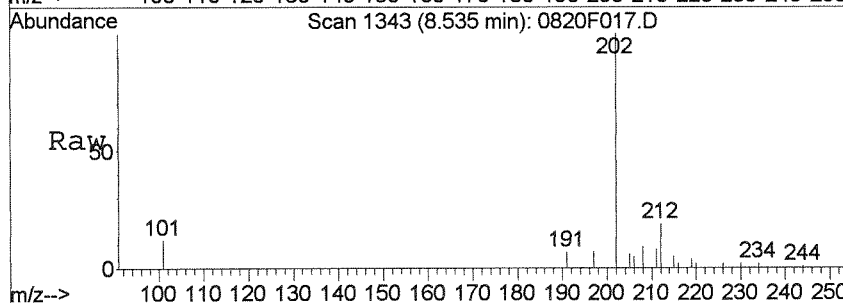
#19  
 1-Methylphenanthrene  
 Concen: 0.51 ng/ml  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

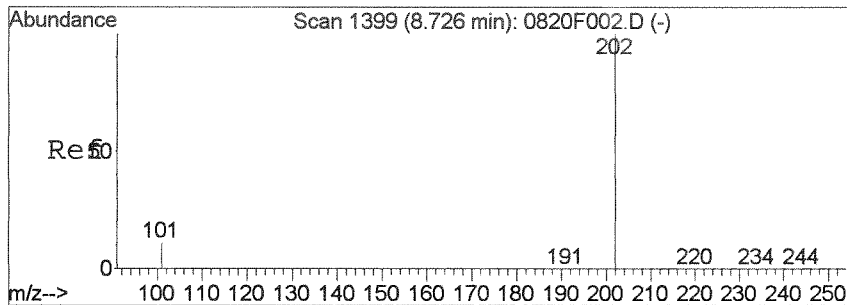
Tgt Ion	Resp	Lower	Upper
192	100		
191	58.9	25.5	85.5
193	3.1	0.0	45.7



#20  
 Fluoranthene  
 Concen: 6.74 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

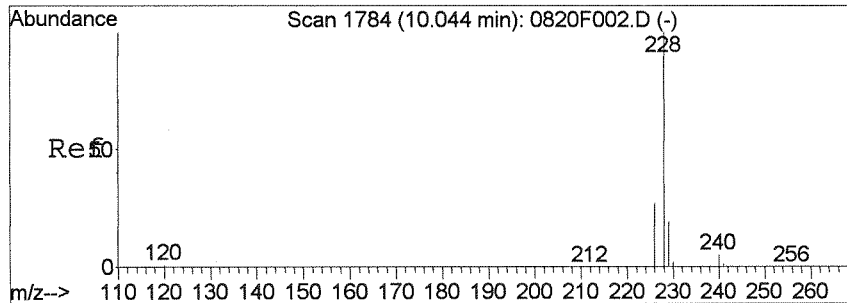
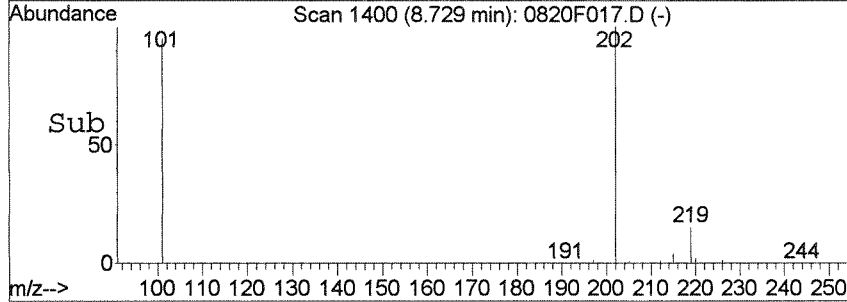
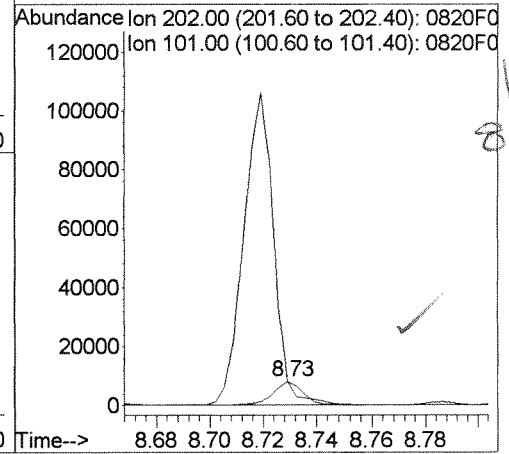
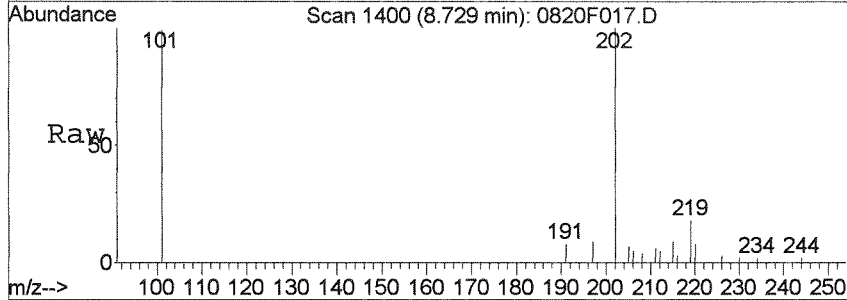
Tgt Ion	Resp	Lower	Upper
202	100		
101	8.9	0.0	37.0





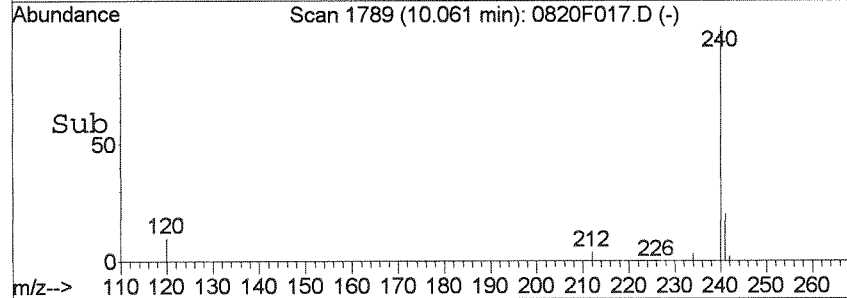
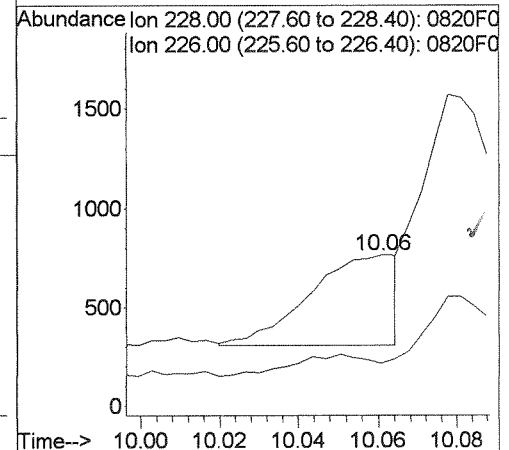
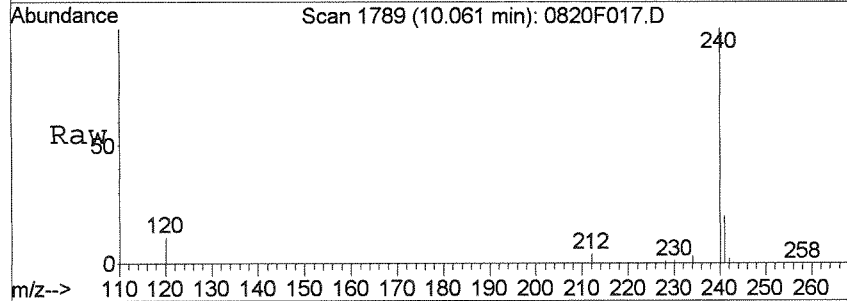
#23  
 Pyrene  
 Concen: 5.98 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

Tgt Ion: 202 Resp: 6254  
 Ion Ratio Lower Upper  
 202 100  
 101 98.3 0.0 38.3#

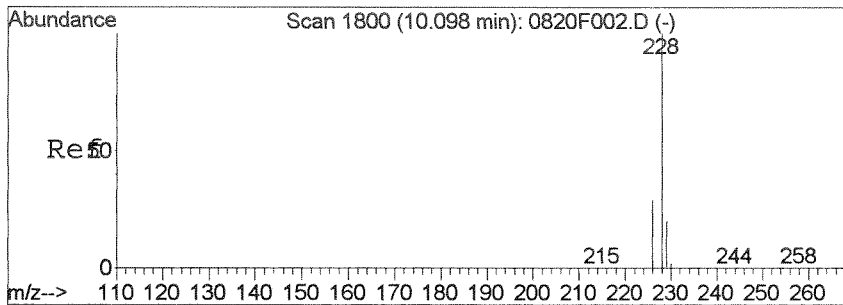


#25  
 Benz (a) anthracene  
 Concen: 0.75 ng/ml m  
 RT: 10.06 min Scan# 1789  
 Delta R.T. 0.01 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

Tgt Ion: 228 Resp: 693  
 Ion Ratio Lower Upper  
 228 100  
 226 28.3 0.0 56.4

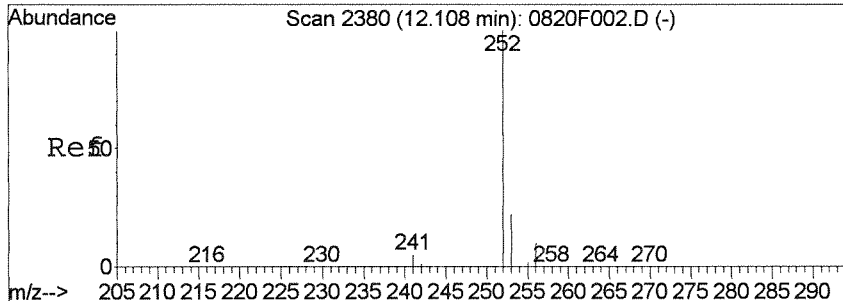
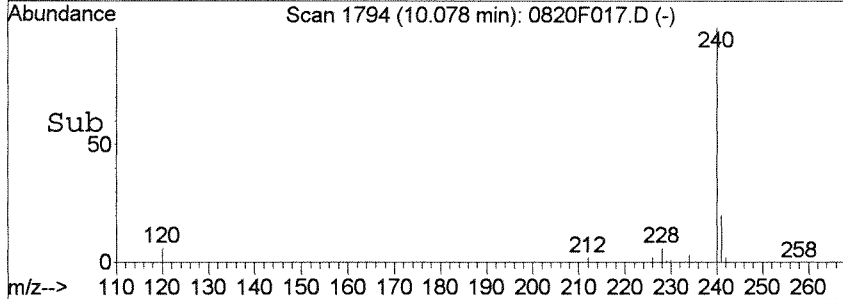
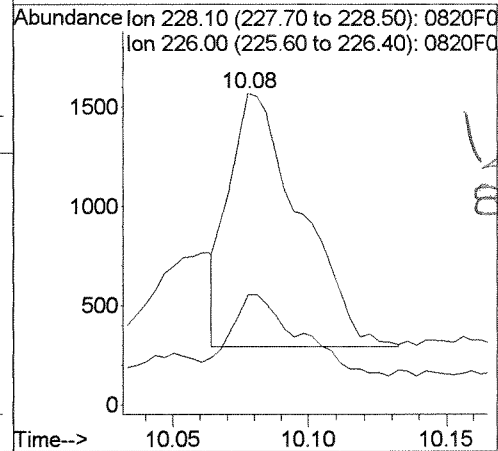
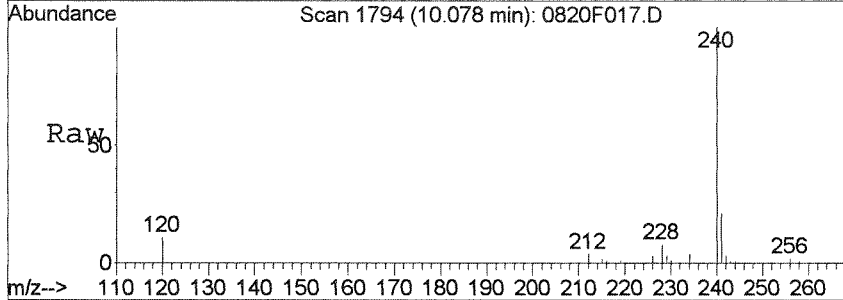






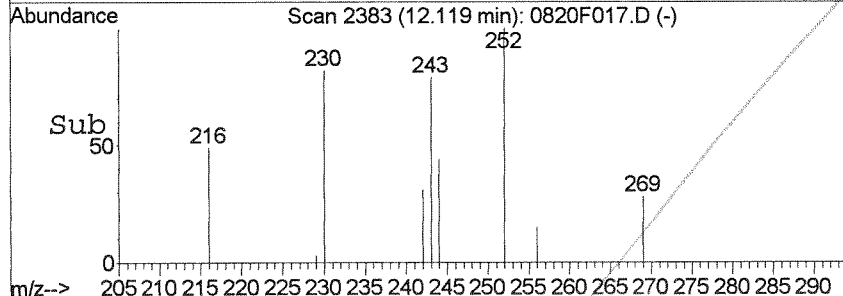
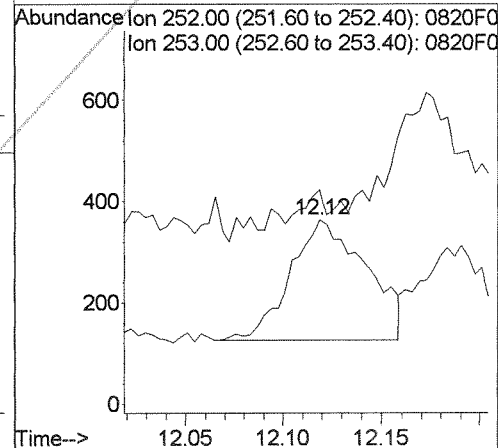
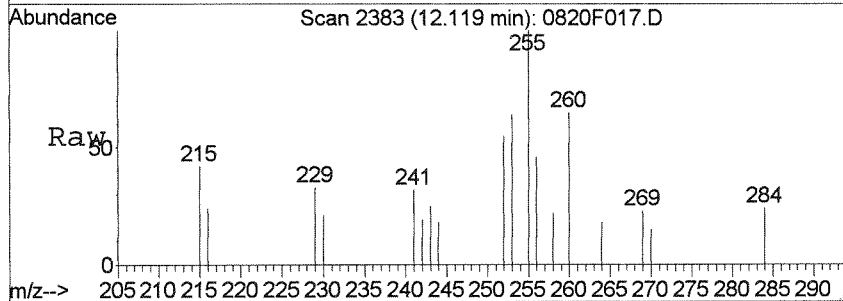
#26 *See man. intg*  
 Chrysene  
 Concen: 2.83 ng/ml m  
 RT: 10.08 min Scan# 1794  
 Delta R.T. -0.02 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

Tgt Ion	Resp	Lower	Upper
228	100		
226	35.3	0.0	58.6



#28 *<MDL*  
 Benzo (b) fluoranthene  
 Concen: 0.66 ng/ml  
 RT: 12.12 min Scan# 2383  
 Delta R.T. 0.00 min  
 Lab File: 0820F017.D  
 Acq: 20 Aug 2014 4:41 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	5.4	0.0	52.1



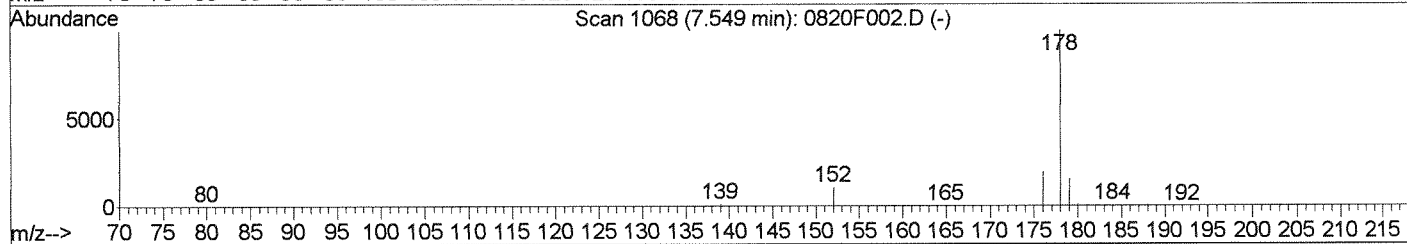
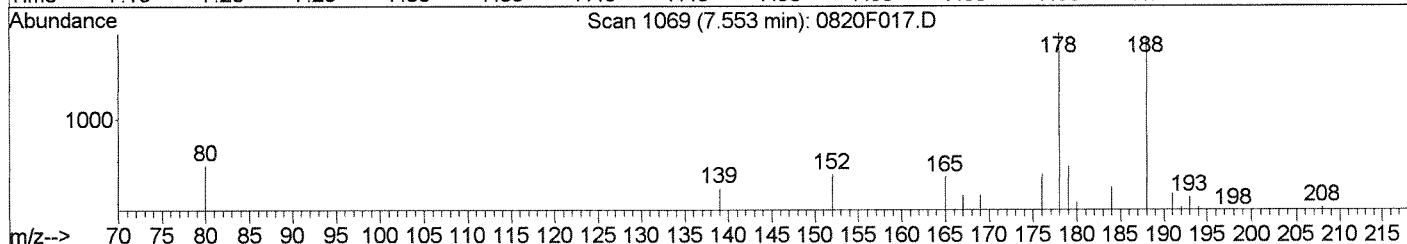
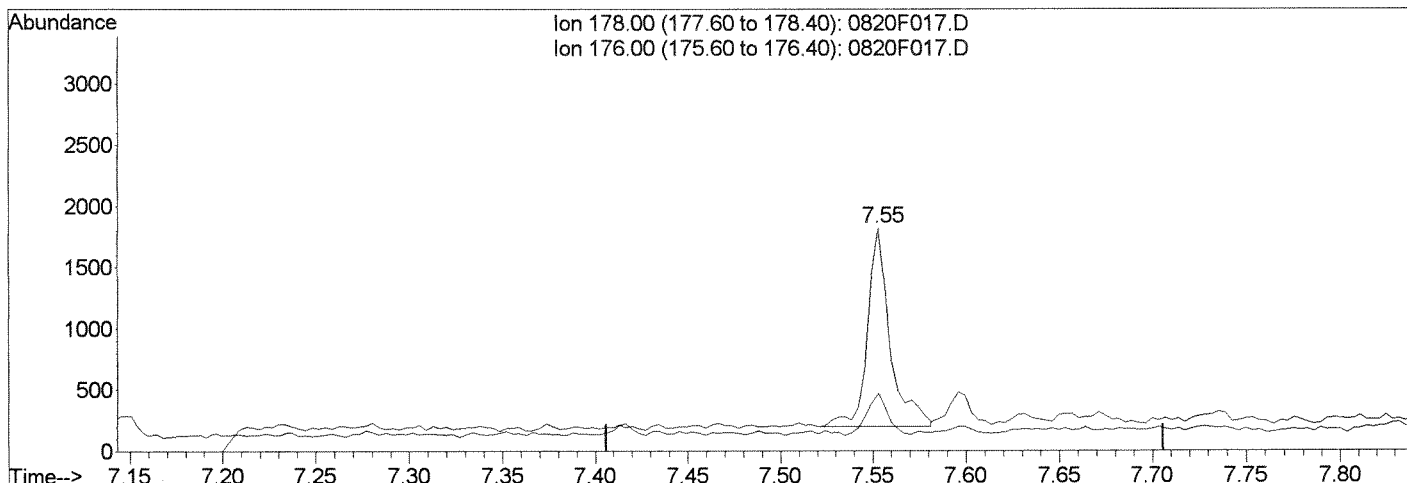
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:23 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(16) Phenanthrene (T)

7.55min 1.81ng/ml

response 1396

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	20.38
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*

*43*

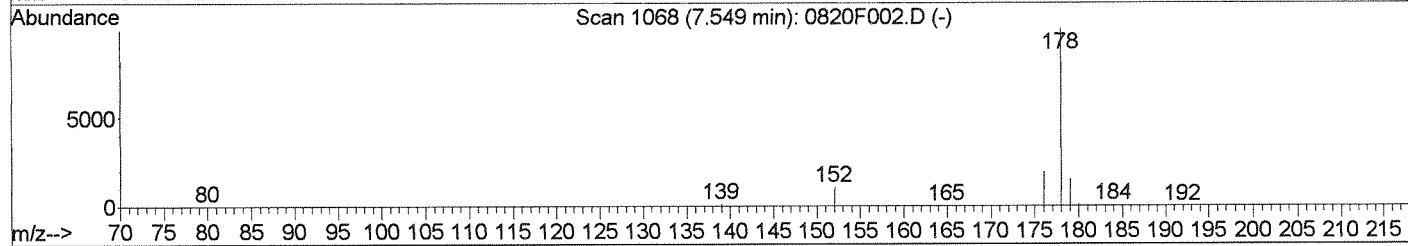
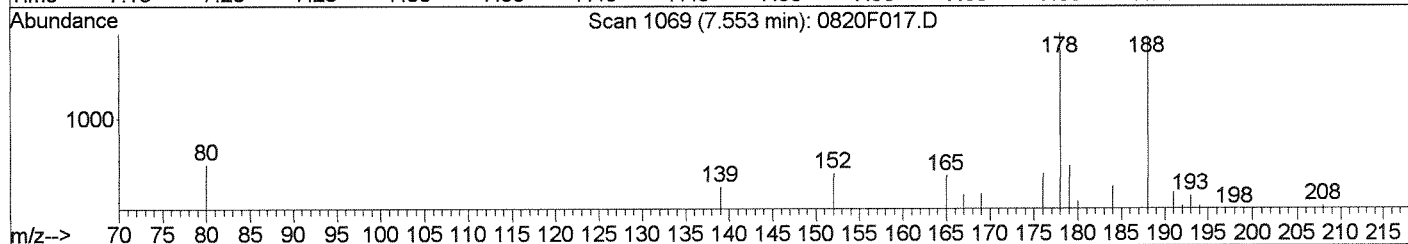
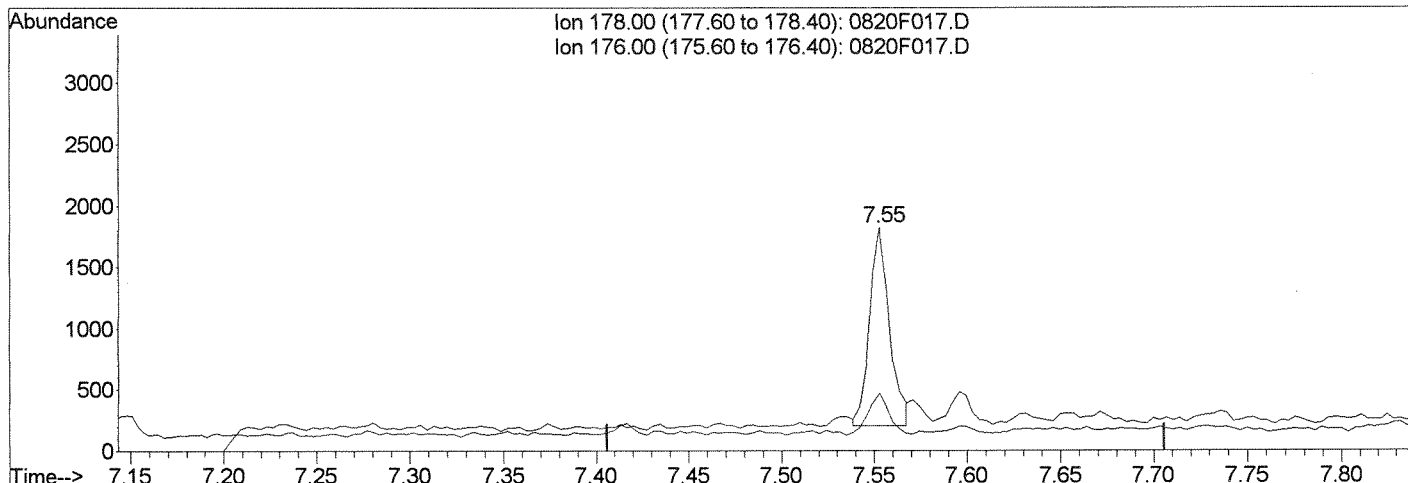
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:24 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(16) Phenanthrene (T)

7.55min 1.58ng/ml m

response 1215

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	25.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CH*

*LAB*

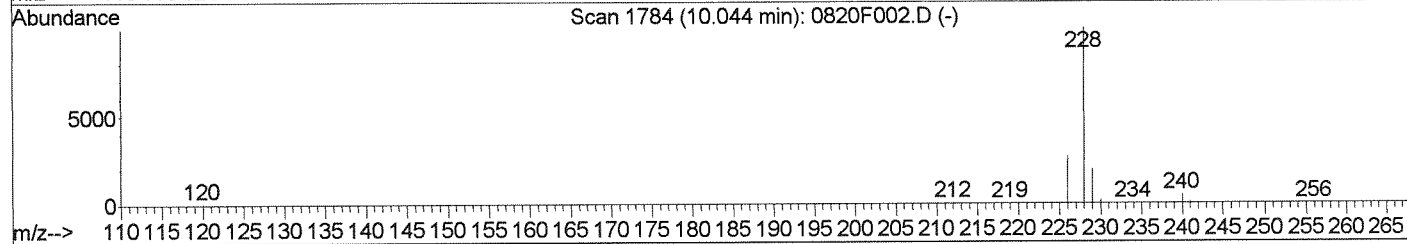
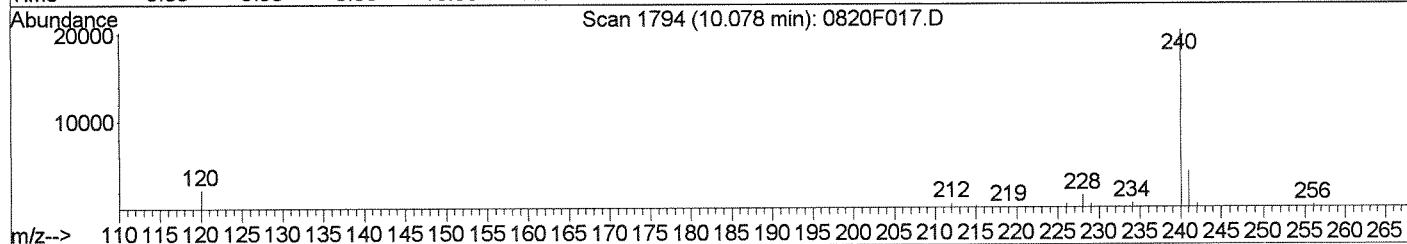
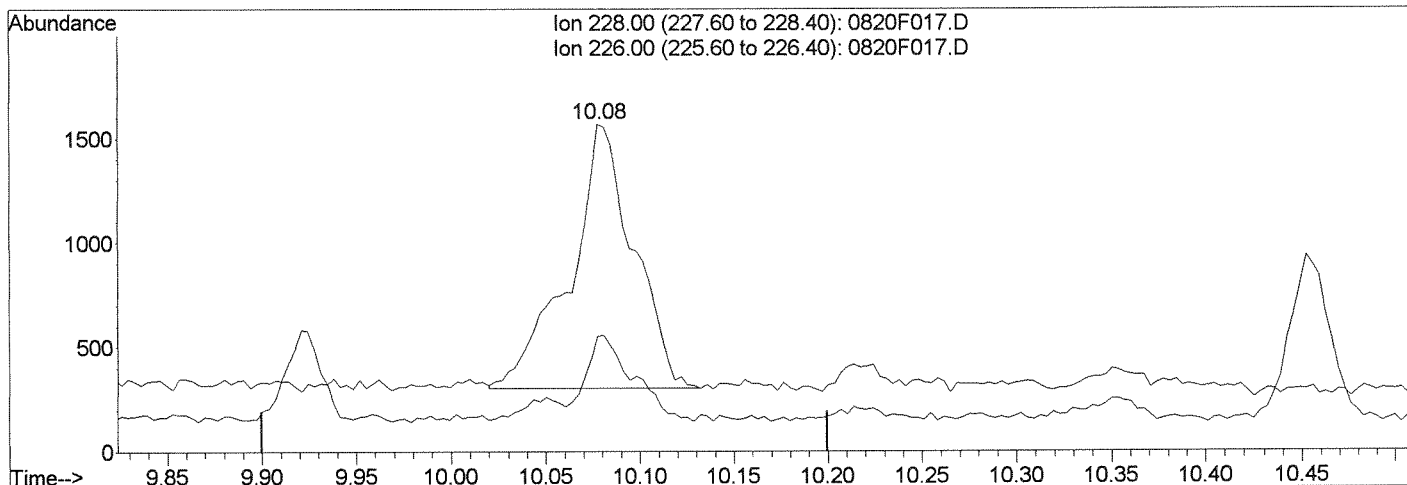
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:24 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(25) Benz(a)anthracene (T)

10.08min 3.22ng/ml  
 response 2987

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	31.75
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*LB*

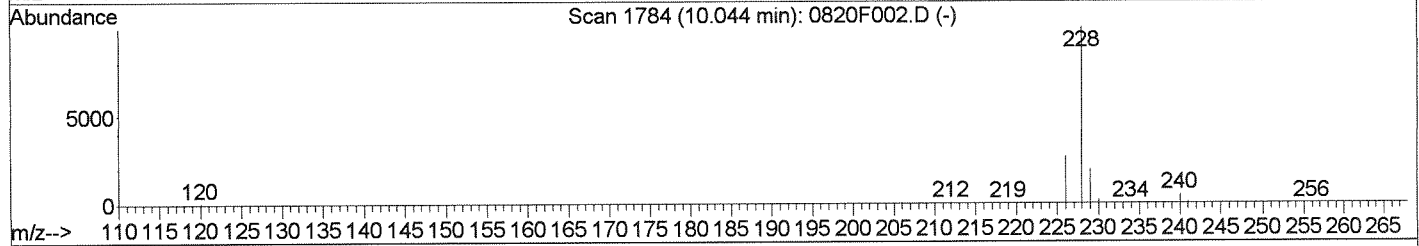
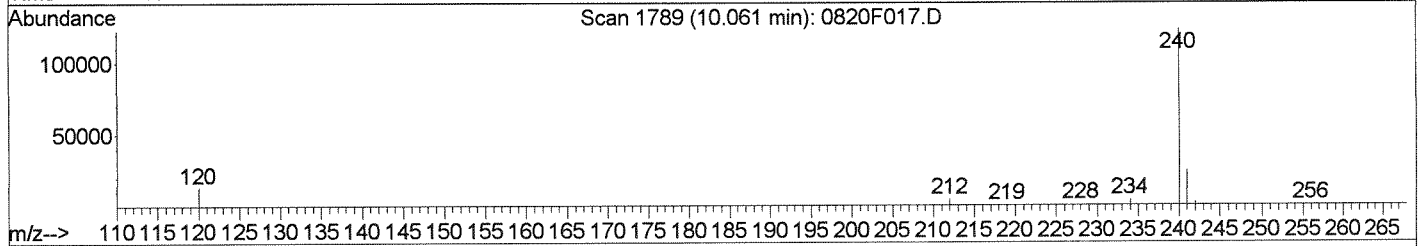
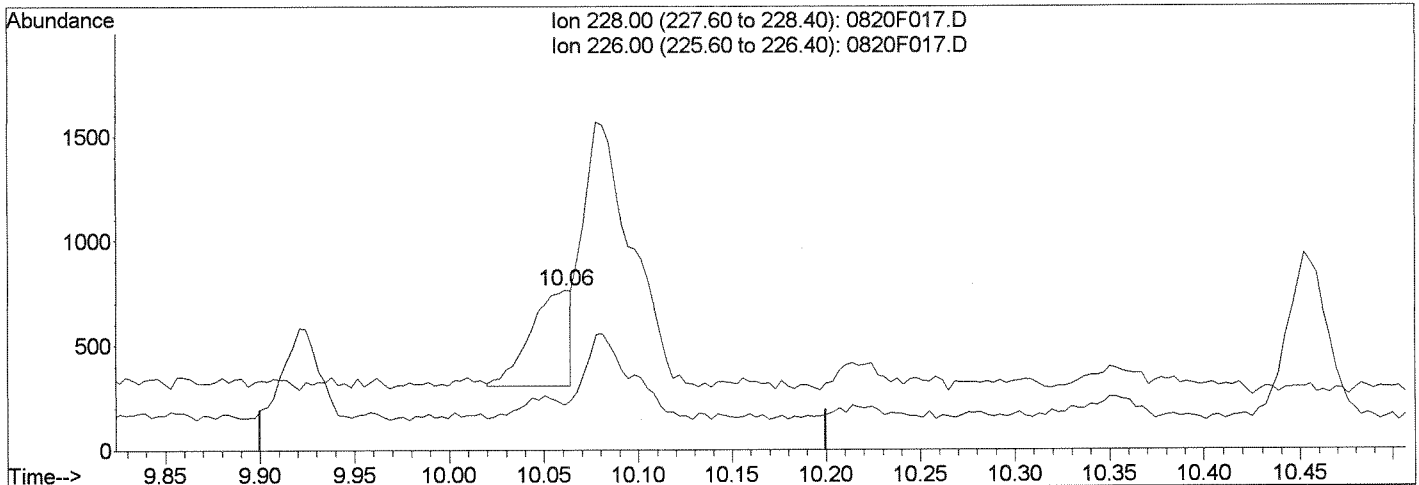
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:24 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(25) Benz(a)anthracene (T)		
10.06min	0.75ng/ml	m
response	693	
Ion	Exp%	Act%
228.00	100	100
226.00	26.40	28.27
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*CA*

*L4B*

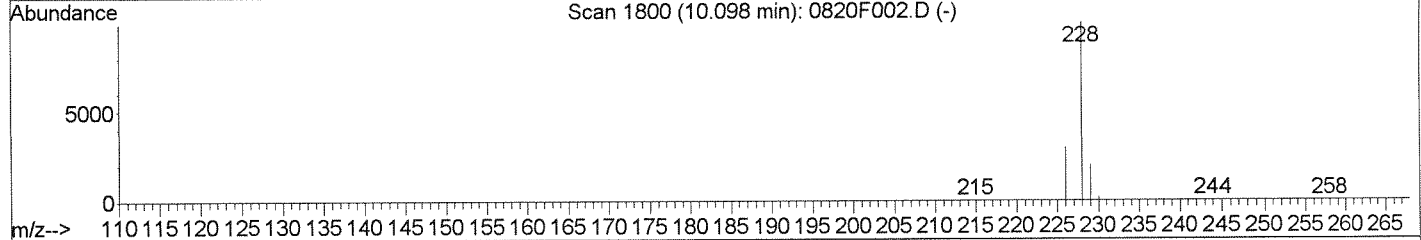
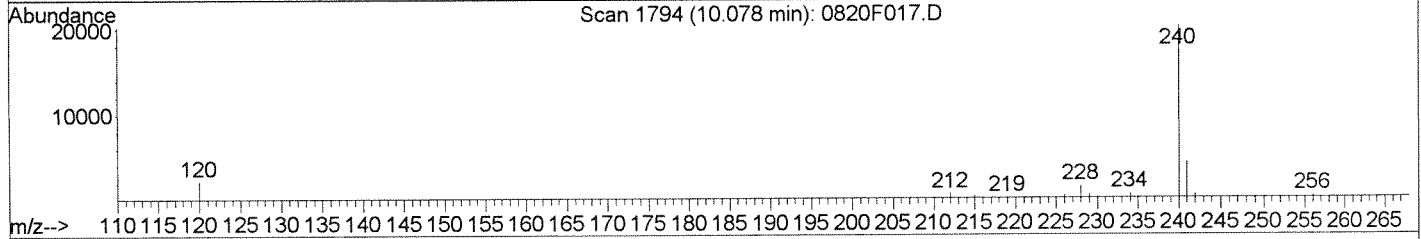
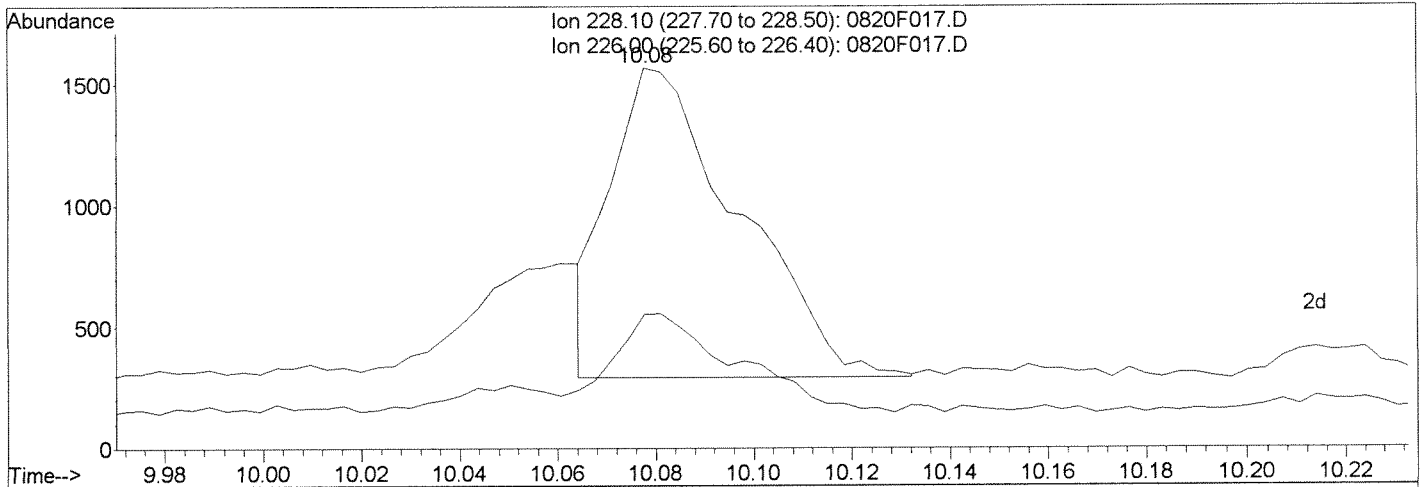
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(26) Chrysene (T)		
10.08min	2.83ng/ml	m
response	2331	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	35.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*du*  
*LB*

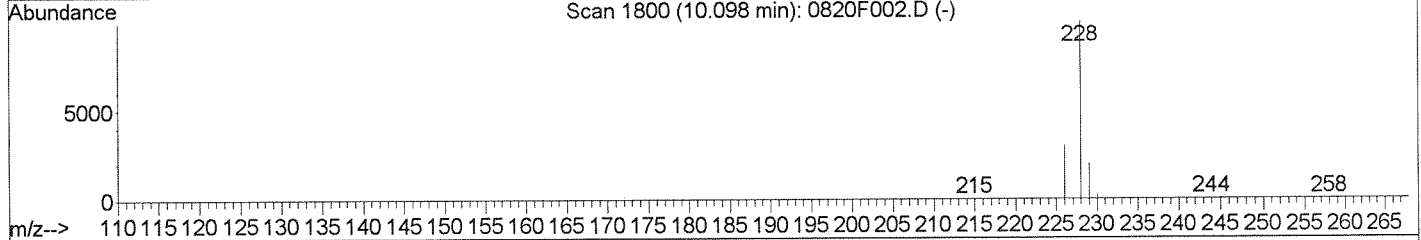
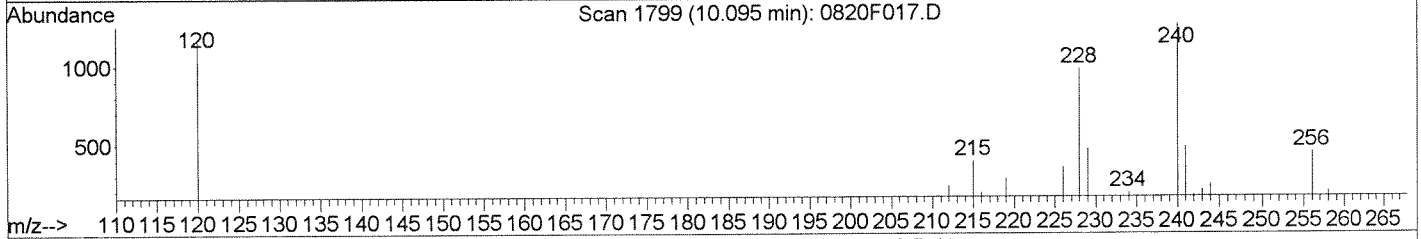
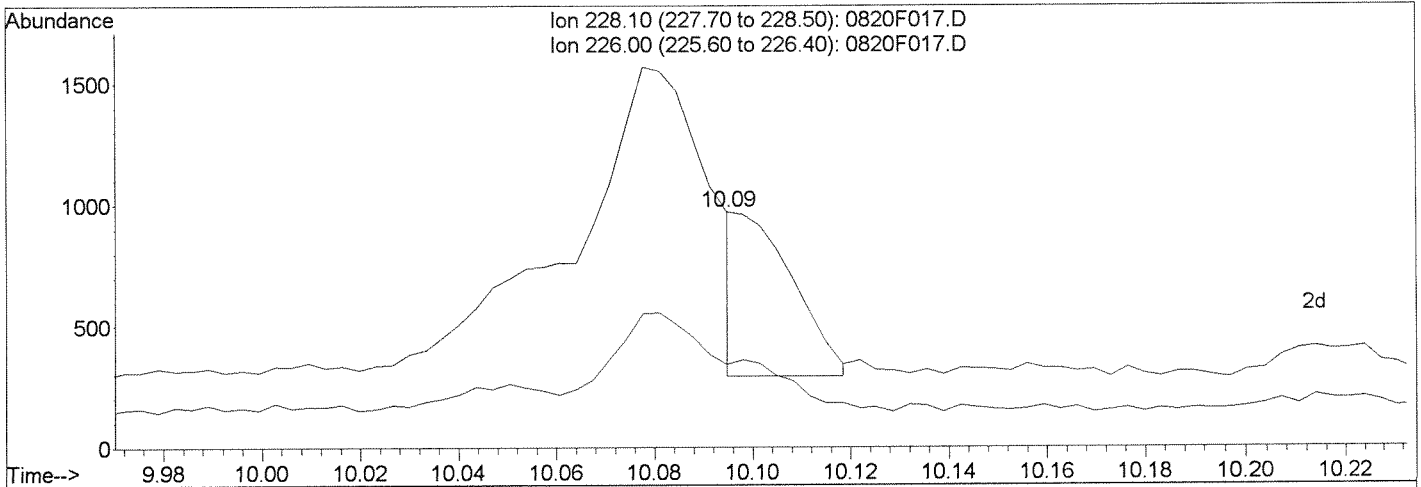
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F017.D  
 Acq On : 20 Aug 2014 4:41 pm  
 Sample : K1407971-009  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 12:08 2014

Vial: 17  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F017.D

(26) Chrysene (T)		
10.09min	0.66ng/ml	m
response	546	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	35.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*de*  
*4B*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F018.D  
**Lab ID:** K1407971-010  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 17:06  
**Date Quantitated:** 08/21/2014 09:36  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: *CA* AUG 21 2014  
 Secondary Review: *LB* AUG 21 2014



## Quantitation Report

<b>Data File:</b>	J:\MS14\DATA\082014\0820F018.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 17:06	<b>Quant Date:</b>	08/21/2014 12:13
<b>Run Type:</b>	SMPL	<b>Vial:</b>	18
<b>Lab ID:</b>	K1407971-010	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Bottle ID:</b>		<b>Tier:</b>	V	<b>Matrix:</b>	ANIMAL TISSUE
<b>Prod Code:</b>	8270D PAH SIM	<b>Collect Date:</b>	07/25/2014	<b>Receive Date:</b>	07/30/2014

<b>Analysis Lot:</b>	KWG1411816	<b>Prep Lot:</b>	KWG1411415	<b>Report Group:</b>	K1407971
<b>Analysis Method:</b>	8270D SIM	<b>Prep Method:</b>	EPA 3541		
<b>Prep Ref:</b>	1365435	<b>Prep Date:</b>	08/12/2014		

<b>Quant Method:</b>	J:\MS14\METHODS\SIM072214SIMPAH	<b>Calibration ID:</b>	CAL13446
<b>Title:</b>	Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b>	LJ15942
<b>Tune Ref:</b>	J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b>	MJ1238
<b>MB Ref:</b>	J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>	

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	133740	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	72047	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	138435	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149805	200.00	OK
5	Perylene-d12	13.17	0.02	264	156921	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	77787	183.02	92	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	138629	177.83	89	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	116700	173.19	87	39-111	OK

### Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	845	1.19	9.9	U	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	444	0.9000	7.9	U	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	321	0.7400	7.3	U	
2	Acenaphthylene				152	0d		3.1	U	
2	Acenaphthene	6.32	0.01	0.00	154	940	2.24	15	J	
2	Fluorene	6.75		0.00	166	652	1.24	8.1	J	
3	Phenanthrene	7.55		0.00	178	1814m	2.37	16	J	
3	Anthracene	7.59		0.00	178	173	0.2300	2.5	U	
3	Fluoranthene	8.54	0.01	0.00	202	8147	9.15	60		
4	Pyrene	8.73		0.00	202	8590	8.31	54		
4	Benz(a)anthracene	10.05	0.01	0.00	228	478m	0.5200	3.4	J	
4	Chrysene	10.10		0.00	228	675m	0.8300	5.4	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F018.D  
 Acqu Date: 08/20/2014 17:06  
 Run Type: SMPL  
 Lab ID: K1407971-010

Quant Date: 08/21/2014 12:13

Instrument: MS14  
 Vial: 18  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

						Final Conc. Units:	ug/Kg Dry Weight			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	750	0.7800	5.1	J	
5	Benzo(k)fluoranthene	12.18		0.00	252	471m	0.4900	3.8	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2602m	2.81	19	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.3	U	
5	Dibenz(a,h)anthracene				278	0d		5.7	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	251	0.2200	6.3	U	

Prep Amount: 10.042 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: 15.2 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:26 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	133740	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	72047	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	138435	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149805	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	156921	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	77787	183.02	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	18.30%	
21) Fluoranthene-d10	8.52	212	138629	177.83	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.78%	
24) Terphenyl-d14	8.87	244	116700	173.19	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.32%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	845	1.19	ng/ml	100
3) 2-Methylnaphthalene	5.36	142	444	0.90	ng/ml	95
4) 1-Methylnaphthalene	5.45	142	321	0.74	ng/ml	98
5) Biphenyl	5.79	154	295m	0.50	ng/ml	
6) 2,6-Dimethylnaphthalene	5.93	156	242	0.55	ng/ml	98
9) Acenaphthene	6.32	154	940	2.24	ng/ml#	57
10) Dibenzofuran	6.46	168	313	0.47	ng/ml	100
11) 2,3,5-Trimethylnaphthalene	6.64	170	351m	0.84	ng/ml	
13) Fluorene	6.75	166	652	1.24	ng/ml	77
15) Dibenzothiophene	7.45	184	247m	0.34	ng/ml	
16) Phenanthrene	7.55	178	1814m	2.37	ng/ml	
17) Anthracene	7.59	178	173	0.23	ng/ml	68
18) Carbazole	7.74	167	409m	0.61	ng/ml	
19) 1-Methylphenanthrene	8.06	192	785	1.30	ng/ml	96
20) Fluoranthene	8.54	202	8147	9.15	ng/ml	96
23) Pyrene	8.73	202	8590	8.31	ng/ml#	1
25) Benz(a)anthracene	10.05	228	478m	0.52	ng/ml	
26) Chrysene	10.08	228	3449m	4.23	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	750	0.78	ng/ml	97
29) Benzo(k)fluoranthene	12.18	252	471m	0.49	ng/ml	
30) Benzo(e)pyrene	12.83	252	903	0.98	ng/ml	93
31) Benzo(a)pyrene	12.96	252	2602m	2.81	ng/ml	
35) Benzo(g,h,i)perylene	15.79	276	251	0.22	ng/ml	95

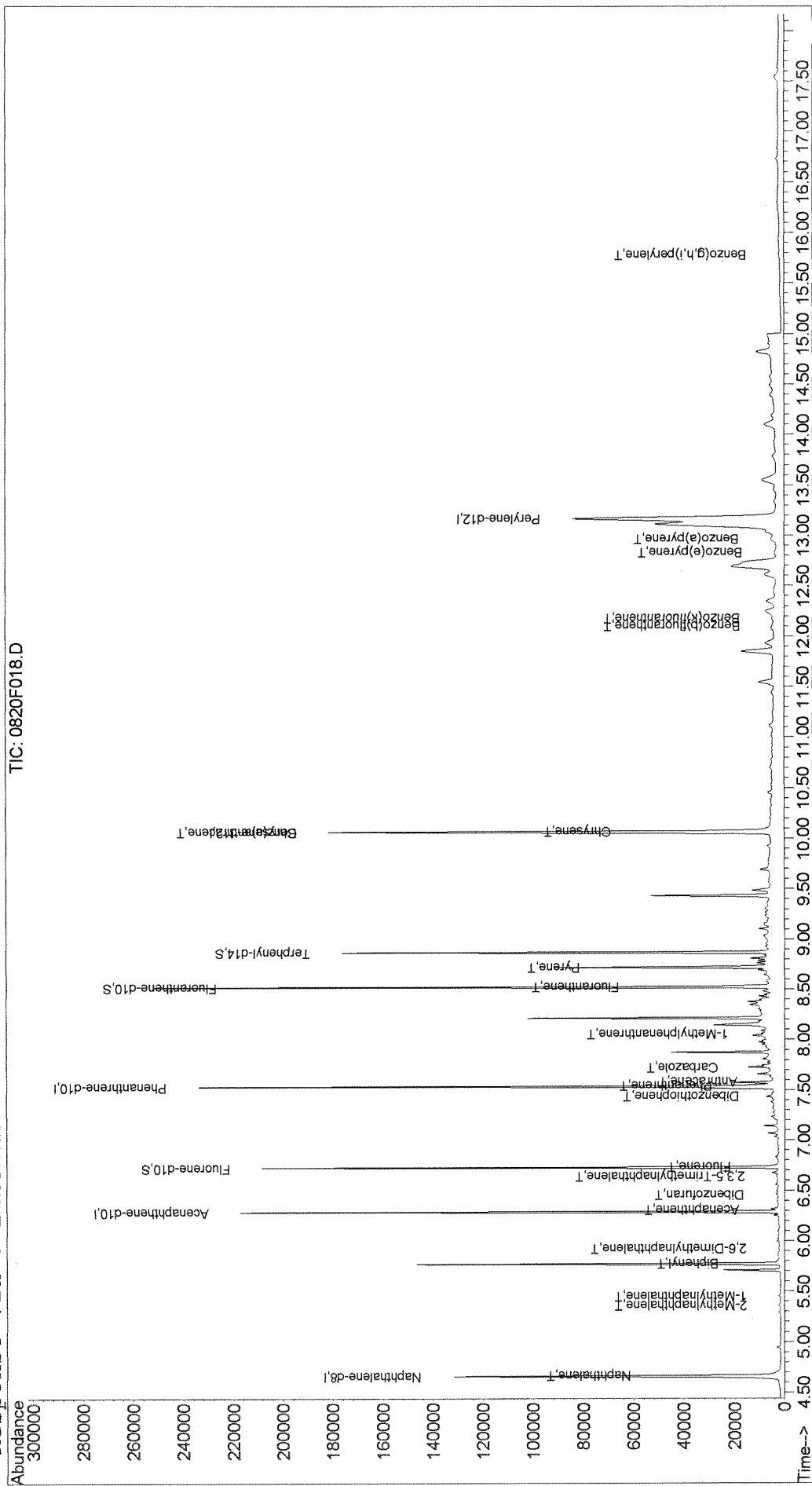
(#) = qualifier out of range (m) = manual integration

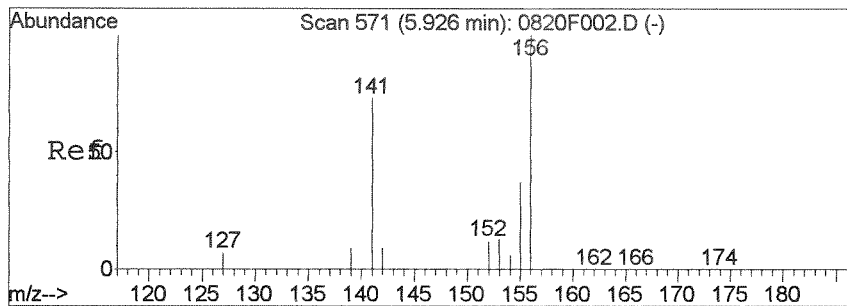
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 18  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

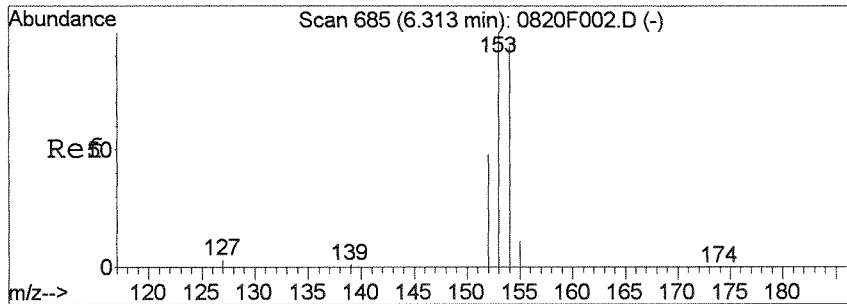
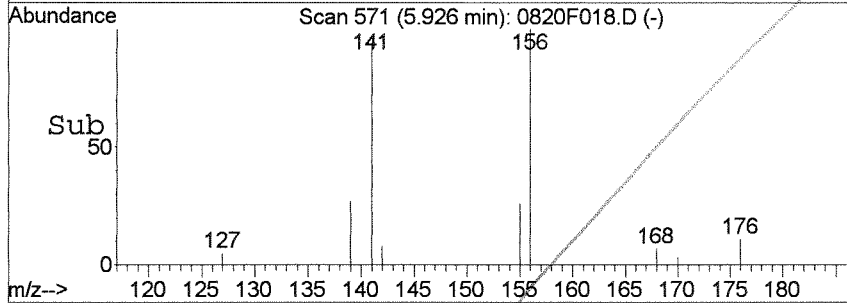
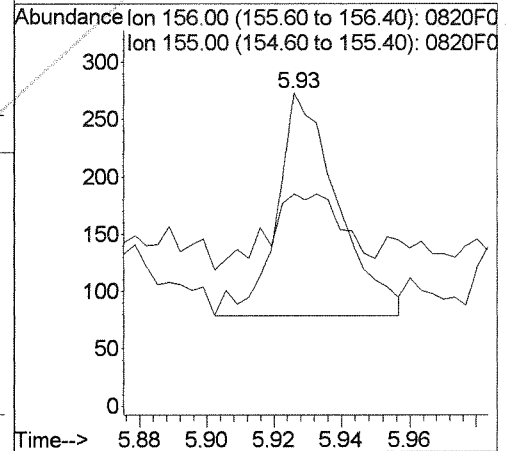
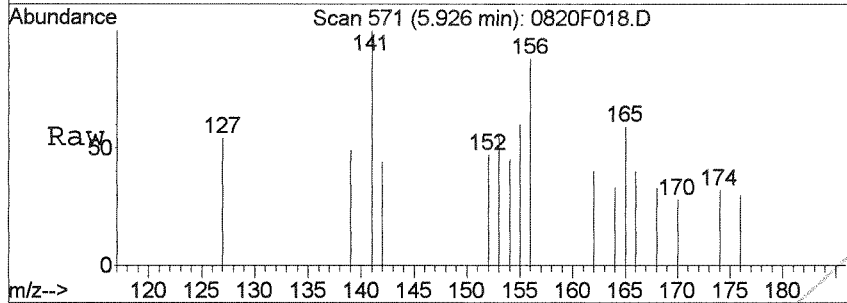
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





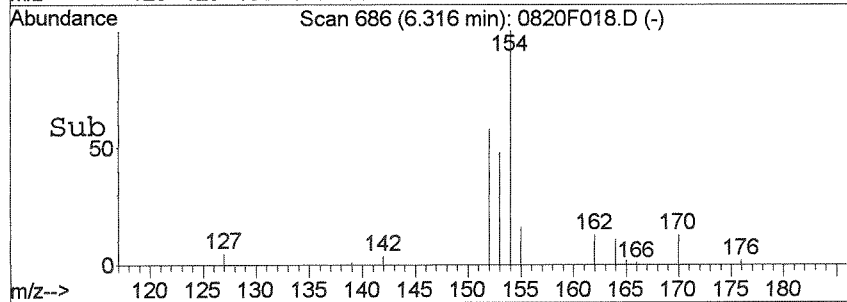
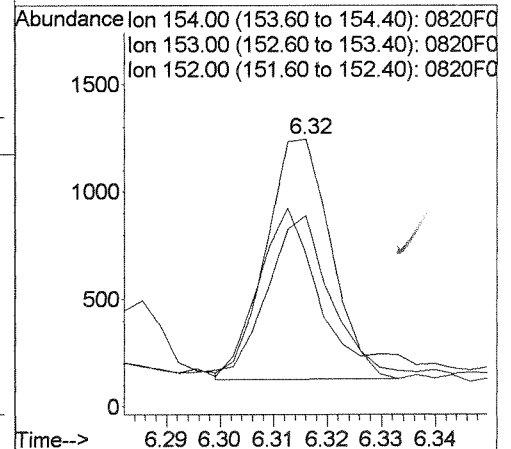
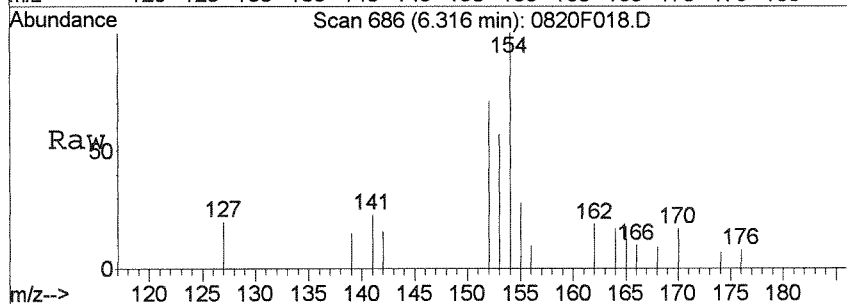
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.55 ng/ml  
 RT: 5.93 min Scan# 571  
 Delta R.T. -0.01 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

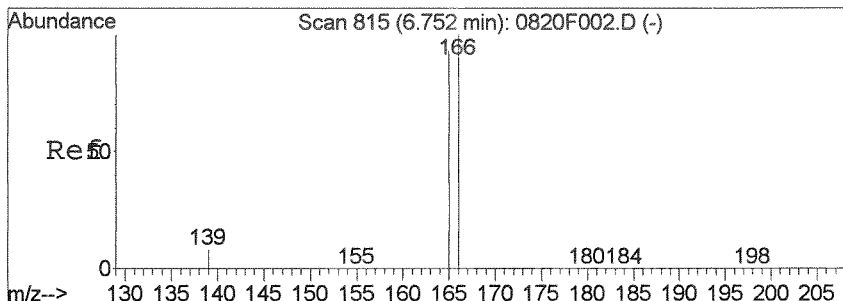
Tgt Ion	Resp	Lower	Upper
156	242		
155	34.0	4.9	64.9



#9  
 Acenaphthene  
 Concen: 2.24 ng/ml  
 RT: 6.32 min Scan# 686  
 Delta R.T. 0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

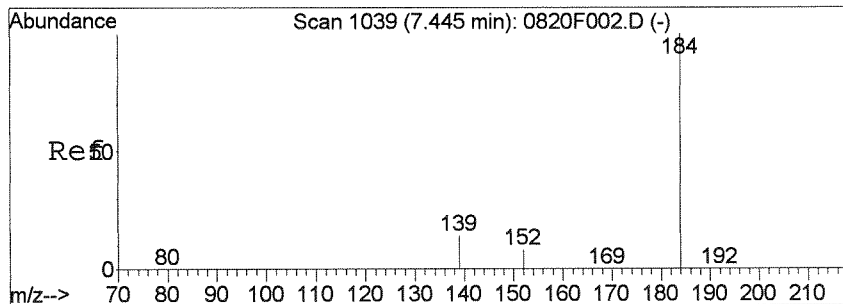
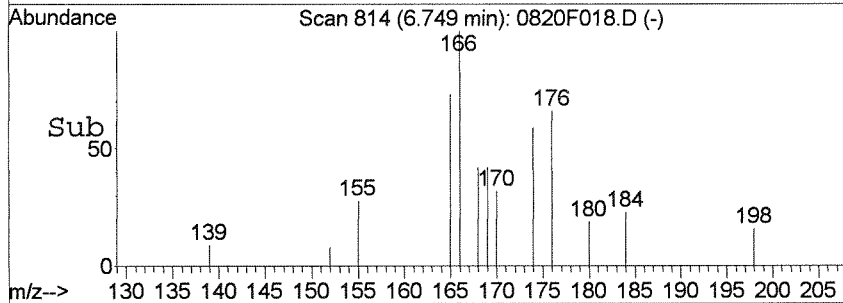
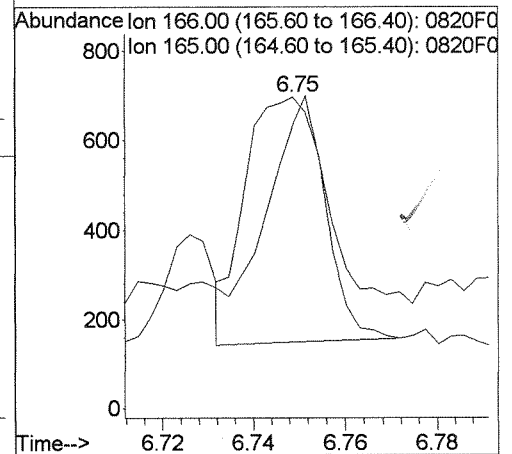
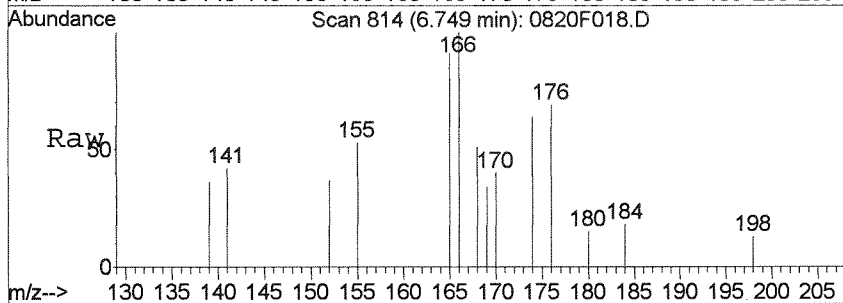
Tgt Ion	Resp	Lower	Upper
154	940		
153	51.0	72.5	132.5#
152	64.8	17.7	77.7





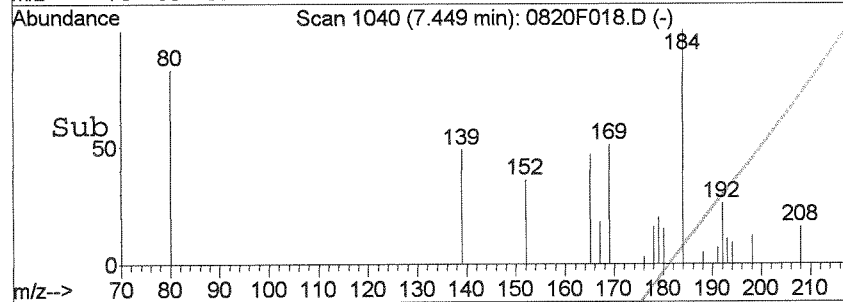
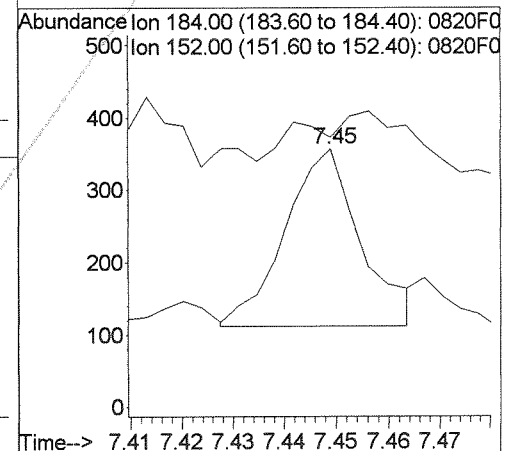
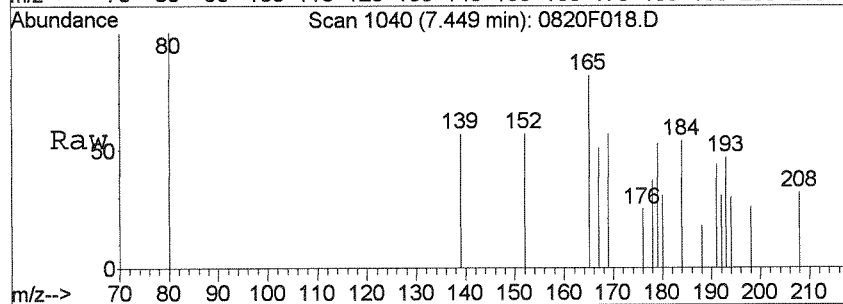
#13  
 Fluorene  
 Concen: 1.24 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

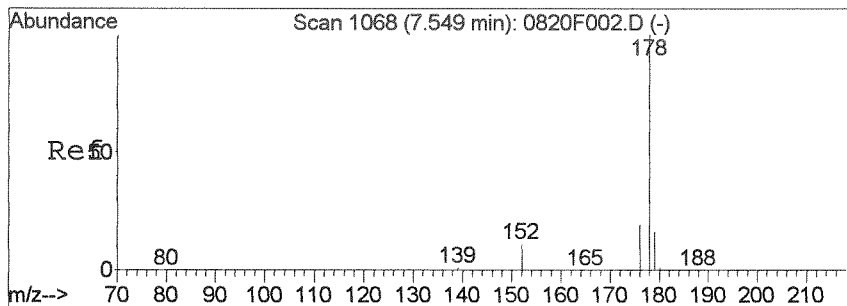
Tgt Ion: 166 Resp: 652  
 Ion Ratio Lower Upper  
 166 100  
 165 69.2 60.9 120.9



#15  
 Dibenzothiophene  
 Concen: 0.34 ng/ml m  
 RT: 7.45 min Scan# 1040  
 Delta R.T. 0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

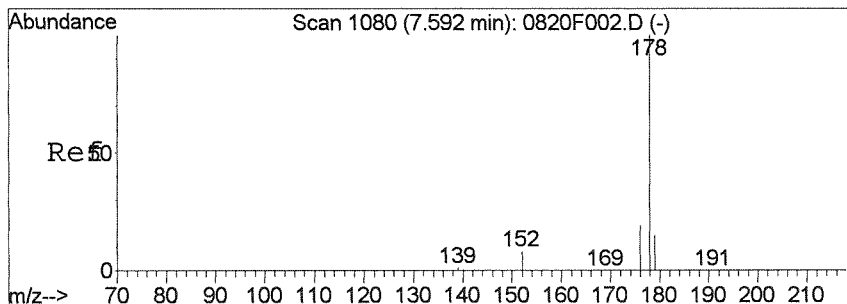
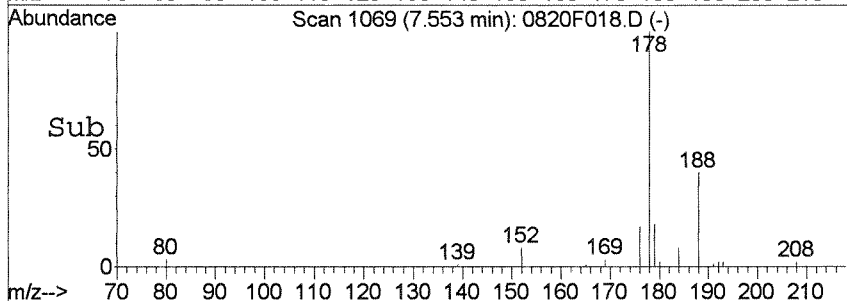
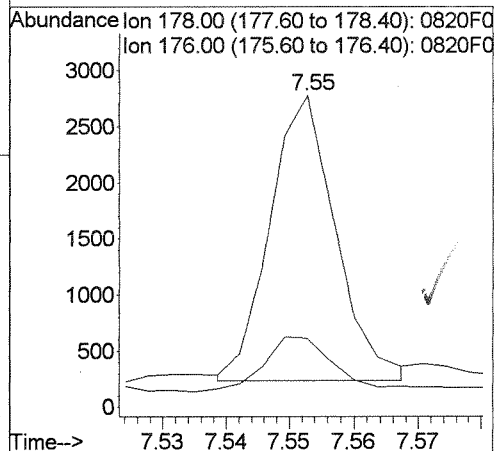
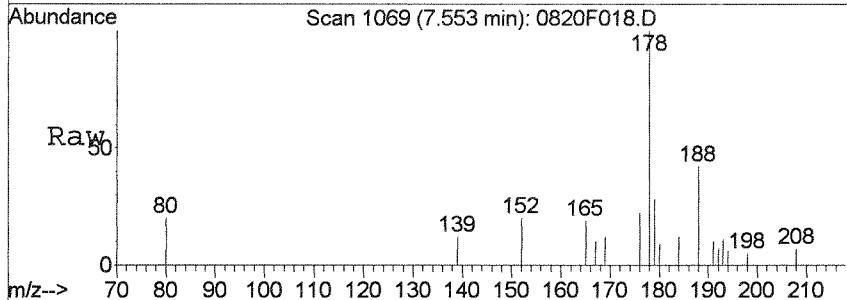
Tgt Ion: 184 Resp: 247  
 Ion Ratio Lower Upper  
 184 100  
 152 104.5 0.0 39.9#





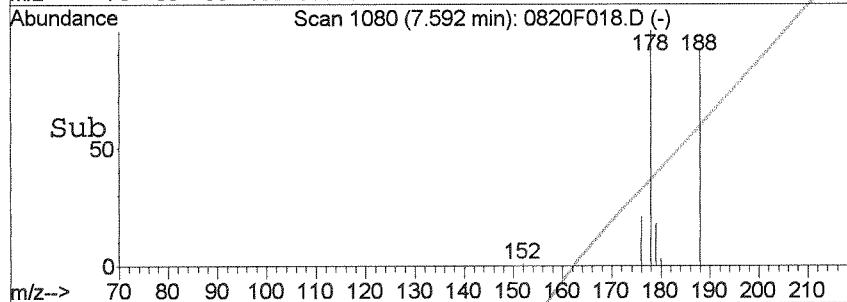
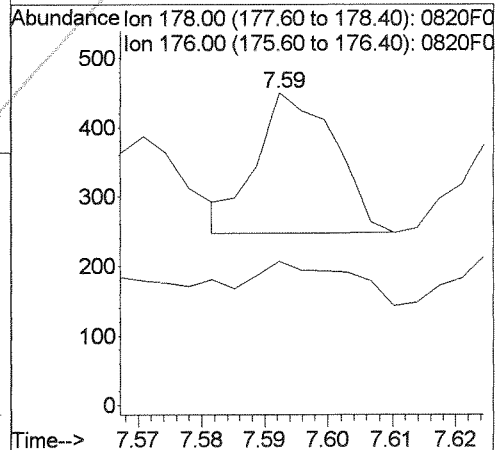
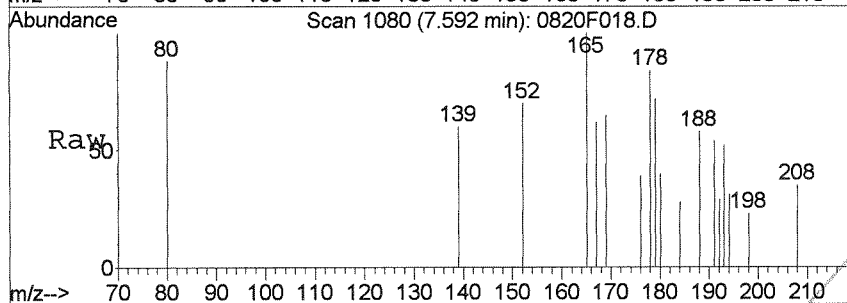
#16  
 Phenanthrene  
 Concen: 2.37 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion	Resp	Lower	Upper
178	1814	100	
176	22.0	0.0	48.9

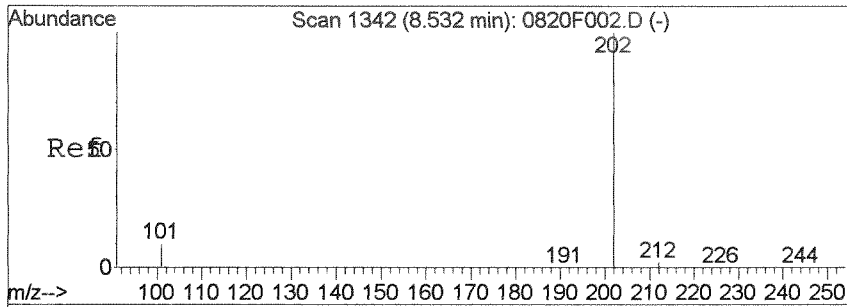


#17  
 Anthracene  
 Concen: 0.23 ng/ml  
 RT: 7.59 min Scan# 1080  
 Delta R.T. -0.01 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion	Resp	Lower	Upper
178	173	100	
176	31.7	0.0	47.7

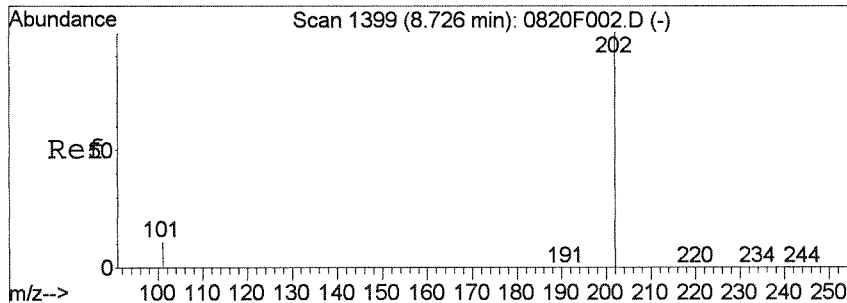
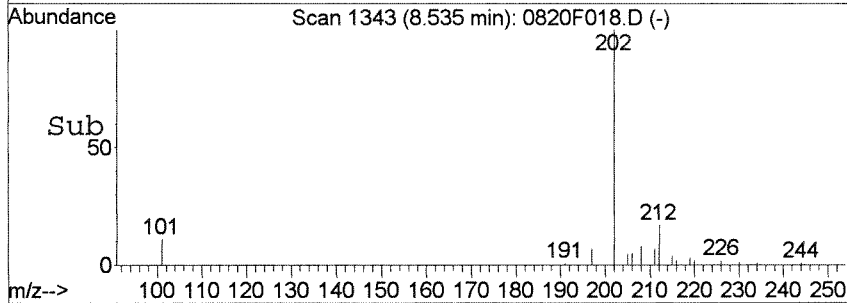
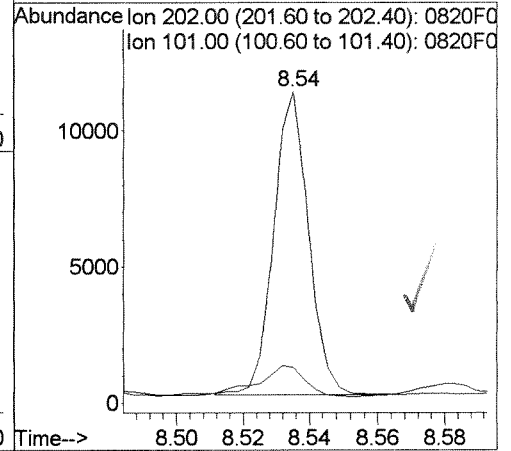
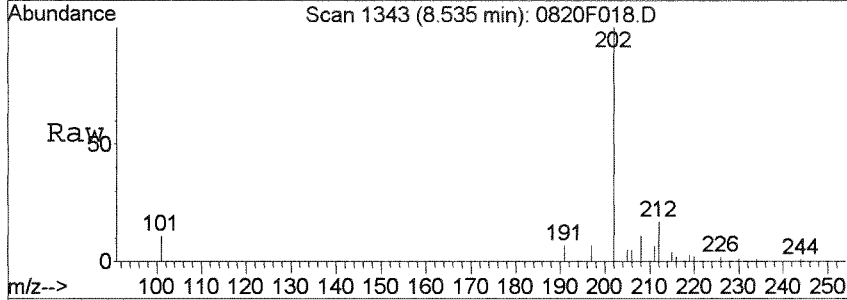


NT



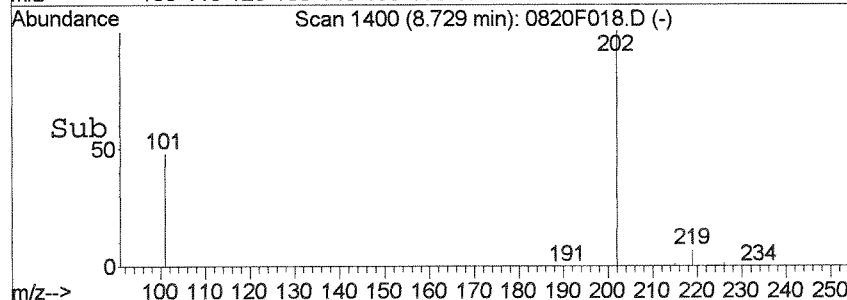
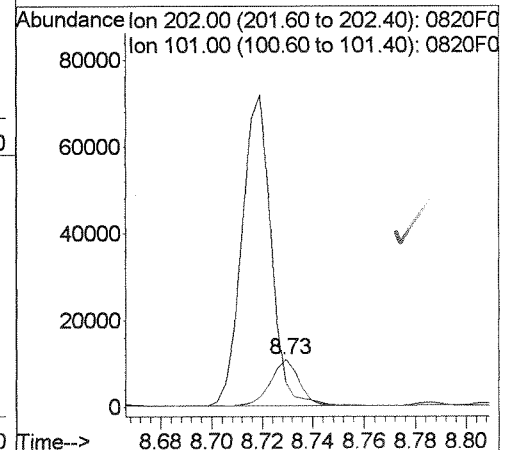
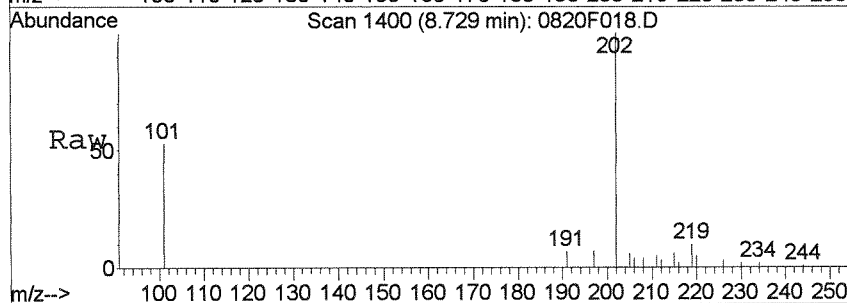
#20  
 Fluoranthene  
 Concen: 9.15 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion	Ratio	Lower	Upper
202	100		
101	8.5	0.0	37.0

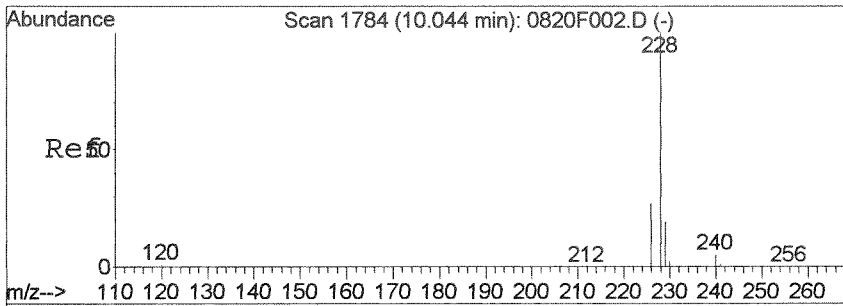


#23  
 Pyrene  
 Concen: 8.31 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion	Ratio	Lower	Upper
202	100		
101	51.2	0.0	38.3#

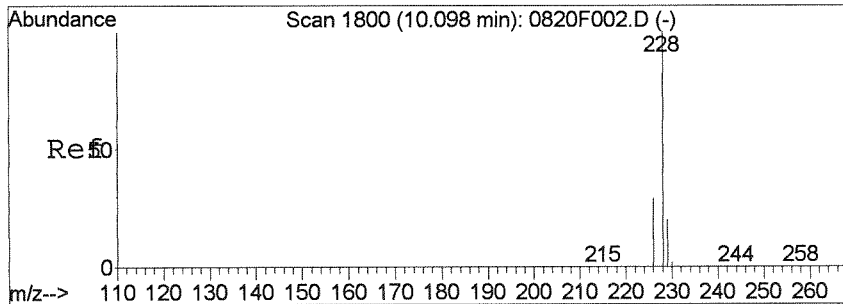
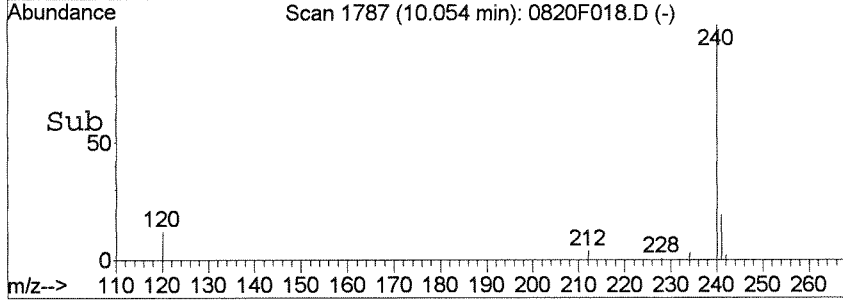
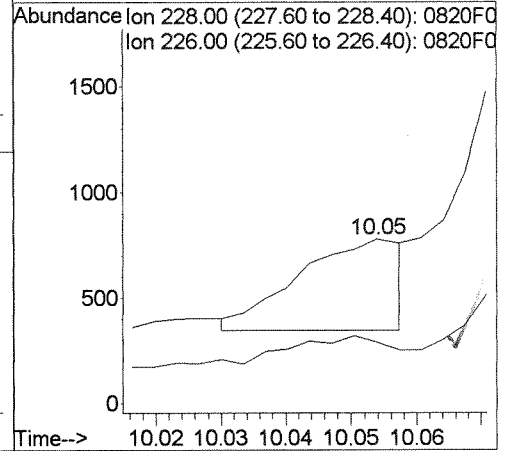
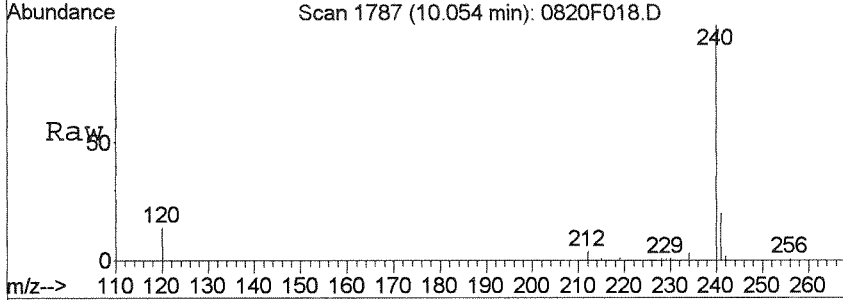






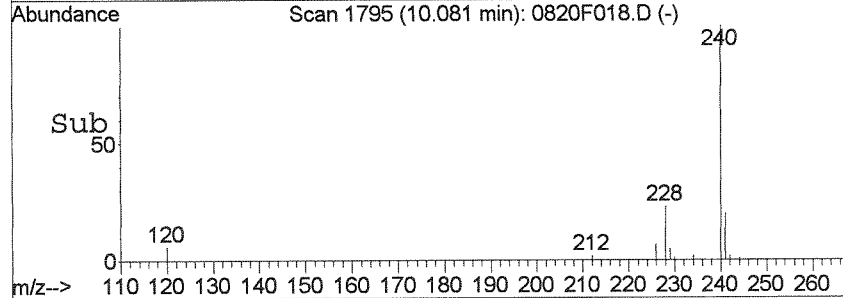
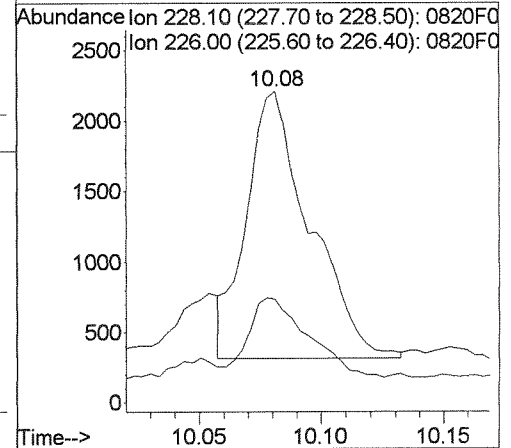
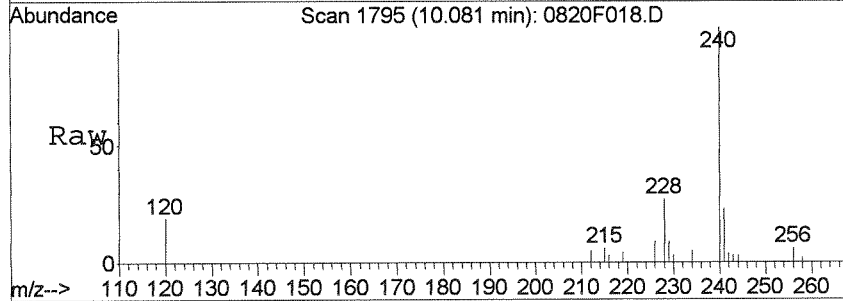
#25  
Benz (a) anthracene  
Concen: 0.52 ng/ml m  
RT: 10.05 min Scan# 1787  
Delta R.T. 0.00 min  
Lab File: 0820F018.D  
Acq: 20 Aug 2014 5:06 pm

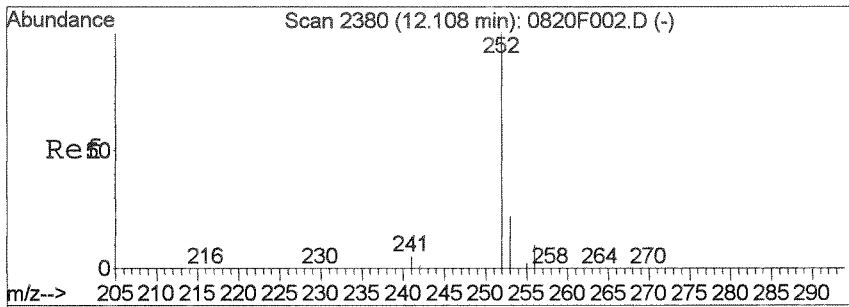
Tgt Ion	Resp	Lower	Upper
228	478	100	
226	37.2	0.0	56.4



#26 *See man. intg*  
Chrysene  
Concen: 4.23 ng/ml m  
RT: 10.08 min Scan# 1795  
Delta R.T. -0.02 min  
Lab File: 0820F018.D  
Acq: 20 Aug 2014 5:06 pm

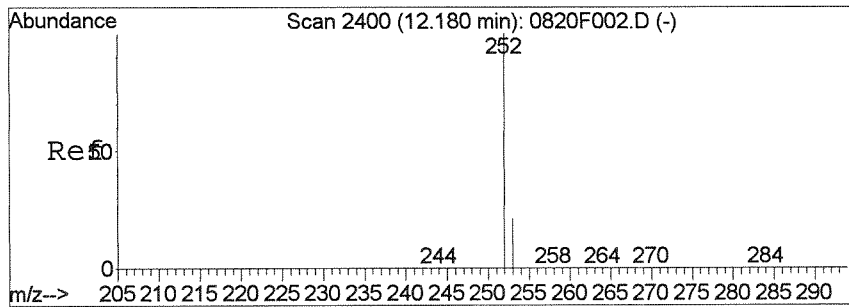
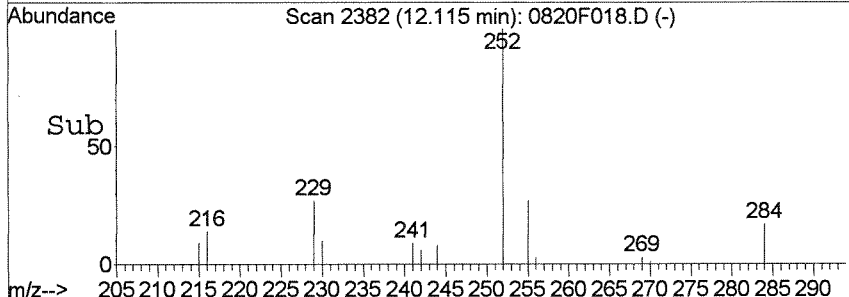
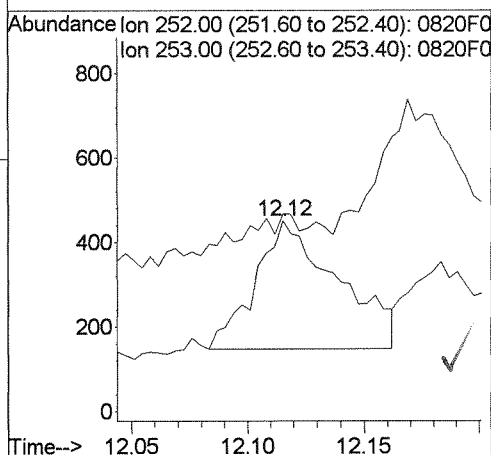
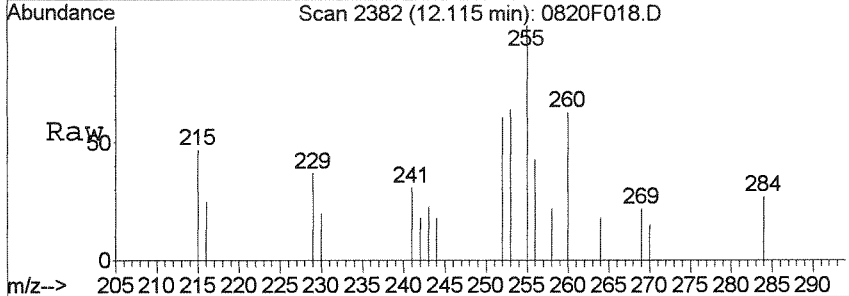
Tgt Ion	Resp	Lower	Upper
228	3449	100	
226	33.3	0.0	58.6





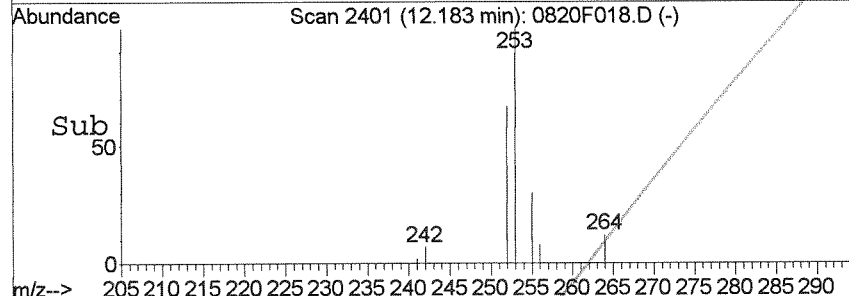
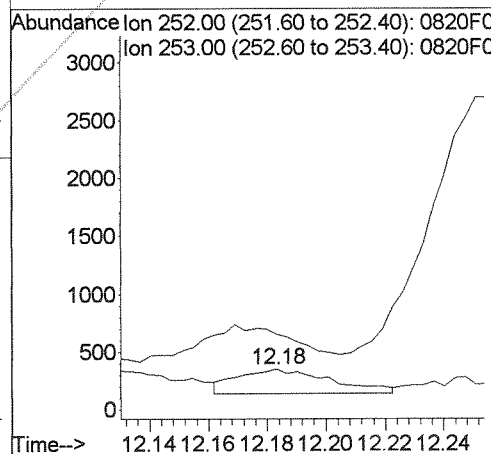
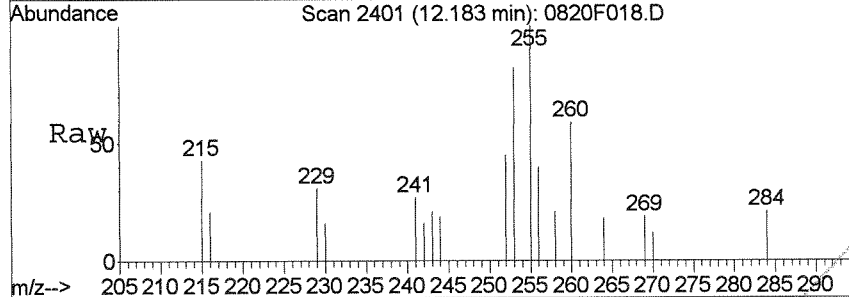
#28  
 Benzo (b) fluoranthene  
 Concen: 0.78 ng/ml  
 RT: 12.12 min Scan# 2382  
 Delta R.T. -0.00 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

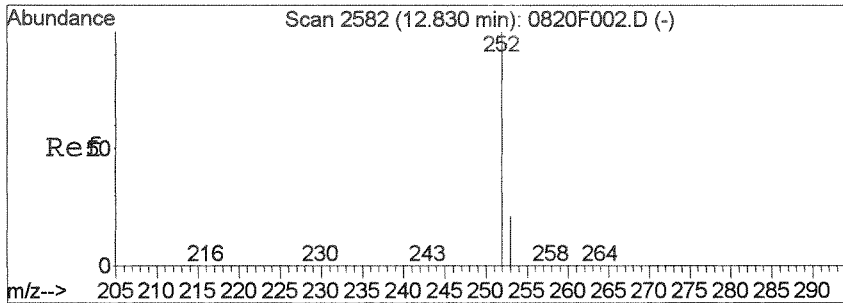
Tgt Ion	Resp	Lower	Upper
252	750	100	
253	23.4	0.0	52.1



#29  
 Benzo (k) fluoranthene *<MDC*  
 Concen: 0.49 ng/ml m  
 RT: 12.18 min Scan# 2401  
 Delta R.T. -0.01 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

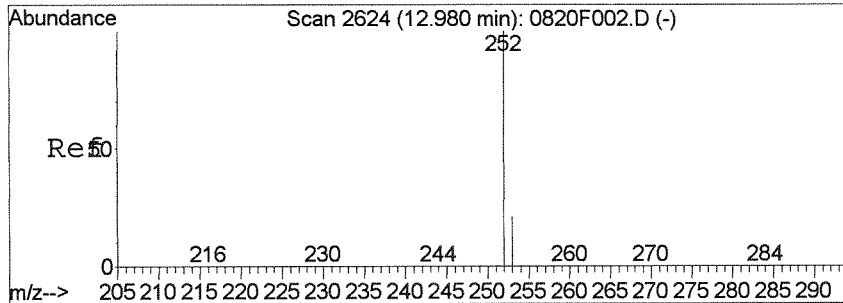
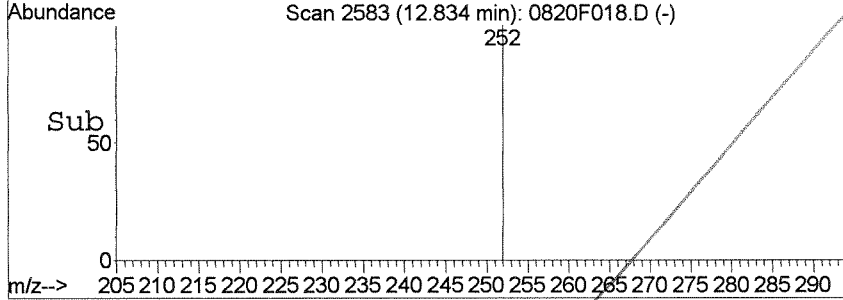
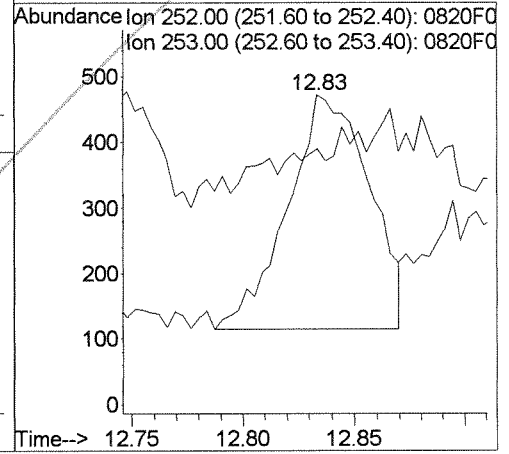
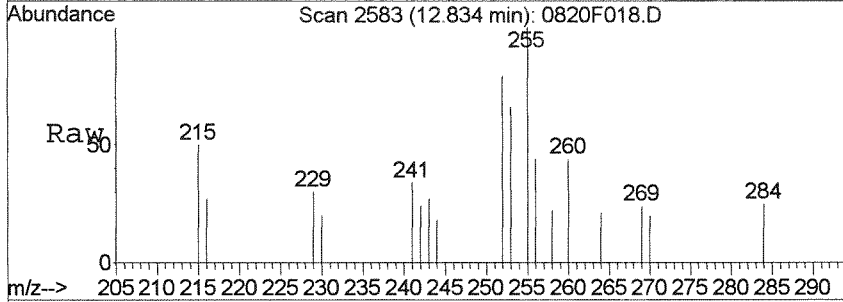
Tgt Ion	Resp	Lower	Upper
252	471	100	
253	184.7	0.0	52.1#





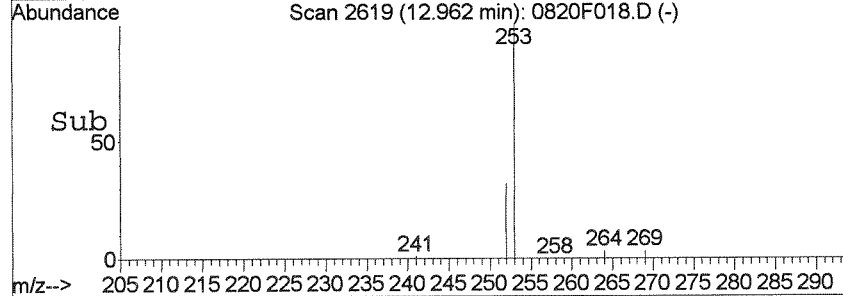
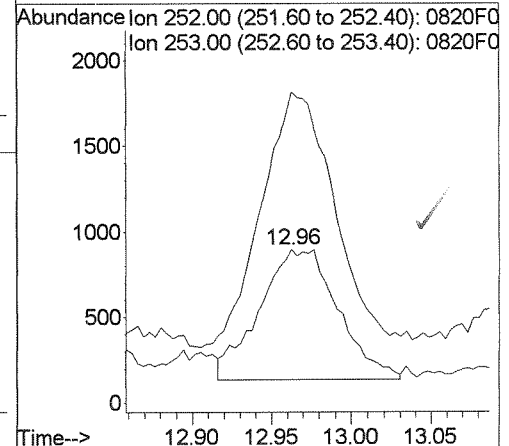
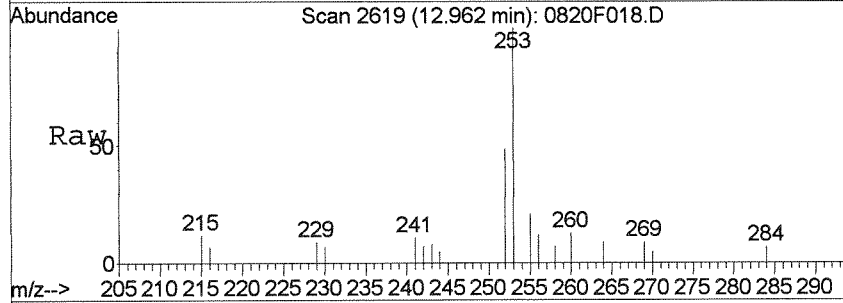
#30  
 Benzo (e) pyrene  
 Concen: 0.98 ng/ml  
 RT: 12.83 min Scan# 2583  
 Delta R.T. -0.01 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion: 252 Resp: 903  
 Ion Ratio Lower Upper  
 252 100  
 253 17.9 0.0 51.4



#31  
 Benzo (a) pyrene  
 Concen: 2.81 ng/ml m  
 RT: 12.96 min Scan# 2619  
 Delta R.T. -0.03 min  
 Lab File: 0820F018.D  
 Acq: 20 Aug 2014 5:06 pm

Tgt Ion: 252 Resp: 2602  
 Ion Ratio Lower Upper  
 252 100  
 253 202.2 0.0 52.2#



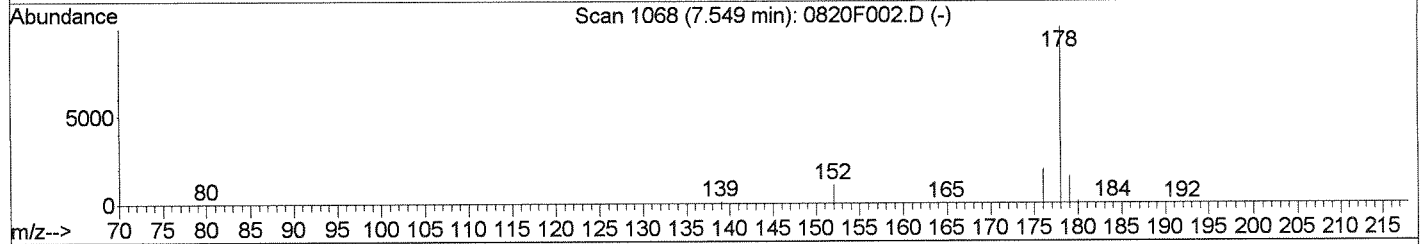
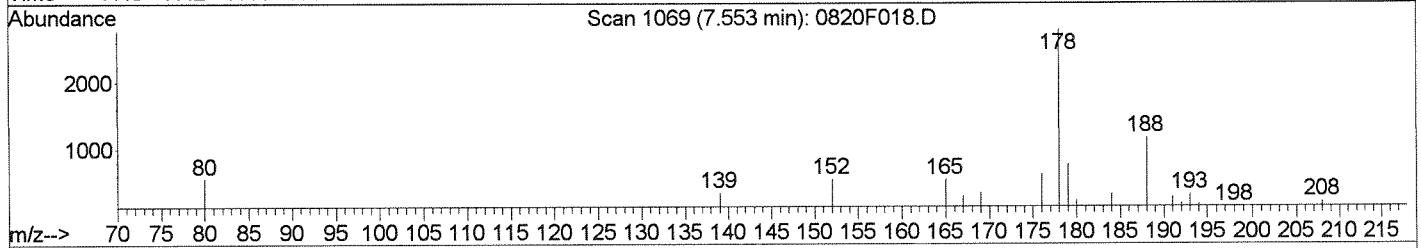
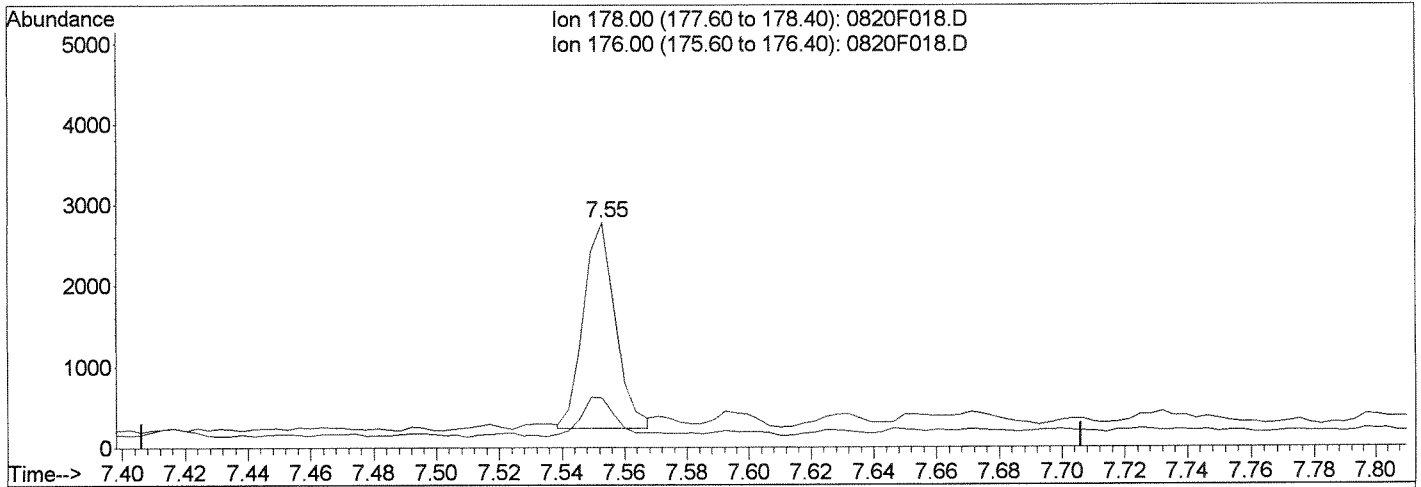
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(16) Phenanthrene (T)

7.55min 2.37ng/ml m

response 1814

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	22.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

*4B*

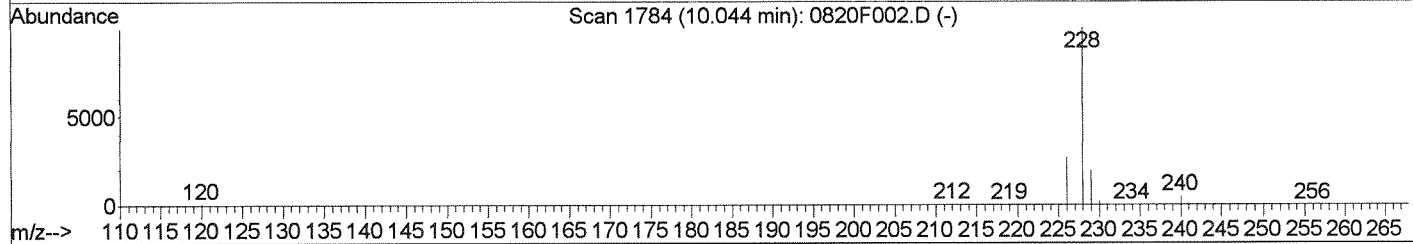
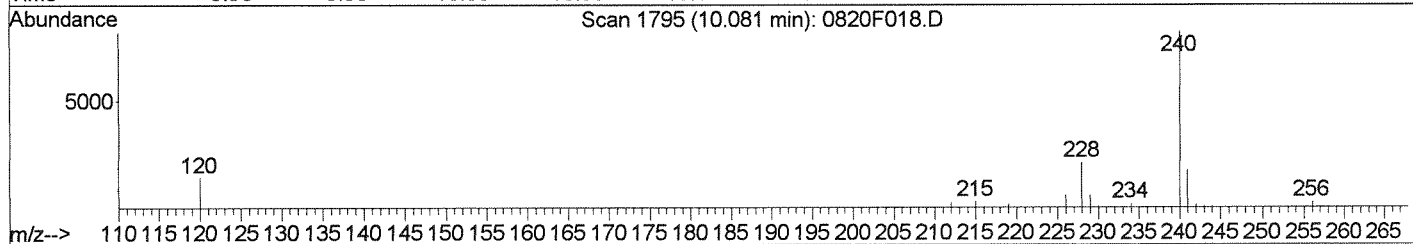
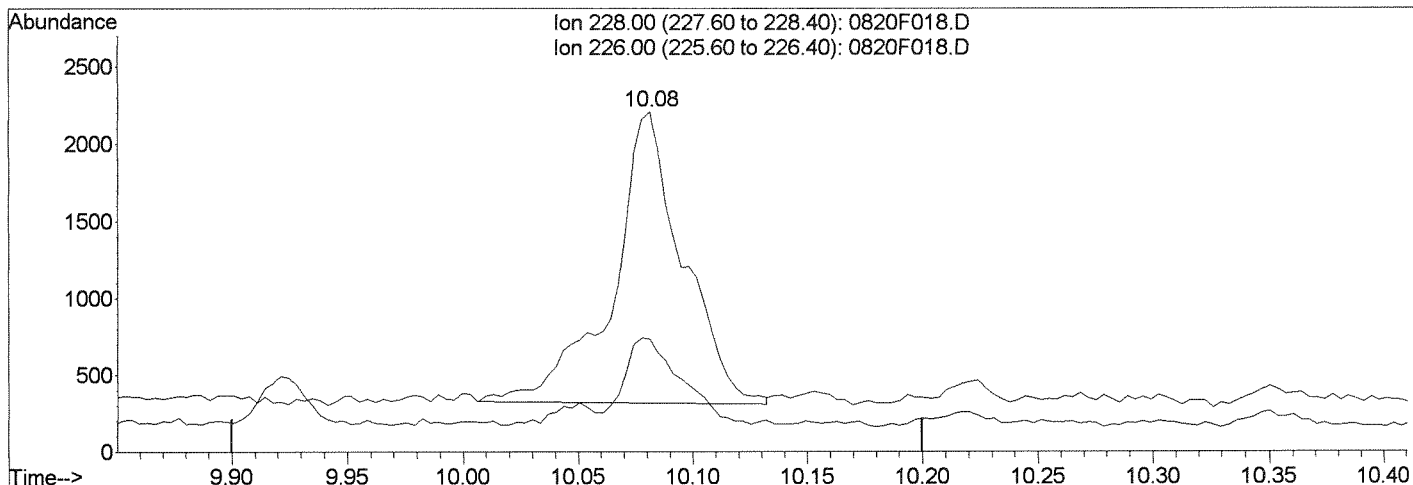
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:26 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(25) Benz(a)anthracene (T)

10.08min 4.41ng/ml  
 response 4050

Ion	Exp%	Act%
228.00	100	100
226.00	26.40	28.76
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*

*LKB*

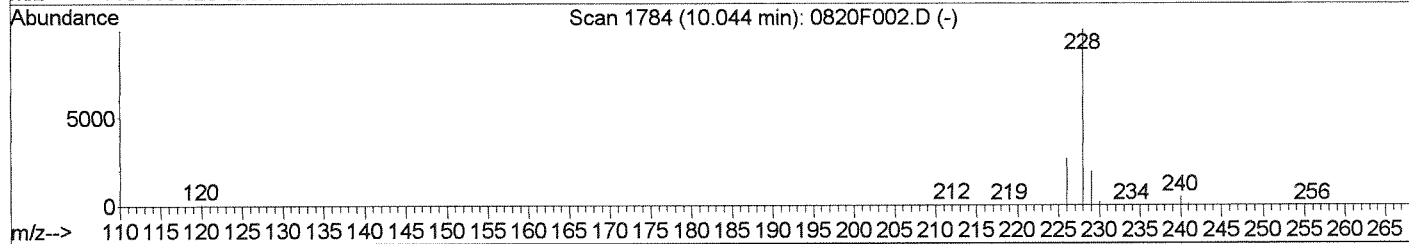
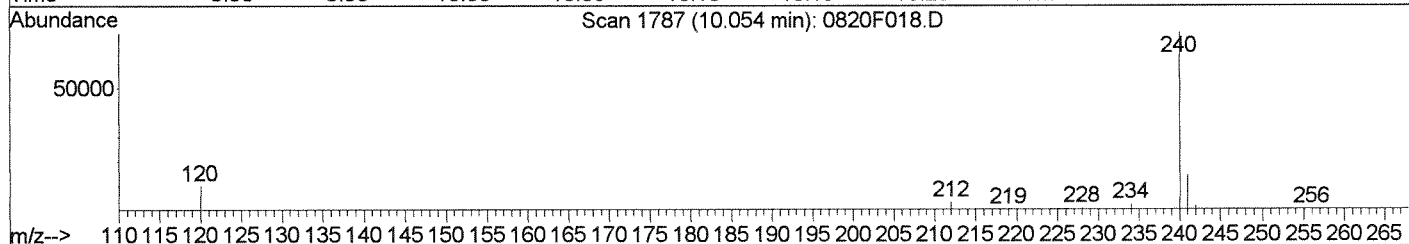
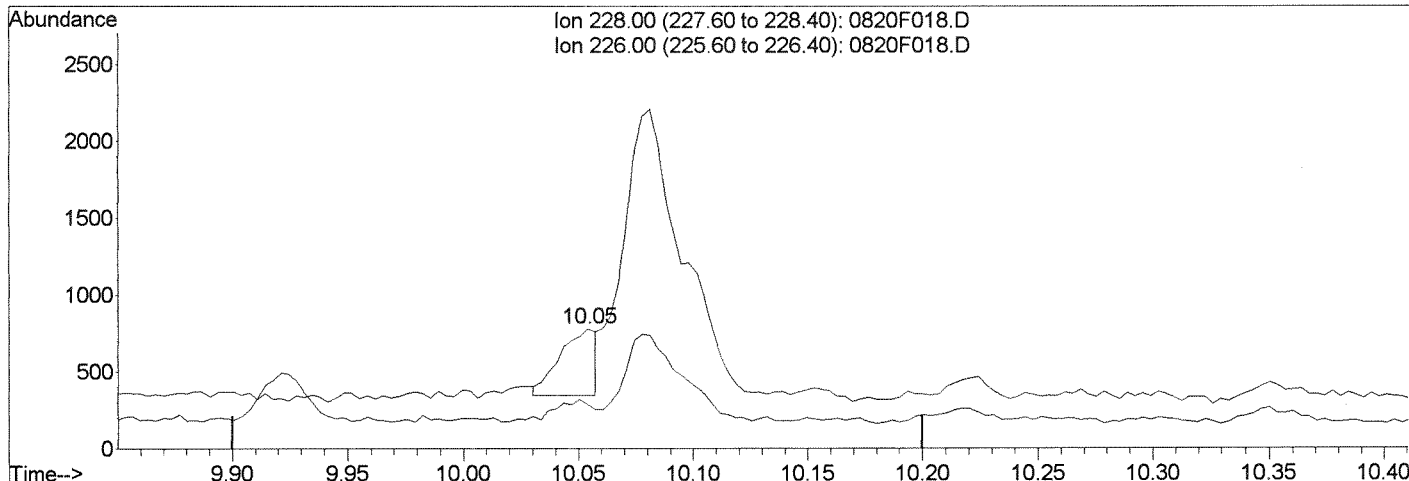
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:26 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(25) Benz(a)anthracene (T)		
10.05min	0.52ng/ml	m
response	478	
Ion	Exp%	Act%
228.00	100	100
226.00	26.40	37.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*CA*

*14B*

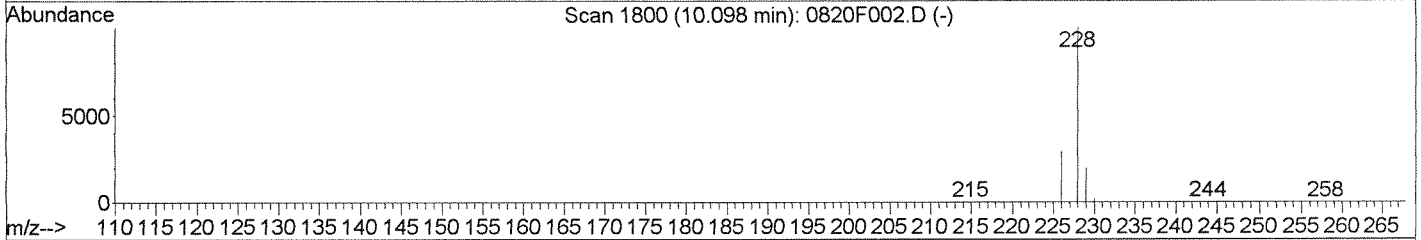
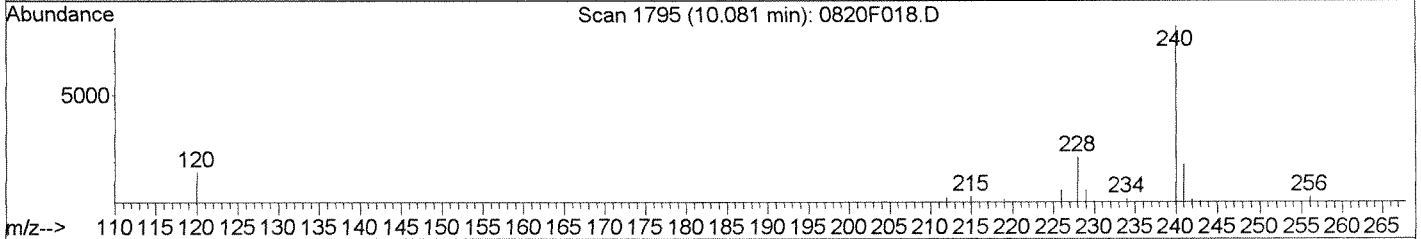
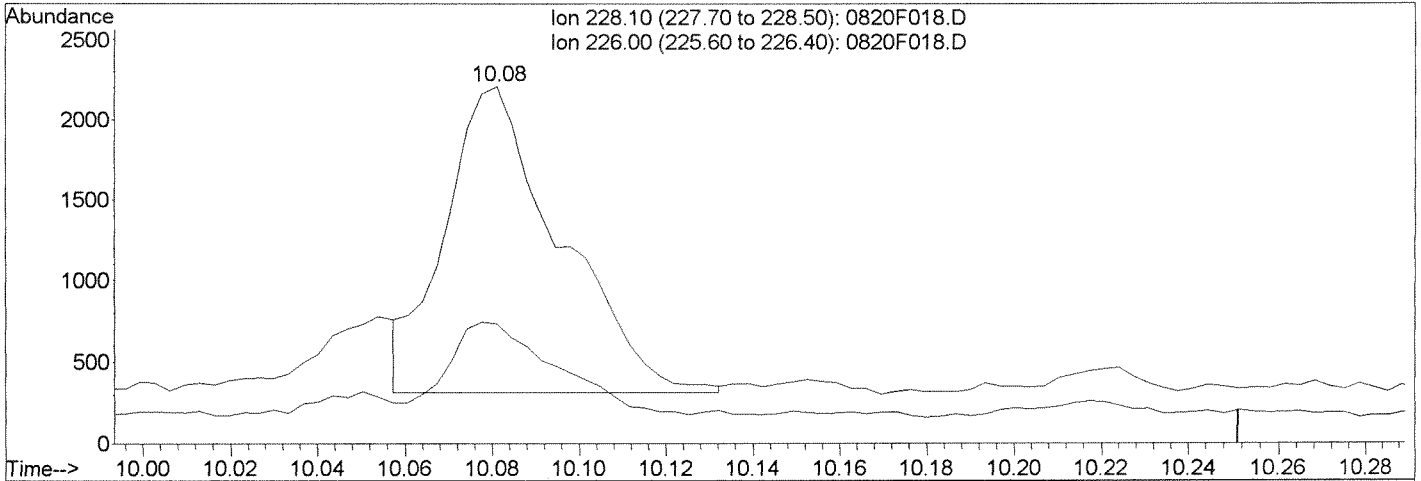
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:36 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(26) Chrysene (T)

10.08min 4.23ng/ml m  
 response 3449

Ion	Exp%	Act%
228.10	100	100
226.00	28.60	33.27
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*  
*LB*

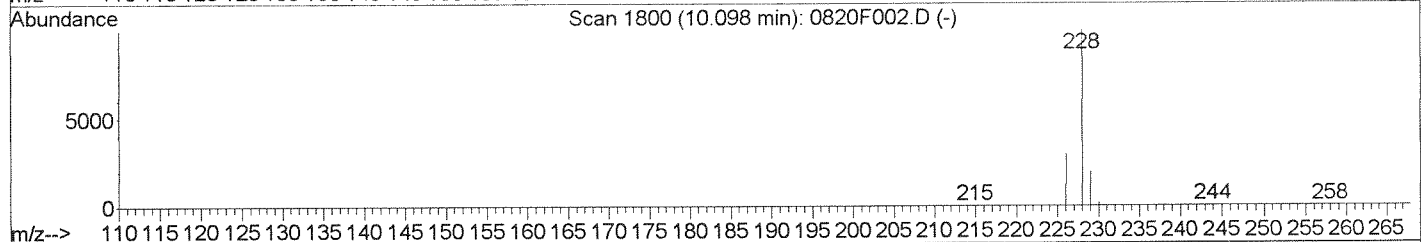
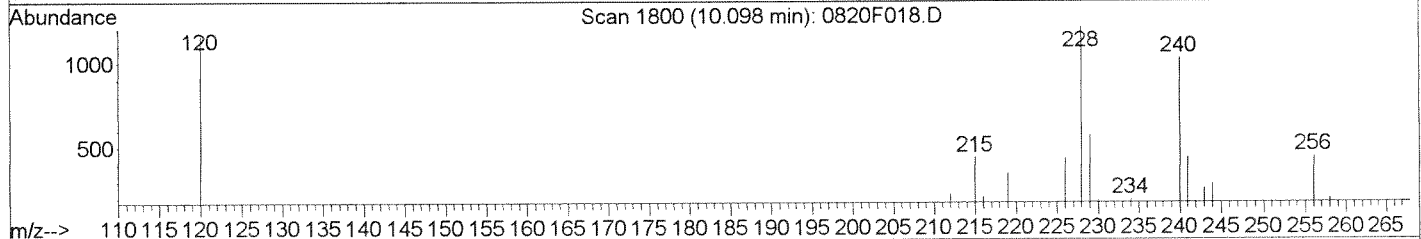
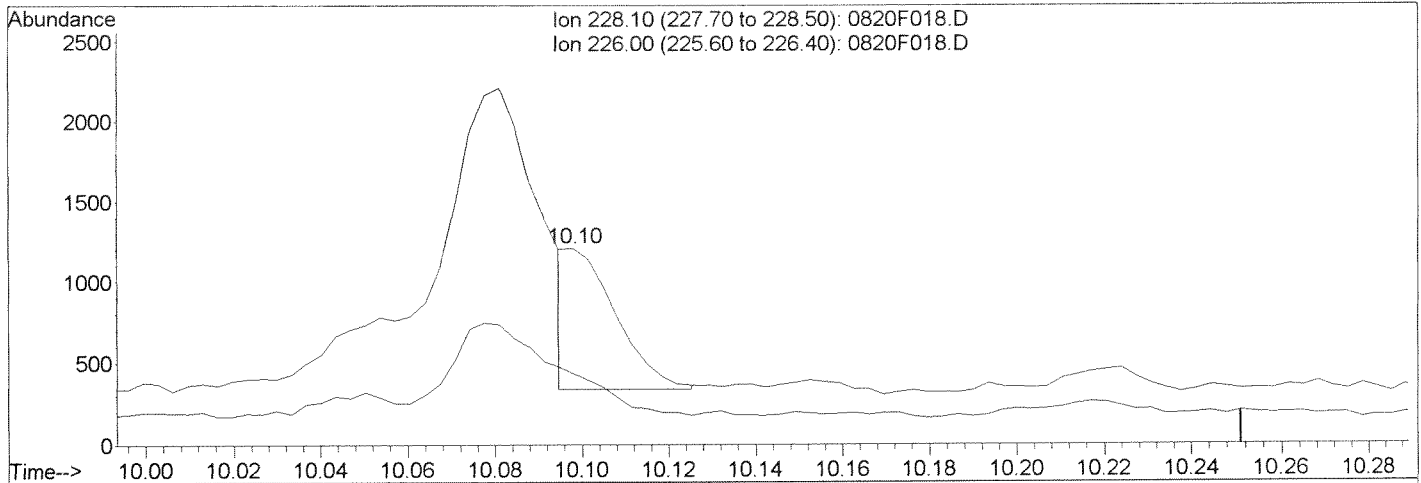
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 12:13 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(26) Chrysene (T)		
10.10min	0.83ng/ml	m
response	675	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	36.01
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*de*  
*LB*



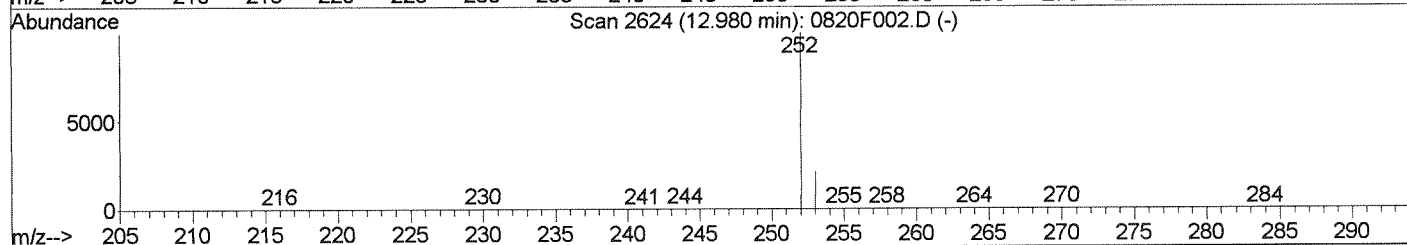
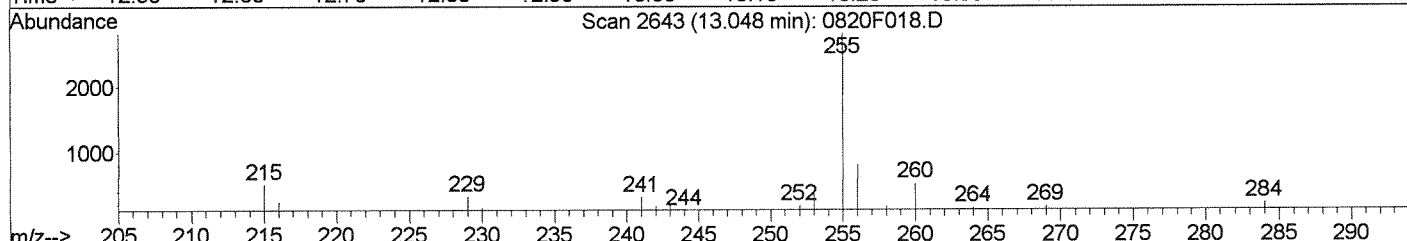
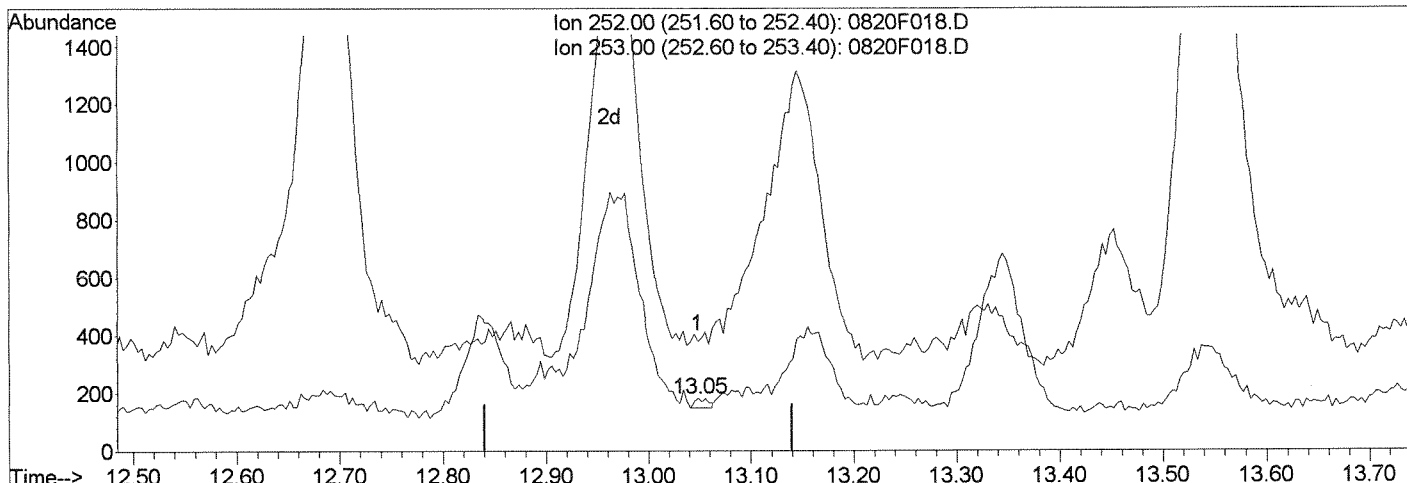
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:27 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

(31) Benzo(a)pyrene (T)

13.05min 0.03ng/ml

response 32

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*LB*

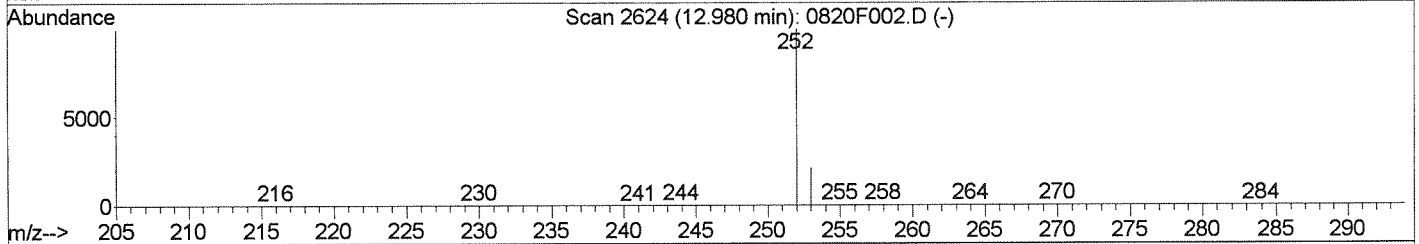
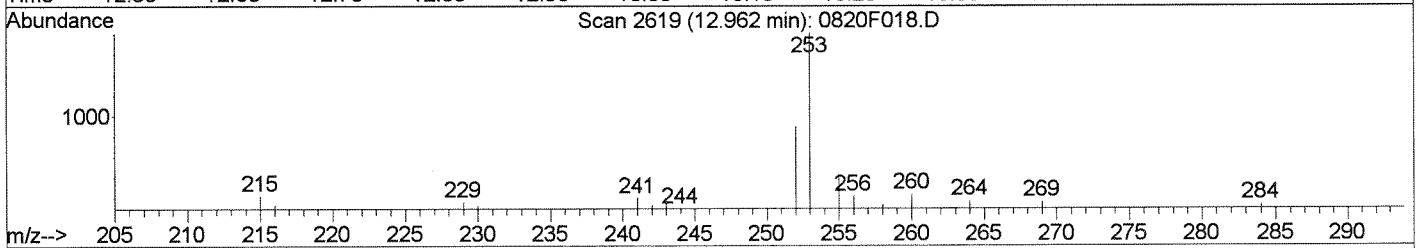
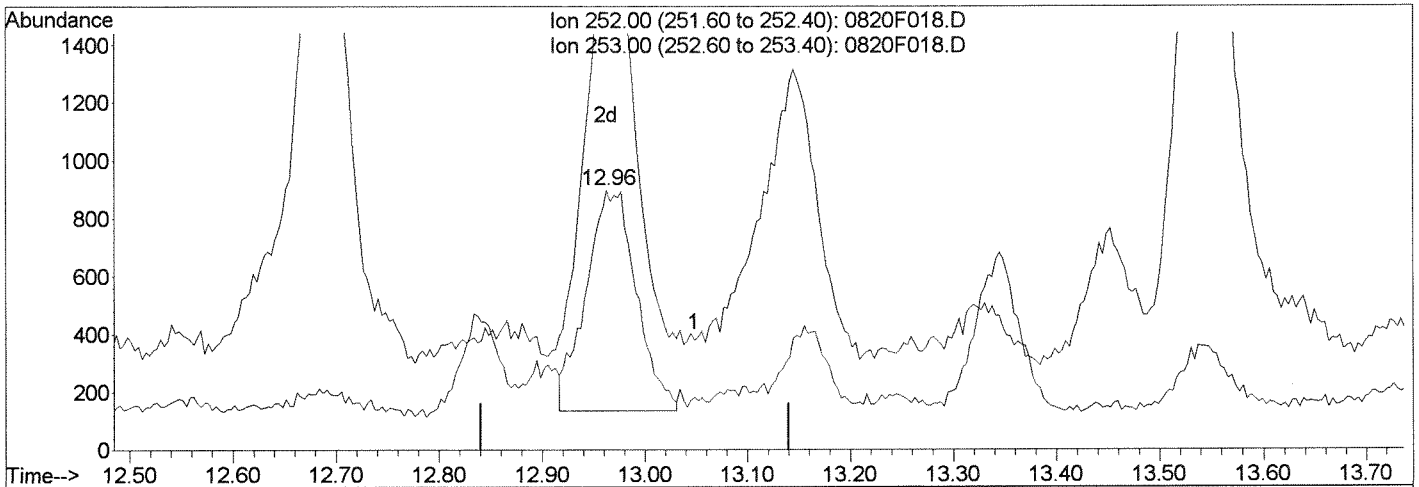
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F018.D  
 Acq On : 20 Aug 2014 5:06 pm  
 Sample : K1407971-010  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:27 2014

Vial: 18  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F018.D

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	202.23#
0.00	0.00	0.00
0.00	0.00	0.00

(31) Benzo(a)pyrene (T)  
 12.96min 2.81ng/ml m  
 response 2602

Manual Integration:  
 After  
 WP  
 08/21/14

*CA*  
*i-matrix*  
*LB*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F019.D  
**Lab ID:** K1407971-011  
**Run Type:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 17:32  
**Date Quantitated:** 08/21/2014 09:37  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CAA AUG 21 2014  
 Secondary Review: LB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F019.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 17:32	<b>Quant Date:</b> 08/21/2014 12:17
<b>Run Type:</b> SMPL	<b>Vial:</b> 19
<b>Lab ID:</b> K1407971-011	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365436	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	134501	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71788	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	138474	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149406	200.00	OK
5	Perylene-d12	13.16	0.01	264	155814	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	73801	174.27	87	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	123629	158.55	79	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	102782	152.94	76	39-111	OK

## Target Compounds

							Final Conc. Units:		ug/Kg Dry Weight	
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	1164	1.63	9.9	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	542	1.09	7.3	U	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	477	1.09	6.7	U	
2	Acenaphthylene	6.16		0.00	152	437	0.6000	3.6	J	
2	Acenaphthene	6.31		0.00	154	965	2.31	14	J	
2	Fluorene	6.75		0.00	166	619	1.18	7.2	J	
3	Phenanthrene	7.55		0.00	178	955m	1.25	7.6	J	
3	Anthracene	7.60	0.01	0.00	178	231	0.3000	2.4	U	
3	Fluoranthene	8.54	0.01	0.00	202	11678	13.11	80		
4	Pyrene	8.73		0.00	202	12618	12.24	74		
4	Benz(a)anthracene	10.05	0.01	0.00	228	818	0.8900	5.4	J	
4	Chrysene	10.09	-0.01	0.00	228	669m	0.8200	5.0	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F019.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 17:32	<b>Quant Date:</b>	08/21/2014 12:17
<b>Run Type:</b>	SMPL	<b>Vial:</b>	19
<b>Lab ID:</b>	K1407971-011	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

**Final Conc. Units:** ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	1223	1.28	7.8	J	
5	Benzo(k)fluoranthene	12.19	0.01	0.00	252	676m	0.7100	4.3	J	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	2016	2.19	14	Ui	
5	Indeno(1,2,3-cd)pyrene	15.40	0.01	0.00	276	156m	0.1500	5.9	U	
5	Dibenz(a,h)anthracene				278	0d		5.3	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	254	0.2300	5.8	U	

**Prep Amount:** 10.986 g      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml      **Unit Factor:** 1  
**Solids:** 15 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:27 2014

Vial: 19  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAH.RE

Quant Method : J:\MS14\M...\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	134501	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	71788	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	138474	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149406	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	155814	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	73801	174.27	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.43%	
21) Fluoranthene-d10	8.52	212	123629	158.55	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.86%	
24) Terphenyl-d14	8.87	244	102782	152.94	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.29%	

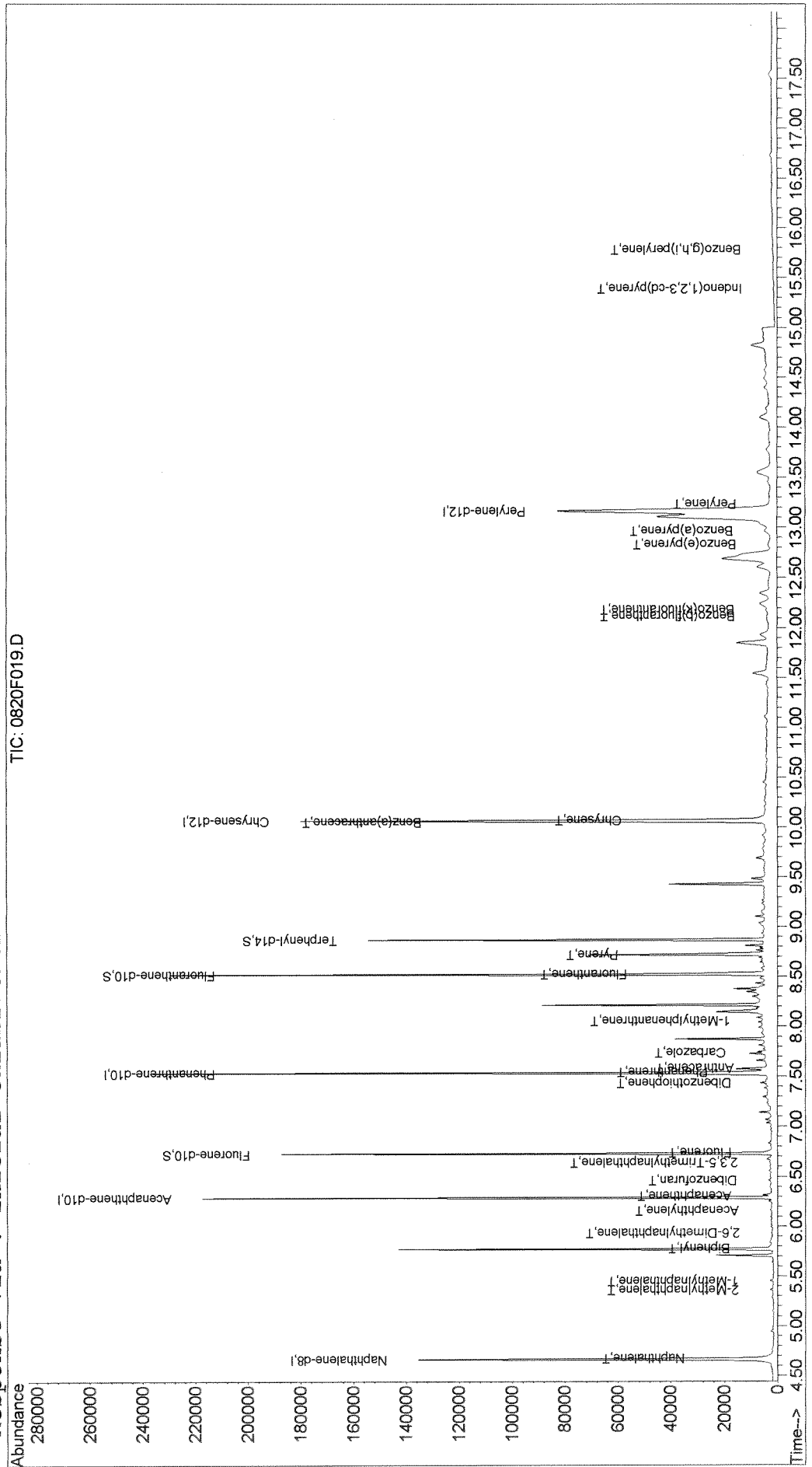
Target Compounds

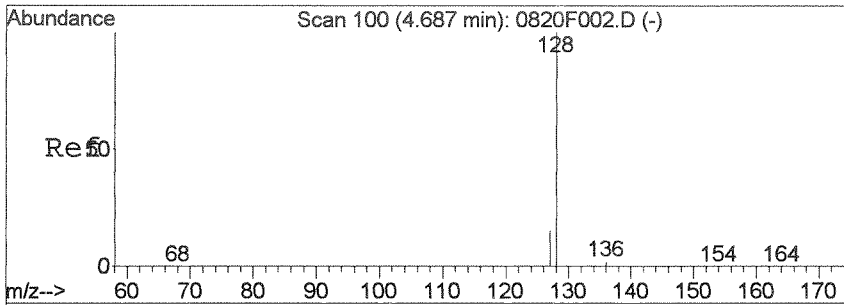
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	1164	1.63	ng/ml	84
3) 2-Methylnaphthalene	5.36	142	542	1.09	ng/ml	100
4) 1-Methylnaphthalene	5.45	142	477	1.09	ng/ml	92
5) Biphenyl	5.79	154	258m	0.44	ng/ml	
6) 2,6-Dimethylnaphthalene	5.94	156	211	0.48	ng/ml	85
8) Acenaphthylene	6.16	152	437	0.60	ng/ml	98
9) Acenaphthene	6.31	154	965	2.31	ng/ml#	76
10) Dibenzofuran	6.46	168	503	0.76	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.64	170	143m	0.34	ng/ml	
13) Fluorene	6.75	166	619	1.18	ng/ml	94
15) Dibenzothiophene	7.45	184	146m	0.20	ng/ml	
16) Phenanthrene	7.55	178	955m	1.25	ng/ml	
17) Anthracene	7.60	178	231	0.30	ng/ml	92
18) Carbazole	7.74	167	230m	0.34	ng/ml	
19) 1-Methylphenanthrene	8.06	192	70	0.12	ng/ml	77
20) Fluoranthene	8.54	202	11678	13.11	ng/ml	96
23) Pyrene	8.73	202	12618	12.24	ng/ml	58
25) Benz(a)anthracene	10.05	228	818	0.89	ng/ml	95
26) Chrysene	10.08	228	3591	4.42	ng/ml	95
28) Benzo(b)fluoranthene	12.12	252	1223	1.28	ng/ml	97
29) Benzo(k)fluoranthene	12.19	252	676m	0.71	ng/ml	
30) Benzo(e)pyrene	12.84	252	1112	1.21	ng/ml	83
31) Benzo(a)pyrene	12.97	252	2016	2.19	ng/ml#	1
32) Perylene	13.24	252	209	0.24	ng/ml	79
33) Indeno(1,2,3-cd)pyrene	15.40	276	156m	0.15	ng/ml	
35) Benzo(g,h,i)perylene	15.79	276	254	0.23	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:37 2014  
 Quant Results File: 072214SIMPAAH.RES

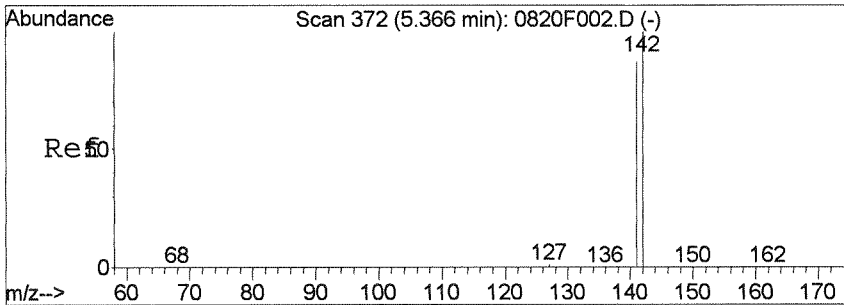
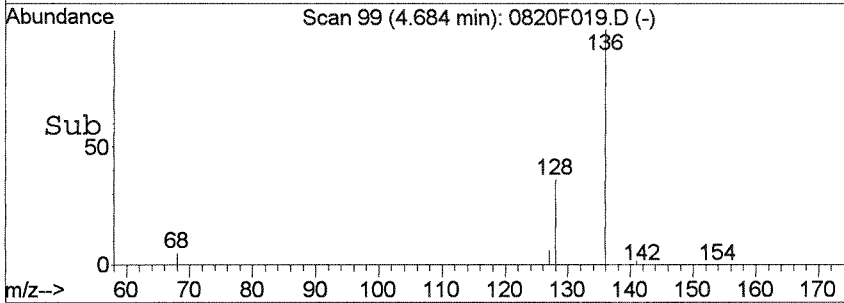
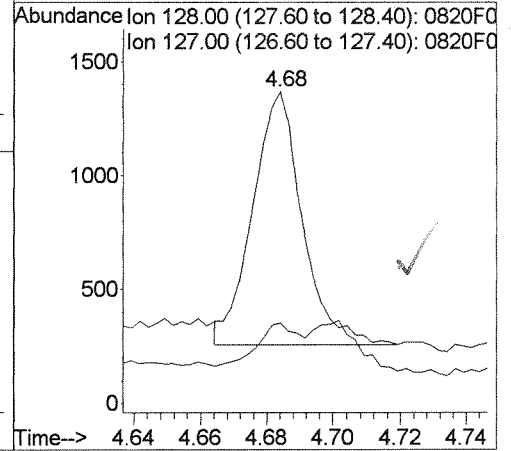
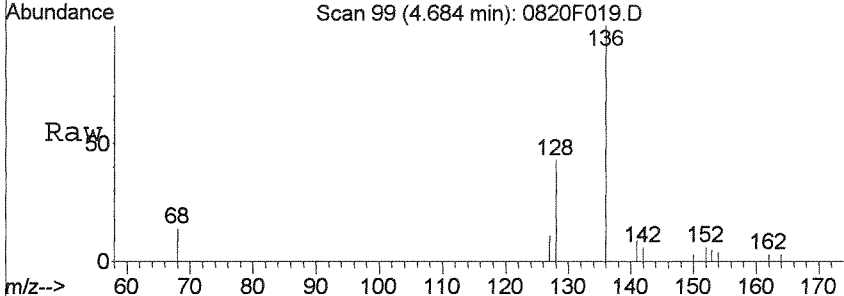
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





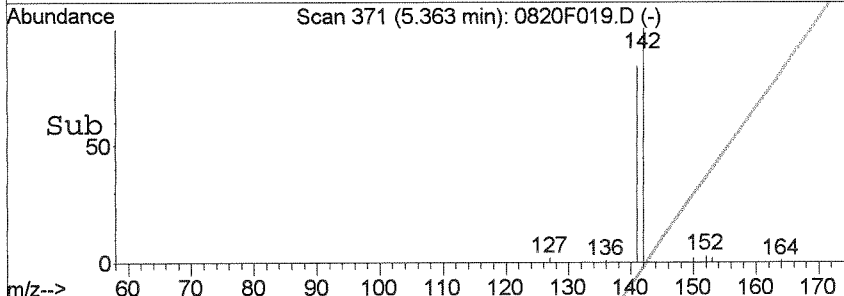
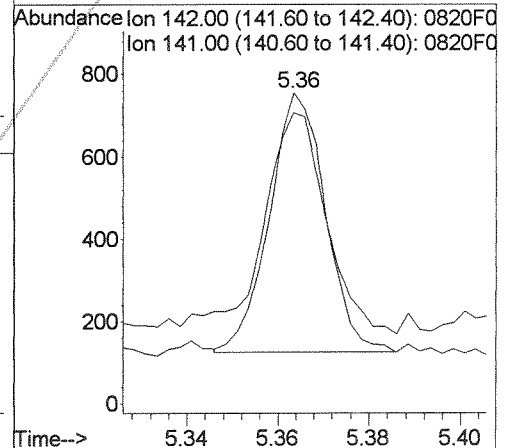
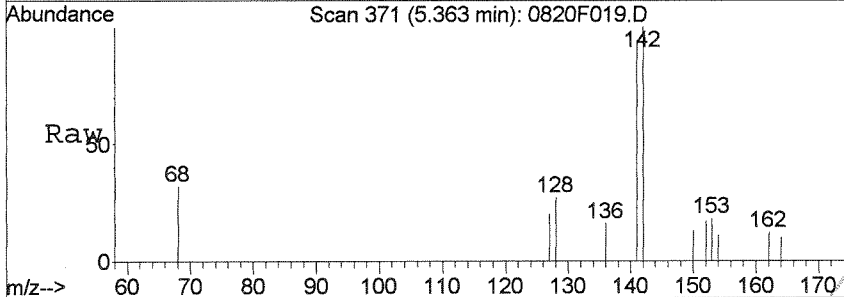
#2  
 Naphthalene  
 Concen: 1.63 ng/ml  
 RT: 4.68 min Scan# 99  
 Delta R.T. -0.01 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion	Resp	Lower	Upper
128	1164	100	
127	19.0	0.0	42.6

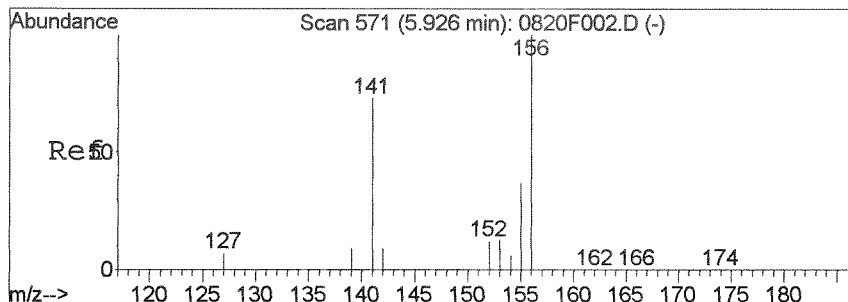


#3  
 2-Methylnaphthalene  
 Concen: 1.09 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion	Resp	Lower	Upper
142	542	100	
141	85.2	54.8	114.8

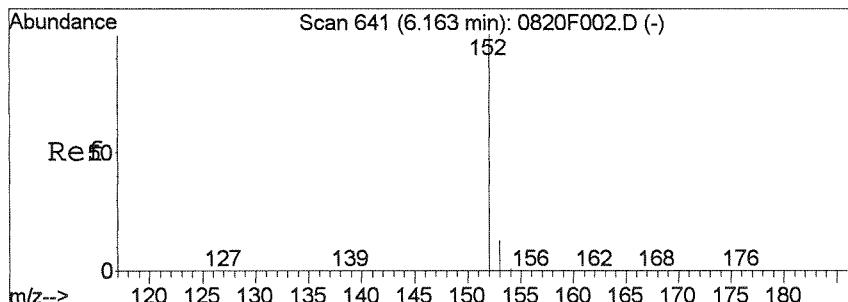
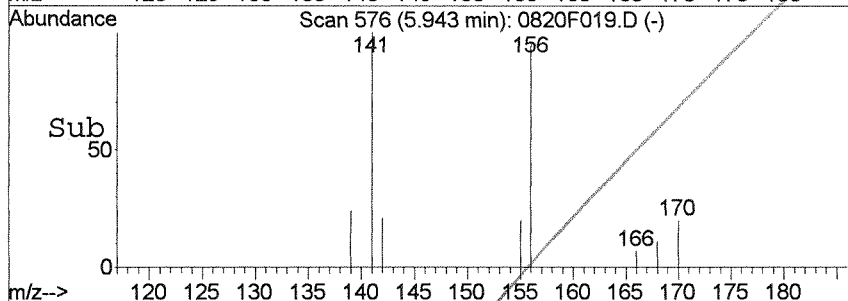
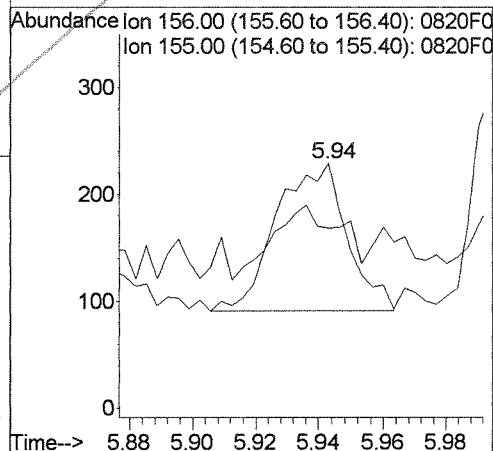
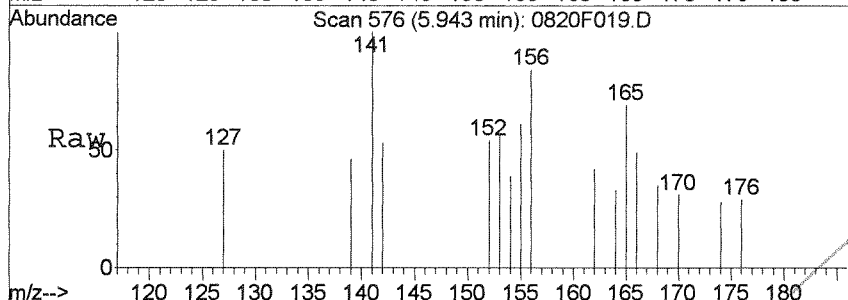






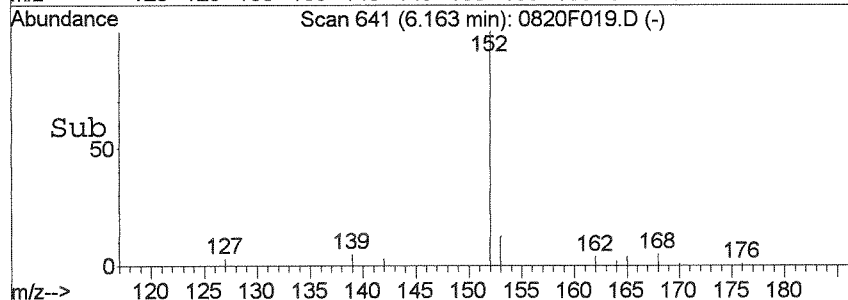
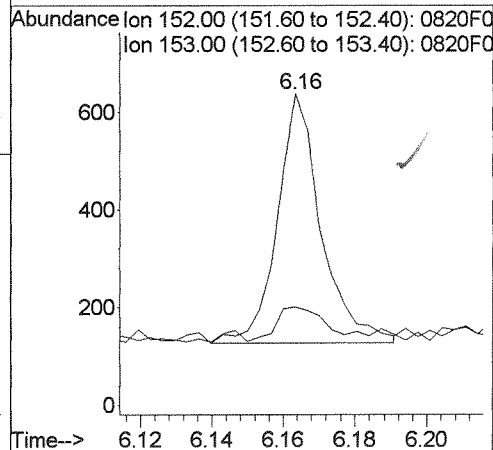
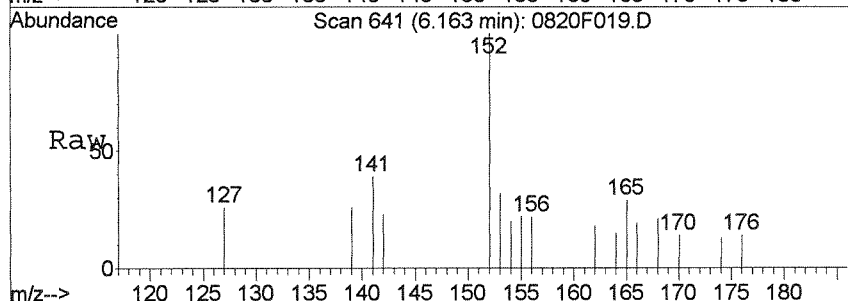
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.48 ng/ml  
 RT: 5.94 min Scan# 576  
 Delta R.T. 0.01 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

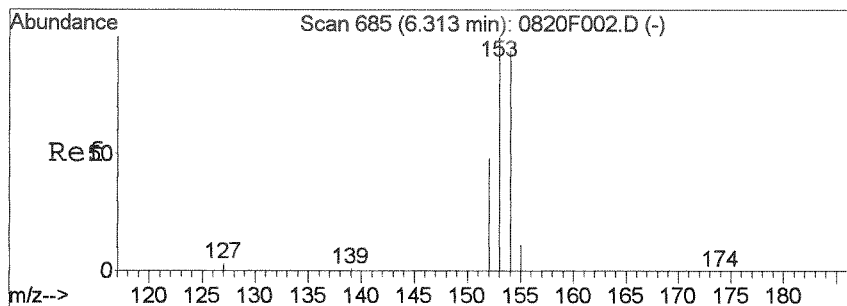
Tgt Ion	Resp	Lower	Upper
156	100		
155	26.1	4.9	64.9



#8  
 Acenaphthylene  
 Concen: 0.60 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

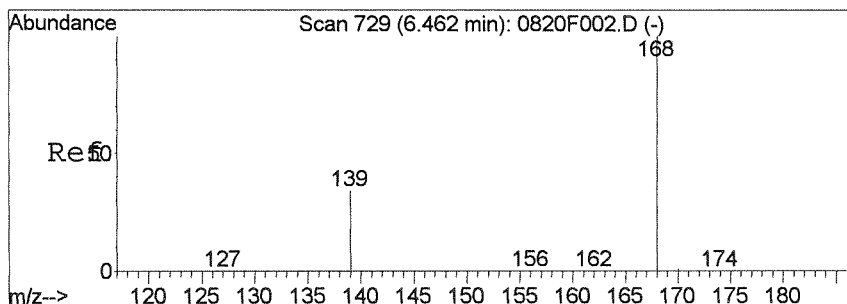
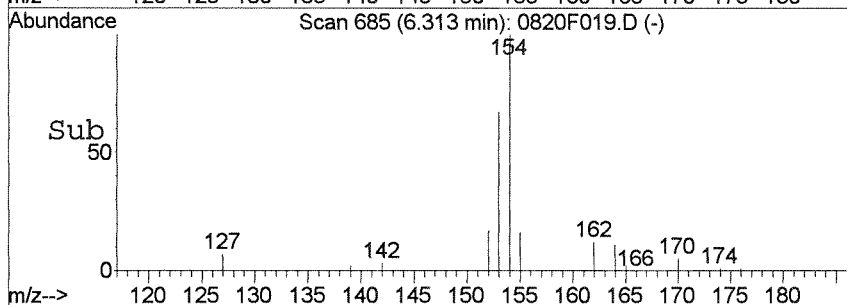
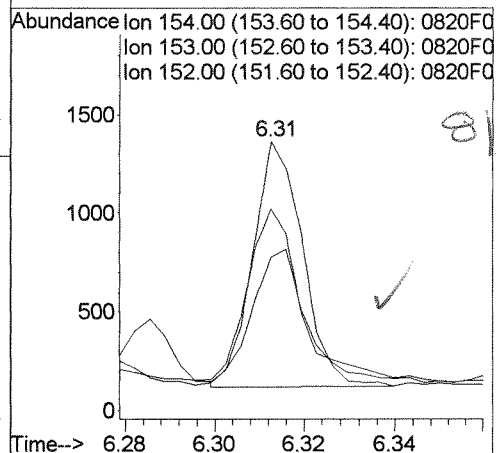
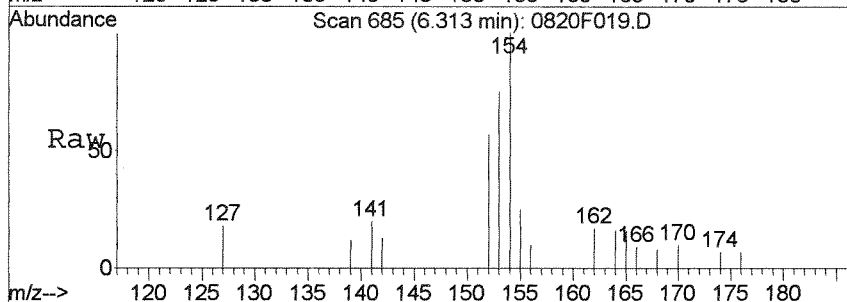
Tgt Ion	Resp	Lower	Upper
152	100		
153	13.9	0.0	43.2





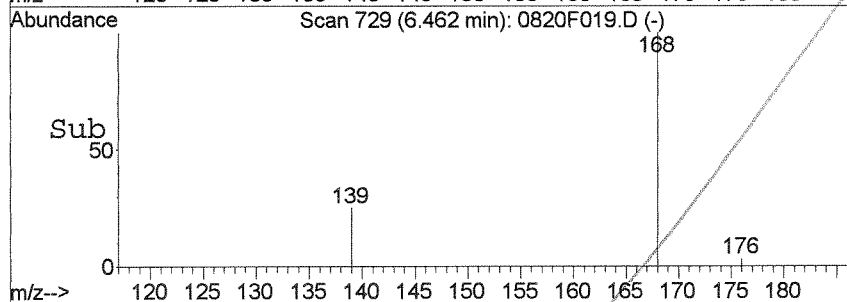
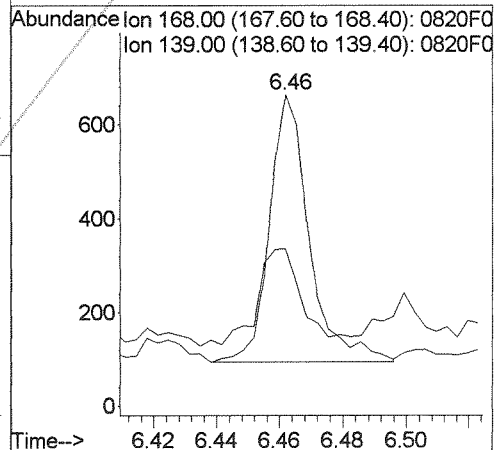
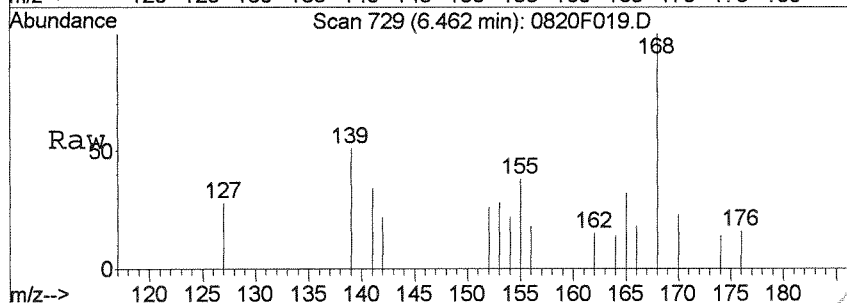
#9  
 Acenaphthene  
 Concen: 2.31 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

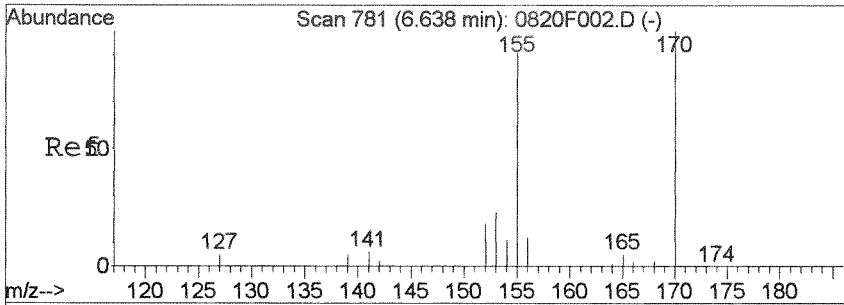
Tgt Ion	Ratio	Lower	Upper
154	100		
153	69.5	72.5	132.5#
152	51.1	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.76 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion	Ratio	Lower	Upper
168	100		
139	34.3	2.7	62.7

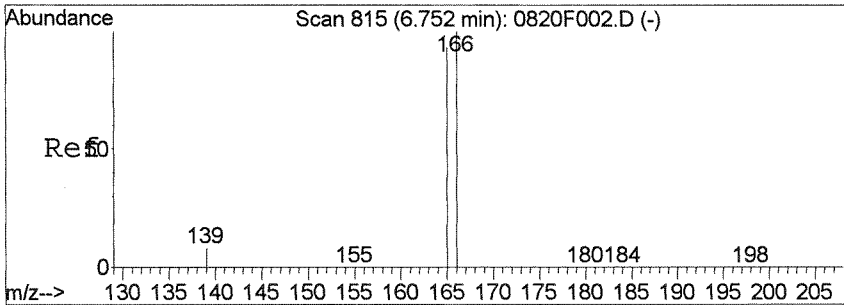
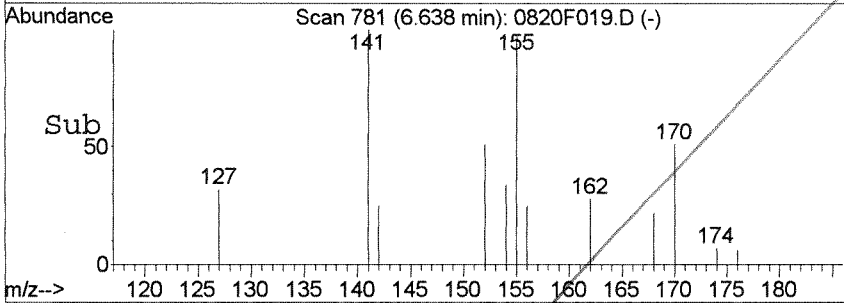
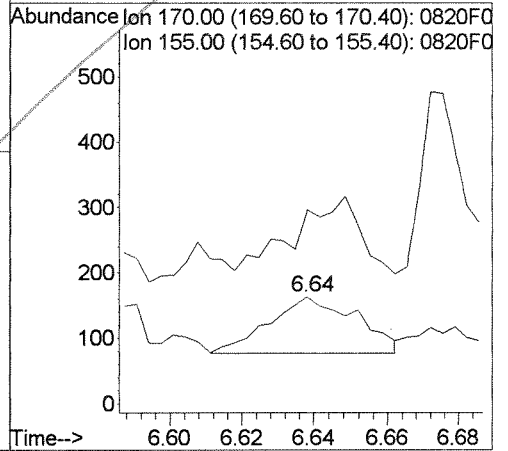
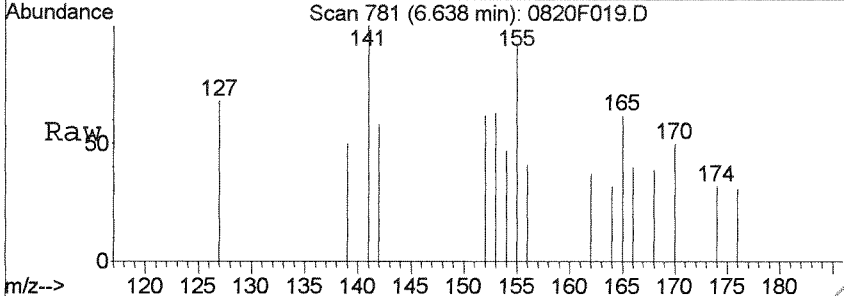




#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.34 ng/ml m  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

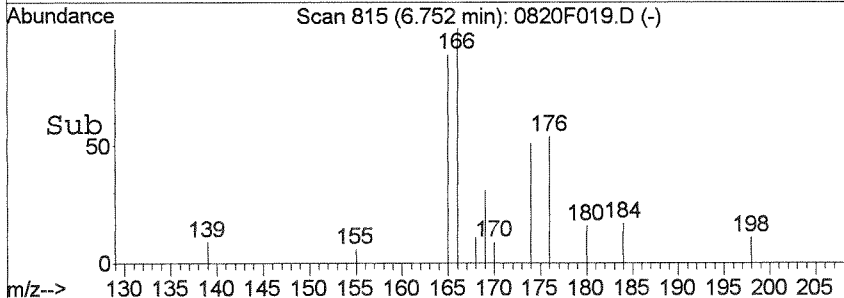
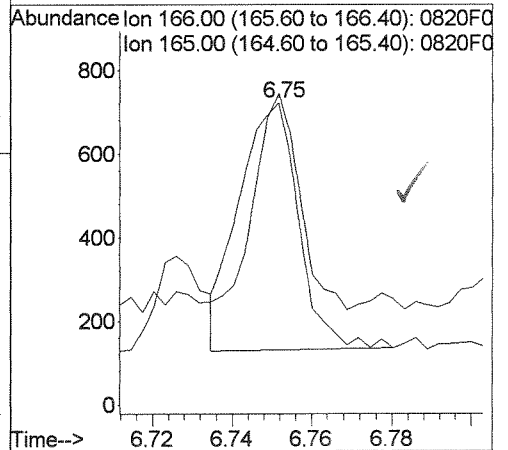
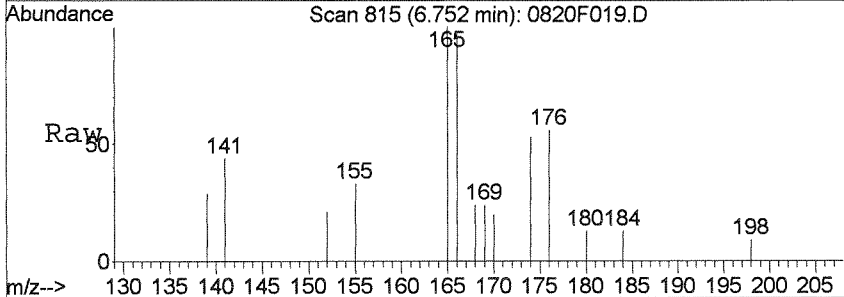
Tgt Ion: 170 Resp: 143  
 Ion Ratio Lower Upper  
 170 100  
 155 181.6 64.1 124.1#

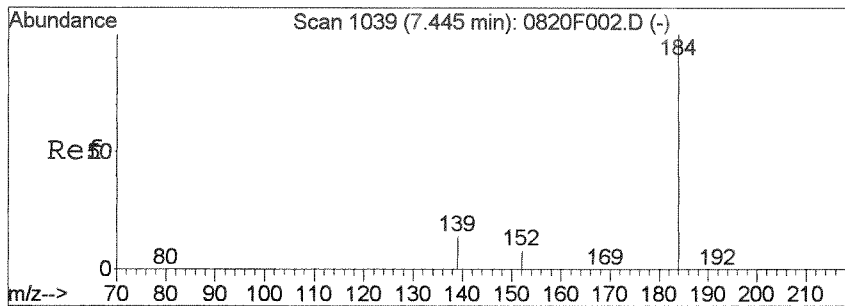
NT



#13  
 Fluorene  
 Concen: 1.18 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

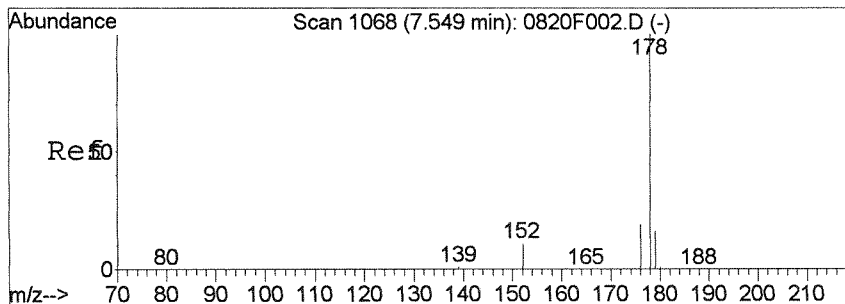
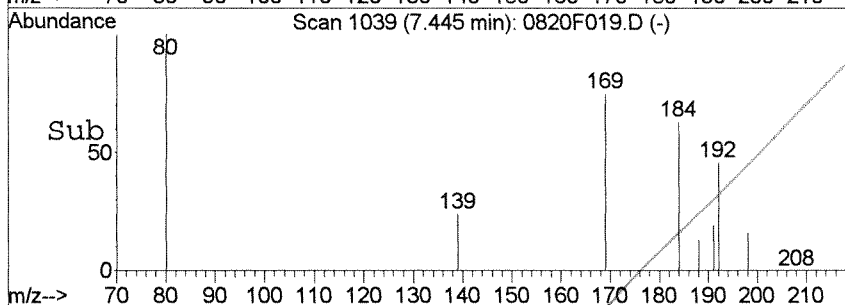
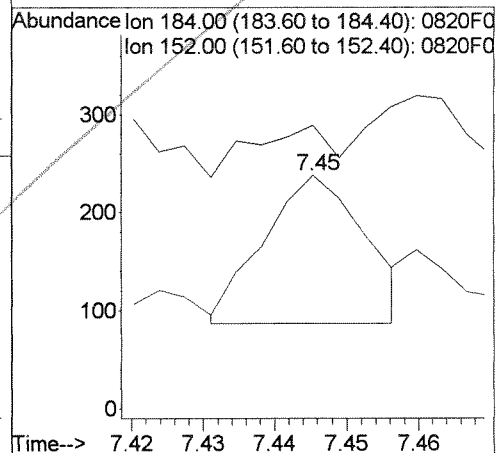
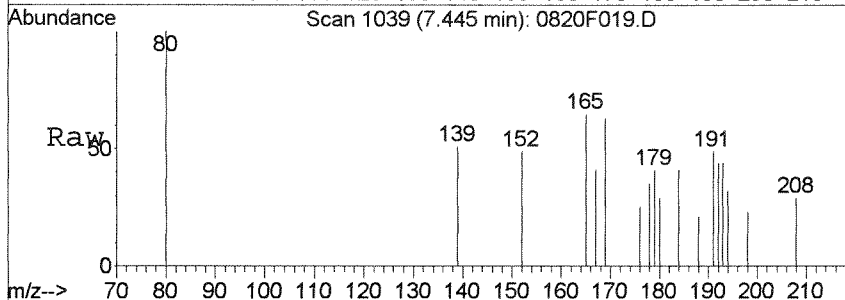
Tgt Ion: 166 Resp: 619  
 Ion Ratio Lower Upper  
 166 100  
 165 85.0 60.9 120.9





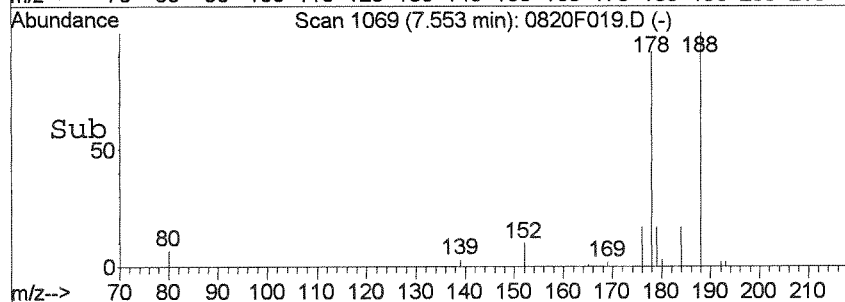
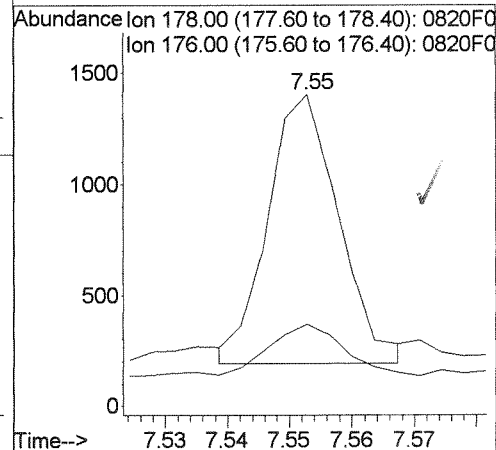
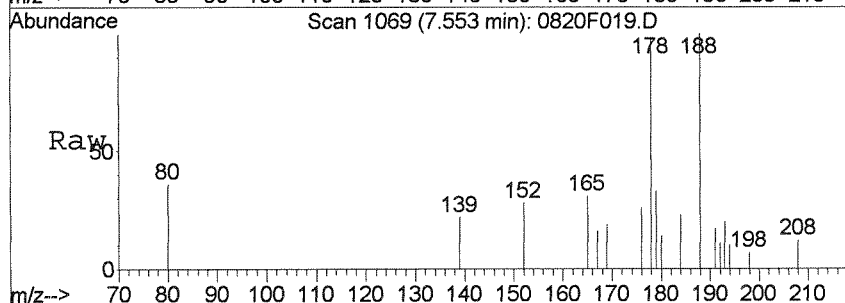
#15  
 Dibenzothiophene  
 Concen: 0.20 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

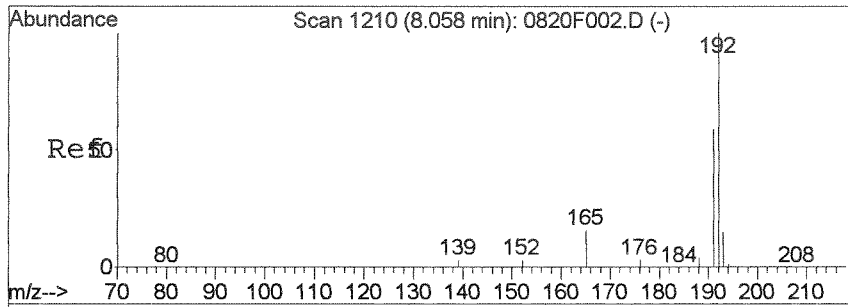
Tgt Ion	Resp	Lower	Upper
184	100		
152	121.4	0.0	39.9#



#16  
 Phenanthrene  
 Concen: 1.25 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

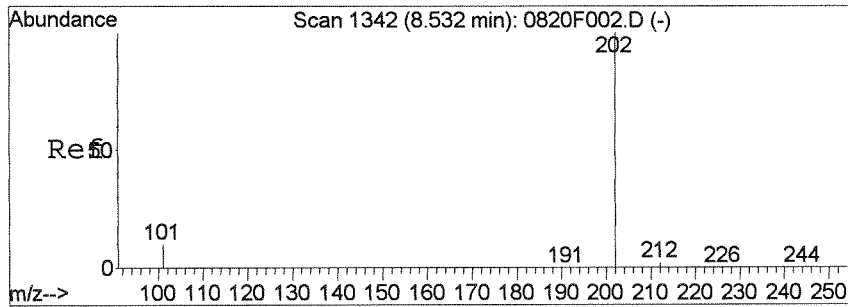
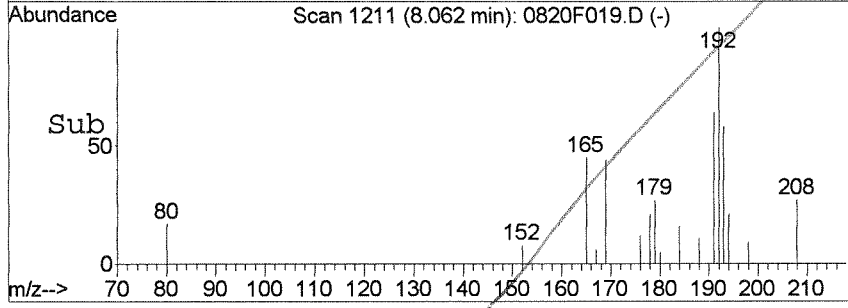
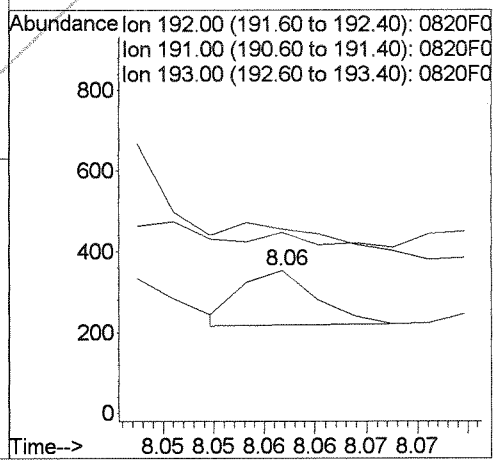
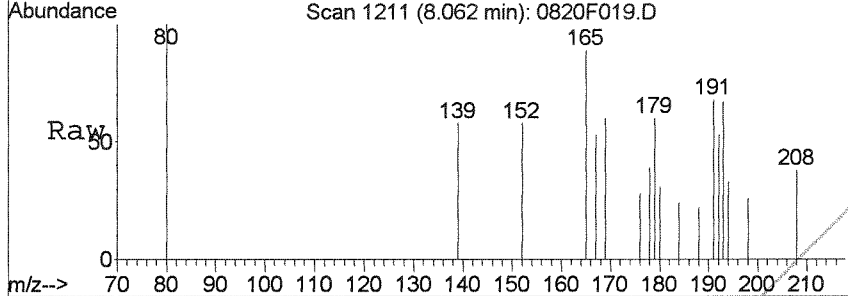
Tgt Ion	Resp	Lower	Upper
178	100		
176	26.3	0.0	48.9





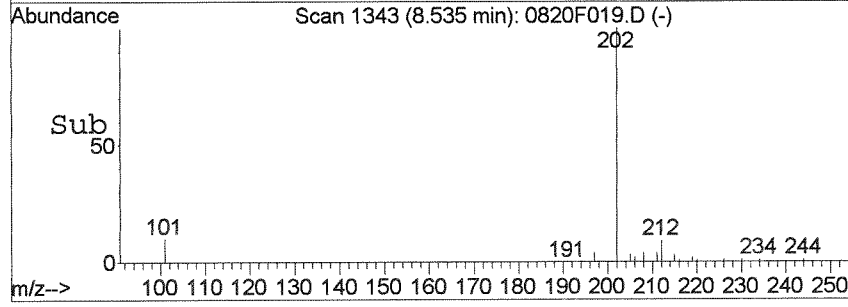
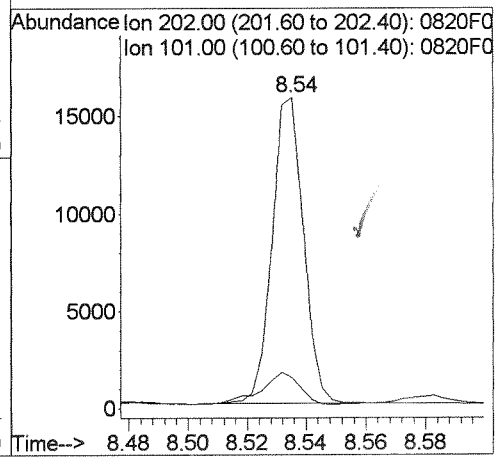
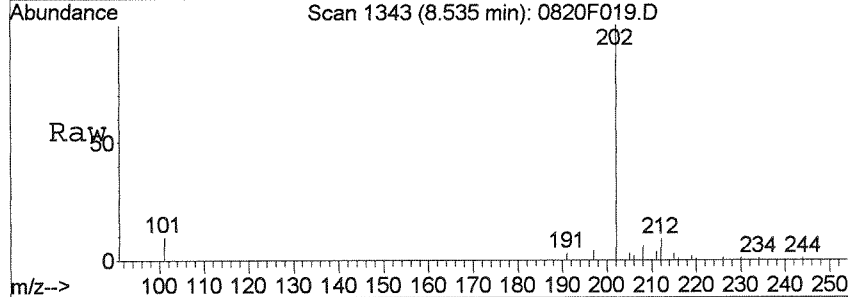
#19  
 1-Methylphenanthrene  
 Concen: 0.12 ng/ml  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

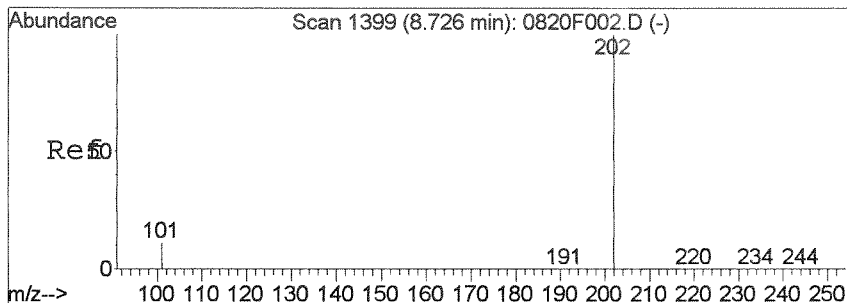
Tgt Ion	Resp	Lower	Upper
192	100		
191	40.2	25.5	85.5
193	28.0	0.0	45.7



#20  
 Fluoranthene  
 Concen: 13.11 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

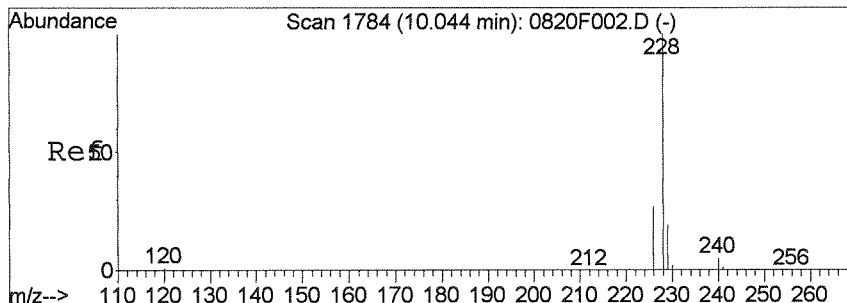
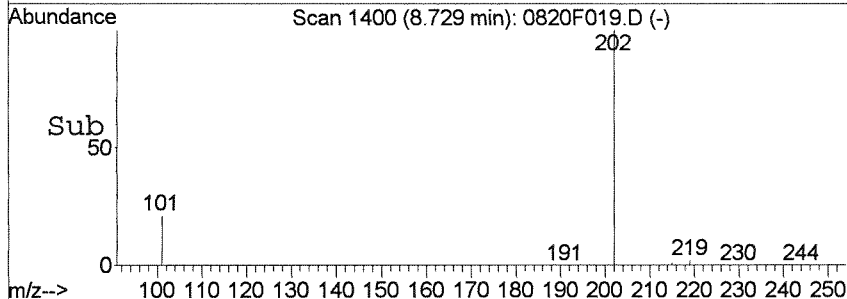
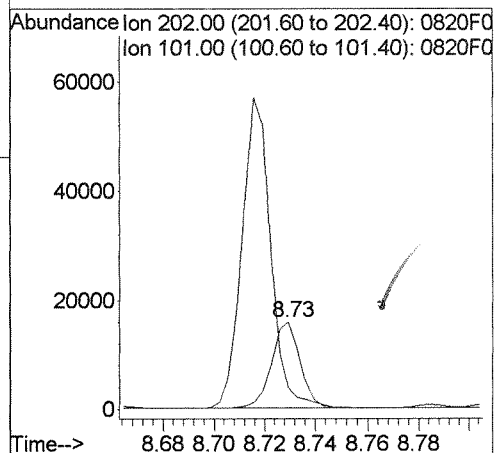
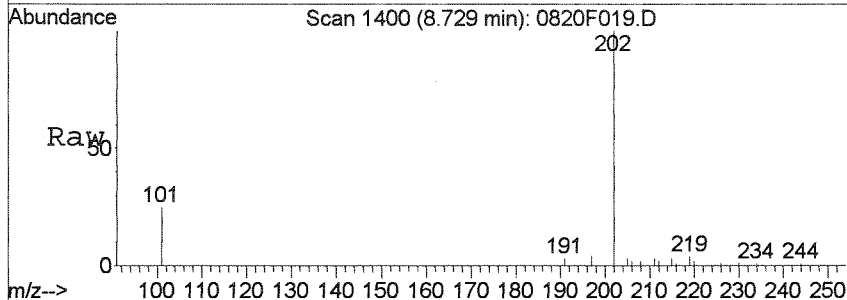
Tgt Ion	Resp	Lower	Upper
202	100		
101	8.5	0.0	37.0





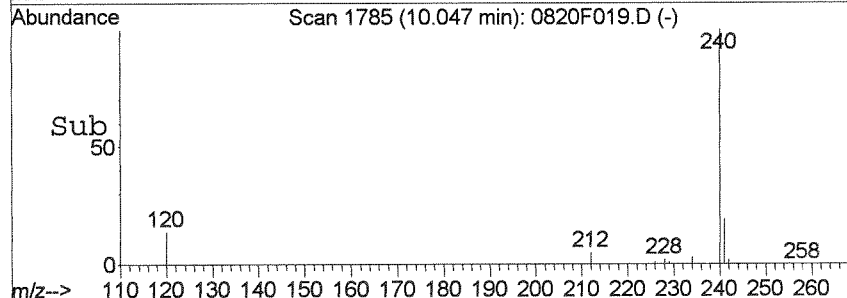
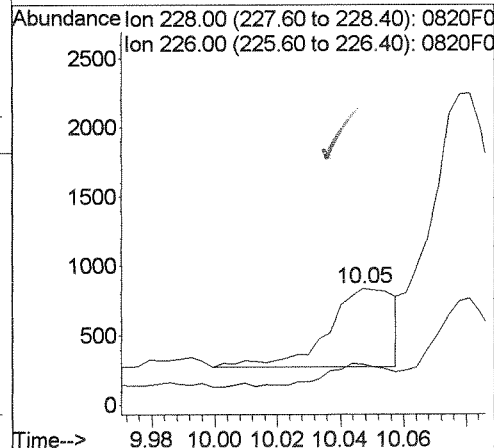
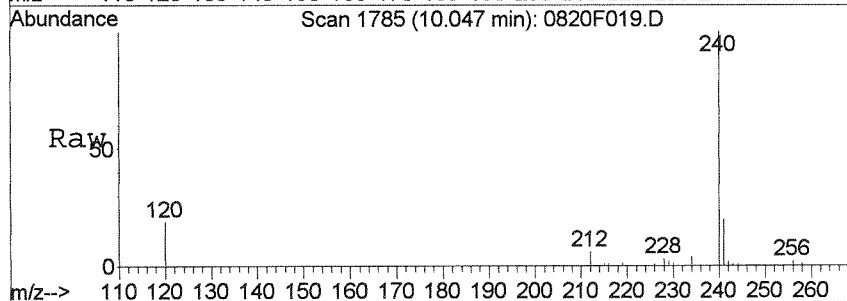
#23  
 Pyrene  
 Concen: 12.24 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

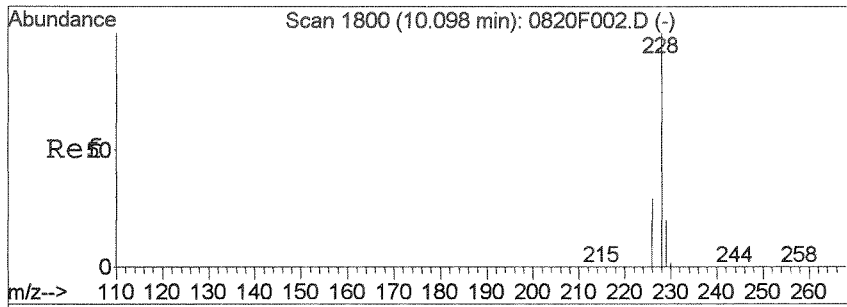
Tgt Ion	Ratio	Lower	Upper
202	100		
101	23.4	0.0	38.3



#25  
 Benz (a) anthracene  
 Concen: 0.89 ng/ml  
 RT: 10.05 min Scan# 1785  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

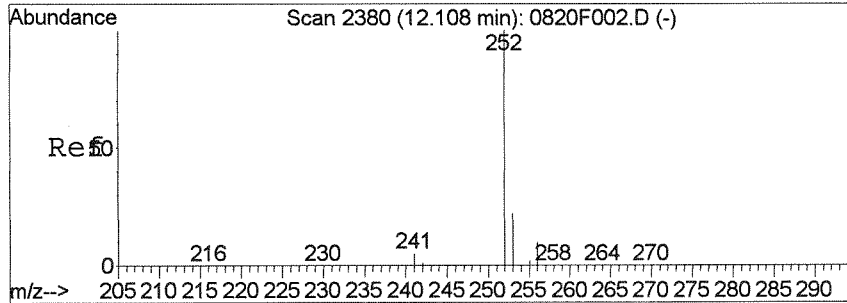
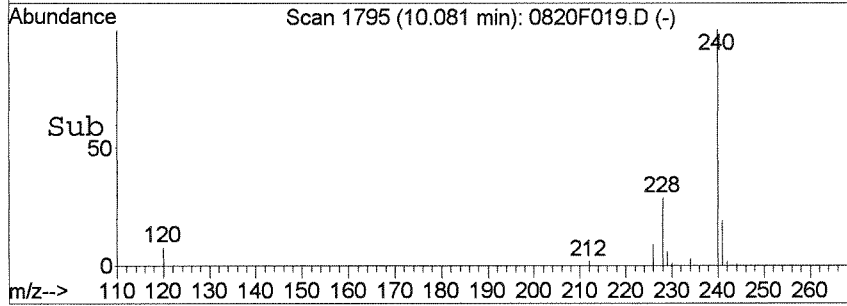
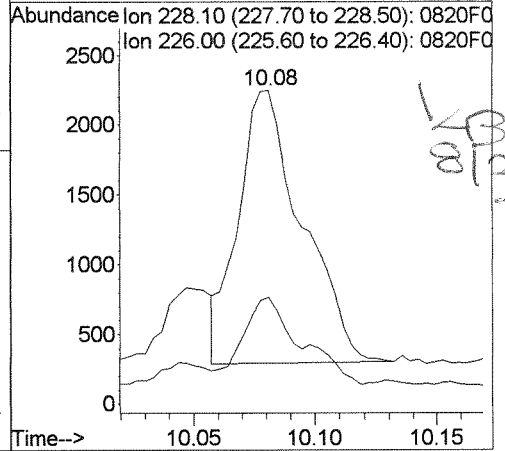
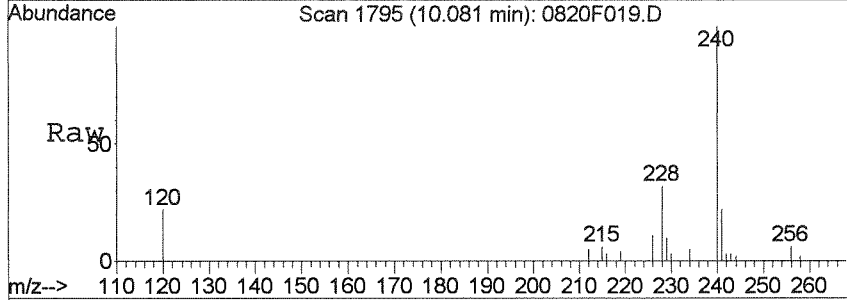
Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.8	0.0	56.4





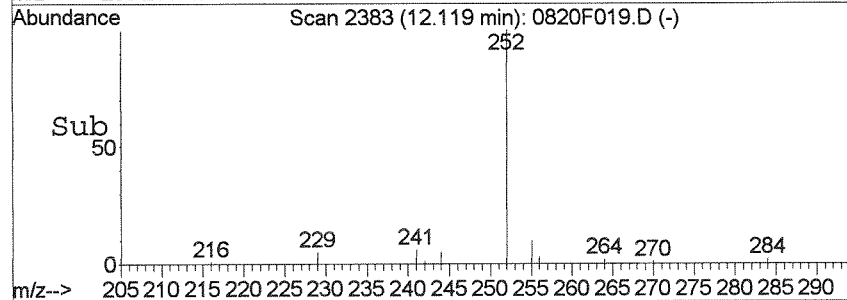
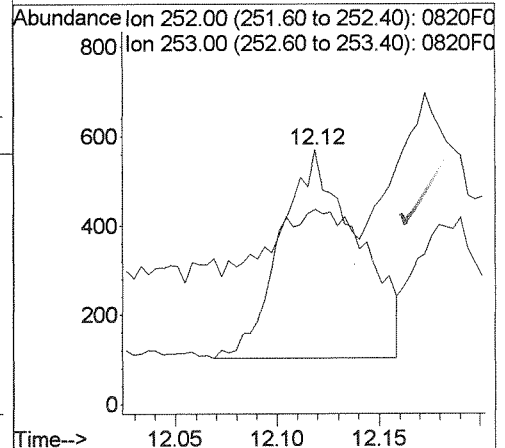
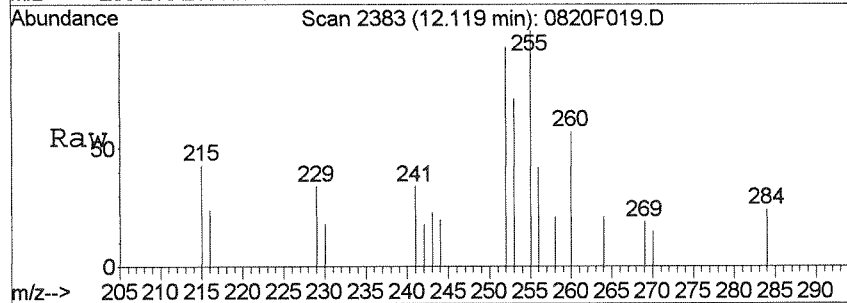
#26 *See man. intg*  
 Chrysene  
 Concen: 4.42 ng/ml  
 RT: 10.08 min Scan# 1795  
 Delta R.T. -0.02 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

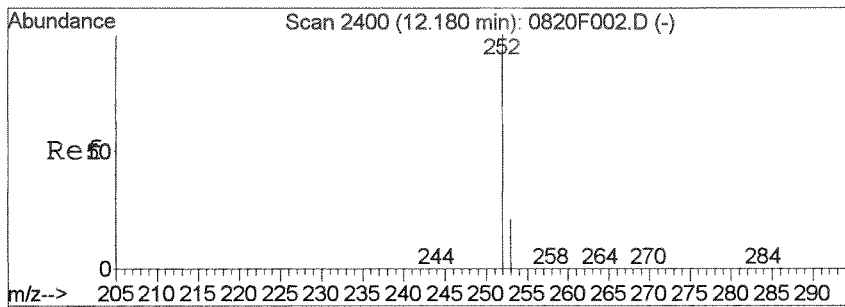
Tgt Ion	Resp	Lower	Upper
228	100		
226	31.0	0.0	58.6



#28  
 Benzo(b)fluoranthene  
 Concen: 1.28 ng/ml  
 RT: 12.12 min Scan# 2383  
 Delta R.T. 0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

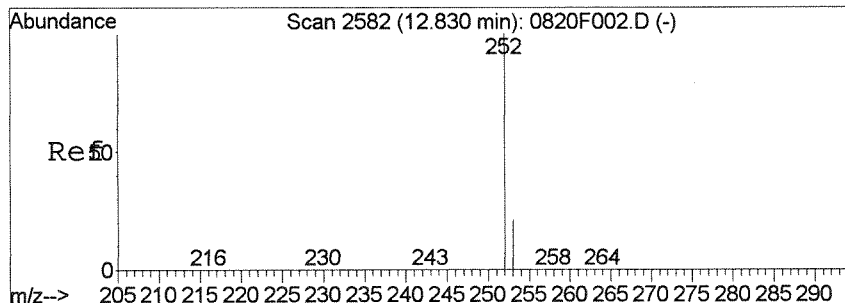
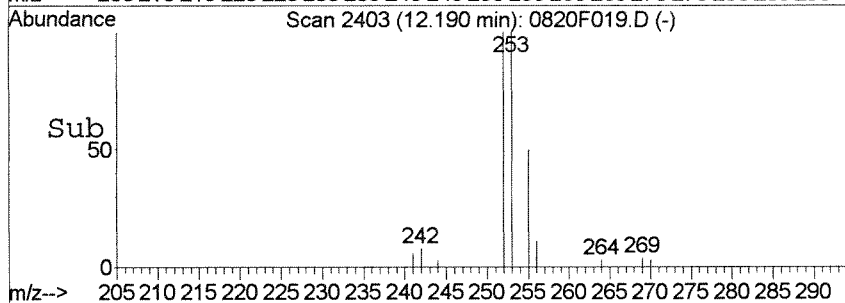
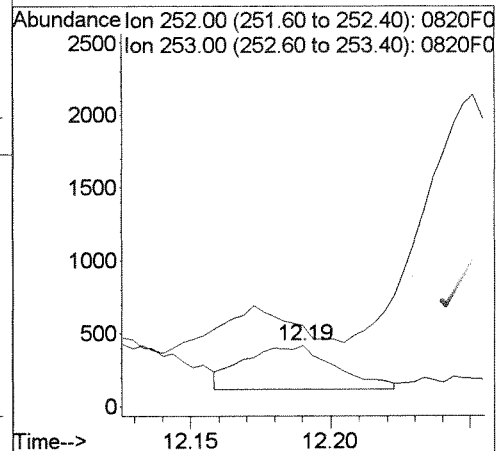
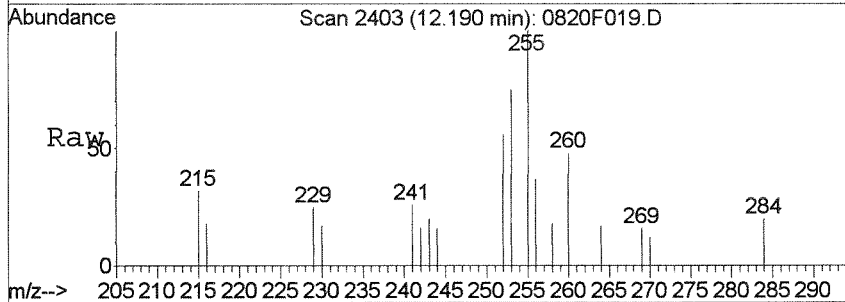
Tgt Ion	Resp	Lower	Upper
252	100		
253	23.5	0.0	52.1





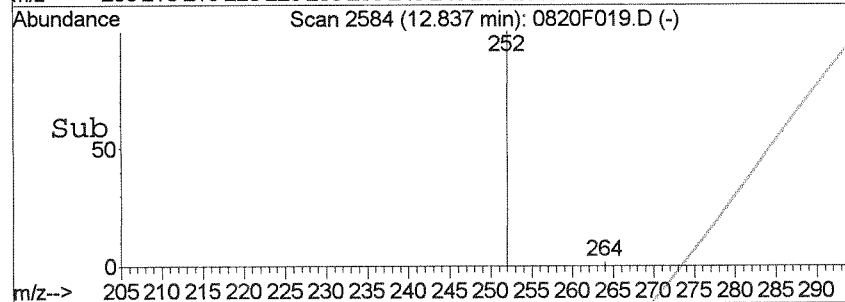
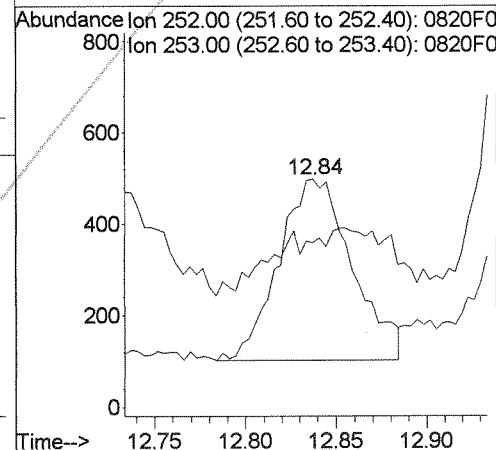
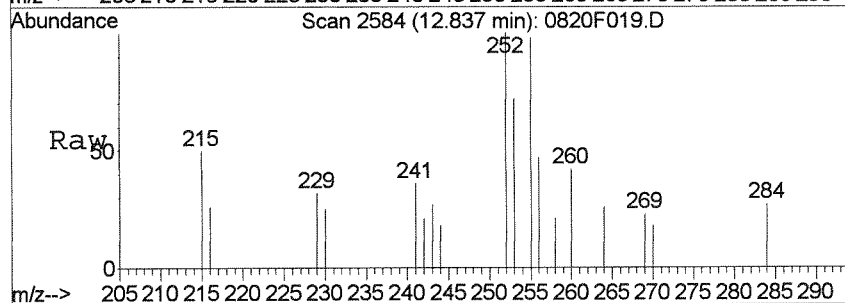
#29  
 Benzo(k) fluoranthene  
 Concen: 0.71 ng/ml m  
 RT: 12.19 min Scan# 2403  
 Delta R.T. 0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion: 252 Resp: 676  
 Ion Ratio Lower Upper  
 252 100  
 253 132.9 0.0 52.1#

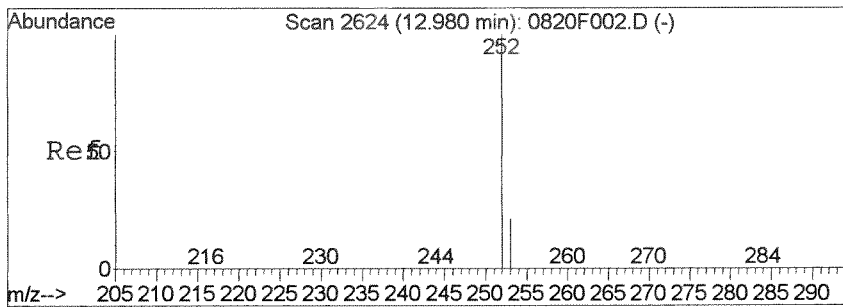


#30  
 Benzo(e) pyrene  
 Concen: 1.21 ng/ml  
 RT: 12.84 min Scan# 2584  
 Delta R.T. -0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion: 252 Resp: 1112  
 Ion Ratio Lower Upper  
 252 100  
 253 29.3 0.0 51.4

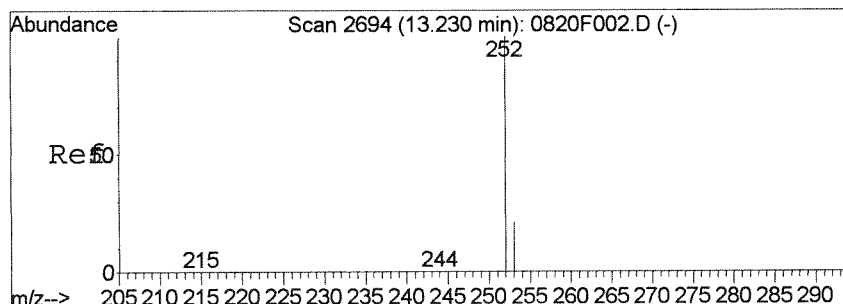
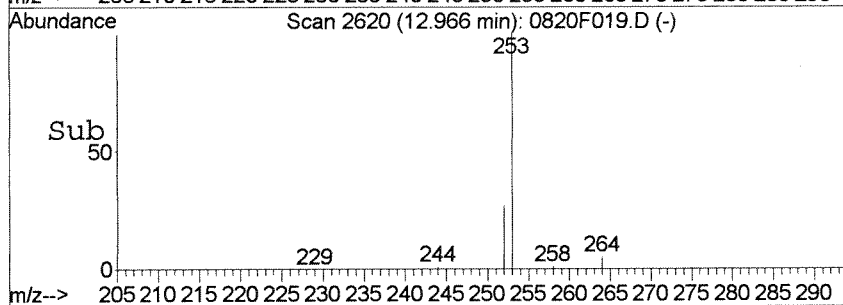
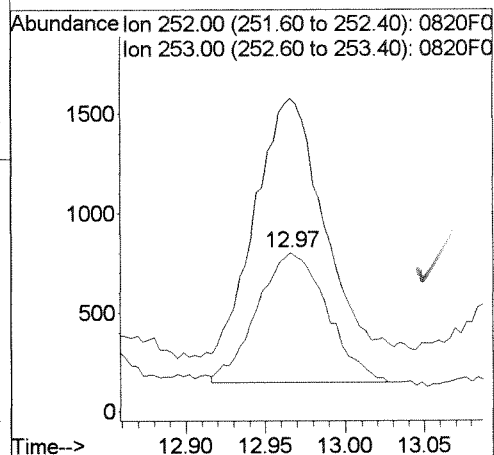
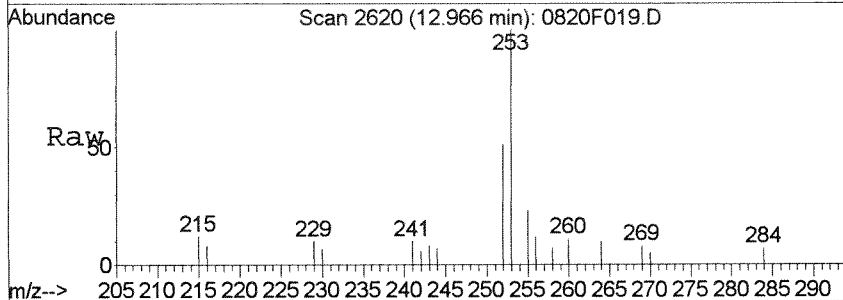






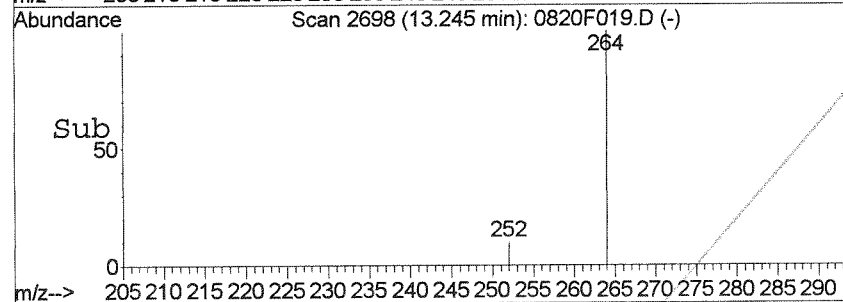
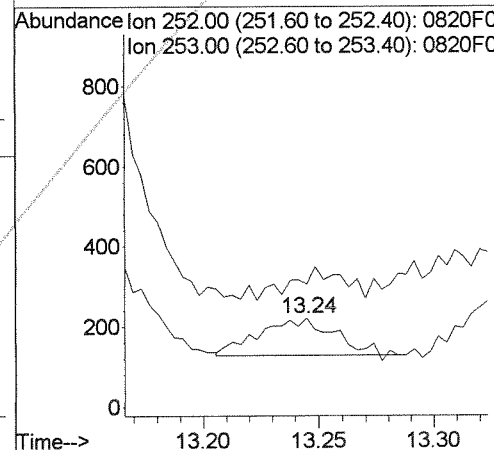
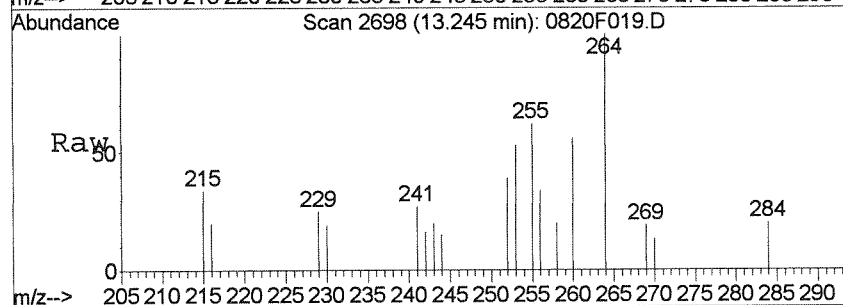
#31  
 Benzo (a) pyrene  
 Concen: 2.19 ng/ml  
 RT: 12.97 min Scan# 2620  
 Delta R.T. -0.02 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	195.0	0.0	52.2#



#32  
 Perylene  
 Concen: 0.24 ng/ml  
 RT: 13.24 min Scan# 2698  
 Delta R.T. 0.00 min  
 Lab File: 0820F019.D  
 Acq: 20 Aug 2014 5:32 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	11.7	0.0	51.8

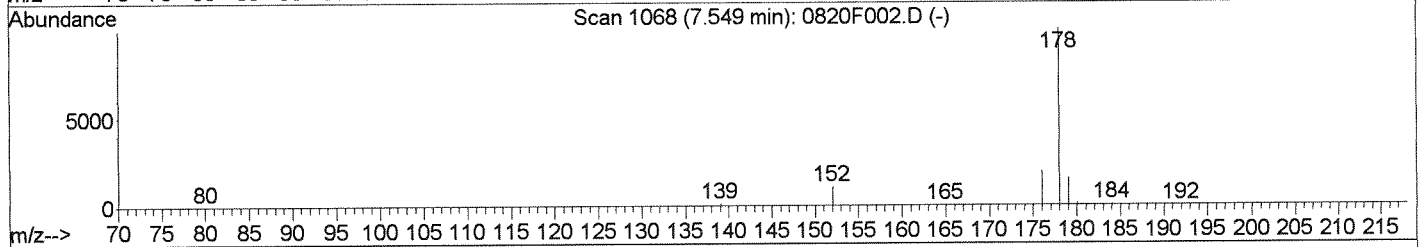
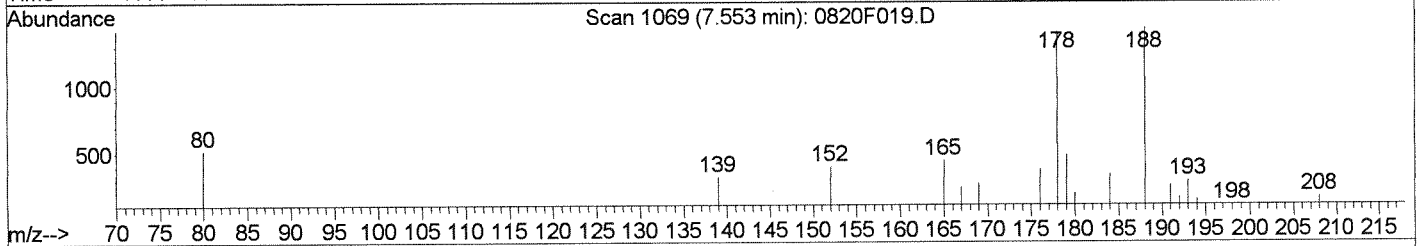
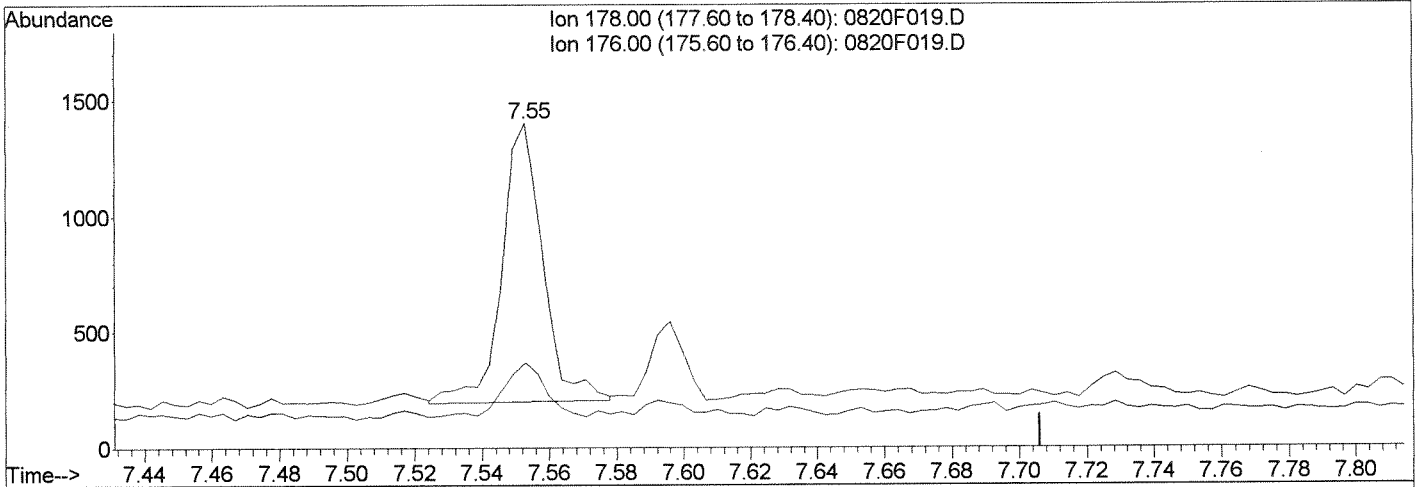


Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:29 2014

Vial: 19  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00  
 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F019.D

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	19.55
0.00	0.00	0.00
0.00	0.00	0.00

(16) Phenanthrene (T)  
 7.55min 1.34ng/ml  
 response 1025

Manual Integration:  
 Before  
 08/21/14  
*CHA*  
*LAB*

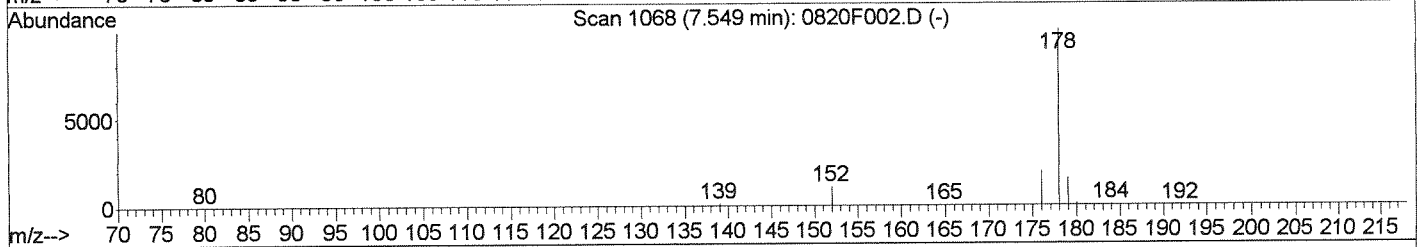
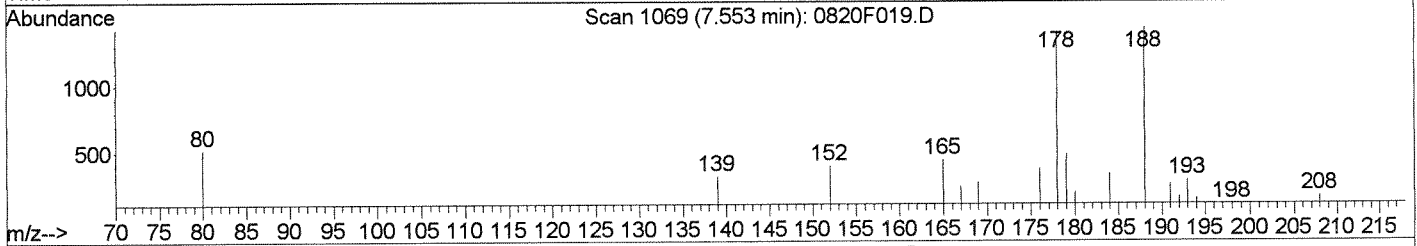
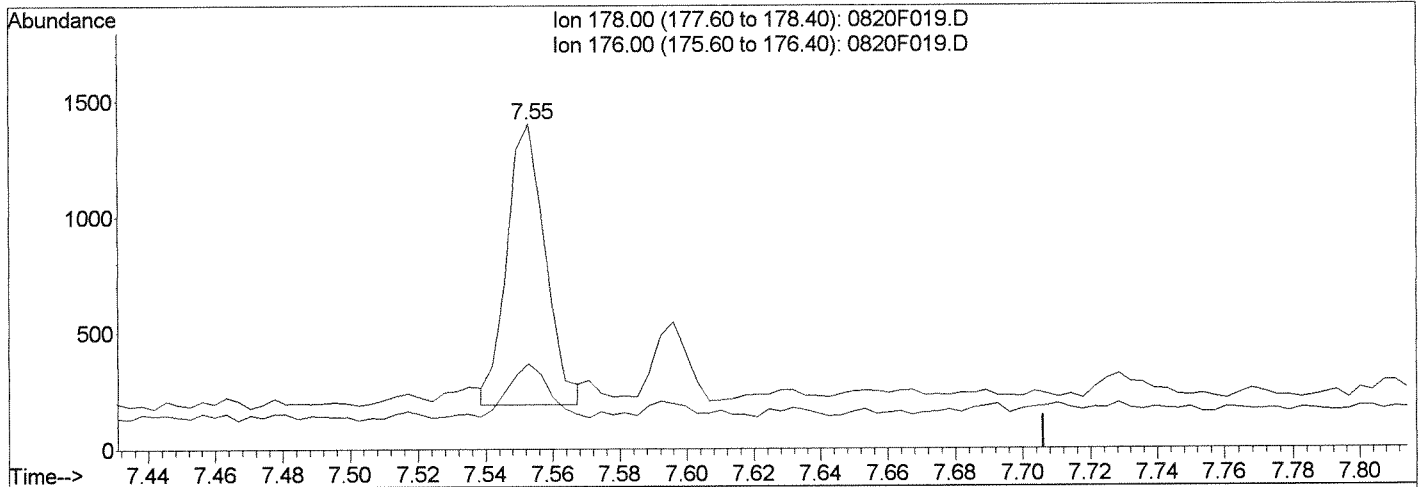
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:29 2014

Vial: 19  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F019.D

(16) Phenanthrene (T)

7.55min 1.25ng/ml m  
 response 955

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	26.28
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

*L*  
*AB*

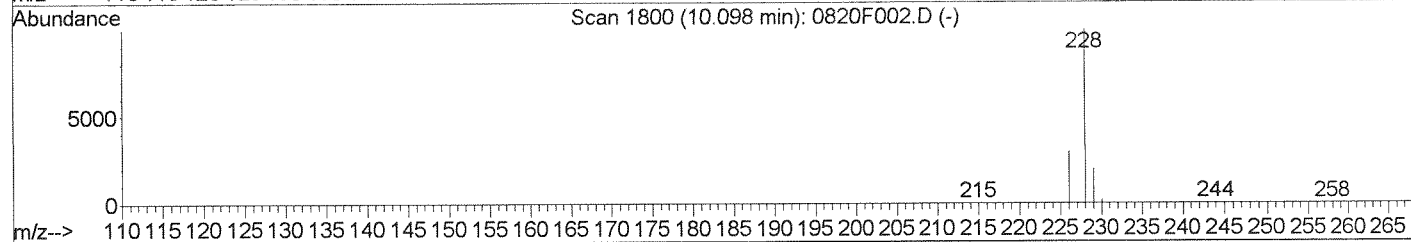
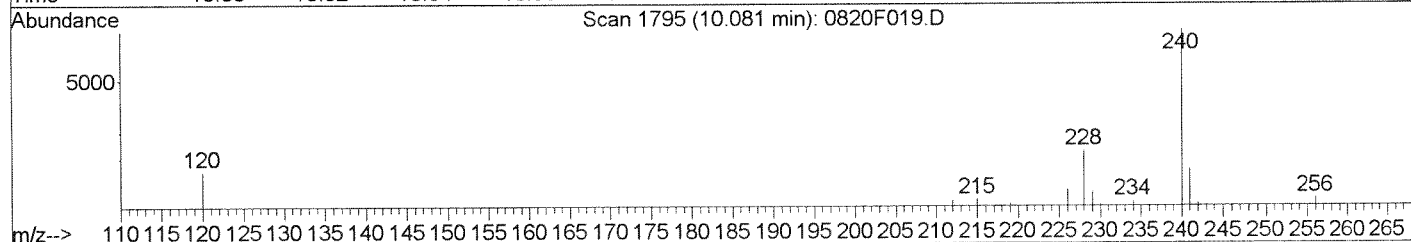
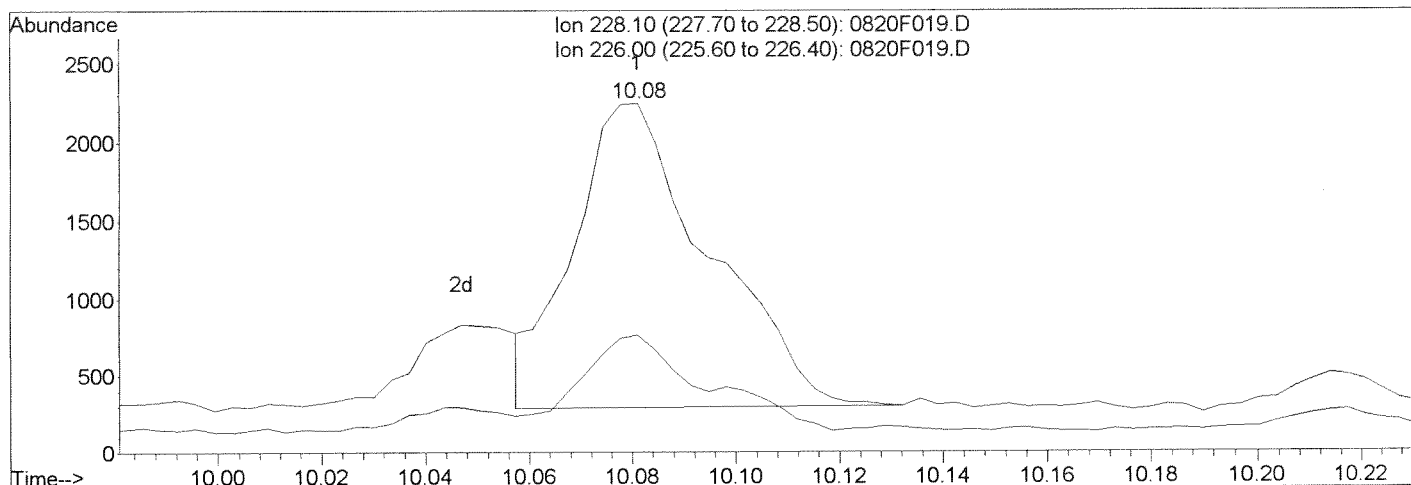
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:37 2014

Vial: 19  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F019.D

(26) Chrysene (T)  
 10.08min 4.42ng/ml  
 response 3591

Ion	Exp%	Act%
228.10	100	100
226.00	28.60	31.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*Handwritten signature*  
*LB*

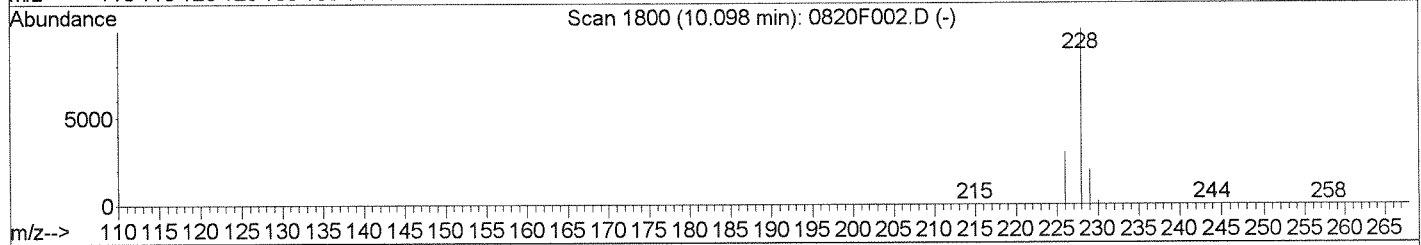
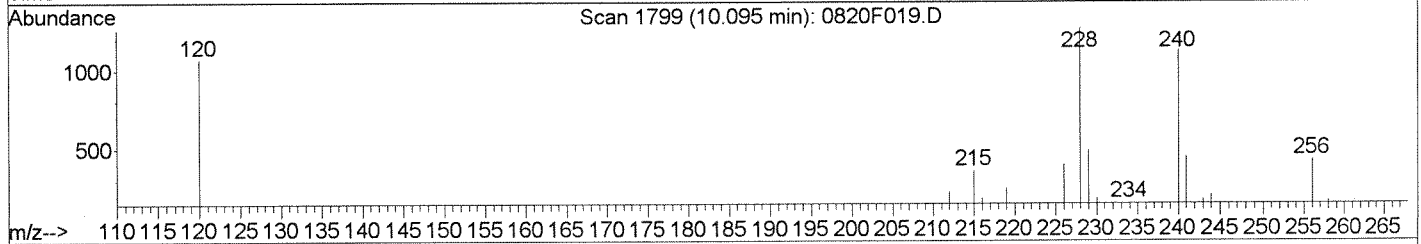
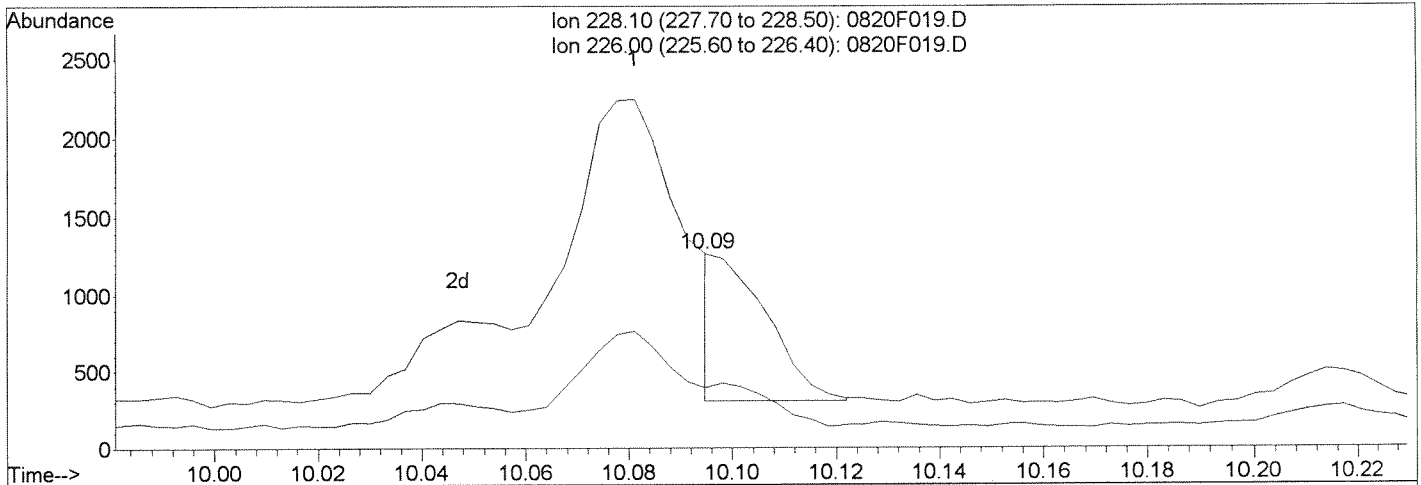
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 12:17 2014

Vial: 19  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F019.D

(26) Chrysene (T)		
10.09min	0.82ng/ml m	
response	669	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	31.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*lh*  
*LB*

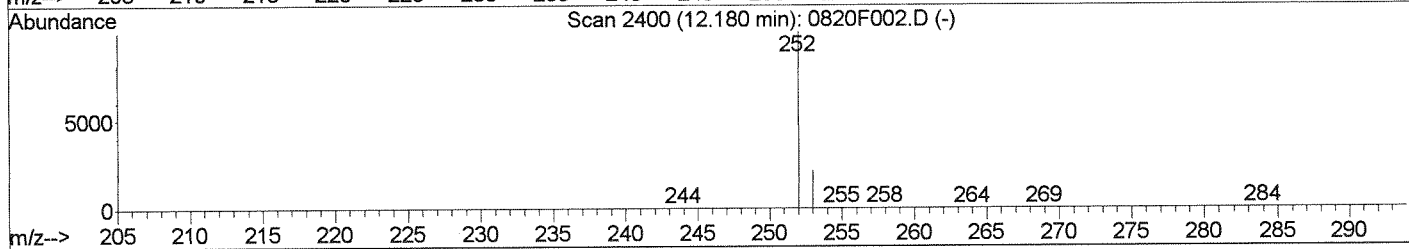
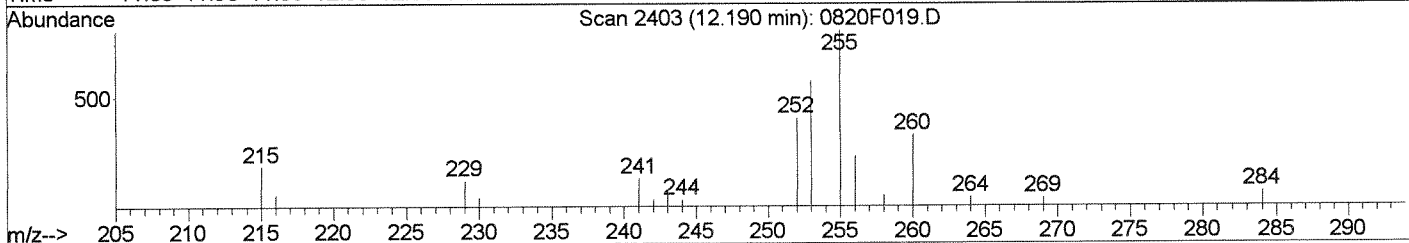
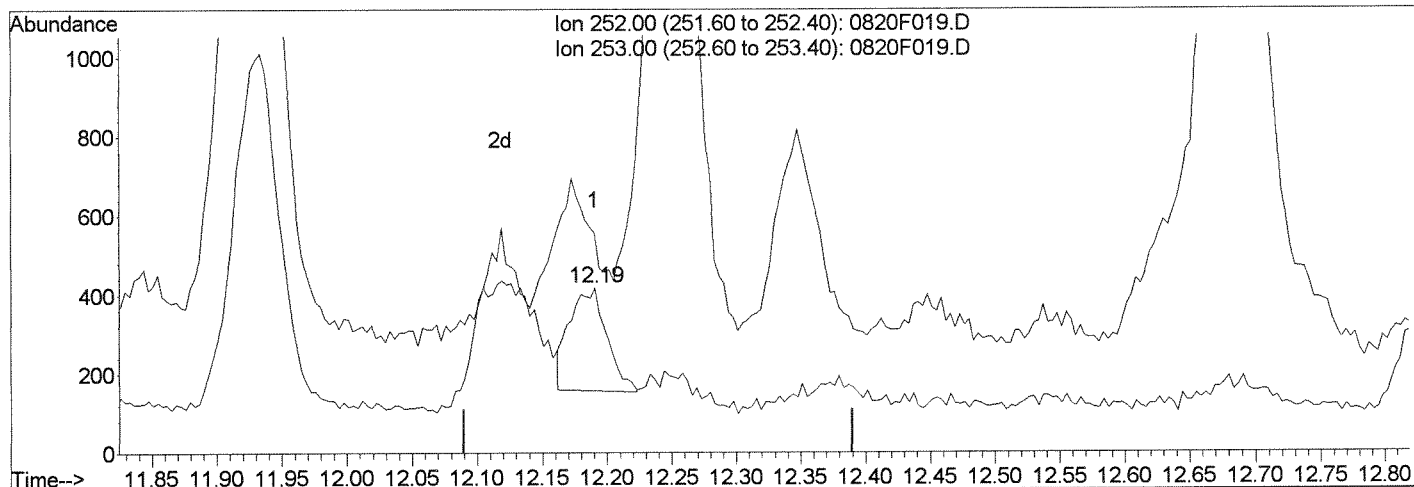
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:29 2014

Vial: 19  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F019.D

(29) Benzo(k)fluoranthene (T)			Manual Integration:
12.19min	0.54ng/ml		Before
response	515		
Ion	Exp%	Act%	08/21/14
252.00	100	100	<i>CHA</i>
253.00	22.10	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*LB*

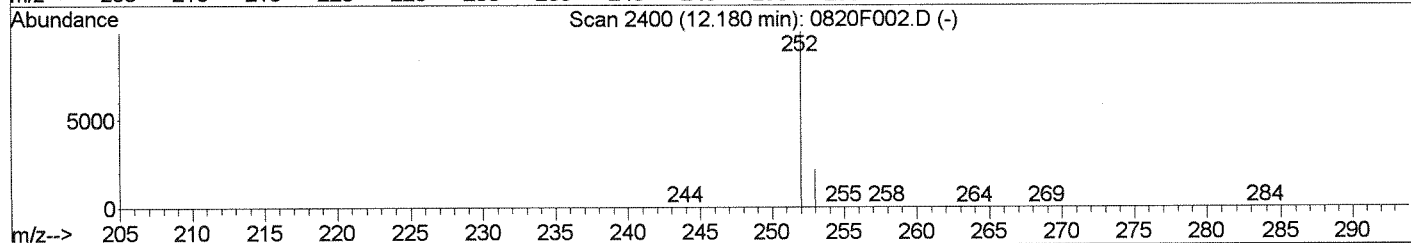
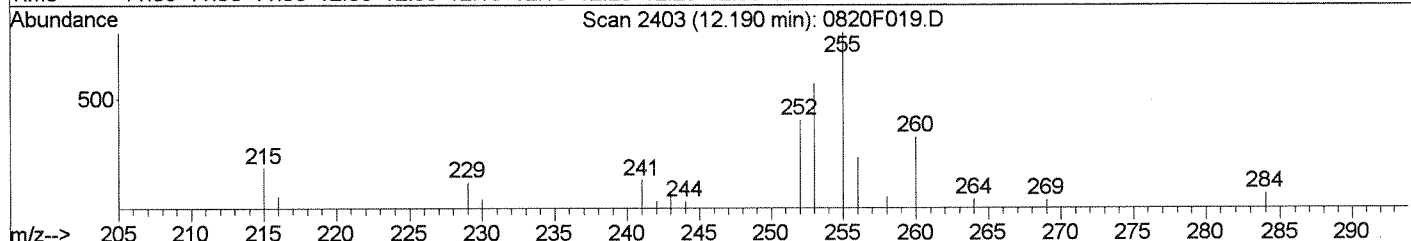
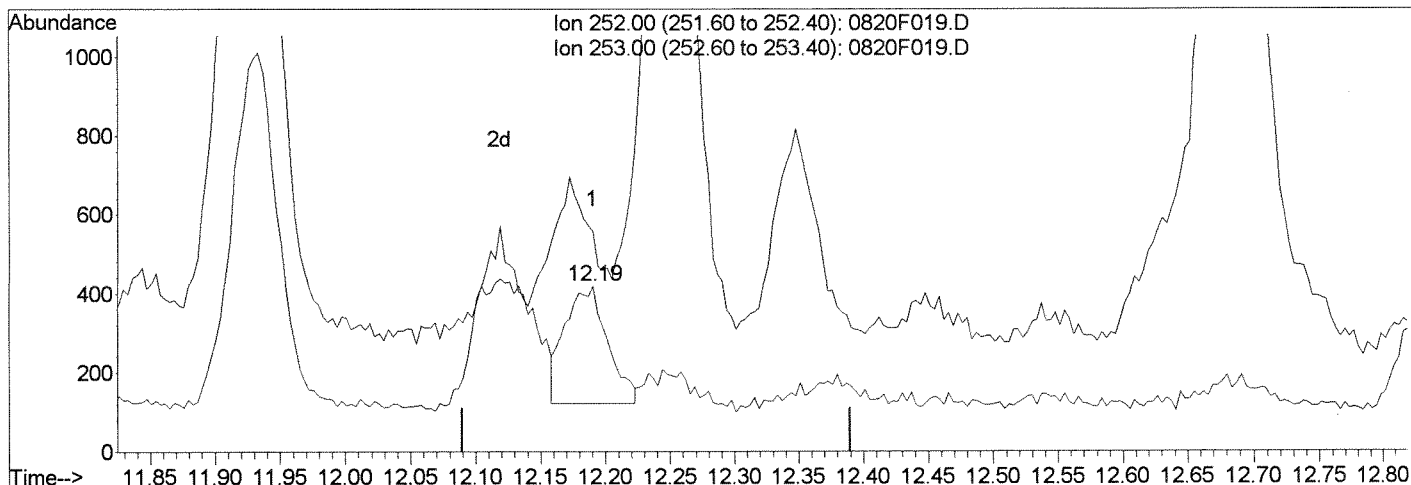
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F019.D  
 Acq On : 20 Aug 2014 5:32 pm  
 Sample : K1407971-011  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:30 2014

Vial: 19  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)

12.19min 0.71ng/ml m

response 676

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	132.94#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

08/21/14

*CAA*

*1/B*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F020.D  
**Lab ID:** K1407971-012  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 17:58  
**Date Quantitated:** 08/21/2014 09:33  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CA AUG 21 2014  
 Secondary Review: KB AUG 21 2014



## Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F020.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 17:58	<b>Quant Date:</b> 08/21/2014 12:21
<b>Run Type:</b> SMPL	<b>Vial:</b> 20
<b>Lab ID:</b> K1407971-012	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365437	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	131187	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	70695	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	135162	200.00	OK
4	Chrysene-d12	10.06	0.00	240	145185	200.00	OK
5	Perylene-d12	13.16	0.01	264	150594	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	69733	167.21	84	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	124460	163.52	82	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	104360	159.80	80	39-111	OK

### Target Compounds

										Final Conc. Units:	ug/Kg Dry Weight
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?	
1	Naphthalene	4.68	-0.01	0.00	128	791m	1.14	9.5	U		
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	386	0.7900	7.6	U		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	334	0.7800	7.0	U		
2	Acenaphthylene	6.16		0.00	152	317	0.4500	3.0	U		
2	Acenaphthene	6.31		0.00	154	810	1.97	12	J		
2	Fluorene	6.75		0.00	166	521	1.01	6.4	J		
3	Phenanthrene	7.55		0.00	178	1095m	1.47	9.3	J		
3	Anthracene	7.60	0.01	0.00	178	202	0.2700	2.5	U		
3	Fluoranthene	8.54	0.01	0.00	202	9444	10.86	69			
4	Pyrene	8.73		0.00	202	9927	9.91	63			
4	Benz(a)anthracene	10.05	0.01	0.00	228	485	0.5400	3.4	J		
4	Chrysene	10.09	-0.01	0.00	228	873m	1.11	7.0	J		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F020.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 17:58	<b>Quant Date:</b>	08/21/2014 12:21
<b>Run Type:</b>	SMPL	<b>Vial:</b>	20
<b>Lab ID:</b>	K1407971-012	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

						Final Conc. Units:	ug/Kg Dry Weight			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	886	0.9600	6.1	J	
5	Benzo(k)fluoranthene	12.18		0.00	252	564m	0.6100	3.9	J	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	459m	0.5200	4.7	U	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.1	U	
5	Dibenz(a,h)anthracene				278	0d		5.5	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	248m	0.2300	6.1	U	

**Prep Amount:** 10.213 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 15.5 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hiti above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:28 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	131187	200.00	ng/ml	-0.02
7) Acenaphthene-d10	6.29	164	70695	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	135162	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	145185	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	150594	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	69733	167.21	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.72%	
21) Fluoranthene-d10	8.52	212	124460	163.52	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.35%	
24) Terphenyl-d14	8.87	244	104360	159.80	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.98%	

Target Compounds

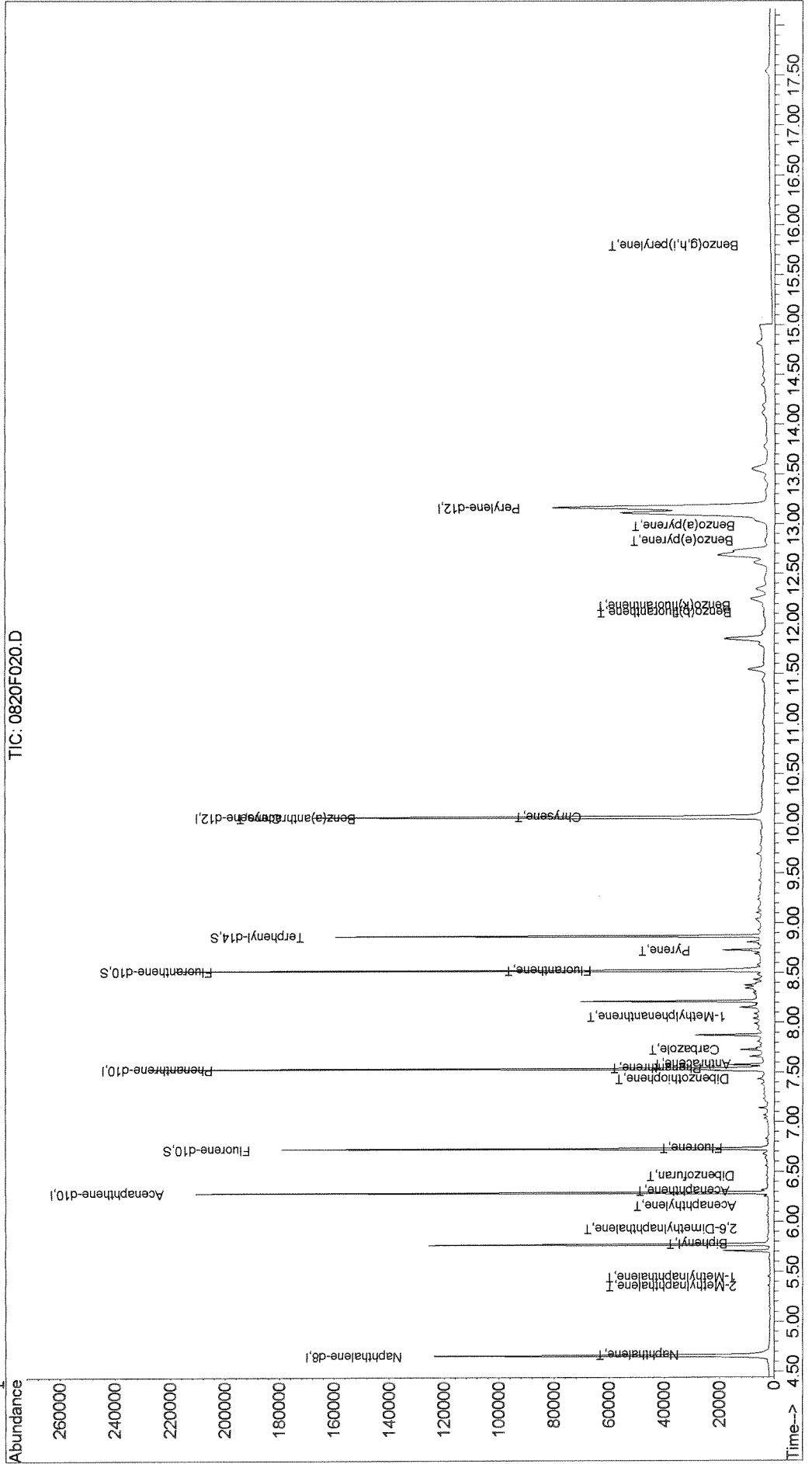
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	791m	1.14	ng/ml	
3) 2-Methylnaphthalene	5.36	142	386	0.79	ng/ml	93
4) 1-Methylnaphthalene	5.45	142	334	0.78	ng/ml	100
5) Biphenyl	5.79	154	232	0.40	ng/ml	75
6) 2,6-Dimethylnaphthalene	5.94	156	225	0.53	ng/ml	100
8) Acenaphthylene	6.16	152	317	0.45	ng/ml	97
9) Acenaphthene	6.31	154	810	1.97	ng/ml	76
10) Dibenzofuran	6.46	168	345	0.53	ng/ml	100
13) Fluorene	6.75	166	521	1.01	ng/ml	89
15) Dibenzothiophene	7.45	184	180m	0.25	ng/ml	
16) Phenanthrene	7.55	178	1095m	1.47	ng/ml	
17) Anthracene	7.60	178	202	0.27	ng/ml	86
18) Carbazole	7.74	167	246	0.38	ng/ml#	1
19) 1-Methylphenanthrene	8.06	192	247m	0.42	ng/ml	
20) Fluoranthene	8.54	202	9444	10.86	ng/ml	94
23) Pyrene	8.73	202	9927	9.91	ng/ml	92
25) Benz(a)anthracene	10.05	228	485	0.54	ng/ml	93
26) Chrysene	10.08	228	2999	3.80	ng/ml	99
28) Benzo(b)fluoranthene	12.12	252	886	0.96	ng/ml	80
29) Benzo(k)fluoranthene	12.18	252	564m	0.61	ng/ml	
30) Benzo(e)pyrene	12.84	252	757	0.85	ng/ml	83
31) Benzo(a)pyrene	12.97	252	459m	0.52	ng/ml	
35) Benzo(g,h,i)perylene	15.79	276	248m	0.23	ng/ml	

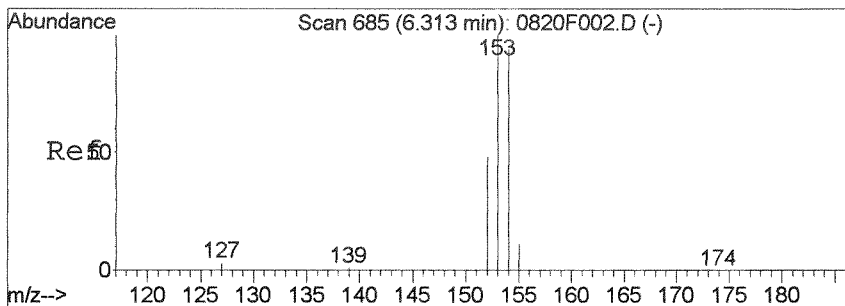
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:33 2014  
 Quant Results File: 072214SIMPAAH.RES

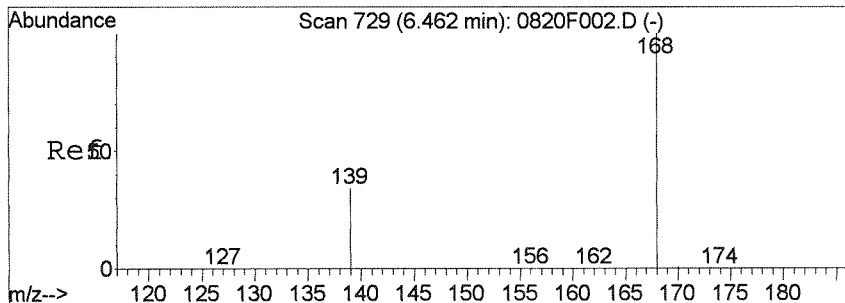
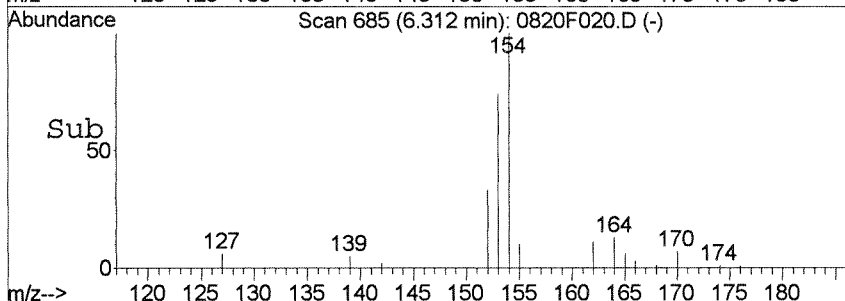
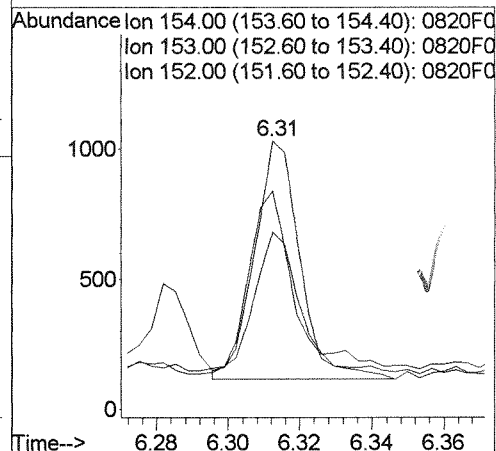
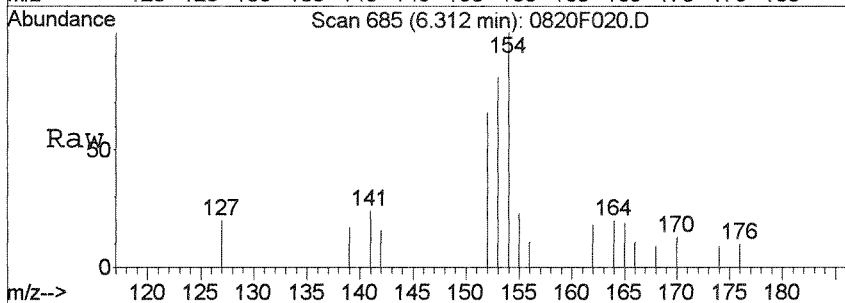
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





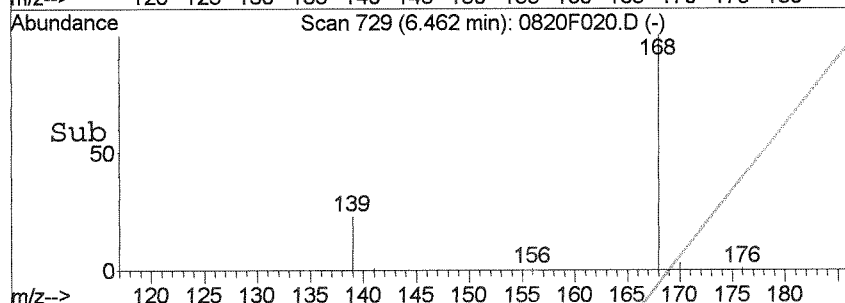
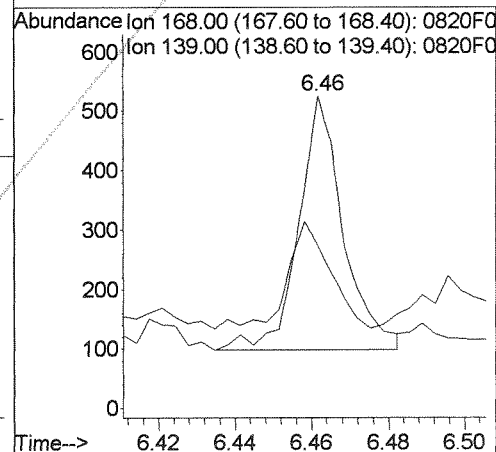
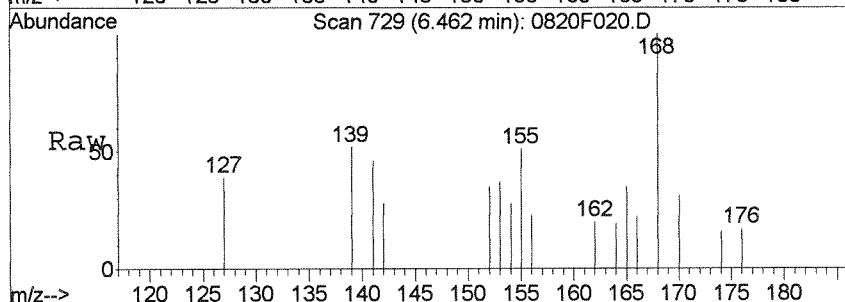
#9  
 Acenaphthene  
 Concen: 1.97 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

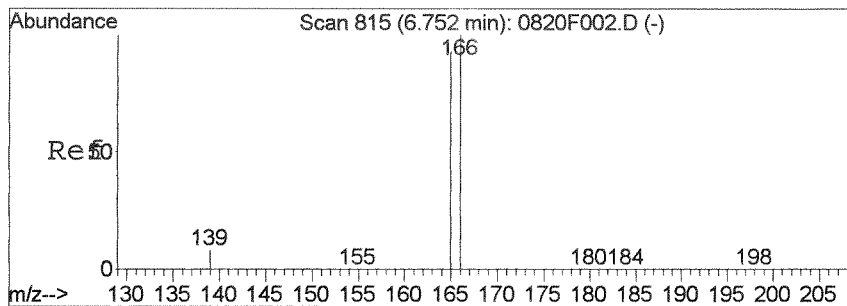
Tgt Ion	Resp	Lower	Upper
154	100		
153	74.4	72.5	132.5
152	58.9	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.53 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

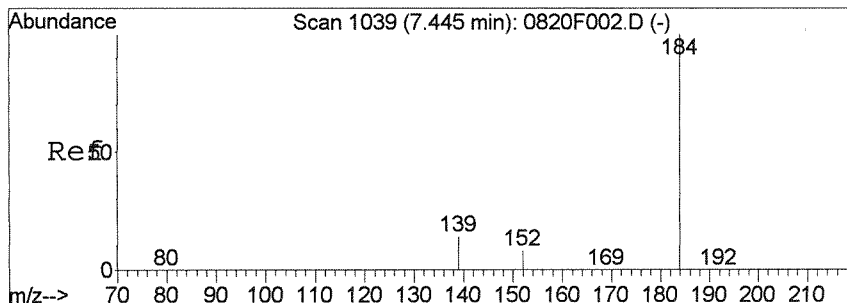
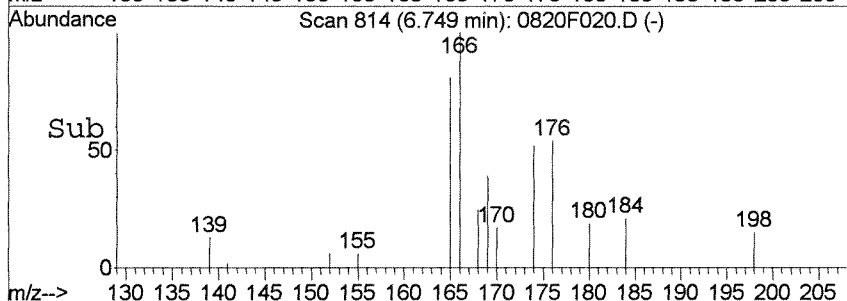
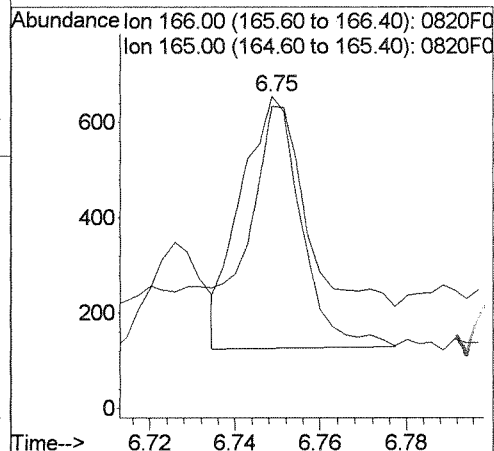
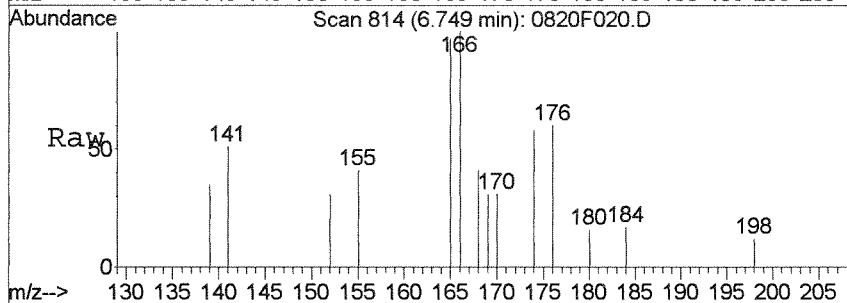
Tgt Ion	Resp	Lower	Upper
168	100		
139	32.5	2.7	62.7





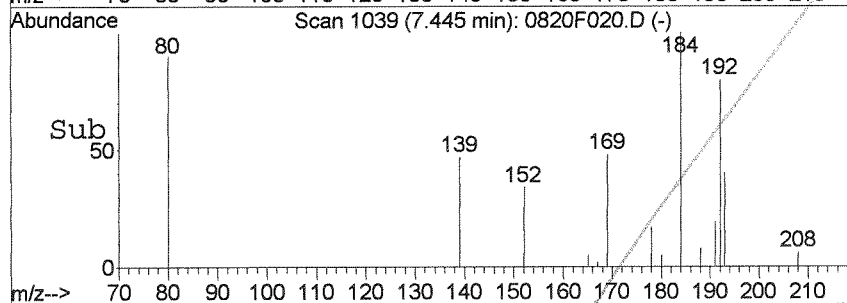
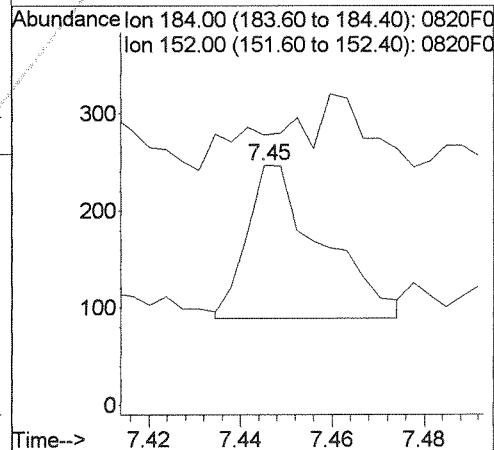
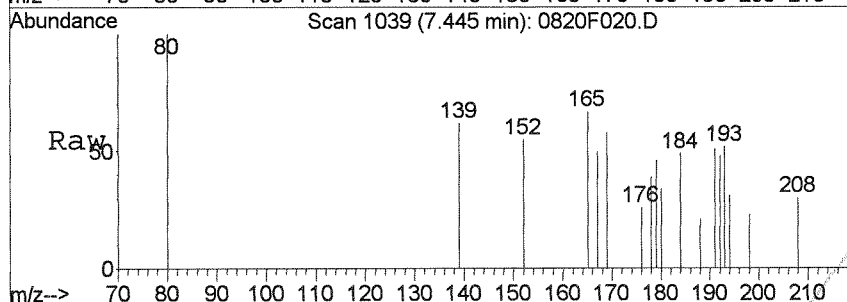
#13  
 Fluorene  
 Concen: 1.01 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

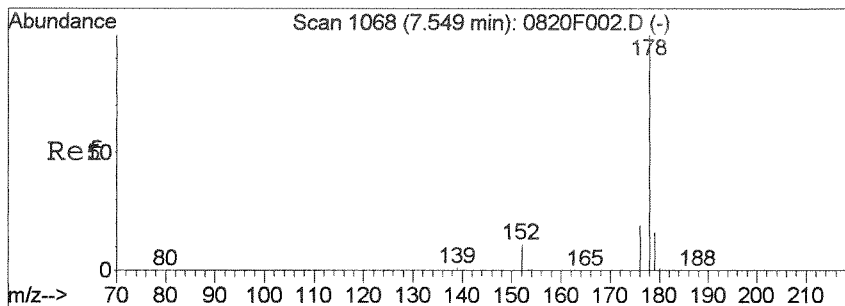
Tgt Ion	Resp	Lower	Upper
166	100		
165	80.2	60.9	120.9



#15  
 Dibenzothiophene  
 Concen: 0.25 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

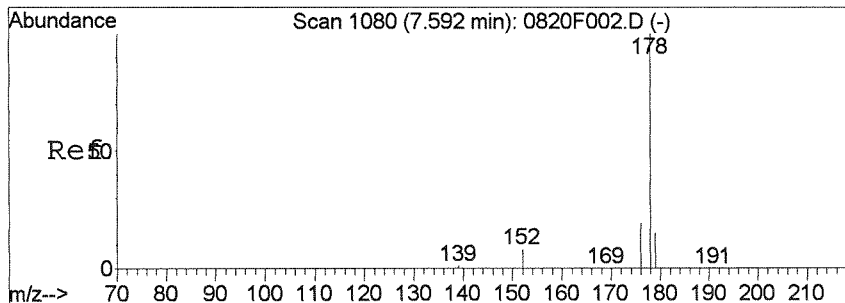
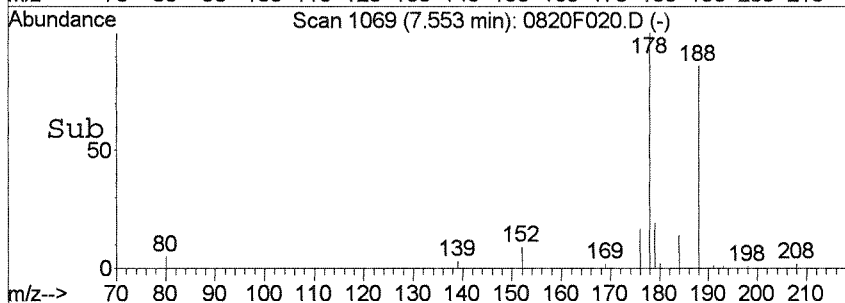
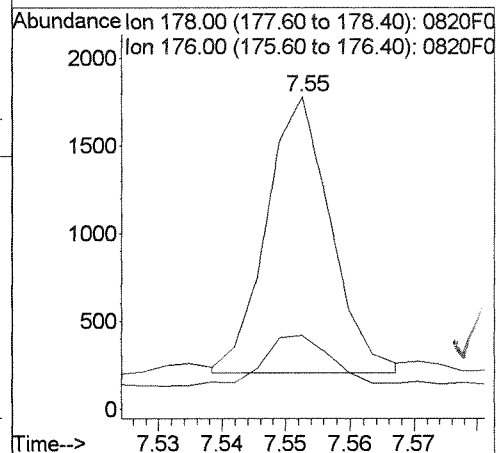
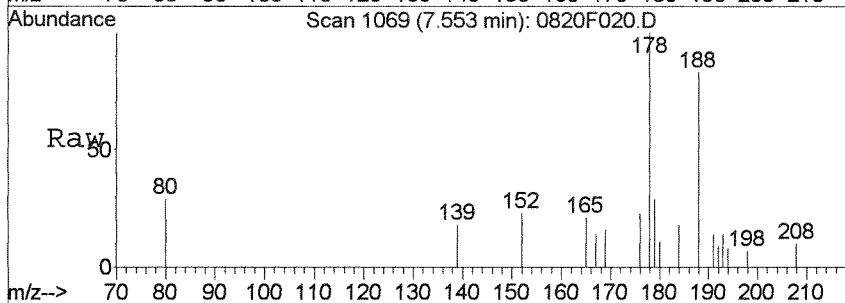
Tgt Ion	Resp	Lower	Upper
184	100		
152	112.6	0.0	39.9#





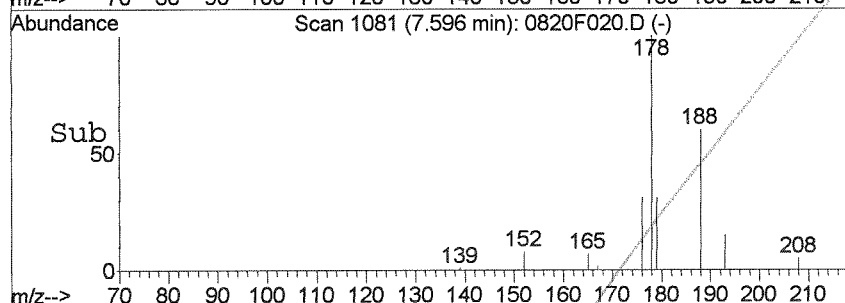
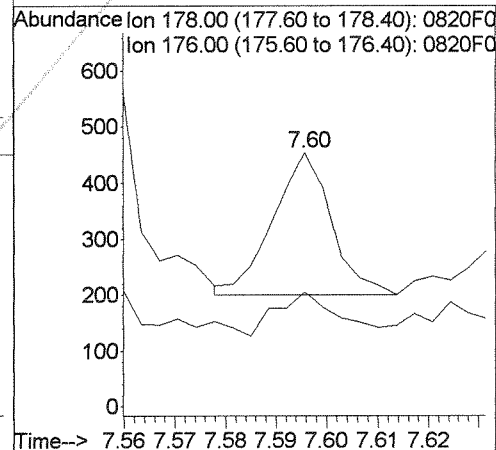
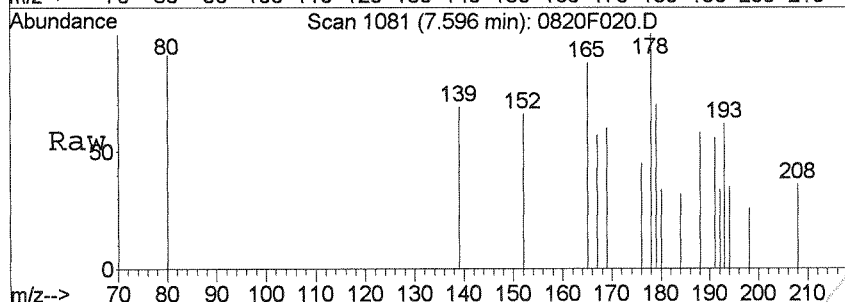
#16  
 Phenanthrene  
 Concen: 1.47 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

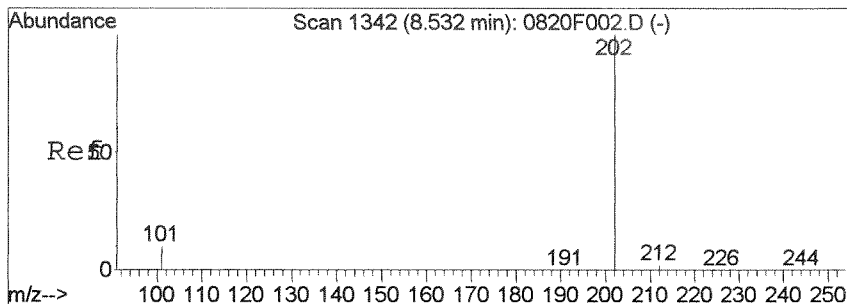
Tgt Ion	Resp	Lower	Upper
178	1095		
176	23.4	0.0	48.9



#17  
 Anthracene  
 Concen: 0.27 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

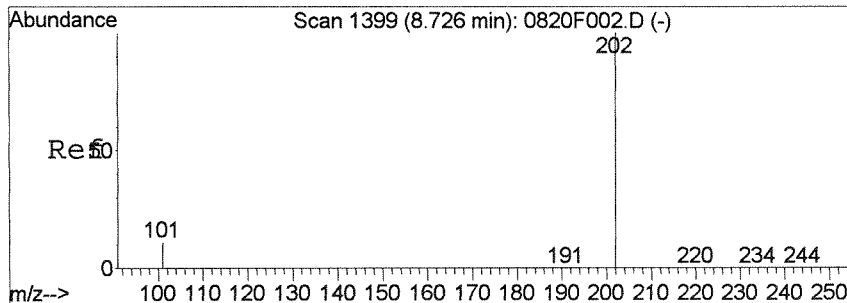
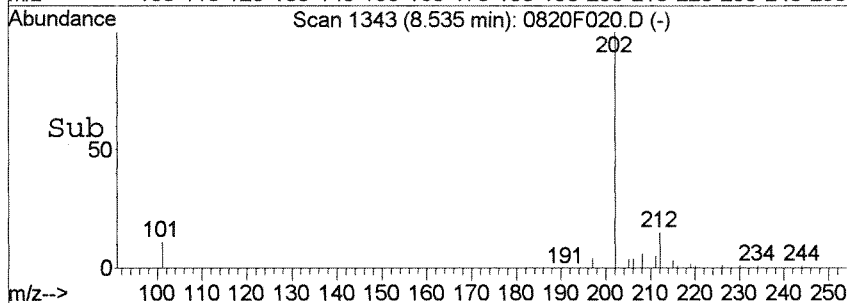
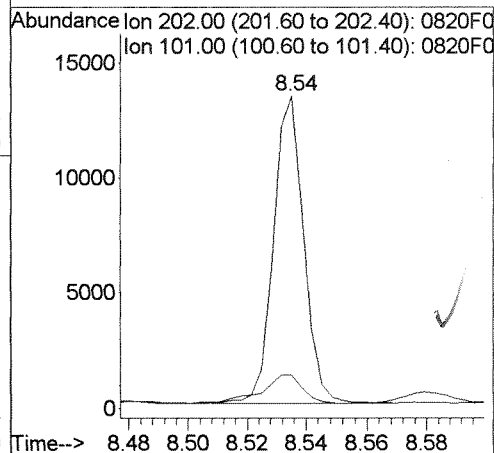
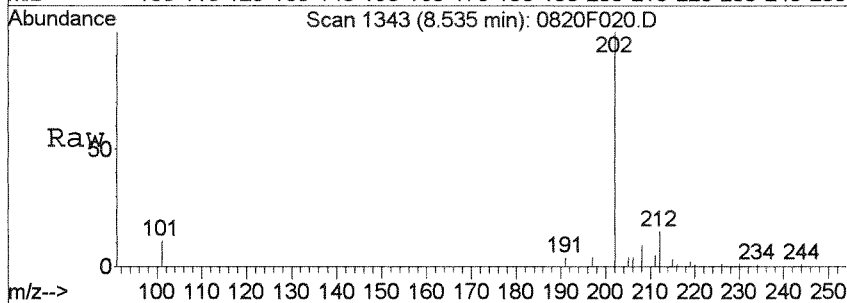
Tgt Ion	Resp	Lower	Upper
178	202		
176	23.7	0.0	47.7





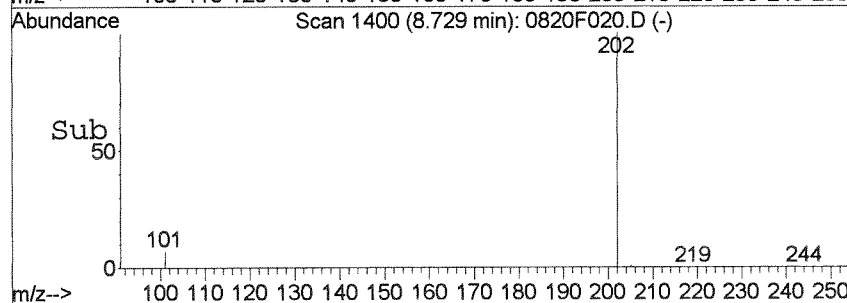
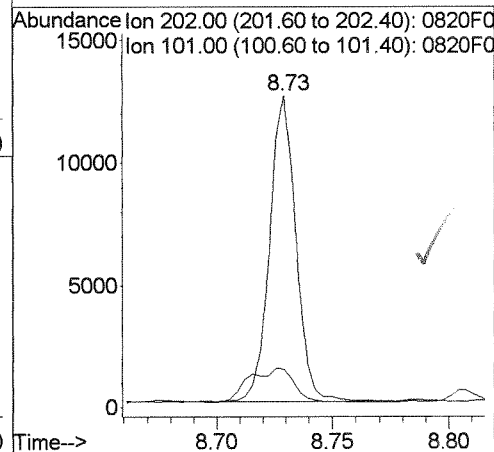
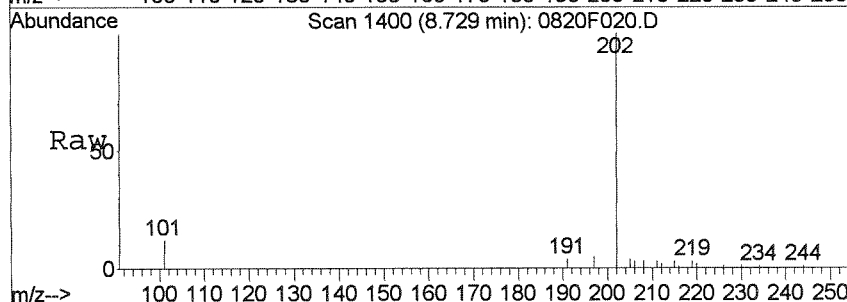
#20  
 Fluoranthene  
 Concen: 10.86 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

Tgt Ion	Resp	Lower	Upper
202	9444	100	
101	9.1	0.0	37.0

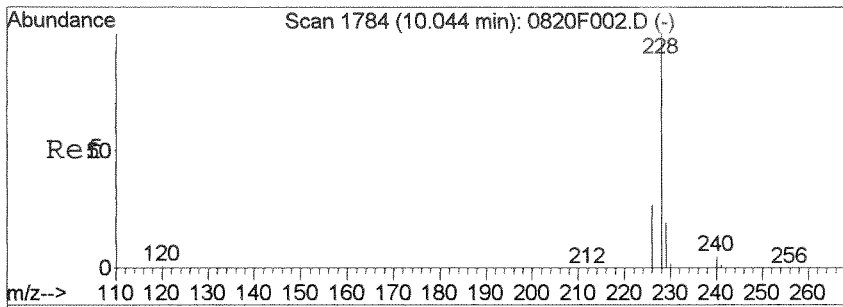


#23  
 Pyrene  
 Concen: 9.91 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

Tgt Ion	Resp	Lower	Upper
202	9927	100	
101	11.0	0.0	38.3

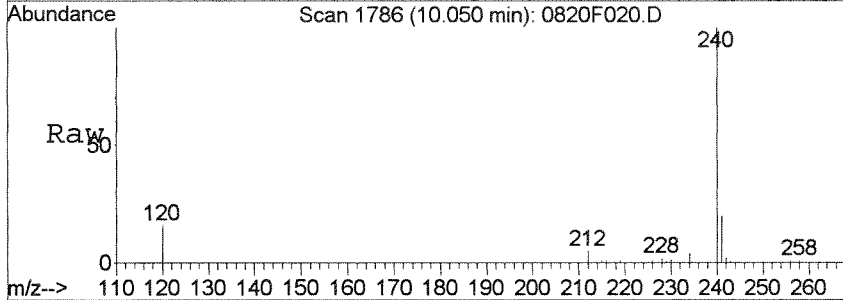




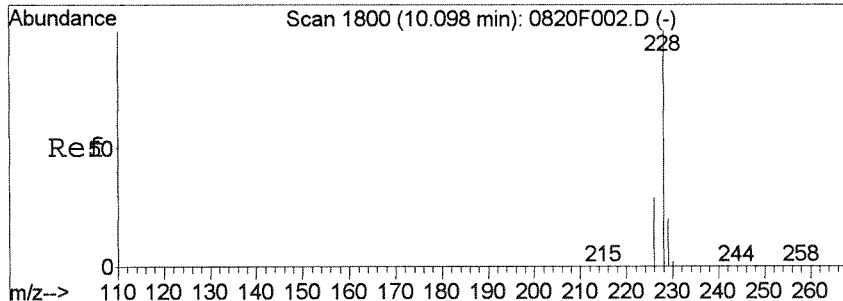
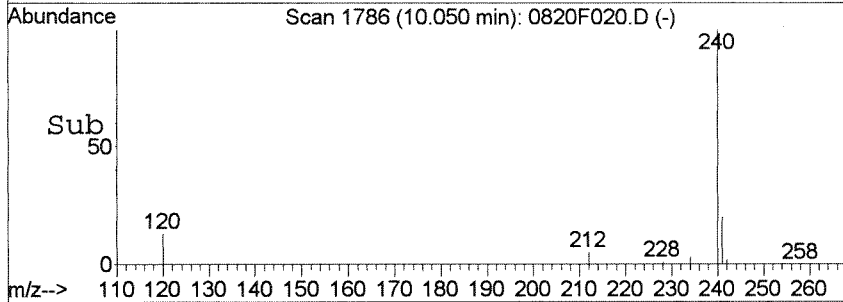
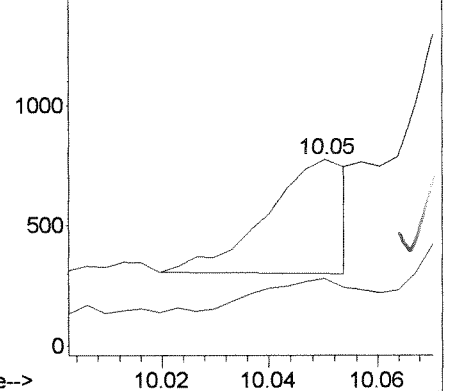


#25  
Benz (a) anthracene  
Concen: 0.54 ng/ml  
RT: 10.05 min Scan# 1786  
Delta R.T. 0.00 min  
Lab File: 0820F020.D  
Acq: 20 Aug 2014 5:58 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	30.1	0.0	56.4

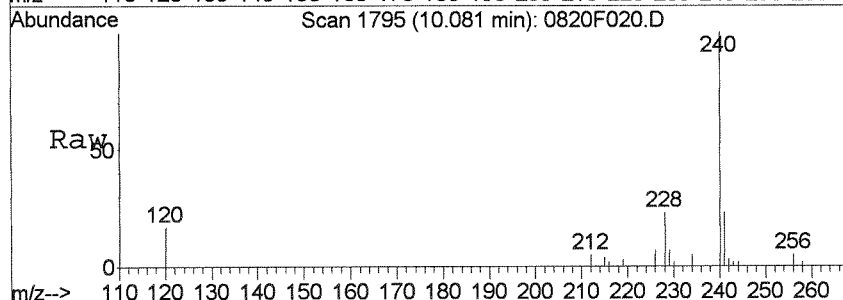


Abundance Ion 228.00 (227.60 to 228.40): 0820F0  
1500 Ion 226.00 (225.60 to 226.40): 0820F0

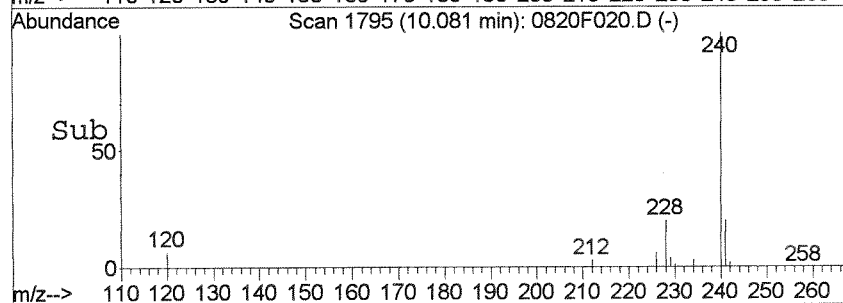
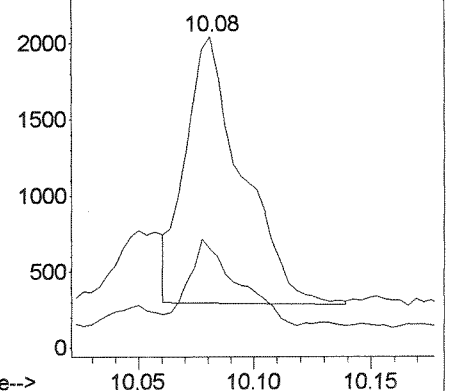


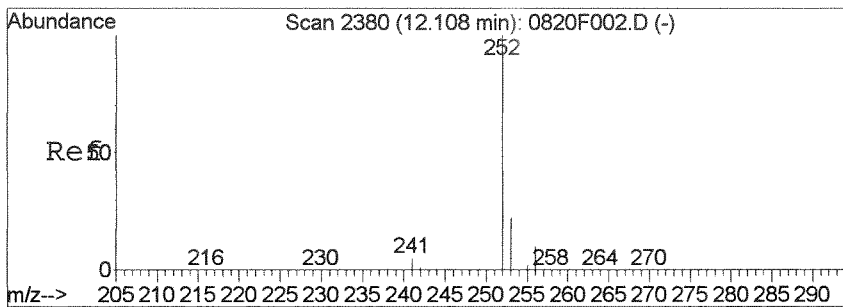
#26 *See man. int'g.*  
Chrysene  
Concen: 3.80 ng/ml  
RT: 10.08 min Scan# 1795  
Delta R.T. -0.02 min  
Lab File: 0820F020.D  
Acq: 20 Aug 2014 5:58 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	29.2	0.0	58.6



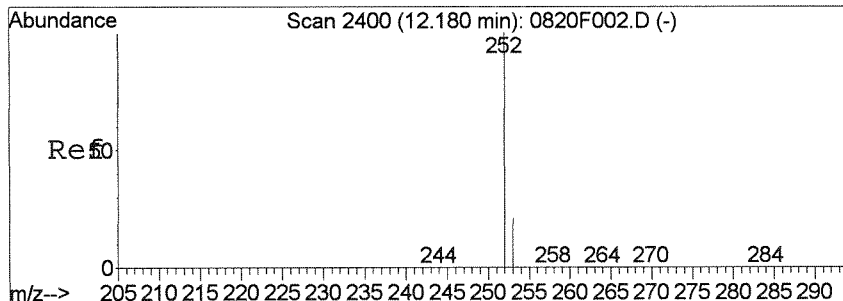
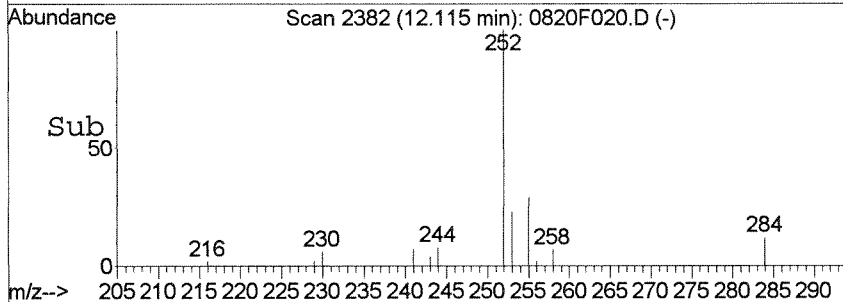
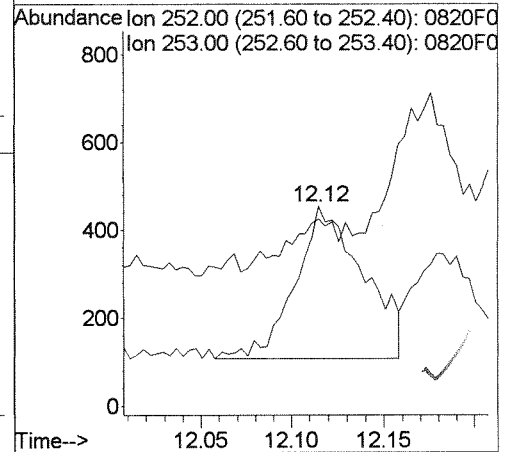
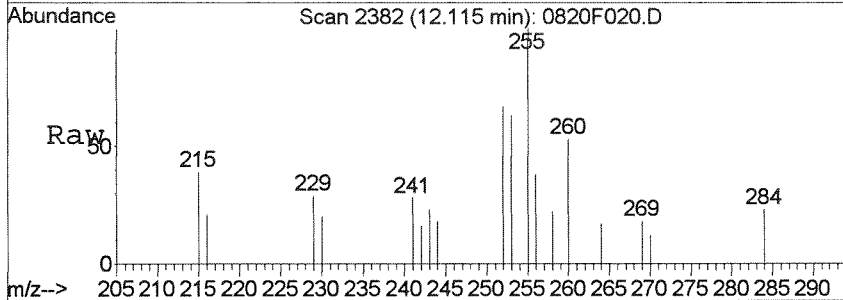
Abundance Ion 228.10 (227.70 to 228.50): 0820F0  
2000 Ion 226.00 (225.60 to 226.40): 0820F0





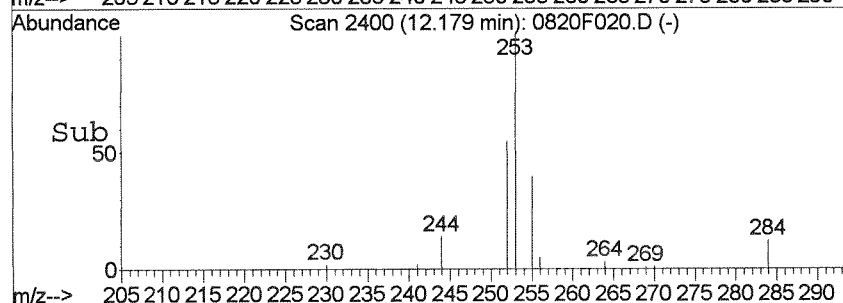
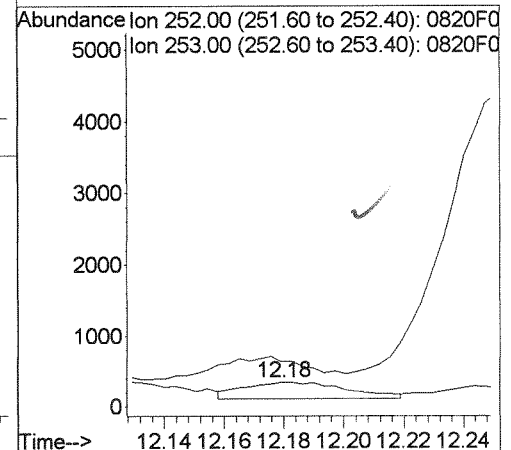
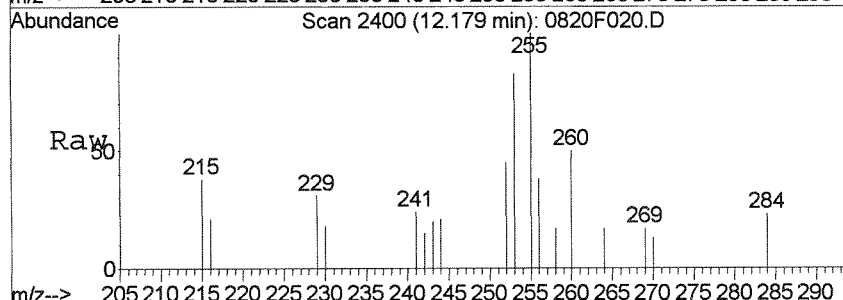
#28  
 Benzo (b) fluoranthene  
 Concen: 0.96 ng/ml  
 RT: 12.12 min Scan# 2382  
 Delta R.T. -0.00 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

Tgt Ion: 252 Resp: 886  
 Ion Ratio Lower Upper  
 252 100  
 253 31.5 0.0 52.1



#29  
 Benzo (k) fluoranthene  
 Concen: 0.61 ng/ml m  
 RT: 12.18 min Scan# 2400  
 Delta R.T. -0.01 min  
 Lab File: 0820F020.D  
 Acq: 20 Aug 2014 5:58 pm

Tgt Ion: 252 Resp: 564  
 Ion Ratio Lower Upper  
 252 100  
 253 184.1 0.0 52.1#



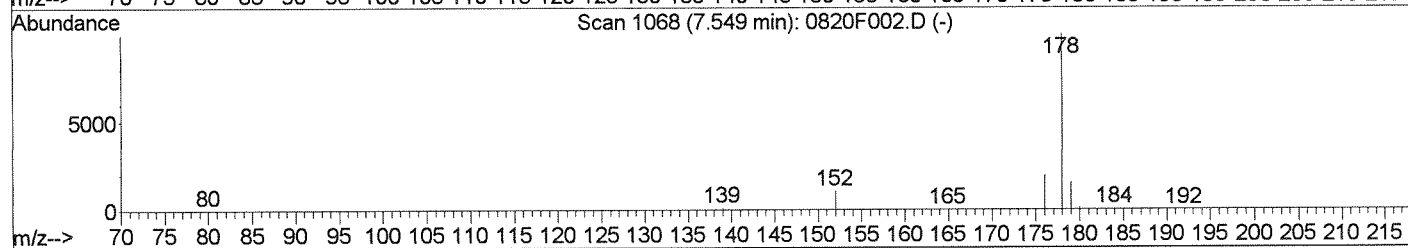
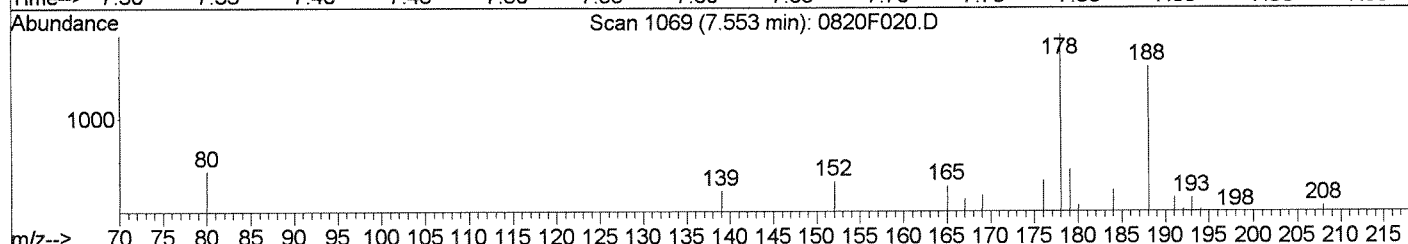
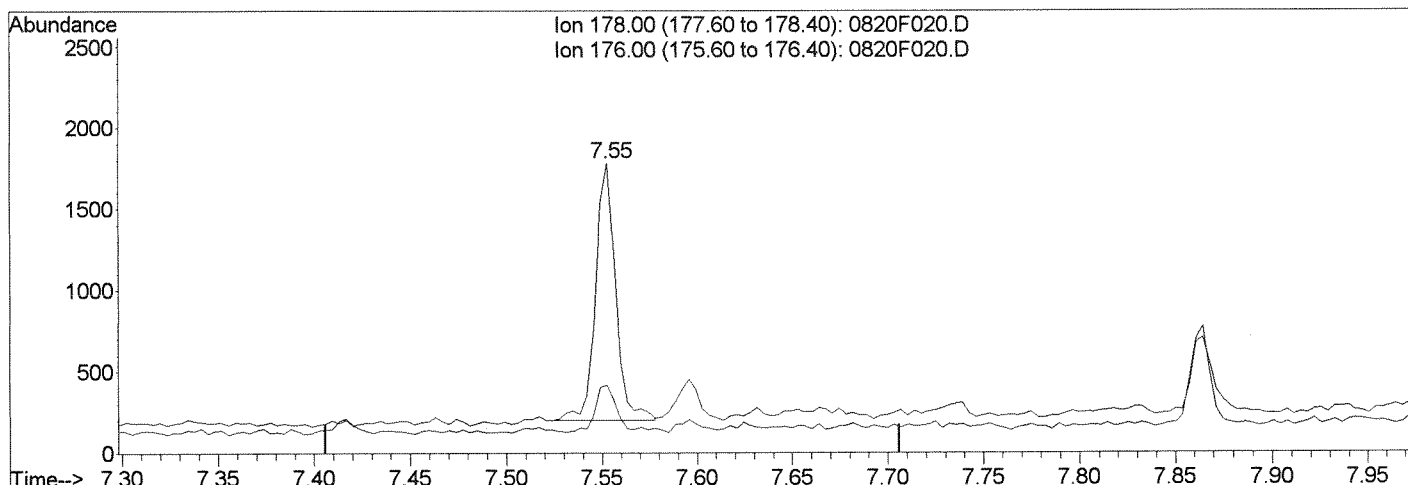
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:31 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F020.D

(16) Phenanthrene (T)

7.55min 1.57ng/ml

response 1170

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	17.45
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CA

LB

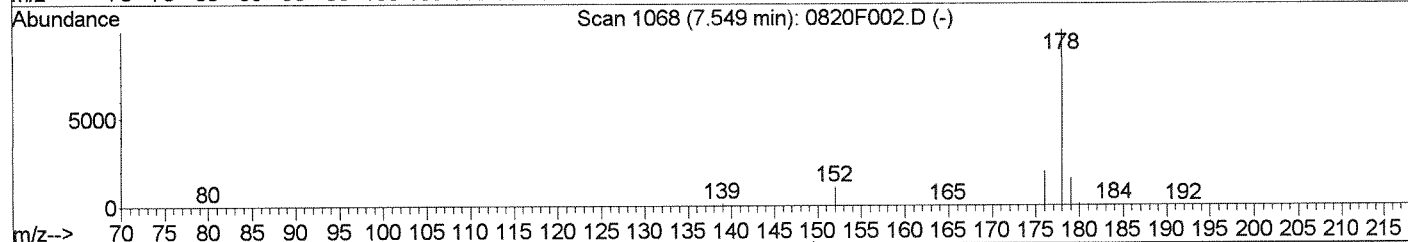
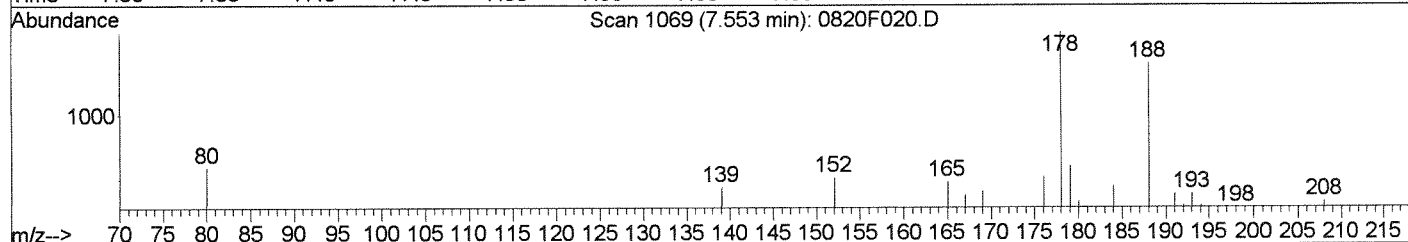
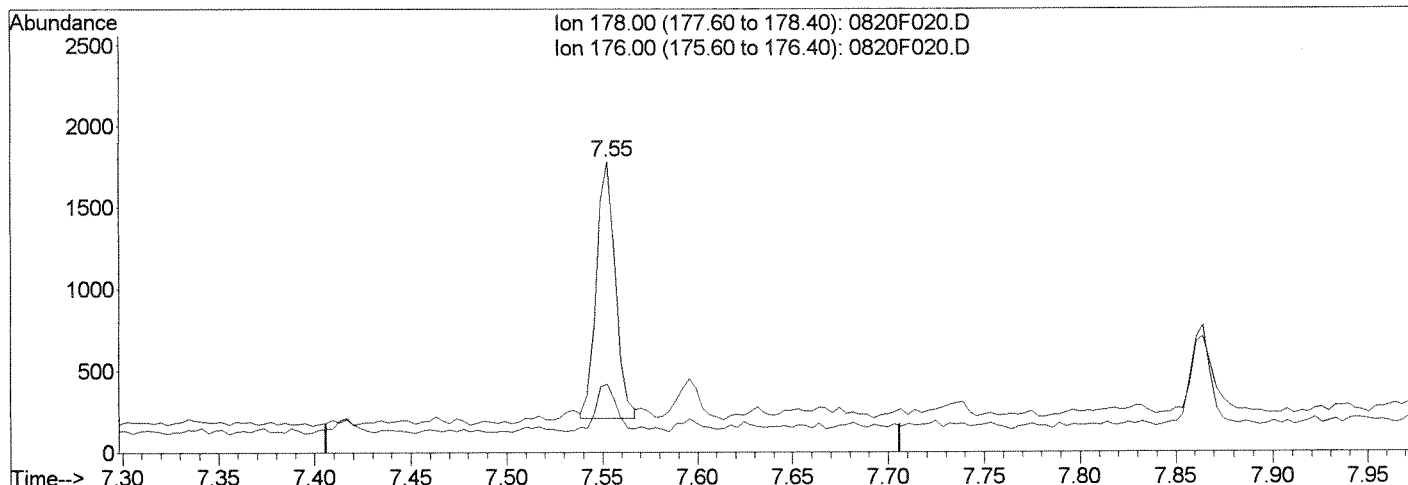
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:31 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F020.D

(16) Phenanthrene (T)

7.55min 1.47ng/ml m

response 1095

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	23.44
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

*143*

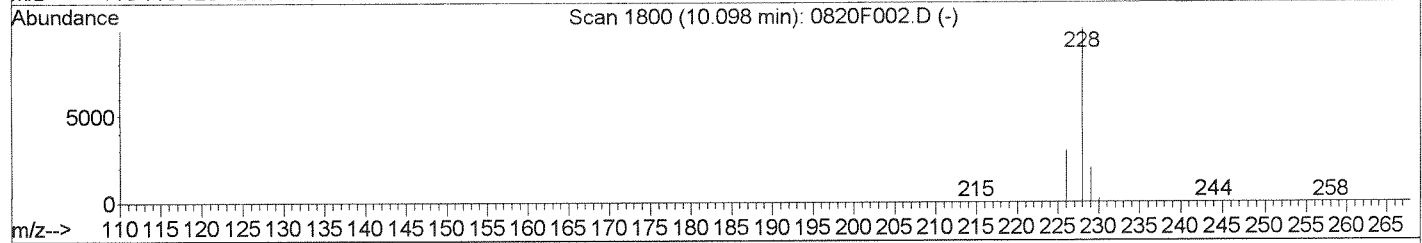
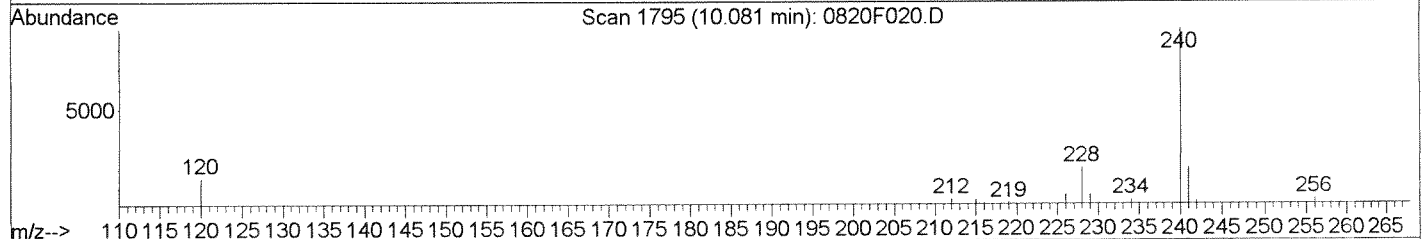
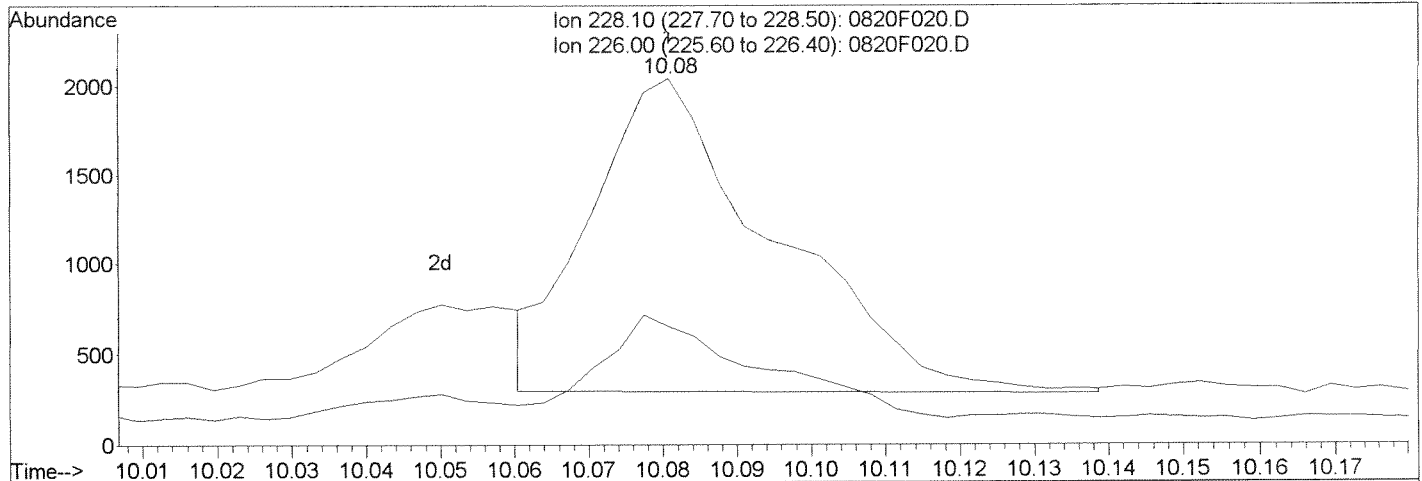
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:33 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F020.D

(26) Chrysene (T)  
 10.08min 3.80ng/ml  
 response 2999  

Ion	Exp%	Act%
228.10	100	100
226.00	28.60	29.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*  
*143*

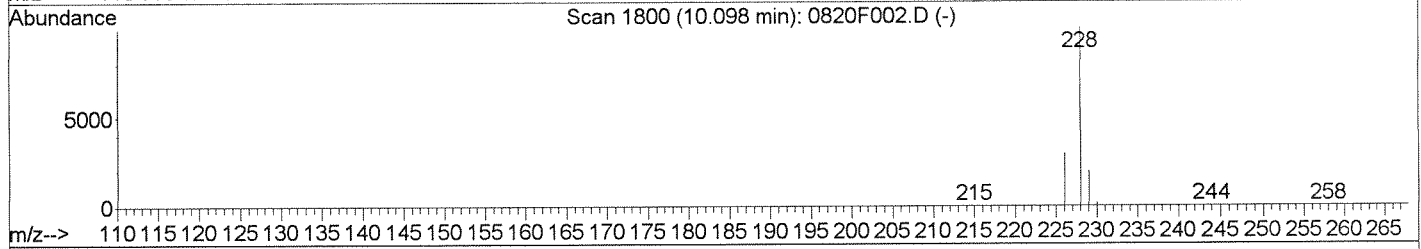
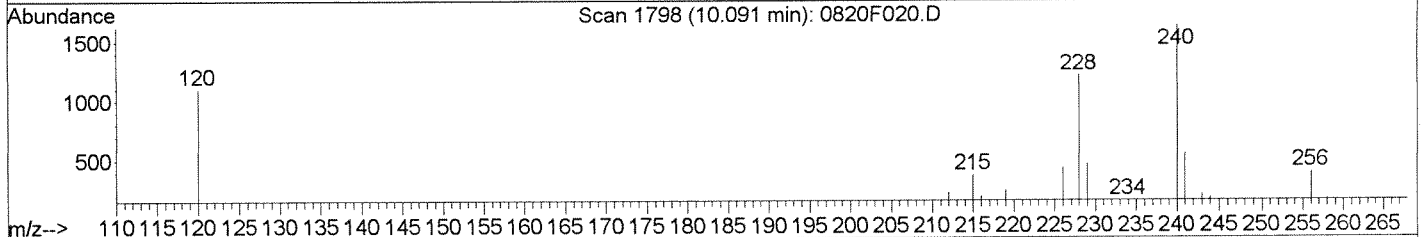
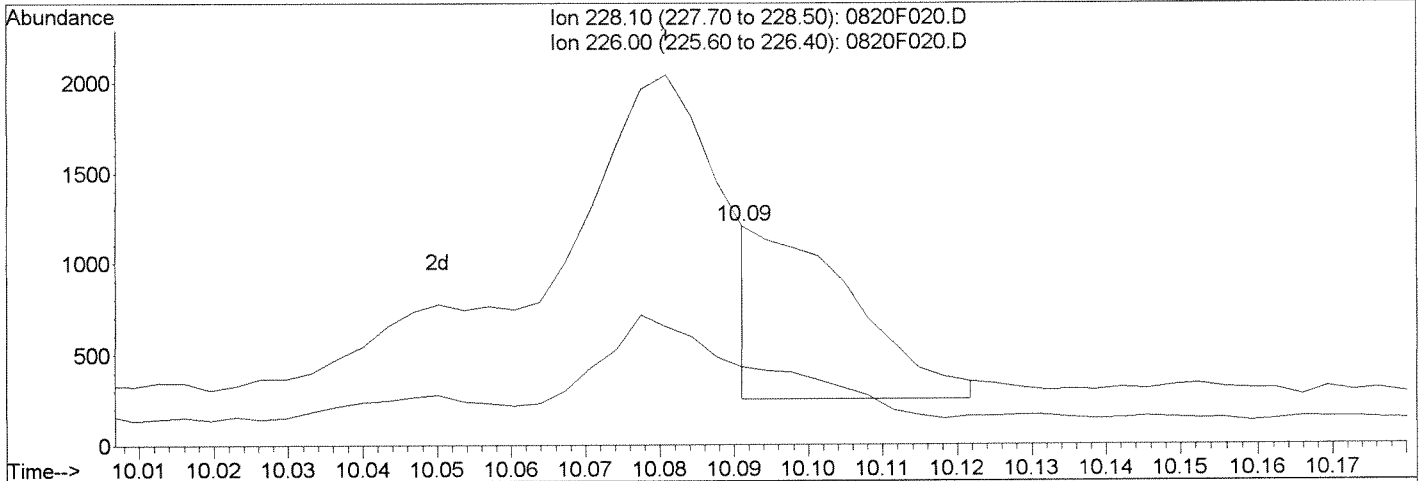
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 12:21 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F020.D

(26) Chrysene (T)		
10.09min	1.11ng/ml	m
response	873	
Ion	Exp%	Act%
228.10	100	100
226.00	28.60	35.79
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

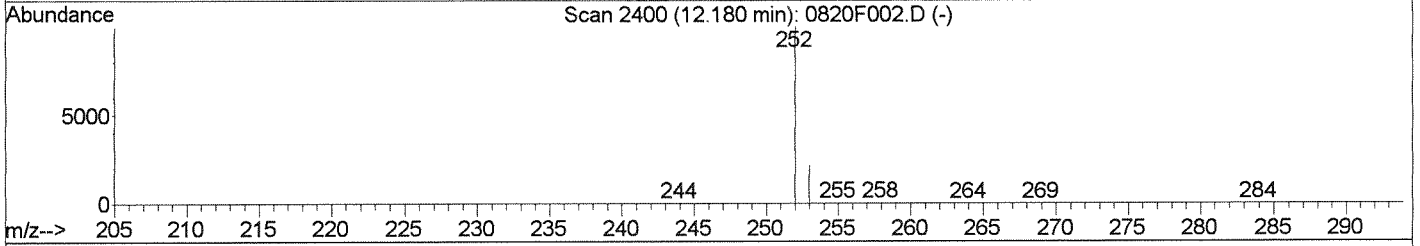
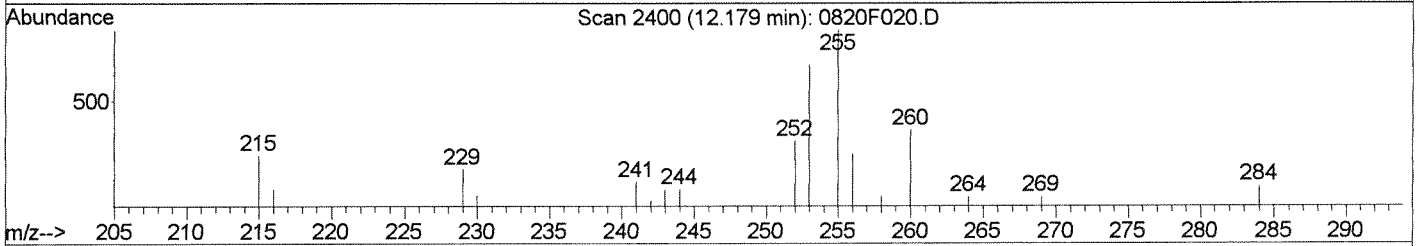
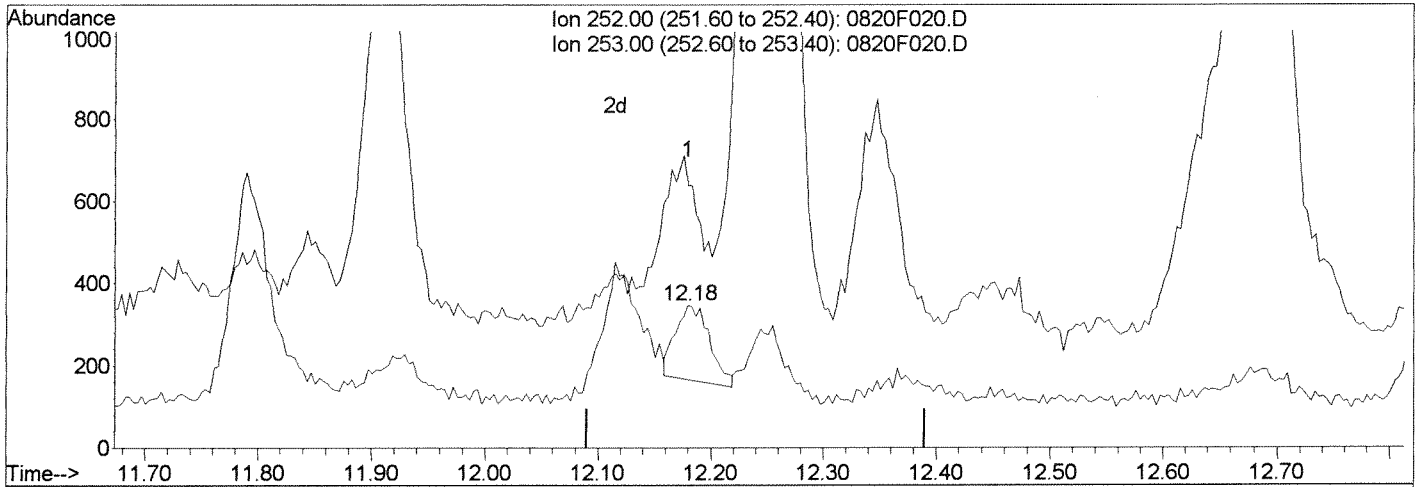
*du*  
*AB*

Data File : J:\MS14\DATA\082014\0820F020.D  
Acq On : 20 Aug 2014 5:58 pm  
Sample : K1407971-012  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:32 2014

Vial: 20  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)

12.18min 0.42ng/ml

response 382

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	25.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CA

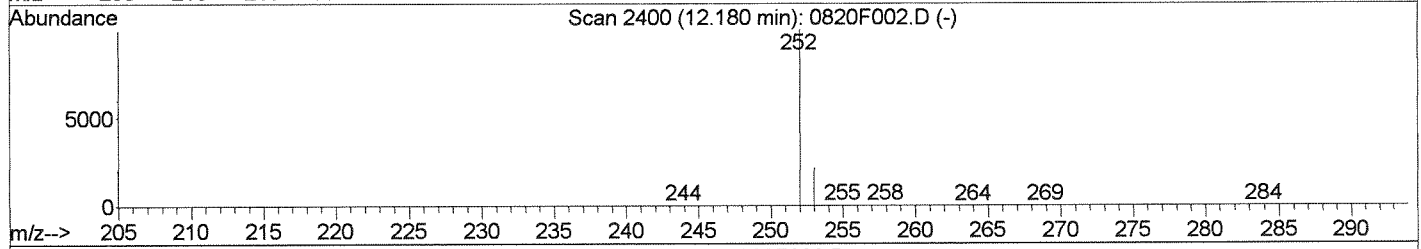
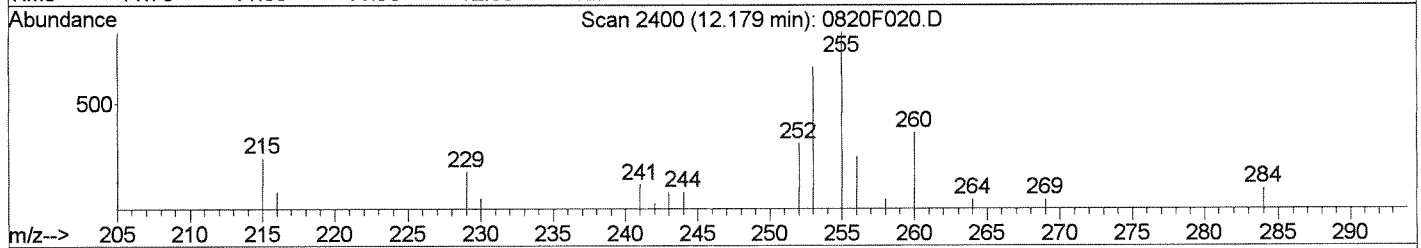
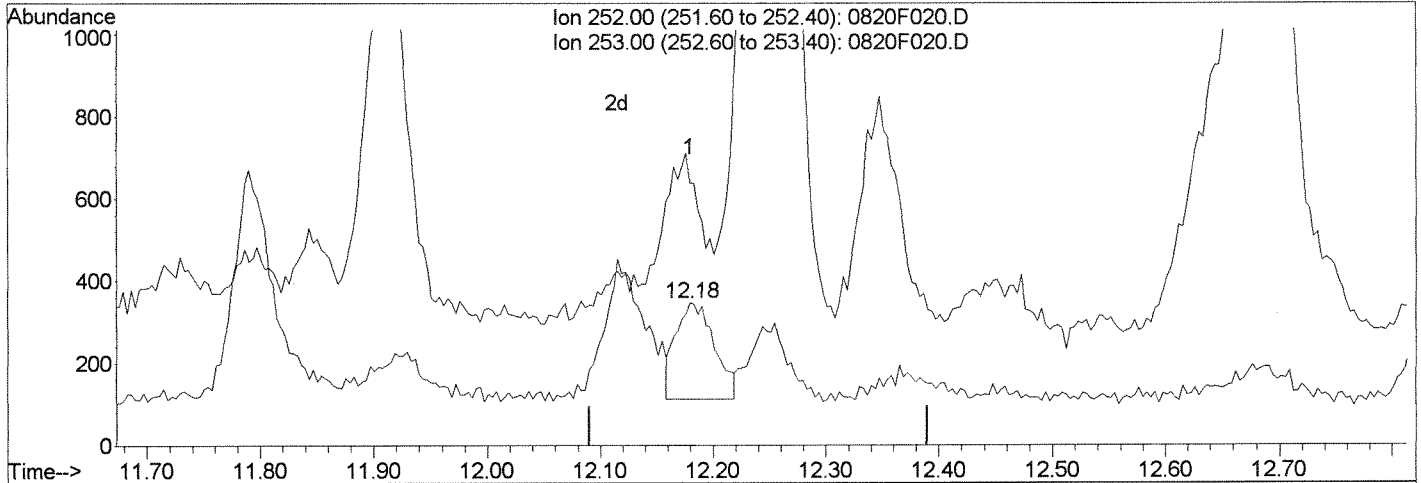
LB

Data File : J:\MS14\DATA\082014\0820F020.D  
 Acq On : 20 Aug 2014 5:58 pm  
 Sample : K1407971-012  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:32 2014

Vial: 20  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)

12.18min 0.61ng/ml m

response 564

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	184.15#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

08/21/14

*CA*

*LB*



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F021.D  
**Lab ID:** K1407971-013  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 18:23  
**Date Quantitated:** 08/21/2014 09:35  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CAA AUG 21 2014

Secondary Review: LS AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F021.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 18:23	<b>Quant Date:</b> 08/21/2014 12:25
<b>Run Type:</b> SMPL	<b>Vial:</b> 21
<b>Lab ID:</b> K1407971-013	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365438	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	133479	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	73376	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	140640	200.00	OK
4	Chrysene-d12	10.06	0.00	240	152744	200.00	OK
5	Perylene-d12	13.17	0.02	264	157883	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	74925	173.09	87	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	132796	167.68	84	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	112326	163.49	82	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	891	1.26	9.5	U	
1	2-Methylnaphthalene	5.37		0.00	142	352	0.7100	7.6	U	
1	1-Methylnaphthalene	5.46		0.00	142	282	0.6500	7.0	U	
2	Acenaphthylene	6.17	0.01	0.00	152	116m	0.1600	3.0	U	
2	Acenaphthene	6.32	0.01	0.00	154	818	1.92	12	J	
2	Fluorene	6.75		0.00	166	494	0.9200	5.8	J	
3	Phenanthrene	7.55		0.00	178	831m	1.07	6.8	J	
3	Anthracene	7.60	0.01	0.00	178	149	0.1900	2.5	U	
3	Fluoranthene	8.54	0.01	0.00	202	8365	9.24	58		
4	Pyrene	8.73		0.00	202	8369	7.94	50		
4	Benz(a)anthracene	10.05	0.01	0.00	228	598	0.6400	4.1	J	
4	Chrysene	10.10		0.00	228	388m	0.4700	3.5	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F021.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 18:23	<b>Quant Date:</b>	08/21/2014 12:25
<b>Run Type:</b>	SMPL	<b>Vial:</b>	21
<b>Lab ID:</b>	K1407971-013	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

<b>Target Compounds</b>					<b>Final Conc. Units:</b>		<b>ug/Kg Dry Weight</b>			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene	12.12	0.01	0.00	252	782	0.8100	5.1	J	
5	Benzo(k)fluoranthene	12.18		0.00	252	568m	0.5900	3.7	J	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	3015	3.24	21	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.1	U	
5	Dibenz(a,h)anthracene				278	0d		5.5	U	
5	Benzo(g,h,i)perylene	15.79	0.02	0.00	276	174	0.1500	6.1	U	

**Prep Amount:** 10.395 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F021.D  
 Acq On : 20 Aug 2014 6:23 pm  
 Sample : K1407971-013  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:28 2014

Vial: 21  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	133479	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	73376	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	140640	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	152744	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	157883	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	74925	173.09	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.31%	
21) Fluoranthene-d10	8.52	212	132796	167.68	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.77%	
24) Terphenyl-d14	8.87	244	112326	163.49	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.35%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	891	1.26	ng/ml	94
3) 2-Methylnaphthalene	5.37	142	352	0.71	ng/ml	97
4) 1-Methylnaphthalene	5.46	142	282	0.65	ng/ml	90
5) Biphenyl	5.79	154	314	0.54	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.94	156	302	0.69	ng/ml	94
8) Acenaphthylene	6.17	152	116m	0.16	ng/ml	
9) Acenaphthene	6.32	154	818	1.92	ng/ml#	65
10) Dibenzofuran	6.47	168	277m	0.41	ng/ml	
13) Fluorene	6.75	166	494	0.92	ng/ml	71
15) Dibenzothiophene	7.44	184	164m	0.22	ng/ml	
16) Phenanthrene	7.55	178	831m	1.07	ng/ml	
17) Anthracene	7.60	178	149	0.19	ng/ml	95
18) Carbazole	7.74	167	318	0.47	ng/ml#	1
19) 1-Methylphenanthrene	8.06	192	78	0.13	ng/ml	86
20) Fluoranthene	8.54	202	8365	9.24	ng/ml	92
23) Pyrene	8.73	202	8369	7.94	ng/ml#	10
25) Benz(a)anthracene	10.05	228	598	0.64	ng/ml	89
26) Chrysene	10.10	228	388m	0.47	ng/ml	
28) Benzo(b)fluoranthene	12.12	252	782	0.81	ng/ml	53
29) Benzo(k)fluoranthene	12.18	252	568m	0.59	ng/ml	
30) Benzo(e)pyrene	12.83	252	649	0.70	ng/ml	81
31) Benzo(a)pyrene	12.97	252	3015	3.24	ng/ml#	1
35) Benzo(g,h,i)perylene	15.79	276	174	0.15	ng/ml	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F021.D  
 Acq On : 20 Aug 2014 6:23 pm  
 Sample : K1407971-013  
 Misc :

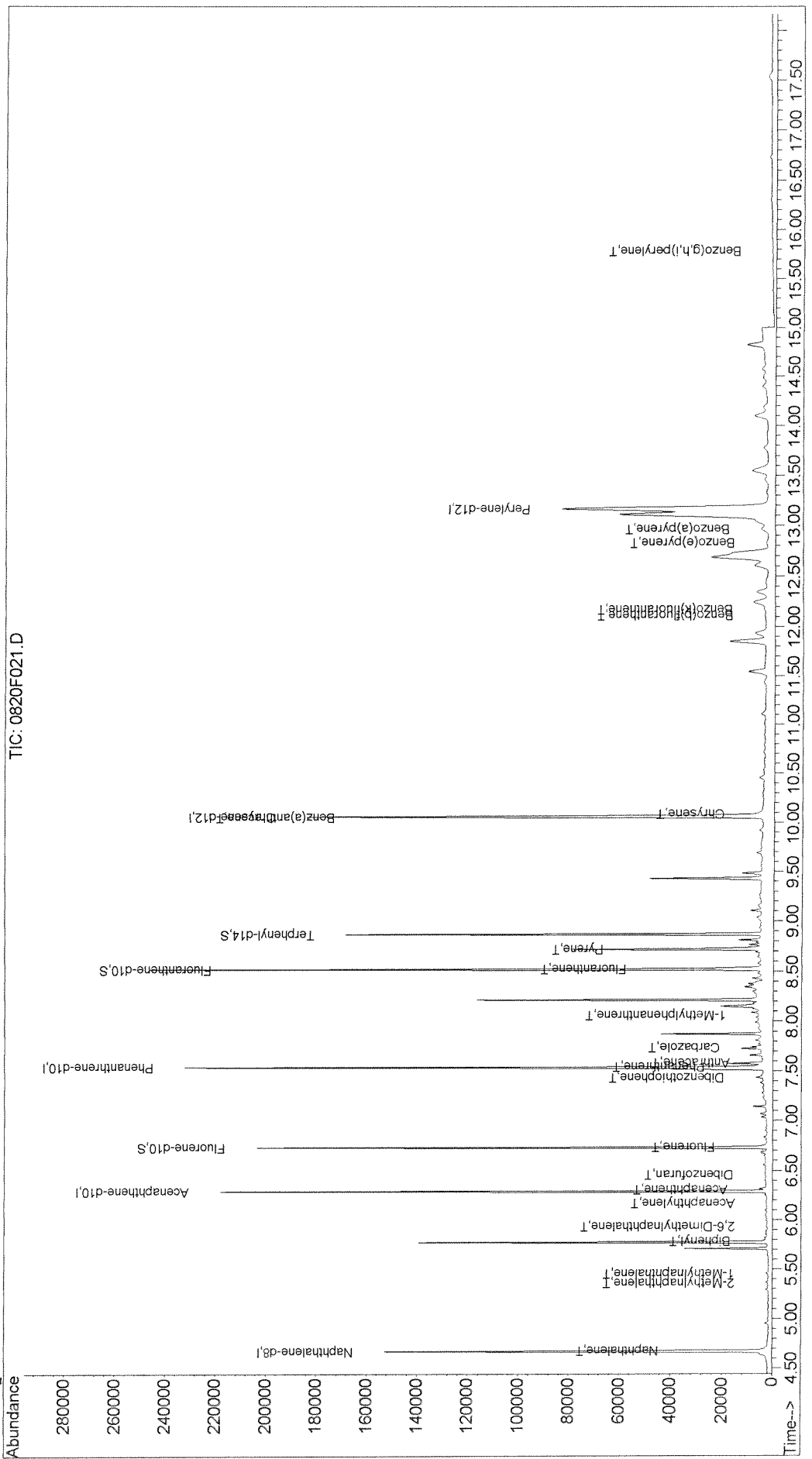
Vial: 21  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

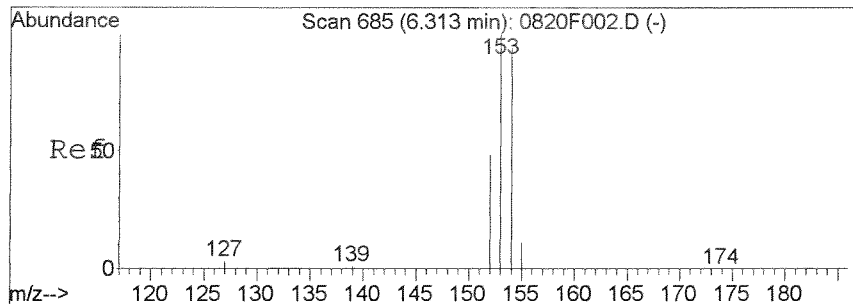
MS Integration Params: RTEINT.P

Quant Time: Aug 21 12:25 2014

Quant Results File: 072214SIMPAAH.RES

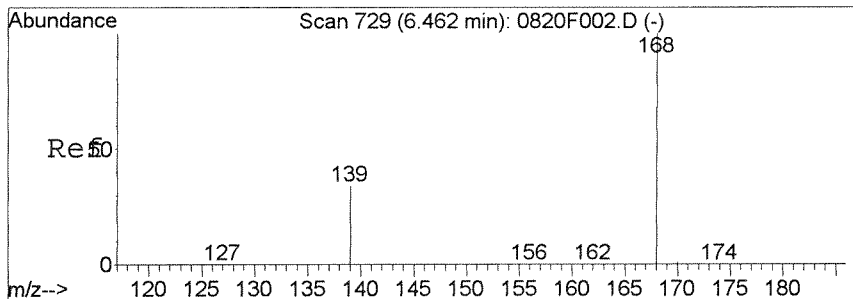
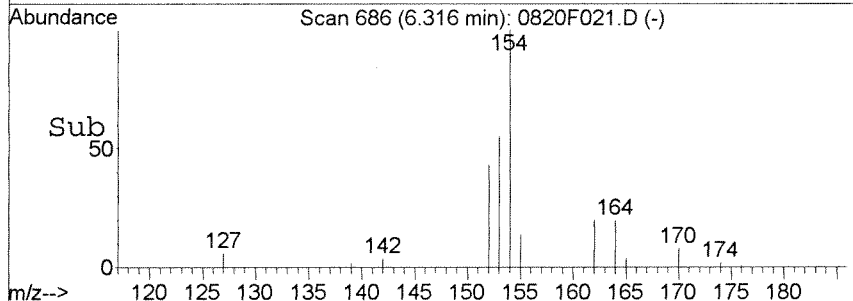
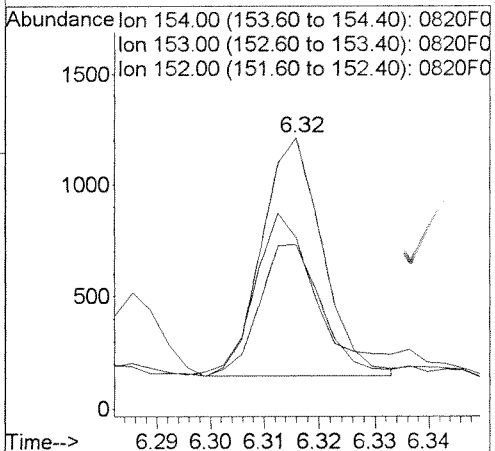
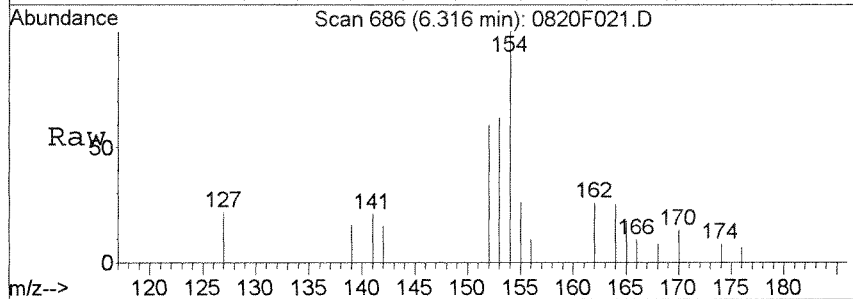
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





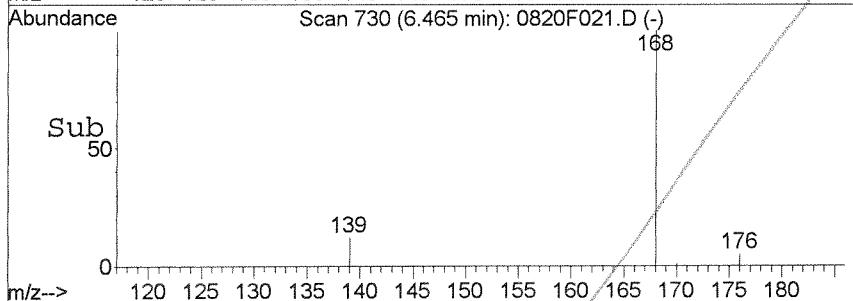
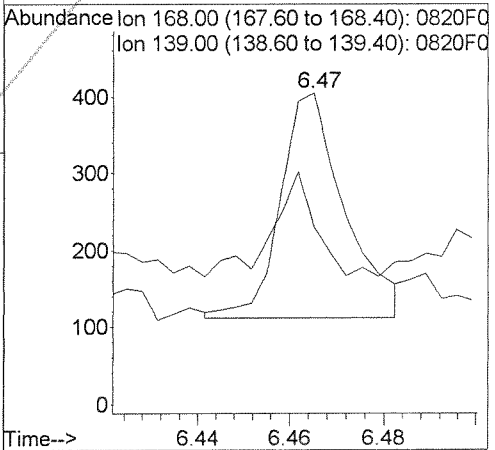
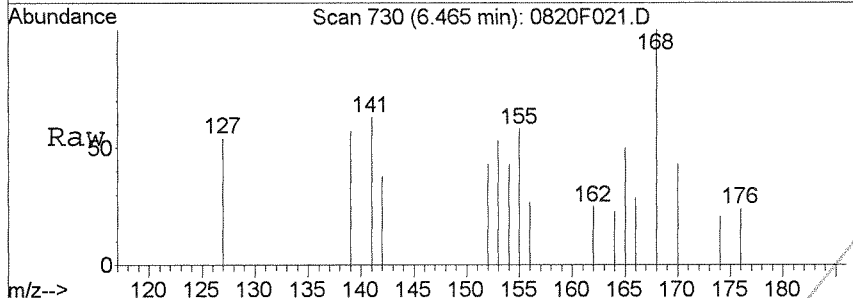
#9  
 Acenaphthene  
 Concen: 1.92 ng/ml  
 RT: 6.32 min Scan# 686  
 Delta R.T. 0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

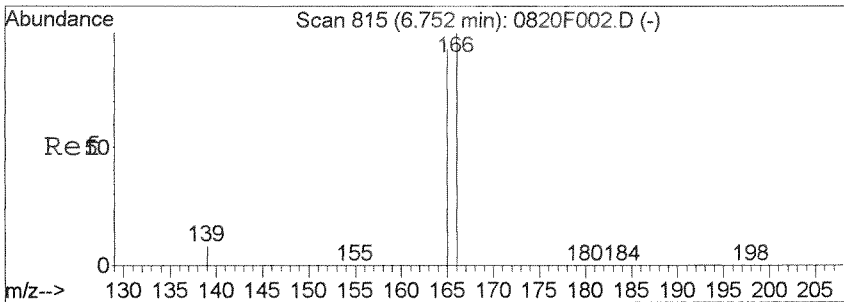
Tgt Ion	Ratio	Lower	Upper
154	100		
153	56.0	72.5	132.5#
152	54.6	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 0.41 ng/ml m  
 RT: 6.47 min Scan# 730  
 Delta R.T. 0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

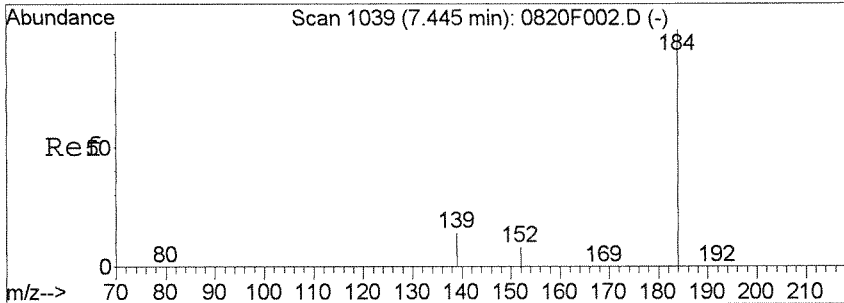
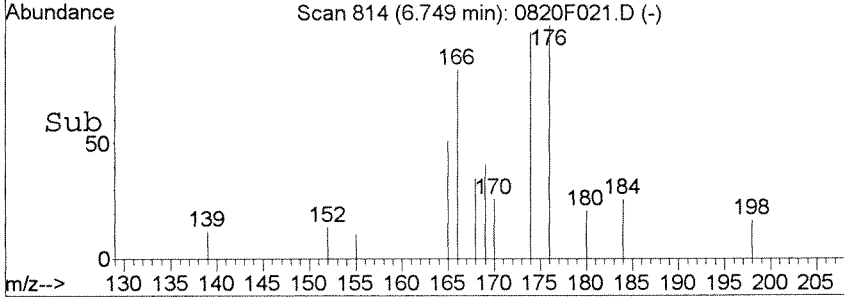
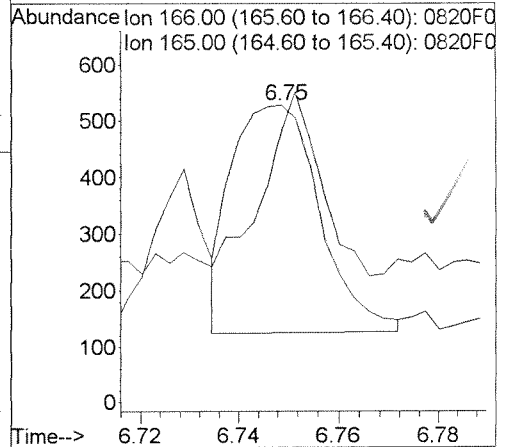
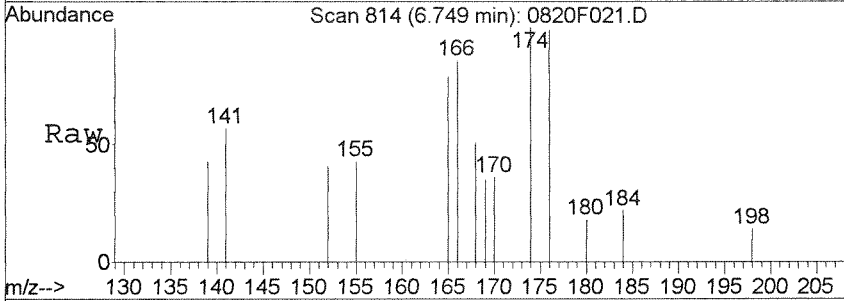
Tgt Ion	Ratio	Lower	Upper
168	100		
139	57.0	2.7	62.7





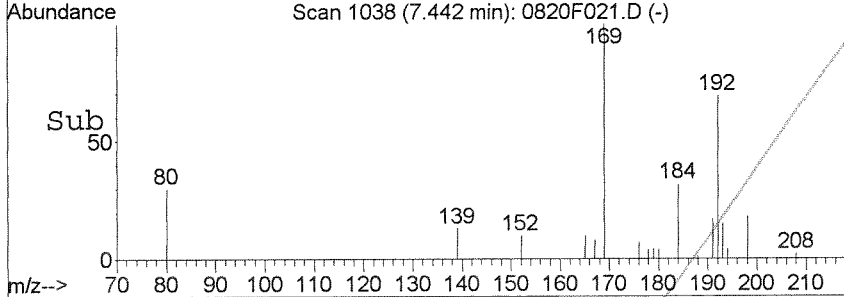
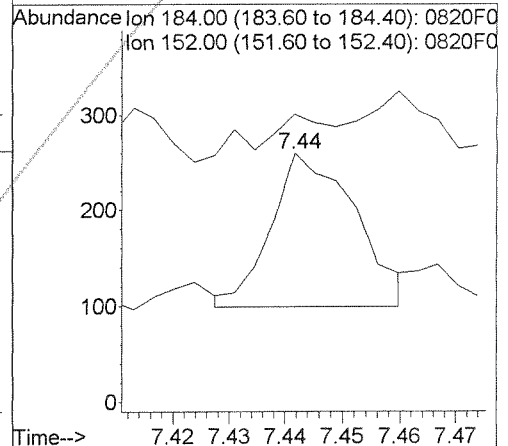
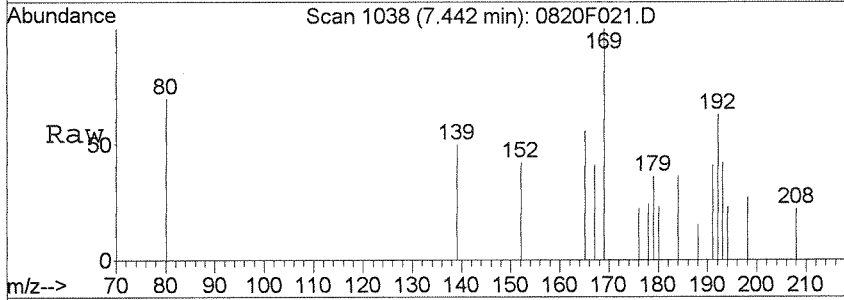
#13  
 Fluorene  
 Concen: 0.92 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

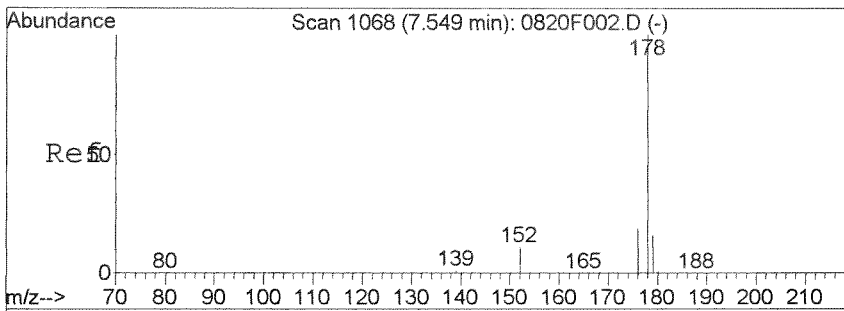
Tgt Ion	Resp	Lower	Upper
166	100		
165	63.2	60.9	120.9



#15  
 Dibenzothiophene  
 Concen: 0.22 ng/ml m  
 RT: 7.44 min Scan# 1038  
 Delta R.T. -0.01 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

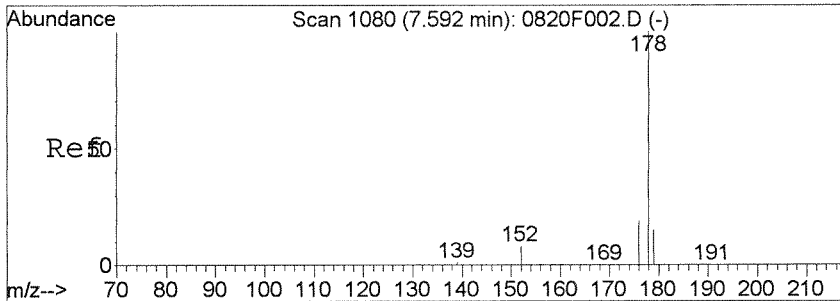
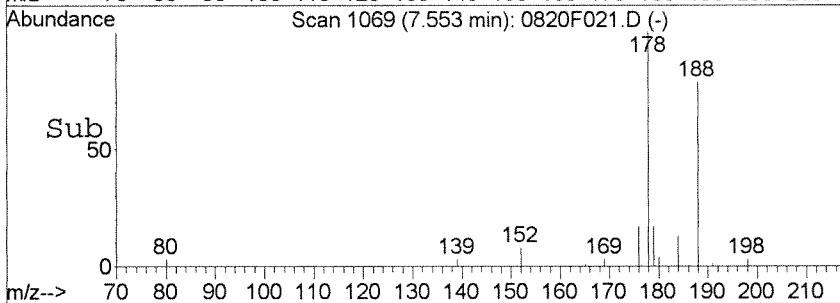
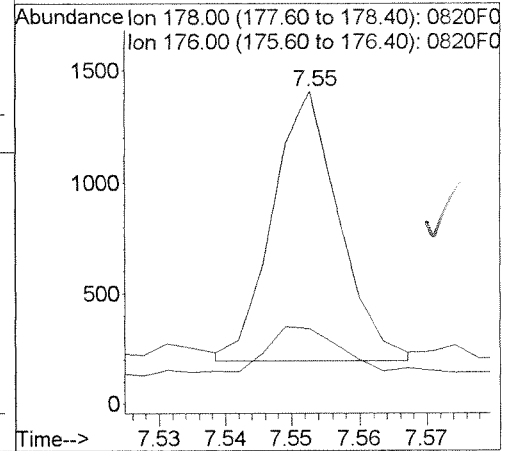
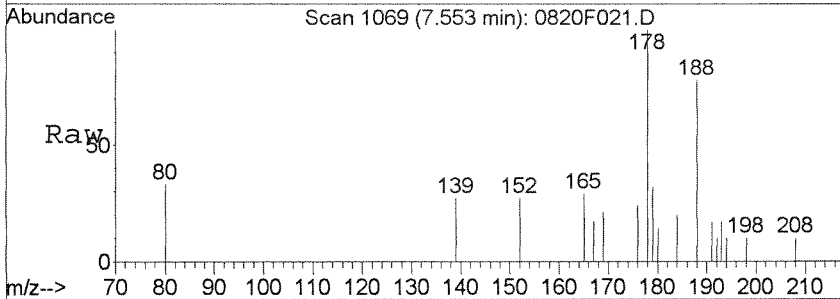
Tgt Ion	Resp	Lower	Upper
184	100		
152	115.8	0.0	39.9#





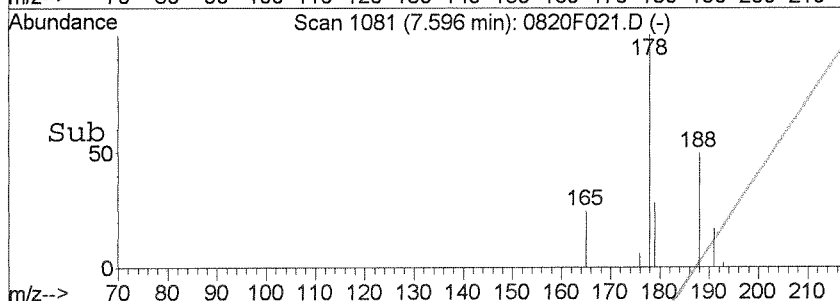
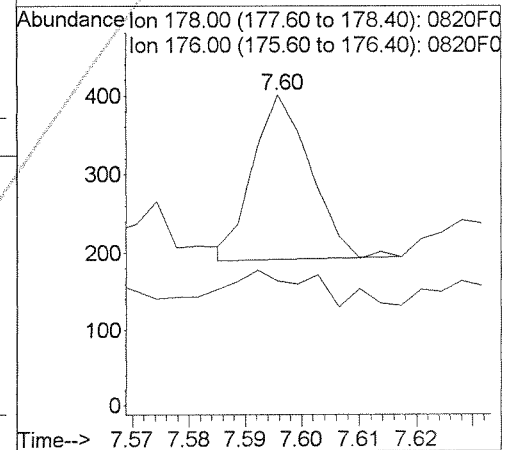
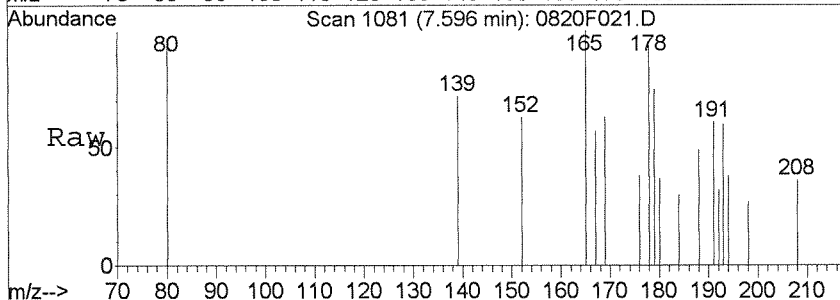
#16  
 Phenanthrene  
 Concen: 1.07 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
176	24.2	0.0	48.9



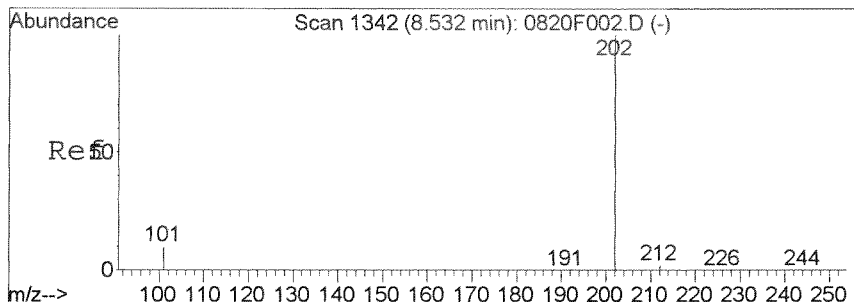
#17  
 Anthracene  
 Concen: 0.19 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
176	15.5	0.0	47.7



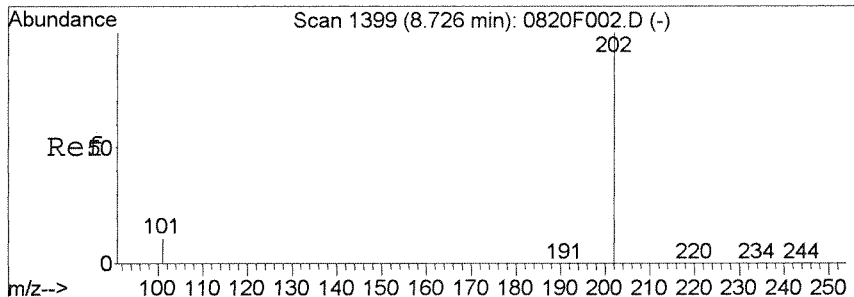
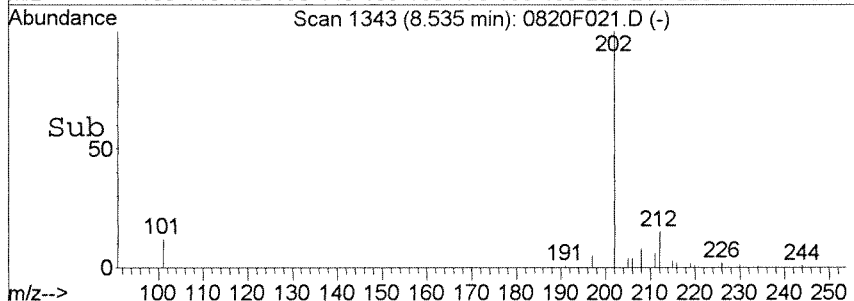
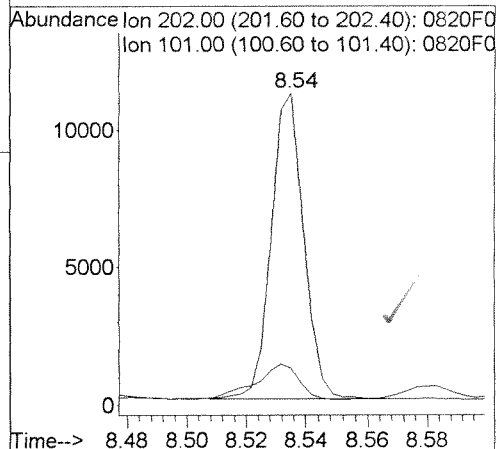
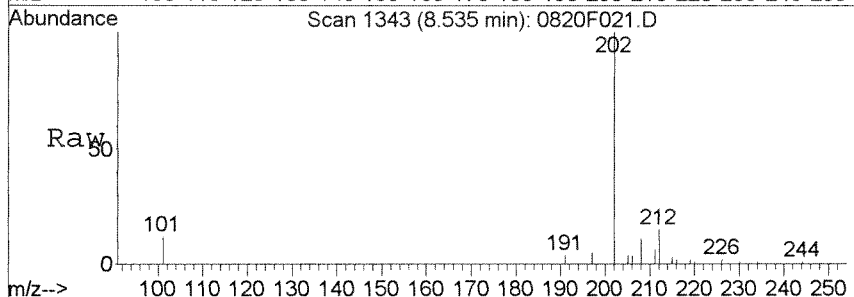
<MDC





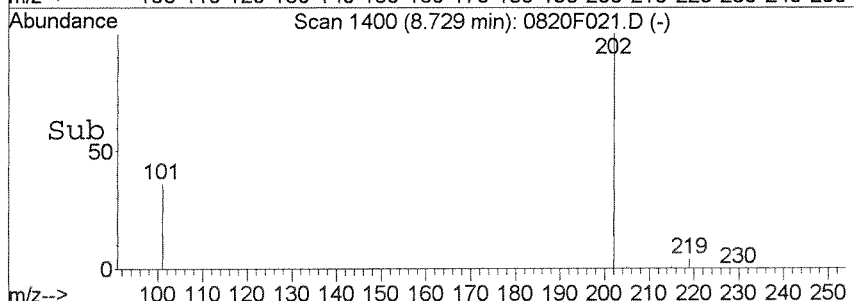
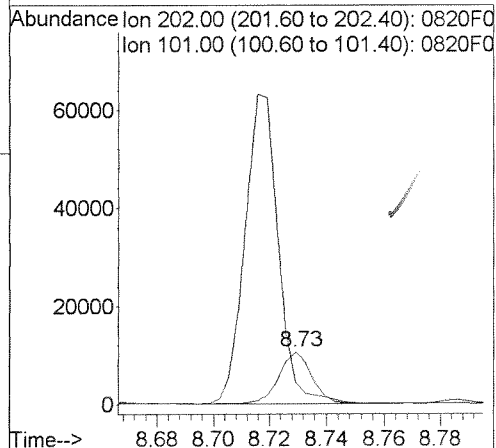
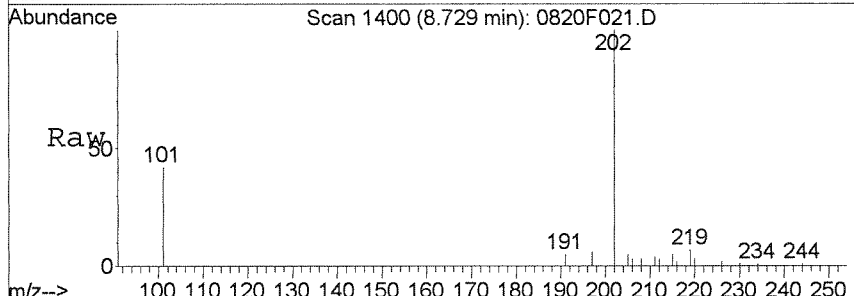
#20  
 Fluoranthene  
 Concen: 9.24 ng/ml  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

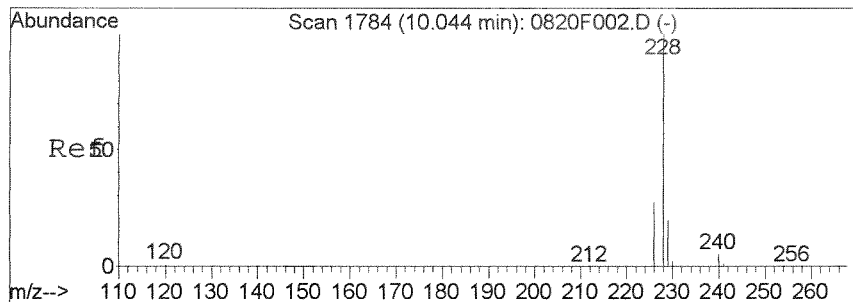
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	8365		
101	9.7		0.0	37.0



#23  
 Pyrene  
 Concen: 7.94 ng/ml  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

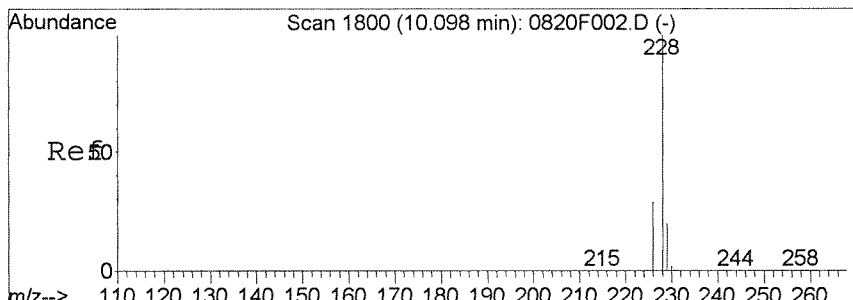
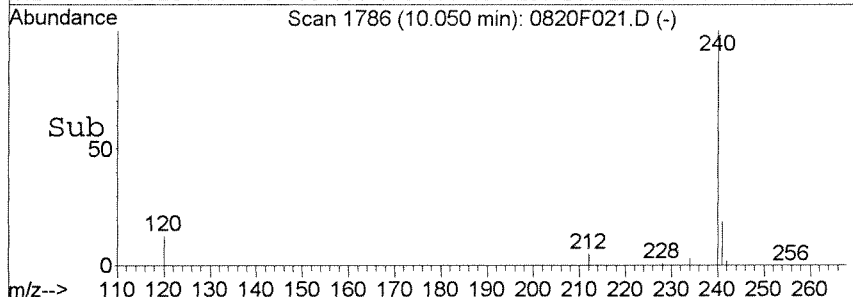
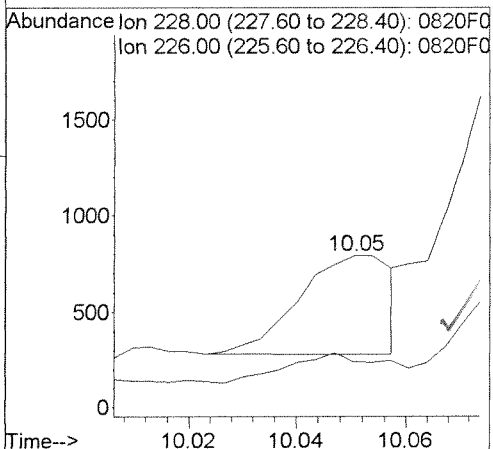
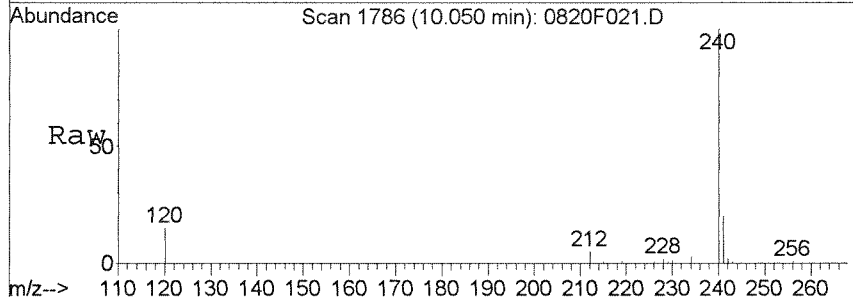
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	8369		
101	40.2		0.0	38.3#





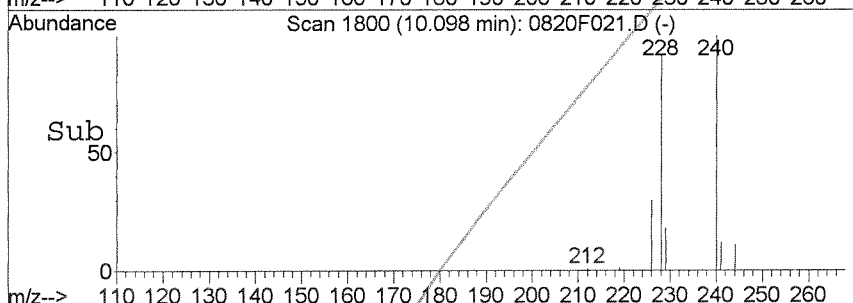
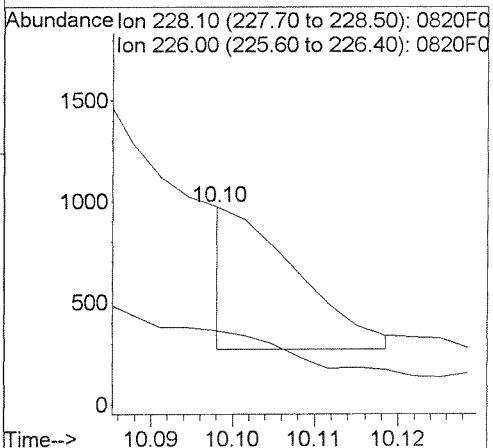
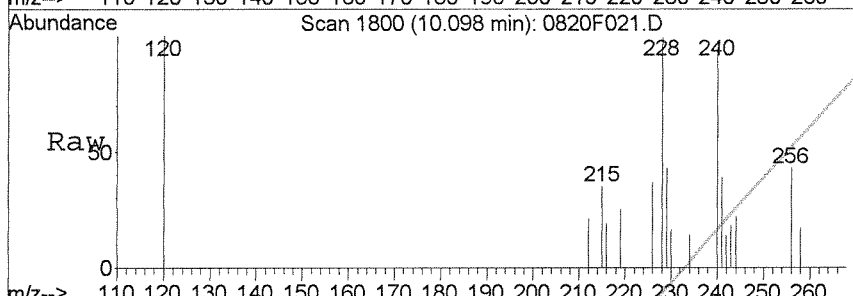
#25  
Benz (a) anthracene  
Concen: 0.64 ng/ml  
RT: 10.05 min Scan# 1786  
Delta R.T. 0.00 min  
Lab File: 0820F021.D  
Acq: 20 Aug 2014 6:23 pm

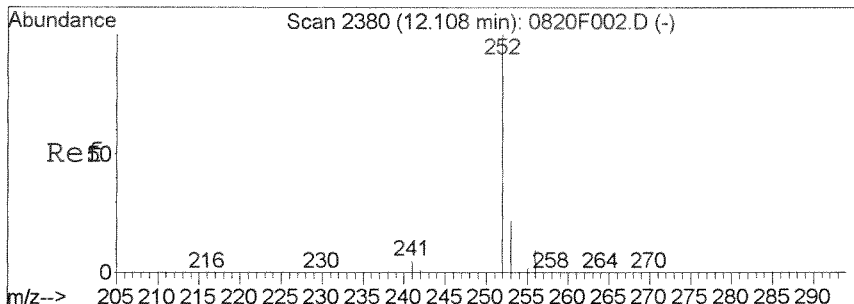
Tgt Ion	Ratio	Lower	Upper
228	100		
226	20.6	0.0	56.4



#26  
Chrysene  
Concen: 0.47 ng/ml m  
RT: 10.10 min Scan# 1800  
Delta R.T. -0.00 min  
Lab File: 0820F021.D  
Acq: 20 Aug 2014 6:23 pm

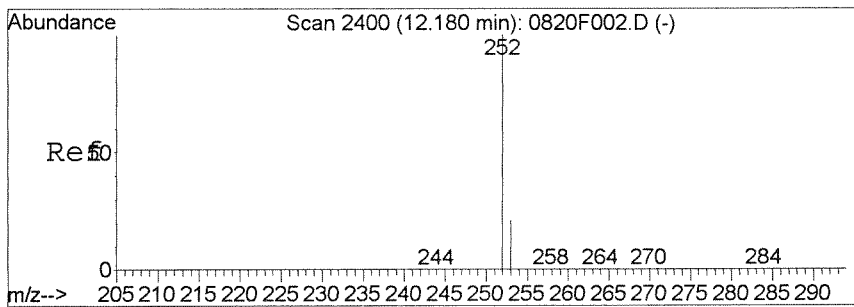
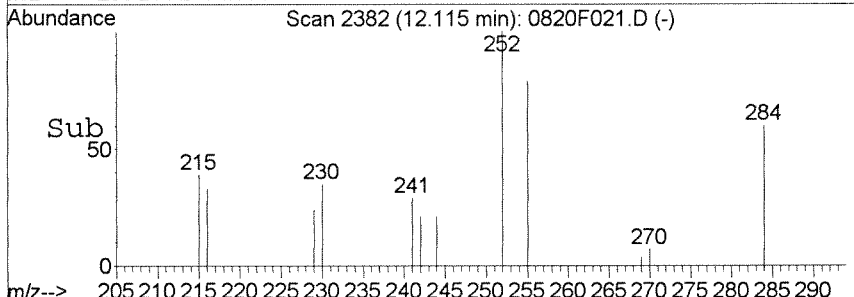
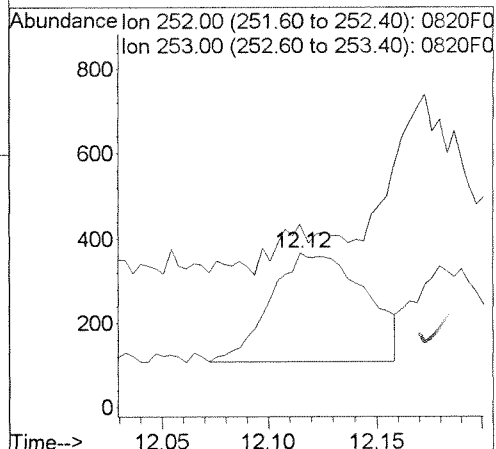
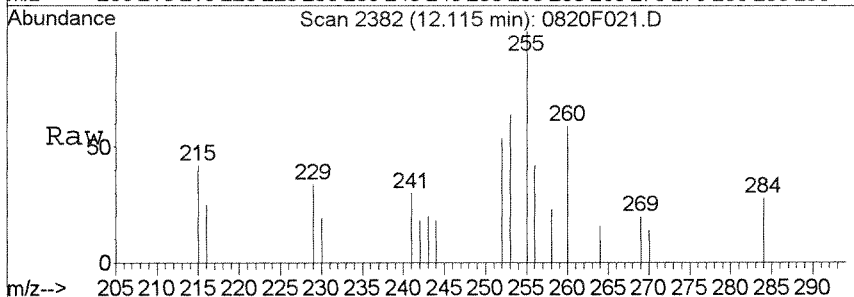
Tgt Ion	Ratio	Lower	Upper
228	100		
226	37.4	0.0	58.6





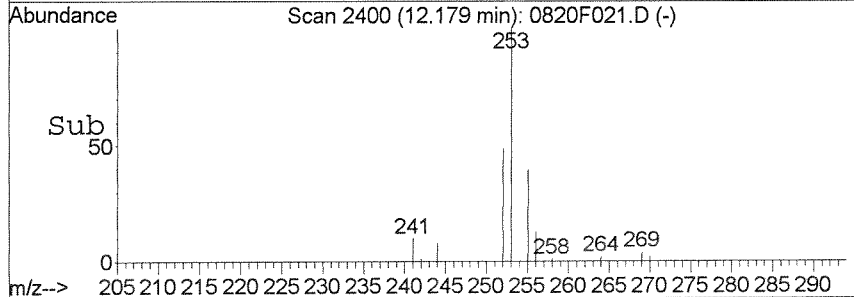
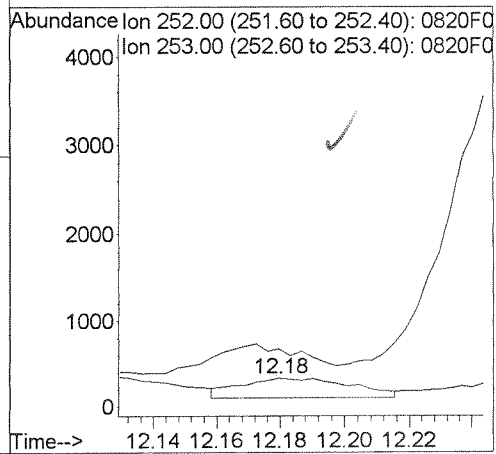
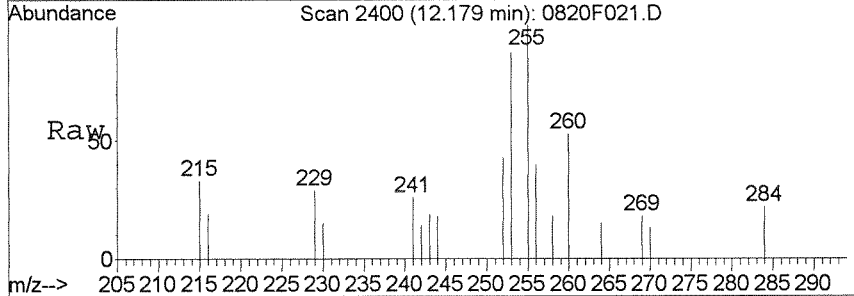
#28  
 Benzo (b) fluoranthene  
 Concen: 0.81 ng/ml  
 RT: 12.12 min Scan# 2382  
 Delta R.T. -0.00 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

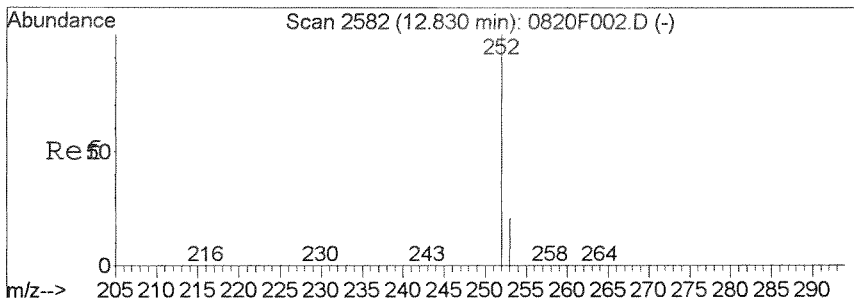
Tgt Ion	Ratio	Lower	Upper
252	100		
253	44.4	0.0	52.1



#29  
 Benzo (k) fluoranthene  
 Concen: 0.59 ng/ml m  
 RT: 12.18 min Scan# 2400  
 Delta R.T. -0.01 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

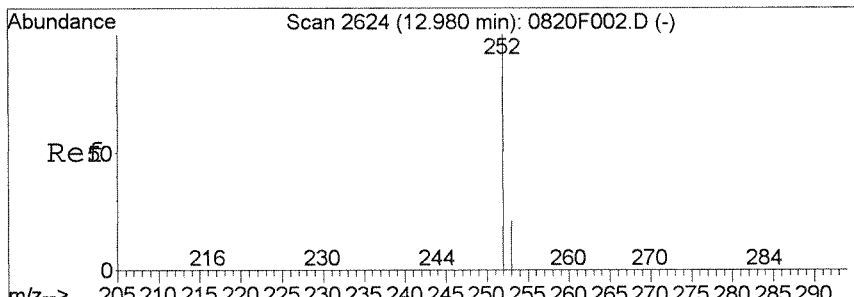
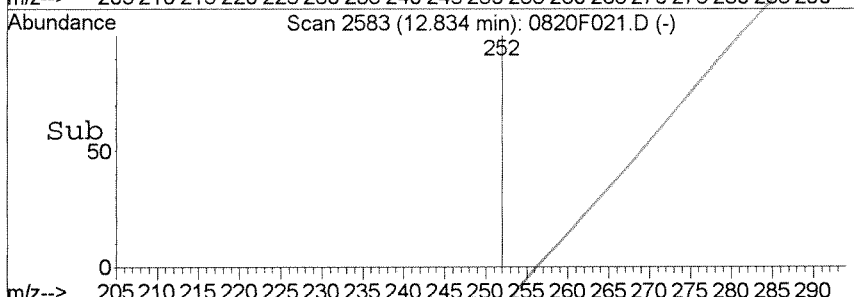
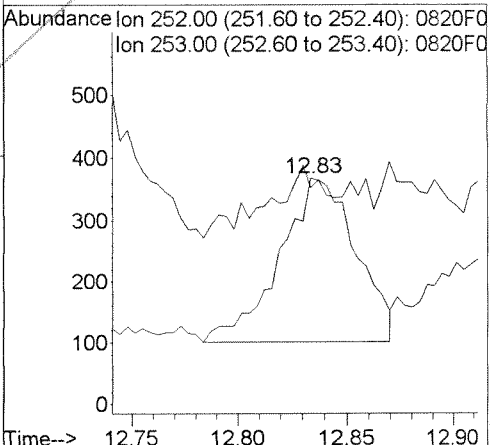
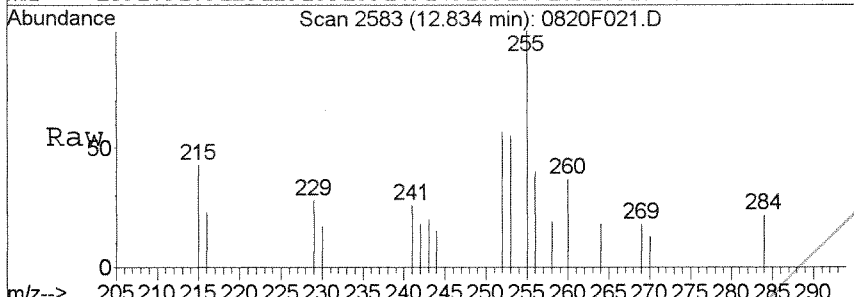
Tgt Ion	Ratio	Lower	Upper
252	100		
253	202.4	0.0	52.1#





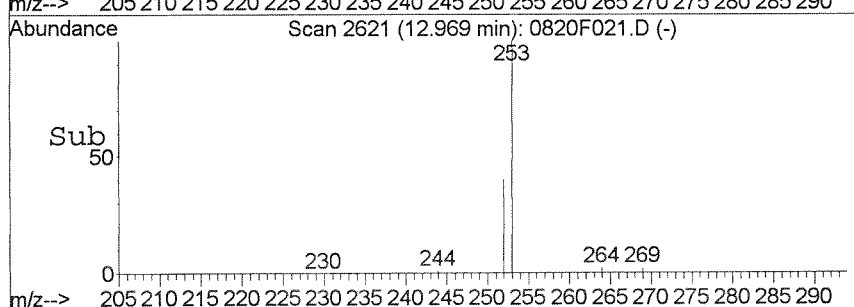
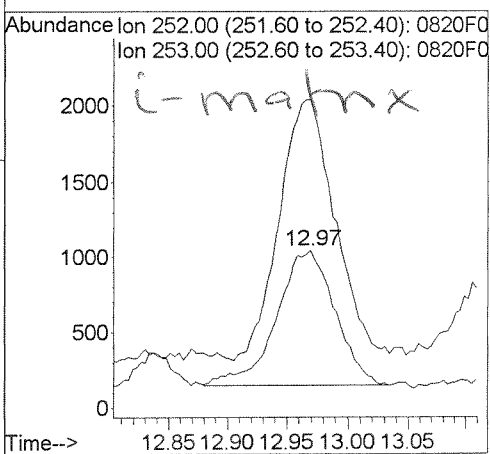
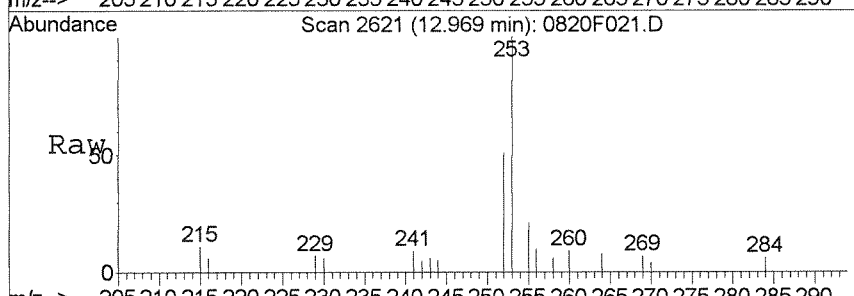
#30  
 Benzo(e)pyrene  
 Concen: 0.70 ng/ml  
 RT: 12.83 min Scan# 2583  
 Delta R.T. -0.01 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

Tgt Ion	252	253	Resp	649
Ion Ratio	100	30.3	Lower	Upper
			0.0	51.4



#31  
 Benzo(a)pyrene  
 Concen: 3.24 ng/ml  
 RT: 12.97 min Scan# 2621  
 Delta R.T. -0.02 min  
 Lab File: 0820F021.D  
 Acq: 20 Aug 2014 6:23 pm

Tgt Ion	252	253	Resp	3015
Ion Ratio	100	187.8	Lower	Upper
			0.0	52.2#

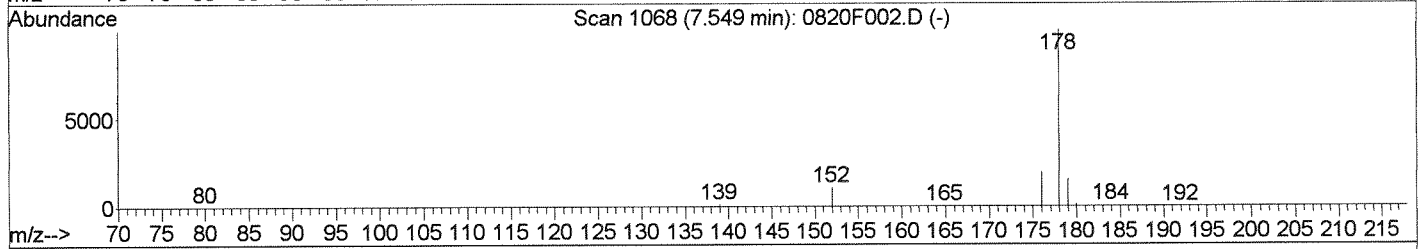
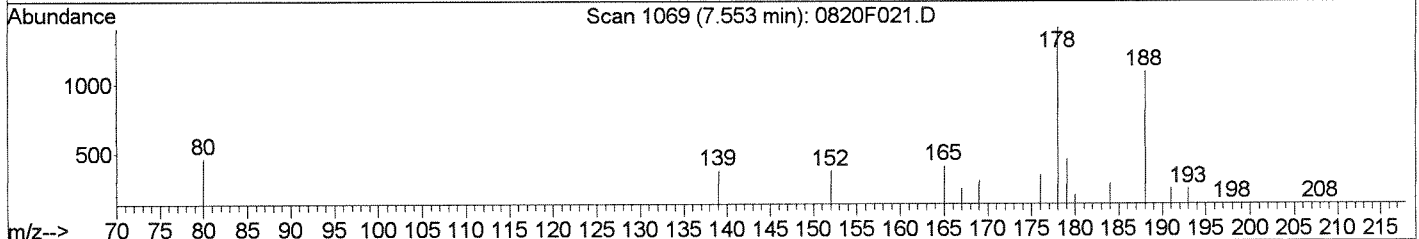
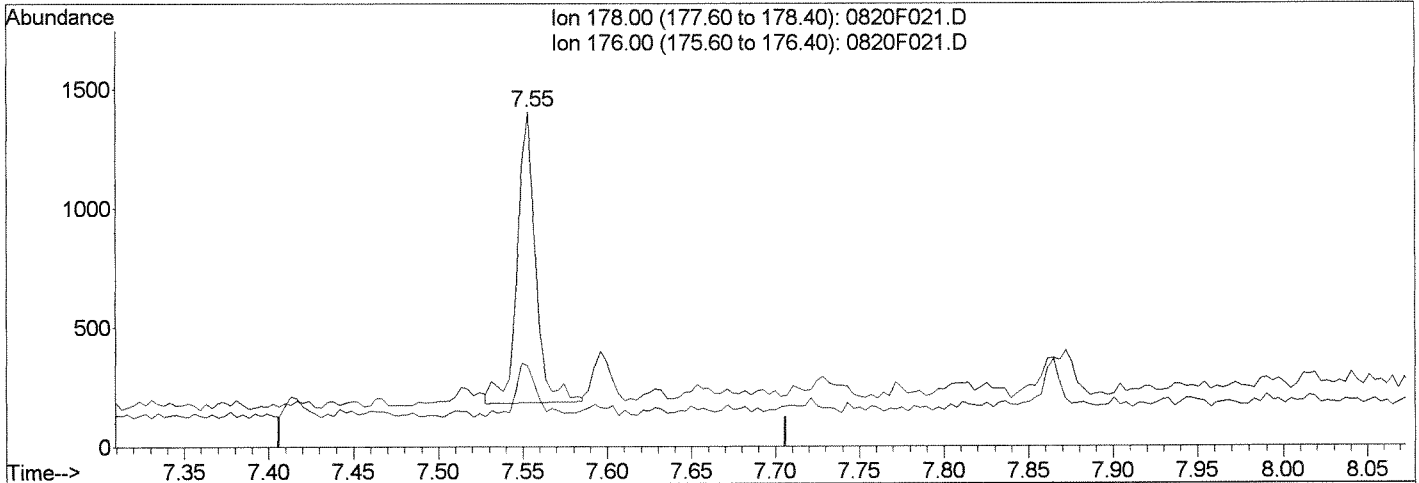


Data File : J:\MS14\DATA\082014\0820F021.D  
 Acq On : 20 Aug 2014 6:23 pm  
 Sample : K1407971-013  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:34 2014

Vial: 21  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(16) Phenanthrene (T)

7.55min 1.20ng/ml

response 932

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	17.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

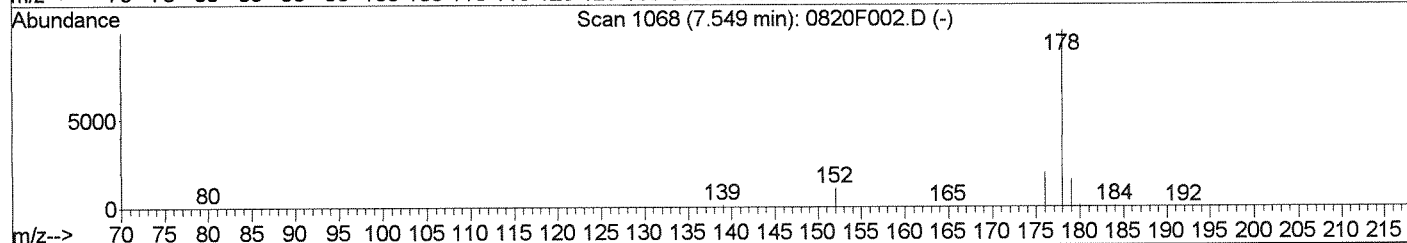
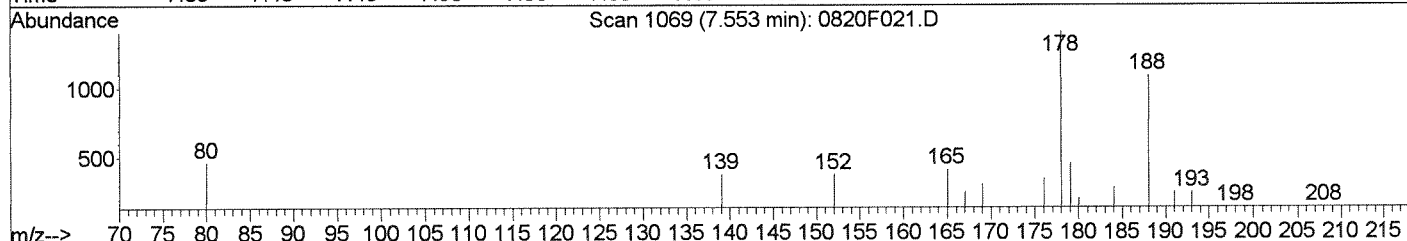
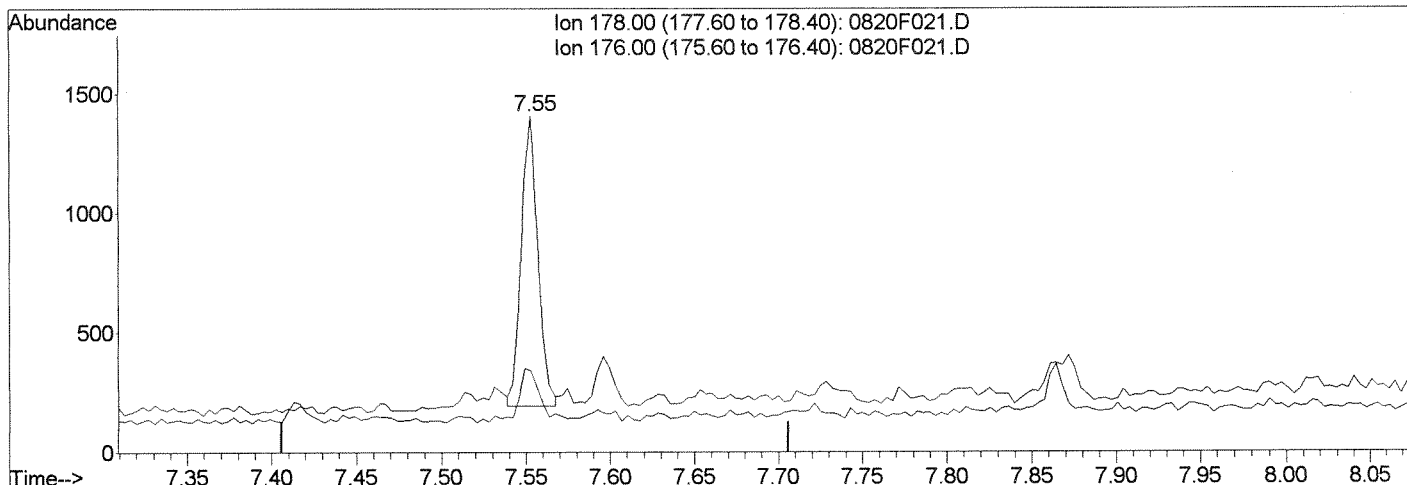
*LAB*

Data File : J:\MS14\DATA\082014\0820F021.D  
 Acq On : 20 Aug 2014 6:23 pm  
 Sample : K1407971-013  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:34 2014

Vial: 21  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(16) Phenanthrene (T)  
 7.55min 1.07ng/ml m  
 response 831  

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	24.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 IC-Overintegrated  
 08/21/14

*CA*

*LB*

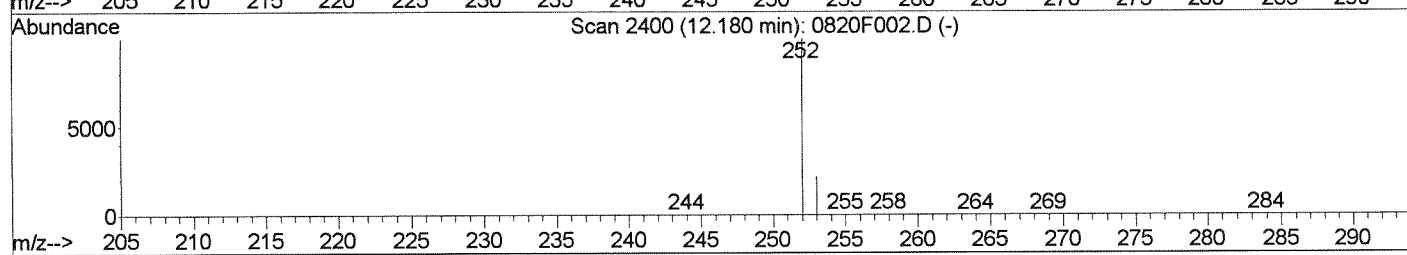
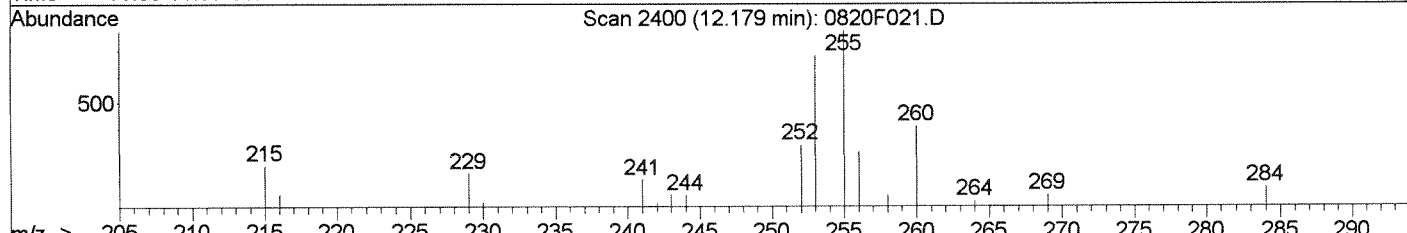
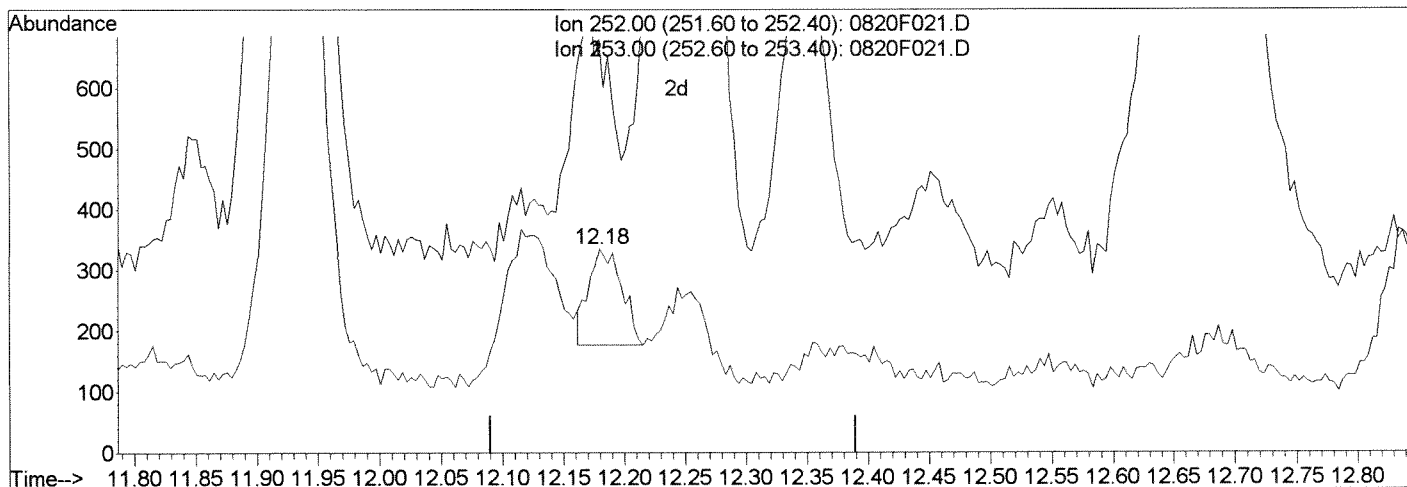
Data File : J:\MS14\DATA\082014\0820F021.D  
Acq On : 20 Aug 2014 6:23 pm  
Sample : K1407971-013  
Misc :

Vial: 21  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:35 2014

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)

12.18min 0.31ng/ml

response 298

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	27.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

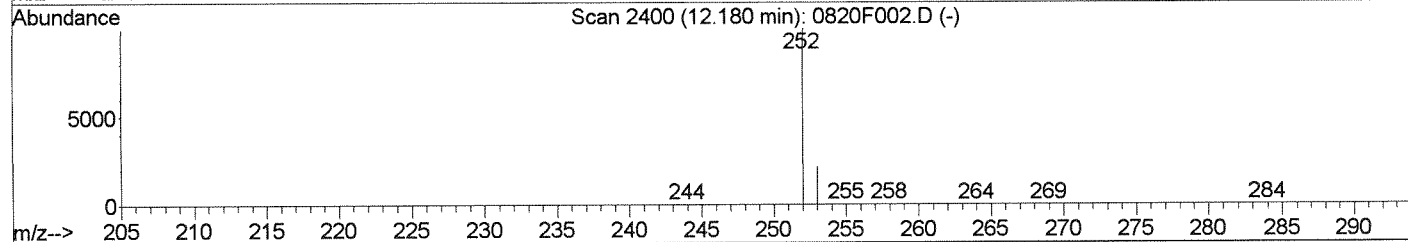
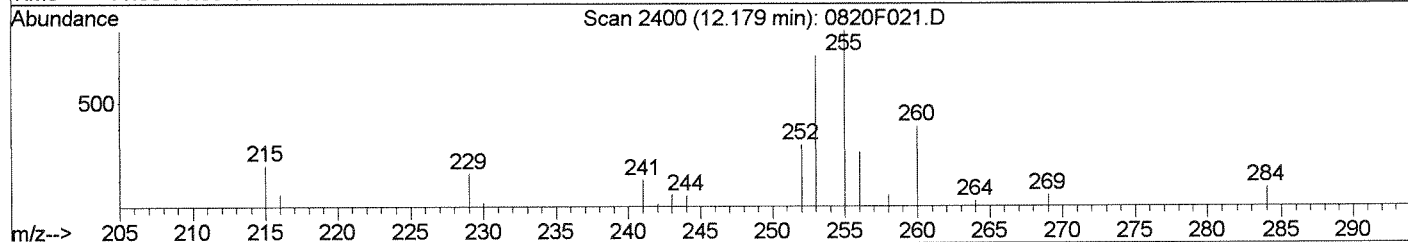
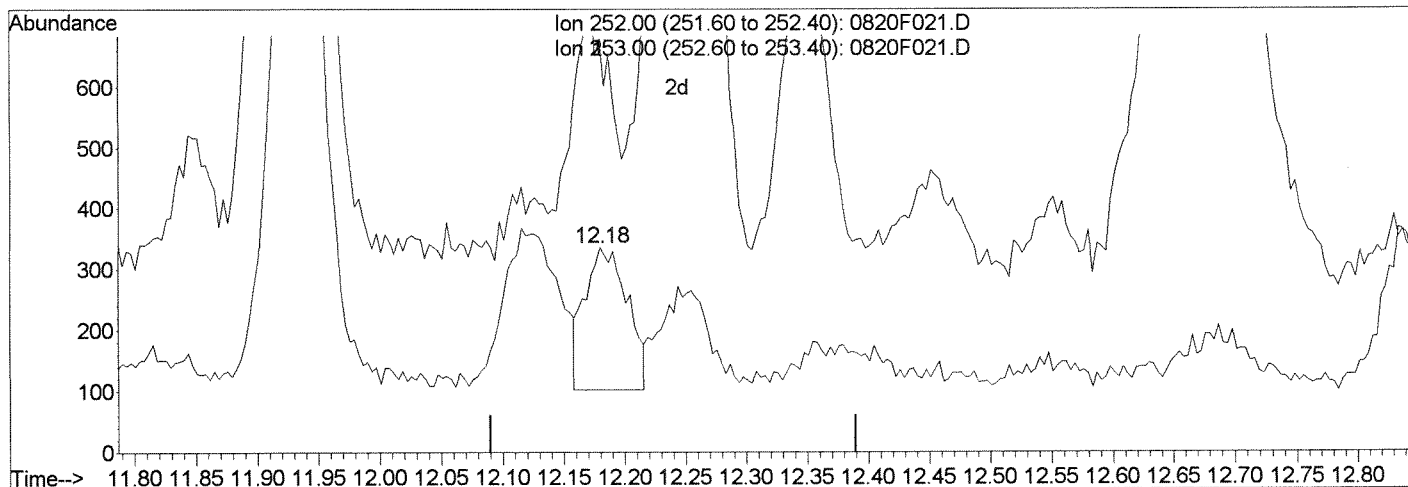
*LB*

Data File : J:\MS14\DATA\082014\0820F021.D  
 Acq On : 20 Aug 2014 6:23 pm  
 Sample : K1407971-013  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:35 2014

Vial: 21  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)

12.18min 0.59ng/ml m

response 568

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	202.38#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

08/21/14

*WA*

*LB*



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F022.D  
**Lab ID:** K1407971-014  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 18:49  
**Date Quantitated:** 08/21/2014 09:39  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: *CA* AUG 21 2014

Secondary Review: *KB* AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F022.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 18:49	<b>Quant Date:</b> 08/21/2014 09:39
<b>Run Type:</b> SMPL	<b>Vial:</b> 22
<b>Lab ID:</b> K1407971-014	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365439	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	130020m	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71637	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	137642	200.00	OK
4	Chrysene-d12	10.06	0.00	240	148981	200.00	OK
5	Perylene-d12	13.17	0.02	264	154485	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	74215	175.61	88	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	124988	161.26	81	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	103032	153.75	77	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	6085	8.83	54	J	
1	2-Methylnaphthalene	5.37		0.00	142	4195	8.71	54	J	
1	1-Methylnaphthalene	5.46		0.00	142	3797	8.95	55		
2	Acenaphthylene	6.16		0.00	152	6358	8.81	54		
2	Acenaphthene	6.31		0.00	154	4097	9.83	61		
2	Fluorene	6.75		0.00	166	4267	8.18	50		
3	Phenanthrene	7.55		0.00	178	3561	4.69	29	J	
3	Anthracene	7.60	0.01	0.00	178	2965	3.94	24	J	
3	Fluoranthene	8.54	0.01	0.00	202	1635m	1.85	11	J	
4	Pyrene	8.73		0.00	202	1796m	1.75	11	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	593	0.6500	4.0	J	
4	Chrysene				228	0d		3.4	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File:	J:\MS14\DATA\082014\0820F022.D	Instrument:	MS14
Acqu Date:	08/20/2014 18:49	Quant Date:	08/21/2014 09:39
Run Type:	SMPL	Vial:	22
Lab ID:	K1407971-014	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Target Compounds					Final Conc. Units:	ug/Kg Dry Weight				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.1	U	
5	Benzo(k)fluoranthene				252	0d		3.6	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	2880	3.16	20	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.0	U	
5	Dibenz(a,h)anthracene				278	0d		5.3	U	
5	Benzo(g,h,i)perylene				276	0d		5.9	U	

**Prep Amount:** 10.027 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 16.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F022.D  
 Acq On : 20 Aug 2014 6:49 pm  
 Sample : K1407971-014  
 Misc :

Vial: 22  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:29 2014

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	130020m	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	71637	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	137642	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	148981	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	154485	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	74215	175.61	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.56%	
21) Fluoranthene-d10	8.52	212	124988	161.26	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.13%	
24) Terphenyl-d14	8.87	244	103032	153.75	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.38%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	6085	8.83	ng/ml	96
3) 2-Methylnaphthalene	5.37	142	4195	8.71	ng/ml	98
4) 1-Methylnaphthalene	5.46	142	3797	8.95	ng/ml	97
5) Biphenyl	5.79	154	321	0.56	ng/ml	93
6) 2,6-Dimethylnaphthalene	5.93	156	120	0.28	ng/ml	99
8) Acenaphthylene	6.16	152	6358	8.81	ng/ml	99
9) Acenaphthene	6.31	154	4097	9.83	ng/ml	95
10) Dibenzofuran	6.46	168	5686	8.64	ng/ml	94
13) Fluorene	6.75	166	4267	8.18	ng/ml	97
15) Dibenzothiophene	7.45	184	192m	0.26	ng/ml	
16) Phenanthrene	7.55	178	3561	4.69	ng/ml	99
17) Anthracene	7.60	178	2965	3.94	ng/ml	98
18) Carbazole	7.74	167	1328	2.00	ng/ml	89
19) 1-Methylphenanthrene	8.06	192	52	0.09	ng/ml	74
20) Fluoranthene	8.54	202	1635m	1.85	ng/ml	
23) Pyrene	8.73	202	1796m	1.75	ng/ml	
25) Benz(a)anthracene	10.06	228	593	0.65	ng/ml	64
31) Benzo(a)pyrene	12.97	252	2880	3.16	ng/ml#	1

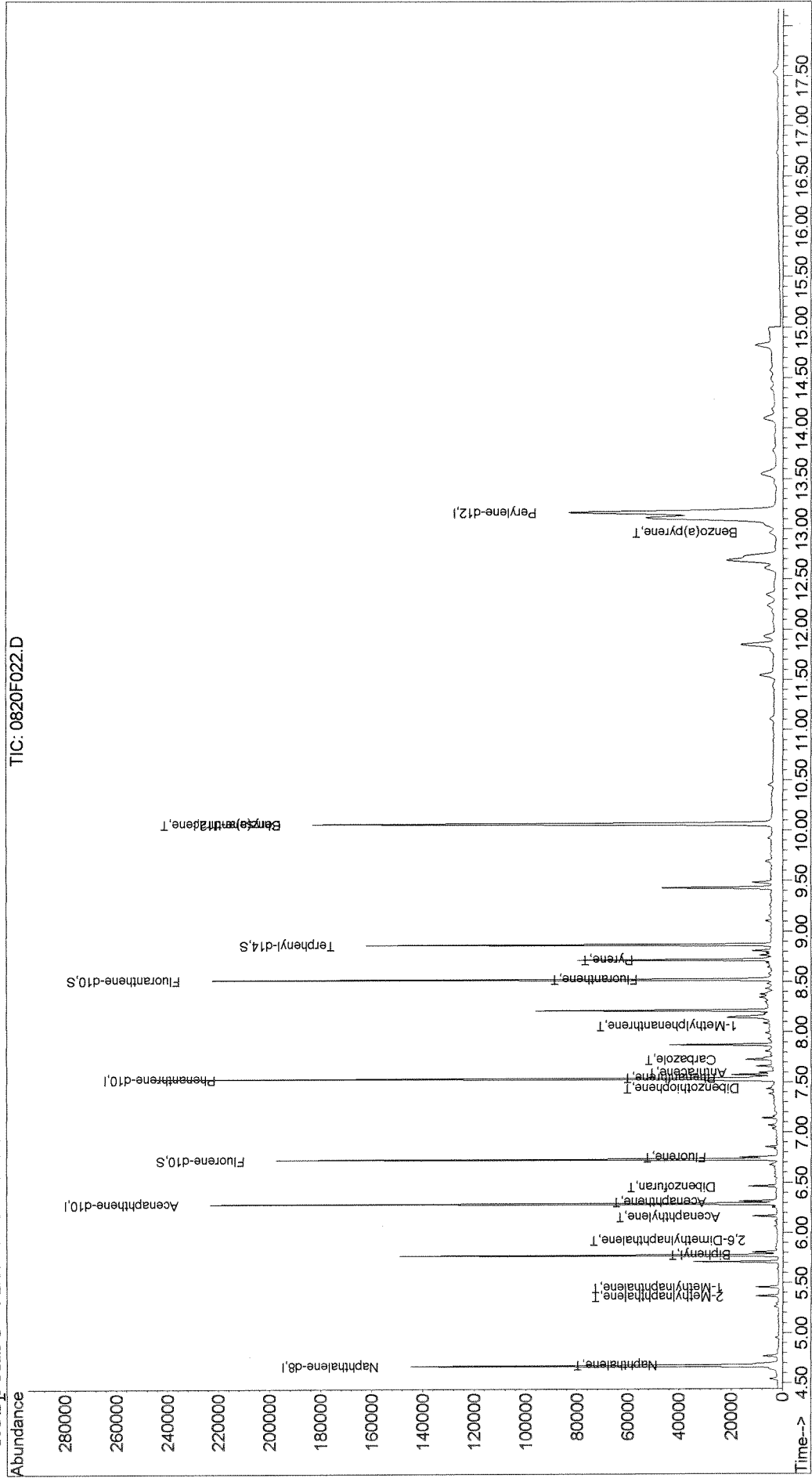
(#) = qualifier out of range (m) = manual integration

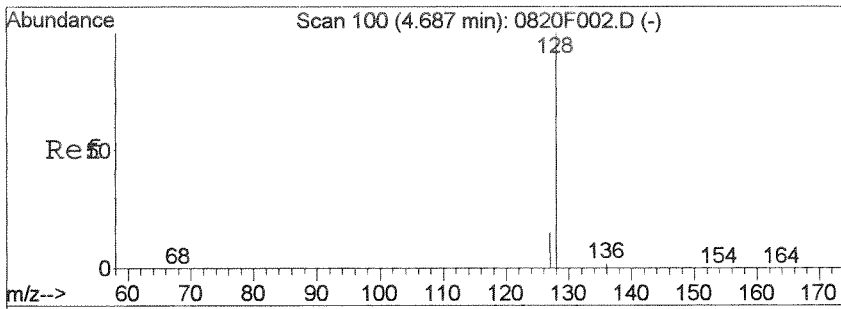
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F022.D  
 Acq On : 20 Aug 2014 6:49 pm  
 Sample : K1407971-014  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:39 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 22  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

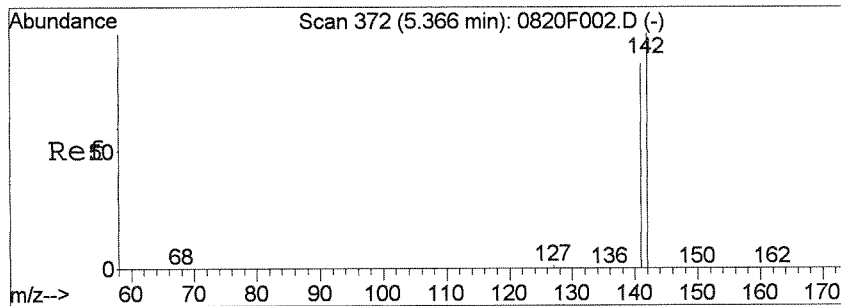
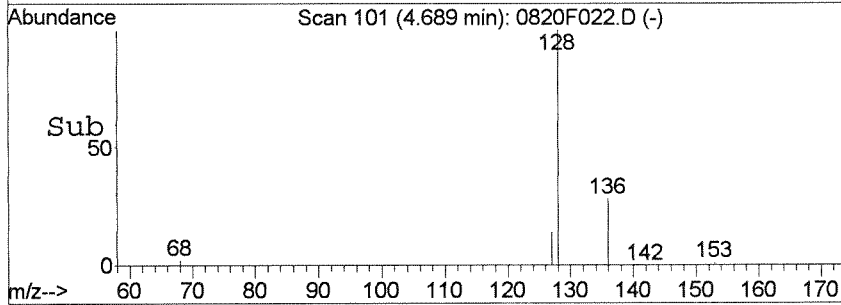
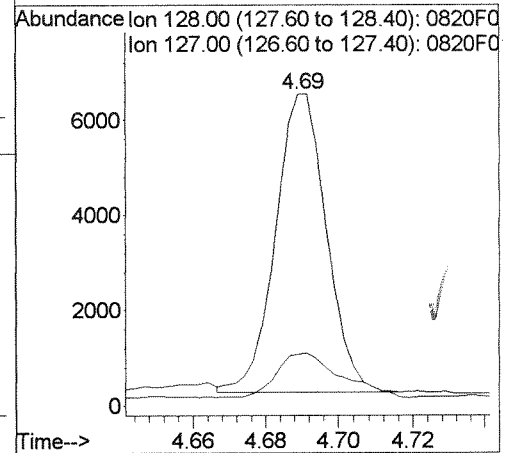
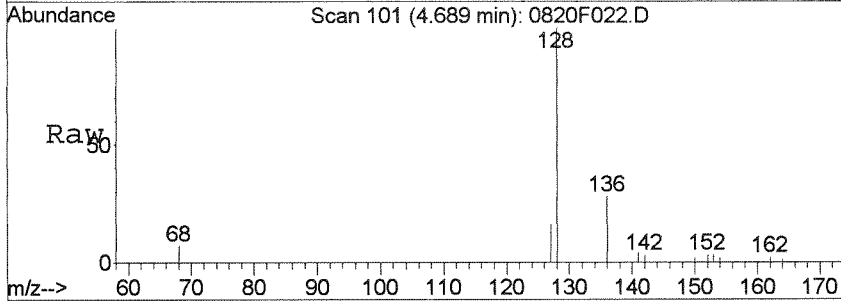
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





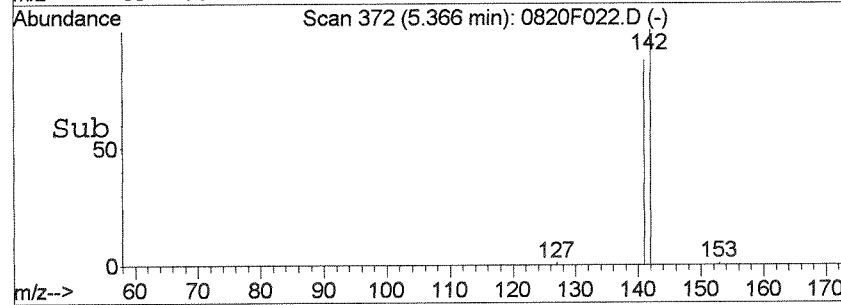
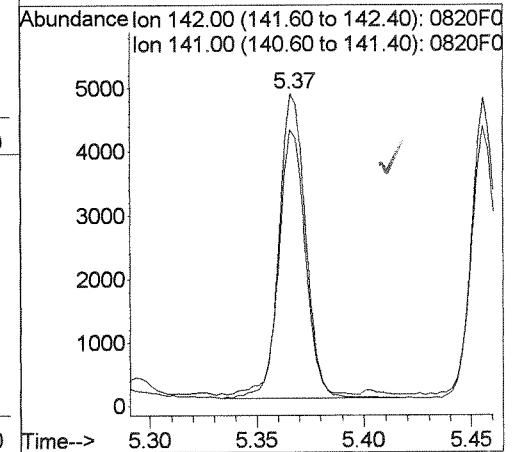
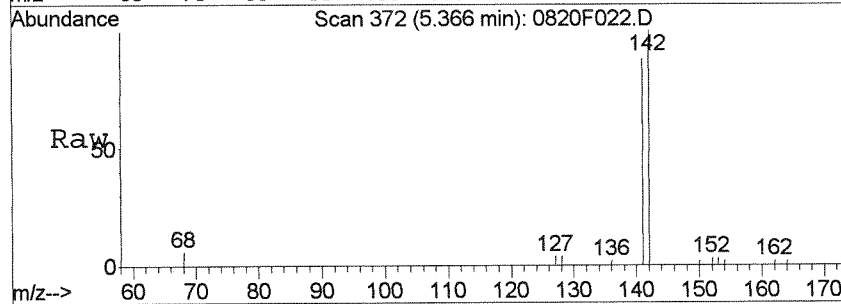
#2  
 Naphthalene  
 Concen: 8.83 ng/ml  
 RT: 4.69 min Scan# 101  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

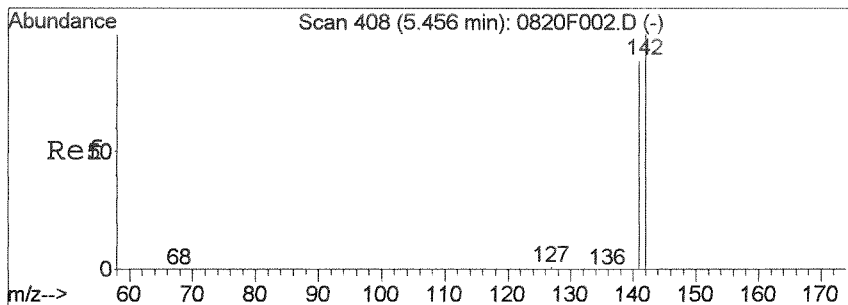
Tgt Ion:128 Resp: 6085  
 Ion Ratio Lower Upper  
 128 100  
 127 14.3 0.0 42.6



#3  
 2-Methylnaphthalene  
 Concen: 8.71 ng/ml  
 RT: 5.37 min Scan# 372  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

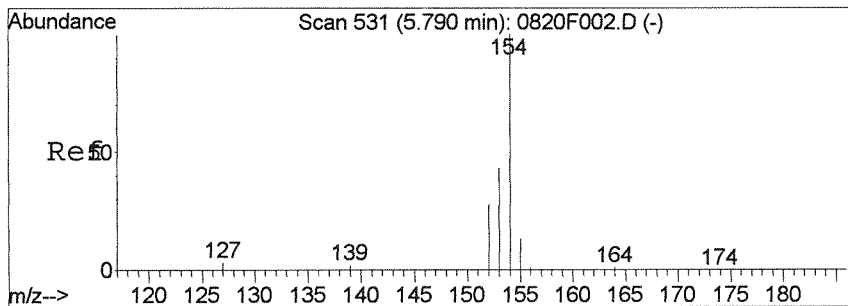
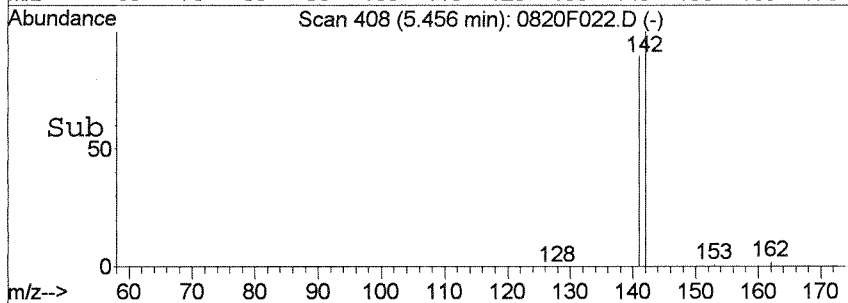
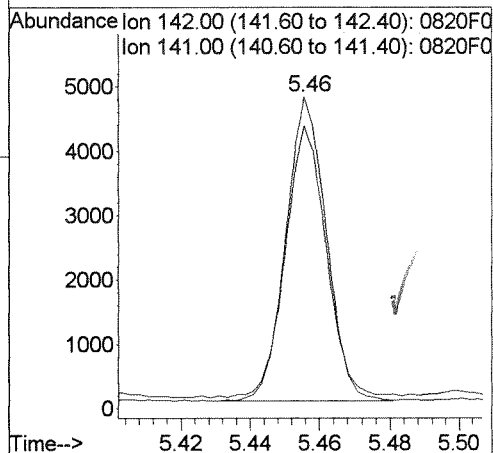
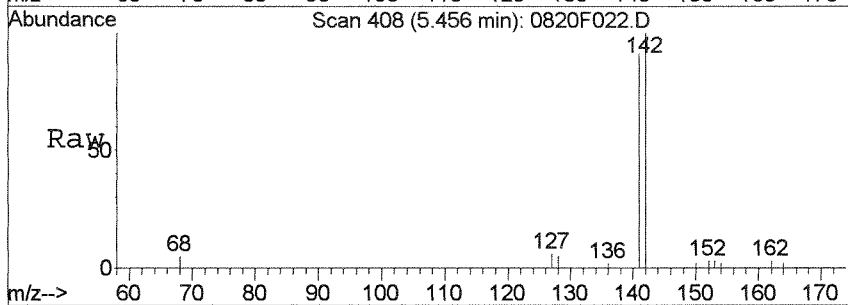
Tgt Ion:142 Resp: 4195  
 Ion Ratio Lower Upper  
 142 100  
 141 86.9 54.8 114.8





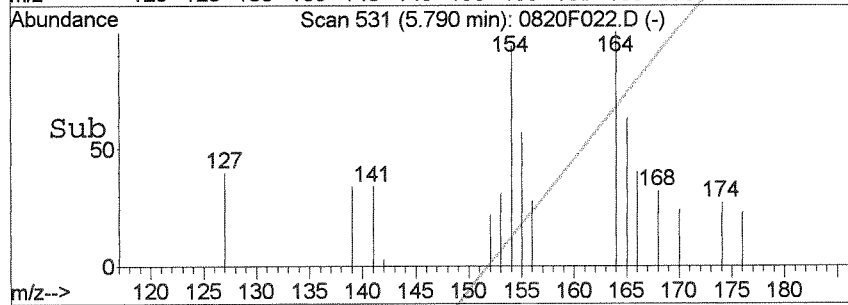
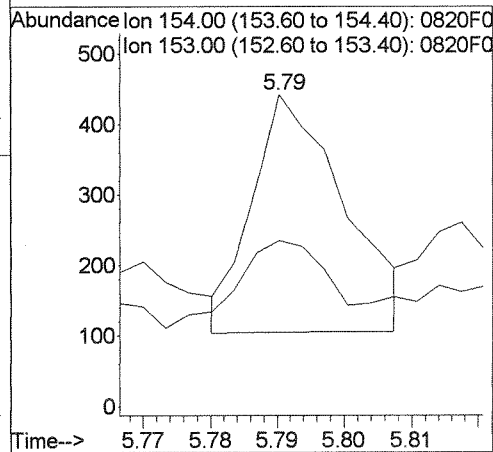
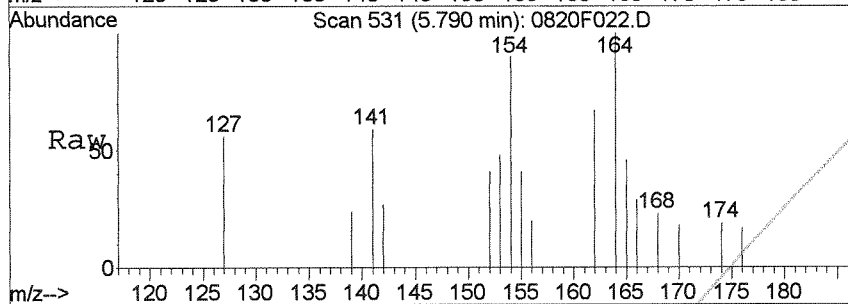
#4  
 1-Methylnaphthalene  
 Concen: 8.95 ng/ml  
 RT: 5.46 min Scan# 408  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

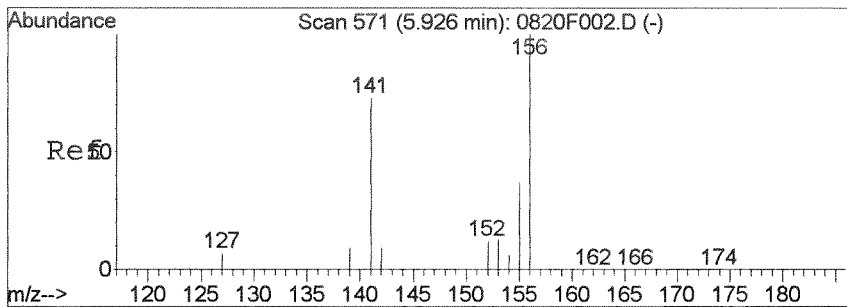
Tgt Ion: 142 Resp: 3797  
 Ion Ratio Lower Upper  
 142 100  
 141 89.4 56.4 116.4



#5  
 Biphenyl  
 Concen: 0.56 ng/ml  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

Tgt Ion: 154 Resp: 321  
 Ion Ratio Lower Upper  
 154 100  
 153 35.3 9.6 69.6

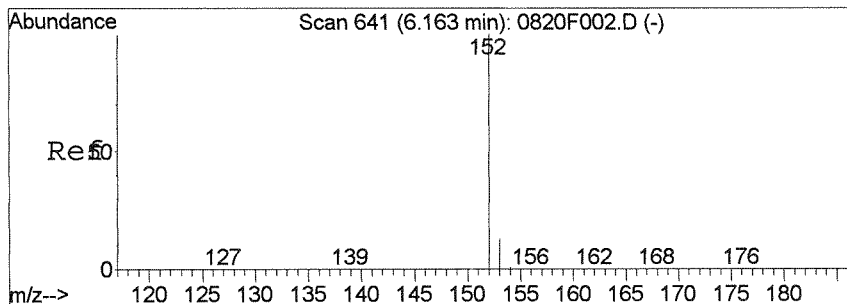
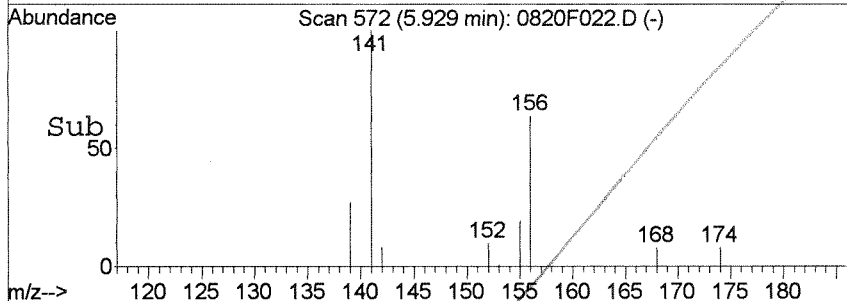
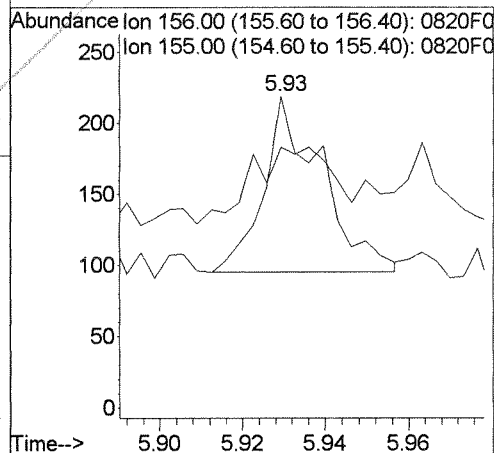
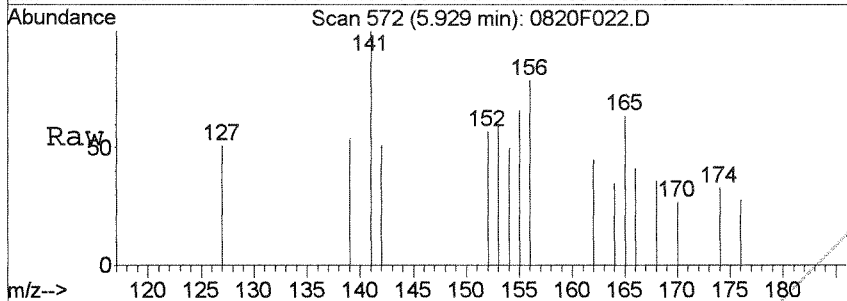




#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.28 ng/ml  
 RT: 5.93 min Scan# 572  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

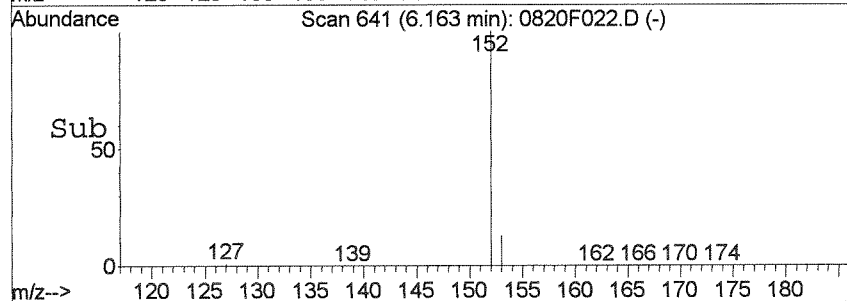
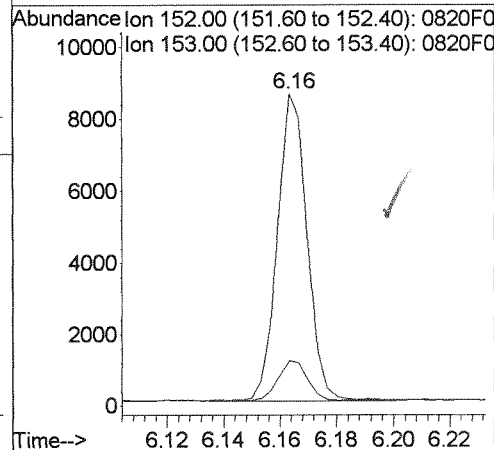
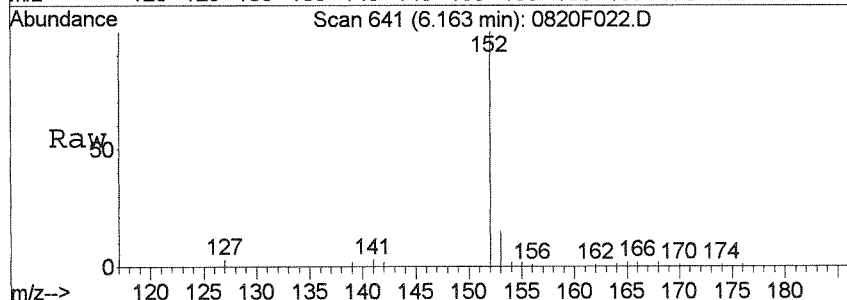
NT

Tgt Ion	Ratio	Resp	Lower	Upper
156	100	120		
155	35.5	4.9		64.9

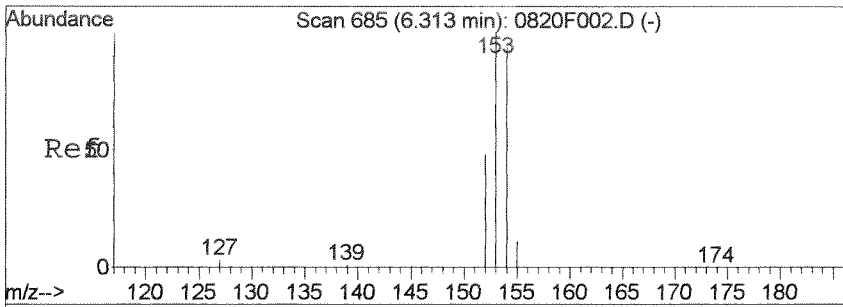


#8  
 Acenaphthylene  
 Concen: 8.81 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

Tgt Ion	Ratio	Resp	Lower	Upper
152	100	6358		
153	13.0	0.0		43.2

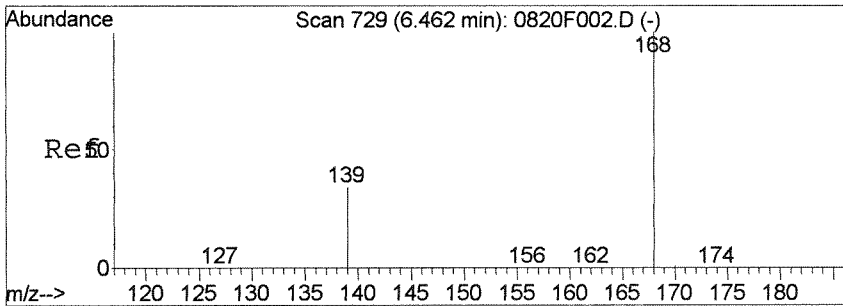
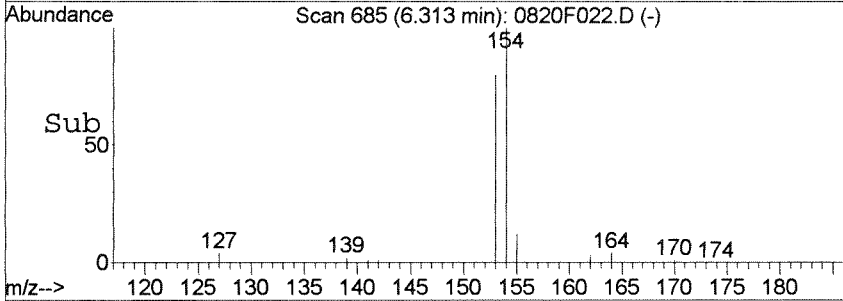
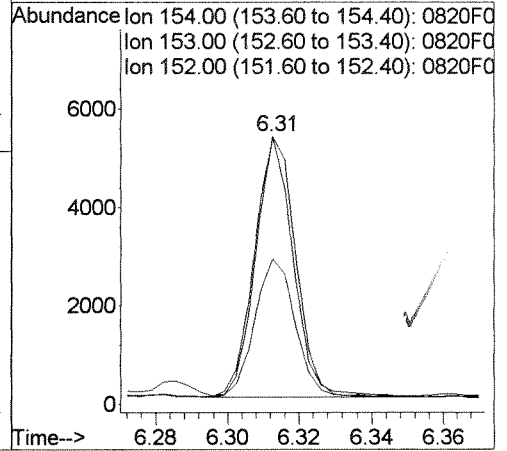
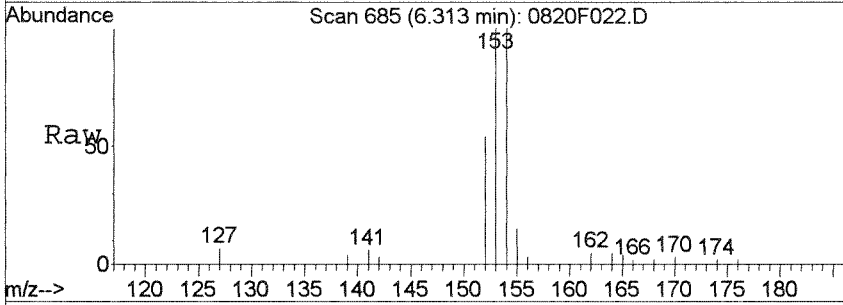






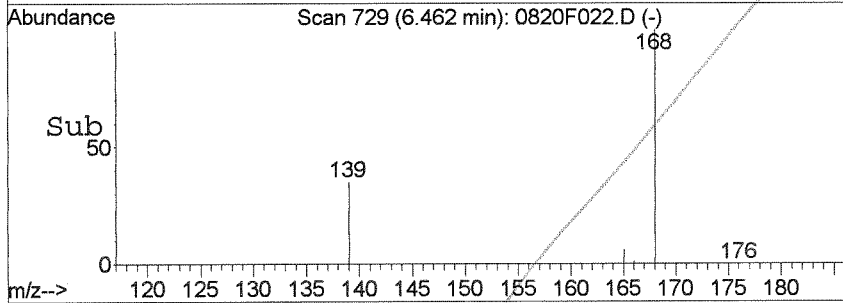
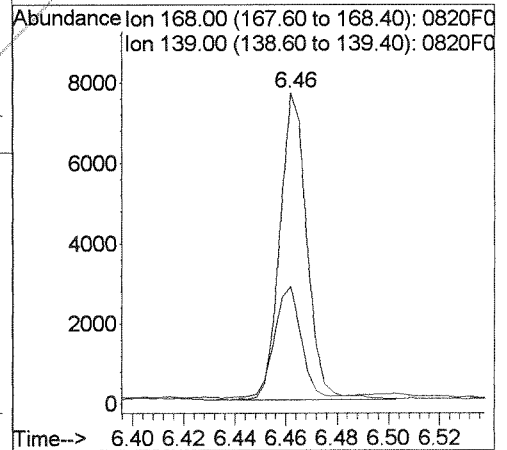
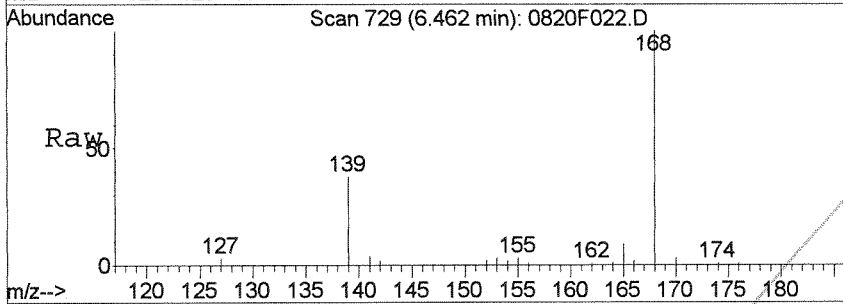
#9  
 Acenaphthene  
 Concen: 9.83 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

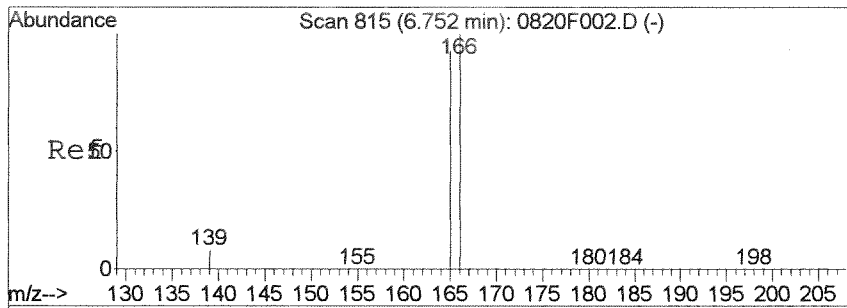
Tgt Ion	Ratio	Lower	Upper
154	100		
153	99.3	72.5	132.5
152	53.1	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 8.64 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

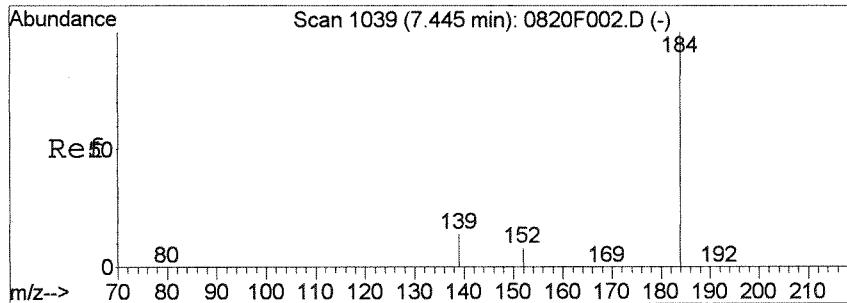
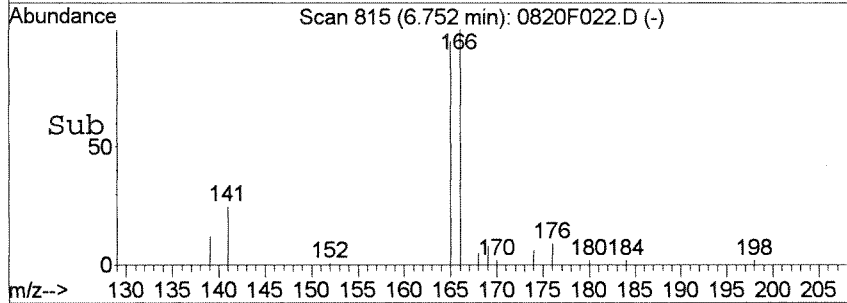
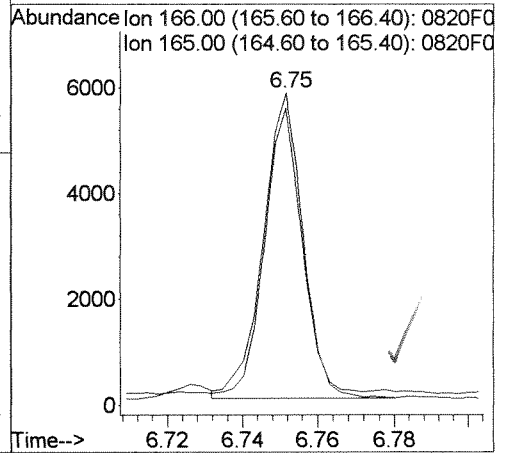
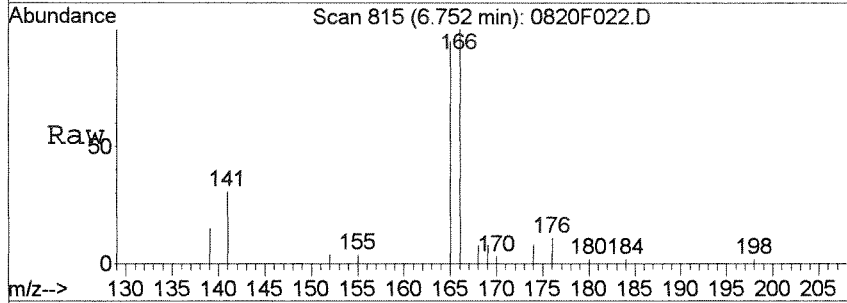
Tgt Ion	Ratio	Lower	Upper
168	100		
139	36.2	2.7	62.7





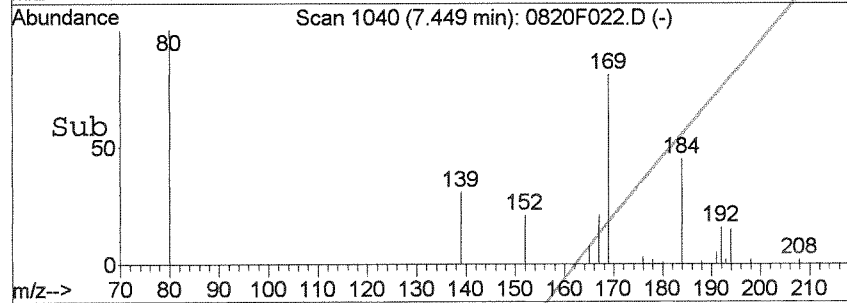
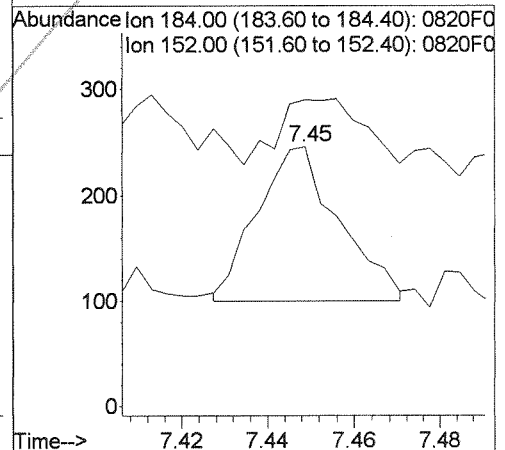
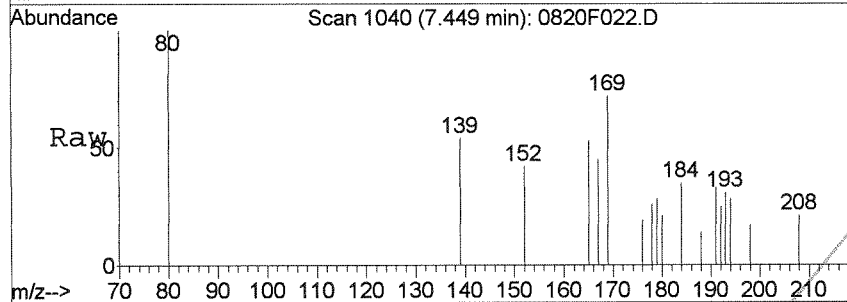
#13  
 Fluorene  
 Concen: 8.18 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

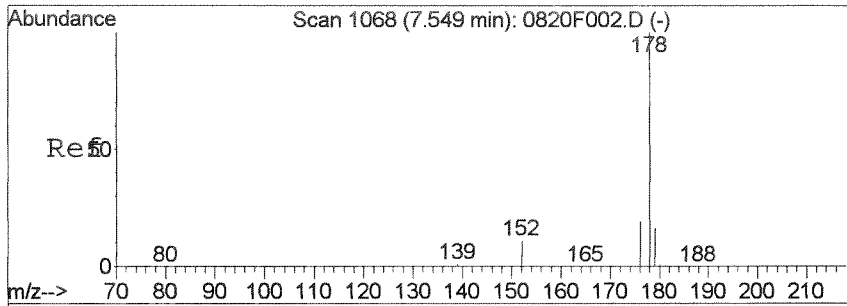
Tgt Ion	Resp	Lower	Upper
166	100		
165	93.4	60.9	120.9



#15  
 Dibenzothiophene  
 Concen: 0.26 ng/ml m  
 RT: 7.45 min Scan# 1040  
 Delta R.T. 0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

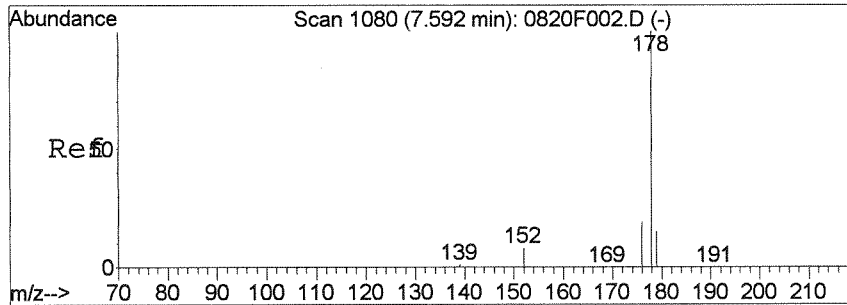
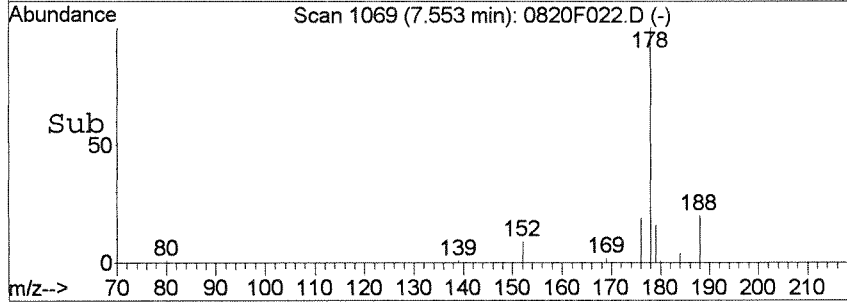
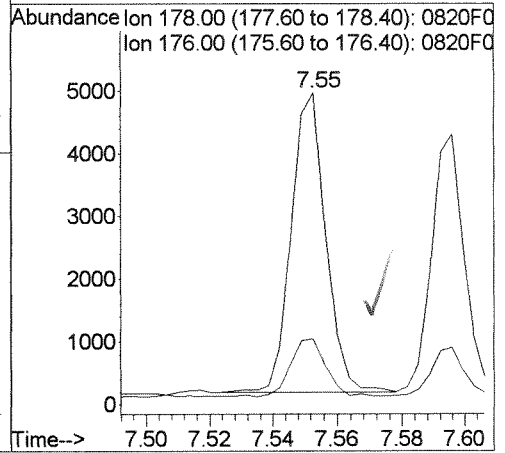
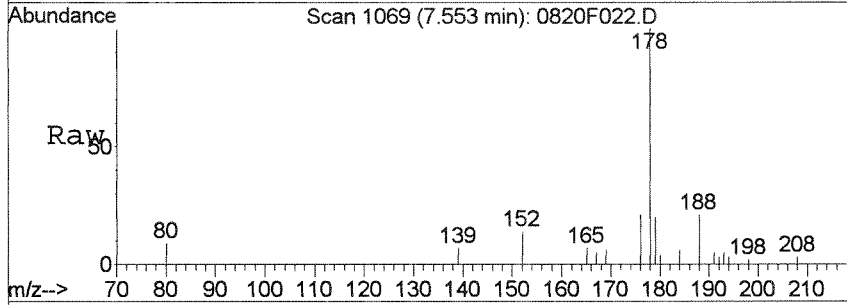
Tgt Ion	Resp	Lower	Upper
184	100		
152	117.9	0.0	39.9#





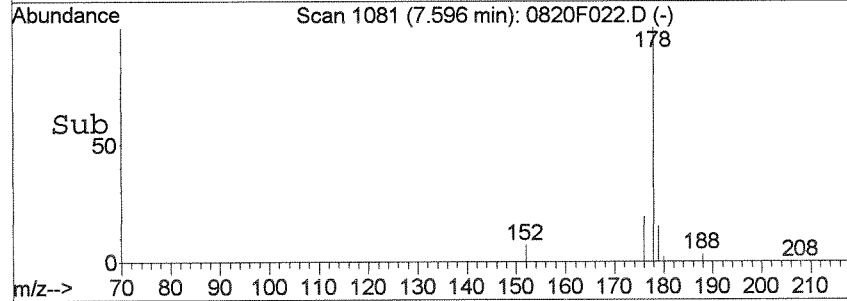
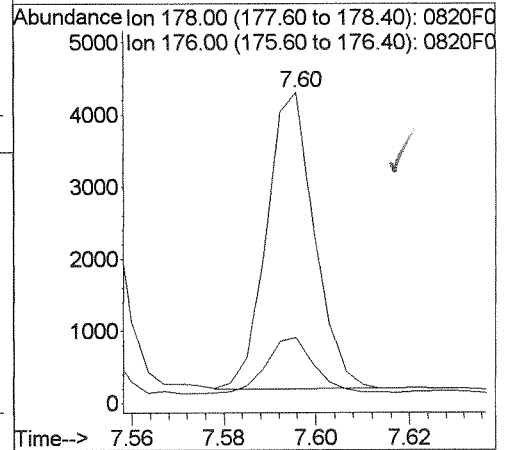
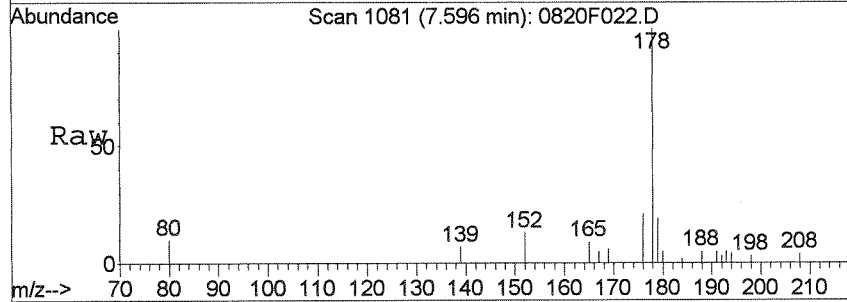
#16  
 Phenanthrene  
 Concen: 4.69 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

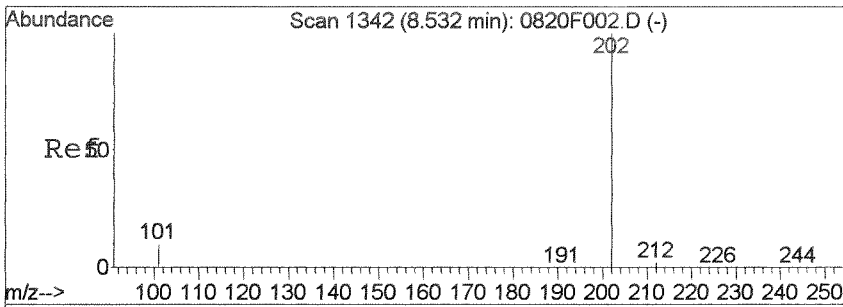
Tgt Ion: 178 Resp: 3561  
 Ion Ratio Lower Upper  
 178 100  
 176 19.2 0.0 48.9



#17  
 Anthracene  
 Concen: 3.94 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

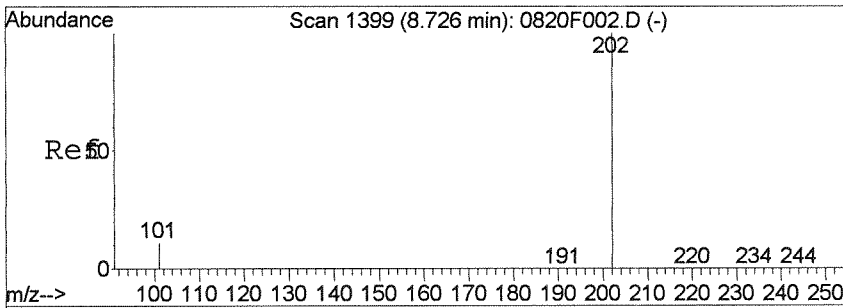
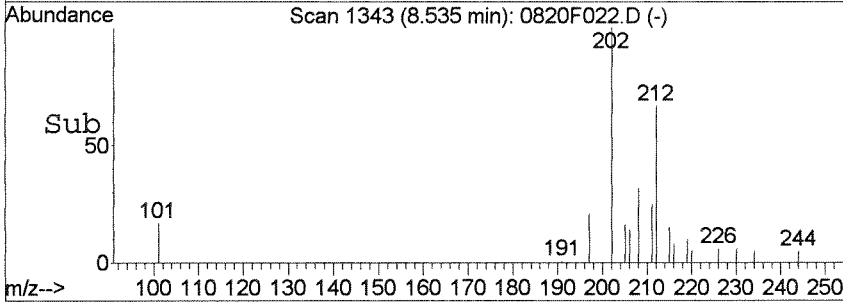
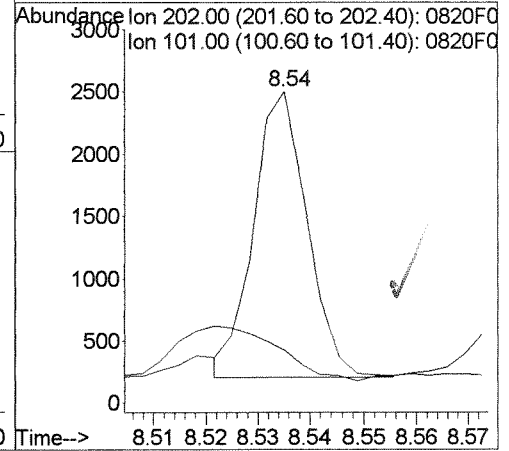
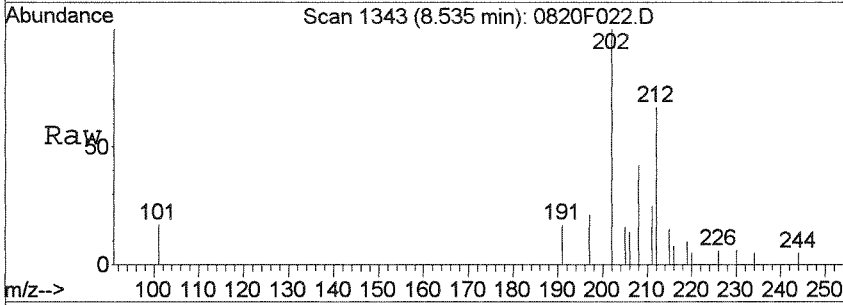
Tgt Ion: 178 Resp: 2965  
 Ion Ratio Lower Upper  
 178 100  
 176 18.6 0.0 47.7





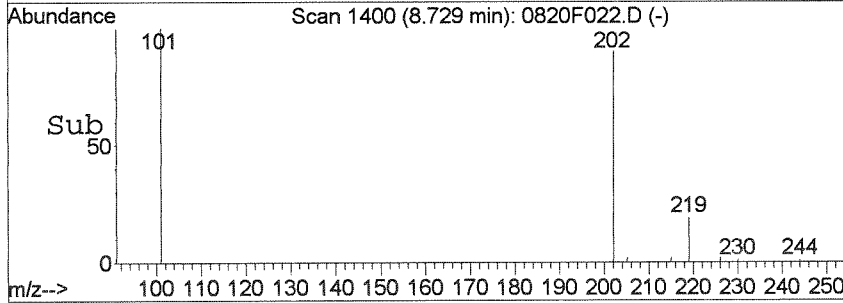
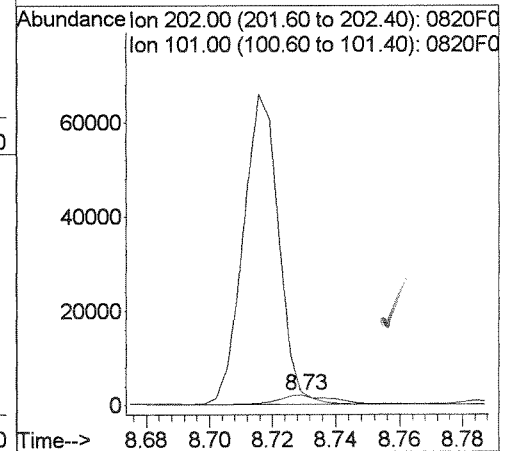
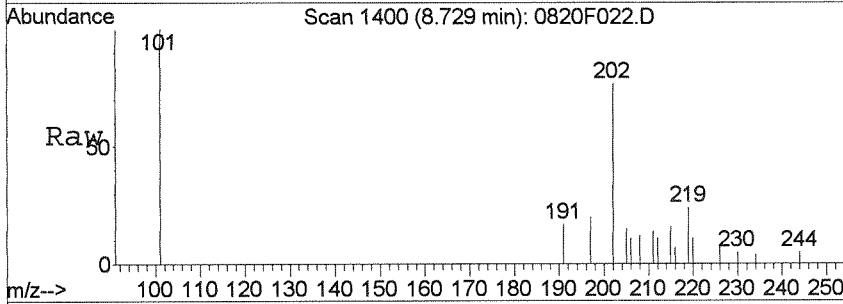
#20  
 Fluoranthene  
 Concen: 1.85 ng/ml m  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

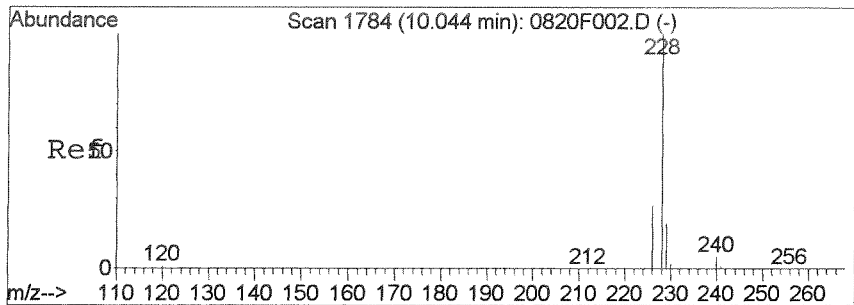
Tgt Ion: 202 Resp: 1635  
 Ion Ratio Lower Upper  
 202 100  
 101 17.0 0.0 37.0



#23  
 Pyrene  
 Concen: 1.75 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

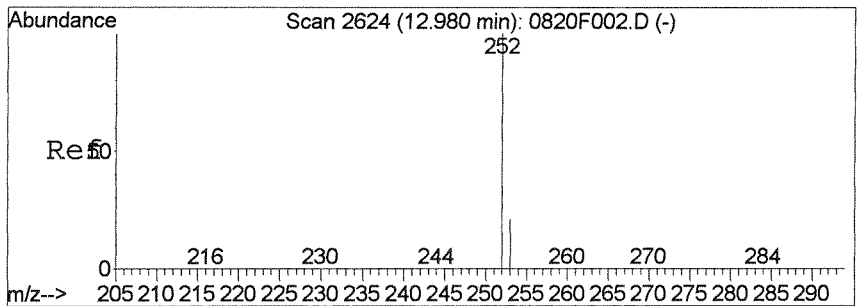
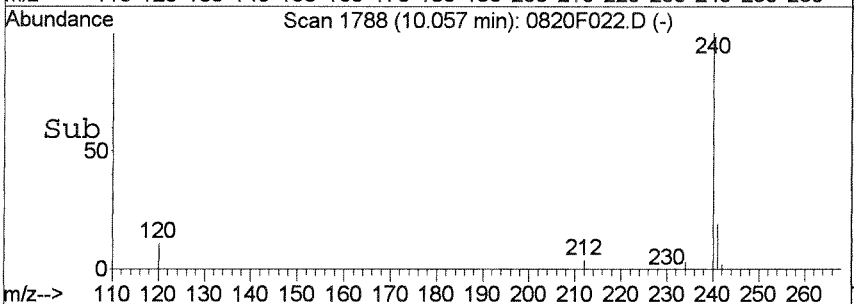
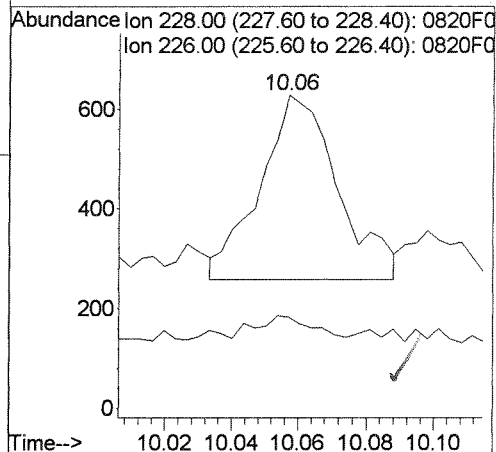
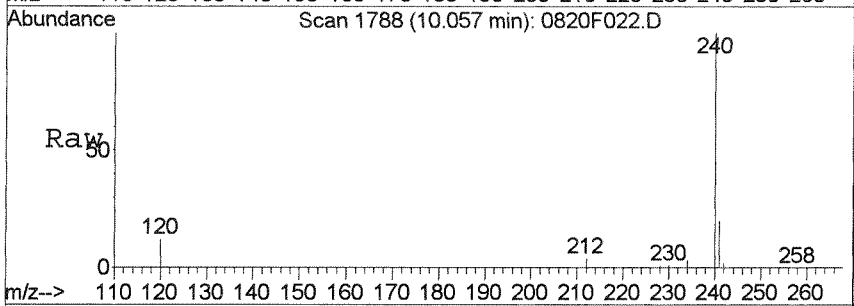
Tgt Ion: 202 Resp: 1796  
 Ion Ratio Lower Upper  
 202 100  
 101 129.2 0.0 38.3#





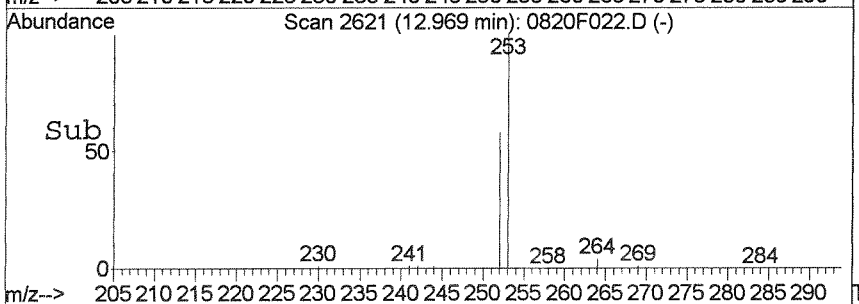
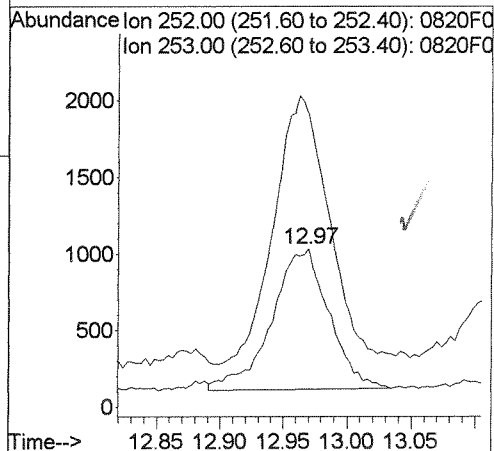
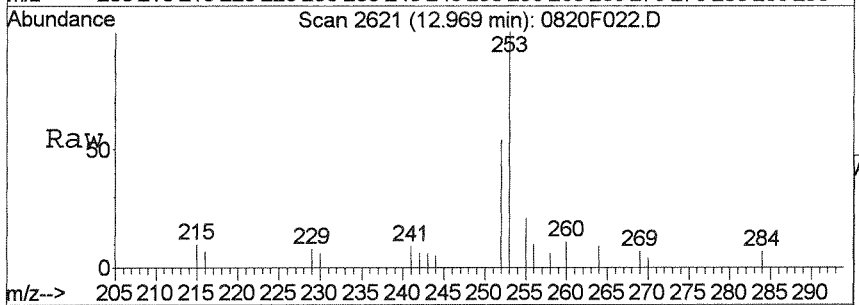
#25  
 Benz(a)anthracene  
 Concen: 0.65 ng/ml  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

Tgt Ion: 228 Resp: 593  
 Ion Ratio Lower Upper  
 228 100  
 226 8.0 0.0 56.4



#31  
 Benzo(a)pyrene  
 Concen: 3.16 ng/ml  
 RT: 12.97 min Scan# 2621  
 Delta R.T. -0.02 min  
 Lab File: 0820F022.D  
 Acq: 20 Aug 2014 6:49 pm

Tgt Ion: 252 Resp: 2880  
 Ion Ratio Lower Upper  
 252 100  
 253 176.6 0.0 52.2#



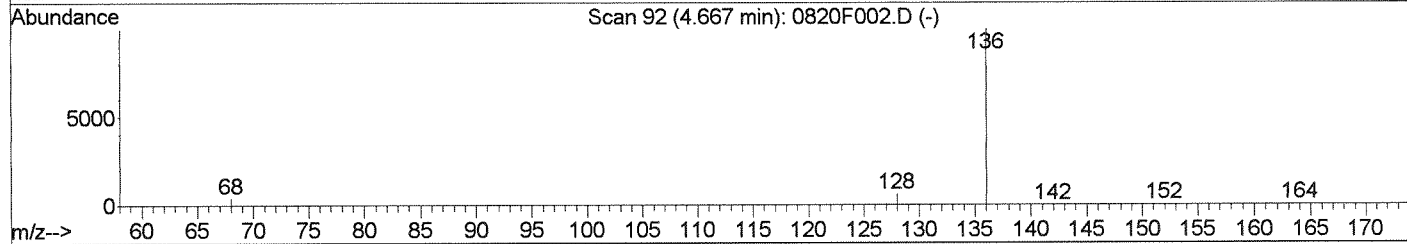
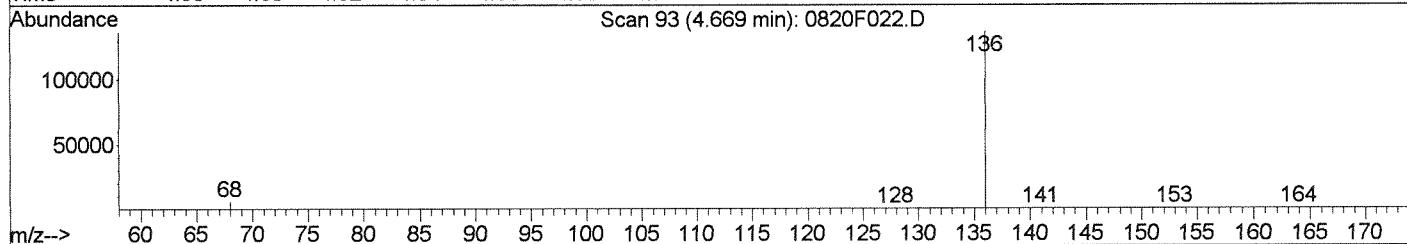
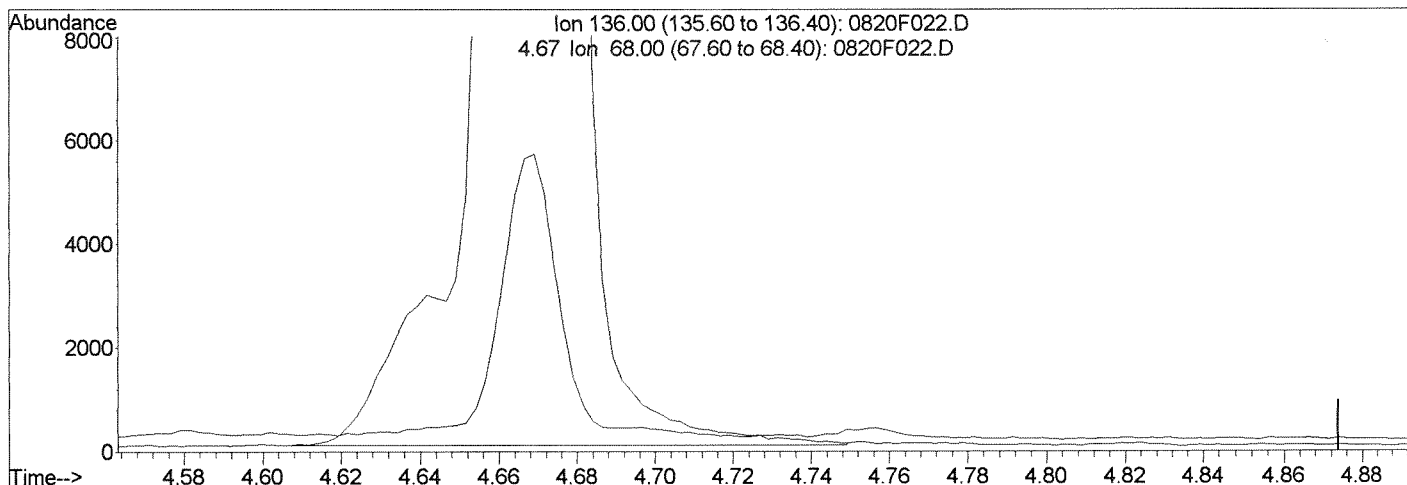
Data File : J:\MS14\DATA\082014\0820F022.D  
Acq On : 20 Aug 2014 6:49 pm  
Sample : K1407971-014  
Misc :

Vial: 22  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

MS Integration Params: RTEINT.P  
Quant Time: Aug 21 7:22 2014

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



(1) Naphthalene-d8 (I)

4.67min 200.00ng/ml

response 133262

Ion	Exp%	Act%
136.00	100	100
68.00	3.20	3.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

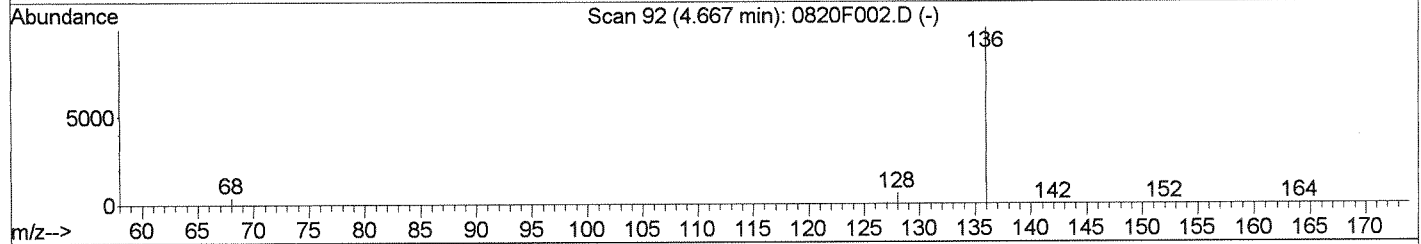
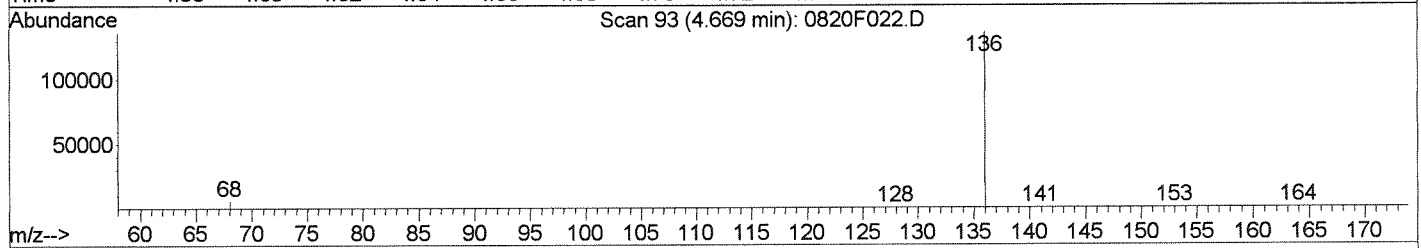
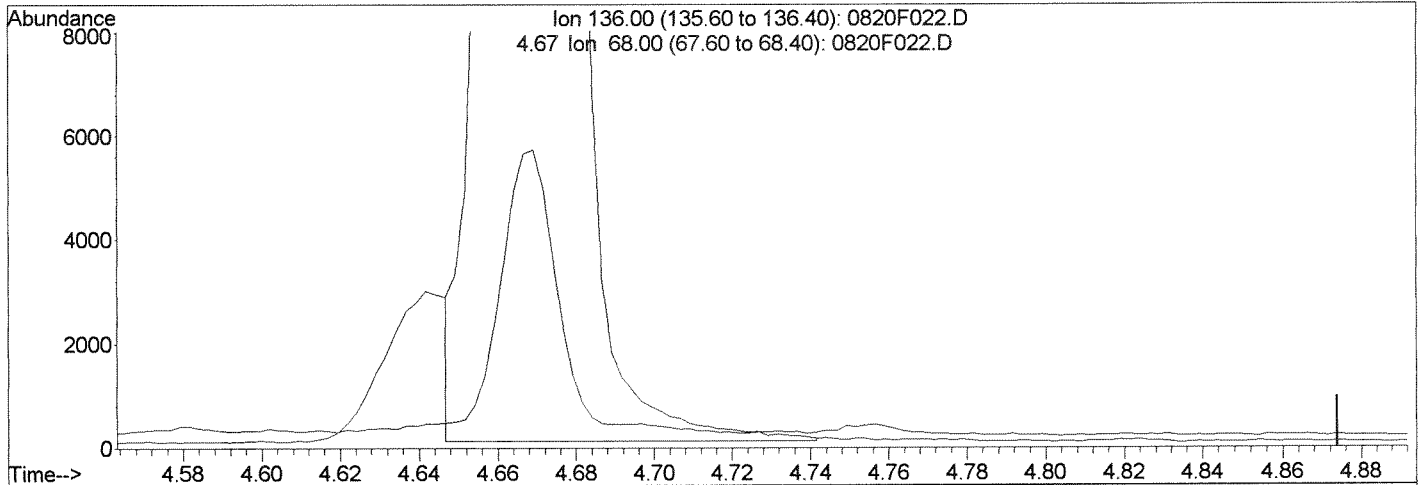
*LAB*

Data File : J:\MS14\DATA\082014\0820F022.D  
Acq On : 20 Aug 2014 6:49 pm  
Sample : K1407971-014  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:38 2014

Vial: 22  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F022.D

(1) Naphthalene-d8 (I)		
4.67min	200.00ng/ml	m
response	130020	
Ion	Exp%	Act%
136.00	100	100
68.00	3.20	4.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
After  
IC-Overintegrated  
08/21/14

CAA

LAB

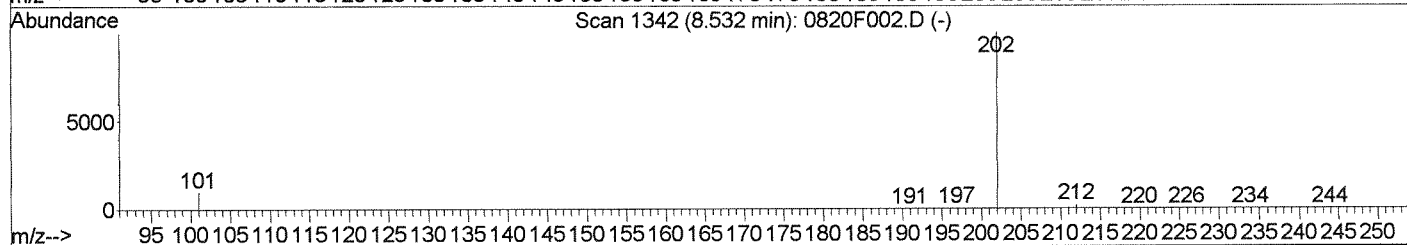
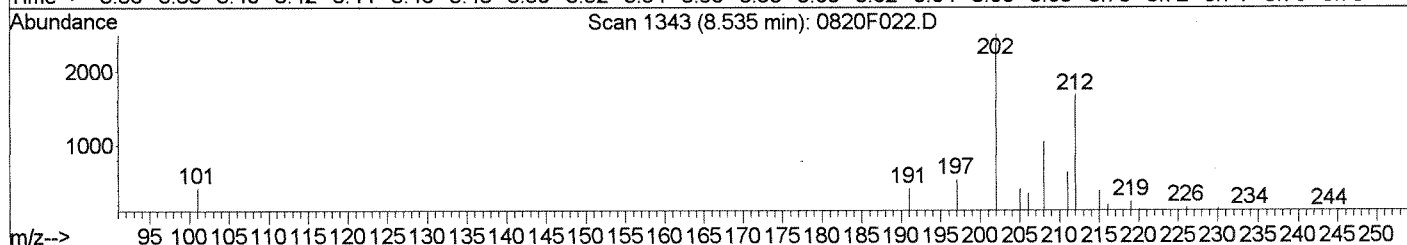
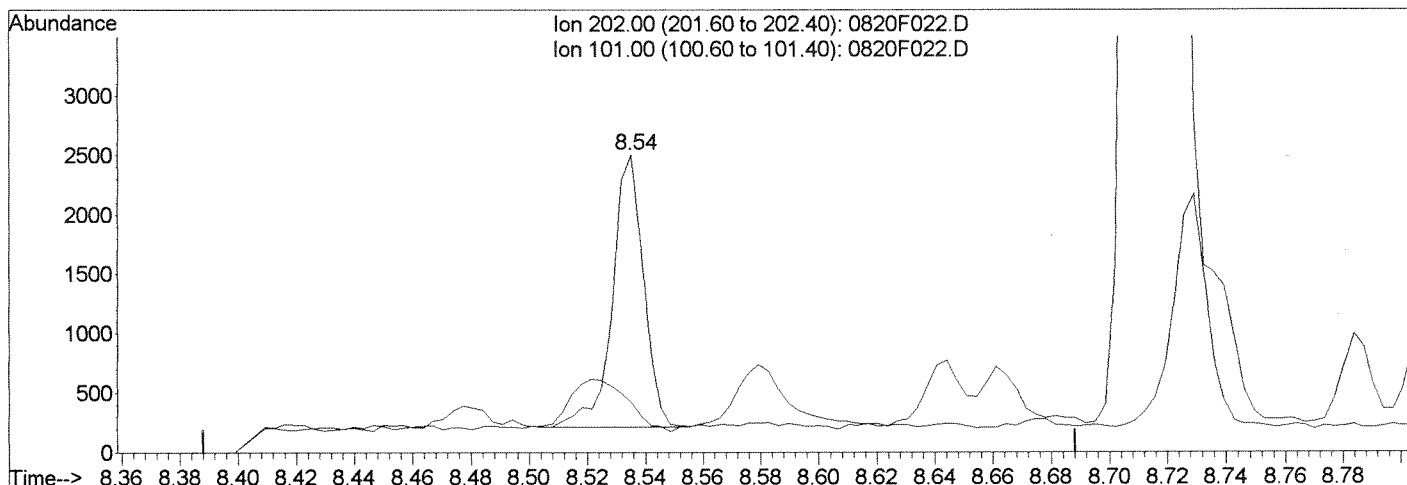
Data File : J:\MS14\DATA\082014\0820F022.D  
Acq On : 20 Aug 2014 6:49 pm  
Sample : K1407971-014  
Misc :

Vial: 22  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:38 2014

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F022.D

(20) Fluoranthene (T)

8.54min 1.94ng/ml

response 1721

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	9.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CAA

LB

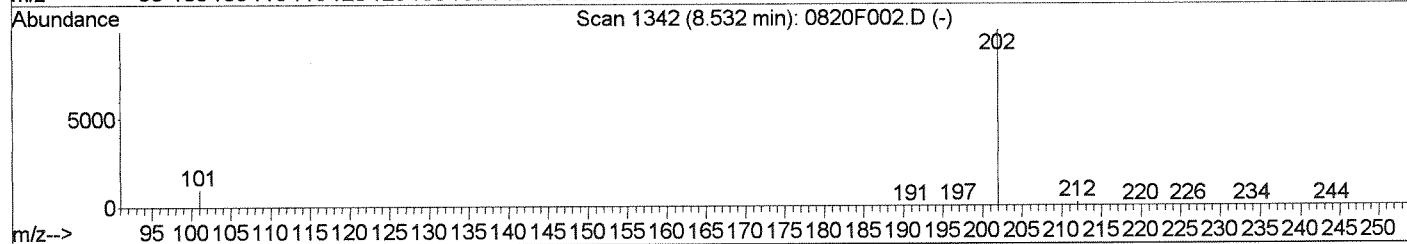
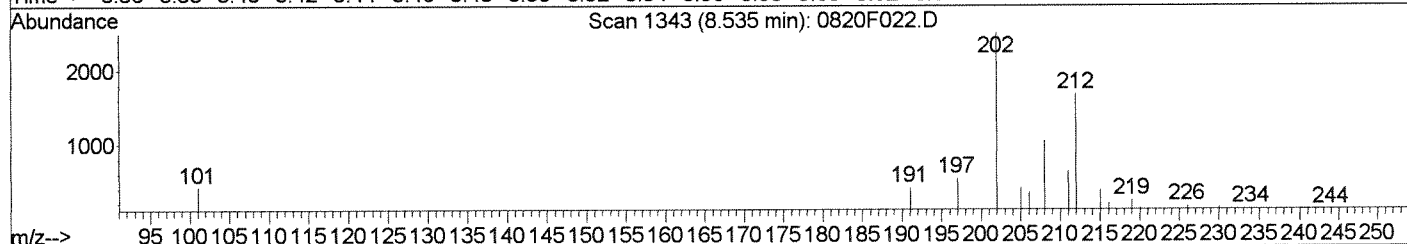
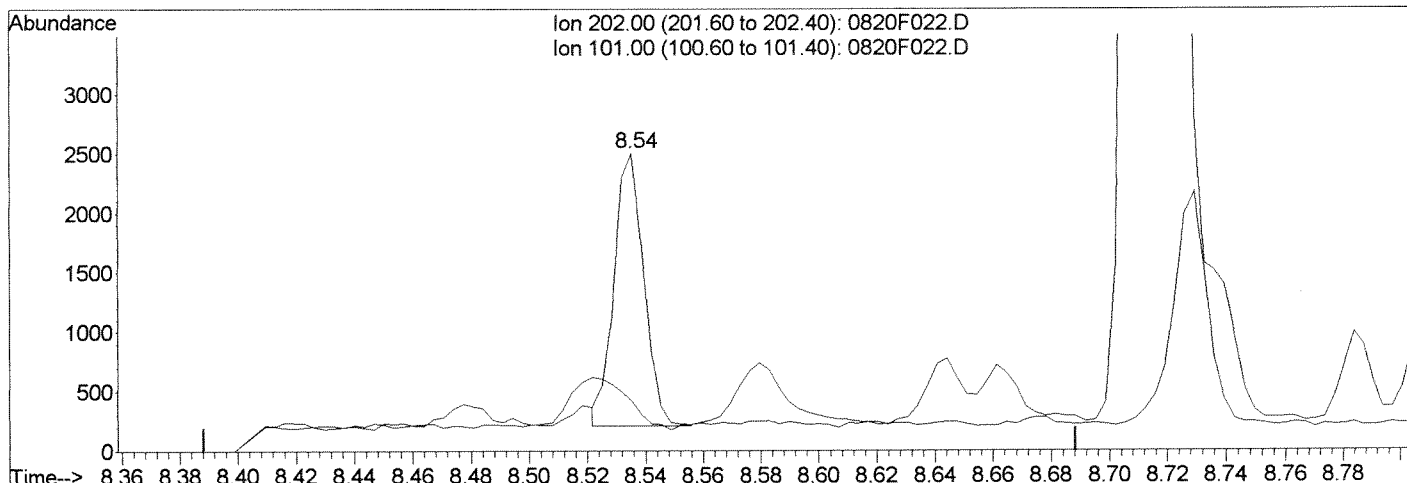


Data File : J:\MS14\DATA\082014\0820F022.D  
Acq On : 20 Aug 2014 6:49 pm  
Sample : K1407971-014  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:39 2014

Vial: 22  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F022.D

(20) Fluoranthene (T)		
8.54min	1.85ng/ml	m
response	1635	
Ion	Exp%	Act%
202.00	100	100
101.00	7.00	16.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
After  
IC-Overintegrated  
08/21/14

CA

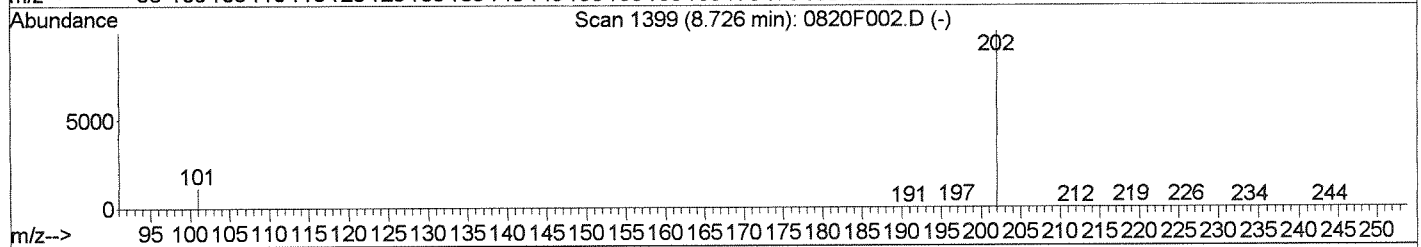
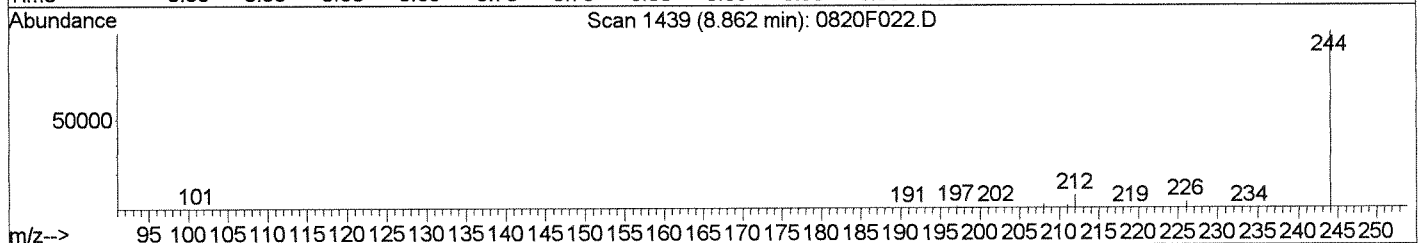
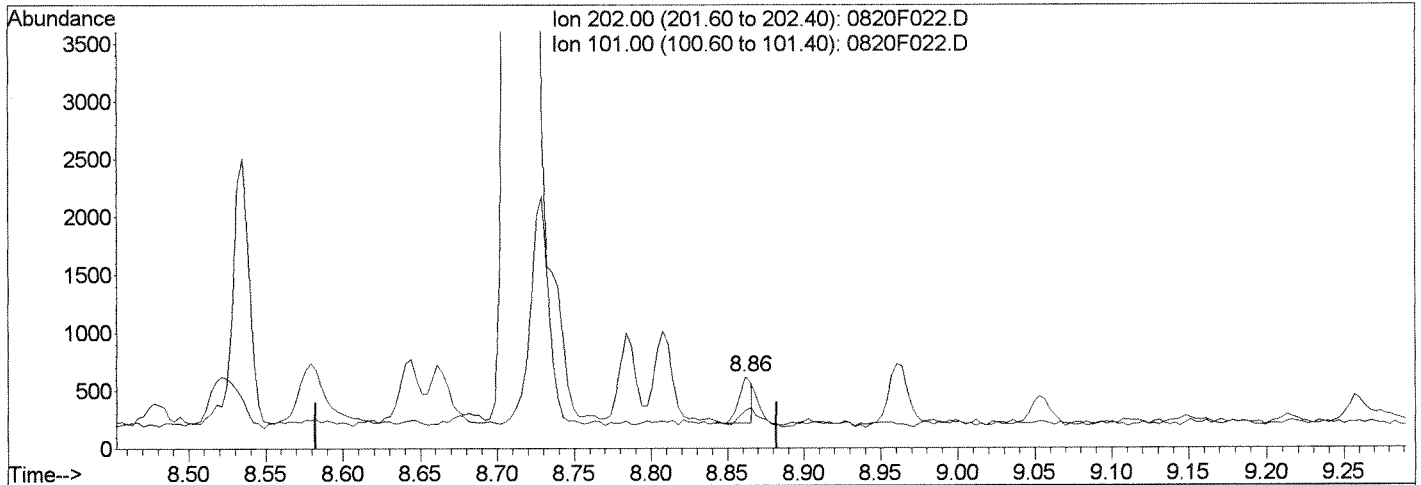
1/23

Data File : J:\MS14\DATA\082014\0820F022.D  
 Acq On : 20 Aug 2014 6:49 pm  
 Sample : K1407971-014  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:39 2014

Vial: 22  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F022.D

(23) Pyrene (T)  
 8.86min 0.23ng/ml  
 response 235

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	22.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

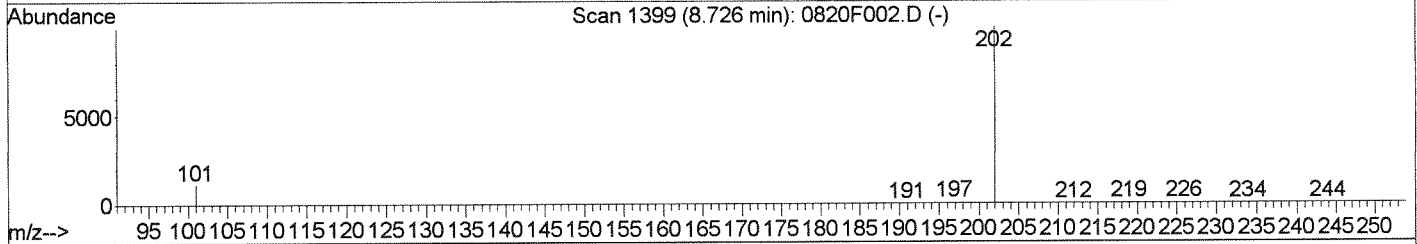
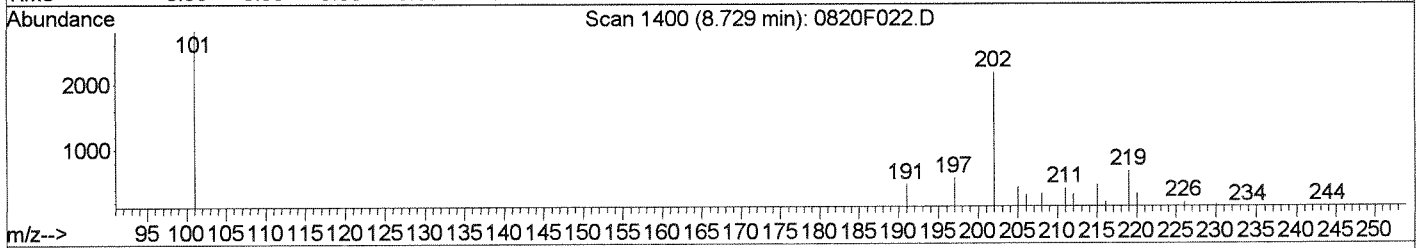
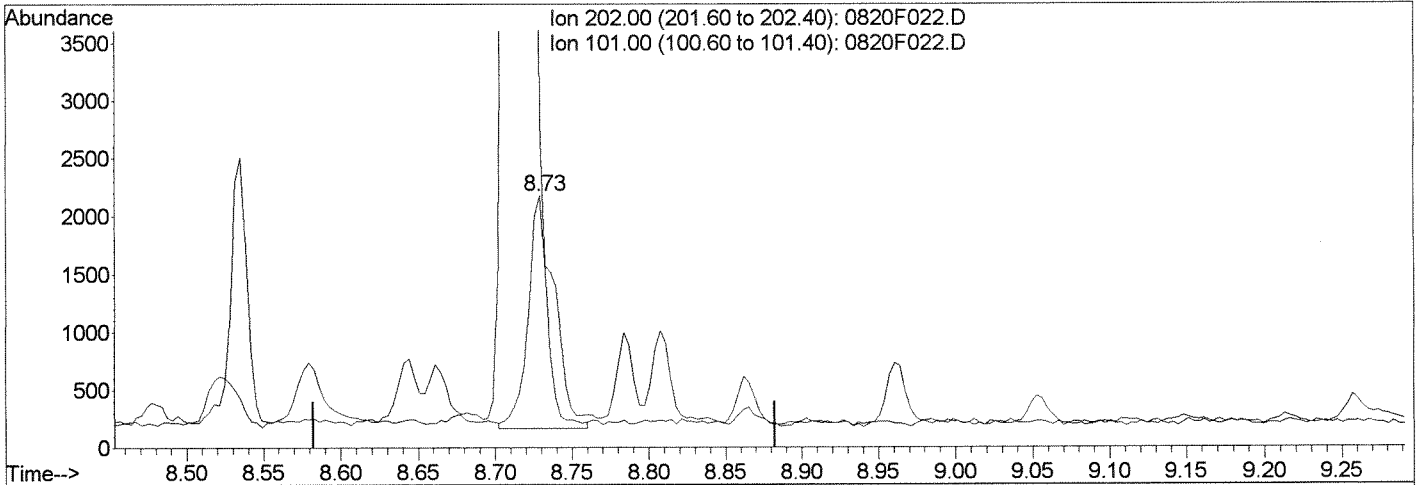
*4B*

Data File : J:\MS14\DATA\082014\0820F022.D  
Acq On : 20 Aug 2014 6:49 pm  
Sample : K1407971-014  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:39 2014

Vial: 22  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F022.D

(23) Pyrene (T)

8.73min 1.75ng/ml m

response 1796

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	129.25#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten notes:*  
CA + LB  
8/21/14  
LB

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F023.D  
**Lab ID:** K1407971-015  
**Run Type:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 19:15  
**Date Quantitated:** 08/21/2014 09:41  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: *CA* AUG 21 2014

Secondary Review: *LB* AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F023.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 19:15	<b>Quant Date:</b> 08/21/2014 09:41
<b>Run Type:</b> SMPL	<b>Vial:</b> 23
<b>Lab ID:</b> K1407971-015	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365440	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	133606	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71577	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	136819	200.00	OK
4	Chrysene-d12	10.06	0.00	240	148363	200.00	OK
5	Perylene-d12	13.17	0.02	264	153759	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	71599	169.57	85	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	121813	158.11	79	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	100852	151.12	76	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	2324	3.28	21	J	
1	2-Methylnaphthalene	5.37		0.00	142	1417	2.86	18	J	
1	1-Methylnaphthalene	5.46		0.00	142	1253	2.87	18	J	
2	Acenaphthylene	6.16		0.00	152	1672	2.32	15	J	
2	Acenaphthene	6.32	0.01	0.00	154	1451	3.48	22	J	
2	Fluorene	6.75		0.00	166	1478	2.84	18	J	
3	Phenanthrene	7.55		0.00	178	2437	3.23	20	J	
3	Anthracene	7.60	0.01	0.00	178	693	0.9300	5.9	J	
3	Fluoranthene	8.53		0.00	202	863m	0.9800	6.2	J	
4	Pyrene	8.73		0.00	202	1009m	0.9900	6.3	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	608	0.6700	4.2	J	
4	Chrysene	10.08	-0.02	0.00	228	790	0.9800	6.2	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

<b>Data File:</b>	J:\MS14\DATA\082014\0820F023.D	<b>Instrument:</b>	MS14
<b>Acqu Date:</b>	08/20/2014 19:15	<b>Quant Date:</b>	08/21/2014 09:41
<b>Run Type:</b>	SMPL	<b>Vial:</b>	23
<b>Lab ID:</b>	K1407971-015	<b>Dilution:</b>	1.0
		<b>Soln Conc. Units:</b>	ng/ml

**Target Compounds**

						Final Conc. Units:		ug/Kg Dry Weight		
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.2	U	
5	Benzo(k)fluoranthene				252	0d		3.7	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	2963m	3.27	21	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.1	U	
5	Dibenz(a,h)anthracene				278	0d		5.5	U	
5	Benzo(g,h,i)perylene				276	0d		6.1	U	

**Prep Amount:** 10.305 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 15.3 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F023.D  
 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :

Vial: 23  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:30 2014

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.67	136	133606	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	71577	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	136819	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	148363	200.00	ng/ml	0.00
27) Perylene-d12	13.17	264	153759	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	71599	169.57	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.96%	
21) Fluoranthene-d10	8.52	212	121813	158.11	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.81%	
24) Terphenyl-d14	8.87	244	100852	151.12	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.11%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	2324	3.28	ng/ml	94
3) 2-Methylnaphthalene	5.37	142	1417	2.86	ng/ml	100
4) 1-Methylnaphthalene	5.46	142	1253	2.87	ng/ml	93
5) Biphenyl	5.79	154	320	0.55	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.94	156	296	0.68	ng/ml	85
8) Acenaphthylene	6.16	152	1672	2.32	ng/ml	100
9) Acenaphthene	6.32	154	1451	3.48	ng/ml	76
10) Dibenzofuran	6.46	168	1562	2.38	ng/ml	93
11) 2,3,5-Trimethylnaphthalene	6.64	170	240m	0.58	ng/ml	
13) Fluorene	6.75	166	1478	2.84	ng/ml	94
15) Dibenzothiophene	7.45	184	238m	0.33	ng/ml	
16) Phenanthrene	7.55	178	2437	3.23	ng/ml	99
17) Anthracene	7.60	178	693	0.93	ng/ml	98
18) Carbazole	7.74	167	479	0.73	ng/ml	66
19) 1-Methylphenanthrene	8.06	192	775	1.30	ng/ml	92
20) Fluoranthene	8.53	202	863m	0.98	ng/ml	
23) Pyrene	8.73	202	1009m	0.99	ng/ml	
25) Benz(a)anthracene	10.06	228	608	0.67	ng/ml	61
26) Chrysene	10.08	228	790	0.98	ng/ml	96
31) Benzo(a)pyrene	12.97	252	2963m	3.27	ng/ml	

(#) = qualifier out of range (m) = manual integration

0820F023.D 072214SIMPAAH.M

Thu Aug 21 09:52:39 2014

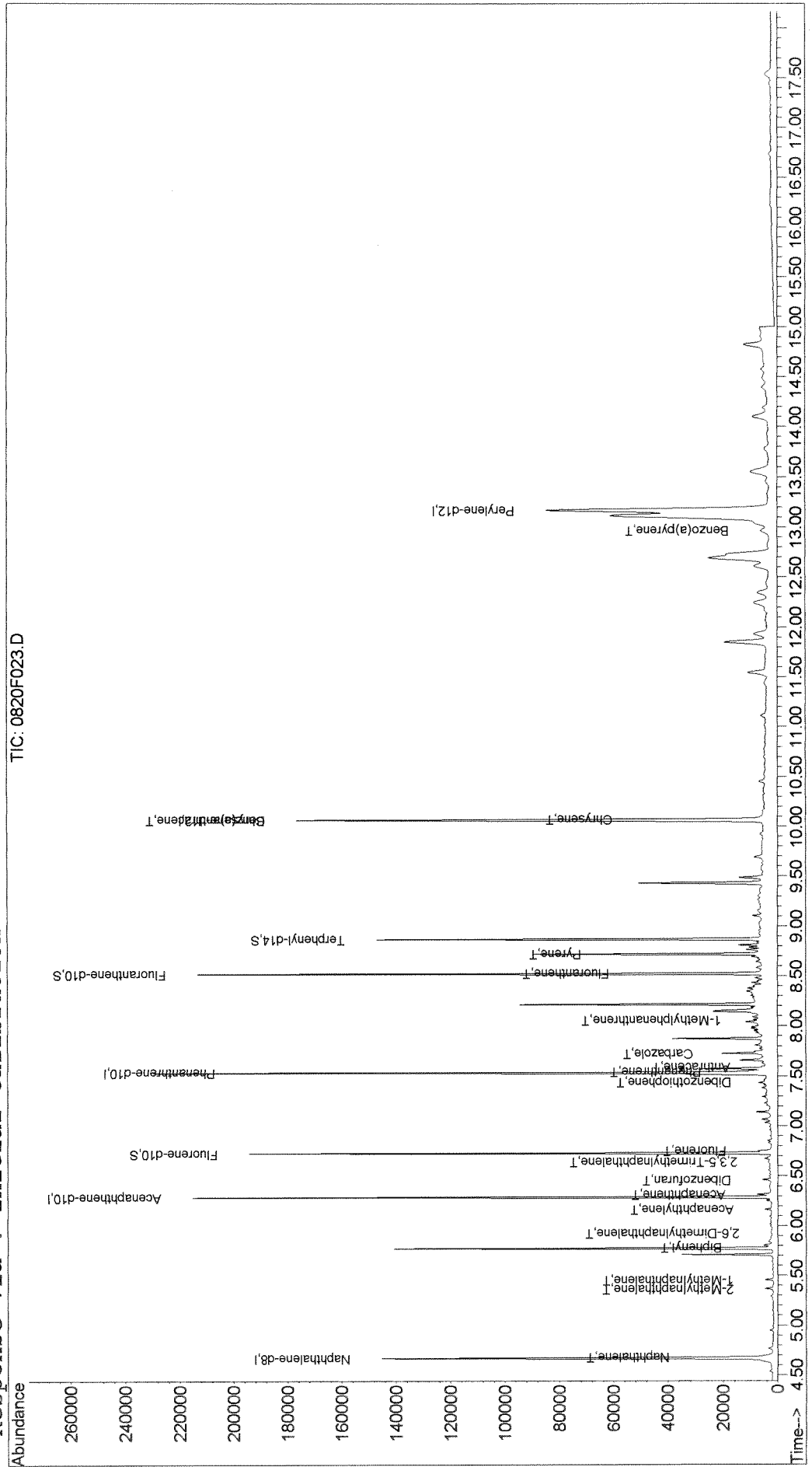
Page 1

Quantitation Report (QT Reviewed)

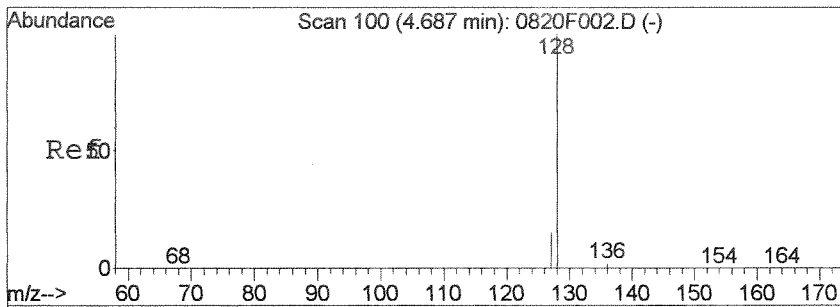
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 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:41 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 23  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration

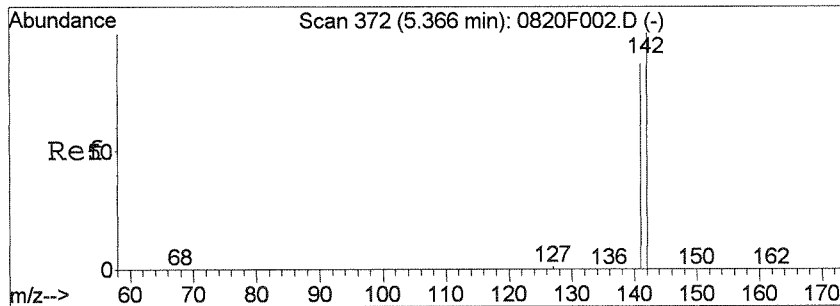
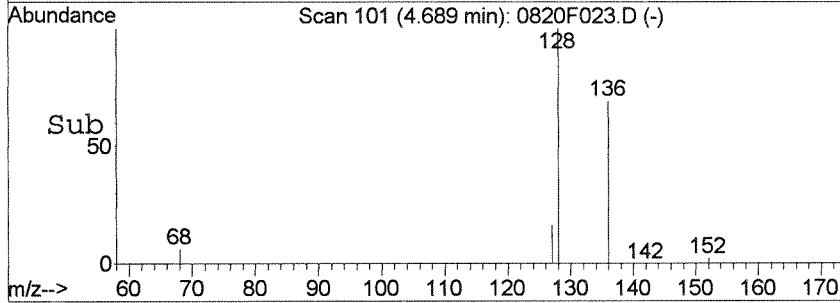
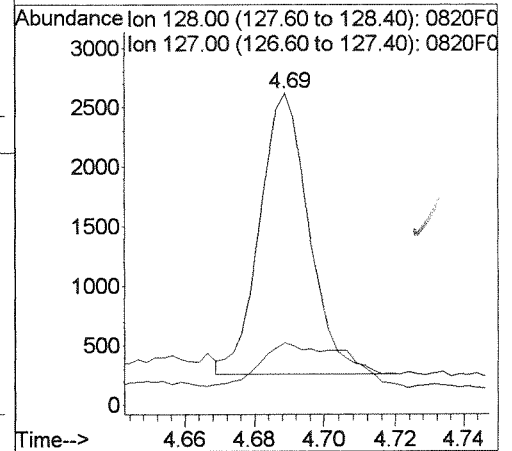
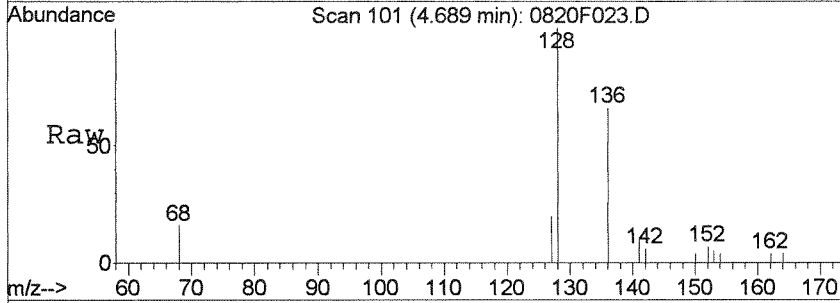






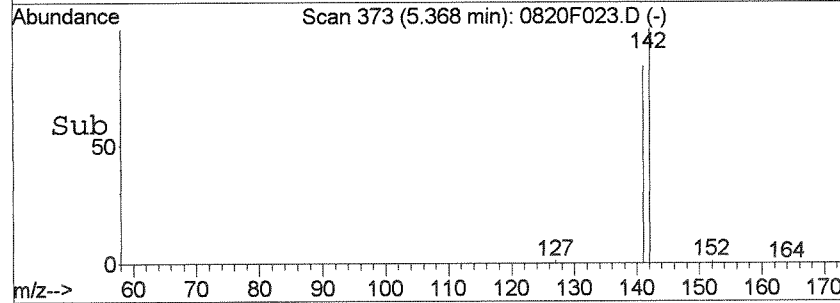
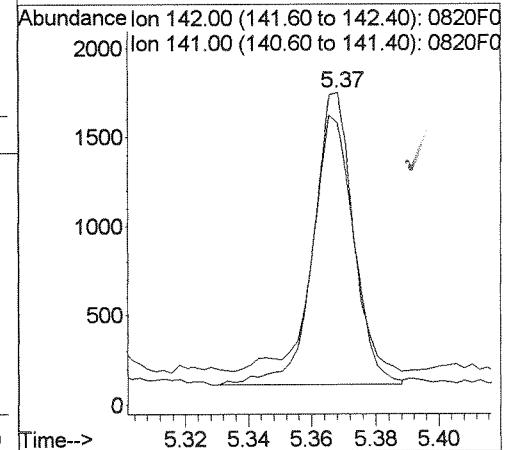
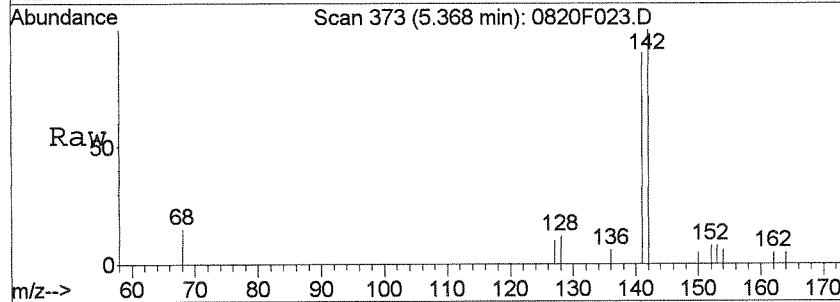
#2  
 Naphthalene  
 Concen: 3.28 ng/ml  
 RT: 4.69 min Scan# 101  
 Delta R.T. -0.01 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

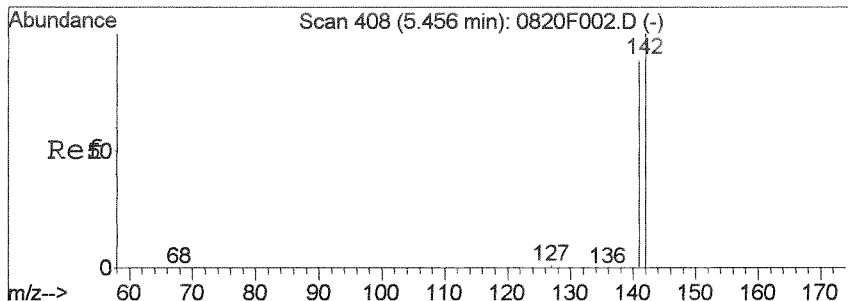
Tgt Ion: 128 Resp: 2324  
 Ion Ratio Lower Upper  
 128 100  
 127 14.9 0.0 42.6



#3  
 2-Methylnaphthalene  
 Concen: 2.86 ng/ml  
 RT: 5.37 min Scan# 373  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

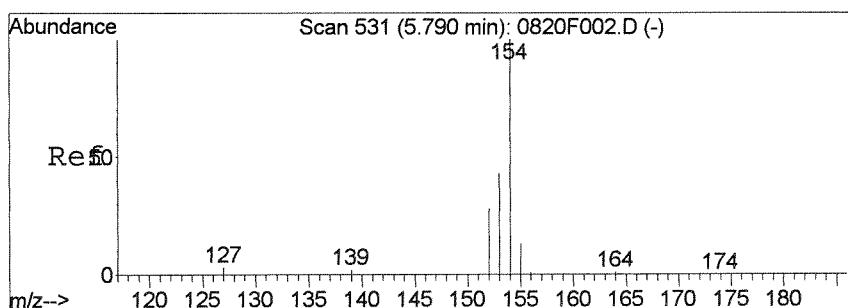
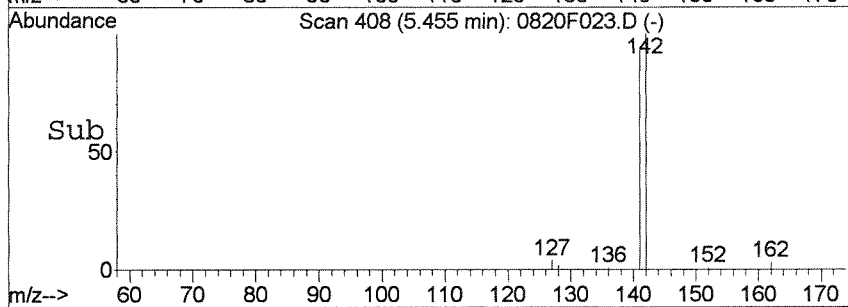
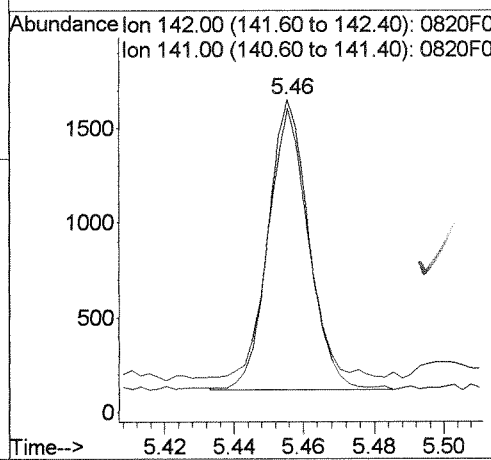
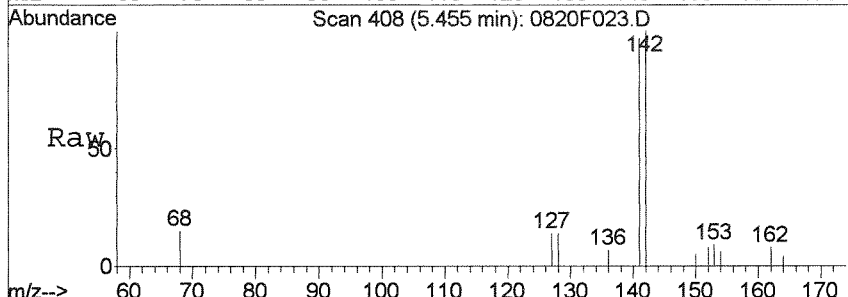
Tgt Ion: 142 Resp: 1417  
 Ion Ratio Lower Upper  
 142 100  
 141 85.1 54.8 114.8





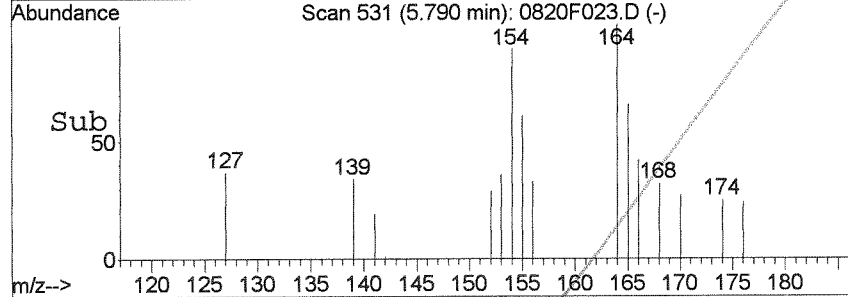
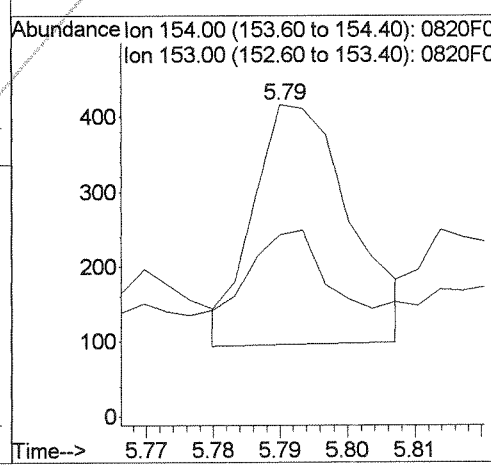
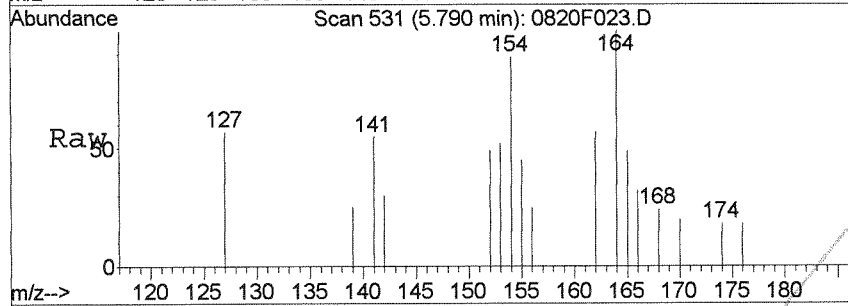
#4  
 1-Methylnaphthalene  
 Concen: 2.87 ng/ml  
 RT: 5.46 min Scan# 408  
 Delta R.T. -0.01 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion	Ratio	Lower	Upper
142	100		
141	92.4	56.4	116.4

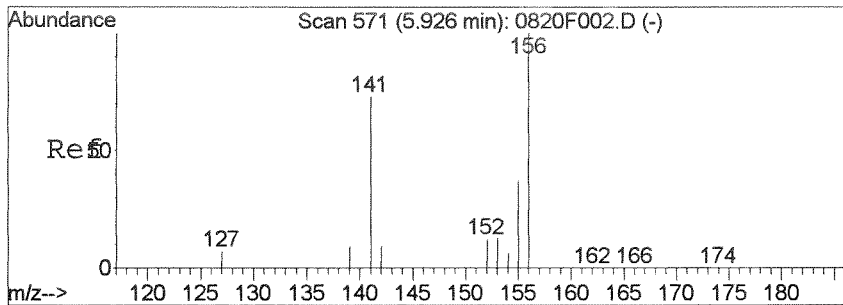


#5  
 Biphenyl  
 Concen: 0.55 ng/ml  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion	Ratio	Lower	Upper
154	100		
153	37.1	9.6	69.6

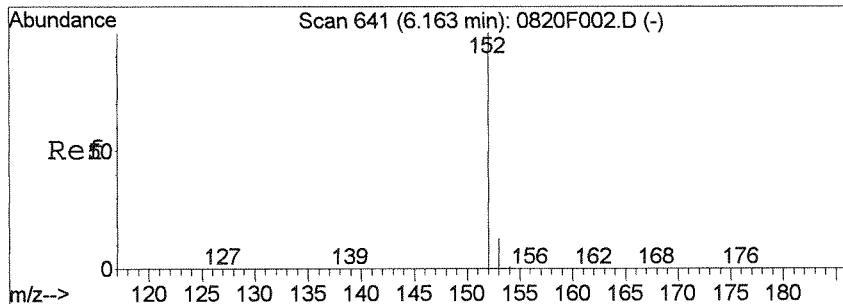
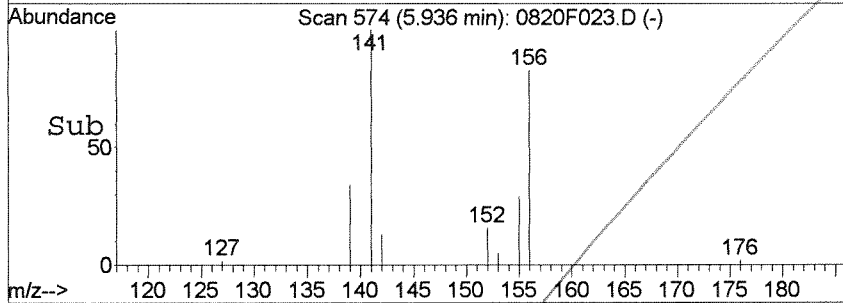
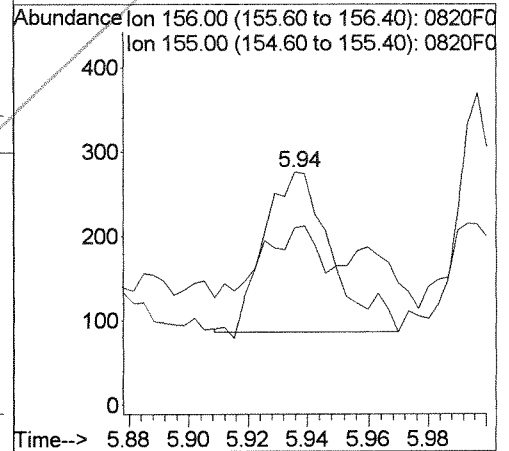
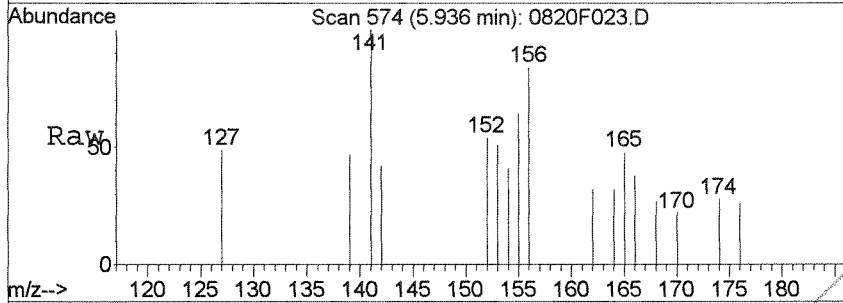


NT



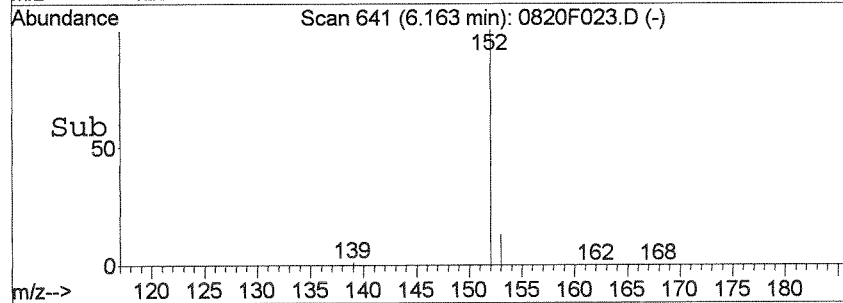
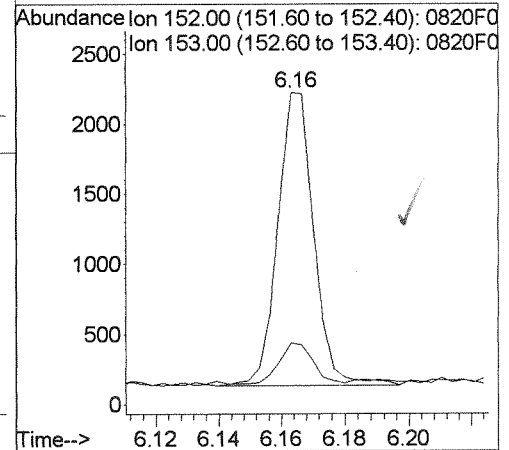
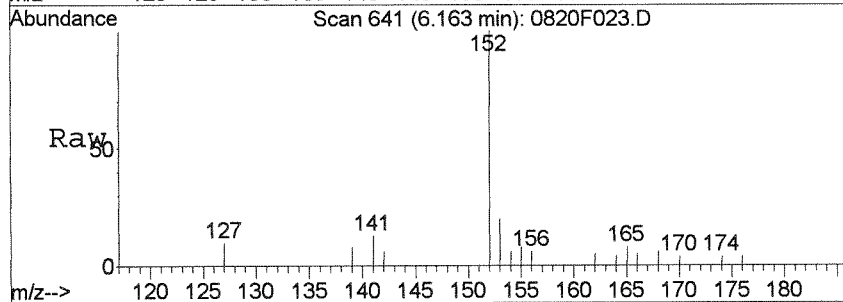
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.68 ng/ml  
 RT: 5.94 min Scan# 574  
 Delta R.T. 0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

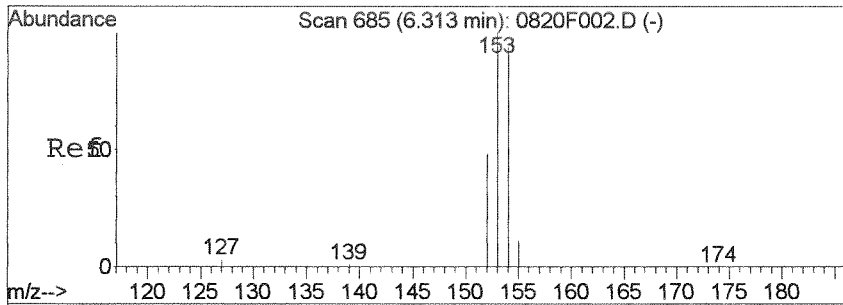
Tgt Ion: 156 Resp: 296  
 Ion Ratio Lower Upper  
 156 100  
 155 43.7 4.9 64.9



#8  
 Acenaphthylene  
 Concen: 2.32 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

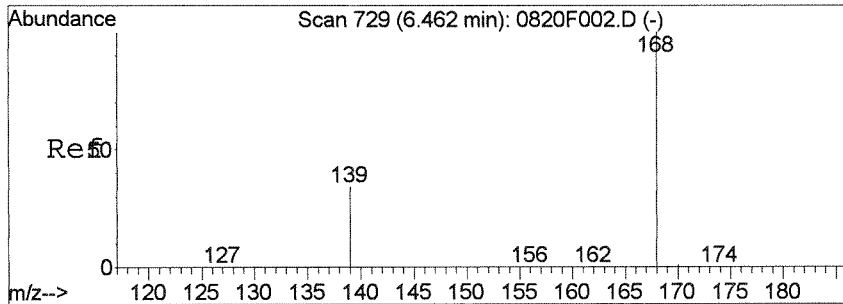
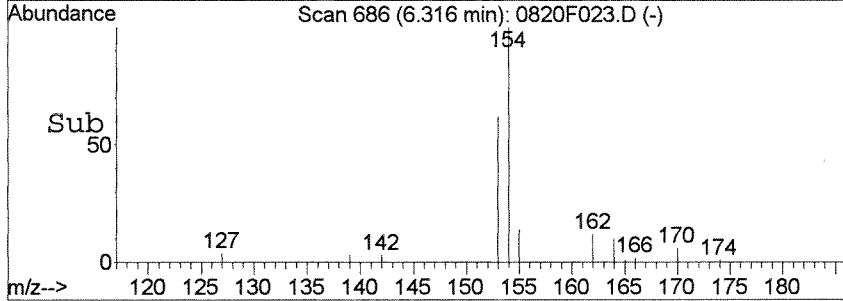
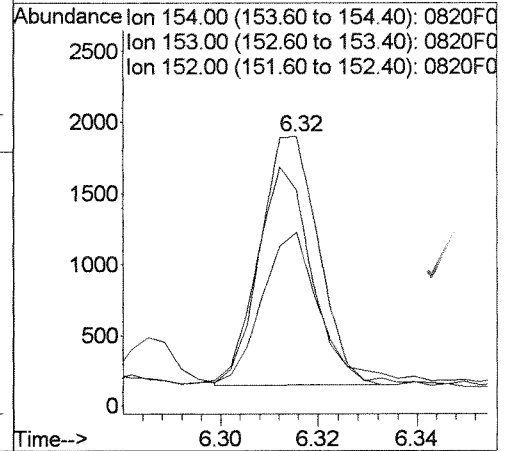
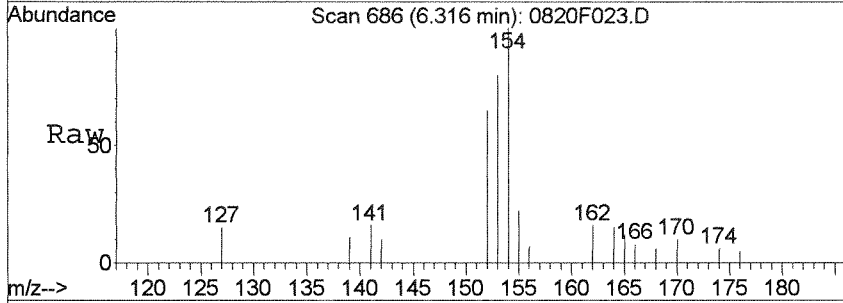
Tgt Ion: 152 Resp: 1672  
 Ion Ratio Lower Upper  
 152 100  
 153 13.3 0.0 43.2





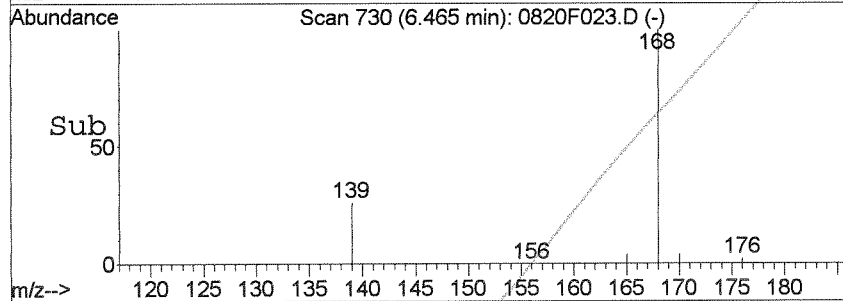
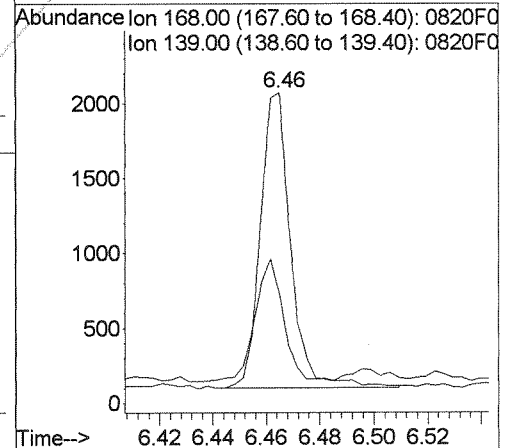
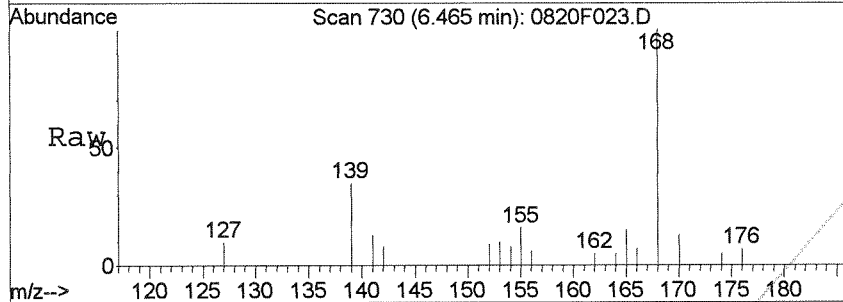
#9  
 Acenaphthene  
 Concen: 3.48 ng/ml  
 RT: 6.32 min Scan# 686  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

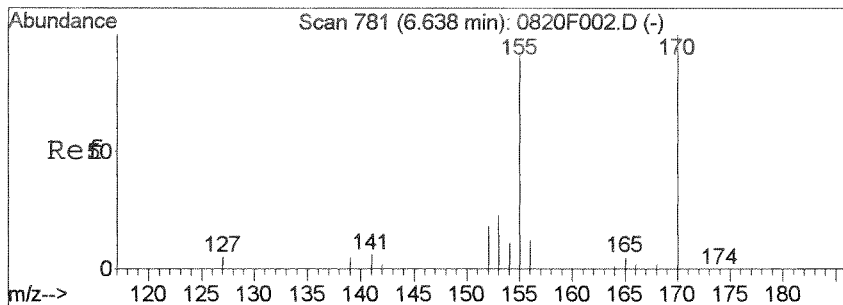
Tgt Ion	Resp	Lower	Upper
154	100		
153	76.7	72.5	132.5
152	60.8	17.7	77.7



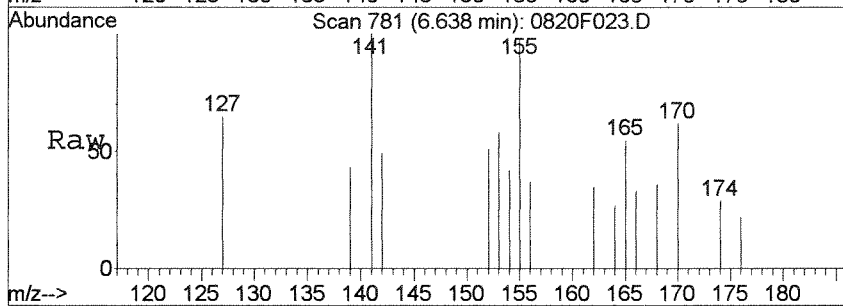
#10  
 Dibenzofuran  
 Concen: 2.38 ng/ml  
 RT: 6.46 min Scan# 730  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion	Resp	Lower	Upper
168	100		
139	28.8	2.7	62.7

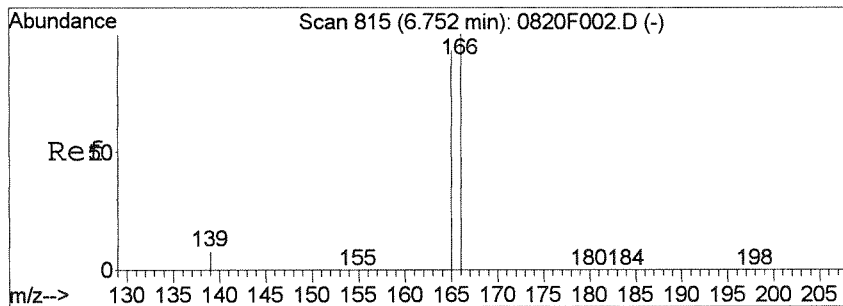
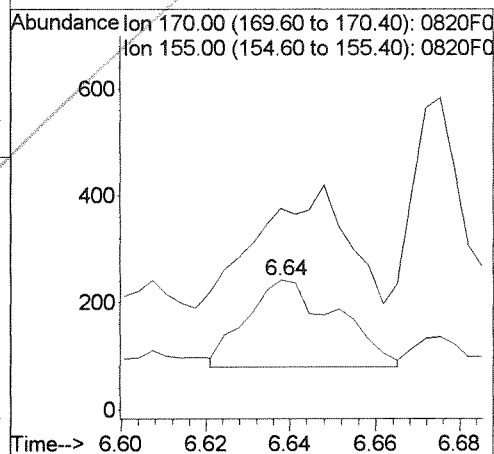
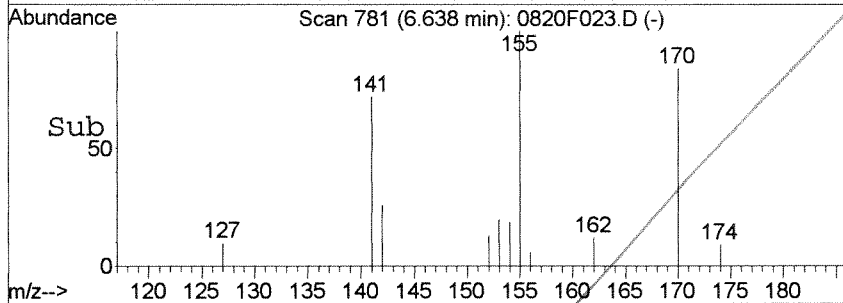




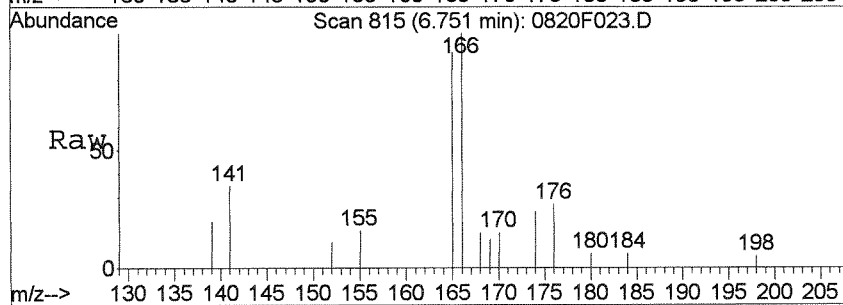
#11  
 2,3,5-Trimethylnaphthalene  
 Concen: 0.58 ng/ml m  
 RT: 6.64 min Scan# 781  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm



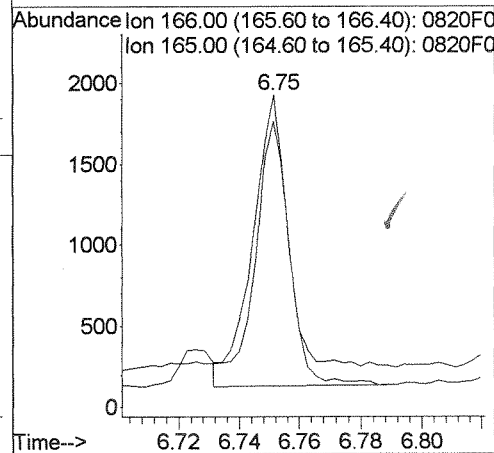
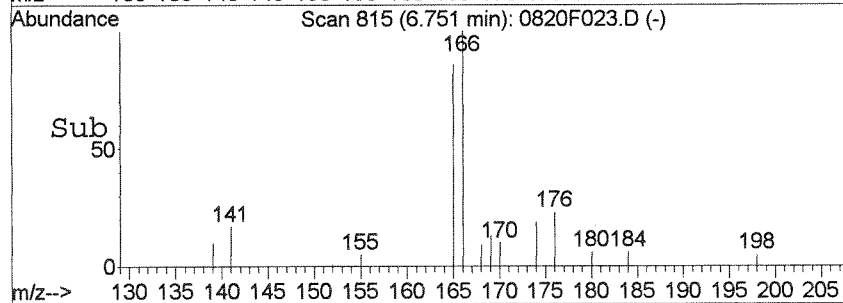
Tgt Ion: 170 Resp: 240  
 Ion Ratio Lower Upper  
 170 100  
 155 155.4 64.1 124.1#



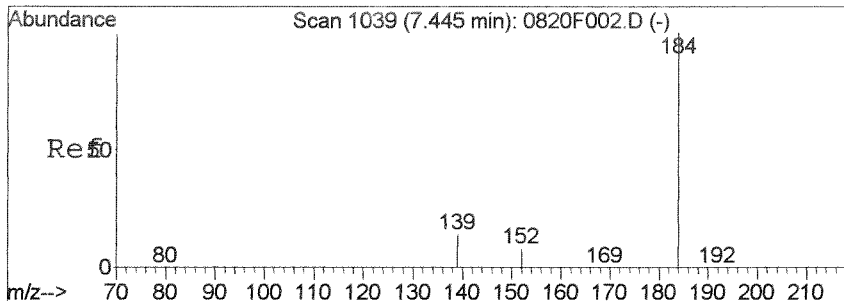
#13  
 Fluorene  
 Concen: 2.84 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm



Tgt Ion: 166 Resp: 1478  
 Ion Ratio Lower Upper  
 166 100  
 165 84.9 60.9 120.9

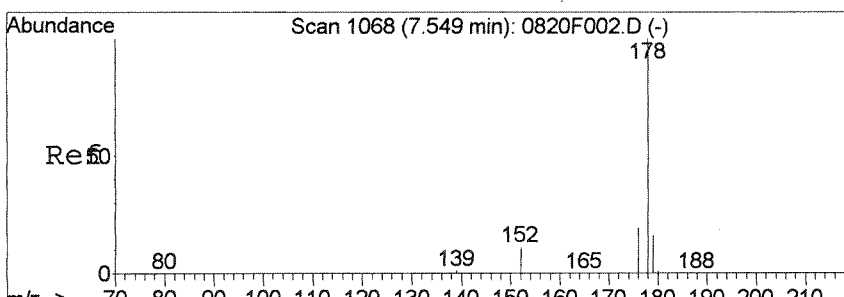
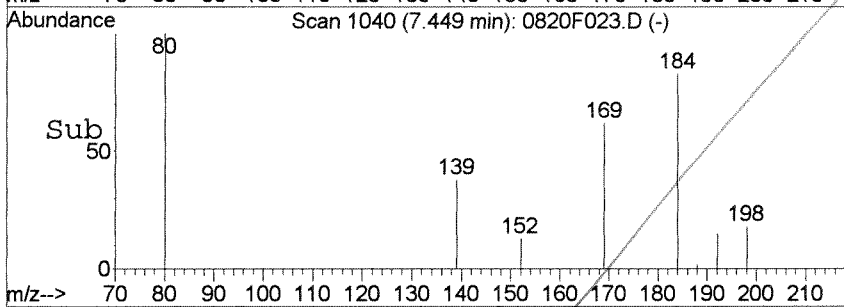
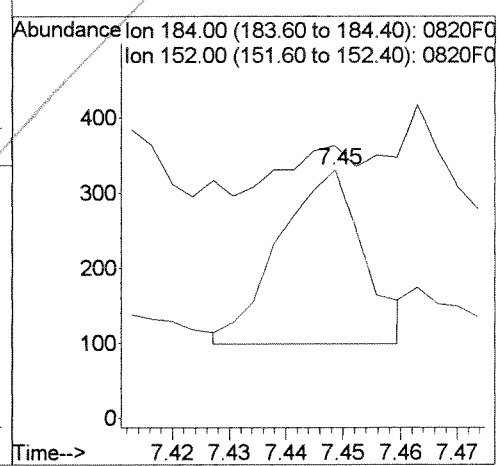
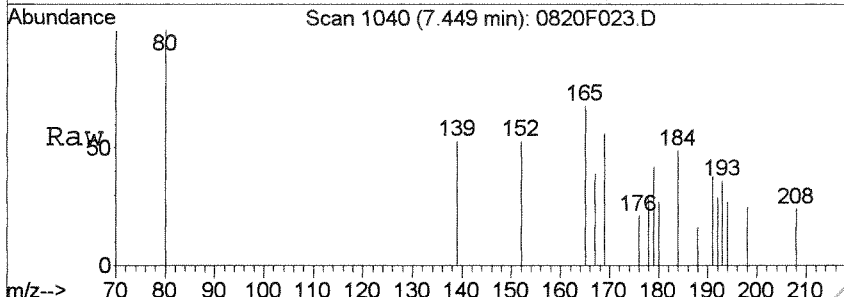


NT



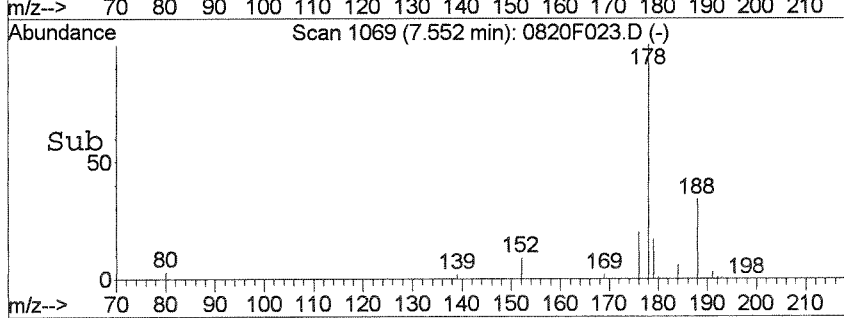
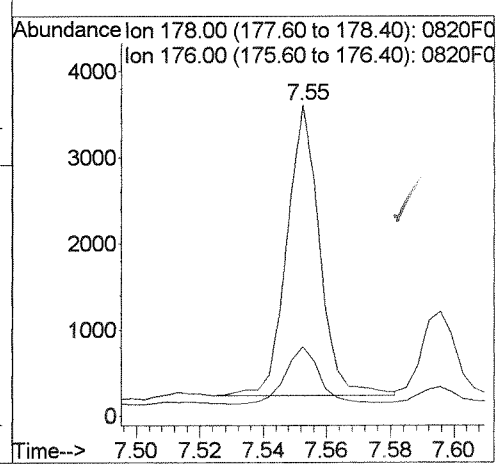
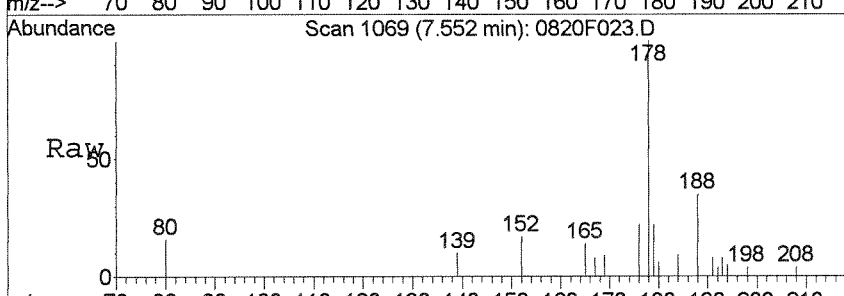
#15  
 Dibenzothiophene  
 Concen: 0.33 ng/ml m  
 RT: 7.45 min Scan# 1040  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

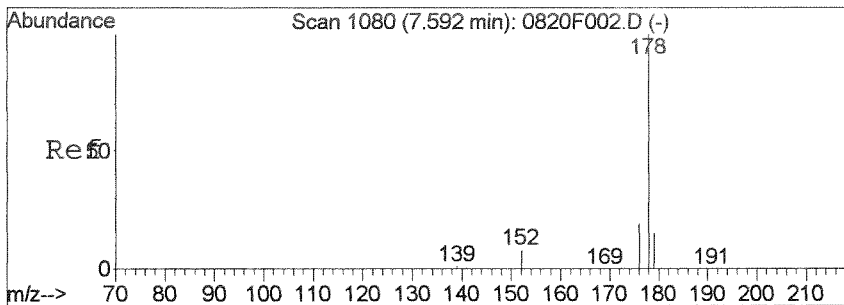
Tgt Ion: 184 Resp: 238  
 Ion Ratio Lower Upper  
 184 100  
 152 109.7 0.0 39.9#



#16  
 Phenanthrene  
 Concen: 3.23 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

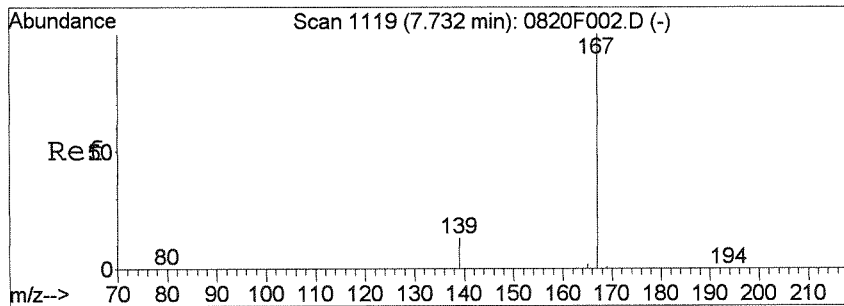
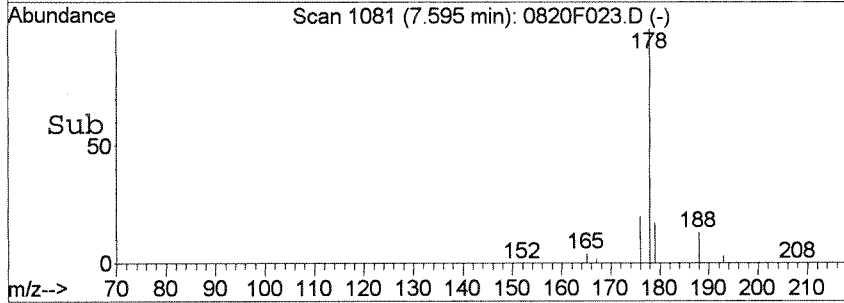
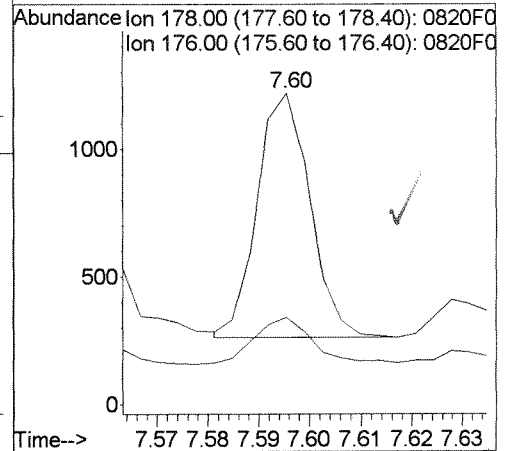
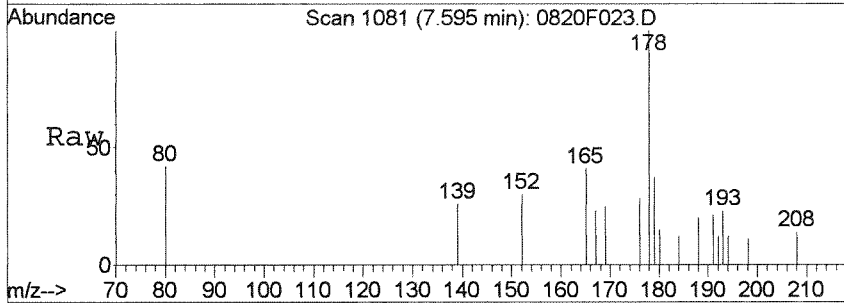
Tgt Ion: 178 Resp: 2437  
 Ion Ratio Lower Upper  
 178 100  
 176 19.4 0.0 48.9





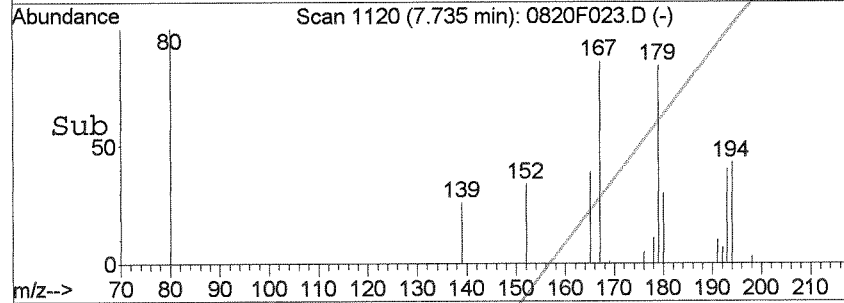
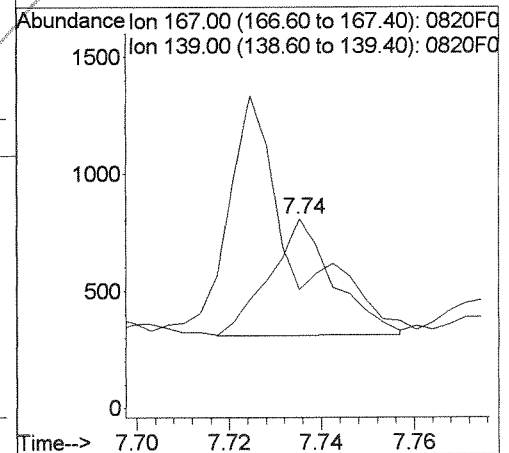
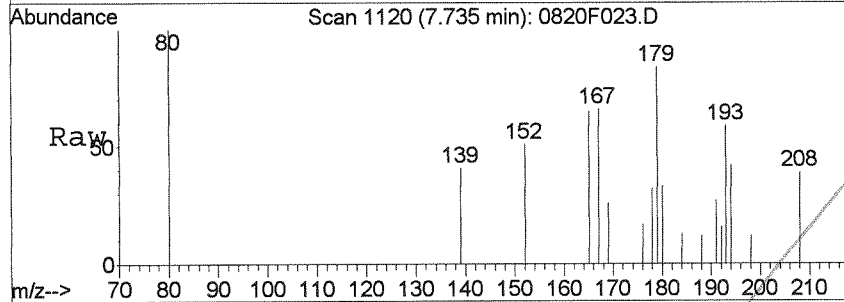
#17  
 Anthracene  
 Concen: 0.93 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

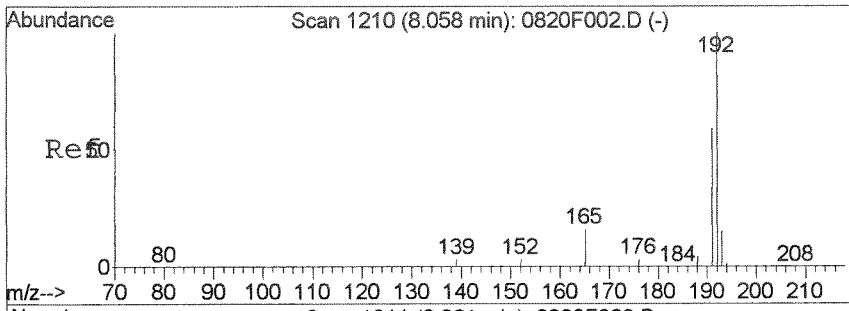
Tgt Ion: 178 Resp: 693  
 Ion Ratio Lower Upper  
 178 100  
 176 18.7 0.0 47.7



#18  
 Carbazole  
 Concen: 0.73 ng/ml  
 RT: 7.74 min Scan# 1120  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion: 167 Resp: 479  
 Ion Ratio Lower Upper  
 167 100  
 139 26.7 0.0 43.1

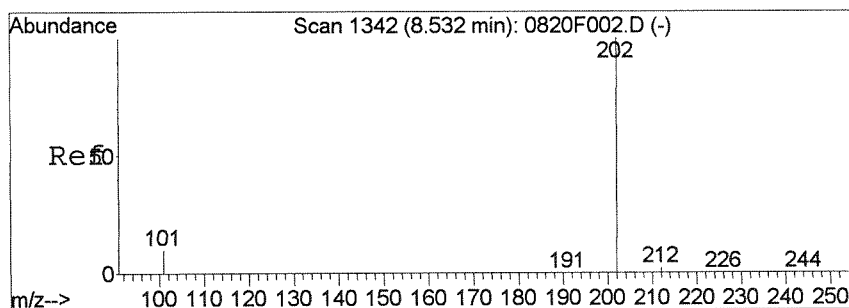
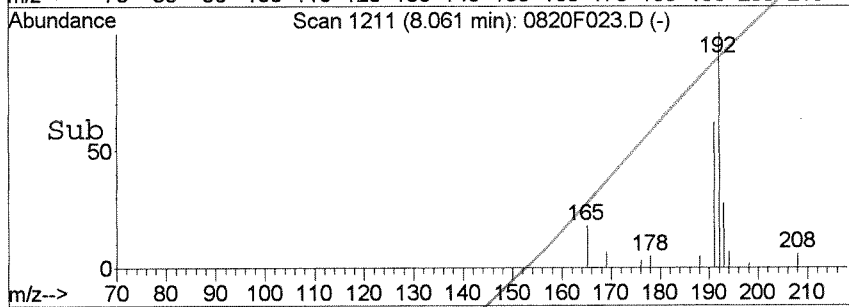
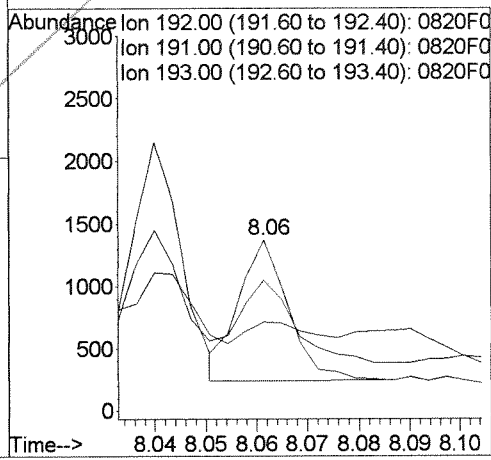
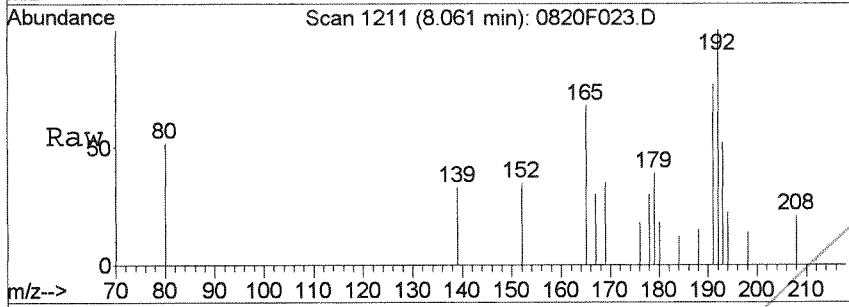




#19  
 1-Methylphenanthrene  
 Concen: 1.30 ng/ml  
 RT: 8.06 min Scan# 1211  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

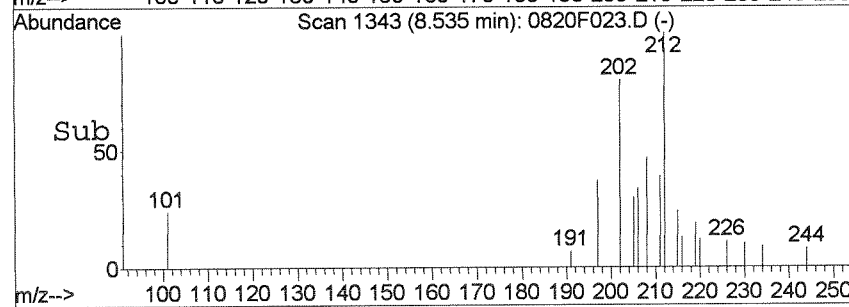
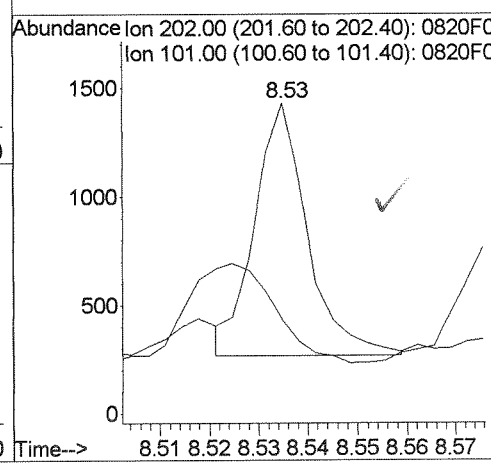
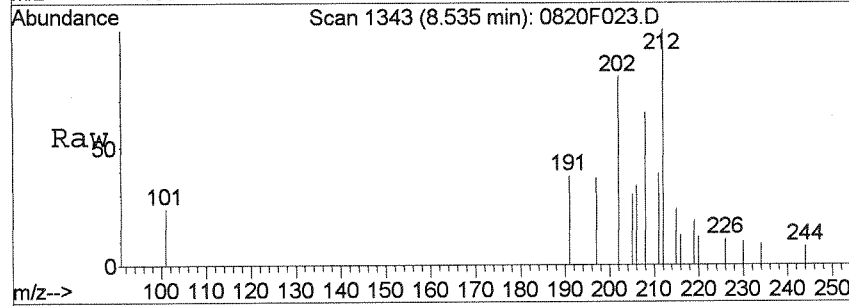
NT

Tgt Ion	Resp	Lower	Upper
192	775		
191	59.3	25.5	85.5
193	8.9	0.0	45.7

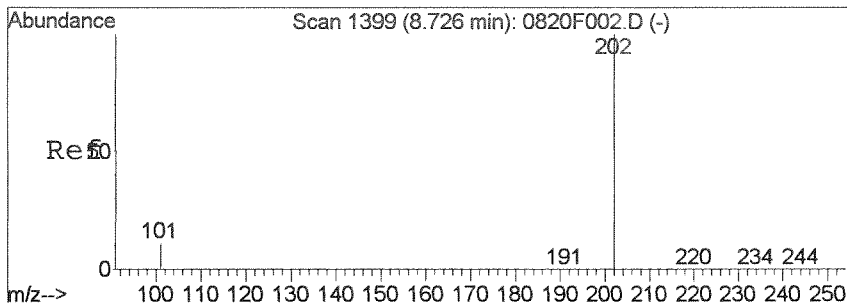


#20  
 Fluoranthene  
 Concen: 0.98 ng/ml m  
 RT: 8.53 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion	Resp	Lower	Upper
202	863		
202	100		
101	30.2	0.0	37.0

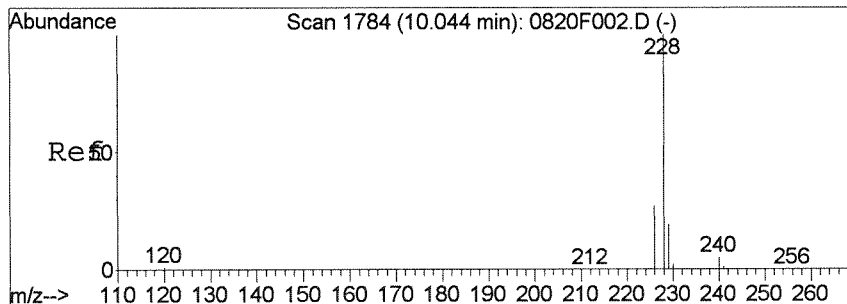
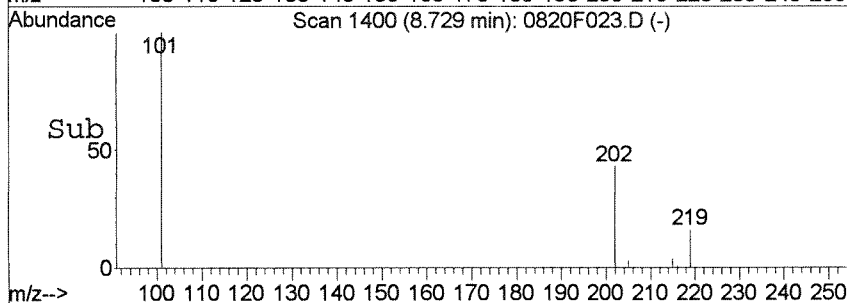
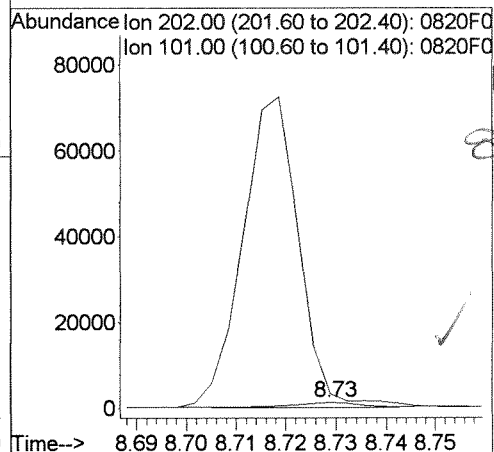
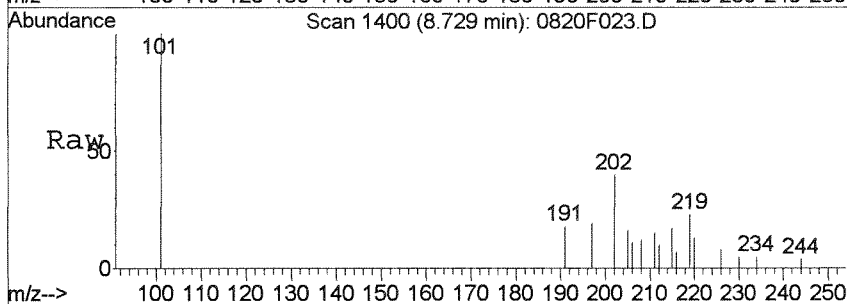






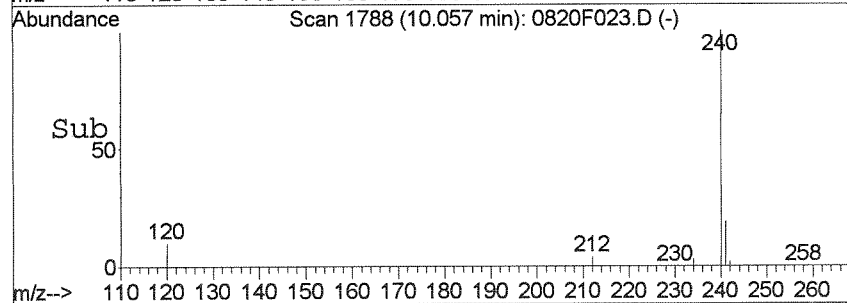
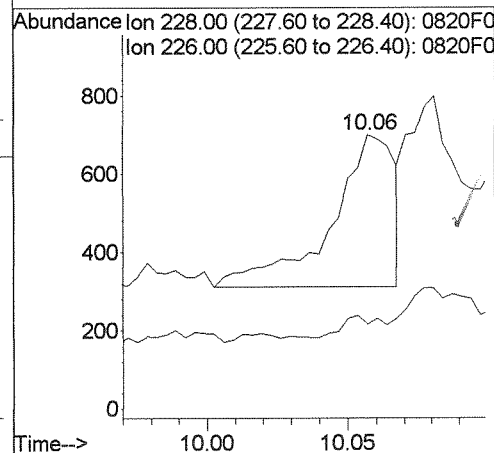
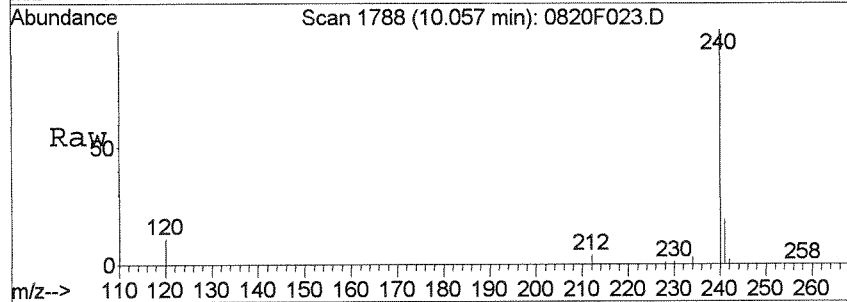
#23  
 Pyrene  
 Concen: 0.99 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

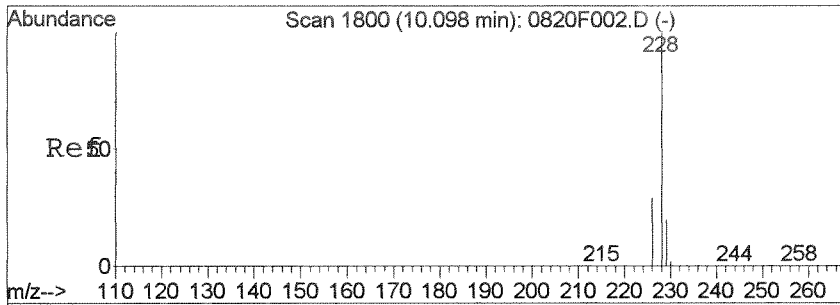
Tgt Ion: 202 Resp: 1009  
 Ion Ratio Lower Upper  
 202 100  
 101 247.1 0.0 38.3#



#25  
 Benz (a) anthracene  
 Concen: 0.67 ng/ml  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

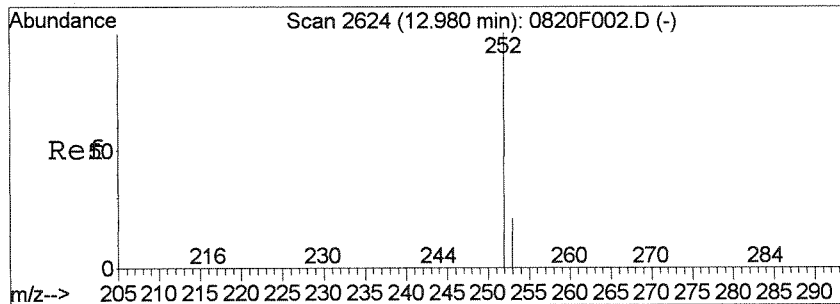
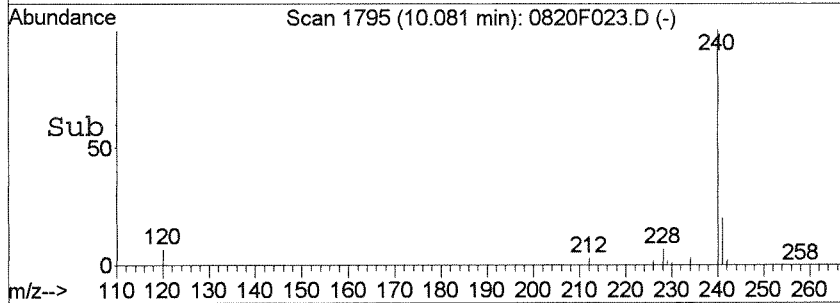
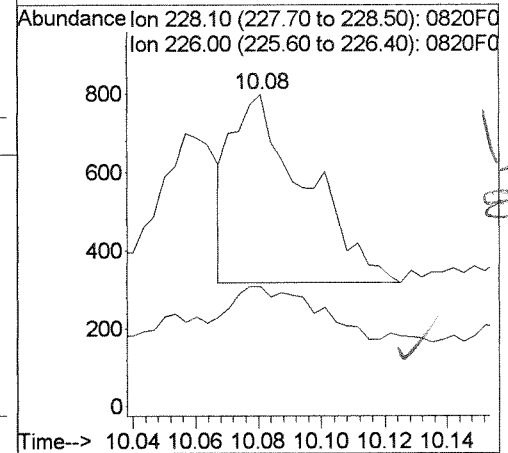
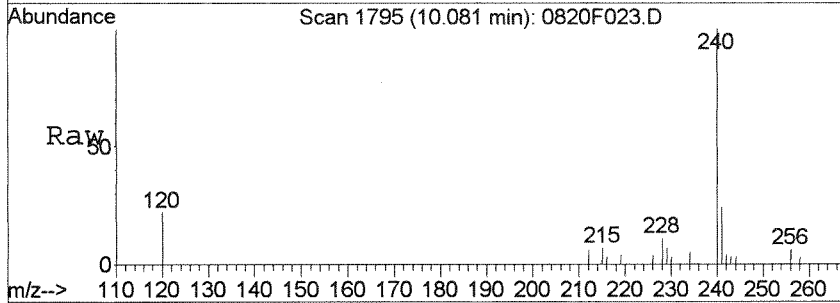
Tgt Ion: 228 Resp: 608  
 Ion Ratio Lower Upper  
 228 100  
 226 6.4 0.0 56.4





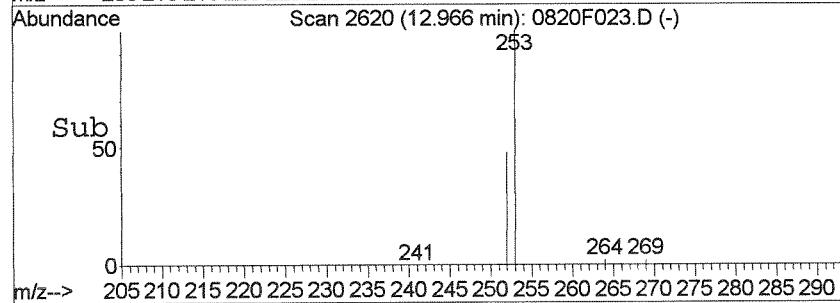
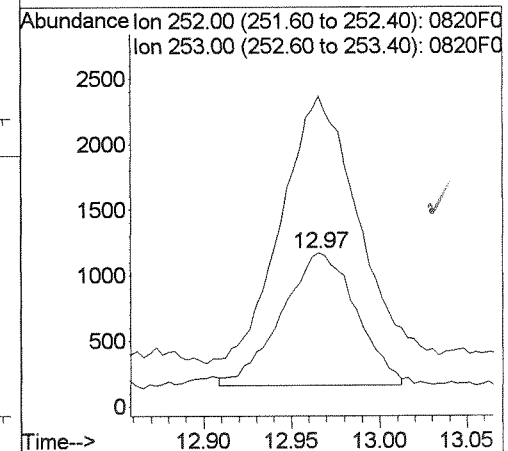
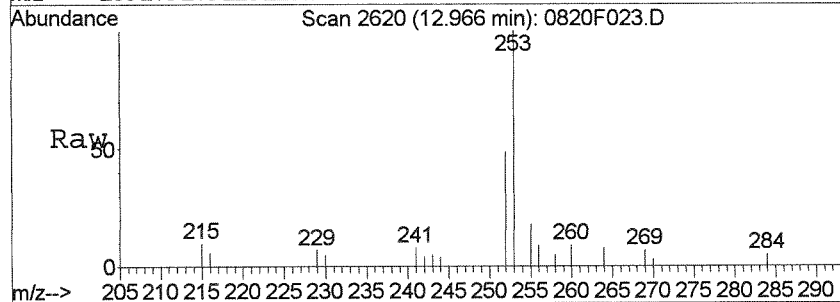
#26  
 Chrysene  
 Concen: 0.98 ng/ml  
 RT: 10.08 min Scan# 1795  
 Delta R.T. -0.02 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion: 228 Resp: 790  
 Ion Ratio Lower Upper  
 228 100  
 226 26.7 0.0 58.6



#31  
 Benzo(a)pyrene  
 Concen: 3.27 ng/ml m  
 RT: 12.97 min Scan# 2620  
 Delta R.T. -0.03 min  
 Lab File: 0820F023.D  
 Acq: 20 Aug 2014 7:15 pm

Tgt Ion: 252 Resp: 2963  
 Ion Ratio Lower Upper  
 252 100  
 253 202.3 0.0 52.2#

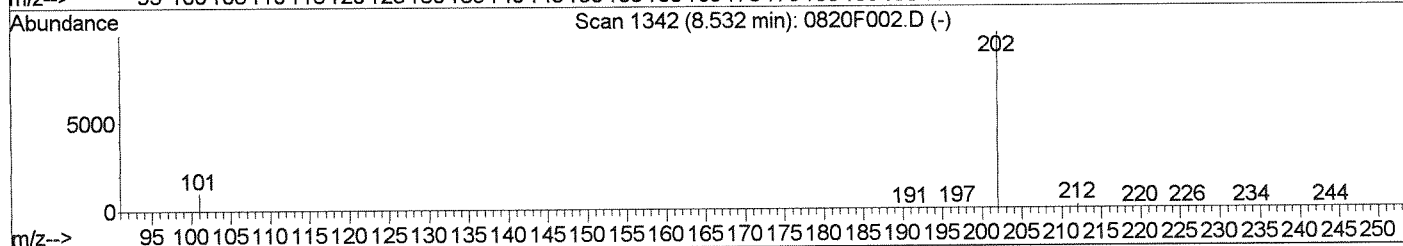
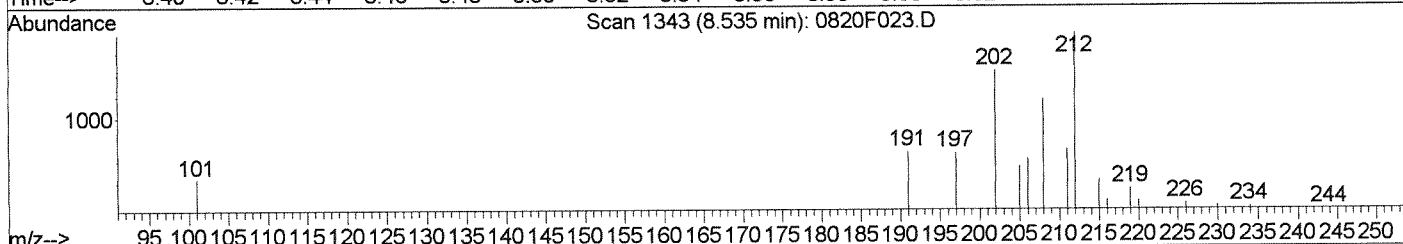
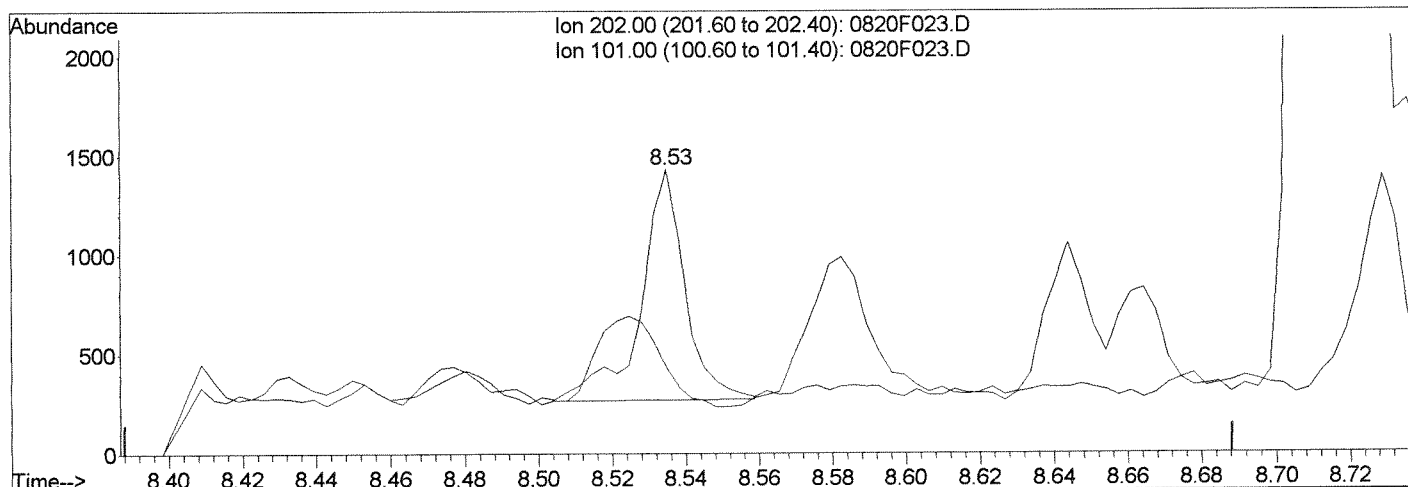


Data File : J:\MS14\DATA\082014\0820F023.D  
 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:40 2014

Vial: 23  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F023.D

(20) Fluoranthene (T)

8.53min 1.11ng/ml

response 973

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	14.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CH*

*LAB*

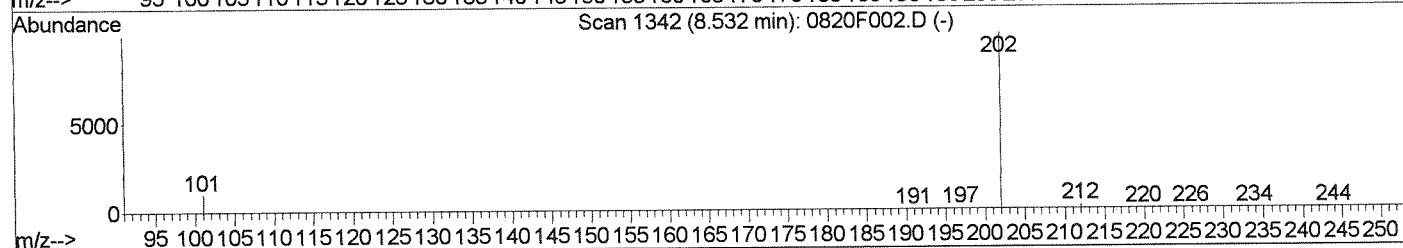
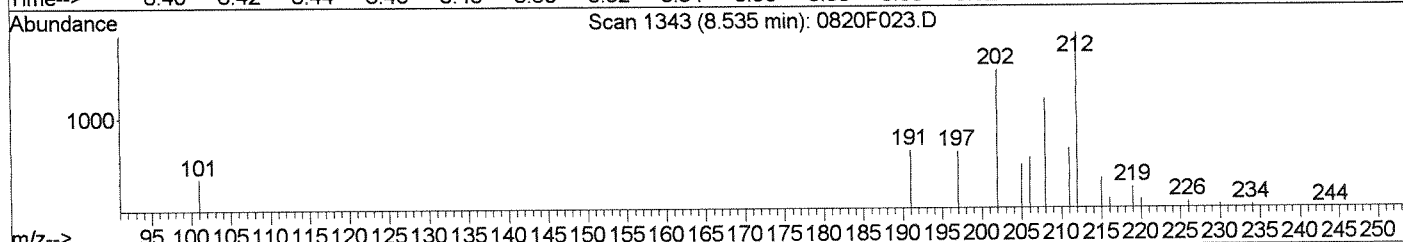
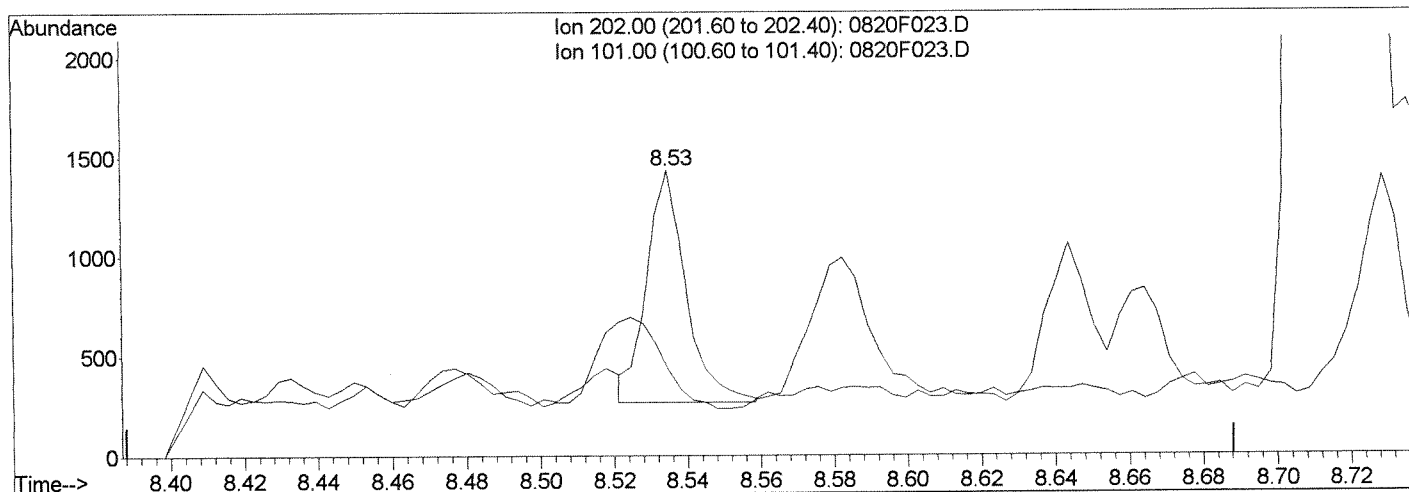
Quantitation Report (Quant)

Data File : J:\MS14\DATA\082014\0820F023.D  
 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:40 2014

Vial: 23  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F023.D

(20) Fluoranthene (T)

8.53min 0.98ng/ml m

response 863

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	30.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CAA*

*LAB*

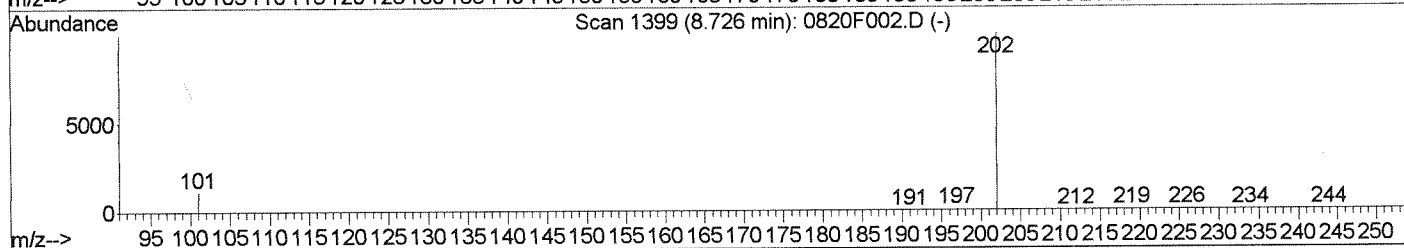
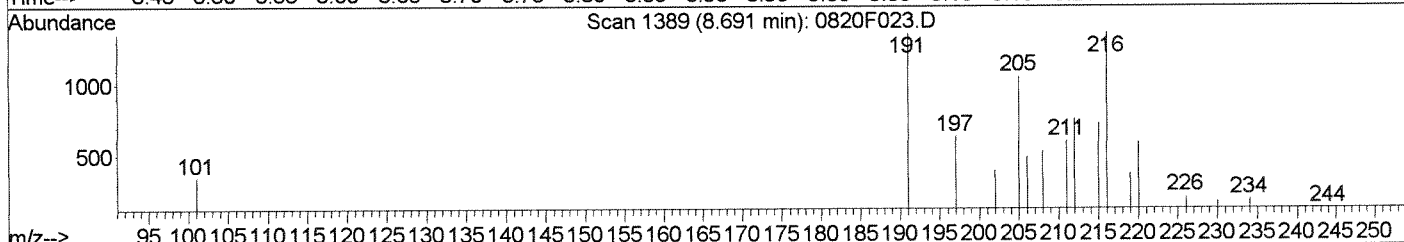
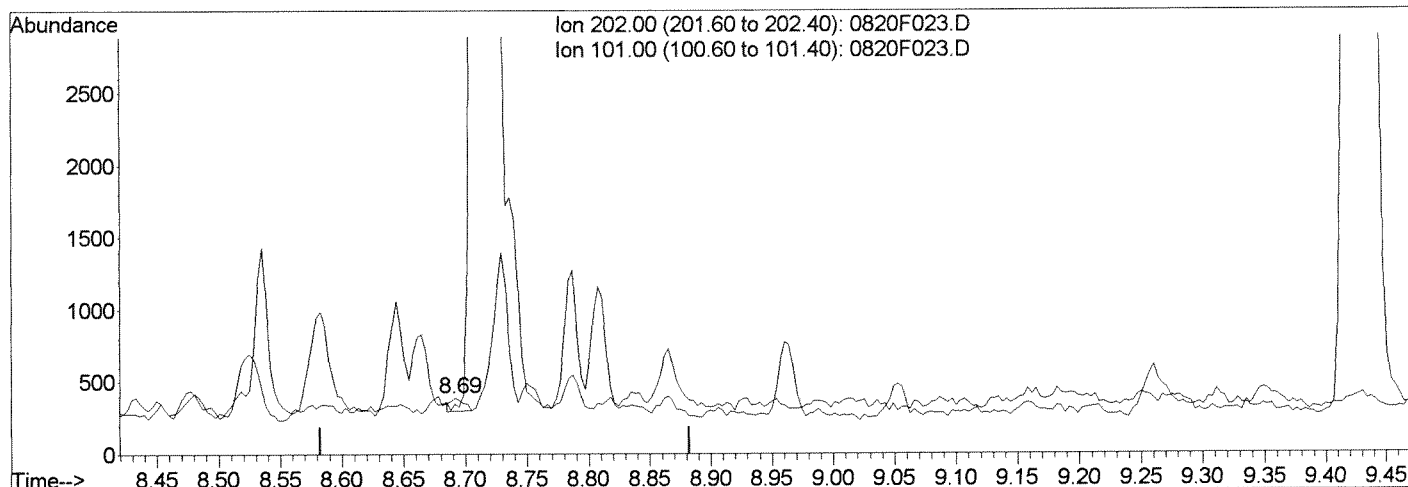
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F023.D  
 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:40 2014

Vial: 23  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F023.D

(23) Pyrene (T)		
8.69min	0.07ng/ml	
response	69	
Ion	Exp%	Act%
202.00	100	100
101.00	8.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*UA*

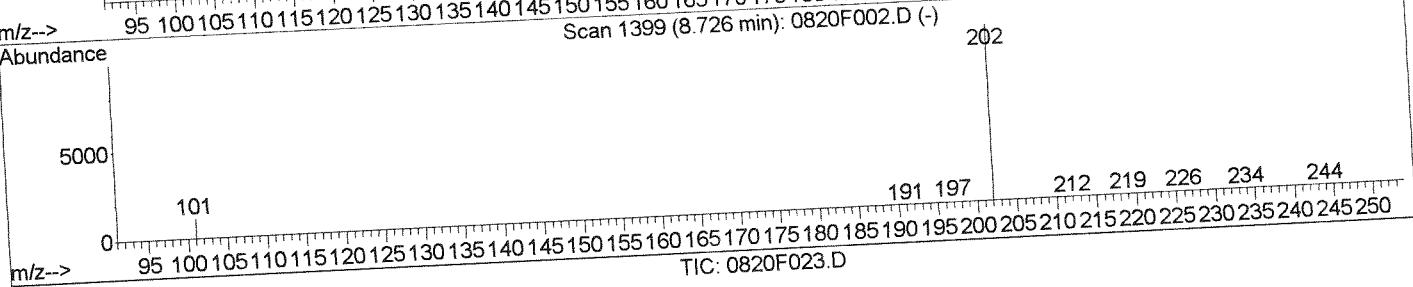
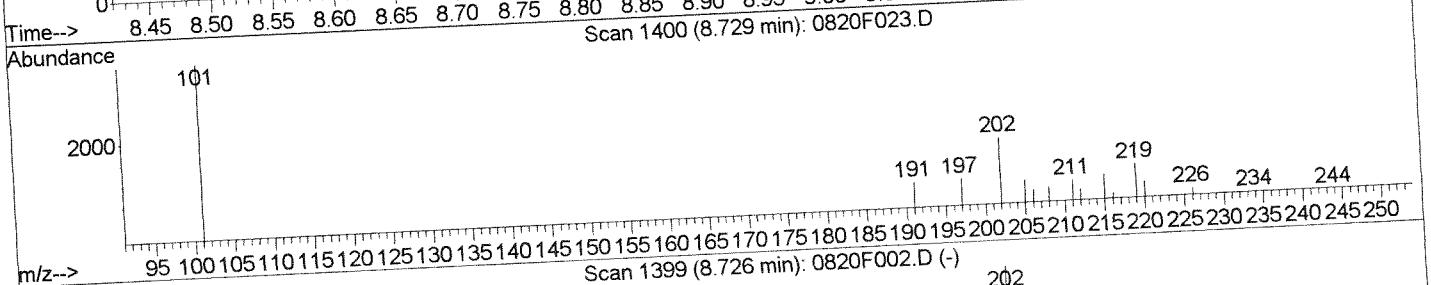
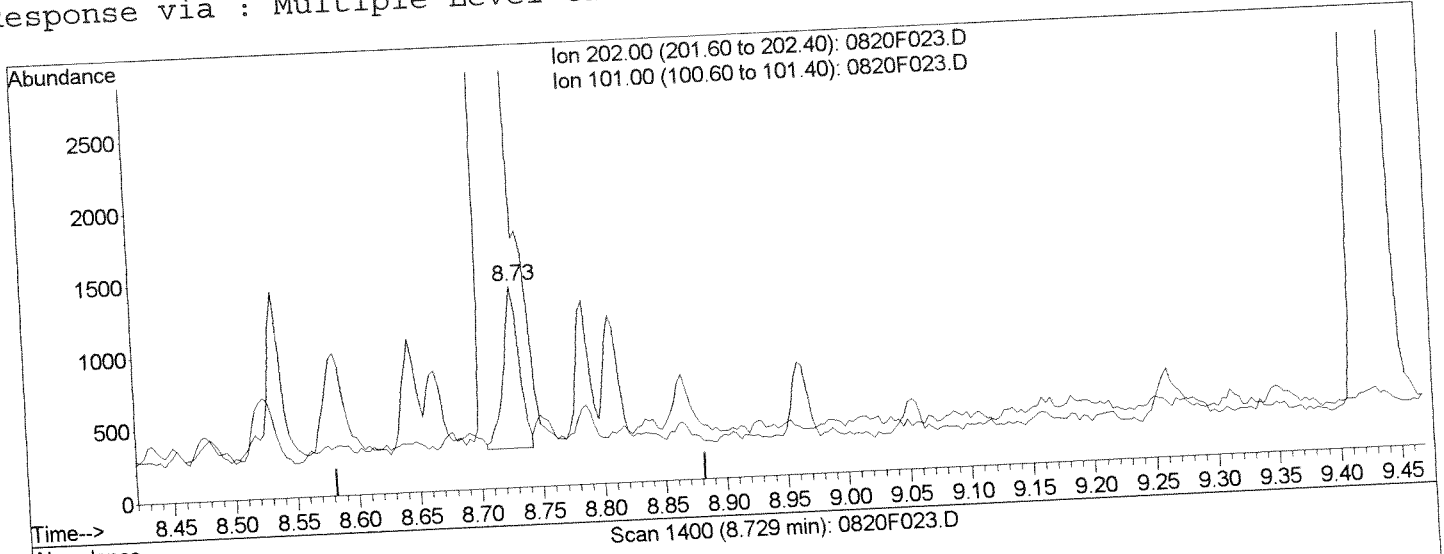
*LB*

Data File : J:\MS14\DATA\082014\0820F023.D  
Acq On : 20 Aug 2014 7:15 pm  
Sample : K1407971-015  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:40 2014

Vial: 23  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



(23) Pyrene (T)  
8.73min 0.99ng/ml m  
response 1009

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	247.14#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

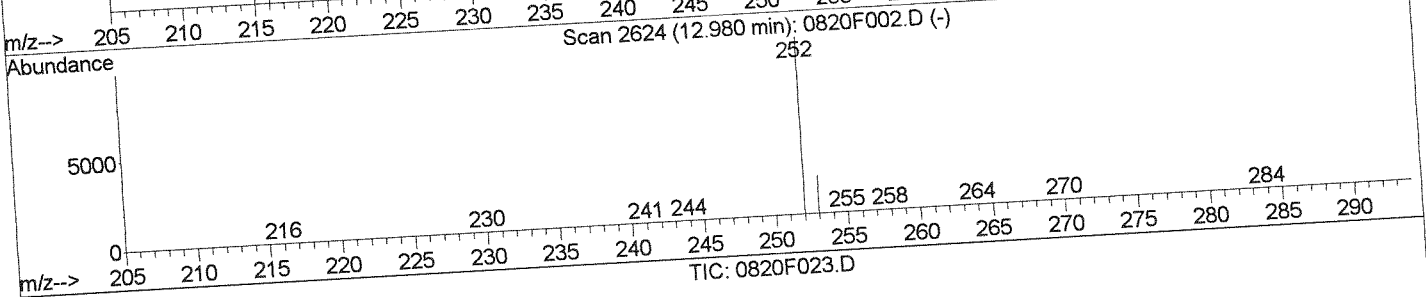
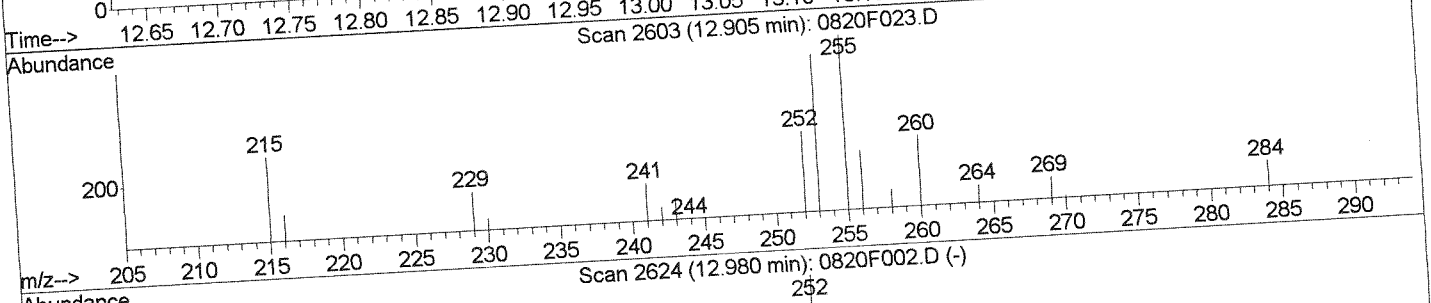
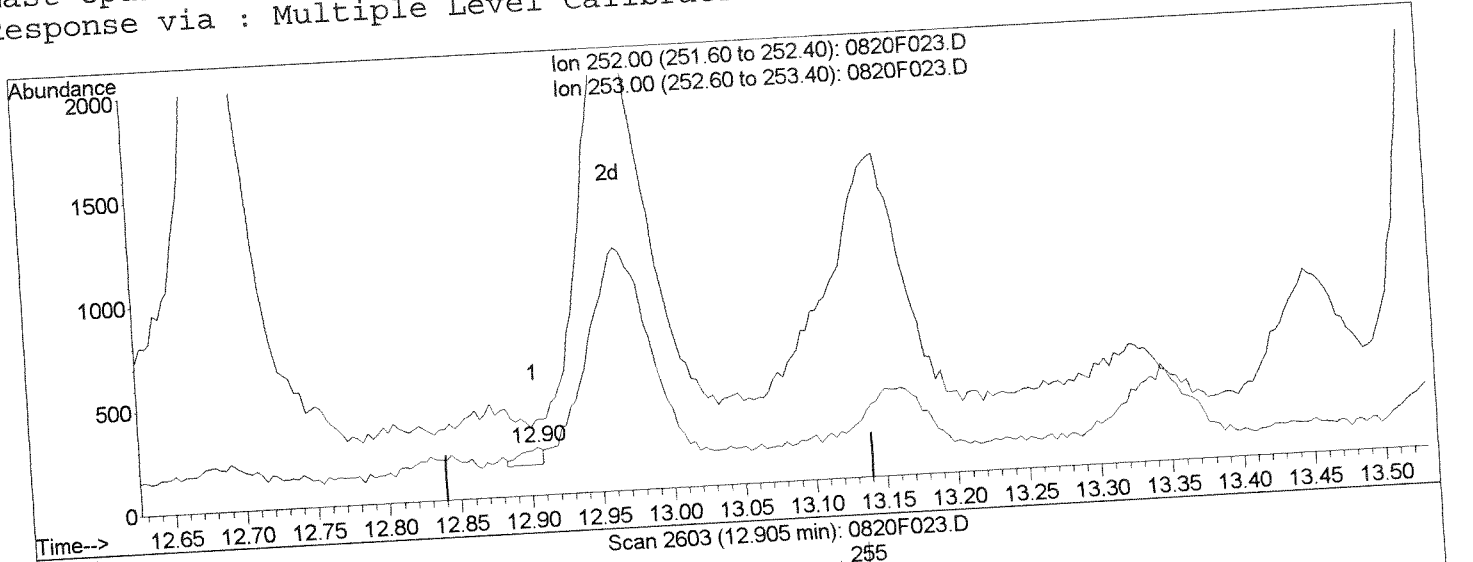
*CAA* *i* *LB*  
*8/21/14*  
*LB*

Data File : J:\MS14\DATA\082014\0820F023.D  
 Acq On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:41 2014

Vial: 23  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(31) Benzo(a)pyrene (T)

12.90min 0.10ng/ml

response 92

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

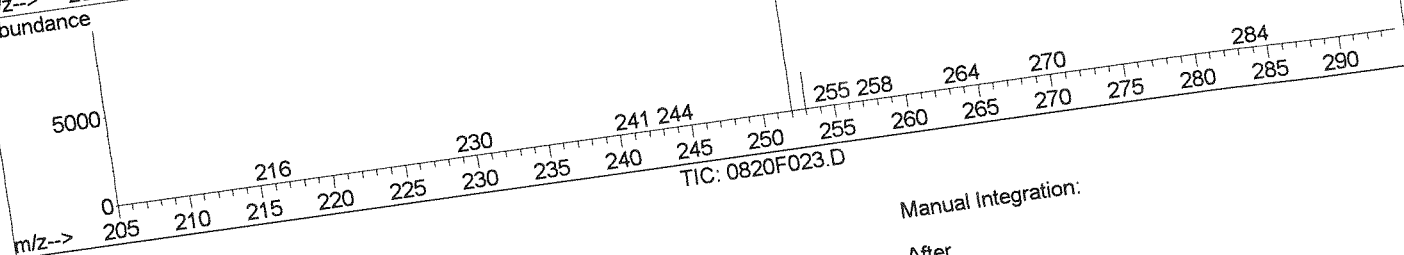
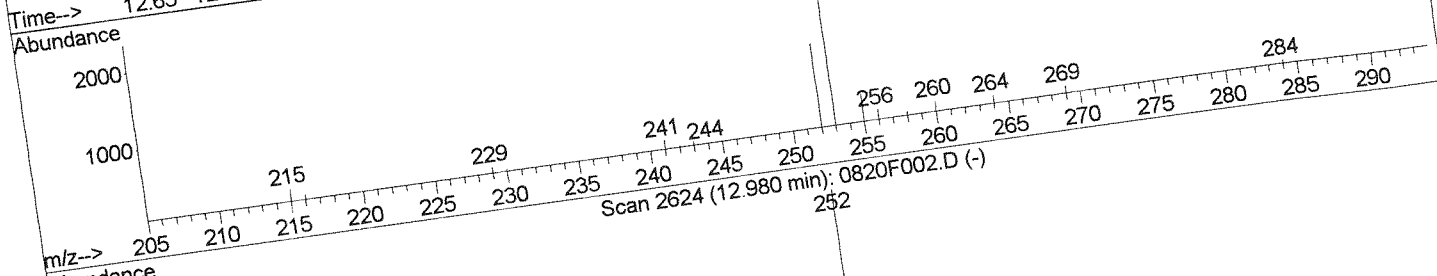
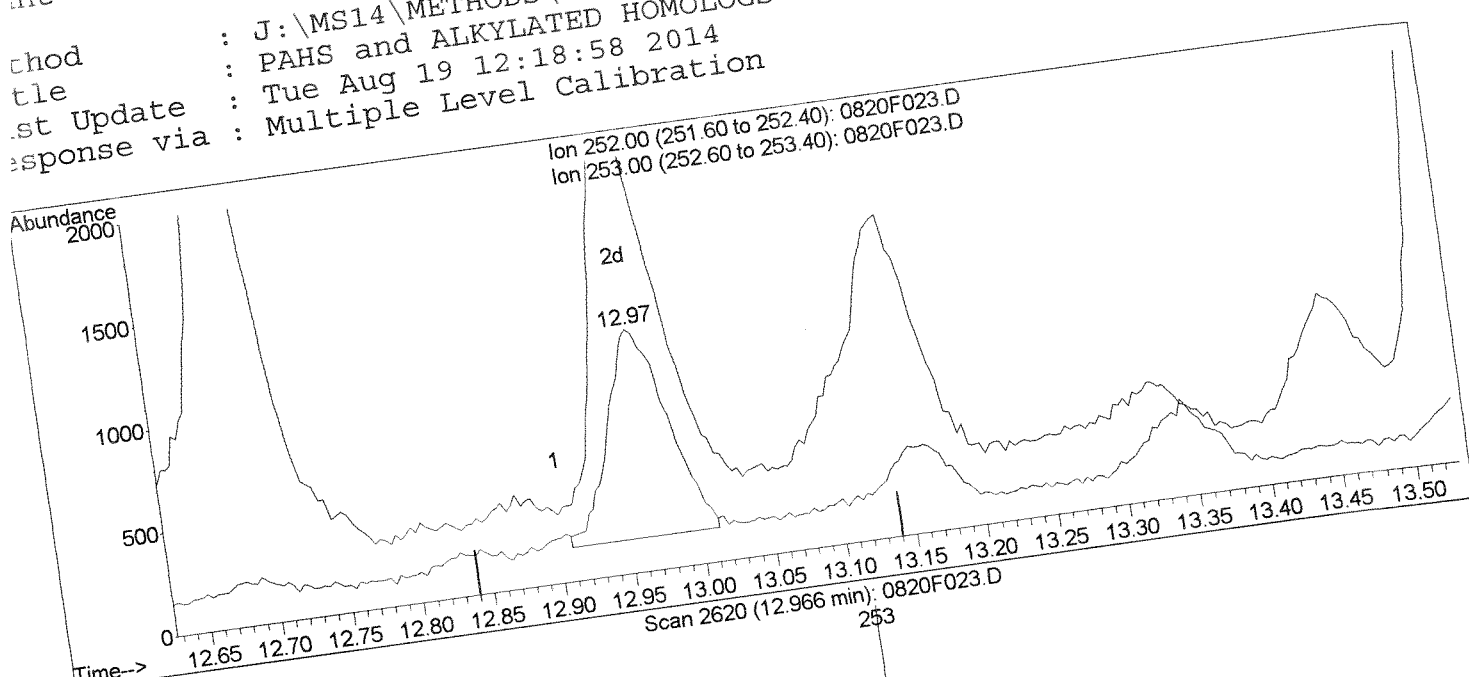
*LB*

File : J:\MS14\DATA\082014\0820F023.D  
 On : 20 Aug 2014 7:15 pm  
 Sample : K1407971-015  
 Integration Params: RTEINT.P  
 Start Time: Aug 21 9:41 2014

Operator:   
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(31) Benzo(a)pyrene (T)  
 12.97min 3.27ng/ml m  
 response 2963

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	202.31#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

UA

LAB

0820F023.D 072214SIMPAAH.M

Thu Aug 21 09:41:24 2014



# Exception Report

**Data File:** J:\MS14\DATA\082014\0820F024.D  
**Lab ID:** K1407971-016  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 19:40  
**Date Quantitated:** 08/21/2014 09:43  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: *CA* AUG 21 2014  
 Secondary Review: *LS* AUG 21 2014

# Quantitation Report

Data File:	J:\MS14\DATA\082014\0820F024.D	Instrument:	MS14
Acqu Date:	08/20/2014 19:40	Quant Date:	08/21/2014 09:43
Run Type:	SMPL	Vial:	24
Lab ID:	K1407971-016	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Bottle ID:	Tier:	V	Matrix:	ANIMAL TISSUE	
Prod Code:	8270D PAH SIM	Collect Date:	07/25/2014	Receive Date:	07/30/2014

Analysis Lot:	KWG1411816	Prep Lot:	KWG1411415	Report Group:	K1407971
Analysis Method:	8270D SIM	Prep Method:	EPA 3541		
Prep Ref:	1365441	Prep Date:	08/12/2014		

Quant Method:	J:\MS14\METHODS\SIM\072214SIMPAH	Calibration ID:	CAL13446
Title:	Polynuclear Aromatic Hydrocarbons	Report List ID:	LJ15942
Tune Ref:	J:\MS14\DATA\082014\0820F001.D	Method ID:	MJ1238
MB Ref:	J:\MS14\DATA\082014\0820F003.D	Quant based on Report List	

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	139642	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	74840	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	143302	200.00	OK
4	Chrysene-d12	10.06	0.00	240	156210	200.00	OK
5	Perylene-d12	13.16	0.01	264	162473	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	82979	187.95	94	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	140687	174.35	87	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	115050	163.74	82	39-111	OK

Final Conc. Units: ug/Kg Dry Weight

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	9437	12.75	82		
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	6010	11.61	75		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	5446	11.95	77		
2	Acenaphthylene	6.16		0.00	152	8638	11.46	74		
2	Acenaphthene	6.31		0.00	154	5142	11.80	76		
2	Fluorene	6.75		0.00	166	5286	9.70	63		
3	Phenanthrene	7.55		0.00	178	4786	6.05	39		
3	Anthracene	7.60	0.01	0.00	178	3890	4.96	32	J	
3	Fluoranthene	8.53		0.00	202	1868	2.03	13	J	
4	Pyrene	8.73		0.00	202	1787m	1.66	11	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	653	0.6800	4.4	J	
4	Chrysene				228	0d		3.6	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File:	J:\MS14\DATA\082014\0820F024.D	Instrument:	MS14
Acqu Date:	08/20/2014 19:40	Quant Date:	08/21/2014 09:43
Run Type:	SMPL	Vial:	24
Lab ID:	K1407971-016	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Target Compounds					Final Conc. Units:	ug/Kg Dry Weight				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.3	U	
5	Benzo(k)fluoranthene				252	0d		3.7	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2843m	2.96	20	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.3	U	
5	Dibenz(a,h)anthracene				278	0d		5.6	U	
5	Benzo(g,h,i)perylene				276	0d		6.2	U	

**Prep Amount:** 10.050 g                      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml                      **Unit Factor:** 1  
**Solids:** 15.4 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
J: Analyte detected above MDL, but below MRL  
B: Hit above MRL also found in Method Blank  
E: Analyte concentration above high point of ICAL  
N: Presumptive evidence of compound

D: Result from dilution  
m: Manual integration performed  
d: Compound manually deleted  
NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
#: Acceptance criteria not applicable  
?: Insufficient information to determine acceptance  
e: Result >= MRL, but MRL less than low point of ICAL  
c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:31 2014

Vial: 24  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	139642	200.00	ng/ml	-0.01
7) Acenaphthene-d10	6.29	164	74840	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	143302	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	156210	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	162473	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	82979	187.95	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	18.79%	
21) Fluoranthene-d10	8.52	212	140687	174.35	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.44%	
24) Terphenyl-d14	8.87	244	115050	163.74	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.37%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	9437	12.75	ng/ml	96
3) 2-Methylnaphthalene	5.36	142	6010	11.61	ng/ml	100
4) 1-Methylnaphthalene	5.45	142	5446	11.95	ng/ml	95
5) Biphenyl	5.79	154	255m	0.42	ng/ml	
6) 2,6-Dimethylnaphthalene	5.93	156	146	0.32	ng/ml	70
8) Acenaphthylene	6.16	152	8638	11.46	ng/ml	99
9) Acenaphthene	6.31	154	5142	11.80	ng/ml	97
10) Dibenzofuran	6.46	168	7476	10.87	ng/ml	92
13) Fluorene	6.75	166	5286	9.70	ng/ml	98
15) Dibenzothiophene	7.45	184	168m	0.22	ng/ml	
16) Phenanthrene	7.55	178	4786	6.05	ng/ml	99
17) Anthracene	7.60	178	3890	4.96	ng/ml	99
18) Carbazole	7.74	167	1751	2.53	ng/ml	98
19) 1-Methylphenanthrene	8.06	192	134m	0.21	ng/ml	
20) Fluoranthene	8.53	202	1868	2.03	ng/ml	85
23) Pyrene	8.73	202	1787m	1.66	ng/ml	
25) Benz(a)anthracene	10.06	228	653	0.68	ng/ml	72
31) Benzo(a)pyrene	12.96	252	2843m	2.96	ng/ml	

(#) = qualifier out of range (m) = manual integration

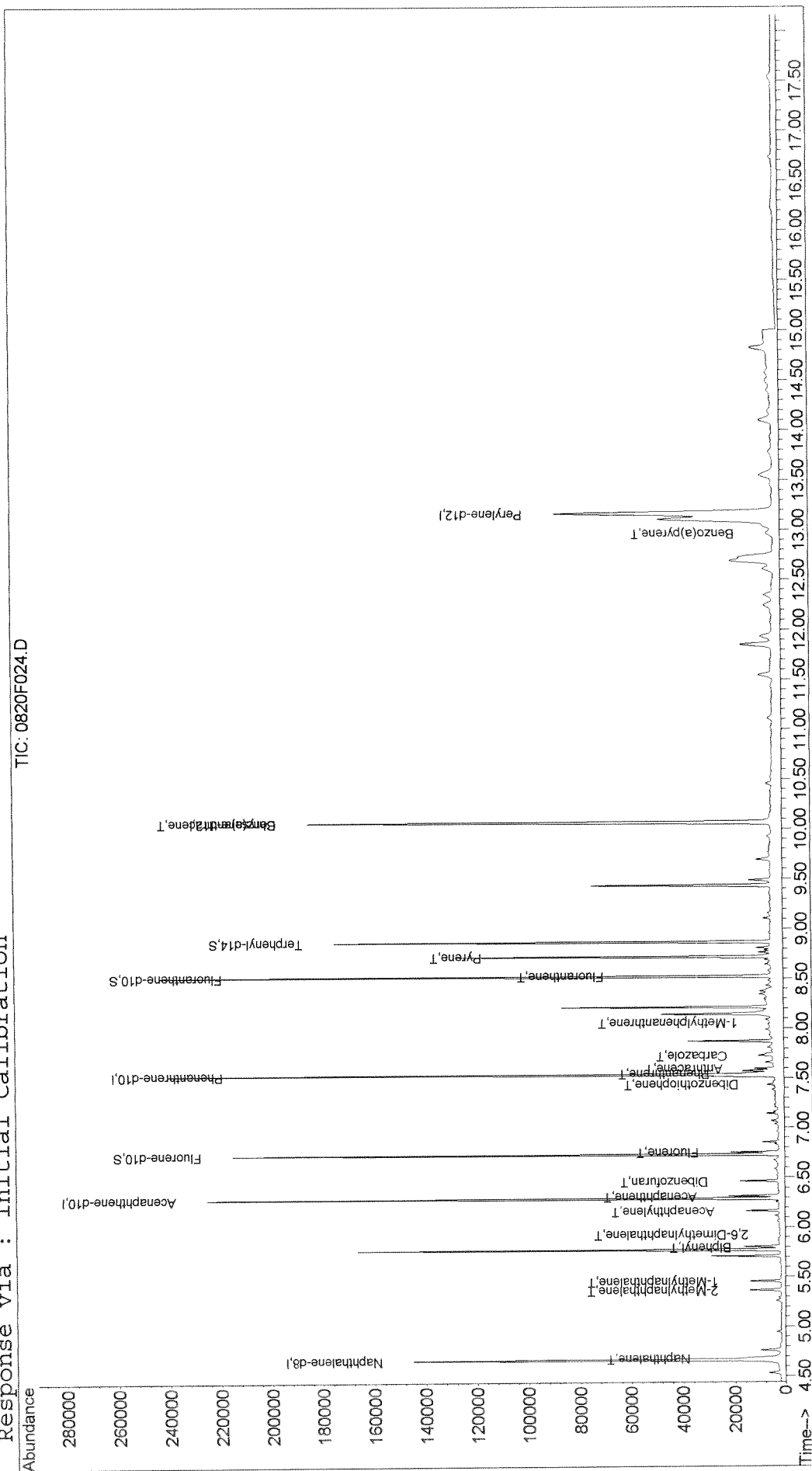
Quantitation Report (QT Reviewed)

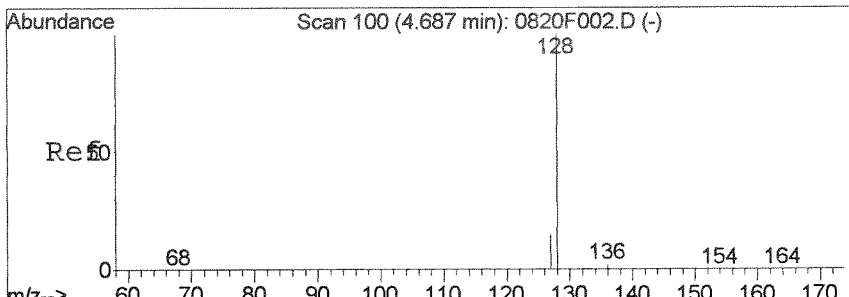
Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:43 2014

Vial: 24  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RES

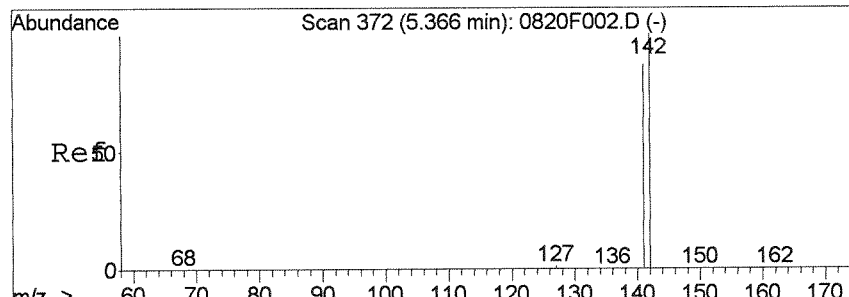
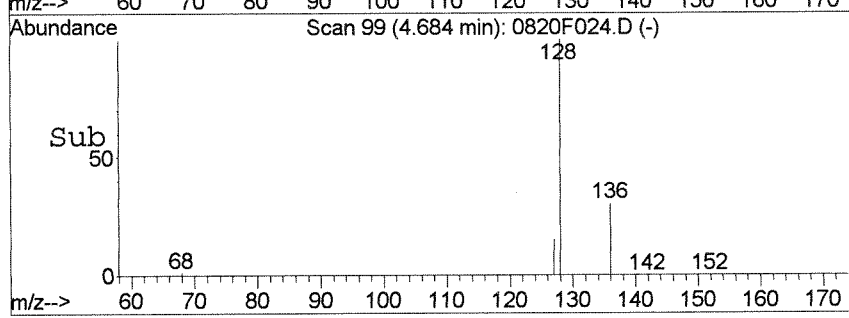
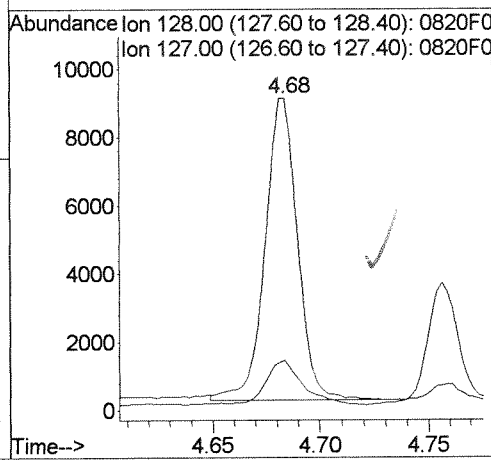
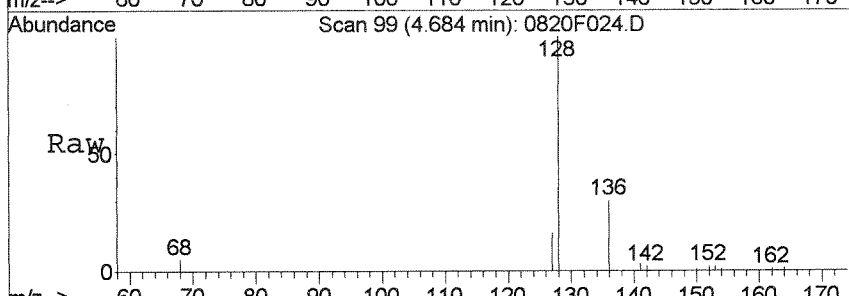
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





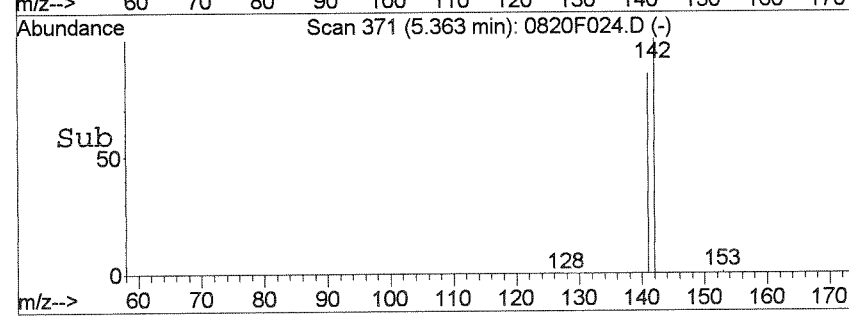
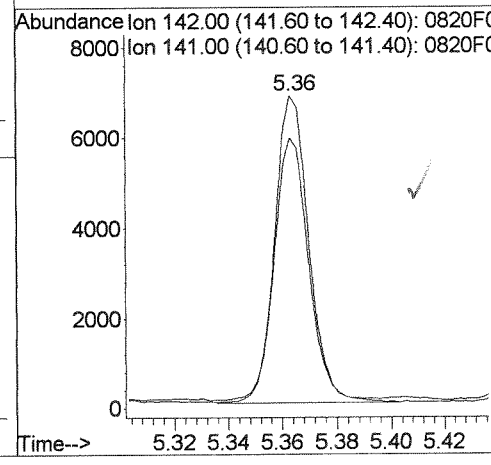
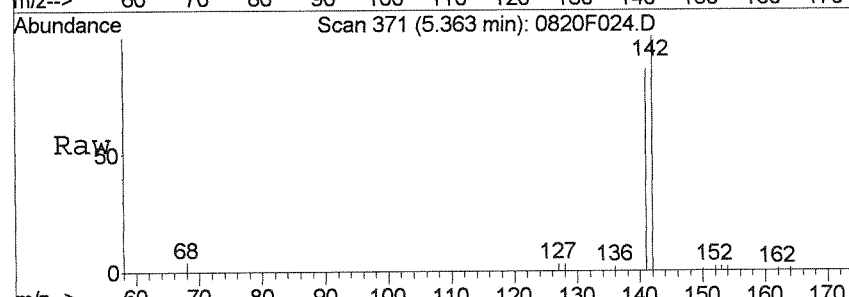
#2  
 Naphthalene  
 Concen: 12.75 ng/ml  
 RT: 4.68 min Scan# 99  
 Delta R.T. -0.01 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

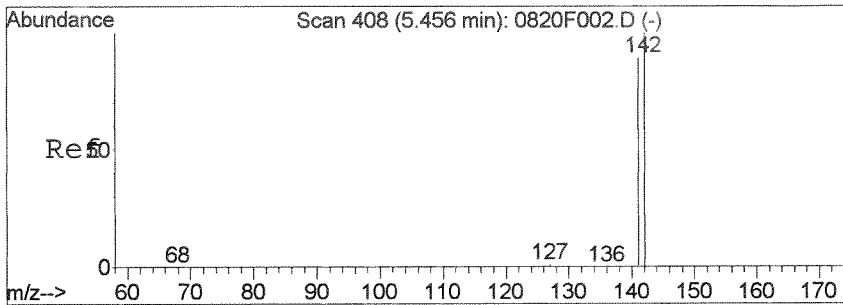
Tgt Ion	Ratio	Lower	Upper
128	100		
127	14.2	0.0	42.6



#3  
 2-Methylnaphthalene  
 Concen: 11.61 ng/ml  
 RT: 5.36 min Scan# 371  
 Delta R.T. -0.01 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

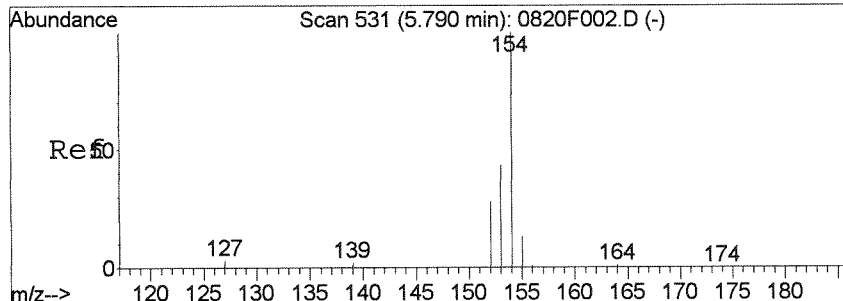
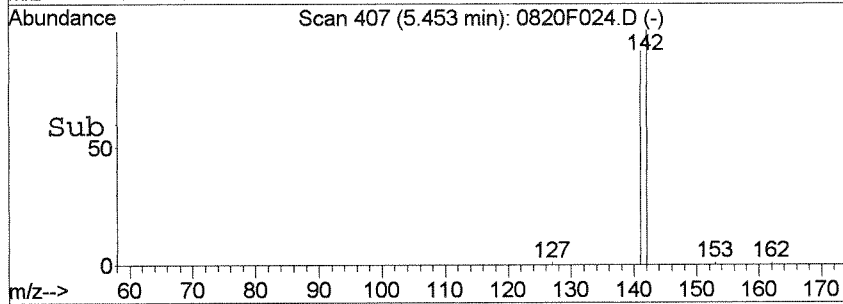
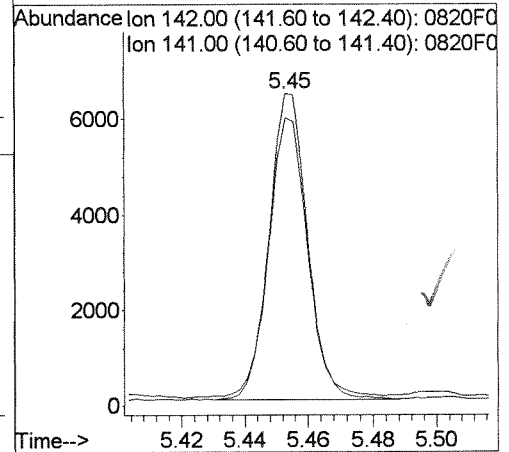
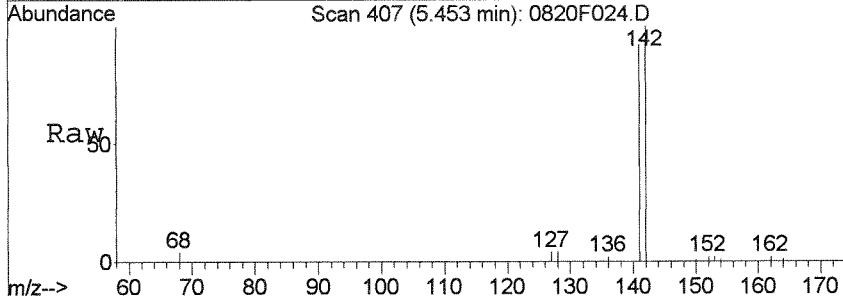
Tgt Ion	Ratio	Lower	Upper
142	100		
141	85.2	54.8	114.8





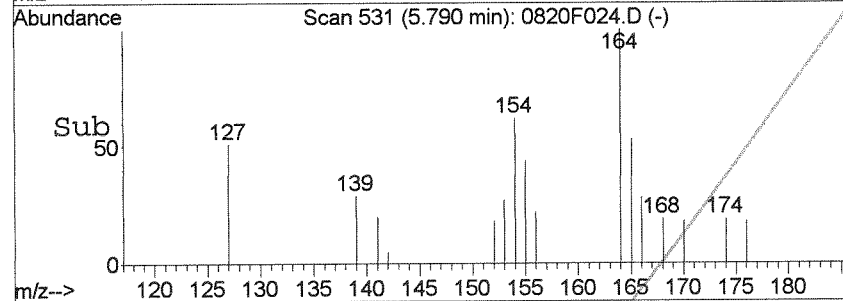
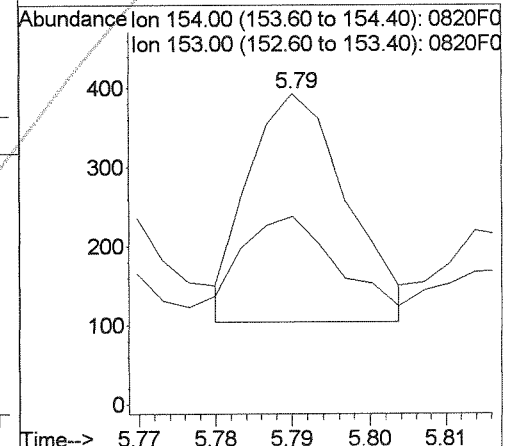
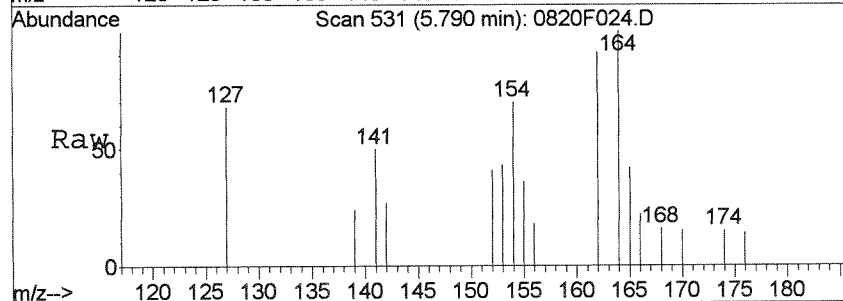
#4  
 1-Methylnaphthalene  
 Concen: 11.95 ng/ml  
 RT: 5.45 min Scan# 407  
 Delta R.T. -0.01 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

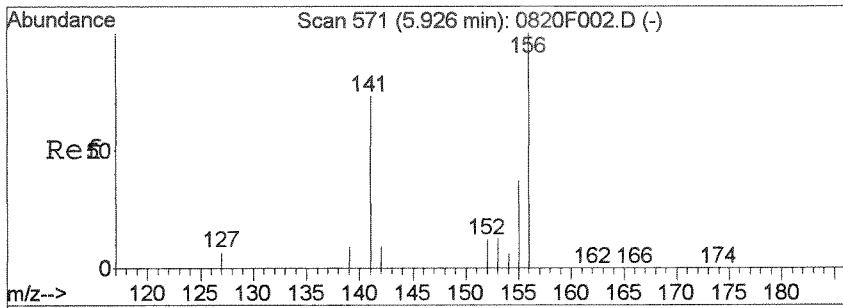
Tgt Ion: 142 Resp: 5446  
 Ion Ratio Lower Upper  
 142 100  
 141 90.7 56.4 116.4



#5  
 Biphenyl  
 Concen: 0.42 ng/ml m  
 RT: 5.79 min Scan# 531  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

Tgt Ion: 154 Resp: 255  
 Ion Ratio Lower Upper  
 154 100  
 153 60.6 9.6 69.6

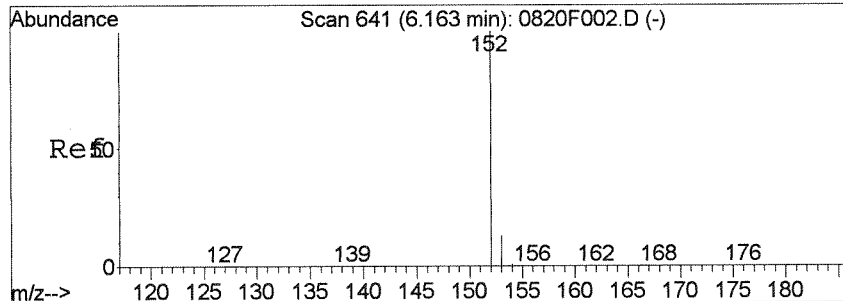
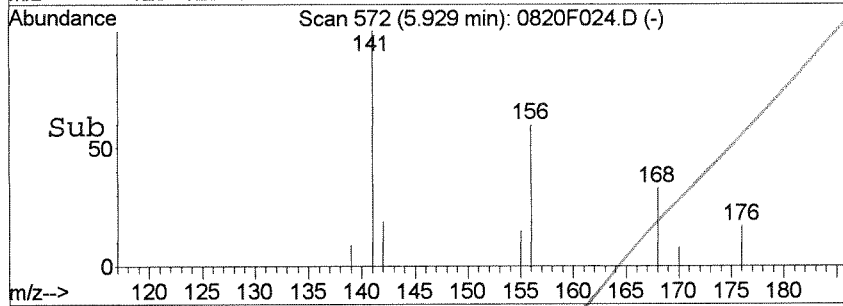
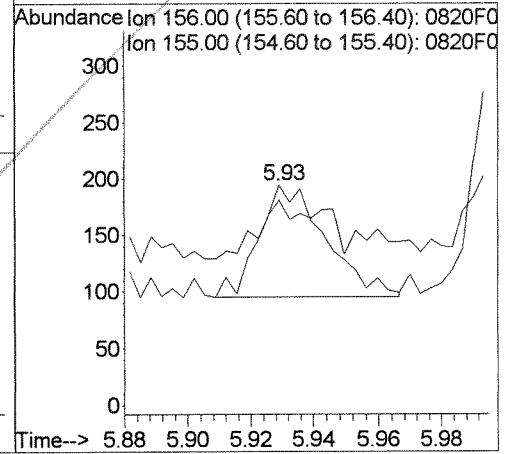
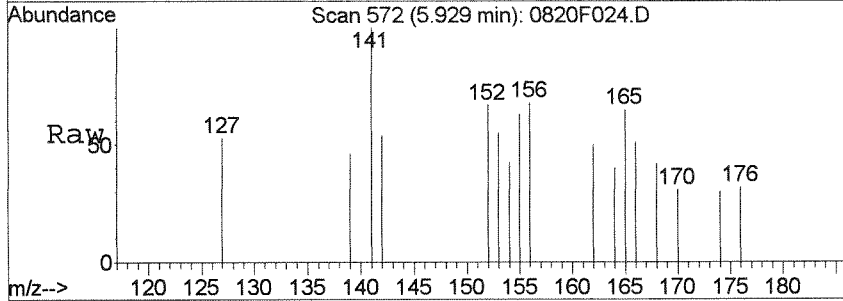




#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.32 ng/ml  
 RT: 5.93 min Scan# 572  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

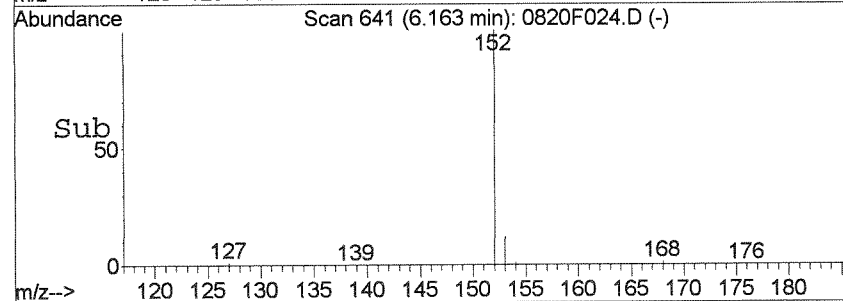
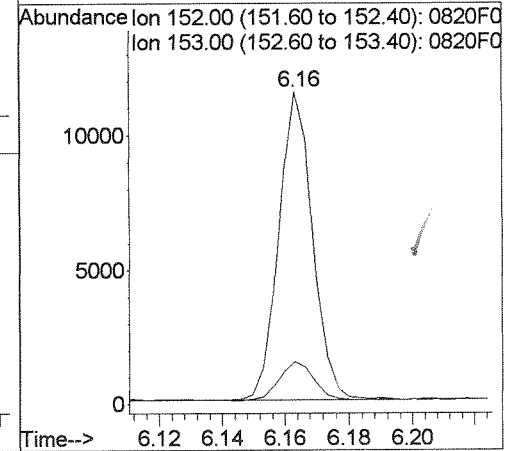
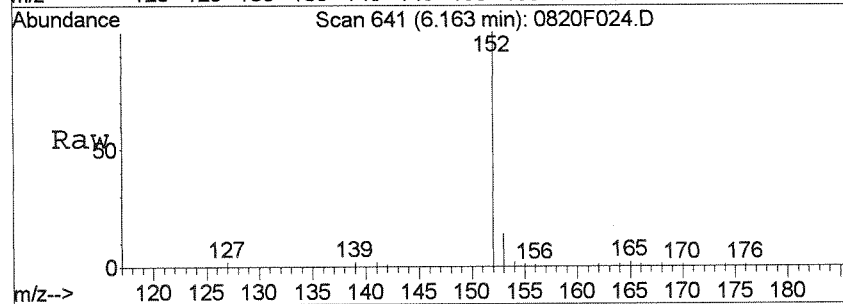
NT

Tgt Ion	Ratio	Lower	Upper
156	100		
155	52.5	4.9	64.9
146			

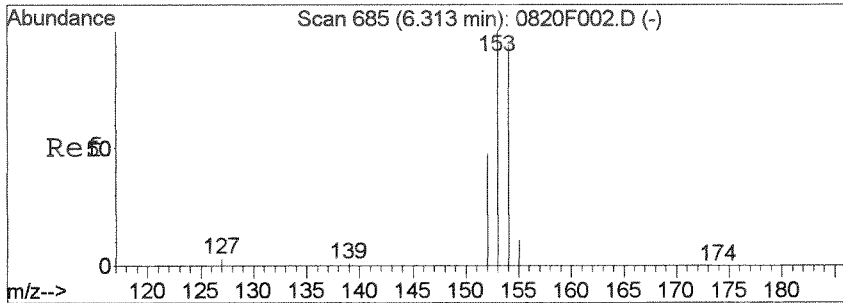


#8  
 Acenaphthylene  
 Concen: 11.46 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

Tgt Ion	Ratio	Lower	Upper
152	100		
153	12.7	0.0	43.2
8638			

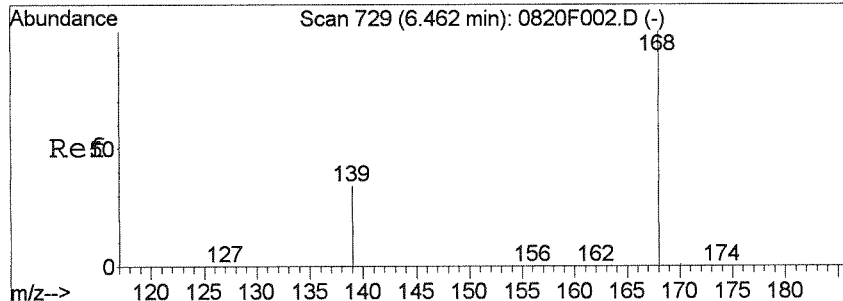
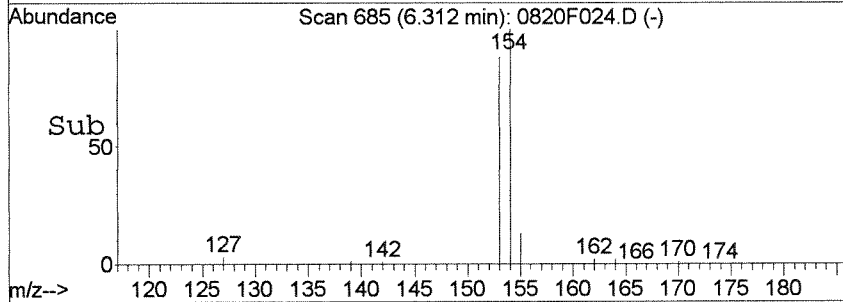
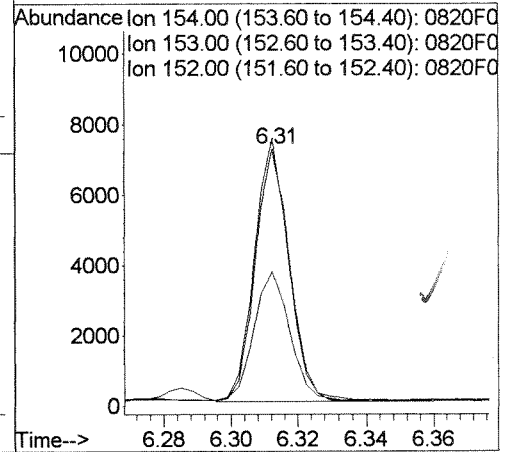
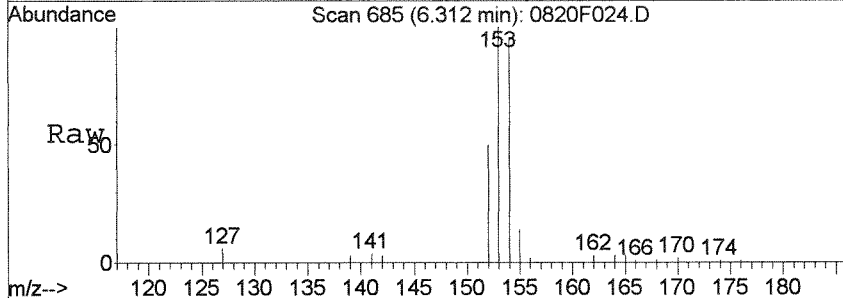






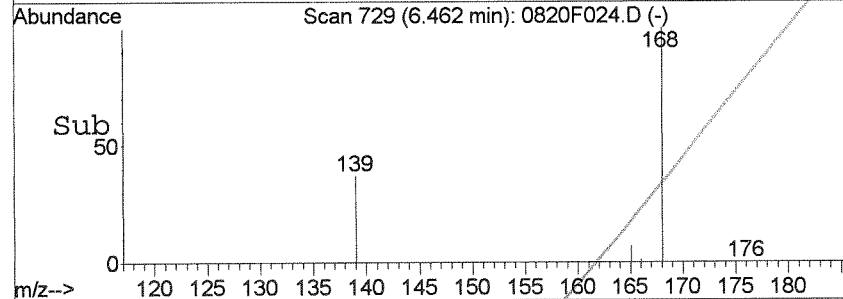
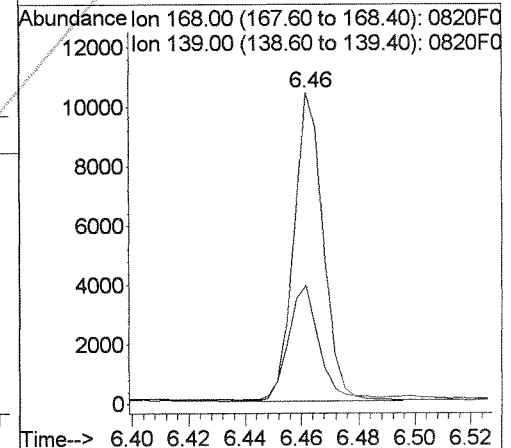
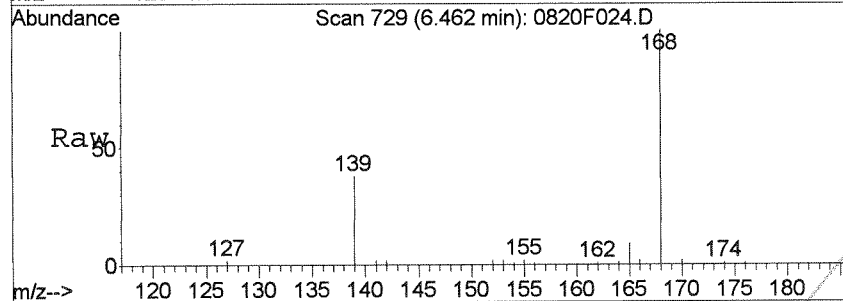
#9  
 Acenaphthene  
 Concen: 11.80 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

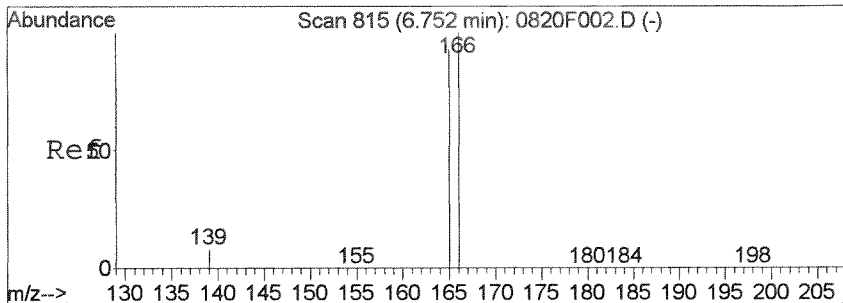
Tgt Ion	Ratio	Lower	Upper
154	100		
153	103.9	72.5	132.5
152	51.0	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 10.87 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

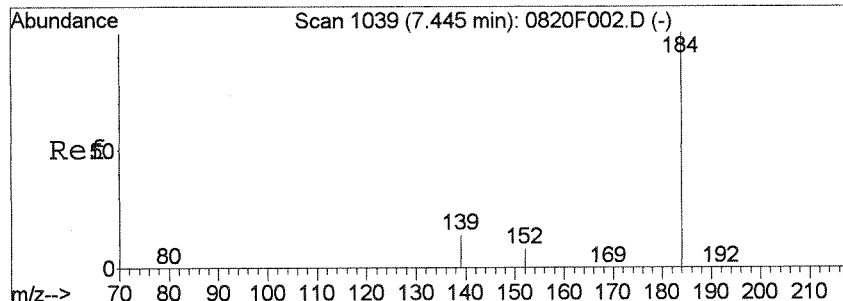
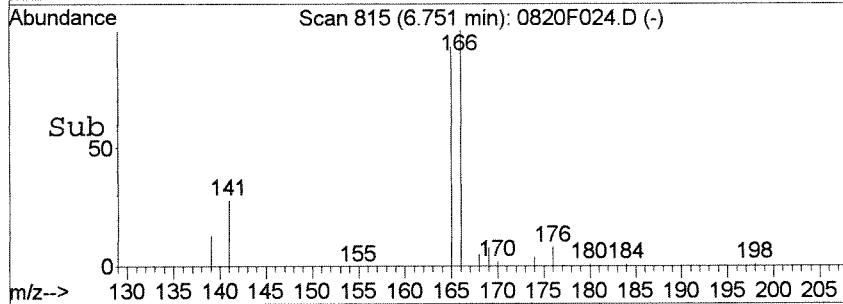
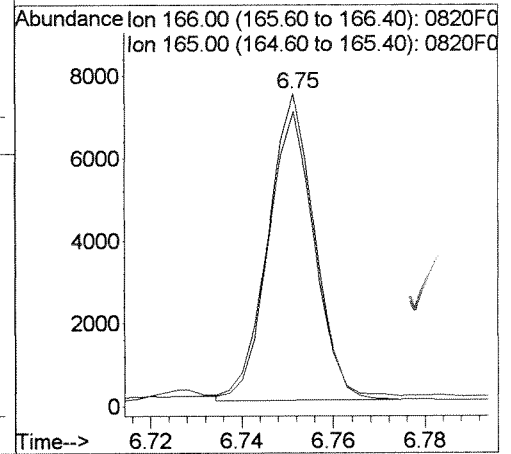
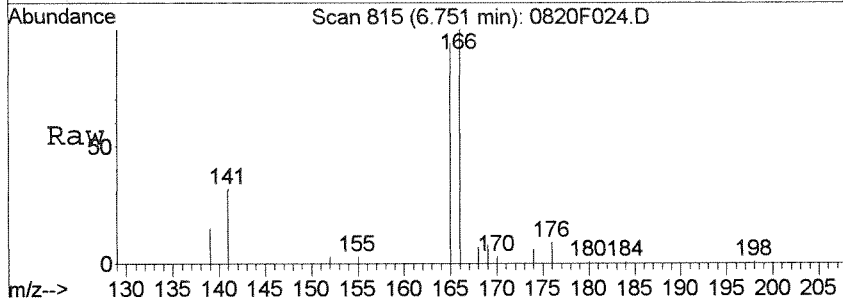
Tgt Ion	Ratio	Lower	Upper
168	100		
139	36.9	2.7	62.7





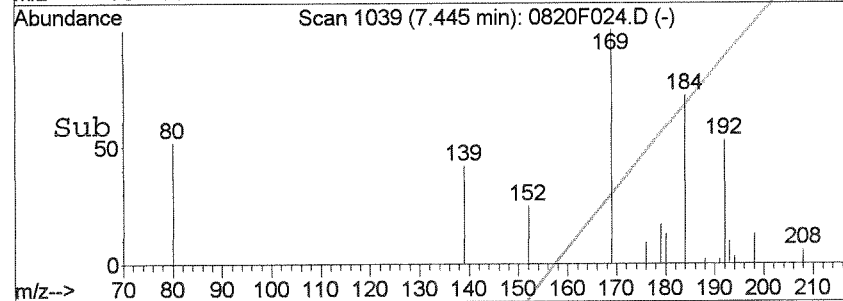
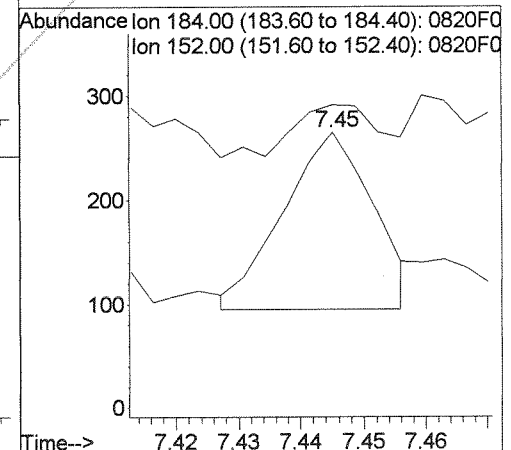
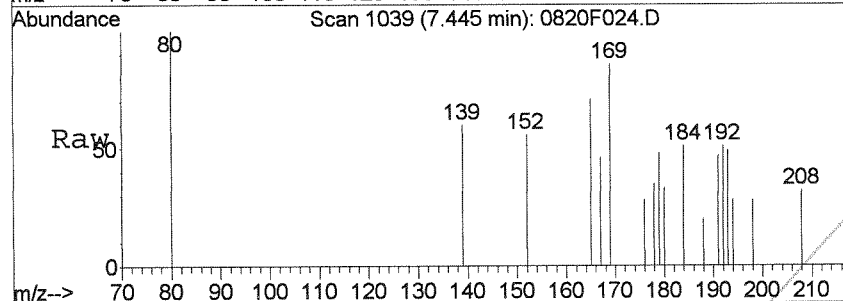
#13  
 Fluorene  
 Concen: 9.70 ng/ml  
 RT: 6.75 min Scan# 815  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

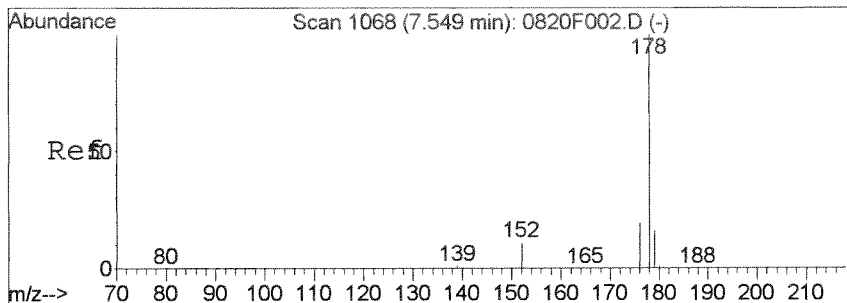
Tgt Ion: 166 Resp: 5286  
 Ion Ratio Lower Upper  
 166 100  
 165 92.9 60.9 120.9



#15  
 Dibenzothiophene  
 Concen: 0.22 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

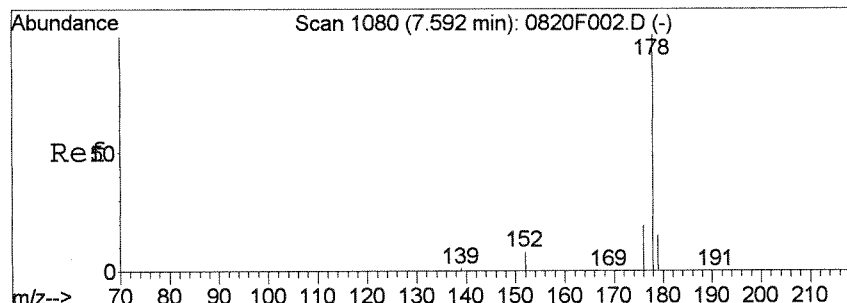
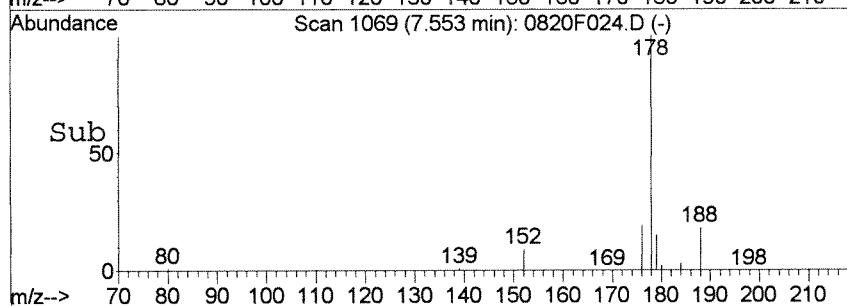
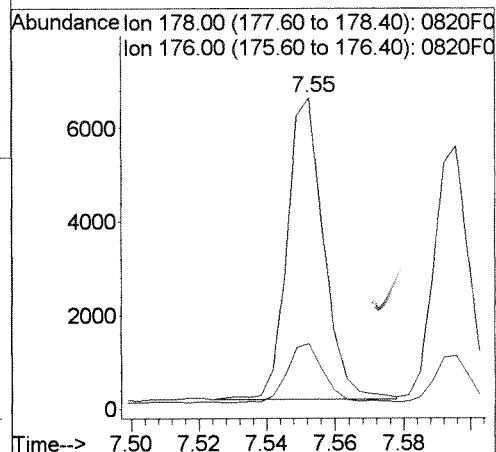
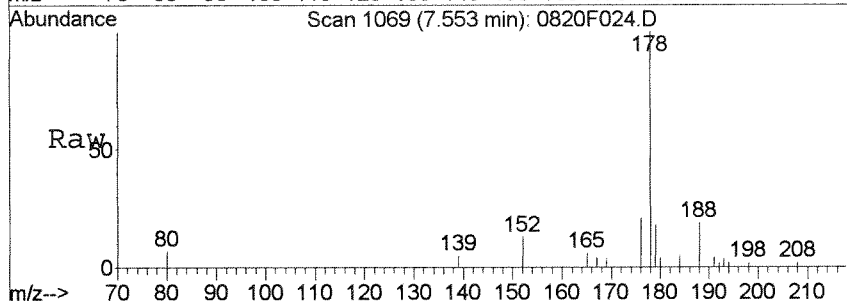
Tgt Ion: 184 Resp: 168  
 Ion Ratio Lower Upper  
 184 100  
 152 109.8 0.0 39.9#





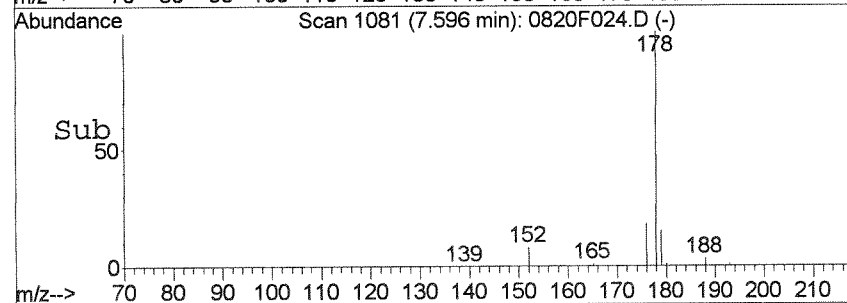
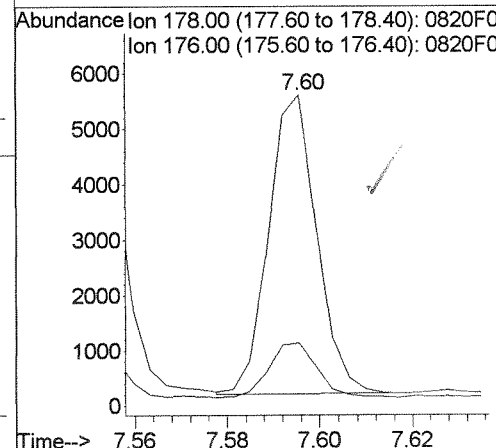
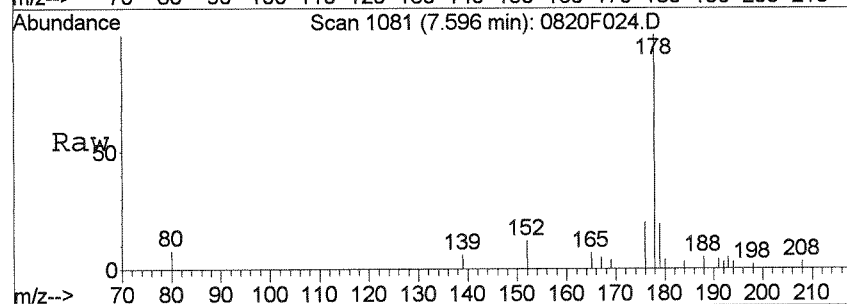
#16  
 Phenanthrene  
 Concen: 6.05 ng/ml  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

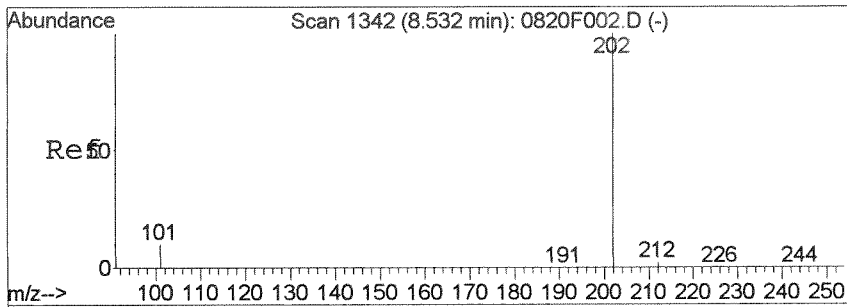
Tgt Ion	Resp	Lower	Upper
178	4786	100	
176	19.4	0.0	48.9



#17  
 Anthracene  
 Concen: 4.96 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

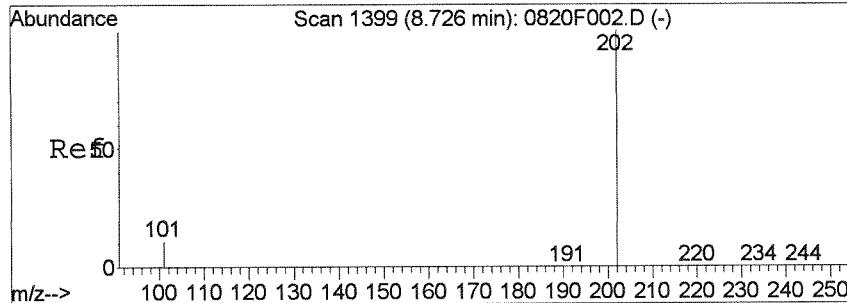
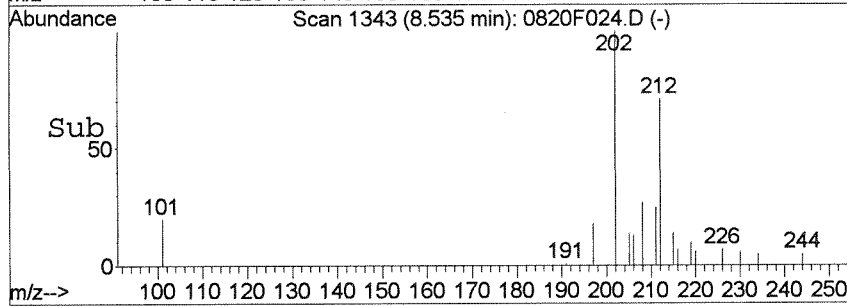
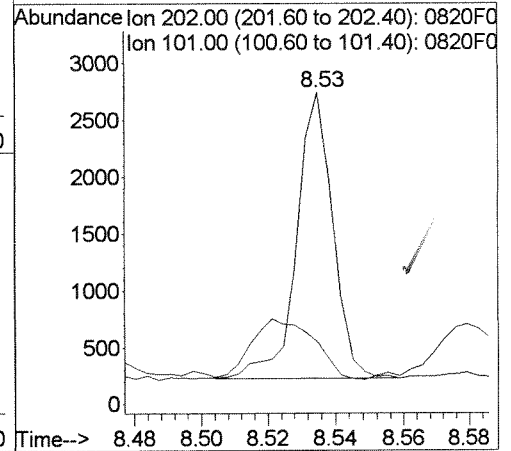
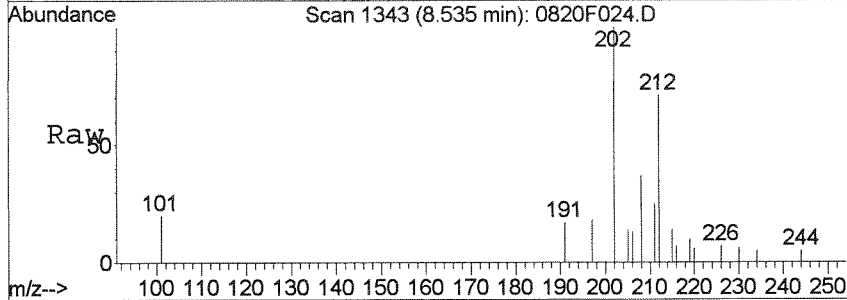
Tgt Ion	Resp	Lower	Upper
178	3890	100	
176	18.3	0.0	47.7





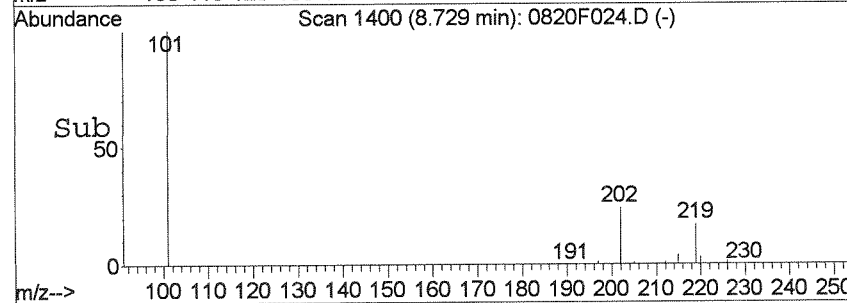
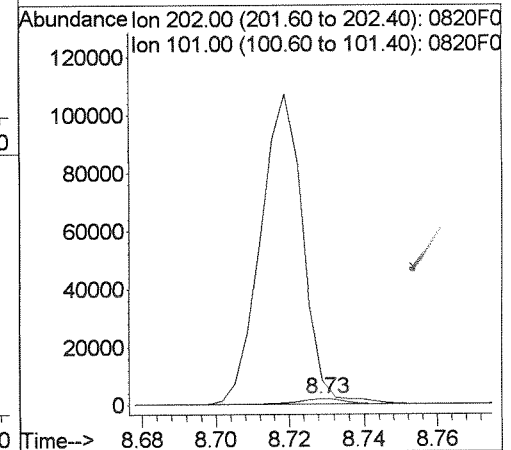
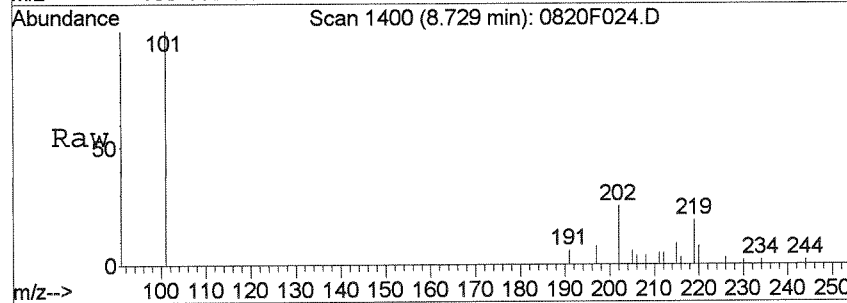
#20  
 Fluoranthene  
 Concen: 2.03 ng/ml  
 RT: 8.53 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

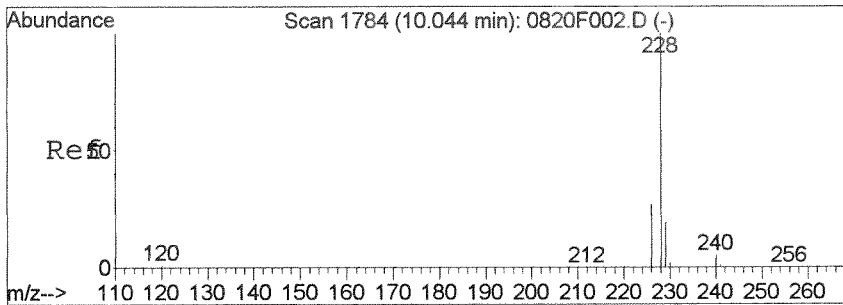
Tgt Ion: 202 Resp: 1868  
 Ion Ratio Lower Upper  
 202 100  
 101 12.2 0.0 37.0



#23  
 Pyrene  
 Concen: 1.66 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F024.D  
 Acq: 20 Aug 2014 7:40 pm

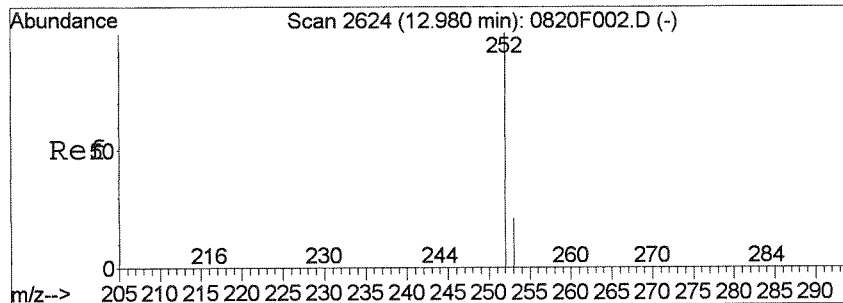
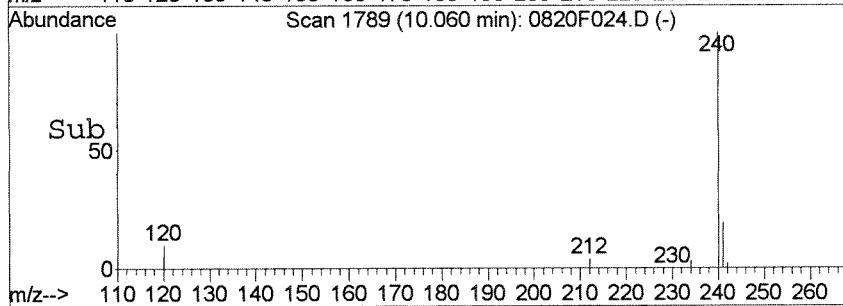
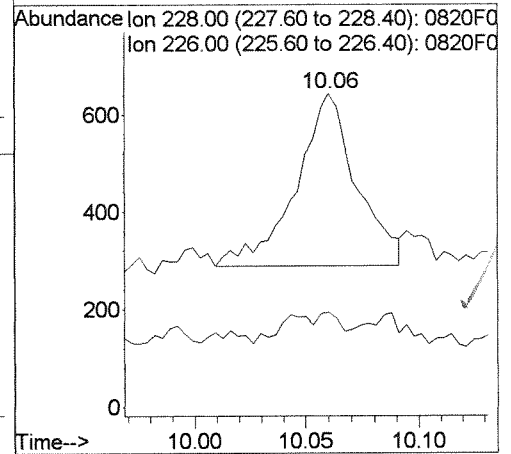
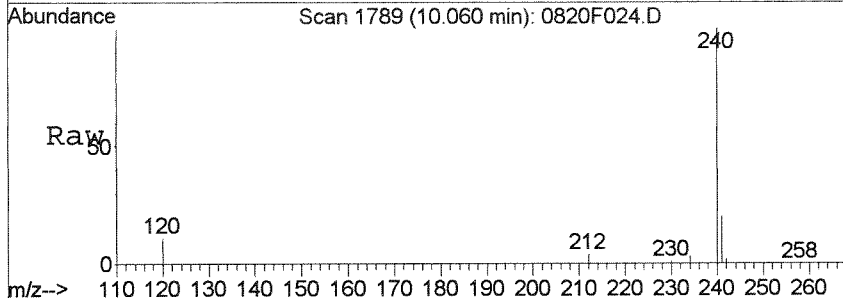
Tgt Ion: 202 Resp: 1787  
 Ion Ratio Lower Upper  
 202 100  
 101 393.8 0.0 38.3#





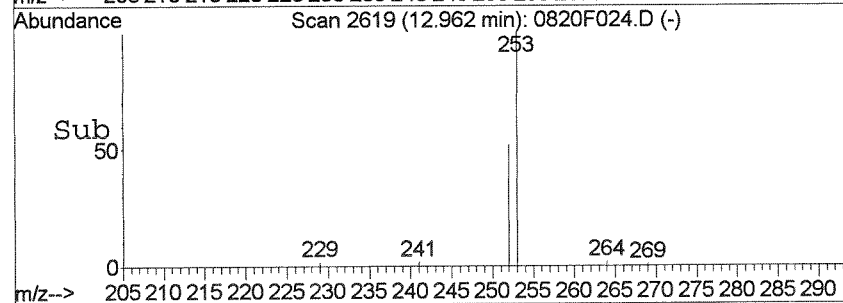
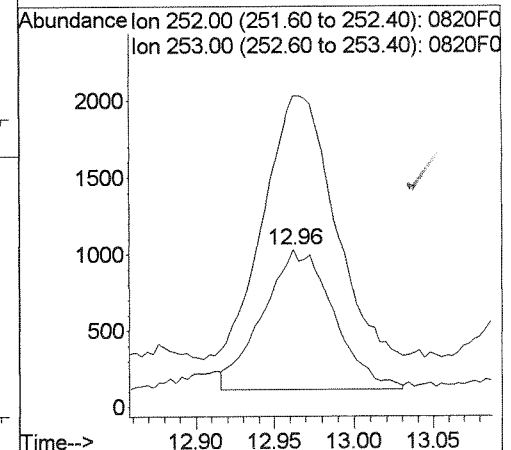
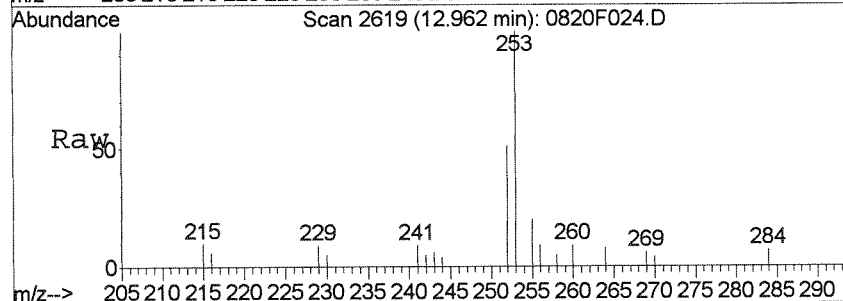
#25  
Benz (a) anthracene  
Concen: 0.68 ng/ml  
RT: 10.06 min Scan# 1789  
Delta R.T. 0.01 min  
Lab File: 0820F024.D  
Acq: 20 Aug 2014 7:40 pm

Tgt Ion: 228 Resp: 653  
Ion Ratio Lower Upper  
228 100  
226 12.1 0.0 56.4



#31  
Benzo (a) pyrene  
Concen: 2.96 ng/ml m  
RT: 12.96 min Scan# 2619  
Delta R.T. -0.03 min  
Lab File: 0820F024.D  
Acq: 20 Aug 2014 7:40 pm

Tgt Ion: 252 Resp: 2843  
Ion Ratio Lower Upper  
252 100  
253 196.5 0.0 52.2#



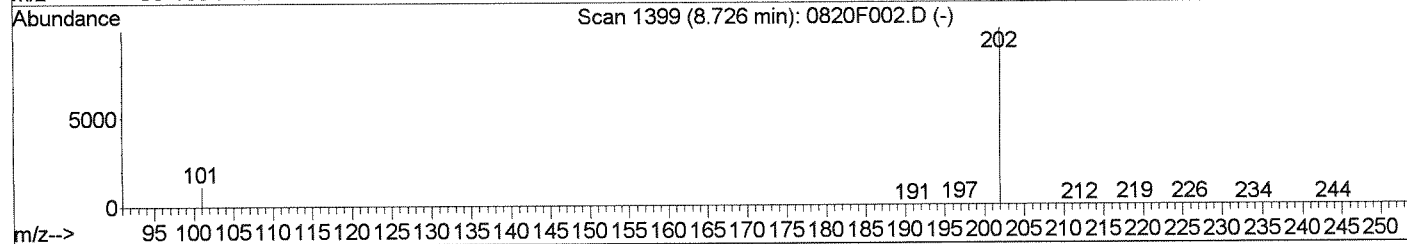
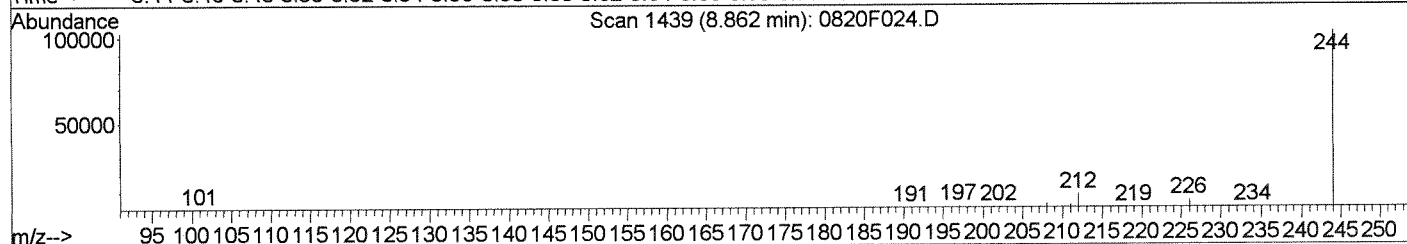
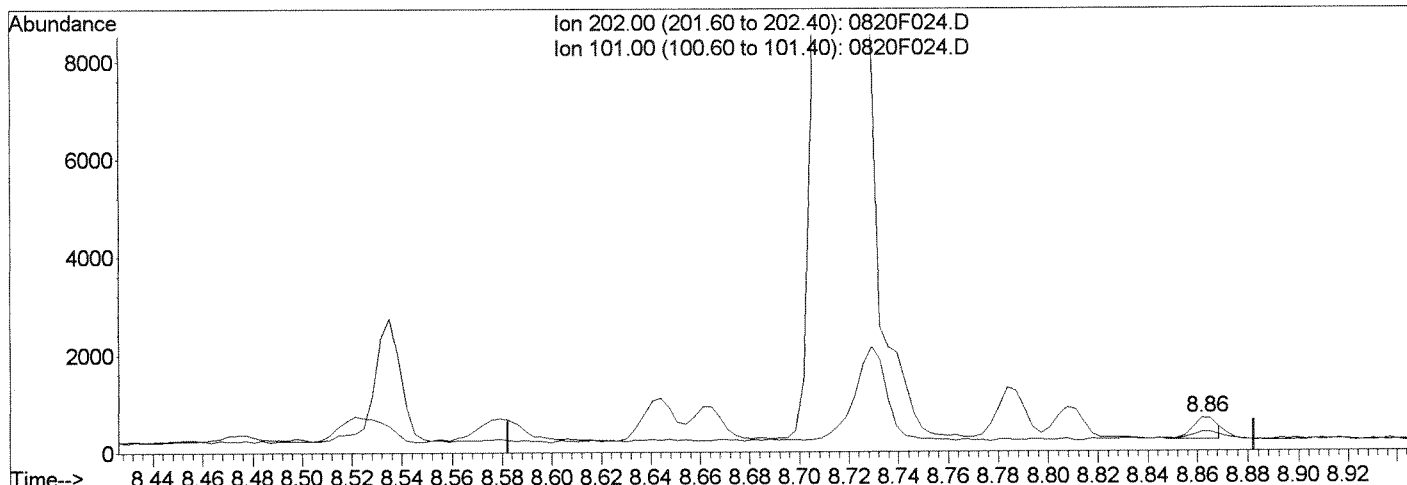
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:42 2014

Vial: 24  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F024.D

(23) Pyrene (T)  
 8.86min 0.30ng/ml  
 response 319

Manual Integration:

Before

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	27.33
0.00	0.00	0.00
0.00	0.00	0.00

08/21/14

CA

43

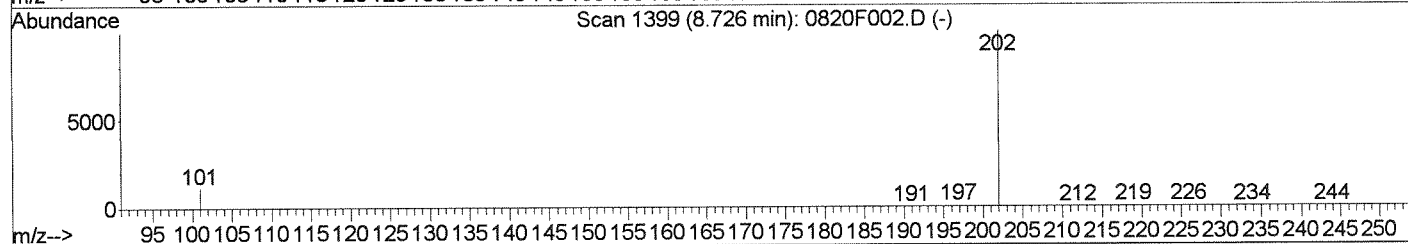
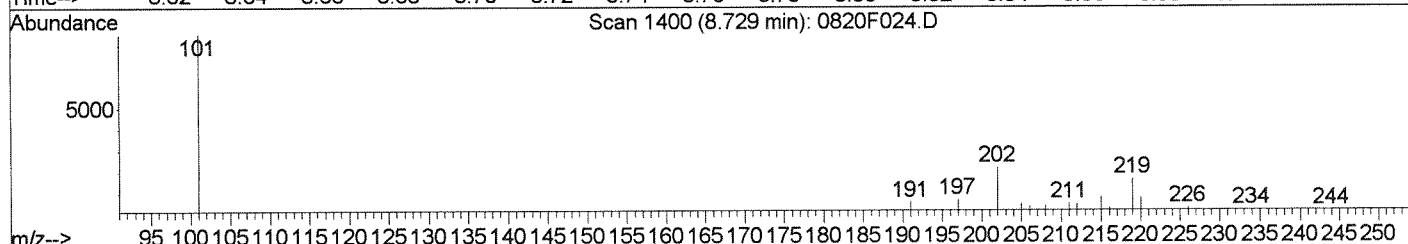
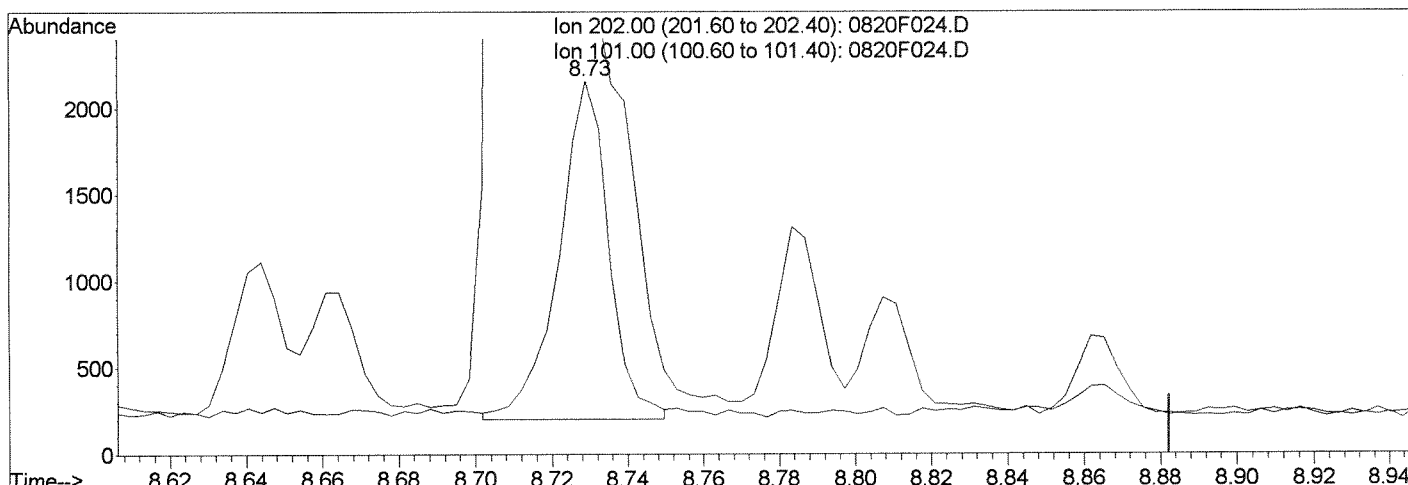
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:43 2014

Vial: 24  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F024.D

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	393.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*CAA*  
*LB*  
 8/21/14  
*LB*

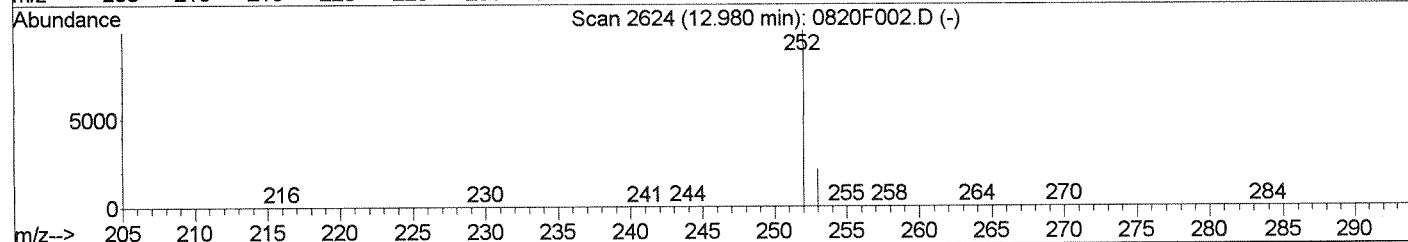
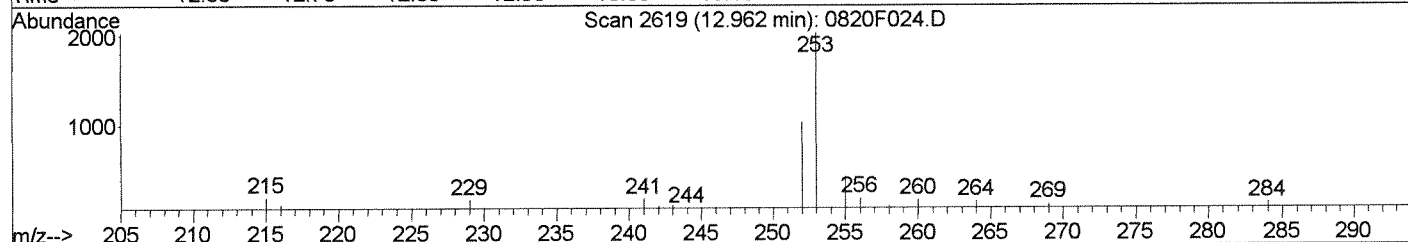
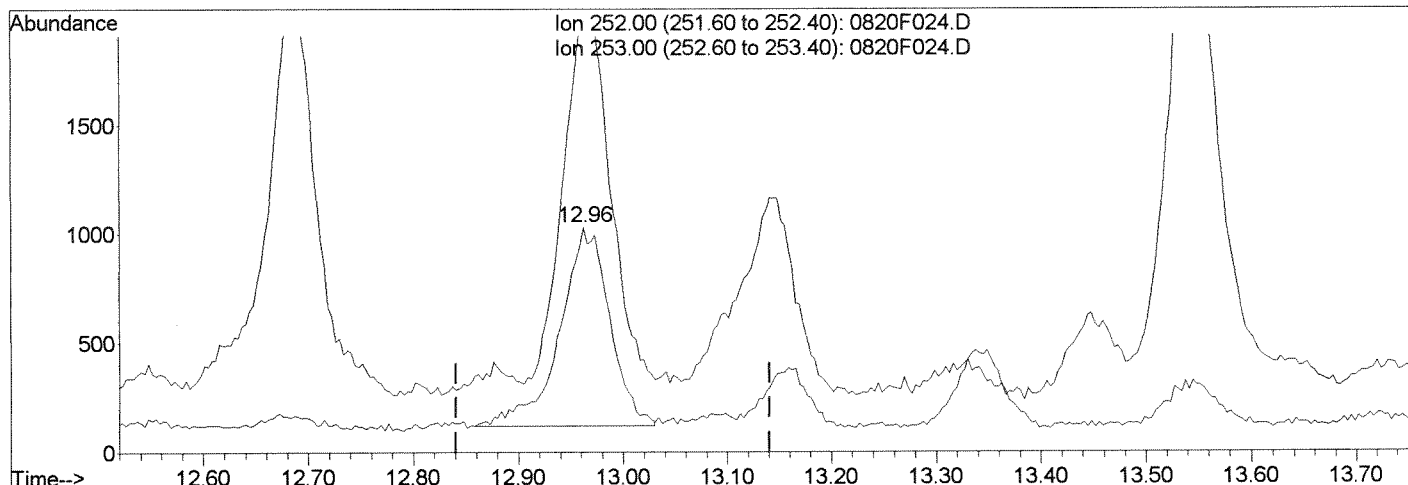
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:43 2014

Vial: 24  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F024.D

(31) Benzo(a)pyrene (T)

12.96min 3.14ng/ml

response 3009

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	186.04#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CA

LB



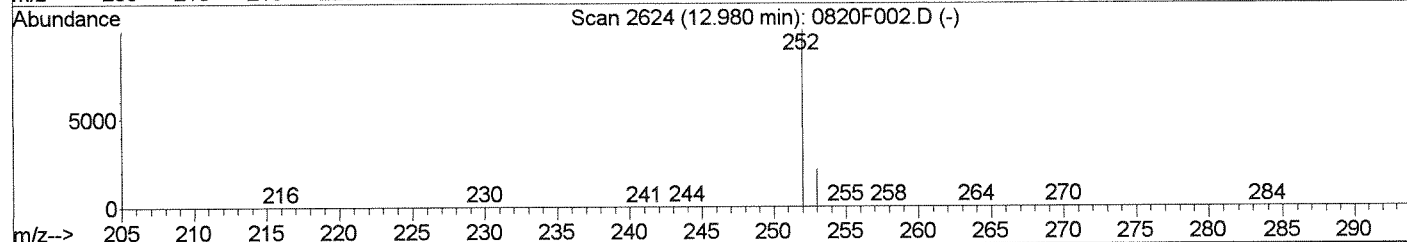
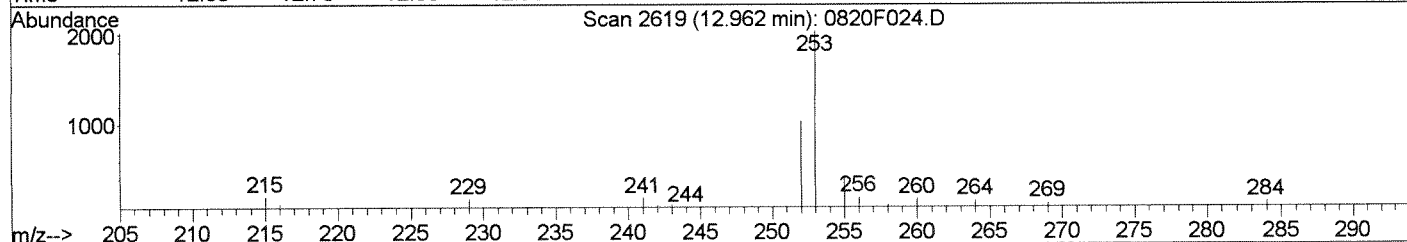
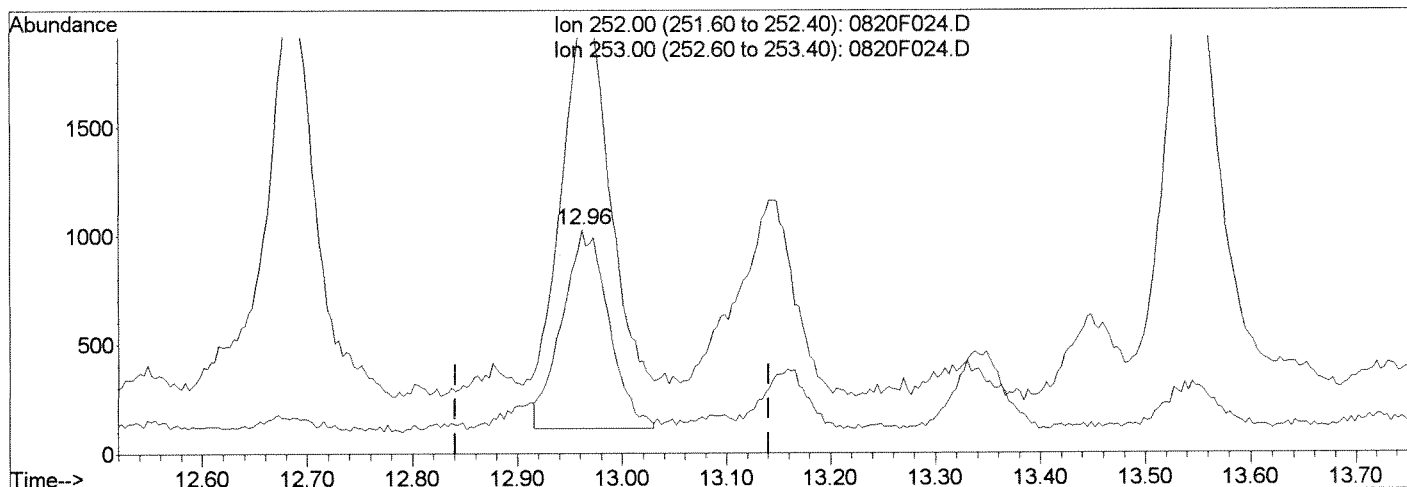
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F024.D  
 Acq On : 20 Aug 2014 7:40 pm  
 Sample : K1407971-016  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:43 2014

Vial: 24  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F024.D

(31) Benzo(a)pyrene (T)		
12.96min	2.96ng/ml	m
response	2843	
Ion	Exp%	Act%
252.00	100	100
253.00	22.20	196.51#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

*CA WP IC: overintegrated*  
 08-21-14 08/21/14

*CA i*

*LB*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F025.D  
**Lab ID:** K1407971-017  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 20:06  
**Date Quantitated:** 08/21/2014 09:45  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CAA AUG 21 2014

Secondary Review: LB AUG 21 2014

# Quantitation Report

Data File: J:\MS14\DATA\082014\0820F025.D	Quant Date: 08/21/2014 09:45	Instrument: MS14
Acqu Date: 08/20/2014 20:06		Vial: 25
Run Type: SMPL		Dilution: 1.0
Lab ID: K1407971-017		Soln Conc. Units: ng/ml

Bottle ID:	Tier: V	Matrix: ANIMAL TISSUE
Prod Code: 8270D PAH SIM	Collect Date: 07/25/2014	Receive Date: 07/30/2014

Analysis Lot: KWG1411816	Prep Lot: KWG1411415	Report Group: K1407971
Analysis Method: 8270D SIM	Prep Method: EPA 3541	
Prep Ref: 1365442	Prep Date: 08/12/2014	

Quant Method: J:\MS14\METHODS\SIM\072214SIMPAH	Calibration ID: CAL13446
Title: Polynuclear Aromatic Hydrocarbons	Report List ID: LJ15942
Tune Ref: J:\MS14\DATA\082014\0820F001.D	Method ID: MJ1238
MB Ref: J:\MS14\DATA\082014\0820F003.D	Quant based on Report List

### Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	136733	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	73368	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	141134	200.00	OK
4	Chrysene-d12	10.06	0.00	240	152709	200.00	OK
5	Perylene-d12	13.16	0.01	264	158686	200.00	OK

### Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	77043	178.00	89	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	139759	175.86	88	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	115408	168.01	84	39-111	OK

Final Conc. Units: ug/Kg Dry Weight

### Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	823	1.14	9.6	U	
1	2-Methylnaphthalene	5.37		0.00	142	396	0.7800	7.7	U	
1	1-Methylnaphthalene	5.46		0.00	142	295	0.6600	7.0	U	
2	Acenaphthylene	6.16		0.00	152	235	0.3200	3.0	U	
2	Acenaphthene	6.32	0.01	0.00	154	553	1.29	8.2	J	
2	Fluorene	6.75		0.00	166	486	0.9100	5.8	J	
3	Phenanthrene	7.55		0.00	178	831m	1.07	6.8	J	
3	Anthracene	7.60	0.01	0.00	178	144	0.1900	2.5	U	
3	Fluoranthene	8.53		0.00	202	445m	0.4900	3.2	U	
4	Pyrene	8.73		0.00	202	546m	0.5200	3.3	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	553	0.5900	3.7	J	
4	Chrysene				228	0d		3.5	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F025.D  
 Acqu Date: 08/20/2014 20:06  
 Run Type: SMPL  
 Lab ID: K1407971-017

Quant Date: 08/21/2014 09:45

Instrument: MS14  
 Vial: 25  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

Target Compounds		Final Conc. Units: ug/Kg Dry Weight								
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.2	U	
5	Benzo(k)fluoranthene				252	0d		3.7	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2189m	2.34	15	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.1	U	
5	Dibenz(a,h)anthracene				278	0d		5.5	U	
5	Benzo(g,h,i)perylene				276	0d		6.1	U	

Prep Amount: 10.370 g  
 Prep Final Vol: 10 ml  
 Solids: 15.2 %  
 Dilution: 1.0  
 Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 F: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:32 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	136733	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	73368	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	141134	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	152709	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	158686	200.00	ng/ml	0.00
System Monitoring Compounds						
12) Fluorene-d10	6.73	176	77043	178.00	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.80%	
21) Fluoranthene-d10	8.52	212	139759	175.86	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.59%	
24) Terphenyl-d14	8.87	244	115408	168.01	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.80%	
Target Compounds						
2) Naphthalene	4.69	128	823	1.14	ng/ml	99
3) 2-Methylnaphthalene	5.37	142	396	0.78	ng/ml	90
4) 1-Methylnaphthalene	5.46	142	295	0.66	ng/ml	97
5) Biphenyl	5.79	154	264	0.44	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.93	156	146m	0.33	ng/ml	
8) Acenaphthylene	6.16	152	235	0.32	ng/ml	74
9) Acenaphthene	6.32	154	553	1.29	ng/ml#	59
10) Dibenzofuran	6.46	168	321m	0.48	ng/ml	
13) Fluorene	6.75	166	486	0.91	ng/ml	79
15) Dibenzothiophene	7.45	184	150m	0.20	ng/ml	
16) Phenanthrene	7.55	178	831m	1.07	ng/ml	
17) Anthracene	7.60	178	144	0.19	ng/ml	87
18) Carbazole	7.74	167	284m	0.42	ng/ml	
20) Fluoranthene	8.53	202	445m	0.49	ng/ml	
23) Pyrene	8.73	202	546m	0.52	ng/ml	
25) Benz(a)anthracene	10.06	228	553	0.59	ng/ml	74
31) Benzo(a)pyrene	12.96	252	2189m	2.34	ng/ml	

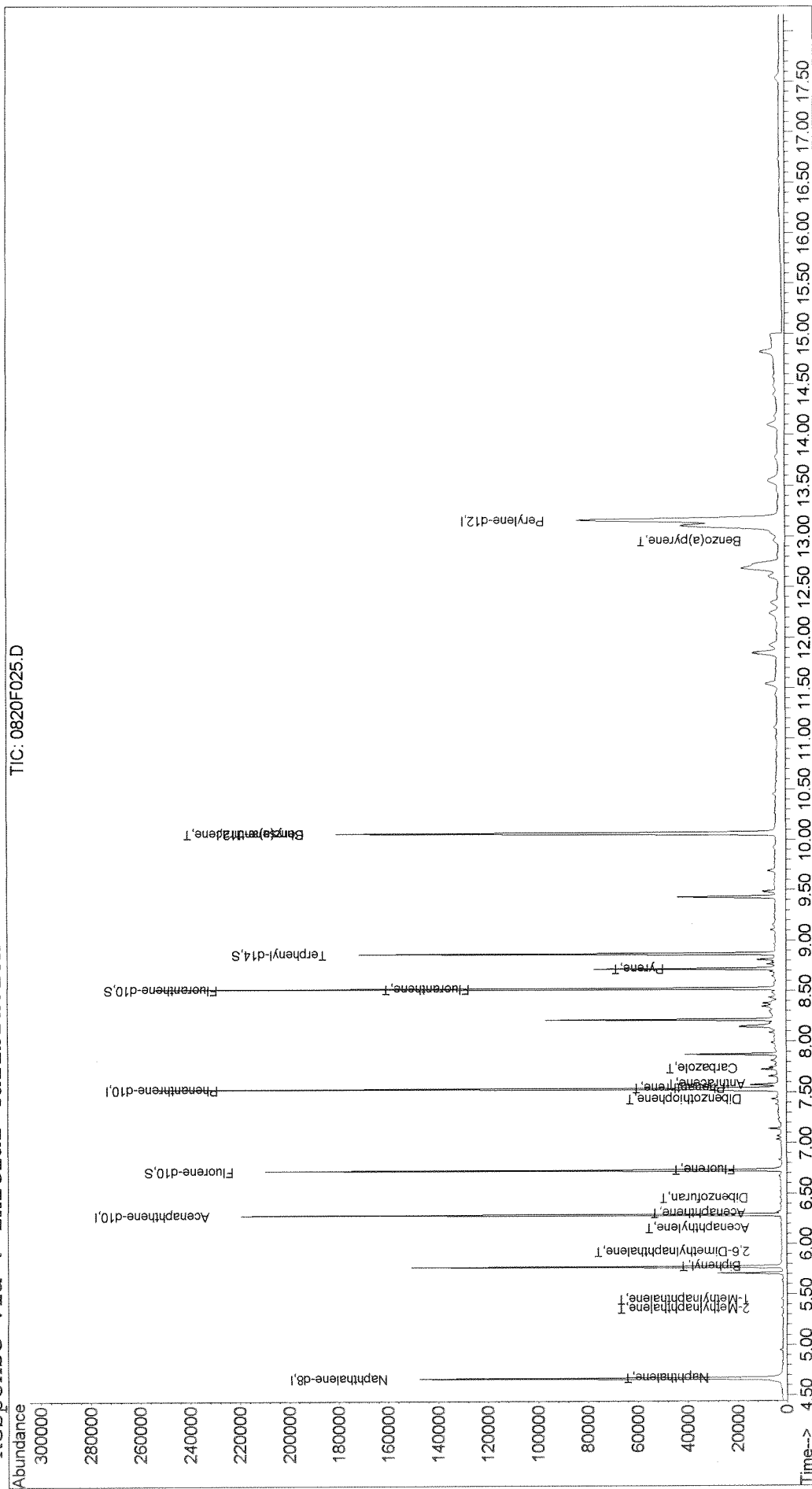
(#) = qualifier out of range (m) = manual integration

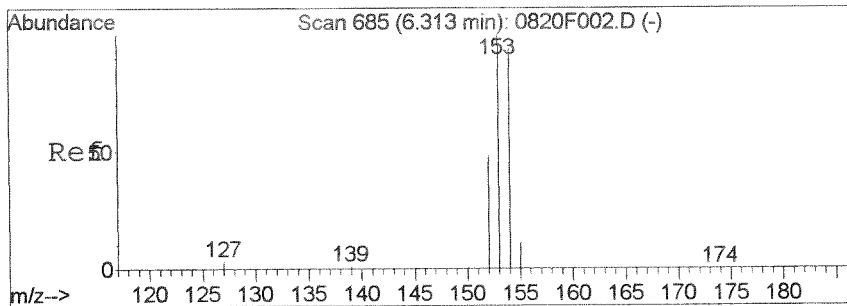
Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:45 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 25  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

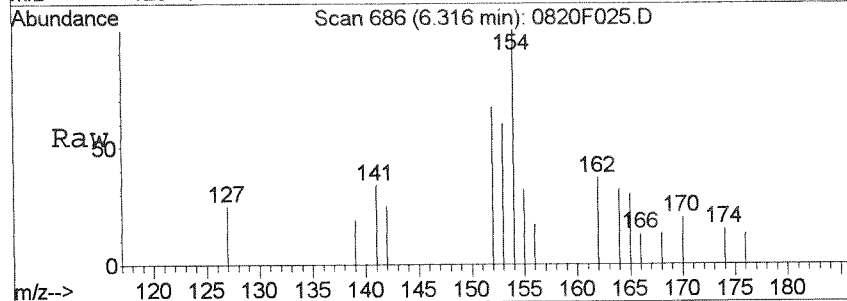
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration



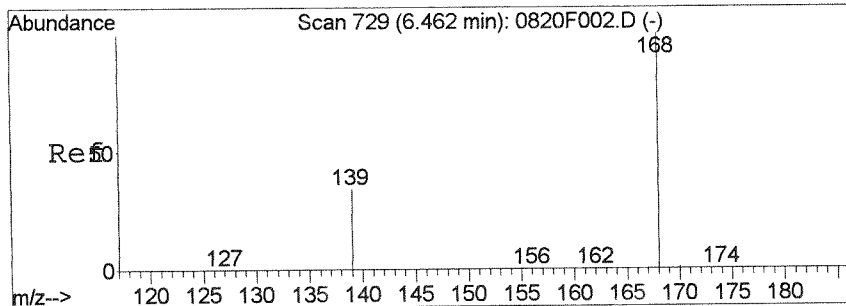
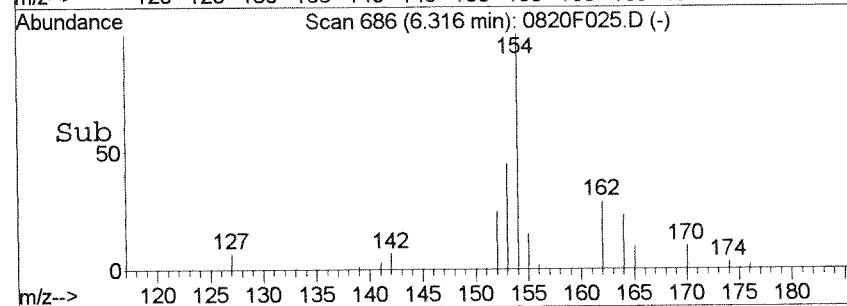
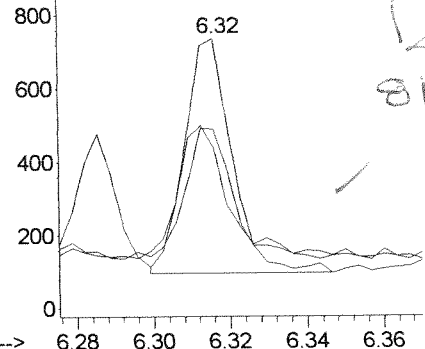


#9  
 Acenaphthene  
 Concen: 1.29 ng/ml  
 RT: 6.32 min Scan# 686  
 Delta R.T. 0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
154	100		
153	46.2	72.5	132.5#
152	54.1	17.7	77.7

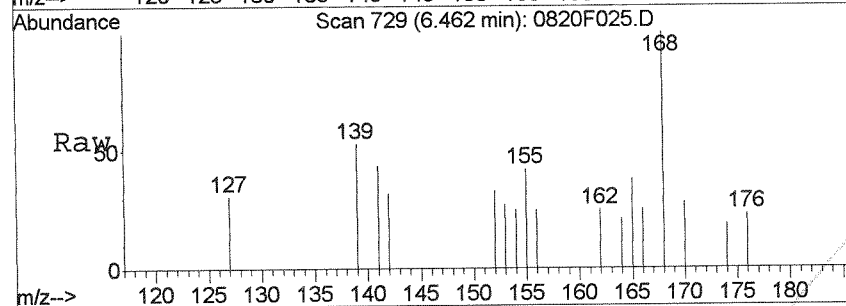


Abundance Ion 154.00 (153.60 to 154.40): 0820F0  
 1000 Ion 153.00 (152.60 to 153.40): 0820F0  
 Ion 152.00 (151.60 to 152.40): 0820F0

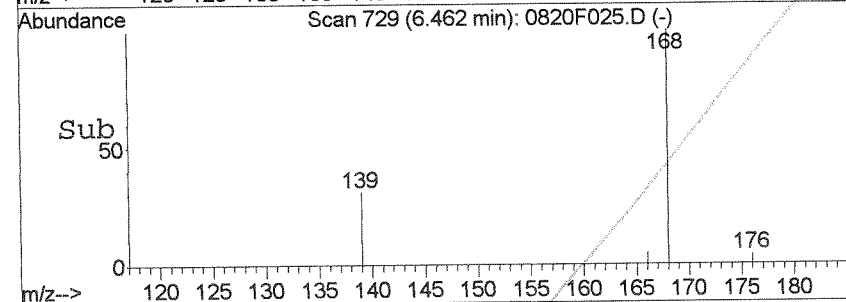
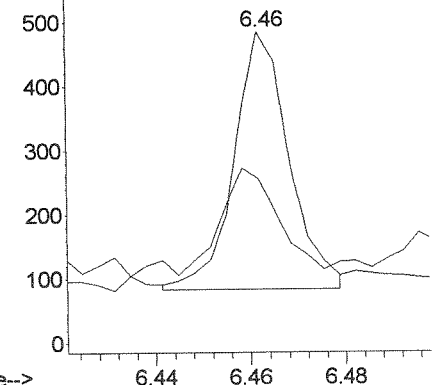


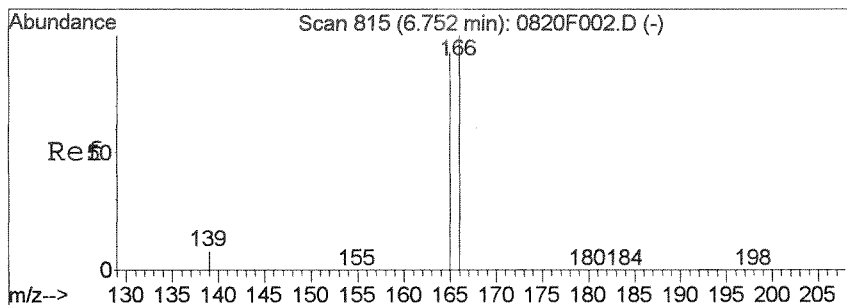
#10  
 Dibenzofuran  
 Concen: 0.48 ng/ml m  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
168	100		
139	52.9	2.7	62.7



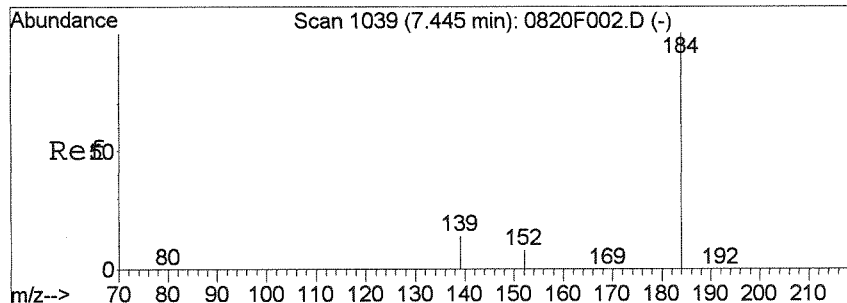
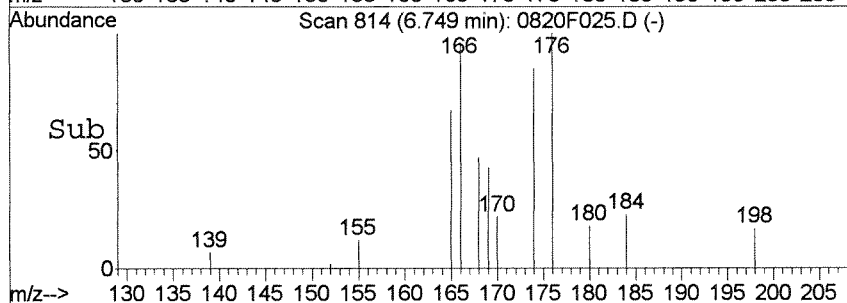
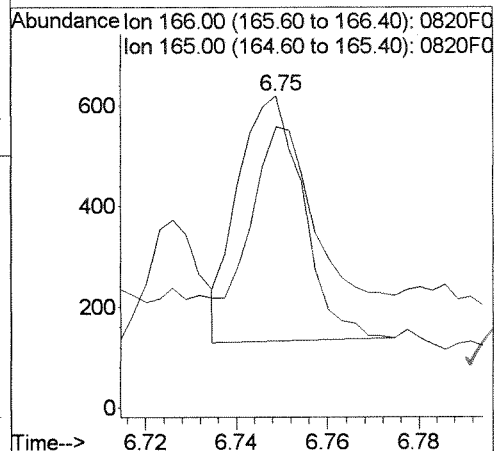
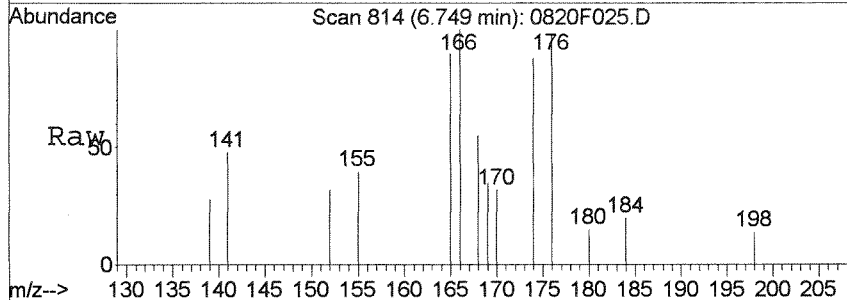
Abundance Ion 168.00 (167.60 to 168.40): 0820F0  
 Ion 139.00 (138.60 to 139.40): 0820F0





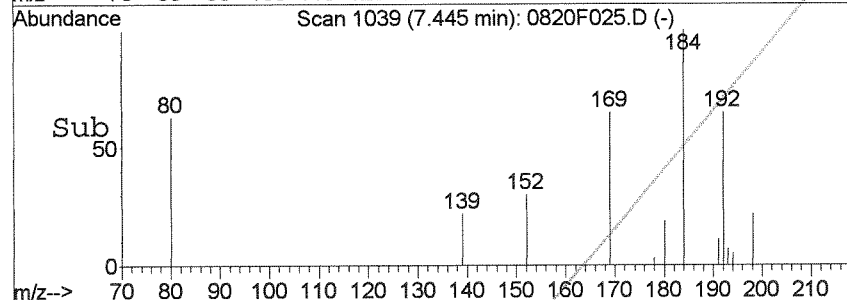
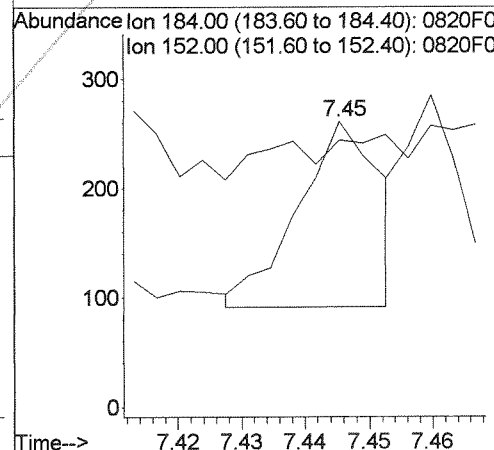
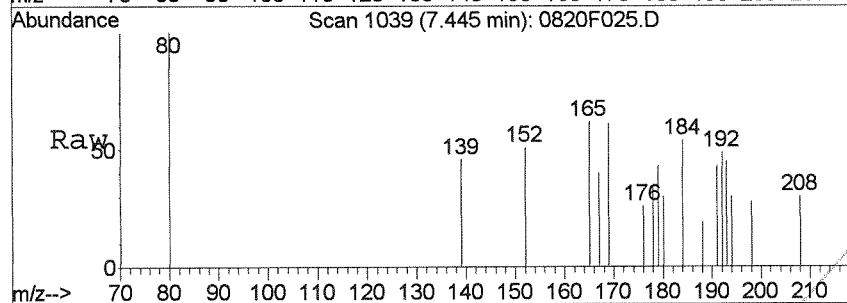
#13  
 Fluorene  
 Concen: 0.91 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion: 166 Resp: 486  
 Ion Ratio Lower Upper  
 166 100  
 165 70.5 60.9 120.9

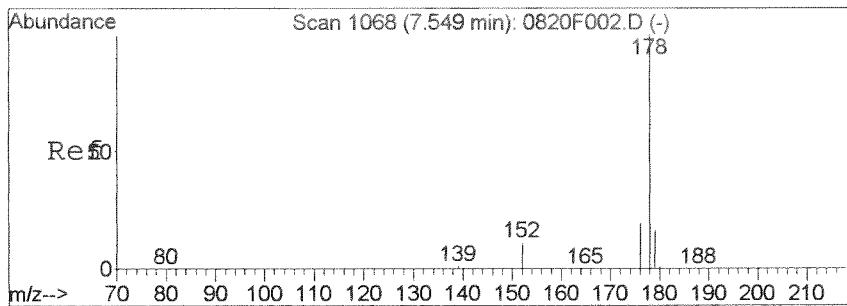


#15  
 Dibenzothiophene  
 Concen: 0.20 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion: 184 Resp: 150  
 Ion Ratio Lower Upper  
 184 100  
 152 93.5 0.0 39.9#

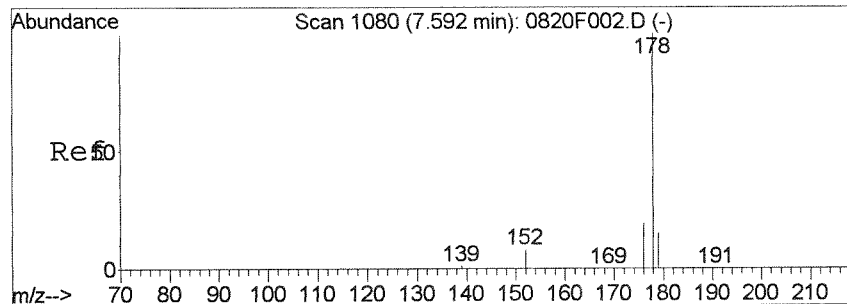
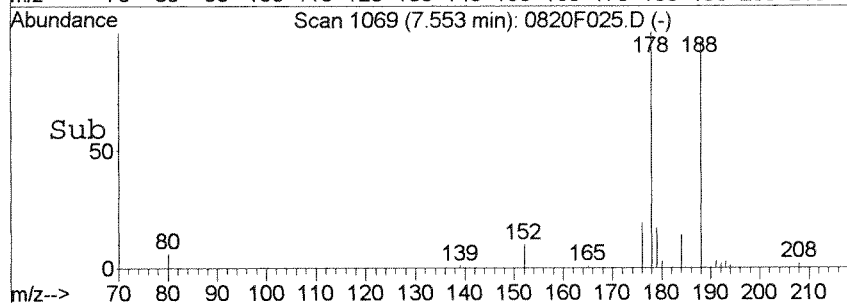
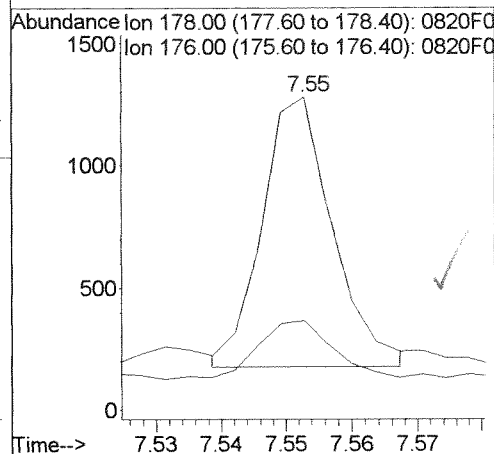
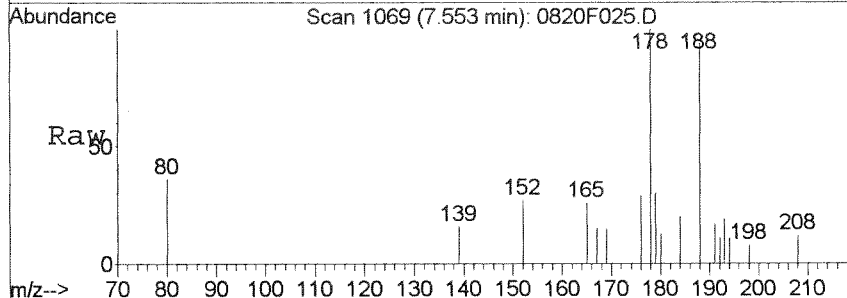






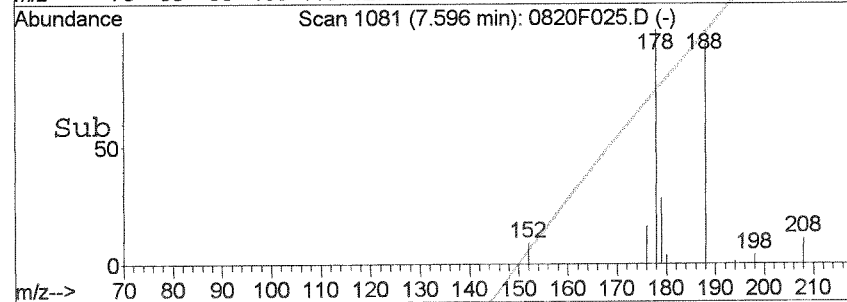
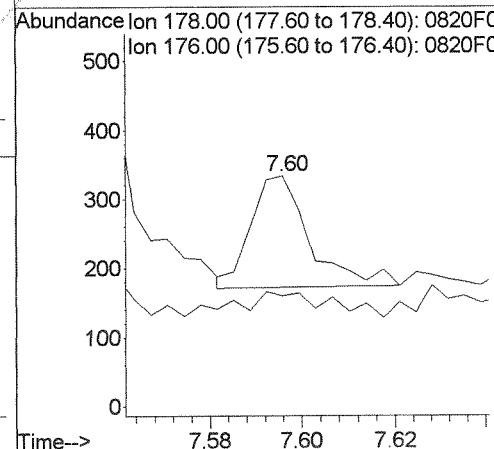
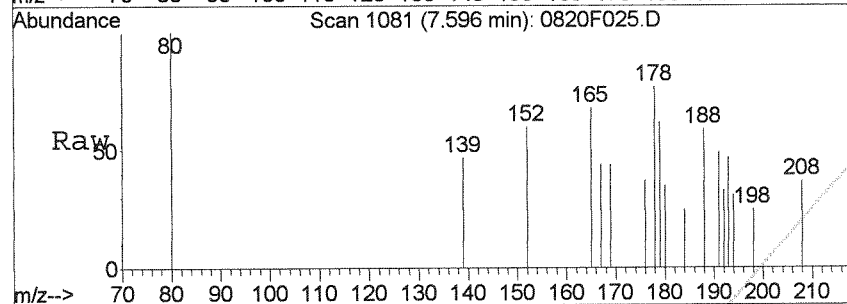
#16  
 Phenanthrene  
 Concen: 1.07 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
176	28.6	0.0	48.9

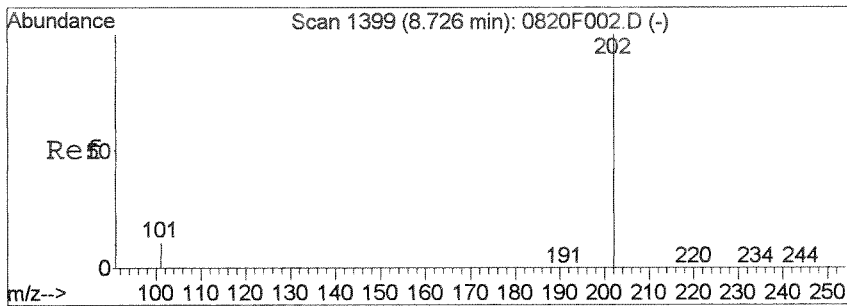


#17  
 Anthracene  
 Concen: 0.19 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
176	11.9	0.0	47.7

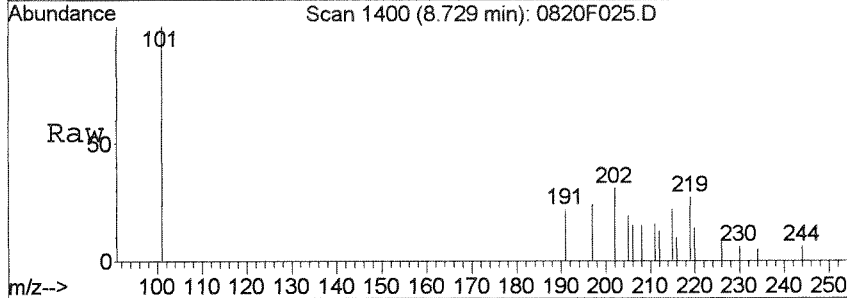


<HDL

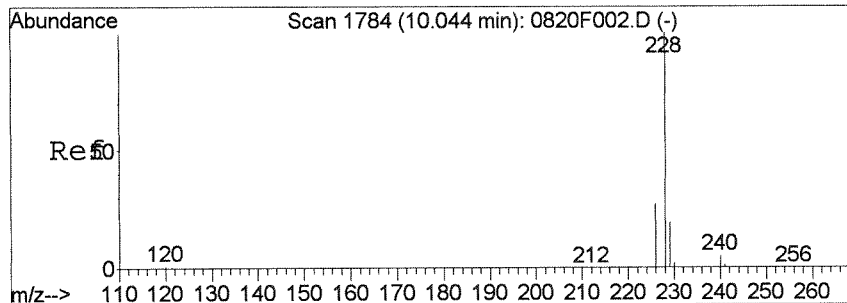
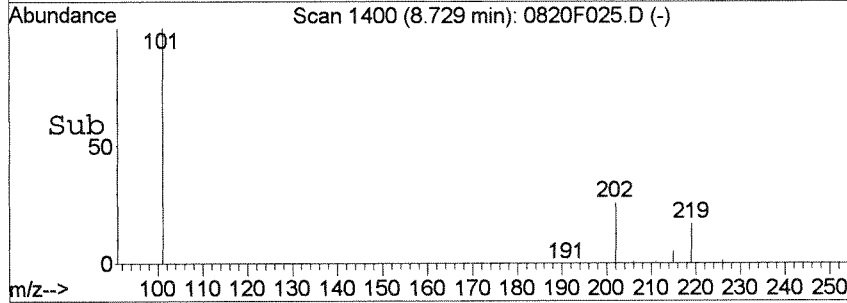
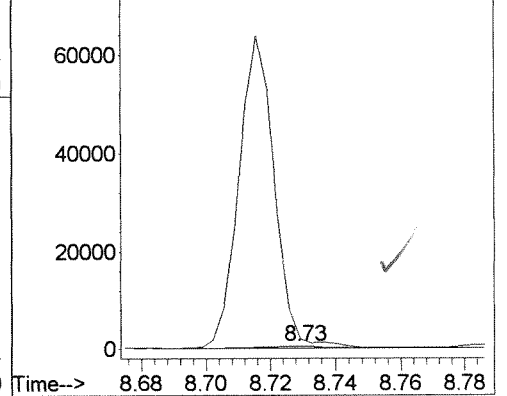


#23  
 Pyrene  
 Concen: 0.52 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
202	100		
101	325.9	0.0	38.3#

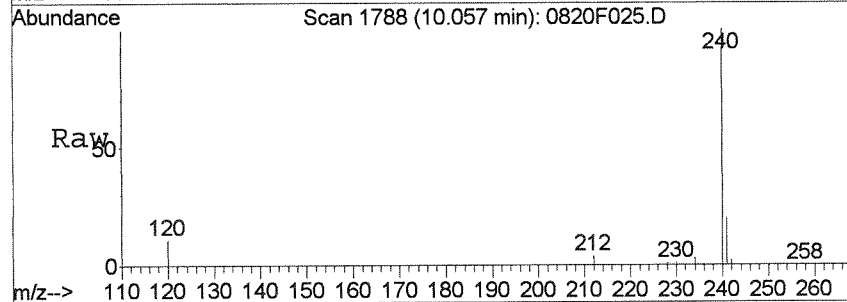


Abundance Ion 202.00 (201.60 to 202.40): 0820F0  
 Ion 101.00 (100.60 to 101.40): 0820F0

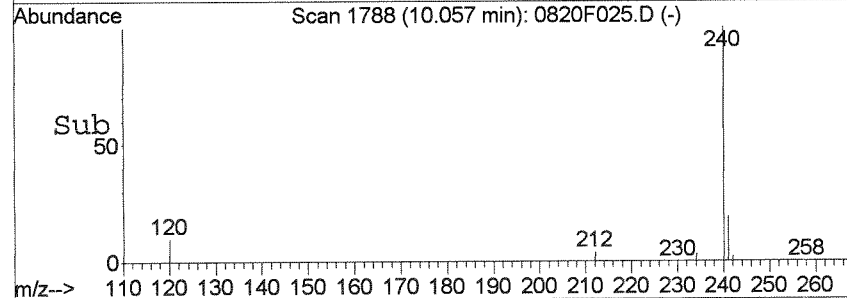
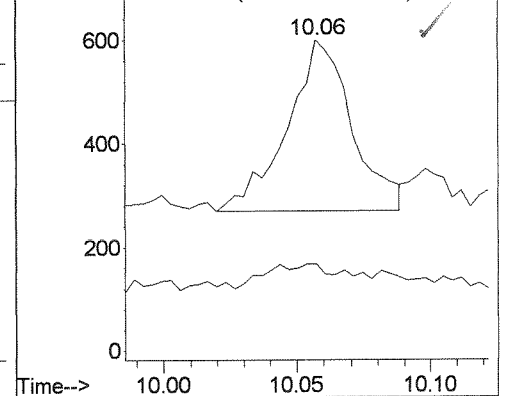


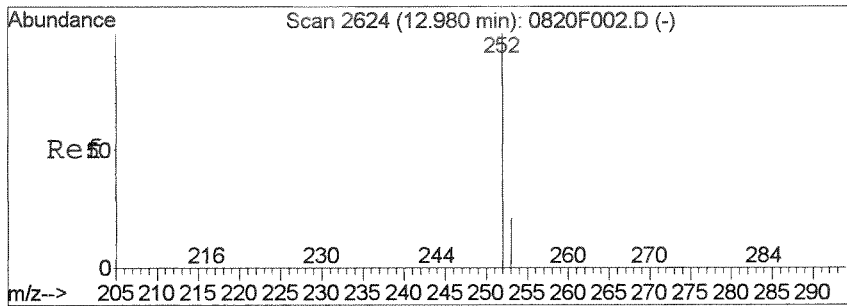
#25  
 Benz (a) anthracene  
 Concen: 0.59 ng/ml  
 RT: 10.06 min Scan# 1788  
 Delta R.T. 0.01 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	13.0	0.0	56.4



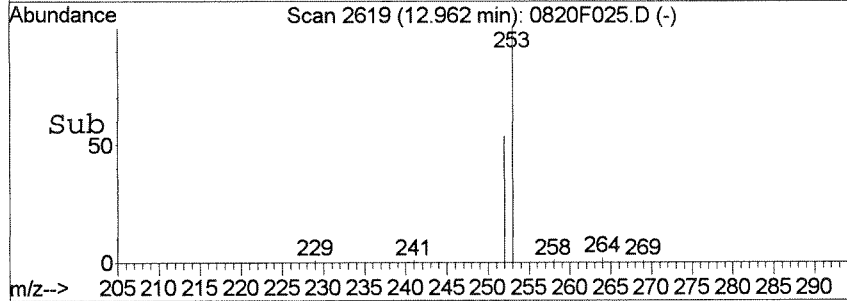
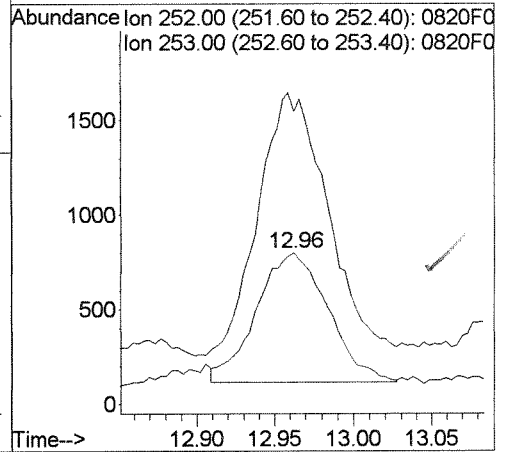
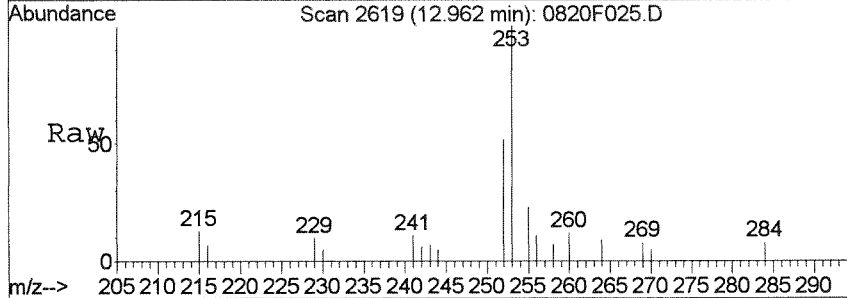
Abundance Ion 228.00 (227.60 to 228.40): 0820F0  
 Ion 226.00 (225.60 to 226.40): 0820F0





#31  
 Benzo(a)pyrene  
 Concen: 2.34 ng/ml m  
 RT: 12.96 min Scan# 2619  
 Delta R.T. -0.03 min  
 Lab File: 0820F025.D  
 Acq: 20 Aug 2014 8:06 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	193.4	0.0	52.2#



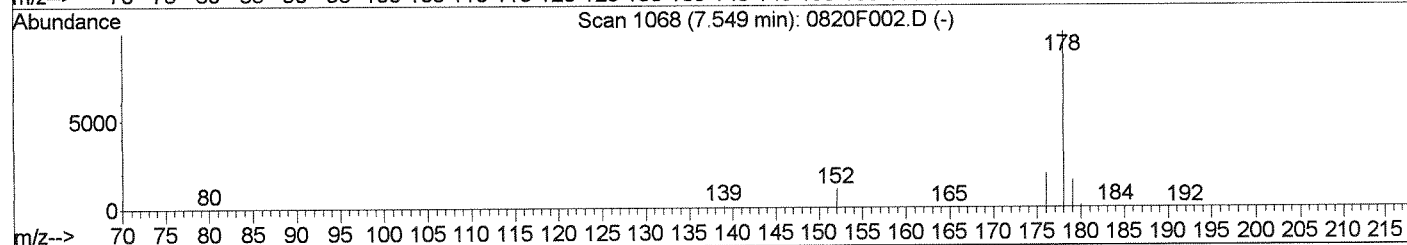
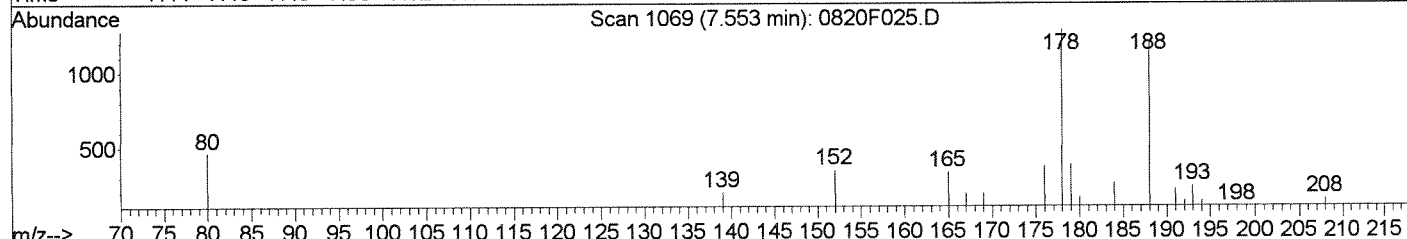
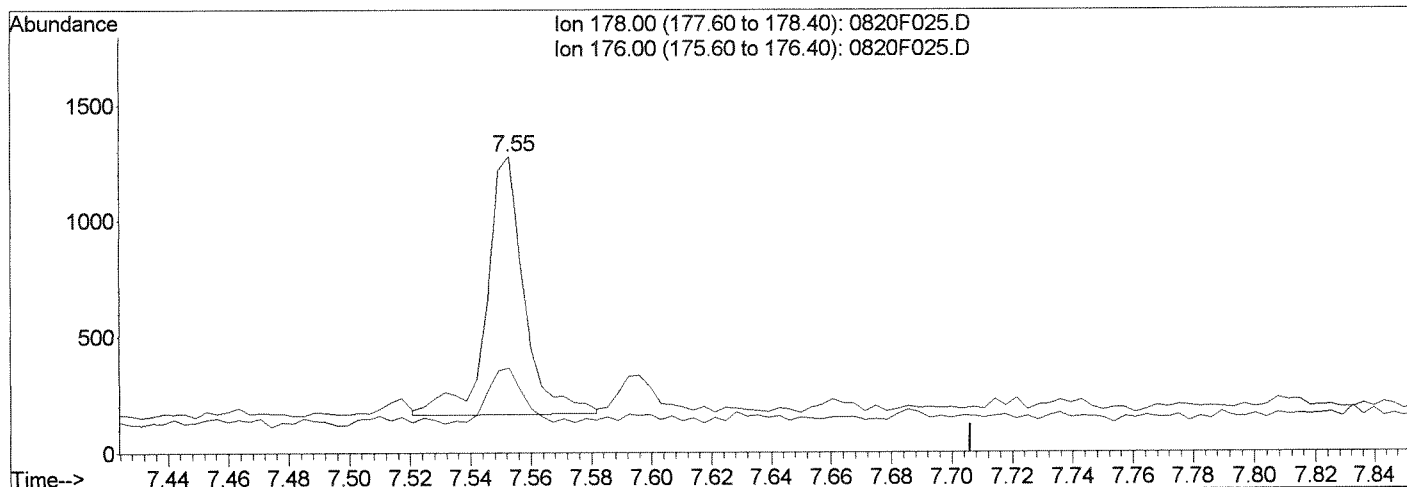
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:44 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(16) Phenanthrene (T)  
 7.55min 1.24ng/ml  
 response 963

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	21.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 Before  
 08/21/14

*CA*

*LB*

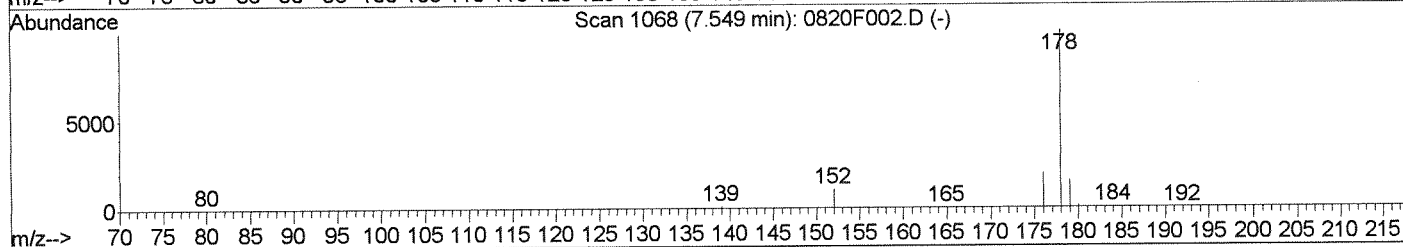
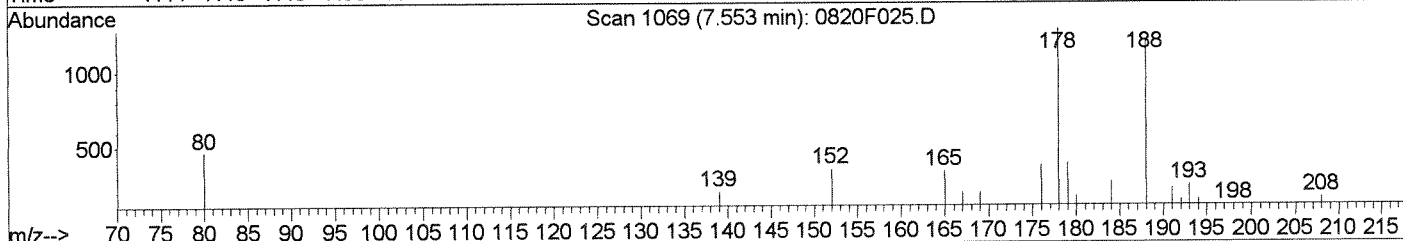
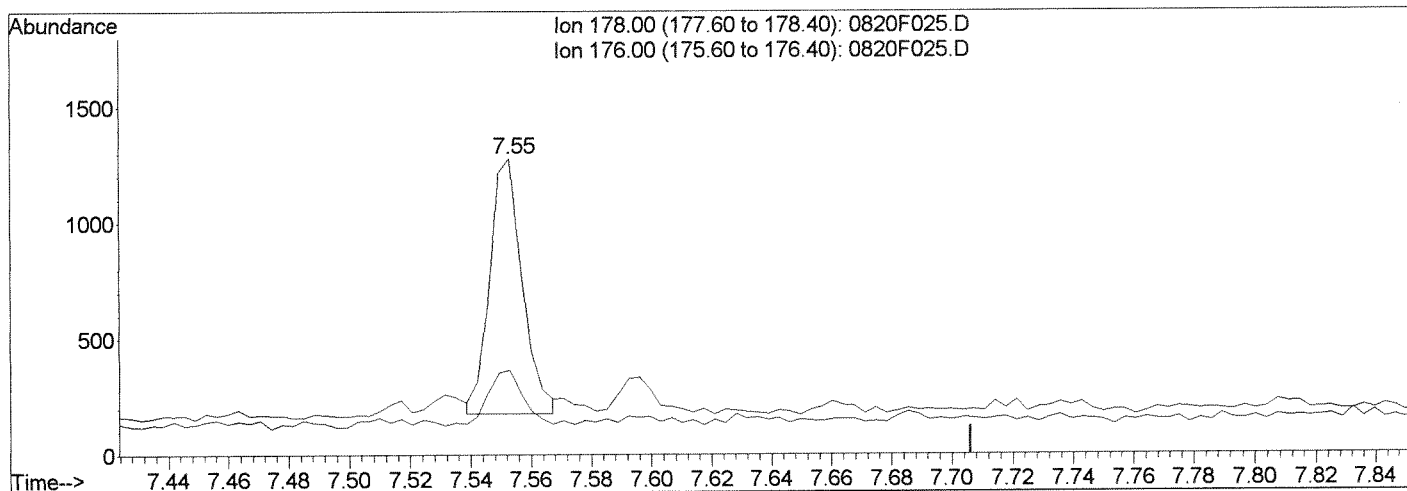
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:44 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F025.D

(16) Phenanthrene (T)

7.55min 1.07ng/ml m

response 831

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	28.59
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CAA*

*LB*

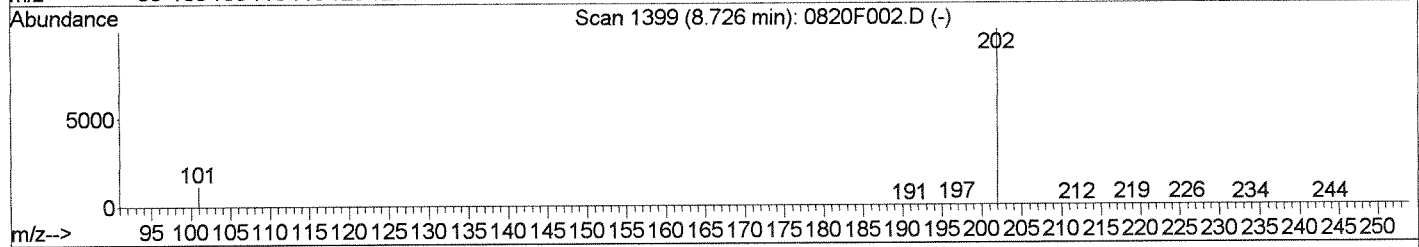
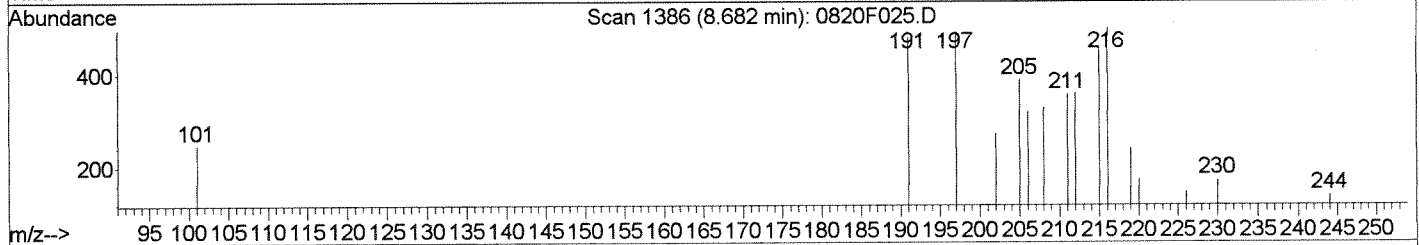
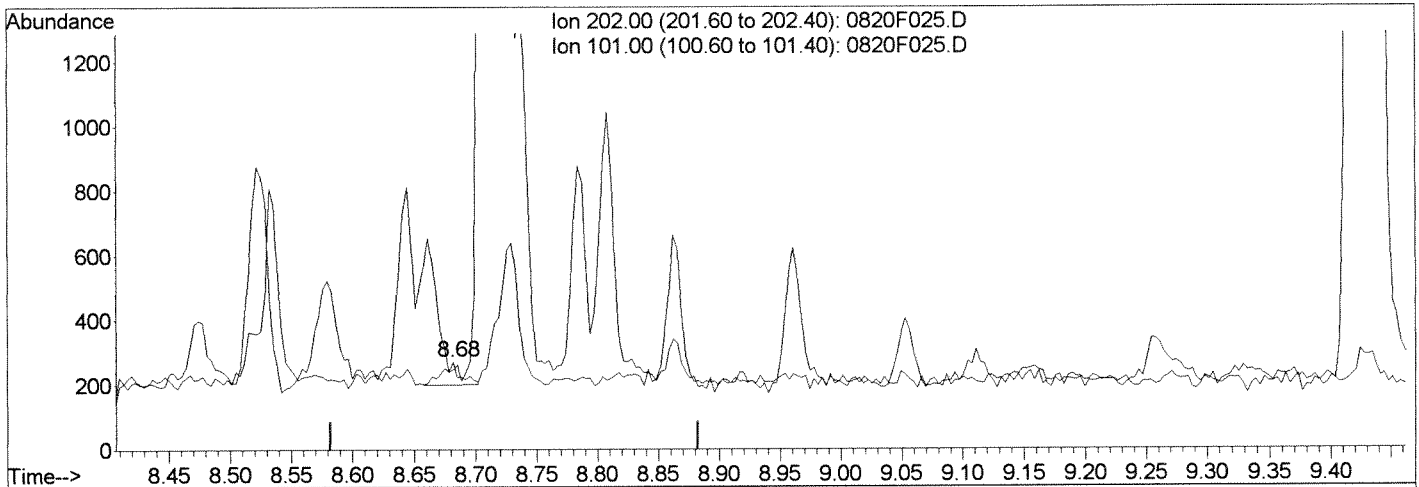
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:44 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMP.AH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(23) Pyrene (T)  
 8.68min 0.07ng/ml  
 response 74

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 Before

08/21/14

*UA*

*128*

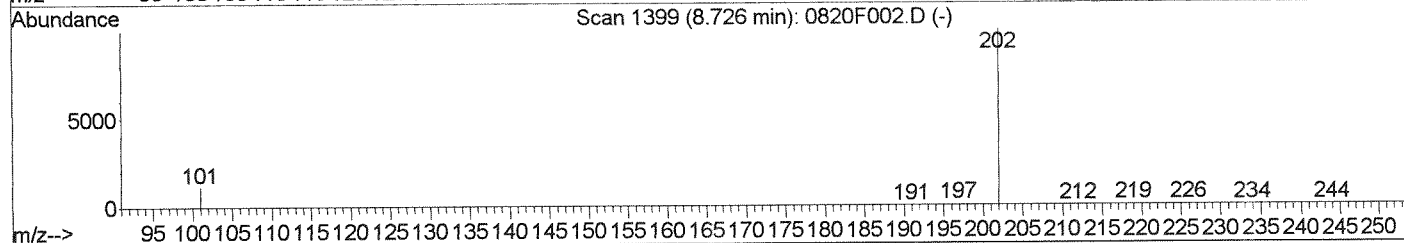
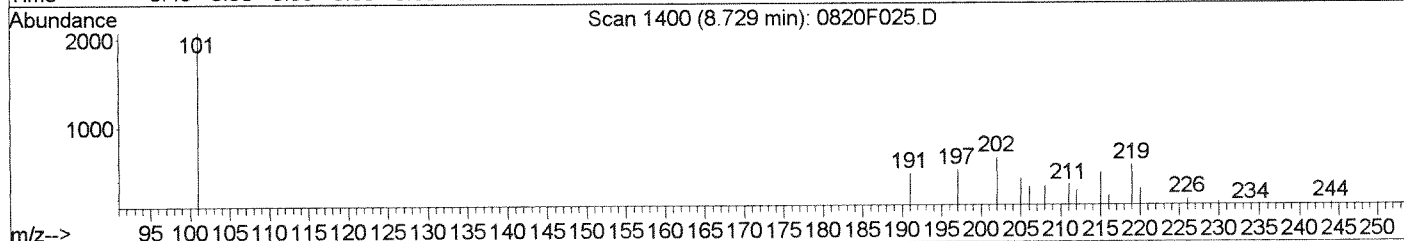
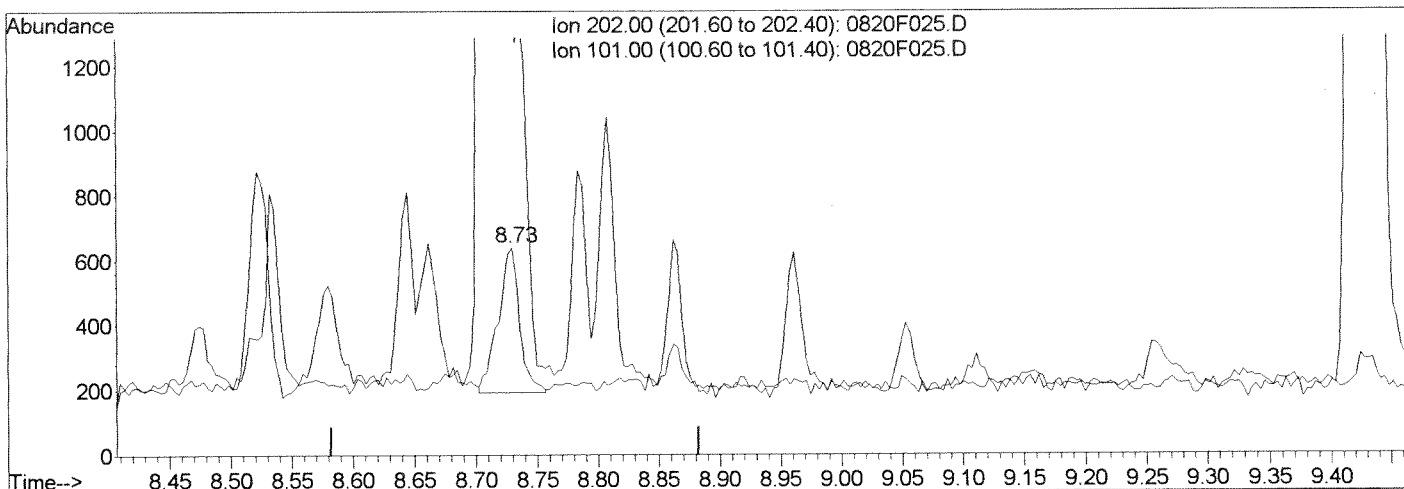
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:45 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F025.D

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	325.94#
0.00	0.00	0.00
0.00	0.00	0.00

(23) Pyrene (T)  
 8.73min 0.52ng/ml m  
 response 546

Manual Integration:  
 After  
 WP  
 08/21/14

*Handwritten notes:* CA, i, LB, 8/21/14, LB

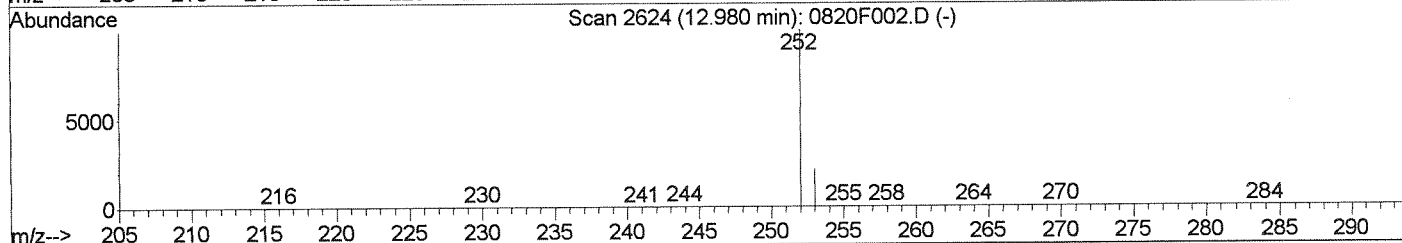
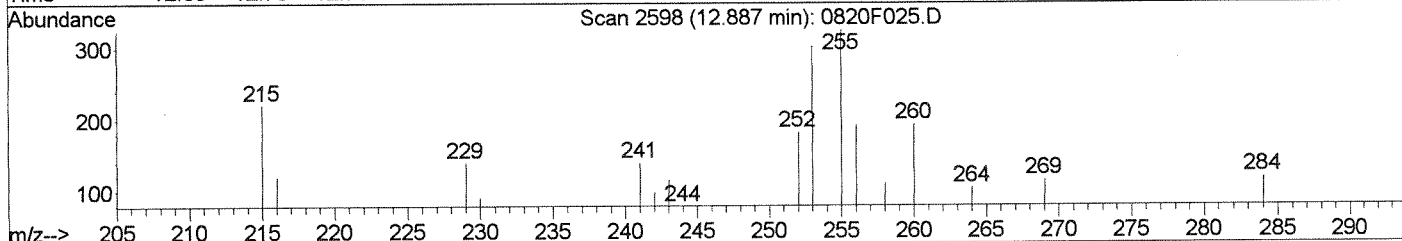
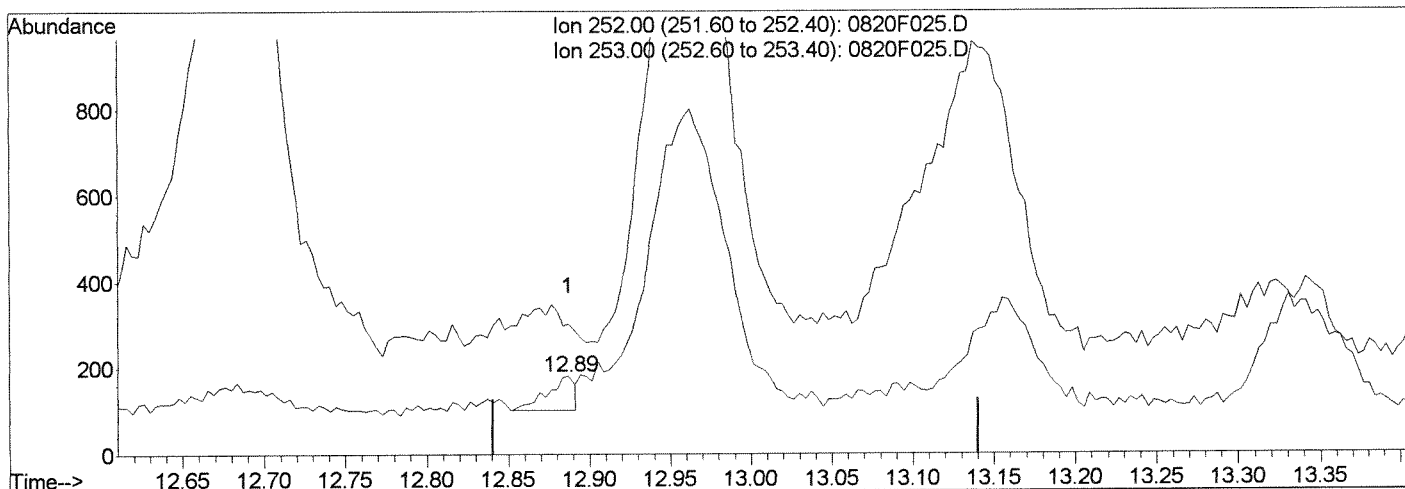
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:45 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(31) Benzo(a)pyrene (T)

12.89min 0.10ng/ml

response 95

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	18.99
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CHA*

*LAB*



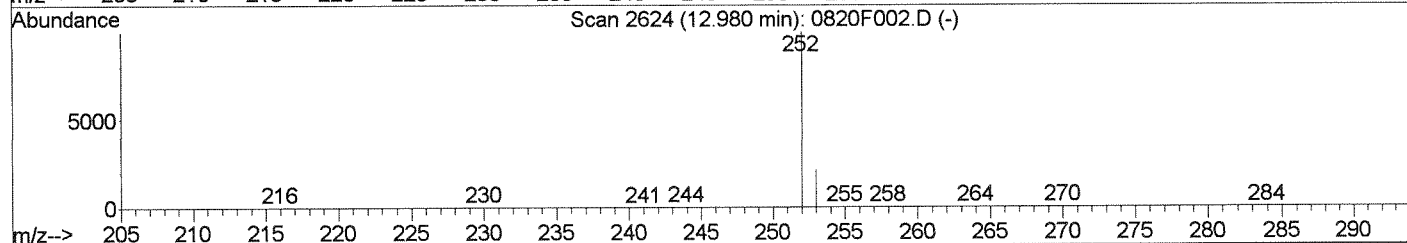
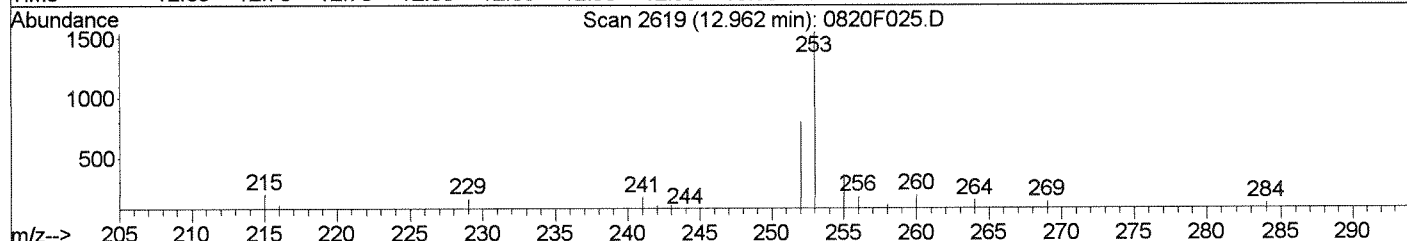
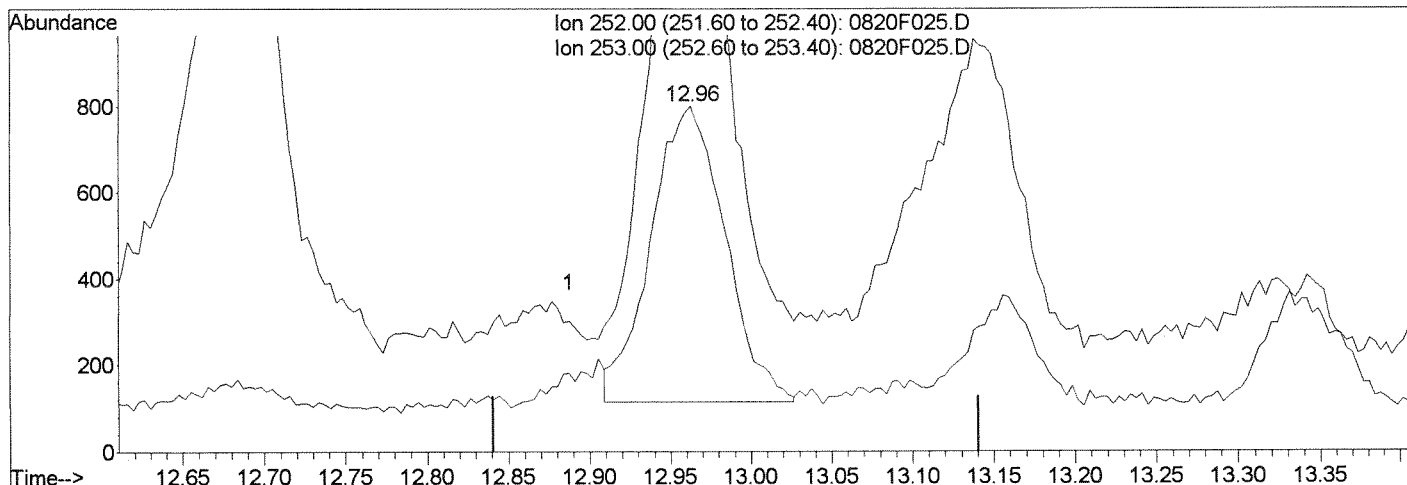
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F025.D  
 Acq On : 20 Aug 2014 8:06 pm  
 Sample : K1407971-017  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:45 2014

Vial: 25  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F025.D

(31) Benzo(a)pyrene (T)  
 12.96min 2.34ng/ml m  
 response 2189  

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	193.38#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 WP  
 08/21/14

*CA*

*LB*

## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F026.D  
**Lab ID:** K1407971-018  
**RunType:** SMPL  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 20:32  
**Date Quantitated:** 08/21/2014 09:48  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**ListJoinID:** LJ15942

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: CAA AUG 21 2014  
 Secondary Review: VB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F026.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 20:32	<b>Quant Date:</b> 08/21/2014 09:48
<b>Run Type:</b> SMPL	<b>Vial:</b> 26
<b>Lab ID:</b> K1407971-018	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b> V	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b> 07/25/2014	<b>Receive Date:</b> 07/30/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b> K1407971
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365425	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b> Polynuclear Aromatic Hydrocarbons	<b>Report List ID:</b> LJ15942
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Report List</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	132733	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	70999	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	136222	200.00	OK
4	Chrysene-d12	10.06	0.00	240	147582	200.00	OK
5	Perylene-d12	13.16	0.01	264	153205	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	71156	169.89	85	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	125161	163.17	82	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	103875	156.48	78	39-111	OK

## Target Compounds

Final Conc. Units: ug/Kg Dry Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	784	1.11	9.8	U	
1	2-Methylnaphthalene	5.37		0.00	142	374	0.7600	7.9	U	
1	1-Methylnaphthalene	5.46		0.00	142	244	0.5600	7.2	U	
2	Acenaphthylene				152	0d		3.1	U	
2	Acenaphthene	6.32	0.01	0.00	154	1011	2.45	16	J	
2	Fluorene	6.74	-0.01	0.00	166	645m	1.25	8.2	J	
3	Phenanthrene	7.55		0.00	178	888m	1.18	7.7	J	
3	Anthracene				178	0d		2.5	U	
3	Fluoranthene	8.54	0.01	0.00	202	691m	0.7900	5.2	J	
4	Pyrene	8.73		0.00	202	804m	0.7900	5.2	J	
4	Benz(a)anthracene	10.06	0.02	0.00	228	698	0.7700	5.0	J	
4	Chrysene	10.10		0.00	228	110m	0.1400	3.6	U	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 ? : Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File:	J:\MS14\DATA\082014\0820F026.D	Instrument:	MS14
Acqu Date:	08/20/2014 20:32	Quant Date:	08/21/2014 09:48
Run Type:	SMPL	Vial:	26
Lab ID:	K1407971-018	Dilution:	1.0
		Soln Conc. Units:	ng/ml

**Target Compounds**

						Final Conc. Units:	ug/Kg Dry Weight			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(b)fluoranthene				252	0d		4.4	U	
5	Benzo(k)fluoranthene				252	0d		3.8	U	
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	2440m	2.70	18	Ui	
5	Indeno(1,2,3-cd)pyrene				276	0d		6.3	U	
5	Dibenz(a,h)anthracene				278	0d		5.7	U	
5	Benzo(g,h,i)perylene				276	0d		6.2	U	

**Prep Amount:** 10.083 g      **Dilution:** 1.0  
**Prep Final Vol:** 10 ml      **Unit Factor:** 1  
**Solids:** 15.2 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:33 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.67	136	132733	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	70999	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	136222	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	147582	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	153205	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	71156	169.89	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.99%	
21) Fluoranthene-d10	8.52	212	125161	163.17	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.32%	
24) Terphenyl-d14	8.87	244	103875	156.48	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.65%	

Target Compounds

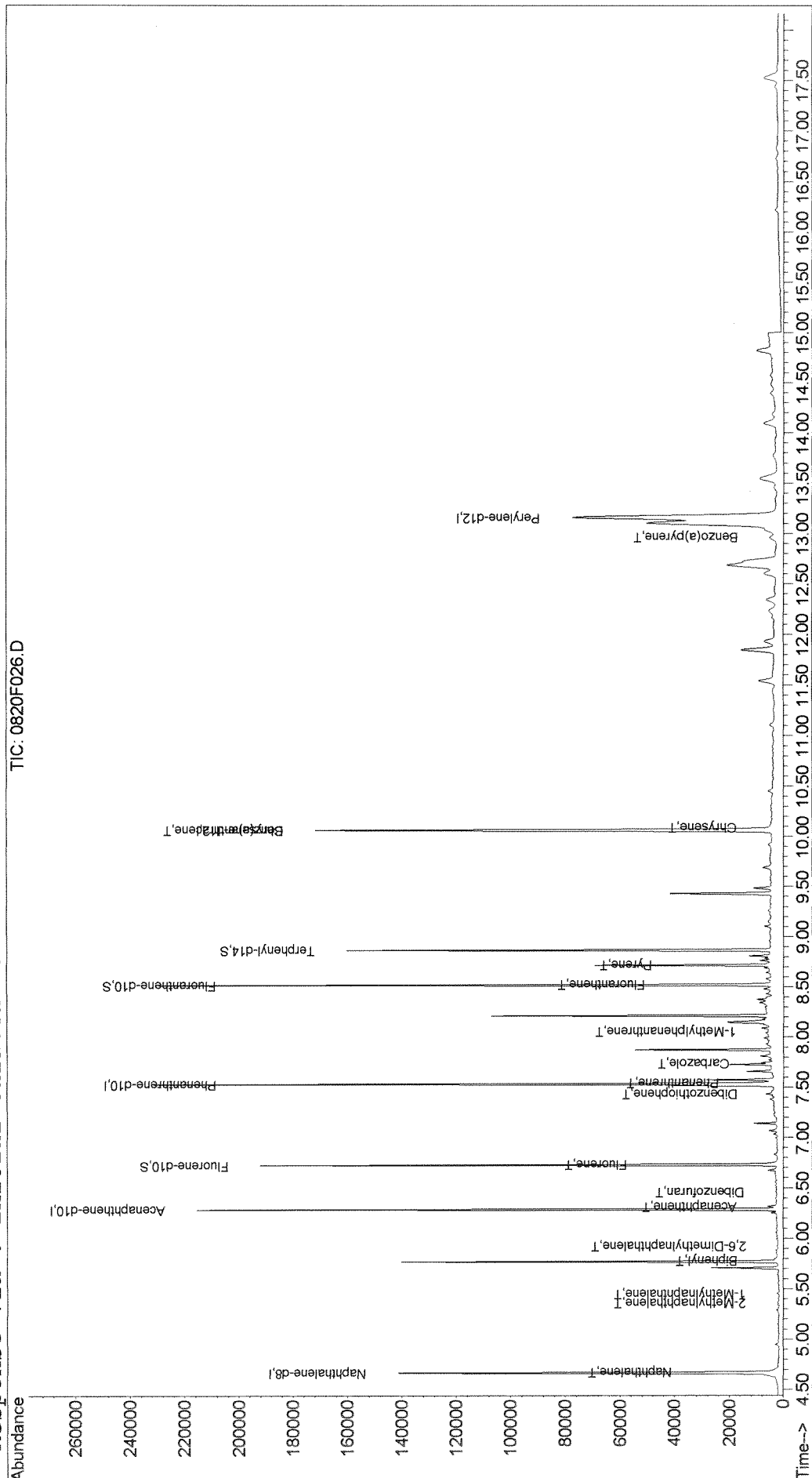
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	784	1.11	ng/ml	84
3) 2-Methylnaphthalene	5.37	142	374	0.76	ng/ml	95
4) 1-Methylnaphthalene	5.46	142	244	0.56	ng/ml	85
5) Biphenyl	5.79	154	278	0.48	ng/ml	87
6) 2,6-Dimethylnaphthalene	5.93	156	125	0.29	ng/ml	79
9) Acenaphthene	6.32	154	1011	2.45	ng/ml#	41
10) Dibenzofuran	6.46	168	199m	0.31	ng/ml	
13) Fluorene	6.74	166	645m	1.25	ng/ml	
15) Dibenzothiophene	7.45	184	109m	0.15	ng/ml	
16) Phenanthrene	7.55	178	888m	1.18	ng/ml	
18) Carbazole	7.74	167	220m	0.33	ng/ml	
19) 1-Methylphenanthrene	8.06	192	194	0.33	ng/ml	91
20) Fluoranthene	8.54	202	691m	0.79	ng/ml	
23) Pyrene	8.73	202	804m	0.79	ng/ml	
25) Benz(a)anthracene	10.06	228	698	0.77	ng/ml	70
26) Chrysene	10.10	228	110m	0.14	ng/ml	
31) Benzo(a)pyrene	12.97	252	2440m	2.70	ng/ml	

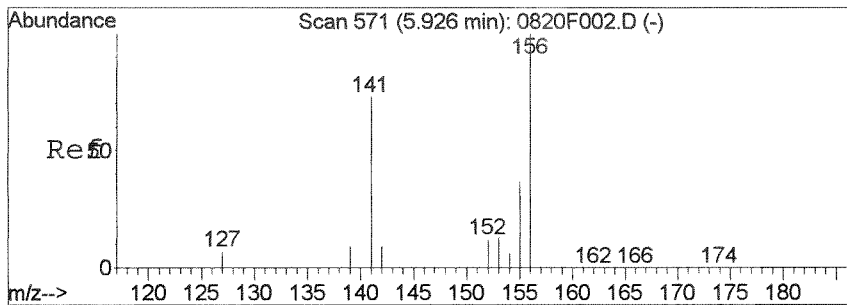
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:48 2014  
 Quant Results File: 072214SIMPAAH.RES

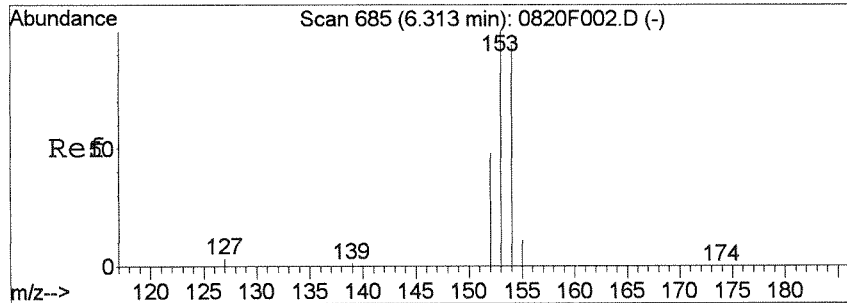
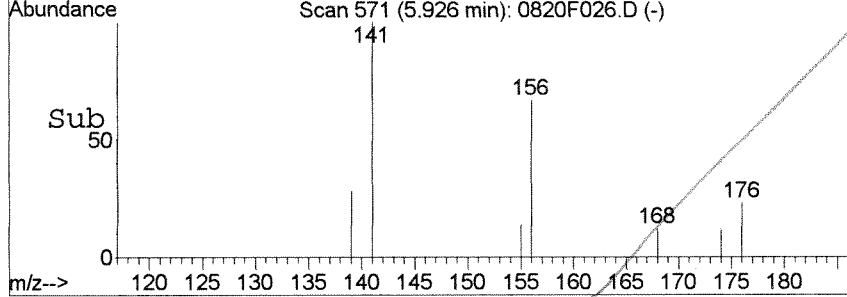
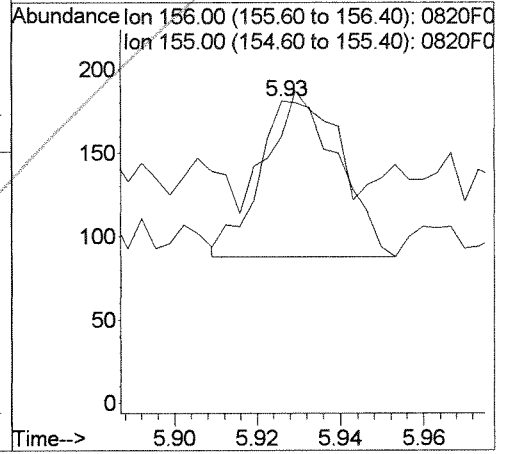
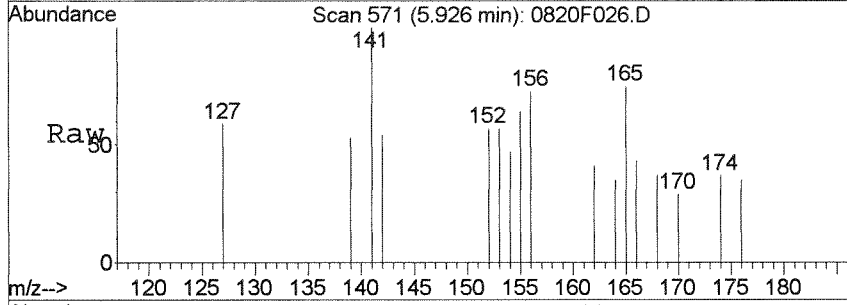
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration





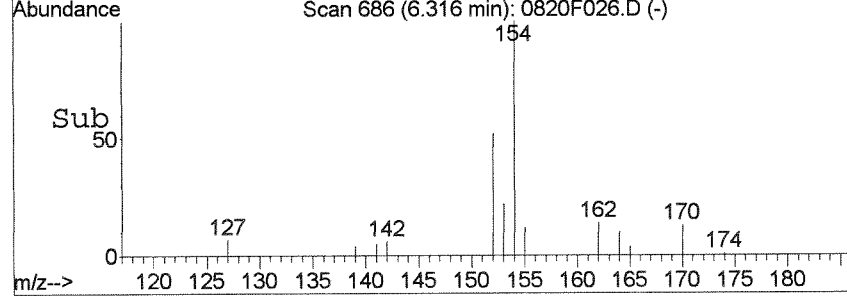
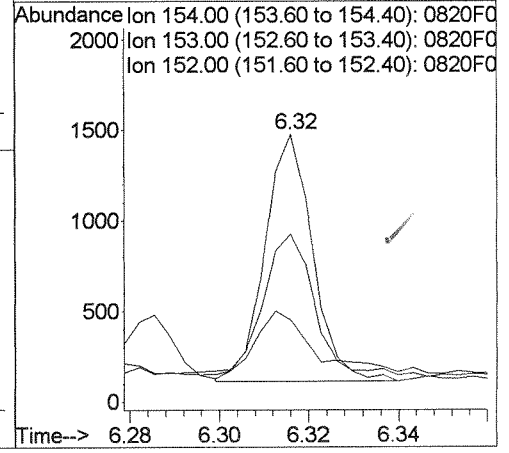
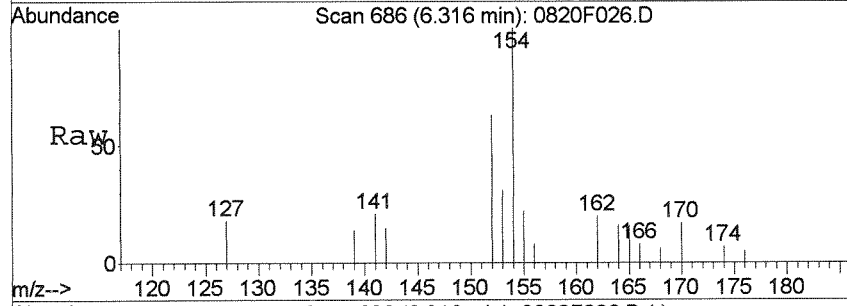
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.29 ng/ml  
 RT: 5.93 min Scan# 571  
 Delta R.T. -0.01 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

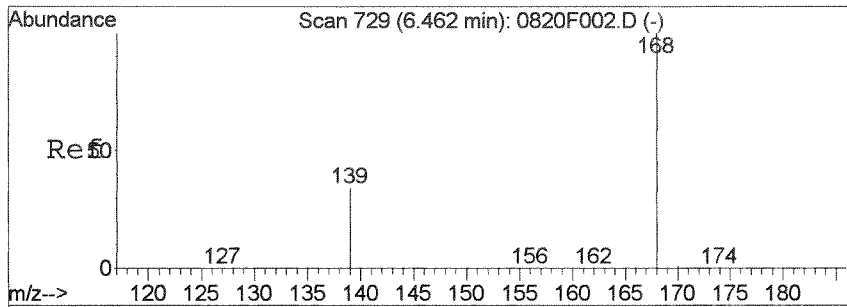
Tgt Ion	Resp	Lower	Upper
156	100		
155	22.6	4.9	64.9



#9  
 Acenaphthene  
 Concen: 2.45 ng/ml  
 RT: 6.32 min Scan# 686  
 Delta R.T. 0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

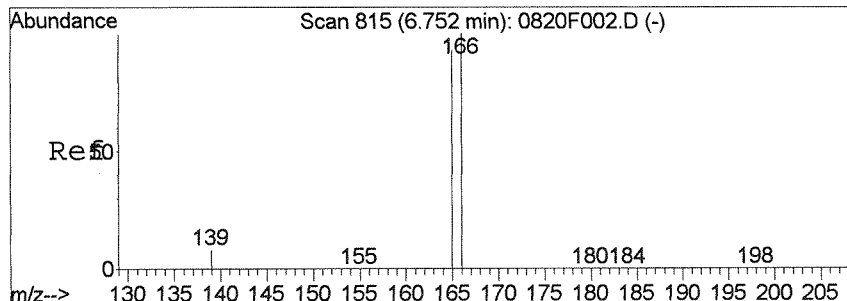
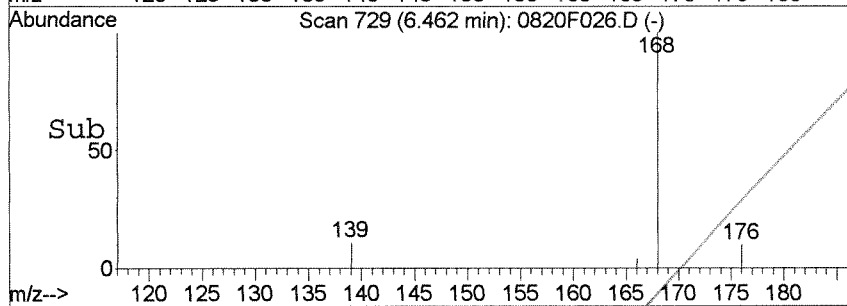
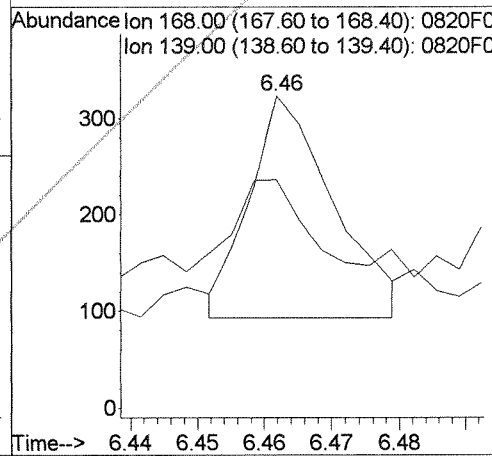
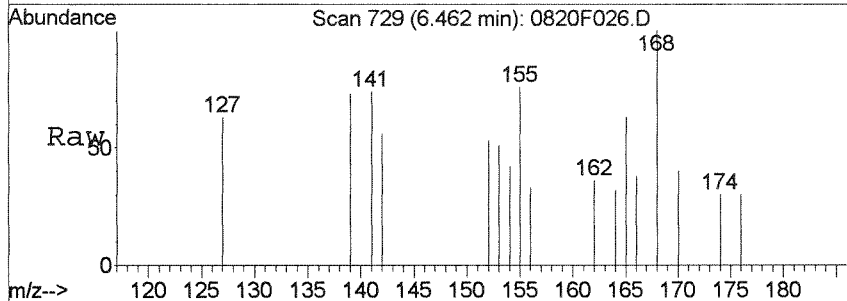
Tgt Ion	Resp	Lower	Upper
154	100		
153	22.1	72.5	132.5#
152	57.2	17.7	77.7





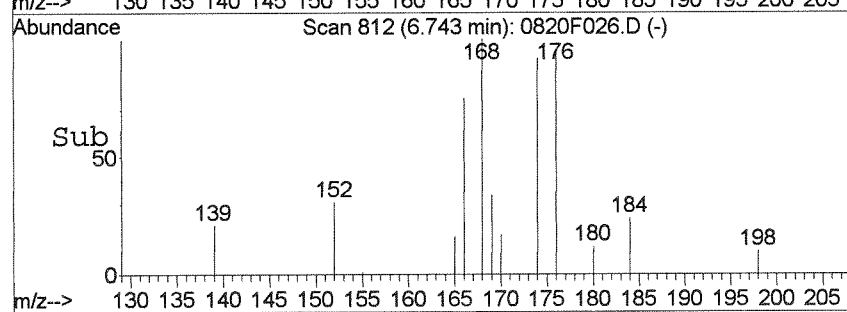
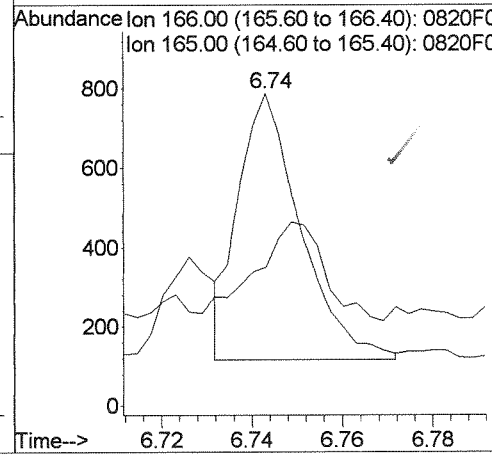
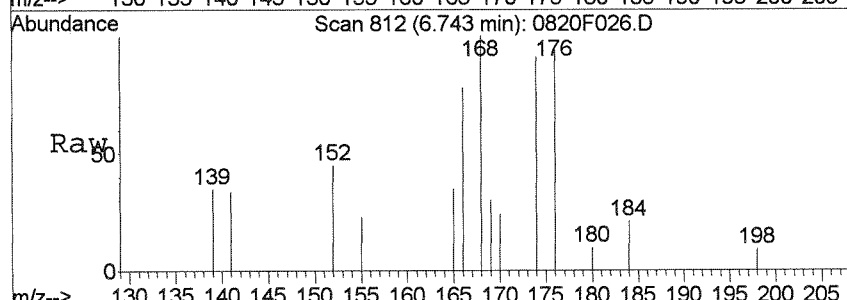
#10  
 Dibenzofuran  
 Concen: 0.31 ng/ml m  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

Tgt Ion	Ratio	Lower	Upper
168	100		
139	73.1	2.7	62.7#

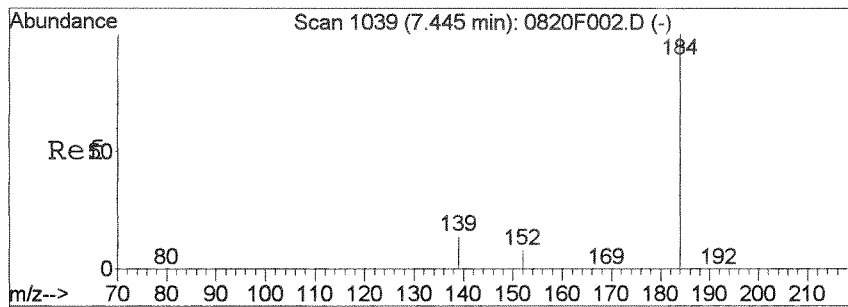


#13  
 Fluorene  
 Concen: 1.25 ng/ml m  
 RT: 6.74 min Scan# 812  
 Delta R.T. -0.01 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

Tgt Ion	Ratio	Lower	Upper
166	100		
165	44.5	60.9	120.9#

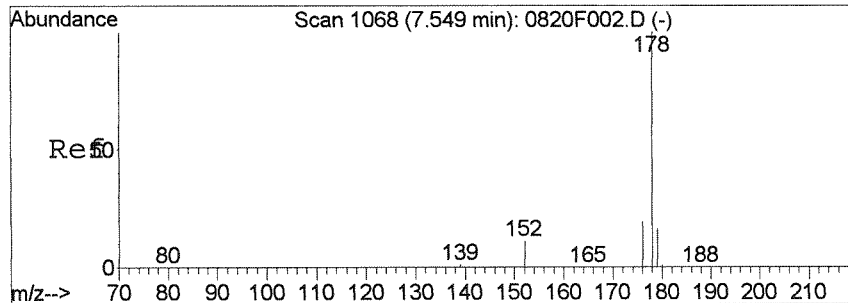
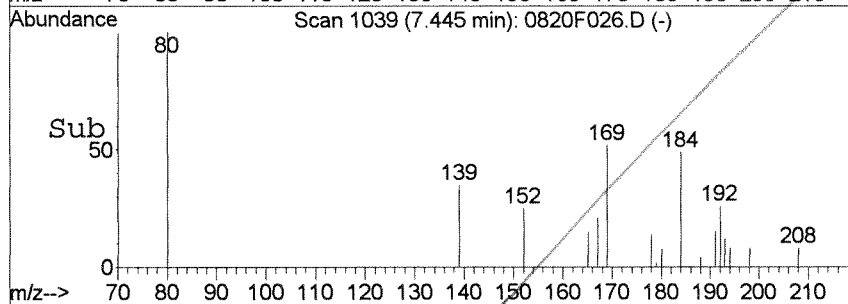
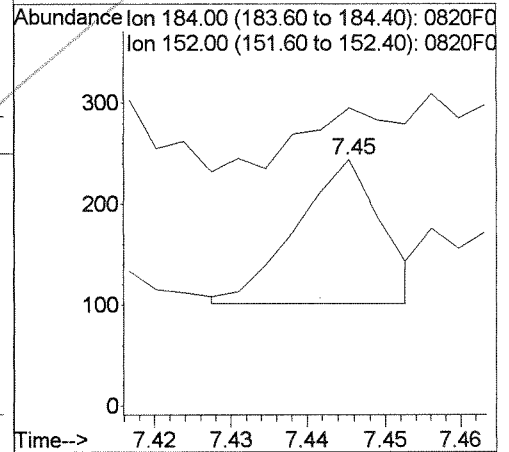
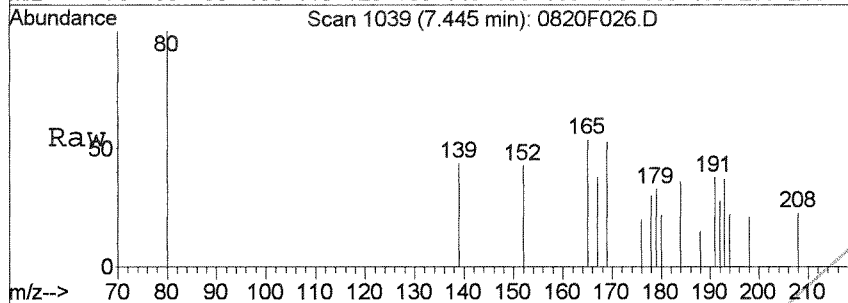






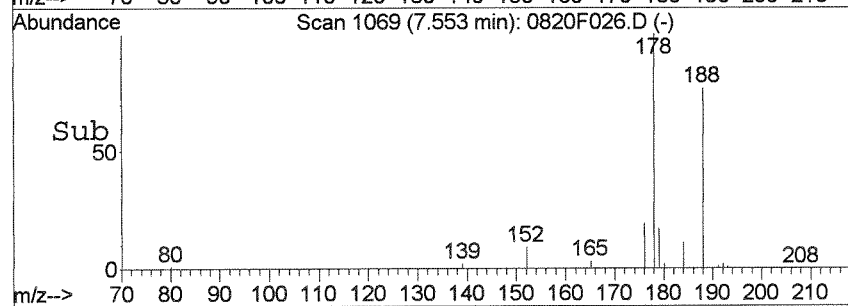
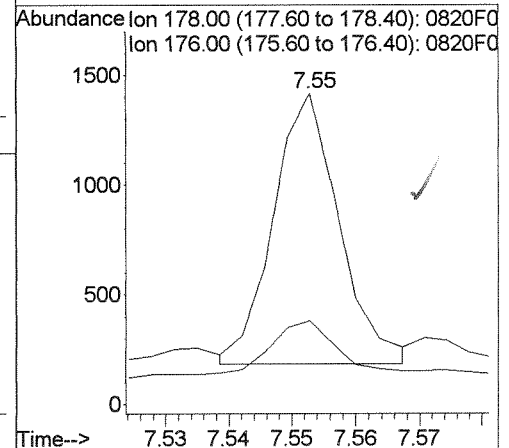
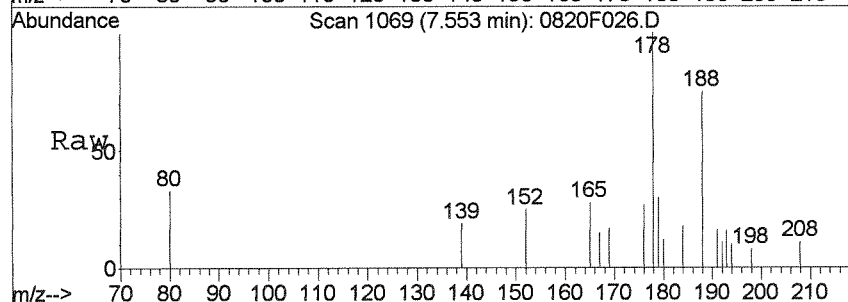
#15  
 Dibenzothiophene  
 Concen: 0.15 ng/ml m  
 RT: 7.45 min Scan# 1039  
 Delta R.T. -0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

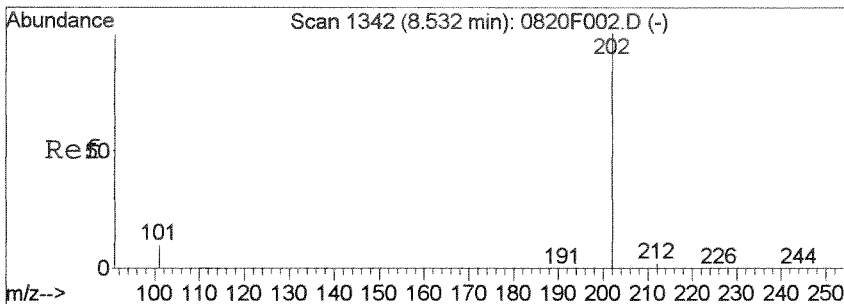
Tgt Ion:184 Resp: 109  
 Ion Ratio Lower Upper  
 184 100  
 152 120.9 0.0 39.9#



#16  
 Phenanthrene  
 Concen: 1.18 ng/ml m  
 RT: 7.55 min Scan# 1069  
 Delta R.T. -0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

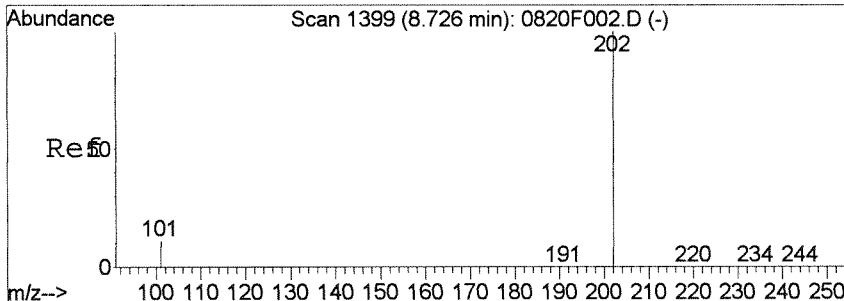
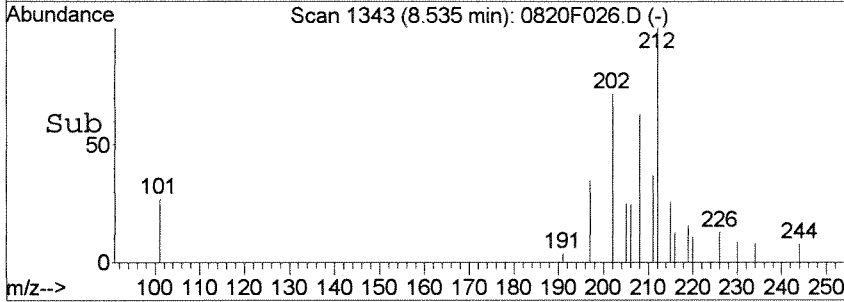
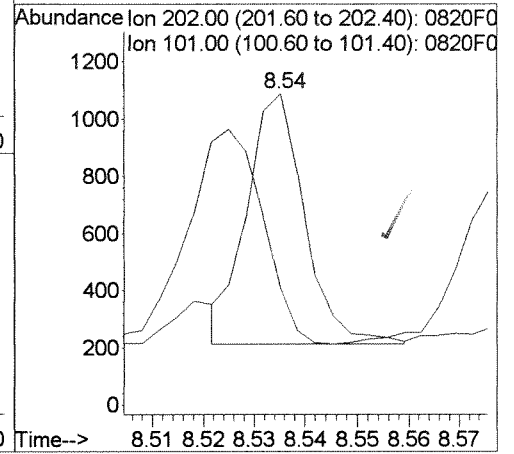
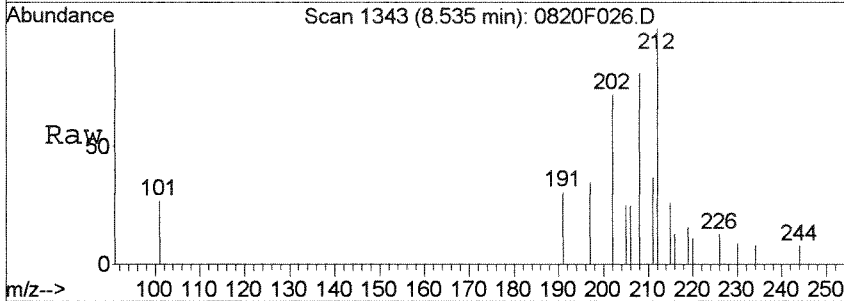
Tgt Ion:178 Resp: 888  
 Ion Ratio Lower Upper  
 178 100  
 176 26.8 0.0 48.9





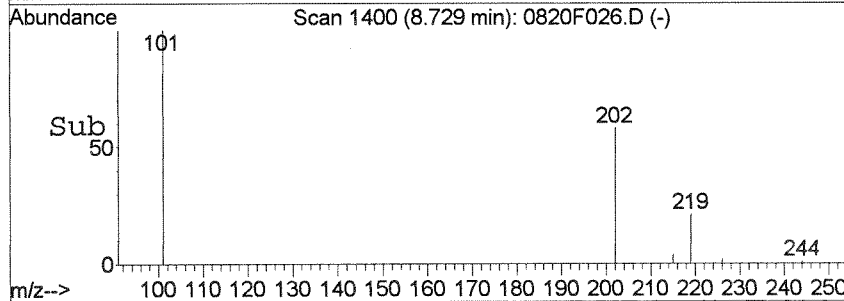
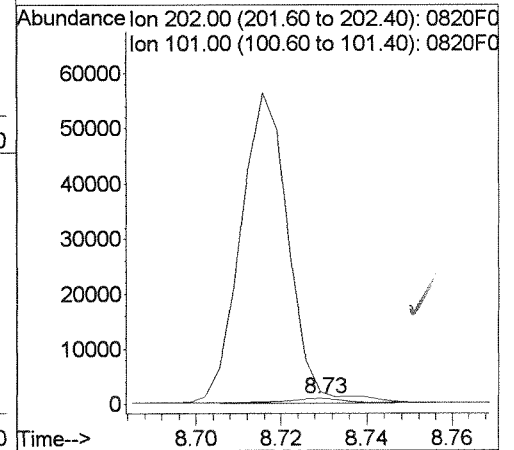
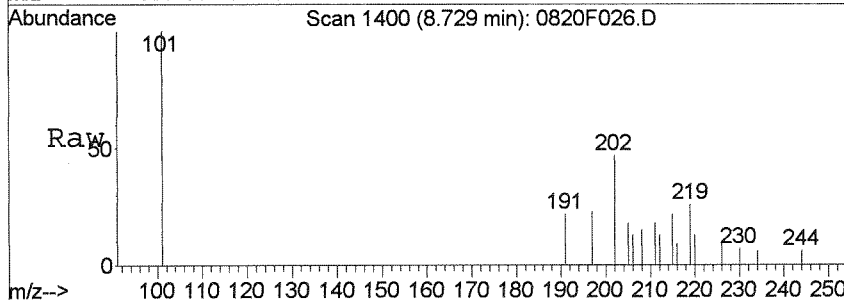
#20  
 Fluoranthene  
 Concen: 0.79 ng/ml m  
 RT: 8.54 min Scan# 1343  
 Delta R.T. -0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

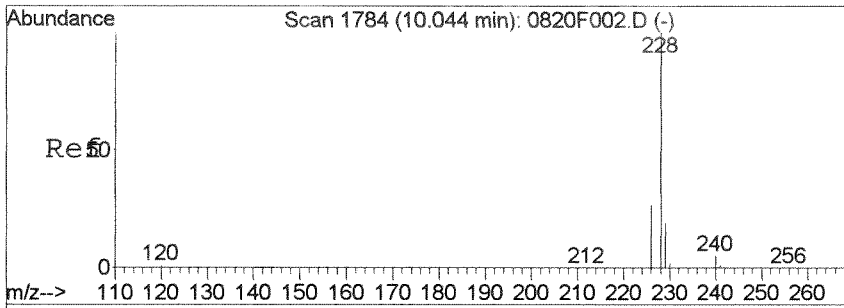
Tgt Ion	Ratio	Lower	Upper
202	100		
101	37.4	0.0	37.0#



#23  
 Pyrene  
 Concen: 0.79 ng/ml m  
 RT: 8.73 min Scan# 1400  
 Delta R.T. -0.00 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

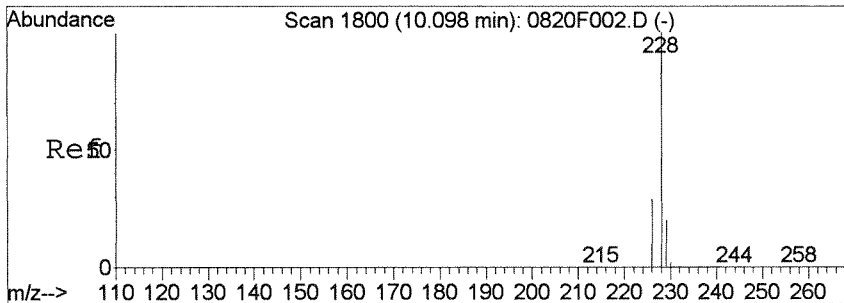
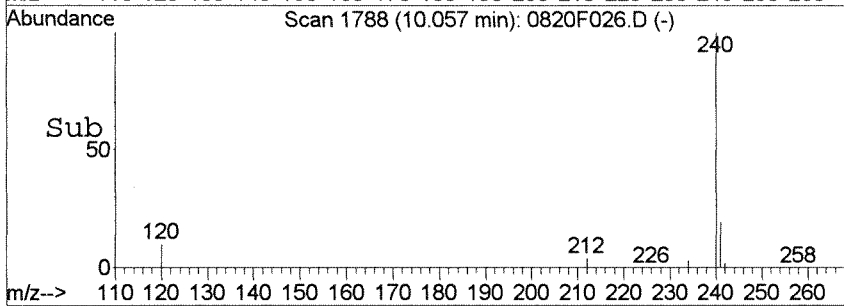
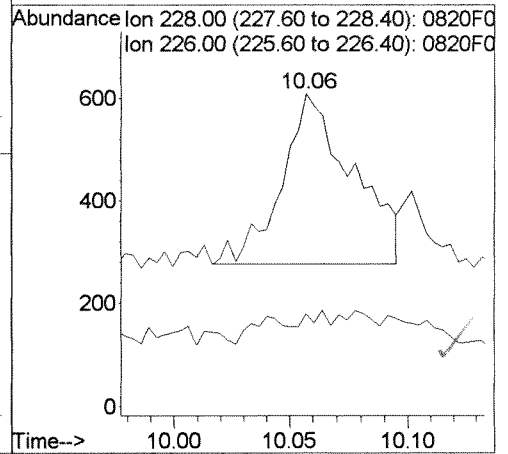
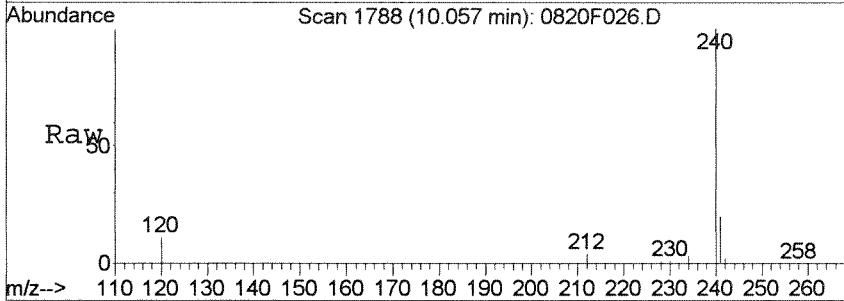
Tgt Ion	Ratio	Lower	Upper
202	100		
101	211.5	0.0	38.3#





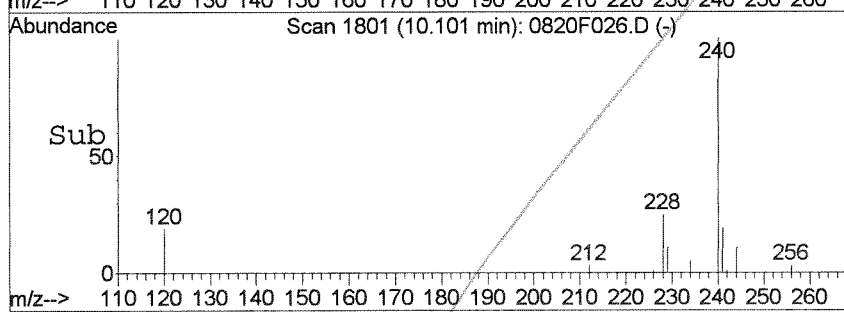
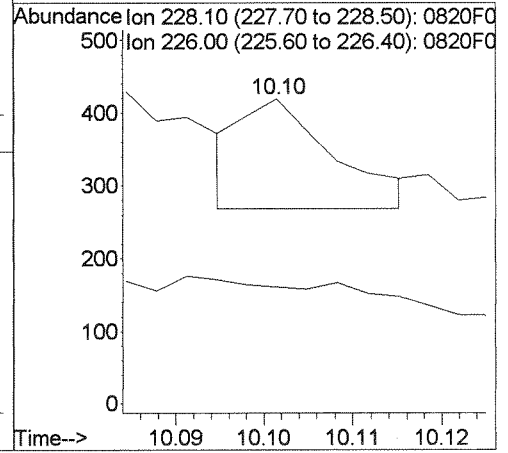
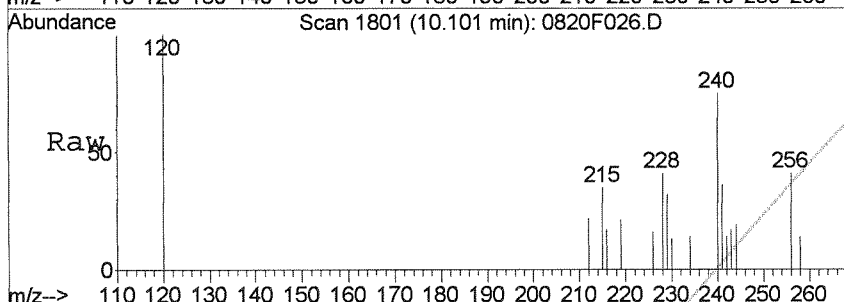
#25  
Benz (a) anthracene  
Concen: 0.77 ng/ml  
RT: 10.06 min Scan# 1788  
Delta R.T. 0.01 min  
Lab File: 0820F026.D  
Acq: 20 Aug 2014 8:32 pm

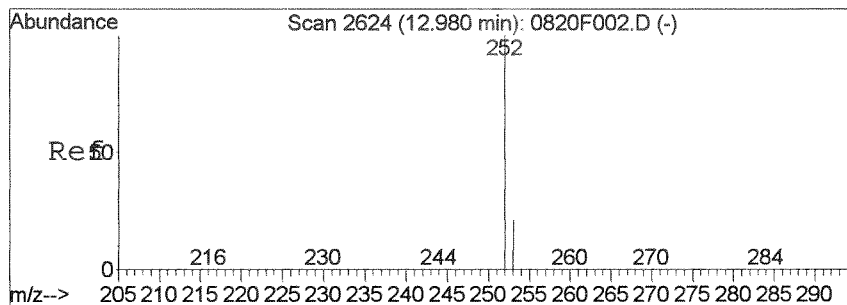
Tgt Ion	Resp	Lower	Upper
228	698	100	
226	10.8	0.0	56.4



#26  
Chrysene  
Concen: 0.14 ng/ml m  
RT: 10.10 min Scan# 1801  
Delta R.T. 0.00 min  
Lab File: 0820F026.D  
Acq: 20 Aug 2014 8:32 pm

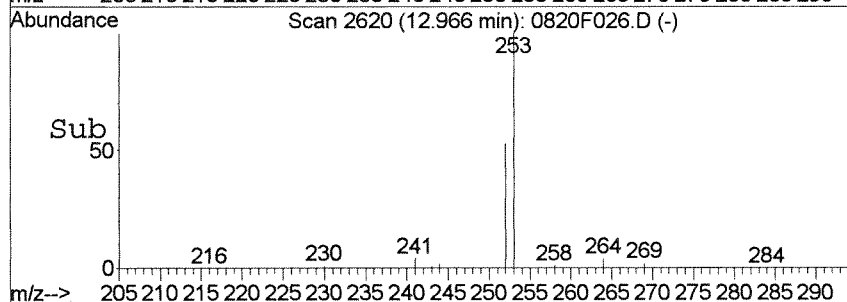
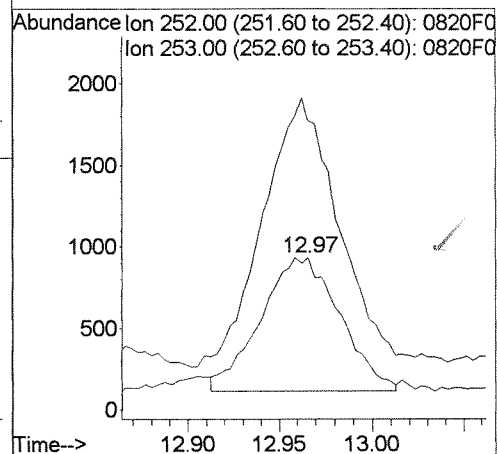
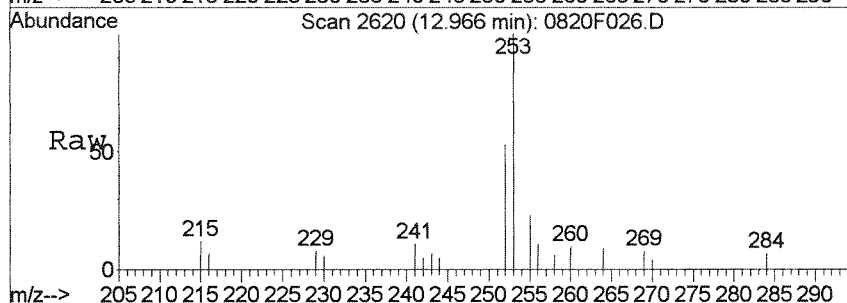
Tgt Ion	Resp	Lower	Upper
228	110	100	
226	38.4	0.0	58.6





#31  
 Benzo (a) pyrene  
 Concen: 2.70 ng/ml m  
 RT: 12.97 min Scan# 2620  
 Delta R.T. -0.02 min  
 Lab File: 0820F026.D  
 Acq: 20 Aug 2014 8:32 pm

Tgt Ion: 252 Resp: 2440  
 Ion Ratio Lower Upper  
 252 100  
 253 190.2 0.0 52.2#



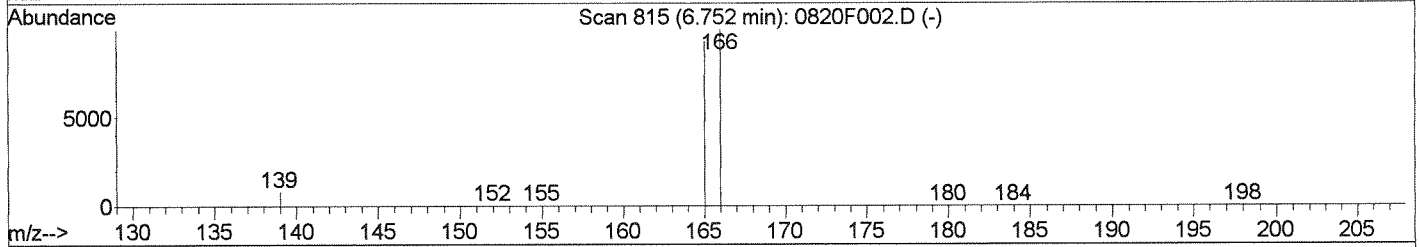
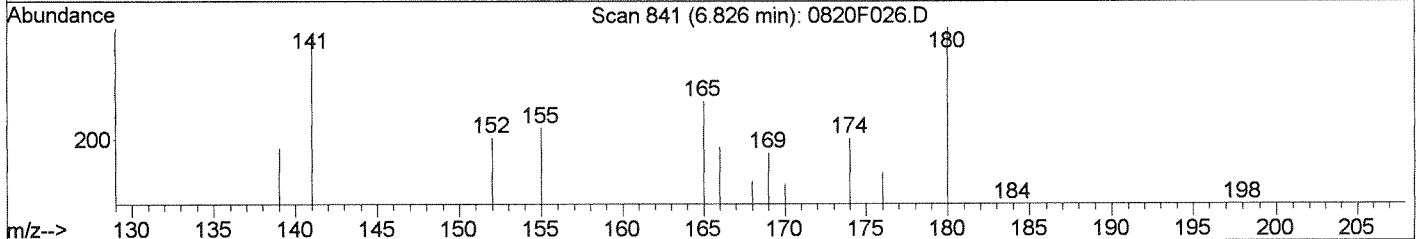
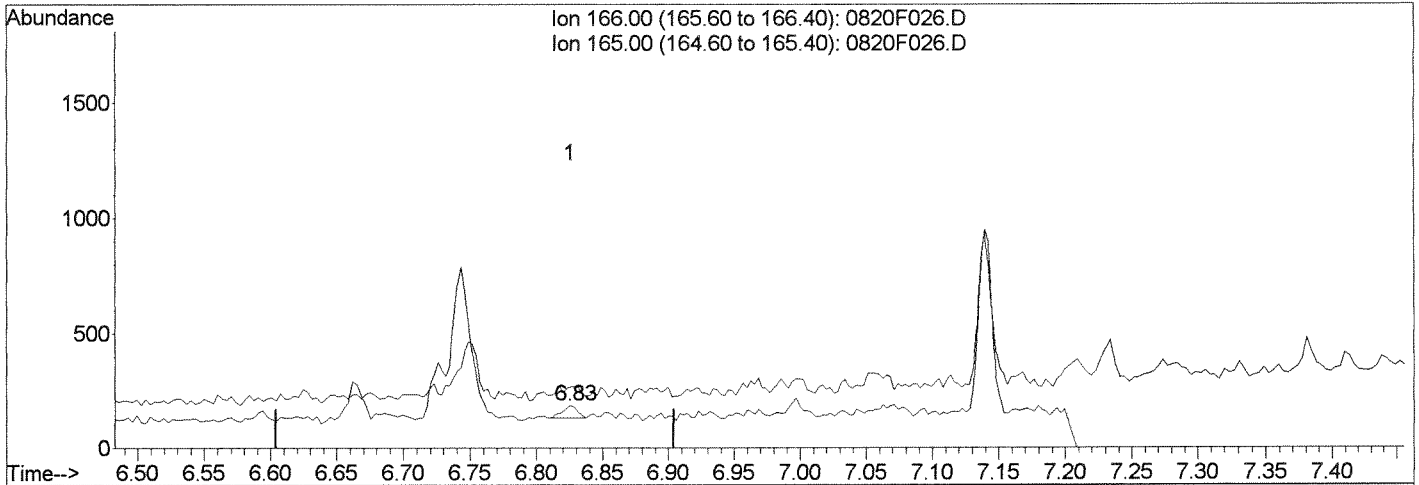
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:46 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

Ion	Exp%	Act%
166.00	100	100
165.00	90.90	71.43
0.00	0.00	0.00
0.00	0.00	0.00

(13) Fluorene (T)  
 6.83min 0.09ng/ml  
 response 46

Manual Integration:  
 Before  
 08/21/14

LAB

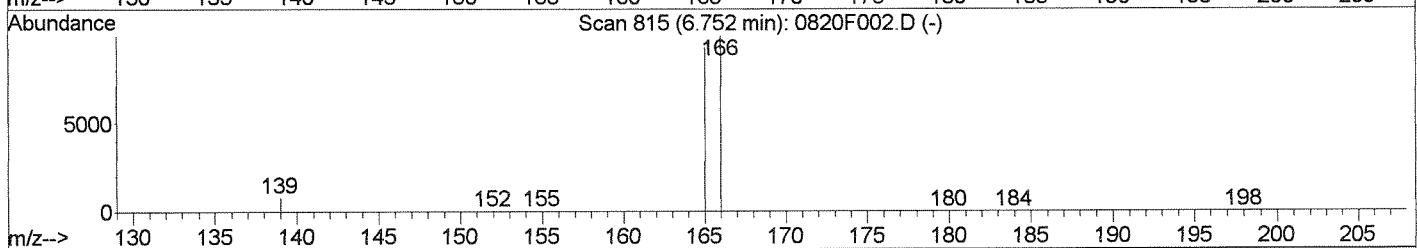
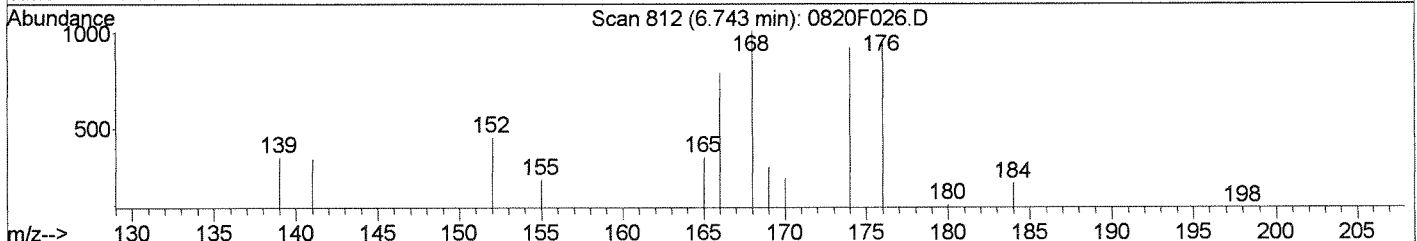
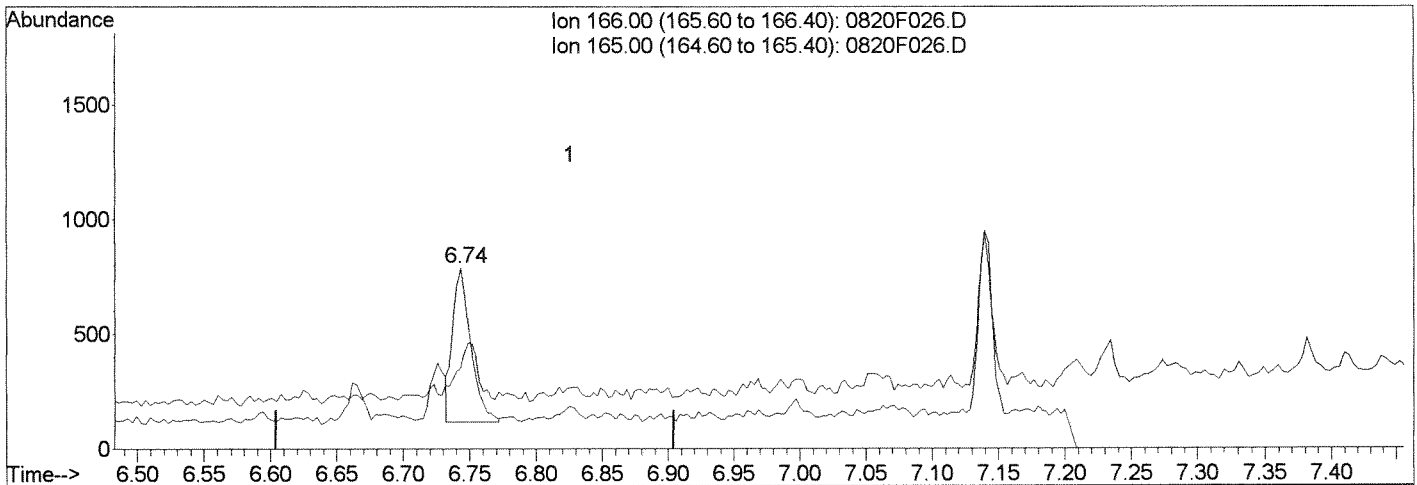
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:46 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

(13) Fluorene (T)

6.74min 1.25ng/ml m

response 645

Ion	Exp%	Act%
166.00	100	100
165.00	90.90	44.54#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten notes:*  
 CA  
 i LB  
 8/21/14  
 LB

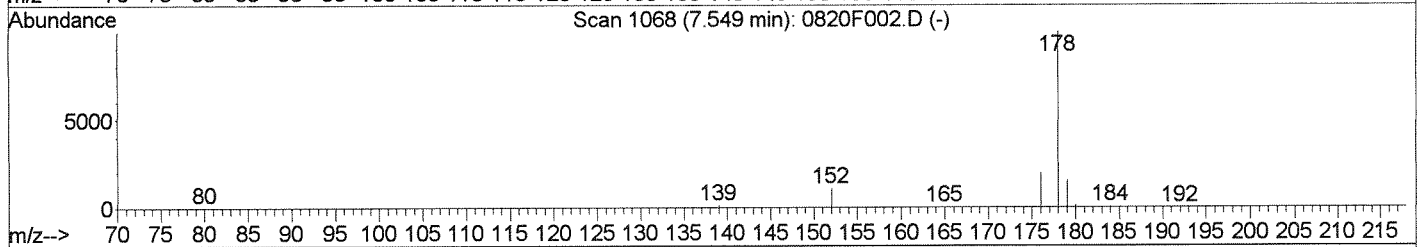
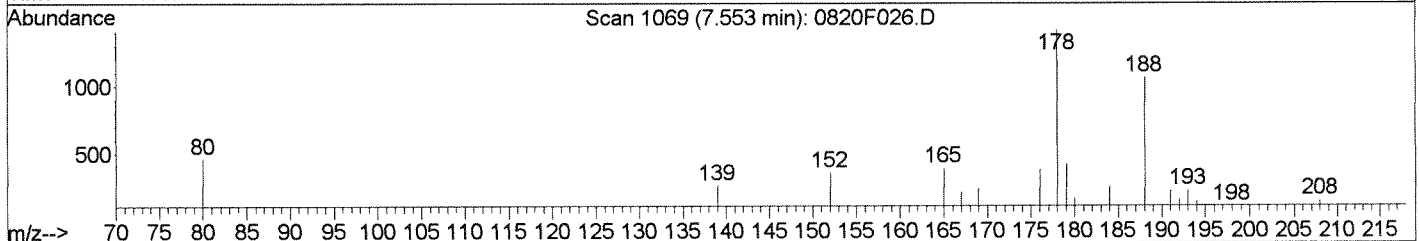
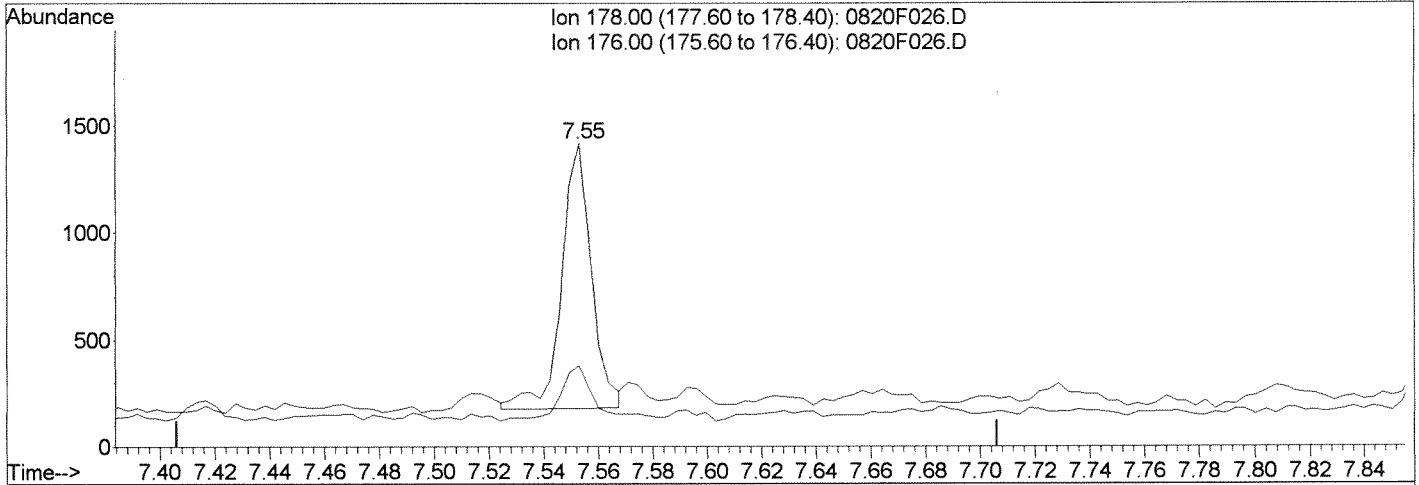
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:46 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

(16) Phenanthrene (T)	Manual Integration:	
7.55min 1.26ng/ml	Before	
response 945	08/21/14	
Ion	Exp%	Act%
178.00	100	100
176.00	18.90	21.29
0.00	0.00	0.00
0.00	0.00	0.00

UA  
LB

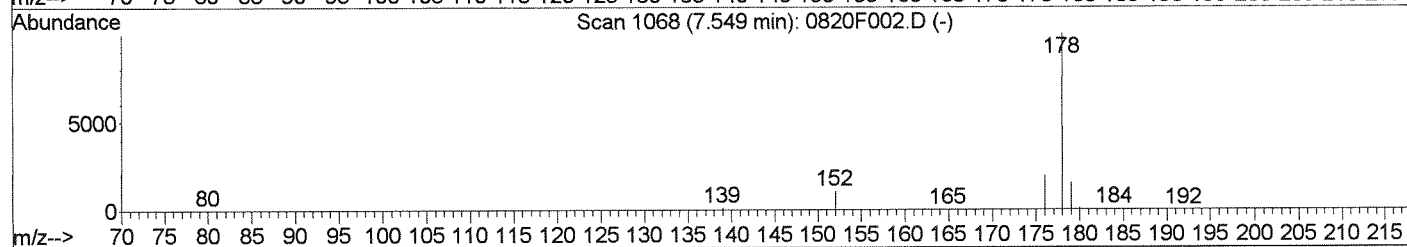
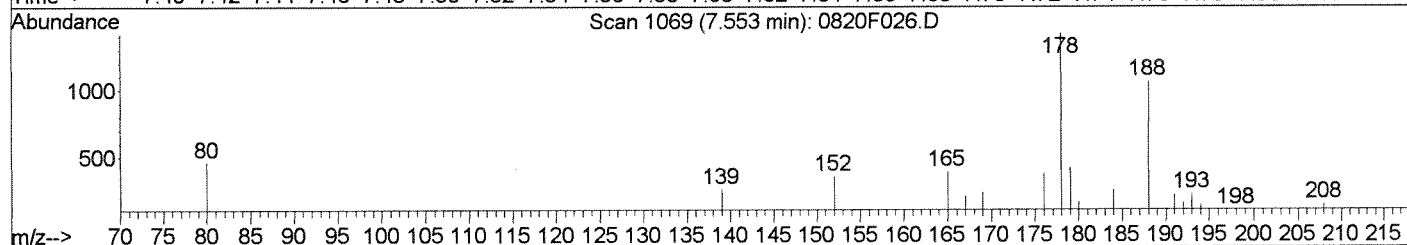
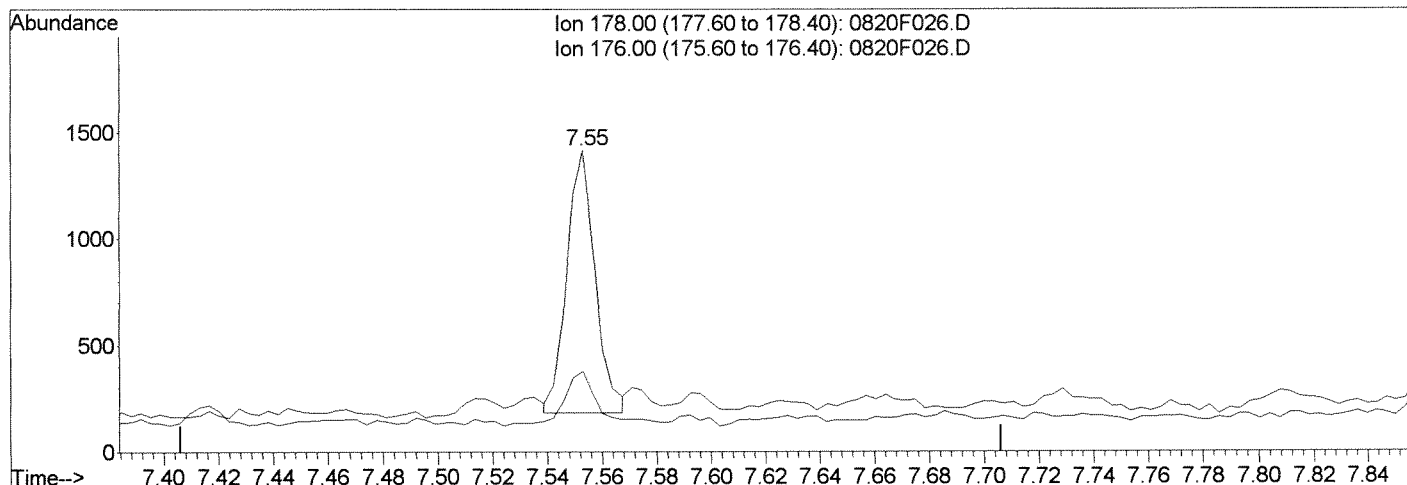
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:46 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

(16) Phenanthrene (T)

7.55min 1.18ng/ml m

response 888

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	26.80
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

*LB*



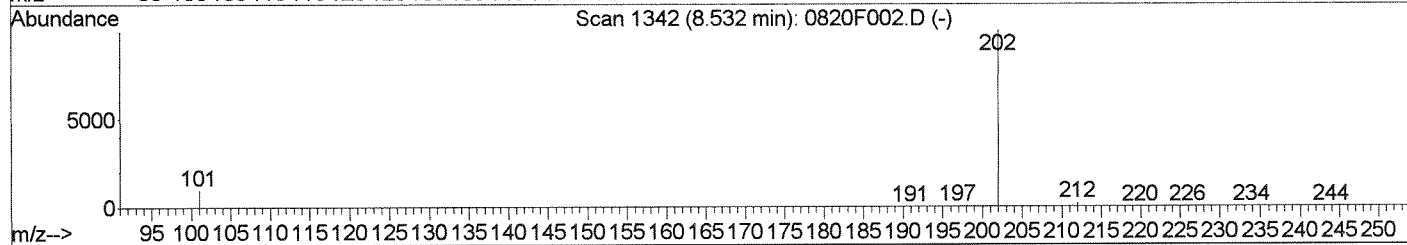
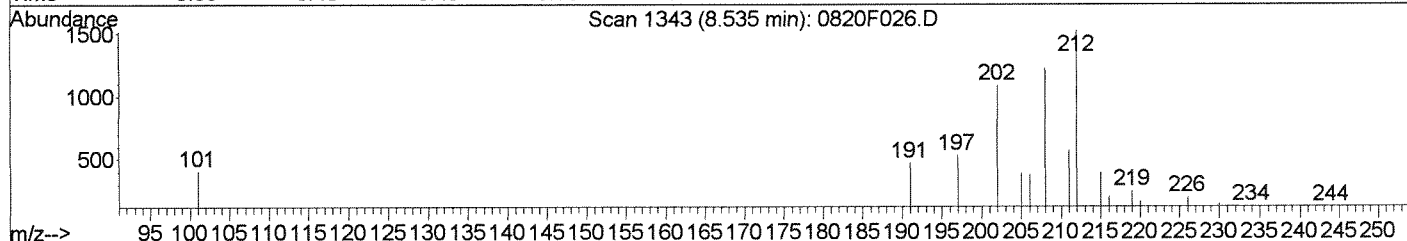
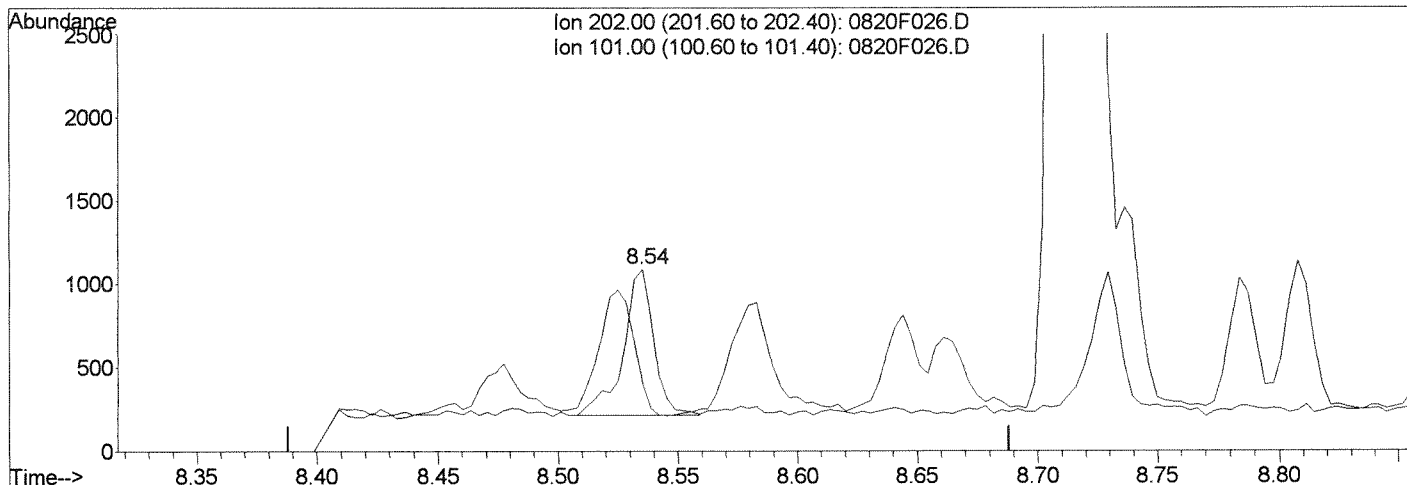
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:46 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

(20) Fluoranthene (T)

8.54min 0.88ng/ml

response 774

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	17.83
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*123*

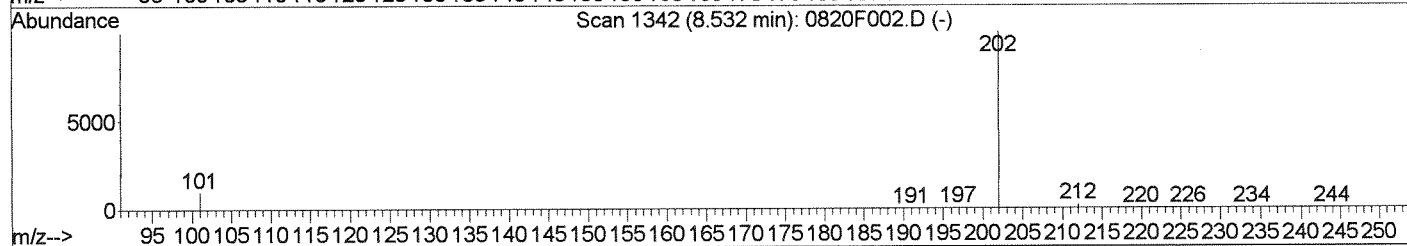
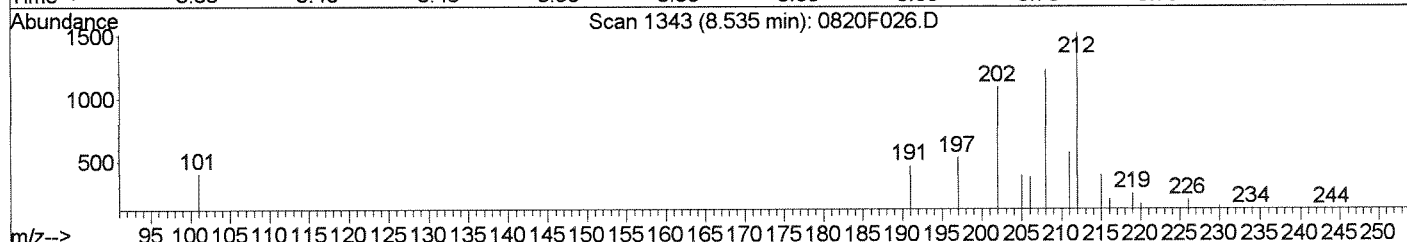
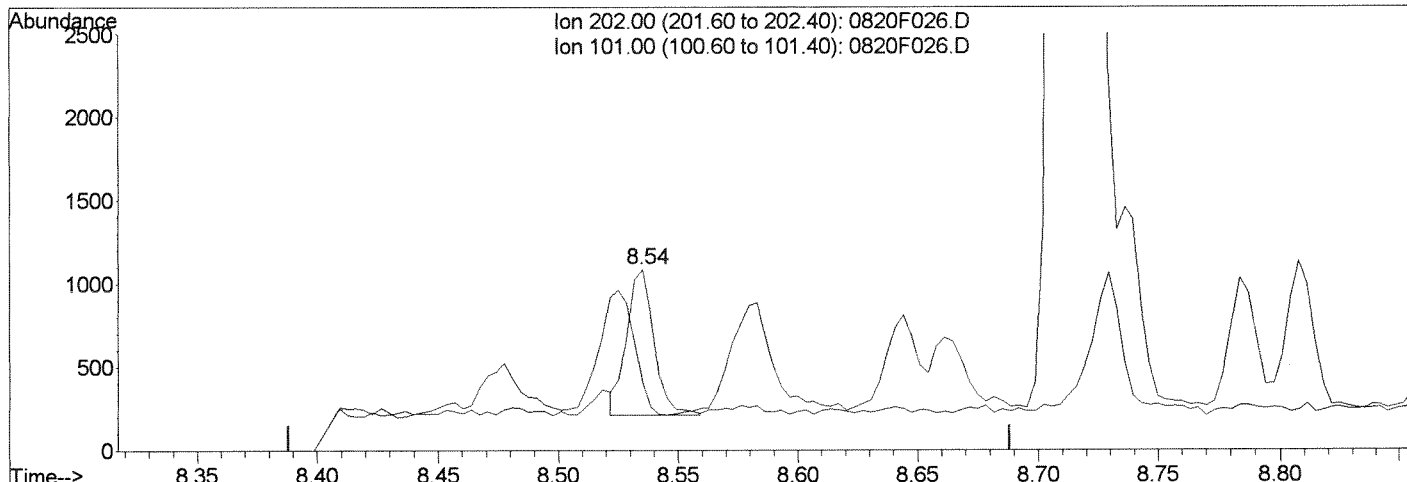
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:47 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

(20) Fluoranthene (T)

8.54min 0.79ng/ml m

response 691

Ion	Exp%	Act%
202.00	100	100
101.00	7.00	37.43#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CH*

*LB*

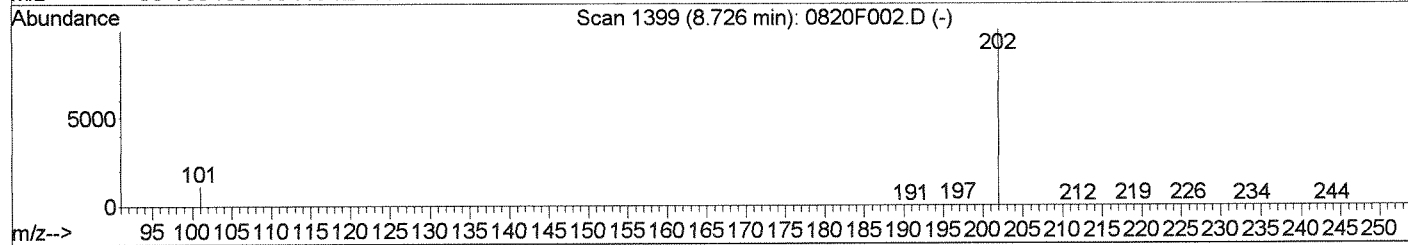
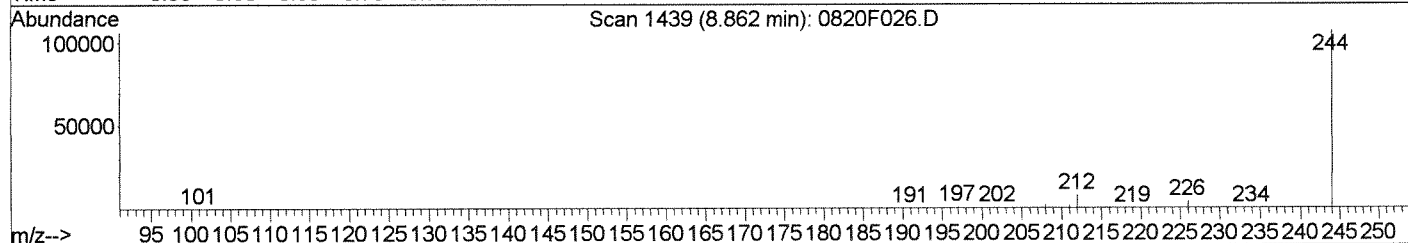
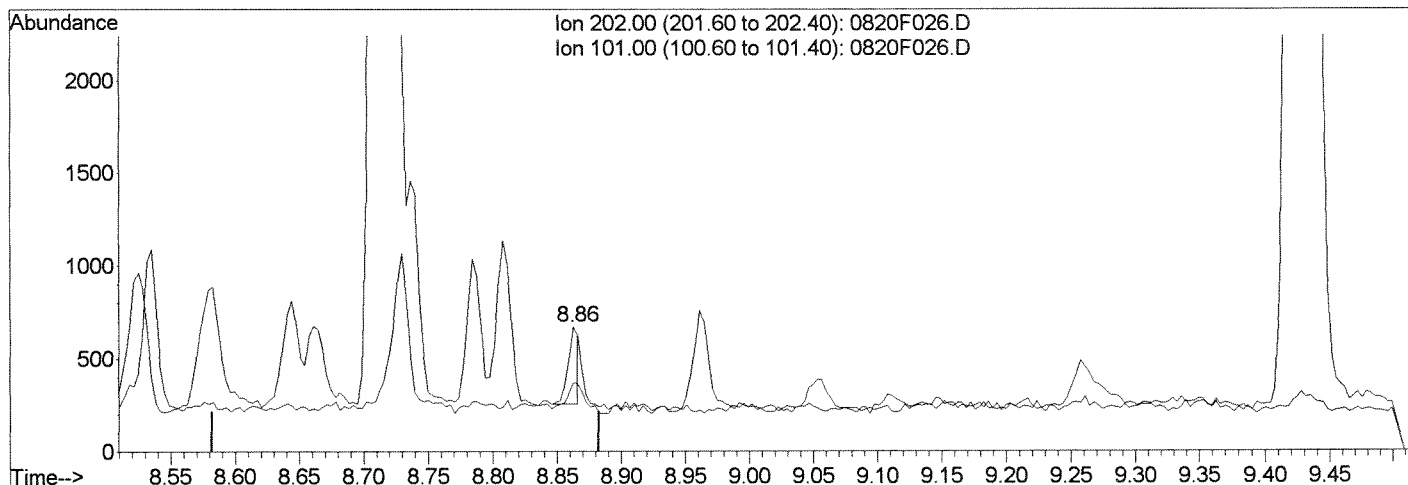
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
Acq On : 20 Aug 2014 8:32 pm  
Sample : K1407971-018  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 9:47 2014

Vial: 26  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F026.D

(23) Pyrene (T)		
8.86min	0.23ng/ml	
response	235	
Ion	Exp%	Act%
202.00	100	100
101.00	8.30	33.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
Before  
08/21/14

CA

LB

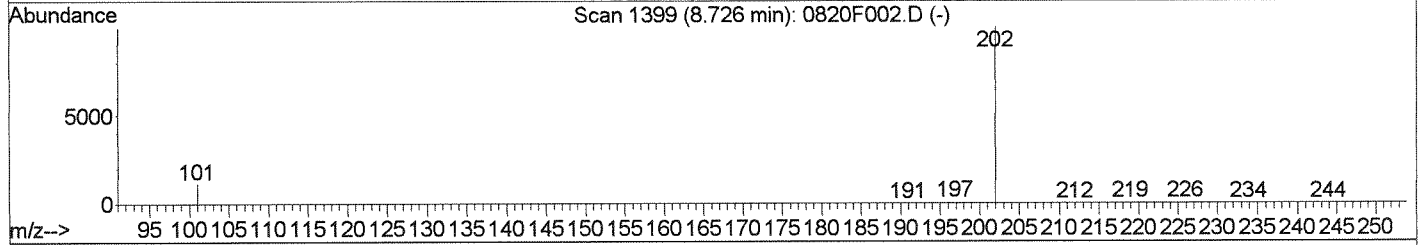
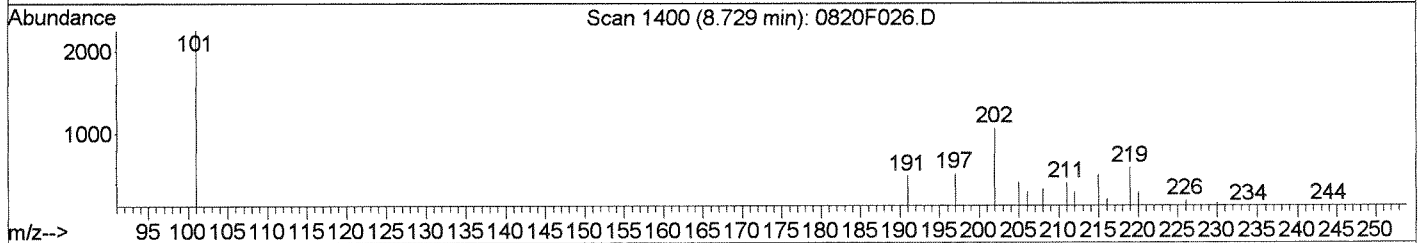
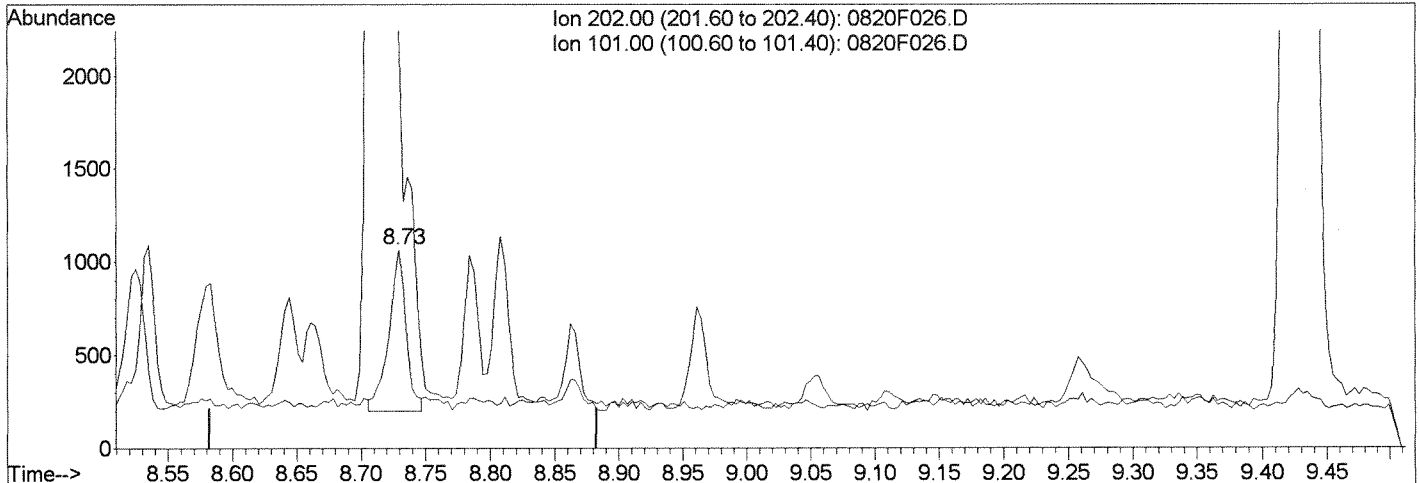
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:47 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(23) Pyrene (T)

8.73min 0.79ng/ml m

response 804

Ion	Exp%	Act%
202.00	100	100
101.00	8.30	211.52#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

*Handwritten signatures and dates:*  
 CA i  
 LB  
 8/21/14  
 LB

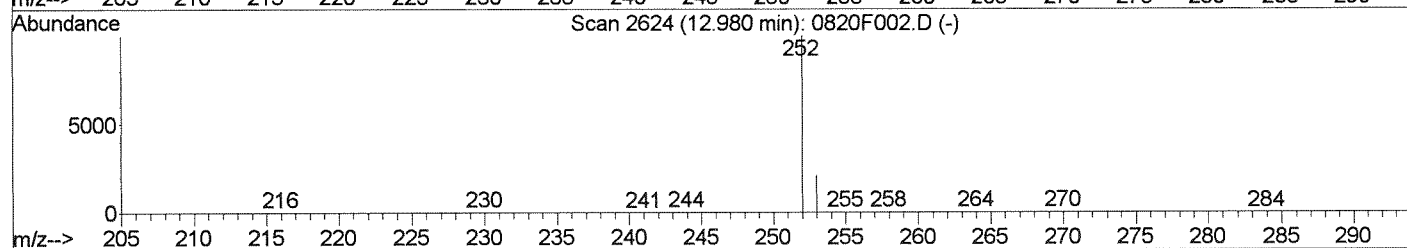
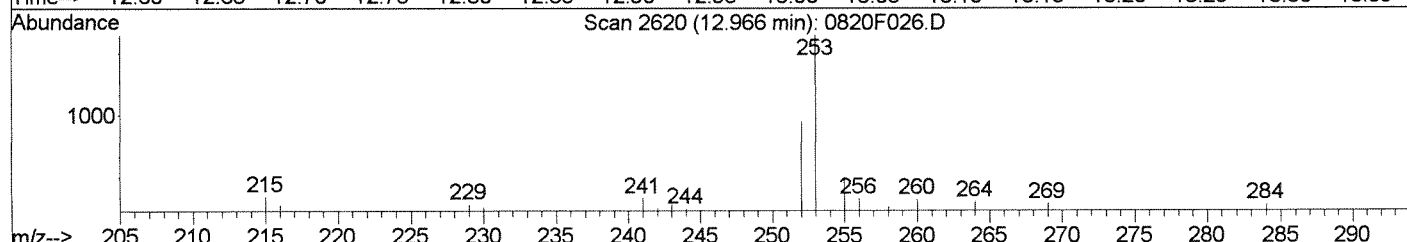
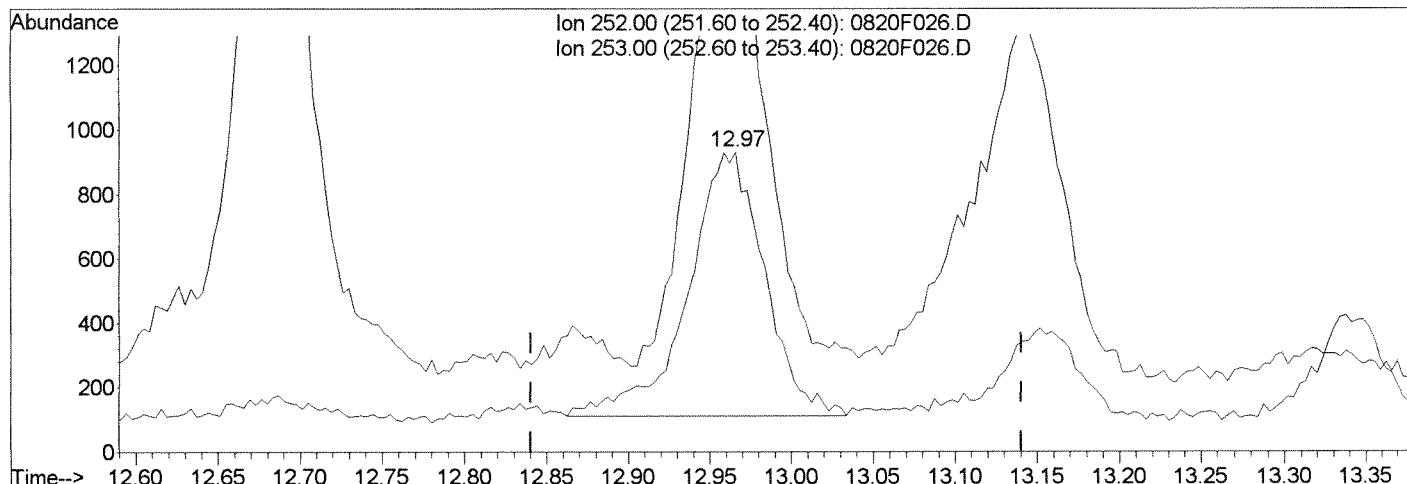
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:47 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



(31) Benzo(a)pyrene (T)

12.97min 2.96ng/ml

response 2674

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	176.98#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*CA*

*LB*

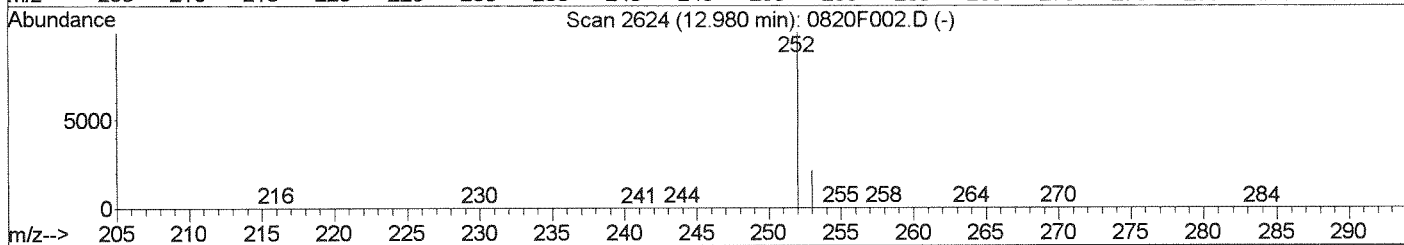
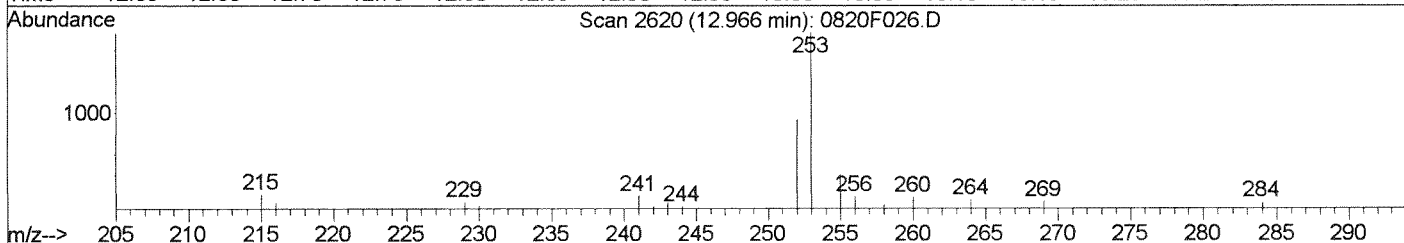
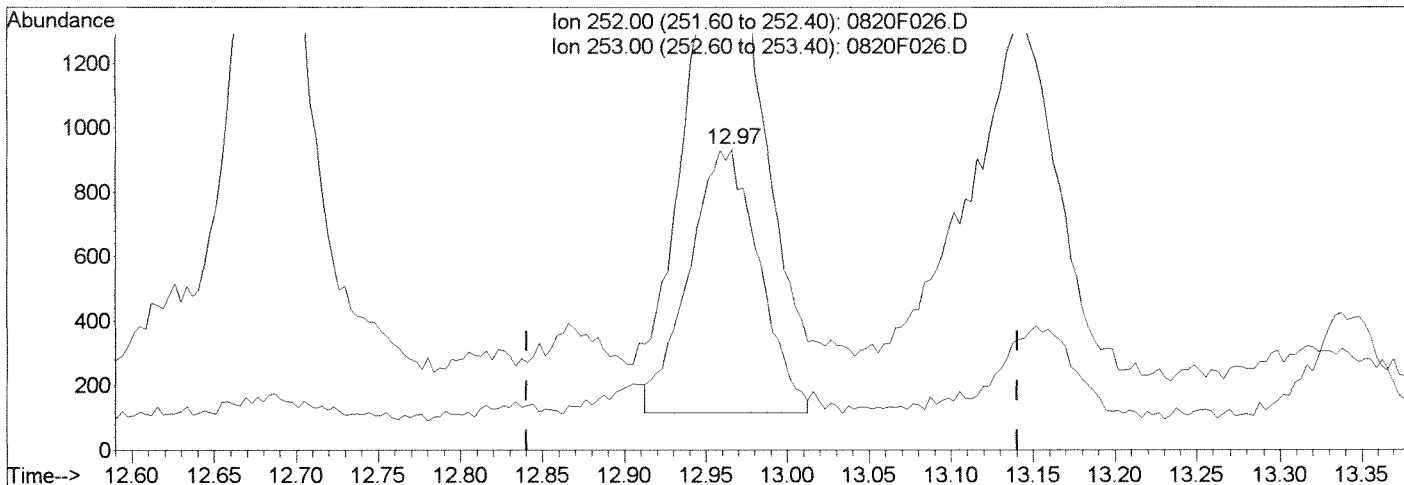
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F026.D  
 Acq On : 20 Aug 2014 8:32 pm  
 Sample : K1407971-018  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 9:47 2014

Vial: 26  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F026.D

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	190.25#
0.00	0.00	0.00
0.00	0.00	0.00

(31) Benzo(a)pyrene (T)  
 12.97min 2.70ng/ml m  
 response 2440

Manual Integration:  
 After  
 IC-Overintegrated  
 08/21/14

*CA*  
*i*  
*LB*

# Exception Report

**Data File:** J:\MS14\DATA\082014\0820F003.D  
**Lab ID:** KWG1411415-5  
**RunType:** MB  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 10:44  
**Date Quantitated:** 08/21/2014 08:55  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K07971

K07849

Primary Review: CA AUG 21 2014

Secondary Review: KB AUG 21 2014

# Quantitation Report

Data File:	J:\MS14\DATA\082014\0820F003.D	Instrument:	MS14
Acqu Date:	08/20/2014 10:44	Quant Date:	08/21/2014 08:55
Run Type:	MB	Vial:	3
Lab ID:	KWG1411415-5	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Bottle ID:	Tier:	Matrix:	ANIMAL TISSUE
Prod Code:	8270D PAH SIM	Collect Date:	08/14/2014

Analysis Lot:	KWG1411816	Prep Lot:	KWG1411415	Report Group:
Analysis Method:	8270D SIM	Prep Method:	EPA 3541	
Prep Ref:	1365447	Prep Date:	08/12/2014	

Quant Method:	J:\MS14\METHODS\SIM072214SIMPAA	Calibration ID:	CAL13446
Title:		Method ID:	MJ1238
Tune Ref:	J:\MS14\DATA\082014\0820F001.D	Quant based on Method	
MB Ref:			

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	136783	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71805	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	138768	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149440	200.00	OK
5	Perylene-d12	13.14	-0.01	264	154530	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	70336	166.05	83	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	124353	159.14	80	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	104004	154.72	77	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	2414	3.33	3.03	J	
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	1294	2.55	2.32	J	
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	1113	2.49	2.27	J	
1	Biphenyl	5.79		0.00	154	223m	0.3700	0.80	U	
1	2,6-Dimethylnaphthalene	5.93		0.00	156	103	0.2300	0.42	U	
2	Acenaphthylene	6.16		0.00	152	1668	2.31	2.10	J	
2	Acenaphthene	6.31		0.00	154	921	2.20	2.00	J	
2	Dibenzofuran	6.46		0.00	168	1542	2.34	2.13	J	
2	2,3,5-Trimethylnaphthalene				170	0d		0.49	U	
2	Fluorene	6.75		0.00	166	971	1.86	1.69	J	
3	Dibenzothiophene	7.44	-0.01	0.00	184	112m	0.1500	0.79	U	
3	Phenanthrene	7.55		0.00	178	905m	1.18	1.07	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

?: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Data File:	J:\MS14\DATA\082014\0820F003.D	Instrument:	MS14
Acqu Date:	08/20/2014 10:44	Quant Date:	08/21/2014 08:55
Run Type:	MB	Vial:	3
Lab ID:	KWG1411415-5	Dilution:	1.0
		Soln Conc. Units:	ng/ml

**Target Compounds**

						Final Conc. Units:		ug/Kg		
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Anthracene	7.60	0.01	0.00	178	713	0.9400	0.856	J	
3	Carbazole	7.74	0.01	0.00	167	328	0.4900	0.50	U	
3	1-Methylphenanthrene				192	0d		0.36	U	
3	Fluoranthene	8.53		0.00	202	365m	0.4100	0.45	U	
4	Pyrene	8.73		0.00	202	589m	0.5700	0.519	J	
4	Benz(a)anthracene	10.05	0.01	0.00	228	541	0.5900	0.537	J	
4	Chrysene	10.09	-0.01	0.00	228	158	0.1900	0.51	U	
5	Benzo(b)fluoranthene	12.10	-0.01	0.00	252	239	0.2500	0.61	U	
5	Benzo(k)fluoranthene	12.18		0.00	252	158	0.1700	0.52	U	
5	Benzo(e)pyrene	12.82	-0.01	0.00	252	291	0.3200	0.46	U	
5	Benzo(a)pyrene	12.96	-0.02	0.00	252	2281	2.50	2.3	Ui	
5	Perylene	13.22	-0.01	0.00	252	227	0.2600	1.1	U	
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	586	0.5700	0.88	U	
5	Dibenz(a,h)anthracene	15.44		0.00	278	401	0.4100	0.79	U	
5	Benzo(g,h,i)perylene	15.77		0.00	276	1214	1.10	1.00	J	

Prep Amount: 10.986 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F003.D  
 Acq On : 20 Aug 2014 10:44 am  
 Sample : KWG1411415-05 | MB  
 Misc :

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:14 2014

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	136783	200.00	ng/ml	-0.02
7) Acenaphthene-d10	6.29	164	71805	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	138768	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149440	200.00	ng/ml	0.00
27) Perylene-d12	13.14	264	154530	200.00	ng/ml	-0.02

System Monitoring Compounds

12) Fluorene-d10	6.73	176	70336	166.05	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.61%	
21) Fluoranthene-d10	8.52	212	124353	159.14	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.91%	
24) Terphenyl-d14	8.87	244	104004	154.72	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	15.47%	

Target Compounds

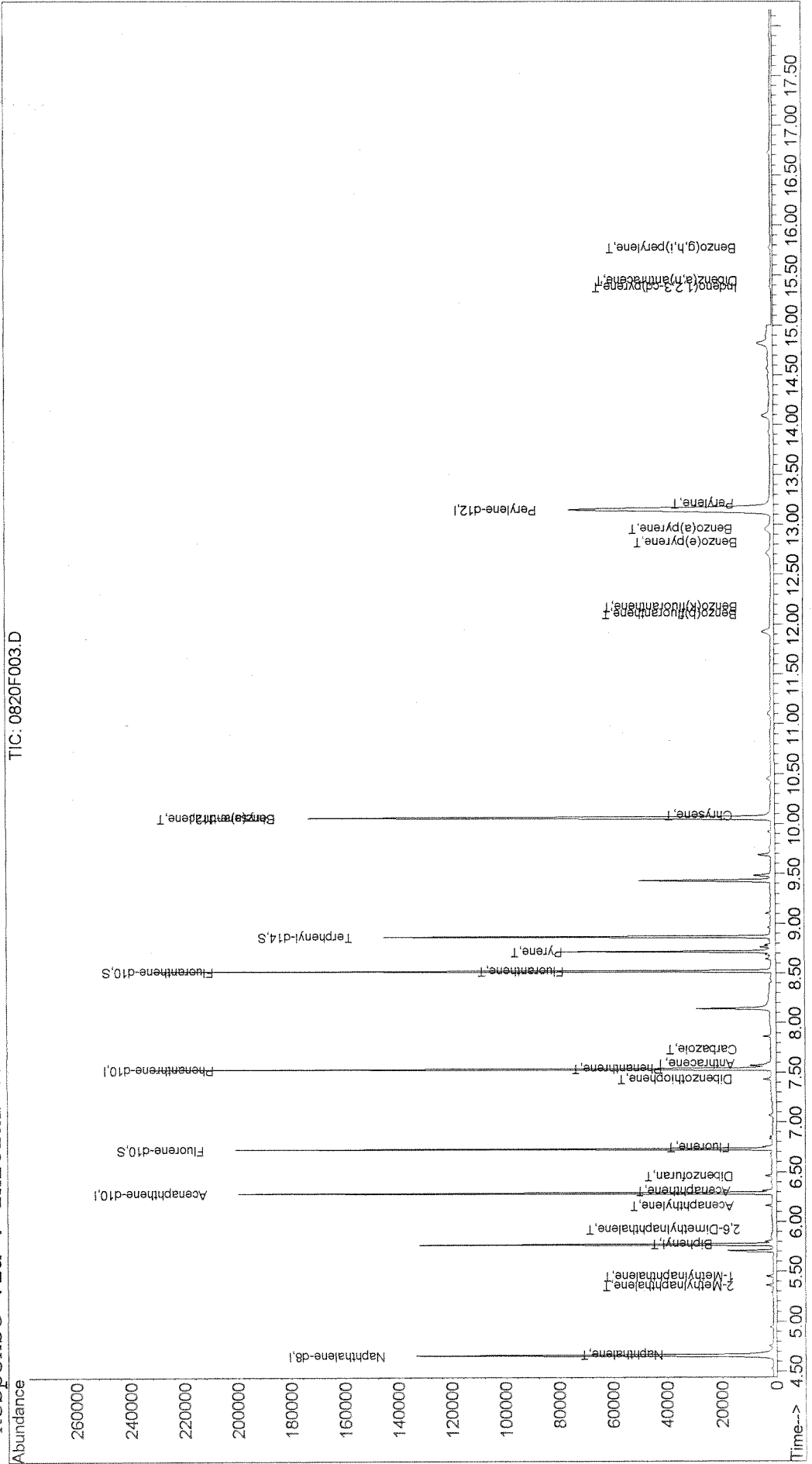
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	2414	3.33	ng/ml	97
3) 2-Methylnaphthalene	5.36	142	1294	2.55	ng/ml	98
4) 1-Methylnaphthalene	5.45	142	1113	2.49	ng/ml	95
5) Biphenyl	5.79	154	223m	0.37	ng/ml	
6) 2,6-Dimethylnaphthalene	5.93	156	103	0.23	ng/ml	75
8) Acenaphthylene	6.16	152	1668	2.31	ng/ml	100
9) Acenaphthene	6.31	154	921	2.20	ng/ml	94
10) Dibenzofuran	6.46	168	1542	2.34	ng/ml	99
13) Fluorene	6.75	166	971	1.86	ng/ml	93
15) Dibenzothiophene	7.44	184	112m	0.15	ng/ml	
16) Phenanthrene	7.55	178	905m	1.18	ng/ml	
17) Anthracene	7.60	178	713	0.94	ng/ml	96
18) Carbazole	7.74	167	328	0.49	ng/ml	90
20) Fluoranthene	8.53	202	365m	0.41	ng/ml	
23) Pyrene	8.73	202	589m	0.57	ng/ml	
25) Benz(a)anthracene	10.05	228	541	0.59	ng/ml	65
26) Chrysene	10.09	228	158	0.19	ng/ml	94
28) Benzo(b)fluoranthene	12.10	252	239	0.25	ng/ml	74
29) Benzo(k)fluoranthene	12.18	252	158	0.17	ng/ml	99
30) Benzo(e)pyrene	12.82	252	291	0.32	ng/ml	86
31) Benzo(a)pyrene	12.96	252	2281	2.50	ng/ml#	1
32) Perylene	13.22	252	227	0.26	ng/ml	88
33) Indeno(1,2,3-cd)pyrene	15.39	276	586	0.57	ng/ml	98
34) Dibenz(a,h)anthracene	15.44	278	401	0.41	ng/ml	91
35) Benzo(g,h,i)perylene	15.77	276	1214	1.10	ng/ml	96

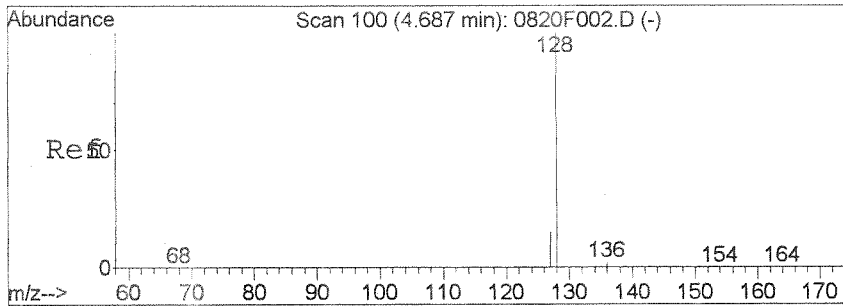
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F003.D  
Acq On : 20 Aug 2014 10:44 am  
Sample : KWG1411415-05 | MB  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:55 2014  
Quant Results File: 072214SIMPAAH.RES

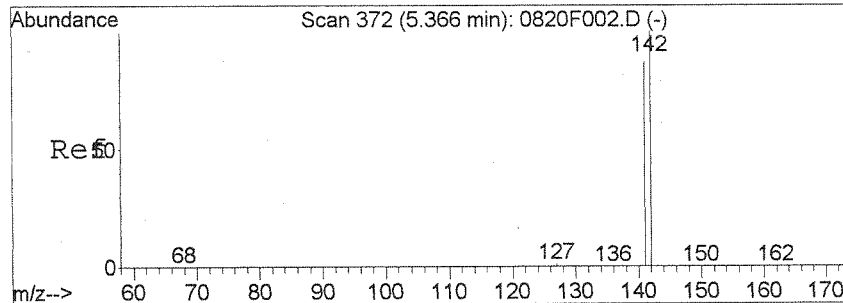
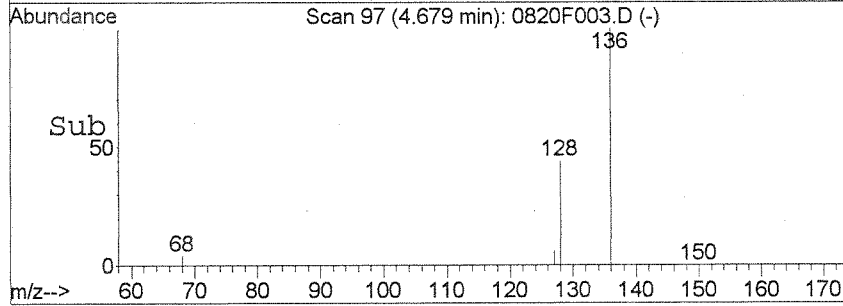
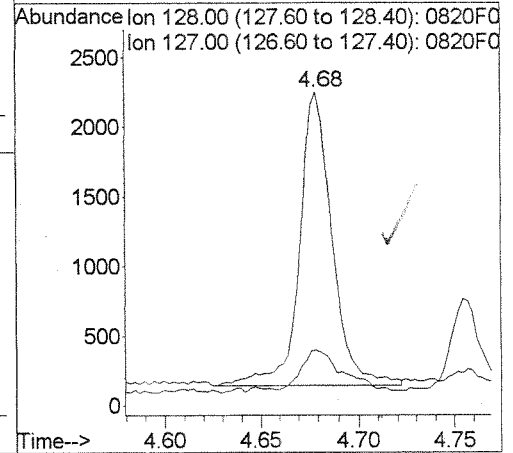
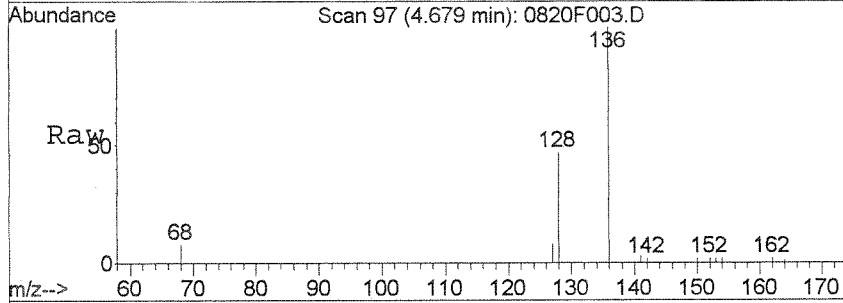
Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Initial Calibration





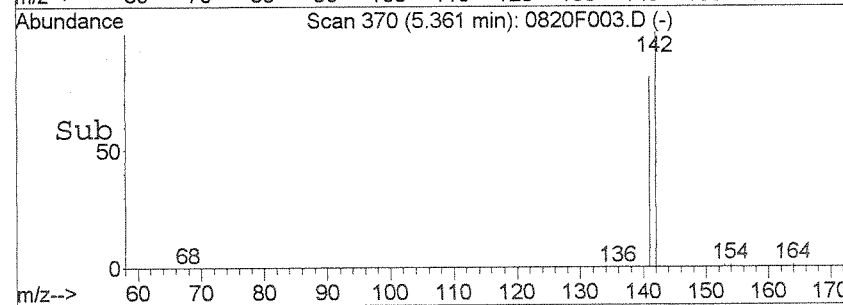
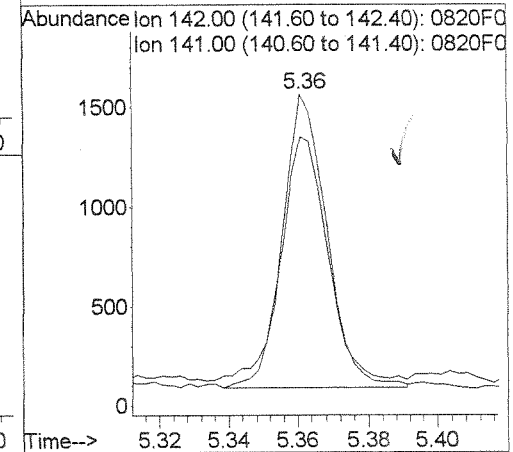
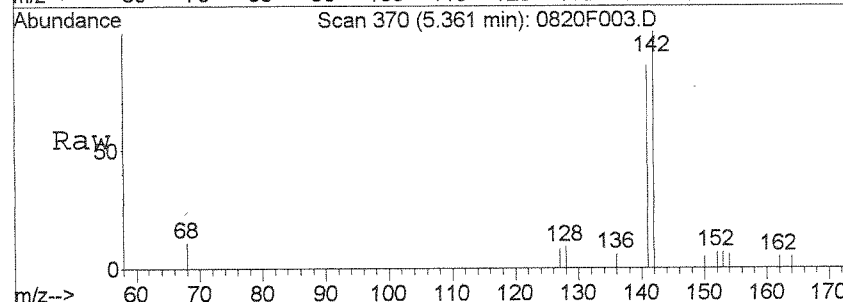
#2  
 Naphthalene  
 Concen: 3.33 ng/ml  
 RT: 4.68 min Scan# 97  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

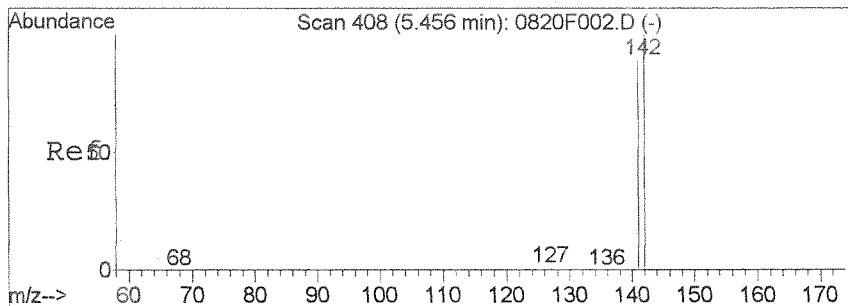
Tgt Ion	Resp	Lower	Upper
128	2414	100	
127	13.8	0.0	42.6



#3  
 2-Methylnaphthalene  
 Concen: 2.55 ng/ml  
 RT: 5.36 min Scan# 370  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

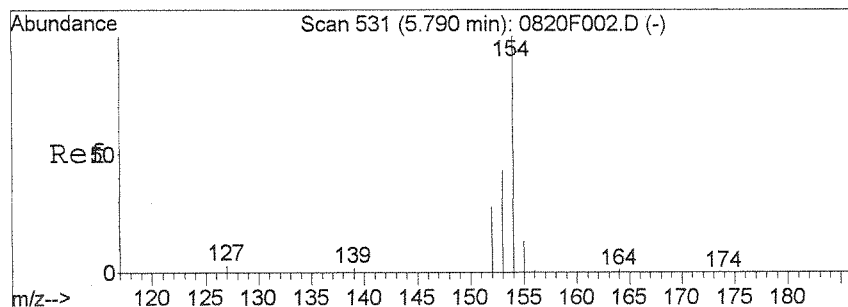
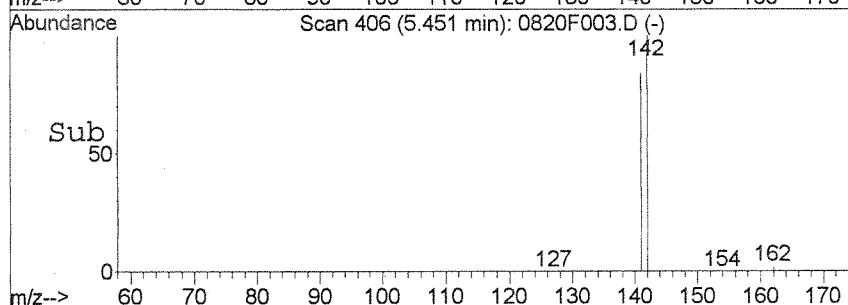
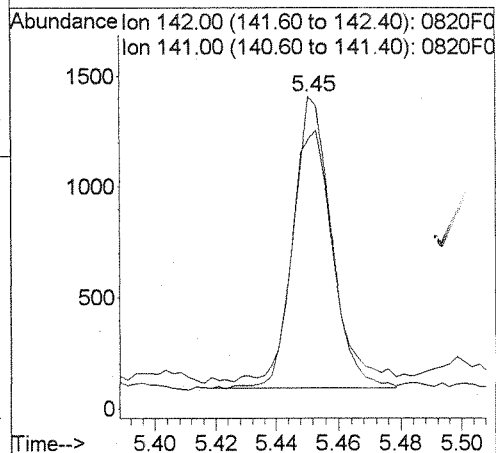
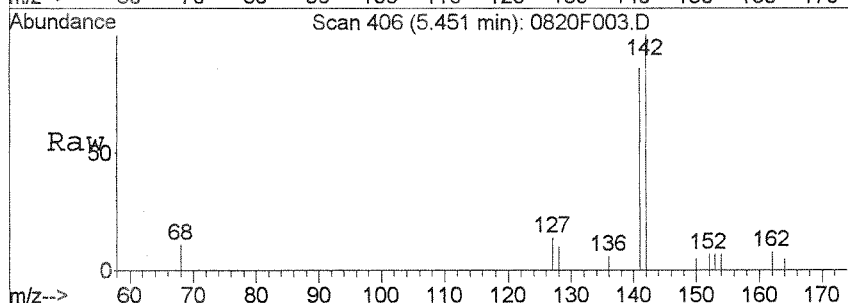
Tgt Ion	Resp	Lower	Upper
142	1294	100	
141	82.8	54.8	114.8





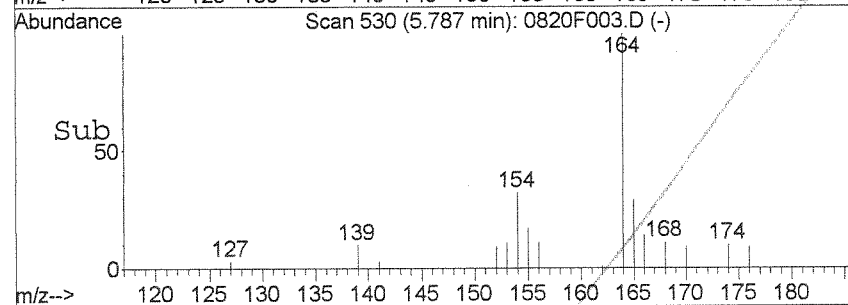
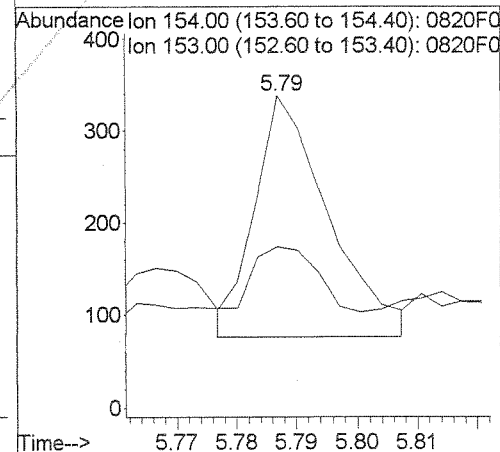
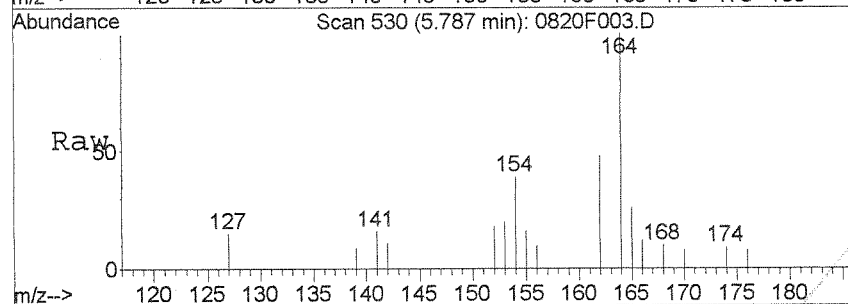
#4  
 1-Methylnaphthalene  
 Concen: 2.49 ng/ml  
 RT: 5.45 min Scan# 406  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

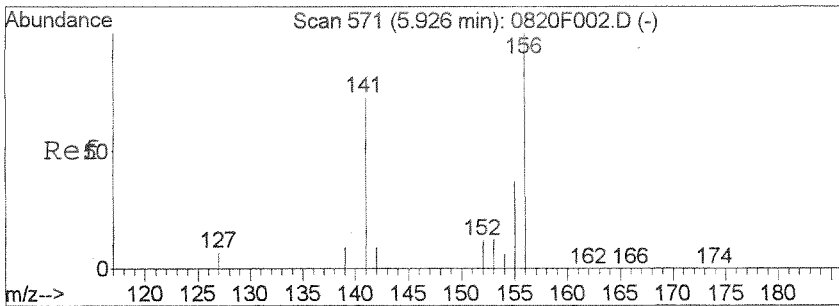
Tgt Ion	Ratio	Lower	Upper
142	100		
141	81.6	56.4	116.4



#5  
 Biphenyl  
 Concen: 0.37 ng/ml m  
 RT: 5.79 min Scan# 530  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

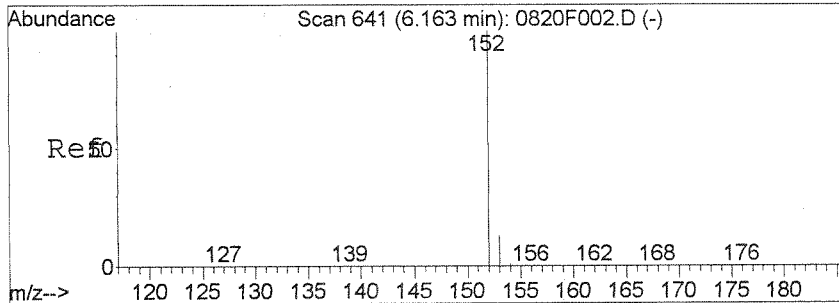
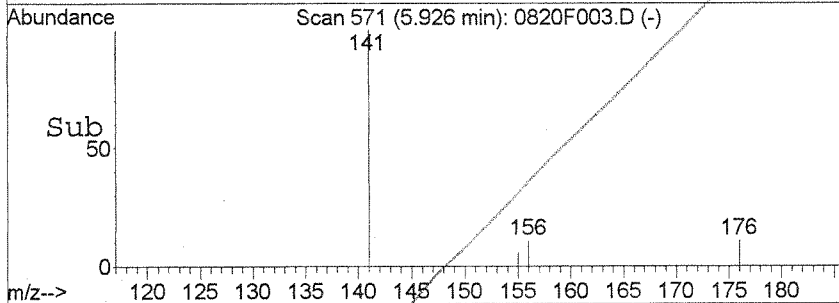
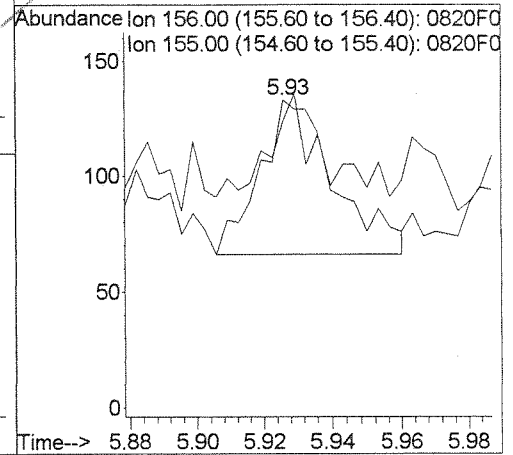
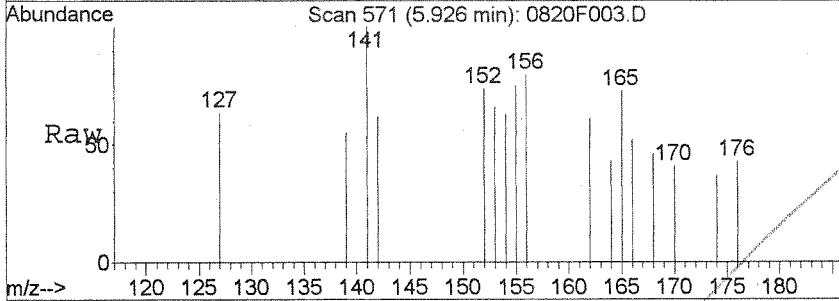
Tgt Ion	Ratio	Lower	Upper
154	100		
153	51.5	9.6	69.6





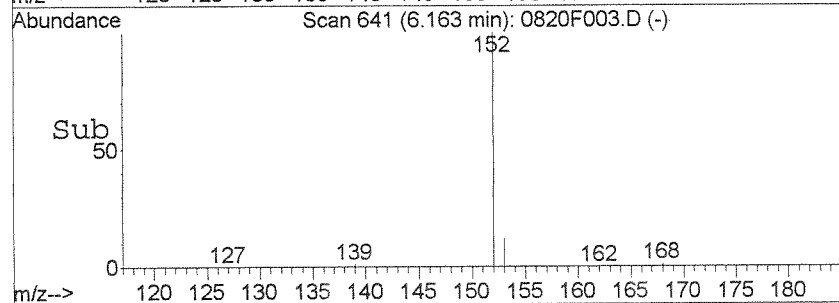
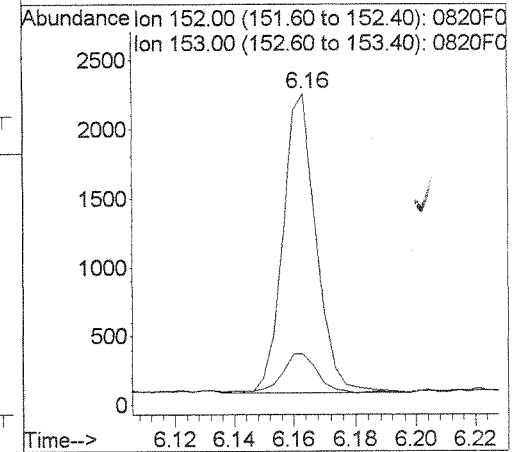
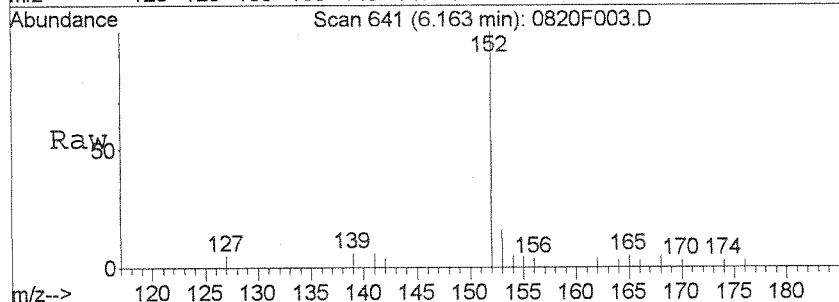
#6  
 2,6-Dimethylnaphthalene  
 Concen: 0.23 ng/ml  
 RT: 5.93 min Scan# 571  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

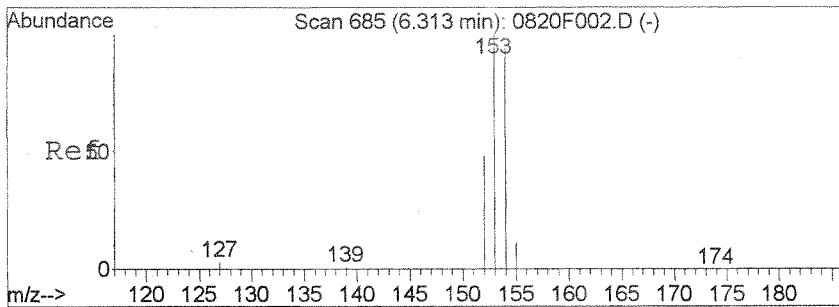
Tgt Ion	Resp	Lower	Upper
156	103		
155	49.3	4.9	64.9



#8  
 Acenaphthylene  
 Concen: 2.31 ng/ml  
 RT: 6.16 min Scan# 641  
 Delta R.T. -0.00 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

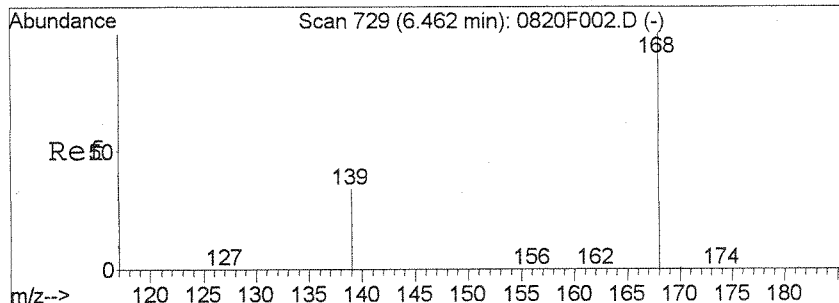
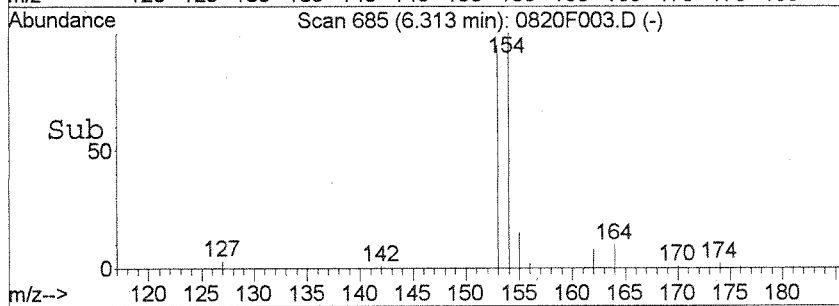
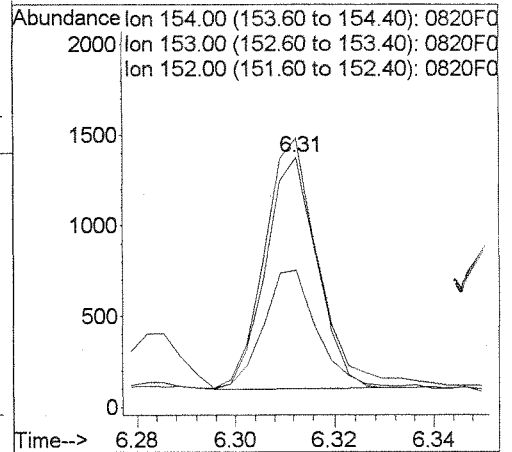
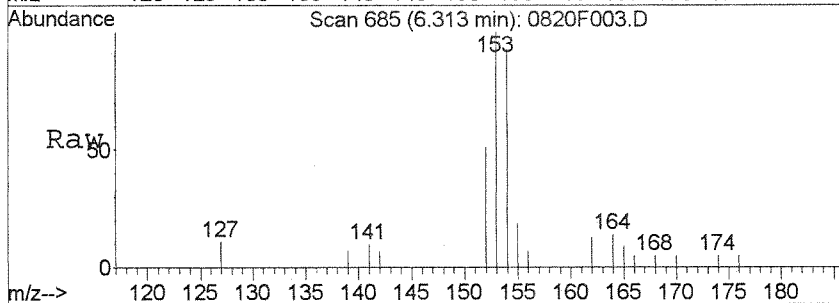
Tgt Ion	Resp	Lower	Upper
152	1668		
153	13.0	0.0	43.2





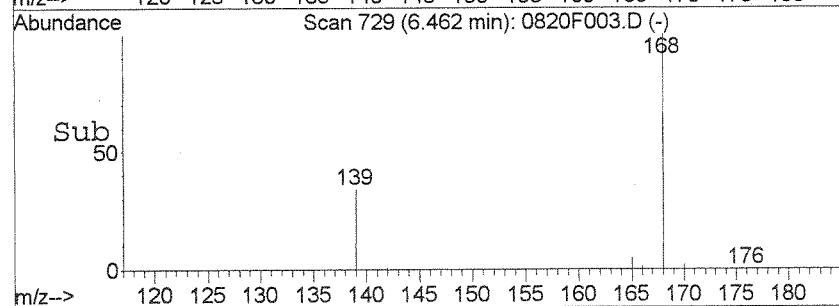
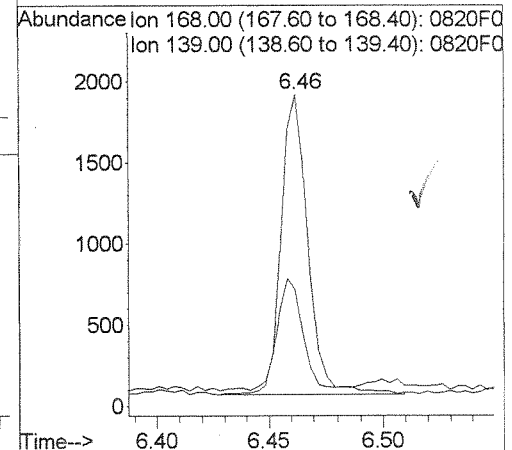
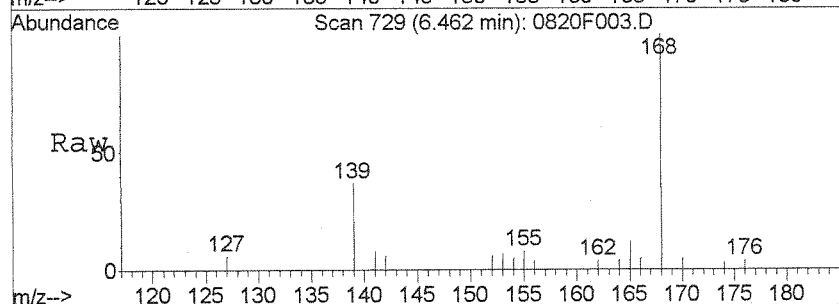
#9  
 Acenaphthene  
 Concen: 2.20 ng/ml  
 RT: 6.31 min Scan# 685  
 Delta R.T. -0.00 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

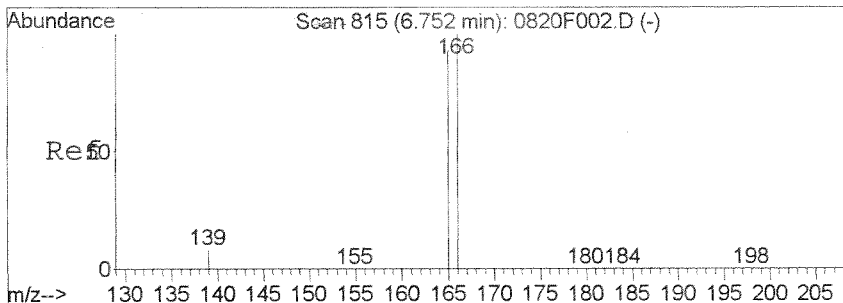
Tgt Ion	Resp	Lower	Upper
154	100		
153	108.3	72.5	132.5
152	51.5	17.7	77.7



#10  
 Dibenzofuran  
 Concen: 2.34 ng/ml  
 RT: 6.46 min Scan# 729  
 Delta R.T. -0.00 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

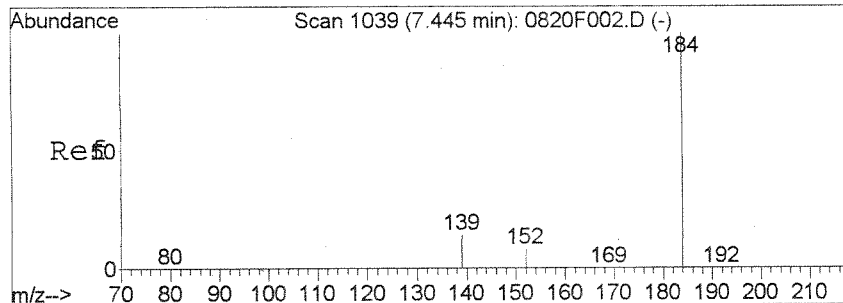
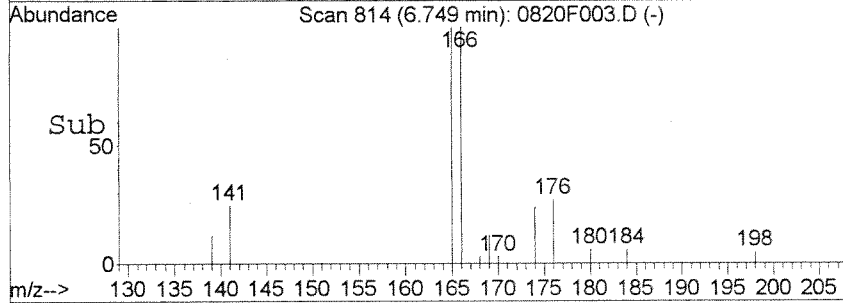
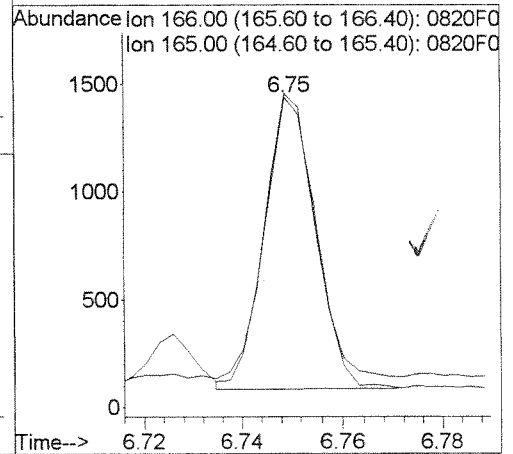
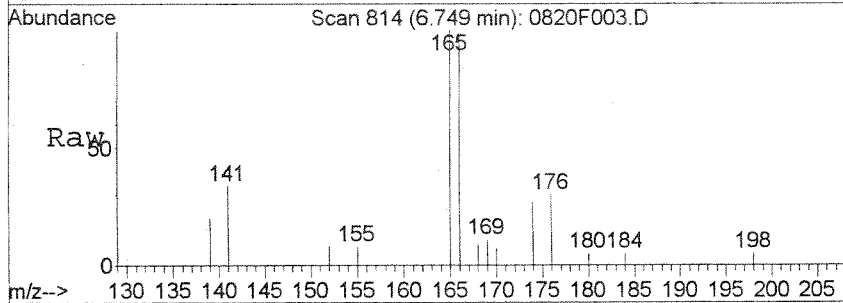
Tgt Ion	Resp	Lower	Upper
168	100		
139	33.4	2.7	62.7





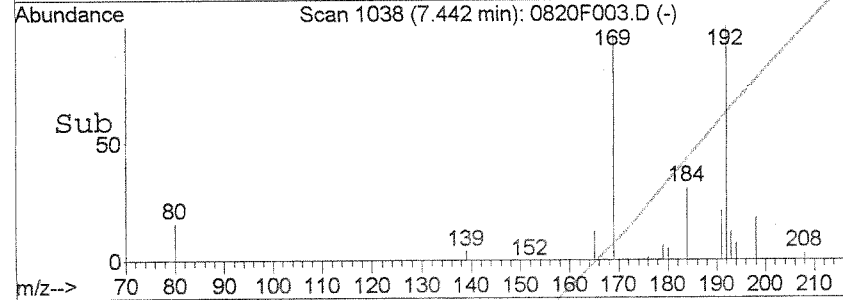
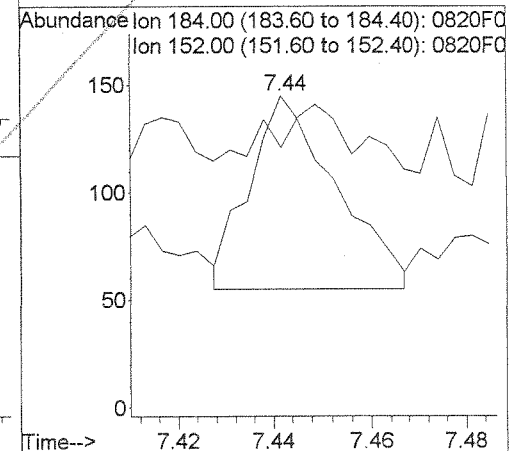
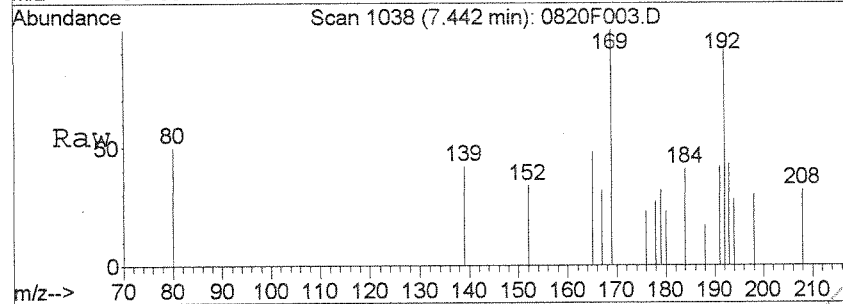
#13  
 Fluorene  
 Concen: 1.86 ng/ml  
 RT: 6.75 min Scan# 814  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

Tgt Ion: 166 Resp: 971  
 Ion Ratio Lower Upper  
 166 100  
 165 98.0 60.9 120.9



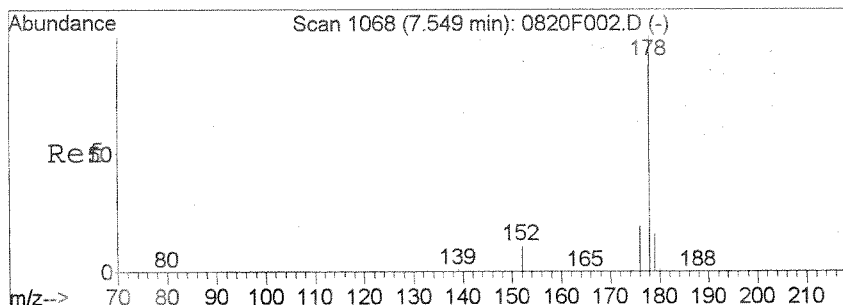
#15  
 Dibenzothiophene  
 Concen: 0.15 ng/ml m  
 RT: 7.44 min Scan# 1038  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

Tgt Ion: 184 Resp: 112  
 Ion Ratio Lower Upper  
 184 100  
 152 83.4 0.0 39.9#



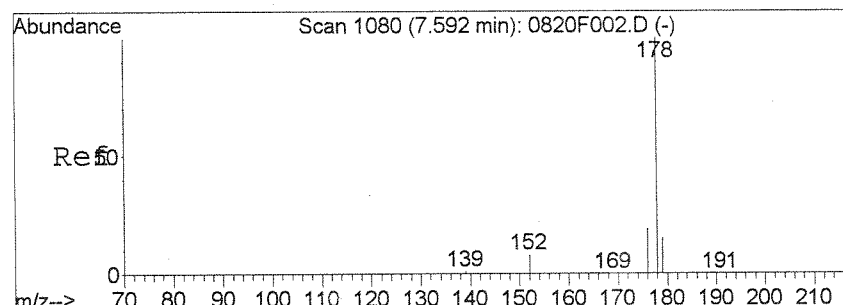
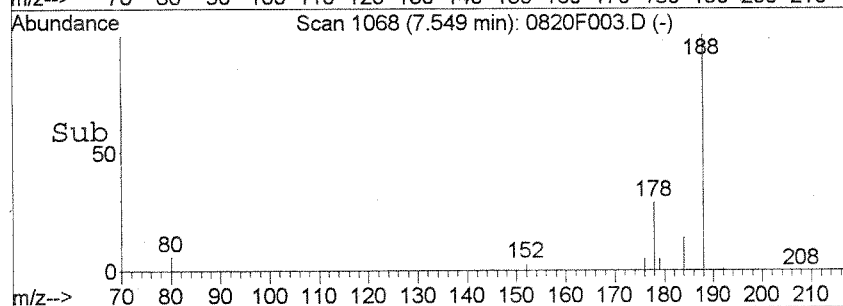
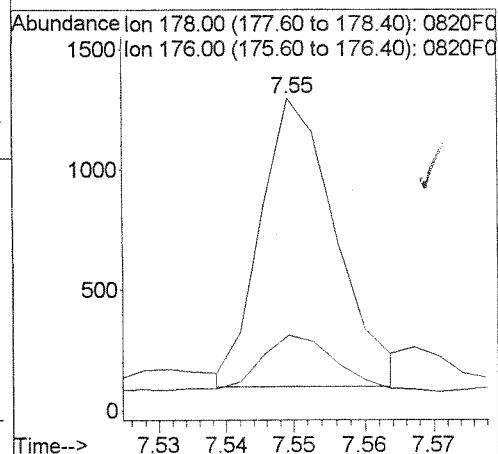
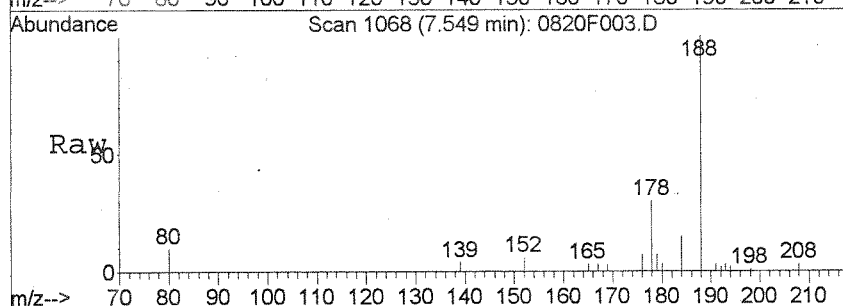
*<MDL*





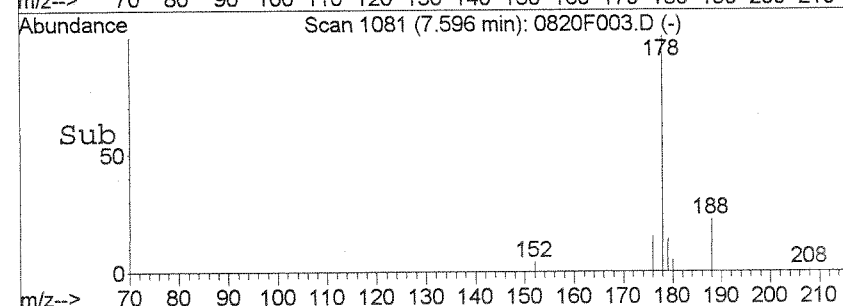
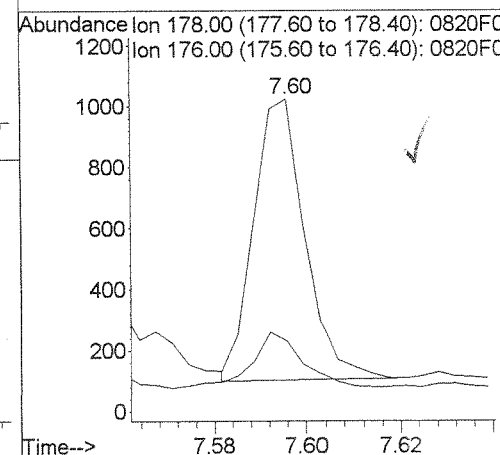
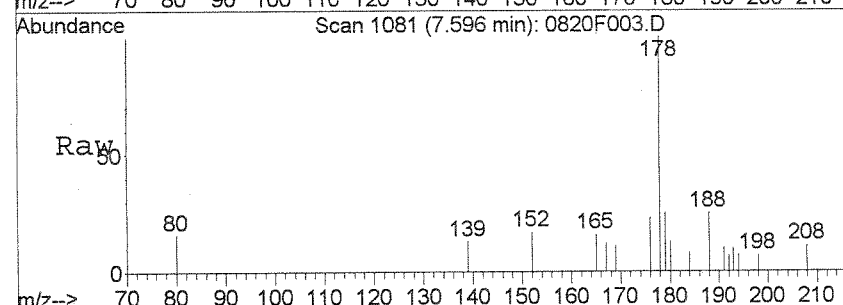
#16  
 Phenanthrene  
 Concen: 1.18 ng/ml m  
 RT: 7.55 min Scan# 1068  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

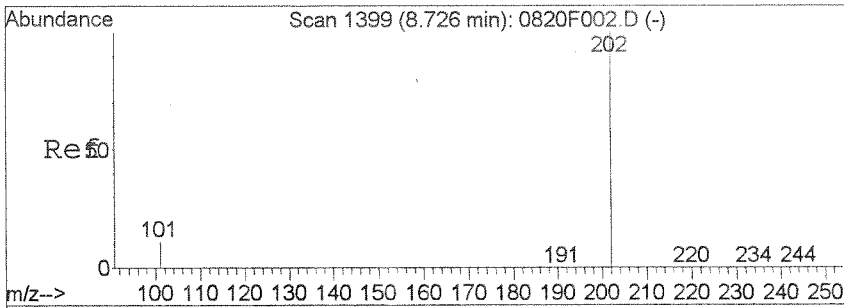
Tgt Ion: 178 Resp: 905  
 Ion Ratio Lower Upper  
 178 100  
 176 24.1 0.0 48.9



#17  
 Anthracene  
 Concen: 0.94 ng/ml  
 RT: 7.60 min Scan# 1081  
 Delta R.T. -0.00 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

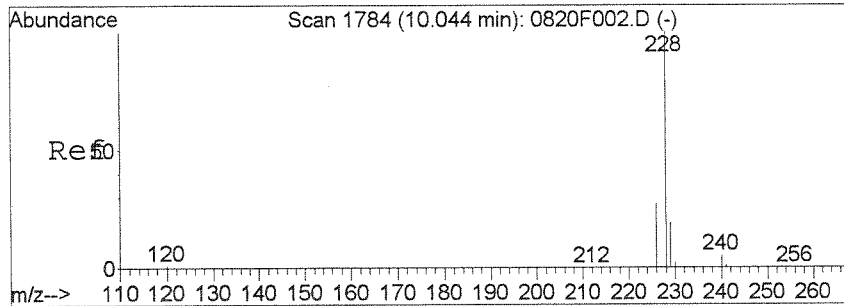
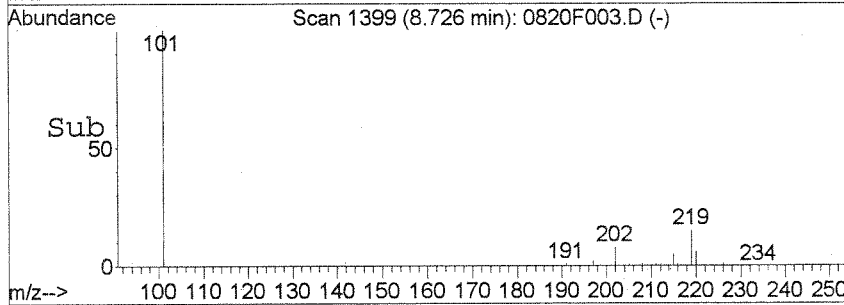
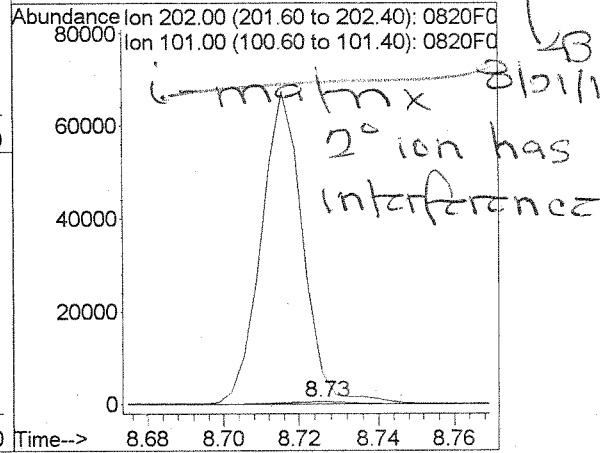
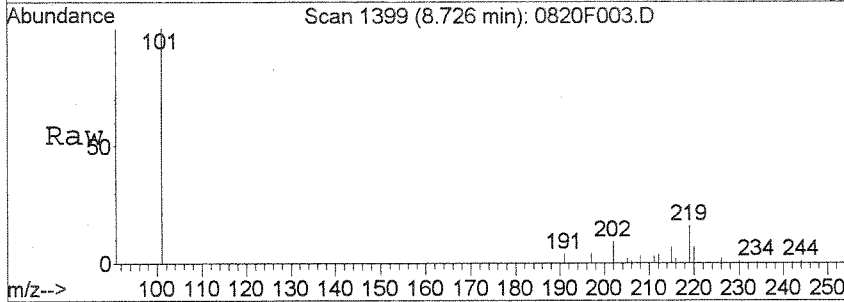
Tgt Ion: 178 Resp: 713  
 Ion Ratio Lower Upper  
 178 100  
 176 16.1 0.0 47.7





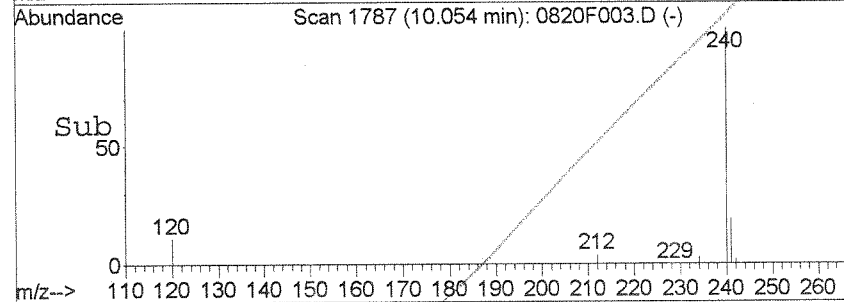
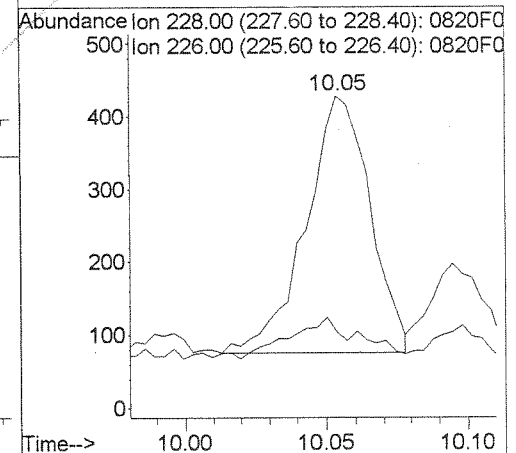
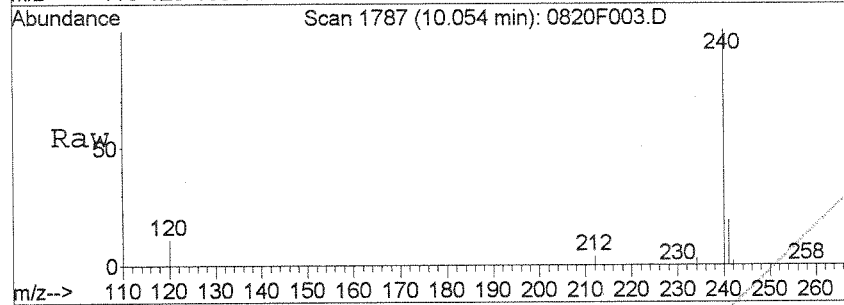
#23  
 Pyrene  
 Concen: 0.57 ng/ml m  
 RT: 8.73 min Scan# 1399  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

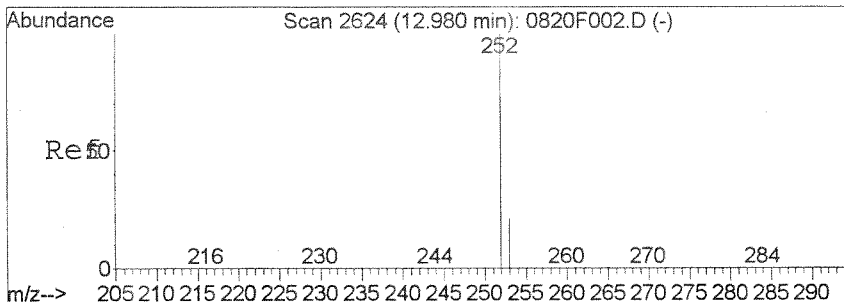
Tgt Ion: 202 Resp: 589  
 Ion Ratio Lower Upper  
 202 100  
 101 1147.2 0.0 38.3#



#25  
 Benz (a) anthracene  
 Concen: 0.59 ng/ml  
 RT: 10.05 min Scan# 1787  
 Delta R.T. 0.00 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

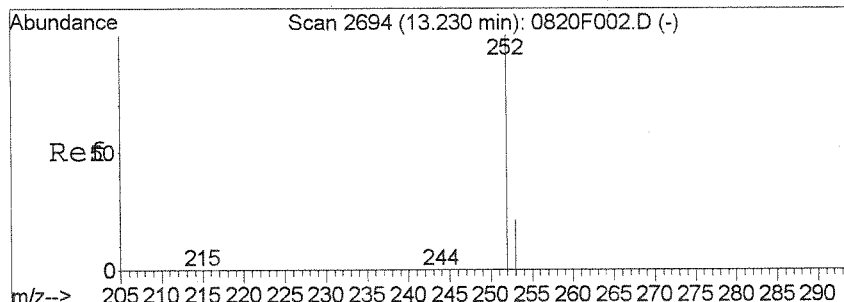
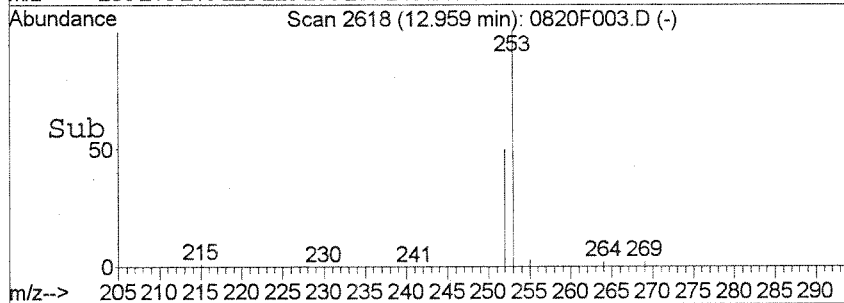
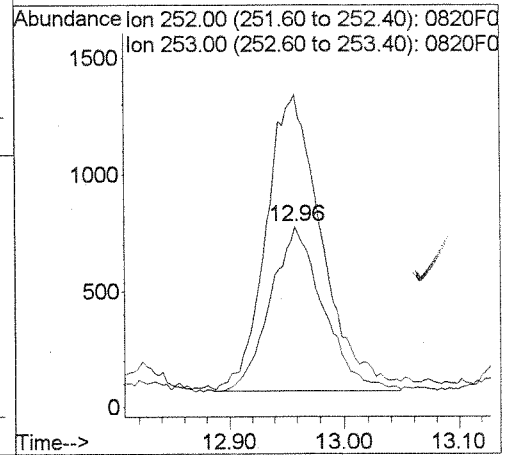
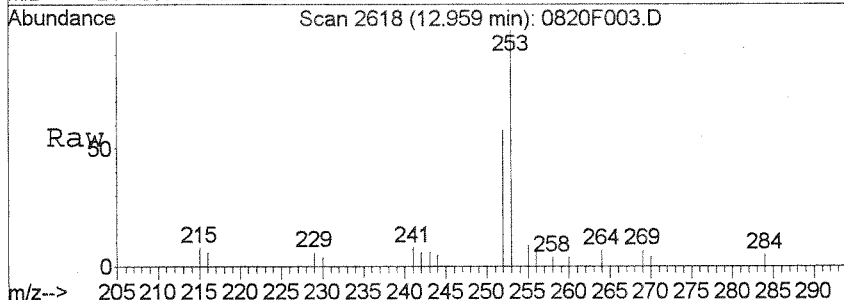
Tgt Ion: 228 Resp: 541  
 Ion Ratio Lower Upper  
 228 100  
 226 8.5 0.0 56.4





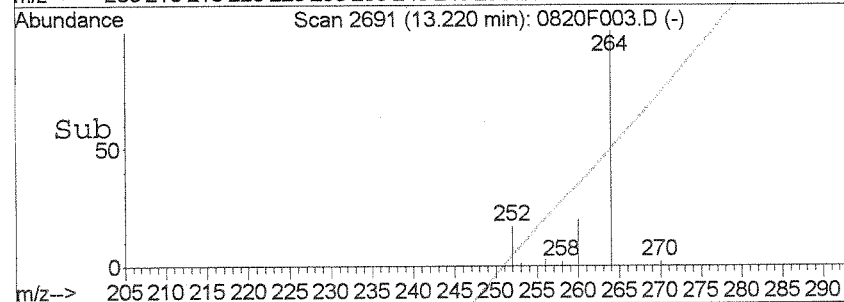
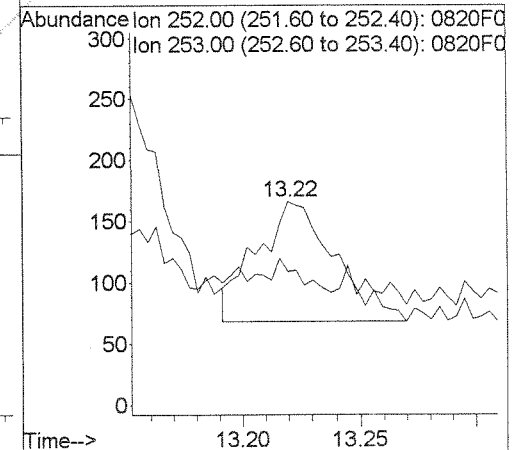
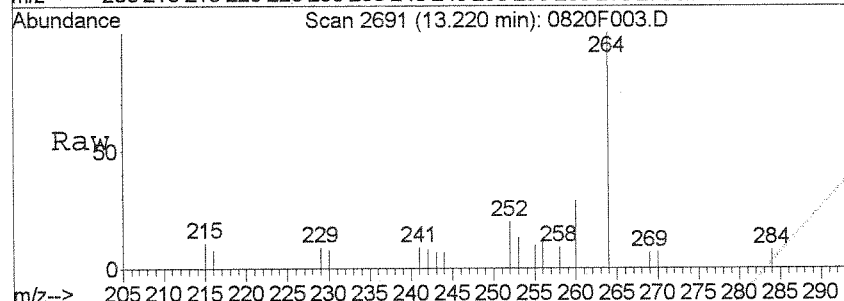
#31  
 Benzo (a) pyrene  
 Concen: 2.50 ng/ml  
 RT: 12.96 min Scan# 2618  
 Delta R.T. -0.03 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

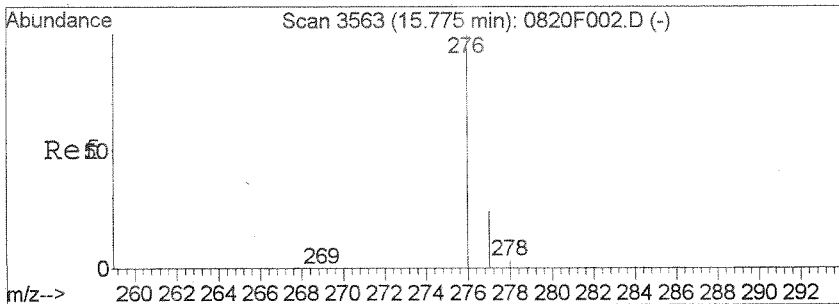
Tgt Ion	Resp	Lower	Upper
252	100		
253	178.6	0.0	52.2#



#32  
 Perylene  
 Concen: 0.26 ng/ml  
 RT: 13.22 min Scan# 2691  
 Delta R.T. -0.02 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

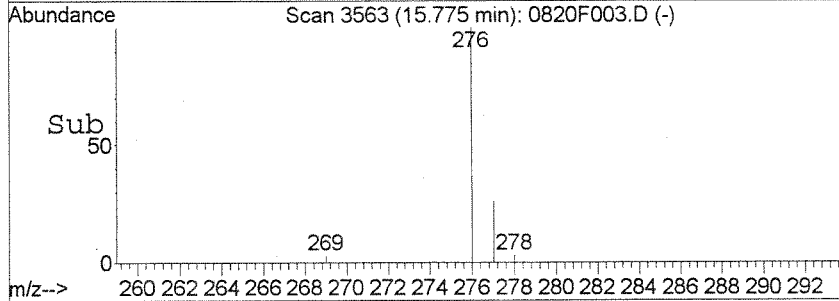
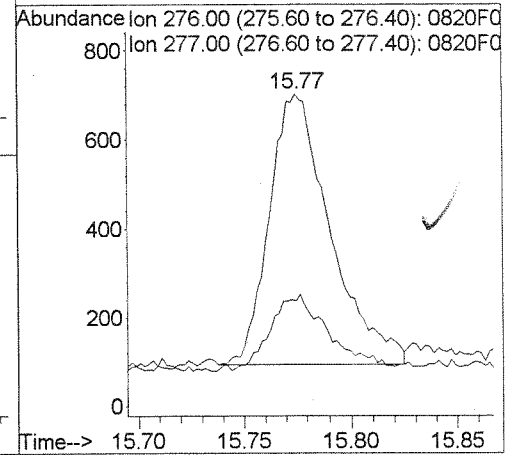
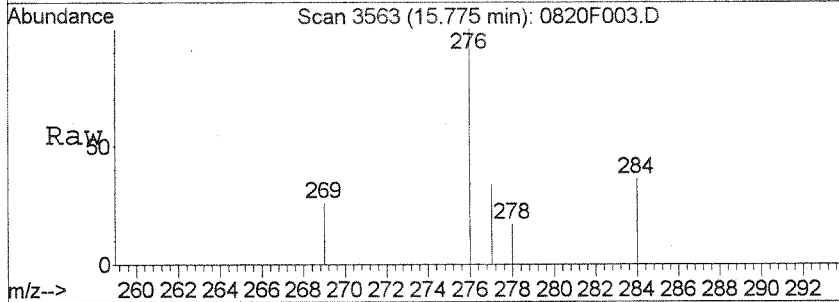
Tgt Ion	Resp	Lower	Upper
252	100		
253	27.6	0.0	51.8





#35  
 Benzo(g,h,i)perylene  
 Concen: 1.10 ng/ml  
 RT: 15.77 min Scan# 3563  
 Delta R.T. -0.01 min  
 Lab File: 0820F003.D  
 Acq: 20 Aug 2014 10:44 am

Tgt Ion	Resp	Lower	Upper
276	1214	100	
277	25.5	0.0	53.6



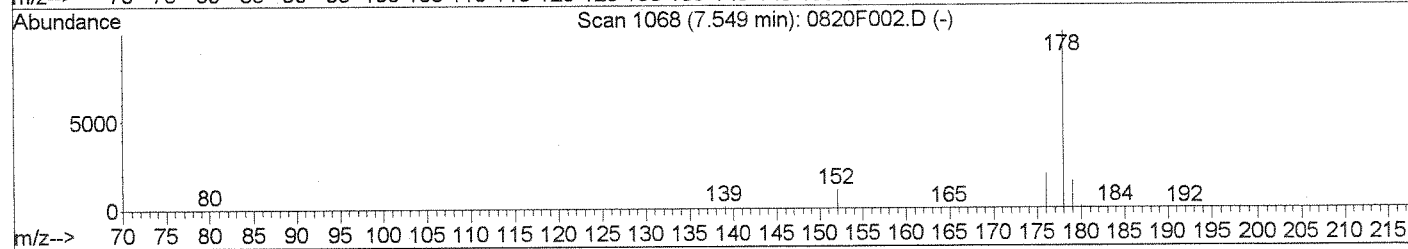
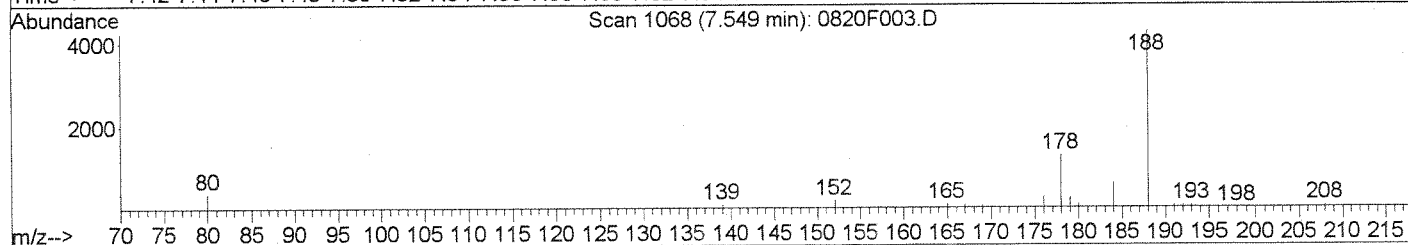
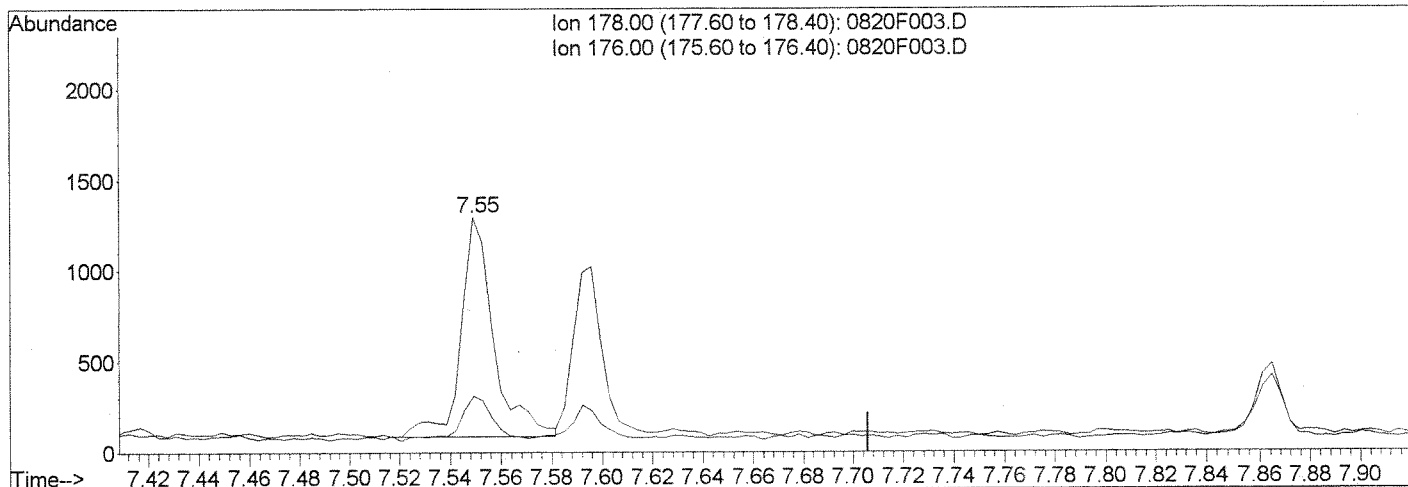
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F003.D  
 Acq On : 20 Aug 2014 10:44 am  
 Sample : KWG1411415-05 | MB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:54 2014

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F003.D

(16) Phenanthrene (T)	Manual Integration:	
7.55min 1.44ng/ml	Before	
response 1100		
Ion	Exp%	Act%
178.00	100	100
176.00	18.90	18.28
0.00	0.00	0.00
0.00	0.00	0.00

08/21/14  
 AUG 21 2014

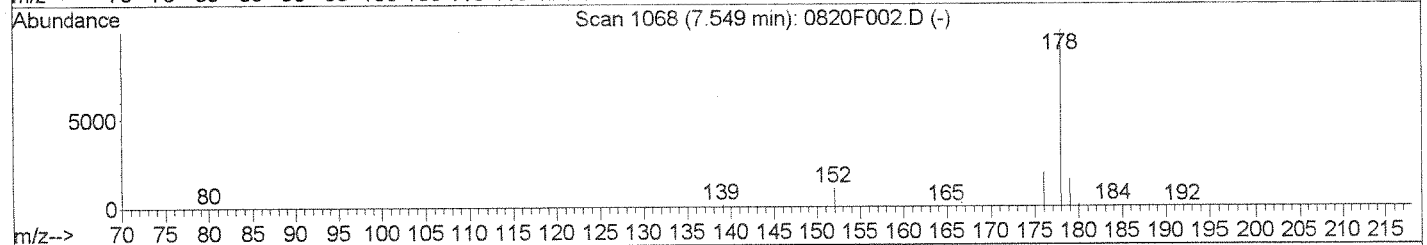
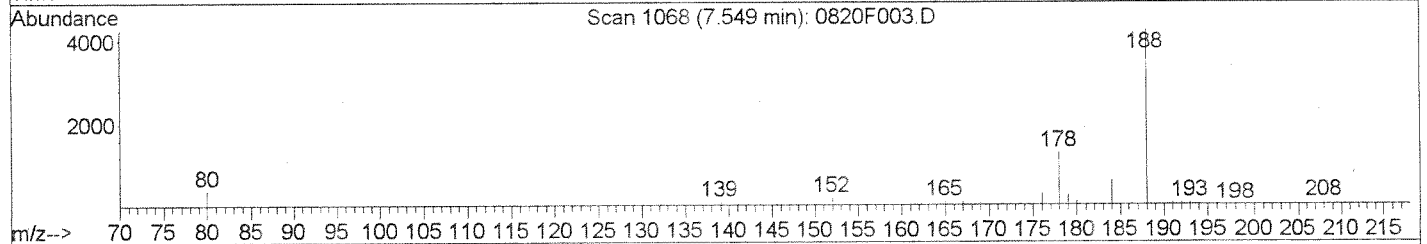
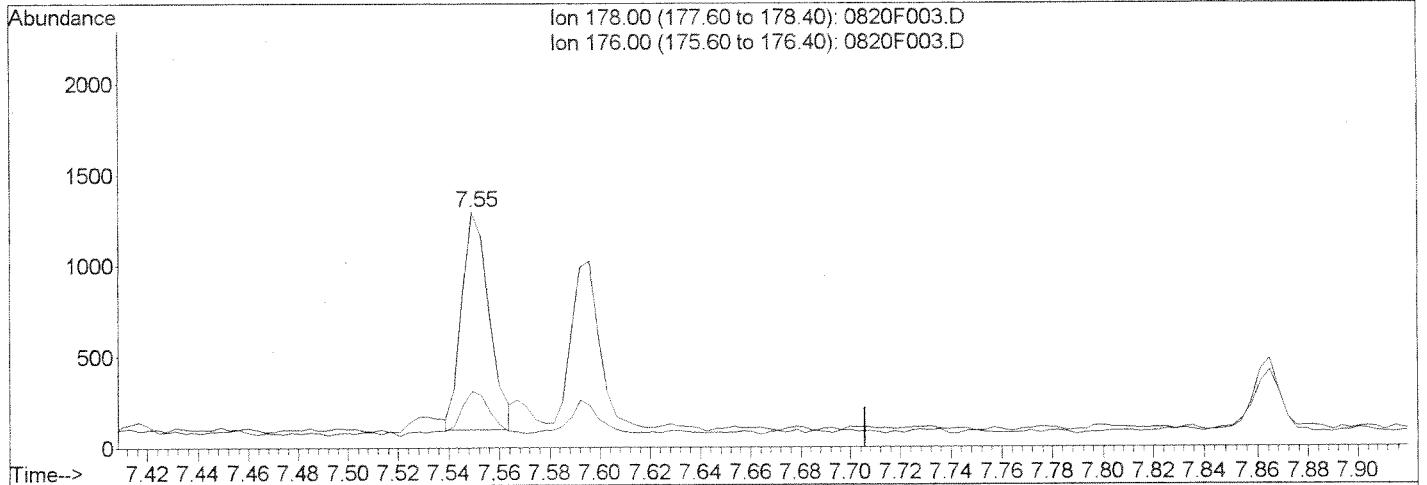
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F003.D  
 Acq On : 20 Aug 2014 10:44 am  
 Sample : KWG1411415-05 | MB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:55 2014

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F003.D

(16) Phenanthrene (T)

7.55min 1.18ng/ml m

response 905

Ion	Exp%	Act%
178.00	100	100
176.00	18.90	24.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

08/21/14

*CA*

AUG 21 2014

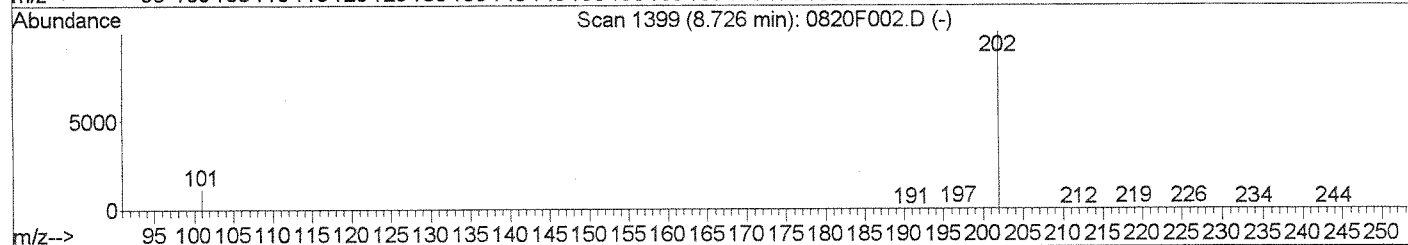
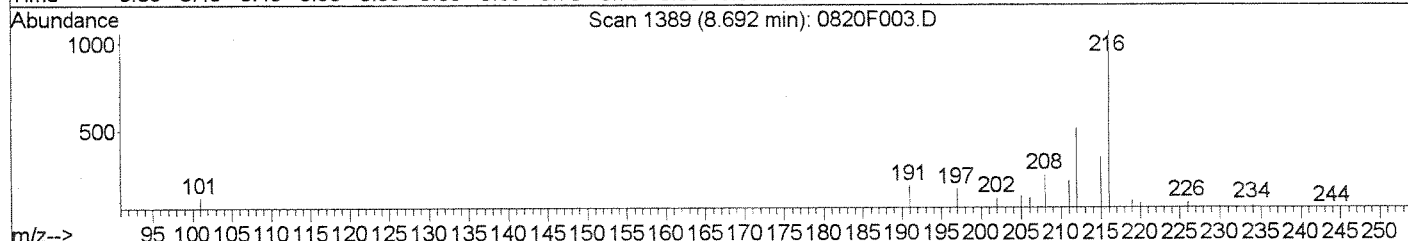
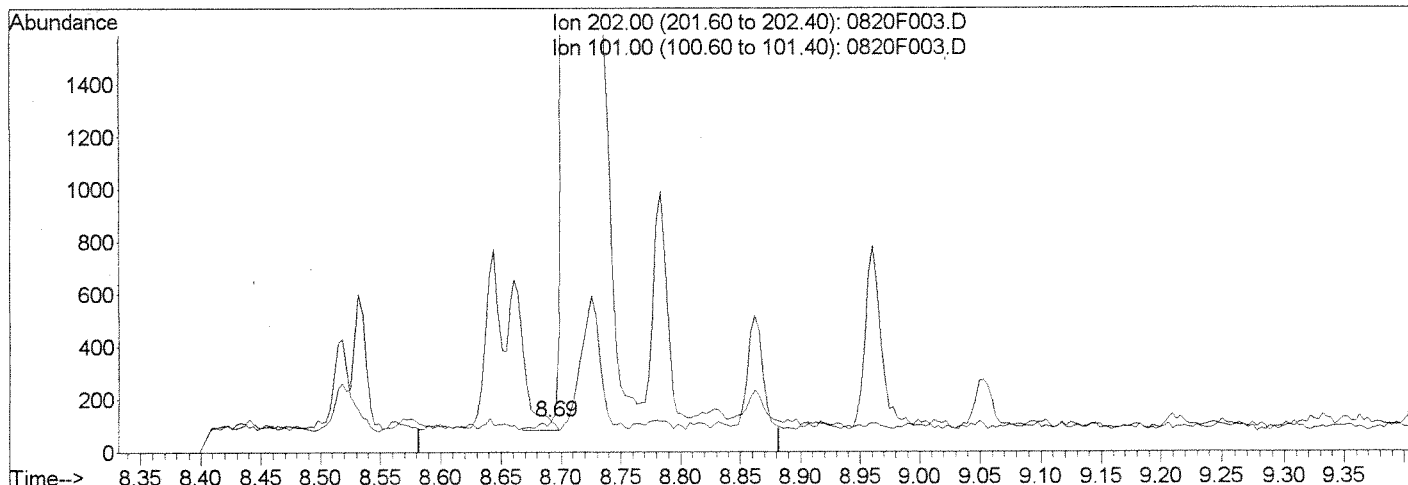
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F003.D  
 Acq On : 20 Aug 2014 10:44 am  
 Sample : KWG1411415-05 | MB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:55 2014

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F003.D

(23) Pyrene (T)			Manual Integration:
8.69min	0.03ng/ml		Before
response	33		
Ion	Exp%	Act%	08/21/14
202.00	100	100	<i>UA</i>
101.00	8.30	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

AUG 21 2014 *LB*

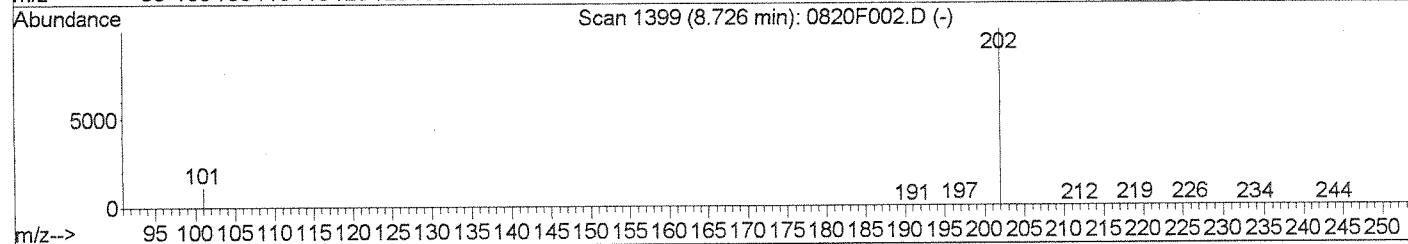
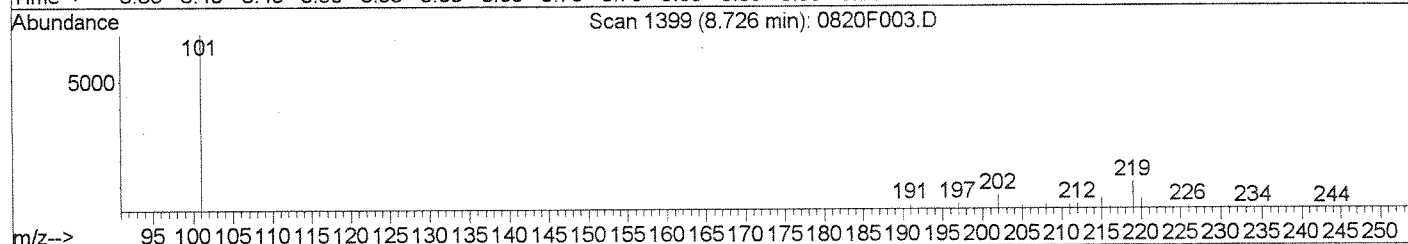
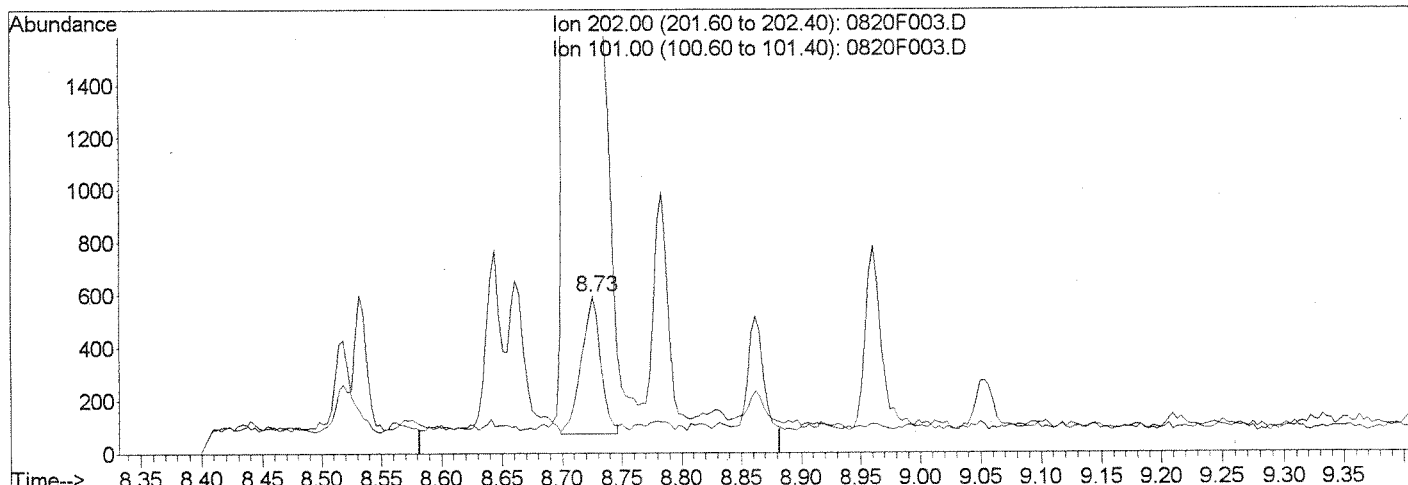
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\082014\0820F003.D  
 Acq On : 20 Aug 2014 10:44 am  
 Sample : KWG1411415-05 | MB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:55 2014

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F003.D

(23) Pyrene (T)			Manual Integration:
8.73min	0.57ng/ml m		After
response	589		WP
Ion	Exp%	Act%	08/21/14
202.00	100	100	
101.00	8.30	1147.23#	
0.00	0.00	0.00	
0.00	0.00	0.00	

Manual Integration:  
 After  
 WP  
 08/21/14

*CH*  
 AUG 21 2014



# Exception Report

**Data File:** J:\MS14\DATA\082014\0820F007.D  
**Lab ID:** KWG1411415-1 -- K1407971-006MS  
**RunType:** MS  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 12:25  
**Date Quantitated:** 08/21/2014 07:22  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC

K07849

Primary Review: CA AUG 21 2014  
 Secondary Review: VB AUG 21 2014

# Quantitation Report

Data File: J:\MS14\DATA\082014\0820F007.D	Instrument: MS14
Acqu Date: 08/20/2014 12:25	Quant Date: 08/21/2014 07:22
Run Type: MS	Vial: 7
Lab ID: KWG1411415-1 -- K1407971-006MS	Dilution: 1.0
	Soln Conc. Units: ng/ml

Bottle ID:	Tier:	Matrix: ANIMAL TISSUE
Prod Code: 8270D PAH SIM	Collect Date:	Receive Date: 08/14/2014

Analysis Lot: KWG1411816	Prep Lot: KWG1411415	Report Group:
Analysis Method: 8270D SIM	Prep Method: EPA 3541	
Prep Ref: 1365443	Prep Date: 08/12/2014	

Quant Method: J:\MS14\METHODS\SIM\072214SIMPAH	Calibration ID: CAL13446
Title:	
Tune Ref: J:\MS14\DATA\082014\0820F001.D	Method ID: MJ1238
MB Ref: J:\MS14\DATA\082014\0820F003.D	Quant based on Method

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	131930	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	67187	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	128630	200.00	OK
4	Chrysene-d12	10.06	0.00	240	137392	200.00	OK
5	Perylene-d12	13.16	0.01	264	148181	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	68884	173.80	87	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	131471	181.51	91	41-100	OK
4	Terphenyl-d14	8.86	-0.01	0.00	244	110095	178.15	89	39-111	OK

## Target Compounds

Final Conc. Units: ug/Kg										
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.68	-0.01	0.00	128	256856	367.30	2430		
1	2-Methylnaphthalene	5.36	-0.01	0.00	142	181659	371.60	2460		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	158595	368.44	2440		
1	Biphenyl	5.79		0.00	154	220611	381.58	2520		
1	2,6-Dimethylnaphthalene	5.93		0.00	156	159495	370.06	2450		
2	Acenaphthylene	6.16		0.00	152	286070	422.58	2790		
2	Acenaphthene	6.31		0.00	154	167868	429.23	2840		
2	Dibenzofuran	6.46		0.00	168	275086	445.72	2950		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	155271	396.98	2620		
2	Fluorene	6.75		0.00	166	214876	439.27	2900		
3	Dibenzothiophene	7.45		0.00	184	341237	502.22	3320		
3	Phenanthrene	7.55		0.00	178	324350	456.82	3020		
3	Anthracene	7.59		0.00	178	325267	462.10	3060		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 E: Hit above MRL also found in Method Blank  
 N: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F007.D  
 Acqu Date: 08/20/2014 12:25  
 Run Type: MS  
 Lab ID: KWG1411415-1 -- K1407971-006MS

Quant Date: 08/21/2014 07:22

Instrument: MS14  
 Vial: 7  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73		0.00	167	309123	498.33	3290		
3	1-Methylphenanthrene	8.06		0.00	192	257368	458.20	3030		
3	Fluoranthene	8.53		0.00	202	390164	471.43	3120		
4	Pyrene	8.73		0.00	202	381623	402.58	2660		
4	Benz(a)anthracene	10.04		0.00	228	364303	432.37	2860		
4	Chrysene	10.10		0.00	228	342086	457.79	3030		
5	Benzo(b)fluoranthene	12.11		0.00	252	402304	442.22	2920		
5	Benzo(k)fluoranthene	12.18		0.00	252	396671	438.56	2900		
5	Benzo(e)pyrene	12.83		0.00	252	377779	432.46	2860		
5	Benzo(a)pyrene	12.98		0.00	252	362335	414.32	2740		
5	Perylene	13.24	0.01	0.00	252	349896	423.47	2800		
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	404554	413.88	2740		
5	Dibenz(a,h)anthracene	15.45	0.01	0.00	278	405678	434.16	2870		
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	437039	411.41	2720		

Prep Amount: 10.083 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: 15 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F007.D  
 Acq On : 20 Aug 2014 12:25 pm  
 Sample : K1407971-006 | MS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:17 2014

Vial: 7  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.66	136	131930	200.00	ng/ml	-0.02
7) Acenaphthene-d10	6.29	164	67187	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	128630	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	137392	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	148181	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	68884	173.80	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.38%	
21) Fluoranthene-d10	8.52	212	131471	181.51	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	18.15%	
24) Terphenyl-d14	8.86	244	110095	178.15	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.82%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.68	128	256856	367.30	ng/ml	96
3) 2-Methylnaphthalene	5.36	142	181659	371.60	ng/ml	99
4) 1-Methylnaphthalene	5.45	142	158595	368.44	ng/ml	96
5) Biphenyl	5.79	154	220611	381.58	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.93	156	159495	370.06	ng/ml	95
8) Acenaphthylene	6.16	152	286070	422.58	ng/ml	100
9) Acenaphthene	6.31	154	167868	429.23	ng/ml	97
10) Dibenzofuran	6.46	168	275086	445.72	ng/ml	95
11) 2,3,5-Trimethylnaphthalene	6.64	170	155271	396.98	ng/ml	95
13) Fluorene	6.75	166	214876	439.27	ng/ml	97
15) Dibenzothiophene	7.45	184	341237	502.22	ng/ml	96
16) Phenanthrene	7.55	178	324350	456.82	ng/ml	99
17) Anthracene	7.59	178	325267	462.10	ng/ml	98
18) Carbazole	7.73	167	309123	498.33	ng/ml	99
19) 1-Methylphenanthrene	8.06	192	257368	458.20	ng/ml	98
20) Fluoranthene	8.53	202	390164	471.43	ng/ml	93
23) Pyrene	8.73	202	381623	402.58	ng/ml	88
25) Benz(a)anthracene	10.04	228	364303	432.37	ng/ml	99
26) Chrysene	10.10	228	342086	457.79	ng/ml	99
28) Benzo(b)fluoranthene	12.11	252	402304	442.22	ng/ml	98
29) Benzo(k)fluoranthene	12.18	252	396671	438.56	ng/ml	99
30) Benzo(e)pyrene	12.83	252	377779	432.46	ng/ml	100
31) Benzo(a)pyrene	12.98	252	362335	414.32	ng/ml	99
32) Perylene	13.24	252	349896	423.47	ng/ml	100
33) Indeno(1,2,3-cd)pyrene	15.39	276	404554	413.88	ng/ml	100
34) Dibenz(a,h)anthracene	15.45	278	405678	434.16	ng/ml	95
35) Benzo(g,h,i)perylene	15.78	276	437039	411.41	ng/ml	100

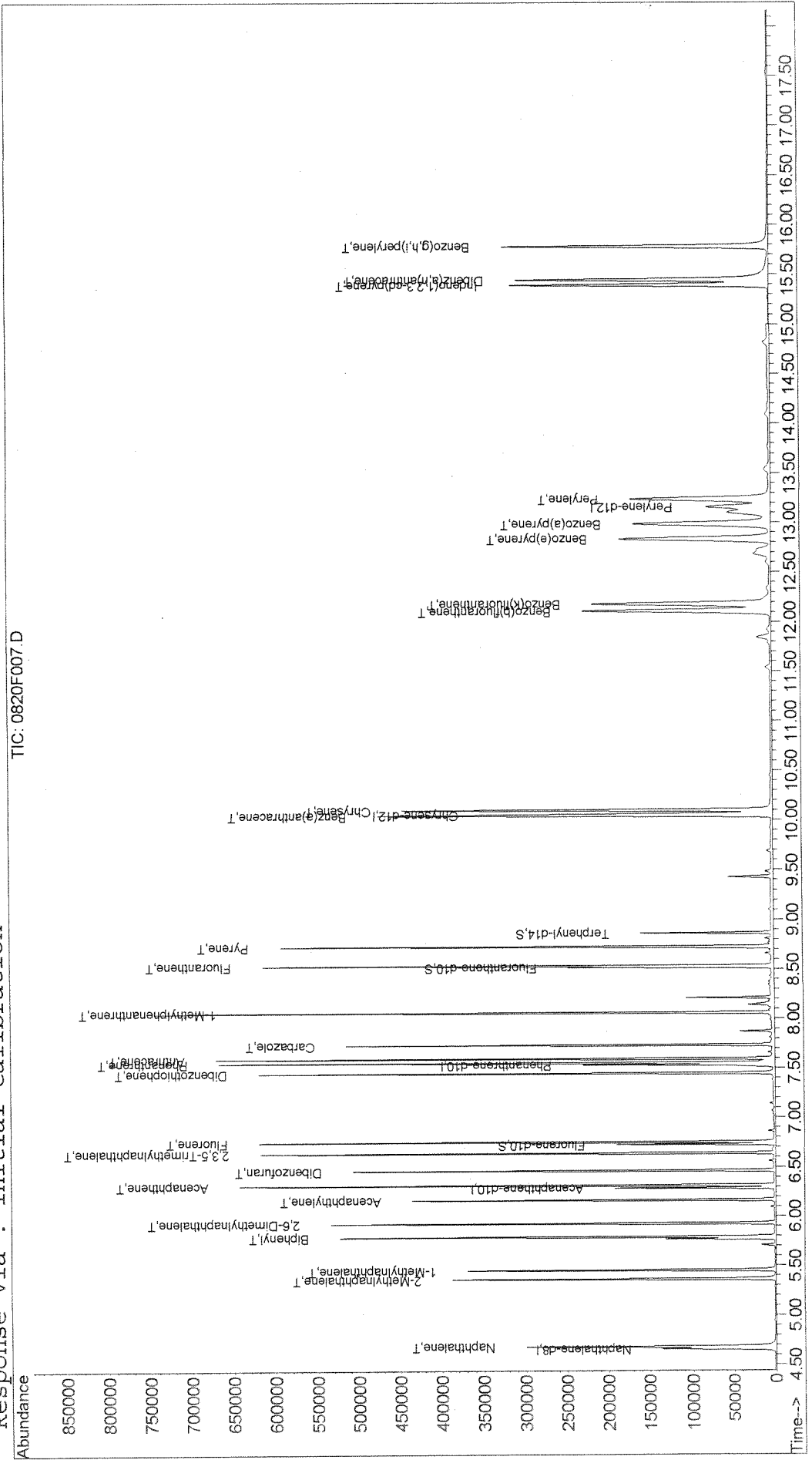
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F007.D  
 Acq On : 20 Aug 2014 12:25 pm  
 Sample : K1407971-006 | MS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 7:22 2014

Vial: 7  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F008.D  
**Lab ID:** KWG1411415-2 -- K1407971-006DMS  
**Run Type:** DMS  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 12:51  
**Date Quantitated:** 08/21/2014 07:22  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Batch QC

K0784A

Primary Review: CA AUG 21 2014  
 Secondary Review: LB AUG 21 2014

# Quantitation Report

Data File:	J:\MS14\DATA\082014\0820F008.D	Instrument:	MS14
Acqu Date:	08/20/2014 12:51	Quant Date:	08/21/2014 07:22
Run Type:	DMS	Vial:	8
Lab ID:	KWG1411415-2 -- K1407971-006DMS	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Bottle ID:	Tier:	Matrix:	ANIMAL TISSUE
Prod Code:	8270D PAH SIM	Collect Date:	Receive Date:
			08/14/2014

Analysis Lot:	KWG1411816	Prep Lot:	KWG1411415	Report Group:
Analysis Method:	8270D SIM	Prep Method:	EPA 3541	
Prep Ref:	1365444	Prep Date:	08/12/2014	

Quant Method:	J:\MS14\METHODS\SIM\072214SIMPAAH	Calibration ID:	CAL13446
Title:		Method ID:	MJ1238
Tune Ref:	J:\MS14\DATA\082014\0820F001.D	Quant based on Method	
MB Ref:	J:\MS14\DATA\082014\0820F003.D		

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	133567	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	68549	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	132442	200.00	OK
4	Chrysene-d12	10.06	0.00	240	139805	200.00	OK
5	Perylene-d12	13.16	0.01	264	149552	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	72881	180.23	90	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	132931	178.24	89	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	109779	174.57	87	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
								Final Conc. Units: ug/Kg		
1	Naphthalene	4.69		0.00	128	263839	372.66	2430		
1	2-Methylnaphthalene	5.37		0.00	142	186610	377.05	2460		
1	1-Methylnaphthalene	5.46		0.00	142	163302	374.73	2450		
1	Biphenyl	5.79		0.00	154	223294	381.49	2490		
1	2,6-Dimethylnaphthalene	5.93		0.00	156	161975	371.21	2420		
2	Acenaphthylene	6.16		0.00	152	291215	421.63	2750		
2	Acenaphthene	6.31		0.00	154	170900	428.30	2790		
2	Dibenzofuran	6.46		0.00	168	280997	446.25	2910		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	156111	391.20	2550		
2	Fluorene	6.75		0.00	166	217680	436.16	2850		
3	Dibenzothiophene	7.45		0.00	184	342833	490.05	3200		
3	Phenanthrene	7.55		0.00	178	323352	442.31	2890		
3	Anthracene	7.59		0.00	178	324046	447.12	2920		

U: Undetected at or above MDL  
 F: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 #: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F008.D  
 Acqu Date: 08/20/2014 12:51  
 Run Type: DMS  
 Lab ID: KWG1411415-2 -- K1407971-006DMS

Quant Date: 08/21/2014 07:22

Instrument: MS14  
 Vial: 8  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

						Final Conc. Units: ug/Kg				
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73		0.00	167	308980	483.77	3160		
3	1-Methylphenanthrene	8.06		0.00	192	254251	439.62	2870		
3	Fluoranthene	8.53		0.00	202	385727	452.66	2950		
4	Pyrene	8.73		0.00	202	409776	424.82	2770		
4	Benzo(a)anthracene	10.05	0.01	0.00	228	360422	420.38	2740		
4	Chrysene	10.10		0.00	228	338000	444.52	2900		
5	Benzo(b)fluoranthene	12.11		0.00	252	395292	430.53	2810		
5	Benzo(k)fluoranthene	12.18		0.00	252	390898	428.21	2790		
5	Benzo(e)pyrene	12.84	0.01	0.00	252	374739	425.04	2770		
5	Benzo(a)pyrene	12.99	0.01	0.00	252	354891	402.09	2620		
5	Perylene	13.24	0.01	0.00	252	345310	414.09	2700		
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	400762	406.24	2650		
5	Dibenz(a,h)anthracene	15.45	0.01	0.00	278	400371	424.55	2770		
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	434754	405.50	2650		

Prep Amount: 10.217 g                      Dilution: 1.0  
 Prep Final Vol: 10 ml                      Unit Factor: 1  
 Solids: 15 %

**Final Concentration** = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 c: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution



Data File : J:\MS14\DATA\082014\0820F008.D  
 Acq On : 20 Aug 2014 12:51 pm  
 Sample : K1407971-006 | DMS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:18 2014

Vial: 8  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	133567	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	68549	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	132442	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	139805	200.00	ng/ml	0.00
27) Perylene-d12	13.16	264	149552	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.73	176	72881	180.23	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	18.02%	
21) Fluoranthene-d10	8.52	212	132931	178.24	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.82%	
24) Terphenyl-d14	8.87	244	109779	174.57	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.46%	

Target Compounds

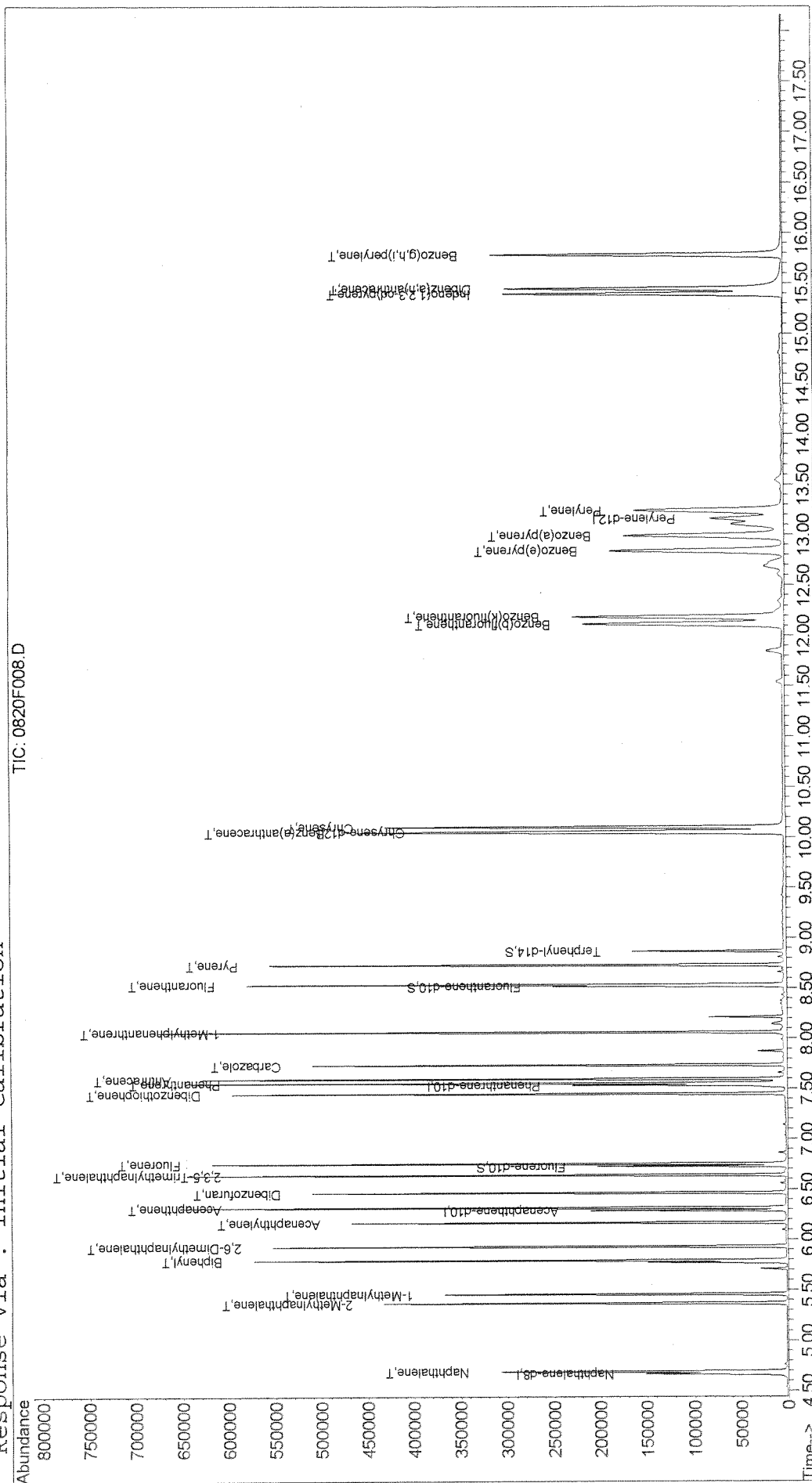
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	263839	372.66	ng/ml	96
3) 2-Methylnaphthalene	5.37	142	186610	377.05	ng/ml	99
4) 1-Methylnaphthalene	5.46	142	163302	374.73	ng/ml	96
5) Biphenyl	5.79	154	223294	381.49	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.93	156	161975	371.21	ng/ml	95
8) Acenaphthylene	6.16	152	291215	421.63	ng/ml	100
9) Acenaphthene	6.31	154	170900	428.30	ng/ml	95
10) Dibenzofuran	6.46	168	280997	446.25	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.64	170	156111	391.20	ng/ml	100
13) Fluorene	6.75	166	217680	436.16	ng/ml	99
15) Dibenzothiophene	7.45	184	342833	490.05	ng/ml	97
16) Phenanthrene	7.55	178	323352	442.31	ng/ml	100
17) Anthracene	7.59	178	324046	447.12	ng/ml	98
18) Carbazole	7.73	167	308980	483.77	ng/ml	100
19) 1-Methylphenanthrene	8.06	192	254251	439.62	ng/ml	99
20) Fluoranthene	8.53	202	385727	452.66	ng/ml	92
23) Pyrene	8.73	202	409776	424.82	ng/ml	95
25) Benz(a)anthracene	10.05	228	360422	420.38	ng/ml	99
26) Chrysene	10.10	228	338000	444.52	ng/ml	98
28) Benzo(b)fluoranthene	12.11	252	395292	430.53	ng/ml	99
29) Benzo(k)fluoranthene	12.18	252	390898	428.21	ng/ml	99
30) Benzo(e)pyrene	12.84	252	374739	425.04	ng/ml	100
31) Benzo(a)pyrene	12.99	252	354891	402.09	ng/ml	98
32) Perylene	13.24	252	345310	414.09	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.39	276	400762	406.24	ng/ml	100
34) Dibenz(a,h)anthracene	15.45	278	400371	424.55	ng/ml	95
35) Benzo(g,h,i)perylene	15.78	276	434754	405.50	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F008.D  
 Acq On : 20 Aug 2014 12:51 pm  
 Sample : K1407971-006 | DMS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 7:22 2014

Vial: 8  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00  
 Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F004.D  
**Lab ID:** KWG1411415-3  
**RunType:** LCS  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 11:09  
**Date Quantitated:** 08/21/2014 07:22  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K07971

K07849

Primary Review: CA AUG 21 2014  
 Secondary Review: AB AUG 21 2014

# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F004.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 11:09	<b>Quant Date:</b> 08/21/2014 07:22
<b>Run Type:</b> LCS	<b>Vial:</b> 4
<b>Lab ID:</b> KWG1411415-3	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b>	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b>	<b>Receive Date:</b> 08/14/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b>
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365445	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b>	
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Method</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	133110	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	69564	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	134564	200.00	OK
4	Chrysene-d12	10.06	0.00	240	141661	200.00	OK
5	Perylene-d12	13.15	0.00	264	151702	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	69629	169.67	85	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	127932	168.83	84	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	107228	168.28	84	39-111	OK

## Target Compounds

Final Conc. Units: ug/Kg										
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	269561	382.05	382		
1	2-Methylnaphthalene	5.37		0.00	142	191346	387.94	388		
1	1-Methylnaphthalene	5.46		0.00	142	169424	390.11	390		
1	Biphenyl	5.79		0.00	154	227829	390.57	391		
1	2,6-Dimethylnaphthalene	5.93		0.00	156	165415	380.39	380		
2	Acenaphthylene	6.16		0.00	152	292875	417.85	418		
2	Acenaphthene	6.31		0.00	154	169374	418.28	418		
2	Dibenzofuran	6.46		0.00	168	278438	435.73	436		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	153963	380.19	380		
2	Fluorene	6.75		0.00	166	214877	424.26	424		
3	Dibenzothiophene	7.45		0.00	184	333134	468.68	469		
3	Phenanthrene	7.55		0.00	178	317198	427.05	427		
3	Anthracene	7.59		0.00	178	322087	437.40	437		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 E: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 C: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ? : Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F004.D  
 Acqu Date: 08/20/2014 11:09  
 Run Type: LCS  
 Lab ID: KWG1411415-3

Quant Date: 08/21/2014 07:22

Instrument: MS14  
 Vial: 4  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73		0.00	167	302284	465.82	466		
3	1-Methylphenanthrene	8.06		0.00	192	250437	426.20	426		
3	Fluoranthene	8.53		0.00	202	381570	440.72	441		
4	Pyrene	8.73		0.00	202	361803	370.17	370		
4	Benz(a)anthracene	10.04		0.00	228	358407	412.55	413		
4	Chrysene	10.10		0.00	228	335721	435.74	436		
5	Benzo(b)fluoranthene	12.11		0.00	252	398030	427.36	427		
5	Benzo(k)fluoranthene	12.18		0.00	252	387732	418.73	419		
5	Benzo(e)pyrene	12.82	-0.01	0.00	252	370766	414.58	415		
5	Benzo(a)pyrene	12.98		0.00	252	363758	406.29	406		
5	Perylene	13.23		0.00	252	350529	414.39	414		
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	388585	388.32	388		
5	Dibenz(a,h)anthracene	15.44		0.00	278	392594	410.40	410		
5	Benzo(g,h,i)perylene	15.78	0.01	0.00	276	425308	391.07	391		

Prep Amount: 10.000 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 F: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F004.D  
 Acq On : 20 Aug 2014 11:09 am  
 Sample : KWG1411415-03 | LCS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:15 2014

Vial: 4  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.67	136	133110	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	69564	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	134564	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	141661	200.00	ng/ml	0.00
27) Perylene-d12	13.15	264	151702	200.00	ng/ml	-0.01

System Monitoring Compounds

12) Fluorene-d10	6.73	176	69629	169.67	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.97%	
21) Fluoranthene-d10	8.52	212	127932	168.83	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.88%	
24) Terphenyl-d14	8.87	244	107228	168.28	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.83%	

Target Compounds

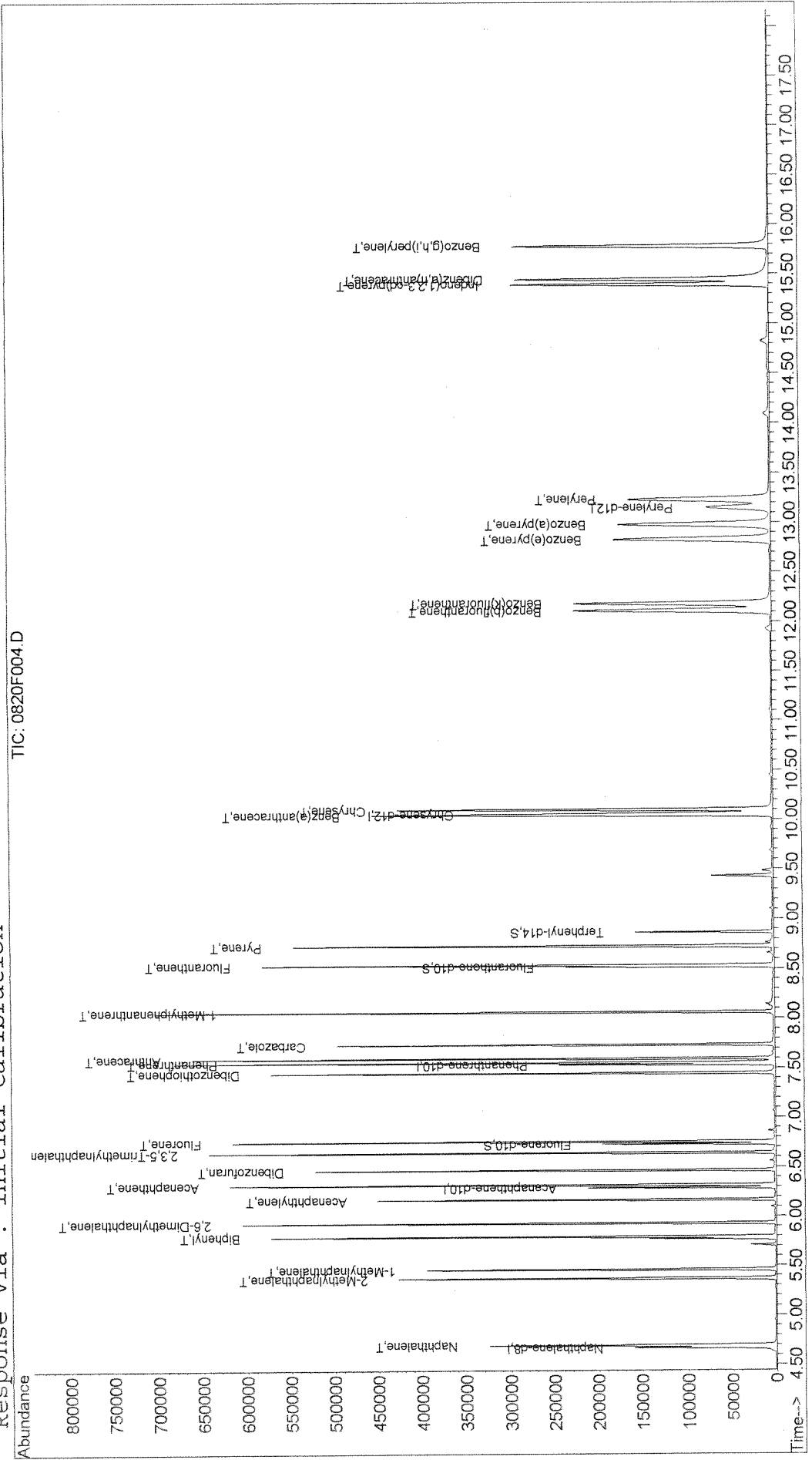
	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	269561	382.05	ng/ml	95
3) 2-Methylnaphthalene	5.37	142	191346	387.94	ng/ml	97
4) 1-Methylnaphthalene	5.46	142	169424	390.11	ng/ml	98
5) Biphenyl	5.79	154	227829	390.57	ng/ml	95
6) 2,6-Dimethylnaphthalene	5.93	156	165415	380.39	ng/ml	95
8) Acenaphthylene	6.16	152	292875	417.85	ng/ml	100
9) Acenaphthene	6.31	154	169374	418.28	ng/ml	97
10) Dibenzofuran	6.46	168	278438	435.73	ng/ml	96
11) 2,3,5-Trimethylnaphthalene	6.64	170	153963	380.19	ng/ml	96
13) Fluorene	6.75	166	214877	424.26	ng/ml	98
15) Dibenzothiophene	7.45	184	333134	468.68	ng/ml	95
16) Phenanthrene	7.55	178	317198	427.05	ng/ml	99
17) Anthracene	7.59	178	322087	437.40	ng/ml	98
18) Carbazole	7.73	167	302284	465.82	ng/ml	99
19) 1-Methylphenanthrene	8.06	192	250437	426.20	ng/ml	98
20) Fluoranthene	8.53	202	381570	440.72	ng/ml	93
23) Pyrene	8.73	202	361803	370.17	ng/ml	84
25) Benz(a)anthracene	10.04	228	358407	412.55	ng/ml	99
26) Chrysene	10.10	228	335721	435.74	ng/ml	99
28) Benzo(b)fluoranthene	12.11	252	398030	427.36	ng/ml	99
29) Benzo(k)fluoranthene	12.18	252	387732	418.73	ng/ml	99
30) Benzo(e)pyrene	12.82	252	370766	414.58	ng/ml	100
31) Benzo(a)pyrene	12.98	252	363758	406.29	ng/ml	100
32) Perylene	13.23	252	350529	414.39	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.39	276	388585	388.32	ng/ml	100
34) Dibenz(a,h)anthracene	15.44	278	392594	410.40	ng/ml	95
35) Benzo(g,h,i)perylene	15.78	276	425308	391.07	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F004.D  
Acq On : 20 Aug 2014 11:09 am  
Sample : KWG1411415-03 | LCS  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 7:22 2014  
Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Initial Calibration



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F005.D  
**Lab ID:** KWG1411415-4  
**RunType:** DLCS  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 11:34  
**Date Quantitated:** 08/21/2014 07:22  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K07971

K07849

Primary Review: AA AUG 21 2014  
 Secondary Review: LB AUG 21 2014



# Quantitation Report

<b>Data File:</b> J:\MS14\DATA\082014\0820F005.D	<b>Instrument:</b> MS14
<b>Acqu Date:</b> 08/20/2014 11:34	<b>Quant Date:</b> 08/21/2014 07:22
<b>Run Type:</b> DLCS	<b>Vial:</b> 5
<b>Lab ID:</b> KWG1411415-4	<b>Dilution:</b> 1.0
	<b>Soln Conc. Units:</b> ng/ml

<b>Bottle ID:</b>	<b>Tier:</b>	<b>Matrix:</b> ANIMAL TISSUE
<b>Prod Code:</b> 8270D PAH SIM	<b>Collect Date:</b>	<b>Receive Date:</b> 08/14/2014

<b>Analysis Lot:</b> KWG1411816	<b>Prep Lot:</b> KWG1411415	<b>Report Group:</b>
<b>Analysis Method:</b> 8270D SIM	<b>Prep Method:</b> EPA 3541	
<b>Prep Ref:</b> 1365446	<b>Prep Date:</b> 08/12/2014	

<b>Quant Method:</b> J:\MS14\METHODS\SIM\072214SIMPAAH	<b>Calibration ID:</b> CAL13446
<b>Title:</b>	
<b>Tune Ref:</b> J:\MS14\DATA\082014\0820F001.D	<b>Method ID:</b> MJ1238
<b>MB Ref:</b> J:\MS14\DATA\082014\0820F003.D	<b>Quant based on Method</b>

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.66	-0.01	136	136833	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	69515	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	134563	200.00	OK
4	Chrysene-d12	10.06	0.00	240	139437	200.00	OK
5	Perylene-d12	13.15	0.00	264	132448	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	69020	168.31	84	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	129758	171.24	86	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	105532	168.26	84	39-111	OK

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	278846	384.46	384		
1	2-Methylnaphthalene	5.37		0.00	142	192953	380.56	381		
1	1-Methylnaphthalene	5.45	-0.01	0.00	142	164981	369.54	370		
1	Biphenyl	5.79		0.00	154	224730	374.78	375		
1	2,6-Dimethylnaphthalene	5.93		0.00	156	161716	361.77	362		
2	Acenaphthylene	6.16		0.00	152	288869	412.42	412		
2	Acenaphthene	6.31		0.00	154	167239	413.30	413		
2	Dibenzofuran	6.46		0.00	168	273614	428.48	428		
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	162450	401.43	401		
2	Fluorene	6.75		0.00	166	221758	438.16	438		
3	Dibenzothiophene	7.45		0.00	184	326733	459.67	460		
3	Phenanthrene	7.55		0.00	178	309970	417.32	417		
3	Anthracene	7.59		0.00	178	315406	428.33	428		

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F005.D  
 Acqu Date: 08/20/2014 11:34  
 Run Type: DLCS  
 Lab ID: KWG1411415-4

Quant Date: 08/21/2014 07:22

Instrument: MS14  
 Vial: 5  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

						Final Conc. Units:	ug/Kg			
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73		0.00	167	299018	460.79	461		
3	1-Methylphenanthrene	8.06		0.00	192	245903	418.49	418		
3	Fluoranthene	8.53		0.00	202	375406	433.60	434		
4	Pyrene	8.73		0.00	202	396135	411.76	412		
4	Benz(a)anthracene	10.04		0.00	228	352194	411.87	412		
4	Chrysene	10.10		0.00	228	327626	432.01	432		
5	Benzo(b)fluoranthene	12.11		0.00	252	381852	469.59	470		
5	Benzo(k)fluoranthene	12.18		0.00	252	375852	464.90	465		
5	Benzo(e)pyrene	12.83		0.00	252	355552	455.36	455		
5	Benzo(a)pyrene	12.98		0.00	252	337992	432.39	432		
5	Perylene	13.23		0.00	252	315048	426.59	427		
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	354399	405.64	406		
5	Dibenz(a,h)anthracene	15.44		0.00	278	367344	439.83	440		
5	Benzo(g,h,i)perylene	15.77		0.00	276	382947	403.31	403		

Prep Amount: 10.000 g      Dilution: 1.0  
 Prep Final Vol: 10 ml      Unit Factor: 1  
 Solids: %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL, also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F005.D  
 Acq On : 20 Aug 2014 11:34 am  
 Sample : KWG1411415-04 | DLCS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:15 2014

Vial: 5  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.66	136	136833	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	69515	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	134563	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	139437	200.00	ng/ml	0.00
27) Perylene-d12	13.15	264	132448	200.00	ng/ml	-0.01

System Monitoring Compounds

12) Fluorene-d10	6.73	176	69020	168.31	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.83%	
21) Fluoranthene-d10	8.52	212	129758	171.24	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	17.12%	
24) Terphenyl-d14	8.87	244	105532	168.26	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	16.83%	

Target Compounds

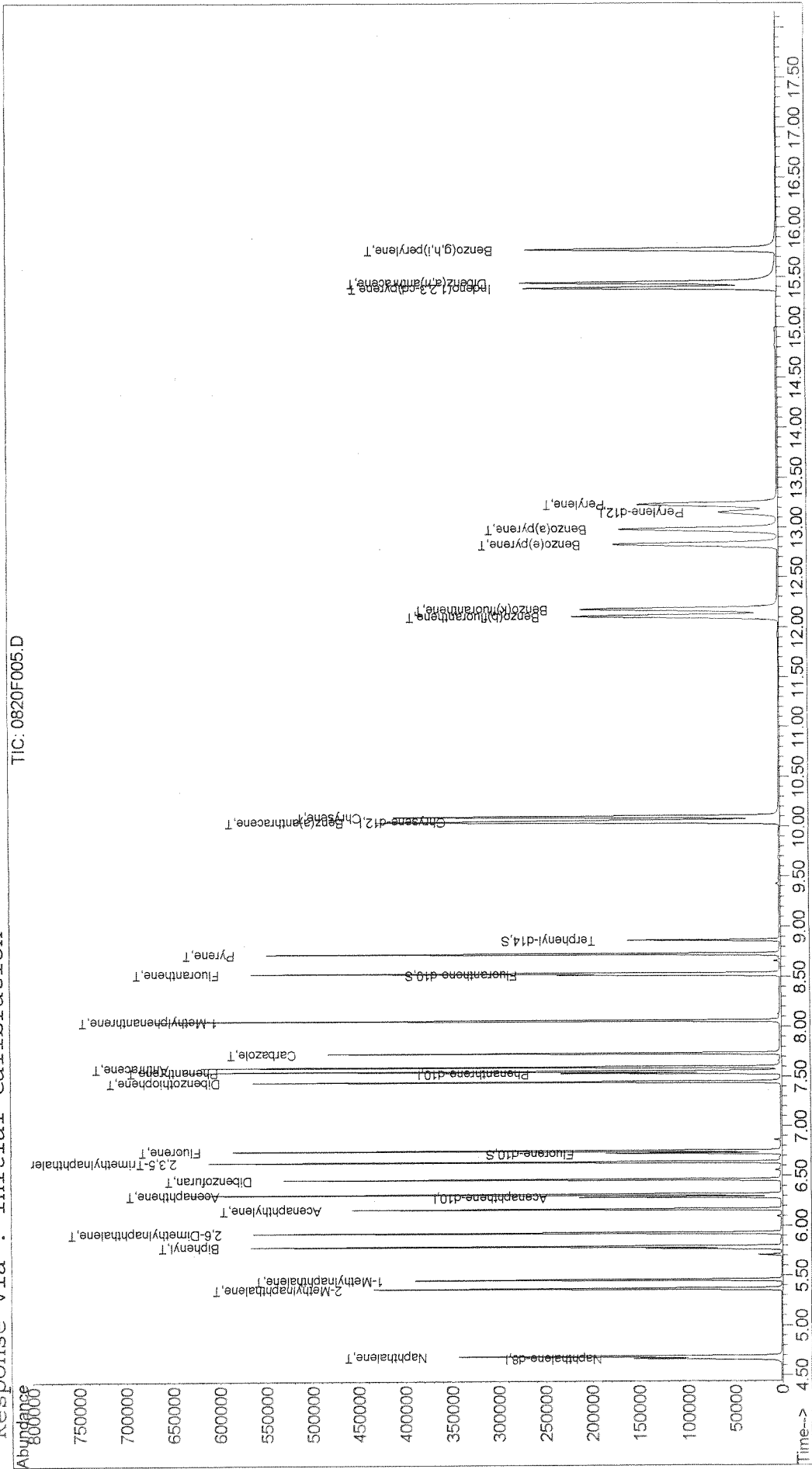
						Qvalue
2) Naphthalene	4.69	128	278846	384.46	ng/ml	95
3) 2-Methylnaphthalene	5.37	142	192953	380.56	ng/ml	100
4) 1-Methylnaphthalene	5.45	142	164981	369.54	ng/ml	96
5) Biphenyl	5.79	154	224730	374.78	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.93	156	161716	361.77	ng/ml	96
8) Acenaphthylene	6.16	152	288869	412.42	ng/ml	100
9) Acenaphthene	6.31	154	167239	413.30	ng/ml	96
10) Dibenzofuran	6.46	168	273614	428.48	ng/ml	100
11) 2,3,5-Trimethylnaphthalene	6.64	170	162450	401.43	ng/ml	95
13) Fluorene	6.75	166	221758	438.16	ng/ml	99
15) Dibenzothiophene	7.45	184	326733	459.67	ng/ml	95
16) Phenanthrene	7.55	178	309970	417.32	ng/ml	99
17) Anthracene	7.59	178	315406	428.33	ng/ml	98
18) Carbazole	7.73	167	299018	460.79	ng/ml	99
19) 1-Methylphenanthrene	8.06	192	245903	418.49	ng/ml	97
20) Fluoranthene	8.53	202	375406	433.60	ng/ml	93
23) Pyrene	8.73	202	396135	411.76	ng/ml	92
25) Benz(a)anthracene	10.04	228	352194	411.87	ng/ml	100
26) Chrysene	10.10	228	327626	432.01	ng/ml	99
28) Benzo(b)fluoranthene	12.11	252	381852	469.59	ng/ml	98
29) Benzo(k)fluoranthene	12.18	252	375852	464.90	ng/ml	99
30) Benzo(e)pyrene	12.83	252	355552	455.36	ng/ml	100
31) Benzo(a)pyrene	12.98	252	337992	432.39	ng/ml	98
32) Perylene	13.23	252	315048	426.59	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.39	276	354399	405.64	ng/ml	100
34) Dibenz(a,h)anthracene	15.44	278	367344	439.83	ng/ml	94
35) Benzo(g,h,i)perylene	15.77	276	382947	403.31	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\082014\0820F005.D  
 Acq On : 20 Aug 2014 11:34 am  
 Sample : KWGL1411415-04 | DLCS  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 7:22 2014

Vial: 5  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00  
 Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration



## Exception Report

**Data File:** J:\MS14\DATA\082014\0820F006.D  
**Lab ID:** KWG1411415-6  
**RunType:** SRM  
**Matrix:** ANIMAL TISSUE

**Date Acquired:** 08/20/2014 12:00  
**Date Quantitated:** 08/21/2014 08:57  
**Batch ID:** KWG1411816  
**Analysis Method:** 8270D SIM  
**MethodJoinID:** MJ1238

### Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K07971

K07849

Primary Review: CA AUG 21 2014  
 Secondary Review: AUG 21 2014

# Quantitation Report

Data File:	J:\MS14\DATA\082014\0820F006.D	Instrument:	MS14
Acqu Date:	08/20/2014 12:00	Quant Date:	08/21/2014 08:57
Run Type:	SRM	Vial:	6
Lab ID:	KWG1411415-6	Dilution:	1.0
		Soln Conc. Units:	ng/ml

Bottle ID:	Tier:	Matrix:	ANIMAL TISSUE
Prod Code:	8270D PAH SIM	Collect Date:	Receive Date:
			08/14/2014

Analysis Lot:	KWG1411816	Prep Lot:	KWG1411415	Report Group:
Analysis Method:	8270D SIM	Prep Method:	EPA 3541	
Prep Ref:	1365448	Prep Date:	08/12/2014	

Quant Method:	J:\MS14\METHODS\SIM072214SIMPAH	Calibration ID:	CAL13446
Title:		Method ID:	MJ1238
Tune Ref:	J:\MS14\DATA\082014\0820F001.D	Quant based on Method	
MB Ref:	J:\MS14\DATA\082014\0820F003.D		

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	0.00	136	133061	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	71735	200.00	OK
3	Phenanthrene-d10	7.53	0.00	188	137413	200.00	OK
4	Chrysene-d12	10.06	0.00	240	149758	200.00	OK
5	Perylene-d12	13.15	0.00	264	157137	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73	0.00	0.00	176	136101	321.61	80	39-96	OK
3	Fluoranthene-d10	8.52	0.00	0.00	212	249799	322.83	81	41-100	OK
4	Terphenyl-d14	8.87	0.00	0.00	244	208415	309.39	77	39-111	OK

## Target Compounds

Final Conc. Units: ug/Kg										
IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69		0.00	128	1132	1.60	1.59	J	
1	2-Methylnaphthalene	5.37		0.00	142	697	1.41	1.40	J	
1	1-Methylnaphthalene	5.46		0.00	142	540	1.24	1.23	J	
1	Biphenyl	5.79		0.00	154	576	0.9900	0.982	J	
1	2,6-Dimethylnaphthalene	5.93		0.00	156	506	1.16	1.15	J	
2	Acenaphthylene	6.17	0.01	0.00	152	300	0.4200	0.46	U	
2	Acenaphthene	6.31		0.00	154	554	1.33	1.32	J	
2	Dibenzofuran	6.46		0.00	168	852	1.29	1.28	J	
2	2,3,5-Trimethylnaphthalene	6.64		0.00	170	592m	1.42	1.41	J	
2	Fluorene	6.75		0.00	166	884	1.69	1.68	J	
3	Dibenzothiophene	7.45		0.00	184	903	1.24	1.23	J	
3	Phenanthrene	7.55		0.00	178	11434	15.07	15.0	J	
3	Anthracene	7.59		0.00	178	528	0.7000	0.695	J	

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F006.D  
 Acqu Date: 08/20/2014 12:00  
 Run Type: SRM  
 Lab ID: KWG1411415-6

Quant Date: 08/21/2014 08:57

Instrument: MS14  
 Vial: 6  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

Target Compounds

Final Conc. Units: ug/Kg

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73		0.00	167	765	1.15	1.14	J	
3	1-Methylphenanthrene	8.06		0.00	192	1586	2.64	2.62	J	
3	Fluoranthene	8.53		0.00	202	32125	36.34	36.1		
4	Pyrene	8.73		0.00	202	18495	17.90	17.8		
4	Benz(a)anthracene	10.04		0.00	228	2979	3.24	3.21	J	
4	Chrysene	10.09	-0.01	0.00	228	6543m	8.03	7.97		
5	Benzo(b)fluoranthene	12.11		0.00	252	6111	6.33	6.28		
5	Benzo(k)fluoranthene	12.18		0.00	252	2296m	2.39	2.4	Ui	
5	Benzo(e)pyrene	12.83		0.00	252	6170	6.66	6.61		
5	Benzo(a)pyrene	12.97	-0.01	0.00	252	3745	4.04	4.1	Ui	
5	Perylene	13.22	-0.01	0.00	252	605	0.6900	1.2	U	
5	Indeno(1,2,3-cd)pyrene	15.39		0.00	276	2212	2.13	2.11	J	
5	Dibenz(a,h)anthracene	15.44		0.00	278	775	0.7800	0.86	U	
5	Benzo(g,h,i)perylene	15.77		0.00	276	3663	3.25	3.22	J	

Prep Amount: 5.039 g      Dilution: 1.0  
 Prep Final Vol: 5 ml      Unit Factor: 1  
 Solids: %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 E: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F006.D  
 Acq On : 20 Aug 2014 12:00 pm  
 Sample : KWG1411415-06 | SRM  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 07:22:16 2014

Vial: 6  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.67	136	133061	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	71735	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	137413	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149758	200.00	ng/ml	0.00
27) Perylene-d12	13.15	264	157137	200.00	ng/ml	-0.01

System Monitoring Compounds

12) Fluorene-d10	6.73	176	136101	321.61	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	32.16%	
21) Fluoranthene-d10	8.52	212	249799	322.83	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	32.28%	
24) Terphenyl-d14	8.87	244	208415	309.39	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	30.94%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.69	128	1132	1.60	ng/ml	86
3) 2-Methylnaphthalene	5.37	142	697	1.41	ng/ml	99
4) 1-Methylnaphthalene	5.46	142	540	1.24	ng/ml	95
5) Biphenyl	5.79	154	576	0.99	ng/ml	87
6) 2,6-Dimethylnaphthalene	5.93	156	506	1.16	ng/ml	90
8) Acenaphthylene	6.17	152	300	0.42	ng/ml	67
9) Acenaphthene	6.31	154	554	1.33	ng/ml	87
10) Dibenzofuran	6.46	168	852	1.29	ng/ml	81
11) 2,3,5-Trimethylnaphthalene	6.64	170	592m	1.42	ng/ml	
13) Fluorene	6.75	166	884	1.69	ng/ml	99
15) Dibenzothiophene	7.45	184	903	1.24	ng/ml	87
16) Phenanthrene	7.55	178	11434	15.07	ng/ml	98
17) Anthracene	7.59	178	528	0.70	ng/ml	95
18) Carbazole	7.73	167	765	1.15	ng/ml	54
19) 1-Methylphenanthrene	8.06	192	1586	2.64	ng/ml	94
20) Fluoranthene	8.53	202	32125	36.34	ng/ml	90
23) Pyrene	8.73	202	18495	17.90	ng/ml	34
25) Benz(a)anthracene	10.04	228	2979	3.24	ng/ml	90
26) Chrysene	10.09	228	6543m	8.03	ng/ml	
28) Benzo(b)fluoranthene	12.11	252	6111	6.33	ng/ml	99
29) Benzo(k)fluoranthene	12.18	252	2296m	2.39	ng/ml	
30) Benzo(e)pyrene	12.83	252	6170	6.66	ng/ml	94
31) Benzo(a)pyrene	12.97	252	3745	4.04	ng/ml#	1
32) Perylene	13.22	252	605	0.69	ng/ml	98
33) Indeno(1,2,3-cd)pyrene	15.39	276	2212	2.13	ng/ml	99
34) Dibenz(a,h)anthracene	15.44	278	775	0.78	ng/ml	87
35) Benzo(g,h,i)perylene	15.77	276	3663	3.25	ng/ml	99

(#) = qualifier out of range (m) = manual integration

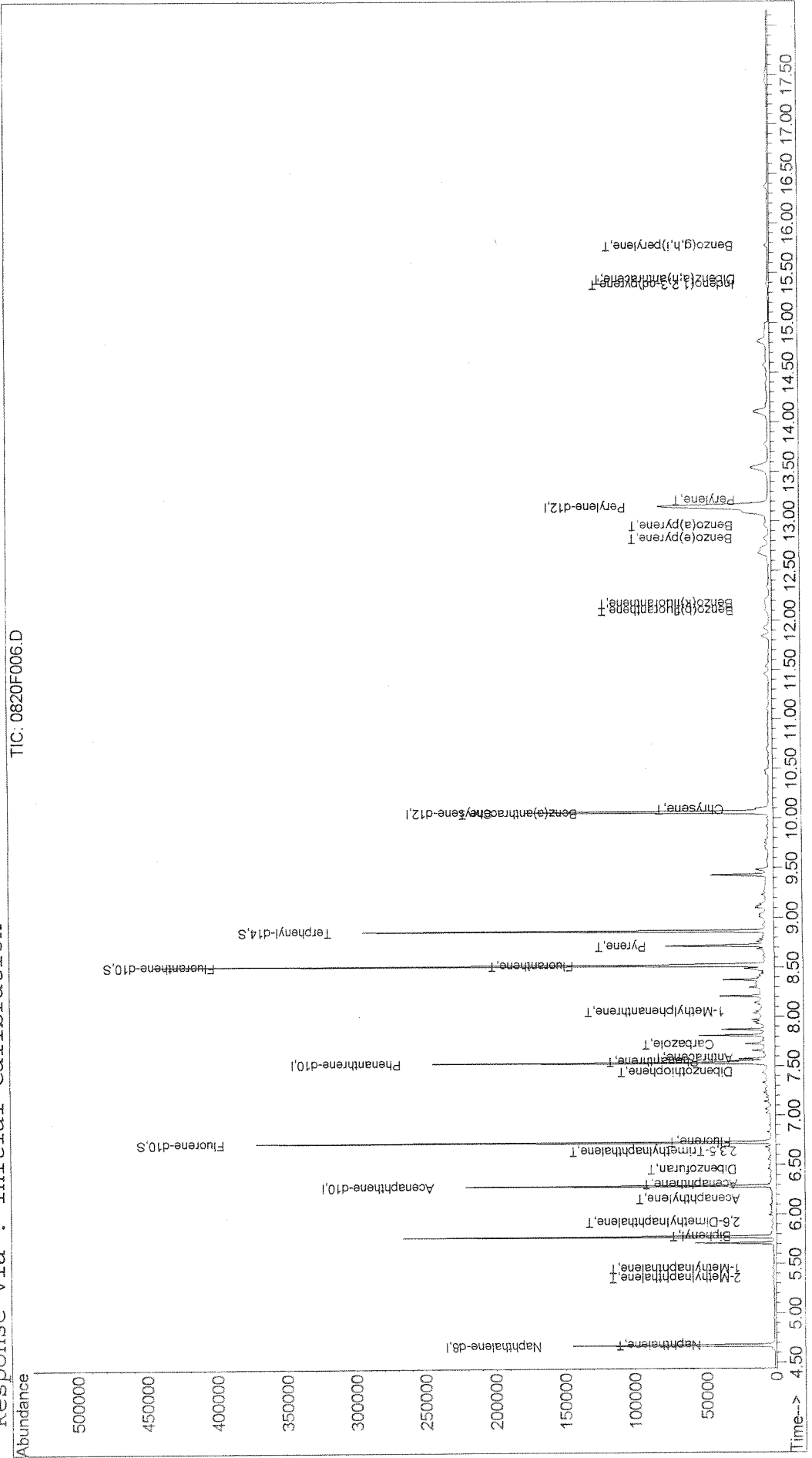


Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F006.D  
 Acq On : 20 Aug 2014 12:00 pm  
 Sample : KWGL141415-06 | SRM  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:57 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 6  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration

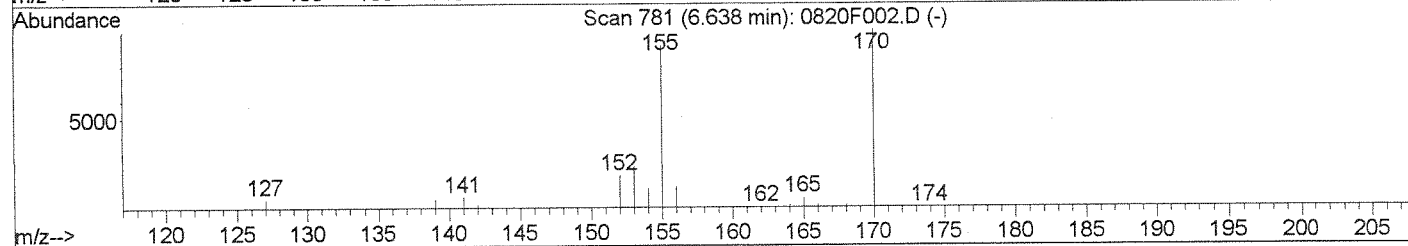
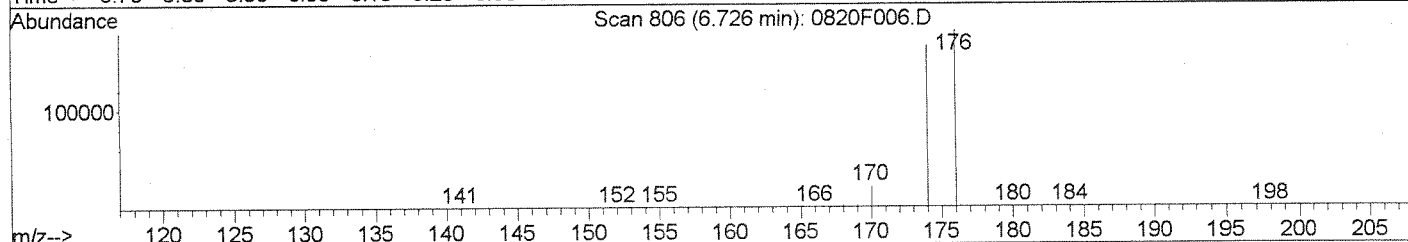
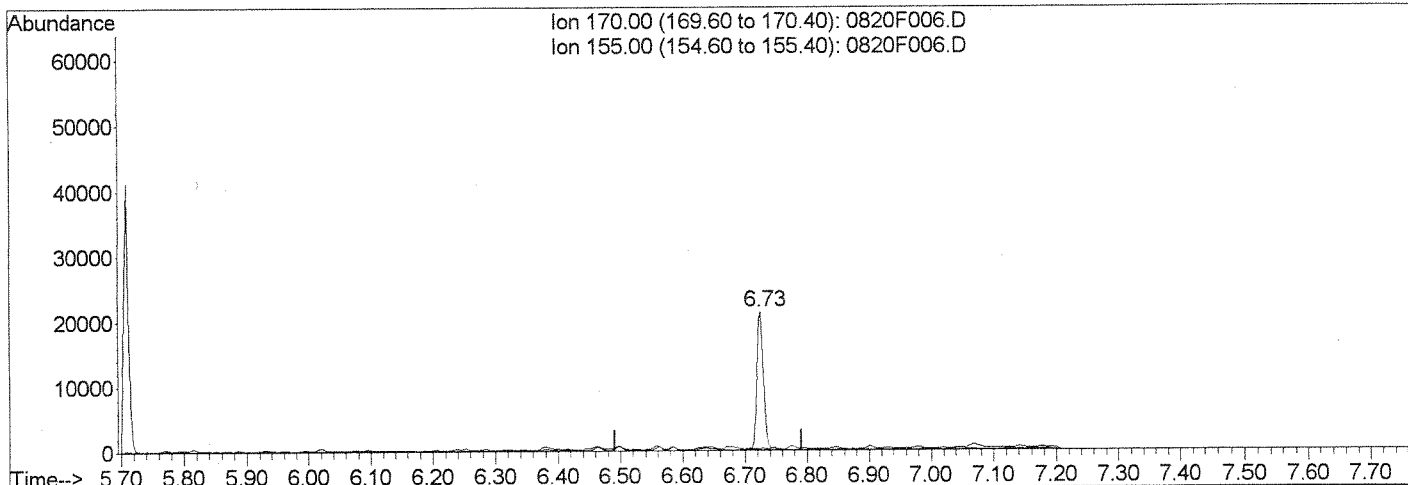


Data File : J:\MS14\DATA\082014\0820F006.D  
 Acq On : 20 Aug 2014 12:00 pm  
 Sample : KWG1411415-06 | SRM  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 7:22 2014

Vial: 6  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F006.D

(11) 2,3,5-Trimethylnaphthalene (T)

6.73min 41.62ng/ml

response 17382

Ion	Exp%	Act%
170.00	100	100
155.00	94.10	0.31#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

*UA*

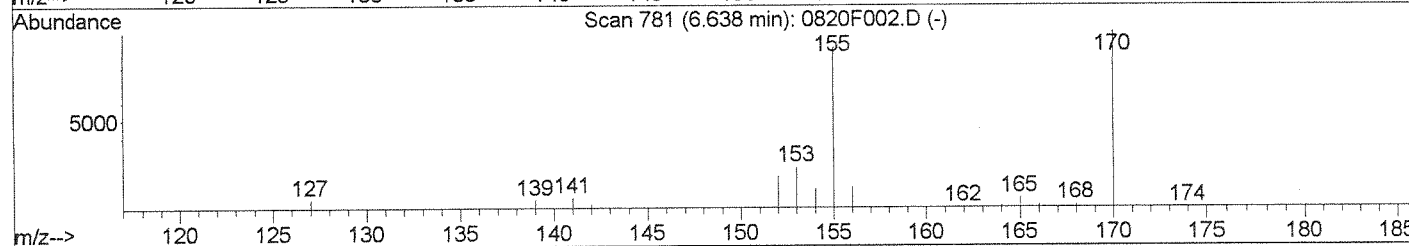
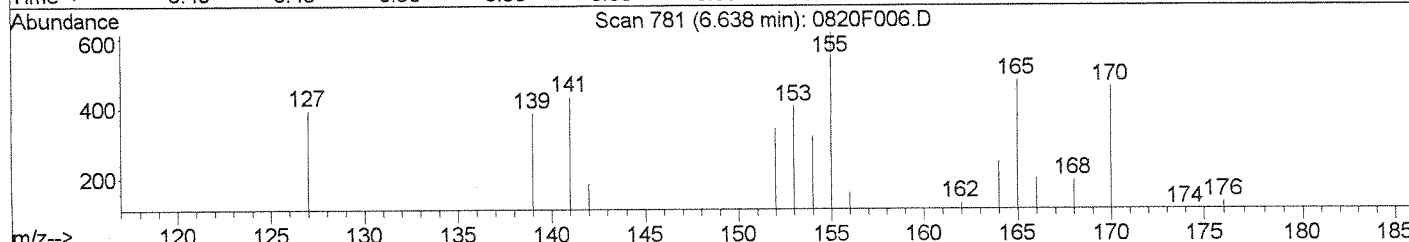
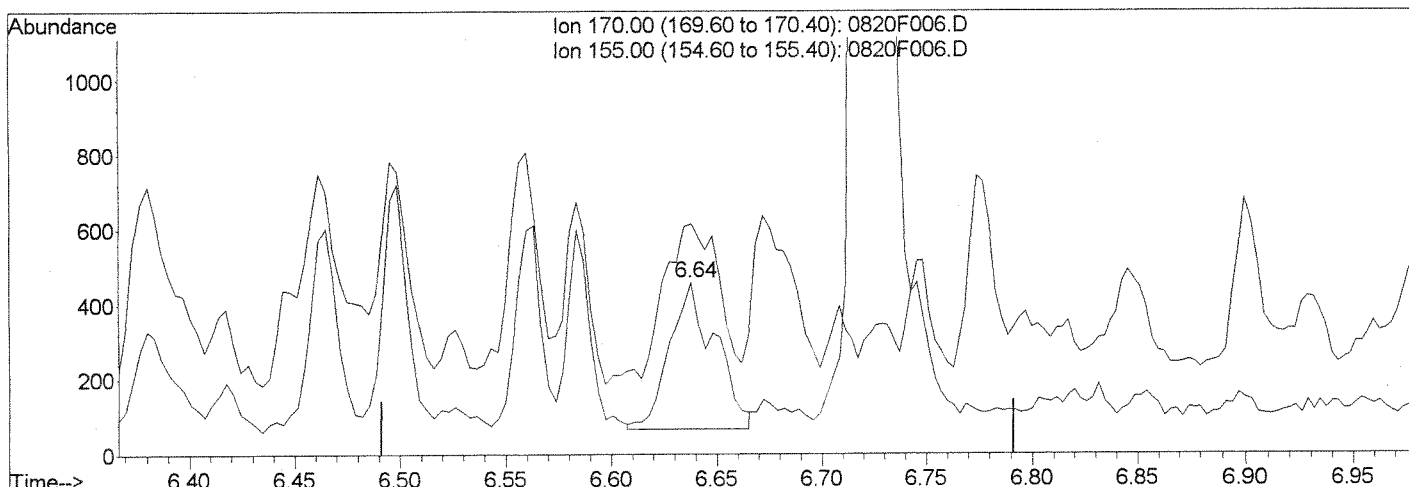
*LAB*  
 AUG 21 2014

Data File : J:\MS14\DATA\082014\0820F006.D  
Acq On : 20 Aug 2014 12:00 pm  
Sample : KWG1411415-06 | SRM  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:56 2014

Vial: 6  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F006.D

(11) 2,3,5-Trimethylnaphthalene (T)

6.64min 1.42ng/ml m

response 592

Ion	Exp%	Act%
170.00	100	100
155.00	94.10	134.20#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

08/21/14

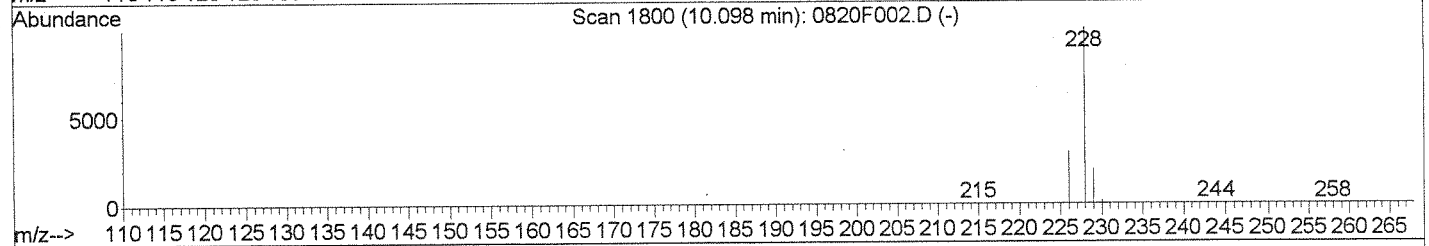
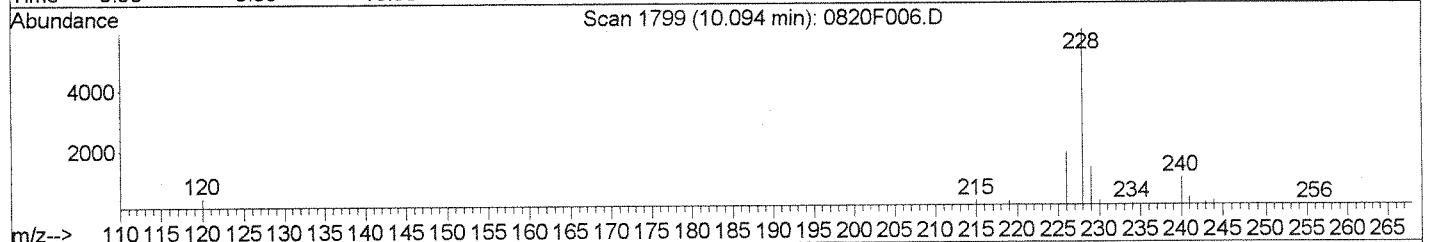
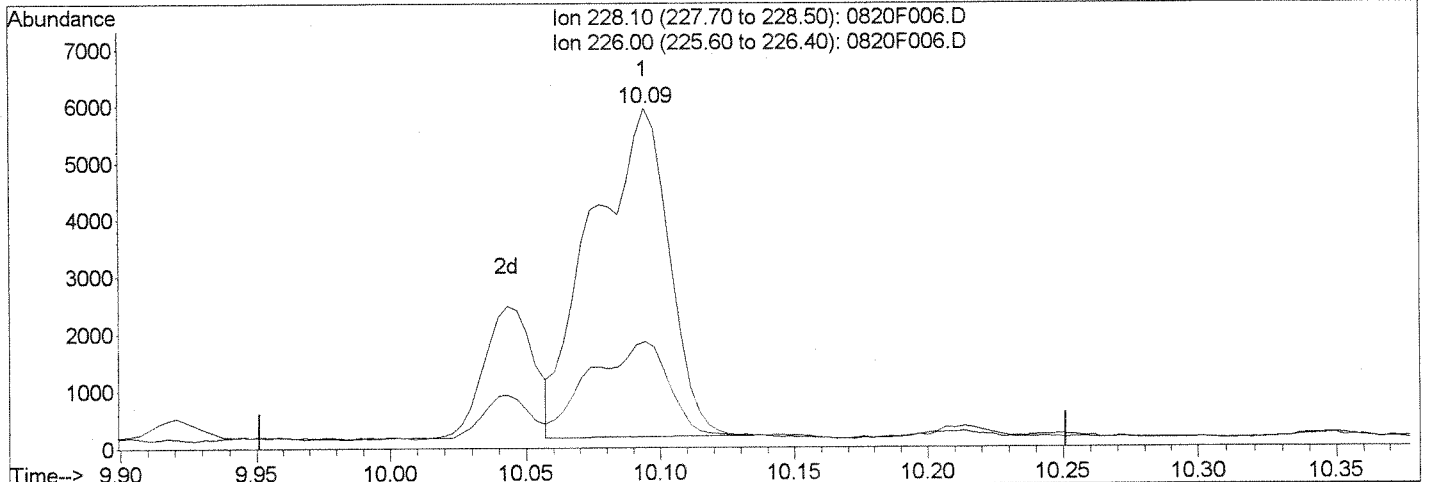
AUG 21 2014  
LB

Data File : J:\MS14\DATA\082014\0820F006.D  
 Acq On : 20 Aug 2014 12:00 pm  
 Sample : KWG1411415-06 | SRM  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 21 8:56 2014

Vial: 6  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Multiple Level Calibration



TIC: 0820F006.D

(26) Chrysene (T)

10.09min 14.07ng/ml

response 11457

Ion Exp% Act%

228.10 100 100

226.00 28.60 28.59

0.00 0.00 0.00

0.00 0.00 0.00

Manual Integration:

Before

08/21/14

*CAA*

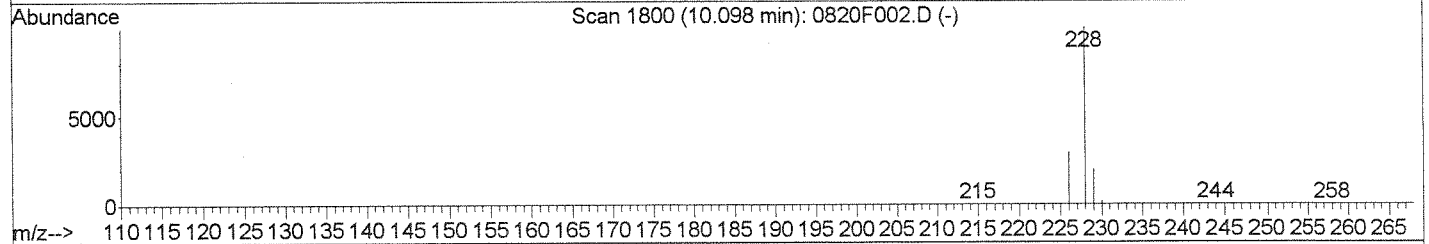
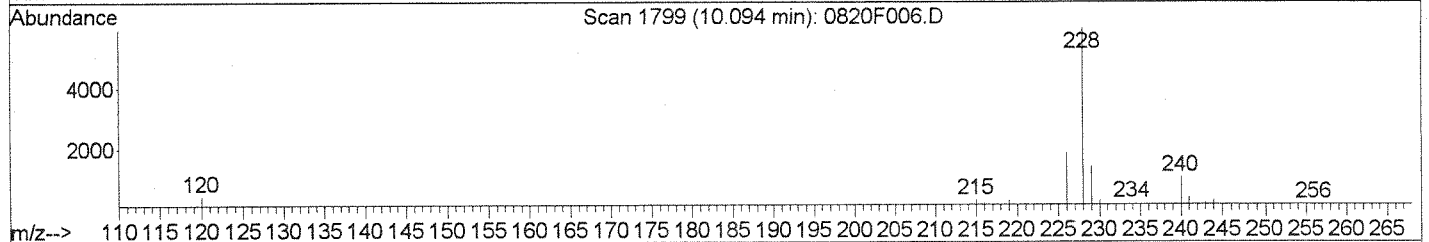
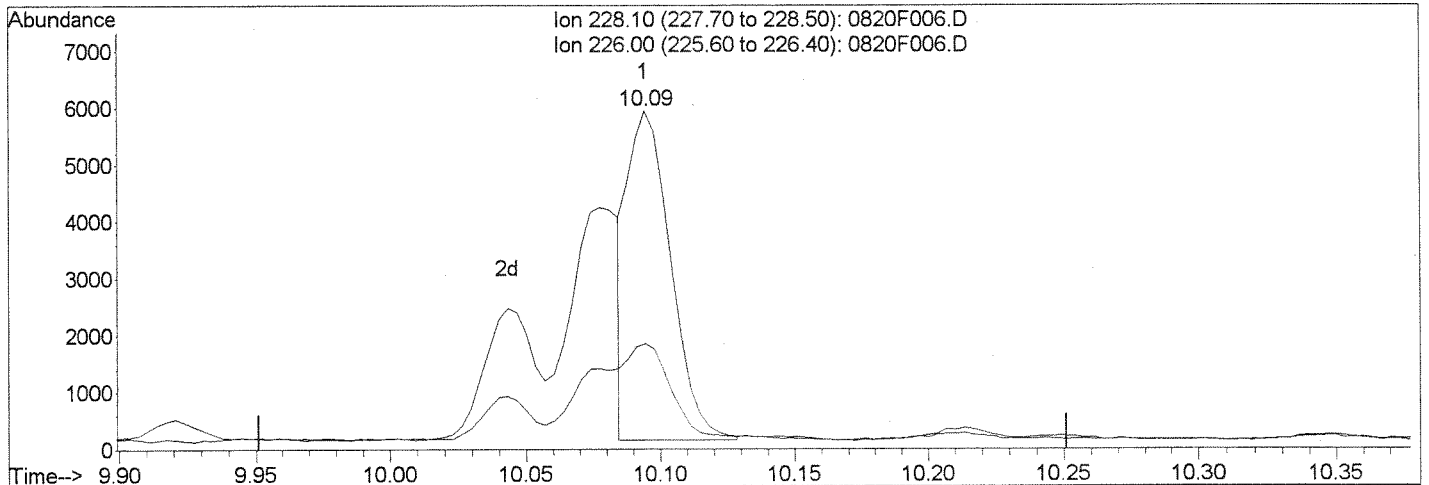
*LAB*  
 AUG 21 2014

Data File : J:\MS14\DATA\082014\0820F006.D  
Acq On : 20 Aug 2014 12:00 pm  
Sample : KWG1411415-06 | SRM  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:57 2014

Vial: 6  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F006.D

(26) Chrysene (T)  
10.09min 8.03ng/ml m  
response 6543

Ion	Exp%	Act%
228.10	100	100
226.00	28.60	31.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
After  
IC-Overintegrated  
08/21/14

*UA*

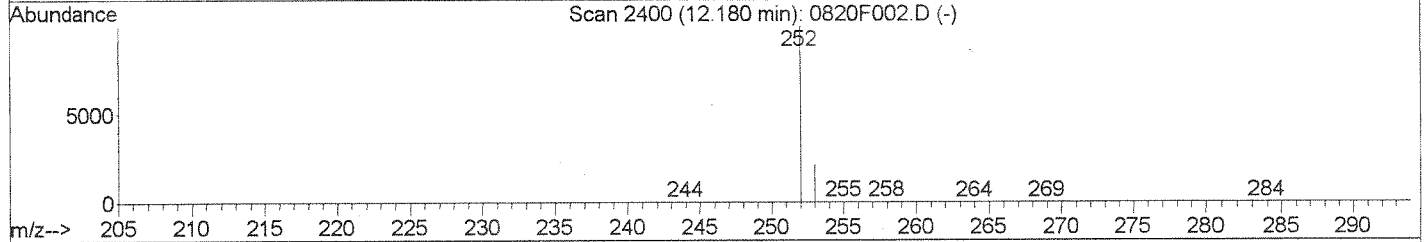
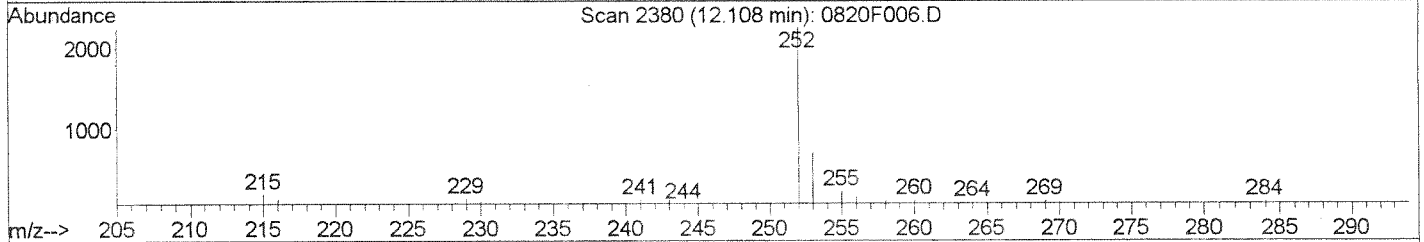
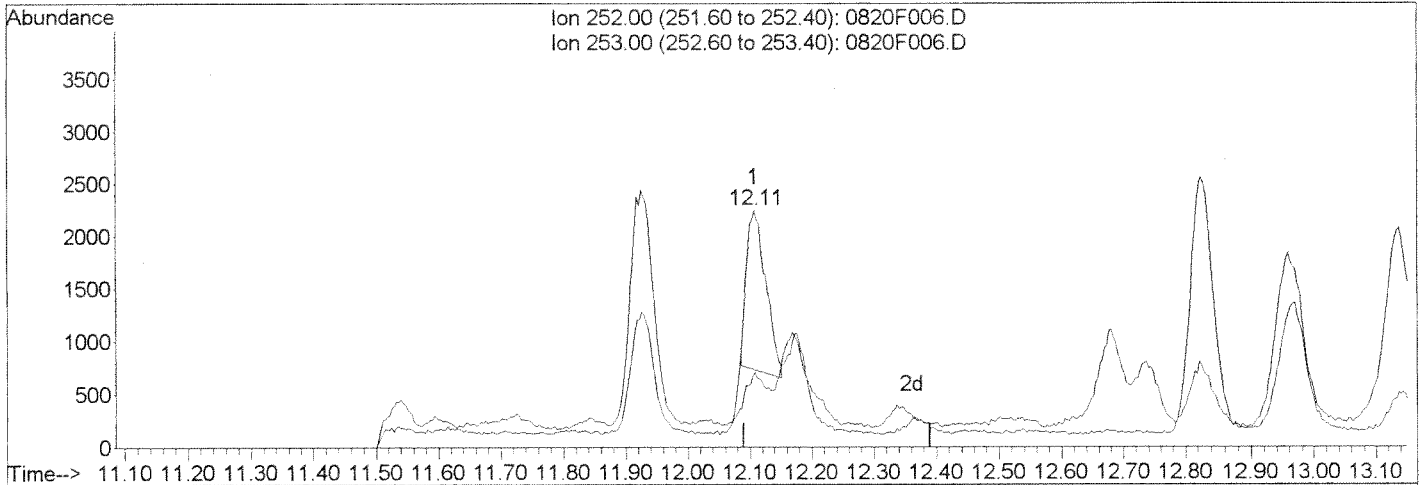
*L/B*  
AUG 21 2014

Data File : J:\MS14\DATA\082014\0820F006.D  
Acq On : 20 Aug 2014 12:00 pm  
Sample : KWG1411415-06 | SRM  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:57 2014

Vial: 6  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



TIC: 0820F006.D

(29) Benzo(k)fluoranthene (T)

12.11min 3.40ng/ml

response 3265

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	23.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

08/21/14

CA

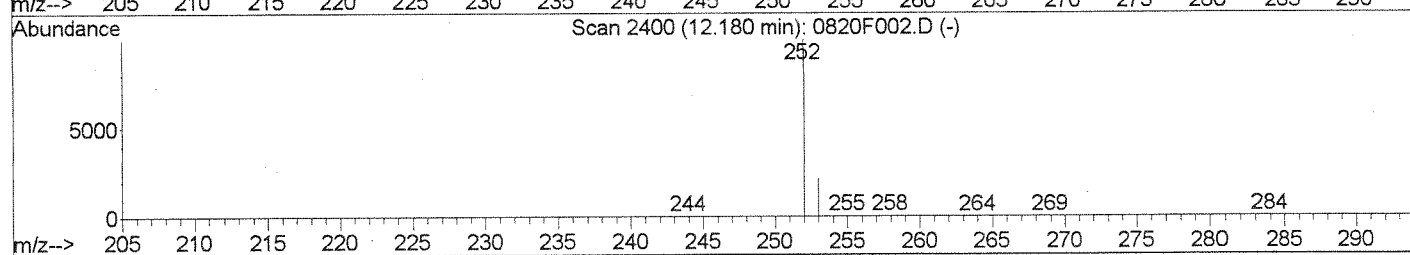
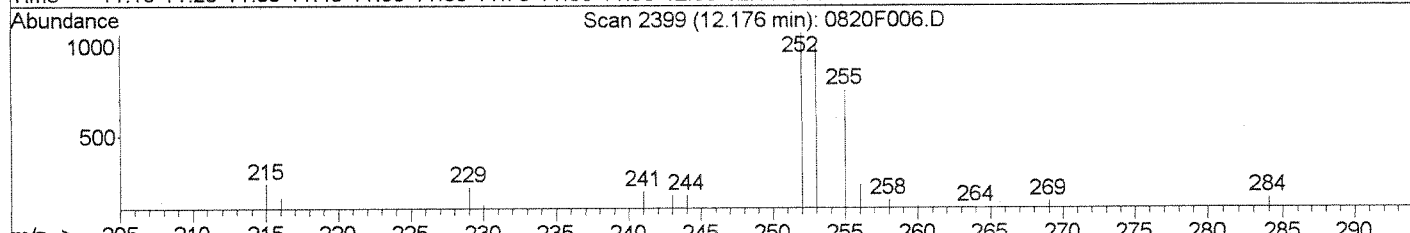
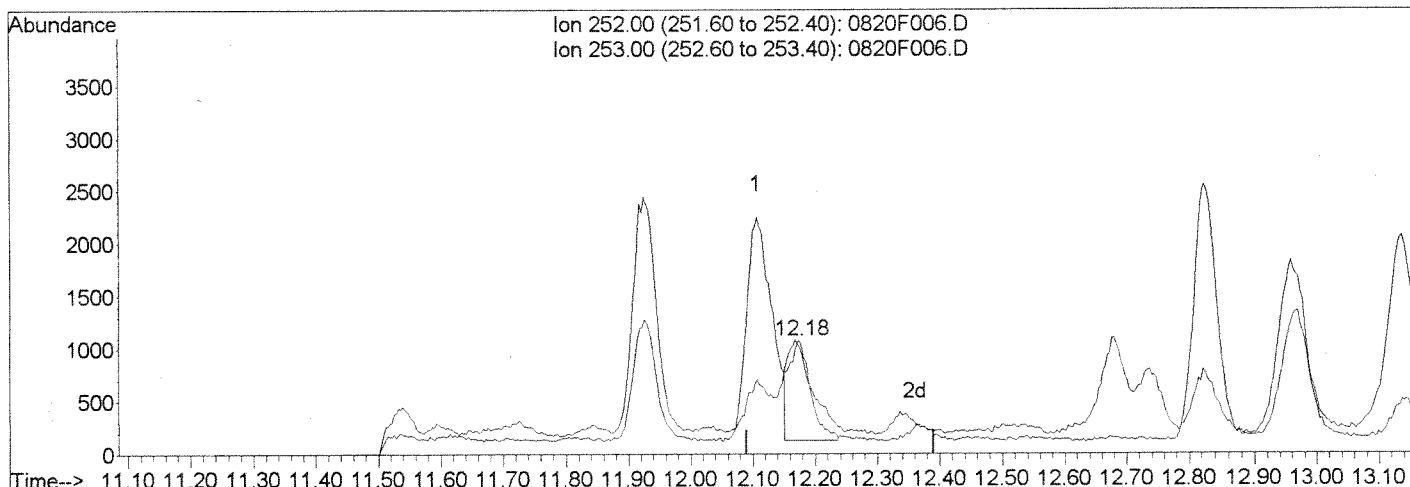
AUG 21 2014

Data File : J:\MS14\DATA\082014\0820F006.D  
Acq On : 20 Aug 2014 12:00 pm  
Sample : KWG1411415-06 | SRM  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Aug 21 8:57 2014

Vial: 6  
Operator: CHart  
Inst : MS14  
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Tue Aug 19 12:18:58 2014  
Response via : Multiple Level Calibration



(29) Benzo(k)fluoranthene (T)  
12.18min 2.39ng/ml m  
response 2296  
Ion Exp% Act%  
252.00 100 100  
253.00 22.10 93.87#  
0.00 0.00 0.00  
0.00 0.00 0.00

Manual Integration:  
After  
WP  
08/21/14

*CH*

AUG 21 2014

# Injection Log

Directory: J:\MS14\DATA\072214

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0722F001.D	1.	SIM PAH Tune @ 3.0ug/mL   SVM45-97B		22 Jul 2014 10:55
2	2	0722F002.D	1.	<del>IB</del> NR: full soon.		22 Jul 2014 11:31
3	2	0722F003.D	1.	IB		22 Jul 2014 12:22
4	1	0722F004.D	1.	SIM PAH ICAL @ 0.002ppm   SVM46-45C		22 Jul 2014 12:55
5	2	0722F005.D	1.	SIM PAH ICAL @ 0.004ppm   SVM45-24B	NR	22 Jul 2014 13:18
6	3	0722F006.D	1.	SIM PAH ICAL @ 0.008ppm   SVM45-12D		22 Jul 2014 13:42
7	4	0722F007.D	1.	SIM PAH ICAL @ 0.02ppm   SVM45-12E		22 Jul 2014 14:06
8	5	0722F008.D	1.	SIM PAH ICAL @ 0.1ppm   SVM45-12F		22 Jul 2014 14:31
9	6	0722F009.D	1.	SIM PAH ICAL @ 0.2ppm   SVM45-12G		22 Jul 2014 14:55
10	7	0722F010.D	1.	SIM PAH ICAL @ 0.4ppm   SVM45-12H		22 Jul 2014 15:20
11	8	0722F011.D	1.	SIM PAH ICAL @ 1.0ppm   SVM45-12I		22 Jul 2014 15:45
12	9	0722F012.D	1.	SIM PAH ICAL @ 1.6ppm   SVM45-12J		22 Jul 2014 16:10
13	10	0722F013.D	1.	SIM PAH ICAL @ 2.0ppm   SVM45-12K		22 Jul 2014 16:35
14	11	0722F014.D	1.	<del>SIM PAH ICV @ 0.4ppm   SVM46-34F</del> NR		22 Jul 2014 17:00

Cal 13446

CA 07.23.14

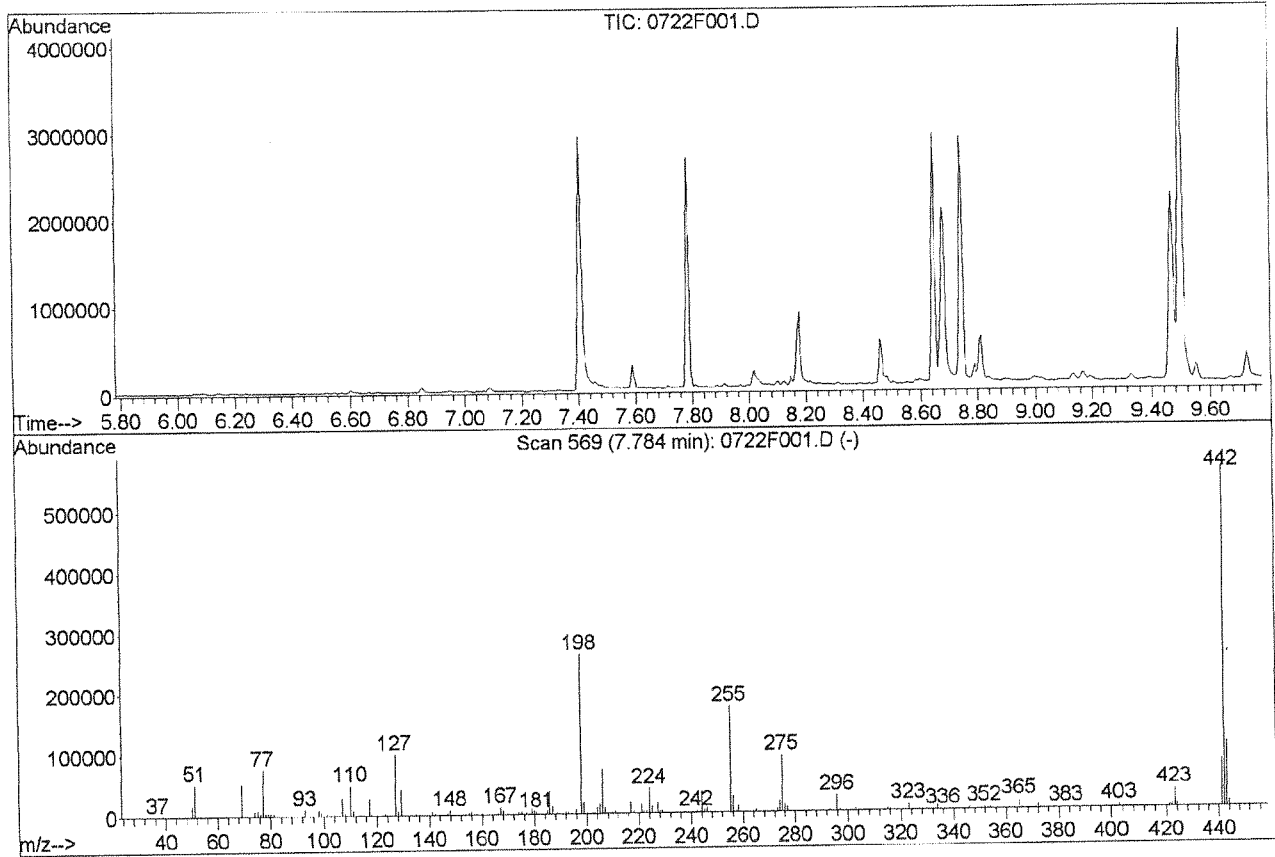
JUL 25 2014



DFTPP

Data File : J:\MS14\DATA\072214\0722F001.D  
 Acq On : 22 Jul 2014 10:55 am  
 Sample : SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
 Misc :  
 MS Integration Params: rteint.p  
 Method : J:\MS14\METHODS\SIM\A\_DFTPP.M (RTE Integrator)  
 Title : dftpp tune mix

Vial: 1  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00



Spectrum Information: Scan 569

*lu* JUL 25 2014

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.5	51312	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	20.3	53531	PASS
70	69	0.00	2	0.5	282	PASS
127	198	10	80	37.8	99372	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	46.7	263168	PASS
199	198	5	9	7.2	19048	PASS
275	198	10	60	34.9	91840	PASS
365	442	1	50	2.5	13858	PASS
441	443	0.01	100	72.9	78504	PASS
442	442	30	100	100.0	563328	PASS
443	442	15	24	19.1	107760	PASS

0722F001.D A\_DFTPP.M

Tue Jul 22 11:25:45 2014

*20A*  
 JUL 27 2014

*cu 07-22-14*

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.00	185	61.00	822	77.10	75122	88.00	460
38.20	1033	62.00	753	78.10	5316	89.20	241
39.05	2995	63.10	2194	79.00	5276	91.00	1005
44.90	152	65.00	802	80.00	4245	92.10	1604
50.10	15720	67.00	175	81.00	4542	92.95	10176
51.10	51312	69.00	53531	82.00	1192	94.05	332
51.95	2485	69.95	282	83.10	750	96.00	336
56.10	845	73.00	649	83.90	112	97.05	147
57.00	2743	74.00	7933	85.05	681	97.95	8992
58.00	168	75.10	9480	86.00	1339	98.95	5102
60.15	147	76.20	5230	87.00	925	100.00	879

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
101.10	2898	116.00	1643	129.85	3692	141.00	5221
101.90	176	117.00	27337	130.95	632	142.00	1697
102.90	1109	117.90	2279	131.80	445	142.90	1173
104.00	2653	119.90	204	132.95	136	144.20	311
105.00	1507	122.00	2328	133.90	329	146.00	1393
106.95	29005	123.00	2999	134.95	3179	147.00	3593
108.00	4117	123.90	1603	135.90	1404	147.90	7278
110.00	48430	125.00	1228	137.00	1622	149.00	1446
111.00	7116	127.00	99372	137.90	478	149.90	407
111.90	989	127.95	7333	139.05	155	151.10	503
112.95	224	129.00	41850	140.00	367	151.85	402

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
153.00	1488	164.00	584	175.00	4910	187.00	11733
153.90	1502	164.95	2057	176.00	1389	187.90	1511
155.00	3420	166.05	1905	176.90	2952	188.95	2358
156.00	5362	167.00	11130	177.95	451	189.90	585
156.90	992	167.90	5994	178.90	8732	191.00	1301
158.00	1162	168.90	1484	180.00	6556	192.00	3240
159.00	957	169.90	545	180.90	3491	193.00	3148
159.95	1971	170.95	408	181.90	288	194.00	842
160.90	2454	171.90	1076	184.00	1004	195.10	646
161.90	779	172.90	1472	185.05	4817	195.90	7381
162.95	42	173.90	3082	186.00	36600	197.90	263168

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.90	19048	210.90	2803	222.90	4262	233.90	1302
199.85	1216	212.00	590	224.00	40264	234.80	1669
201.40	1460	213.00	442	225.00	10230	235.90	933
203.00	1790	214.00	184	226.00	1536	237.00	1630
204.00	9540	214.90	753	227.00	16511	237.80	290
205.00	15690	216.00	1648	227.90	2710	238.80	830
206.00	72107	216.90	17824	228.90	3841	240.00	542
207.00	9093	218.00	2912	229.90	702	241.10	1178
208.00	2662	219.20	373	231.10	1395	242.00	2063
208.90	527	220.90	15092	231.90	162	243.10	2635
209.90	1203	221.80	3132	232.90	418	244.00	34664

la JUL 25 2014

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2 CM 07-22-14

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
245.00	4442	257.10	2360	270.90	408	283.10	1070
246.00	7670	258.00	10287	271.90	695	283.80	520
247.00	1291	259.00	2056	273.00	5642	284.90	1429
248.10	342	259.80	353	273.90	17000	285.90	231
248.90	1453	260.90	356	274.90	91840	287.80	246
249.80	288	262.90	195	276.00	12186	289.00	407
250.80	325	264.00	776	276.90	7347	289.90	181
252.10	439	264.90	4224	278.10	1531	290.90	159
253.00	999	265.85	204	279.00	410	291.90	367
255.00	173726	266.90	240	281.80	277	293.00	1872
256.00	26080	269.90	180	282.10	244	294.00	467

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
295.90	25432	313.90	1296	326.90	1666	341.90	470
296.90	3777	314.90	3304	327.90	712	345.90	2646
298.00	248	315.90	1775	328.70	170	346.90	510
300.80	394	317.10	382	332.10	742	351.10	228
302.10	399	320.00	159	333.00	1151	351.90	3173
302.90	3136	320.80	861	333.90	6582	352.90	2355
303.90	1135	321.90	537	335.00	1981	354.00	3390
307.90	562	323.00	9561	336.20	187	355.10	690
308.90	295	324.10	1744	338.90	188	356.10	161
309.90	402	324.80	294	339.90	218	359.10	334
312.80	179	325.90	287	341.00	1178	364.90	13858

Scan 569 (7.784 min): 0722F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
365.90	2174	384.00	399	414.80	306	443.00	107760
367.00	252	384.70	151	421.00	3335	444.00	10377
368.25	182	385.20	255	421.90	3894	445.00	817
369.20	181	389.90	1110	423.00	29832		
370.00	314	391.10	593	424.00	4999		
371.00	1174	392.10	473	424.90	584		
372.00	6370	401.00	533	438.80	187		
373.10	1398	401.90	2853	439.50	684		
374.00	197	403.00	4519	440.10	906		
376.90	315	404.10	1155	441.00	78504		
383.00	1886	405.00	205	442.00	563328		

*de*  
JUL 25 2014

*CAA*  
JUL 25 2014  
2 CA 07-22-14

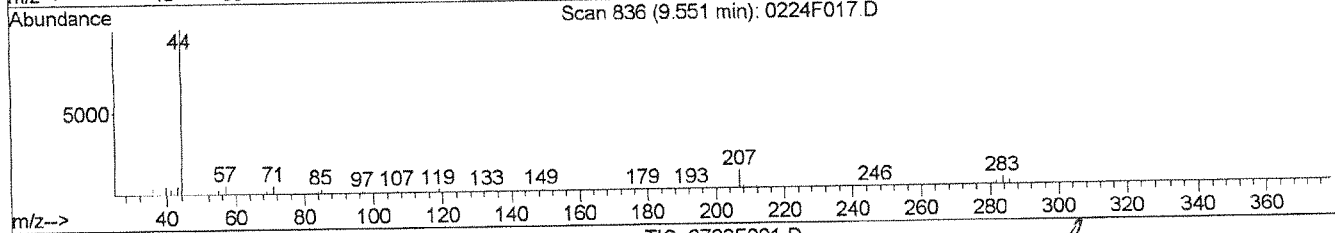
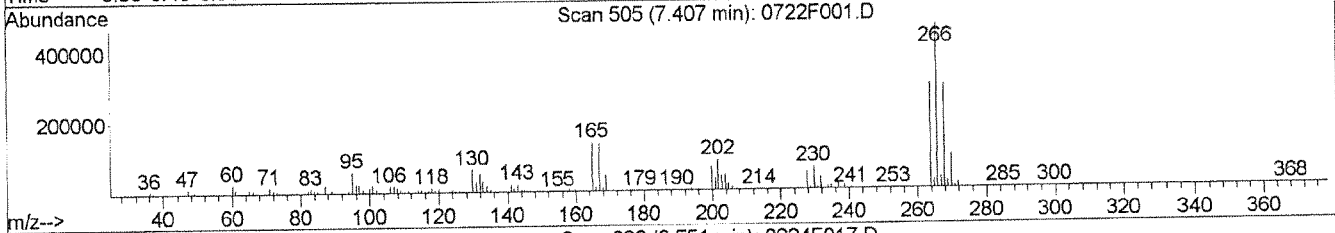
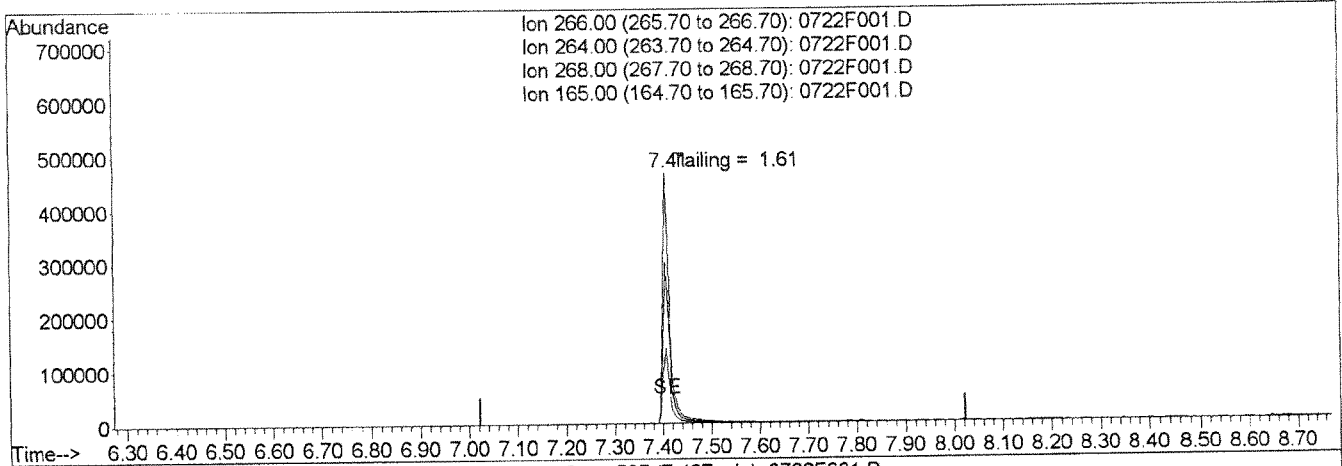
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072214\0722F001.D  
 Acq On : 22 Jul 2014 10:55 am  
 Sample : SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
 Misc :  
 MS Integration Params: rteint.p  
 Quant Time: Jul 22 11:25 2014

Vial: 1  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A\_DFTPP.M (RTE Integrator)  
 Title : dftpp tune mix  
 Last Update : Tue Nov 30 13:38:58 2010  
 Response via : Single Level Calibration



TIC: 0722F001.D

*h* JUL 25 2014

(1) Pentachlorophenol

7.41min 20.21ng/ml

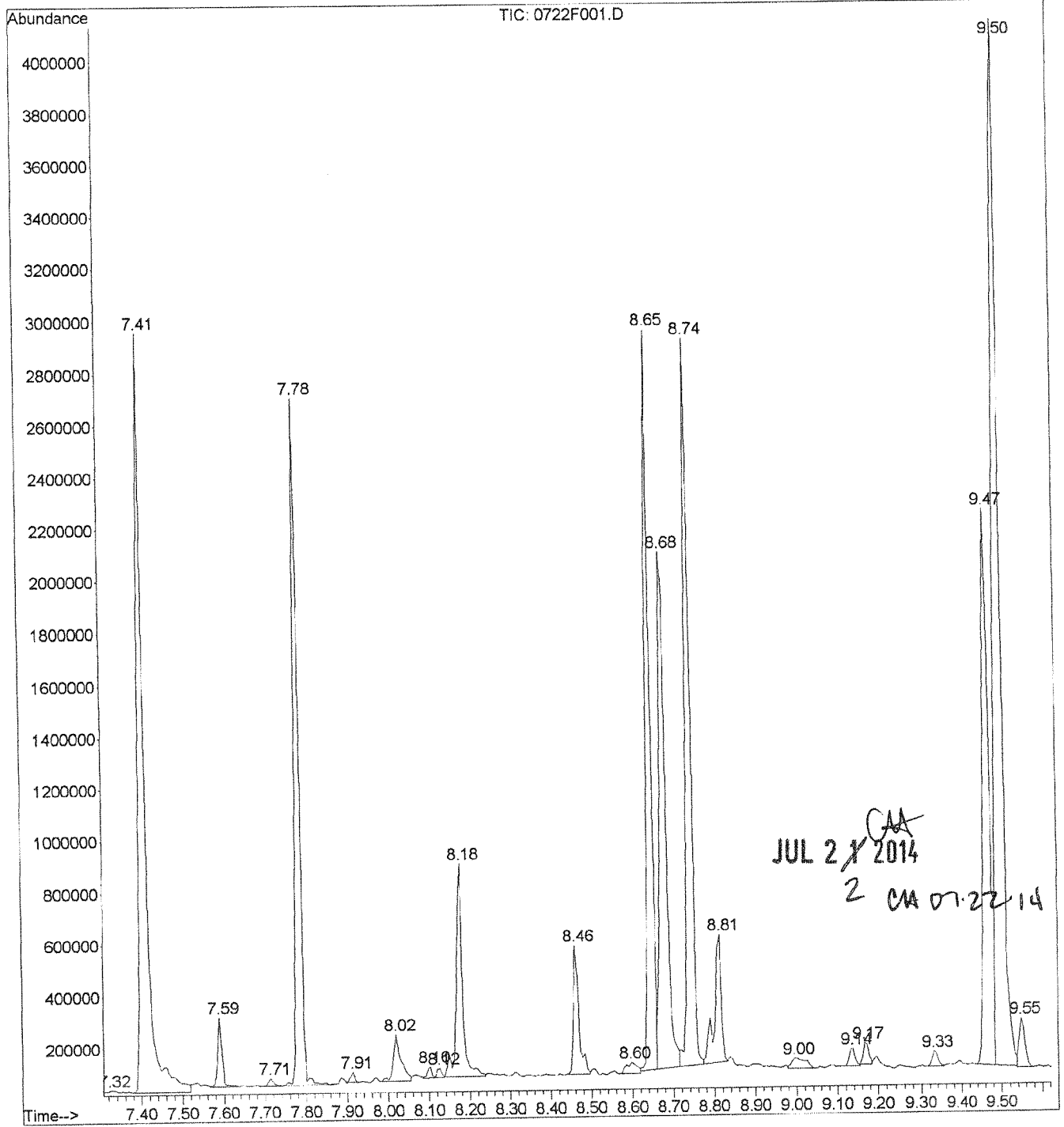
response 465063

Ion	Exp%	Act%
266.00	100	100
264.00	63.70	64.07
268.00	63.30	63.62
165.00	71.50	29.75#

*CAA*  
 JUL 25 2014  
 2 on 07-22-14

File : J:\MS14\DATA\072214\0722F001.D  
Operator : CHart  
Acquired : 22 Jul 2014 10:55 am using AcqMethod SIMLOC  
Instrument : MS14  
Sample Name: SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Misc Info :  
Vial Number: 1

*lu* JUL 25 2014



1	4.713	rVB	0.059	34668	4.690	4.748
2	4.860	rVB	0.065	20061	4.837	4.901
3	4.966	rBV	0.082	231742	4.925	5.007
4	5.307	rBV	0.065	55166	5.278	5.343
5	6.084	rBV	0.094	44265	6.025	6.119
6	6.601	rVB	0.065	41606	6.584	6.648
7	6.848	rBV	0.082	73528	6.813	6.895
8	6.948	rBV	0.071	31641	6.895	6.966
9	7.084	rBV	0.065	52764	7.048	7.113
10	7.325	rBV	0.065	24072	7.284	7.348
11	7.407	rBV	0.141	3074074	7.378	7.519
12	7.589	rVB	0.071	193790	7.566	7.636
13	7.713	rBV	0.047	30906	7.695	7.742
14	7.784	rVV	0.124	2117961	7.742	7.866
15	7.913	rVB	0.035	26194	7.895	7.931
16	8.019	rBV	0.071	239470	7.984	8.054
17	8.101	rVV	0.029	33514	8.084	8.113
18	8.125	rVB	0.024	27356	8.113	8.136
19	8.178	rBV	0.100	872715	8.136	8.236
20	8.460	rBV	0.059	460374	8.436	8.495
21	8.595	rBV	0.053	82660	8.566	8.619
22	8.648	rVV	0.041	2296969	8.619	8.660
23	8.678	rVV	0.053	2261328	8.660	8.713
24	8.742	rVV	0.059	2454955	8.713	8.772
25	8.813	rVB	0.059	573248	8.772	8.831
26	8.995	rVB	0.071	98149	8.978	9.048
27	9.136	rBV	0.041	73224	9.113	9.154
28	9.166	rBV	0.029	<u>DDD</u> 78887	9.154	9.183
29	9.330	rBV	0.041	63860	9.313	9.354
30	9.466	rBV	0.053	2533740	9.430	9.483
31	9.501	rVV	0.053	<u>DDT</u> 4438860	9.483	9.536
32	9.548	rVB	0.041	185661	9.536	9.578
33	9.672	rBV	0.029	28381	9.654	9.683
34	9.730	rVV	0.088	454642	9.701	9.789
35	9.801	rVB	0.053	69967	9.789	9.842
36	9.966	rVB	0.065	280650	9.936	10.001
37	10.107	rBV	0.053	26285	10.083	10.136
38	10.160	rVB	0.059	52446	10.136	10.195
39	10.430	rVB	0.059	37303	10.407	10.466
40	10.507	rBV	0.082	682967	10.466	10.548
41	11.177	rBV	0.100	1086950	11.124	11.224
42	12.019	rVB	0.165	2724297	11.954	12.119
43	13.083	rBV	0.176	3994673	12.989	13.166
44	13.818	rBV	0.071	58312	13.789	13.860
45	14.195	rBV	0.218	6362072	14.113	14.330
46	14.648	rVB	0.076	241788	14.613	14.689
47	14.724	rVB	0.082	116814	14.695	14.777
48	14.901	rBV	0.118	6821370	14.836	14.954
49	15.236	rBV	0.059	549898	15.201	15.260
50	15.454	rBV	0.124	7794863	15.389	15.512
51	15.777	rBV	0.065	513322	15.754	15.818
52	15.842	rVB	0.065	438263	15.824	15.889
53	16.012	rBV	0.147	6870968	15.948	16.095
54	16.165	rBV	0.094	1089602	16.130	16.224
55	16.436	rVB	0.124	539527	16.412	16.536
56	16.612	rVB	0.176	6829499	16.548	16.724
57	17.089	rVB	0.088	585942	17.059	17.148
58	17.283	rBV	0.118	5011736	17.218	17.336
59	18.036	rBV	0.129	4452177	17.971	18.101

*h*  
JUL 25 2014

DDT Breakdown  
= 1.7%

*CA*  
JUL 25 2014  
2 CA 07-22-14

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F003.D  
 Acq On : 22 Jul 2014 12:22 pm  
 Sample : IB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:22 2014

Vial: 2  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHA05

*h* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.69	136	124789	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	72860	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	142827	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	145294	200.00	ng/ml	0.00
27) Perylene-d12	13.26	264	153360	200.00	ng/ml	0.01
System Monitoring Compounds						
12) Fluorene-d10	6.75	176	84	0.19	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.02%	
21) Fluoranthene-d10	8.55	212	217	0.27	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.03%	
24) Terphenyl-d14	8.90	244	366	0.59	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.06%	
Target Compounds						
15) Dibenzothiophene	7.47	184	72m	0.09	ng/ml	
16) Phenanthrene	7.58	178	132m	0.17	ng/ml	
17) Anthracene	7.62	178	98	0.13	ng/ml	89
18) Carbazole	7.76	167	182	0.27	ng/ml	94
19) 1-Methylphenanthrene	8.09	192	133m	0.21	ng/ml	
20) Fluoranthene	8.56	202	348	0.37	ng/ml	98
23) Pyrene	8.76	202	414m	0.43	ng/ml	
25) Benz(a)anthracene	10.10	228	982	1.13	ng/ml	93
26) Chrysene	10.15	228	722	0.95	ng/ml	97
28) Benzo(b)fluoranthene	12.20	252	1063m	1.00	ng/ml	
29) Benzo(k)fluoranthene	12.27	252	914	0.88	ng/ml	98
30) Benzo(e)pyrene	12.94	252	995	0.94	ng/ml	85
31) Benzo(a)pyrene	13.08	252	1350	1.34	ng/ml#	1
32) Perylene	13.34	252	612	0.70	ng/ml	88
33) Indeno(1,2,3-cd)pyrene	15.46	276	1055	1.30	ng/ml	99
34) Dibenz(a,h)anthracene	15.51	278	977m	1.41	ng/ml	
35) Benzo(g,h,i)perylene	15.84	276	1161	1.37	ng/ml	99

*1/2 MDL*

*CA*  
 JUL 23 2014

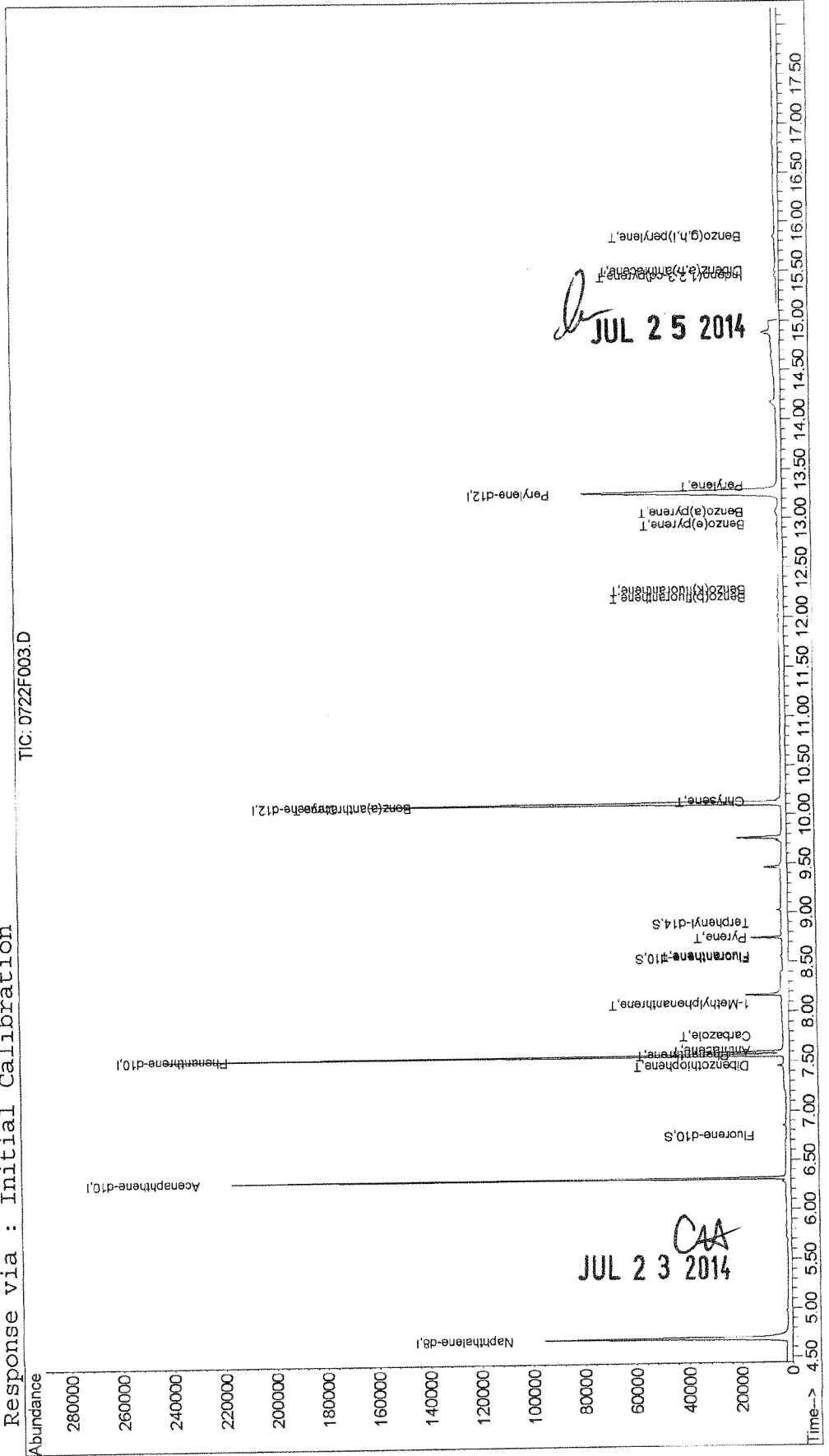
(#) = qualifier out of range (m) = manual integration  
 0722F003.D 072214SIMPAAH.M Wed Jul 23 11:30:37 2014

Quantitation Report (QT Reviewed)

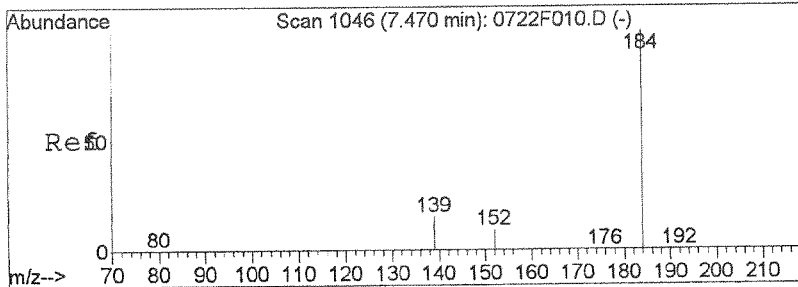
Data File : J:\MS14\DATA\072214\0722F003.D  
 Acq On : 22 Jul 2014 12:22 pm  
 Sample : IB  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 9:41 2014  
 Quant Results File: 072214SIMP.AH.RES

Vial: 2  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMP.AH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 11:12:07 2014  
 Response via : Initial Calibration

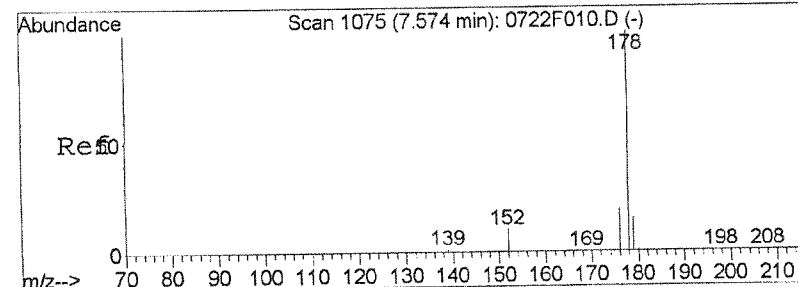
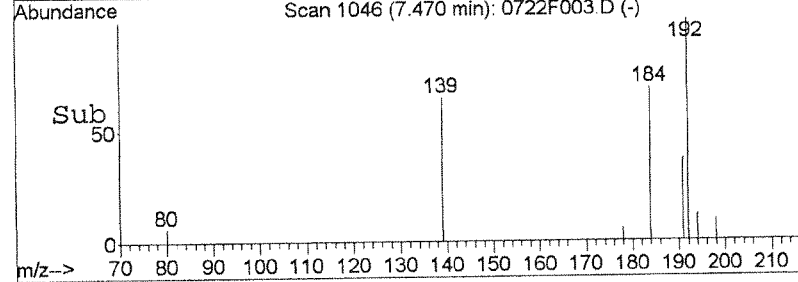
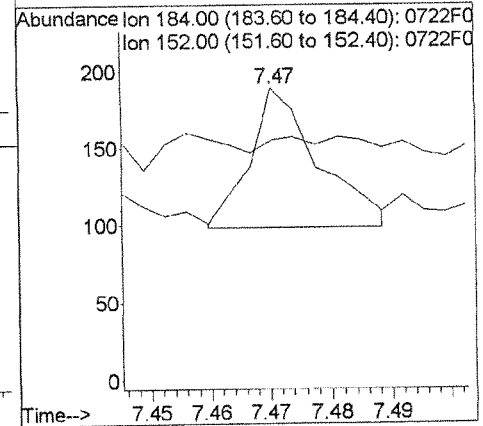
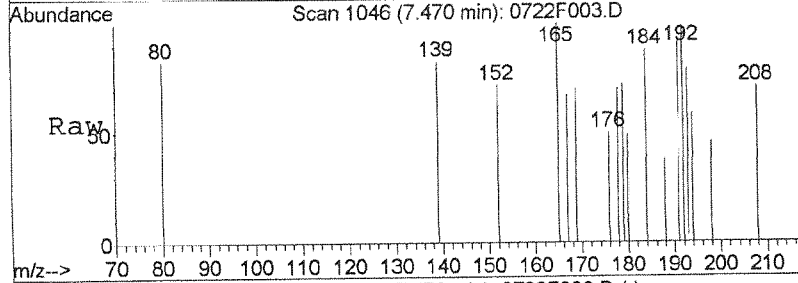






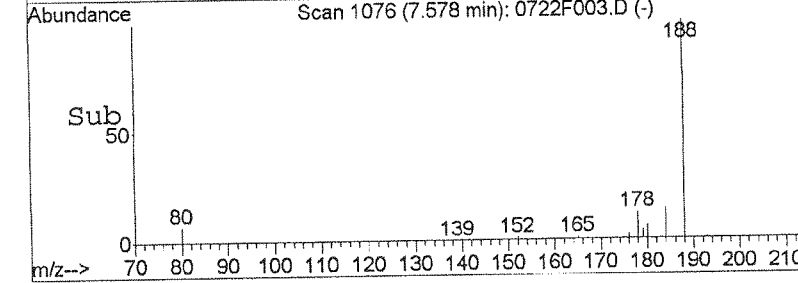
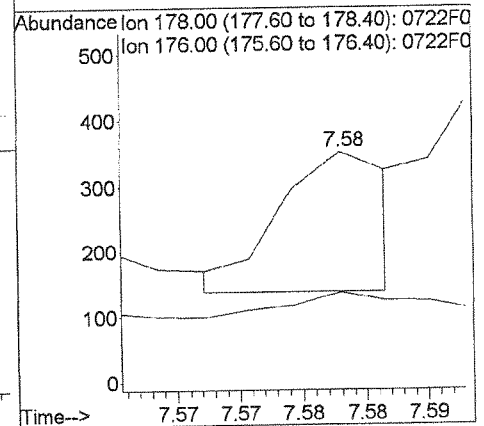
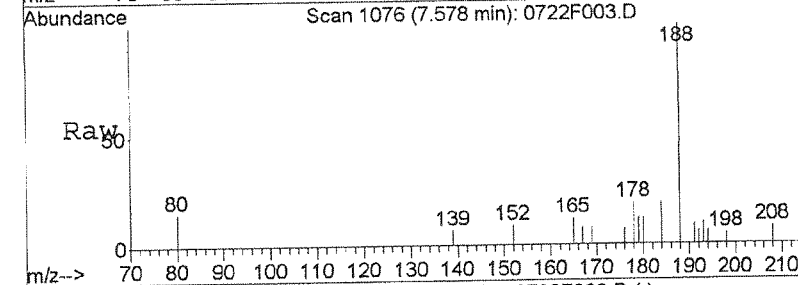
#15  
 Dibenzothiophene  
 Concen: 0.09 ng/ml m  
 RT: 7.47 min Scan# 1046  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 184 Resp: 72  
 Ion Ratio Lower Upper  
 184 100  
 152 82.0 0.0 39.9#

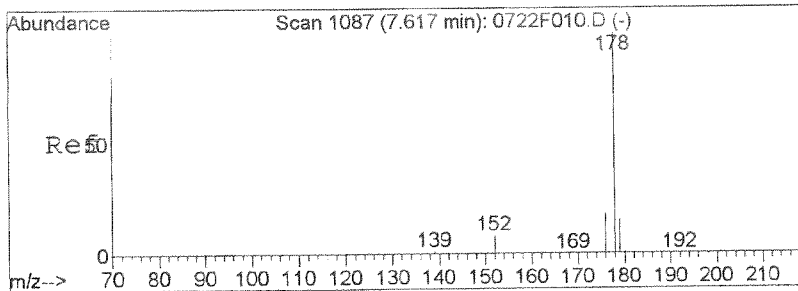


#16  
 Phenanthrene *du* JUL 25 2014  
 Concen: 0.17 ng/ml m  
 RT: 7.58 min Scan# 1076  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 178 Resp: 132  
 Ion Ratio Lower Upper  
 178 100  
 176 38.7 0.0 48.9

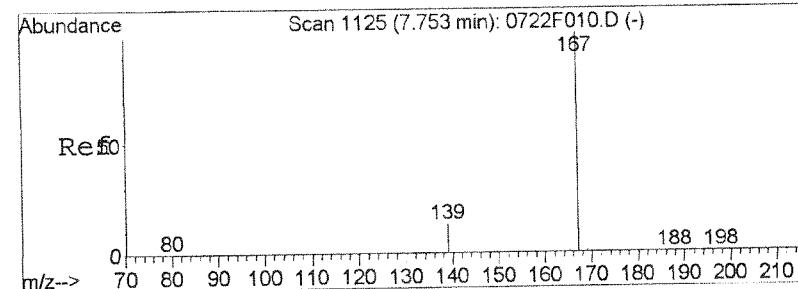
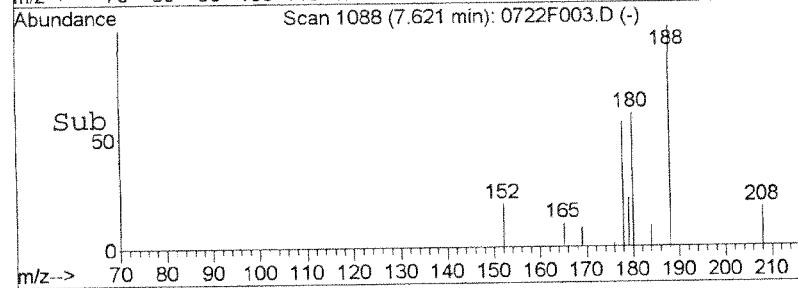
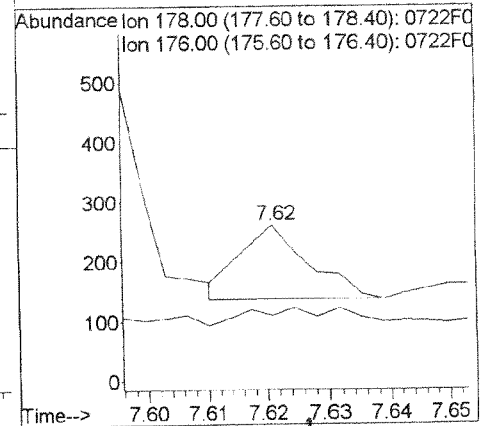
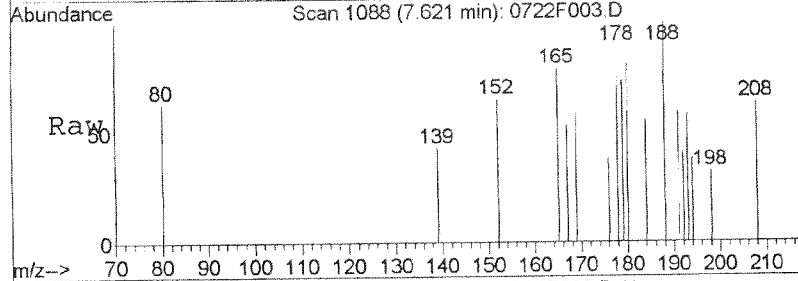


JUL 23 2014



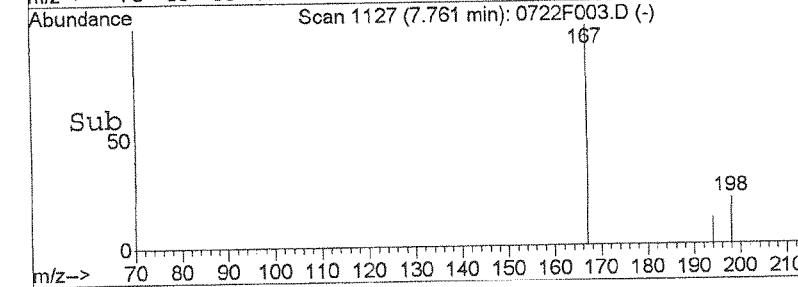
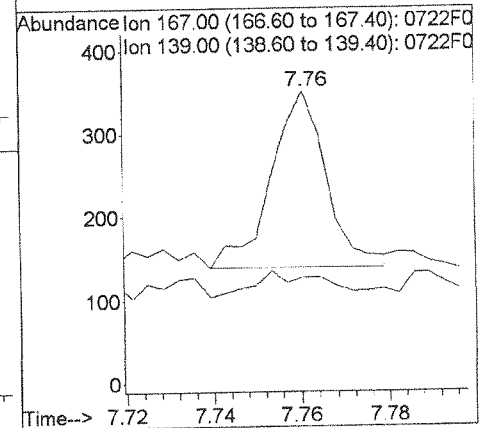
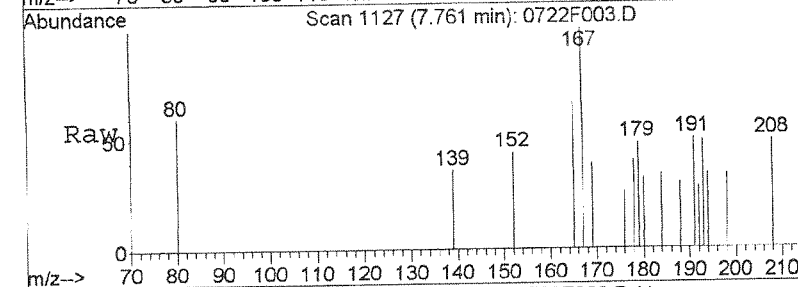
#17  
 Anthracene  
 Concen: 0.13 ng/ml  
 RT: 7.62 min Scan# 1088  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 178 Resp: 98  
 Ion Ratio Lower Upper  
 178 100  
 176 12.9 0.0 47.7

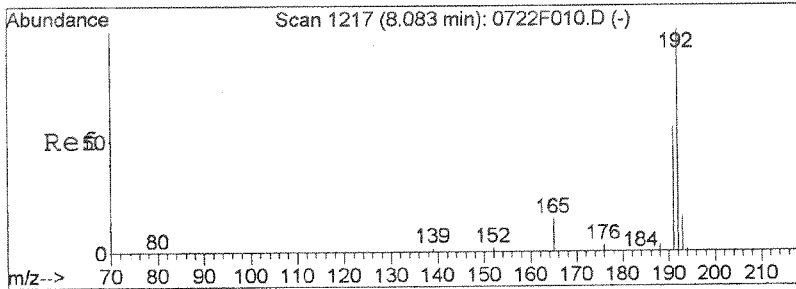


#18  
 Carbazole  
 Concen: 0.27 ng/ml  
 RT: 7.76 min Scan# 1127  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 167 Resp: 182  
 Ion Ratio Lower Upper  
 167 100  
 139 10.8 0.0 43.1

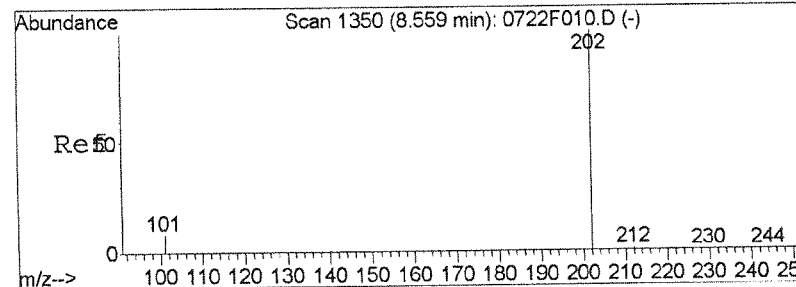
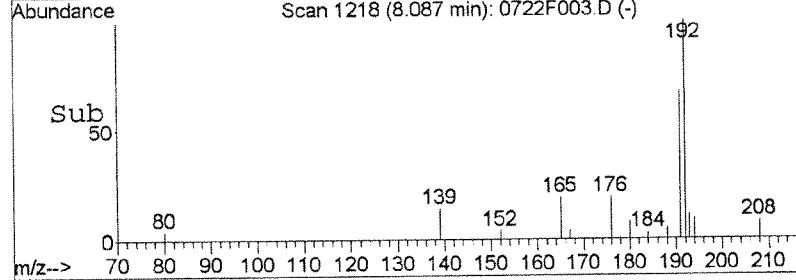
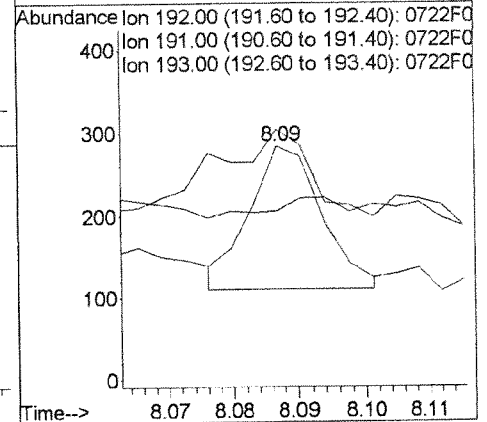
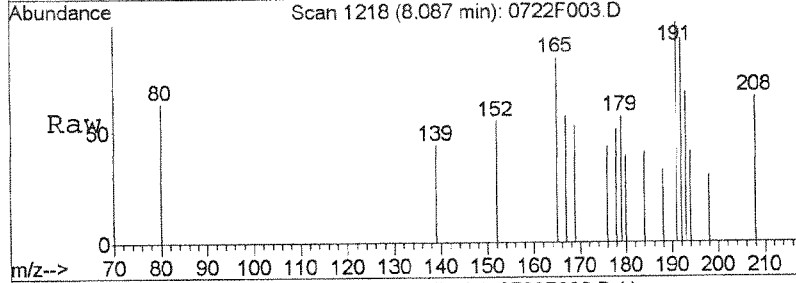


JUL 23 2014



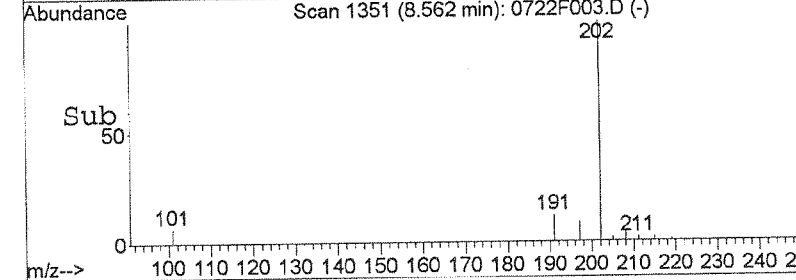
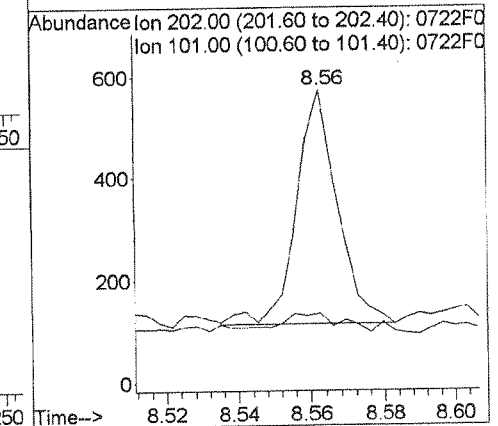
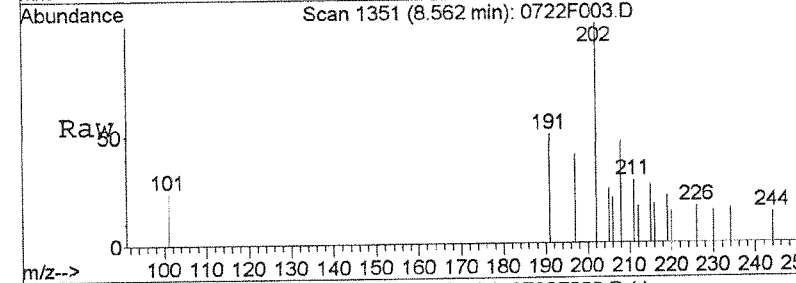
#19  
 1-Methylphenanthrene  
 Concen: 0.21 ng/ml m  
 RT: 8.09 min Scan# 1218  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Ratio	Lower	Upper
192	100		
191	107.0	25.5	85.5#
193	72.5	0.0	45.7#

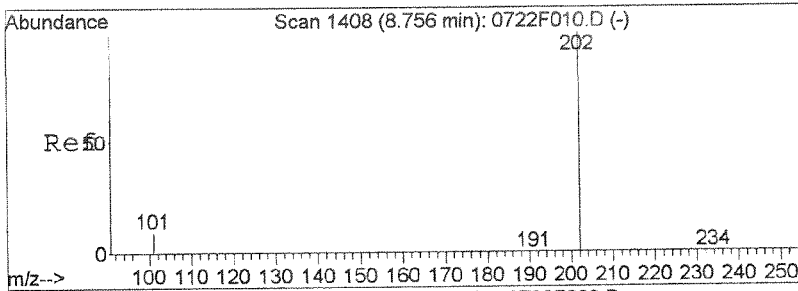


#20  
 Fluoranthene *l* JUL 25 2014  
 Concen: 0.37 ng/ml  
 RT: 8.56 min Scan# 1351  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Ratio	Lower	Upper
202	100		
101	7.6	0.0	37.0

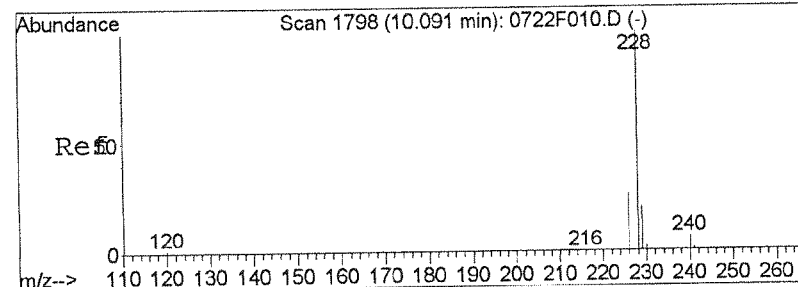
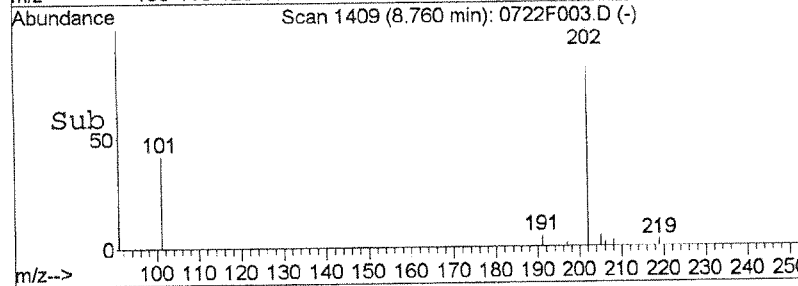
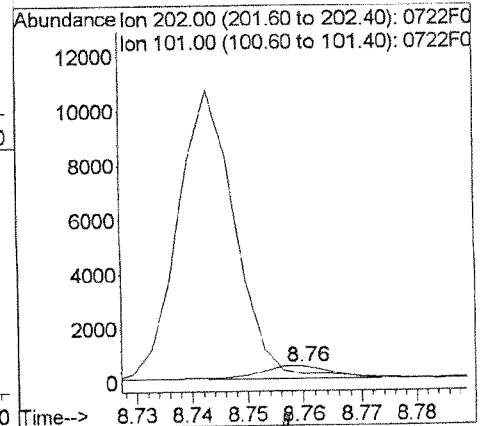
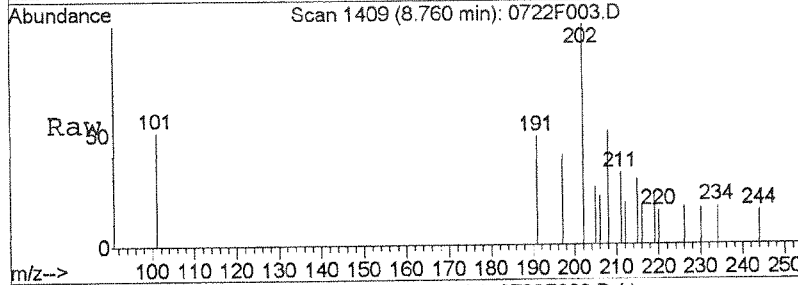


JUL 23 2014



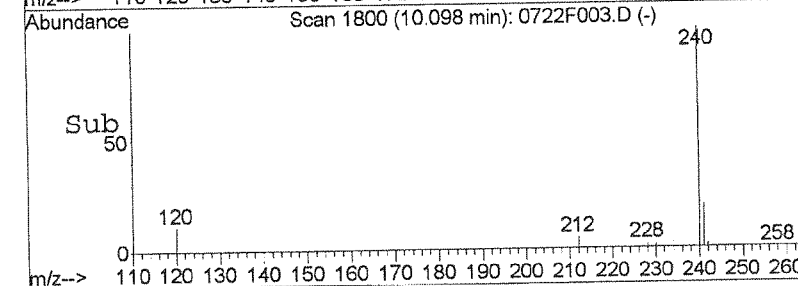
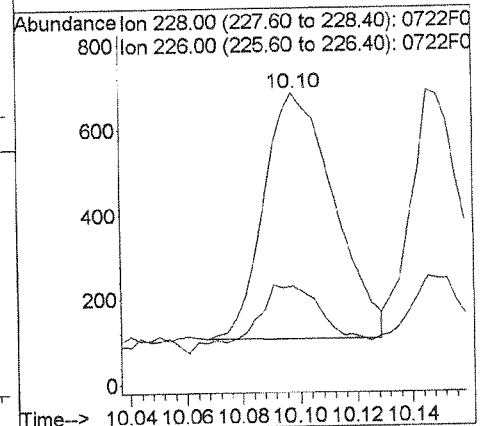
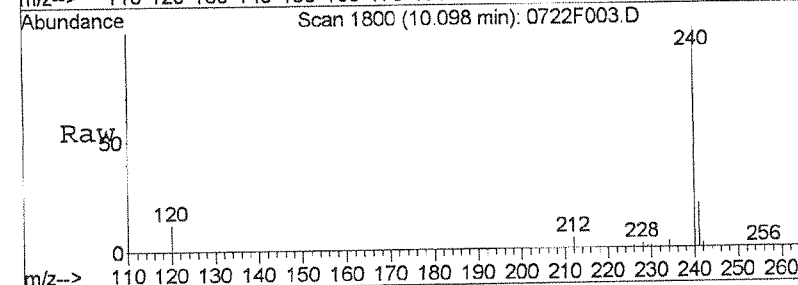
#23  
 Pyrene  
 Concen: 0.43 ng/ml m  
 RT: 8.76 min Scan# 1409  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 202 Resp: 414  
 Ion Ratio Lower Upper  
 202 100  
 101 51.4 0.0 38.3#

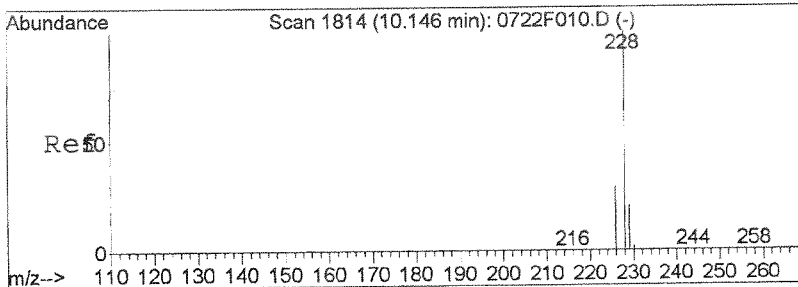


#25  
 Benz(a)anthracene **JUL 25 2014**  
 Concen: 1.13 ng/ml  
 RT: 10.10 min Scan# 1800  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 228 Resp: 982  
 Ion Ratio Lower Upper  
 228 100  
 226 23.0 0.0 56.4

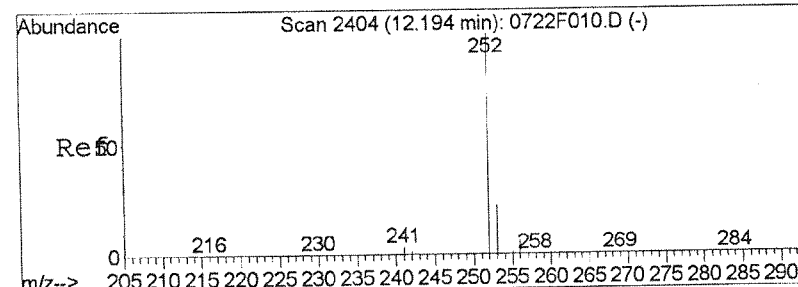
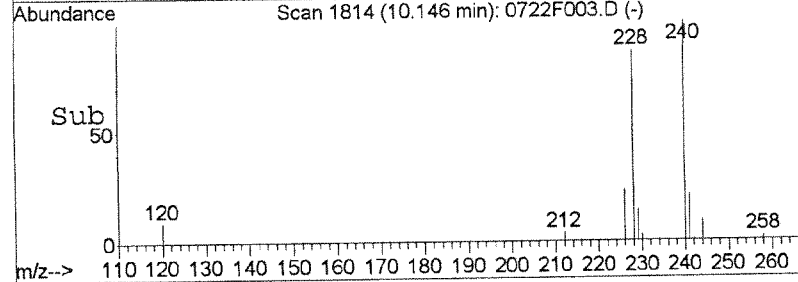
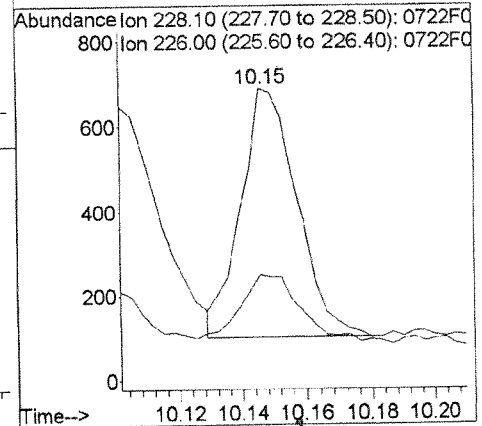
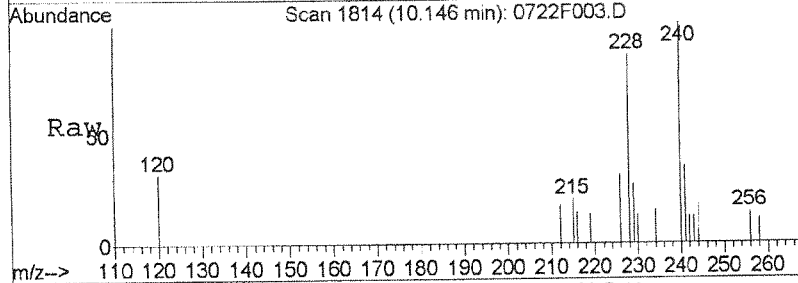


**JUL 23 2014**



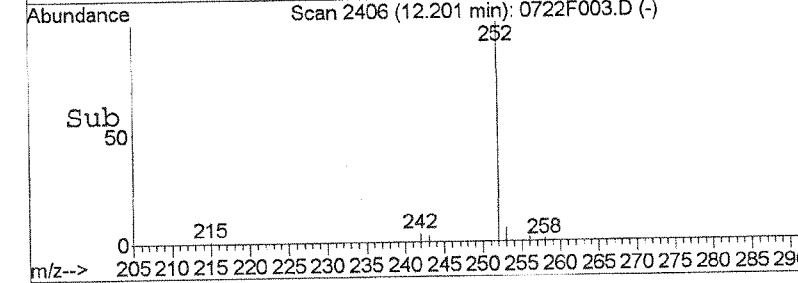
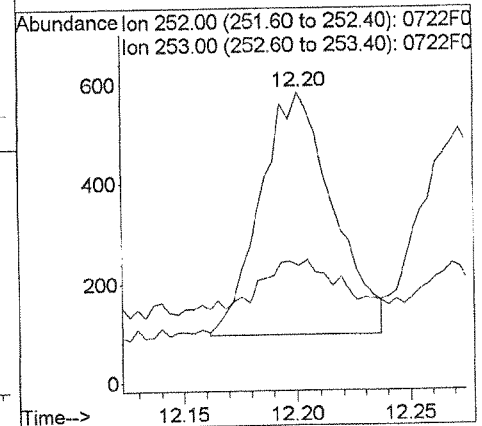
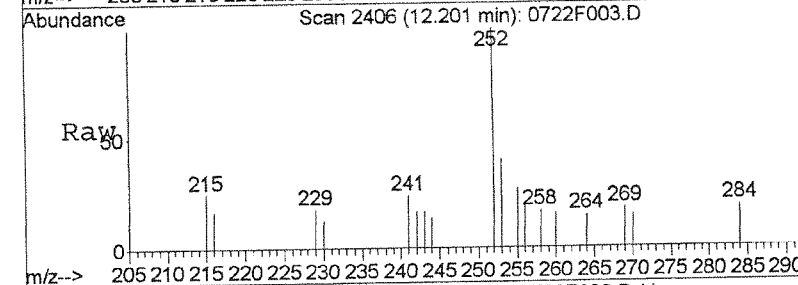
#26  
 Chrysene  
 Concen: 0.95 ng/ml  
 RT: 10.15 min Scan# 1814  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 228 Resp: 722  
 Ion Ratio Lower Upper  
 228 100  
 226 27.0 0.0 58.6

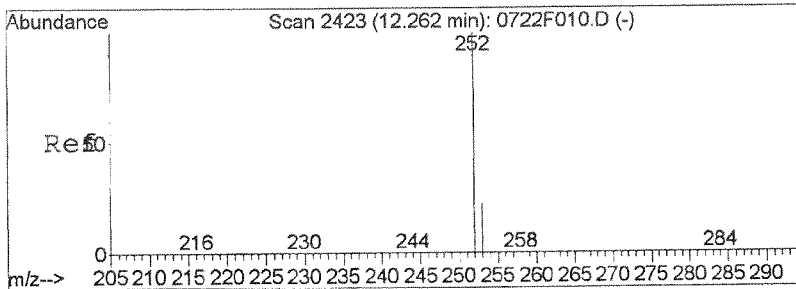


#28  
 Benzo(b)fluoranthene  
 Concen: 1.00 ng/ml m  
 RT: 12.20 min Scan# 2406  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 252 Resp: 1063  
 Ion Ratio Lower Upper  
 252 100  
 253 40.4 0.0 52.1

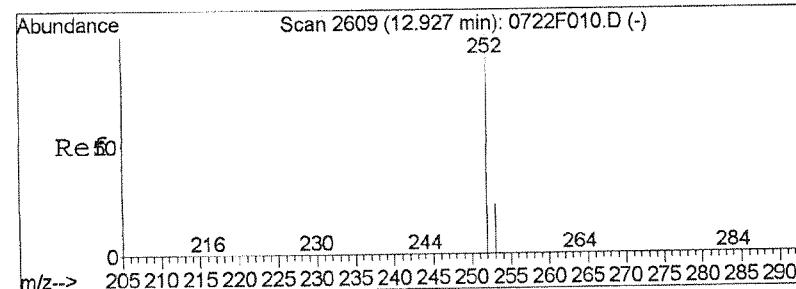
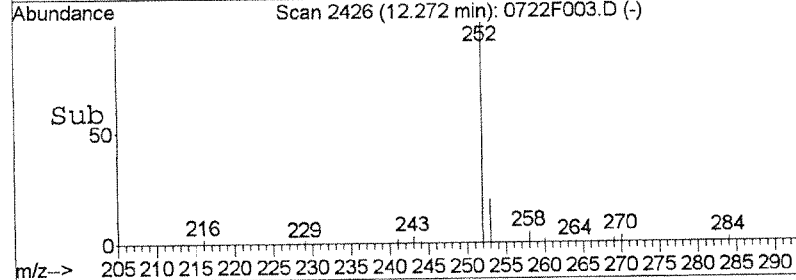
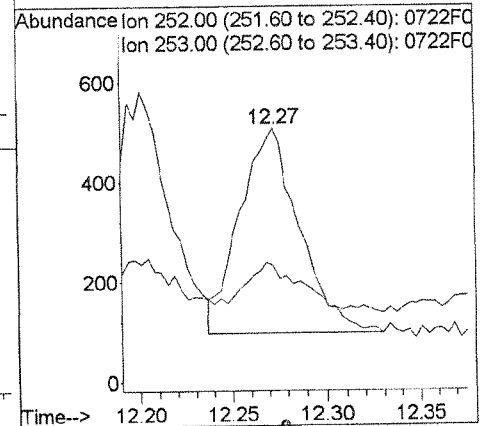
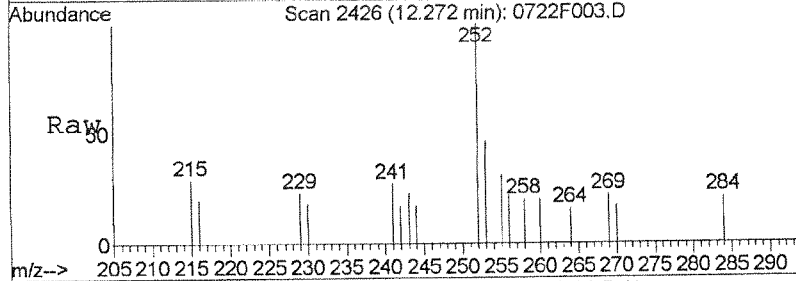


JUL 23 2014



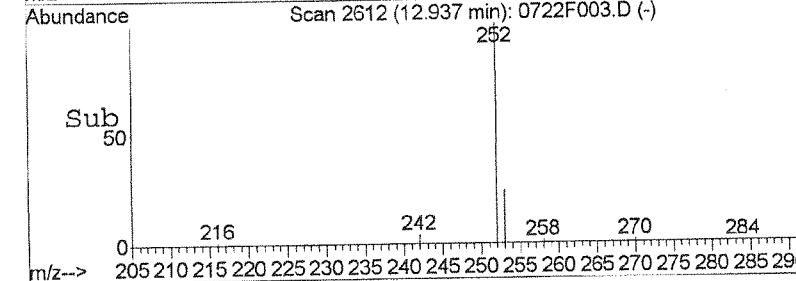
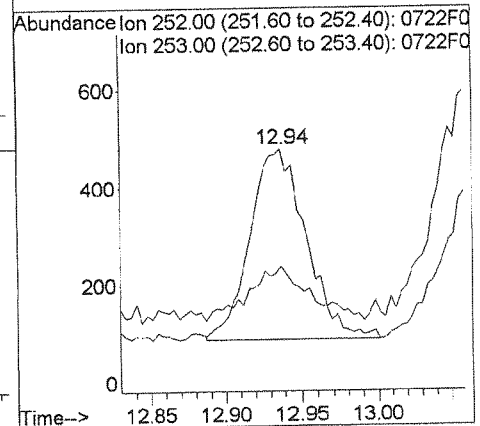
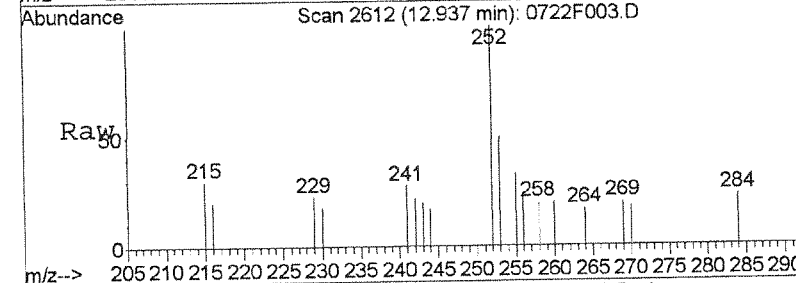
#29  
 Benzo(k) fluoranthene  
 Concen: 0.88 ng/ml  
 RT: 12.27 min Scan# 2426  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	23.1	0.0	52.1

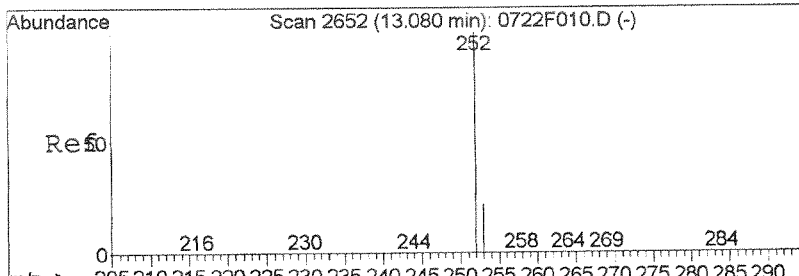


#30  
 Benzo(e) pyrene **JUL 25 2014**  
 Concen: 0.94 ng/ml  
 RT: 12.94 min Scan# 2612  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	28.4	0.0	51.4

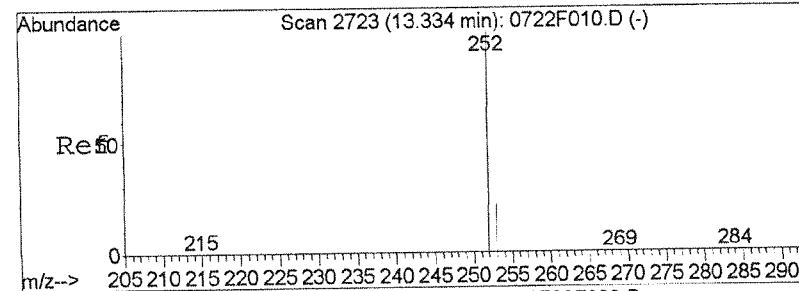
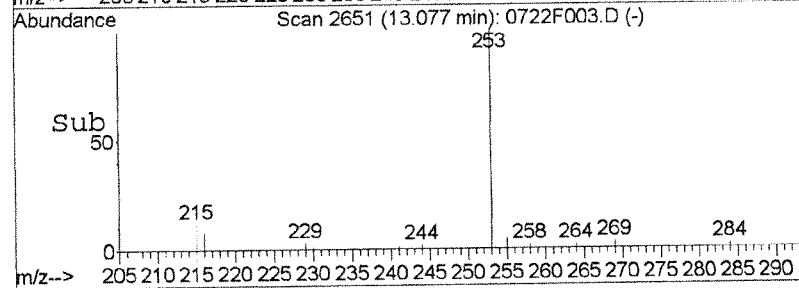
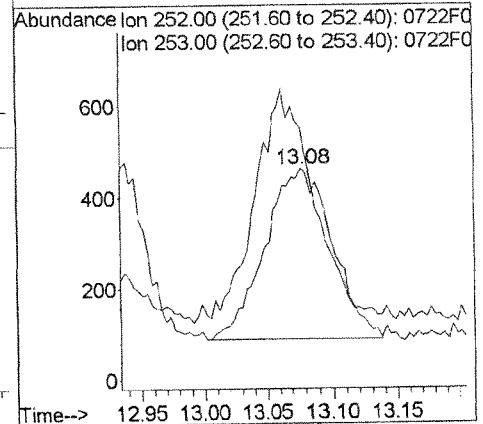
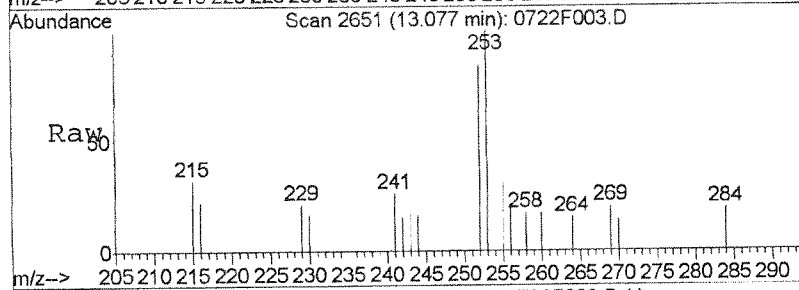


**JUL 23 2014**



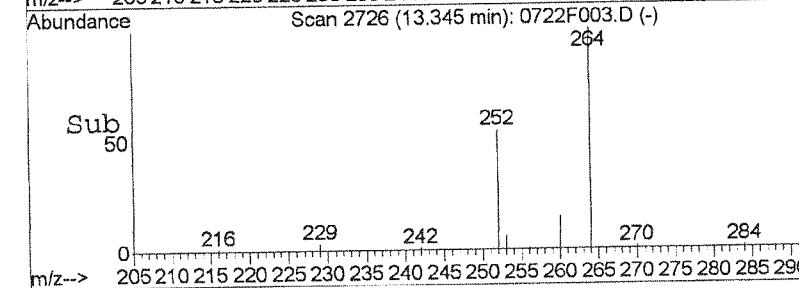
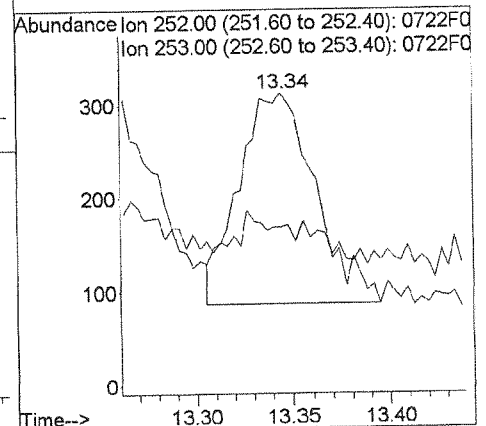
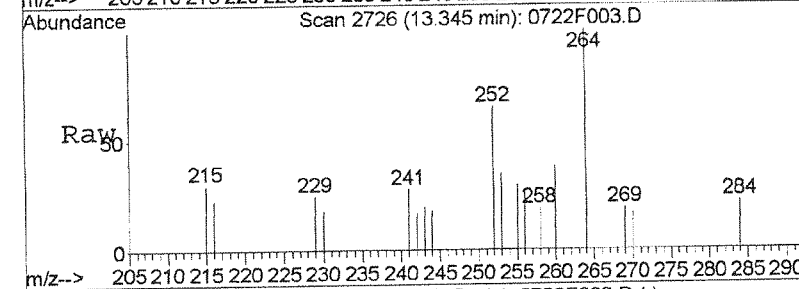
#31  
 Benzo(a)pyrene  
 Concen: 1.34 ng/ml  
 RT: 13.08 min Scan# 2651  
 Delta R.T. -0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 252 Resp: 1350  
 Ion Ratio Lower Upper  
 252 100  
 253 109.4 0.0 52.2#

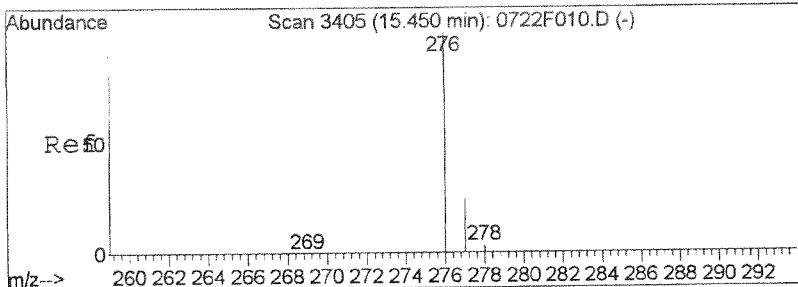


#32  
 Perylene  
 Concen: 0.70 ng/ml  
 RT: 13.34 min Scan# 2726  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion: 252 Resp: 612  
 Ion Ratio Lower Upper  
 252 100  
 253 15.9 0.0 51.8

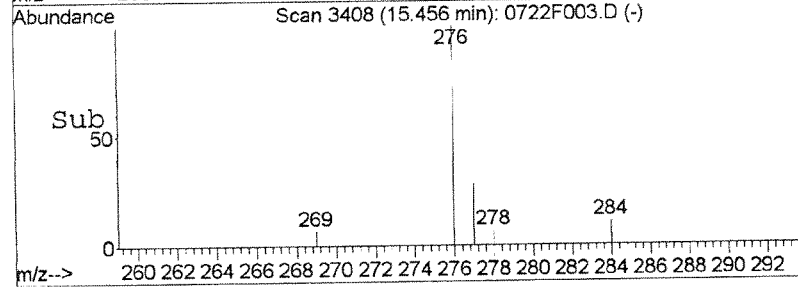
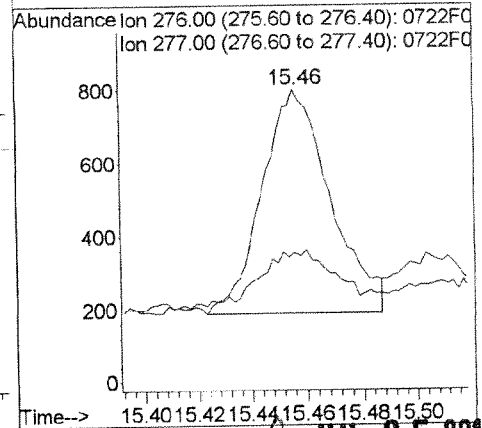
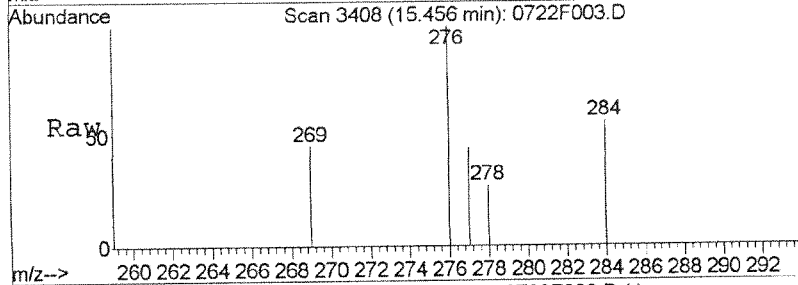


JUL 23 2014

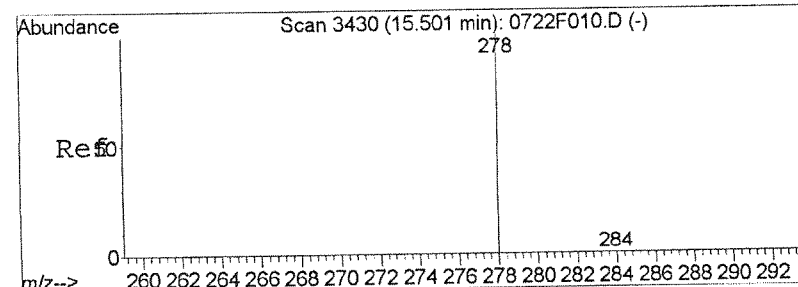


#33  
 Indeno(1,2,3-cd)pyrene  
 Concen: 1.30 ng/ml  
 RT: 15.46 min Scan# 3408  
 Delta R.T. 0.01 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Ratio	Lower	Upper
276	100		
277	23.6	0.0	53.9

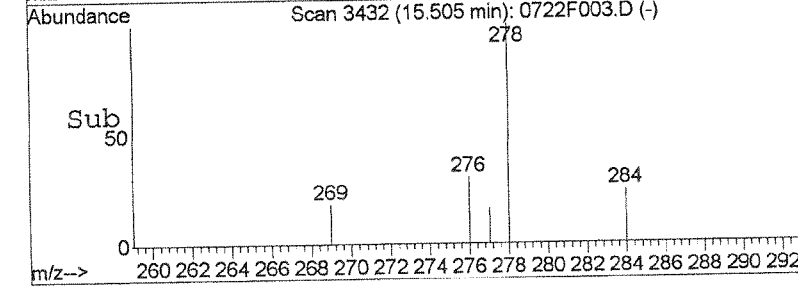
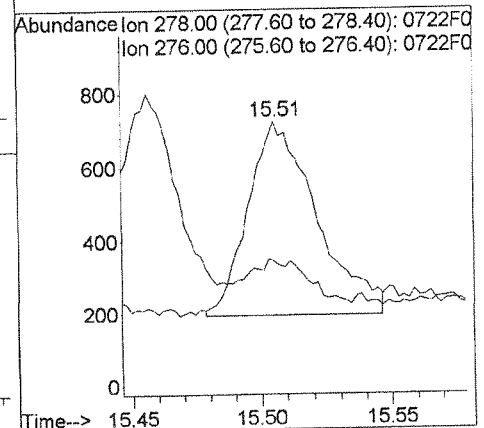
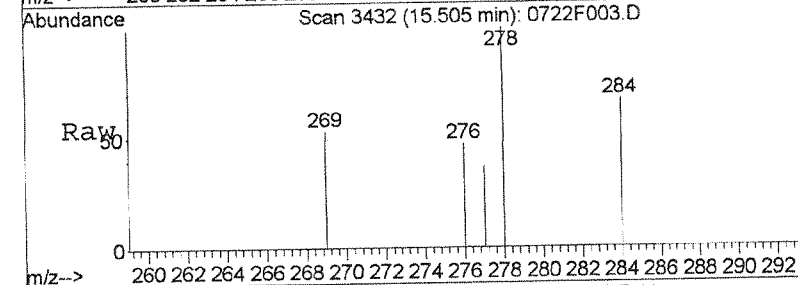


*h* JUL 25 2014



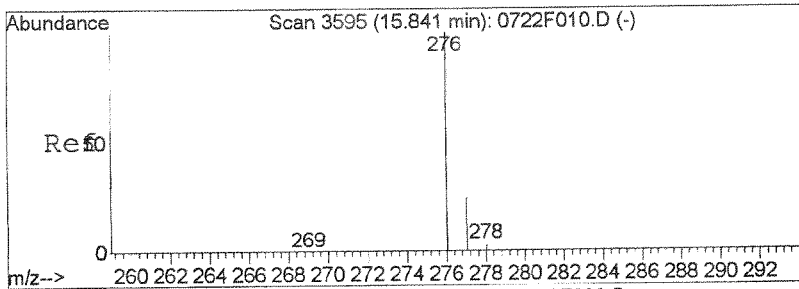
#34  
 Dibenz(a,h)anthracene  
 Concen: 1.41 ng/ml m  
 RT: 15.51 min Scan# 3432  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Ratio	Lower	Upper
278	100		
276	47.3	0.0	53.6



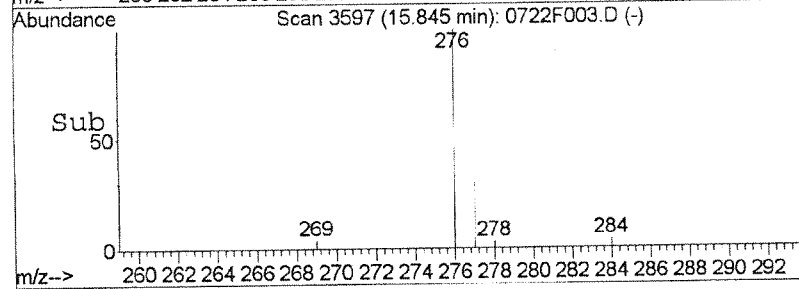
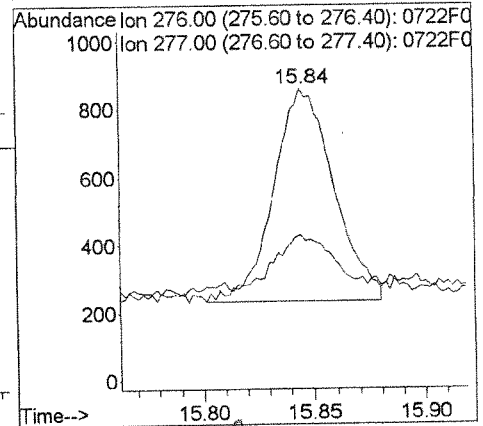
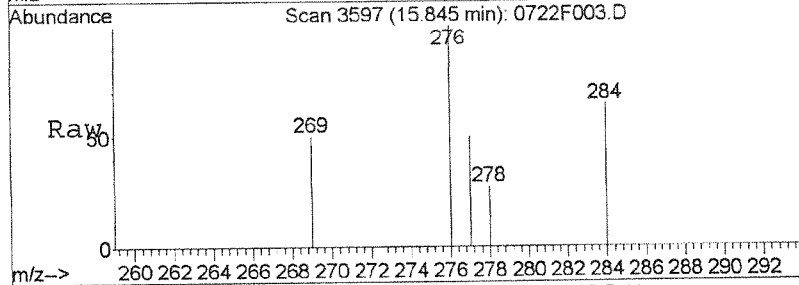
JUL 23 2014





#35  
 Benzo (g, h, i) perylene  
 Concen: 1.37 ng/ml  
 RT: 15.84 min Scan# 3597  
 Delta R.T. 0.00 min  
 Lab File: 0722F003.D  
 Acq: 22 Jul 2014 12:22 pm

Tgt Ion	Ratio	Lower	Upper
276	100		
277	24.3	0.0	53.6



*[Signature]*  
 JUL 25 2014

*[Signature]*  
 JUL 23 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F007.D  
 Acq On : 22 Jul 2014 2:06 pm  
 Sample : SIM PAH ICAL @ 0.02ppm | SVM45-12E  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:26 2014

Vial: 4  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*lu* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	126313	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	71520	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	139277	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	143902	200.00	ng/ml	0.00
27) Perylene-d12	13.25	264	153623	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	8721	20.13	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	2.01%	
21) Fluoranthene-d10	8.54	212	16036	20.46	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	2.05%	
24) Terphenyl-d14	8.89	244	13293	21.61	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	2.16%	

Target Compounds

						Qvalue
2) Naphthalene	4.71	128	14031	20.60	ng/ml	98
3) 2-Methylnaphthalene	5.39	142	10001	17.36	ng/ml	99
4) 1-Methylnaphthalene	5.48	142	8870	16.78	ng/ml	99
5) Biphenyl	5.81	154	12168	16.80	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.95	156	8965	16.77	ng/ml	99
8) Acenaphthylene	6.19	152	15206	20.58	ng/ml	100
9) Acenaphthene	6.34	154	8775	20.54	ng/ml	97
10) Dibenzofuran	6.49	168	13758	19.93	ng/ml	96
11) 2,3,5-Trimethylnaphthalene	6.66	170	8457	20.13	ng/ml	93
13) Fluorene	6.77	166	11099	20.52	ng/ml	98
15) Dibenzothiophene	7.47	184	15581	19.68	ng/ml	97
16) Phenanthrene	7.57	178	16352	21.08	ng/ml	100
17) Anthracene	7.62	178	16084	21.23	ng/ml	99
18) Carbazole	7.76	167	14574	22.11	ng/ml	97
19) 1-Methylphenanthrene	8.09	192	12938	20.99	ng/ml	99
20) Fluoranthene	8.56	202	19544	21.27	ng/ml	97
23) Pyrene	8.75	202	20683	21.90	ng/ml	94
25) Benz(a)anthracene	10.09	228	17253	20.00	ng/ml	100
26) Chrysene	10.14	228	15501	20.69	ng/ml	99
28) Benzo(b)fluoranthene	12.19	252	19211	18.08	ng/ml	99
29) Benzo(k)fluoranthene	12.26	252	18993	18.28	ng/ml	98
30) Benzo(e)pyrene	12.92	252	18115	17.02	ng/ml	100
31) Benzo(a)pyrene	13.07	252	21330	21.09	ng/ml	64
32) Perylene	13.33	252	17173	19.49	ng/ml	100
33) Indeno(1,2,3-cd)pyrene	15.45	276	21110	25.97	ng/ml	100
34) Dibenz(a,h)anthracene	15.50	278	20305	29.19	ng/ml	97
35) Benzo(g,h,i)perylene	15.84	276	23584	27.68	ng/ml	99

(#) = qualifier out of range (m) = manual integration  
 0722F007.D 072214SIMPAAH.M Wed Jul 23 11:31:17 2014

JUL 23 2014

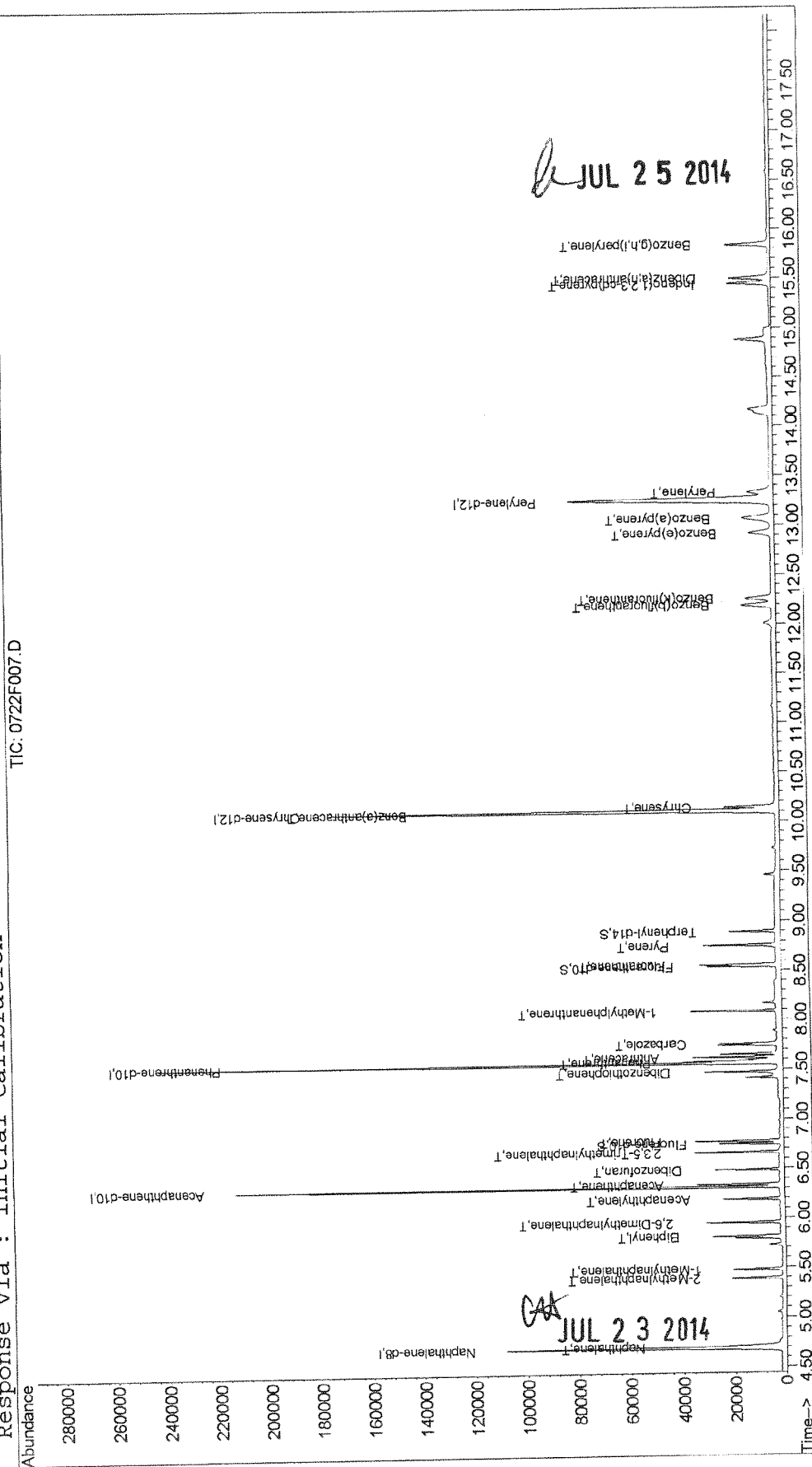
*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F007.D  
 Acq On : 22 Jul 2014 2:06 pm  
 Sample : SIM PAH ICAL @ 0.02ppm | SVM45-12E  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 9:39 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 4  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 11:12:07 2014  
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F008.D  
 Acq On : 22 Jul 2014 2:31 pm  
 Sample : SIM PAH ICAL @ 0.1ppm | SVM45-12F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:27 2014

Vial: 5  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*h* JUL 25 2014

Internal Standards	R.T.	QI on	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.69	136	127954	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	70157	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	138662	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	143585	200.00	ng/ml	0.00
27) Perylene-d12	13.25	264	153658	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	41297	97.19	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	9.72%	
21) Fluoranthene-d10	8.54	212	80050	102.57	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	10.26%	
24) Terphenyl-d14	8.89	244	64058	104.35	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	10.44%	

Target Compounds

						Qvalue
2) Naphthalene	4.71	128	68143	98.75	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	48514	83.11	ng/ml	100
4) 1-Methylnaphthalene	5.48	142	42879	80.09	ng/ml	99
5) Biphenyl	5.81	154	58084	79.18	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	42864	79.14	ng/ml	100
8) Acenaphthylene	6.19	152	73381	101.23	ng/ml	99
9) Acenaphthene	6.34	154	41964	100.16	ng/ml	97
10) Dibenzofuran	6.49	168	66778	98.63	ng/ml	95
11) 2,3,5-Trimethylnaphthalene	6.66	170	43932	106.60	ng/ml	86
13) Fluorene	6.77	166	52905	99.69	ng/ml	99
15) Dibenzothiophene	7.47	184	75640	95.98	ng/ml	97
16) Phenanthrene	7.57	178	77339	100.14	ng/ml	99
17) Anthracene	7.62	178	77835	103.20	ng/ml	100
18) Carbazole	7.76	167	69984	106.63	ng/ml	95
19) 1-Methylphenanthrene	8.08	192	62699m	102.15	ng/ml	
20) Fluoranthene	8.56	202	94153	102.91	ng/ml	98
23) Pyrene	8.75	202	99676	105.77	ng/ml	96
25) Benz(a)anthracene	10.09	228	84217	97.84	ng/ml	99
26) Chrysene	10.14	228	76415	102.24	ng/ml	100
28) Benzo(b)fluoranthene	12.19	252	94824	89.25	ng/ml	100
29) Benzo(k)fluoranthene	12.26	252	93656	90.13	ng/ml	99
30) Benzo(e)pyrene	12.92	252	89374	83.93	ng/ml	99
31) Benzo(a)pyrene	13.07	252	90757	89.72	ng/ml	89
32) Perylene	13.33	252	84537	95.94	ng/ml	100
33) Indeno(1,2,3-cd)pyrene	15.45	276	100138	123.16	ng/ml	100
34) Dibenz(a,h)anthracene	15.50	278	101341	145.65	ng/ml	98
35) Benzo(g,h,i)perylene	15.84	276	112890	132.48	ng/ml	100

(#) = qualifier out of range (m) = manual integration  
 0722F008.D 072214SIMPAAH.M Wed Jul 23 11:31:18 2014

JUL 23 2014

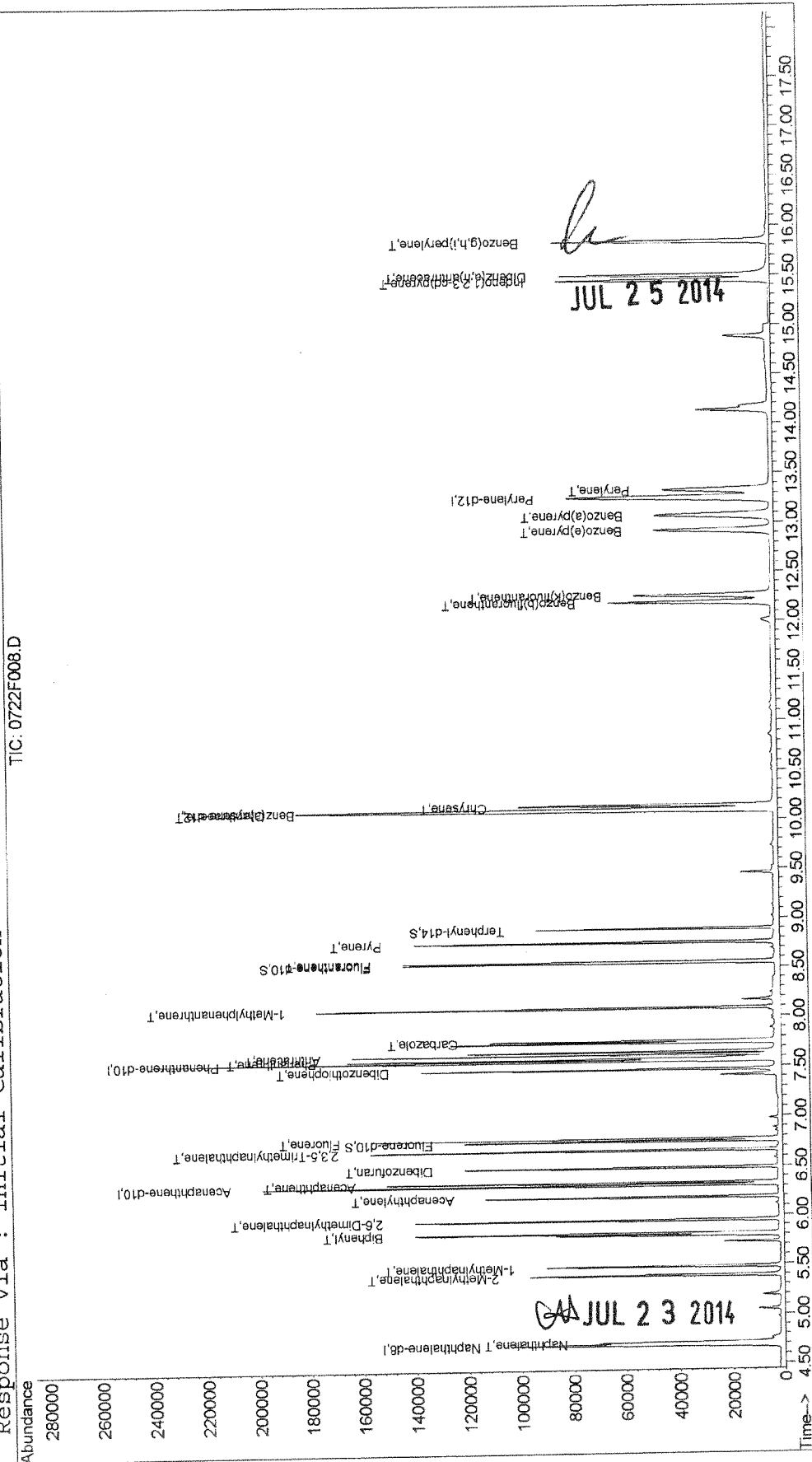
Page 1

*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F008.D  
Acq On : 22 Jul 2014 2:31 pm  
Sample : SIM PAH ICAL @ 0.1ppm | SVM45-12F  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 9:43 2014  
Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



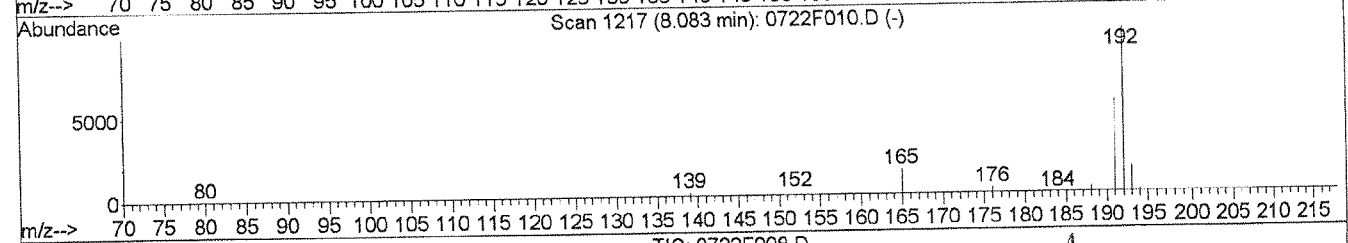
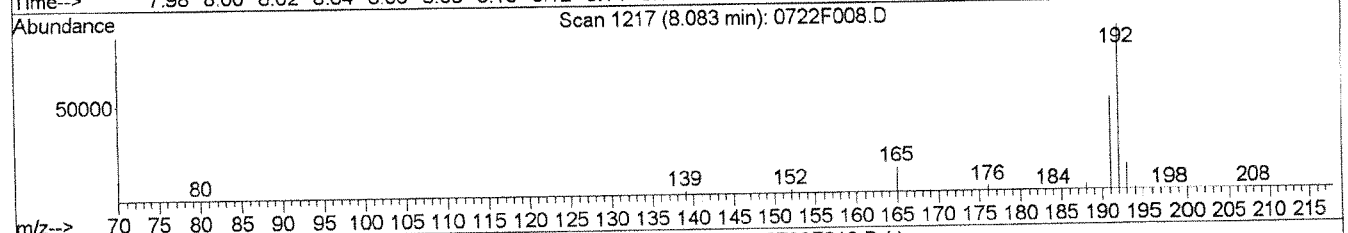
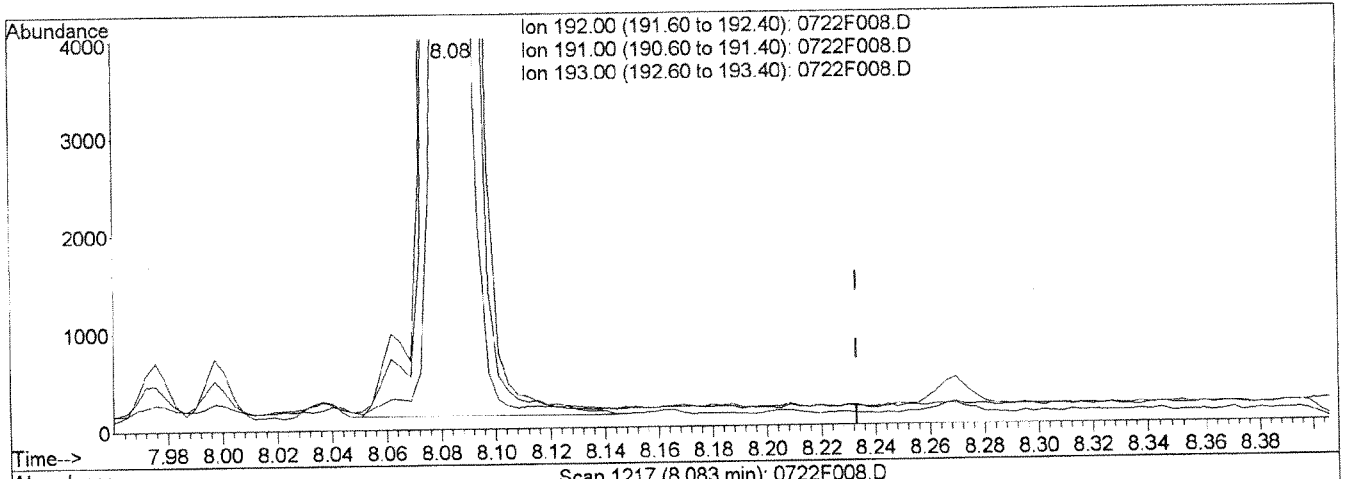
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072214\0722F008.D  
 Acq On : 22 Jul 2014 2:31 pm  
 Sample : SIM PAH ICAL @ 0.1ppm | SVM45-12F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 9:39 2014

Vial: 5  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Multiple Level Calibration



(19) 1-Methylphenanthrene (T)

8.08min 103.07ng/ml

response 63259

Ion	Exp%	Act%
192.00	100	100
191.00	55.50	55.85
193.00	15.70	15.38
0.00	0.00	0.00

Manual Integration:

JUL 25 2014

Before

07/23/14

*CA*

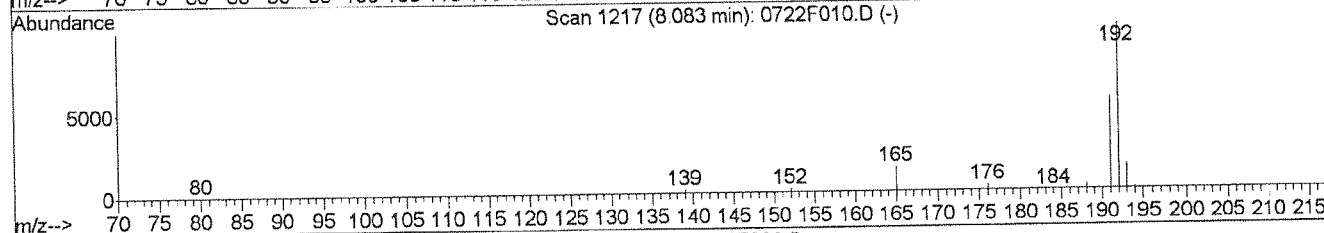
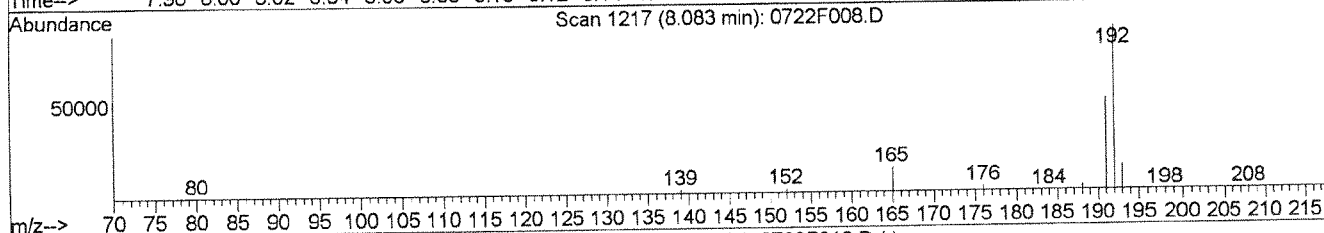
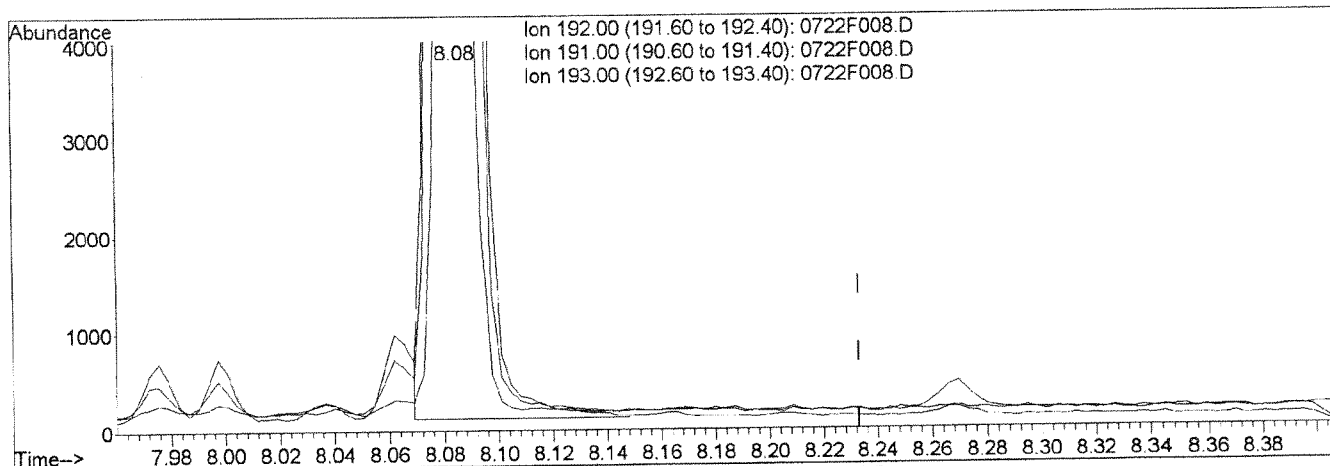
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072214\0722F008.D  
 Acq On : 22 Jul 2014 2:31 pm  
 Sample : SIM PAH ICAL @ 0.1ppm | SVM45-12F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 9:43 2014

Vial: 5  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Multiple Level Calibration



(19) 1-Methylphenanthrene (T)

8.08min 102.15ng/ml m

response 62699

Ion	Exp%	Act%
192.00	100	100
191.00	55.50	55.98
193.00	15.70	15.57
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

07/23/14

*CH*  
**JUL 25 2014**

*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F009.D  
 Acq On : 22 Jul 2014 2:55 pm  
 Sample : SIM PAH ICAL @ 0.2ppm | SVM45-12G  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:27 2014

Vial: 6  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*GA* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	127654	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	69340	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	135714	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	140680	200.00	ng/ml	0.00
27) Perylene-d12	13.25	264	151291	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	84719	201.73	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	20.17%	
21) Fluoranthene-d10	8.54	212	163539	214.10	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	21.41%	
24) Terphenyl-d14	8.89	244	130647	217.22	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	21.72%	

Target Compounds

						Qvalue
2) Naphthalene	4.71	128	141967	206.23	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	99934	171.61	ng/ml	100
4) 1-Methylnaphthalene	5.48	142	87687	164.17	ng/ml	98
5) Biphenyl	5.81	154	118597	162.04	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	87992	162.84	ng/ml	100
8) Acenaphthylene	6.19	152	151210	211.04	ng/ml	100
9) Acenaphthene	6.33	154	86704	209.38	ng/ml	96
10) Dibenzofuran	6.49	168	136911	204.60	ng/ml	91
11) 2,3,5-Trimethylnaphthalene	6.66	170	88230	216.60	ng/ml	88
13) Fluorene	6.77	166	107727	205.39	ng/ml	100
15) Dibenzothiophene	7.47	184	155541	201.65	ng/ml	95
16) Phenanthrene	7.57	178	158665	209.90	ng/ml	99
17) Anthracene	7.62	178	159474	216.03	ng/ml	99
18) Carbazole	7.75	167	143304	223.09	ng/ml	99
19) 1-Methylphenanthrene	8.08	192	128967	214.69	ng/ml	100
20) Fluoranthene	8.56	202	190784	213.07	ng/ml	98
23) Pyrene	8.76	202	203053	219.92	ng/ml	98
25) Benz(a)anthracene	10.09	228	174557	206.98	ng/ml	99
26) Chrysene	10.14	228	156910	214.27	ng/ml	99
28) Benzo(b)fluoranthene	12.19	252	200218	191.39	ng/ml	99
29) Benzo(k)fluoranthene	12.26	252	192777	188.42	ng/ml	98
30) Benzo(e)pyrene	12.92	252	186333	177.72	ng/ml	99
31) Benzo(a)pyrene	13.08	252	185094	185.85	ng/ml	99
32) Perylene	13.33	252	177043	204.07	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.45	276	214421	267.84	ng/ml	100
34) Dibenz(a,h)anthracene	15.50	278	208511	304.37	ng/ml	99
35) Benzo(g,h,i)perylene	15.84	276	228864	272.79	ng/ml	99

(#) = qualifier out of range (m) = manual integration  
 0722F009.D 072214SIMPAAH.M Wed Jul 23 11:31:19 2014

JUL 23 2014 Page 1

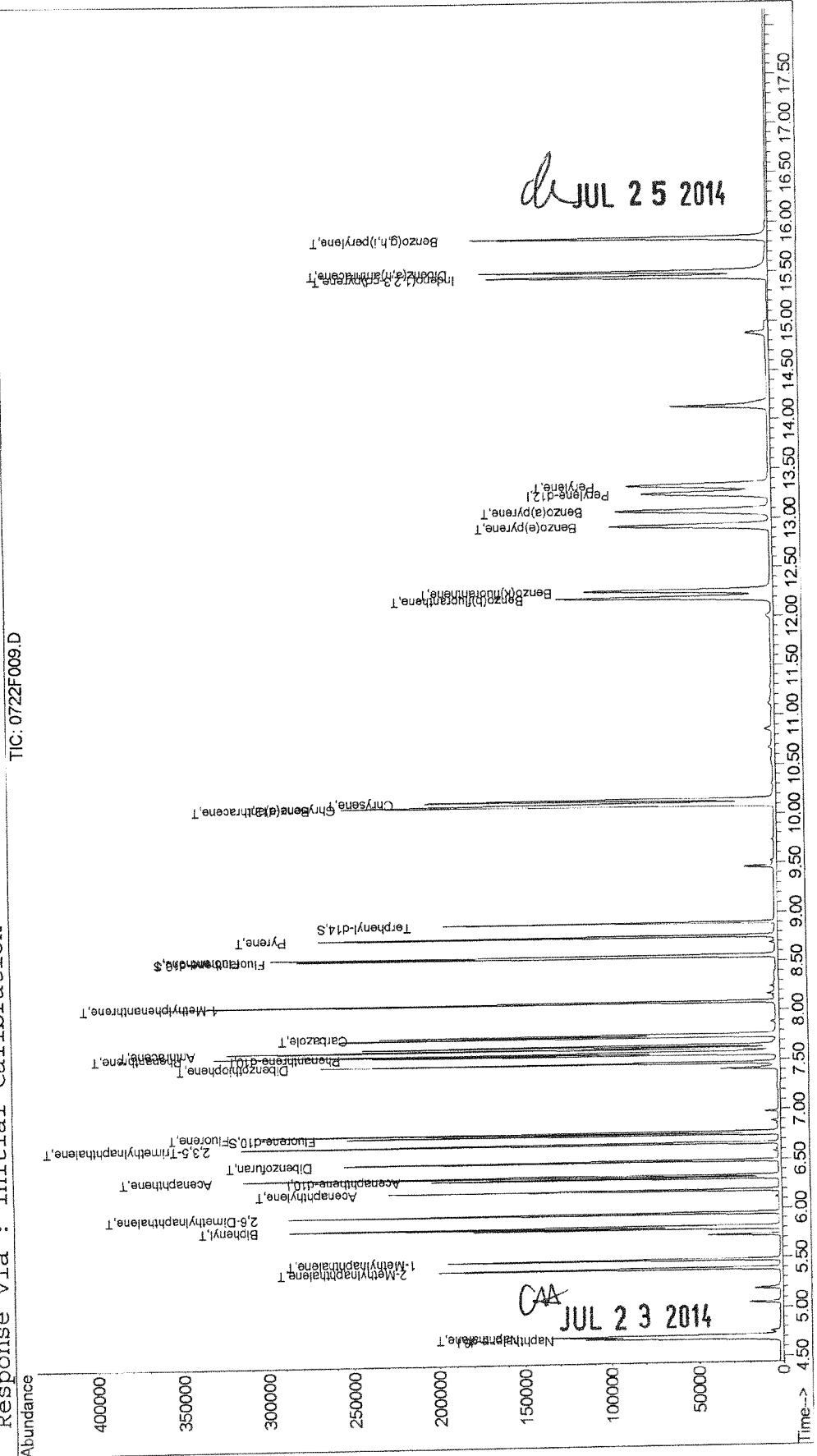
*GA*



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F009.D  
Acq On : 22 Jul 2014 2:55 pm  
Sample : SIM PAH ICAL @ 0.2ppm | SVM45-12G  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 9:39 2014  
Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F010.D  
 Acq On : 22 Jul 2014 3:20 pm  
 Sample : SIM PAH ICAL @ 0.4ppm | SVM45-12H  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:28 2014

Vial: 7  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*CH* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	131378	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	71629	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	141192	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	143575	200.00	ng/ml	0.00
27) Perylene-d12	13.25	264	157982	200.00	ng/ml	0.00
System Monitoring Compounds						
12) Fluorene-d10	6.75	176	167590	386.31	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	38.63%	
21) Fluoranthene-d10	8.54	212	323080	406.56	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	40.66%	
24) Terphenyl-d14	8.89	244	254013	413.81	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	41.38%	
Target Compounds						
2) Naphthalene	4.71	128	282530	398.78	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	196732	328.26	ng/ml	99
4) 1-Methylnaphthalene	5.48	142	171463	311.92	ng/ml	99
5) Biphenyl	5.81	154	228456	303.30	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	172676	310.50	ng/ml	99
8) Acenaphthylene	6.19	152	300343	405.79	ng/ml	100
9) Acenaphthene	6.34	154	169249	395.65	ng/ml	99
10) Dibenzofuran	6.49	168	269656	390.10	ng/ml	95
11) 2,3,5-Trimethylnaphthalene	6.66	170	170160	404.39	ng/ml	95
13) Fluorene	6.77	166	210308	388.15	ng/ml	100
15) Dibenzothiophene	7.47	184	309423	385.58	ng/ml	98
16) Phenanthrene	7.57	178	312496	397.36	ng/ml	100
17) Anthracene	7.62	178	314215	409.14	ng/ml	99
18) Carbazole	7.75	167	279543	418.30	ng/ml	100
19) 1-Methylphenanthrene	8.08	192	255030	408.07	ng/ml	100
20) Fluoranthene	8.56	202	369002	396.11	ng/ml	98
23) Pyrene	8.76	202	398829	423.24	ng/ml	99
25) Benz(a)anthracene	10.09	228	349585	406.16	ng/ml	100
26) Chrysene	10.15	228	313360	419.29	ng/ml	100
28) Benzo(b)fluoranthene	12.19	252	397025	363.44	ng/ml	99
29) Benzo(k)fluoranthene	12.26	252	386490	361.76	ng/ml	99
30) Benzo(e)pyrene	12.93	252	375398	342.88	ng/ml	99
31) Benzo(a)pyrene	13.08	252	369746	355.53	ng/ml	100
32) Perylene	13.33	252	359962	397.35	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.45	276	429388	513.65	ng/ml	99
34) Dibenz(a,h)anthracene	15.50	278	419253	586.08	ng/ml	99
35) Benzo(g,h,i)perylene	15.84	276	450737	514.49	ng/ml	100

(#) = qualifier out of range (m) = manual integration  
 0722F010.D 072214SIMPAAH.M Wed Jul 23 11:31:20 2014

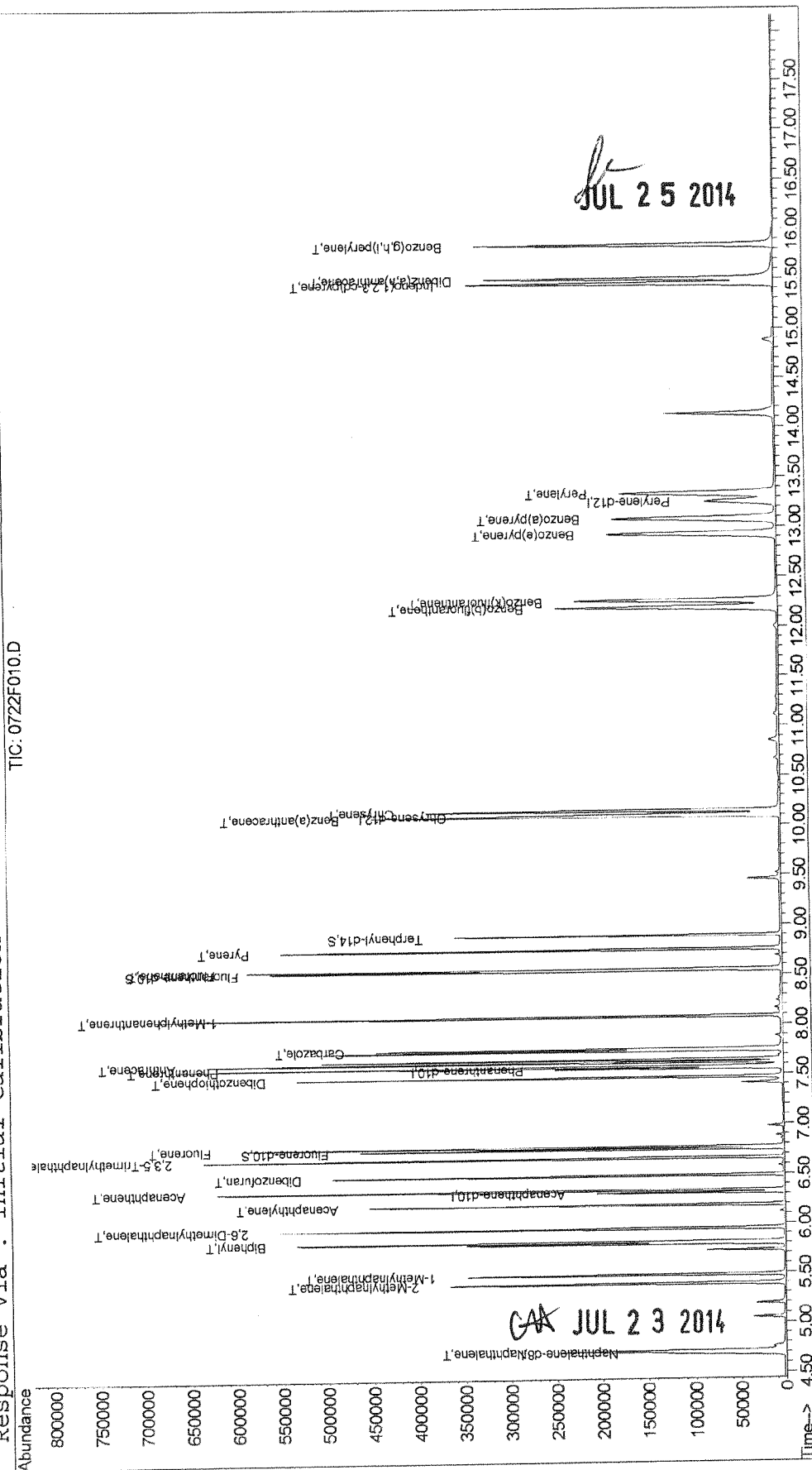
JUL 23 2014

*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F010.D  
Acq On : 22 Jul 2014 3:20 pm  
Sample : SIM PAH ICAL @ 0.4ppm | SVM45-12H  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 9:39 2014  
Quant Results File: 072214SIMPAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F011.D  
 Acq On : 22 Jul 2014 3:45 pm  
 Sample : SIM PAH ICAL @ 1.0ppm | SVM45-12I  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:29 2014

Vial: 8  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*JUL 25 2014*

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	123057	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	66792	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	131756	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	131542	200.00	ng/ml	0.00
27) Perylene-d12	13.26	264	148015	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	375805	929.00	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	92.90%	
21) Fluoranthene-d10	8.55	212	725404	978.22	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	97.82%	
24) Terphenyl-d14	8.90	244	556665	989.82	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	98.98%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.71	128	644295	970.89	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	441169	785.88	ng/ml	98
4) 1-Methylnaphthalene	5.48	142	384894	747.54	ng/ml	99
5) Biphenyl	5.81	154	506466	717.85	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.95	156	385551	740.17	ng/ml	99
8) Acenaphthylene	6.19	152	668479	968.59	ng/ml	100
9) Acenaphthene	6.34	154	379153	950.53	ng/ml	99
10) Dibenzofuran	6.49	168	605074	938.72	ng/ml	98
11) 2,3,5-Trimethylnaphthalene	6.66	170	379403	966.96	ng/ml	96
13) Fluorene	6.77	166	465957	922.26	ng/ml	100
15) Dibenzothiophene	7.47	184	691486	923.40	ng/ml	99
16) Phenanthrene	7.58	178	702054	956.65	ng/ml	99
17) Anthracene	7.62	178	706404	985.69	ng/ml	100
18) Carbazole	7.76	167	634793	1017.91	ng/ml	98
19) 1-Methylphenanthrene	8.09	192	569453	976.43	ng/ml	99
20) Fluoranthene	8.56	202	816426	939.17	ng/ml	100
23) Pyrene	8.76	202	896556	1038.48	ng/ml	98
25) Benz(a)anthracene	10.09	228	809913	1027.06	ng/ml	100
26) Chrysene	10.15	228	726931	1061.63	ng/ml	99
28) Benzo(b)fluoranthene	12.20	252	933060	911.65	ng/ml	100
29) Benzo(k)fluoranthene	12.28	252	894128	893.28	ng/ml	100
30) Benzo(e)pyrene	12.94	252	878414	856.34	ng/ml	99
31) Benzo(a)pyrene	13.09	252	863399	886.11	ng/ml	99
32) Perylene	13.35	252	852220	1004.08	ng/ml	100
33) Indeno(1,2,3-cd)pyrene	15.46	276	985706	1258.53	ng/ml	99
34) Dibenz(a,h)anthracene	15.51	278	967691	1443.83	ng/ml	99
35) Benzo(g,h,i)perylene	15.85	276	1016551	1238.47	ng/ml	99

(#) = qualifier out of range (m) = manual integration  
 0722F011.D 072214SIMPAAH.M Wed Jul 23 11:31:21 2014

*JUL 23 2014*

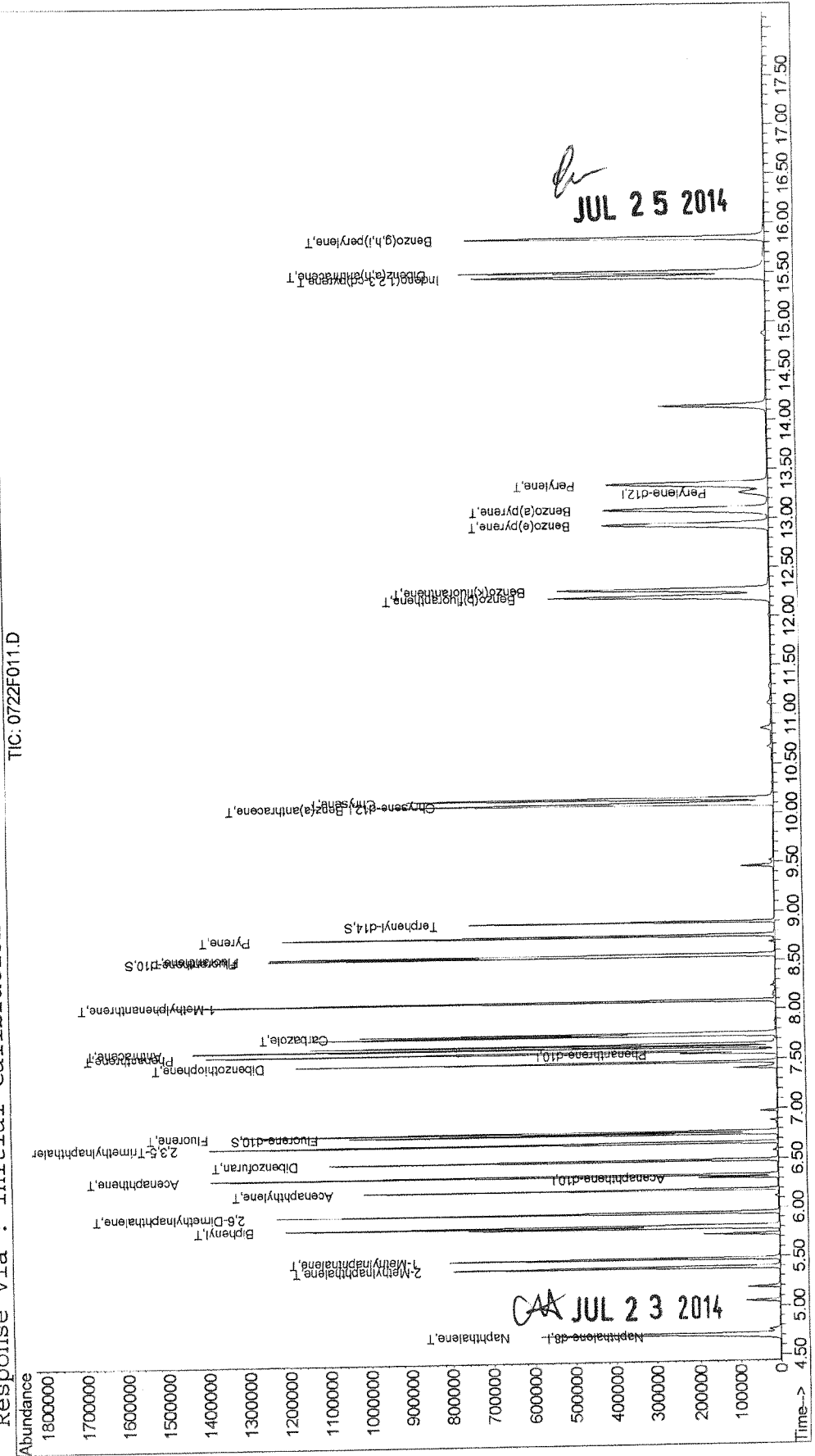
*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F011.D  
 Acq On : 22 Jul 2014 3:45 pm  
 Sample : SIM PAH ICAL @ 1.0ppm | SVM45-12I  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 9:39 2014  
 Quant Results File: 072214SIMPAH.RES

Vial: 8  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 11:12:07 2014  
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F012.D  
 Acq On : 22 Jul 2014 4:10 pm  
 Sample : SIM PAH ICAL @ 1.6ppm | SVM45-12J  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:30 2014

Vial: 9  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*Jan* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.68	136	123144	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	67306	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	133794	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	129534	200.00	ng/ml	0.00
27) Perylene-d12	13.26	264	146914	200.00	ng/ml	0.01
System Monitoring Compounds						
12) Fluorene-d10	6.75	176	561838	1378.28	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	137.83%	
21) Fluoranthene-d10	8.55	212	1084082	1439.63	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	143.96%	
24) Terphenyl-d14	8.90	244	815931	1473.31	ng/ml	0.00
Spiked Amount	1000.000			Recovery =	147.33%	
Target Compounds						
2) Naphthalene	4.71	128	977115	1471.38	ng/ml	98
3) 2-Methylnaphthalene	5.39	142	657475	1170.38	ng/ml	98
4) 1-Methylnaphthalene	5.48	142	579546	1124.80	ng/ml	99
5) Biphenyl	5.81	154	750944	1063.61	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.95	156	575512	1104.06	ng/ml	99
8) Acenaphthylene	6.19	152	994980	1430.66	ng/ml	99
9) Acenaphthene	6.34	154	569751	1417.45	ng/ml	99
10) Dibenzofuran	6.49	168	898777	1383.72	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.66	170	562645	1423.03	ng/ml	96
13) Fluorene	6.77	166	694184	1363.50	ng/ml	99
15) Dibenzothiophene	7.47	184	1011596	1330.29	ng/ml	94
16) Phenanthrene	7.58	178	1037972	1392.85	ng/ml	100
17) Anthracene	7.62	178	1045396	1436.48	ng/ml	99
18) Carbazole	7.76	167	936725	1479.18	ng/ml	99
19) 1-Methylphenanthrene	8.09	192	839176	1417.00	ng/ml	99
20) Fluoranthene	8.56	202	1203260	1363.08	ng/ml	99
23) Pyrene	8.76	202	1329155	1563.42	ng/ml	99
25) Benz(a)anthracene	10.10	228	1226985	1580.07	ng/ml	100
26) Chrysene	10.15	228	1107063	1641.85	ng/ml	100
28) Benzo(b)fluoranthene	12.21	252	1406961	1384.97	ng/ml	99
29) Benzo(k)fluoranthene	12.28	252	1361489	1370.39	ng/ml	100
30) Benzo(e)pyrene	12.95	252	1342663	1318.74	ng/ml	99
31) Benzo(a)pyrene	13.11	252	1323049	1368.02	ng/ml	99
32) Perylene	13.36	252	1300725	1543.99	ng/ml	100
33) Indeno(1,2,3-cd)pyrene	15.47	276	1484622	1909.75	ng/ml	98
34) Dibenz(a,h)anthracene	15.52	278	1445141	2172.37	ng/ml	98
35) Benzo(g,h,i)perylene	15.86	276	1510844	1854.46	ng/ml	98

(#) = qualifier out of range (m) = manual integration  
 0722F012.D 072214SIMPAAH.M Wed Jul 23 11:31:23 2014

JUL 23 2014

Page 1

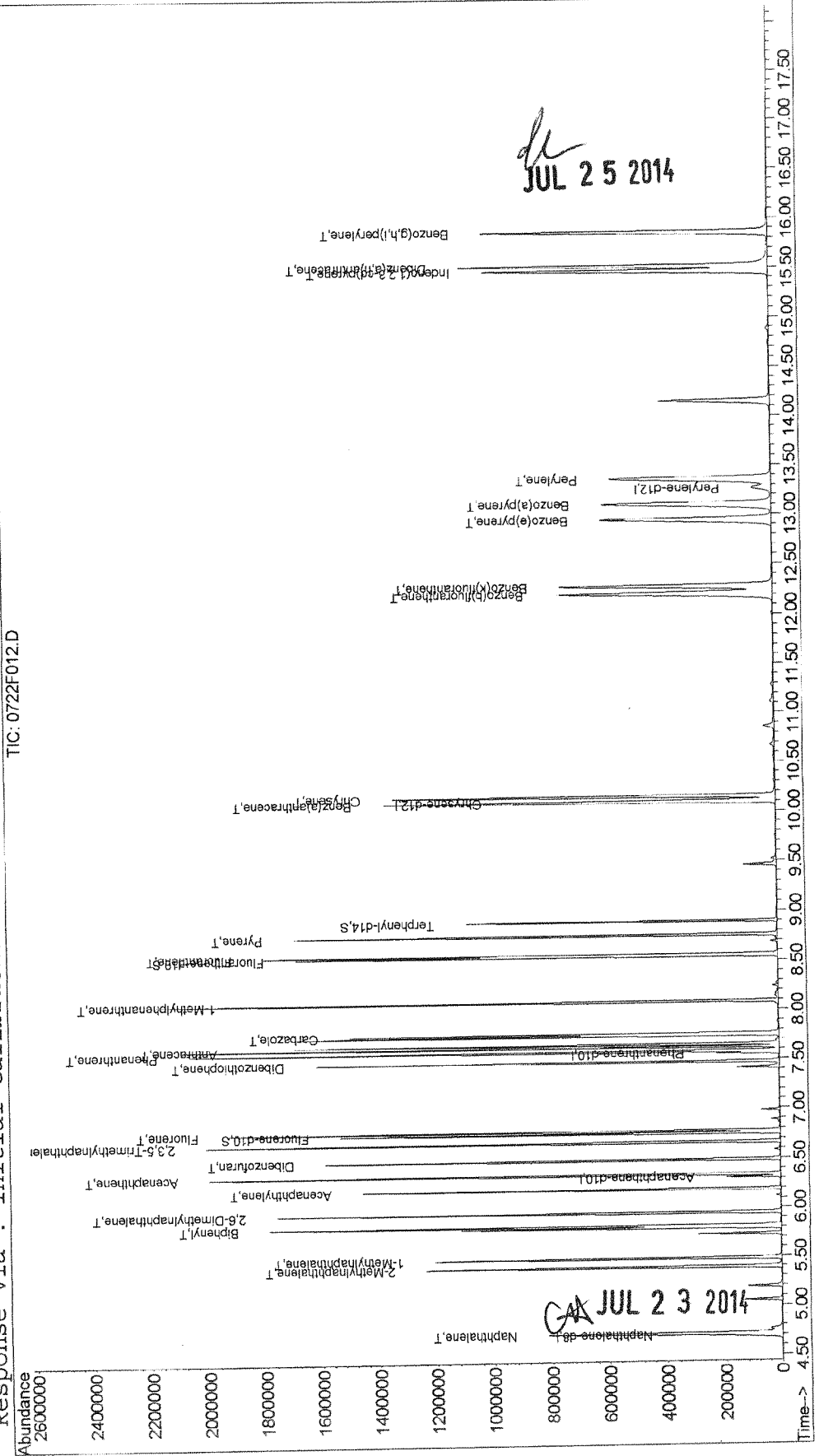
*CAA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F012.D  
Acq On : 22 Jul 2014 4:10 pm  
Sample : SIM PAH ICAL @ 1.6ppm | SVM45-12J  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 9:39 2014  
Quant Results File: 072214SIMPAH.RES

Vial: 9  
Operator: CHART  
Inst : MS14  
Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



JUL 25 2014

JUL 23 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F013.D  
 Acq On : 22 Jul 2014 4:35 pm  
 Sample : SIM PAH ICAL @ 2.0ppm | SVM45-12K  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 09:39:31 2014

Vial: 10  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 09:39:05 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*for*  
**JUL 25 2014**

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.69	136	117456	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	64552	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	127140	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	122307	200.00	ng/ml	0.00
27) Perylene-d12	13.27	264	139491	200.00	ng/ml	0.01
<b>System Monitoring Compounds</b>						
12) Fluorene-d10	6.75	176	670636	1715.37	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	171.54%	
21) Fluoranthene-d10	8.55	212	1289412	1801.91	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	180.19%	
24) Terphenyl-d14	8.90	244	956012	1828.26	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	182.83%	
<b>Target Compounds</b>						
2) Naphthalene	4.71	128	1171064	1848.83	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	785711	1466.38	ng/ml	98
4) 1-Methylnaphthalene	5.48	142	693075	1410.28	ng/ml	100
5) Biphenyl	5.81	154	887704	1318.20	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.95	156	678196	1364.06	ng/ml	99
8) Acenaphthylene	6.19	152	1179334	1768.08	ng/ml	98
9) Acenaphthene	6.34	154	677437	1757.25	ng/ml	99
10) Dibenzofuran	6.49	168	1062631	1705.78	ng/ml	92
11) 2,3,5-Trimethylnaphthalene	6.66	170	658626	1736.85	ng/ml	100
13) Fluorene	6.78	166	817659	1674.54	ng/ml	98
15) Dibenzothiophene	7.47	184	1196281	1655.49	ng/ml	97
16) Phenanthrene	7.58	178	1234750	1743.62	ng/ml	100
17) Anthracene	7.62	178	1246222	1802.06	ng/ml	99
18) Carbazole	7.76	167	1114053	1851.27	ng/ml	97
19) 1-Methylphenanthrene	8.09	192	999580	1776.18	ng/ml	99
20) Fluoranthene	8.57	202	1415982	1688.01	ng/ml	99
23) Pyrene	8.76	202	1585802	1975.52	ng/ml	100
25) Benz (a) anthracene	10.10	228	1477412	2014.99	ng/ml	100
26) Chrysene	10.15	228	1336009	2098.48	ng/ml	100
28) Benzo (b) fluoranthene	12.22	252	1716449	1779.54	ng/ml	100
29) Benzo (k) fluoranthene	12.29	252	1647530	1746.54	ng/ml	100
30) Benzo (e) pyrene	12.95	252	1628167	1684.25	ng/ml	99
31) Benzo (a) pyrene	13.11	252	1604009	1746.79	ng/ml	100
32) Perylene	13.37	252	1577882	1972.65	ng/ml	100
33) Indeno (1,2,3-cd) pyrene	15.47	276	1789853	2424.91	ng/ml	98
34) Dibenz (a,h) anthracene	15.52	278	1725922	2732.50	ng/ml	98
35) Benzo (g,h,i) perylene	15.87	276	1806628	2335.52	ng/ml	98

(#) = qualifier out of range (m) = manual integration  
 0722F013.D 072214SIMPAAH.M Wed Jul 23 11:31:24 2014 **JUL 23 2014** Page 1

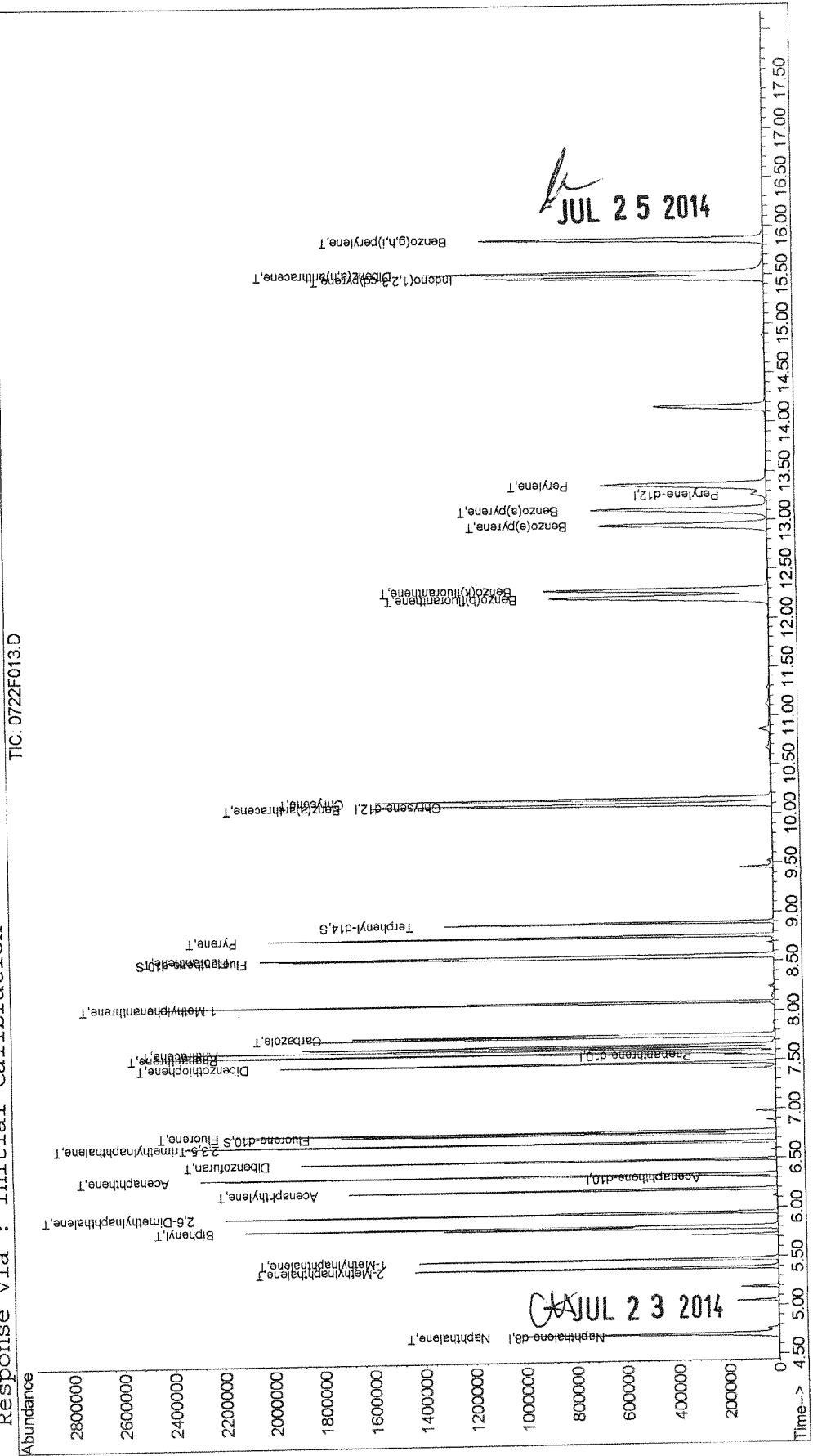
*CH*



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072214\0722F013.D  
Acq On : 22 Jul 2014 4:35 pm  
Sample : SIM PAH ICAL @ 2.0ppm | SVM45-12K  
Misc :  
MS Integration Params: RTEINT.F  
Quant Time: Jul 23 9:39 2014  
Quant Results File: 072214SIMP.AH.RES

Method : J:\MS14\METHODS\SIM\072214SIMP.AH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



# Injection Log

Directory: J:\MS14\DATA\072314

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0723F001.D	1.	SIM PAH Tune @ 3.0ug/mL   SVM45-97B		23 Jul 2014 09:21
2	2	0723F002.D	1.	SIM PAH ICAL @ 0.002ug/mL   SVM46-98D		23 Jul 2014 10:04
3	3	0723F003.D	1.	SIM PAH ICAL @ 0.004ug/mL   SVM46-98E		23 Jul 2014 10:27
4	4	0723F004.D	1.	SIM PAH ICAL @ 0.008ug/mL   SVM46-98F		23 Jul 2014 10:50
5	5	0723F005.D	1.	SIM PAH ICV @ 0.4ug/mL   SVM46-34F		23 Jul 2014 11:18

*h* JUL 25 2014

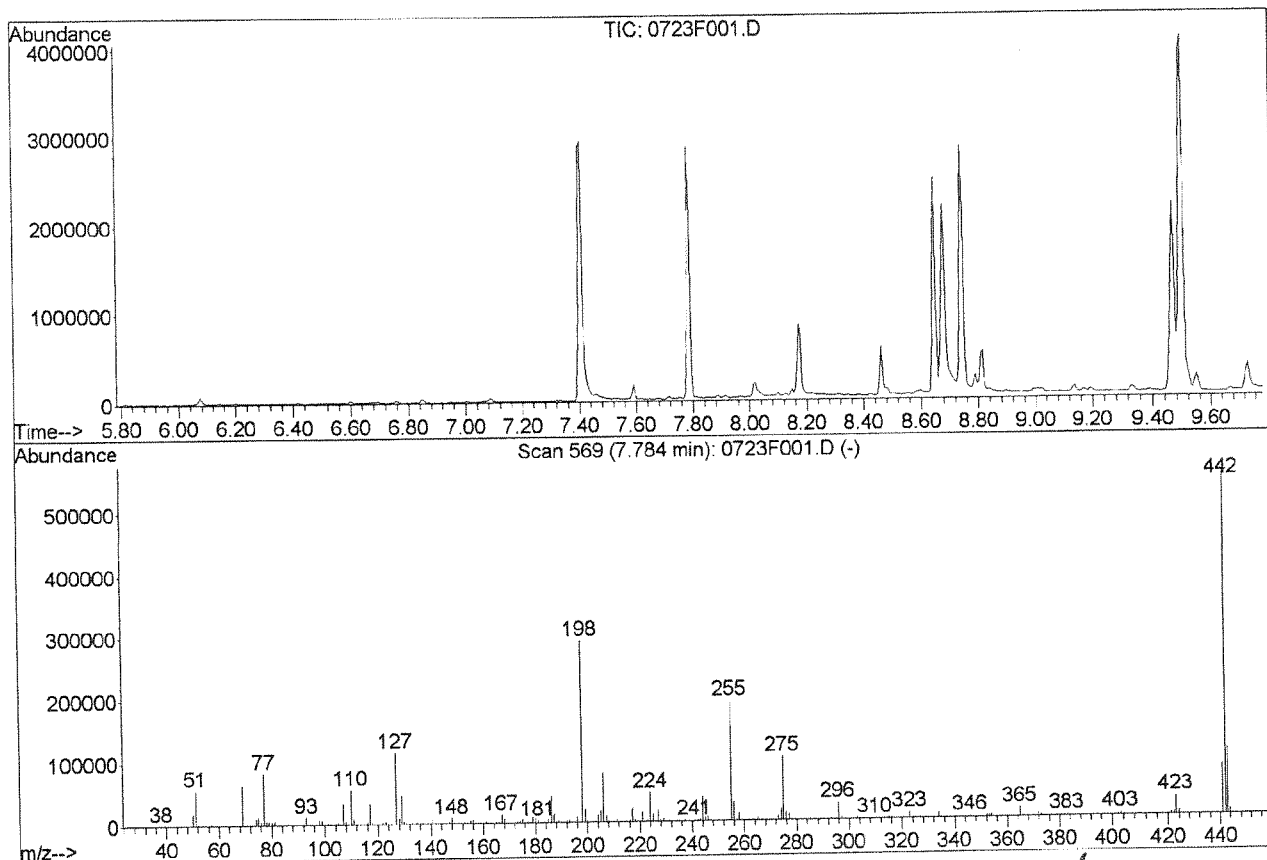
Cal 13446

CH 07-23-14

DFTPP

Data File : J:\MS14\DATA\072314\0723F001.D  
 Acq On : 23 Jul 2014 9:21 am  
 Sample : SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
 Misc :  
 MS Integration Params: rteint.p  
 Method : J:\MS14\METHODS\SIM\A\_DFTPP.M (RTE Integrator)  
 Title : dftpp tune mix

Vial: 1  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00



Spectrum Information: Scan 569

*lu* JUL 25 2014

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.4	56536	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	21.7	63093	PASS
70	69	0.00	2	0.7	464	PASS
127	198	10	80	39.3	114295	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	52.9	290688	PASS
199	198	5	9	7.0	20400	PASS
275	198	10	60	35.0	101808	PASS
365	442	1	50	2.6	14333	PASS
441	443	0.01	100	75.7	80928	PASS
442	442	30	100	100.0	549376	PASS
443	442	15	24	19.5	106920	PASS

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	605	54.95	76	71.00	220	83.00	1123
38.00	904	56.10	1700	73.05	705	83.95	6
39.10	3392	57.00	3363	74.00	9455	85.00	1285
40.00	357	61.00	683	75.00	11975	86.00	2247
42.00	18	62.10	1028	76.10	5817	86.90	944
45.10	227	63.10	2743	77.10	82502	88.10	440
49.10	1192	63.90	48	78.00	5473	91.00	1667
50.10	18696	65.05	741	78.95	6162	92.00	1983
51.10	56536	66.95	392	80.00	4826	93.00	12107
52.10	3437	69.00	63093	81.00	5494	94.00	679
54.00	161	70.10	464	82.05	1439	96.00	282

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.95	336	111.00	7910	123.00	3761	137.00	2135
97.95	9029	112.10	1234	124.00	1466	138.00	422
99.00	6509	113.00	454	124.90	1414	139.00	470
100.20	633	114.10	263	127.00	114295	139.90	559
101.00	3608	115.10	180	128.00	8960	140.90	7000
103.10	1145	116.10	2556	128.95	45800	142.05	1513
104.00	2863	116.95	32727	130.00	4279	142.95	1401
105.00	2423	118.00	2594	130.90	723	144.10	470
107.00	33607	118.90	101	133.90	1437	145.00	76
108.00	4501	120.00	392	134.90	3708	146.00	1263
110.00	54941	121.90	2982	135.90	1809	147.00	2876

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	8470	158.80	518	170.00	368	181.00	3050
149.10	1475	160.00	2379	170.90	840	182.10	711
149.90	460	161.00	3158	171.90	1229	182.80	337
150.95	872	161.90	1145	173.10	1508	184.00	890
151.80	693	163.10	415	174.00	3160	185.00	5049
153.00	1783	164.00	586	175.00	6202	186.00	41360
154.00	1519	164.95	2535	176.05	1111	187.00	13071
155.00	3843	166.00	1764	177.00	2189	188.00	1260
156.00	5308	167.00	13356	177.90	941	188.90	2964
156.95	1167	168.00	7192	179.00	9107	190.00	670
157.95	1254	169.05	921	180.00	6812	191.05	1175

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
192.00	3243	204.00	10342	216.00	2018	227.90	2575
193.00	3710	205.00	18512	216.90	20664	229.00	3890
194.00	997	206.00	77664	217.90	2507	229.80	764
195.00	804	206.95	10499	218.80	263	231.10	1590
196.00	7918	207.90	2680	219.70	399	231.90	438
197.90	290688	209.00	471	220.90	15082	233.00	560
198.90	20400	210.20	1293	222.90	5102	233.90	1215
199.90	1697	210.90	3302	224.00	45640	235.00	1351
200.80	562	211.80	700	225.00	10910	235.80	929
201.60	1277	212.90	309	226.10	1406	237.00	1834
203.00	1896	214.90	1071	226.90	17448	238.00	225

*W* JUL 25 2014

CAA  
JUL 23 2014

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
238.80	808	250.00	383	264.10	324	277.00	9097
239.90	775	251.10	261	264.90	4260	278.00	1370
240.90	1112	251.90	591	265.85	574	278.90	285
242.10	2494	252.90	892	266.80	188	281.90	207
243.00	2867	255.00	191424	270.10	213	282.90	839
244.00	38360	256.00	28920	271.00	458	284.00	709
245.00	4784	257.00	2509	271.80	560	285.00	1891
245.90	7284	257.90	10519	272.90	6104	286.10	299
246.90	1419	258.90	1690	274.00	17320	288.80	465
247.90	324	259.80	365	274.90	101808	289.80	165
248.90	1387	260.90	407	275.90	12631	292.00	494

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
293.00	1983	309.10	221	324.10	1912	338.90	293
293.80	404	309.90	487	324.90	260	339.90	190
295.10	898	313.20	278	326.00	290	340.90	1377
295.90	26472	314.10	1392	326.90	2119	341.80	281
297.00	3734	315.00	3346	327.90	1366	346.00	2393
297.80	301	316.00	2025	329.00	263	346.80	565
300.90	533	317.00	314	331.90	727	351.10	433
302.00	388	320.00	169	332.90	1042	352.00	3499
303.00	3520	320.90	1288	334.00	7757	353.00	2745
304.00	921	322.20	508	334.90	1786	353.90	3900
307.90	339	323.00	9529	335.80	325	355.00	641

Scan 569 (7.784 min): 0723F001.D  
SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
359.00	250	392.00	576	438.20	188		
364.90	14333	400.90	554	438.80	187		
365.90	2312	402.00	2653	439.10	165		
369.90	328	403.00	4373	441.00	80928		
370.80	850	403.90	1416	442.00	549376		
372.00	6406	415.20	220	443.00	106920		
372.90	1864	421.00	3610	444.00	9389		
382.90	2053	422.00	4045	445.10	675		
383.90	437	423.00	30632				
389.80	817	424.00	6367				
390.90	627	425.00	522				

*he* JUL 25 2014

CAA  
JUL 23 2014

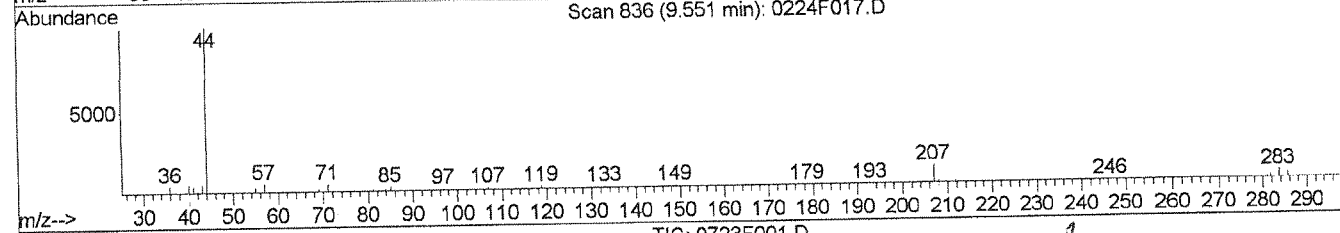
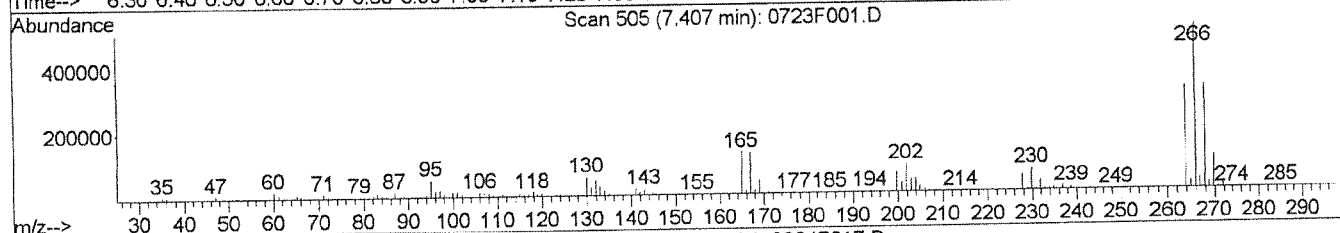
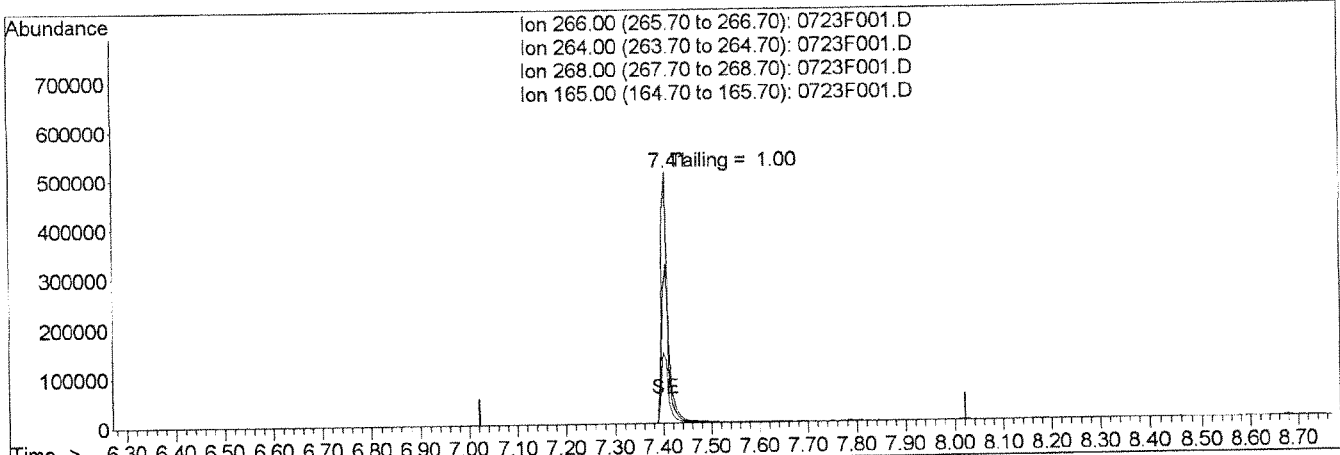
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072314\0723F001.D  
 Acq On : 23 Jul 2014 9:21 am  
 Sample : SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
 Misc :  
 MS Integration Params: rteint.p  
 Quant Time: Jul 23 9:46 2014

Vial: 1  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A\_DFTPP.M (RTE Integrator)  
 Title : dftpp tune mix  
 Last Update : Tue Nov 30 13:38:58 2010  
 Response via : Single Level Calibration



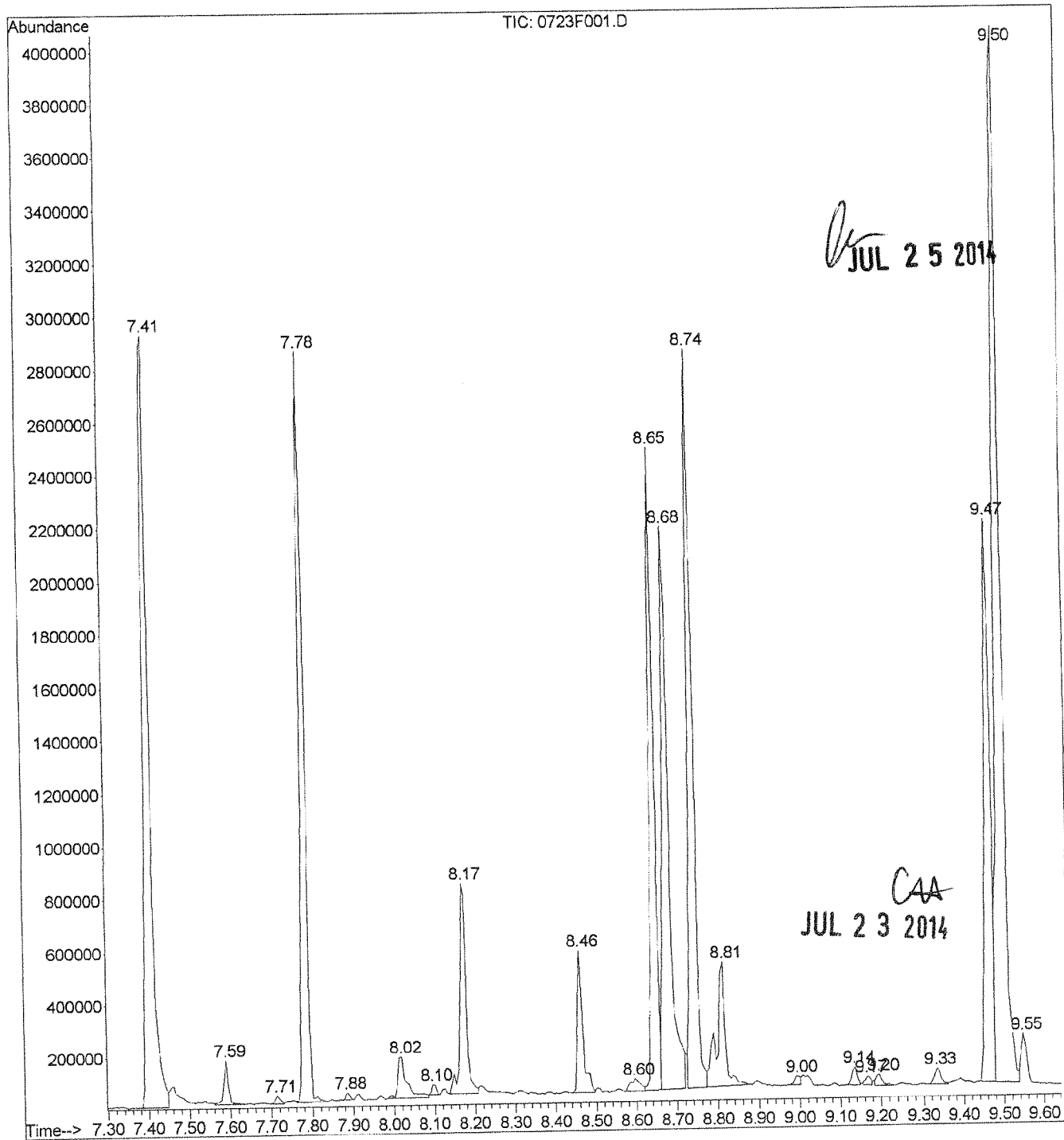
(1) Pentachlorophenol  
 7.41min 21.80ng/ml  
 response 501581

Ion	Exp%	Act%
266.00	100	100
264.00	63.70	62.62
268.00	63.30	63.20
165.00	71.50	25.42#

*CH* JUL 25 2014

*CAA*  
 JUL 23 2014

File : J:\MS14\DATA\072314\0723F001.D  
Operator : CHart  
Acquired : 23 Jul 2014 9:21 am using AcqMethod SIMLOC  
Instrument : MS14  
Sample Name: SIM PAH Tune @ 3.0ug/mL | SVM45-97B  
Misc Info :  
Vial Number: 1



1	4.713	rVB	0.071	37284	4.690	4.760
2	4.972	rBV	0.088	230029	4.931	5.019
3	5.266	rBV	0.047	87611	5.243	5.290
4	5.307	rVB	0.065	57239	5.290	5.354
5	6.072	rBV	0.082	78130	6.025	6.107
6	6.595	rVV	0.088	30892	6.560	6.648
7	6.695	rVB	0.076	40009	6.648	6.725
8	6.754	rVB	0.059	25657	6.725	6.784
9	6.848	rVB	0.076	43464	6.807	6.884
10	7.084	rBV	0.094	58039	7.037	7.131
11	7.407	rBV	0.076	3070269	7.372	7.448
12	7.590	rVB	0.076	129584	7.560	7.637
13	7.713	rBV	0.035	25041	7.695	7.731
14	7.784	rVB	0.076	2281201	7.760	7.837
15	7.884	rBV	0.029	21320	7.872	7.901
16	8.019	rBV	0.100	231935	7.984	8.084
17	8.095	rBV	0.029	30368	8.084	8.113
18	8.172	rBV	0.071	877000	8.137	8.207
19	8.460	rBV	0.059	489102	8.437	8.495
20	8.595	rBV	0.047	88730	8.572	8.619
21	8.648	rVV	0.041	2061843	8.619	8.660
22	8.678	rVV	0.059	2557078	8.660	8.719
23	8.742	rVV	0.047	2600658	8.725	8.772
24	8.813	rVB	0.112	677822	8.772	8.884
25	8.995	rBV	0.029	35816	8.972	9.001
26	9.137	rBV	0.035	64168	9.113	9.148
27	9.166	rVV	0.024	32182	9.154	9.178
28	9.195	rVB	0.047	<del>DD</del> 43178	9.184	9.231
29	9.331	rBV	0.053	65725	9.307	9.360
30	9.466	rBV	0.041	2362780	9.436	9.478
31	9.501	rVV	0.059	<del>DD</del> 4785434	9.478	9.536
32	9.548	rVB	0.106	203315	9.536	9.642
33	9.666	rBV	0.035	38493	9.648	9.684
34	9.731	rVV	0.071	458072	9.707	9.778
35	9.801	rVB	0.112	121123	9.789	9.901
36	9.966	rVB	0.071	274050	9.936	10.007
37	10.107	rBV	0.053	31592	10.072	10.125
38	10.160	rVB	0.059	49423	10.131	10.189
39	10.431	rVB	0.053	31210	10.407	10.460
40	10.507	rBV	0.088	676649	10.460	10.548
41	11.172	rBV	0.112	1073345	11.125	11.236
42	12.019	rVB	0.182	2758296	11.948	12.130
43	12.636	rVB	0.100	40800	12.601	12.701
44	12.807	rVB	0.153	111893	12.730	12.883
45	12.924	rBV	0.088	21891	12.889	12.977
46	13.077	rBV	0.176	4009718	12.983	13.160
47	13.819	rBV	0.124	110929	13.724	13.848
48	14.195	rBV	0.229	6538436	14.101	14.330
49	14.642	rBV	0.082	207317	14.601	14.683
50	14.719	rVB	0.082	105446	14.689	14.771
51	14.901	rBV	0.194	7268684	14.830	15.024
52	15.230	rBV	0.082	825003	15.183	15.266
53	15.448	rBV	0.229	8560041	15.383	15.613
54	15.777	rBV	0.088	782419	15.724	15.813
55	15.842	rVB	0.118	587357	15.818	15.936
56	16.007	rBV	0.165	7541979	15.942	16.107
57	16.165	rBV	0.112	1043467	16.130	16.242
58	16.360	rVB	0.065	557462	16.336	16.401
59	16.436	rVB	0.094	495394	16.407	16.501
60	16.612	rBV	0.194	7269407	16.542	16.736
61	17.001	rBV	0.100	599641	16.942	17.042

*lc*  
**JUL 25 2014**

DDT Breakdown  
= 0.897.

*CAA*  
**JUL 23 2014**



62	17.083	rVB	0.106	563710	17.048	17.154
63	17.277	rVB	0.229	5741632	17.207	17.436
64	17.812	rVB	0.100	386002	17.783	17.883
65	18.030	rBV	0.147	5160462	17.954	18.101

*li*  
JUL 25 2014

*CIA*  
JUL 23 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F002.D  
 Acq On : 23 Jul 2014 10:04 am  
 Sample : SIM PAH ICAL @ 0.002ug/mL | SVM46-98D  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 10:25:19 2014

Vial: 2  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 10:25:17 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*Handwritten:* JUL 25 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	116327	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	64535	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	123115	200.00	ng/ml	0.00
22) Chrysene-d12	10.11	240	121263	200.00	ng/ml	0.00
27) Perylene-d12	13.26	264	127257	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	857	2.26	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.23%	
21) Fluoranthene-d10	8.55	212	1438	2.08	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.21%	
24) Terphenyl-d14	8.90	244	1192	2.20	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.22%	

Target Compounds

						Qvalue
2) Naphthalene	4.71	128	1246	2.01	ng/ml	94
3) 2-Methylnaphthalene	5.39	142	892	2.03	ng/ml	99
4) 1-Methylnaphthalene	5.48	142	776	2.00	ng/ml	94
5) Biphenyl	5.81	154	1102	2.09	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.95	156	782	2.02	ng/ml	96
8) Acenaphthylene	6.19	152	1275	1.91	ng/ml	99
9) Acenaphthene	6.34	154	755	1.96	ng/ml	96
10) Dibenzofuran	6.49	168	1191	1.97	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.66	170	824	2.18	ng/ml	95
13) Fluorene	6.77	166	977	2.03	ng/ml	95
15) Dibenzothiophene	7.47	184	1309	1.98	ng/ml	99
16) Phenanthrene	7.58	178	1476	2.10	ng/ml	97
17) Anthracene	7.62	178	1360	1.99	ng/ml	98
18) Carbazole	7.76	167	1162	1.87	ng/ml	100
19) 1-Methylphenanthrene	8.09	192	1052	1.91	ng/ml	96
20) Fluoranthene	8.56	202	1607	1.96	ng/ml	95
23) Pyrene	8.76	202	1668	1.95	ng/ml	91
25) Benz(a)anthracene	10.09	228	1696	2.22	ng/ml	96
26) Chrysene	10.15	228	1389	2.08	ng/ml	98
28) Benzo(b)fluoranthene	12.19	252	1509m	1.86	ng/ml	
29) Benzo(k)fluoranthene	12.27	252	1812	2.31	ng/ml	84
30) Benzo(e)pyrene	12.92	252	1573	2.08	ng/ml	99
31) Benzo(a)pyrene	13.08	252	1582	1.88	ng/ml	96
32) Perylene	13.33	252	1463	2.03	ng/ml	94
33) Indeno(1,2,3-cd)pyrene	15.45	276	1665	1.89	ng/ml	99
34) Dibenz(a,h)anthracene	15.51	278	1419	1.67	ng/ml	97
35) Benzo(g,h,i)perylene	15.84	276	1855	1.98	ng/ml	98

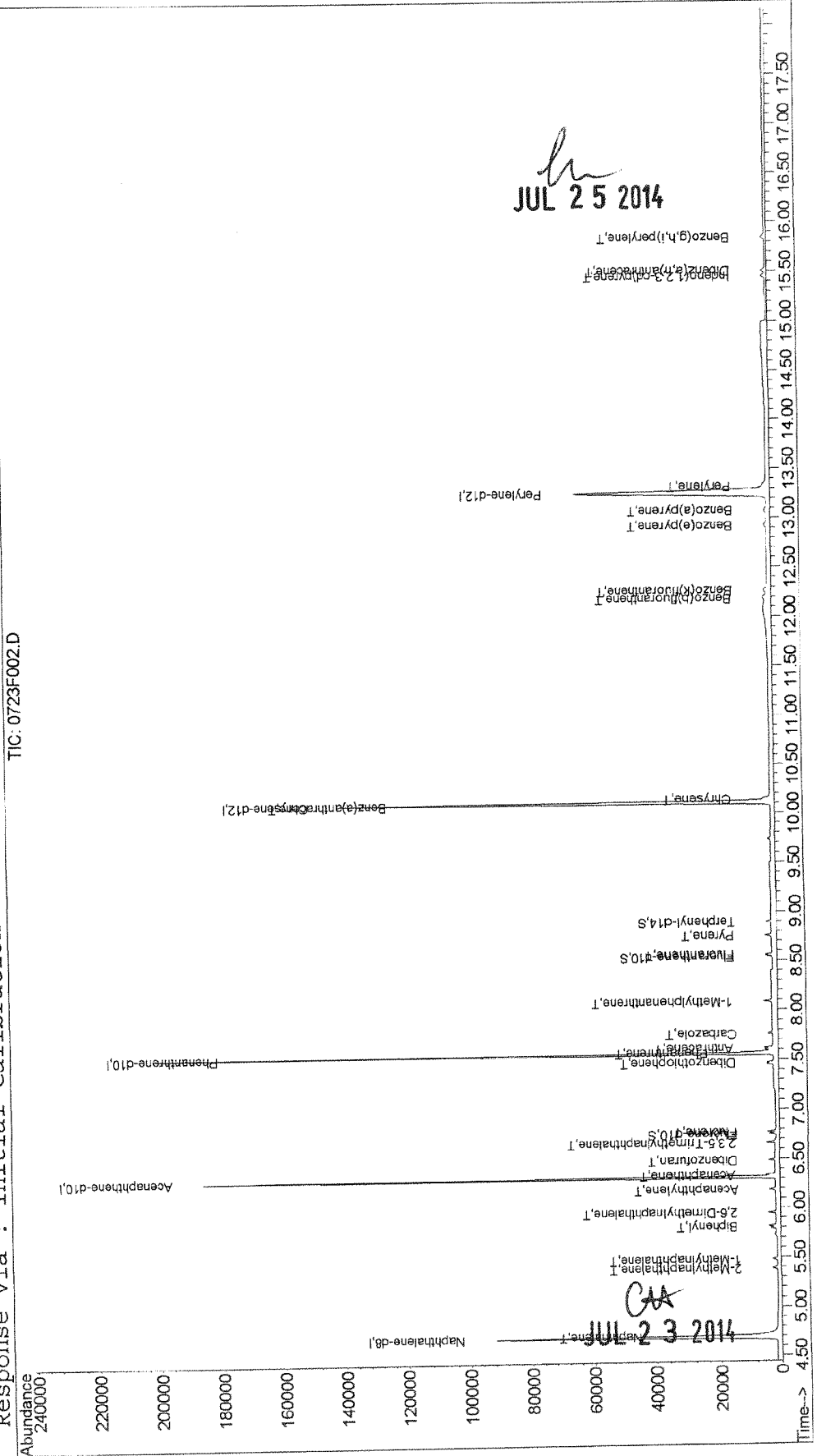
(#) = qualifier out of range (m) = manual integration  
 0723F002.D 072214SIMPAAH.M Wed Jul 23 11:33:28 2014 JUL 23 2014 Page 1

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Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F002.D  
Acq On : 23 Jul 2014 10:04 am  
Sample : SIM PAH ICAL @ 0.002ug/mL | SVM46-98D  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 10:25 2014  
Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



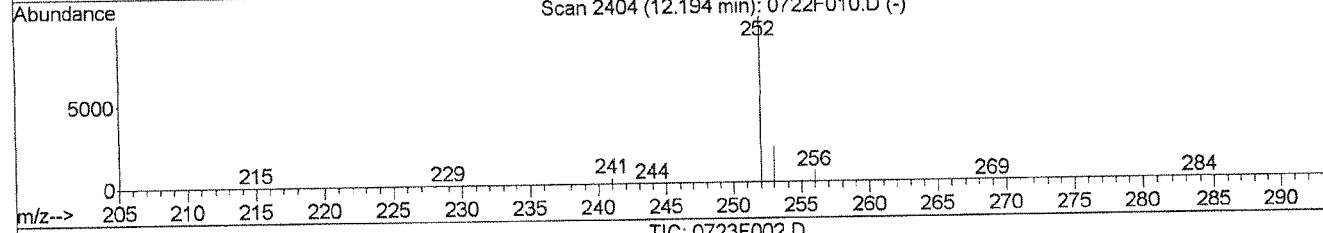
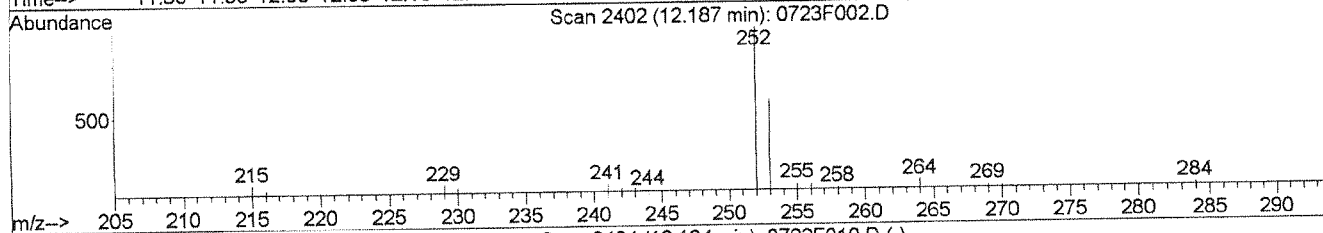
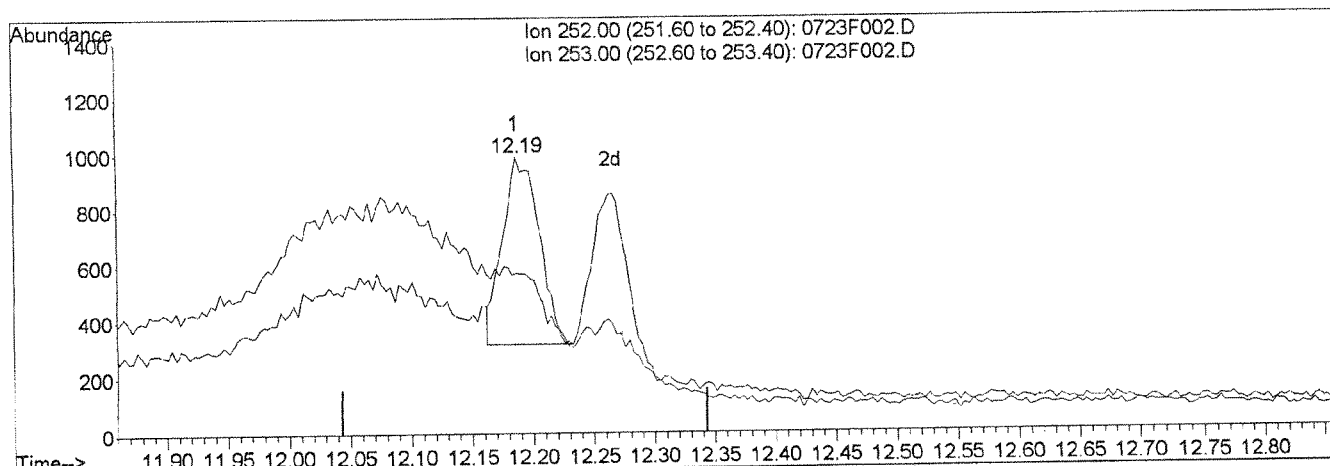
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072314\0723F002.D  
 Acq On : 23 Jul 2014 10:04 am  
 Sample : SIM PAH ICAL @ 0.002ug/mL | SVM46-98D  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 10:25 2014

Vial: 2  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 10:25:17 2014  
 Response via : Multiple Level Calibration



(28) Benzo(b)fluoranthene (T)

12.19min 1.73ng/ml

response 1403

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	39.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

07/23/14

*CA*

*CHART* JUL 25 2014

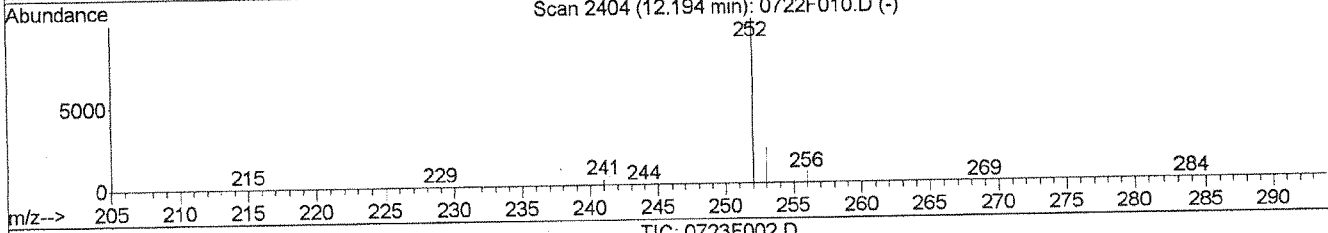
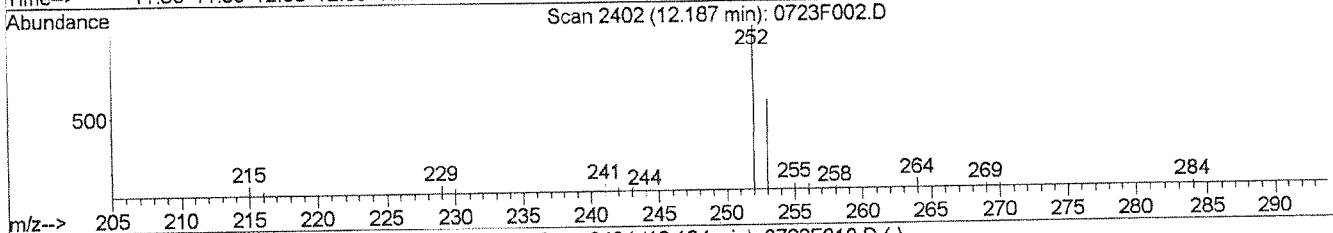
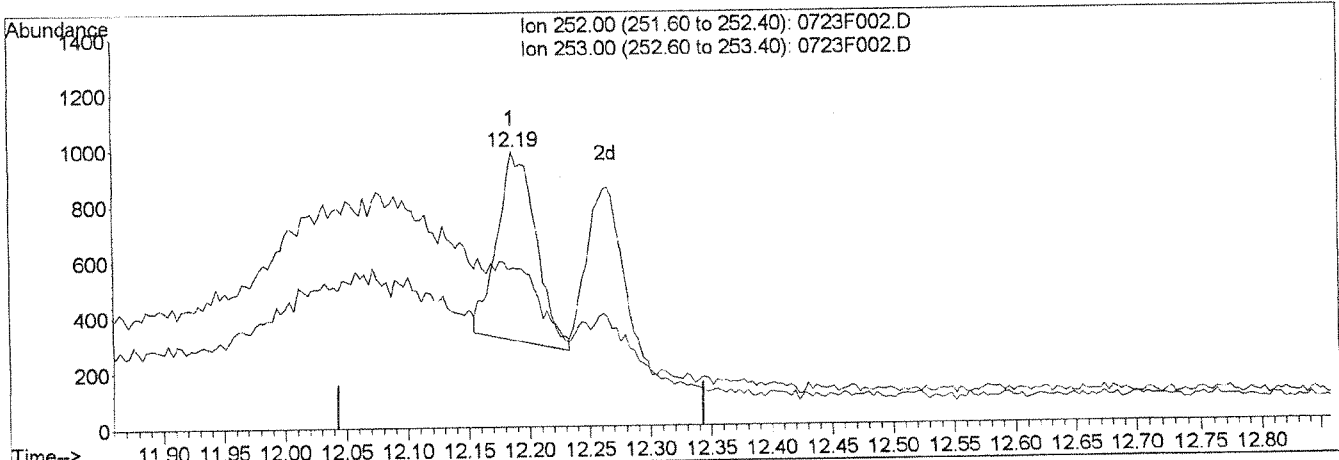
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\072314\0723F002.D  
 Acq On : 23 Jul 2014 10:04 am  
 Sample : SIM PAH ICAL @ 0.002ug/mL | SVM46-98D  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 10:25 2014

Vial: 2  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 10:25:17 2014  
 Response via : Multiple Level Calibration



(28) Benzo(b)fluoranthene (T)

12.19min 1.86ng/ml m  
 response 1509

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	57.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:  
 After  
 BLC  
 07/23/14

*CH*  
**JUL 25 2014**

*CA*

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F003.D  
 Acq On : 23 Jul 2014 10:27 am  
 Sample : SIM PAH ICAL @ 0.004ug/mL | SVM46-98E  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 10:52:56 2014

Vial: 3  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 10:26:48 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

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**JUL 25 2014**

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	114901	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	64163	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	124679	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	122121	200.00	ng/ml	0.00
27) Perylene-d12	13.24	264	125680	200.00	ng/ml	-0.01

System Monitoring Compounds

12) Fluorene-d10	6.75	176	1639	4.32	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.43%	
21) Fluoranthene-d10	8.54	212	2969	4.22	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.42%	
24) Terphenyl-d14	8.89	244	2471	4.53	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	0.45%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.71	128	2526	4.11	ng/ml	97
3) 2-Methylnaphthalene	5.39	142	1781	4.14	ng/ml	95
4) 1-Methylnaphthalene	5.48	142	1614	4.23	ng/ml	99
5) Biphenyl	5.81	154	2097	4.06	ng/ml	95
6) 2,6-Dimethylnaphthalene	5.95	156	1577	4.13	ng/ml	99
8) Acenaphthylene	6.19	152	2644	4.03	ng/ml	99
9) Acenaphthene	6.34	154	1574	4.17	ng/ml	99
10) Dibenzofuran	6.49	168	2461	4.12	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.66	170	1496	3.93	ng/ml	87
13) Fluorene	6.77	166	1983	4.18	ng/ml	100
15) Dibenzothiophene	7.47	184	2694	4.03	ng/ml	95
16) Phenanthrene	7.57	178	2915	4.14	ng/ml	99
17) Anthracene	7.62	178	2843	4.14	ng/ml	99
18) Carbazole	7.76	167	2393	3.88	ng/ml	97
19) 1-Methylphenanthrene	8.09	192	2276	4.11	ng/ml	99
20) Fluoranthene	8.56	202	3335	4.07	ng/ml	95
23) Pyrene	8.75	202	3487	4.10	ng/ml	94
25) Benz(a)anthracene	10.09	228	3101	4.08	ng/ml	97
26) Chrysene	10.14	228	2664	3.99	ng/ml	100
28) Benzo(b)fluoranthene	12.18	252	2992	3.81	ng/ml	100
29) Benzo(k)fluoranthene	12.25	252	2958	3.79	ng/ml	96
30) Benzo(e)pyrene	12.92	252	2983	3.99	ng/ml	99
31) Benzo(a)pyrene	13.07	252	2799	3.38	ng/ml	98
32) Perylene	13.32	252	2714	3.81	ng/ml	96
33) Indeno(1,2,3-cd)pyrene	15.44	276	3312	3.90	ng/ml	98
34) Dibenz(a,h)anthracene	15.50	278	3133	3.84	ng/ml	95
35) Benzo(g,h,i)perylene	15.83	276	3892	4.27	ng/ml	100

(#) = qualifier out of range (m) = manual integration  
 0723F003.D 072214SIMPAAH.M Wed Jul 23 11:33:31 2014

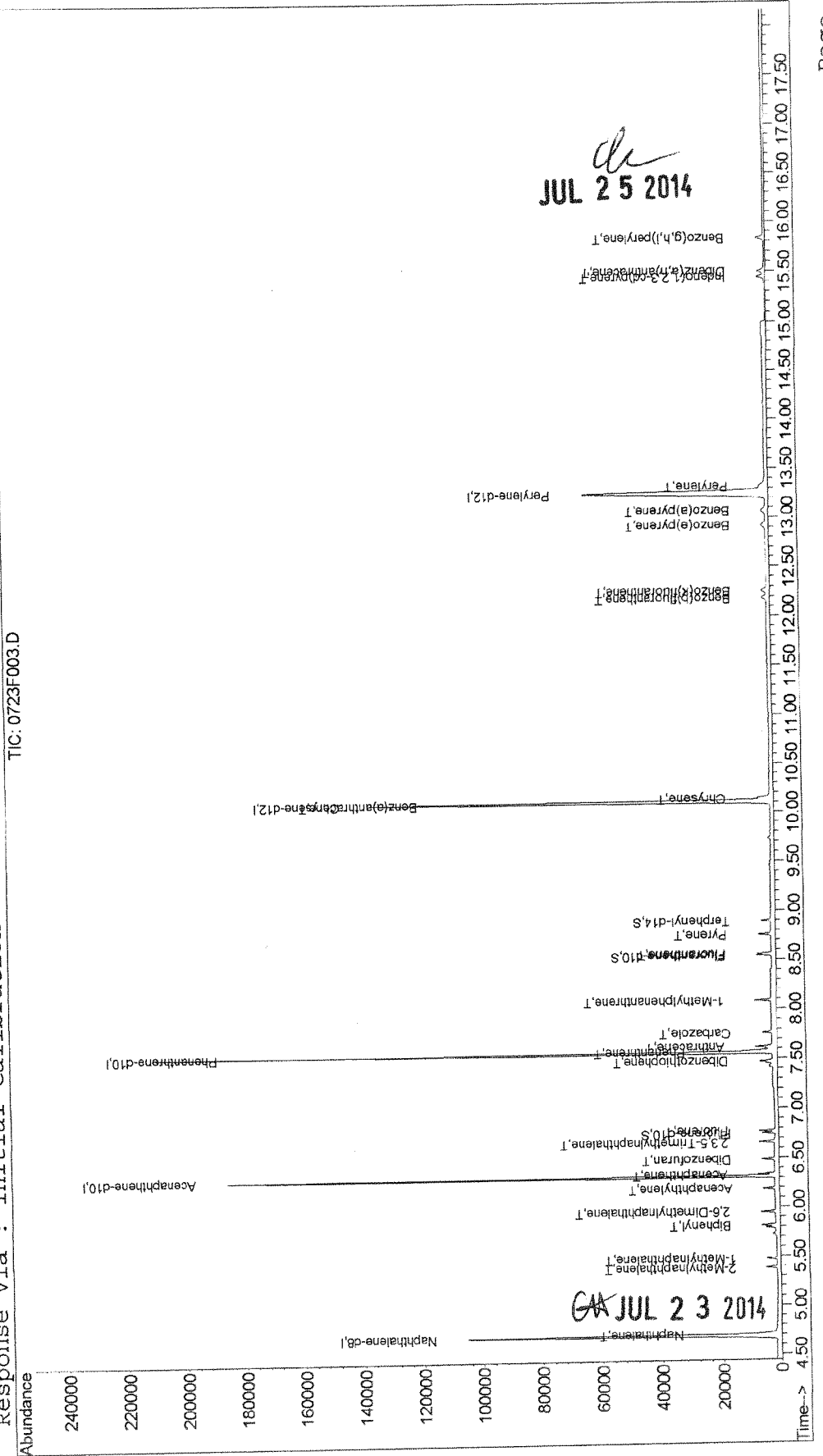
**JUL 23 2014**

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Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F003.D  
Acq On : 23 Jul 2014 10:27 am  
Sample : SIM PAH ICAL @ 0.004ug/mL | SVM46-98E  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 10:52 2014  
Quant Results File: 072214SIMPAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



JUL 25 2014

JUL 23 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F004.D  
 Acq On : 23 Jul 2014 10:50 am  
 Sample : SIM PAH ICAL @ 0.008ug/mL | SVM46-98F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 11:11:38 2014

Vial: 4  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 10:53:34 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

  
**JUL 25 2014**

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.69	136	117427	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	65081	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	125843	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	121504	200.00	ng/ml	0.00
27) Perylene-d12	13.24	264	124757	200.00	ng/ml	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
12) Fluorene-d10	6.75	176	3117	8.13	ng/ml	0.00
Spiked Amount			Recovery	=	0.81%	
21) Fluoranthene-d10	8.54	212	5639	7.96	ng/ml	0.00
Spiked Amount			Recovery	=	0.80%	
24) Terphenyl-d14	8.89	244	4650	8.55	ng/ml	0.00
Spiked Amount			Recovery	=	0.85%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.71	128	4845	7.77	ng/ml	100
3) 2-Methylnaphthalene	5.39	142	3448	7.90	ng/ml	99
4) 1-Methylnaphthalene	5.48	142	3007	7.80	ng/ml	96
5) Biphenyl	5.81	154	4198	8.10	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	3104	8.06	ng/ml	99
8) Acenaphthylene	6.19	152	5060	7.68	ng/ml	100
9) Acenaphthene	6.33	154	2987	7.84	ng/ml	95
10) Dibenzofuran	6.49	168	4679	7.80	ng/ml	92
11) 2,3,5-Trimethylnaphthalene	6.66	170	2874	7.50	ng/ml	90
13) Fluorene	6.77	166	3825	8.03	ng/ml	99
15) Dibenzothiophene	7.47	184	5203	7.79	ng/ml	98
16) Phenanthrene	7.57	178	5536	7.91	ng/ml	100
17) Anthracene	7.62	178	5563	8.08	ng/ml	99
18) Carbazole	7.76	167	4655	7.59	ng/ml	96
19) 1-Methylphenanthrene	8.08	192	4253	7.69	ng/ml	100
20) Fluoranthene	8.56	202	6415	7.86	ng/ml	98
23) Pyrene	8.76	202	6783	8.10	ng/ml	98
25) Benz(a)anthracene	10.09	228	5557	7.42	ng/ml	98
26) Chrysene	10.14	228	4993	7.55	ng/ml	99
28) Benzo(b)fluoranthene	12.18	252	5737	7.46	ng/ml	99
29) Benzo(k)fluoranthene	12.25	252	5523	7.21	ng/ml	98
30) Benzo(e)pyrene	12.91	252	5534	7.52	ng/ml	100
31) Benzo(a)pyrene	13.07	252	5196	6.76	ng/ml	100
32) Perylene	13.32	252	5018	7.17	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.44	276	6162	7.42	ng/ml	100
34) Dibenz(a,h)anthracene	15.49	278	5638	7.07	ng/ml	91
35) Benzo(g,h,i)perylene	15.83	276	7155	7.97	ng/ml	100

(#) = qualifier out of range (m) = manual integration  
 0723F004.D 072214SIMPAAH.M Wed Jul 23 11:33:35 2014

**JUL 23 2014**



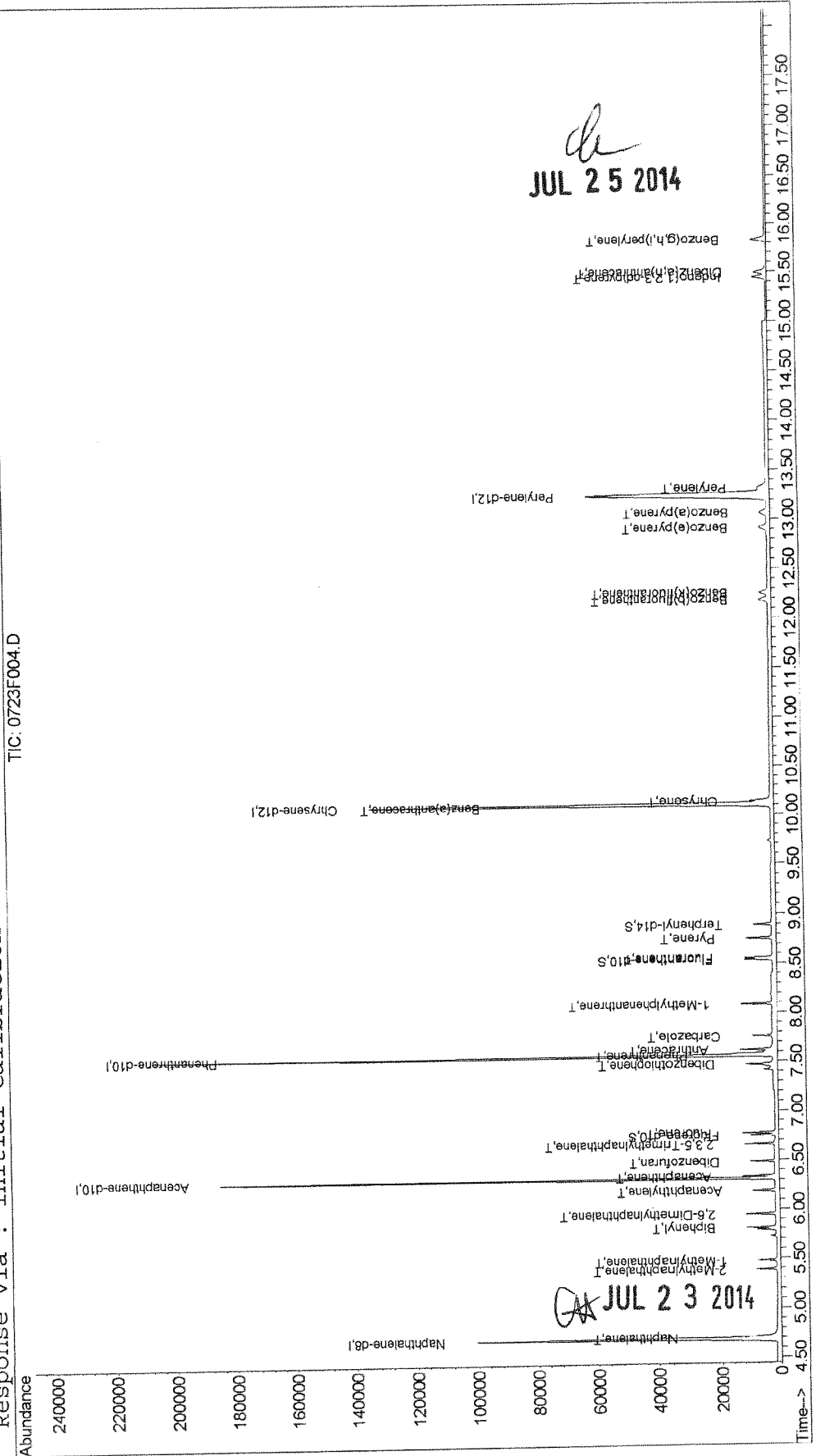


Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F004.D  
 Acq On : 23 Jul 2014 10:50 am  
 Sample : SIM PAH ICAL @ 0.008ug/mL | SVM46-98F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 11:11 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 4  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 11:12:07 2014  
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F005.D  
 Acq On : 23 Jul 2014 11:18 am  
 Sample : SIM PAH ICV @ 0.4ug/mL | SVM46-34F  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jul 23 11:39:18 2014

Vial: 5  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Wed Jul 23 11:12:07 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

*dh*  
**JUL 25 2014**

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.68	136	123933	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.31	164	67235	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.56	188	132241	200.00	ng/ml	0.00
22) Chrysene-d12	10.10	240	133752	200.00	ng/ml	0.00
27) Perylene-d12	13.25	264	141010	200.00	ng/ml	0.00

System Monitoring Compounds

12) Fluorene-d10	6.75	176	157577	397.28	ng/ml	0.00
Spiked Amount	1000.000					
21) Fluoranthene-d10	8.55	212	302000	405.55	ng/ml	0.00
Spiked Amount	1000.000					
24) Terphenyl-d14	8.89	244	232170	385.90	ng/ml	0.00
Spiked Amount	1000.000					

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.71	128	247277	376.42	ng/ml	99
3) 2-Methylnaphthalene	5.39	142	166554	362.68	ng/ml	100
4) 1-Methylnaphthalene	5.48	142	156161	386.19	ng/ml	99
5) Biphenyl	5.81	154	195143	359.31	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.95	156	148321	366.34	ng/ml	100
8) Acenaphthylene	6.19	152	253756	374.58	ng/ml	100
9) Acenaphthene	6.34	154	146508	374.35	ng/ml	99
10) Dibenzofuran	6.49	168	229581	371.72	ng/ml	93
11) 2,3,5-Trimethylnaphthalene	6.66	170	148735	380.00	ng/ml	91
13) Fluorene	6.77	166	179693	367.08	ng/ml	100
15) Dibenzothiophene	7.47	184	260488	372.91	ng/ml	96
16) Phenanthrene	7.57	178	272147	372.83	ng/ml	100
17) Anthracene	7.62	178	261194	360.94	ng/ml	100
18) Carbazole	7.76	167	240295	376.80	ng/ml	96
19) 1-Methylphenanthrene	8.08	192	215383	372.98	ng/ml	100
20) Fluoranthene	8.56	202	317316	372.94	ng/ml	98
23) Pyrene	8.75	202	333859	361.78	ng/ml	96
25) Benz(a)anthracene	10.09	228	293556	357.88	ng/ml	99
26) Chrysene	10.14	228	274654	377.56	ng/ml	100
28) Benzo(b)fluoranthene	12.19	252	331369	382.77	ng/ml	99
29) Benzo(k)fluoranthene	12.26	252	312696	363.30	ng/ml	99
30) Benzo(e)pyrene	12.92	252	296356	356.50	ng/ml	100
31) Benzo(a)pyrene	13.08	252	306435	368.22	ng/ml	99
32) Perylene	13.33	252	295102	375.32	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.44	276	358408	385.32	ng/ml	100
34) Dibenz(a,h)anthracene	15.50	278	341683	384.27	ng/ml	98
35) Benzo(g,h,i)perylene	15.84	276	375080	371.04	ng/ml	100

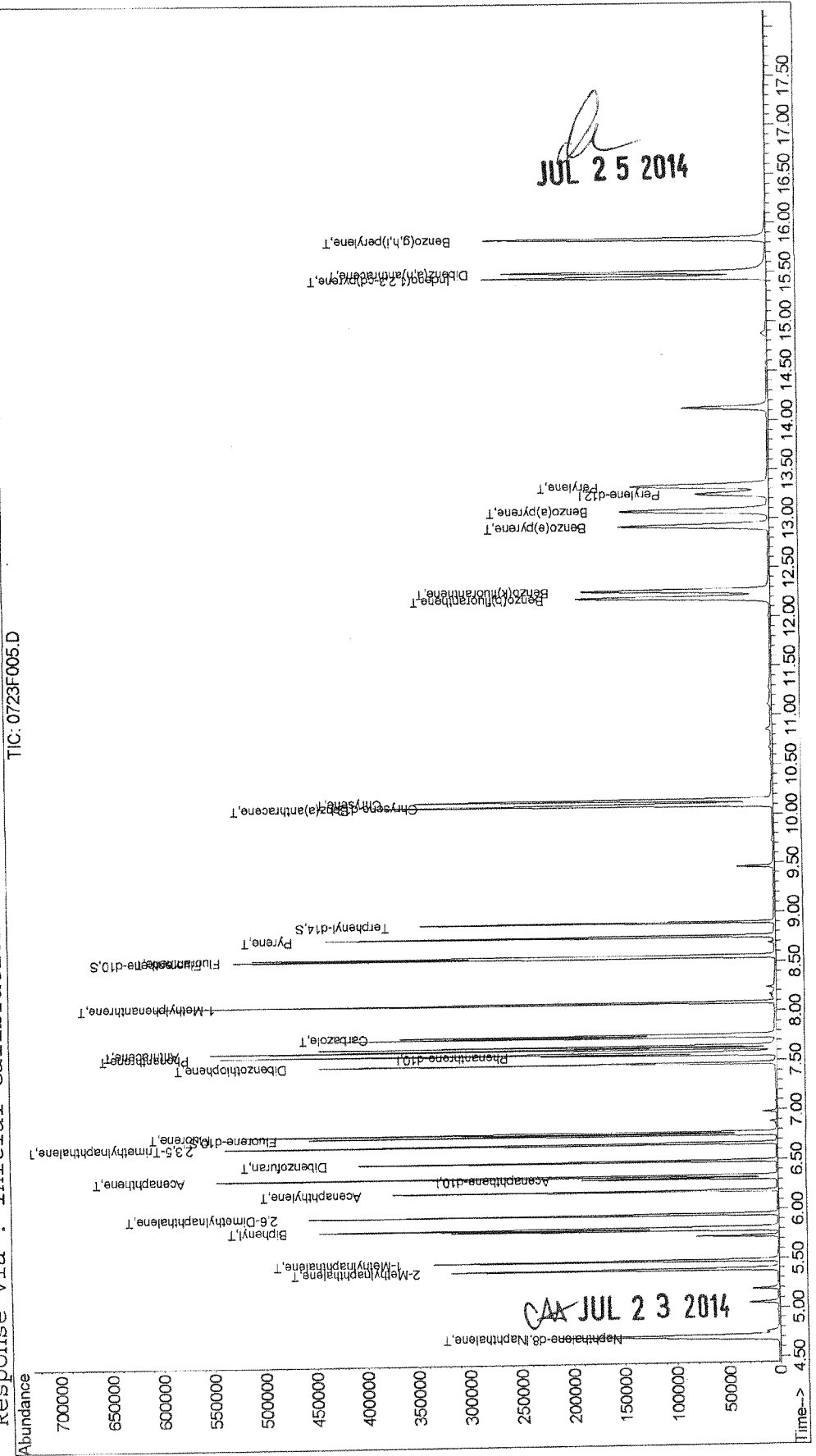
(#) = qualifier out of range (m) = manual integration  
 0723F005.D 072214SIMPAAH.M Wed Jul 23 11:39:52 2014

**JUL 23 2014**

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\072314\0723F005.D  
Acq On : 23 Jul 2014 11:18 am  
Sample : SIM PAH ICV @ 0.4ug/mL | SVM46-34F  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jul 23 11:39 2014  
Quant Results File: 072214SIMPAAH.RES

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
Title : PAHS and ALKYLATED HOMOLOGS  
Last Update : Wed Jul 23 11:12:07 2014  
Response via : Initial Calibration



Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0820F001.D	1.	SIM PAH Tune @ 3.0ppm   SVM47-30D		20 Aug 2014 09:5
2	2	0820F002.D	1.	SIM PAH CCV @ 0.4ppm   SVM47-30E		20 Aug 2014 10:1
3	3	0820F003.D	1.	KWG1411415-05   MB		20 Aug 2014 10:4
4	4	0820F004.D	1.	KWG1411415-03   LCS		20 Aug 2014 11:0
5	5	0820F005.D	1.	KWG1411415-04   DLCS		20 Aug 2014 11:3
6	6	0820F006.D	1.	KWG1411415-06   SRM		20 Aug 2014 12:0
7	7	0820F007.D	1.	K1407971-006   MS		20 Aug 2014 12:2
8	8	0820F008.D	1.	K1407971-006   DMS		20 Aug 2014 12:5
9	9	0820F009.D	1.	K1407971-006		20 Aug 2014 13:1
10	10	0820F010.D	1.	K1407971-001		20 Aug 2014 13:4
11	11	0820F011.D	1.	K1407971-002		20 Aug 2014 14:0
12	12	0820F012.D	1.	K1407971-003	Cal 13446	20 Aug 2014 14:3
13	13	0820F013.D	1.	K1407971-004		20 Aug 2014 14:5
14	14	0820F014.D	1.	K1407971-005	Stations 407563	20 Aug 2014 15:2
15	15	0820F015.D	1.	K1407971-007		20 Aug 2014 15:5
16	16	0820F016.D	1.	K1407971-008		20 Aug 2014 16:1
17	17	0820F017.D	1.	K1407971-009	CA 08-21-14	20 Aug 2014 16:4
18	18	0820F018.D	1.	K1407971-010		20 Aug 2014 17:0
19	19	0820F019.D	1.	K1407971-011		20 Aug 2014 17:3
20	20	0820F020.D	1.	K1407971-012		20 Aug 2014 17:5
21	21	0820F021.D	1.	K1407971-013		20 Aug 2014 18:2
22	22	0820F022.D	1.	K1407971-014		20 Aug 2014 18:4
23	23	0820F023.D	1.	K1407971-015		20 Aug 2014 19:1
24	24	0820F024.D	1.	K1407971-016		20 Aug 2014 19:4
25	25	0820F025.D	1.	K1407971-017		20 Aug 2014 20:0
26	26	0820F026.D	1.	K1407971-018		20 Aug 2014 20:3
27	27	0820F027.D	1.	K1407849-002		20 Aug 2014 20:5
28	100	0820F028.D	1.	IB PRIMER		20 Aug 2014 21:2
29	100	0820F029.D	1.	IB PRIMER		20 Aug 2014 21:4
30	100	0820F030.D	1.	IB PRIMER		20 Aug 2014 22:1
31	1	0820F031.D	1.	SIM PAH Tune @ 3.0ppm   SVM47-30D		20 Aug 2014 22:4
32	2	0820F032.D	1.	SIM PAH CCV @ 0.4ppm   SVM47-30E		20 Aug 2014 23:0
33	28	0820F033.D	1.	KWG1411506-05   MB		20 Aug 2014 23:3
34	29	0820F034.D	1.	KWG1411506-03   LCS		20 Aug 2014 23:5
35	30	0820F035.D	1.	KWG1411506-04   DLCS		21 Aug 2014 00:2
36	31	0820F036.D	1.	K1407865-011   MS		21 Aug 2014 00:4
37	32	0820F037.D	1.	K1407865-011   DMS		21 Aug 2014 01:1
38	33	0820F038.D	1.	K1407865-011		21 Aug 2014 01:4
39	34	0820F039.D	1.	K1407865-001		21 Aug 2014 02:0
40	35	0820F040.D	1.	K1407865-002		21 Aug 2014 02:3
41	36	0820F041.D	1.	K1407865-003		21 Aug 2014 02:5
42	37	0820F042.D	1.	K1407865-004		21 Aug 2014 03:2
43	38	0820F043.D	1.	K1407865-005		21 Aug 2014 03:4
44	39	0820F044.D	1.	K1407865-006		21 Aug 2014 04:1
45	40	0820F045.D	1.	K1407865-007		21 Aug 2014 04:4
46	41	0820F046.D	1.	K1407865-008		21 Aug 2014 05:0
47	42	0820F047.D	1.	K1407865-009		21 Aug 2014 05:3
48	43	0820F048.D	1.	K1407865-010		21 Aug 2014 05:5
49	44	0820F049.D	1.	K1407865-012		21 Aug 2014 06:2

LB

# Exception Report

Data File: J:\MS14\DATA\082014\0820F001.D  
Lab ID: KWG1411816-1  
RunType: DFTPP  
Matrix: WATER

Date Acquired: 08/20/2014 09:52  
Date Quantitated:  
Batch ID: KWG1411816  
Analysis Method: DFTPP  
ListJoinID: LJ1965

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: GA AUG 21 2014  
Secondary Review: AS AUG 21 2014

# Quantitation Report

Data File: J:\MS14\DATA\082014\0820F001.D		Instrument: MS14
Acqu Date: 08/20/2014 09:52	Quant Date:	Vial: 1
Run Type: DFTPP		Dilution: 1.0
Lab ID: KWG1411816-1		Soln Conc. Units:

Bottle ID:	Tier:	Matrix: WATER
Prod Code: 8270D PAH SIM	Collect Date:	Receive Date: 08/21/2014

Analysis Lot: KWG1411816	Prep Lot:	Report Group:
Analysis Method: DFTPP	Prep Method:	
Prep Ref:	Prep Date:	

Quant Method: J:\MS14\METHODS\SIMA_DFTPP.M	Calibration ID: CAL13446
Title:	Report List ID: LJ1965
Tune Ref:	Method ID: MJ190
MB Ref:	Quant based on Report List

## Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	33.4	127688	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	35.2	134528	Pass
70	69	0	2	0.8	1097	Pass
127	198	10	80	45.0	171968	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	61.1	381760	Pass
199	198	5	9	6.8	26056	Pass
275	198	10	60	32.2	122992	Pass
365	442	1	50	2.8	17272	Pass
441	443	0.01	100	74.4	93648	Pass
442	442	100	100	100.0	624704	Pass
443	442	15	24	20.2	125928	Pass

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

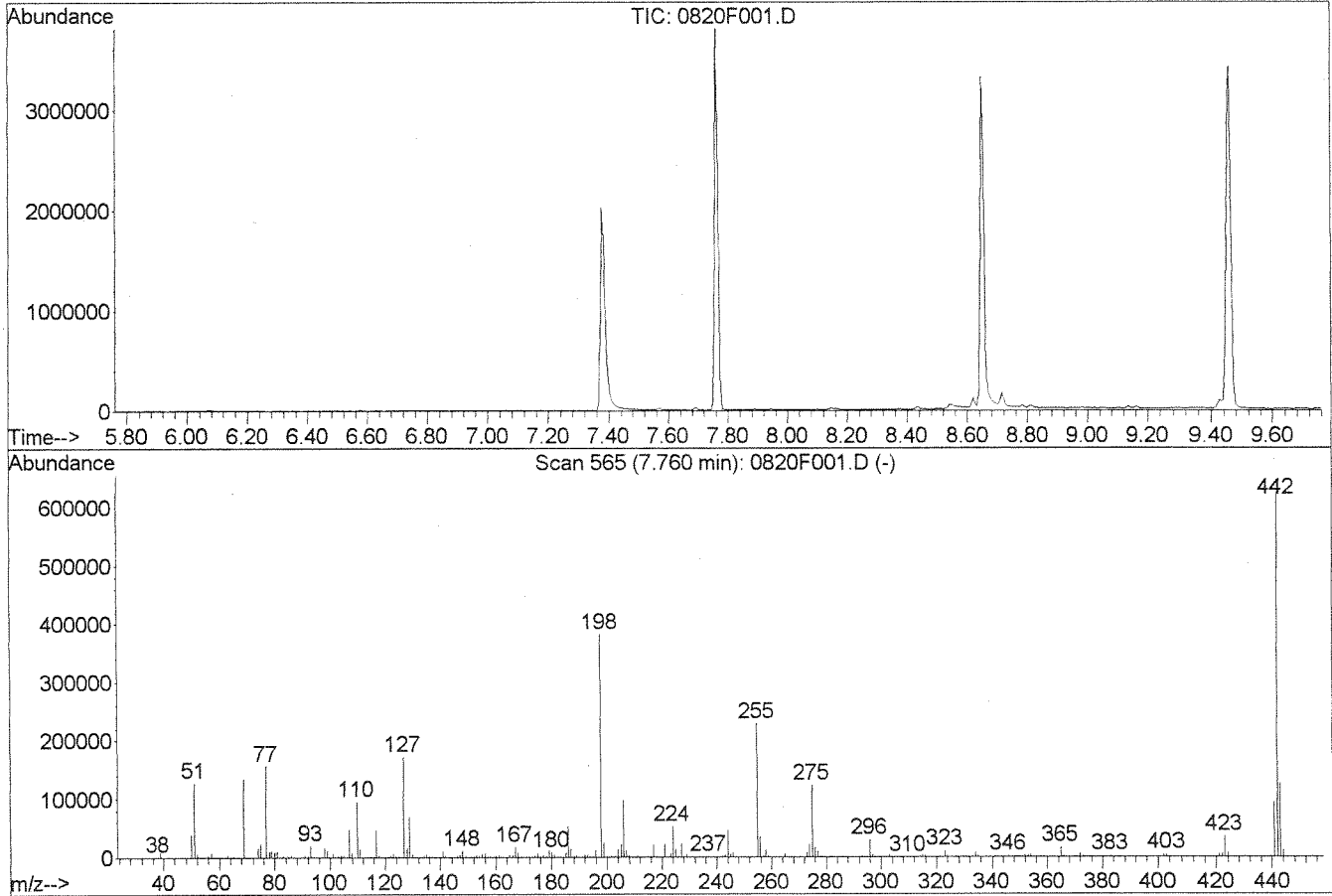
D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

DFTPP

Data File : J:\MS14\DATA\082014\0820F001.D  
 Acq On : 20 Aug 2014 9:52 am  
 Sample : SIM PAH Tune @ 3.0ppm | SVM47-30D  
 Misc :  
 MS Integration Params: rteint.p  
 Method : J:\MS14\METHODS\SIM\A\_DFTPP.M (RTE Integrator)  
 Title : dftpp tune mix

Vial: 1  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00



Spectrum Information: Scan 565

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.4	127688	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	35.2	134528	PASS
70	69	0.00	2	0.8	1097	PASS
127	198	10	80	45.0	171968	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	61.1	381760	PASS
199	198	5	9	6.8	26056	PASS
275	198	10	60	32.2	122992	PASS
365	442	1	50	2.8	17272	PASS
441	443	0.01	100	74.4	93648	PASS
442	442	30	100	100.0	624704	PASS
443	442	15	24	20.2	125928	PASS

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.00	1121	52.90	244	65.80	411	80.90	10164
37.90	1786	54.90	980	68.90	134528	81.90	2699
38.95	9626	56.00	3559	69.90	1097	82.90	2734
39.85	509	57.00	7781	70.95	62	83.90	437
41.00	103	58.00	423	72.00	279	84.90	2669
43.00	79	59.90	264	74.00	15487	85.90	3787
44.80	330	60.90	1565	74.90	23088	86.90	1233
47.80	209	62.00	1748	76.95	156040	87.90	505
50.00	39496	63.00	5019	78.00	10707	88.80	288
51.00	127688	63.90	866	78.90	11540	89.80	150
52.00	6347	65.00	2554	79.90	8780	90.90	3511

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
92.00	2945	103.90	4068	118.90	345	132.00	878
92.90	20118	104.90	3981	119.90	947	132.90	382
94.00	1143	106.85	48491	121.90	3659	133.90	2140
94.90	453	107.90	8180	122.90	5602	134.90	5662
96.00	756	109.90	95200	123.90	2424	135.90	2262
97.90	16824	110.90	14162	124.90	2486	137.00	2885
98.90	10762	112.00	1818	126.90	171968	138.00	759
99.90	1219	113.00	564	128.00	15123	138.80	417
100.90	6378	114.90	616	128.85	68854	139.90	1068
101.90	497	116.90	47516	129.90	5984	140.90	10217
102.90	2344	117.90	3924	131.00	1186	141.90	3332

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
142.85	1804	153.90	2660	164.85	4231	176.00	1750
144.10	502	154.90	5531	166.00	3037	176.90	3484
144.90	521	156.00	7151	166.90	18066	177.90	1122
145.90	2183	157.00	1747	167.90	7743	178.90	13747
146.90	4253	157.90	1832	169.00	1501	180.00	9131
147.90	11455	159.00	1151	169.90	755	180.90	4619
148.90	2054	159.90	2784	170.90	893	181.90	859
149.90	482	160.90	3573	171.90	1502	182.90	742
150.90	1292	161.90	1026	173.00	1618	184.00	1060
151.90	971	162.90	475	174.00	4144	185.00	7425
152.90	3380	163.70	280	175.00	6623	186.00	52592

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
186.90	14915	198.90	26056	211.00	3780	225.00	13595
188.00	2351	199.90	2166	211.80	805	226.10	1690
188.90	3305	201.40	2034	212.90	417	226.90	22912
189.90	569	203.00	2672	214.80	976	227.90	2682
190.90	1192	203.90	12733	215.90	2124	228.90	4486
191.90	4182	205.00	21952	216.90	21696	229.80	723
192.90	4504	206.00	97664	217.90	2870	230.90	1705
193.90	1320	207.00	12255	219.00	571	231.80	307
194.80	862	207.90	3313	220.90	22672	233.00	397
195.90	13054	208.90	1064	223.00	5713	233.90	1491
197.90	381760	210.20	1786	223.90	52608	234.90	1603



Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
235.90	1123	246.90	1931	258.90	2187	273.90	21808
236.90	1690	247.90	496	259.90	479	274.90	122992
237.80	374	248.90	1485	260.90	311	275.90	16808
238.90	1107	250.00	399	262.90	162	276.90	10157
239.90	775	250.90	437	264.00	530	277.80	1240
240.90	862	251.90	317	264.90	5414	279.00	306
242.00	2577	252.90	1135	265.85	715	282.00	288
243.00	3479	254.90	228160	269.90	290	283.00	1041
244.00	45952	255.90	35040	270.90	366	283.90	767
245.00	6133	256.90	2633	272.10	718	285.00	1781
245.90	8141	257.90	12298	272.90	7588	285.90	418

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
288.90	498	302.90	3928	319.80	185	334.90	2258
289.90	164	303.90	1530	320.90	795	335.90	255
290.90	373	305.00	168	323.00	11587	339.40	187
291.90	536	307.90	462	324.00	2630	339.80	204
292.90	2044	308.80	355	326.00	150	340.90	1206
293.80	998	309.70	510	326.90	2361	342.00	416
295.90	30376	313.00	311	327.90	1091	345.90	2717
296.90	4715	314.00	1470	329.00	345	346.90	489
297.90	317	314.90	3824	331.90	967	350.90	327
300.90	343	315.90	2586	332.90	1134	351.90	3952
301.80	741	316.90	771	334.00	7775	353.00	3415

Scan 565 (7.760 min): 0820F001.D  
SIM PAH Tune @ 3.0ppm | SVM47-30D  
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
354.00	4752	383.80	677	420.90	4360	444.90	919
354.90	1018	384.80	229	422.00	4986		
358.90	491	389.90	1318	423.00	35104		
364.90	17272	390.80	670	424.00	7169		
365.90	2591	392.00	683	425.00	645		
370.00	565	400.90	675	438.30	286		
370.90	1225	401.90	3657	439.30	977		
372.00	6879	402.90	4903	441.00	93648		
372.90	1613	404.00	1728	442.00	624704		
376.80	175	404.70	268	443.00	125928		
382.90	2274	420.00	166	444.00	11169		

# Exception Report

Data File: J:\MS14\DATA\082014\0820F002.D  
Lab ID: KWG1411816-2  
Run Type: CCV  
Matrix: WATER

Date Acquired: 08/20/2014 10:18  
Date Quantitated: 08/20/2014 10:38  
Batch ID: KWG1411816  
Analysis Method: 8270D SIM  
MethodJoinID: MJ1238

## Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: CAK AUG 21 2014

Secondary Review: LS AUG 21 2014

# Quantitation Report

Data File: J:\MS14\DATA\082014\0820F002.D	Instrument: MS14
Acqu Date: 08/20/2014 10:18	Quant Date: 08/20/2014 10:38
Run Type: CCV	Vial: 2
Lab ID: KWG1411816-2	Dilution: 1.0
	Soln Conc. Units: ng/ml

Bottle ID:	Tier:	Matrix: WATER
Prod Code: 8270D PAH SIM	Collect Date:	Receive Date: 08/21/2014

Analysis Lot: KWG1411816	Prep Lot:	Report Group:
Analysis Method: 8270D SIM	Prep Method:	
Prep Ref:	Prep Date:	

Quant Method: J:\MS14\METHODS\SIM\072214SIMP.AH	Calibration ID: CAL13446
Title:	
Tune Ref: J:\MS14\DATA\082014\0820F001.D	Method ID: MJ1238
MB Ref:	Quant based on Method

## Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.67	-0.02	136	141957	200.00	OK
2	Acenaphthene-d10	6.29	-0.02	164	73035	200.00	OK
3	Phenanthrene-d10	7.53	-0.03	188	141853	200.00	OK
4	Chrysene-d12	10.06	-0.05	240	149772	200.00	OK
5	Perylene-d12	13.15	-0.10	264	152665	200.00	OK

## Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.73			176	176782	410.31	39-96	NA	
3	Fluoranthene-d10	8.52			212	310321	388.49	41-100	NA	
4	Terphenyl-d14	8.87			244	262682	389.92	39-111	NA	

## Target Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.69			128	295484	392.69			
1	2-Methylnaphthalene	5.37			142	192716	366.37			
1	1-Methylnaphthalene	5.46			142	182598	394.24			
1	Biphenyl	5.79			154	226372	363.89			
1	2,6-Dimethylnaphthalene	5.93			156	167307	360.77			
2	Acenaphthylene	6.16			152	308597	419.36			
2	Acenaphthene	6.31			154	170442	400.92			
2	Dibenzofuran	6.46			168	274904	409.76			
2	2,3,5-Trimethylnaphthalene	6.64			170	154634	363.70			
2	Fluorene	6.75			166	207680	390.56			
3	Dibenzothiophene	7.45			184	327867	437.56			
3	Phenanthrene	7.55			178	308169	393.58			
3	Anthracene	7.59			178	307243	395.81			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 b: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File: J:\MS14\DATA\082014\0820F002.D  
 Acqu Date: 08/20/2014 10:18  
 Run Type: CCV  
 Lab ID: KWG1411816-2

Quant Date: 08/20/2014 10:38

Instrument: MS14  
 Vial: 2  
 Dilution: 1.0  
 Soln Conc. Units: ng/ml

**Target Compounds**

Final Conc. Units: ug/Kg

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantM ass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Carbazole	7.73			167	284406	415.75			
3	1-Methylphenanthrene	8.06			192	235788	380.65			
3	Fluoranthene	8.53			202	351843	385.50			
4	Pyrene	8.73			202	372155	360.14			
4	Benz(a)anthracene	10.04			228	326853	355.86			
4	Chrysene	10.10			228	305547	375.10			
5	Benzo(b)fluoranthene	12.11			252	350443	373.90			
5	Benzo(k)fluoranthene	12.18			252	337034	361.68			
5	Benzo(e)pyrene	12.83			252	312419	347.13			
5	Benzo(a)pyrene	12.98			252	329012	365.17			
5	Perylene	13.23			252	314556	369.52			
5	Indeno(1,2,3-cd)pyrene	15.39			276	340186	337.81			
5	Dibenz(a,h)anthracene	15.44			278	337391	350.47			
5	Benzo(g,h,i)perylene	15.77			276	358048	327.15			

U: Undetected at or above MDL  
 J: Analyte detected above MDL, but below MRL  
 B: Hit above MRL also found in Method Blank  
 E: Analyte concentration above high point of ICAL  
 N: Presumptive evidence of compound

D: Result from dilution  
 m: Manual integration performed  
 d: Compound manually deleted  
 NR: Analyte not reported from this analysis

\*: Result fails acceptance criteria  
 #: Acceptance criteria not applicable  
 ?: Insufficient information to determine acceptance  
 e: Result >= MRL, but MRL less than low point of ICAL  
 c: check for co-elution

Data File : J:\MS14\DATA\082014\0820F002.D  
 Acq On : 20 Aug 2014 10:18 am  
 Sample : SIM PAH CCV @ 0.4ppm | SVM47-30E  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 20 10:38:38 2014

Vial: 2  
 Operator: CHart  
 Inst : MS14  
 Multiplr: 1.00

Quant Results File: 072214SIMPAAH.RE

Quant Method : J:\MS14\M...\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration  
 DataAcq Meth : A\_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Naphthalene-d8	4.67	136	141957	200.00	ng/ml	0.00
7) Acenaphthene-d10	6.29	164	73035	200.00	ng/ml	0.00
14) Phenanthrene-d10	7.53	188	141853	200.00	ng/ml	0.00
22) Chrysene-d12	10.06	240	149772	200.00	ng/ml	0.00
27) Perylene-d12	13.15	264	152665	200.00	ng/ml	-0.01

System Monitoring Compounds

12) Fluorene-d10	6.73	176	176782	410.31	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	41.03%	
21) Fluoranthene-d10	8.52	212	310321	388.49	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	38.85%	
24) Terphenyl-d14	8.87	244	262682	389.92	ng/ml	0.00
Spiked Amount	1000.000		Recovery	=	38.99%	

Target Compounds

						Qvalue
2) Naphthalene	4.69	128	295484	392.69	ng/ml	94
3) 2-Methylnaphthalene	5.37	142	192716	366.37	ng/ml	98
4) 1-Methylnaphthalene	5.46	142	182598	394.24	ng/ml	97
5) Biphenyl	5.79	154	226372	363.89	ng/ml	94
6) 2,6-Dimethylnaphthalene	5.93	156	167307	360.77	ng/ml	96
8) Acenaphthylene	6.16	152	308597	419.36	ng/ml	100
9) Acenaphthene	6.31	154	170442	400.92	ng/ml	96
10) Dibenzofuran	6.46	168	274904	409.76	ng/ml	97
11) 2,3,5-Trimethylnaphthalene	6.64	170	154634	363.70	ng/ml	97
13) Fluorene	6.75	166	207680	390.56	ng/ml	98
15) Dibenzothiophene	7.45	184	327867	437.56	ng/ml	96
16) Phenanthrene	7.55	178	308169	393.58	ng/ml	99
17) Anthracene	7.59	178	307243	395.81	ng/ml	98
18) Carbazole	7.73	167	284406	415.75	ng/ml	99
19) 1-Methylphenanthrene	8.06	192	235788	380.65	ng/ml	97
20) Fluoranthene	8.53	202	351843	385.50	ng/ml	92
23) Pyrene	8.73	202	372155	360.14	ng/ml	92
25) Benz(a)anthracene	10.04	228	326853	355.86	ng/ml	100
26) Chrysene	10.10	228	305547	375.10	ng/ml	99
28) Benzo(b)fluoranthene	12.11	252	350443	373.90	ng/ml	99
29) Benzo(k)fluoranthene	12.18	252	337034	361.68	ng/ml	99
30) Benzo(e)pyrene	12.83	252	312419	347.13	ng/ml	100
31) Benzo(a)pyrene	12.98	252	329012	365.17	ng/ml	98
32) Perylene	13.23	252	314556	369.52	ng/ml	99
33) Indeno(1,2,3-cd)pyrene	15.39	276	340186	337.81	ng/ml	99
34) Dibenz(a,h)anthracene	15.44	278	337391	350.47	ng/ml	94
35) Benzo(g,h,i)perylene	15.77	276	358048	327.15	ng/ml	100

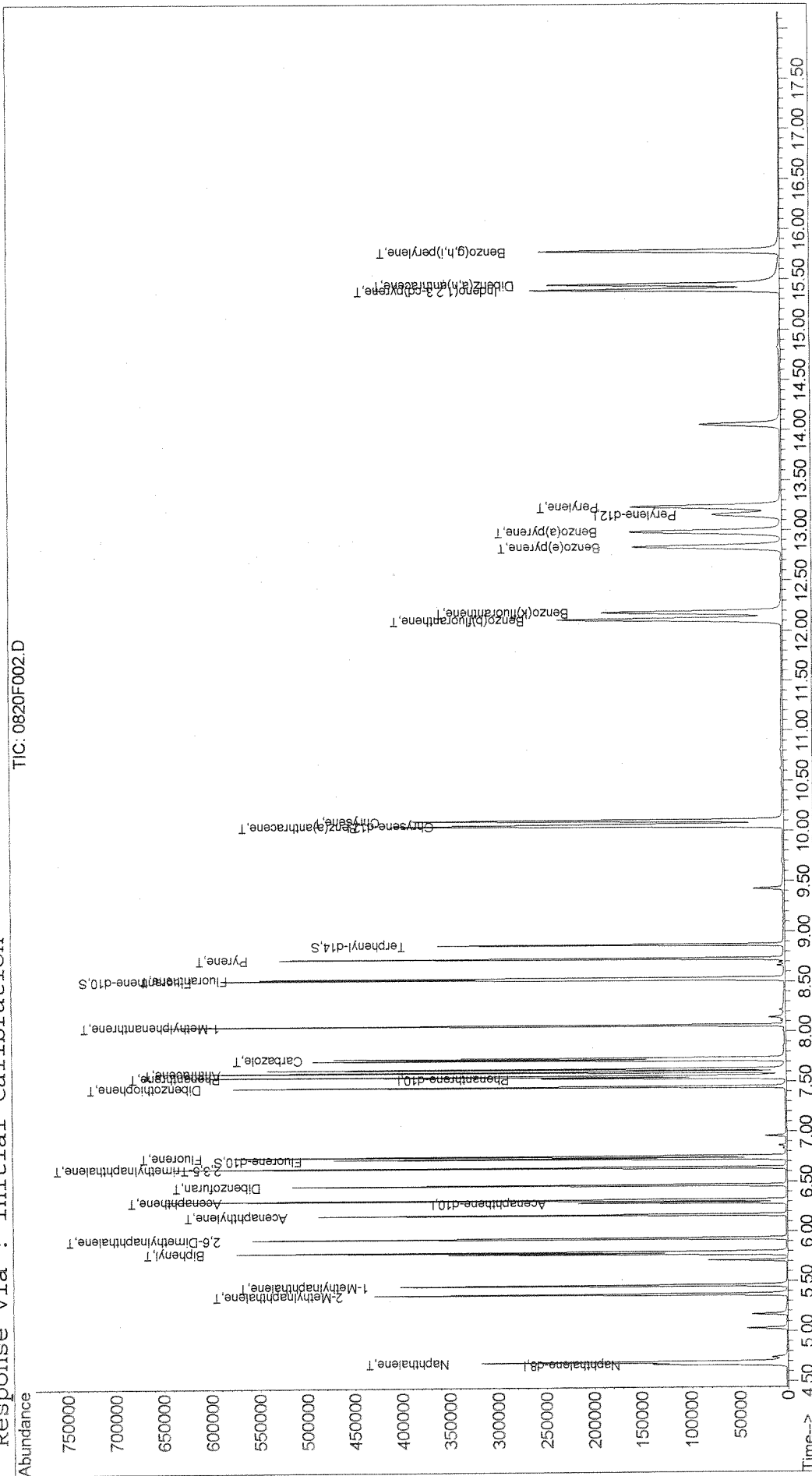
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\082014\0820F002.D  
 Acq On : 20 Aug 2014 10:18 am  
 Sample : SIM PAH CCV @ 0.4ppm | SVM47-30E  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 20 10:38 2014  
 Quant Results File: 072214SIMPAAH.RES

Vial: 2  
 Operator: CHART  
 Inst : MS14  
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\072214SIMPAAH.M (RTE Integrator)  
 Title : PAHS and ALKYLATED HOMOLOGS  
 Last Update : Tue Aug 19 12:18:58 2014  
 Response via : Initial Calibration



**Preparation Information**

<b>Group ID:</b> KWG1411415	<b>Prep Method:</b> EPA 3541	<b>Prep Date:</b> 08/12/14 10:15
<b>Department:</b> Semivoa GCMS		

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K1407849-002	WLQASHM7.14	8270D PAH SIM	ANIMAL	10.774g	10ml	
K1407971-001	Nv PreTest Rep.1	8270D PAH SIM	ANIMAL	10.512g	10ml	
K1407971-002	NV PreTest Rep.2	8270D PAH SIM	ANIMAL	10.113g	10ml	
K1407971-003	NV PreTest Rep.3	8270D PAH SIM	ANIMAL	10.039g	10ml	
K1407971-004	Nv SYC14-AC Rep.1	8270D PAH SIM	ANIMAL	10.585g	10ml	
K1407971-005	Nv SYC14-AC Rep.2	8270D PAH SIM	ANIMAL	10.422g	10ml	
K1407971-006	Nv SYC14-AC Rep.3	8270D PAH SIM	ANIMAL	10.050g	10ml	
K1407971-007	Nv SYC14-AC Rep.4	8270D PAH SIM	ANIMAL	10.166g	10ml	
K1407971-008	Nv SYC14-AC Rep.5	8270D PAH SIM	ANIMAL	10.394g	10ml	
K1407971-009	Nv SYC14-TB Rep.1	8270D PAH SIM	ANIMAL	10.052g	10ml	
K1407971-010	Nv SYC14-TB Rep.2	8270D PAH SIM	ANIMAL	10.042g	10ml	
K1407971-011	Nv SYC14-TB Rep.3	8270D PAH SIM	ANIMAL	10.986g	10ml	
K1407971-012	Nv SYC14-TB Rep.4	8270D PAH SIM	ANIMAL	10.213g	10ml	
K1407971-013	Nv SYC14-TB Rep.5	8270D PAH SIM	ANIMAL	10.395g	10ml	
K1407971-014	Nv SYC14-REF Rep.1	8270D PAH SIM	ANIMAL	10.027g	10ml	
K1407971-015	Nv SYC14-REF Rep.2	8270D PAH SIM	ANIMAL	10.305g	10ml	
K1407971-016	Nv SYC14-REF Rep.3	8270D PAH SIM	ANIMAL	10.050g	10ml	
K1407971-017	Nv SYC14-REF Rep.4	8270D PAH SIM	ANIMAL	10.370g	10ml	
K1407971-018	Nv SYC14-REF Rep.5	8270D PAH SIM	ANIMAL	10.083g	10ml	
KWG1411415-1	Matrix Spike	8270D PAH SIM	ANIMAL	10.083g	10ml	
KWG1411415-2	Duplicate Matrix Spike	8270D PAH SIM	ANIMAL	10.217g	10ml	
KWG1411415-3	Lab Control Sample	8270D PAH SIM	ANIMAL	10.000g	10ml	
KWG1411415-4	Duplicate Lab Control Sample	8270D PAH SIM	ANIMAL	10.000g	10ml	
KWG1411415-5	Method Blank	8270D PAH SIM	ANIMAL	10.986g	10ml	
KWG1411415-6	Standard Reference Material	8270D PAH SIM	ANIMAL	5.039g	5ml	

Lab Code	Parent Lab Code	Comments
KWG1411415-1	K1407971-006	
KWG1411415-2	K1407971-006	
KWG1411415-6	K-SRM1-3DD	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1407849-002	1365500	SVM46-67C	20uL			CVecchit
K1407971-001	1365426	SVM46-67C	20uL			CVecchit
K1407971-002	1365427	SVM46-67C	20uL			KClark
K1407971-003	1365428	SVM46-67C	20uL			KClark

Comments: IS: SVM45-66A

Started By: CHarvey Assisted By: \_\_\_\_\_ Training  Yes  No

Completed By: AMeyers Assisted By: \_\_\_\_\_ Training  Yes  No

Reviewed By: ABailey Date: 8-15-14 Storage: SVM LAB

Chain of Custody

Relinquished By: <u>AMeyers</u>	Date: <u>8-14-14</u>	Extracts Examined <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Received By: <u>Cherin Restart</u>	Date: <u>08-15-14</u>	

Group ID: KWG1411415  
Department: Semivoa GCMS

Prep Method: EPA 3541

Prep Date: 08/12/14 10:15

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1407971-004	1365429	SVM46-67C	20uL			KClark
K1407971-005	1365430	SVM46-67C	20uL			KClark
K1407971-006	1365431	SVM46-67C	20uL			KClark
K1407971-007	1365432	SVM46-67C	20uL			KClark
K1407971-008	1365433	SVM46-67C	20uL			KClark
K1407971-009	1365434	SVM46-67C	20uL			KClark
K1407971-010	1365435	SVM46-67C	20uL			KClark
K1407971-011	1365436	SVM46-67C	20uL			KClark
K1407971-012	1365437	SVM46-67C	20uL			KClark
K1407971-013	1365438	SVM46-67C	20uL			KClark
K1407971-014	1365439	SVM46-67C	20uL			KClark
K1407971-015	1365440	SVM46-67C	20uL			KClark
K1407971-016	1365441	SVM46-67C	20uL			KClark
K1407971-017	1365442	SVM46-67C	20uL			KClark
K1407971-018	1365425	SVM46-67C	20uL			KClark
KWG1411415-1	1365443	SVM46-67C	20uL	SVM46-95L	200uL	KClark
KWG1411415-2	1365444	SVM46-67C	20uL	SVM46-95L	200uL	KClark
KWG1411415-3	1365445	SVM46-67C	20uL	SVM46-95L	200uL	KClark
KWG1411415-4	1365446	SVM46-67C	20uL	SVM46-95L	200uL	KClark
KWG1411415-5	1365447	SVM46-67C	20uL			KClark
KWG1411415-6	1365448	SVM46-67C	20uL			KClark

Comments:

Started By: CHarvey

Assisted By: \_\_\_\_\_

Training

Yes  No

Completed By: AMeyers

Assisted By: \_\_\_\_\_

Yes  No

Reviewed By: ABowley

Date: 8-15-14

Storage: SVM LAB

Chain of Custody

Relinquished By: <u>Ameyers</u>	Date: <u>8-14-14</u>	Extracts Examined Yes <input checked="" type="radio"/> No <input type="radio"/>
Received By: <u>Christina R Hart</u>	Date: <u>08-15-14</u>	



Preparation Information

Due 8/8

Group ID: KWG1411415      Prep Method: EPA 3541      Prep Date: 08/12/14 00:00  
 Department: Semivoc GCMS

#	Lab Code	Client ID	B#	✓	Product	Matrix	Amt. Ext.	pH	Int. Vol. mL	Final Vol. mL	Surr. Added	Spike Added
1	K1407971-001	Nv PreTest Rep.1	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.512	N/A	10	10	20uL	✓
2	K1407971-002	NV PreTest Rep.2	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.113		10	10		✓
3	K1407971-003	NV PreTest Rep.3	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.039		10	10		✓
4	K1407971-004	Nv SYC14-AC Rep.1	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.585		10	10		✓
5	K1407971-005	Nv SYC14-AC Rep.2	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.422		10	10		✓
6	K1407971-006	Nv SYC14-AC Rep.3	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.050		10	10		✓
7	K1407971-007	Nv SYC14-AC Rep.4	.04	✓	8270D-PAH SIM	ANIMAL TISSUE	10.166		10	10		✓
8	K1407971-008	Nv SYC14-AC Rep.5	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.394		10	10		✓
9	K1407971-009	Nv SYC14-TB Rep.1	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.052		10	10		✓
10	K1407971-010	Nv SYC14-TB Rep.2	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.042		10	10		✓
11	K1407971-011	Nv SYC14-TB Rep.3	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.986		10	10		✓
12	K1407971-012	Nv SYC14-TB Rep.4	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.213		10	10		✓
13	K1407971-013	Nv SYC14-TB Rep.5	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.395		10	10		✓
14	K1407971-014	Nv SYC14-REF Rep.1	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.027		10	10		✓
15	K1407971-015	Nv SYC14-REF Rep.2	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.305		10	10		✓
16	K1407971-016	Nv SYC14-REF Rep.3	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.050		10	10		✓
17	K1407971-017	Nv SYC14-REF Rep.4	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.370		10	10		✓
18	K1407971-018	Nv SYC14-REF Rep.5	.04	✓	8270D PAH SIM	ANIMAL TISSUE	10.083		10	10		✓

Comments: # 215340

Surrogate ID: SIM46-67C, 100/150 ppm, exp 12/5/14, 20uL, S47  
 Spike ID: @SIM46-95L, 25ppm, exp 1/3/15, 20uL, 100pp @ SIMP-005-22u, exp 12/27/14, 1mL, 4Fppp  
 Witness: KVAKE 8/12/14 \* Cvecutto 8/12/14  
 Started By: C Harvey 8/12/14 \* J Johnson 8/12/14  
 Completed By: Ameyers      Assisted By:

Group ID: KWG1411415  
 Department: Semivoa GCMS

Prep Method: EPA 3541

Prep Date: 08/12/14 00:00

#	Lab Code	Client ID	B#	✓	Product	Matrix	Amt. Ext.	pH	Int. mL	Final Vol. mL	Surr. Added	Spike Added
19	KWG1411415-1	Matrix Spike K1407971-006	.05	✓	8270D PAH SIM	ANIMAL TISSUE	10.083	N/A	10	10	20uL	200uL (A)
20	KWG1411415-2	Duplicate Matrix Spike K1407971-004	.06	✓	8270D PAH SIM	ANIMAL TISSUE	10.217		10	10		
21	KWG1411415-3	Lab Control Sample			8270D PAH SIM	ANIMAL TISSUE	10.000		10	10		
22	KWG1411415-4	Duplicate Lab Control Sample			8270D PAH SIM	ANIMAL TISSUE	10.000		10	10		↓
23	KWG1411415-5	Method Blank			8270D PAH SIM	ANIMAL TISSUE	10.980		10	10		—
24	KWG1411415-6 1974C	Standard Reference Material KSRM1-3DD			8270D PAH SIM	ANIMAL TISSUE	5.039	↓	10	5.039	↓	—
25		Lipids			8270D PAH SIM	Animal Tissue	10.000	↓	10	10	↓	1mL (B)
26	K1407849-002	WLQASHM7.14			8270D PAH SIM	Animal Tissue	10.774	↓	10	10	↓	—

Comments: OCH 8/12/14

Surrogate ID: See pg 1

Spike ID: See pg 1

Witness: KClark 8/12/14 \* credit to 8/12/14

Started By: C. Harvey 8/12/14 \* Assisted By: J Johnson 8/12/14

Completed By: Ameyers

Additional Prep Information for EPA 3541

PAH

Service Request K1407971 Workgroup KWB1411415

Sulfate Lot # 132318 DCM (GC<sup>2</sup>) Lot # DK774 Glass Wool Lot# 26911999  
Date/Time/Initials Weighed: 8/14/14 CH Balance ID: K-03 Calibration Verified

Storage Location (if not extracted same day): N/A

Soxtherm Start (Time/Date/Initial): 1015 8-12-14 CH

Soxtherm Stop (Time/Date/Initial): <sup>TSEF 8-12</sup> 5 08:00 8-13/14 CH

N-Evap (Time/Date/Initial): 800 8/13/14 AM N-Evap Therm. ID: SVG-P-006  
Temp as measured: 30.0 °C Correction factor: 0.0 °C Adjusted temp: 30.0 °C

Hexane Exchange for Silica Gel (Time/Date/Initial): 1330 8/13/14 AM  
Hexane Lot # 13791 N-Evap Therm. ID: SVG-P-000  
Temp as measured: 30.0 °C Correction factor: 0.0 °C Adjusted temp: 30.0 °C

Silica Gel Clean-up (3630) (Time/Date/Initial): 1410 8/13/14 AM

Silica Column Lot # EXT002-900 1:1 Hexane/DCM Reagent Lot # EXT002-30C  
Turbovap (Time/Date/Initial): 810 8-14-14 AM Turbovap Therm. ID: K-TV-05  
Temp as measured: 31.0 °C Correction factor: +1.0 °C Adjusted temp: 32.0 °C

Extract Storage: Brontosauns

Completed (Time/Date/Initial): 910 8-14-14 AM

Comments/Observations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bench Sheet Review Check List	
<input type="checkbox"/>	Hold Times Met (if no, Reason: <u>FROZEN</u> )
<input checked="" type="checkbox"/>	Prep date, dept, method, product code correct in stealth
<input checked="" type="checkbox"/>	Spike Information correct
<input checked="" type="checkbox"/>	Weights/Volumes and units correct on raw and final bench sheets
<input checked="" type="checkbox"/>	Sample IDs have been checked—Bottle numbers appended if required
<input checked="" type="checkbox"/>	Names present for: Started by, Completed by, relinquished by, and witnessed by.
<input checked="" type="checkbox"/>	Training has been circled
<input checked="" type="checkbox"/>	Extract Storage recorded
<input checked="" type="checkbox"/>	Additional Prep Sheet completely filled out ( NA or line out Blanks)
<input checked="" type="checkbox"/>	All clean-ups have been noted on additional prep sheet
<input checked="" type="checkbox"/>	Signed service request with Form V, if applicable, has been attached



# Dioxins and Furans

**ALS Environmental—Kelso Laboratory**  
1317 South 13th Avenue, Kelso, WA 98626  
Phone (360)577-7222 Fax (360)636-1068  
[www.alsglobal.com](http://www.alsglobal.com)



# Chromatograms and Selected Ion Monitoring

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd., Suite 320, Houston TX 77099  
Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
NV PRETEST RE<sub>7</sub>

Run #15    Filename P173109    Samp: 1    Inj: 1    Acquired: 26-AUG-14 18:37:44  
Processed: 27-AUG-14 09:30:08    Sample ID: K1407971-001

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:05	1.535e+01	7.387e+00	2.08	no	yes	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	yes	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	36:33	1.819e+00	3.975e+00	0.46	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	2.610e+01	1.692e+01	1.54	no	yes	1.016
17 Unk	OCDD	41:37	1.128e+02	1.357e+02	0.83	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	2.285e+03	3.005e+03	0.76	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:47	4.361e+03	2.716e+03	1.61	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:43	4.553e+03	2.850e+03	1.60	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:27	2.229e+03	4.323e+03	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	2.842e+03	5.732e+03	0.50	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	2.449e+03	5.003e+03	0.49	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	2.197e+03	4.387e+03	0.50	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	1.846e+03	4.189e+03	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.600e+03	3.823e+03	0.42	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:12	1.708e+03	2.322e+03	0.74	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	3.898e+03	2.548e+03	1.53	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:12	3.619e+03	2.837e+03	1.28	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:17	3.694e+03	2.928e+03	1.26	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	3.034e+03	2.845e+03	1.07	yes	no	0.862
32 IS	13C-OCDD	41:37	4.103e+03	4.692e+03	0.87	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	4.071e+03	5.315e+03	0.77	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:32	7.535e+03	6.190e+03	1.22	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:13	1.413e+03				no	1.125

$$\text{OCDD} = \frac{(1.128e+02 + 1.357e+02) \times 4000 \text{ pg} \times 1}{(4.103e+03 + 4.692e+03) \times 7.482 \text{ g} \times \frac{15.6}{100} / 100 \times 1.079}$$

13.999 mg/Kg  
UM 08/27/14

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1613RESPA

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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV PRETEST REP.1

Run #15 Filename P173109 Samp: 1 Inj: 1 Acquired: 26-AUG-14 18:37:44  
Processed: 27-AUG-14 09:30:081 LAB. ID: K1407971-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.24e+02	*	*	1.04e+03	*
2	1,2,3,7,8-PeCDF	*	1.00e+02	*	*	2.84e+02	*
3	2,3,4,7,8-PeCDF	*	1.00e+02	*	*	2.84e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.96e+02	*	*	8.00e+01	*
5	1,2,3,6,7,8-HxCDF	*	2.96e+02	*	*	8.00e+01	*
6	2,3,4,6,7,8-HxCDF	*	2.96e+02	*	*	8.00e+01	*
7	1,2,3,7,8,9-HxCDF	*	2.96e+02	*	*	8.00e+01	*
8	1,2,3,4,6,7,8-HpCDF	3.97e+03	8.80e+01	4.5e+01	2.23e+03	2.00e+02	1.1e+01
9	1,2,3,4,7,8,9-HpCDF	*	8.80e+01	*	*	2.00e+02	*
10	OCDF	*	1.84e+02	*	*	5.60e+02	*
11	2,3,7,8-TCDD	*	1.20e+02	*	*	4.04e+02	*
12	1,2,3,7,8-PeCDD	*	4.24e+02	*	*	6.40e+01	*
13	1,2,3,4,7,8-HxCDD	*	1.00e+02	*	*	2.08e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.00e+02	*	*	2.08e+02	*
15	1,2,3,7,8,9-HxCDD	5.82e+02	1.00e+02	5.8e+00	1.34e+03	2.08e+02	6.4e+00
16	1,2,3,4,6,7,8-HpCDD	4.88e+03	3.88e+02	1.3e+01	3.90e+03	8.40e+01	4.6e+01
17	OCDD	1.94e+04	6.00e+01	3.2e+02	2.30e+04	2.36e+02	9.7e+01
18	13C-2,3,7,8-TCDF	3.73e+05	4.96e+02	7.5e+02	4.93e+05	6.20e+02	7.9e+02
19	13C-1,2,3,7,8-PeCDF	7.72e+05	6.80e+01	1.1e+04	4.65e+05	2.00e+02	2.3e+03
20	13C-2,3,4,7,8-PeCDF	8.44e+05	6.80e+01	1.2e+04	5.34e+05	2.00e+02	2.7e+03
21	13C-1,2,3,4,7,8-HxCDF	4.85e+05	6.40e+01	7.6e+03	9.27e+05	3.44e+02	2.7e+03
22	13C-1,2,3,6,7,8-HxCDF	5.70e+05	6.40e+01	8.9e+03	1.14e+06	3.44e+02	3.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.97e+05	6.40e+01	7.8e+03	1.03e+06	3.44e+02	3.0e+03
24	13C-1,2,3,7,8,9-HxCDF	4.28e+05	6.40e+01	6.7e+03	8.48e+05	3.44e+02	2.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.85e+05	4.60e+02	8.4e+02	8.99e+05	3.96e+02	2.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.02e+05	4.60e+02	6.6e+02	7.02e+05	3.96e+02	1.8e+03
27	13C-2,3,7,8-TCDD	3.01e+05	2.47e+03	1.2e+02	4.09e+05	6.64e+02	6.2e+02
28	13C-1,2,3,7,8-PeCDD	7.22e+05	2.60e+02	2.8e+03	4.69e+05	1.28e+02	3.7e+03
29	13C-1,2,3,4,7,8-HxCDD	7.94e+05	2.20e+02	3.6e+03	6.23e+05	1.88e+02	3.3e+03
30	13C-1,2,3,6,7,8-HxCDD	7.48e+05	2.20e+02	3.4e+03	5.98e+05	1.88e+02	3.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.19e+05	3.08e+02	2.0e+03	5.65e+05	8.00e+01	7.1e+03
32	13C-OCDD	6.77e+05	2.00e+02	3.4e+03	7.75e+05	1.64e+03	4.7e+02
33	13C-1,2,3,4-TCDD	7.07e+05	2.47e+03	2.9e+02	9.37e+05	6.64e+02	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	1.56e+06	2.20e+02	7.1e+03	1.26e+06	1.88e+02	6.7e+03
35	37Cl-2,3,7,8-TCDD	2.49e+05	2.28e+02	1.1e+03			

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Peak List Summary

CLIENT ID.

NV PRETEST REP.1

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P173109 Sample: 1 Injection: 1 Function: 4  
Llim: 38:14 Ulim: 39:08  
Acquired: 26-AUG-14 18:37:44 Processed: 27-AUG-14 09:30:08  
Mass: 423.7770 425.7740 Tot Response: 5.09e+01 RRF: 1.016

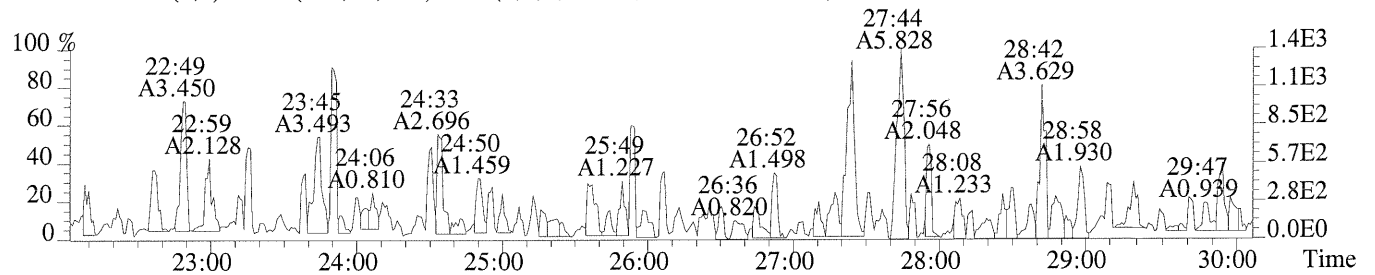
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:20	2.44e+01	2.65e+01	0.92	yes	5.09e+01	n	y

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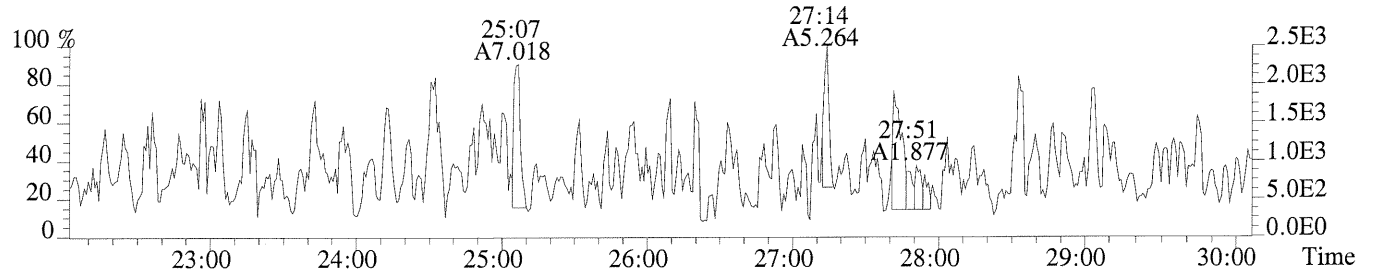
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Houston, TX 77099  
Office(713)266-1599. Fax(713)266-0130



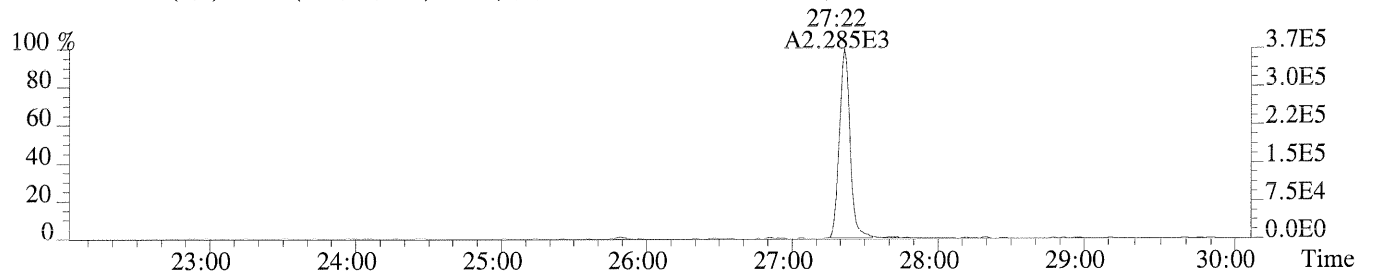
File:P173109 #1-579 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,124.0,1.00%,F,T)



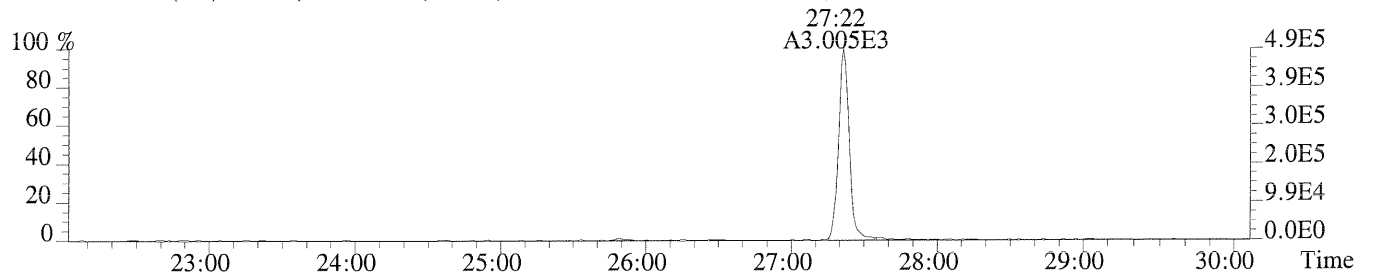
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



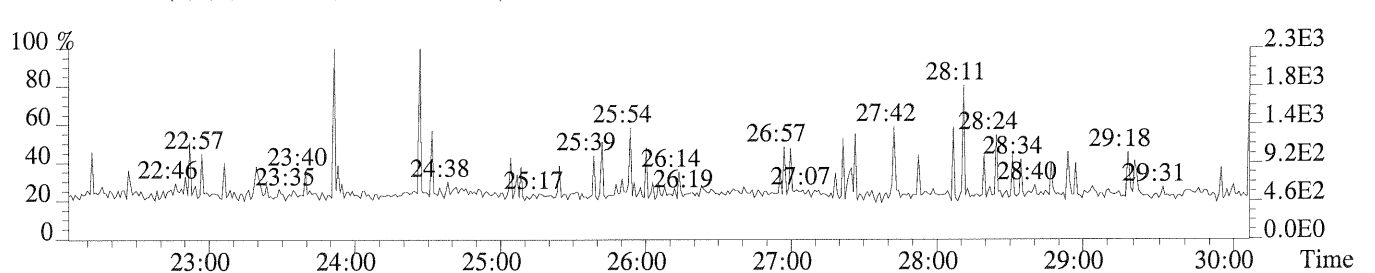
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



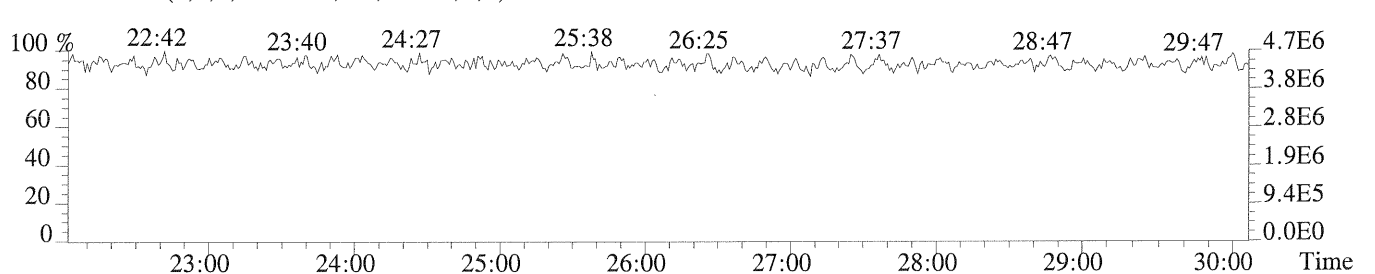
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

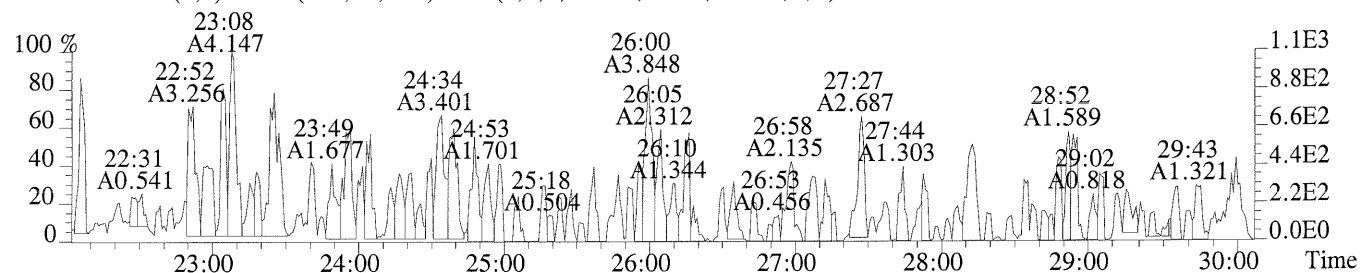


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

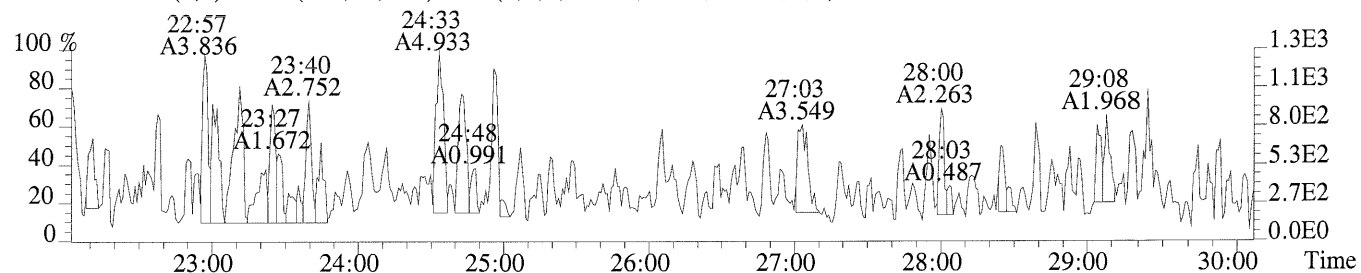


Sample#1 Exp:K1407971-001

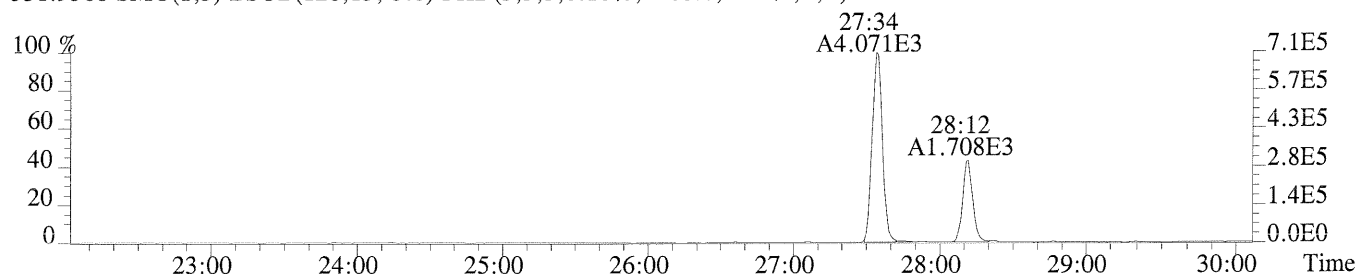
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,T)



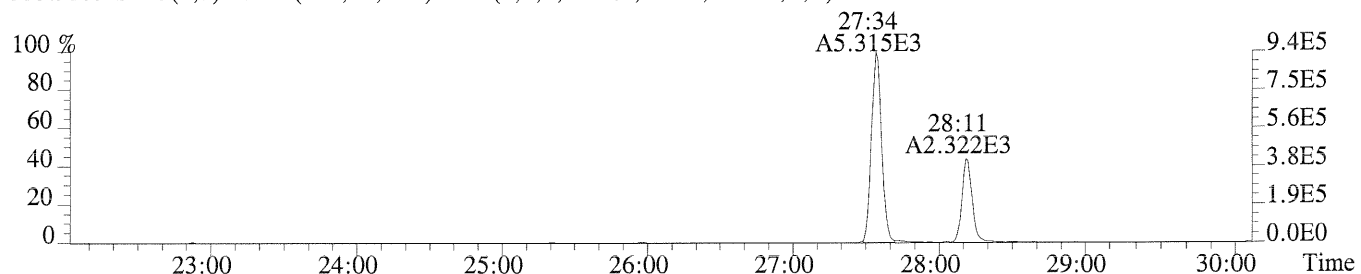
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,404.0,1.00%,F,T)



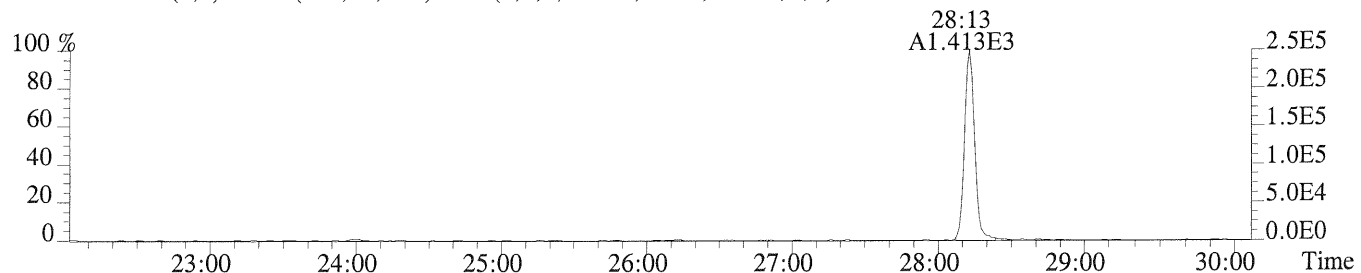
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2468.0,1.00%,F,T)



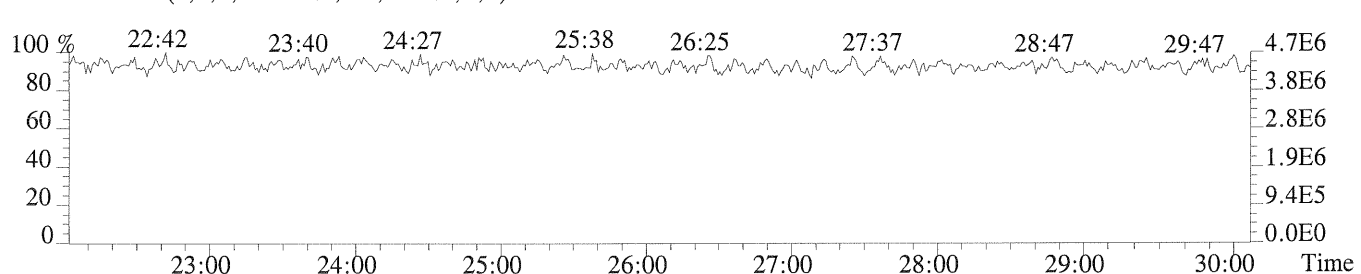
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



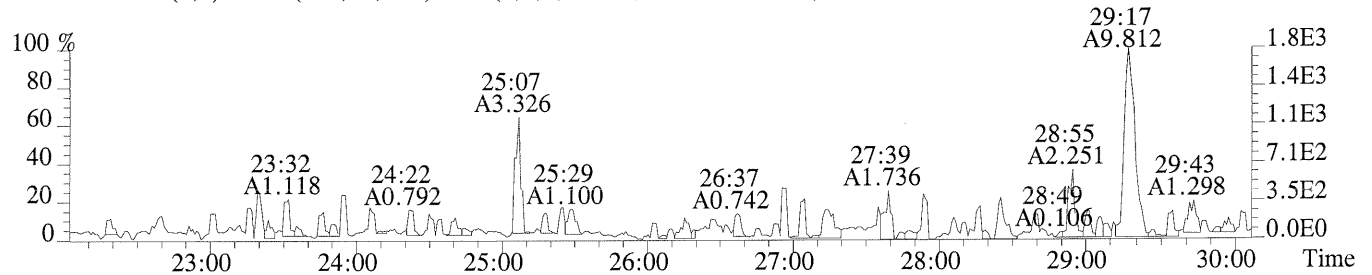
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



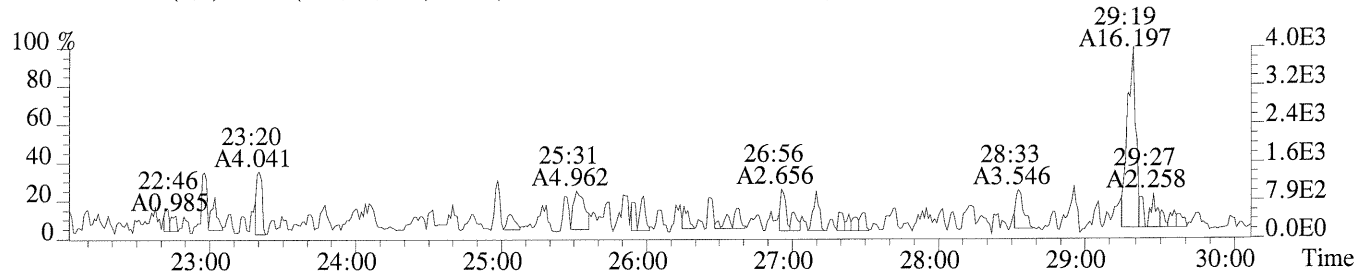
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



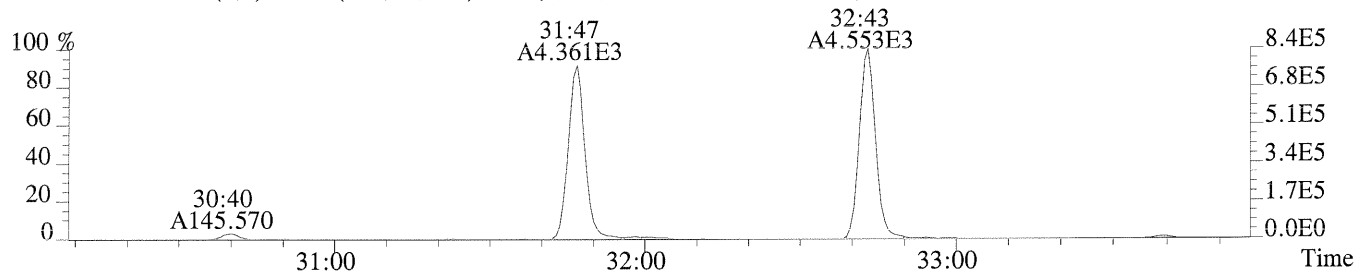
File:P173109 #1-579 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



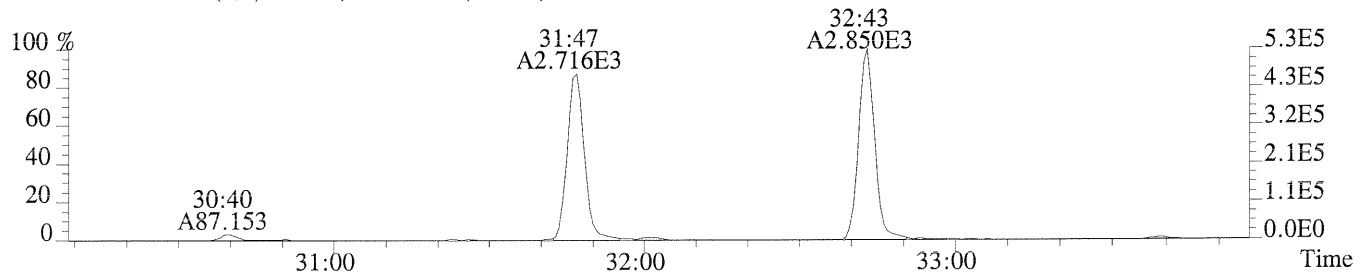
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,412.0,1.00%,F,T)



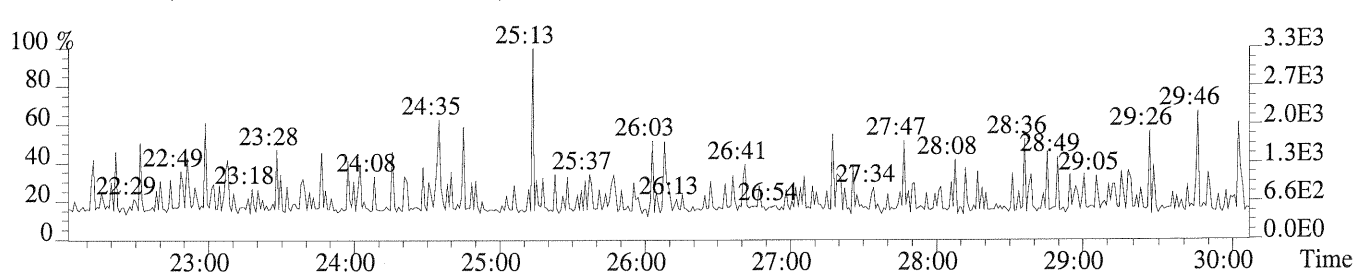
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



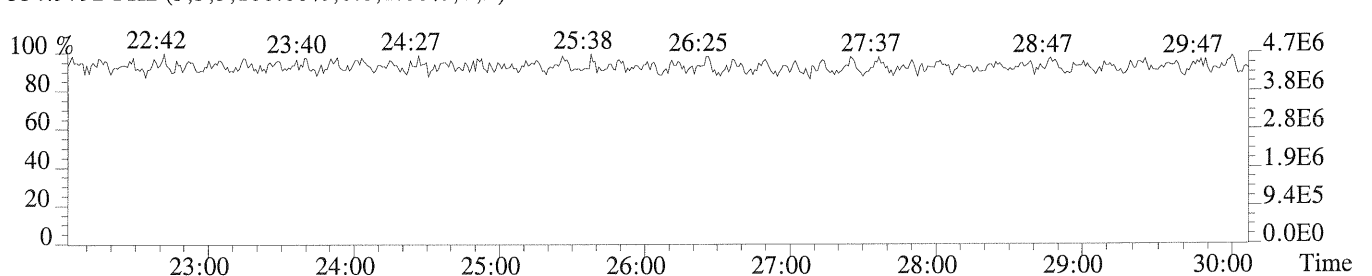
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



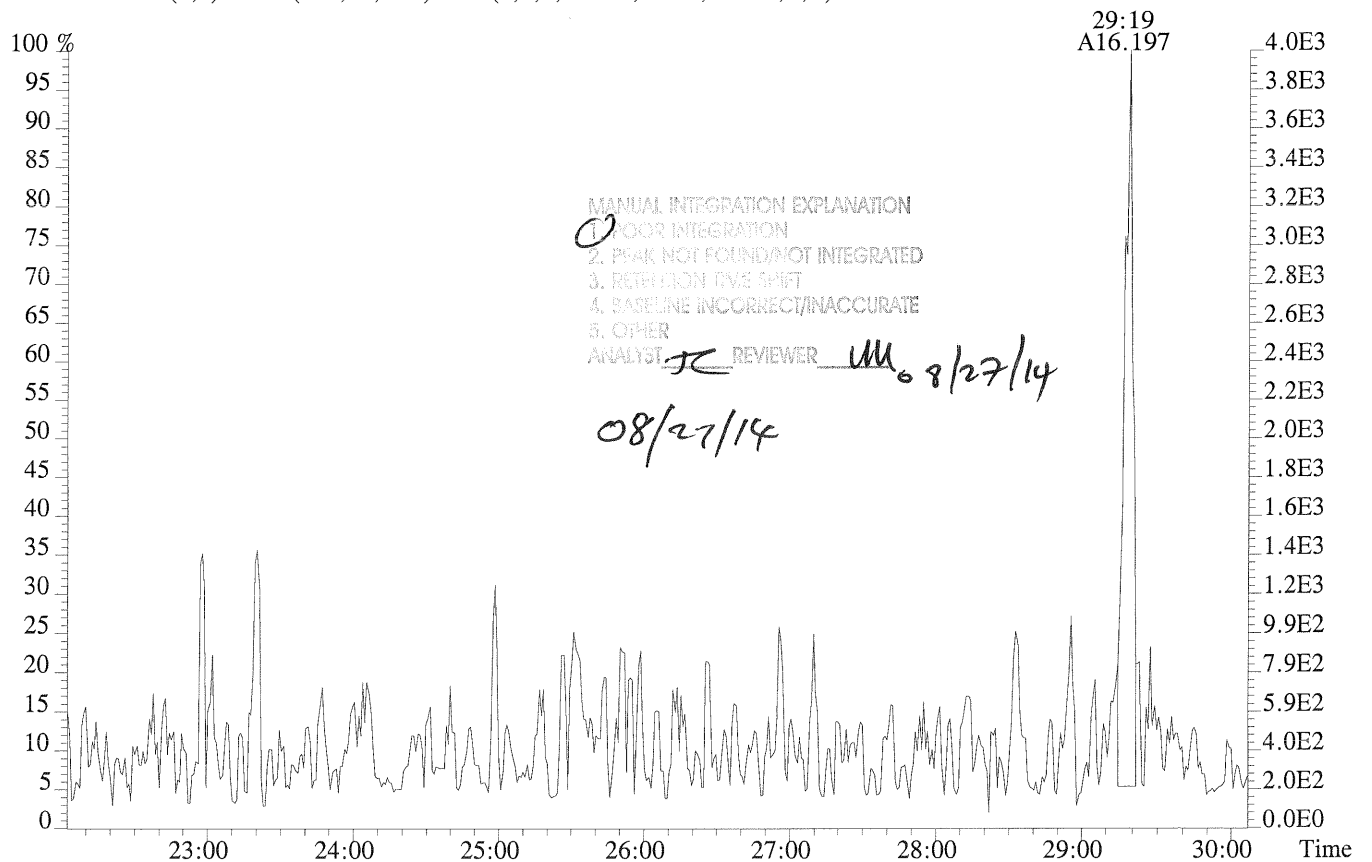
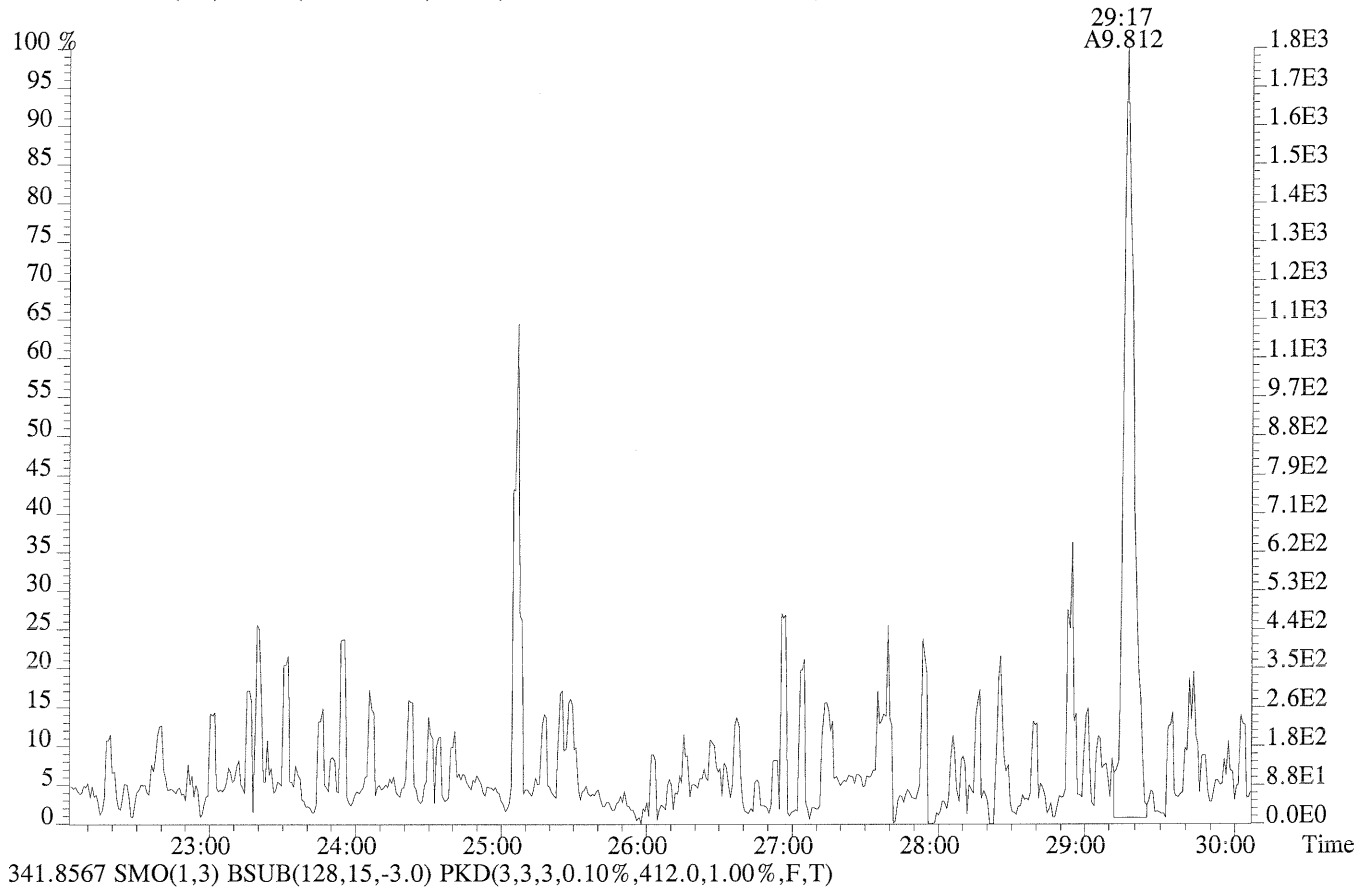
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



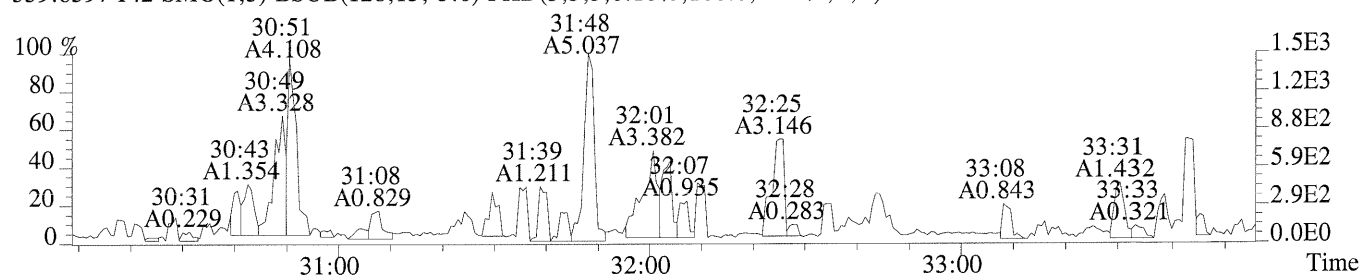
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



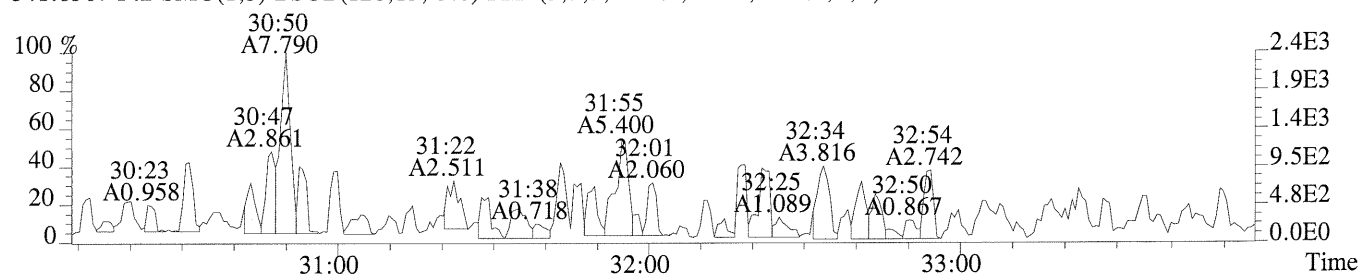
File:P173109 #1-579 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



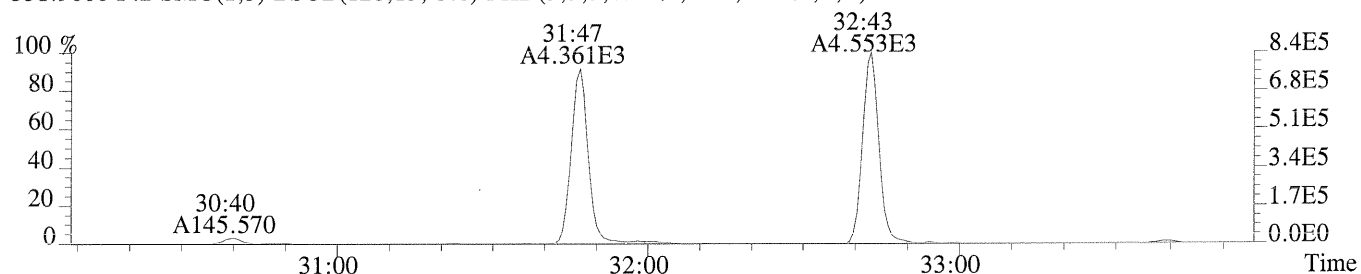
File:P173109 #1-344 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-001  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,T)



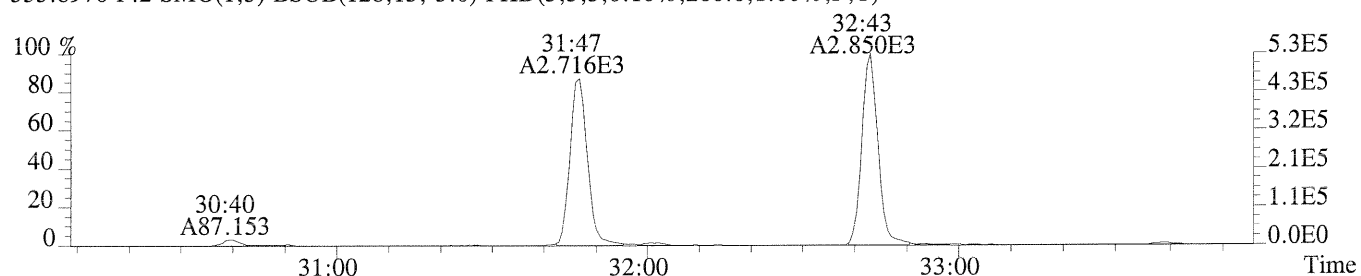
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



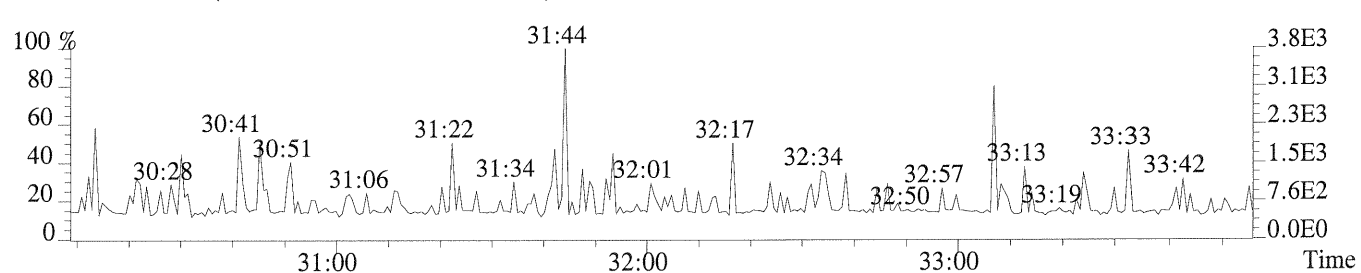
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



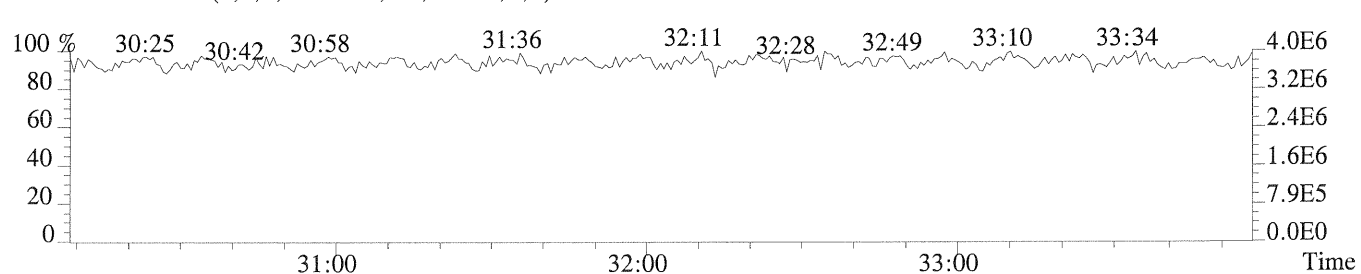
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



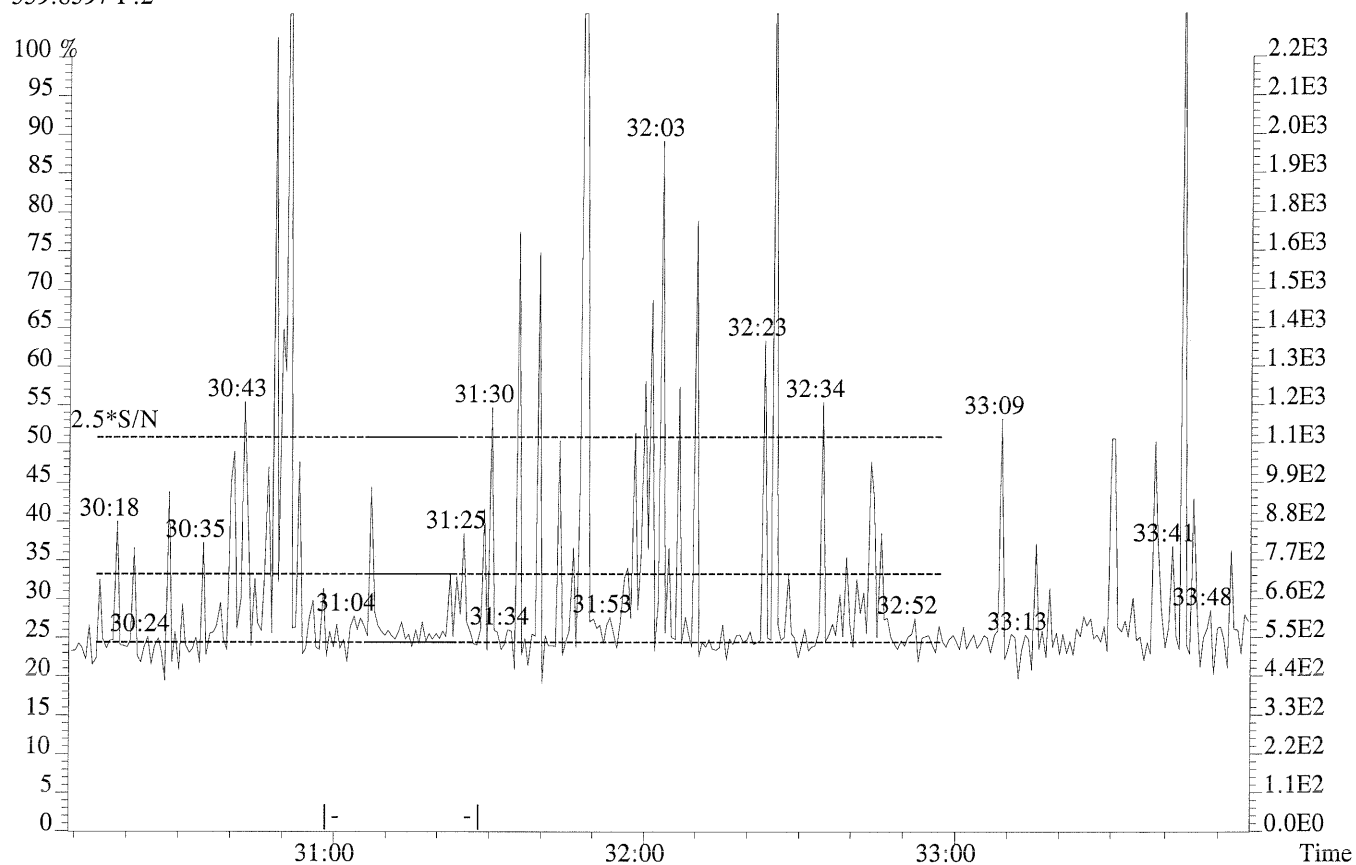
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



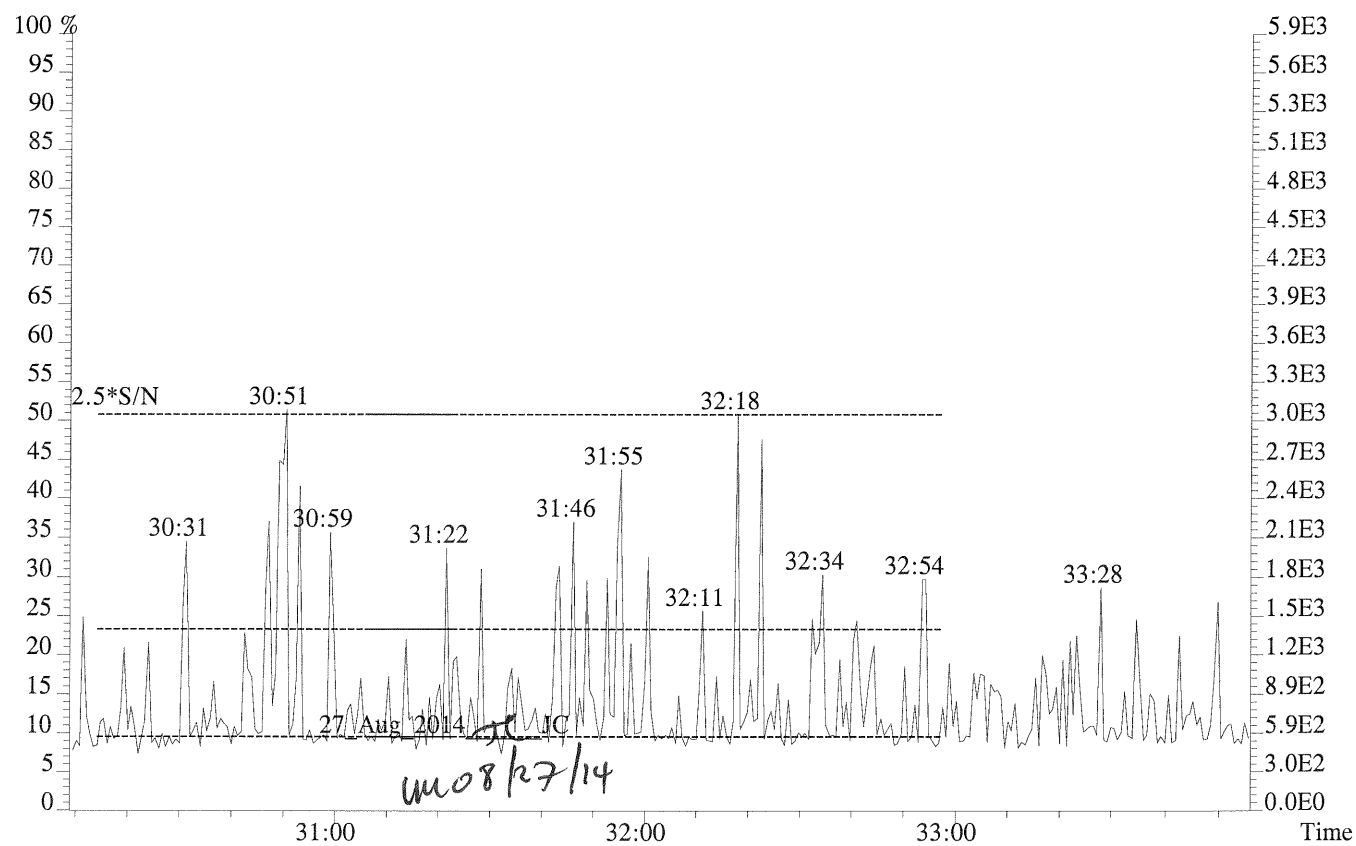
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



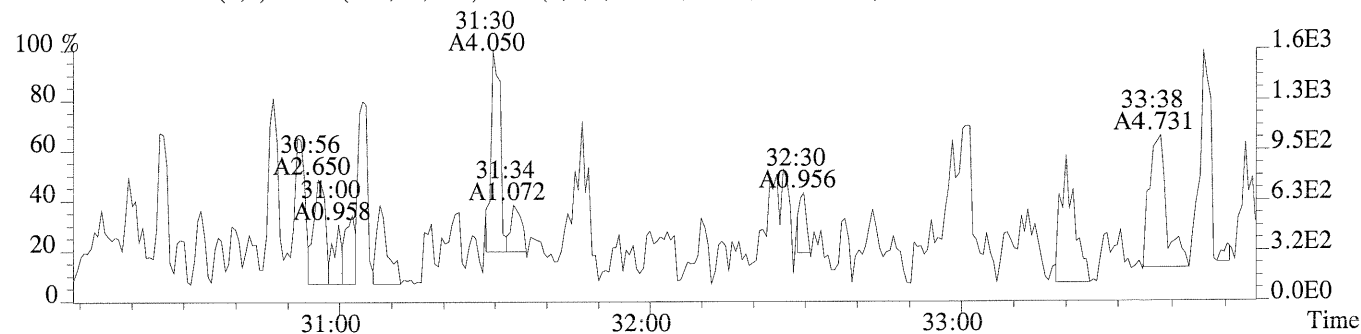
File:P173109 #1-344 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
339.8597 F:2



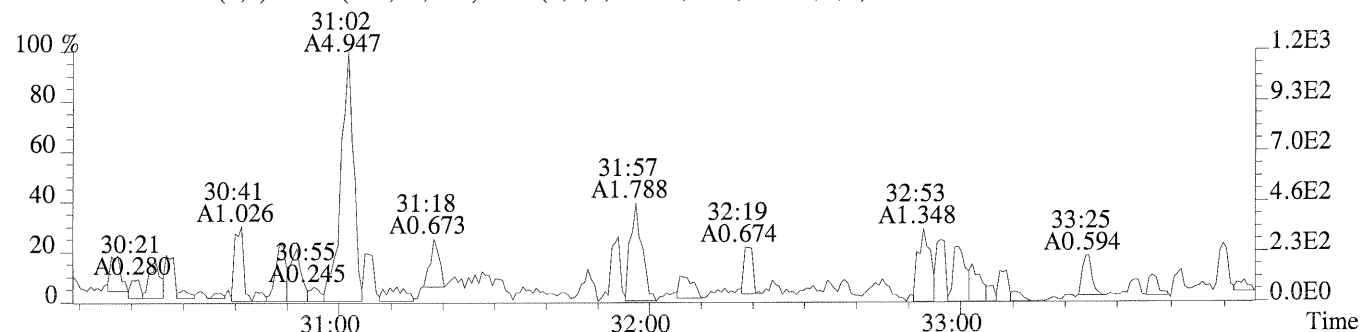
341.8567 F:2



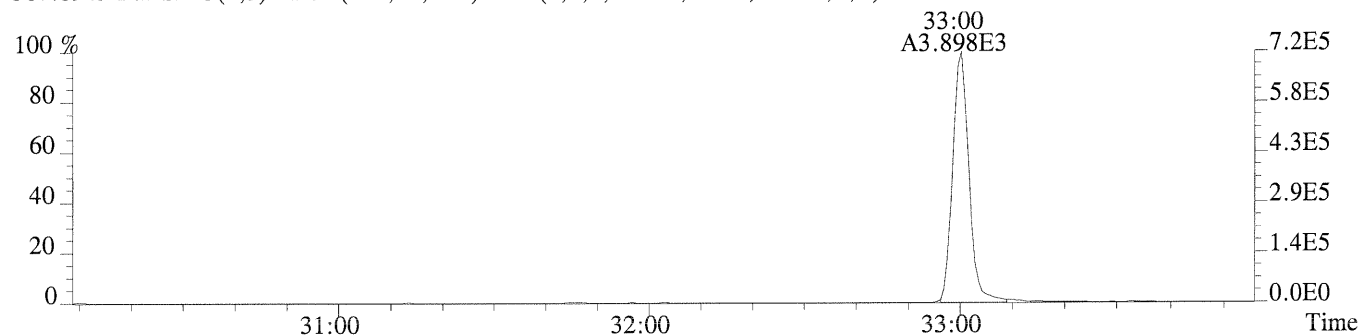
File:P173109 #1-344 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



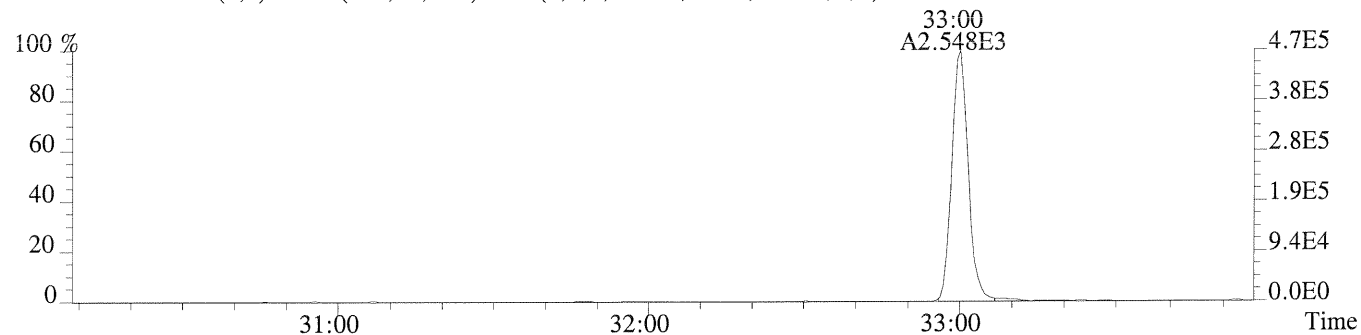
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



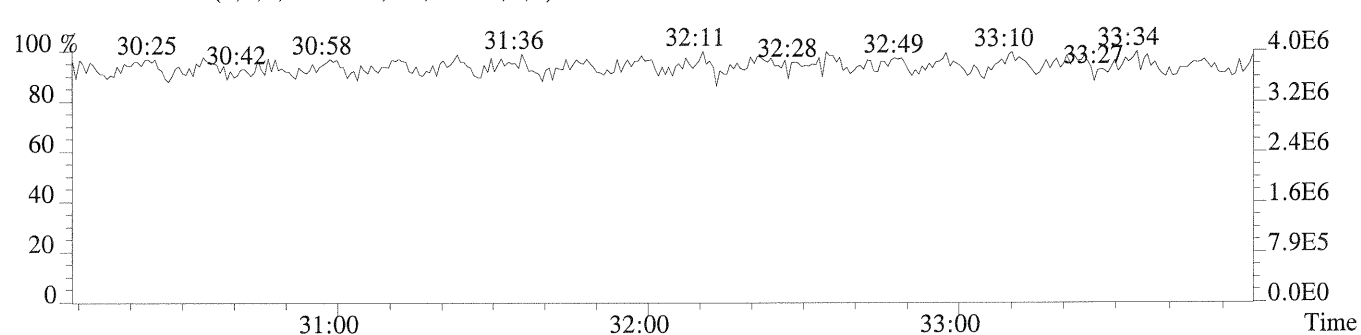
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)

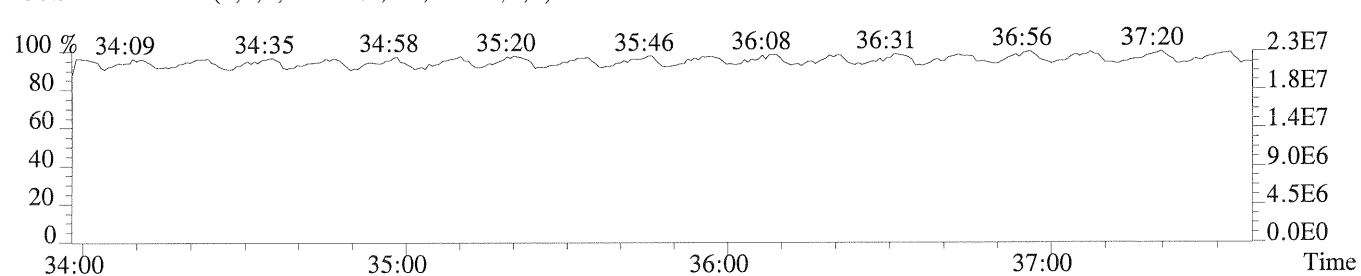
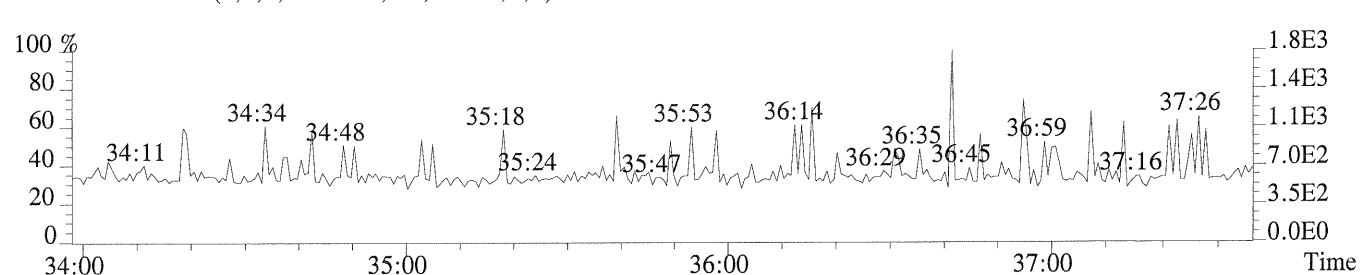
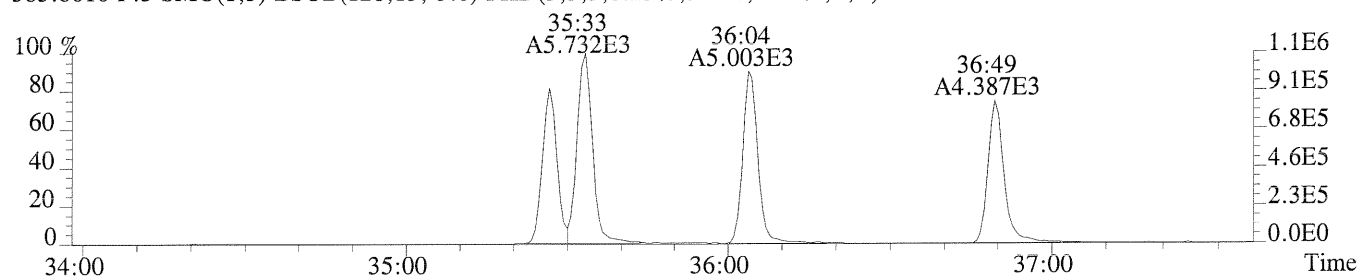
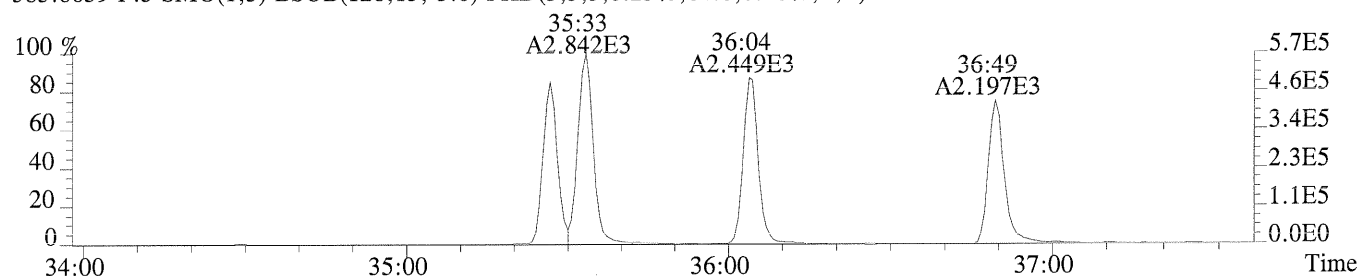
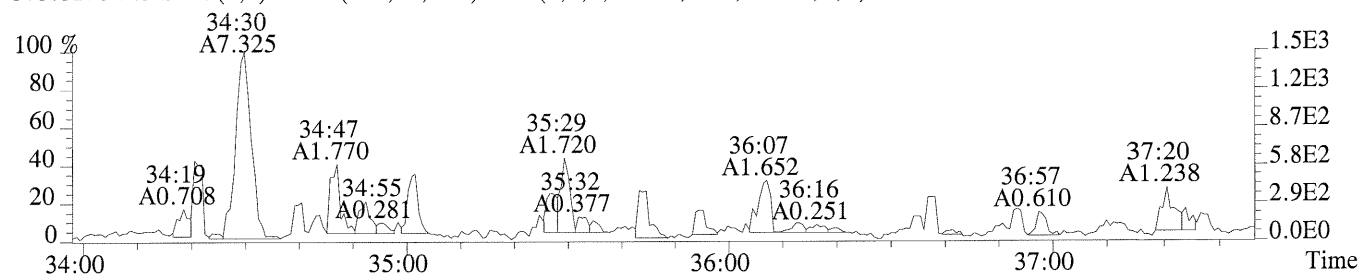
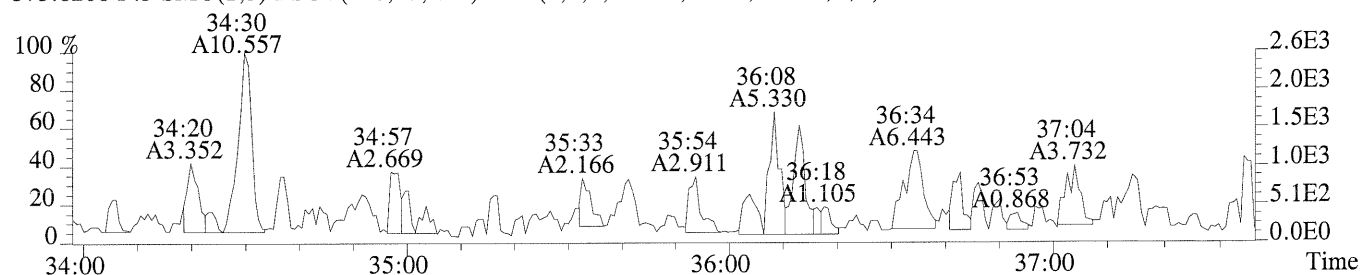


369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)

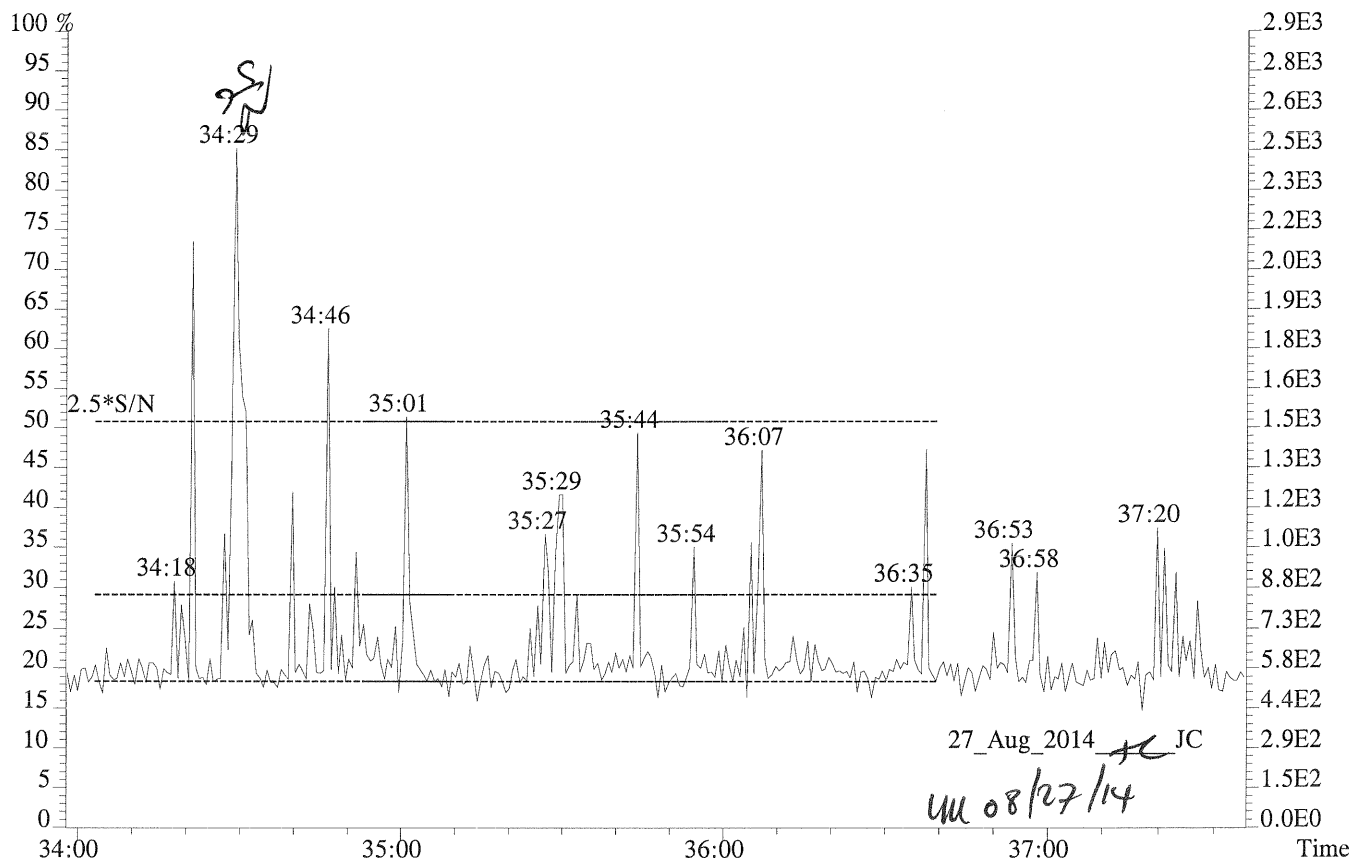
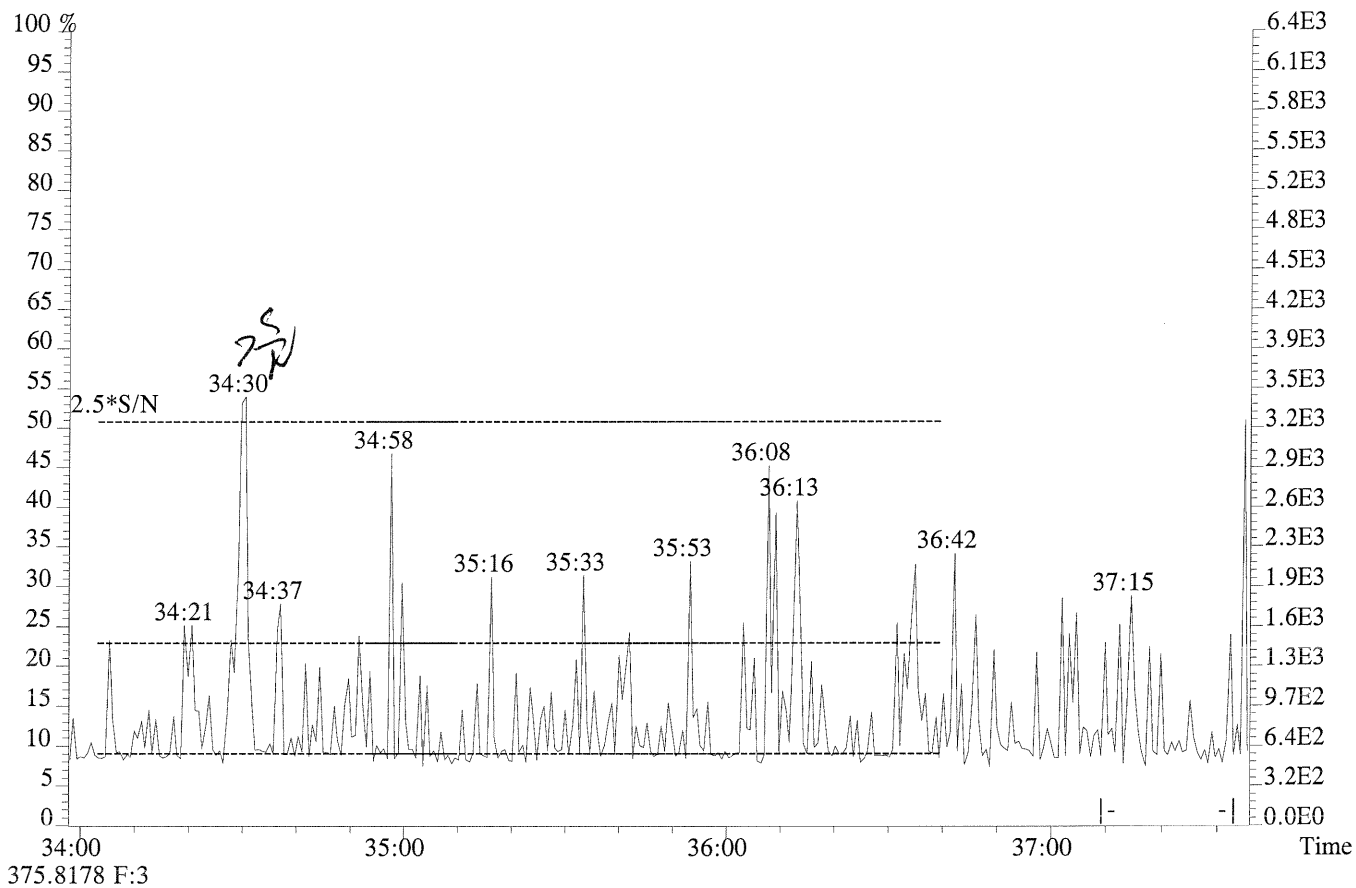


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

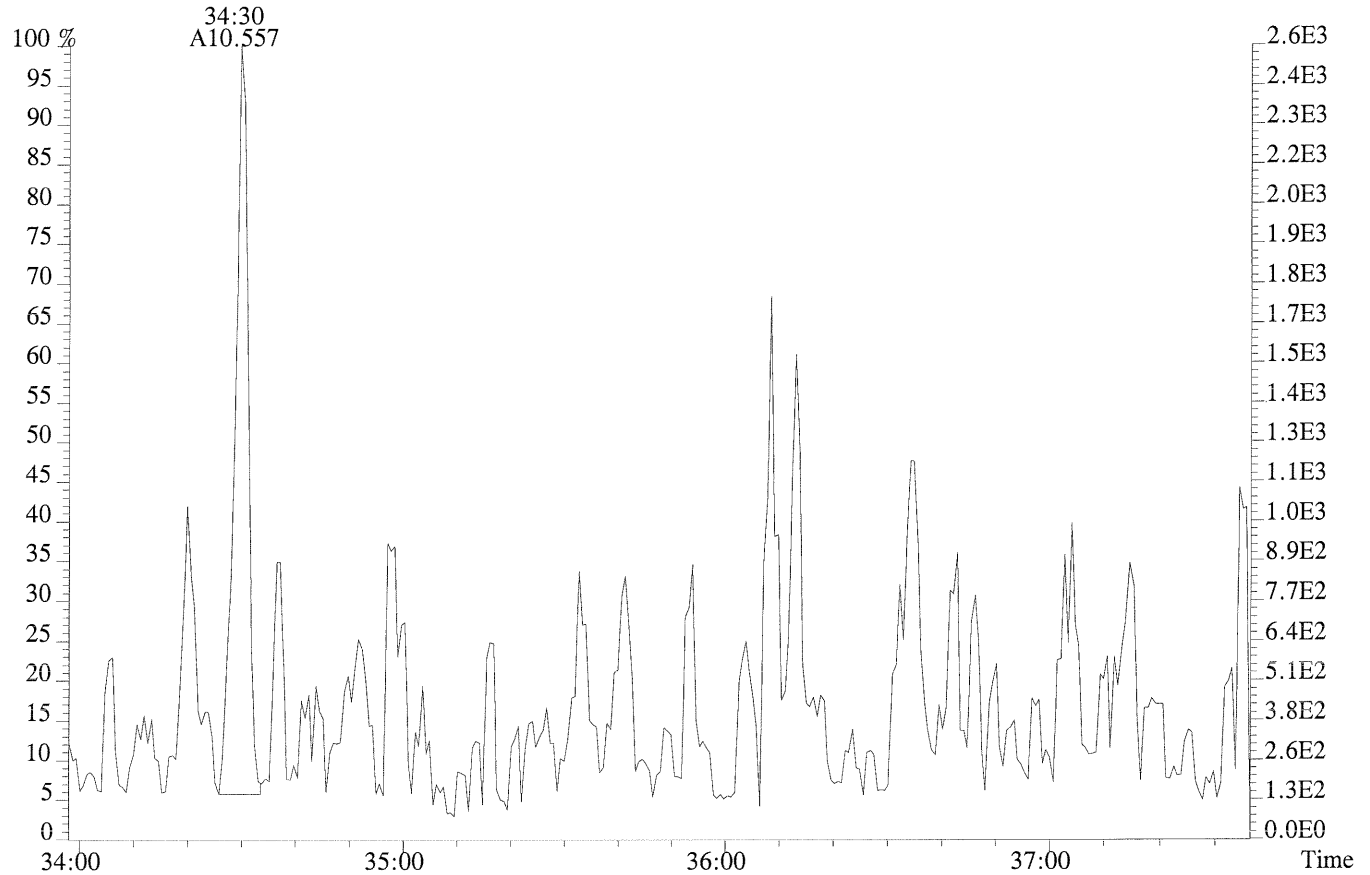




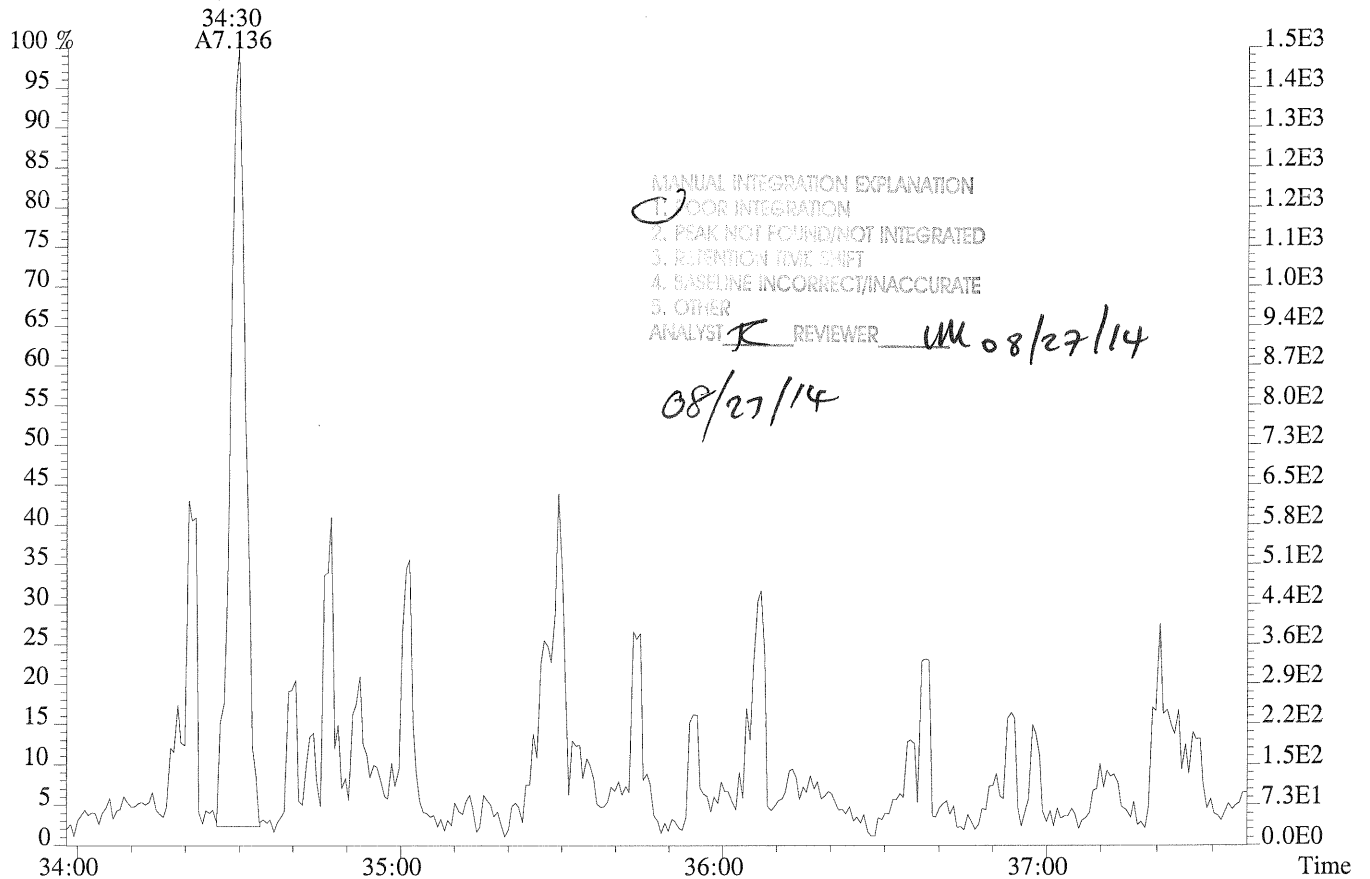




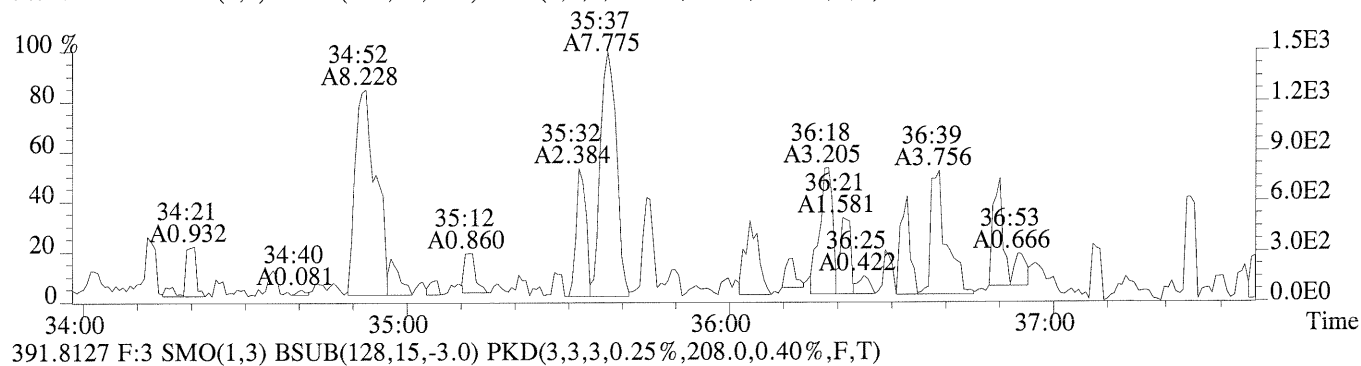
File:P173109 #1-331 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



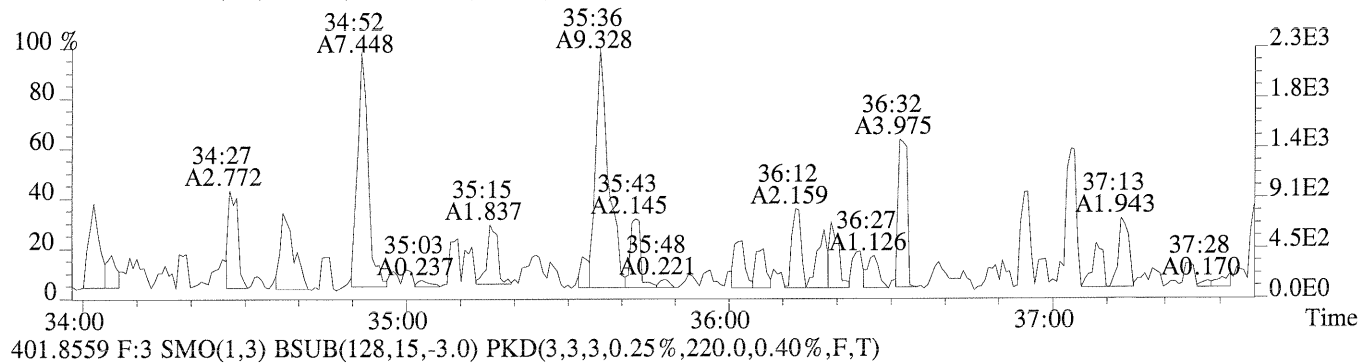
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)



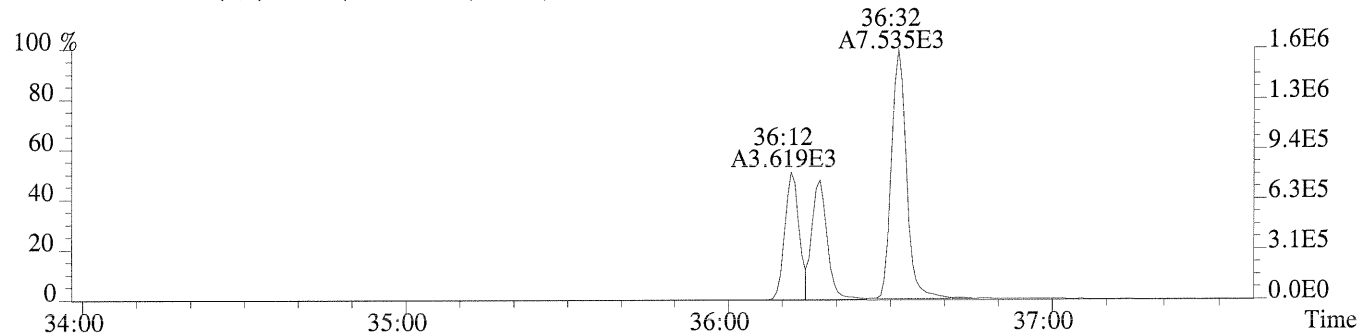
File:P173109 #1-331 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-001  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)



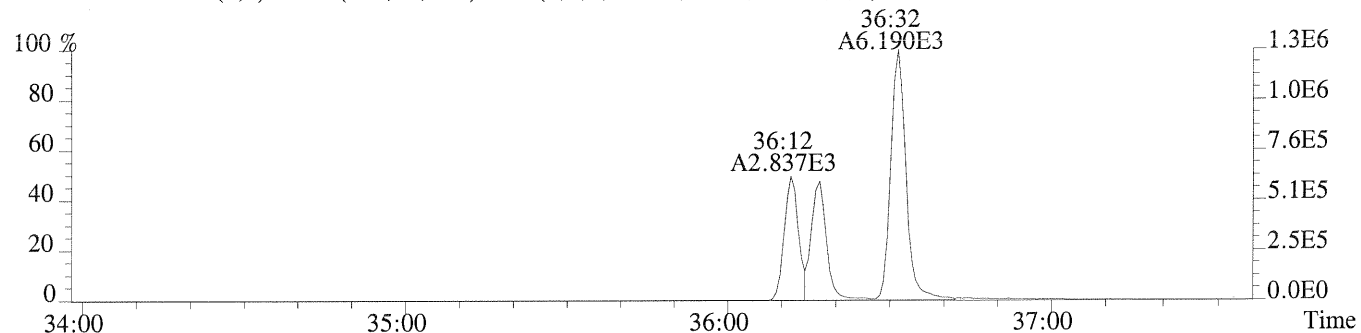
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,T)



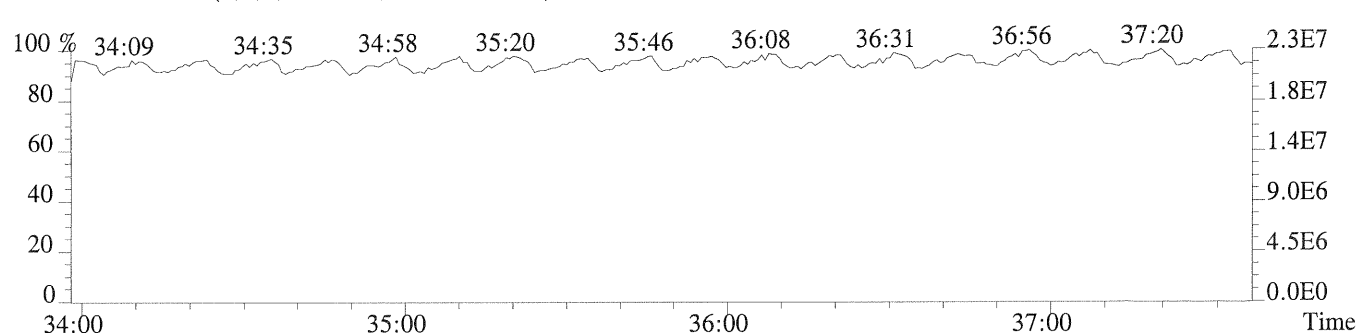
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)

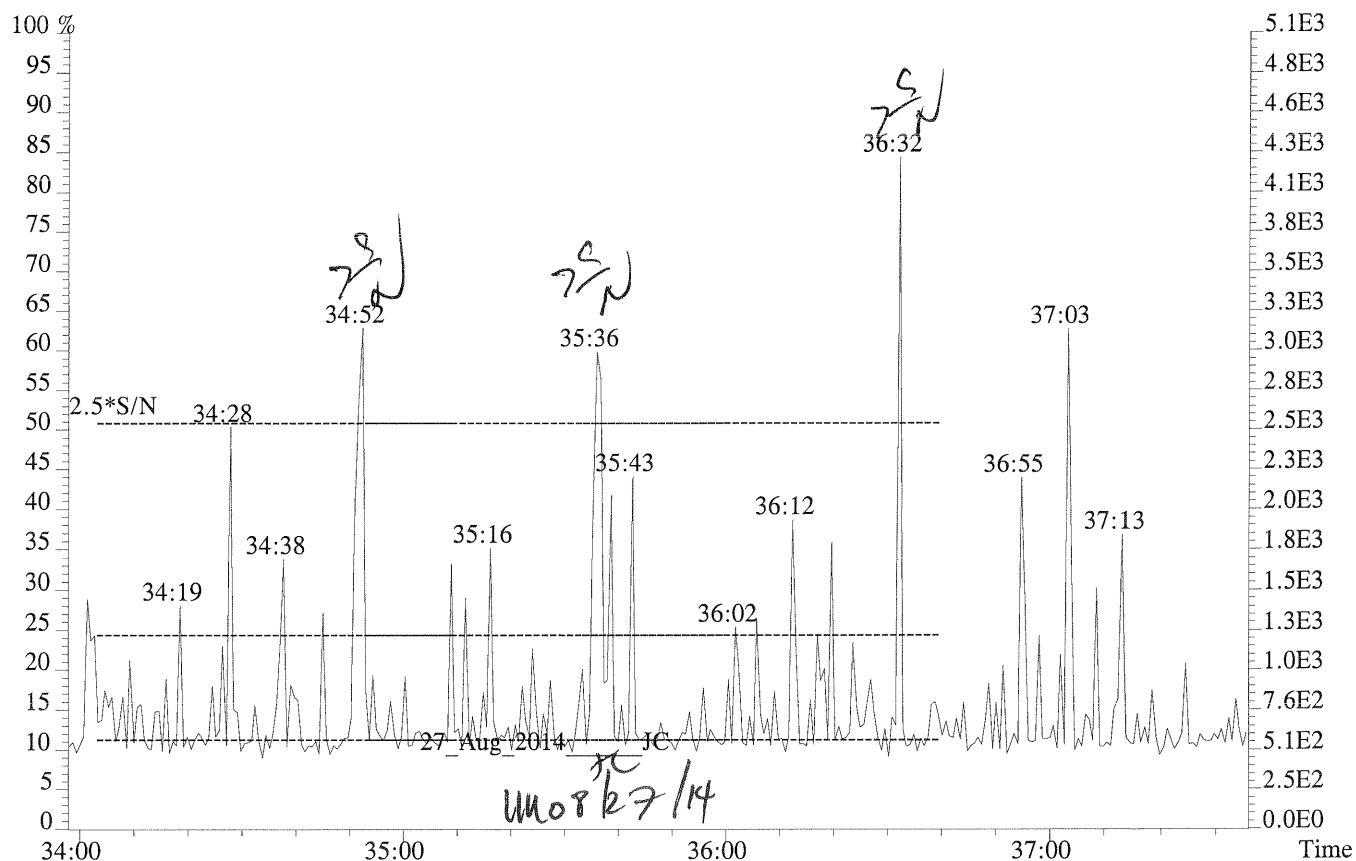
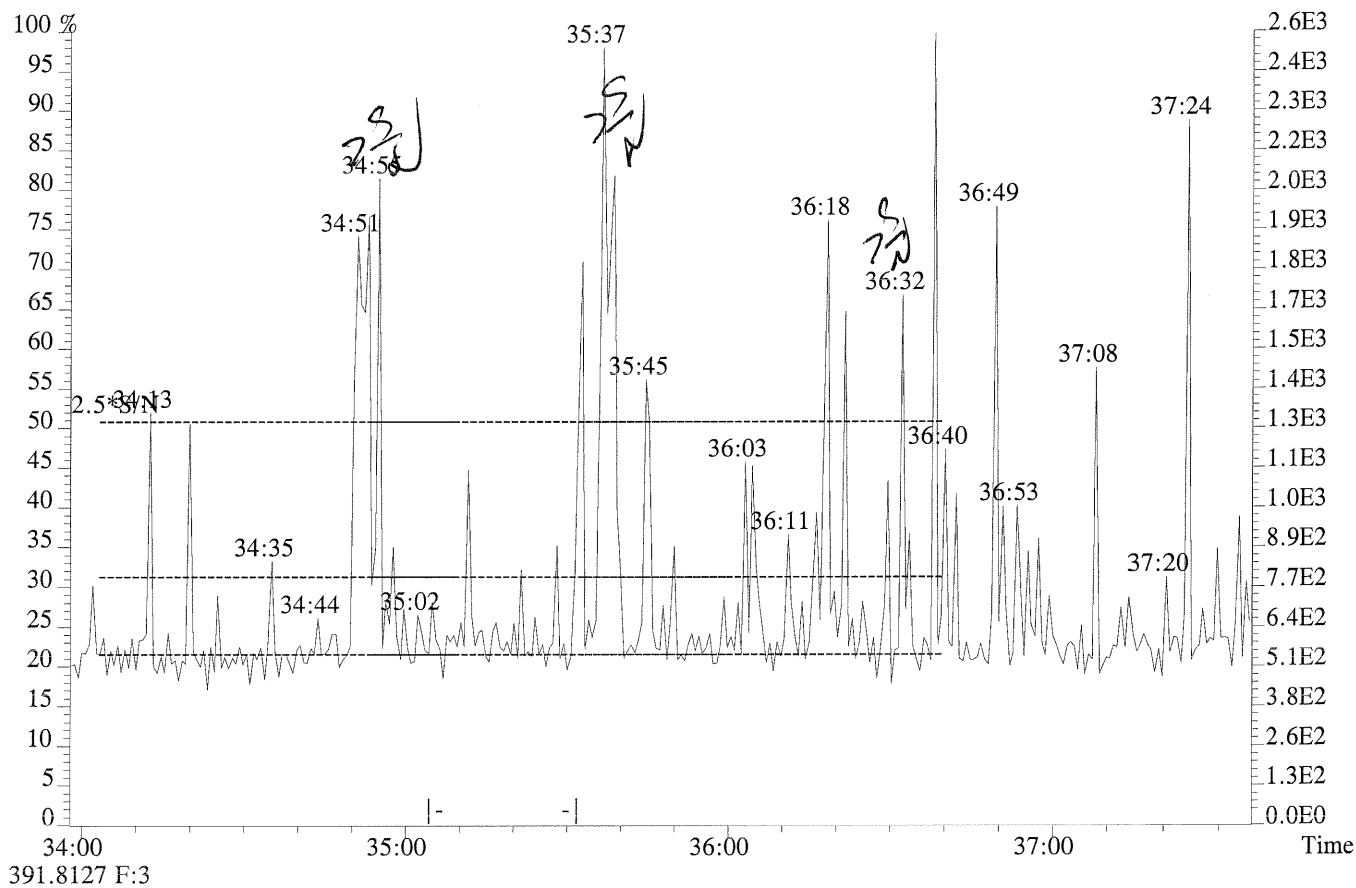


403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,188.0,0.40%,F,T)

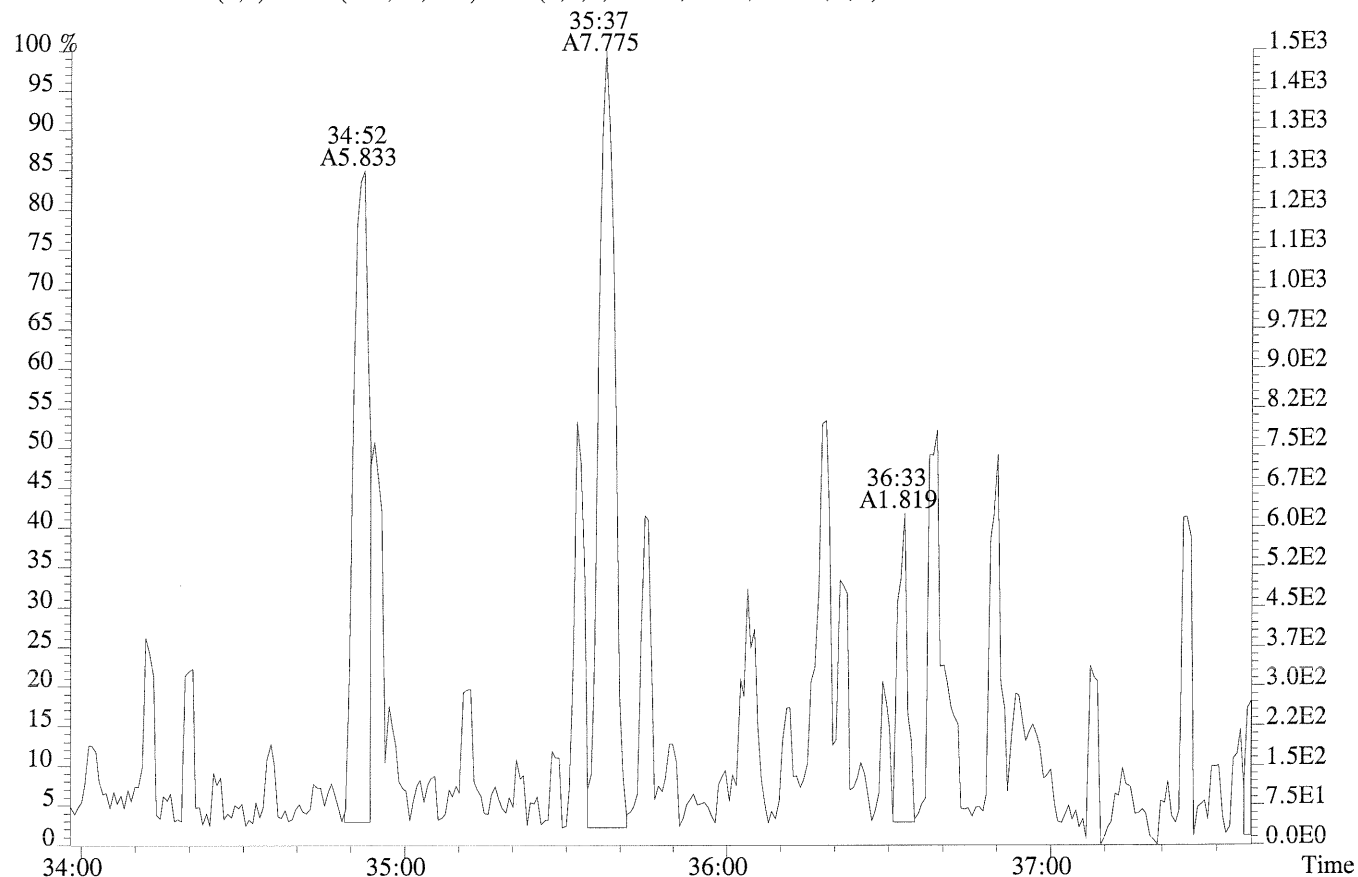


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

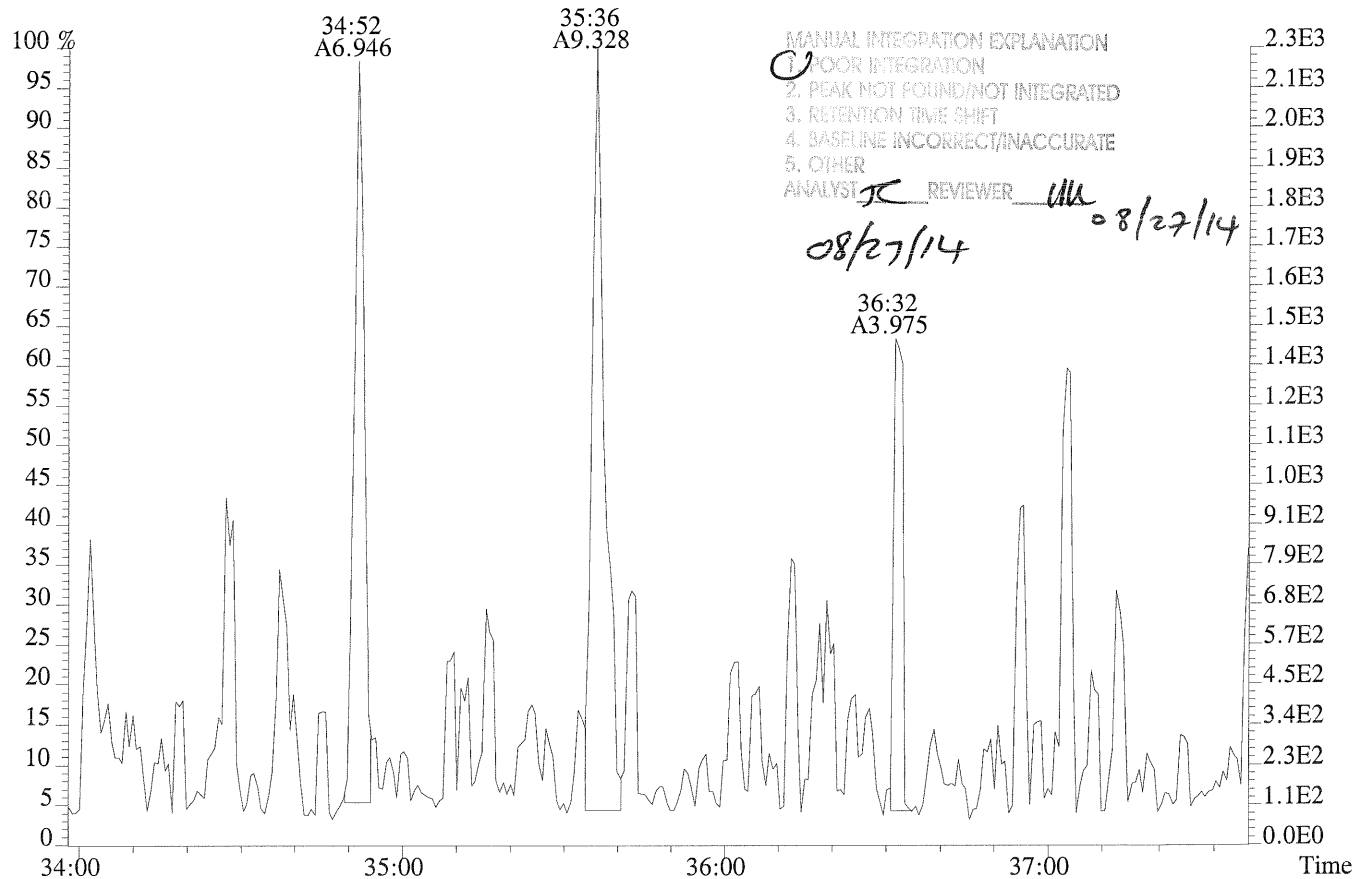




File:P173109 #1-331 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-001  
 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)

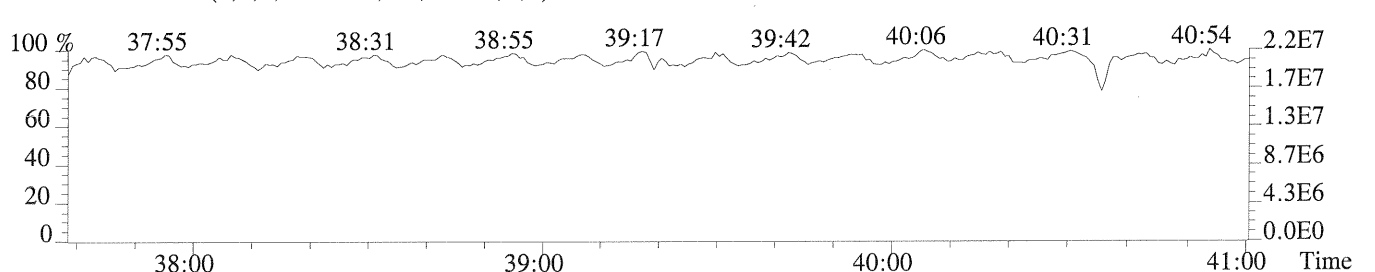
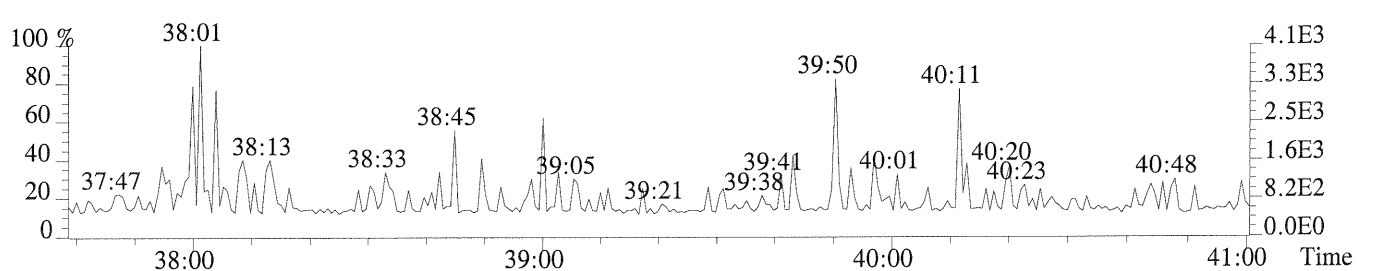
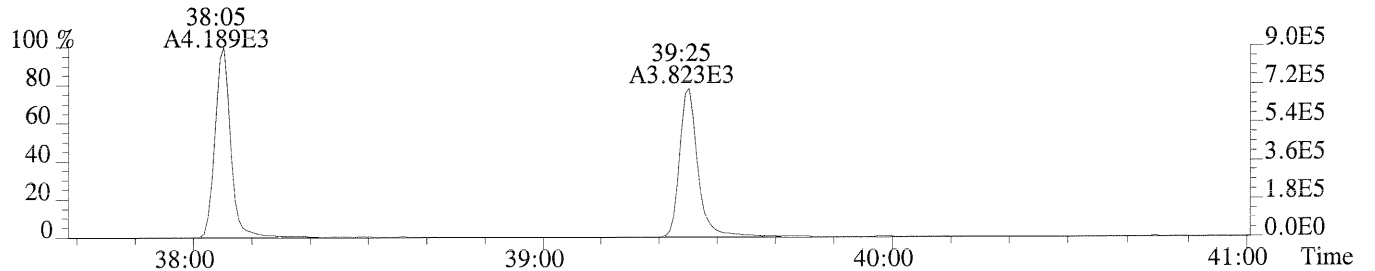
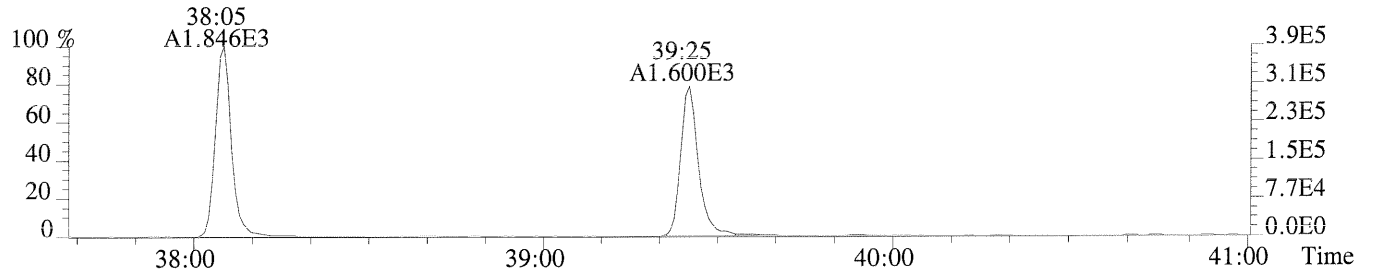
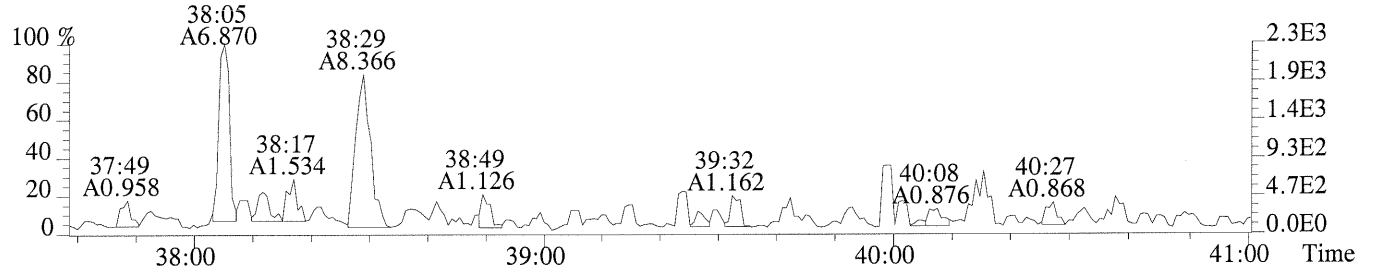
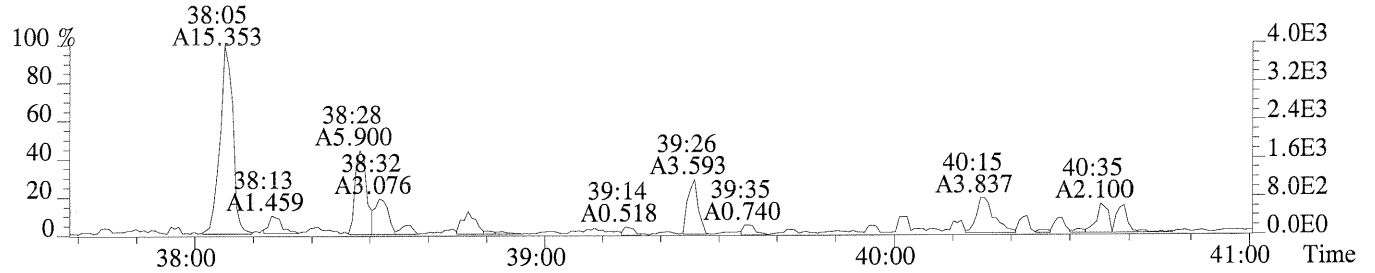


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,T)

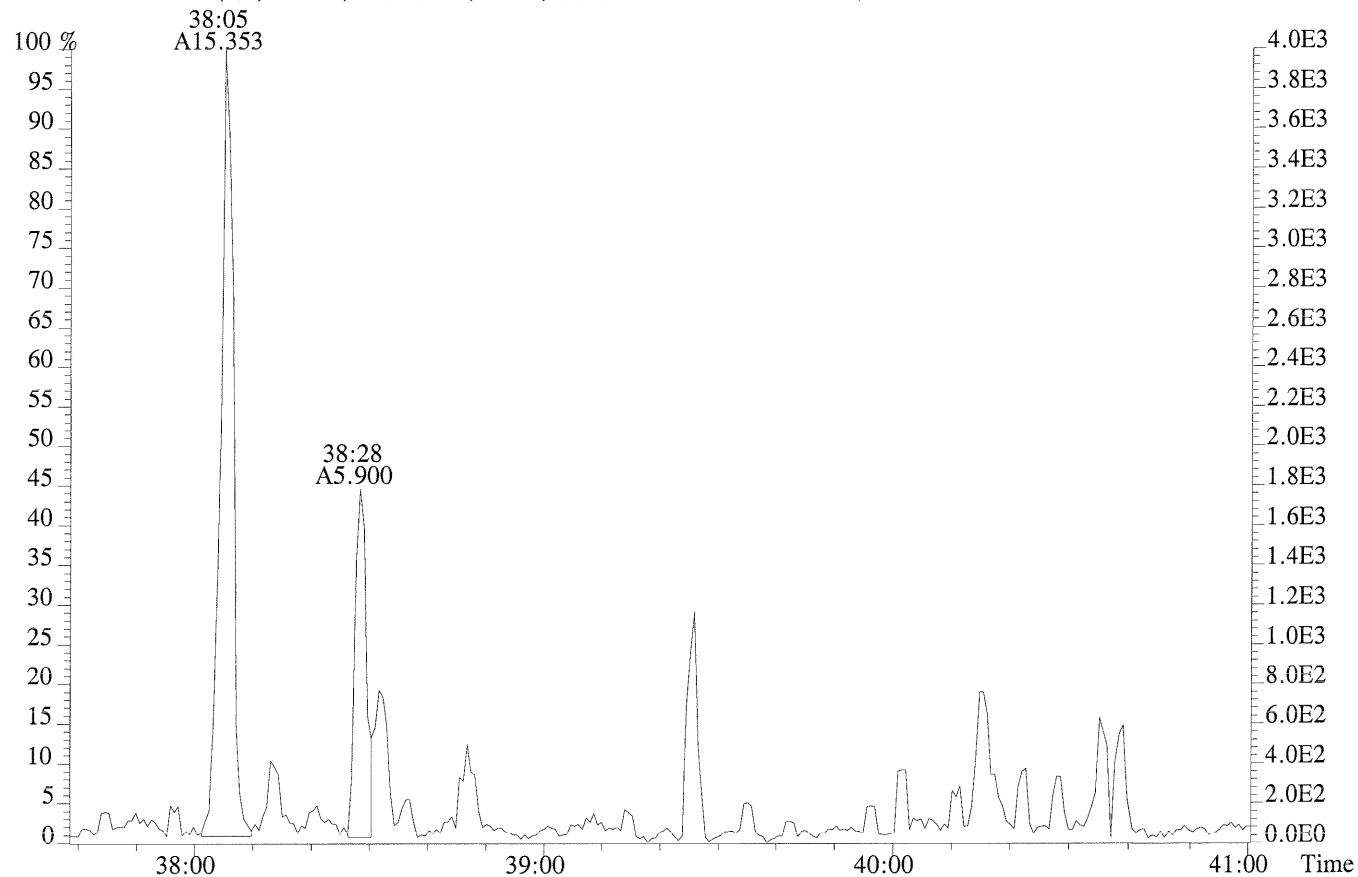


MANUAL INTEGRATION EXPLANATION  
 1. POOR INTEGRATION  
 2. PEAK NOT FOUND/NOT INTEGRATED  
 3. RETENTION TIME SHIFT  
 4. BASELINE INCORRECT/INACCURATE  
 5. OTHER  
 ANALYST *JC* REVIEWER *UMA*

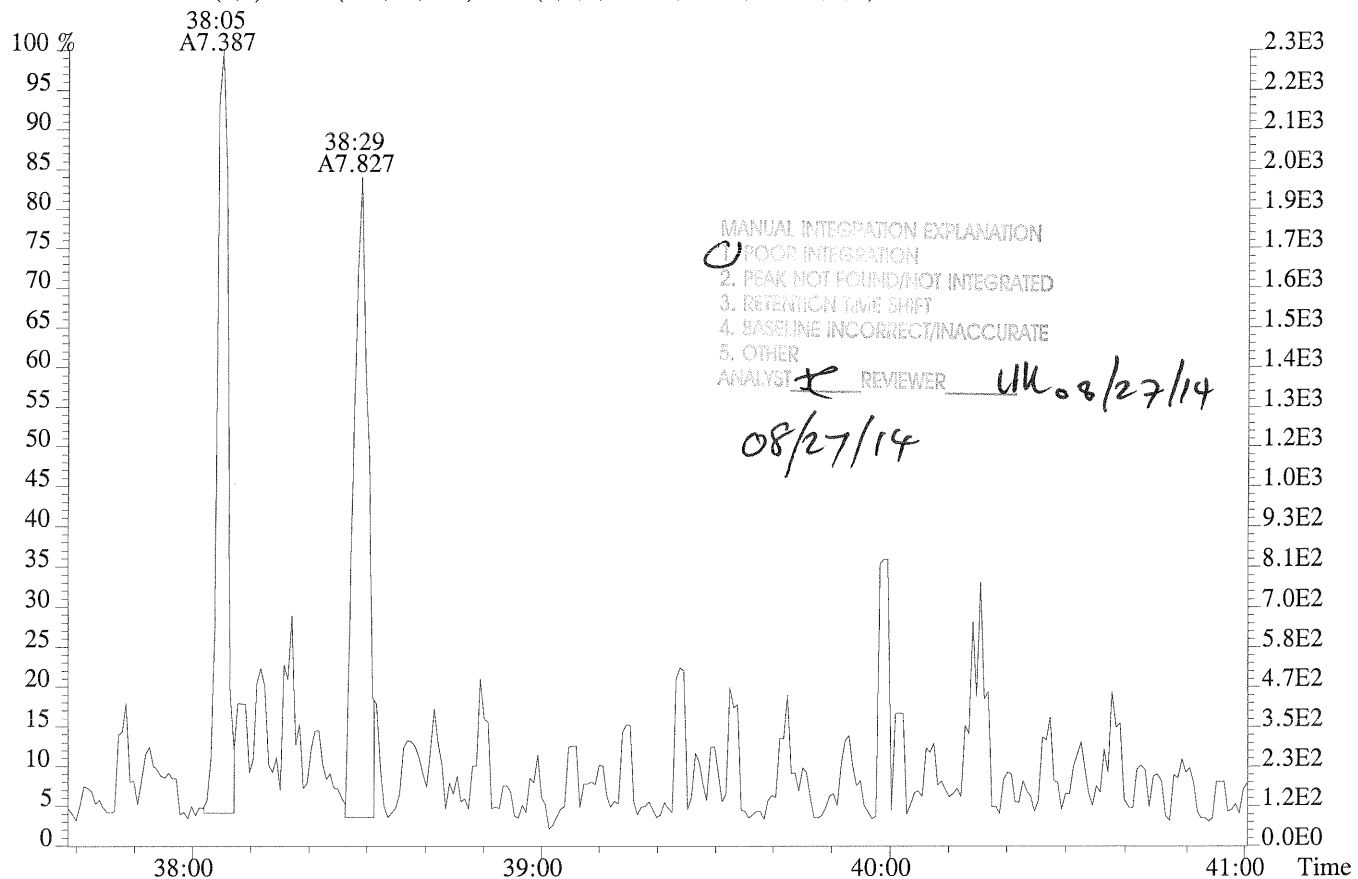
*08/27/14* *08/27/14*



File:P173109 #1-306 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.50%,F,T)

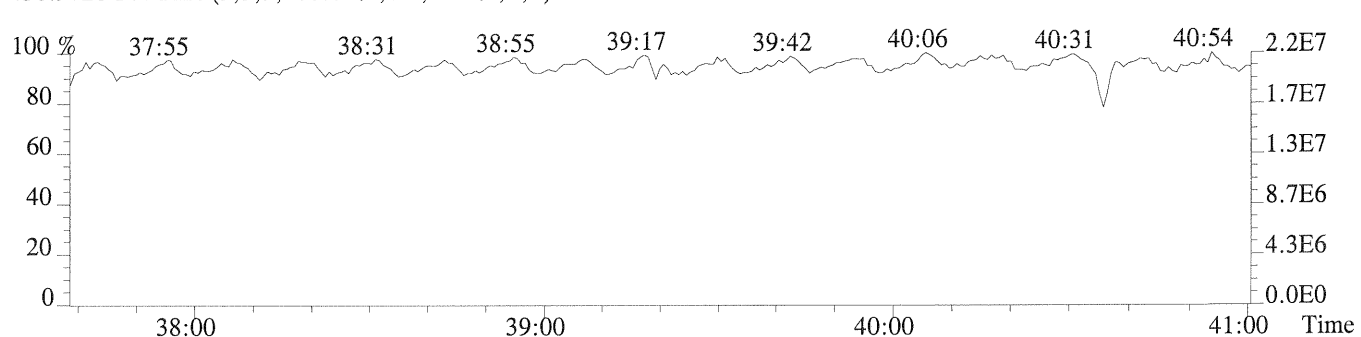
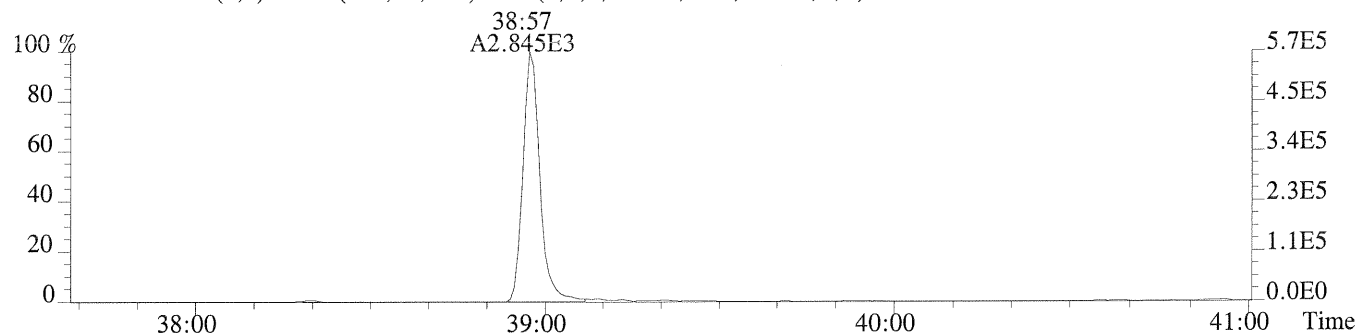
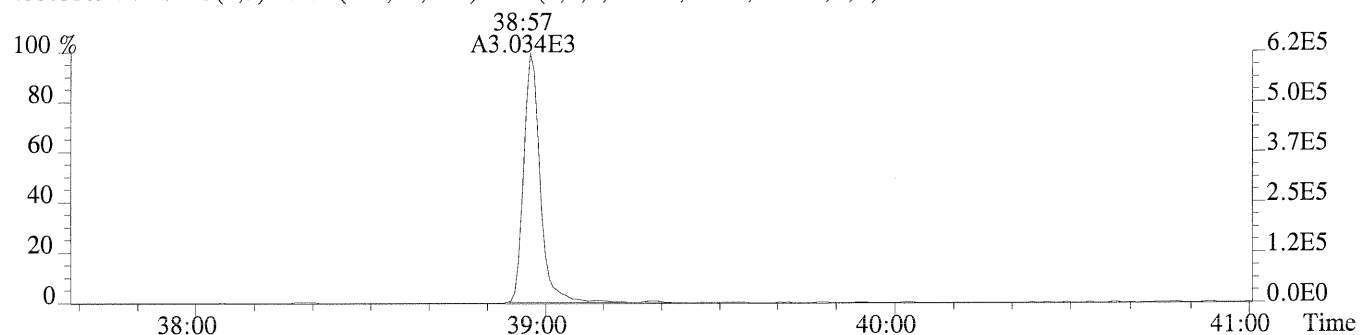
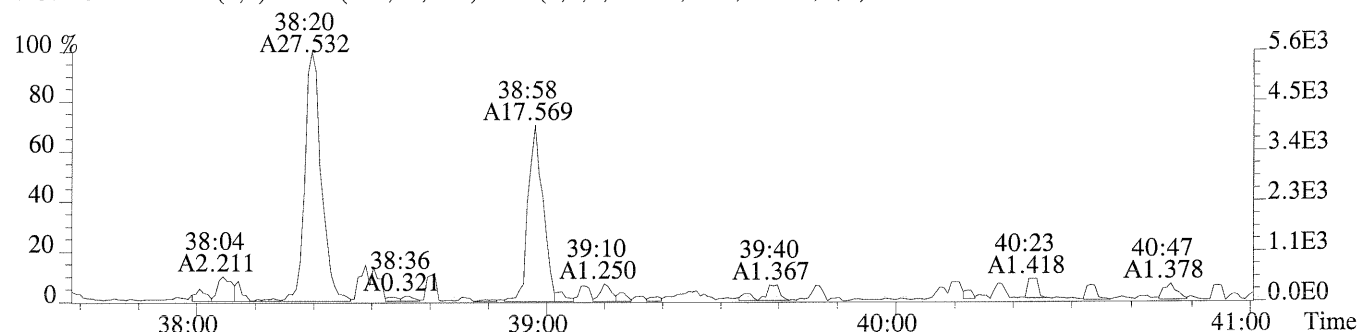
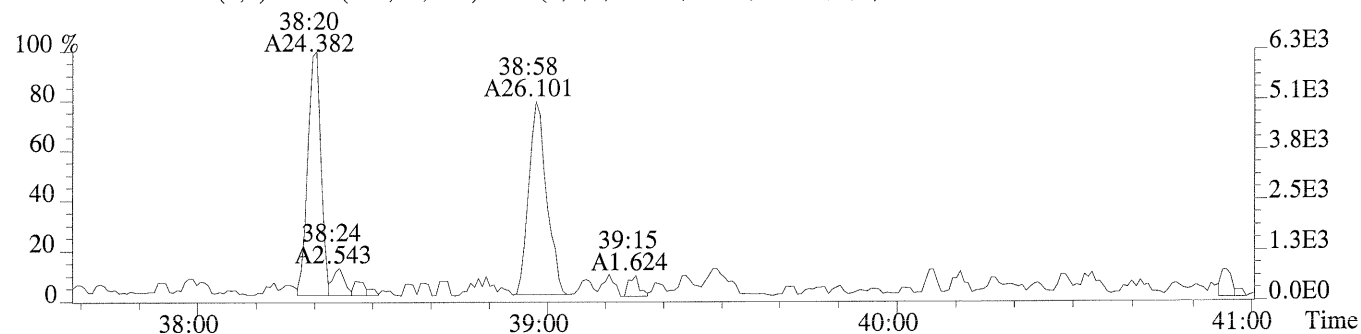


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.50%,F,T)



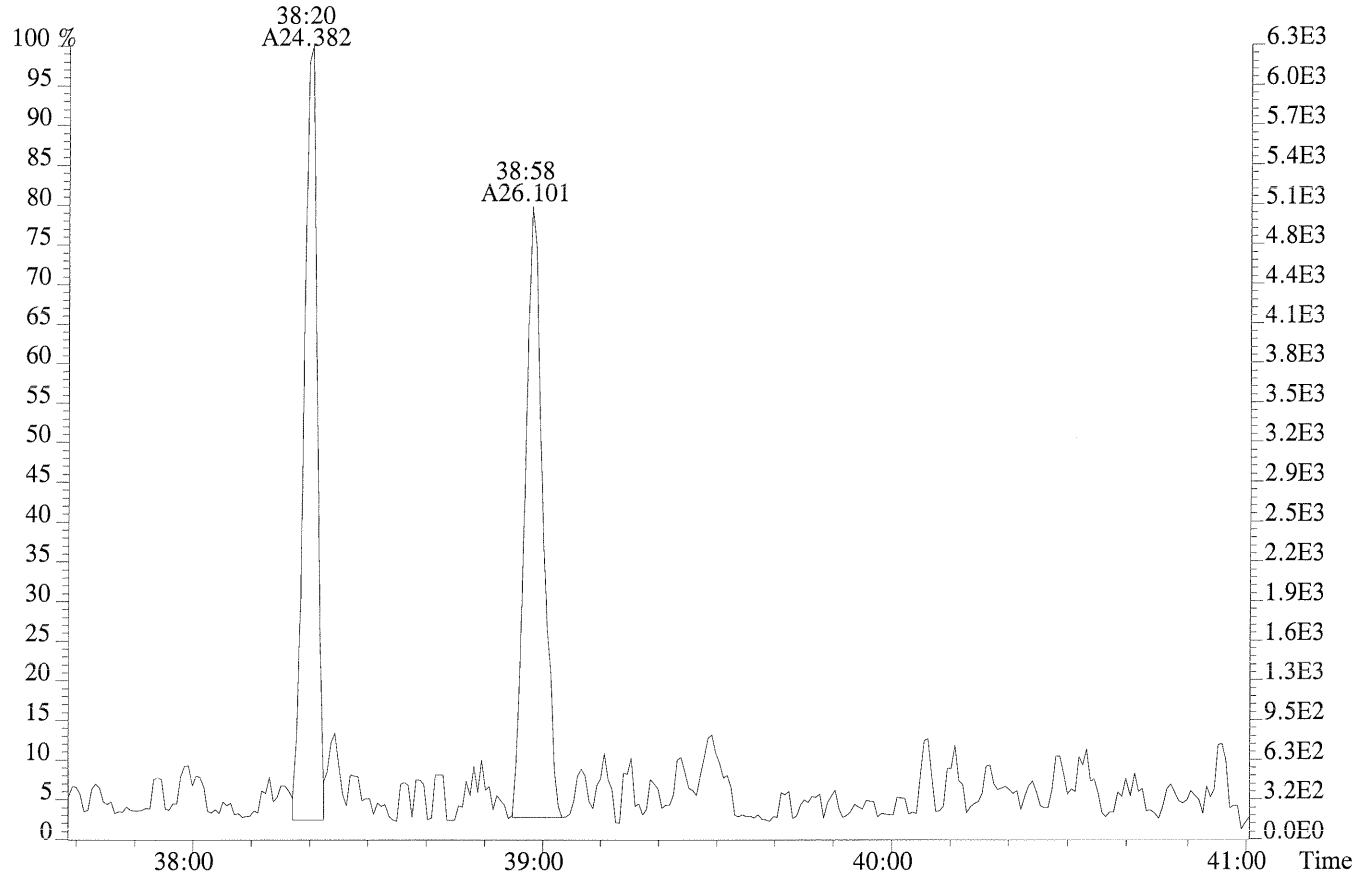
MANUAL INTEGRATION EXPLANATION  
1. POOR INTEGRATION  
2. PEAK NOT FOUND/HOT INTEGRATED  
3. RETENTION TIME SHIFT  
4. BASELINE INCORRECT/INACCURATE  
5. OTHER  
ANALYST *[Signature]* REVIEWER *UK 08/27/14*

*08/27/14*

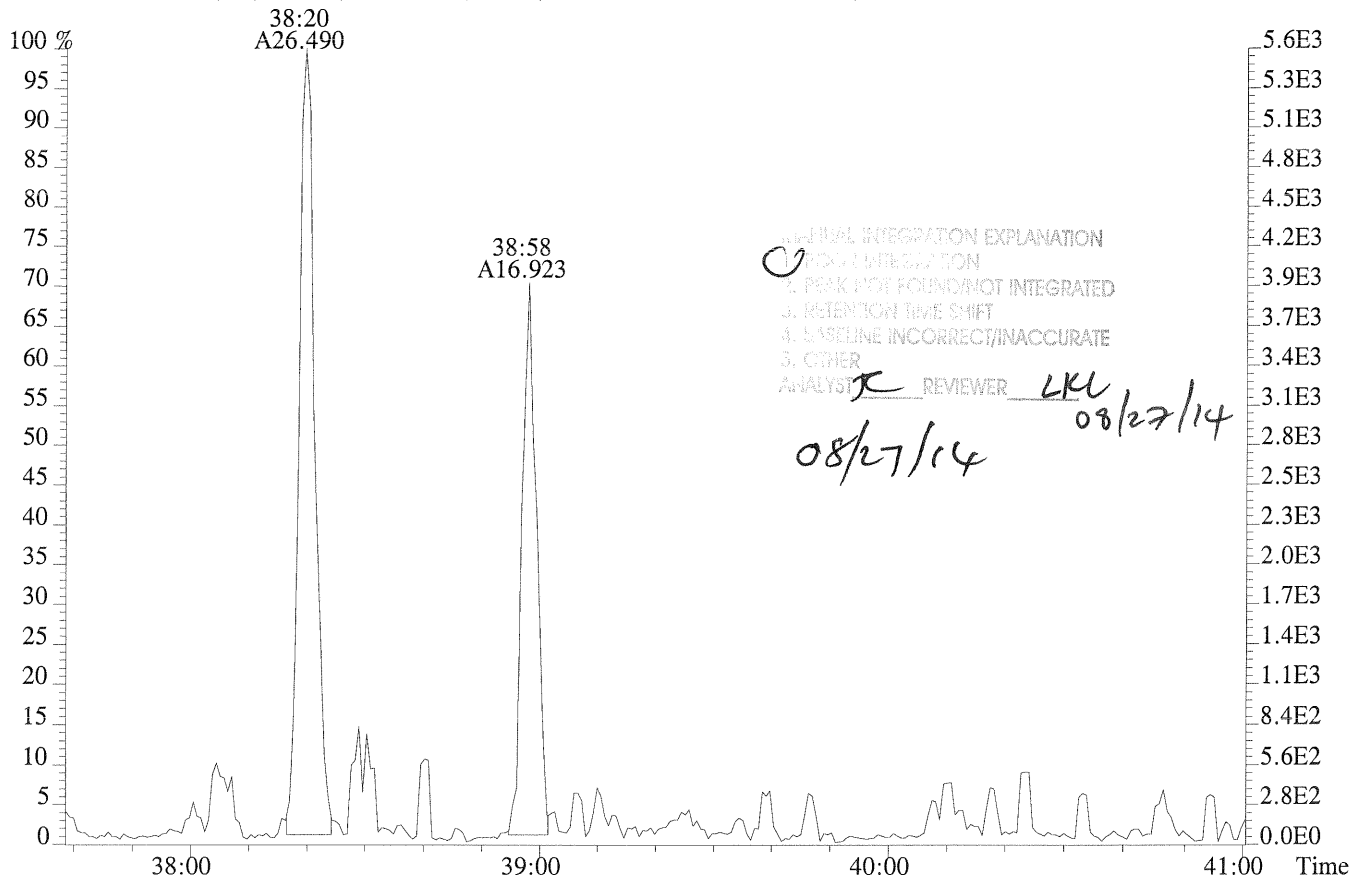




File:P173109 #1-306 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-001  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,388.0,0.40%,F,T)



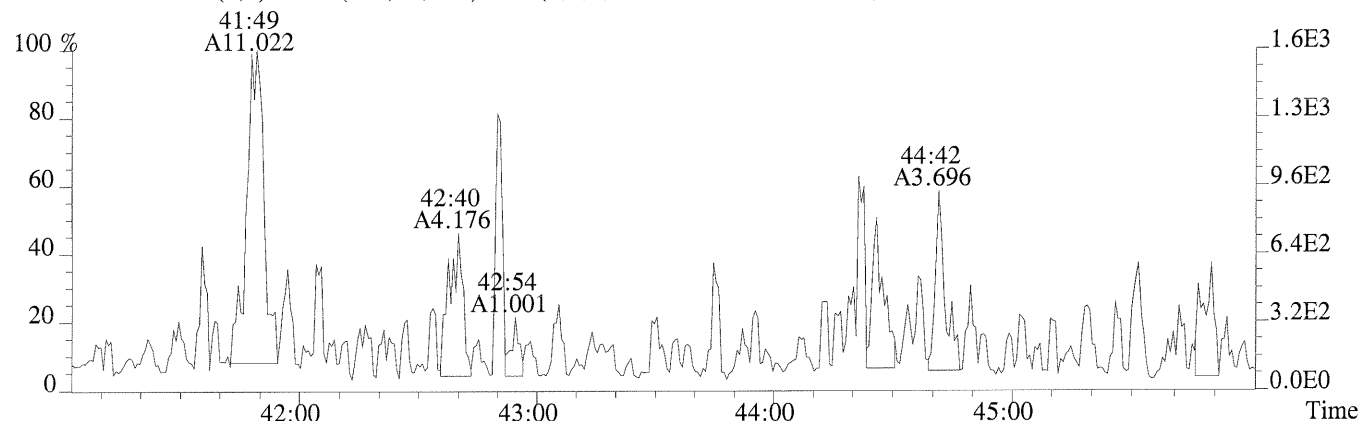
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,T)



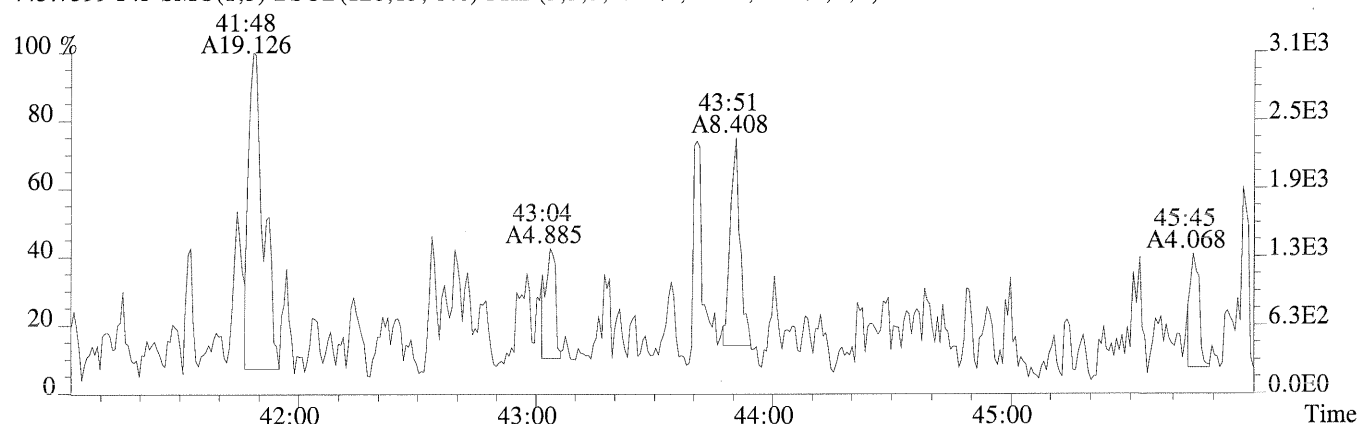
File:P173109 #1-456 Acq:26-AUG-2014 18:37:44 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-001

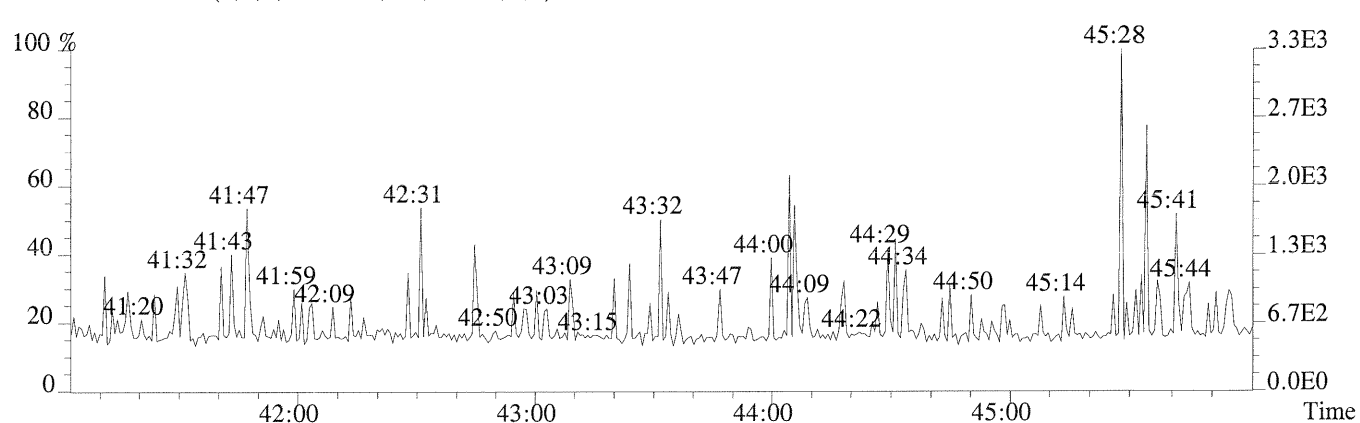
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,184.0,0.40%,F,T)



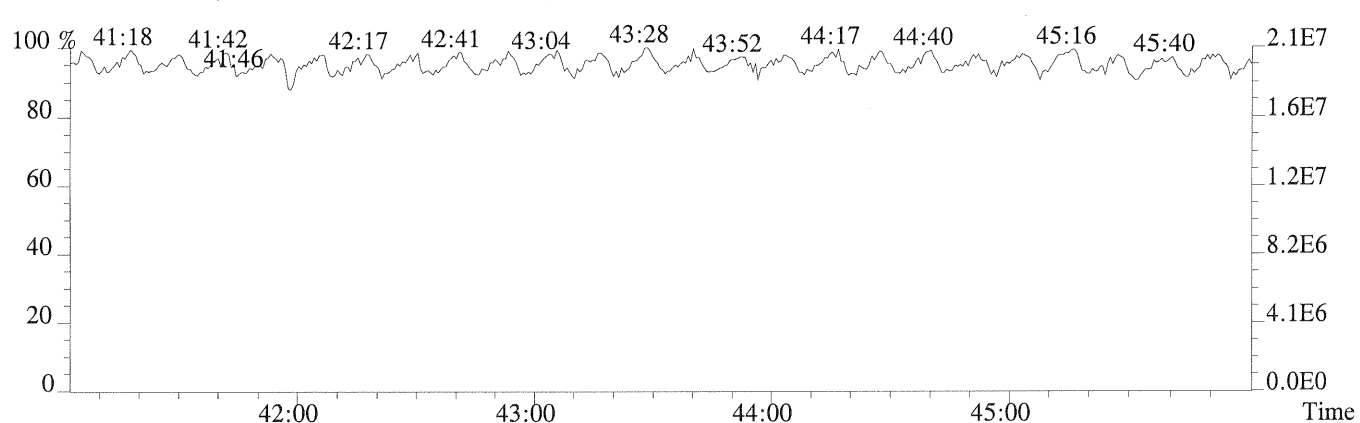
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,560.0,0.40%,F,T)

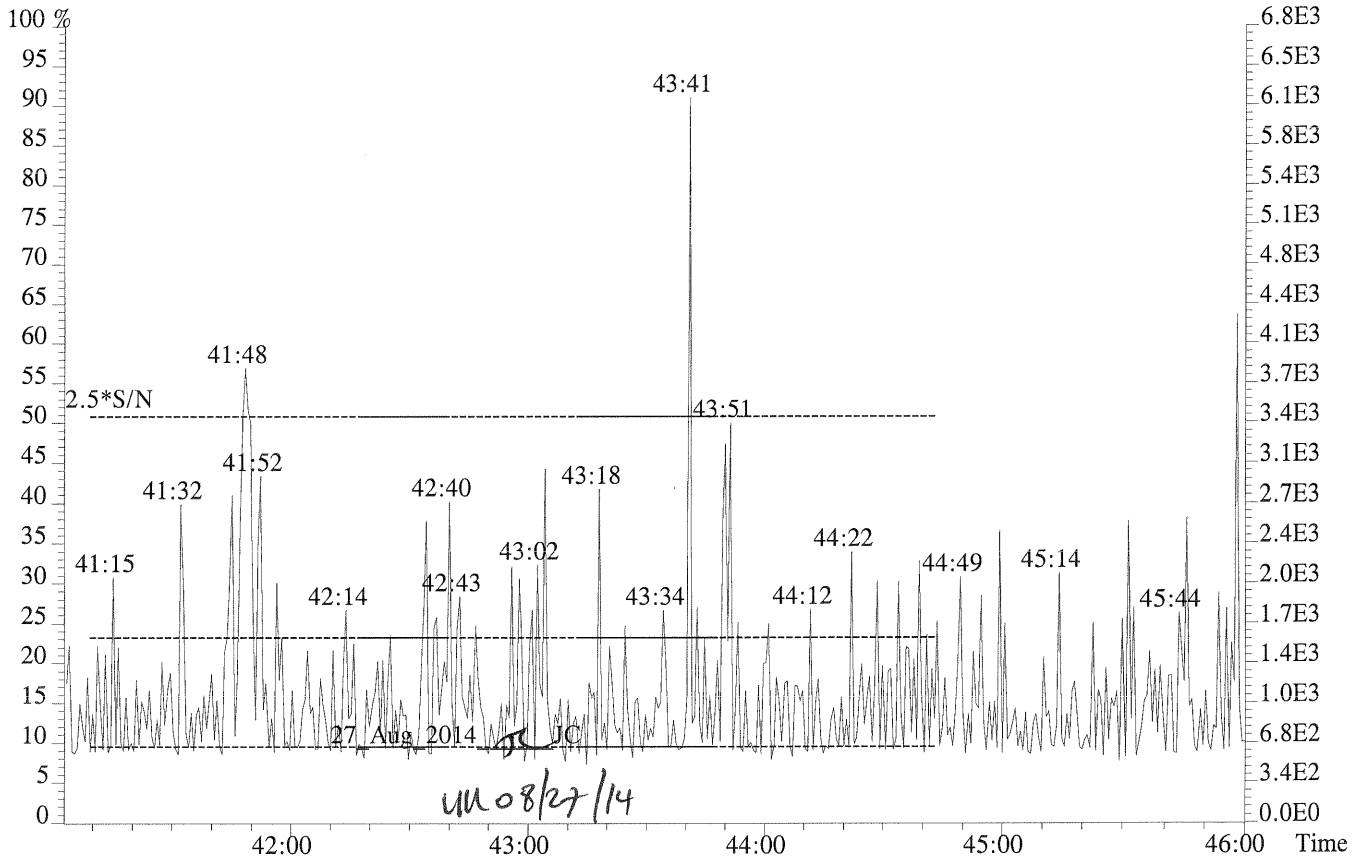
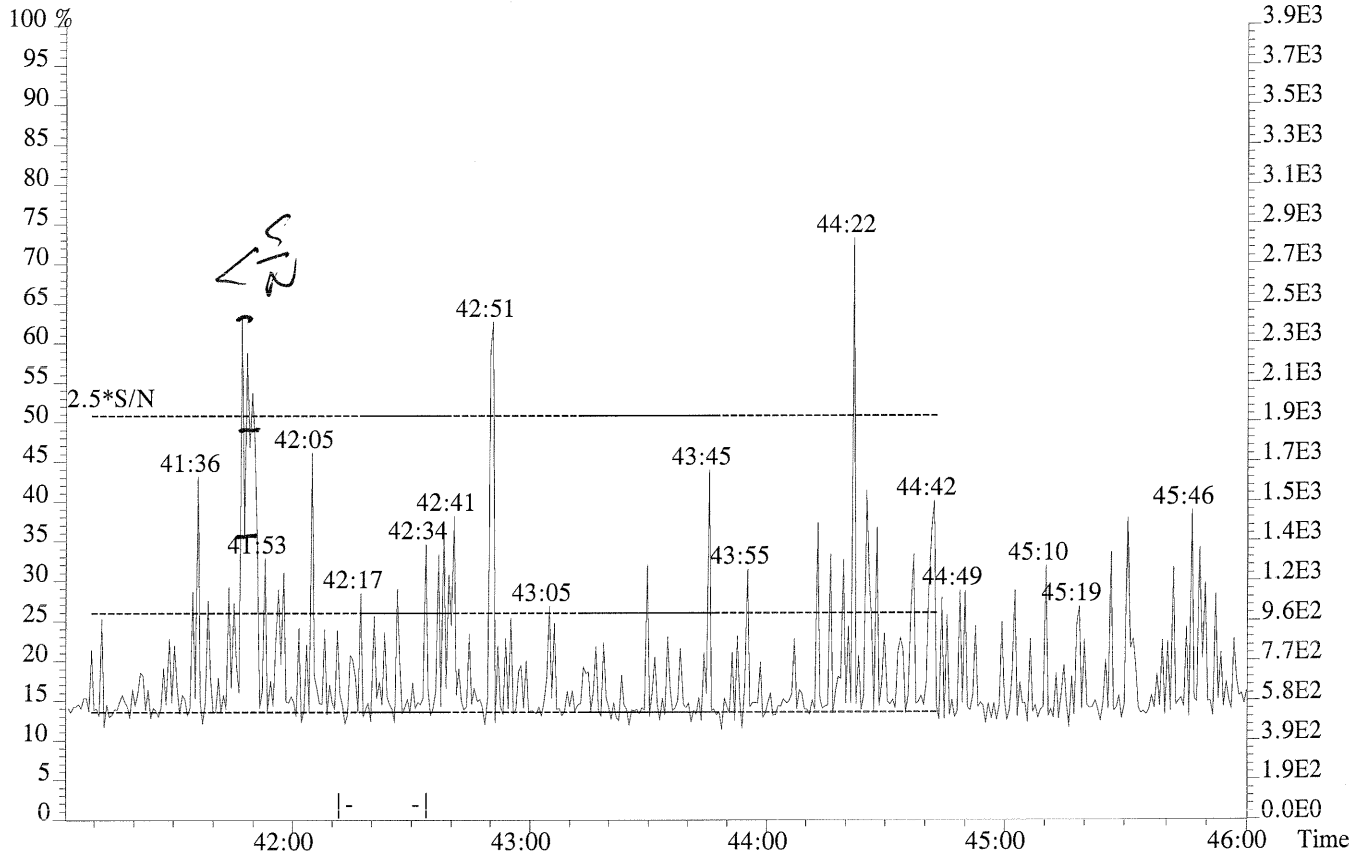


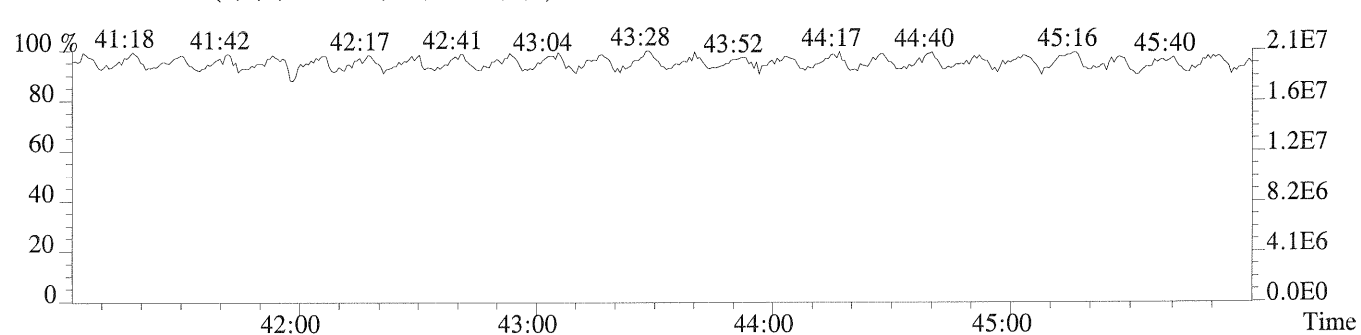
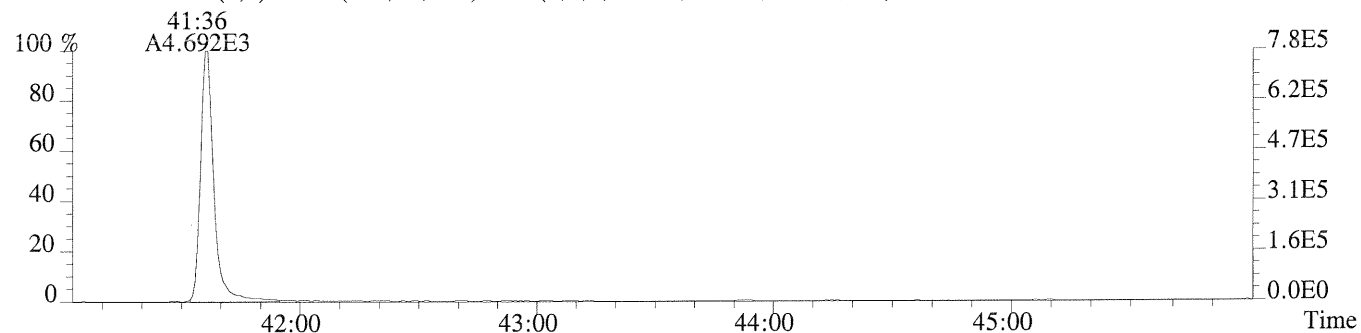
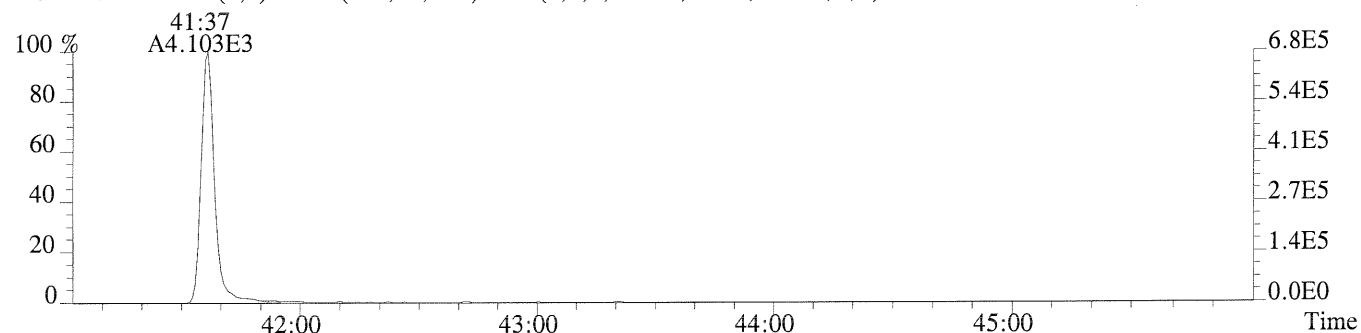
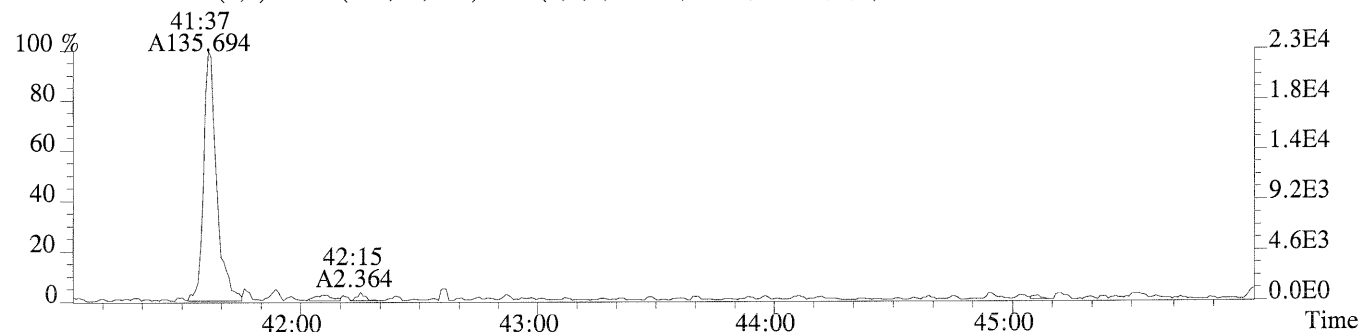
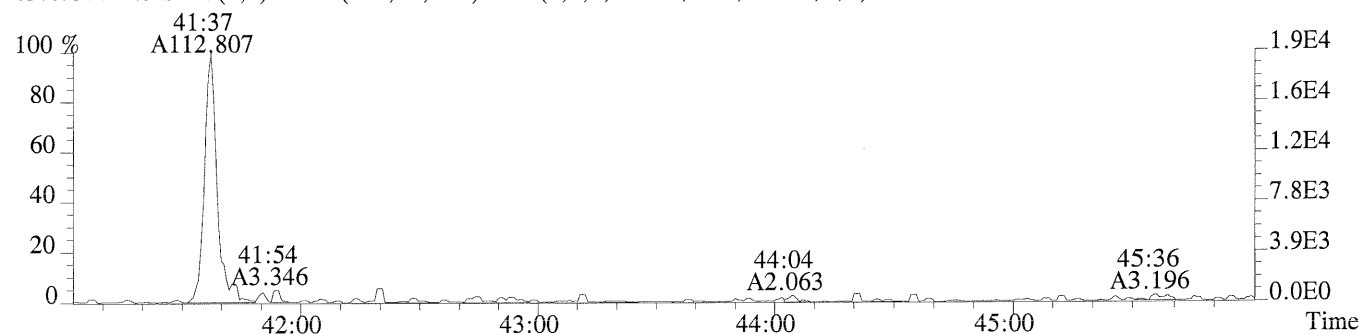
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)









ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV PRETEST REP.2

Run #16 Filename P173110 Samp: 1 Inj: 1 Acquired: 26-AUG-14 19:25:52  
Processed: 27-AUG-14 09:32:131 LAB. ID: K1407971-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.60e+02	*	*	8.84e+02	*
2	1,2,3,7,8-PeCDF	*	1.00e+02	*	*	3.20e+02	*
3	2,3,4,7,8-PeCDF	*	1.00e+02	*	*	3.20e+02	*
4	1,2,3,4,7,8-HxCDF	*	1.84e+02	*	*	8.40e+01	*
5	1,2,3,6,7,8-HxCDF	*	1.84e+02	*	*	8.40e+01	*
6	2,3,4,6,7,8-HxCDF	*	1.84e+02	*	*	8.40e+01	*
7	1,2,3,7,8,9-HxCDF	*	1.84e+02	*	*	8.40e+01	*
8	1,2,3,4,6,7,8-HpCDF	2.71e+03	9.20e+01	2.9e+01	1.99e+03	1.16e+02	1.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	9.20e+01	*	*	1.16e+02	*
10	OCDF	1.92e+03	1.00e+02	1.9e+01	2.00e+03	4.44e+02	4.5e+00
11	2,3,7,8-TCDD	*	4.24e+02	*	*	5.04e+02	*
12	1,2,3,7,8-PeCDD	*	6.12e+02	*	*	1.00e+02	*
13	1,2,3,4,7,8-HxCDD	*	9.20e+01	*	*	1.44e+02	*
14	1,2,3,6,7,8-HxCDD	*	9.20e+01	*	*	1.44e+02	*
15	1,2,3,7,8,9-HxCDD	*	9.20e+01	*	*	1.44e+02	*
16	1,2,3,4,6,7,8-HpCDD	3.70e+03	1.92e+02	1.9e+01	4.04e+03	6.40e+01	6.3e+01
17	OCDD	1.97e+04	8.80e+01	2.2e+02	2.18e+04	8.40e+01	2.6e+02
18	13C-2,3,7,8-TCDF	2.63e+05	5.12e+02	5.1e+02	3.35e+05	4.52e+02	7.4e+02
19	13C-1,2,3,7,8-PeCDF	5.77e+05	1.32e+02	4.4e+03	3.44e+05	2.12e+02	1.6e+03
20	13C-2,3,4,7,8-PeCDF	6.25e+05	1.32e+02	4.7e+03	3.87e+05	2.12e+02	1.8e+03
21	13C-1,2,3,4,7,8-HxCDF	3.64e+05	1.68e+02	2.2e+03	7.48e+05	5.32e+02	1.4e+03
22	13C-1,2,3,6,7,8-HxCDF	4.57e+05	1.68e+02	2.7e+03	9.03e+05	5.32e+02	1.7e+03
23	13C-2,3,4,6,7,8-HxCDF	3.81e+05	1.68e+02	2.3e+03	8.00e+05	5.32e+02	1.5e+03
24	13C-1,2,3,7,8,9-HxCDF	3.58e+05	1.68e+02	2.1e+03	6.96e+05	5.32e+02	1.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.20e+05	6.92e+02	4.6e+02	7.59e+05	1.60e+02	4.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.70e+05	6.92e+02	3.9e+02	6.19e+05	1.60e+02	3.9e+03
27	13C-2,3,7,8-TCDD	2.20e+05	1.82e+03	1.2e+02	2.89e+05	8.12e+02	3.6e+02
28	13C-1,2,3,7,8-PeCDD	5.69e+05	3.96e+02	1.4e+03	3.56e+05	1.00e+02	3.6e+03
29	13C-1,2,3,4,7,8-HxCDD	6.49e+05	3.00e+02	2.2e+03	5.13e+05	1.04e+02	4.9e+03
30	13C-1,2,3,6,7,8-HxCDD	6.20e+05	3.00e+02	2.1e+03	4.85e+05	1.04e+02	4.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.47e+05	3.72e+02	1.5e+03	5.22e+05	8.40e+01	6.2e+03
32	13C-OCDD	6.76e+05	1.18e+03	5.7e+02	7.73e+05	3.88e+02	2.0e+03
33	13C-1,2,3,4-TCDD	6.55e+05	1.82e+03	3.6e+02	8.54e+05	8.12e+02	1.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.53e+06	3.00e+02	5.1e+03	1.20e+06	1.04e+02	1.2e+04
35	37Cl-2,3,7,8-TCDD	1.55e+05	3.88e+02	4.0e+02			

ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office: (713)266-1599. Fax: (713)266-0130

ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

NV PRETEST REP.2

Entry: 43 Totals Name: Total Hepta-Furans

Run: 16 File: P173110 Sample: 1 Injection: 1 Function: 4  
Llim: 38:00 Ulim: 39:35  
Acquired: 26-AUG-14 19:25:52 Processed: 27-AUG-14 09:32:13  
Mass: 407.7820 409.7790 Tot Response: 2.72e+01 RRF: 1.365

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:06	1.41e+01	1.31e+01	1.08	yes 2.72e+01	1,2,3,4,6,7,8-HpCDF	n	y

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ALS ENVIRONMENTAL  
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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

NV PRETEST REP.2

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 16 File: P173110 Sample: 1 Injection: 1 Function: 4  
Llim: 38:14 Ulim: 39:08  
Acquired: 26-AUG-14 19:25:52 Processed: 27-AUG-14 09:32:13  
Mass: 423.7770 425.7740 Tot Response: 9.74e+01 RRF: 1.016

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:20	2.94e+01	3.02e+01	0.97	yes	5.95e+01	n	n
2	38:58	1.96e+01	1.82e+01	1.08	yes	3.78e+01	n	n

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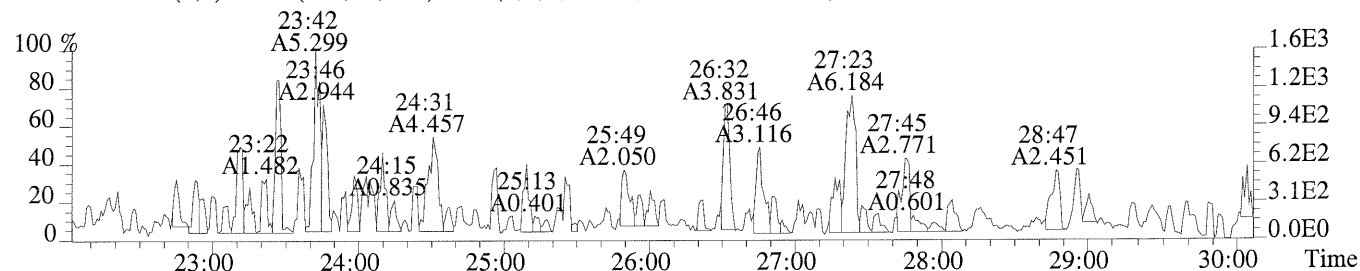
ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office (713) 266-1599. Fax (713) 266-0130



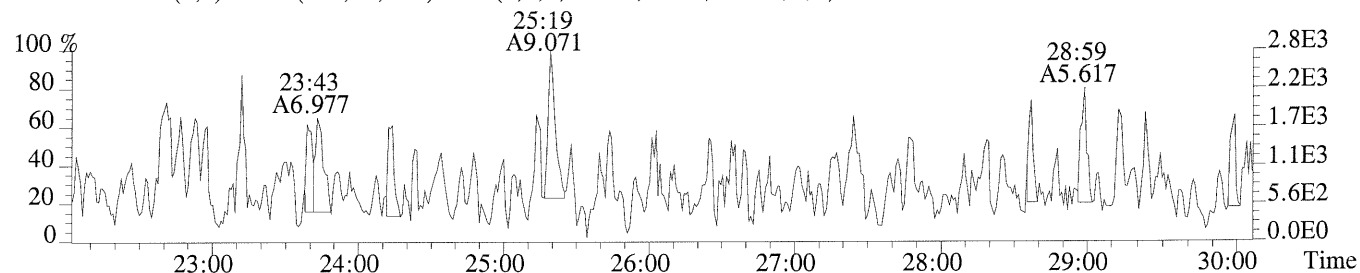
File:P173110 #1-579 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-002

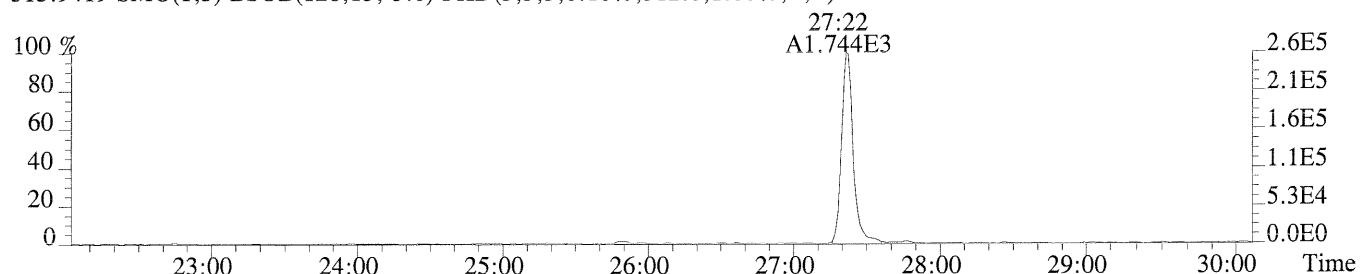
303.9016 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



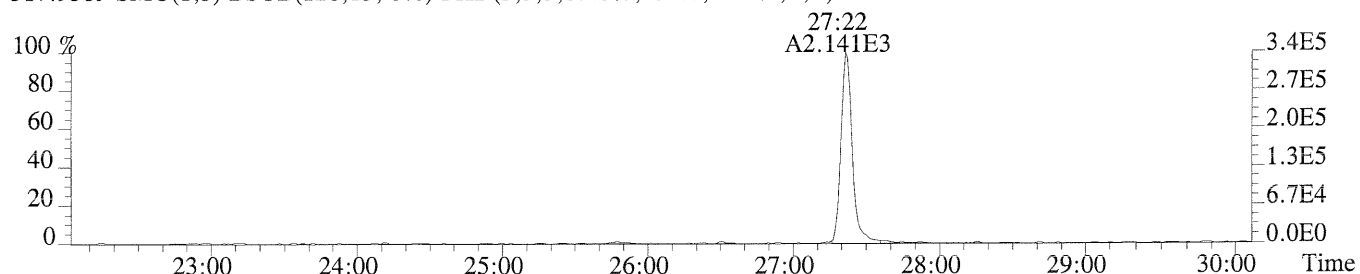
305.8987 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,884.0,1.00%,F,T)



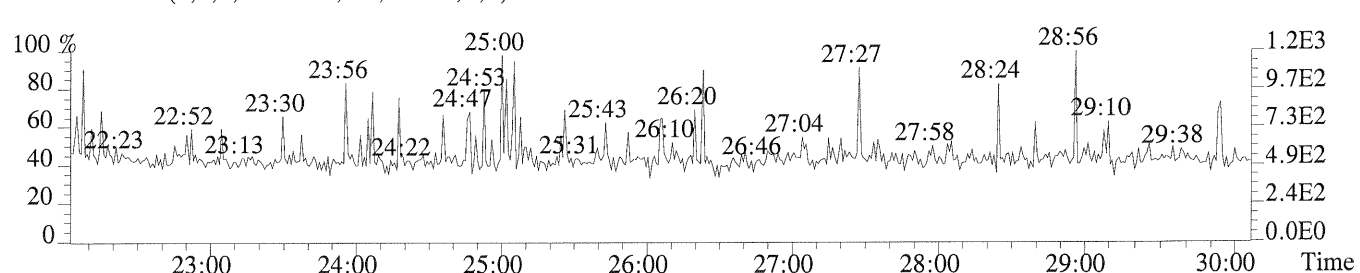
315.9419 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,T)



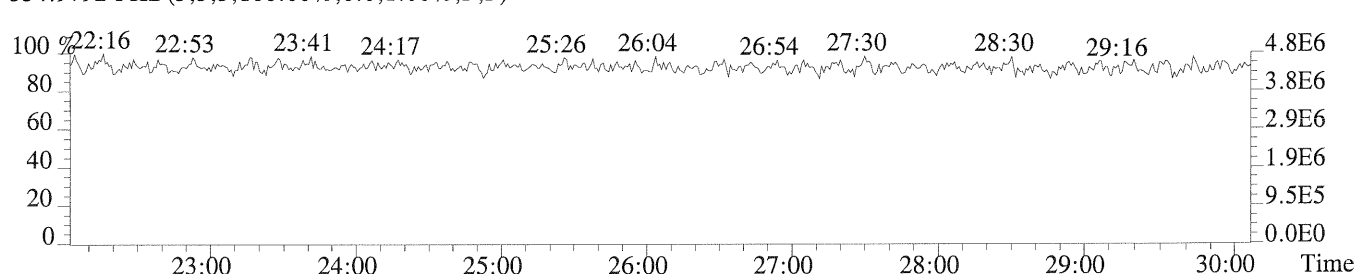
317.9389 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)

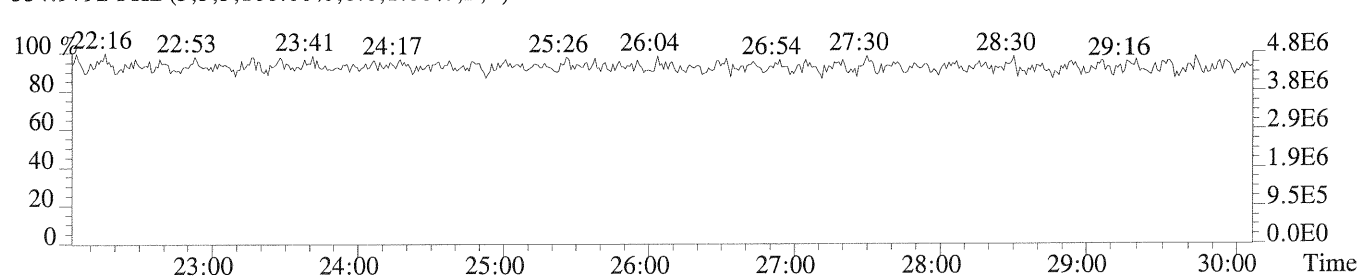
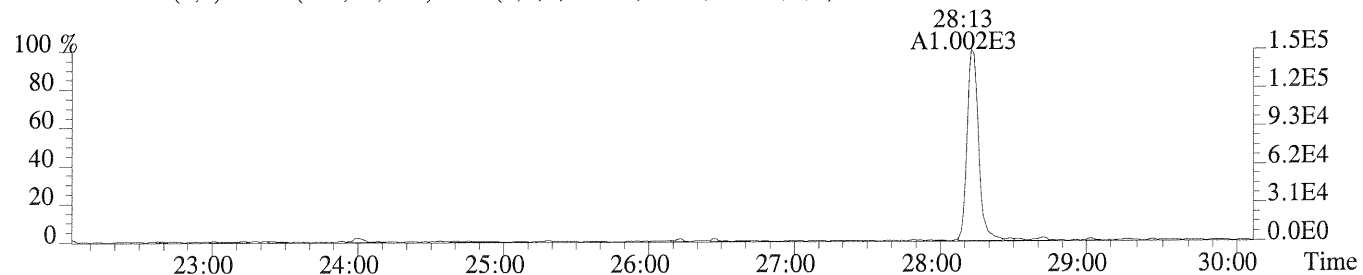
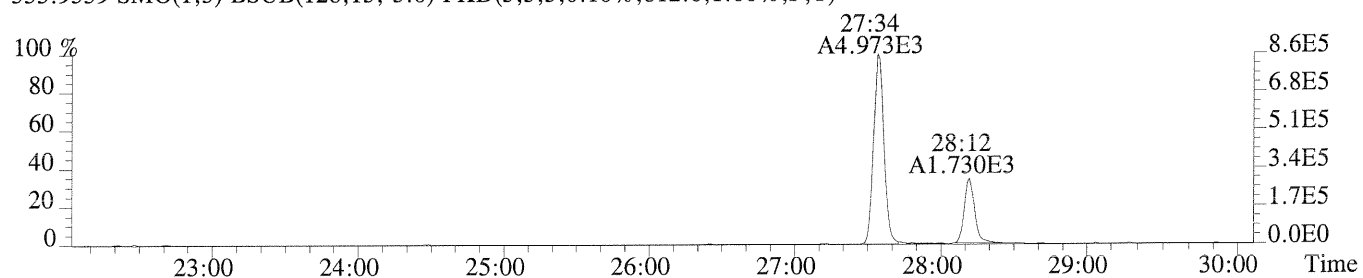
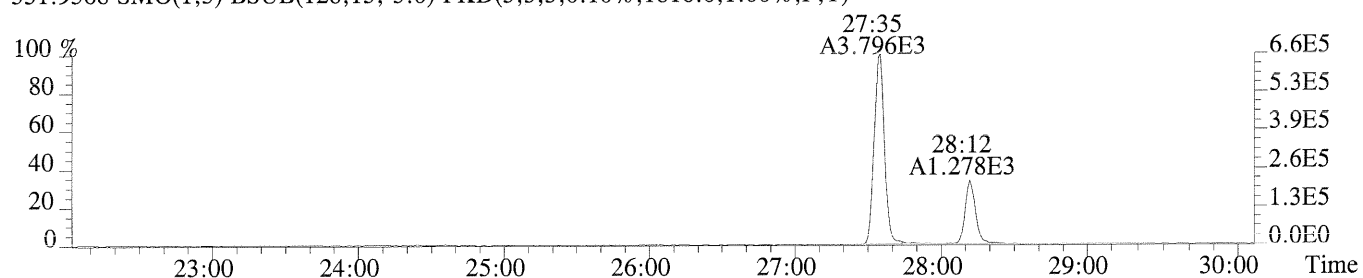
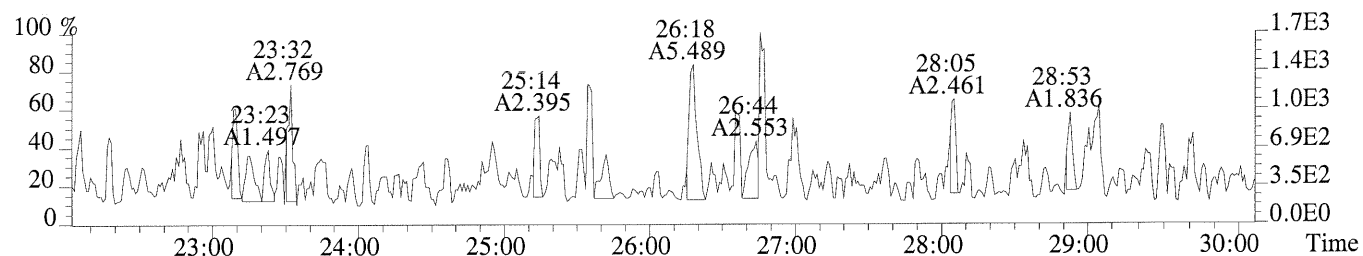
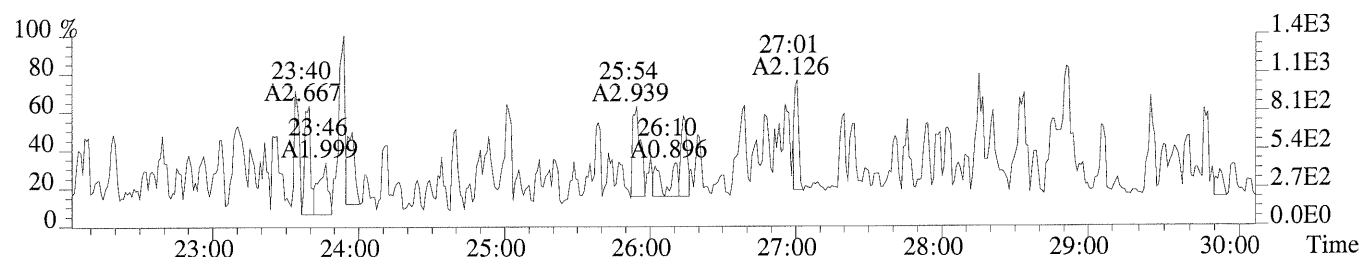


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

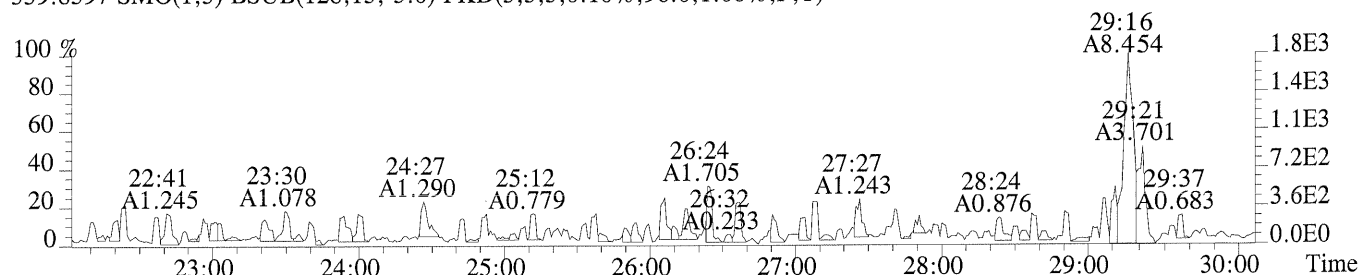




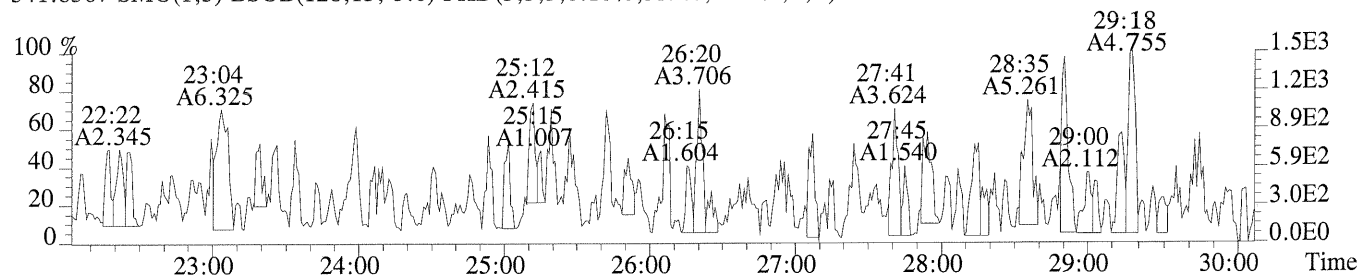
File:P173110 #1-579 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-002

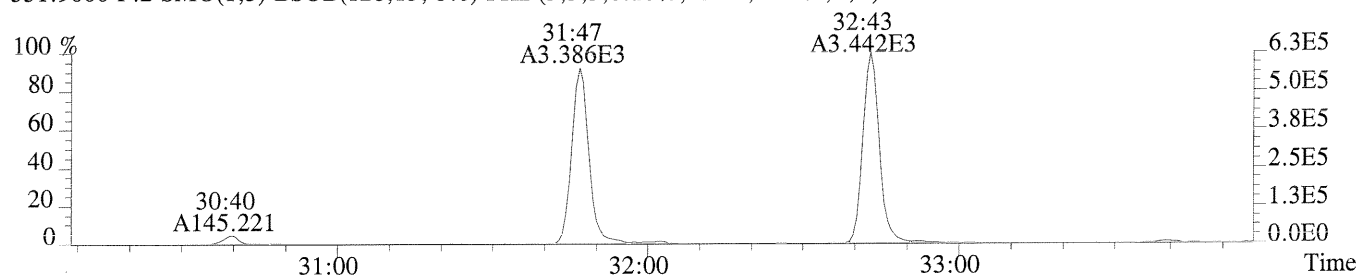
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



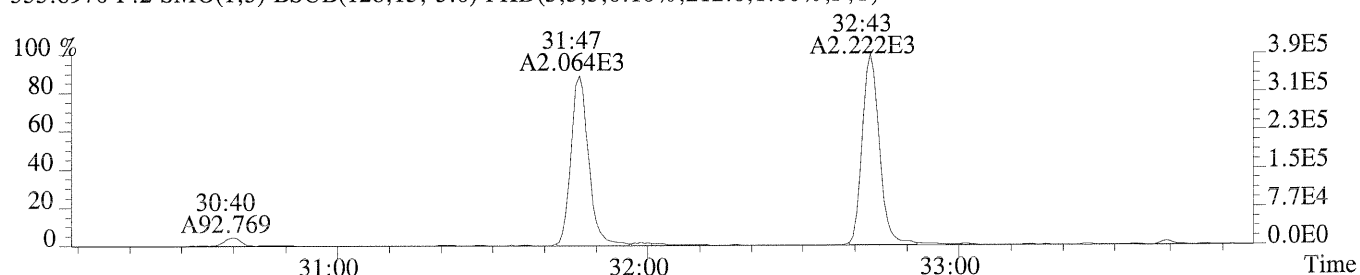
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



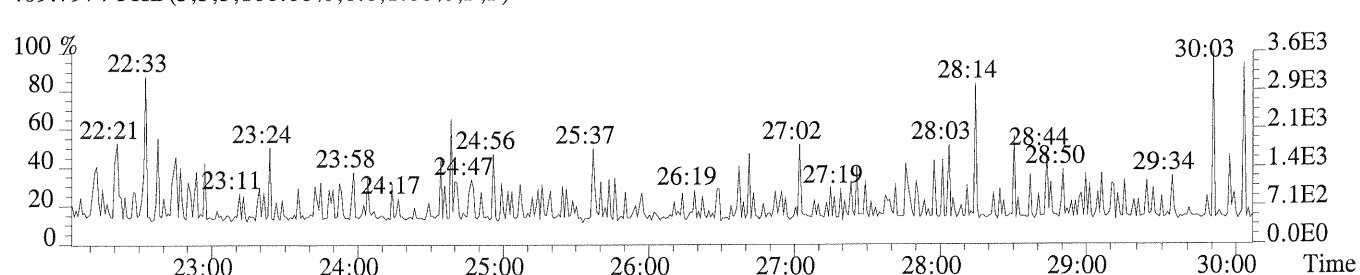
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)



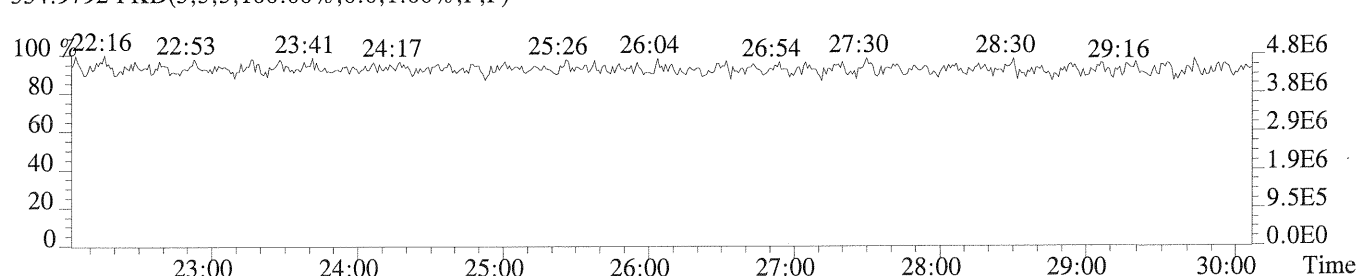
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)

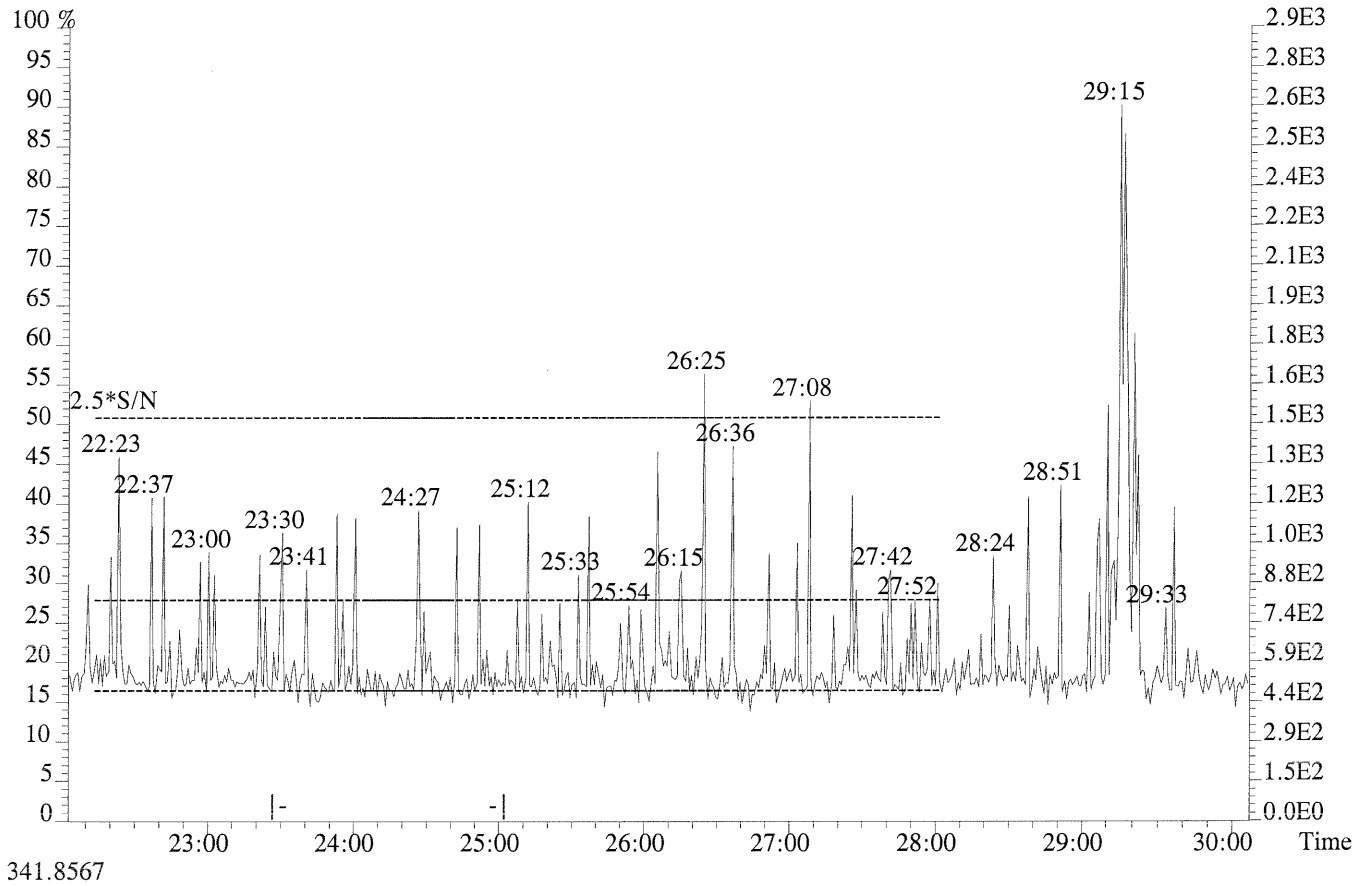


409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

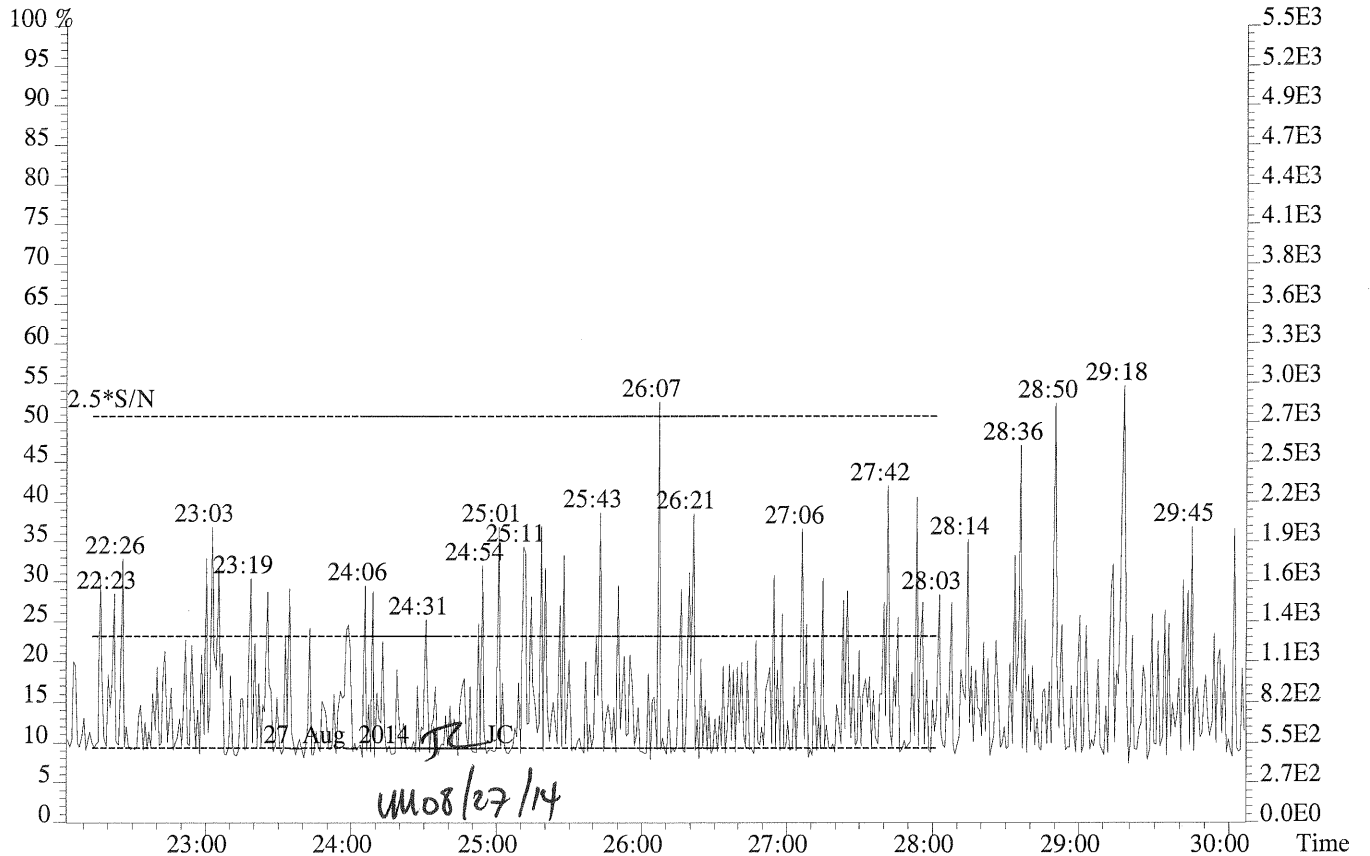


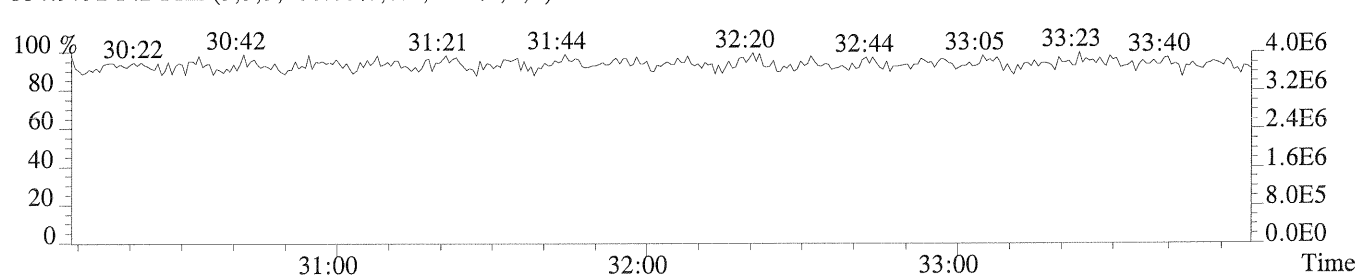
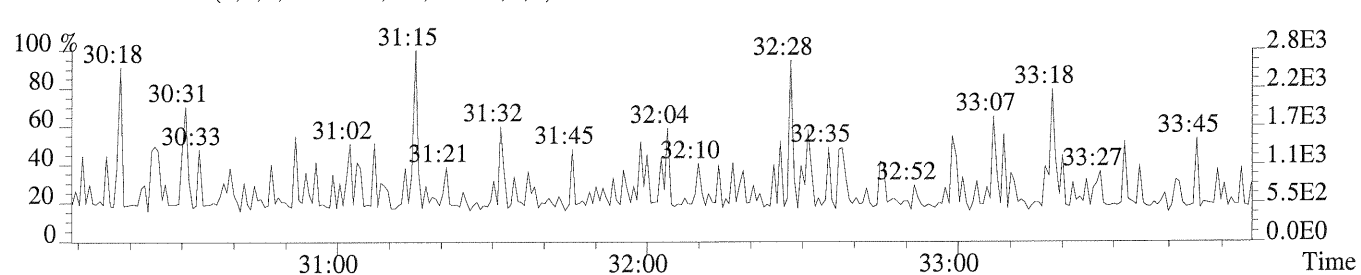
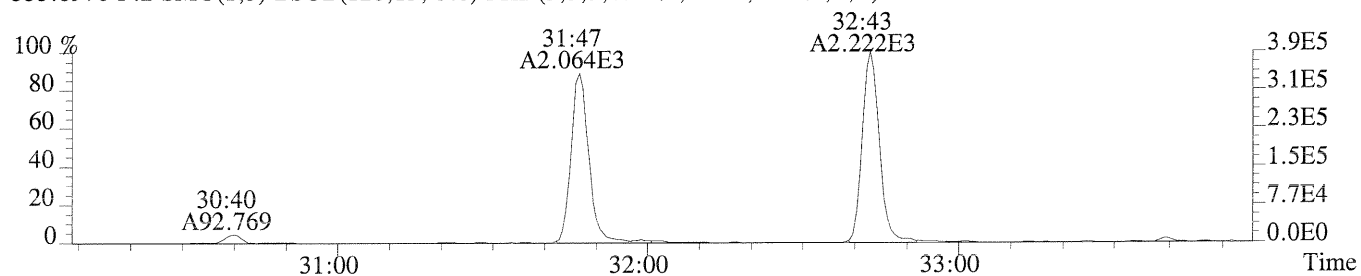
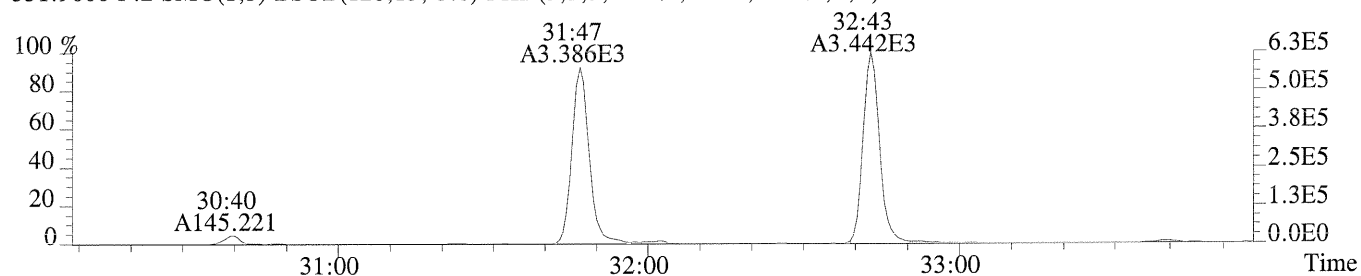
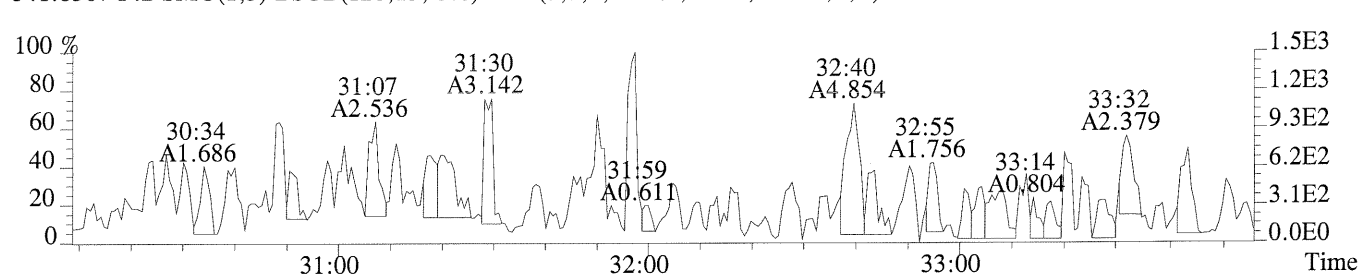
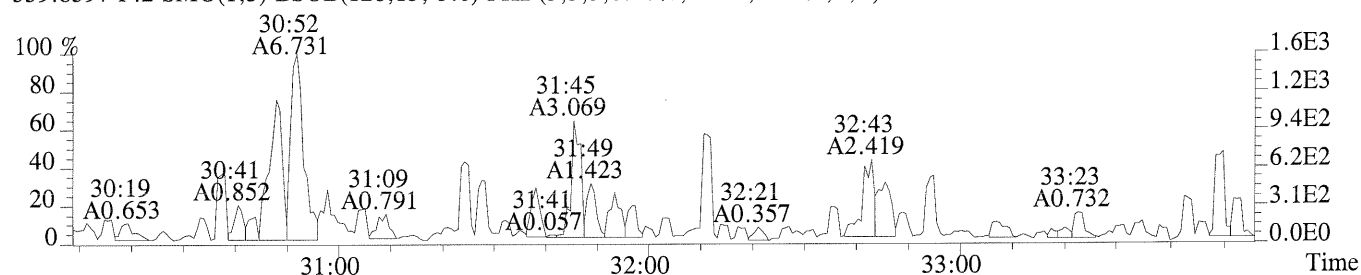
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



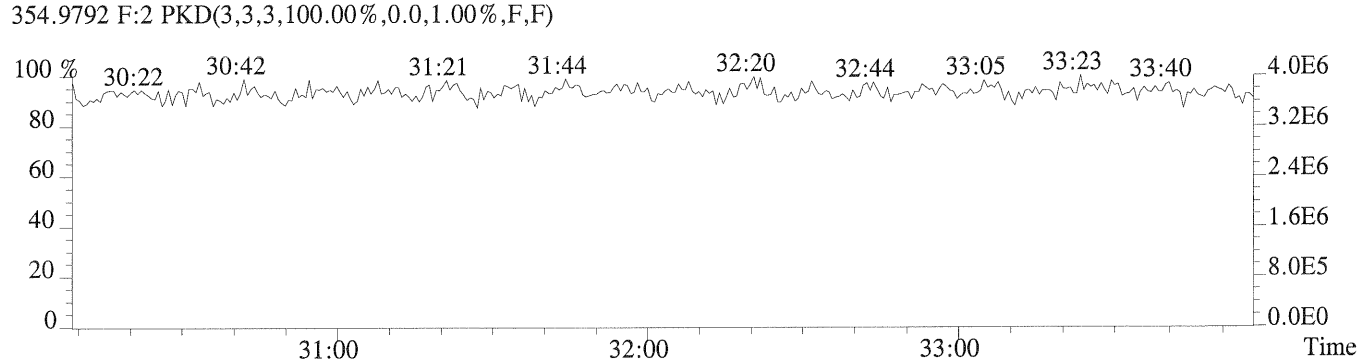
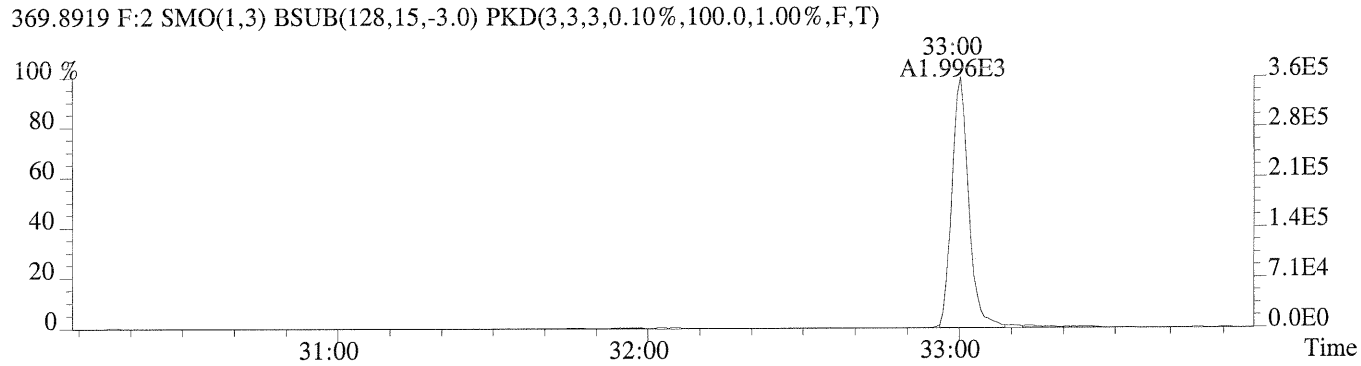
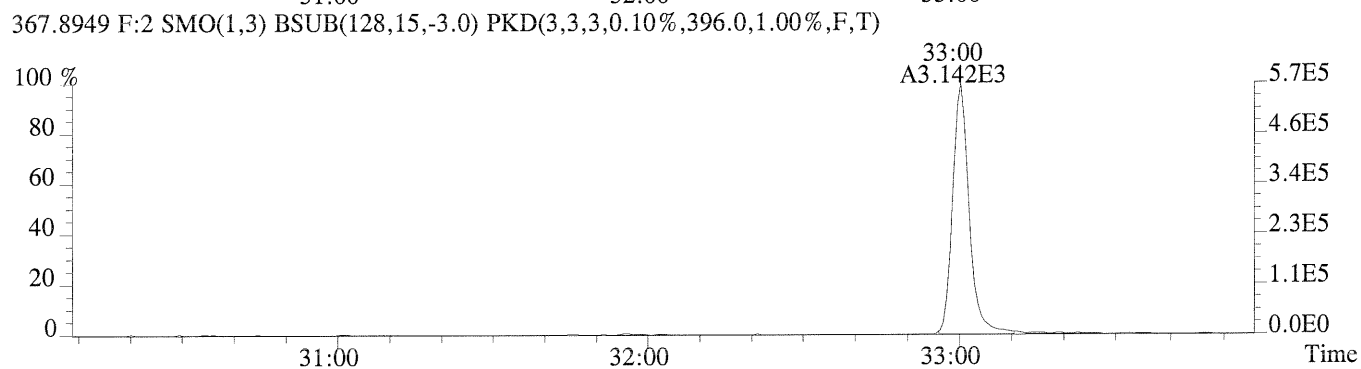
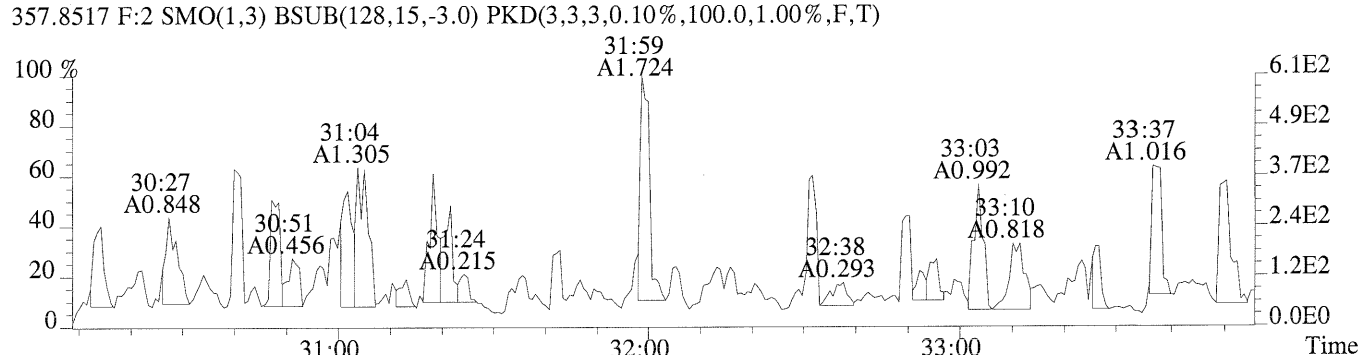
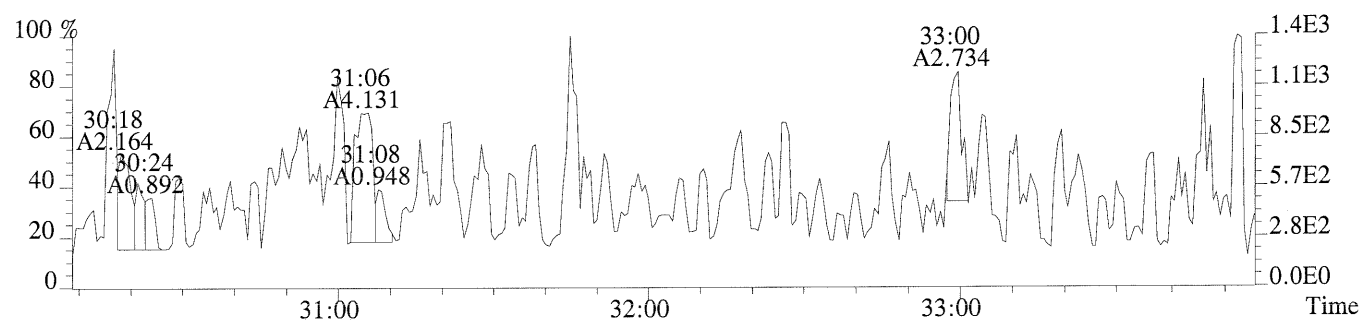


341.8567

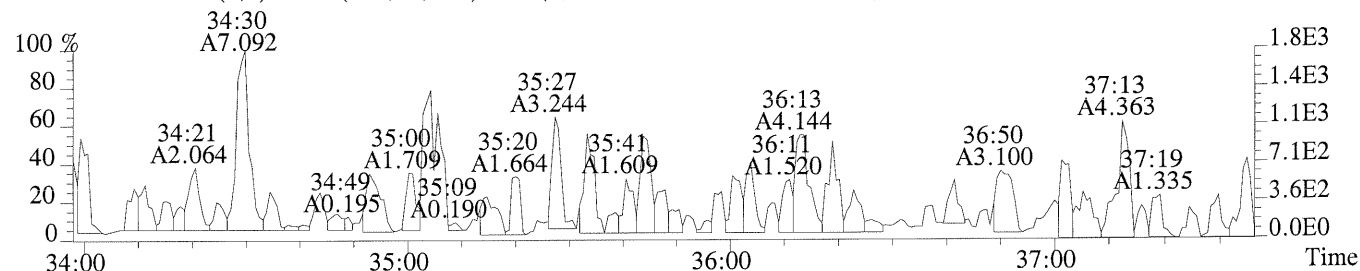




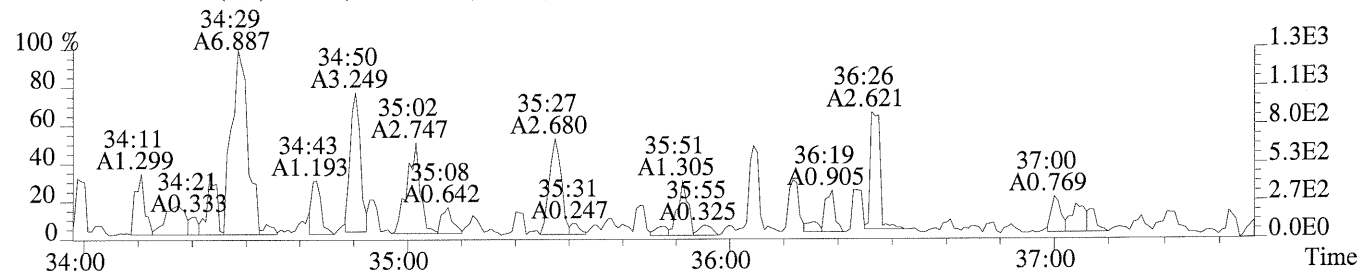
File:P173110 #1-344 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



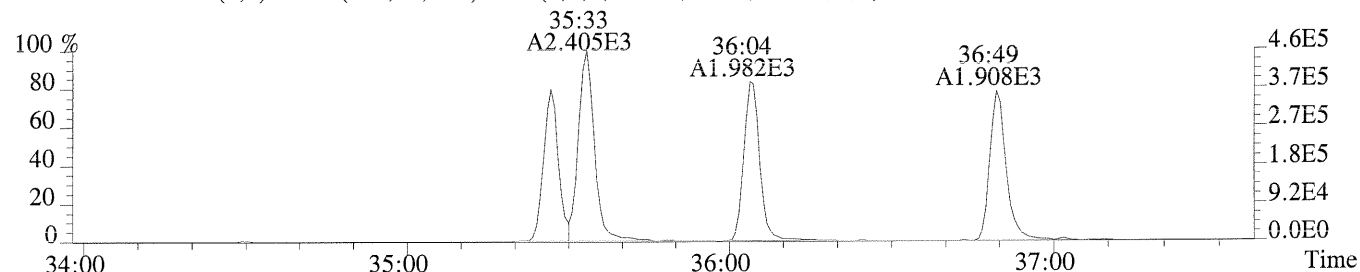
File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



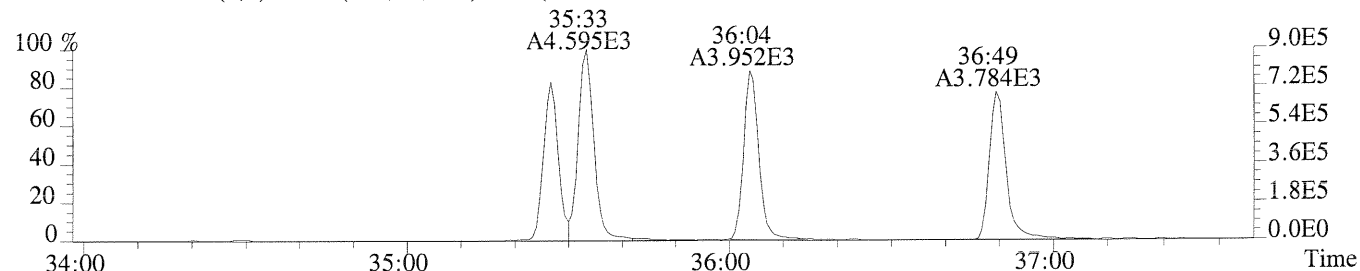
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,T)



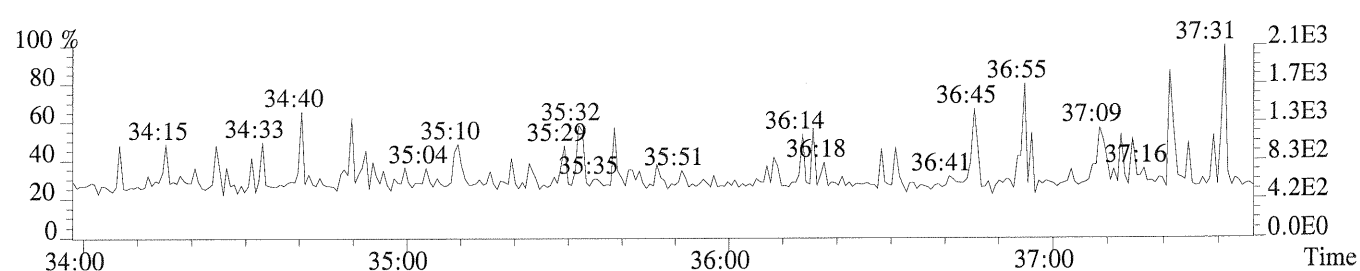
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



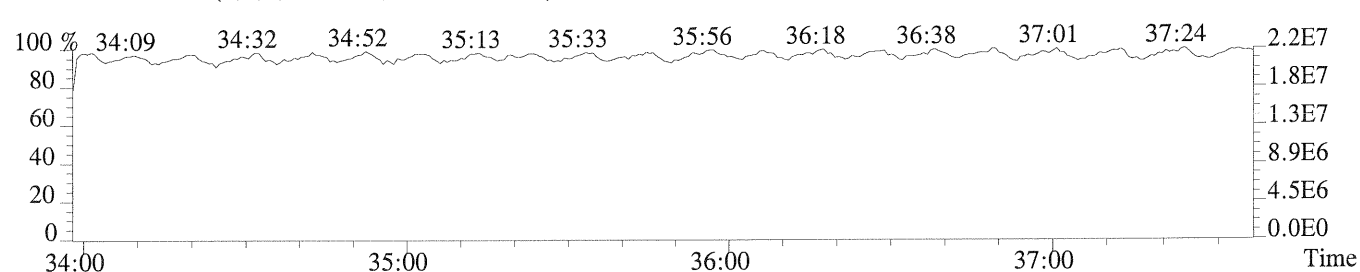
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



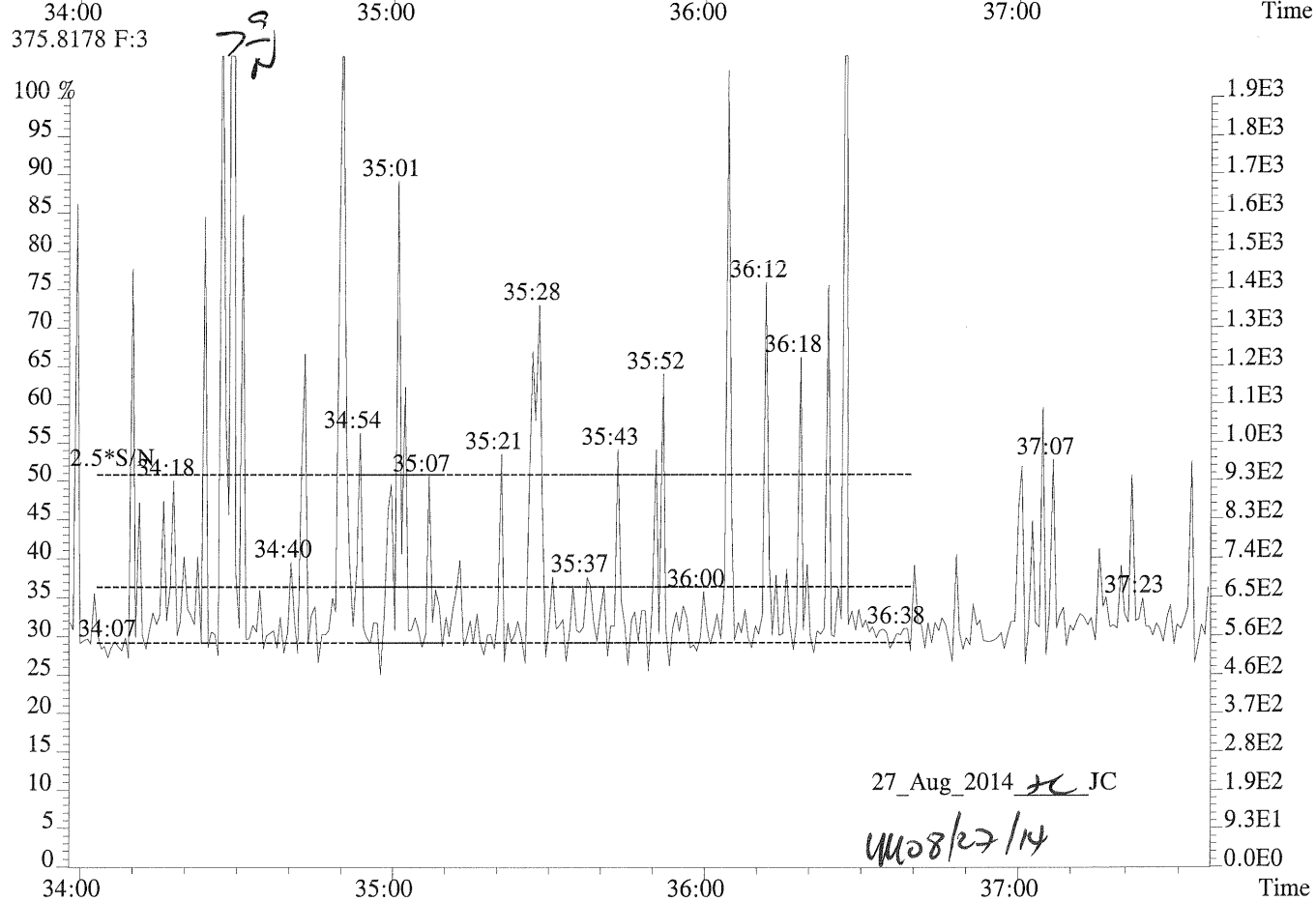
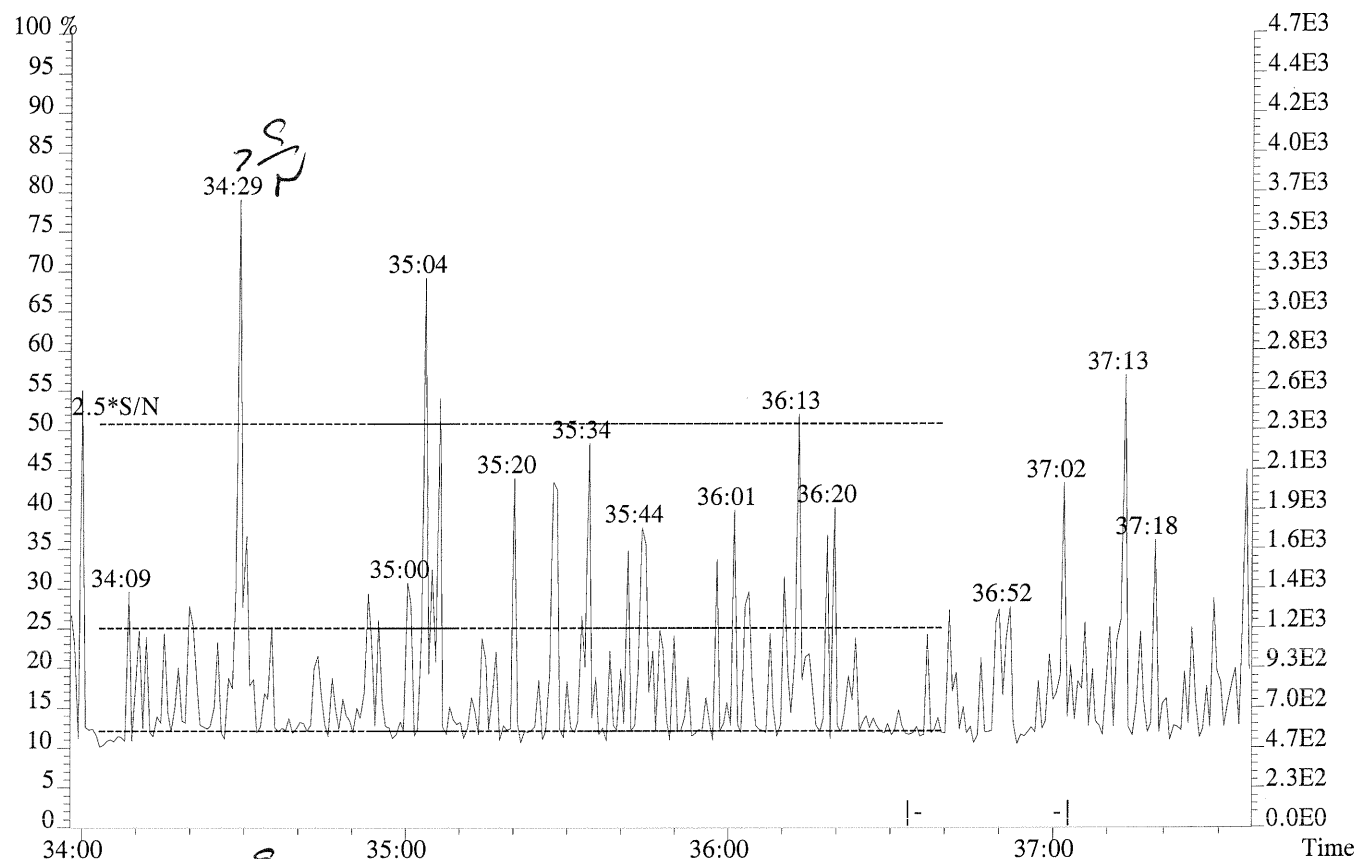
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

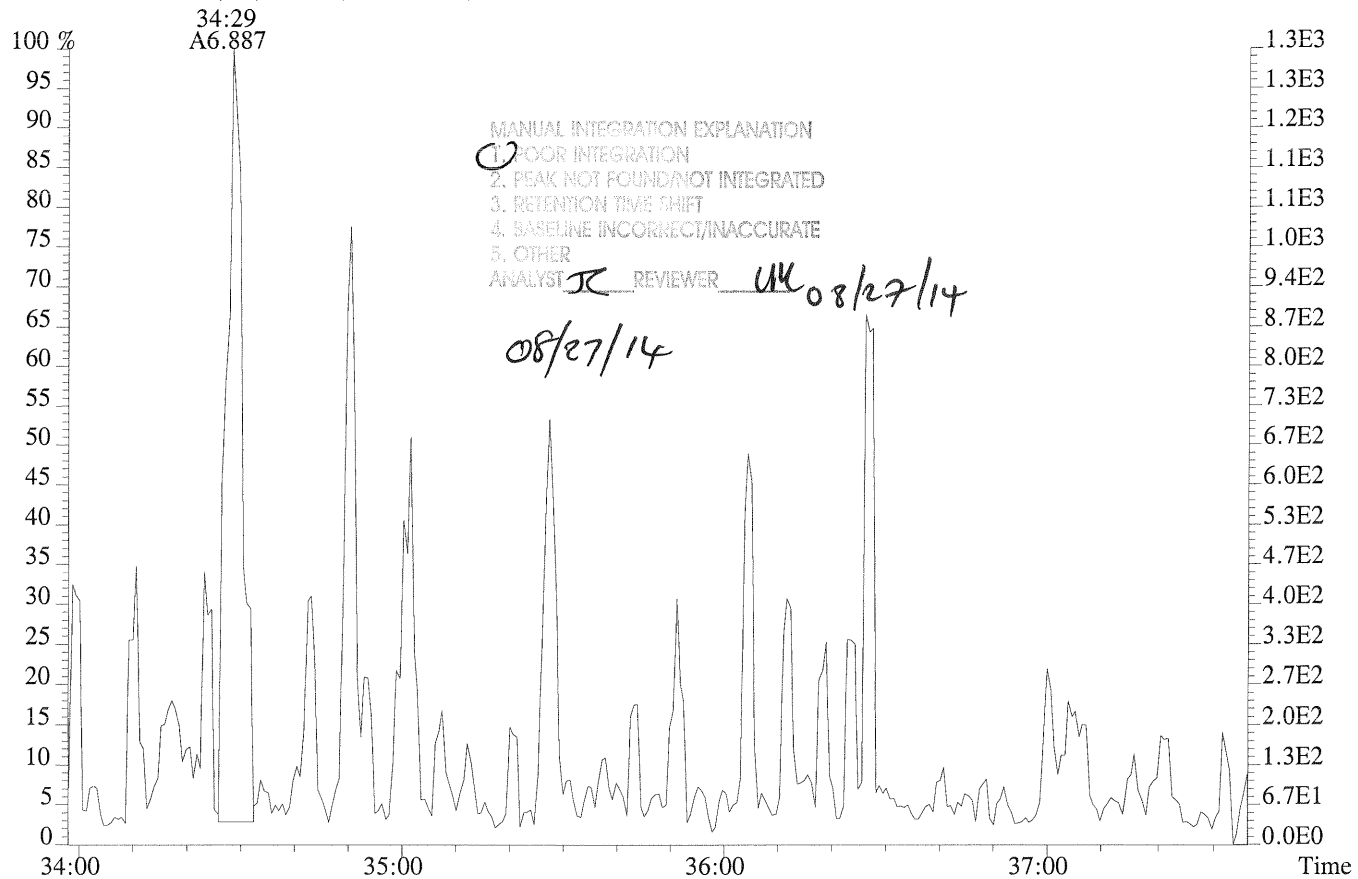
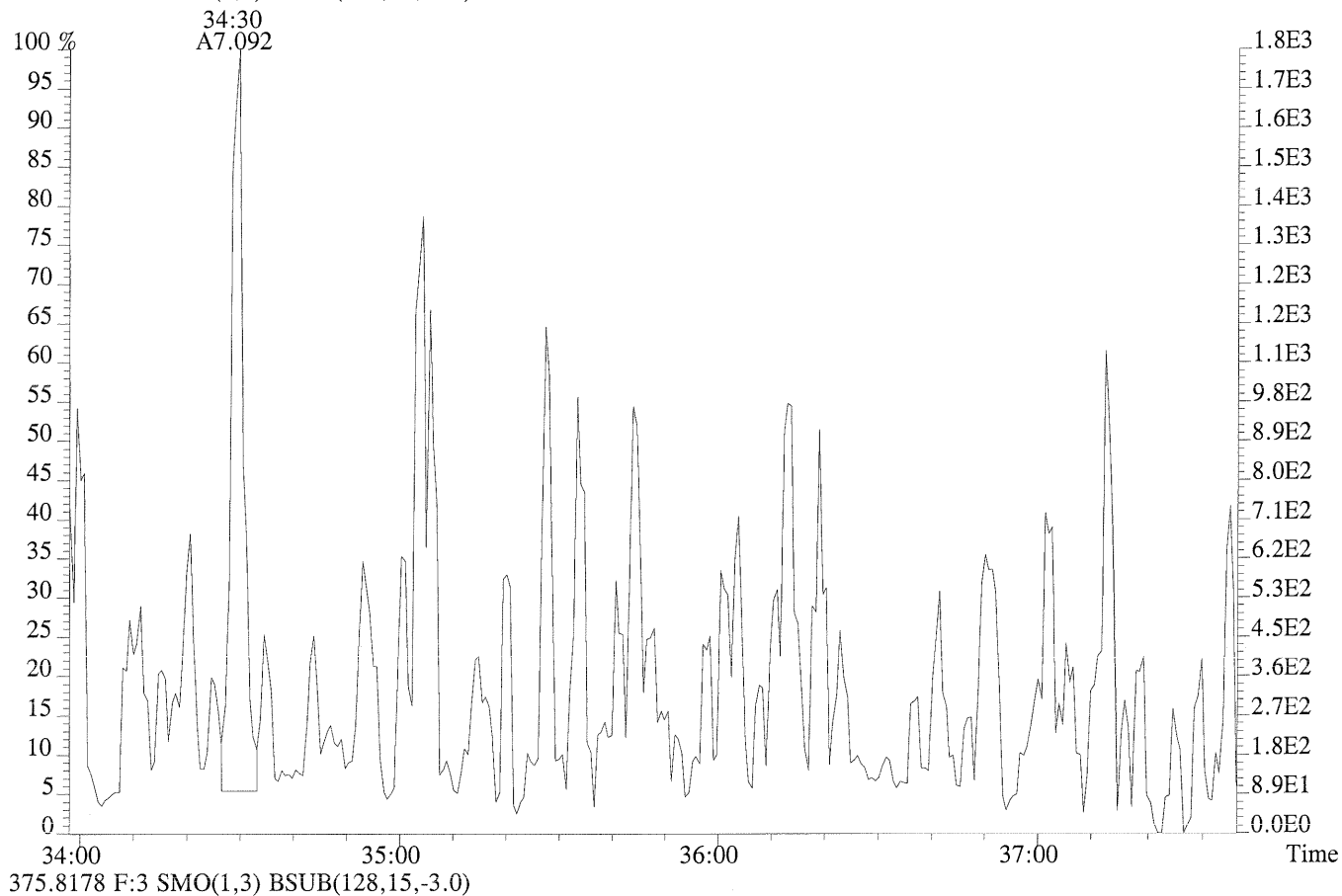


File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-002  
373.8208 F:3

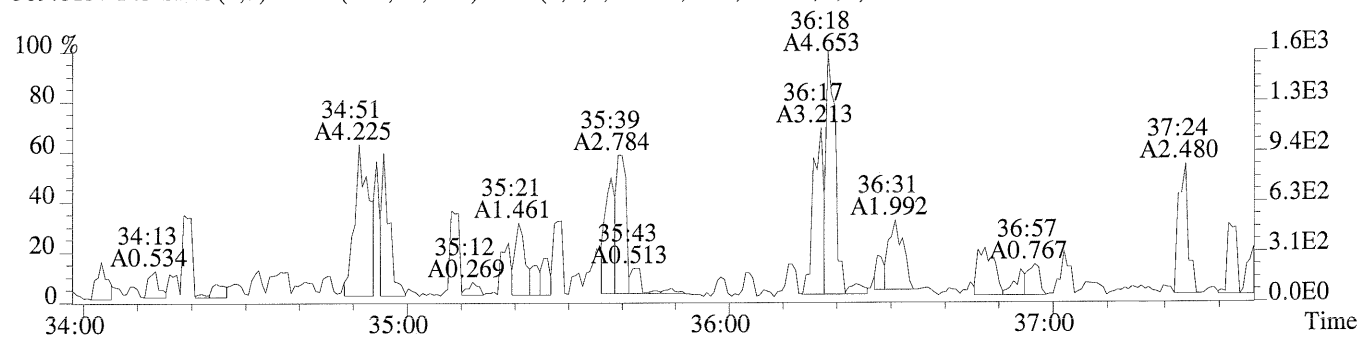




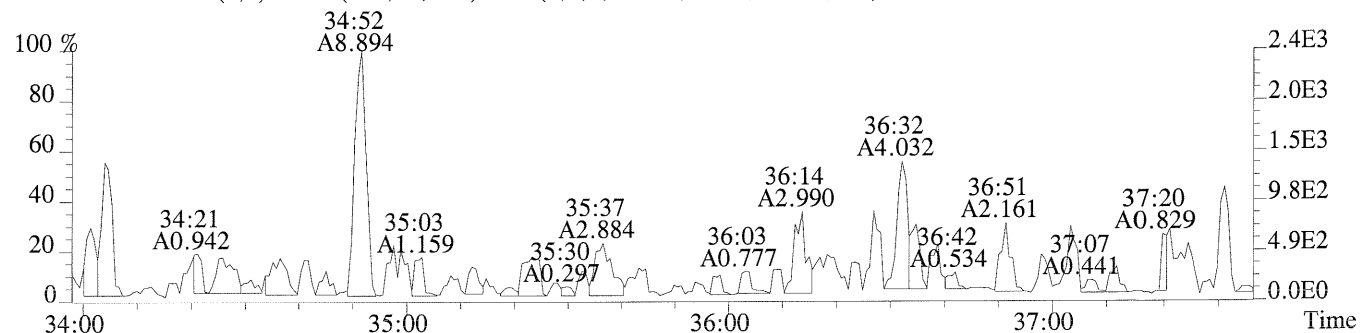
File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0)



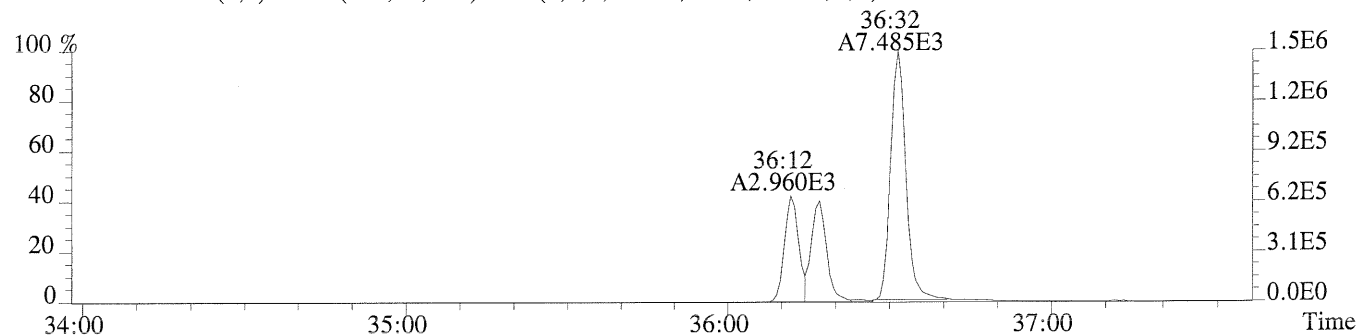
File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.40%,F,T)



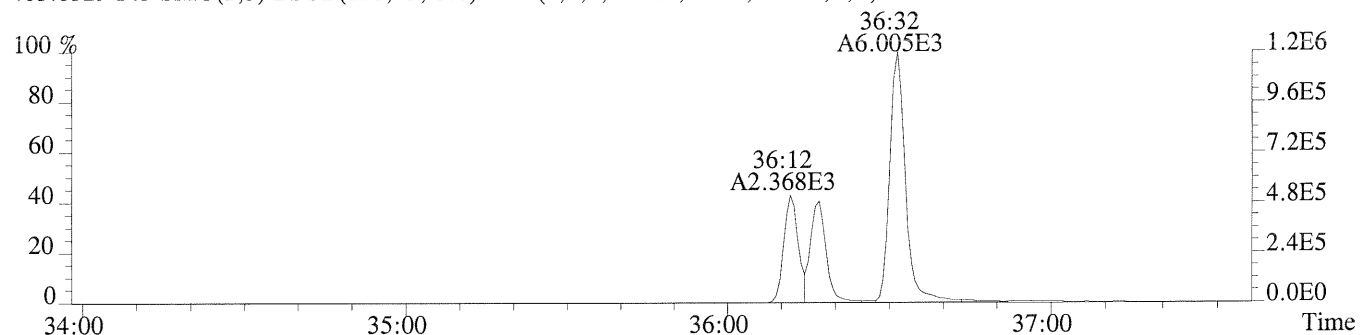
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,144.0,0.40%,F,T)



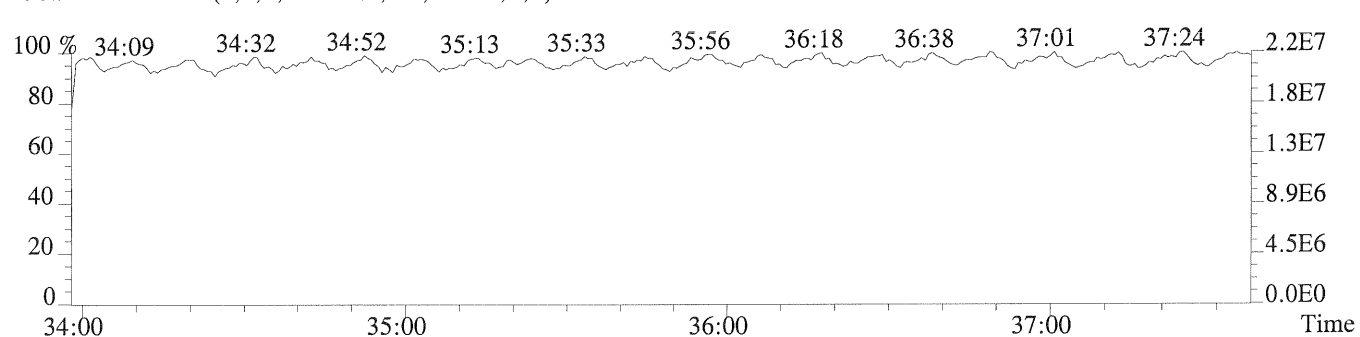
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,T)



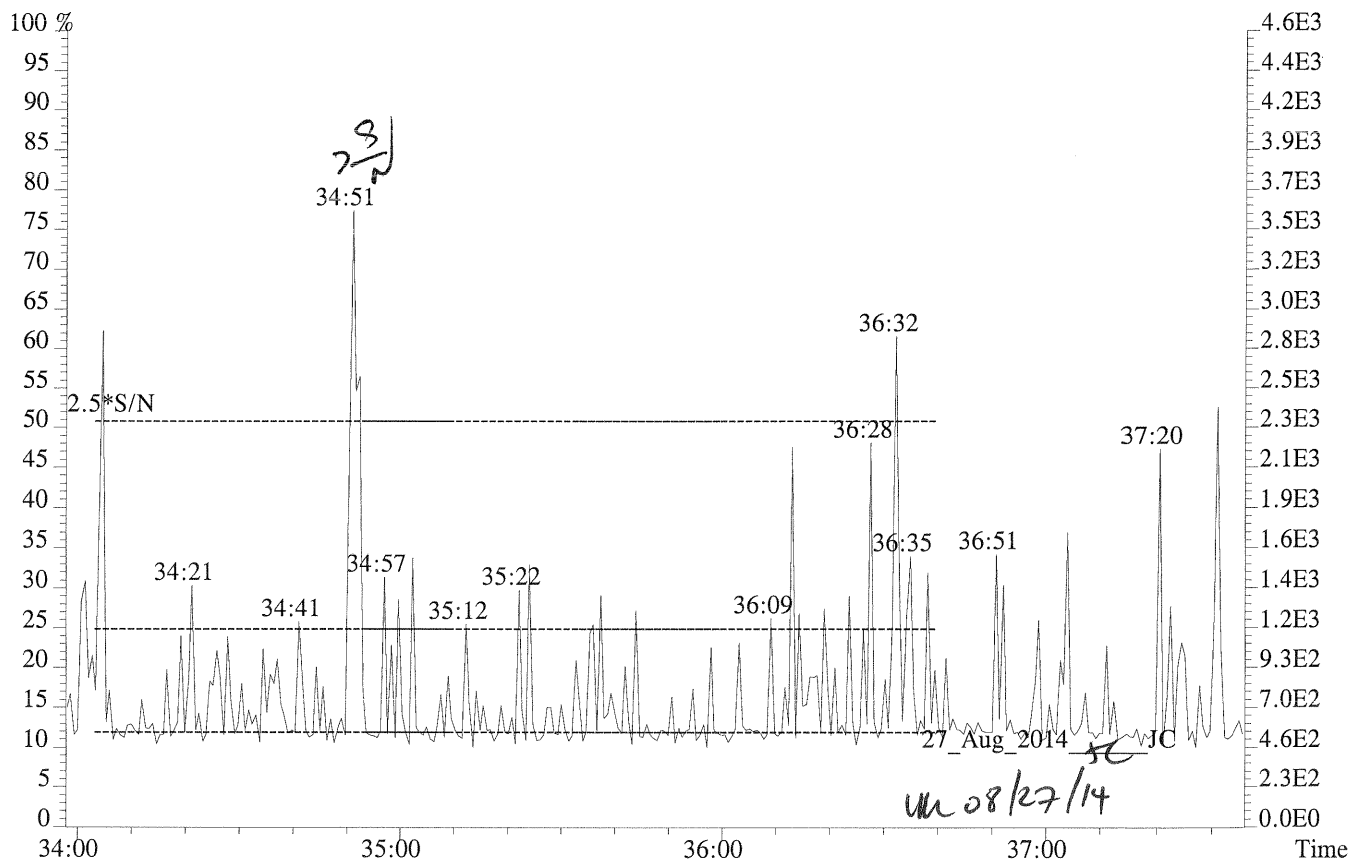
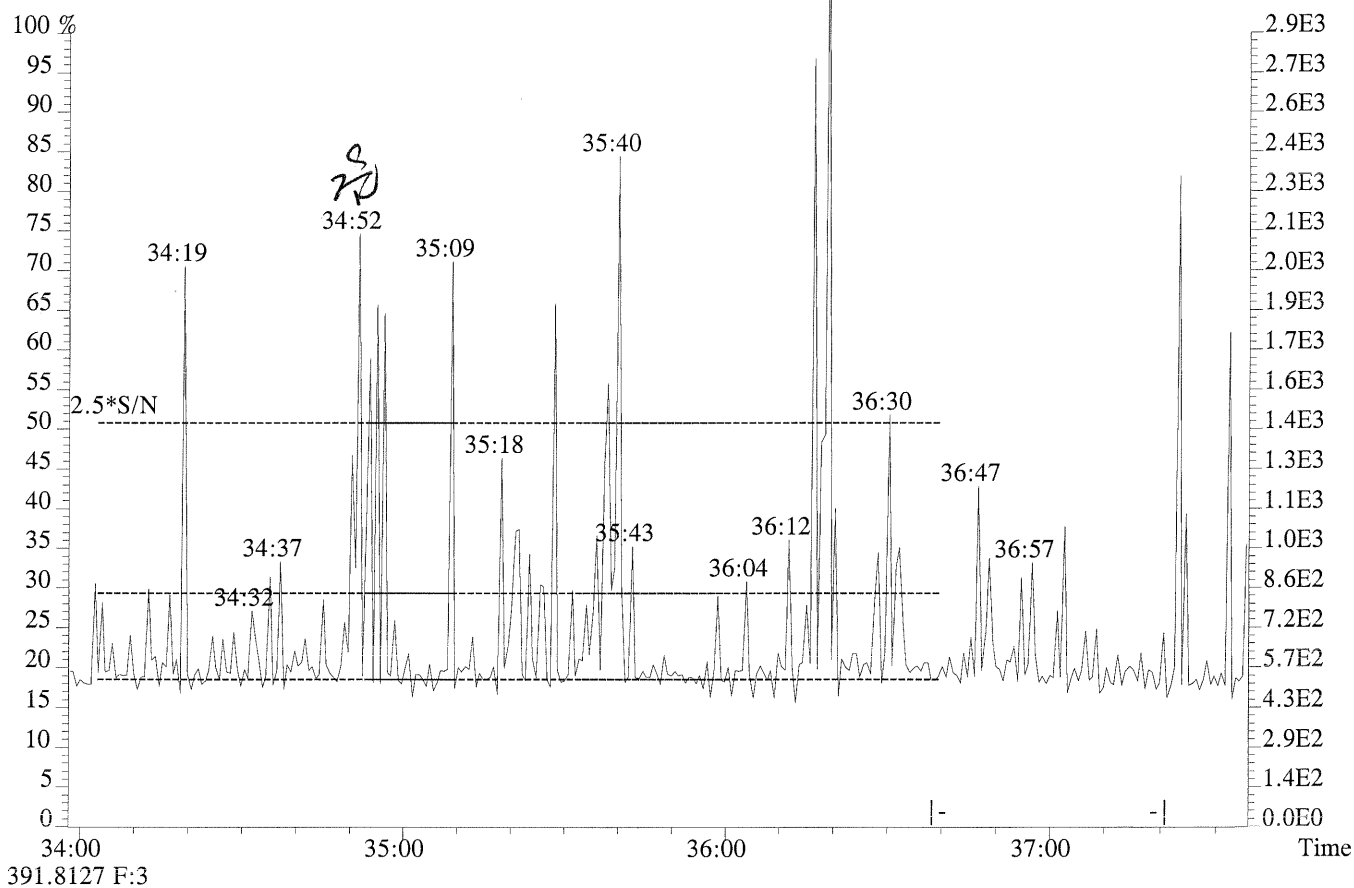
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,104.0,0.40%,F,T)



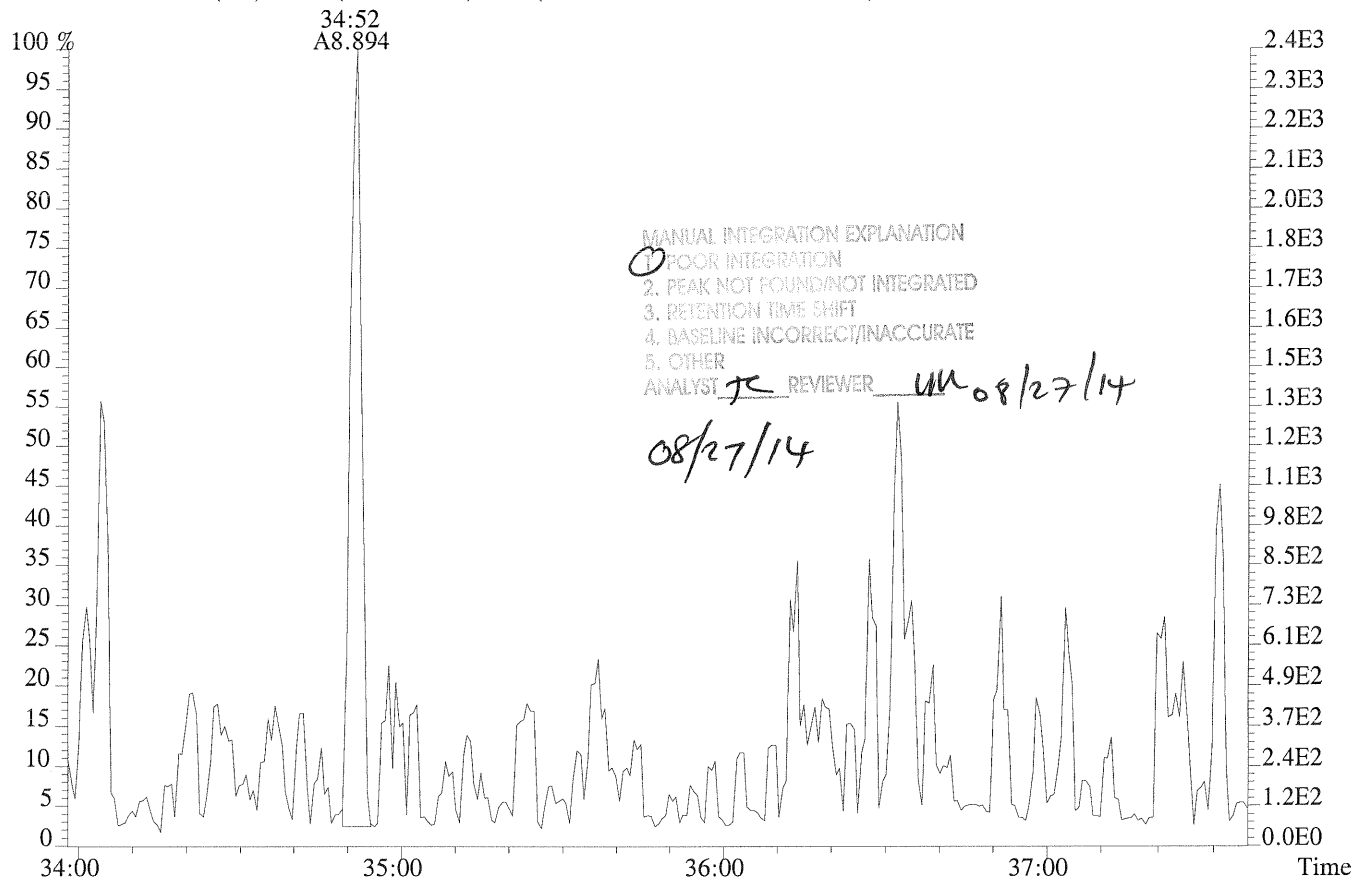
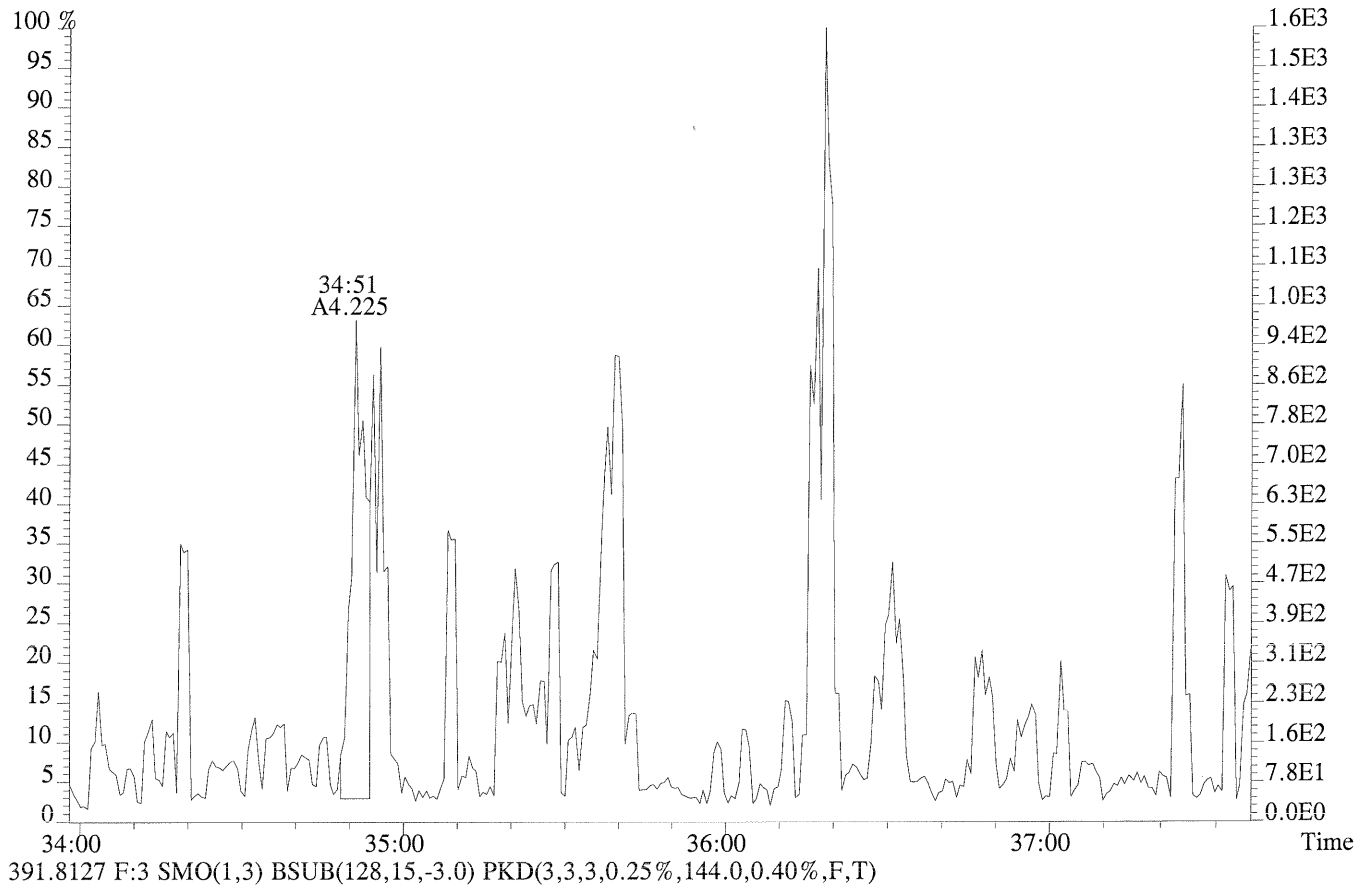
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
389.8157 F:3



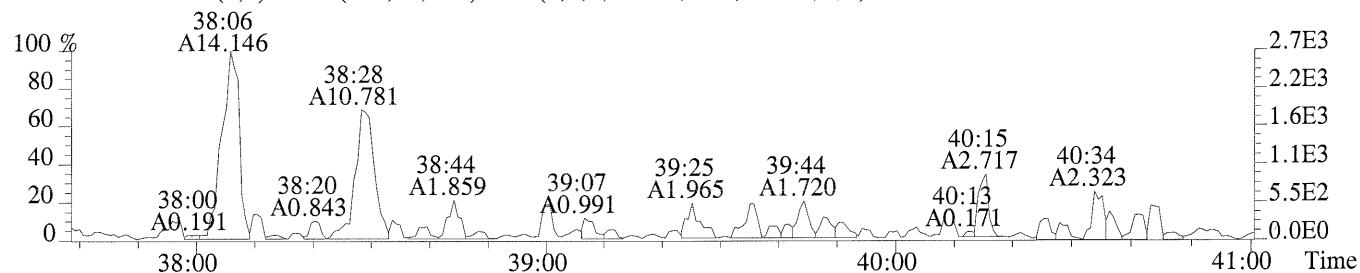
File:P173110 #1-331 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.40%,F,T)



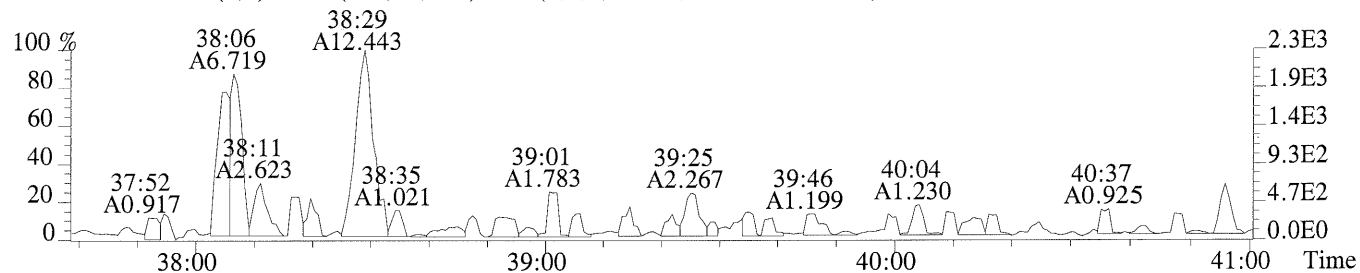
File:P173110 #1-306 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-002

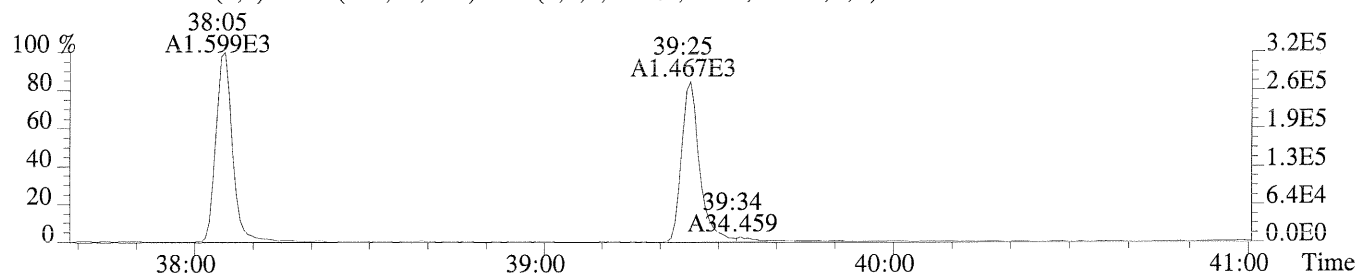
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.50%,F,T)



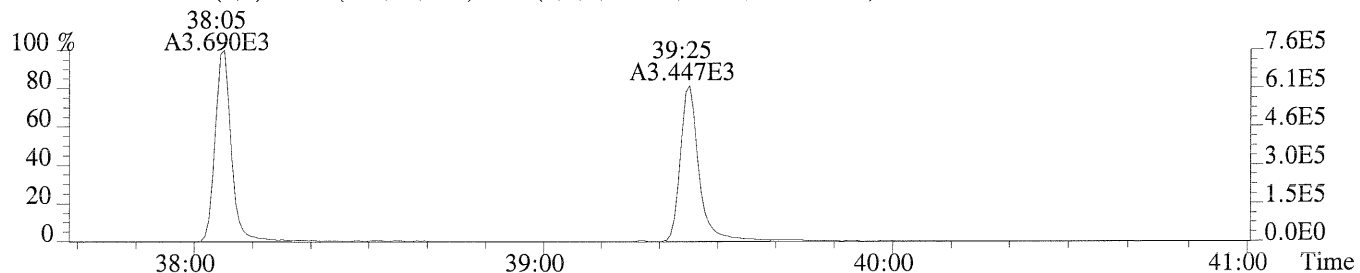
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.50%,F,T)



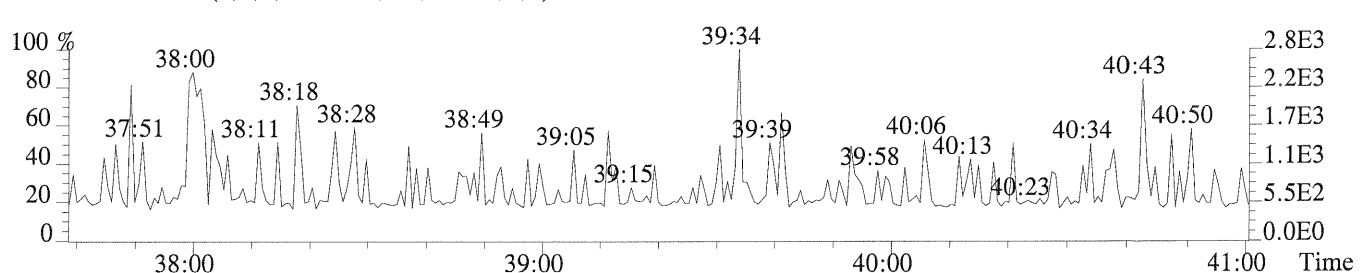
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,692.0,0.50%,F,T)



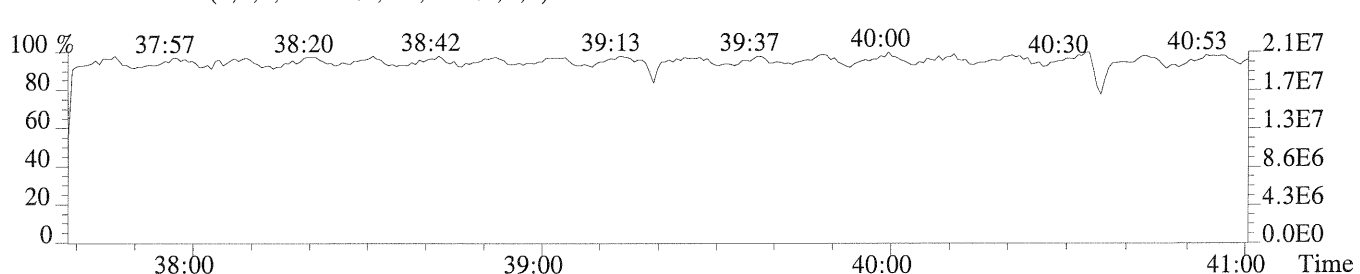
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,160.0,0.50%,F,T)



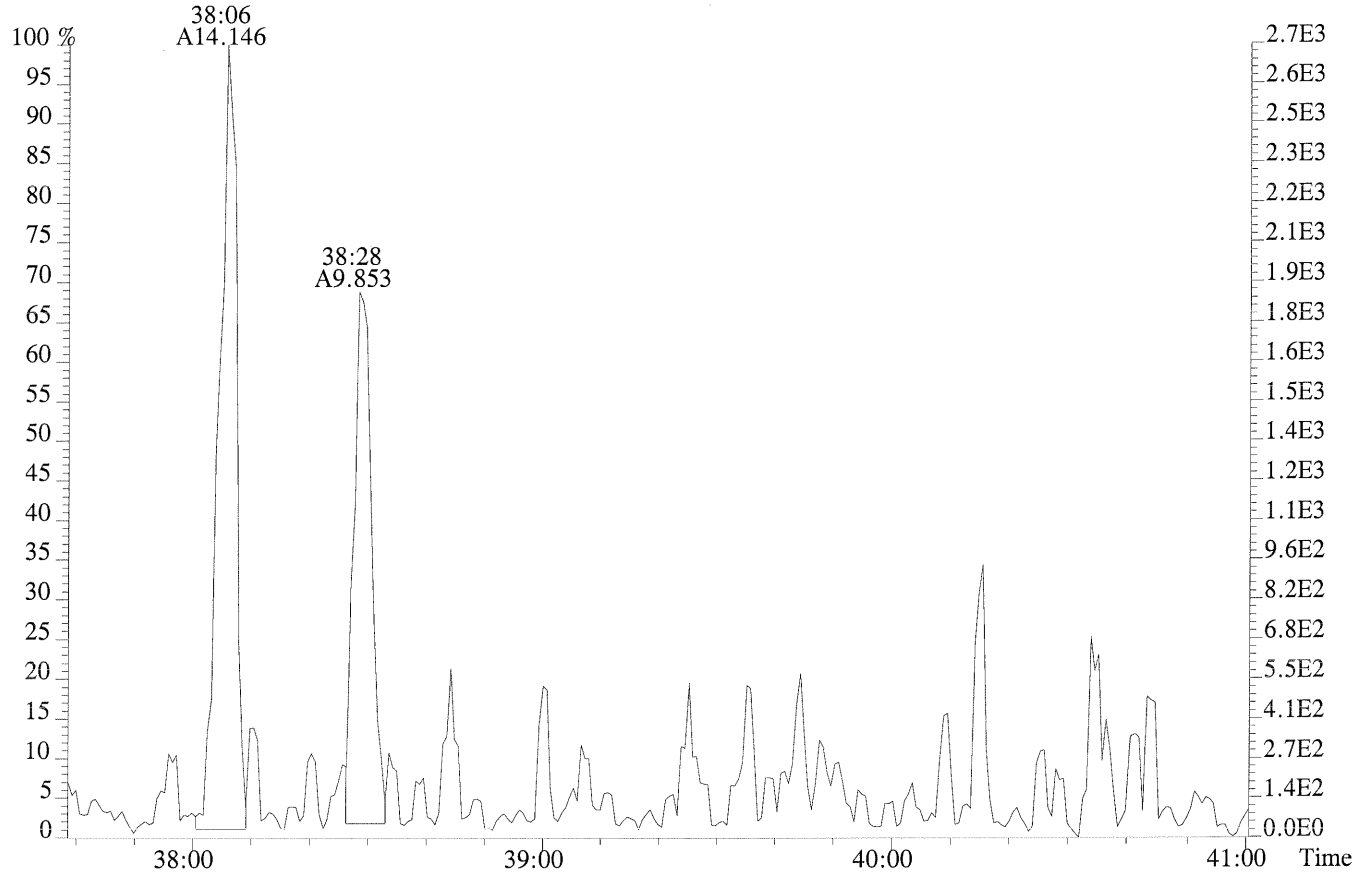
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



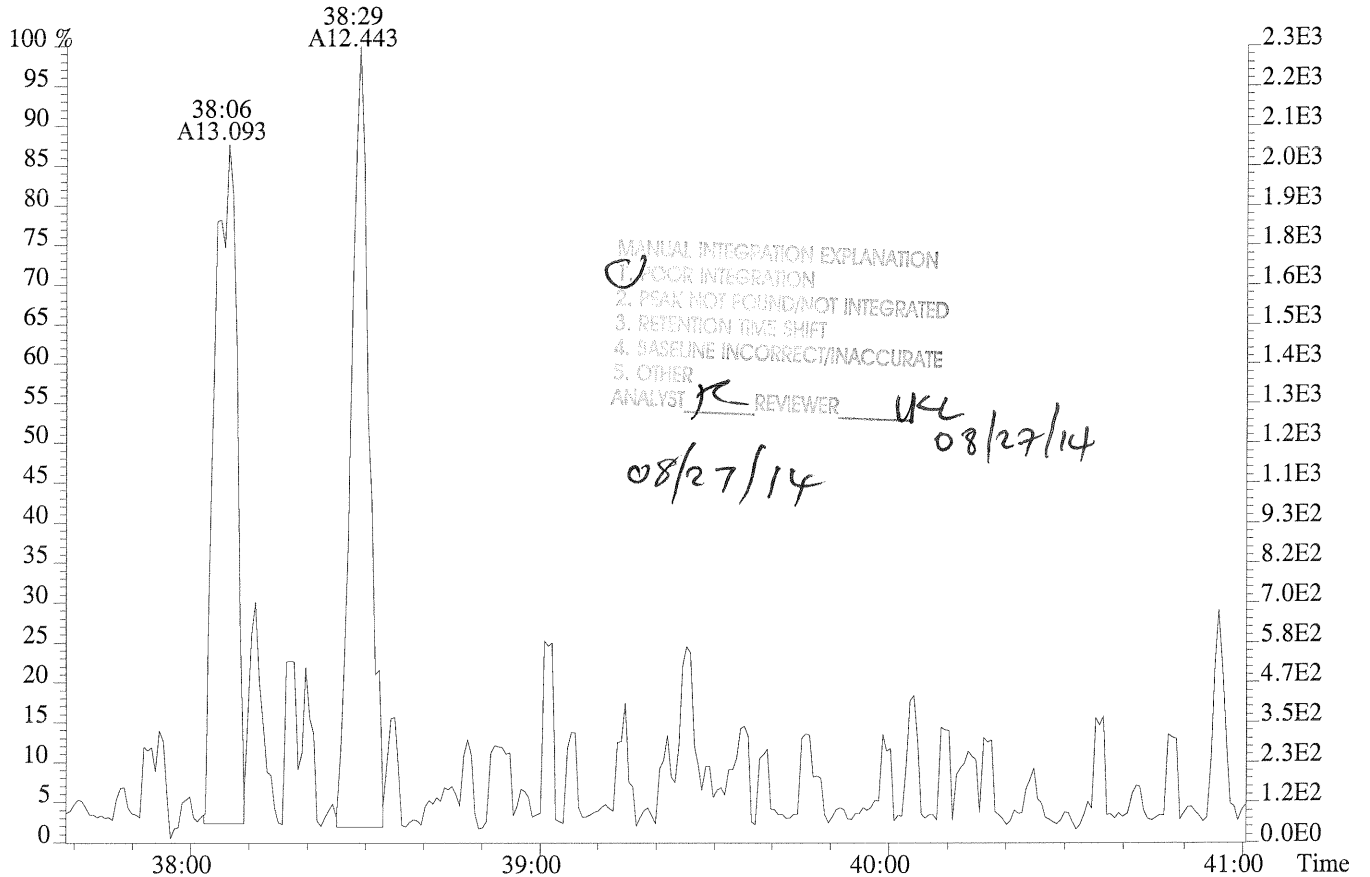
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173110 #1-306 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.50%,F,T)



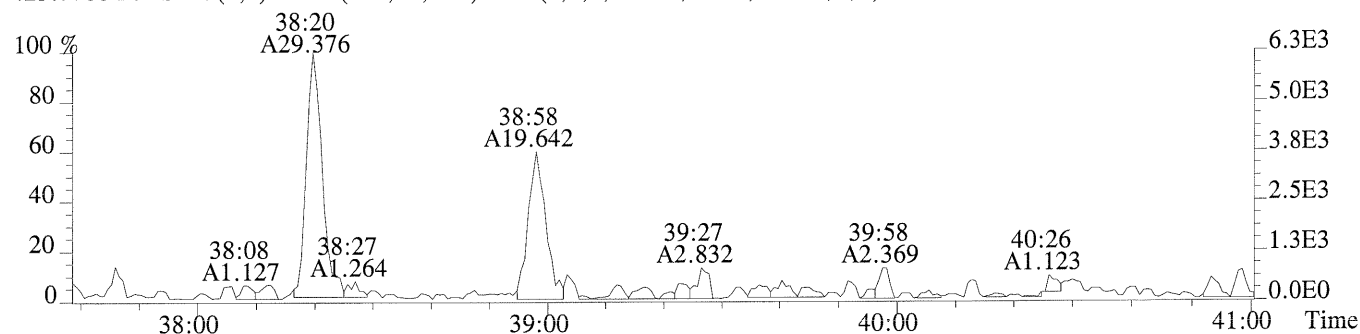
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.50%,F,T)



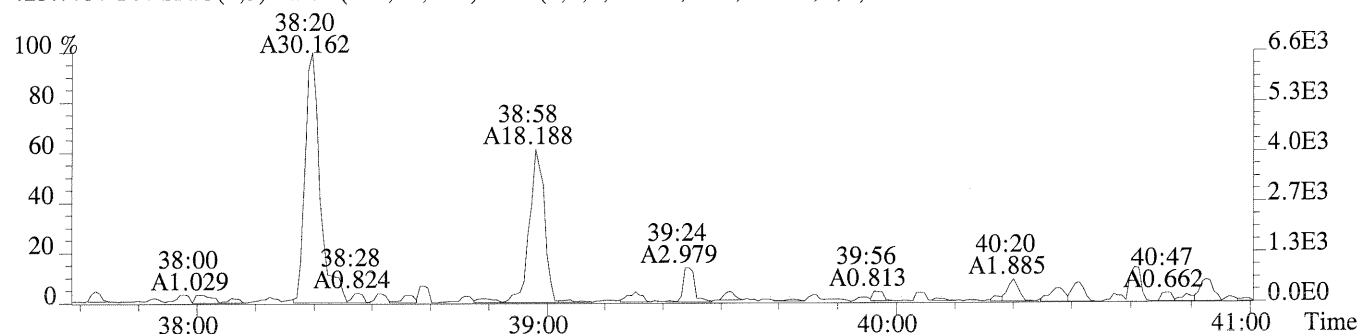
File:P173110 #1-306 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-002

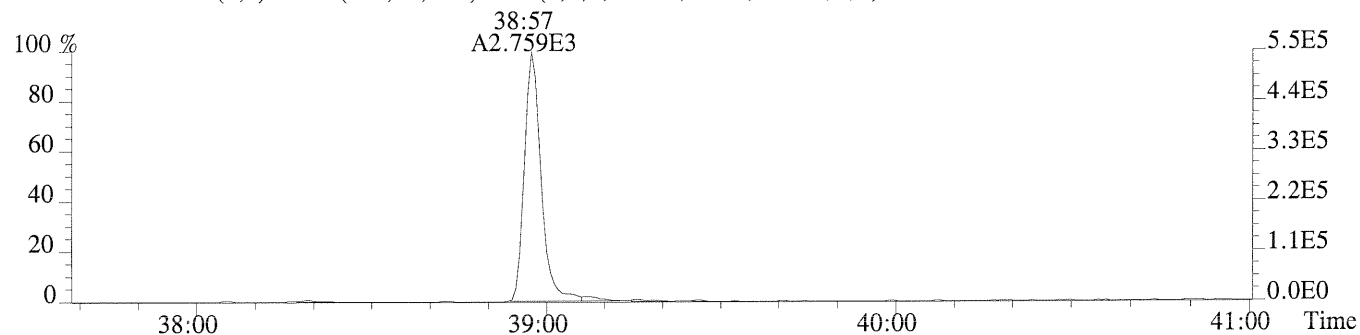
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



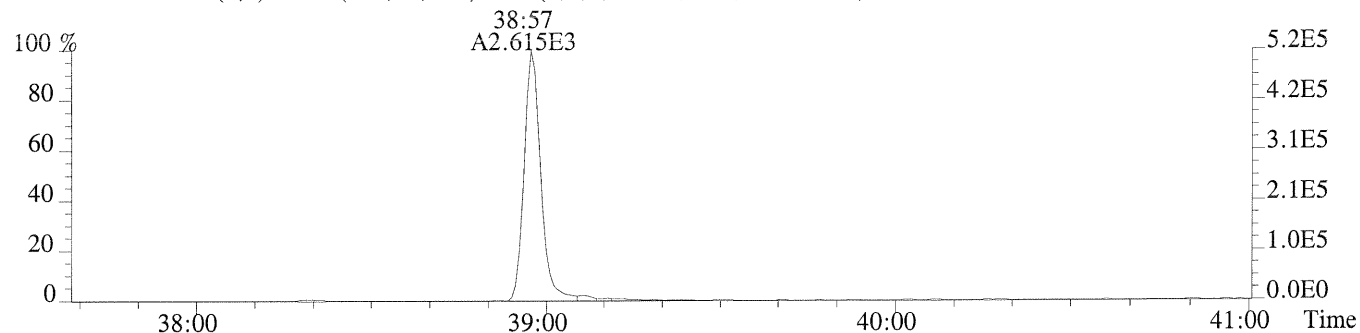
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



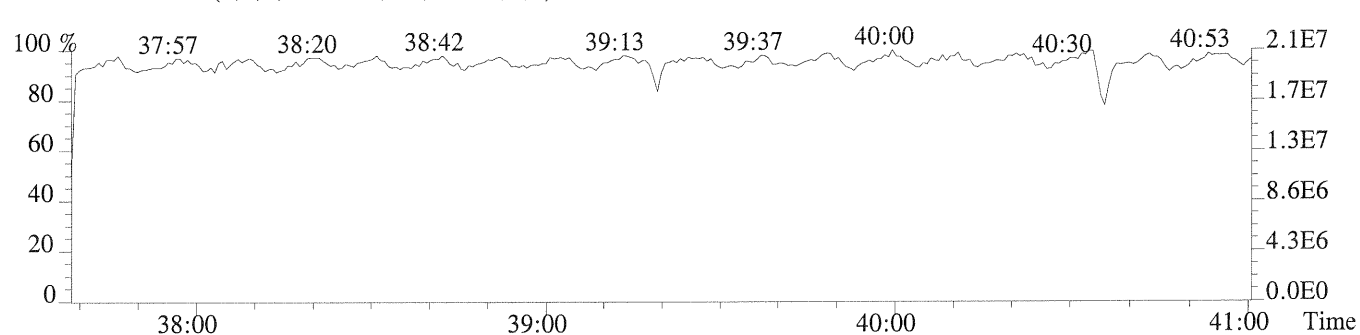
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,372.0,0.40%,F,T)



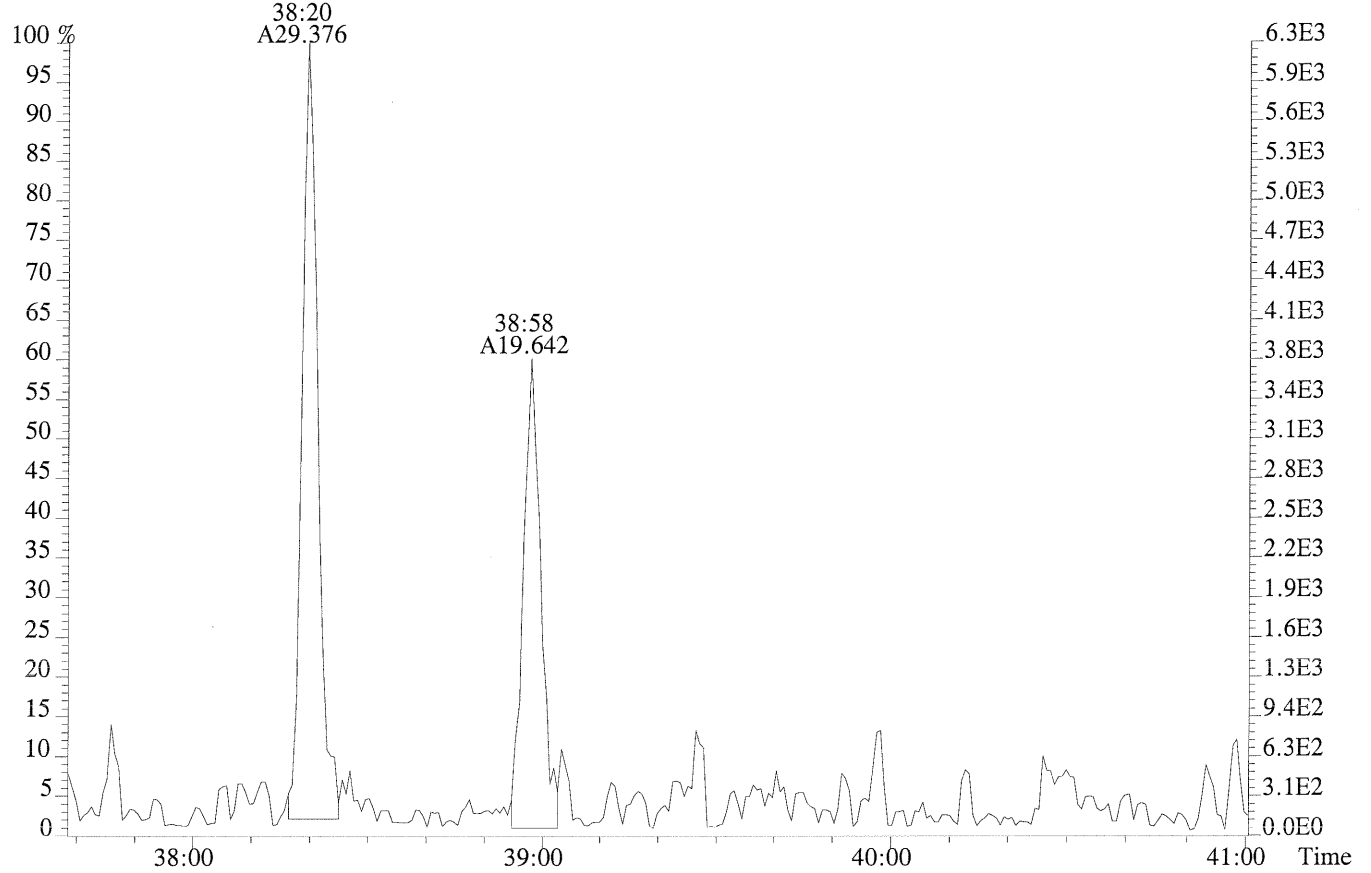
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,T)



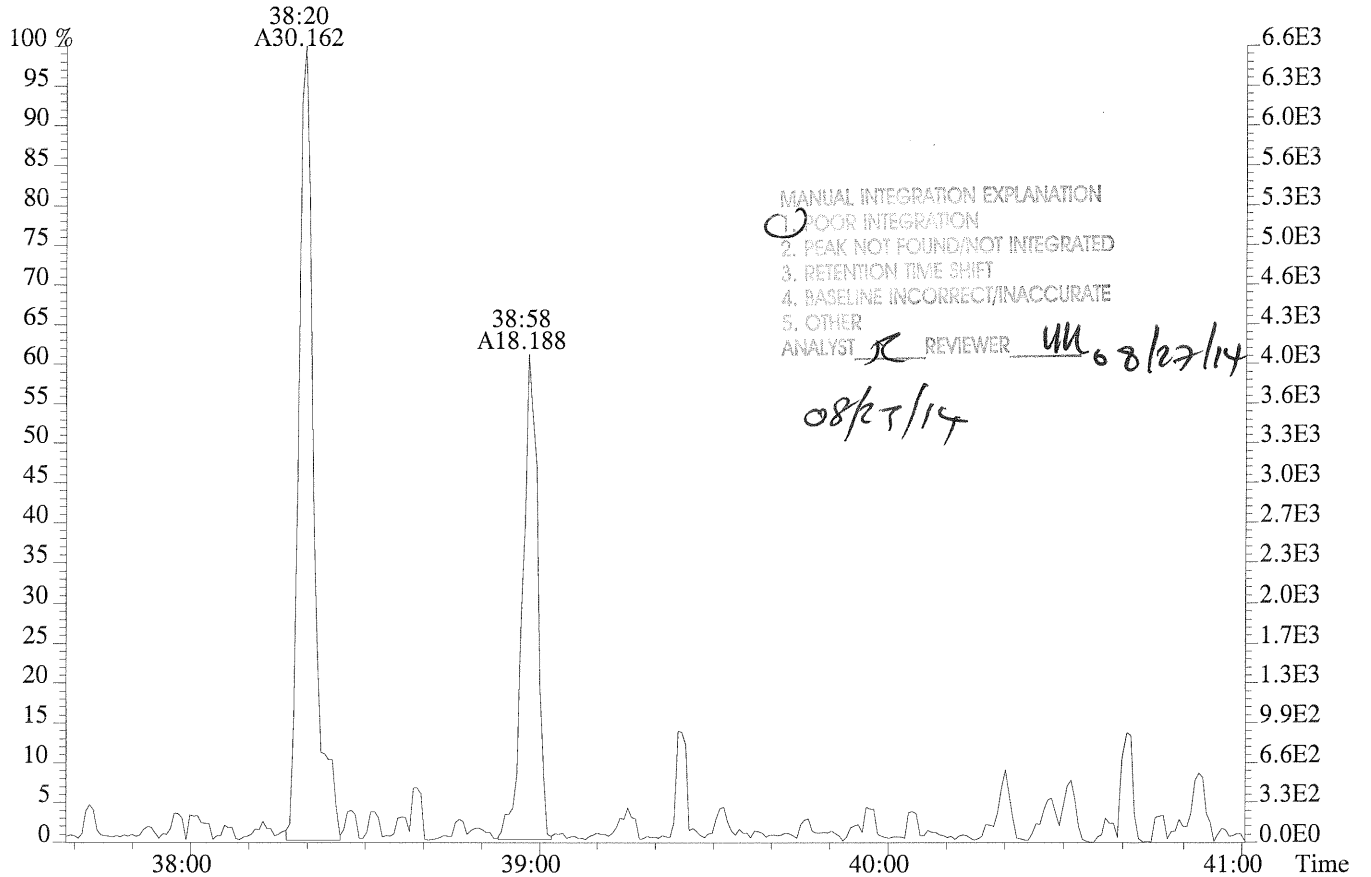
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173110 #1-306 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-002  
 423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)

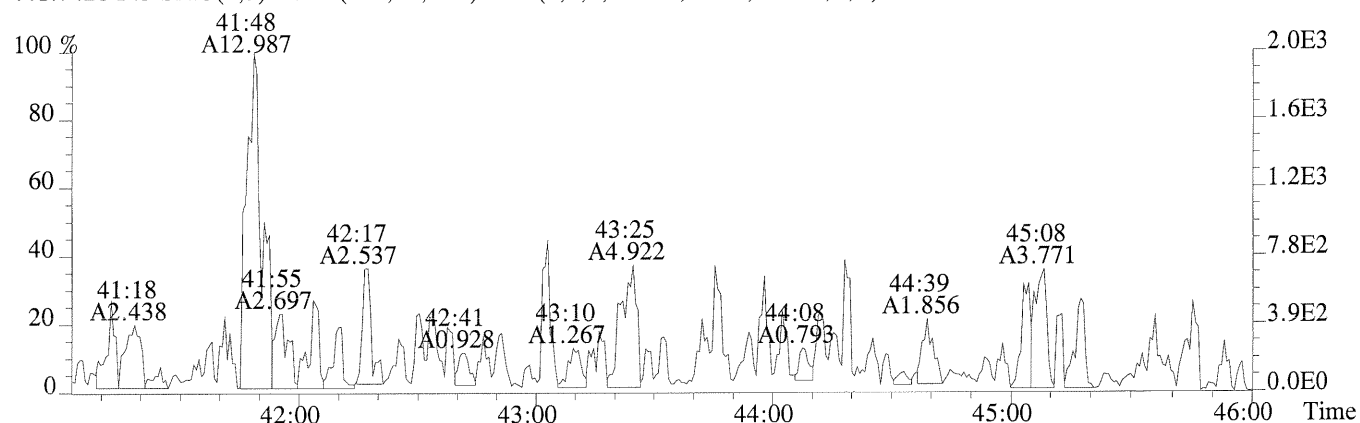




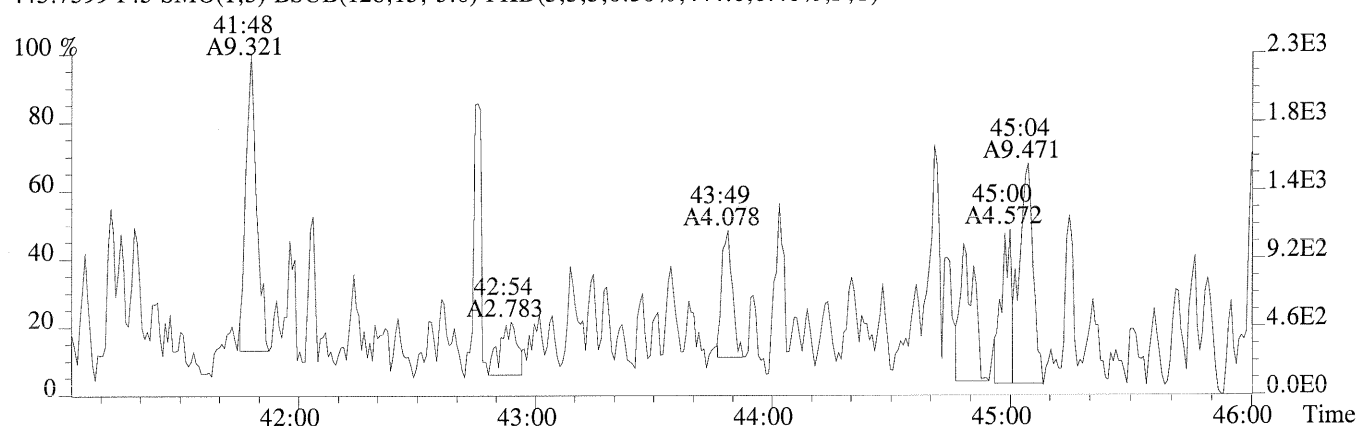
File:P173110 #1-456 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-002

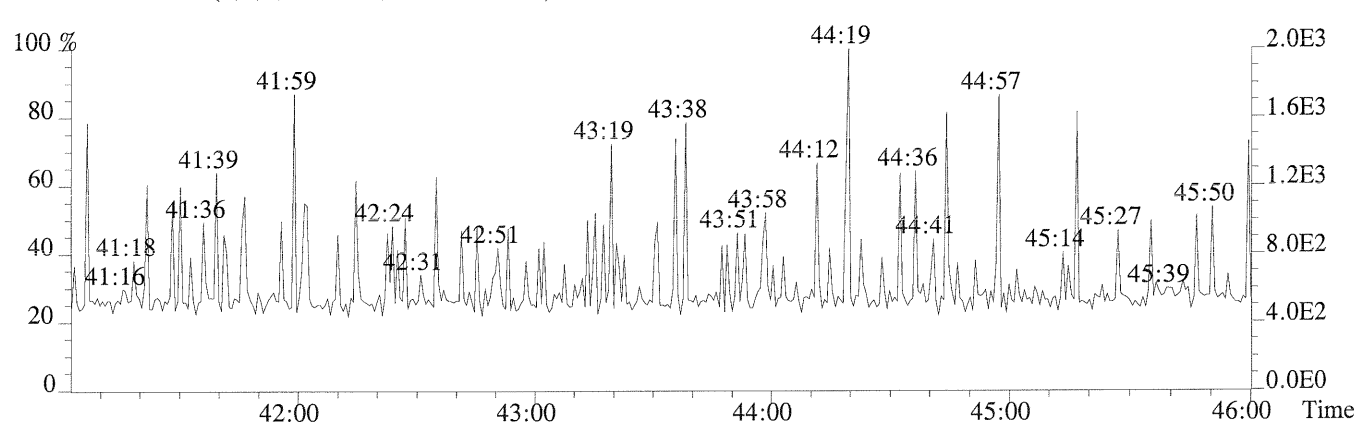
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,100.0,0.40%,F,T)



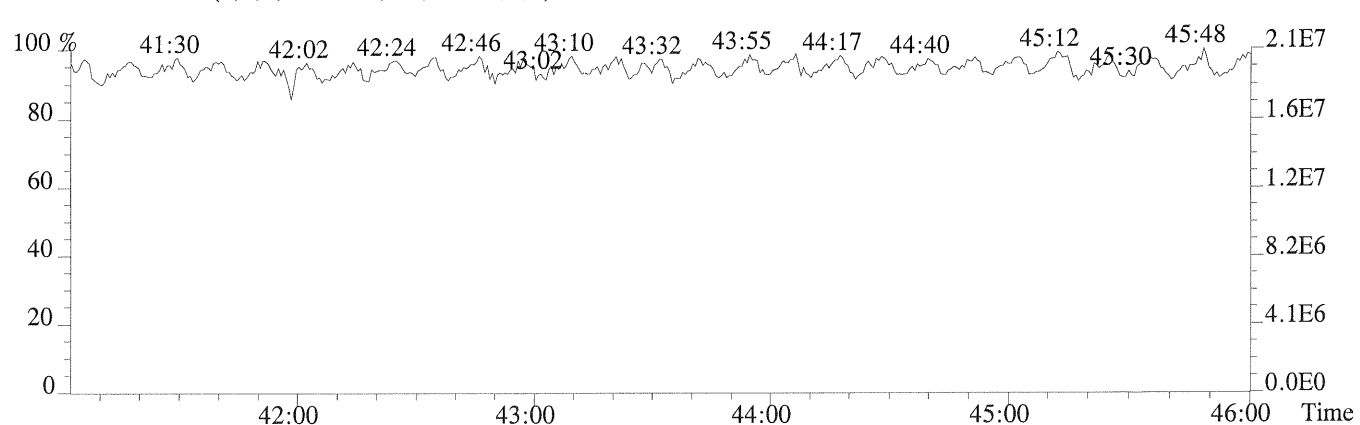
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,444.0,0.40%,F,T)



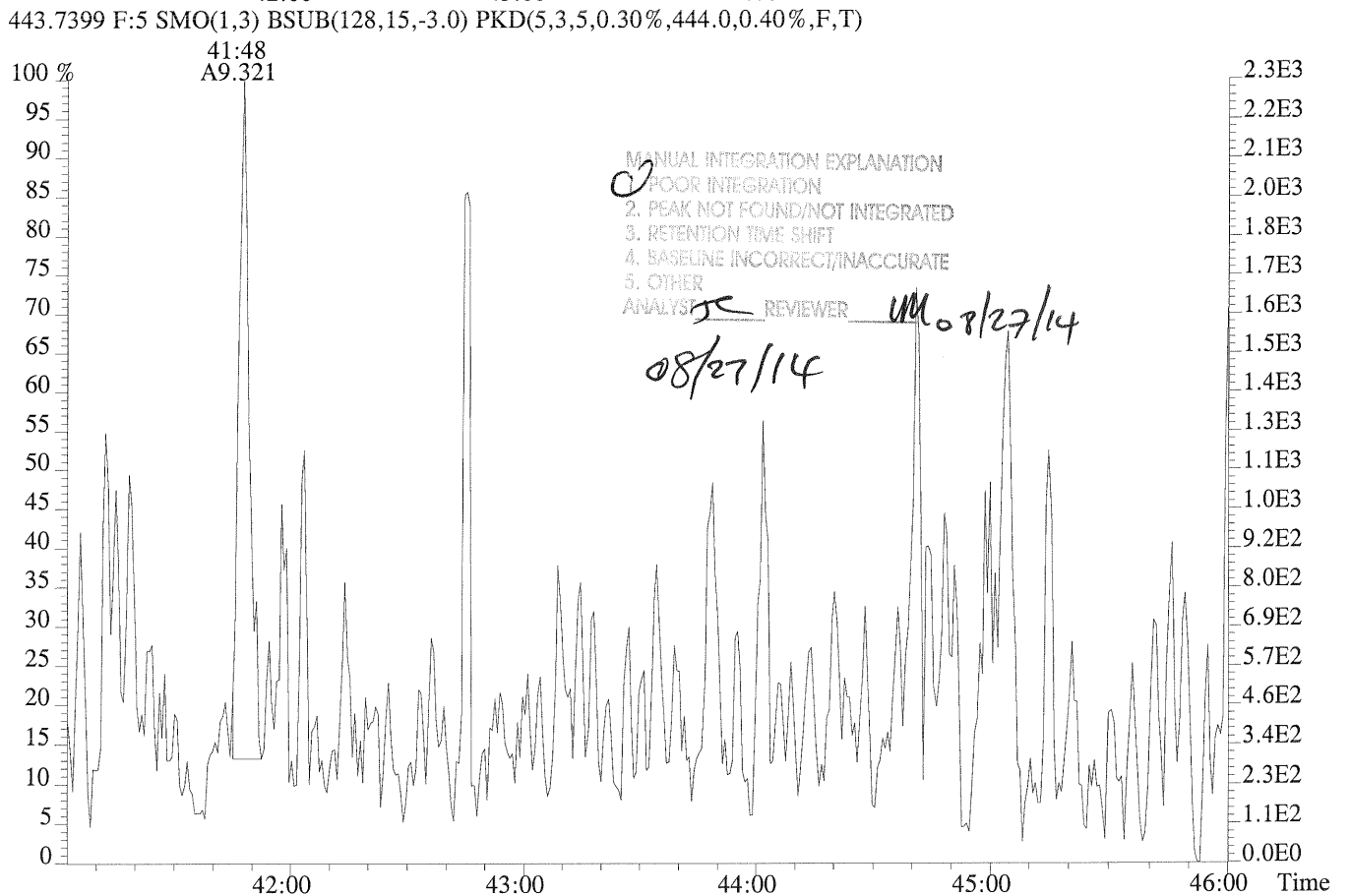
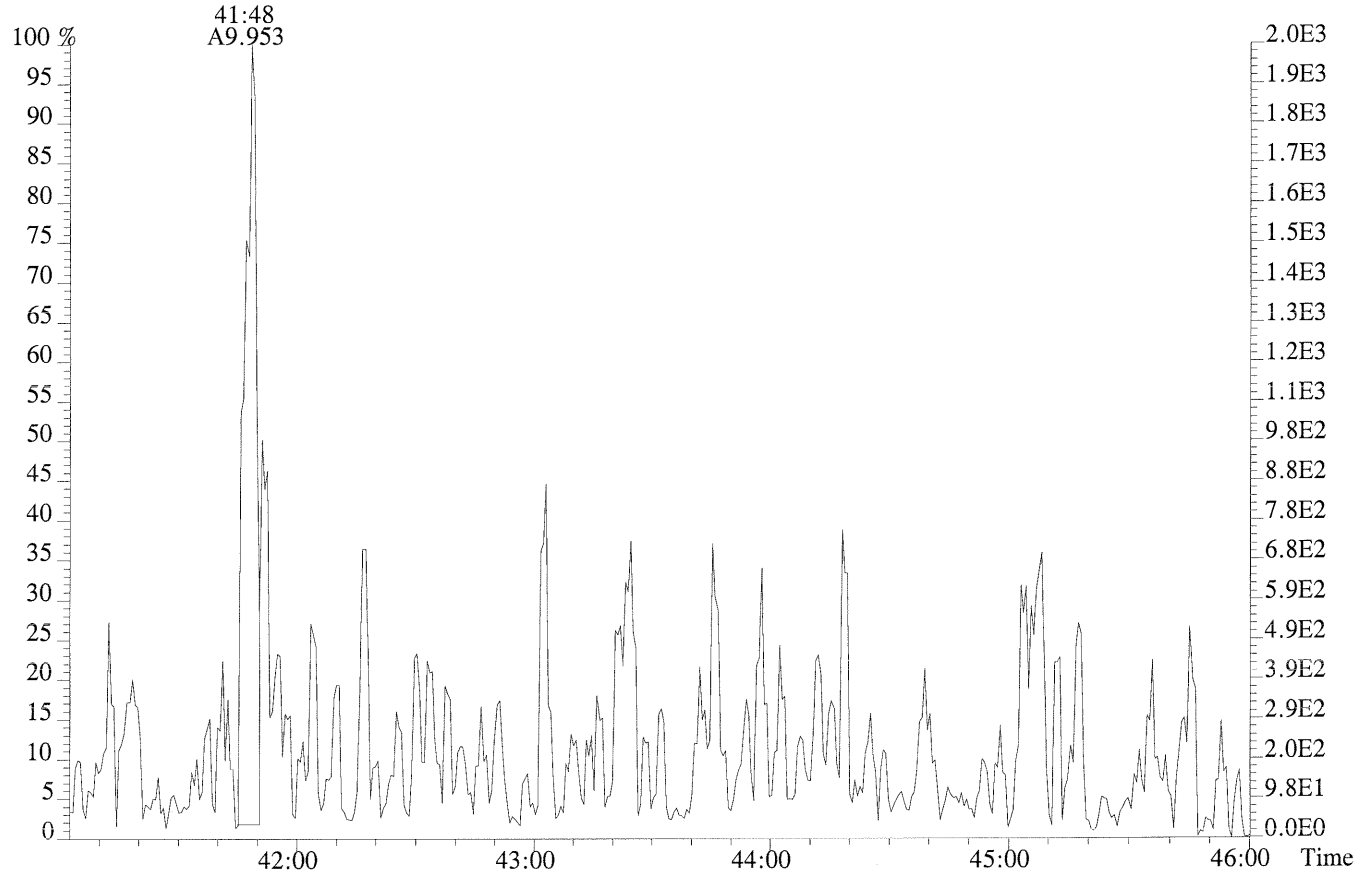
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



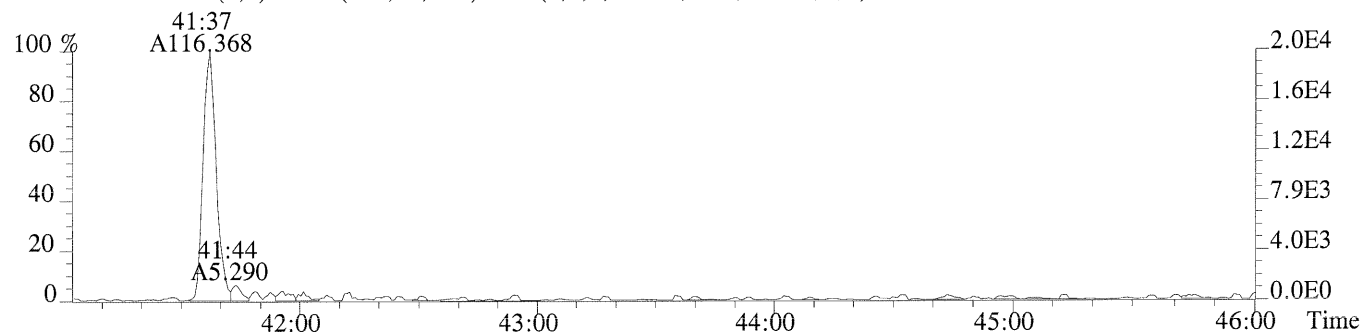
File:P173110 #1-456 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-002  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,100.0,0.40%,F,T)



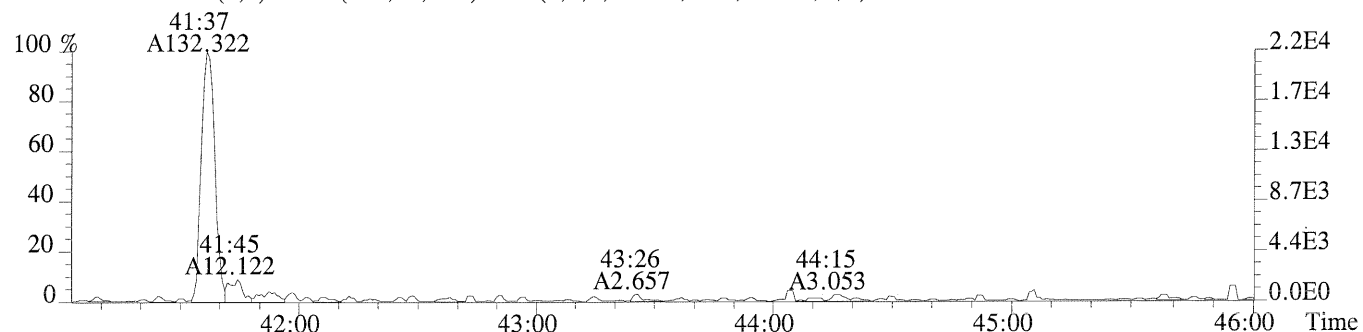
File:P173110 #1-456 Acq:26-AUG-2014 19:25:52 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-002

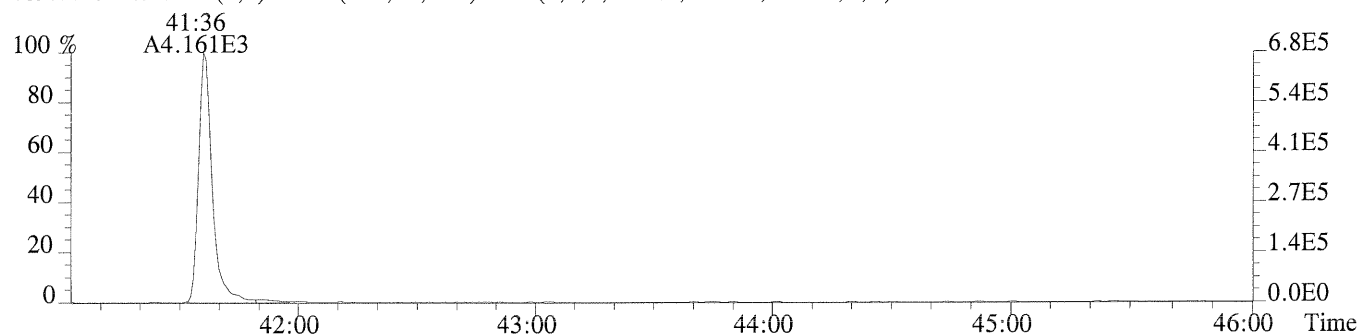
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,88.0,0.40%,F,T)



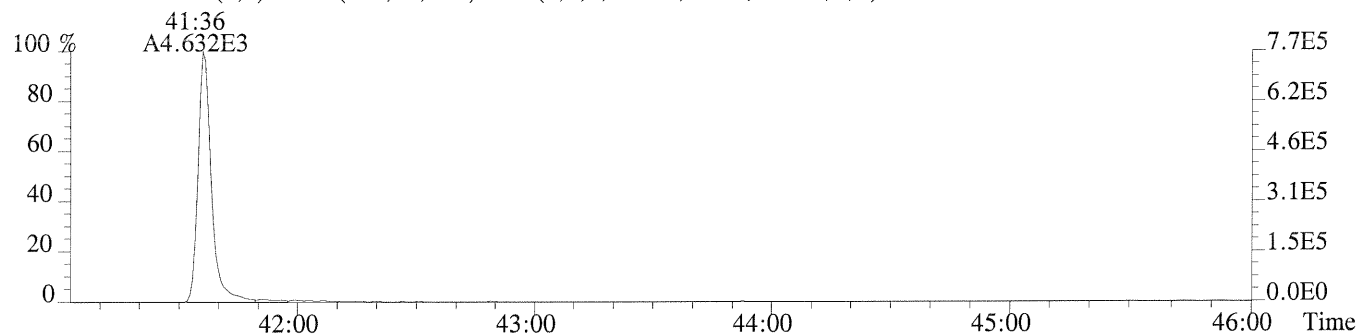
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,84.0,0.40%,F,T)



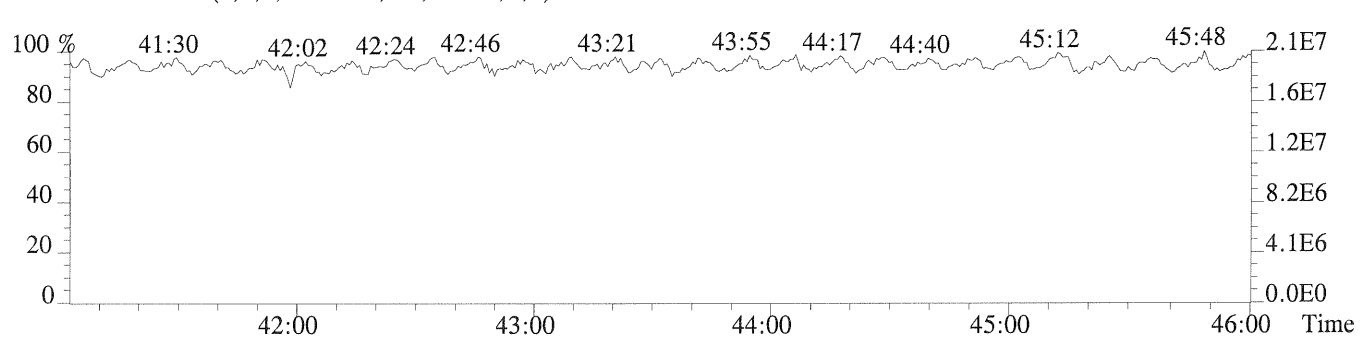
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,388.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 NV PRETEST RE7

Run #17 Filename P173111 Samp: 1 Inj: 1 Acquired: 26-AUG-14 20:14:00  
 Processed: 27-AUG-14 09:33:11 Sample ID: K1407971-003

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:06	1.063e+01	1.599e+01	0.66	no	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	41:49	1.171e+01	1.853e+01	0.63	no	yes	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	1.750e+01	1.608e+01	1.09	yes	yes	1.016
17 Unk	OCDD	41:36	1.117e+02	1.152e+02	0.97	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:21	1.561e+03	1.956e+03	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	3.043e+03	1.913e+03	1.59	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	3.074e+03	2.019e+03	1.52	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.579e+03	3.133e+03	0.50	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	2.026e+03	4.083e+03	0.50	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:03	1.814e+03	3.589e+03	0.51	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	1.605e+03	3.290e+03	0.49	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	1.372e+03	3.143e+03	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.280e+03	2.907e+03	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	1.188e+03	1.565e+03	0.76	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	2.833e+03	1.809e+03	1.57	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.731e+03	2.108e+03	1.30	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:17	2.651e+03	2.174e+03	1.22	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	2.361e+03	2.270e+03	1.04	yes	no	0.862
32 IS	13C-OCDD	41:36	3.243e+03	3.853e+03	0.84	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:33	3.556e+03	4.470e+03	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	6.797e+03	5.251e+03	1.29	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	1.053e+03				no	1.125

$$\text{OCDD} = \frac{(1.117e+02 + 1.152e+02) \times 4000 \text{ pg} \times 1}{(3.243e+03 + 3.853e+03) \times 8.3 \text{ g} \times 100 / 100 \times 1.079}$$

14.281  
~~14.281~~ mg/kg  
 UM 08/27/14

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1613RESPA

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV PRETEST REP.3

Run #17 Filename P173111 Samp: 1 Inj: 1 Acquired: 26-AUG-14 20:14:00  
Processed: 27-AUG-14 09:33:11 LAB. ID: K1407971-003

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.60e+02	*	*	7.72e+02	*
2	1,2,3,7,8-PeCDF	*	7.20e+01	*	*	4.32e+02	*
3	2,3,4,7,8-PeCDF	*	7.20e+01	*	*	4.32e+02	*
4	1,2,3,4,7,8-HxCDF	*	1.68e+02	*	*	9.60e+01	*
5	1,2,3,6,7,8-HxCDF	*	1.68e+02	*	*	9.60e+01	*
6	2,3,4,6,7,8-HxCDF	*	1.68e+02	*	*	9.60e+01	*
7	1,2,3,7,8,9-HxCDF	*	1.68e+02	*	*	9.60e+01	*
8	1,2,3,4,6,7,8-HpCDF	2.01e+03	6.80e+01	3.0e+01	4.14e+03	6.00e+01	6.9e+01
9	1,2,3,4,7,8,9-HpCDF	*	6.80e+01	*	*	6.00e+01	*
10	OCDF	2.62e+03	2.76e+02	9.5e+00	4.34e+03	5.52e+02	7.9e+00
11	2,3,7,8-TCDD	*	3.60e+02	*	*	3.84e+02	*
12	1,2,3,7,8-PeCDD	*	3.24e+02	*	*	6.40e+01	*
13	1,2,3,4,7,8-HxCDD	*	8.80e+01	*	*	3.16e+02	*
14	1,2,3,6,7,8-HxCDD	*	8.80e+01	*	*	3.16e+02	*
15	1,2,3,7,8,9-HxCDD	*	8.80e+01	*	*	3.16e+02	*
16	1,2,3,4,6,7,8-HpCDD	4.07e+03	7.20e+01	5.7e+01	2.93e+03	5.20e+01	5.6e+01
17	OCDD	1.87e+04	8.80e+01	2.1e+02	1.73e+04	5.60e+01	3.1e+02
18	13C-2,3,7,8-TCDF	2.42e+05	4.40e+02	5.5e+02	3.08e+05	5.92e+02	5.2e+02
19	13C-1,2,3,7,8-PeCDF	5.08e+05	8.80e+01	5.8e+03	3.23e+05	1.48e+02	2.2e+03
20	13C-2,3,4,7,8-PeCDF	5.57e+05	8.80e+01	6.3e+03	3.75e+05	1.48e+02	2.5e+03
21	13C-1,2,3,4,7,8-HxCDF	3.20e+05	1.44e+02	2.2e+03	6.48e+05	5.84e+02	1.1e+03
22	13C-1,2,3,6,7,8-HxCDF	3.83e+05	1.44e+02	2.7e+03	7.96e+05	5.84e+02	1.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.67e+05	1.44e+02	2.6e+03	7.31e+05	5.84e+02	1.3e+03
24	13C-1,2,3,7,8,9-HxCDF	3.02e+05	1.44e+02	2.1e+03	6.32e+05	5.84e+02	1.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.81e+05	5.28e+02	5.3e+02	6.49e+05	5.60e+02	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.29e+05	5.28e+02	4.3e+02	5.21e+05	5.60e+02	9.3e+02
27	13C-2,3,7,8-TCDD	2.11e+05	2.13e+03	9.9e+01	2.65e+05	9.56e+02	2.8e+02
28	13C-1,2,3,7,8-PeCDD	5.27e+05	3.92e+02	1.3e+03	3.23e+05	2.16e+02	1.5e+03
29	13C-1,2,3,4,7,8-HxCDD	5.78e+05	2.52e+02	2.3e+03	4.48e+05	2.04e+02	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	5.19e+05	2.52e+02	2.1e+03	4.42e+05	2.04e+02	2.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.65e+05	3.72e+02	1.3e+03	4.47e+05	9.60e+01	4.7e+03
32	13C-OCDD	5.35e+05	3.68e+02	1.5e+03	6.35e+05	1.05e+03	6.1e+02
33	13C-1,2,3,4-TCDD	6.06e+05	2.13e+03	2.8e+02	7.68e+05	9.56e+02	8.0e+02
34	13C-1,2,3,7,8,9-HxCDD	1.33e+06	2.52e+02	5.3e+03	1.02e+06	2.04e+02	5.0e+03
35	37Cl-2,3,7,8-TCDD	1.73e+05	2.64e+02	6.6e+02			

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Peak List Summary

CLIENT ID.

NV PRETEST REP.3

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 17 File: P173111 Sample: 1 Injection: 1 Function: 4  
Llim: 38:14 Ulim: 39:08  
Acquired: 26-AUG-14 20:14:00 Processed: 27-AUG-14 09:33:11  
Mass: 423.7770 425.7740 Tot Response: 8.16e+01 RRF: 1.016

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:19	2.28e+01	2.52e+01	0.91	yes	4.80e+01	n	y
2	38:58	1.75e+01	1.61e+01	1.09	yes	3.36e+01	y	n

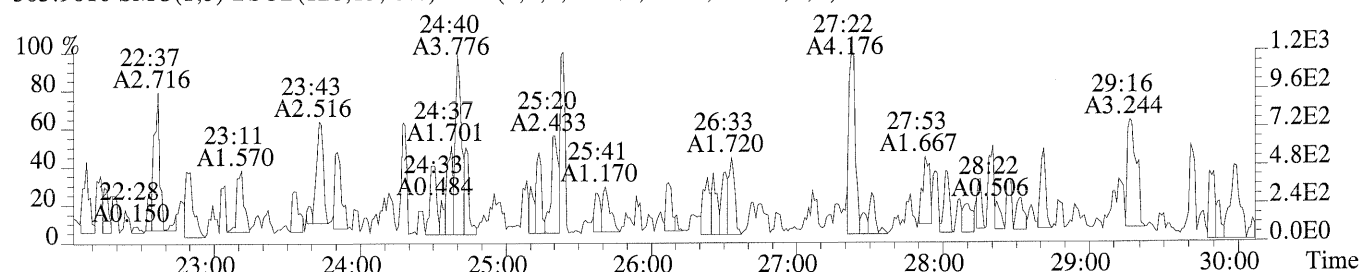
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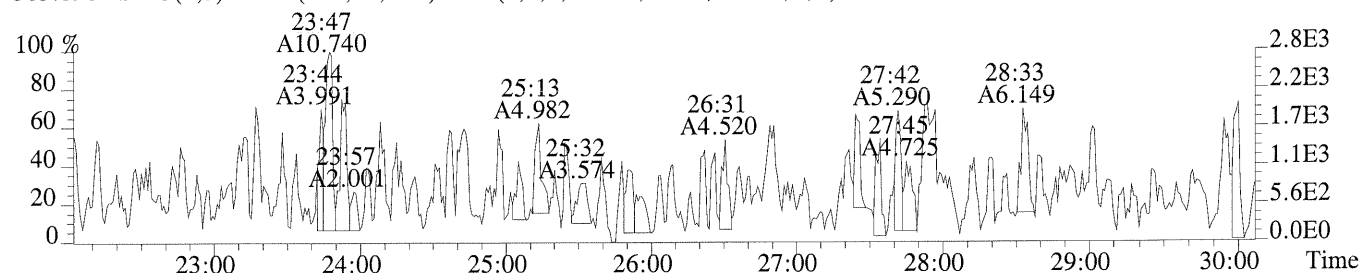
File:P173111 #1-579 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-003

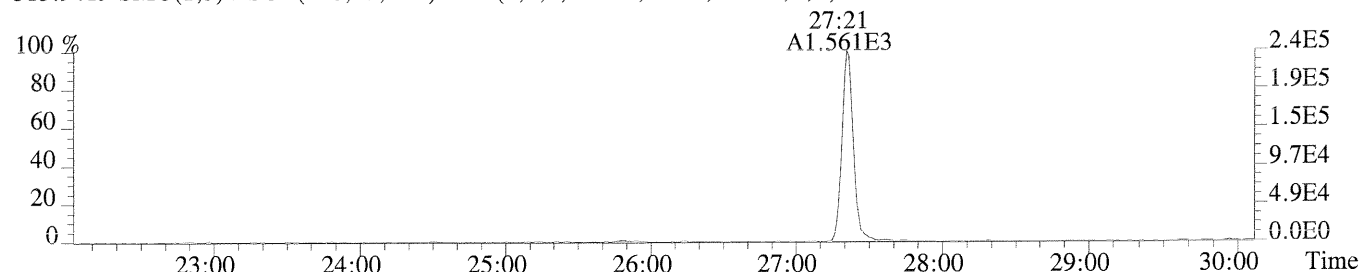
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



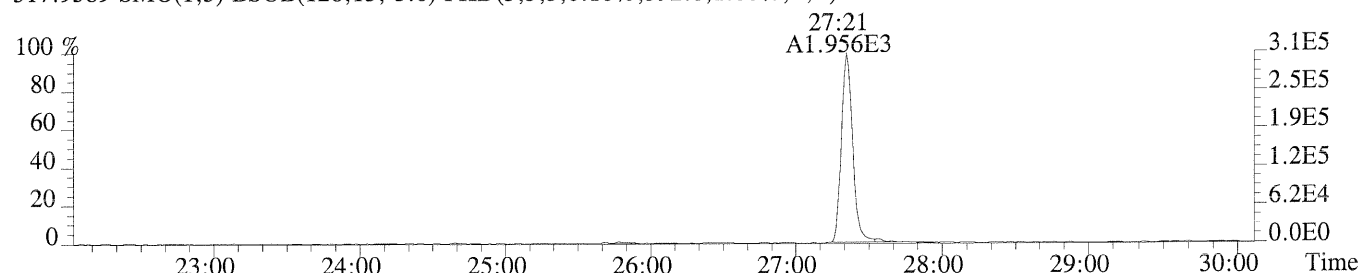
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



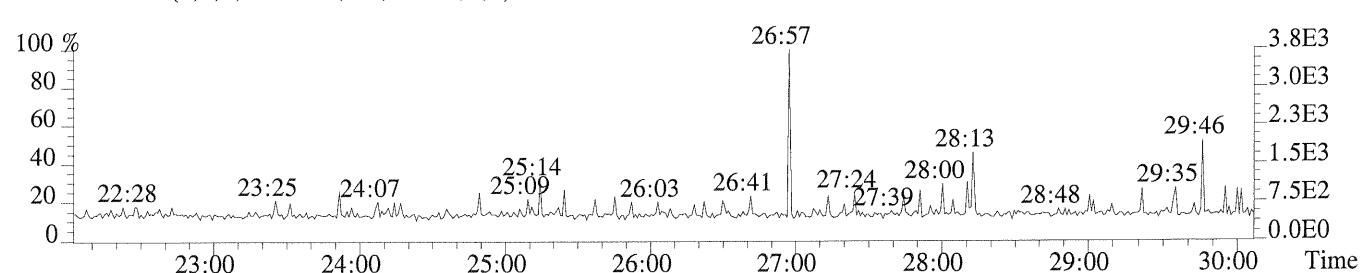
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



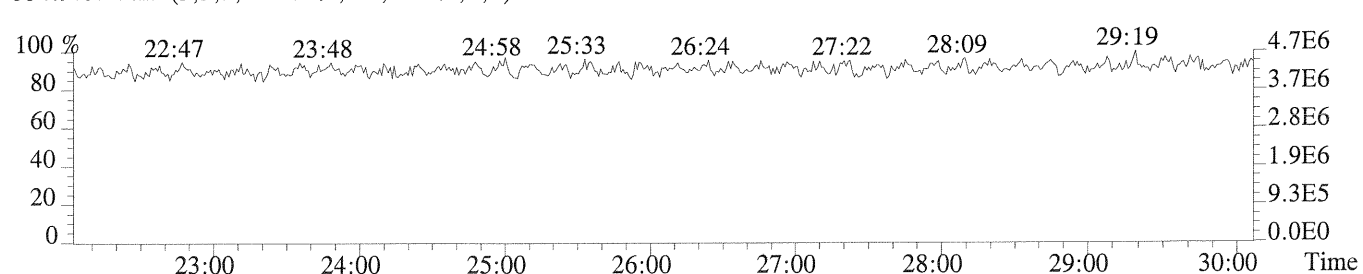
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



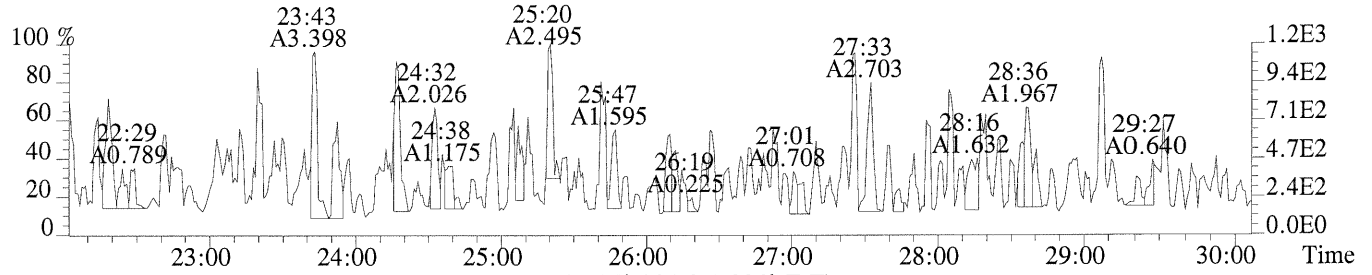
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



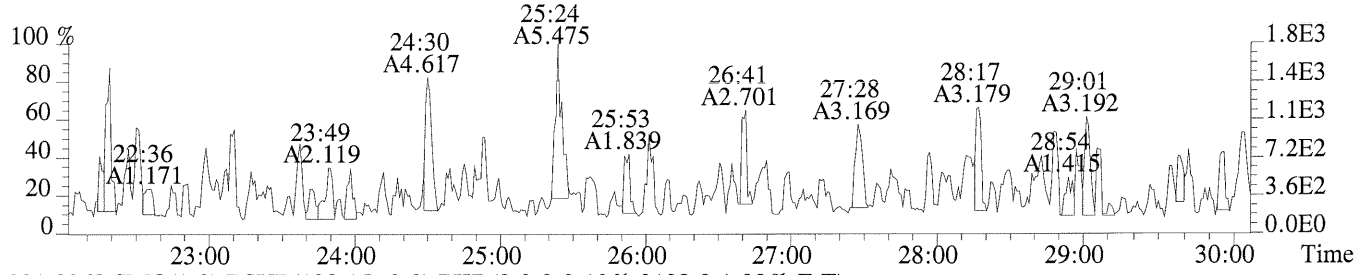
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



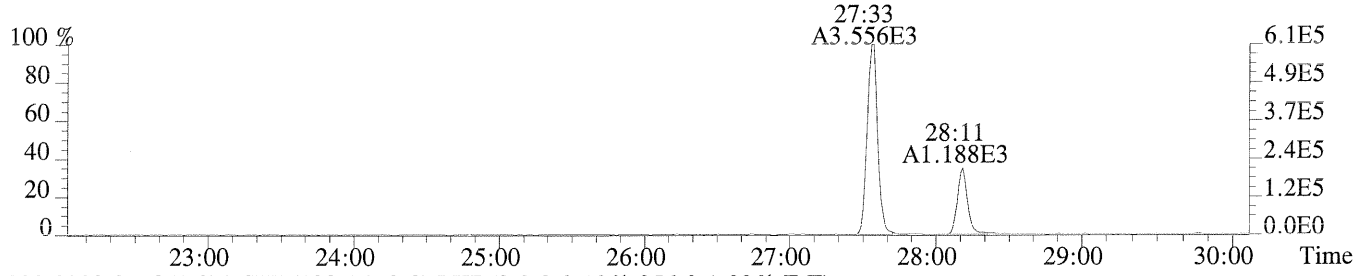
File:P173111 #1-579 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
319.8965 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,T)



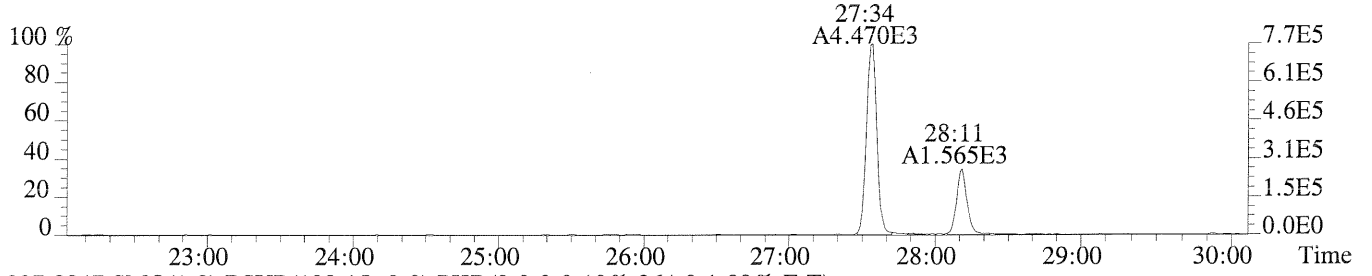
321.8936 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,384.0,1.00%,F,T)



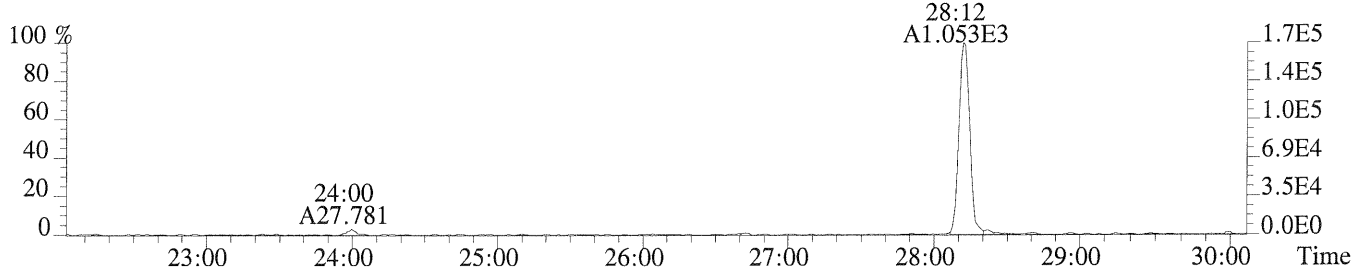
331.9368 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,2128.0,1.00%,F,T)



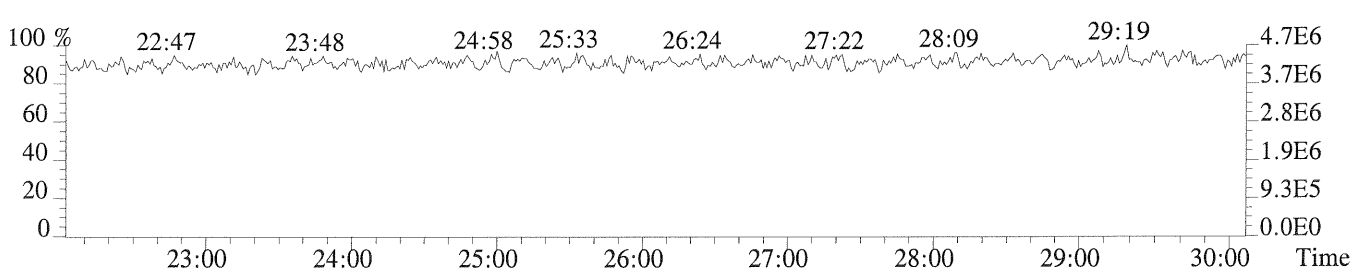
333.9339 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,T)



327.8847 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)

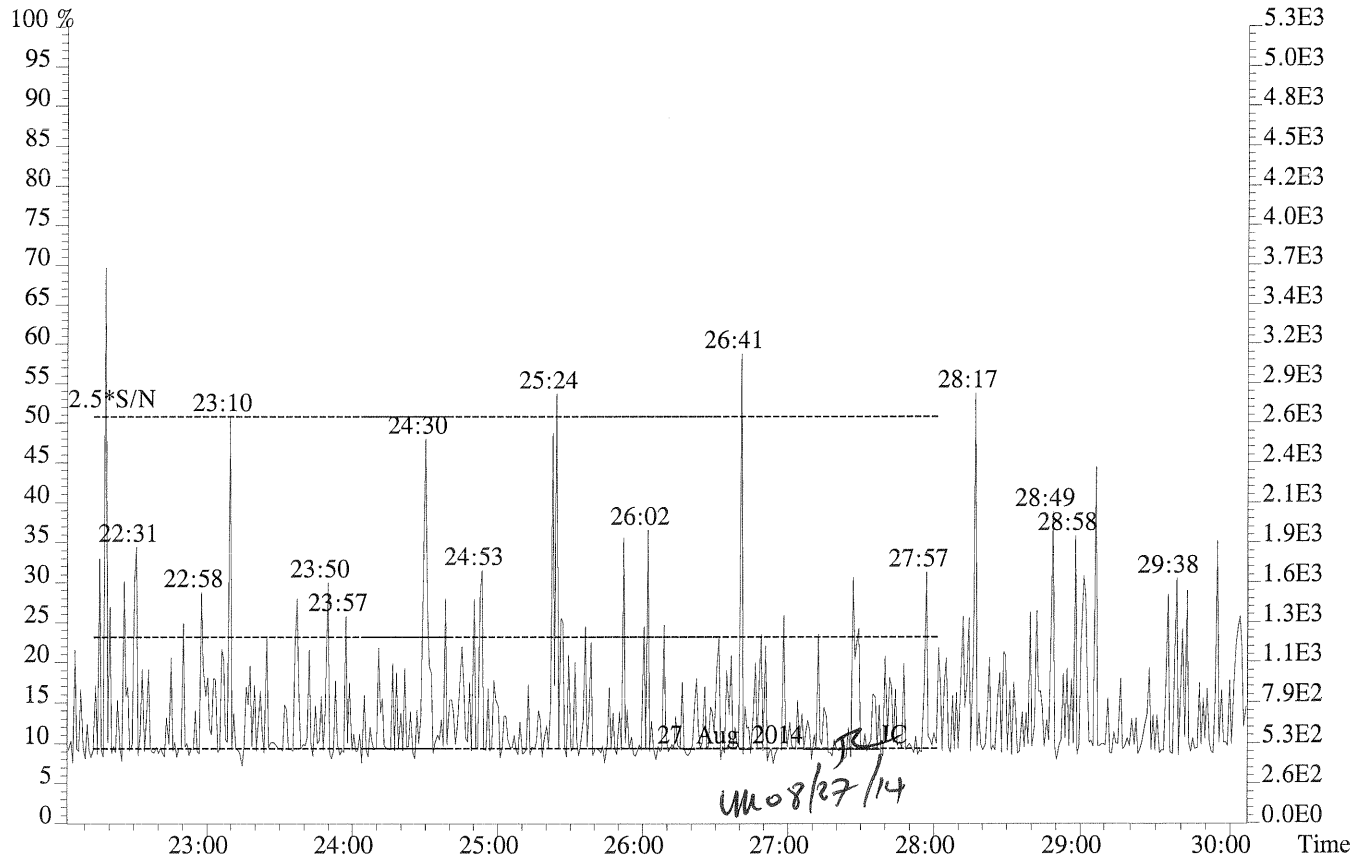
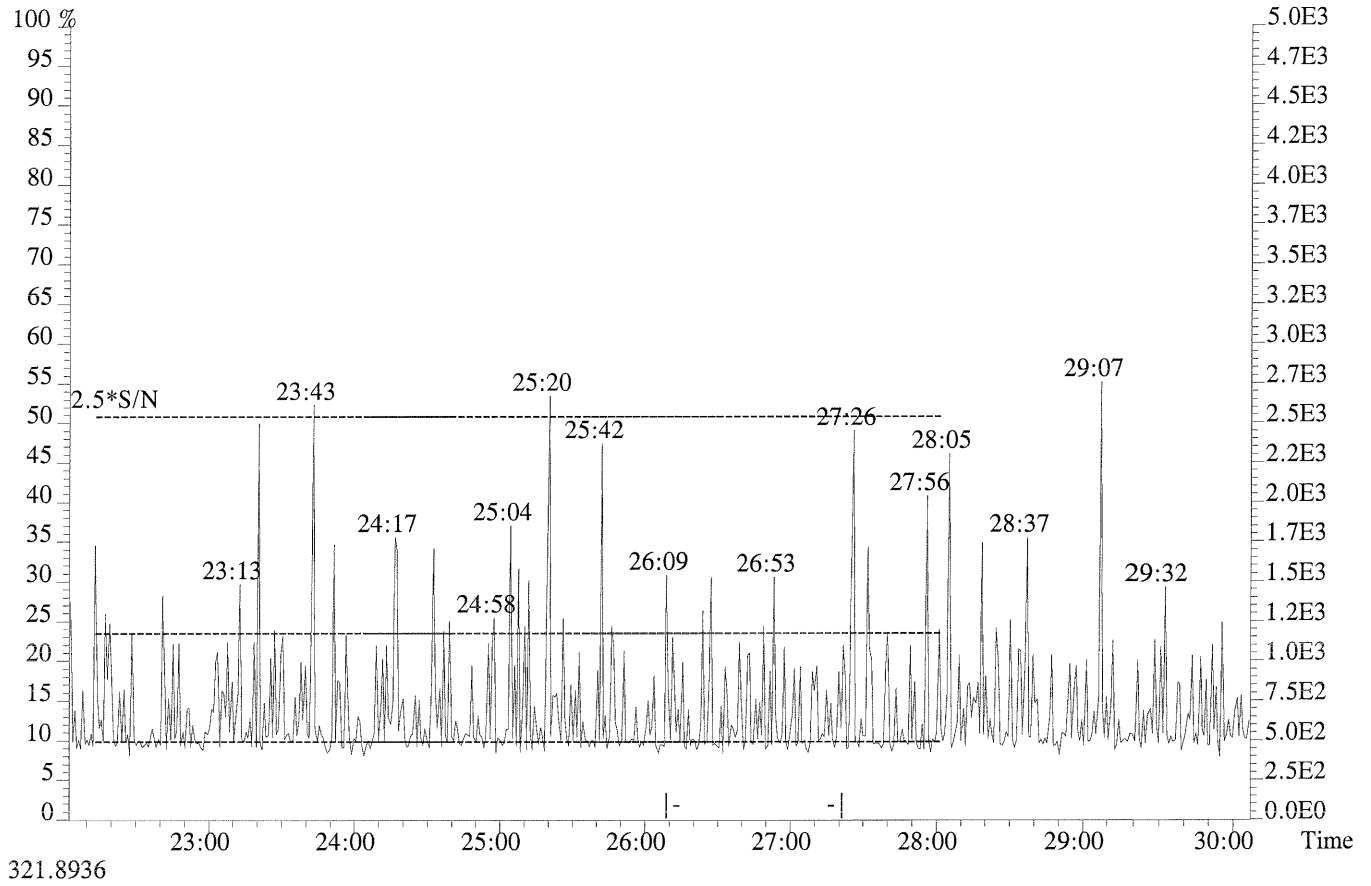


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

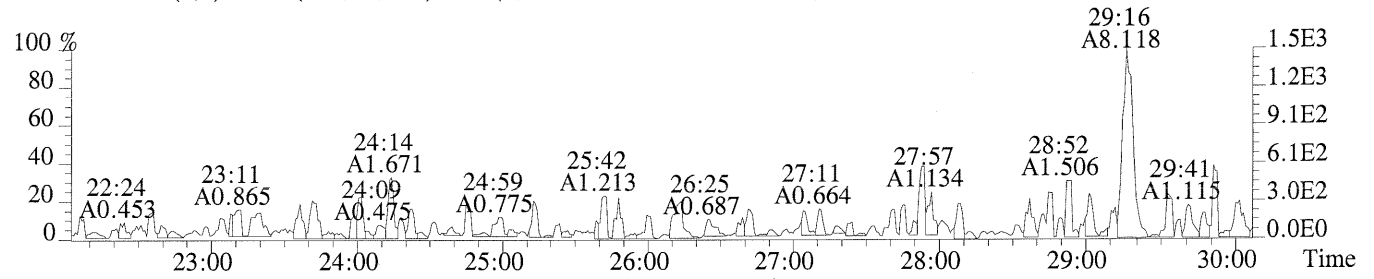




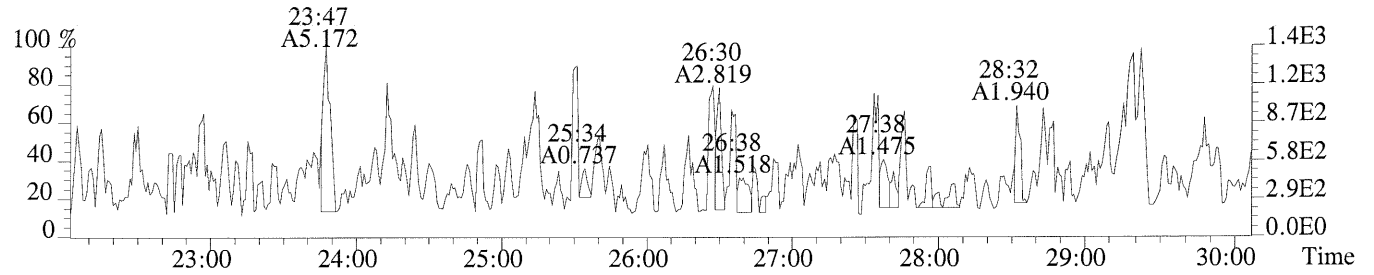
File:P173111 #1-579 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
319.8965



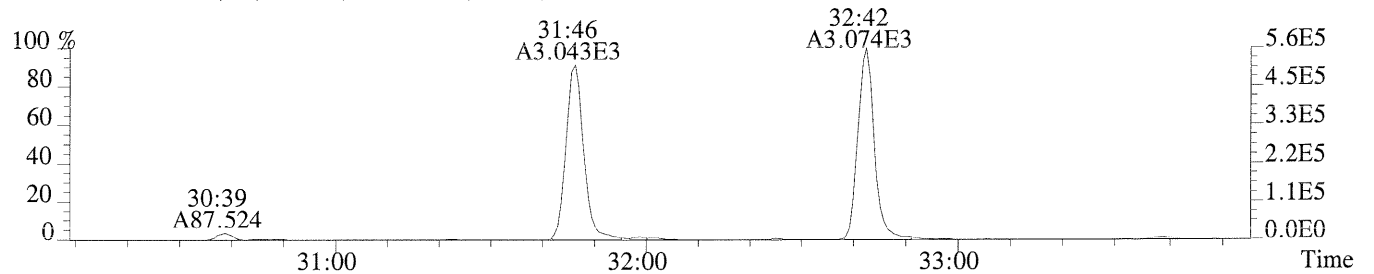
File:P173111 #1-579 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



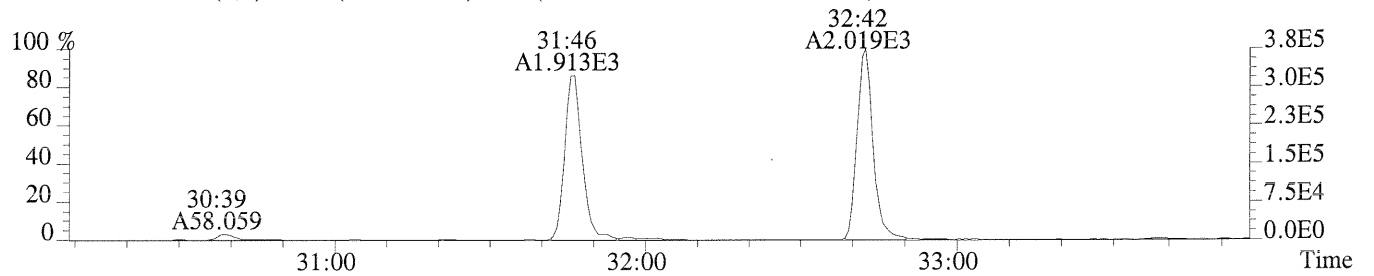
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



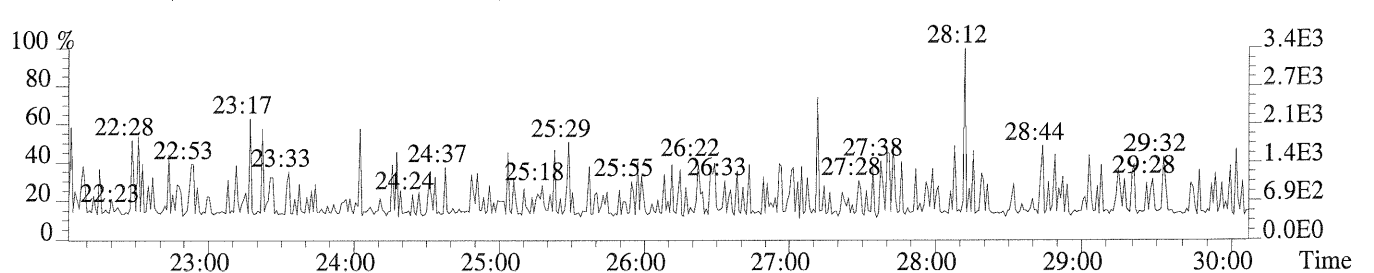
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,T)



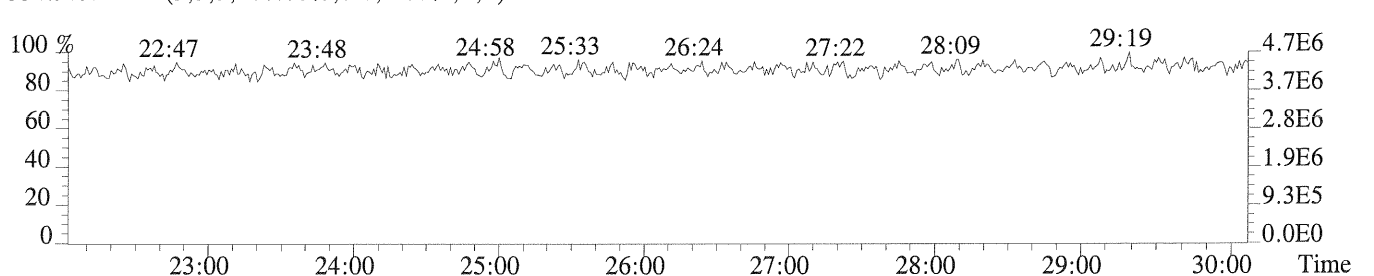
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



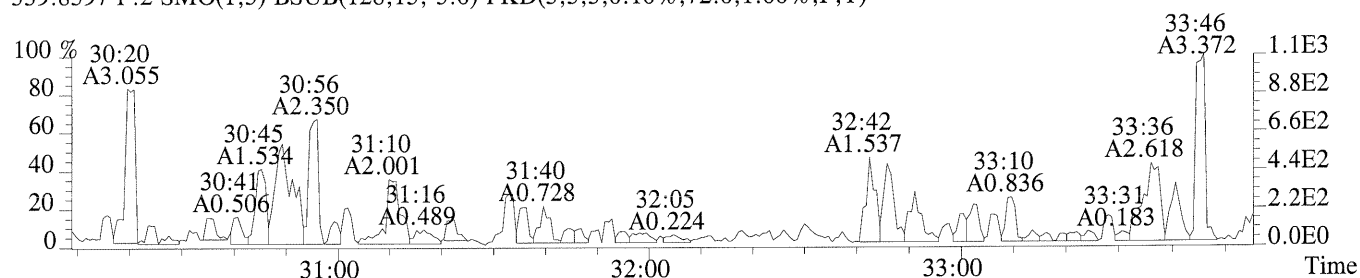
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



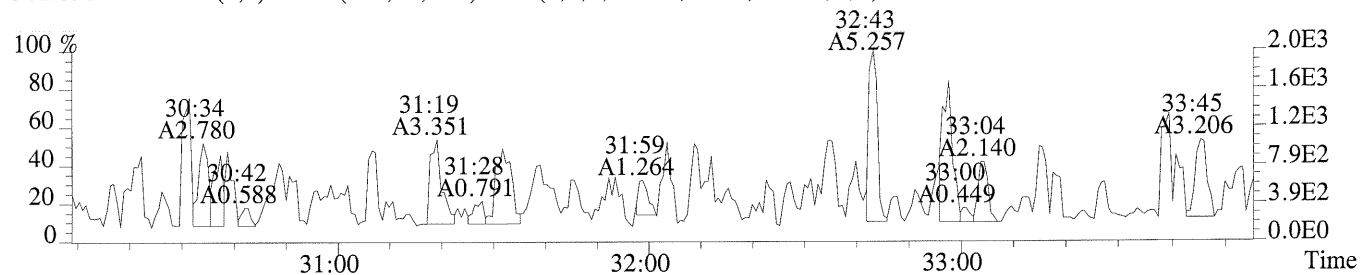
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



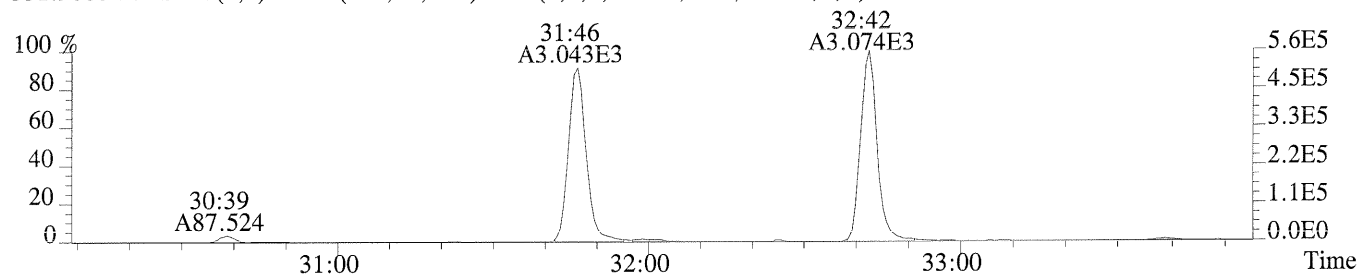
File:P173111 #1-343 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



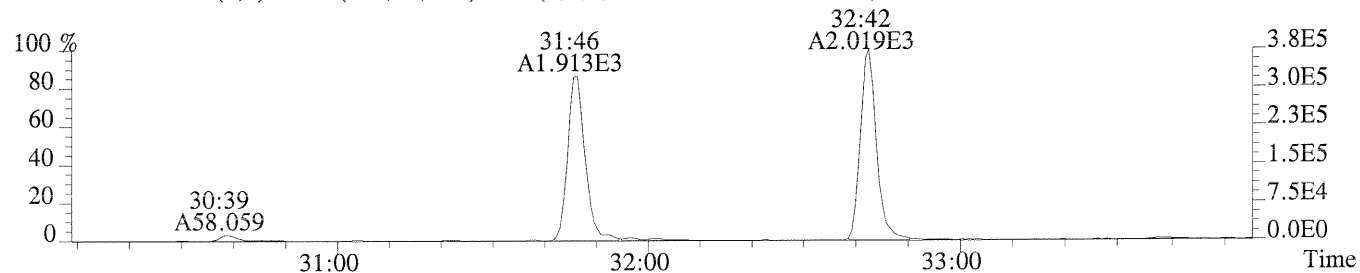
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



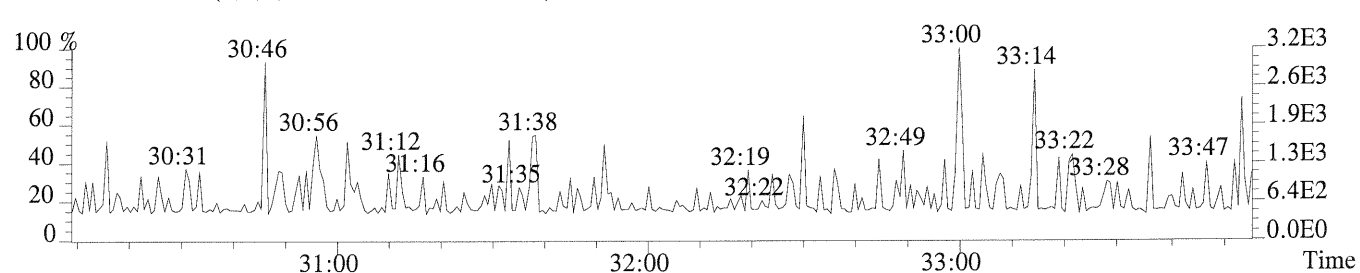
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,T)



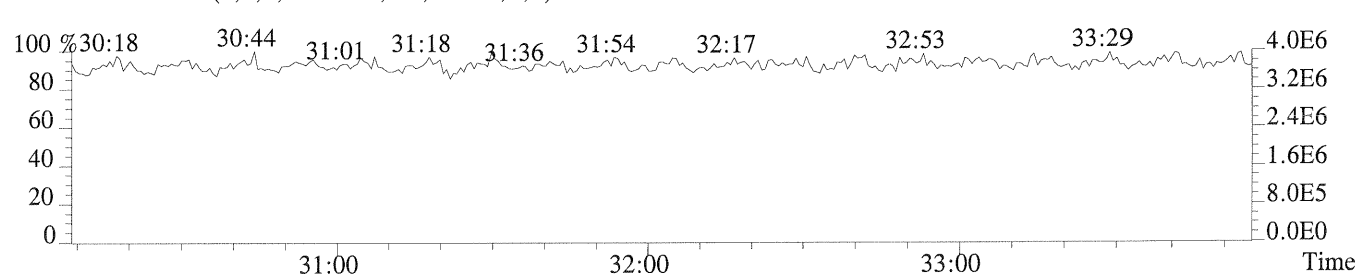
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



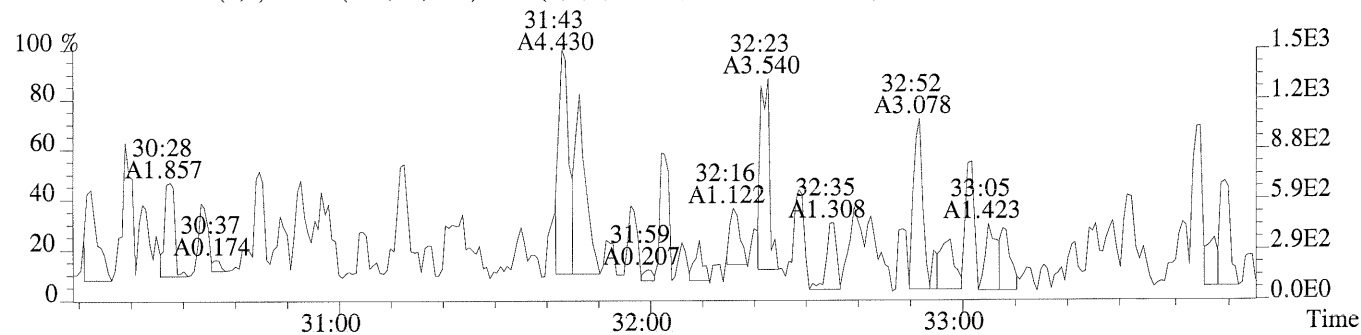
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



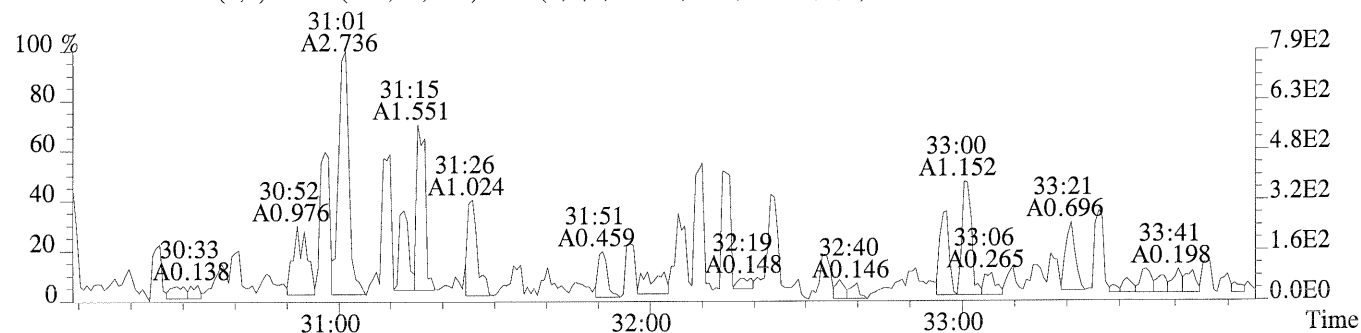
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



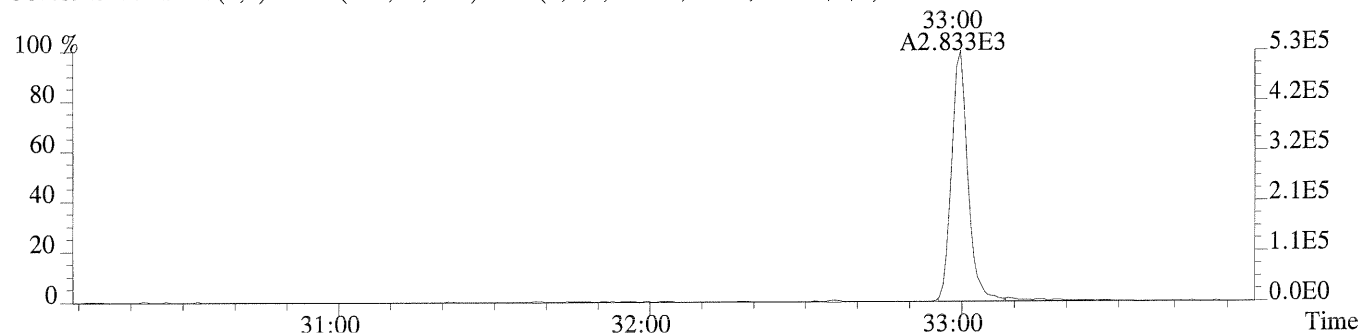
File:P173111 #1-343 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,T)



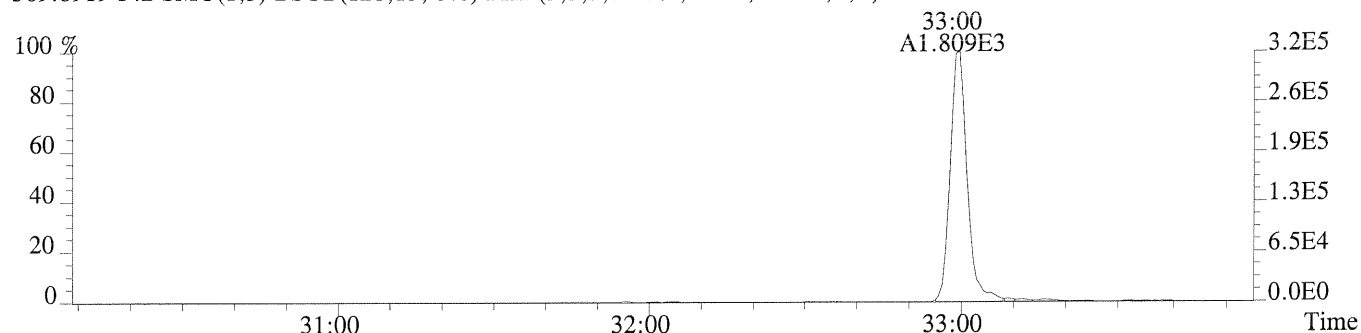
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



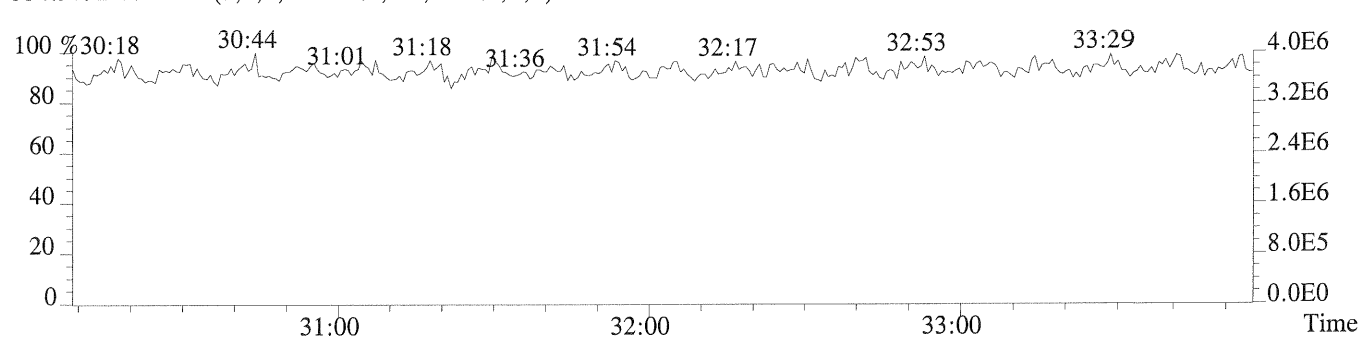
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,T)



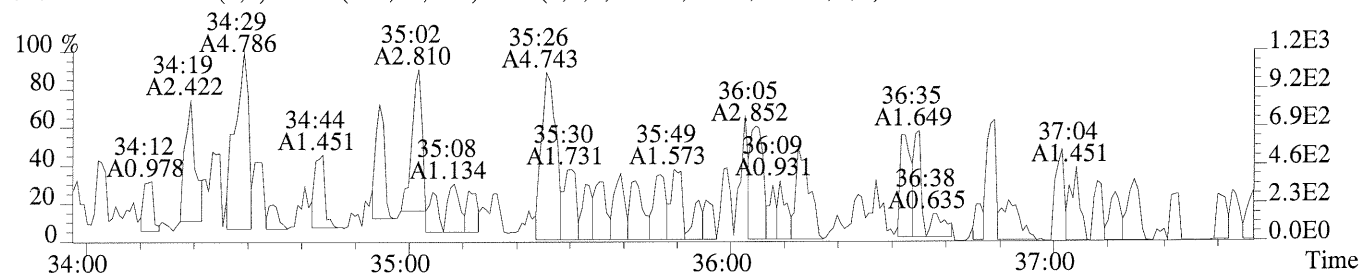
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



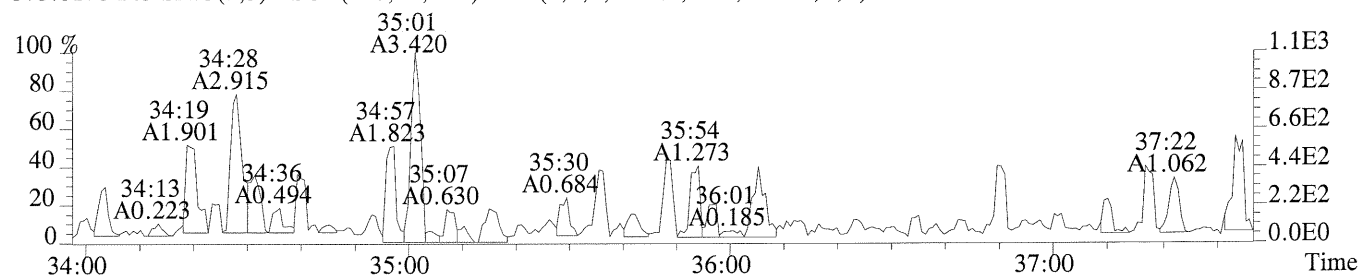
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



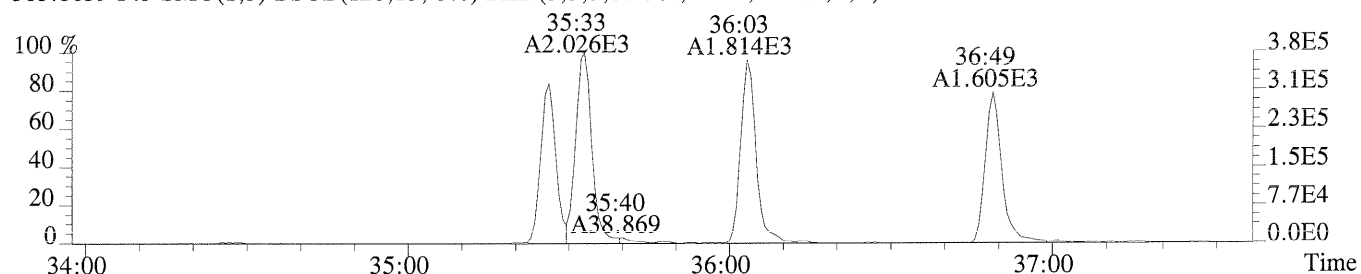
File:P173111 #1-332 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



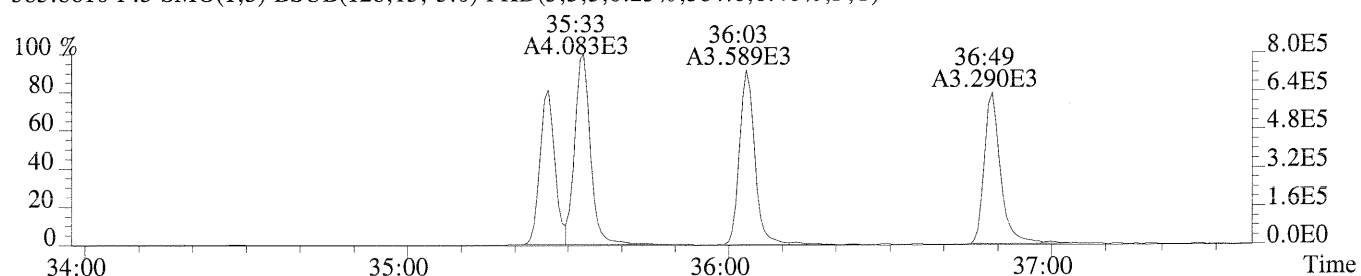
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,T)



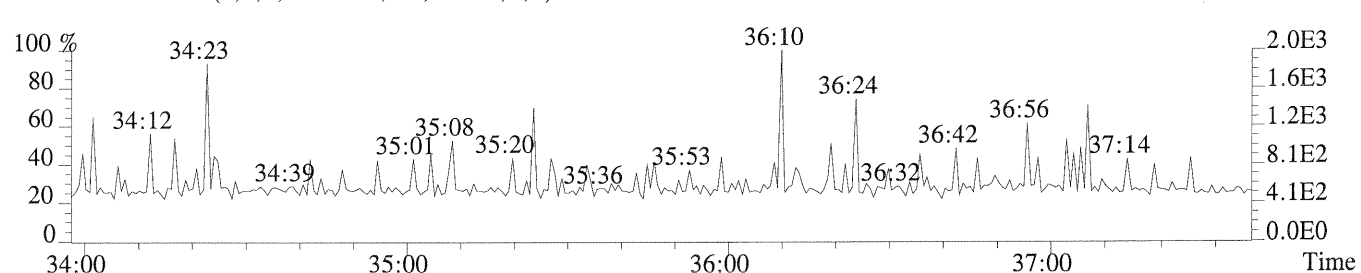
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,144.0,0.40%,F,T)



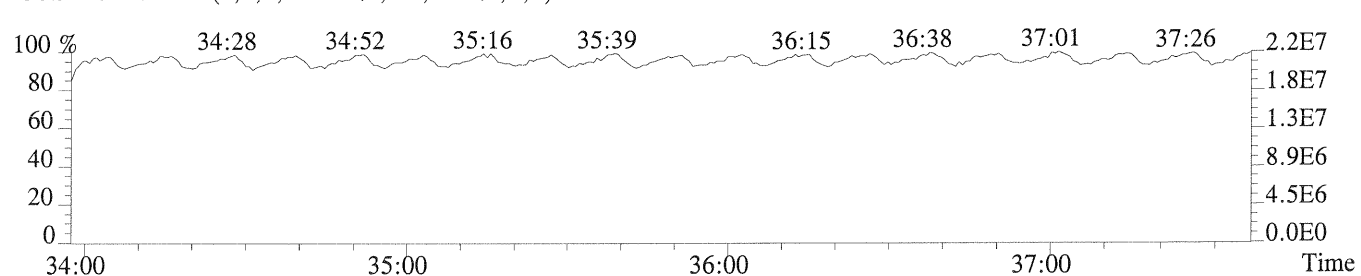
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,584.0,0.40%,F,T)

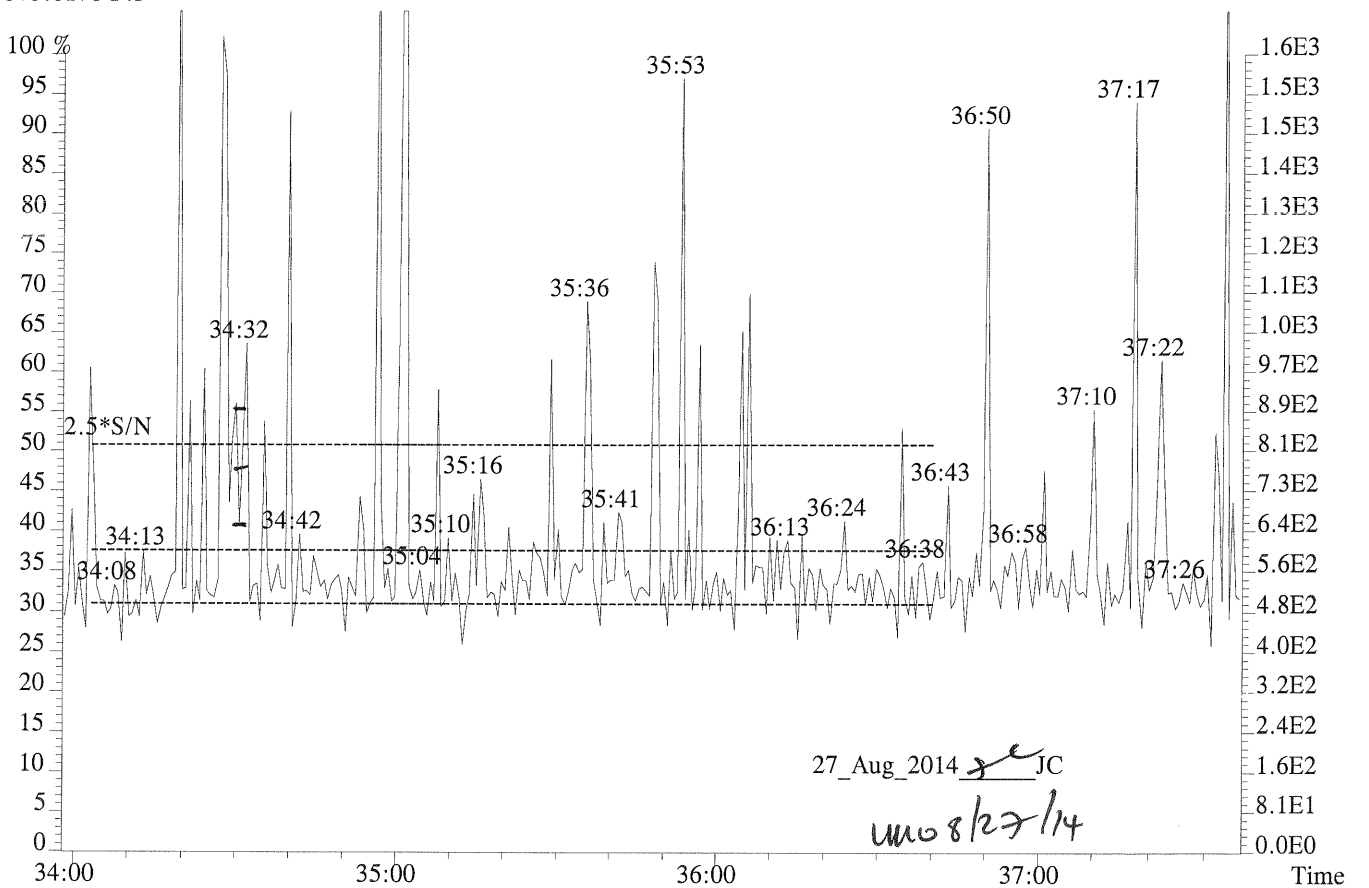
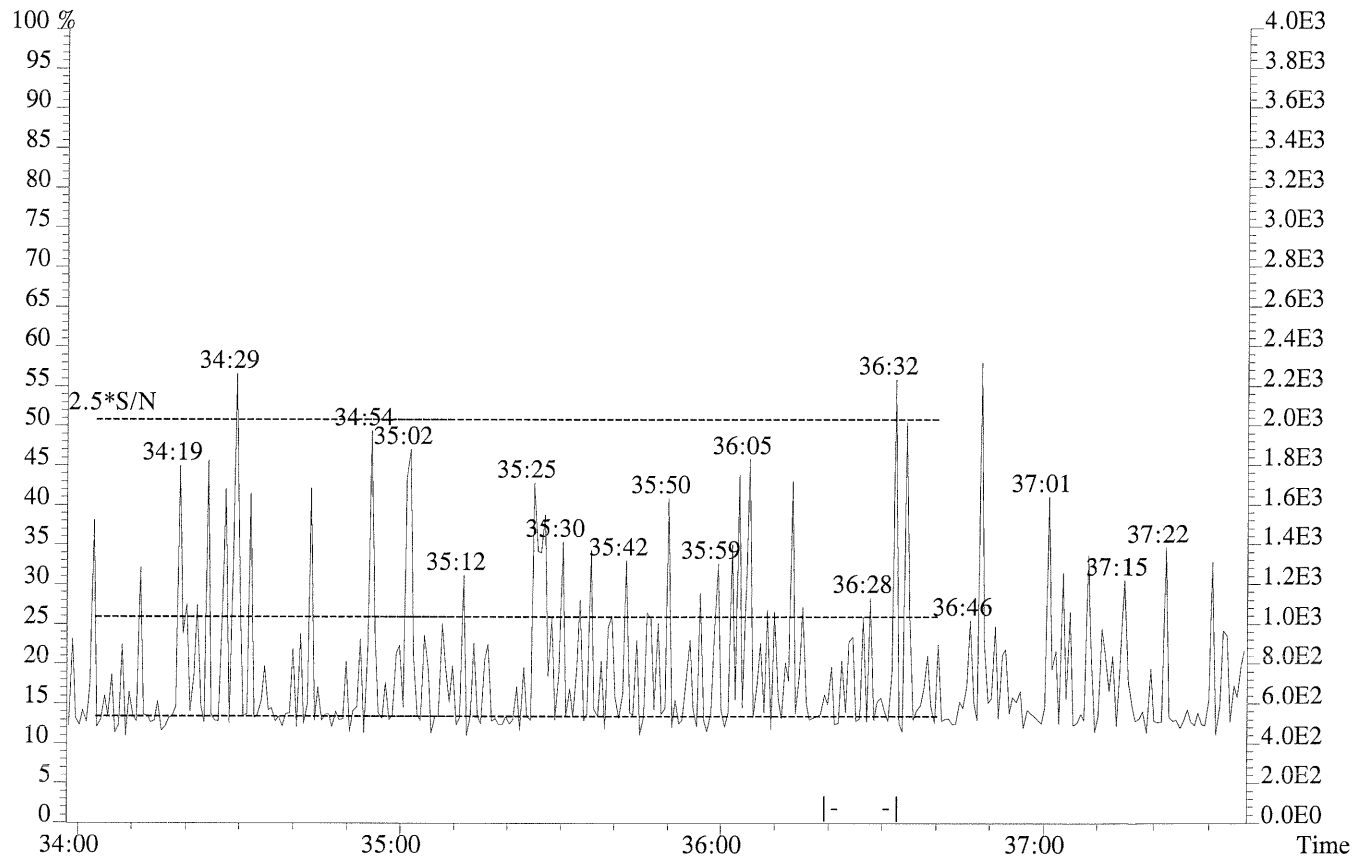


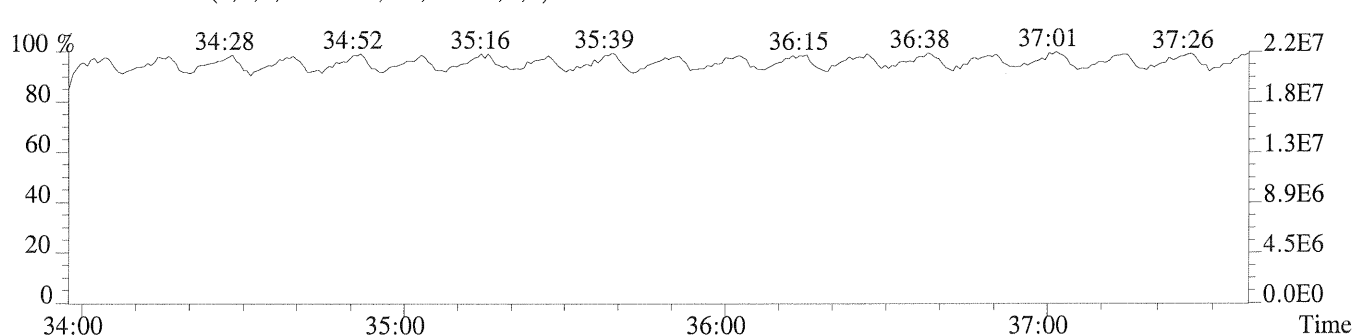
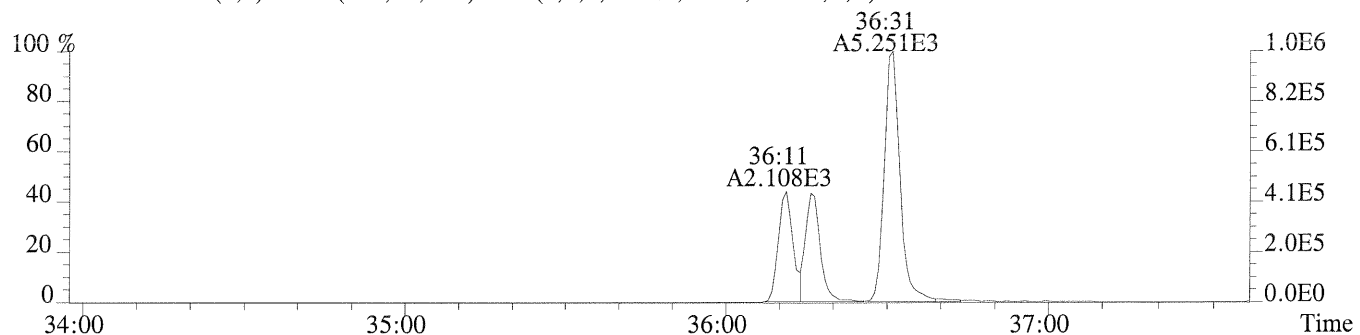
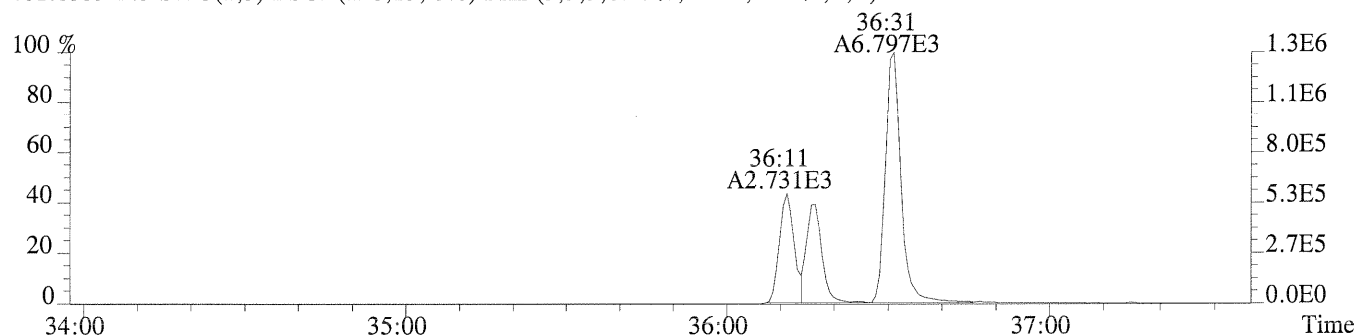
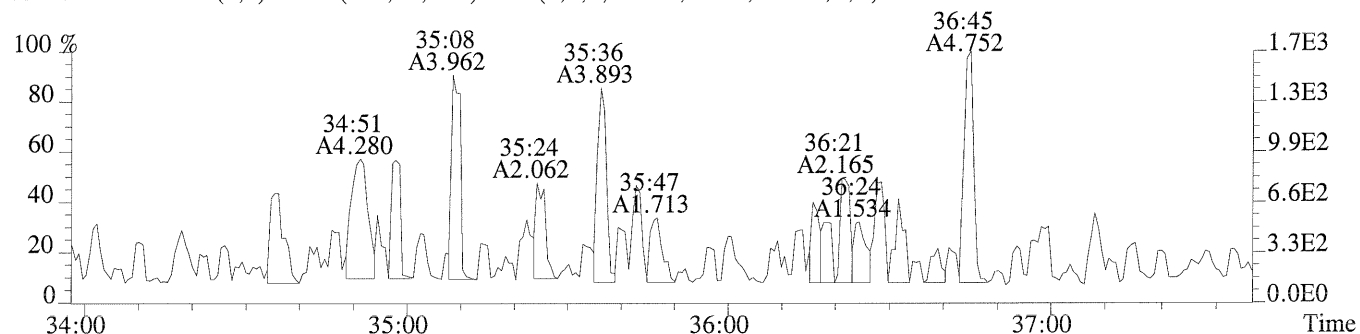
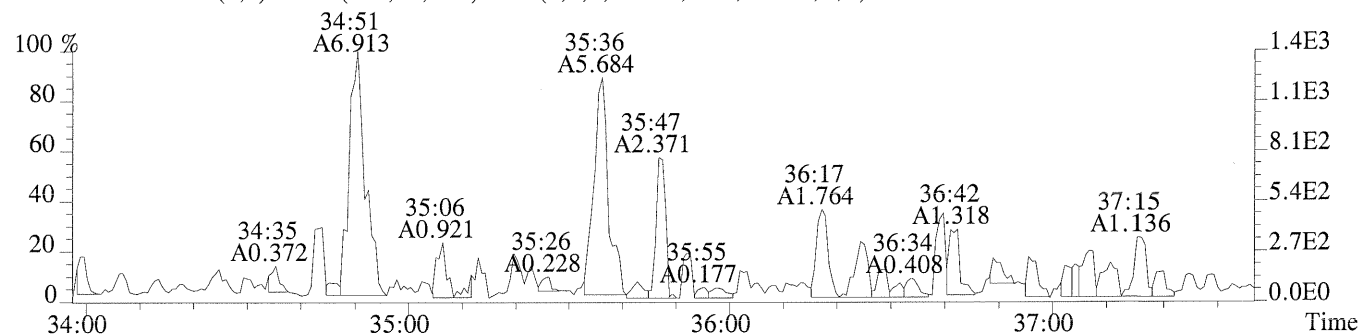
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



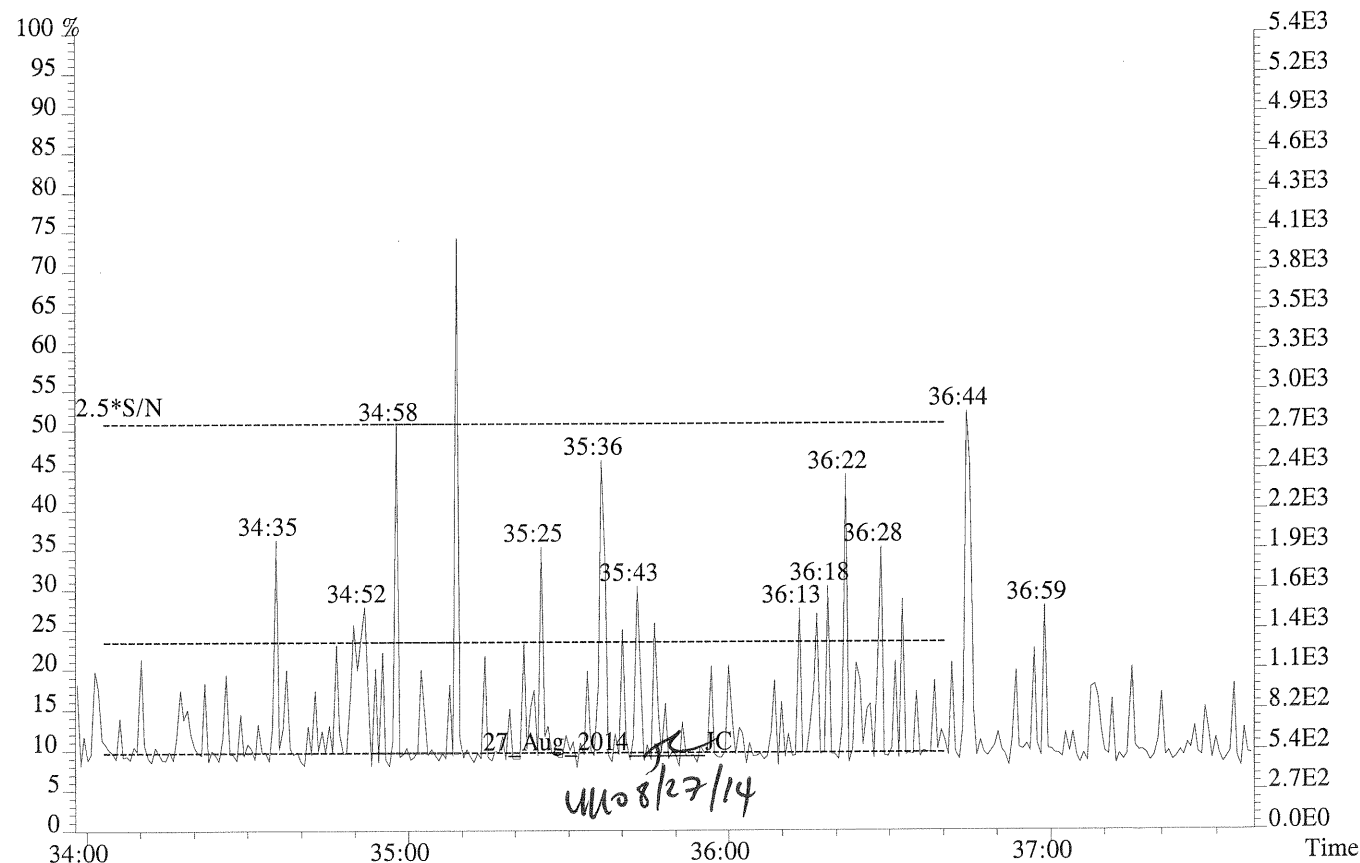
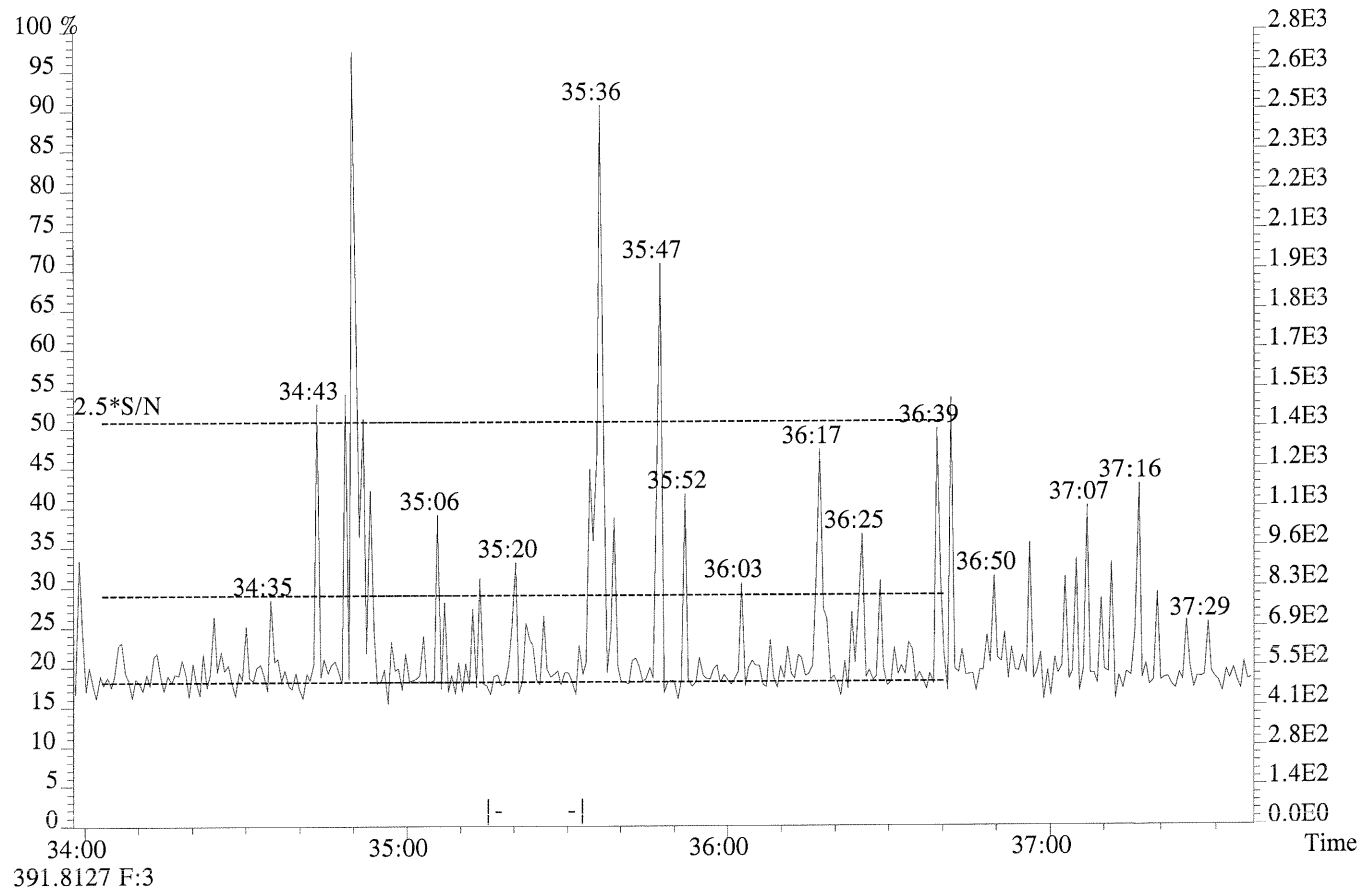
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



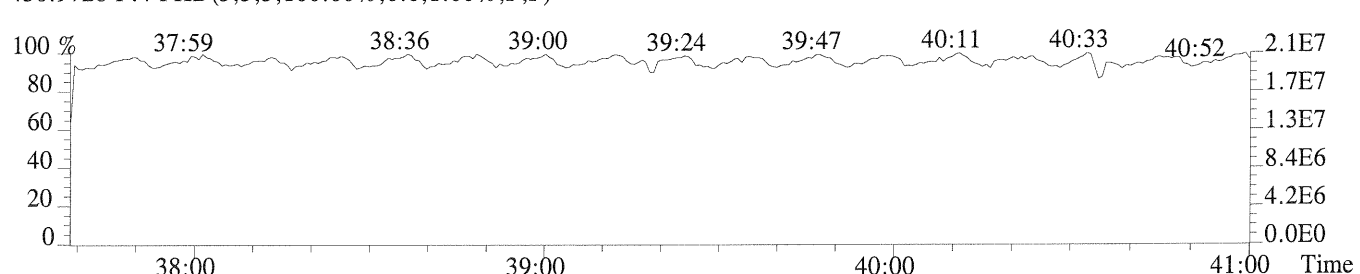
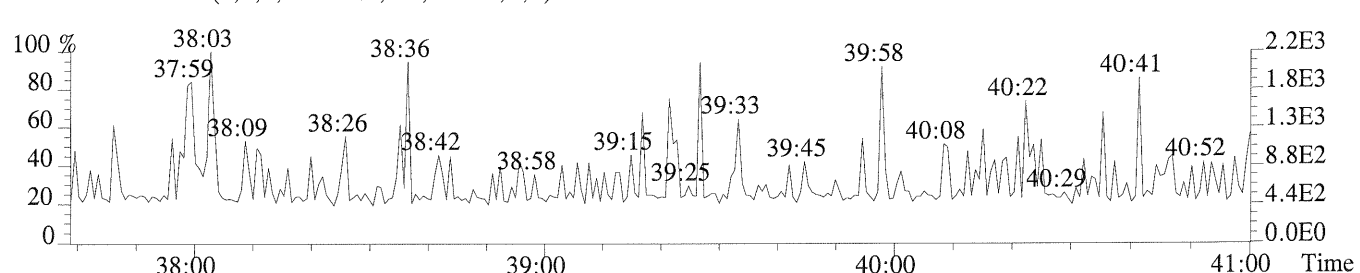
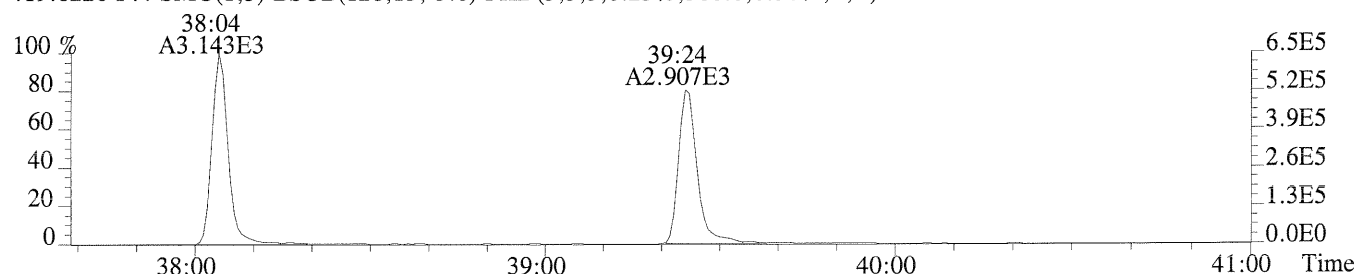
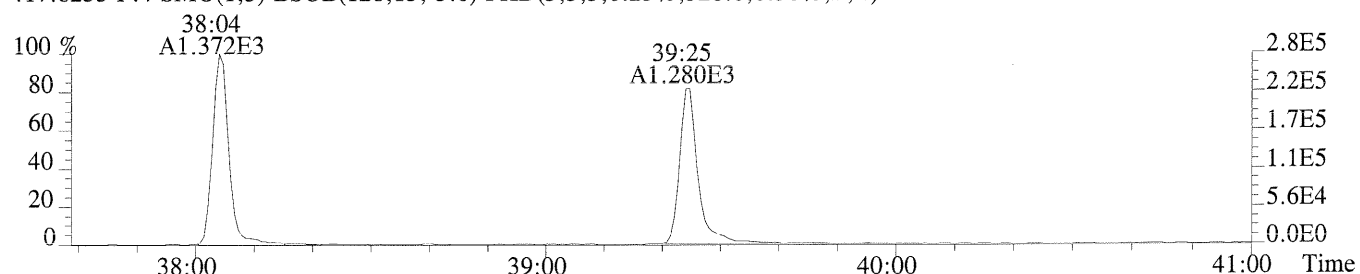
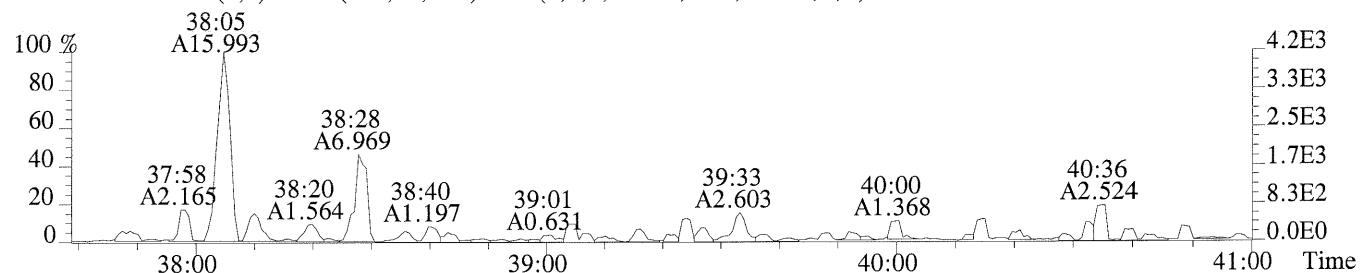
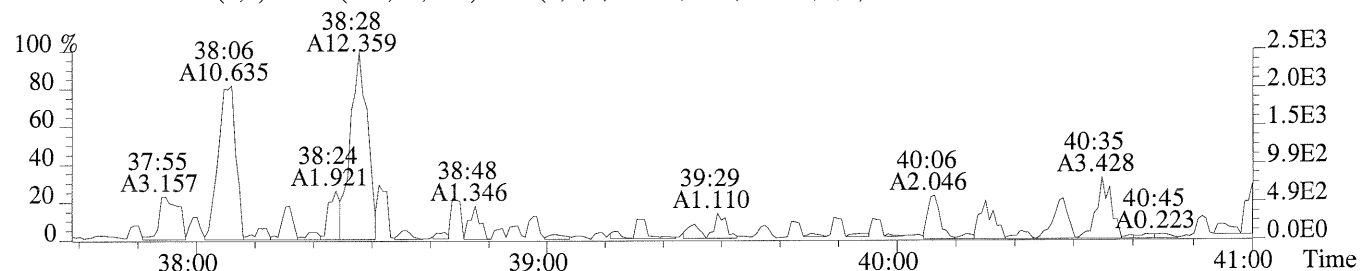




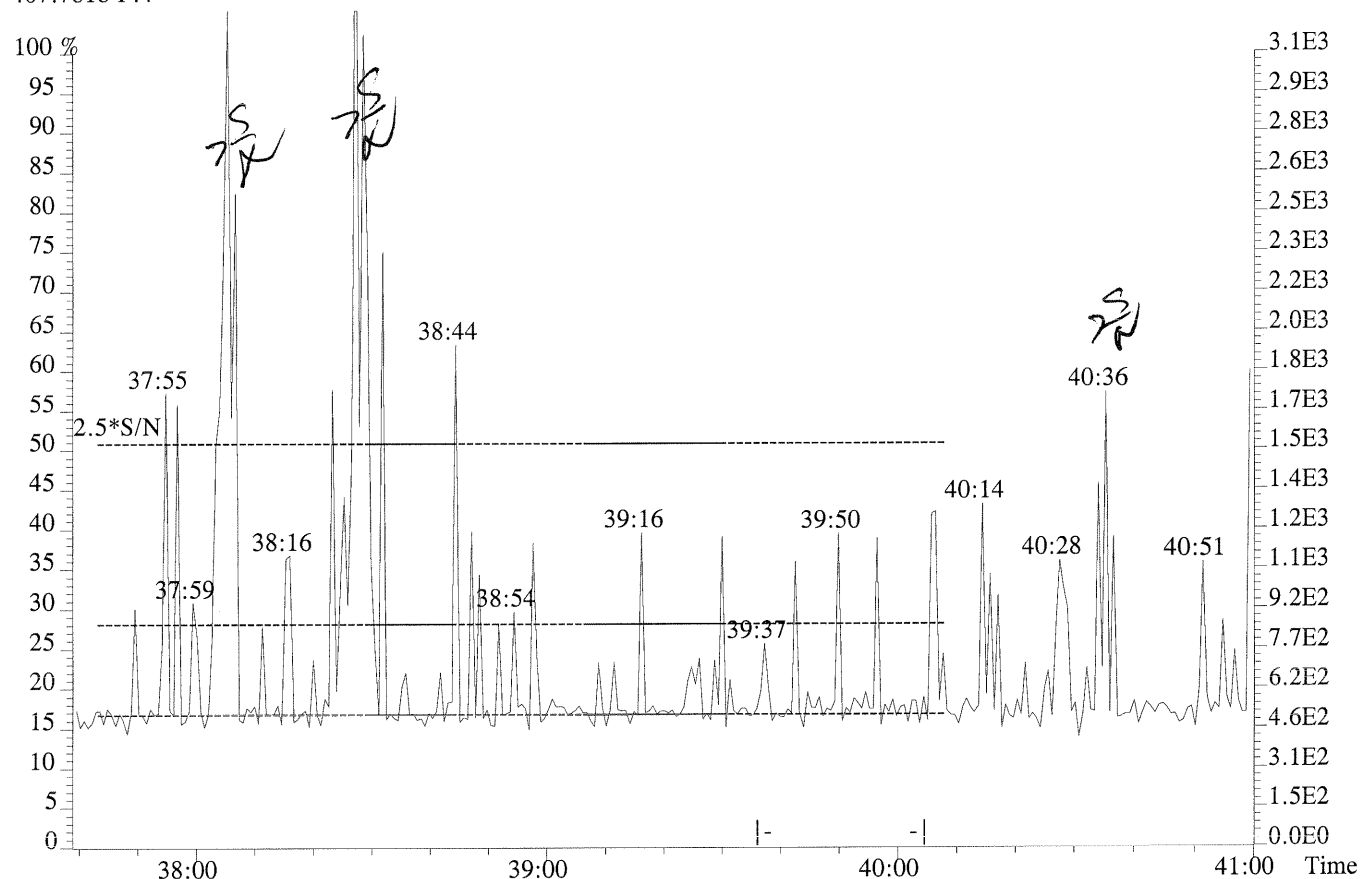
File:P173111 #1-332 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-003  
389.8157 F:3



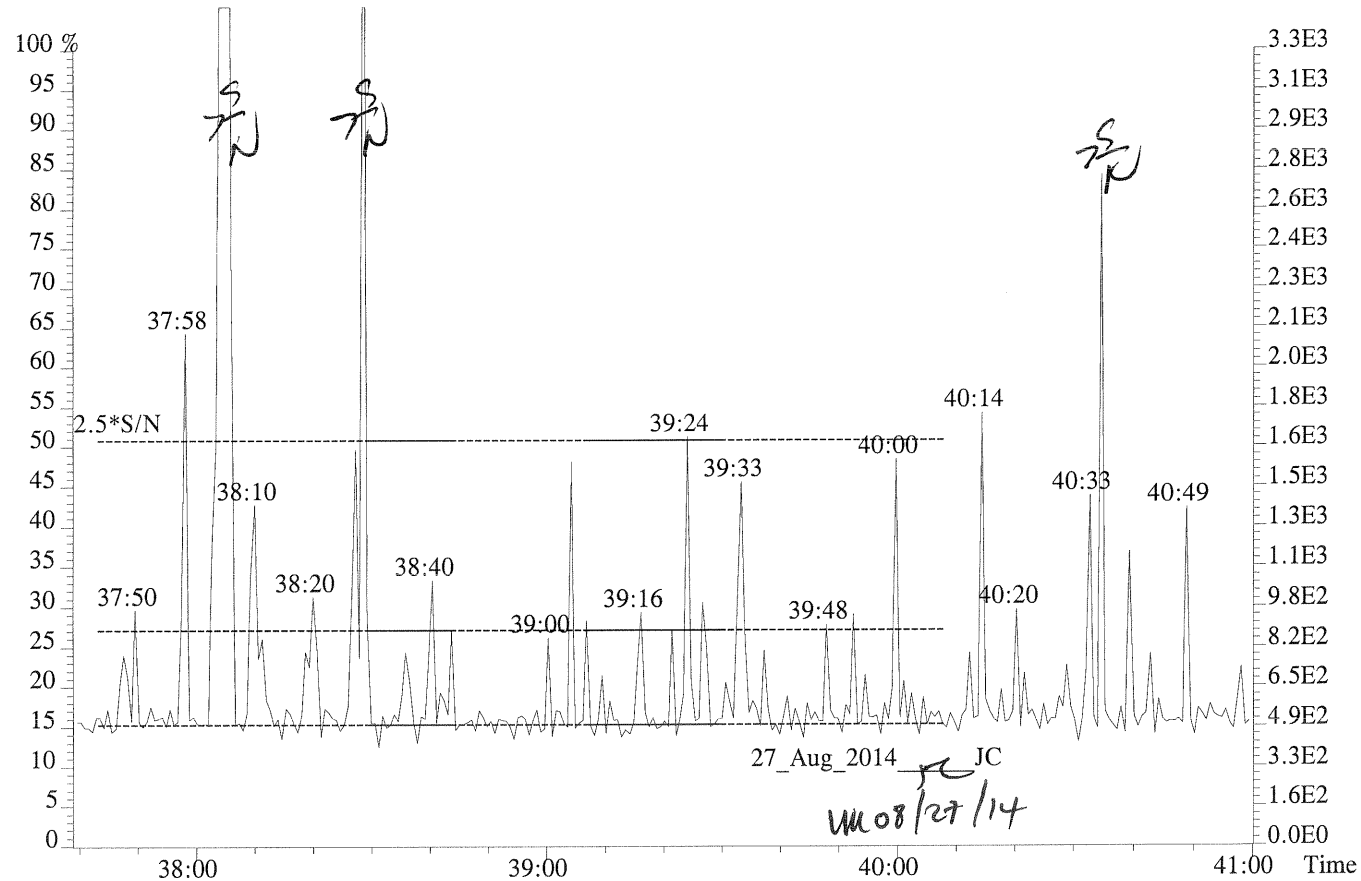




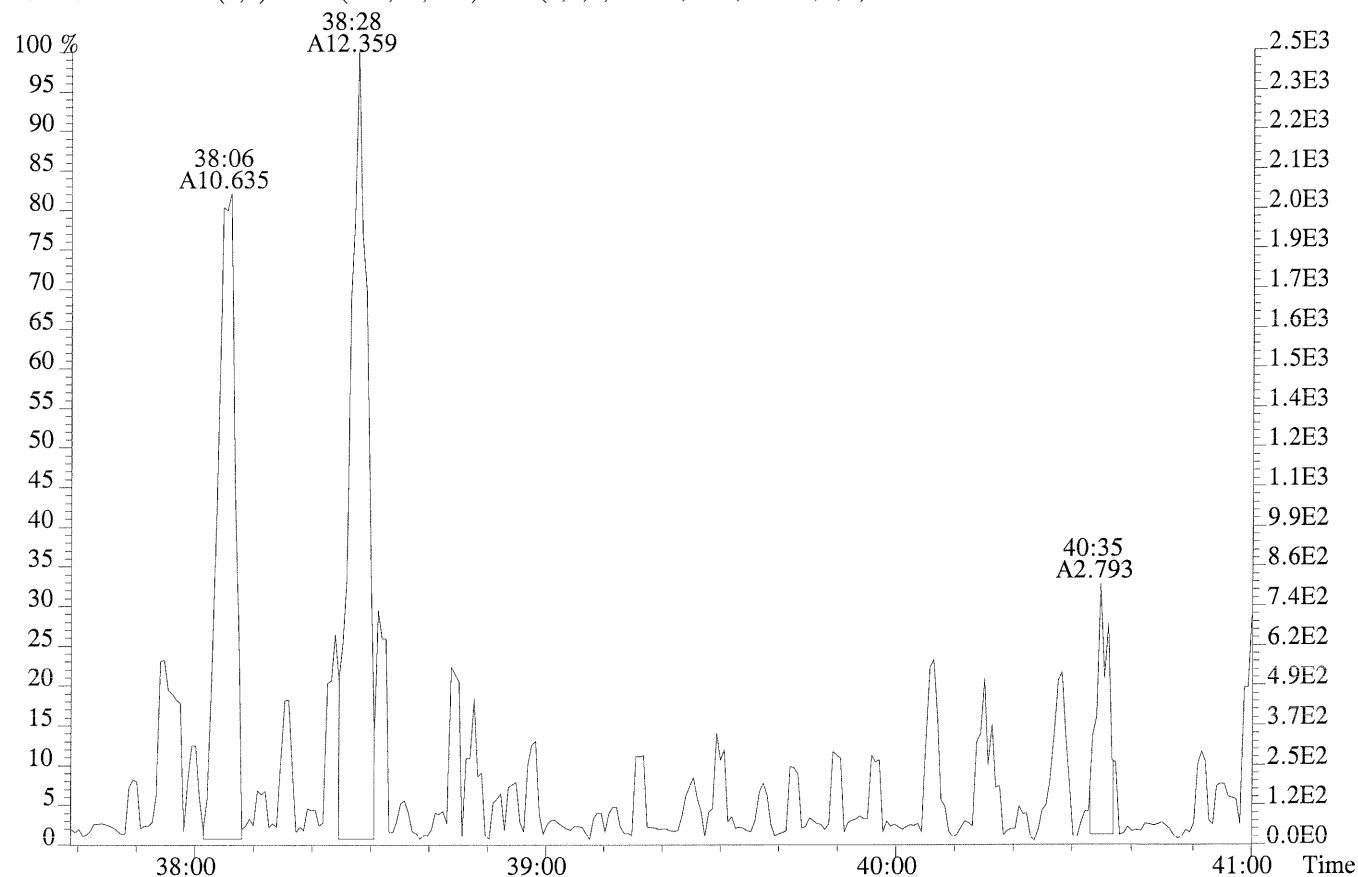
File:P173111 #1-305 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-003  
407.7818 F:4



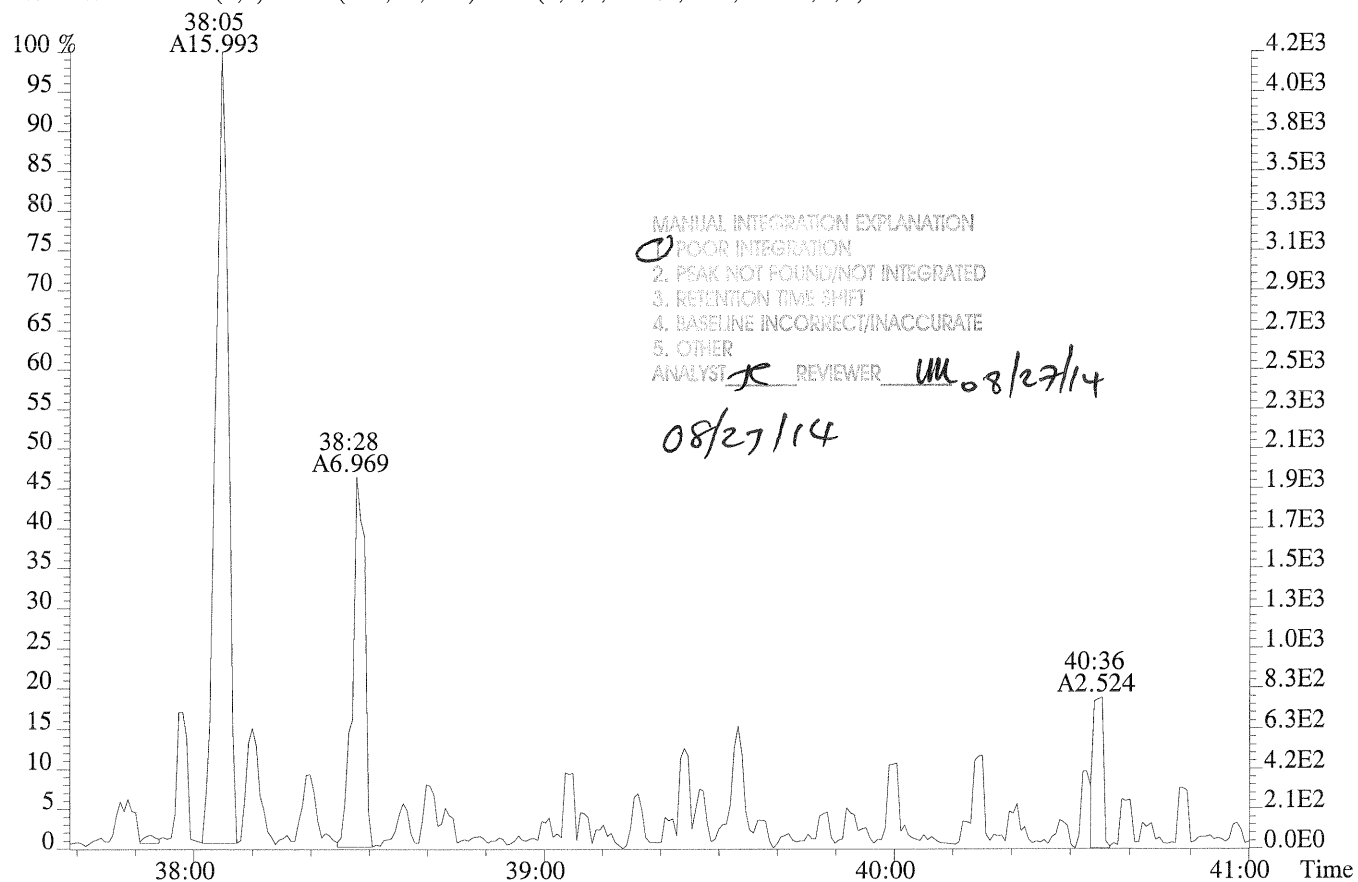
409.7789 F:4



File:P173111 #1-305 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-003  
 407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.50%,F,T)



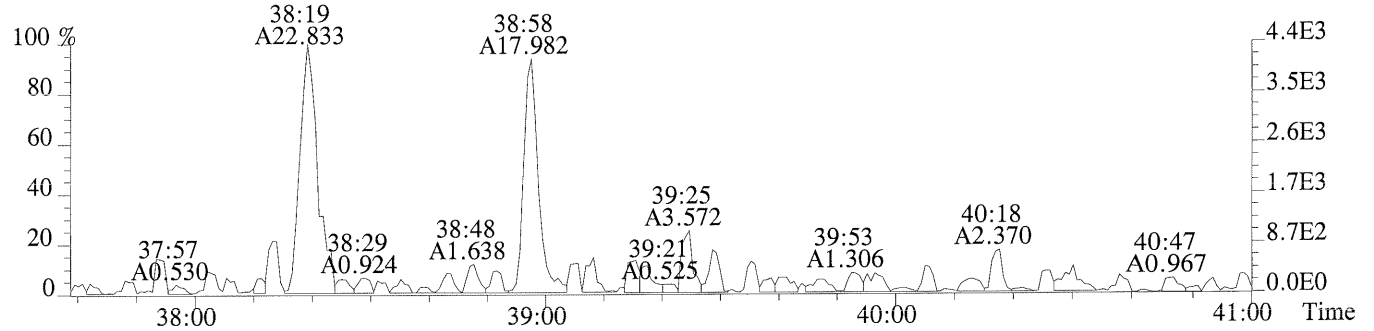
MANUAL INTEGRATION EXPLANATION  
 1. POOR INTEGRATION  
 2. PEAK NOT FOUND/NOT INTEGRATED  
 3. RETENTION TIME SHIFT  
 4. BASELINE INCORRECT/INACCURATE  
 5. OTHER

ANALYST *JK* REVIEWER *UM 08/27/14*  
*08/27/14*

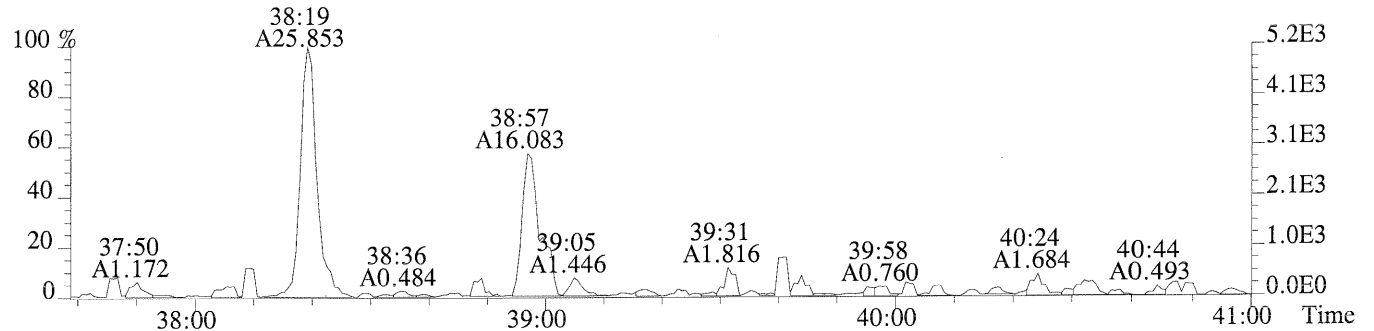
File:P173111 #1-305 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-003

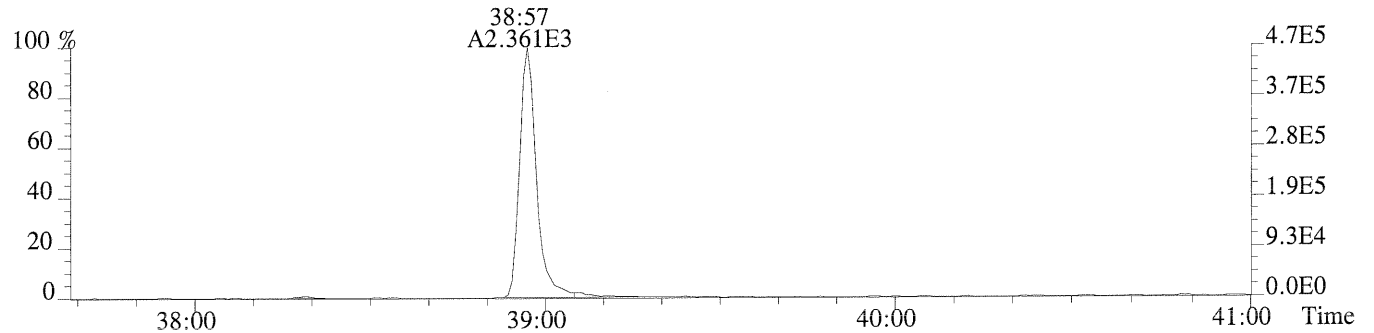
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



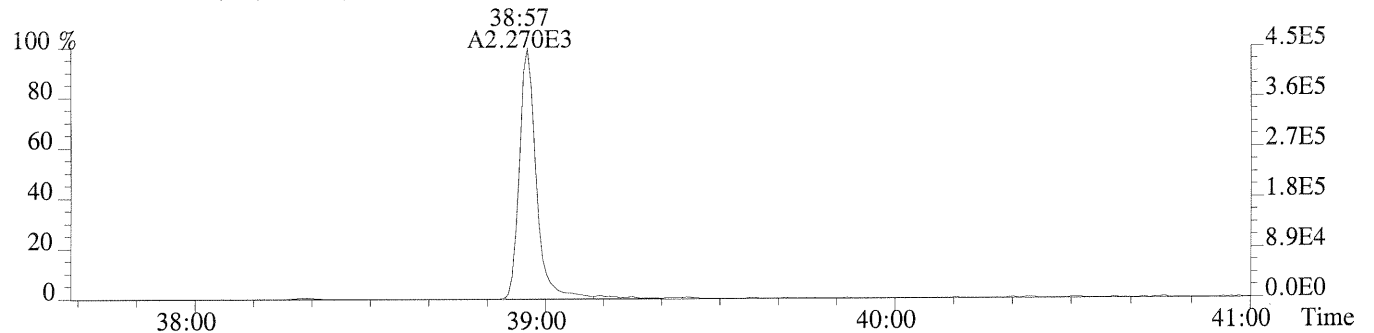
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



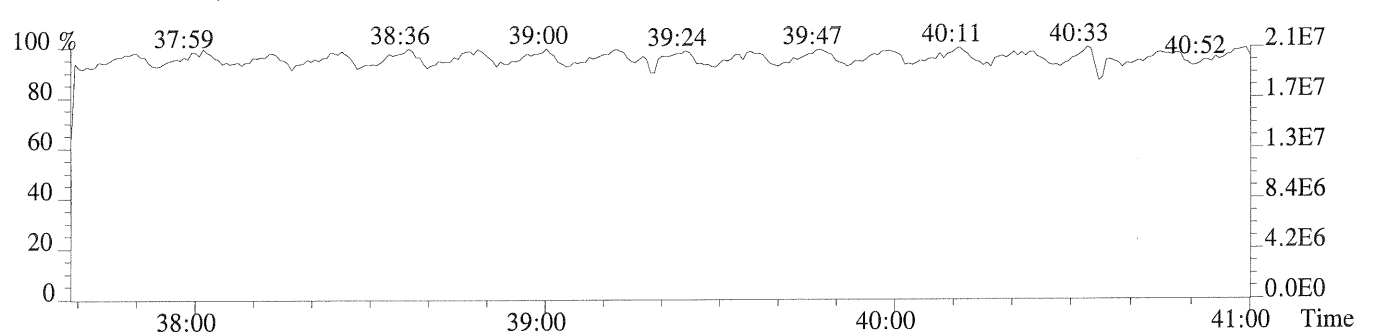
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,372.0,0.40%,F,T)



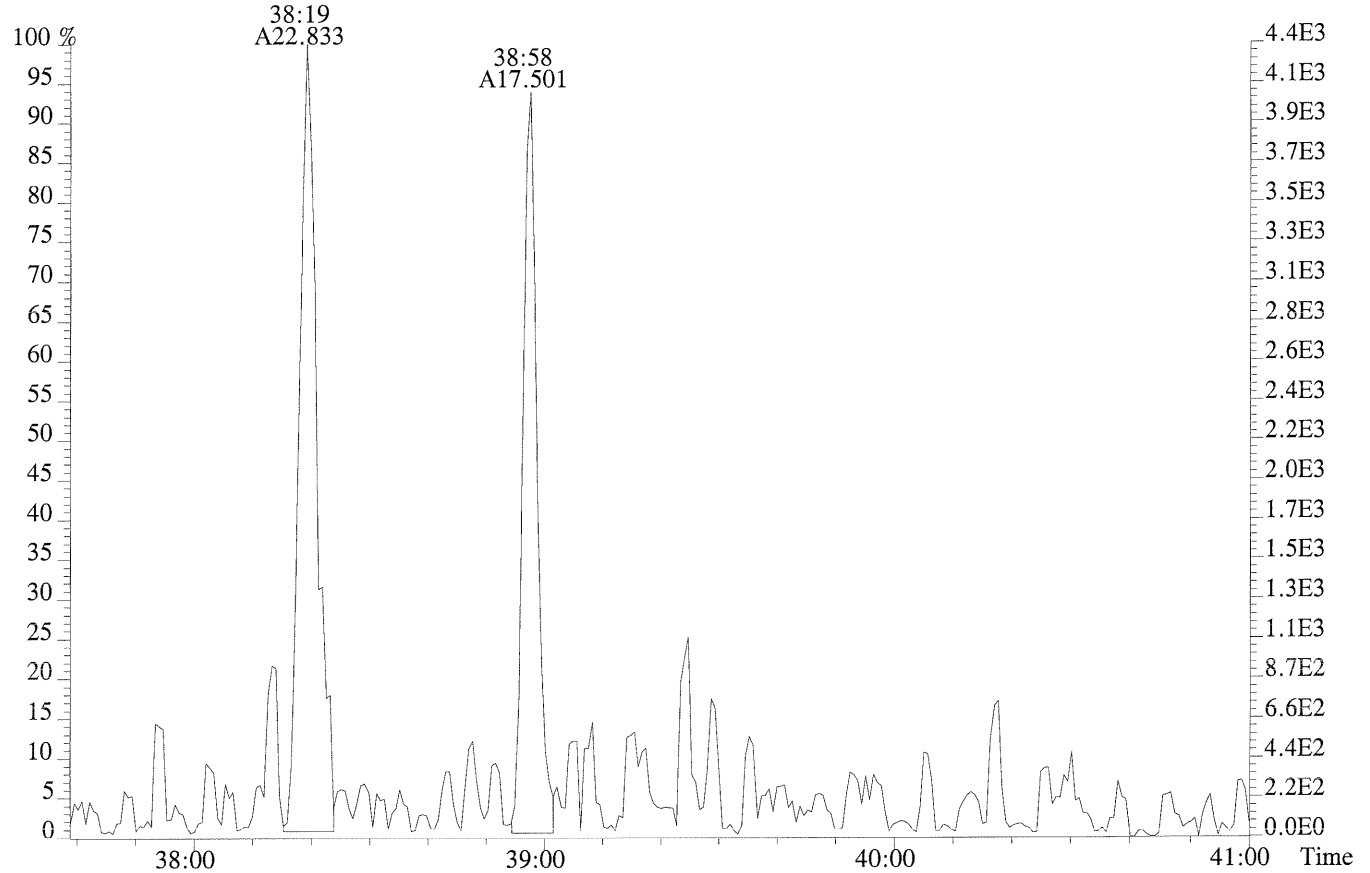
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,T)



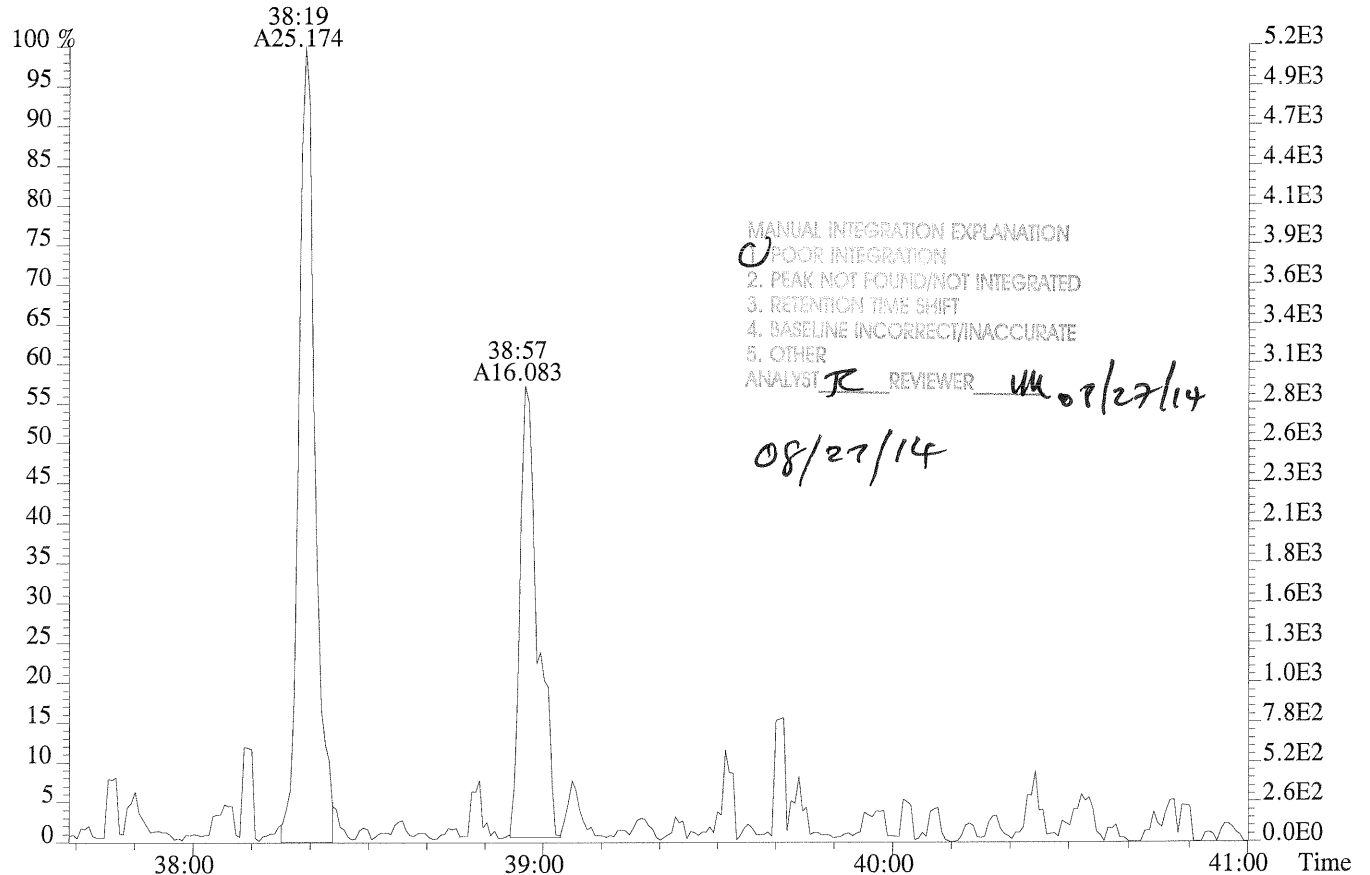
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



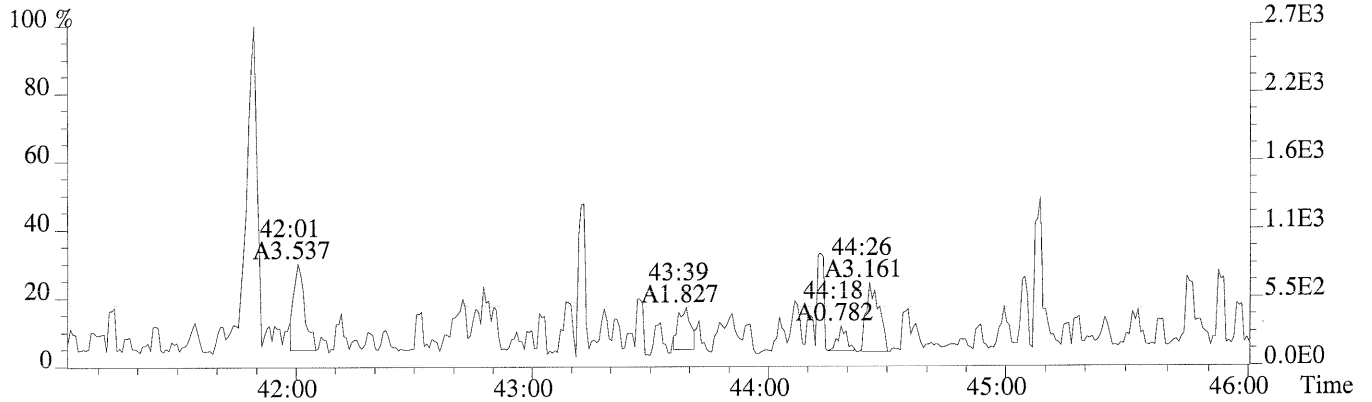
File:P173111 #1-305 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



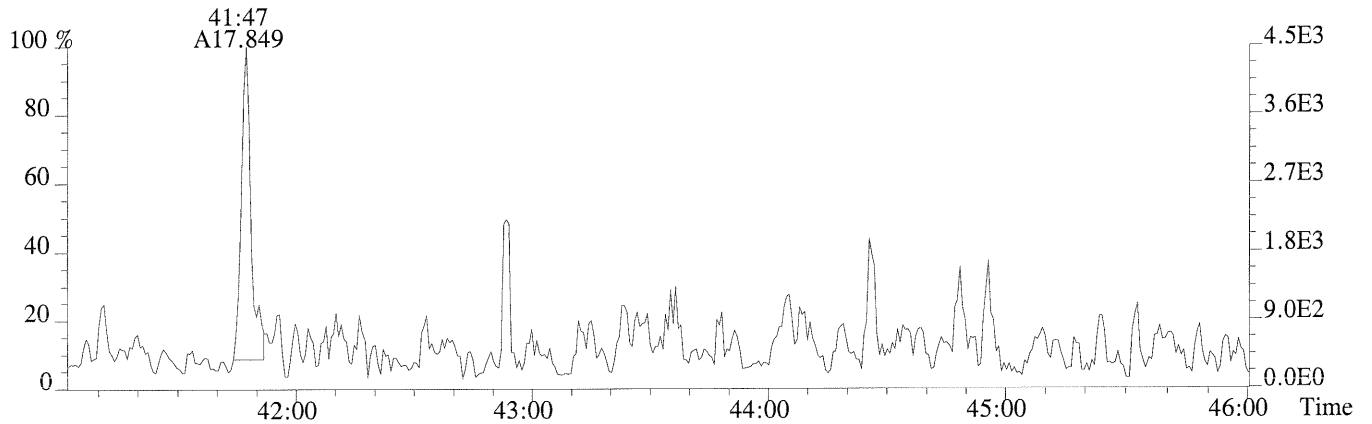
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



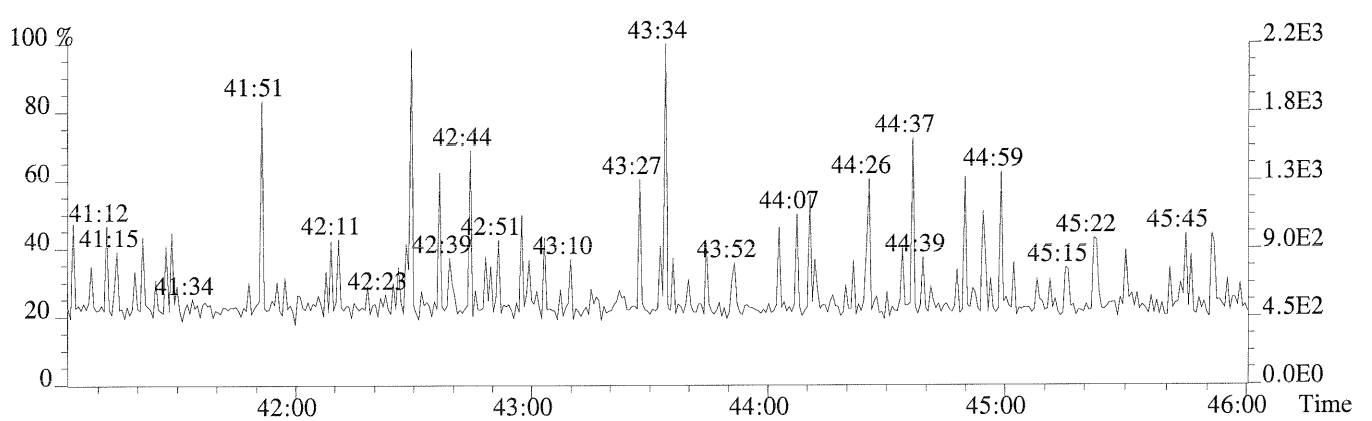
File:P173111 #1-457 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



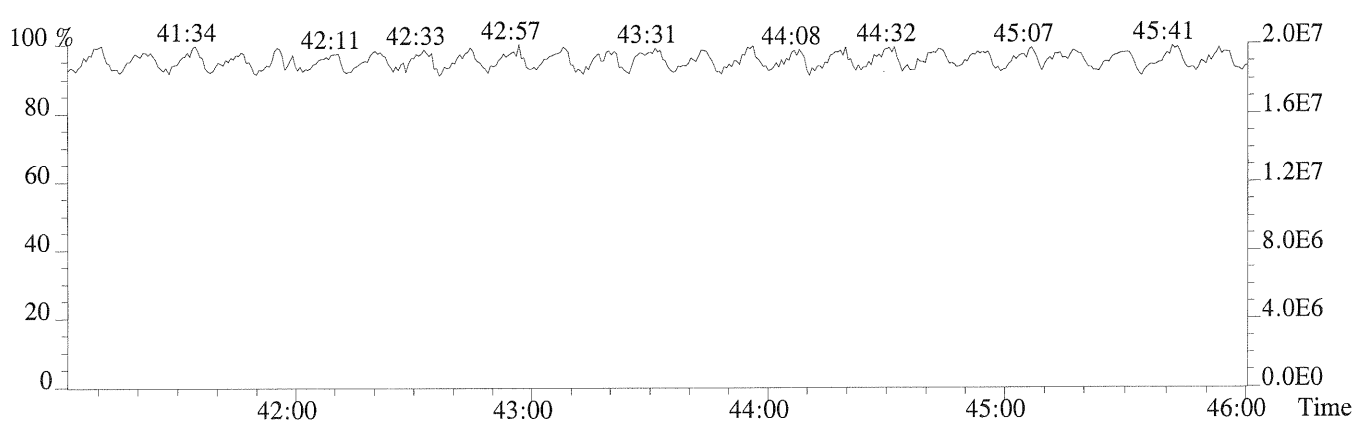
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,T)



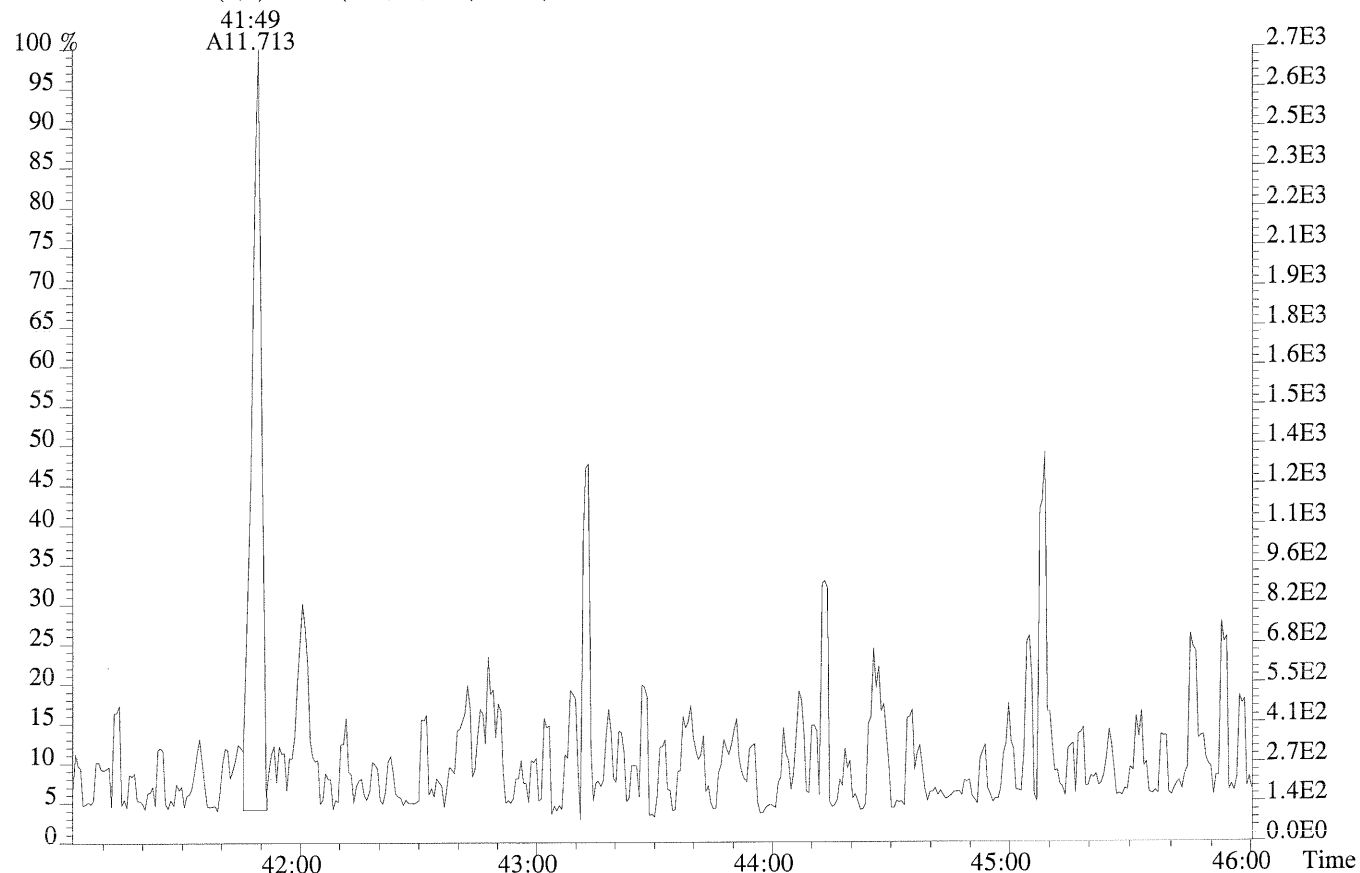
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



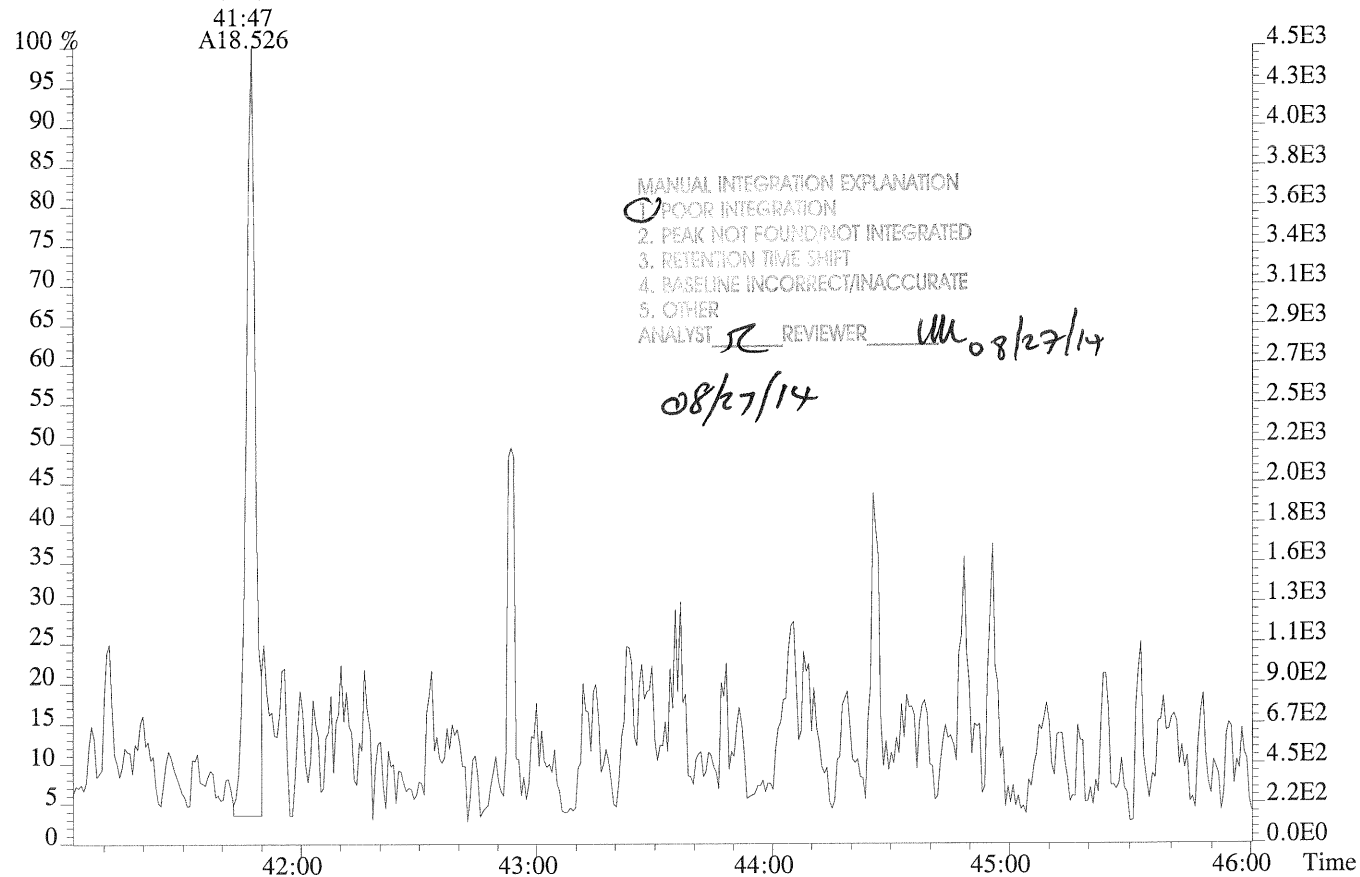
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

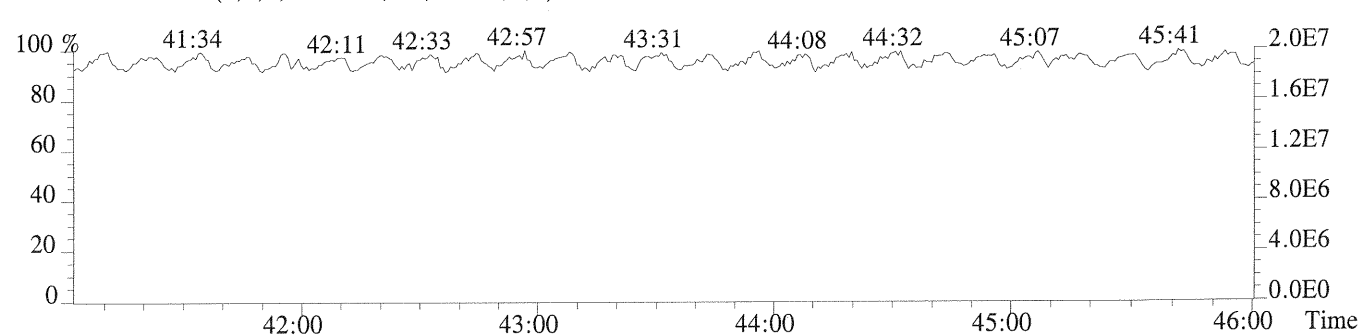
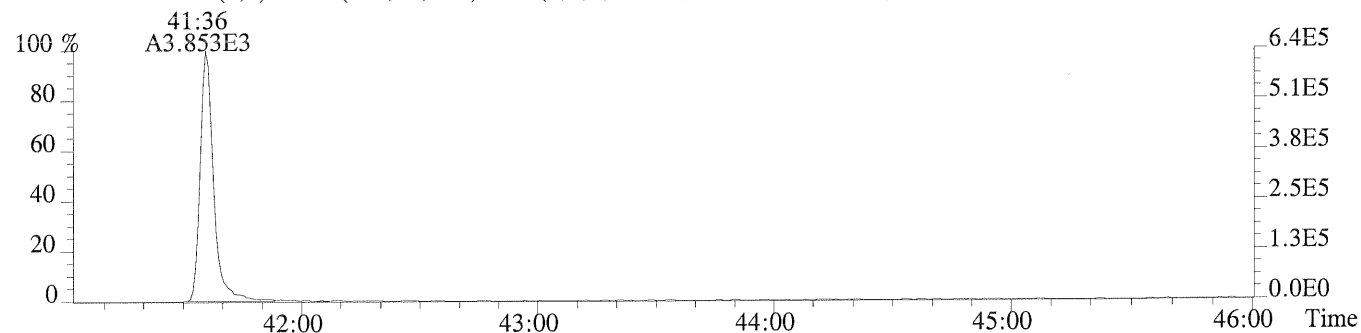
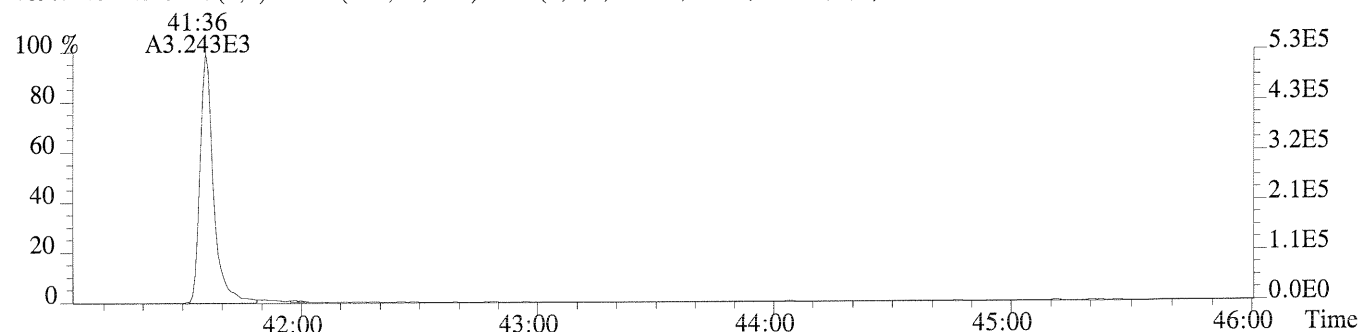
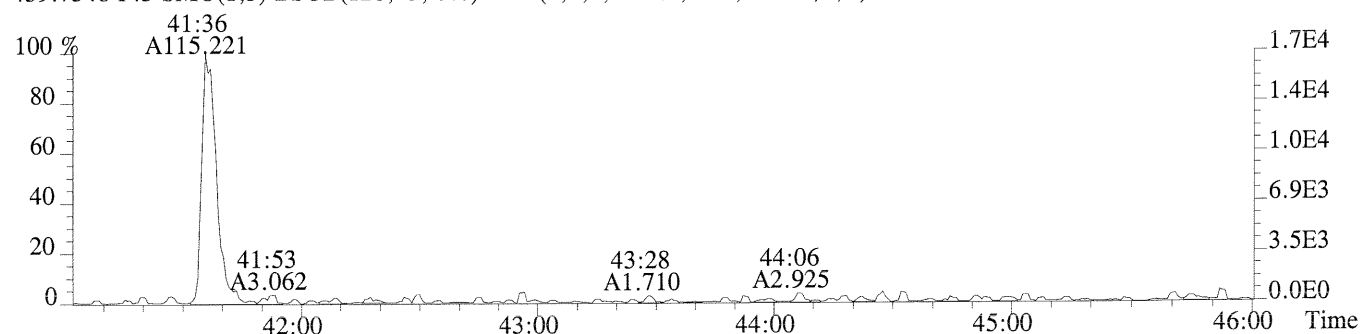
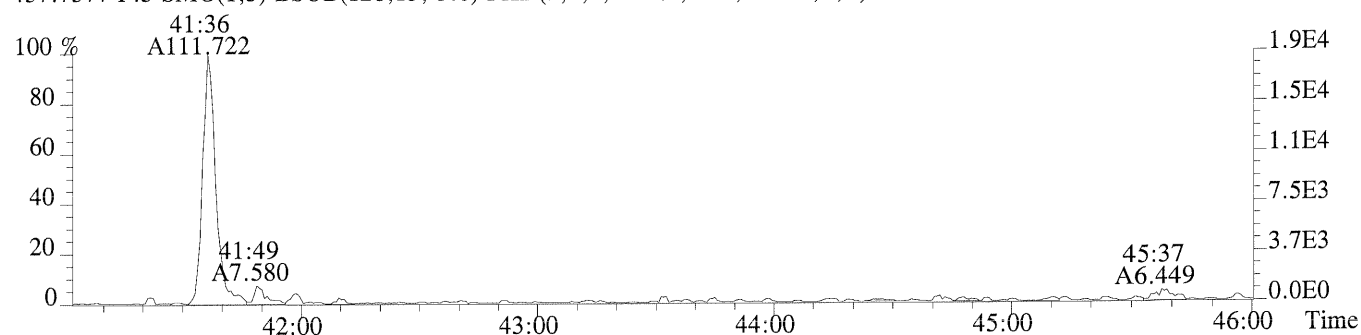


File:P173111 #1-457 Acq:26-AUG-2014 20:14:00 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-003  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,T)







ALS ENVIRONMENTAL  
Sample Response Summary  
METHOD 1613B/8290A

CLIENT ID.  
NV SYC14-AC R7

Run #9      Filename P173118      Samp: 1      Inj: 1      Acquired: 27-AUG-14 01:50:56  
Processed: 27-AUG-14 10:43:44      Sample ID: K1407971-004

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	yes	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:57	1.132e+01	9.267e+00	1.22	no	no	1.016
17 Unk	OCDD	41:35	4.429e+01	5.356e+01	0.83	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:21	1.669e+03	2.111e+03	0.79	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:45	2.783e+03	1.765e+03	1.58	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	3.068e+03	1.895e+03	1.62	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:25	1.496e+03	2.925e+03	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:32	2.120e+03	3.968e+03	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:03	1.734e+03	3.497e+03	0.50	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	1.552e+03	3.157e+03	0.49	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	1.351e+03	3.114e+03	0.43	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:24	1.243e+03	2.895e+03	0.43	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:10	1.202e+03	1.579e+03	0.76	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	32:59	2.582e+03	1.604e+03	1.61	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.594e+03	1.900e+03	1.37	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.491e+03	2.059e+03	1.21	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	2.329e+03	2.172e+03	1.07	yes	no	0.862
32 IS	13C-OCDD	41:35	3.373e+03	3.694e+03	0.91	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:33	2.858e+03	3.672e+03	0.78	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:30	5.447e+03	4.202e+03	1.30	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	1.036e+03				no	1.125

$$\text{OCDD} = \frac{(4.429e+01 + 5.356e+01) \times 4000 \text{ pg} \times 1}{(3.373e+03 + 3.694e+03) \times 6.93g \times 100 \times 1.079}$$

7.406 ng/kg  
mm08/28/14

ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
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1613RESP1

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-AC REP.1

Run #9    Filename P173118    Samp: 1    Inj: 1    Acquired: 27-AUG-14 01:50:56  
Processed: 27-AUG-14 10:43:441    LAB. ID: K1407971-004

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.26e+02	*	*	9.64e+02	*
2	1,2,3,7,8-PeCDF	*	6.80e+01	*	*	3.08e+02	*
3	2,3,4,7,8-PeCDF	*	6.80e+01	*	*	3.08e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.20e+02	*	*	6.00e+01	*
5	1,2,3,6,7,8-HxCDF	*	2.20e+02	*	*	6.00e+01	*
6	2,3,4,6,7,8-HxCDF	*	2.20e+02	*	*	6.00e+01	*
7	1,2,3,7,8,9-HxCDF	*	2.20e+02	*	*	6.00e+01	*
8	1,2,3,4,6,7,8-HpCDF	*	9.20e+01	*	*	2.48e+02	*
9	1,2,3,4,7,8,9-HpCDF	*	9.20e+01	*	*	2.48e+02	*
10	OCDF	*	6.80e+01	*	*	5.20e+02	*
11	2,3,7,8-TCDD	*	4.24e+02	*	*	3.52e+02	*
12	1,2,3,7,8-PeCDD	*	4.84e+02	*	*	5.60e+01	*
13	1,2,3,4,7,8-HxCDD	*	7.20e+01	*	*	1.76e+02	*
14	1,2,3,6,7,8-HxCDD	*	7.20e+01	*	*	1.76e+02	*
15	1,2,3,7,8,9-HxCDD	*	7.20e+01	*	*	1.76e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.32e+03	6.40e+01	2.1e+01	1.98e+03	6.00e+01	3.3e+01
17	OCDD	8.50e+03	1.80e+02	4.7e+01	8.47e+03	8.40e+01	1.0e+02
18	13C-2,3,7,8-TCDF	2.57e+05	4.48e+02	5.7e+02	3.27e+05	7.80e+02	4.2e+02
19	13C-1,2,3,7,8-PeCDF	4.54e+05	1.76e+02	2.6e+03	2.88e+05	3.00e+02	9.6e+02
20	13C-2,3,4,7,8-PeCDF	5.48e+05	1.76e+02	3.1e+03	3.37e+05	3.00e+02	1.1e+03
21	13C-1,2,3,4,7,8-HxCDF	3.08e+05	8.40e+01	3.7e+03	6.03e+05	2.80e+02	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.84e+05	8.40e+01	4.6e+03	7.36e+05	2.80e+02	2.6e+03
23	13C-2,3,4,6,7,8-HxCDF	3.51e+05	8.40e+01	4.2e+03	6.89e+05	2.80e+02	2.5e+03
24	13C-1,2,3,7,8,9-HxCDF	2.82e+05	8.40e+01	3.4e+03	5.48e+05	2.80e+02	2.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.75e+05	9.36e+02	2.9e+02	6.49e+05	5.60e+02	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.22e+05	9.36e+02	2.4e+02	5.27e+05	5.60e+02	9.4e+02
27	13C-2,3,7,8-TCDD	2.10e+05	2.22e+03	9.4e+01	2.62e+05	1.00e+03	2.6e+02
28	13C-1,2,3,7,8-PeCDD	4.46e+05	2.92e+02	1.5e+03	2.88e+05	7.20e+01	4.0e+03
29	13C-1,2,3,4,7,8-HxCDD	5.34e+05	3.00e+02	1.8e+03	4.05e+05	1.36e+02	3.0e+03
30	13C-1,2,3,6,7,8-HxCDD	4.94e+05	3.00e+02	1.6e+03	3.72e+05	1.36e+02	2.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.59e+05	4.20e+02	1.1e+03	4.20e+05	6.40e+01	6.6e+03
32	13C-OCDD	5.42e+05	1.34e+03	4.0e+02	6.13e+05	1.02e+03	6.0e+02
33	13C-1,2,3,4-TCDD	4.99e+05	2.22e+03	2.2e+02	6.24e+05	1.00e+03	6.2e+02
34	13C-1,2,3,7,8,9-HxCDD	1.02e+06	3.00e+02	3.4e+03	7.93e+05	1.36e+02	5.8e+03
35	37Cl-2,3,7,8-TCDD	1.76e+05	4.20e+02	4.2e+02			

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

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NV SYC14-AC REP.1

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Entry: 44      Totals Name: Total Hepta-Dioxins

Run: 9      File: P173118      Sample: 1    Injection: 1    Function: 4

Llim: 38:14      Ulim: 39:08

Acquired: 27-AUG-14    01:50:56      Processed: 27-AUG-14 10:43:44

Mass: 423.7770    425.7740      Tot Response: 4.76e+01    RRF: 1.016

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:20	2.32e+01	2.44e+01	0.95	yes	4.76e+01	n	n

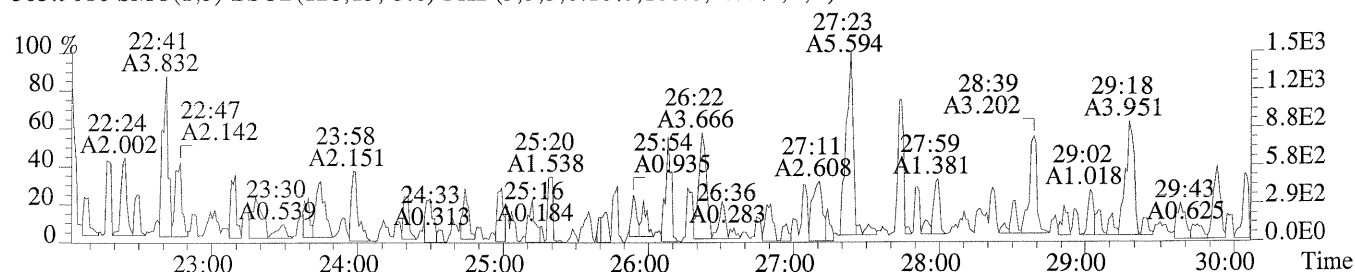
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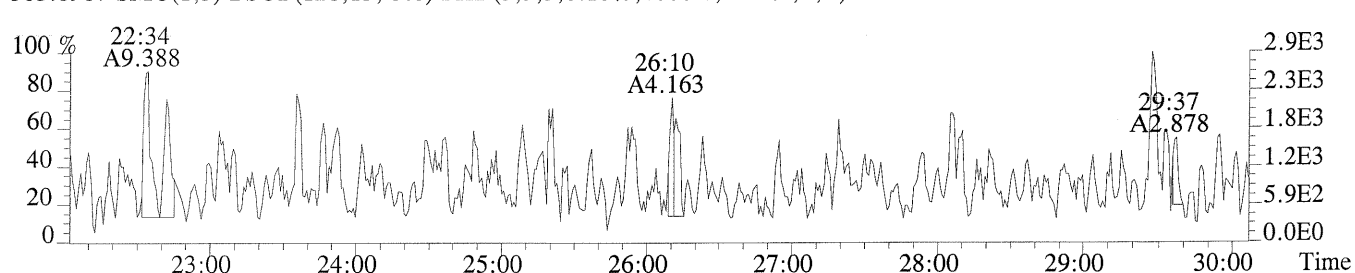
File:P173118 #1-579 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-004

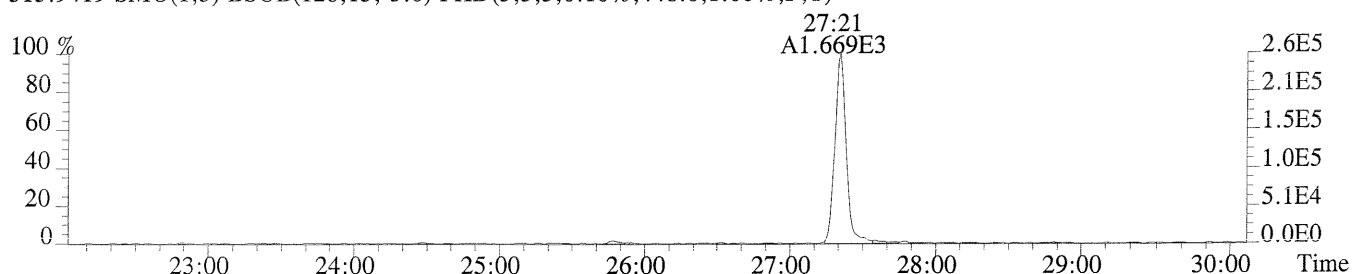
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,T)



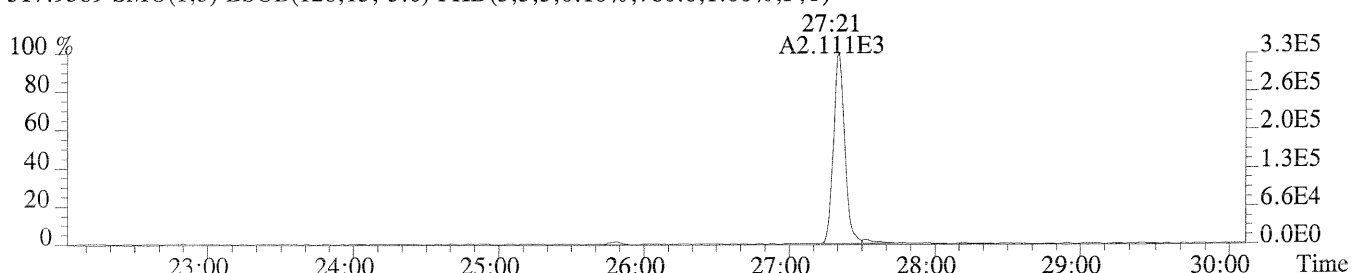
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1088.0,1.00%,F,T)



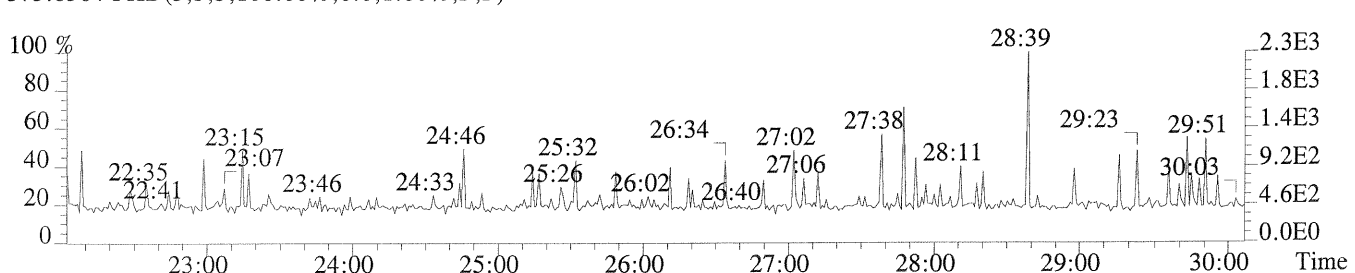
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,448.0,1.00%,F,T)



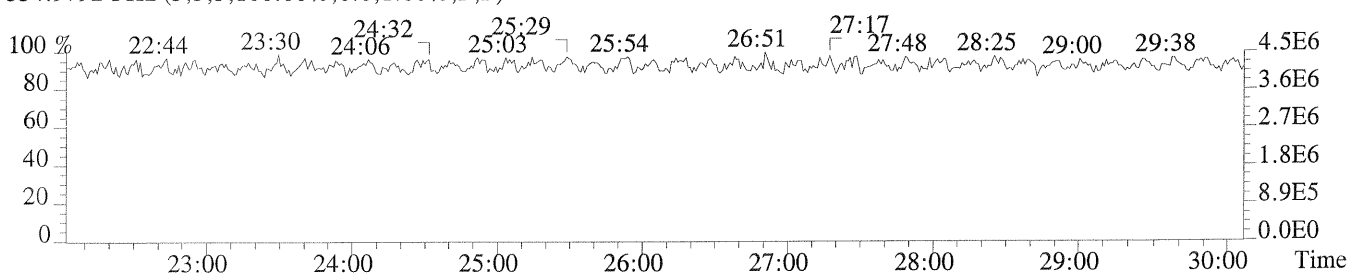
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)

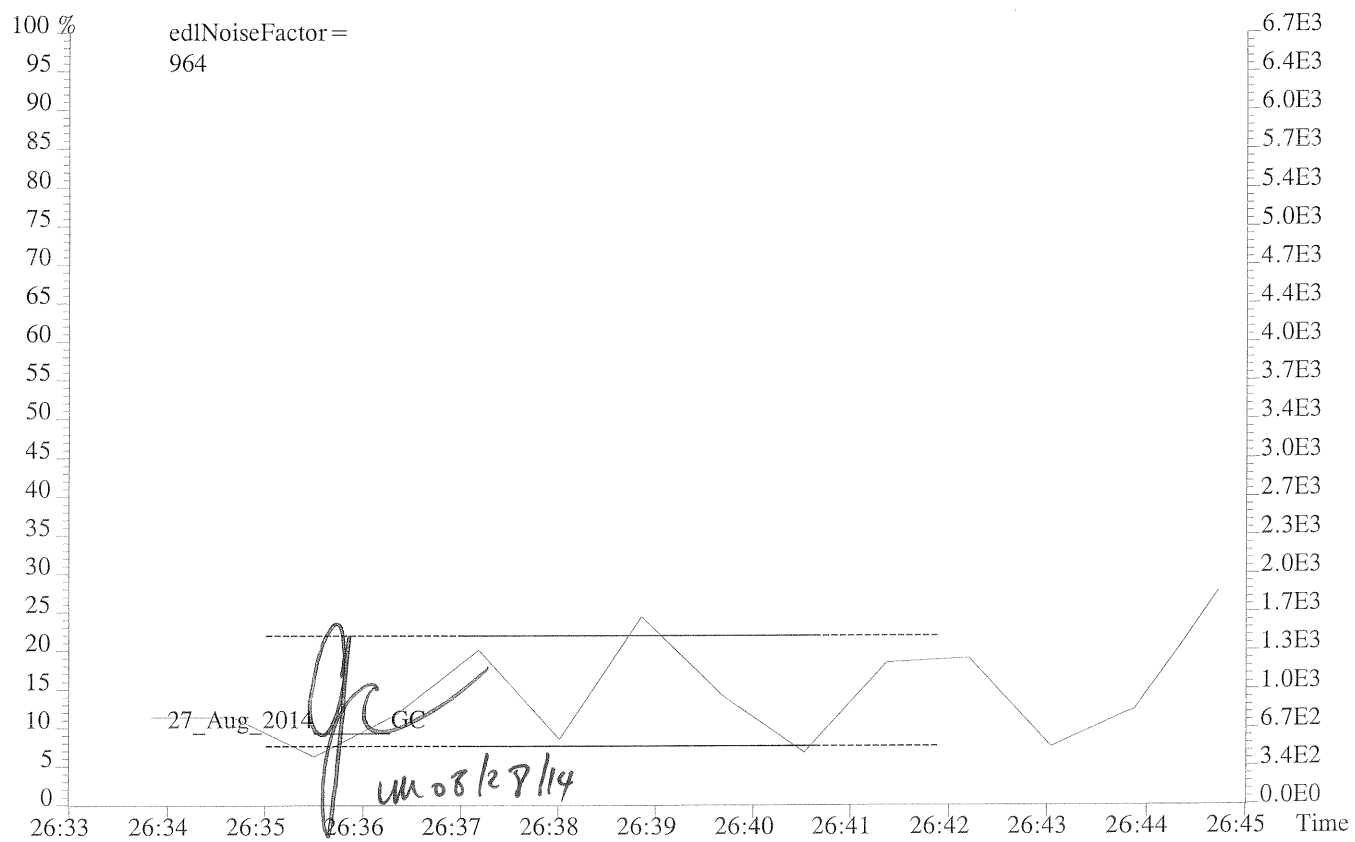
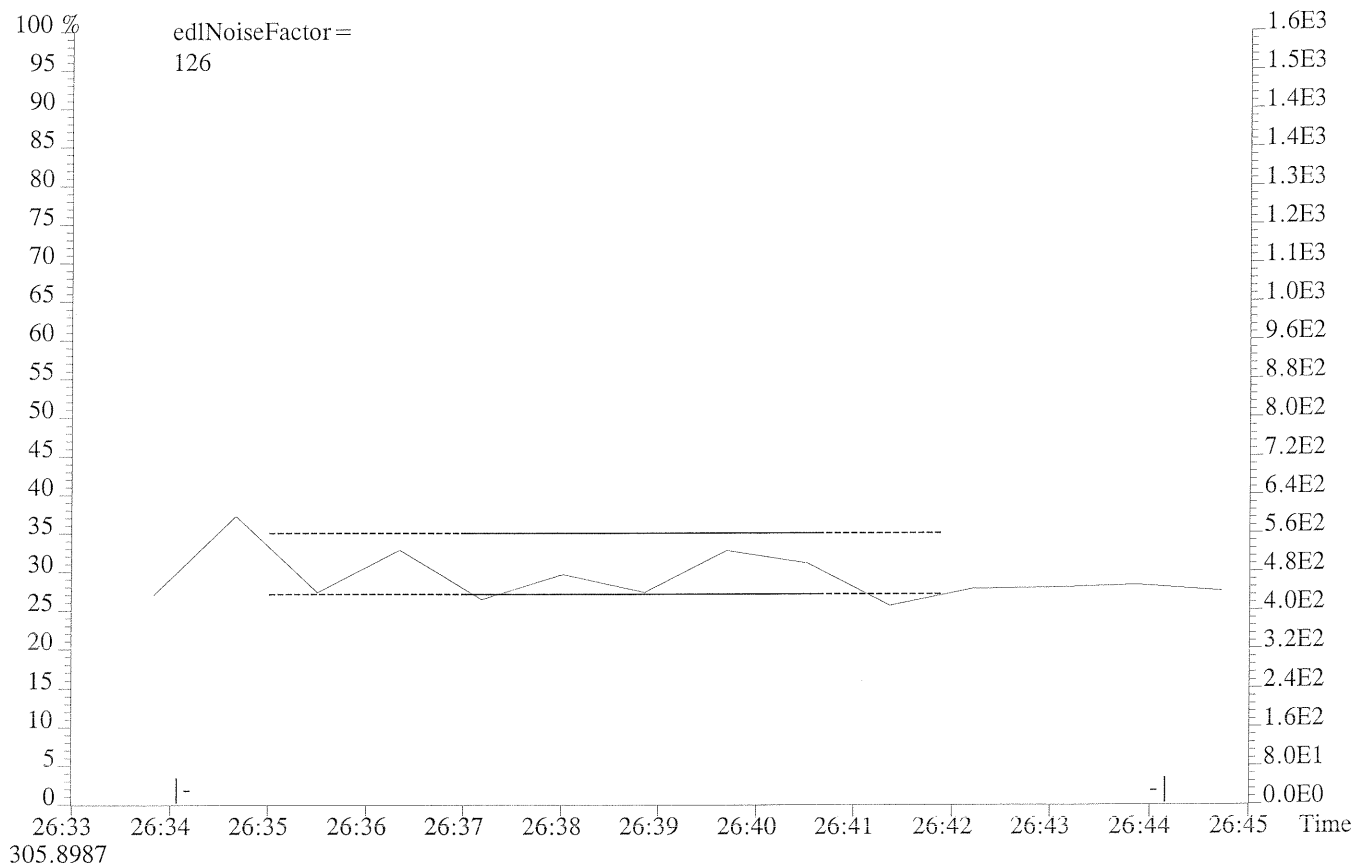


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

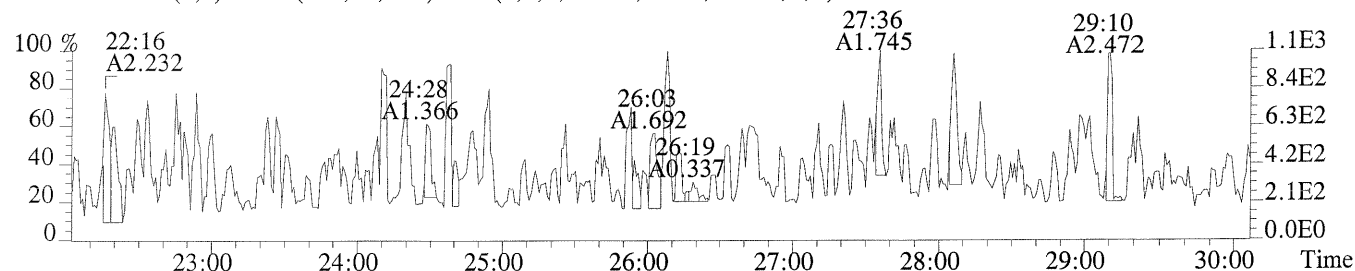


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

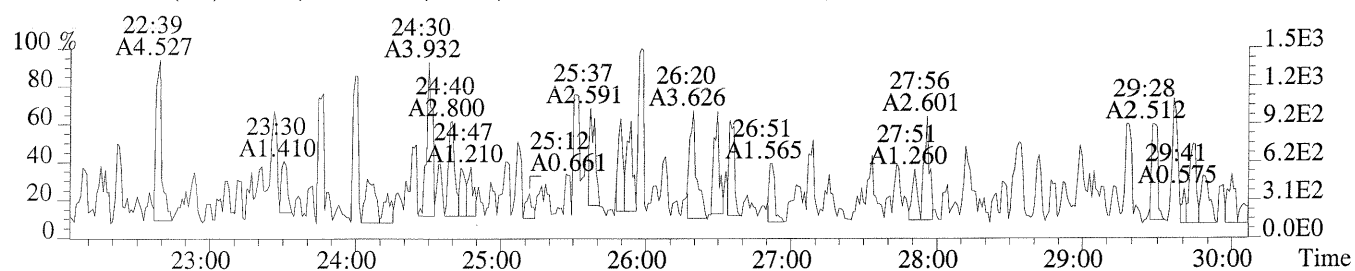




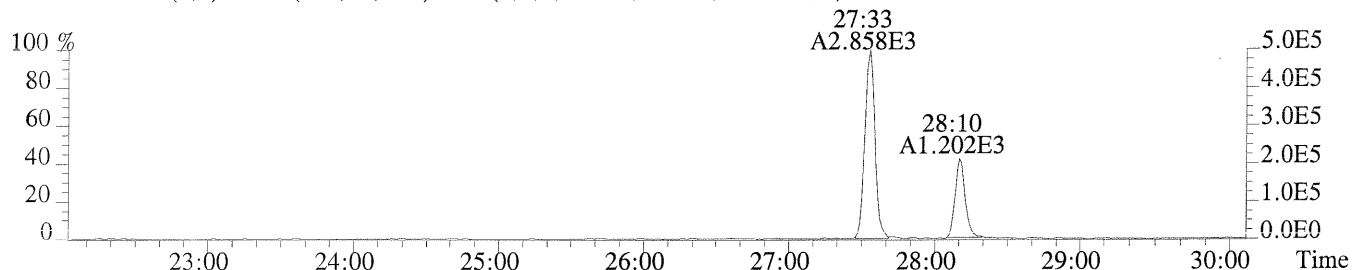
File:P173118 #1-579 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-004  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



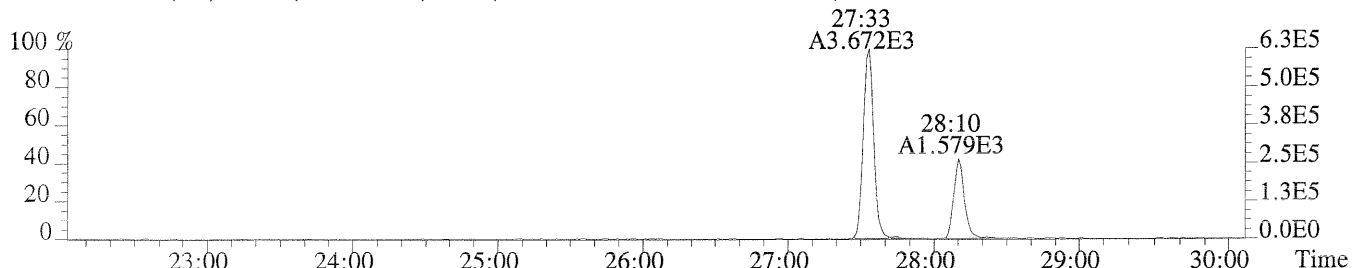
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



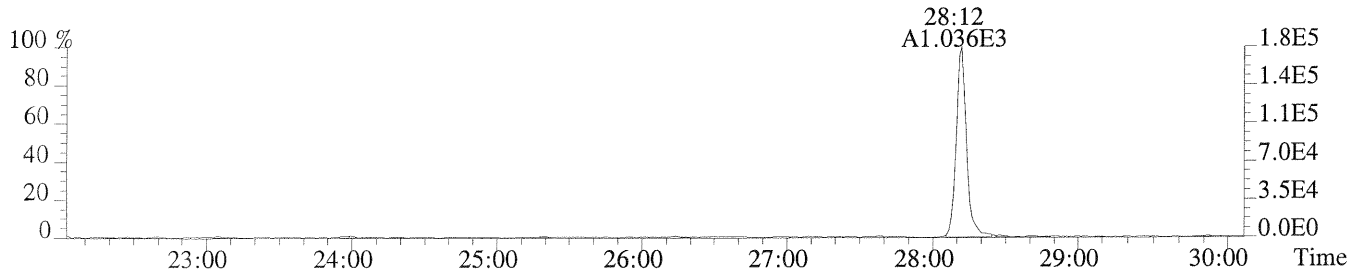
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2220.0,1.00%,F,T)



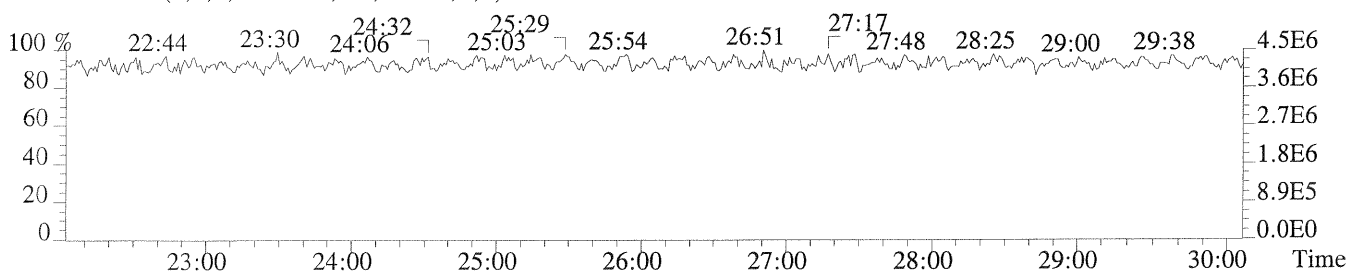
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



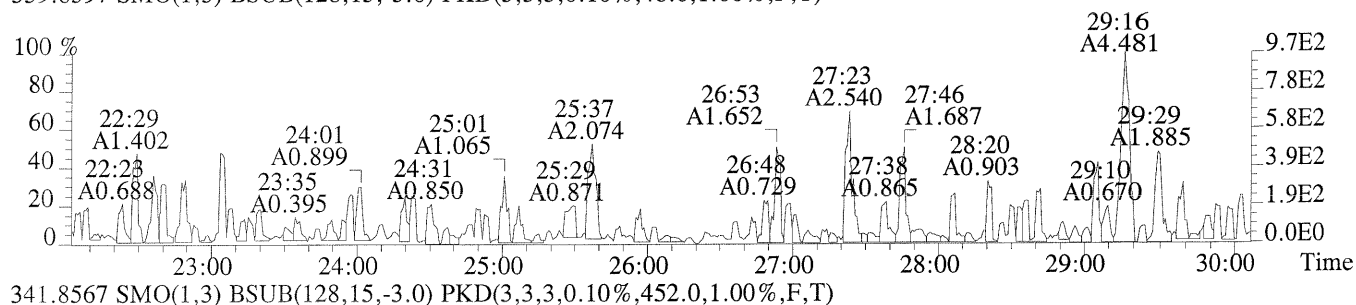
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)



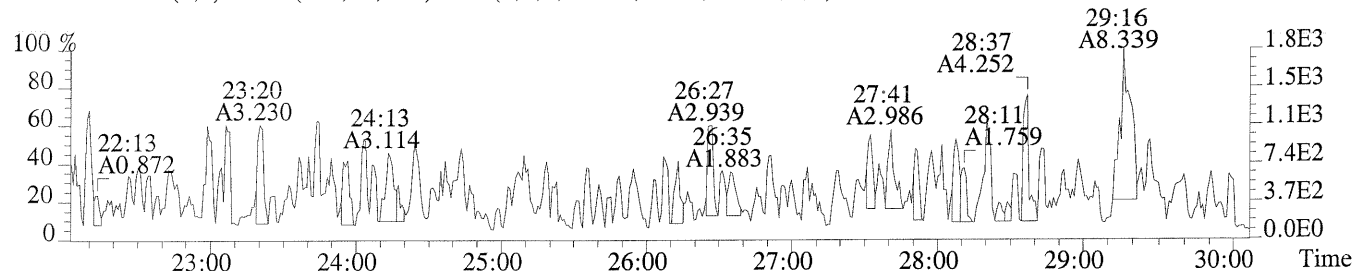
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



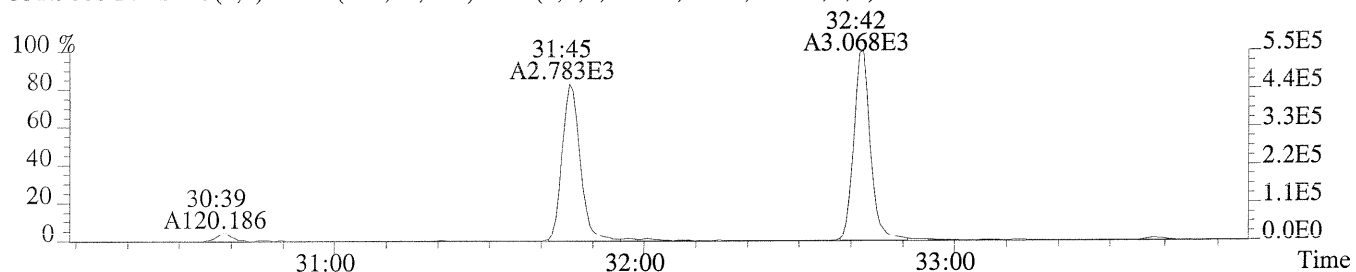
File:P173118 #1-579 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-004  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,48.0,1.00%,F,T)



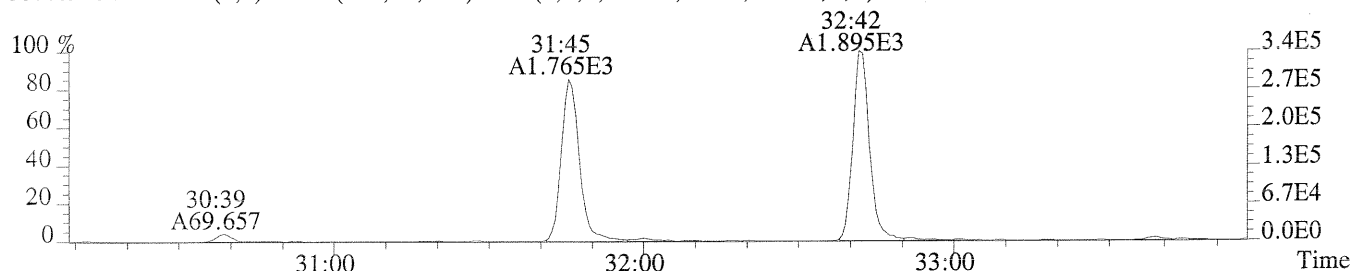
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



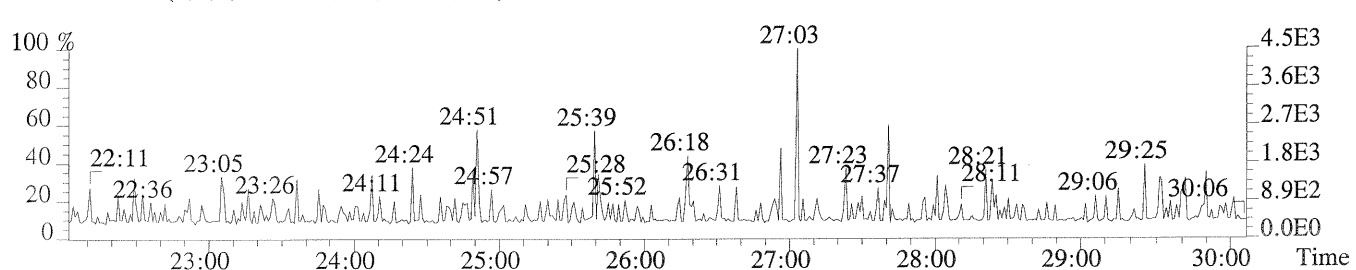
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,176.0,1.00%,F,T)



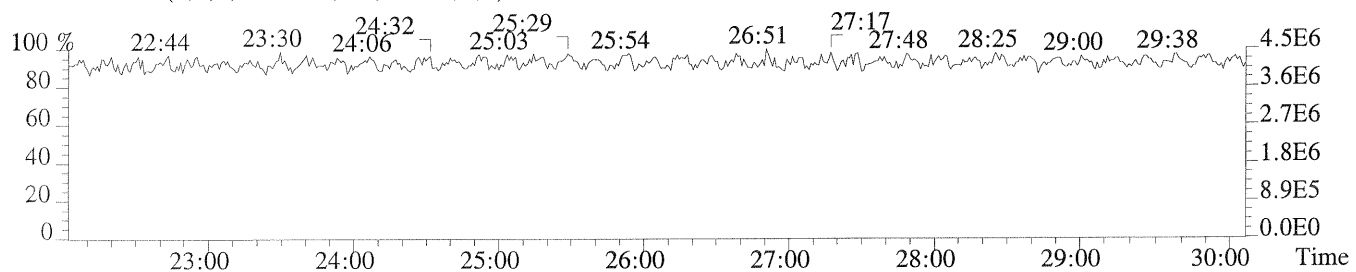
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,T)

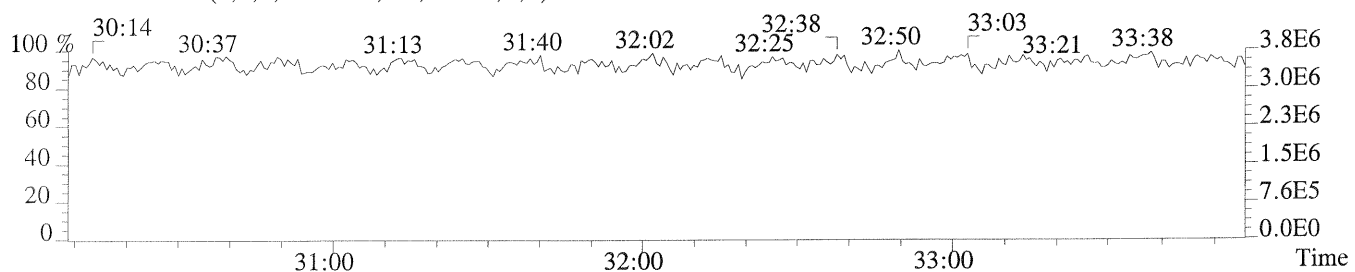
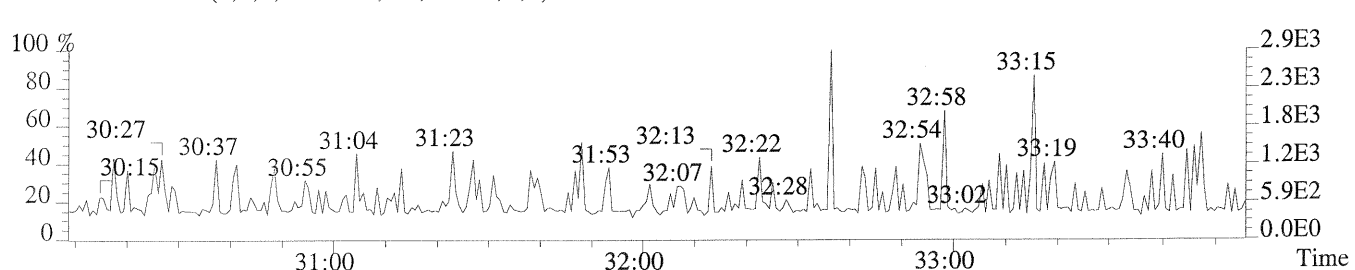
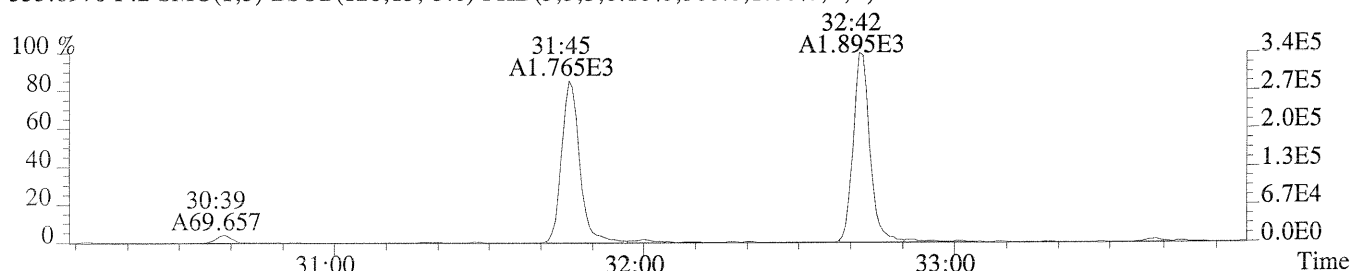
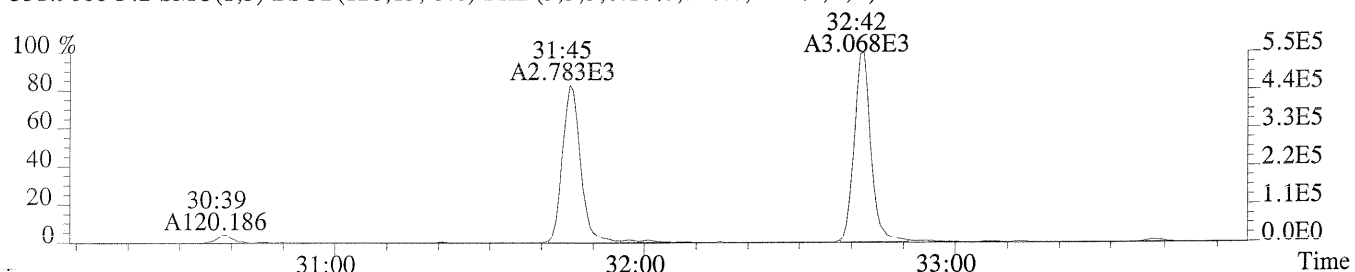
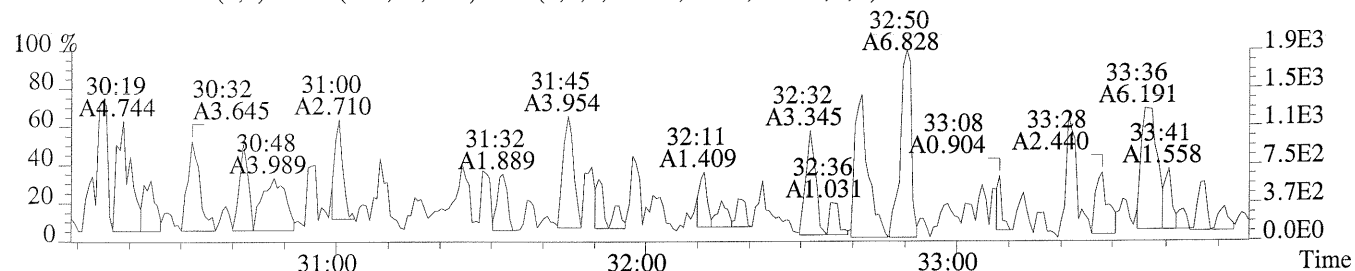
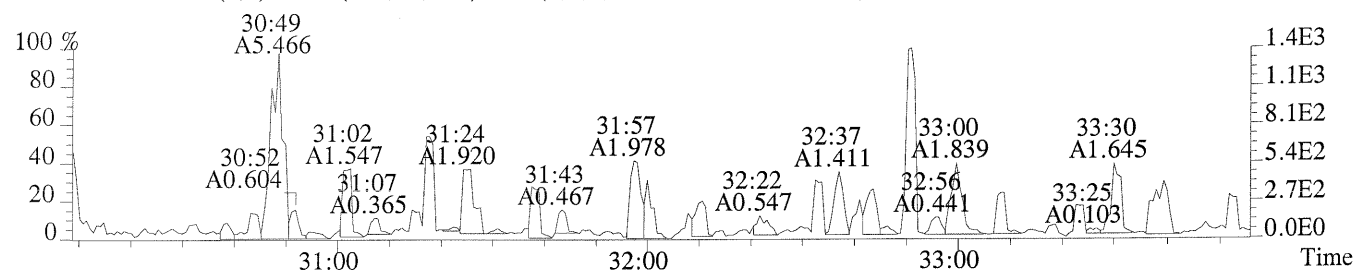


409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

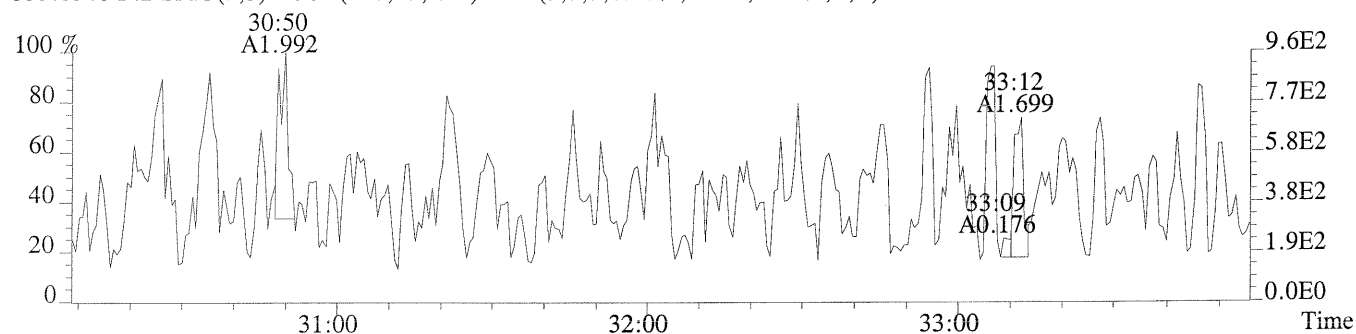




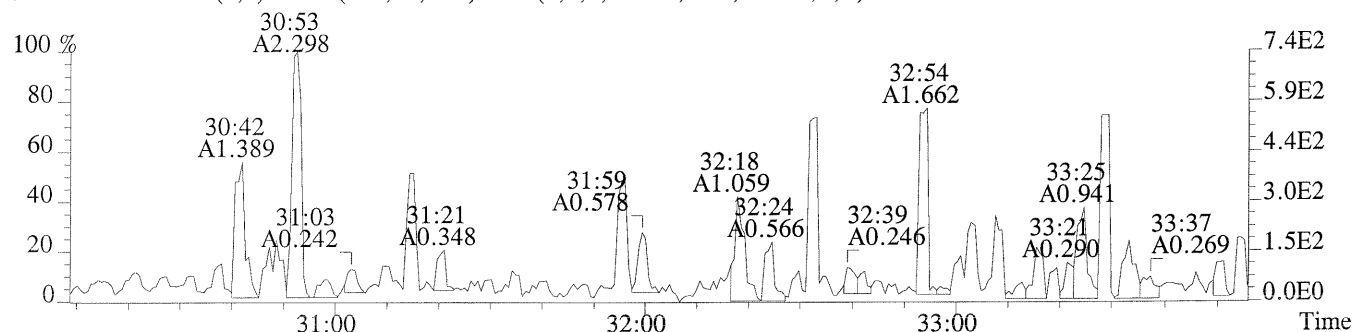


Sample#1 Exp:K1407971-004

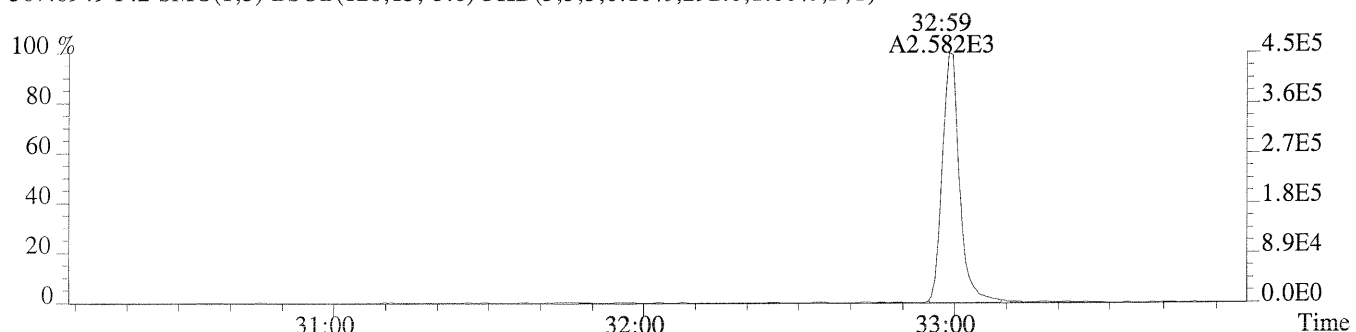
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)



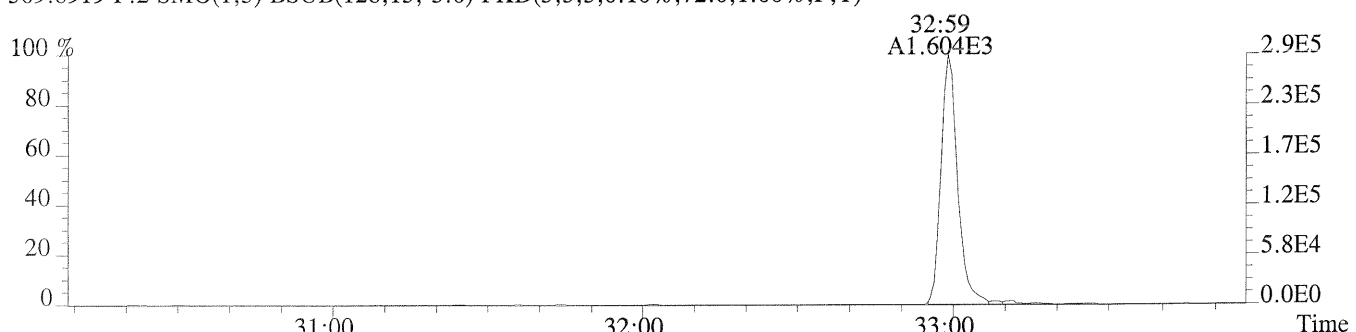
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,T)



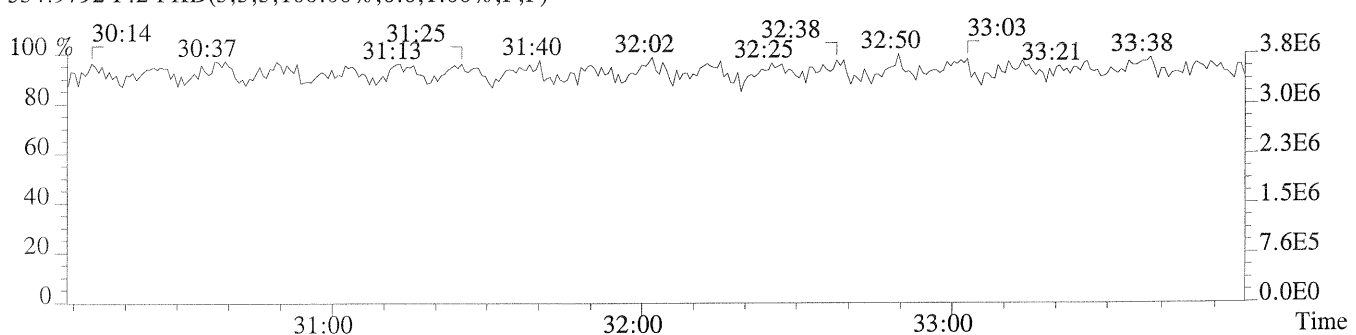
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,T)



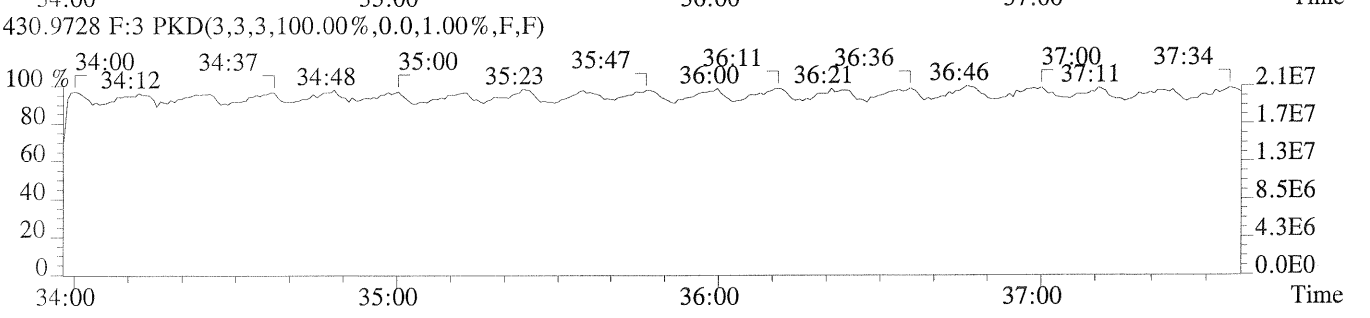
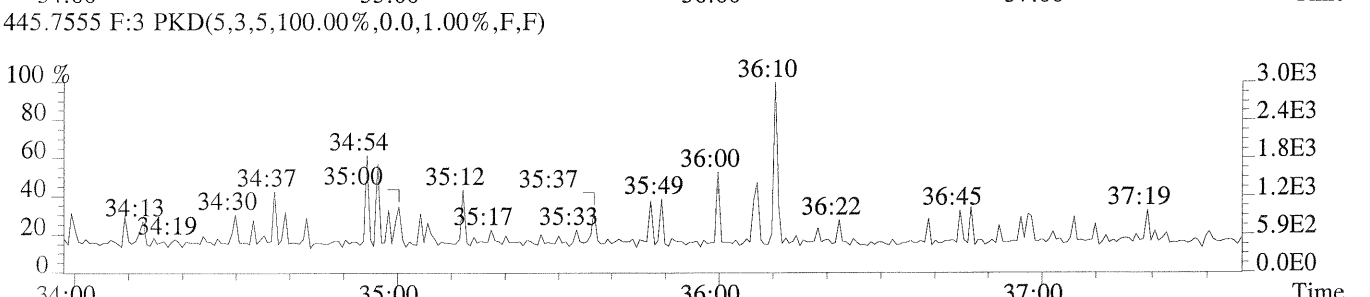
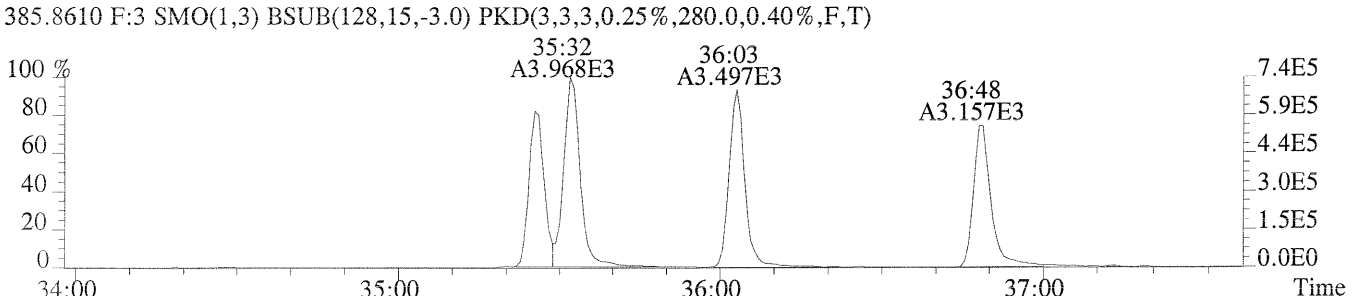
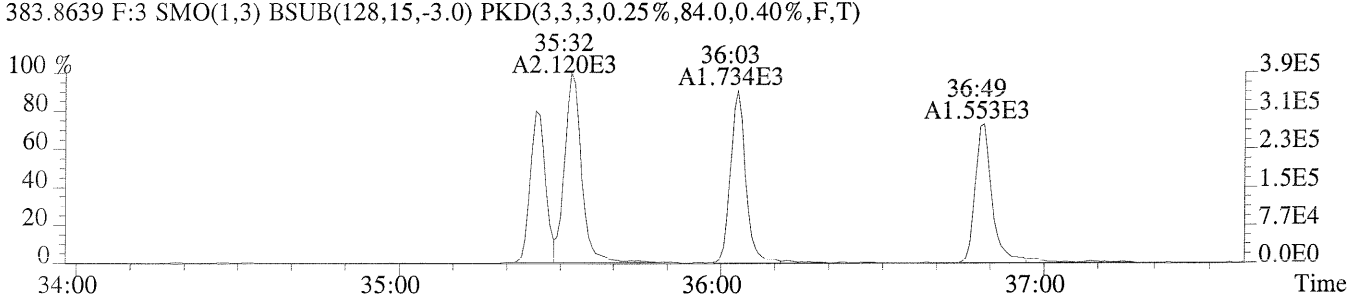
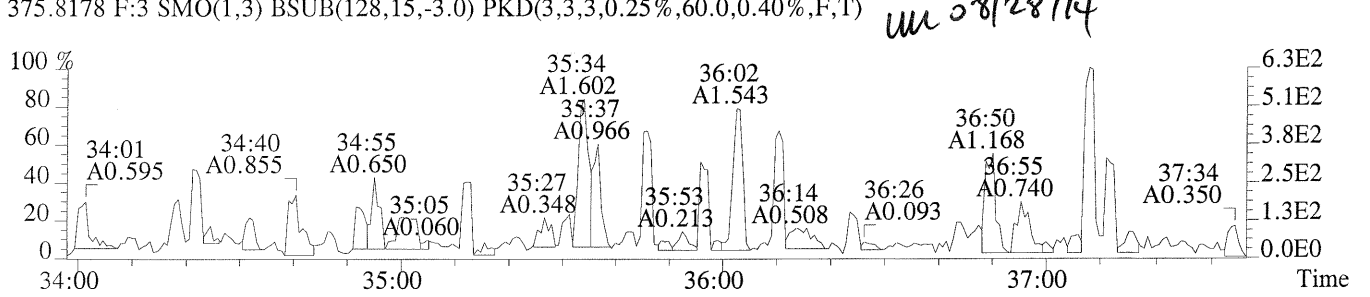
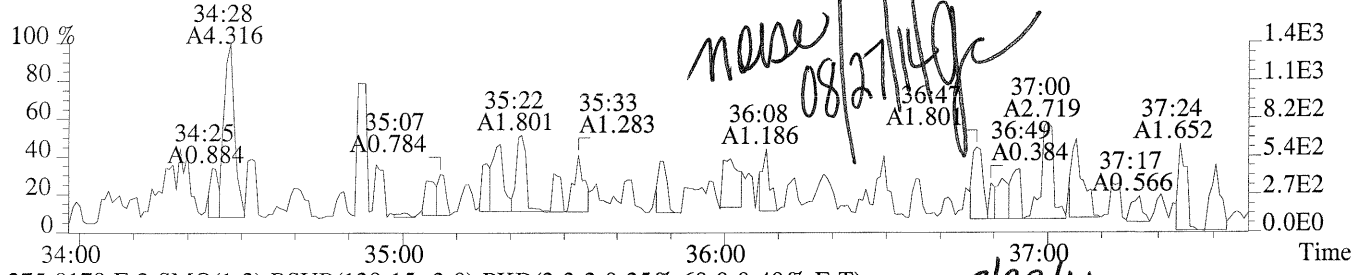
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



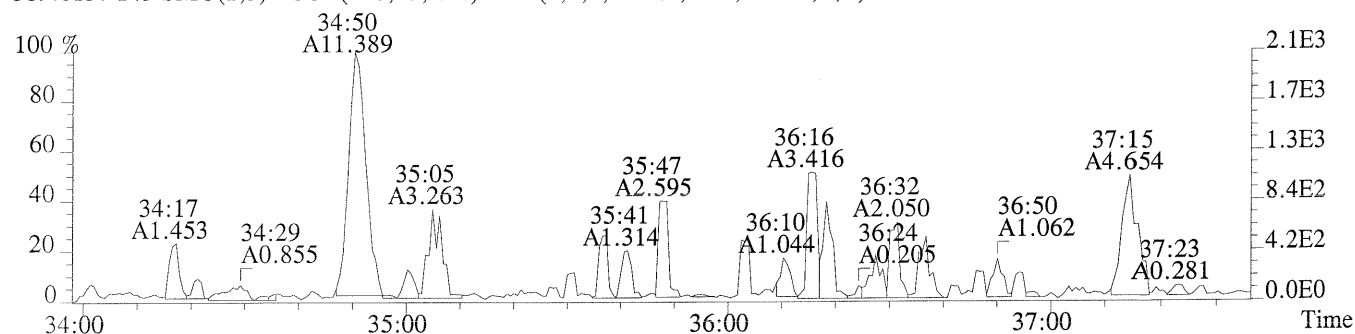
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



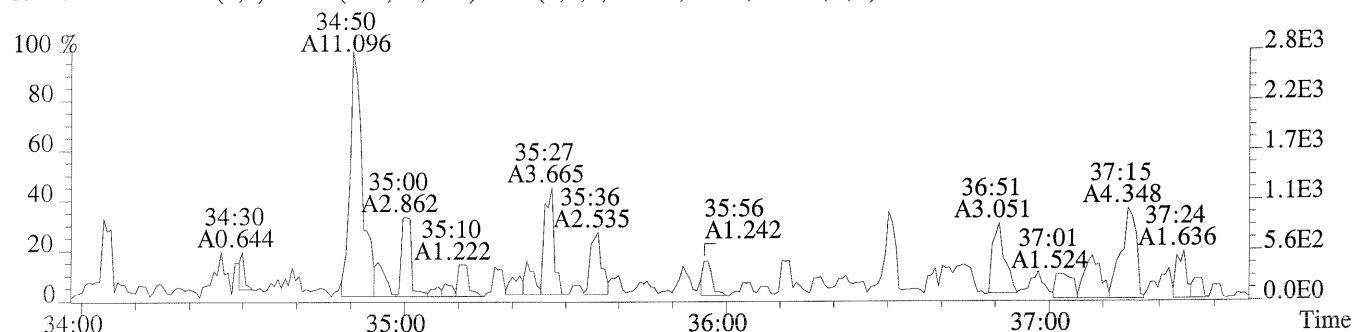
File:P173118 #1-331 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-004  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



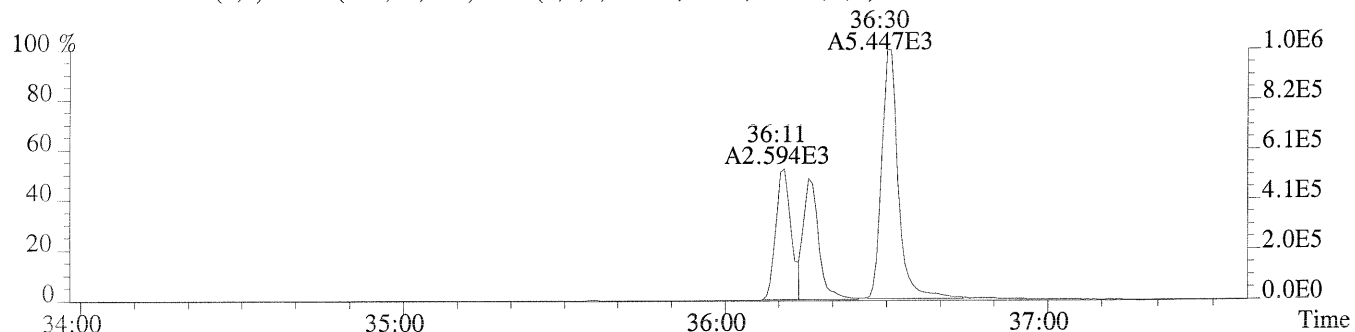
File:P173118 #1-331 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-004  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



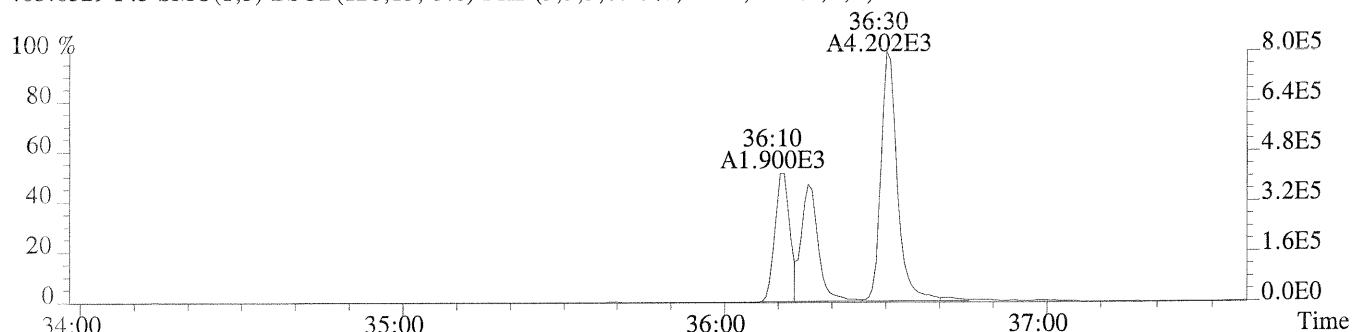
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



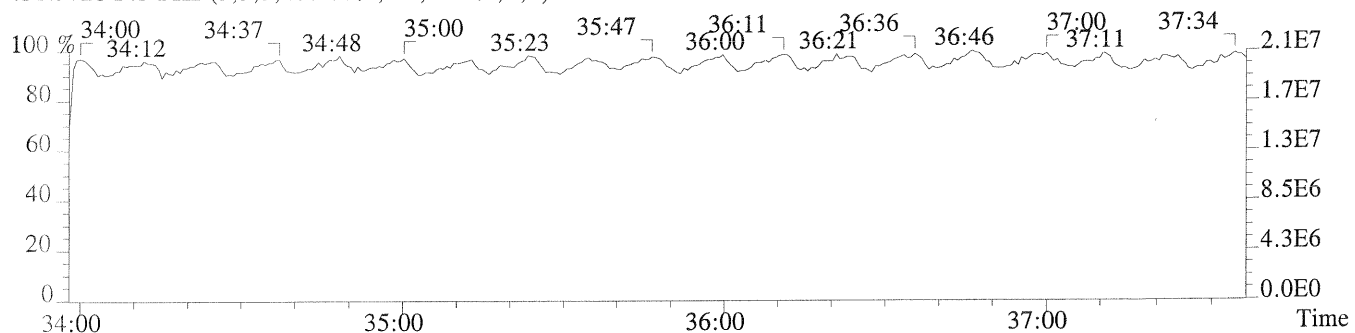
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,T)



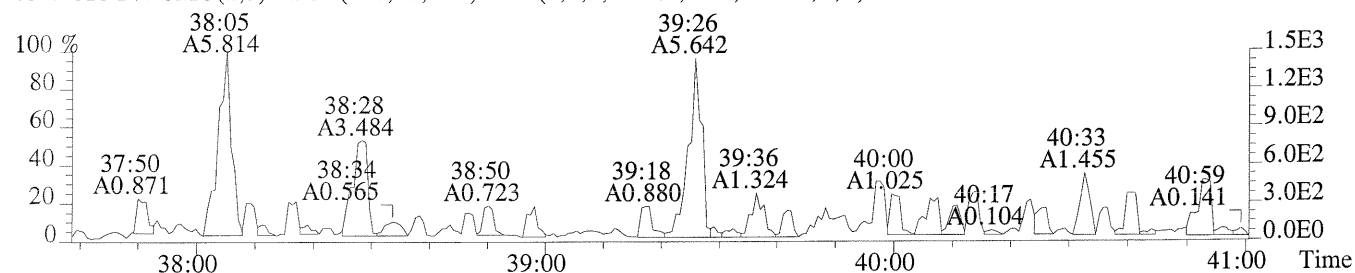
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



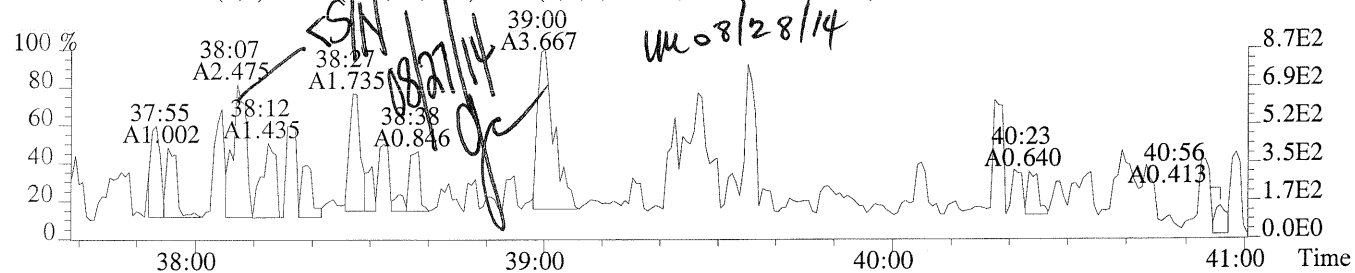
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



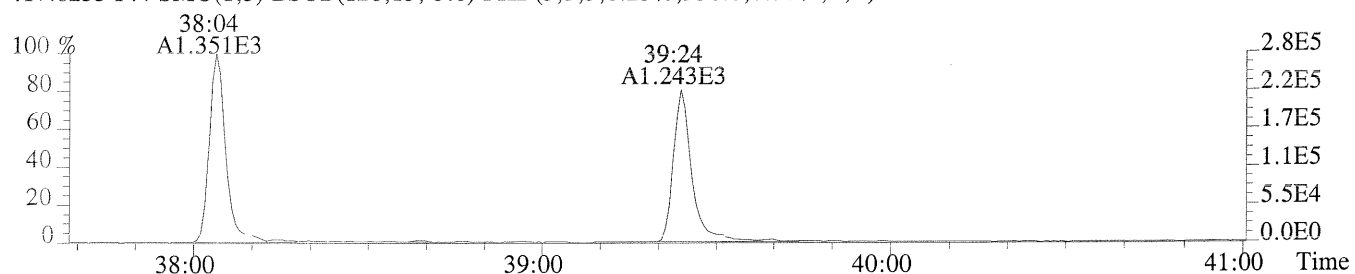
File:P173118 #1-306 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-004  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.50%,F,T)



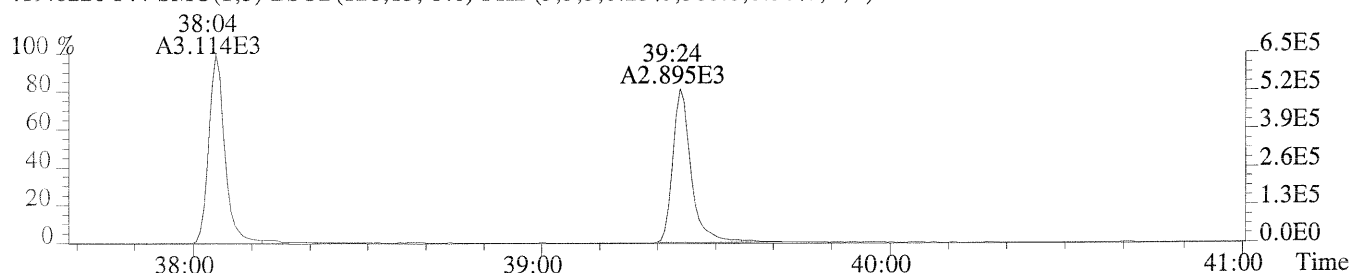
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.50%,F,T)



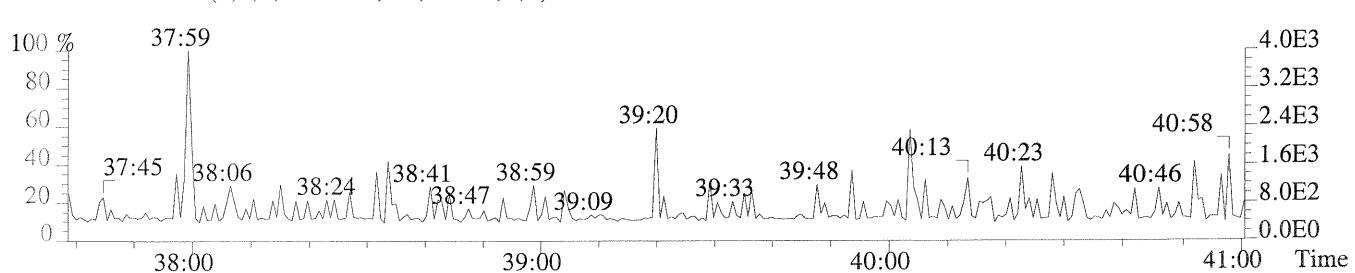
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.50%,F,T)



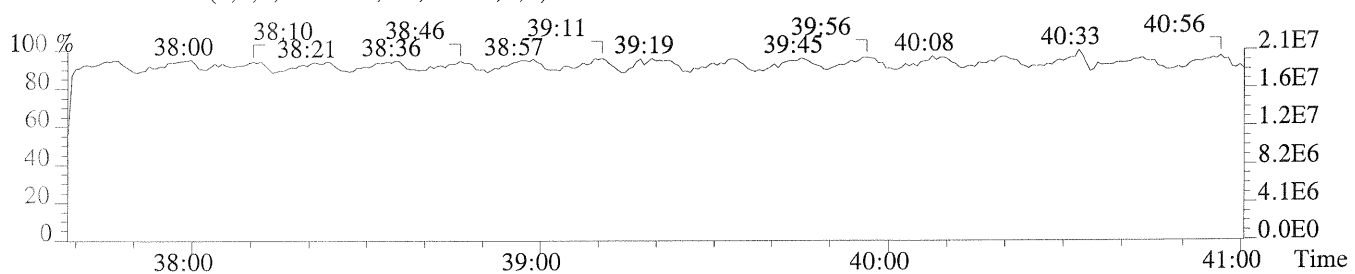
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.50%,F,T)

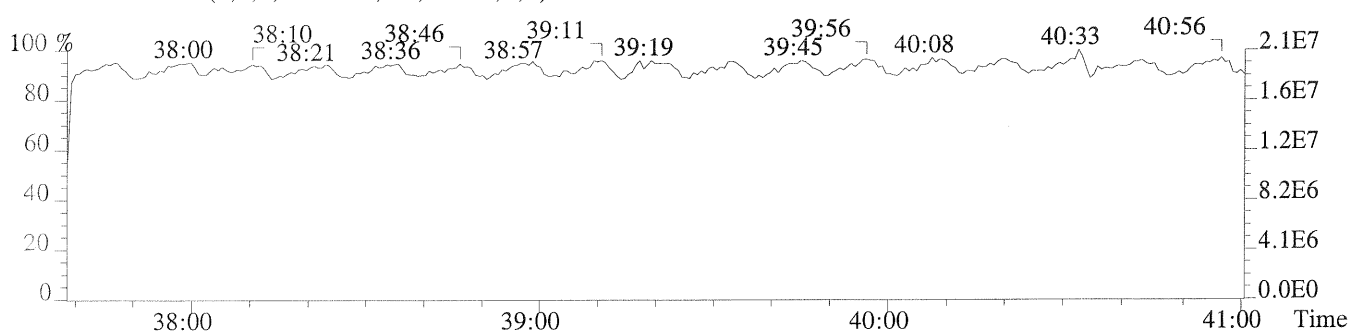
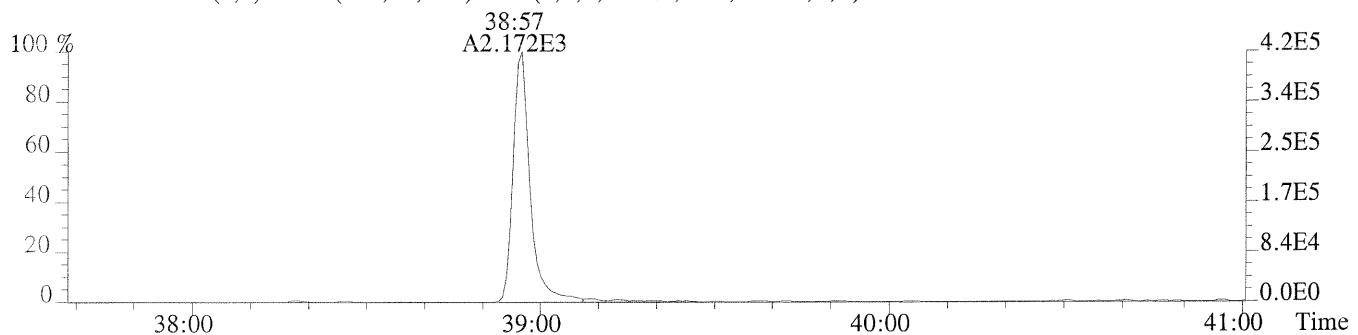
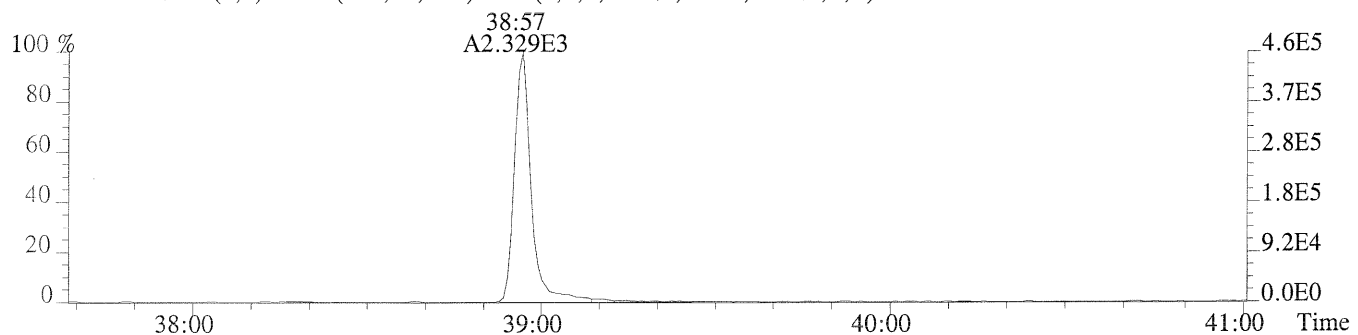
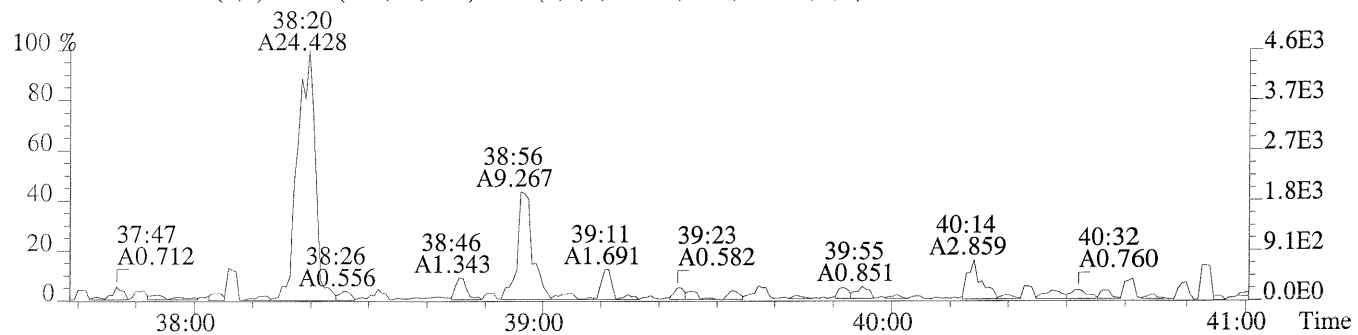
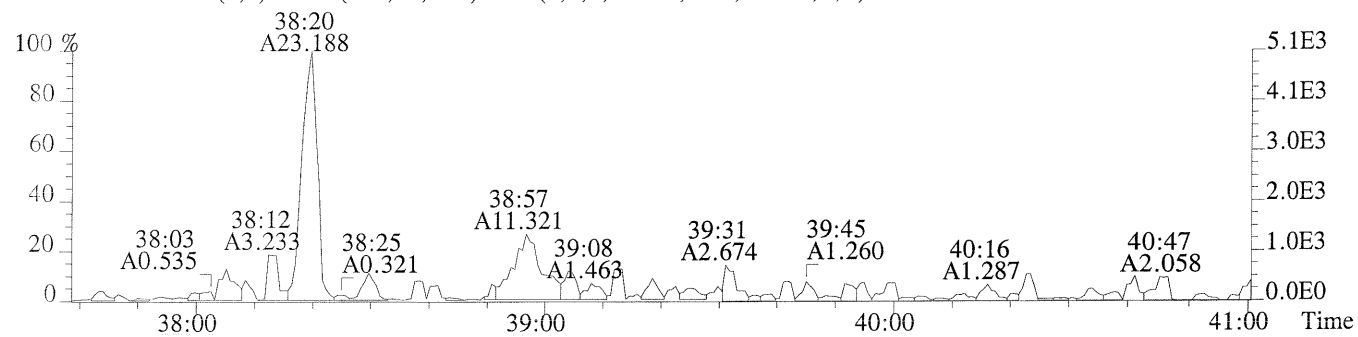


479.7165 F:4 PKD(5,3,5,100.0%,0.0,1.00%,F,F)

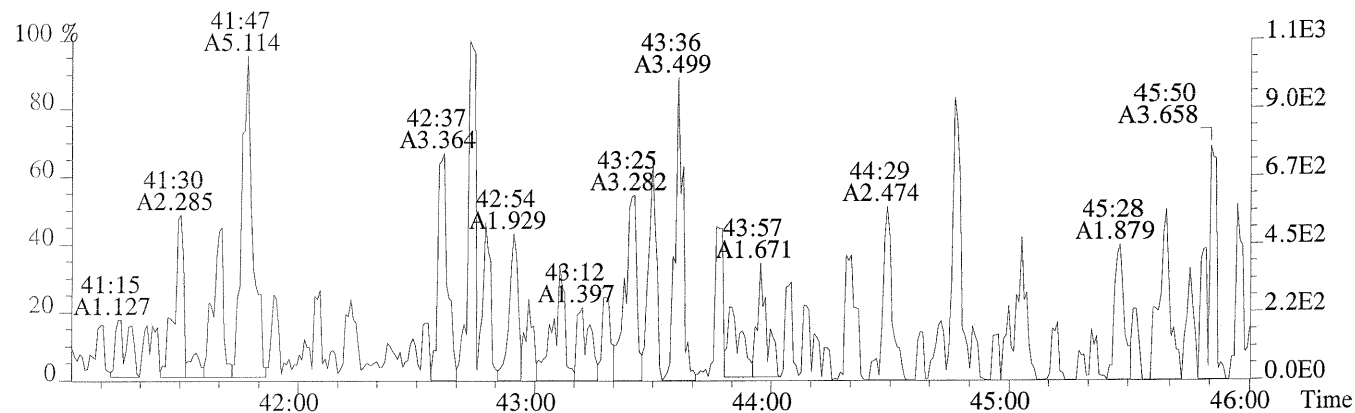


430.9728 F:4 PKD(3,3,3,100.0%,0.0,1.00%,F,F)

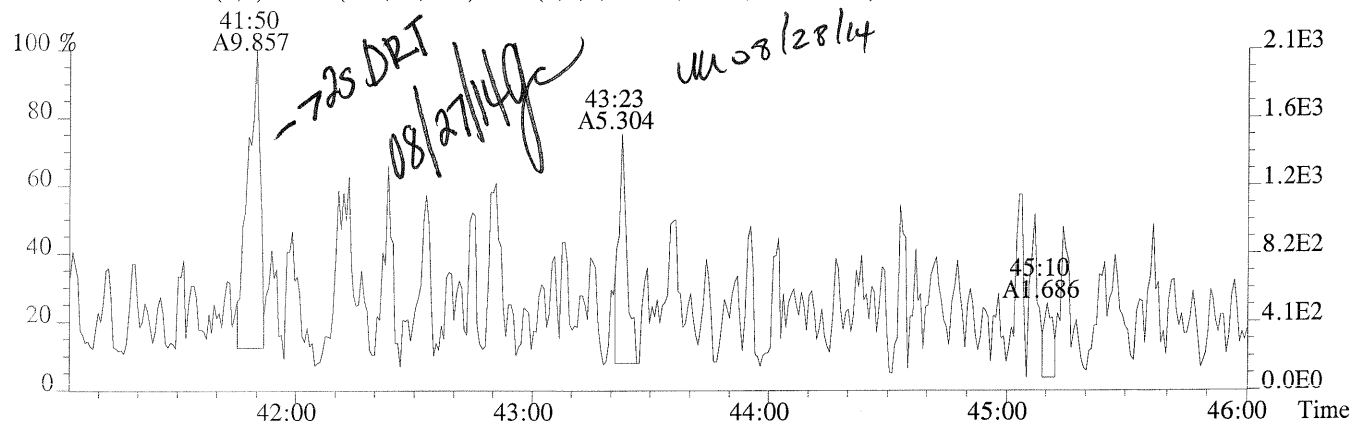




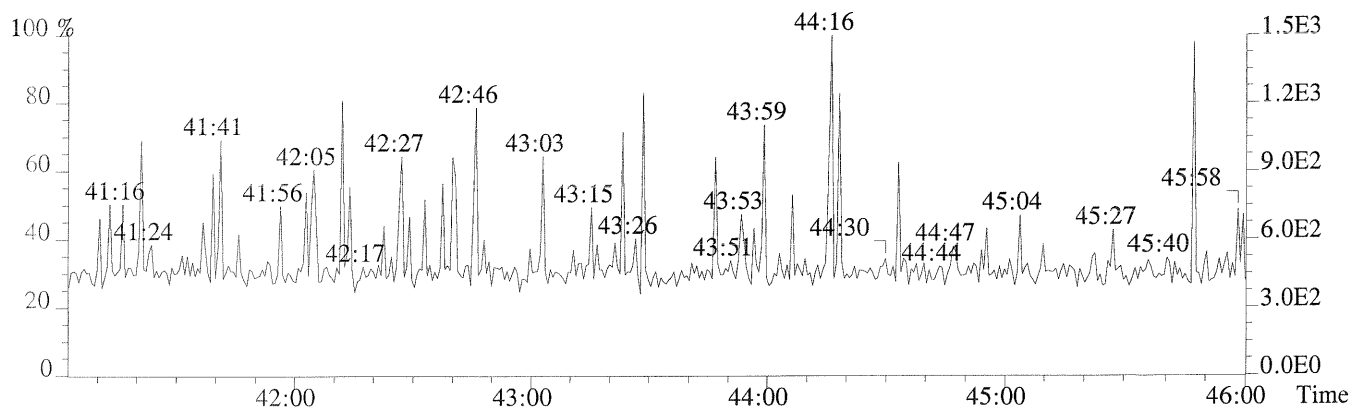
File:P173118 #1-456 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-004  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



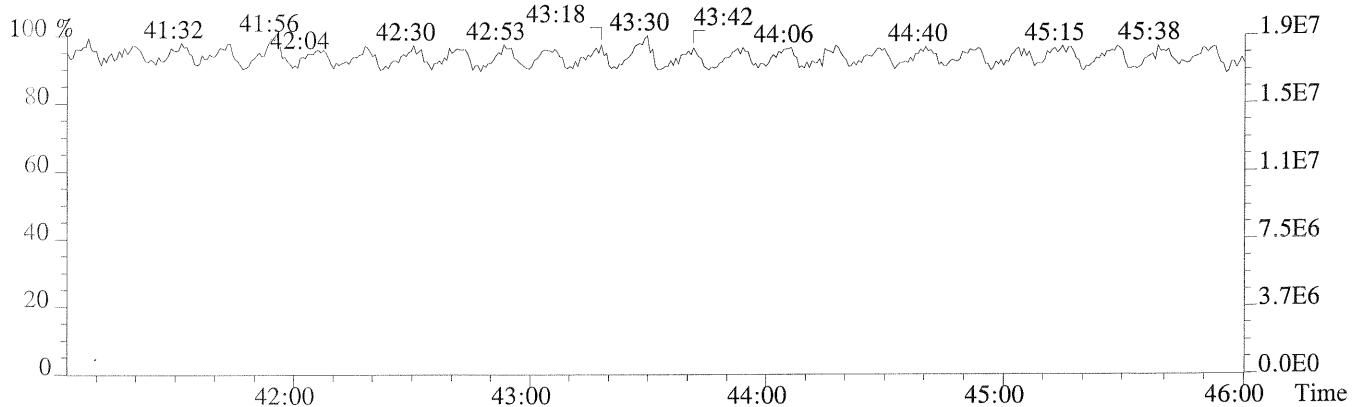
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,520.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



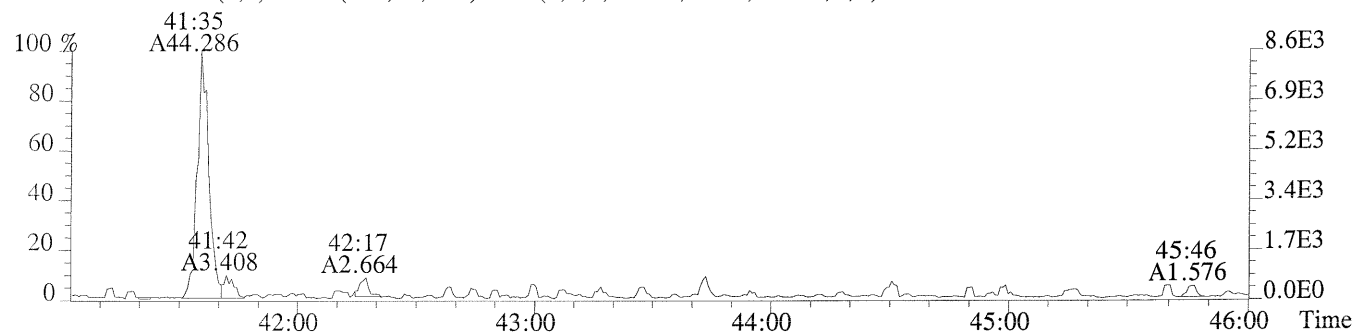
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



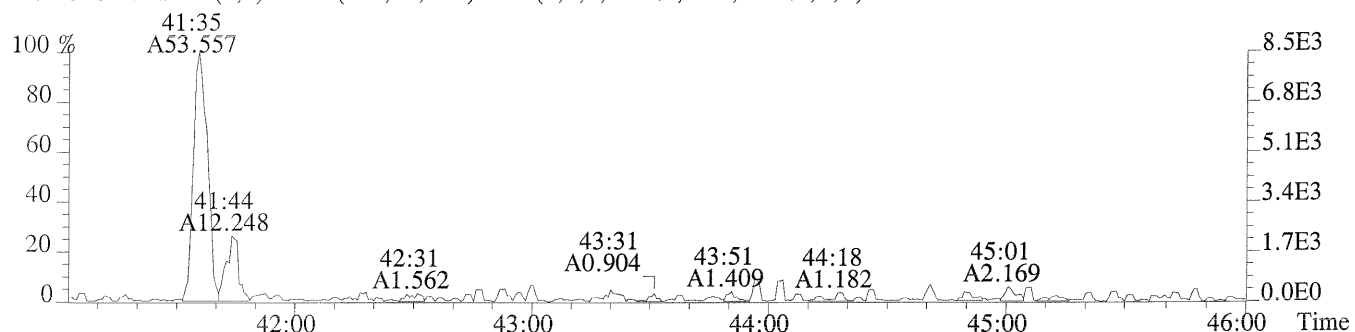
File:P173118 #1-456 Acq:27-AUG-2014 01:50:56 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-004

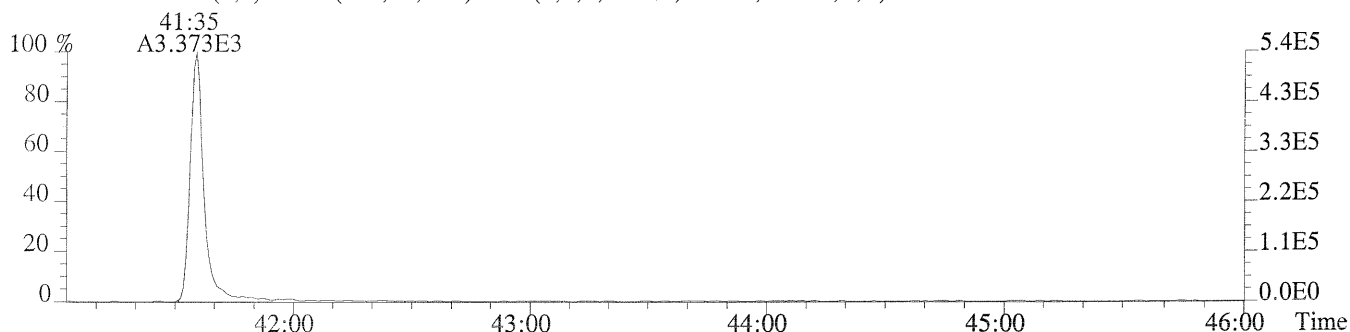
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,180.0,0.40%,F,T)



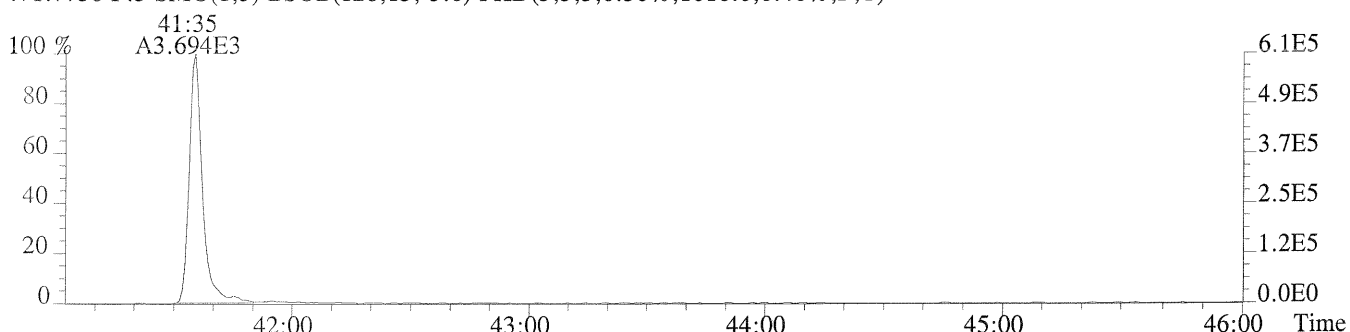
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,84.0,0.40%,F,T)



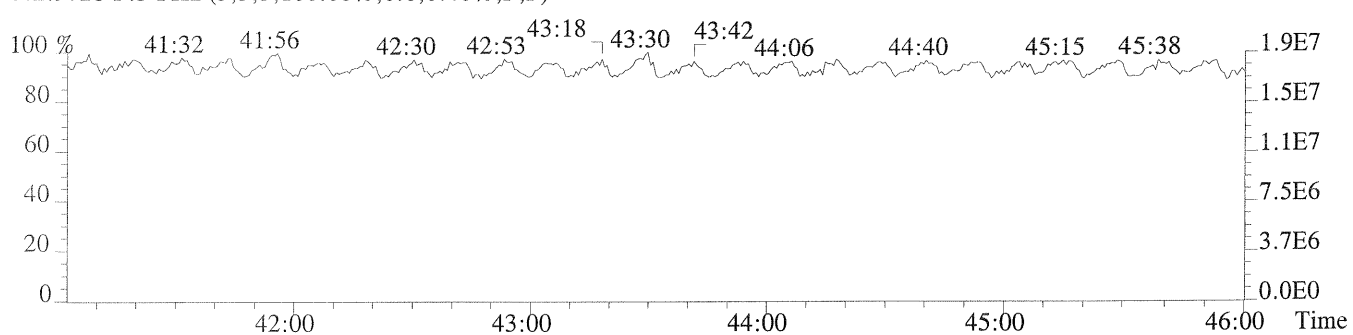
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1340.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 METHOD 1613B/8290A

CLIENT ID.  
 NV SYC14-AC R7

Run #10    Filename P173119    Samp: 1    Inj: 1    Acquired: 27-AUG-14 02:39:05  
 Processed: 27-AUG-14 10:43:53    Sample ID: K1407971-005

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:05	4.324e+00	2.767e+00	1.56	no	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:59	4.676e+00	9.537e+00	0.49	no	yes	1.016
17 Unk	OCDD	41:37	4.203e+01	3.568e+01	1.18	no	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	1.387e+03	1.737e+03	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	2.631e+03	1.723e+03	1.53	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	2.725e+03	1.759e+03	1.55	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.464e+03	2.897e+03	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	1.998e+03	3.836e+03	0.52	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	1.697e+03	3.368e+03	0.50	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	1.579e+03	3.120e+03	0.51	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	1.341e+03	3.175e+03	0.42	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.261e+03	3.020e+03	0.42	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	1.055e+03	1.409e+03	0.75	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	2.500e+03	1.577e+03	1.59	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.516e+03	1.993e+03	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.608e+03	2.125e+03	1.23	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	2.278e+03	2.157e+03	1.06	yes	no	0.862
32 IS	13C-OCDD	41:36	3.387e+03	3.871e+03	0.87	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	3.004e+03	3.789e+03	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	6.262e+03	4.694e+03	1.33	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	8.942e+02				no	1.125

OCDD =  $(4.203e+01 + 3.568e+01) \times 4000 \text{ pg} \times 1$   
 $(3.387e+03 + 3.871e+03) \times 7.639 \times 100 \times 1.079 = 5.202 \text{ ng/kg}$   
*um 08/28/14*

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1613RESP1



ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-AC REP.2

Run #10 Filename P173119 Samp: 1 Inj: 1 Acquired: 27-AUG-14 02:39:05  
Processed: 27-AUG-14 10:43:531 LAB. ID: K1407971-005

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.12e+02	*	*	6.79e+02	*
2	1,2,3,7,8-PeCDF	*	6.40e+01	*	*	5.08e+02	*
3	2,3,4,7,8-PeCDF	*	6.40e+01	*	*	5.08e+02	*
4	1,2,3,4,7,8-HxCDF	*	1.12e+02	*	*	5.60e+01	*
5	1,2,3,6,7,8-HxCDF	*	1.12e+02	*	*	5.60e+01	*
6	2,3,4,6,7,8-HxCDF	*	1.12e+02	*	*	5.60e+01	*
7	1,2,3,7,8,9-HxCDF	*	1.12e+02	*	*	5.60e+01	*
8	1,2,3,4,6,7,8-HpCDF	1.29e+03	2.28e+02	5.7e+00	5.02e+02	8.40e+01	6.0e+00
9	1,2,3,4,7,8,9-HpCDF	*	2.28e+02	*	*	8.40e+01	*
10	OCDF	*	1.04e+02	*	*	6.96e+02	*
11	2,3,7,8-TCDD	*	1.96e+02	*	*	3.92e+02	*
12	1,2,3,7,8-PeCDD	*	4.44e+02	*	*	4.00e+01	*
13	1,2,3,4,7,8-HxCDD	*	8.00e+01	*	*	2.28e+02	*
14	1,2,3,6,7,8-HxCDD	*	8.00e+01	*	*	2.28e+02	*
15	1,2,3,7,8,9-HxCDD	*	8.00e+01	*	*	2.28e+02	*
16	1,2,3,4,6,7,8-HpCDD	7.76e+02	2.28e+02	3.4e+00	2.17e+03	5.60e+01	3.9e+01
17	OCDD	7.38e+03	8.40e+01	8.8e+01	4.98e+03	6.00e+01	8.3e+01
18	13C-2,3,7,8-TCDF	2.11e+05	4.96e+02	4.3e+02	2.61e+05	5.00e+02	5.2e+02
19	13C-1,2,3,7,8-PeCDF	4.34e+05	6.40e+01	6.8e+03	2.85e+05	1.80e+02	1.6e+03
20	13C-2,3,4,7,8-PeCDF	4.78e+05	6.40e+01	7.5e+03	3.11e+05	1.80e+02	1.7e+03
21	13C-1,2,3,4,7,8-HxCDF	3.04e+05	1.84e+02	1.7e+03	5.99e+05	3.12e+02	1.9e+03
22	13C-1,2,3,6,7,8-HxCDF	3.69e+05	1.84e+02	2.0e+03	7.02e+05	3.12e+02	2.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.44e+05	1.84e+02	1.9e+03	6.64e+05	3.12e+02	2.1e+03
24	13C-1,2,3,7,8,9-HxCDF	2.74e+05	1.84e+02	1.5e+03	5.57e+05	3.12e+02	1.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.79e+05	8.24e+02	3.4e+02	6.56e+05	8.00e+02	8.2e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.28e+05	8.24e+02	2.8e+02	5.44e+05	8.00e+02	6.8e+02
27	13C-2,3,7,8-TCDD	1.78e+05	1.64e+03	1.1e+02	2.40e+05	8.24e+02	2.9e+02
28	13C-1,2,3,7,8-PeCDD	4.30e+05	3.28e+02	1.3e+03	2.78e+05	5.60e+01	5.0e+03
29	13C-1,2,3,4,7,8-HxCDD	5.44e+05	1.68e+02	3.2e+03	4.19e+05	3.20e+02	1.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.79e+05	1.68e+02	2.8e+03	4.03e+05	3.20e+02	1.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.36e+05	2.84e+02	1.5e+03	3.98e+05	1.00e+02	4.0e+03
32	13C-OCDD	5.33e+05	3.28e+02	1.6e+03	5.99e+05	8.72e+02	6.9e+02
33	13C-1,2,3,4-TCDD	5.15e+05	1.64e+03	3.1e+02	6.30e+05	8.24e+02	7.6e+02
34	13C-1,2,3,7,8,9-HxCDD	1.18e+06	1.68e+02	7.0e+03	9.32e+05	3.20e+02	2.9e+03
35	37Cl-2,3,7,8-TCDD	1.49e+05	4.32e+02	3.4e+02			

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Peak List Summary

CLIENT ID.

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NV SYC14-AC REP.2

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Entry: 41 Totals Name: Total Hexa-Furans

Run: 10 File: P173119 Sample: 1 Injection: 1 Function: 3  
Llim: 34:15 Ulim: 37:01  
Acquired: 27-AUG-14 02:39:05 Processed: 27-AUG-14 10:43:53  
Mass: 373.8210 375.8180 Tot Response: 1.01e+01 RRF: 1.180

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:29	2.28e+00	1.87e+00	1.21	yes	4.15e+00	n	n
2	34:59	1.59e+00	1.14e+00	1.39	yes	2.73e+00	n	n
3	36:19	1.89e+00	1.35e+00	1.39	yes	3.24e+00	n	n

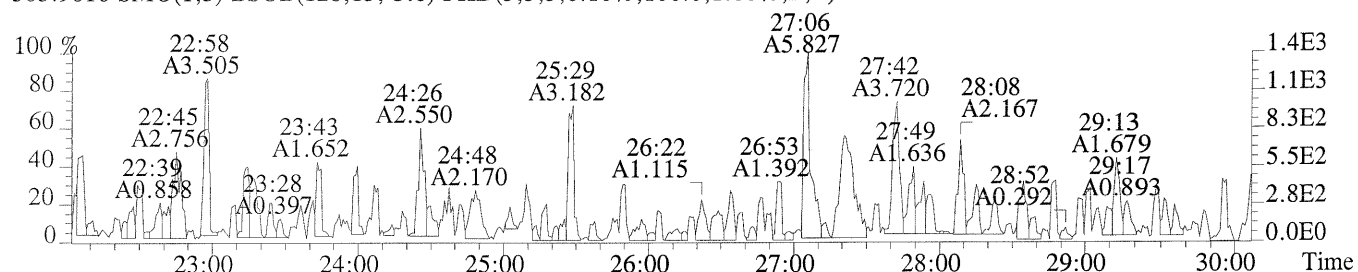
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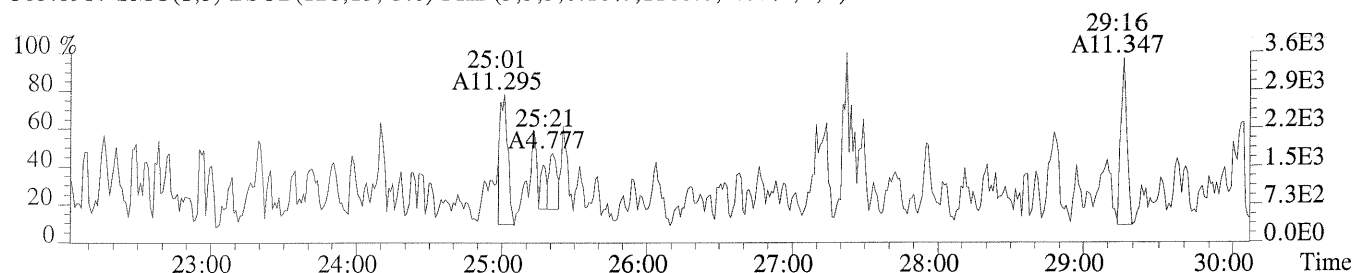
File:P173119 #1-579 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-005

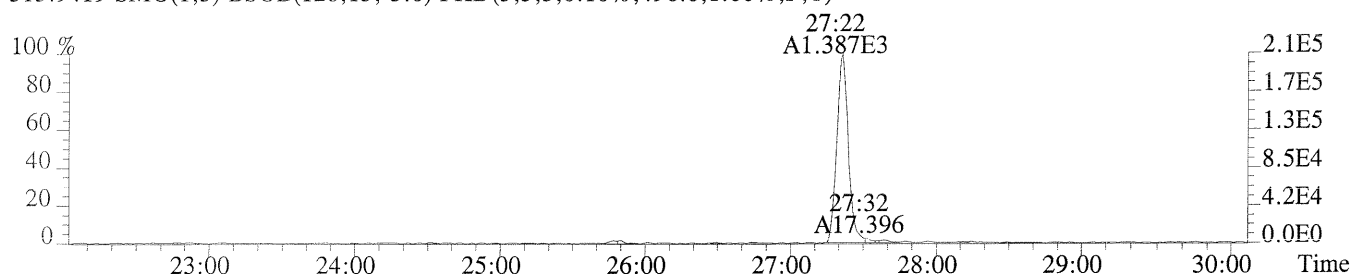
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,T)



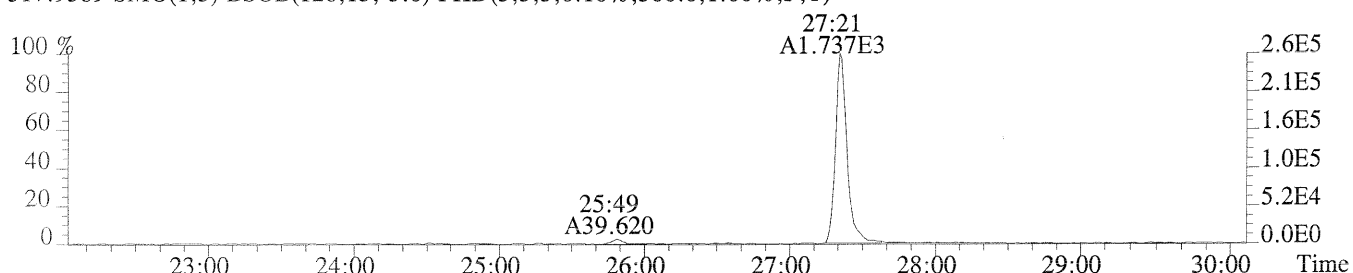
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,T)



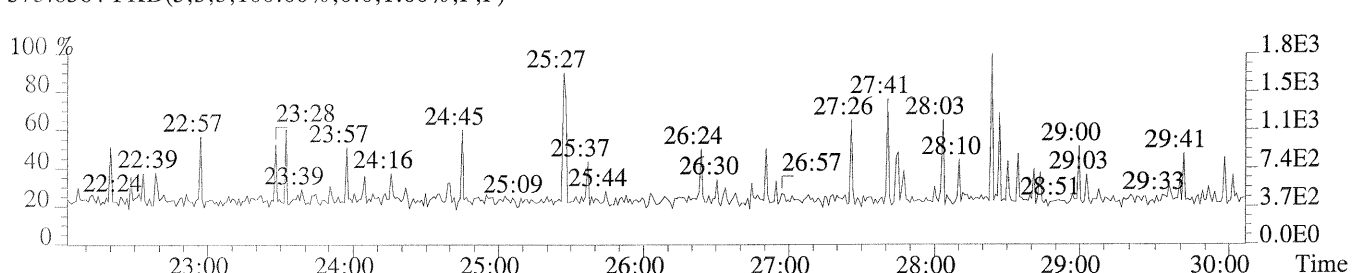
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



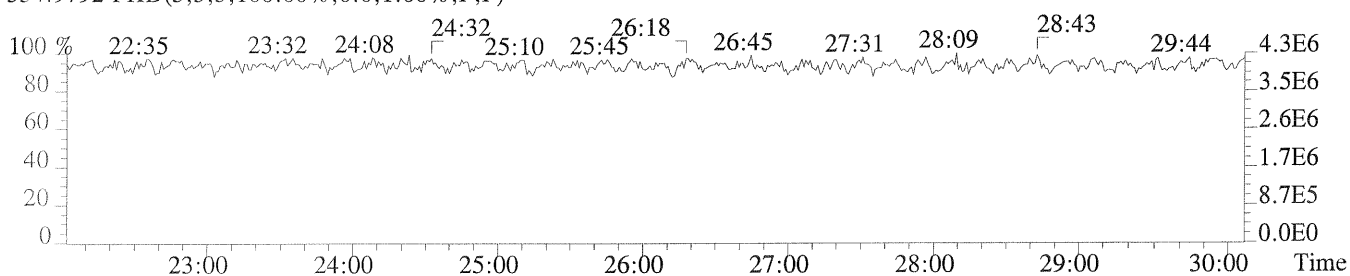
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)

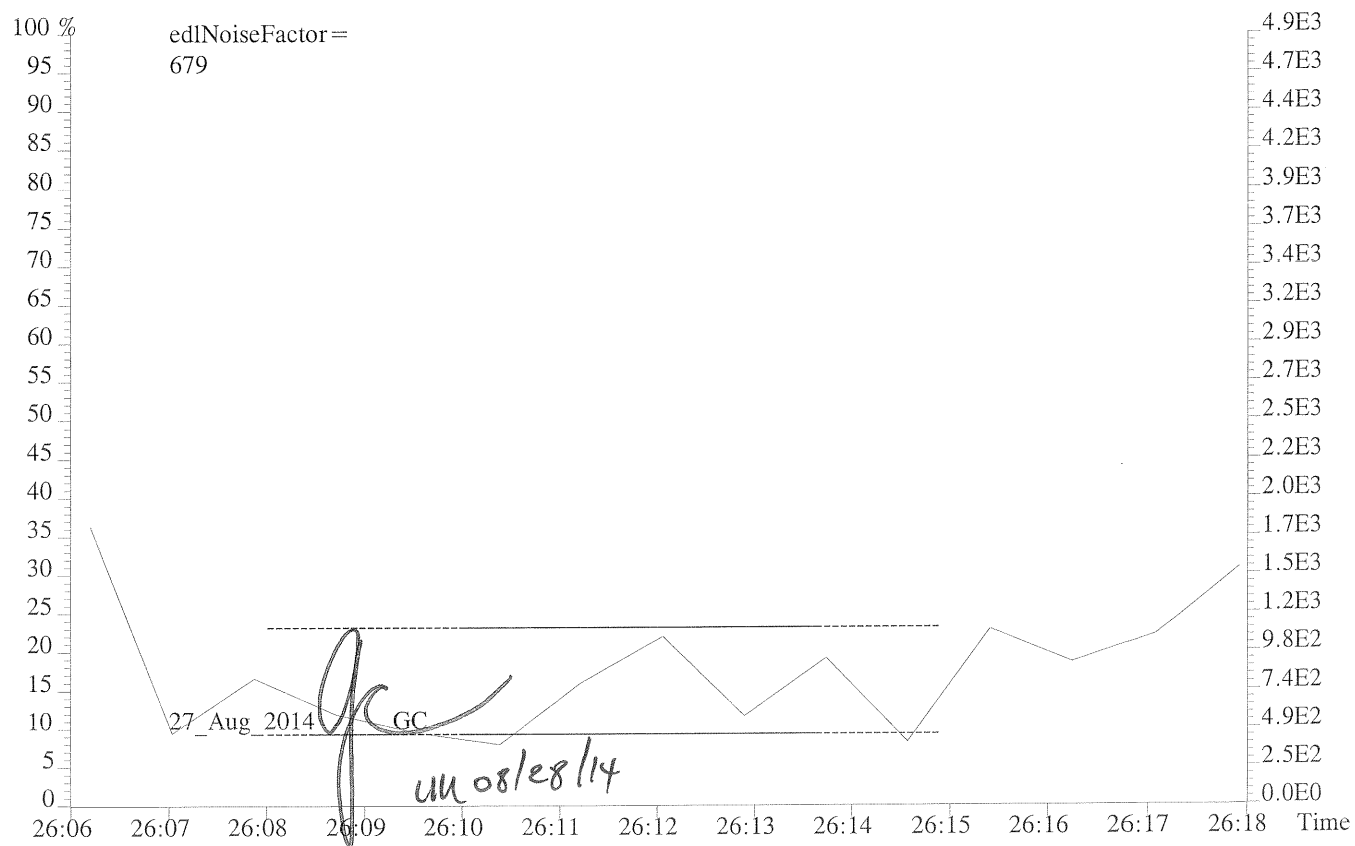
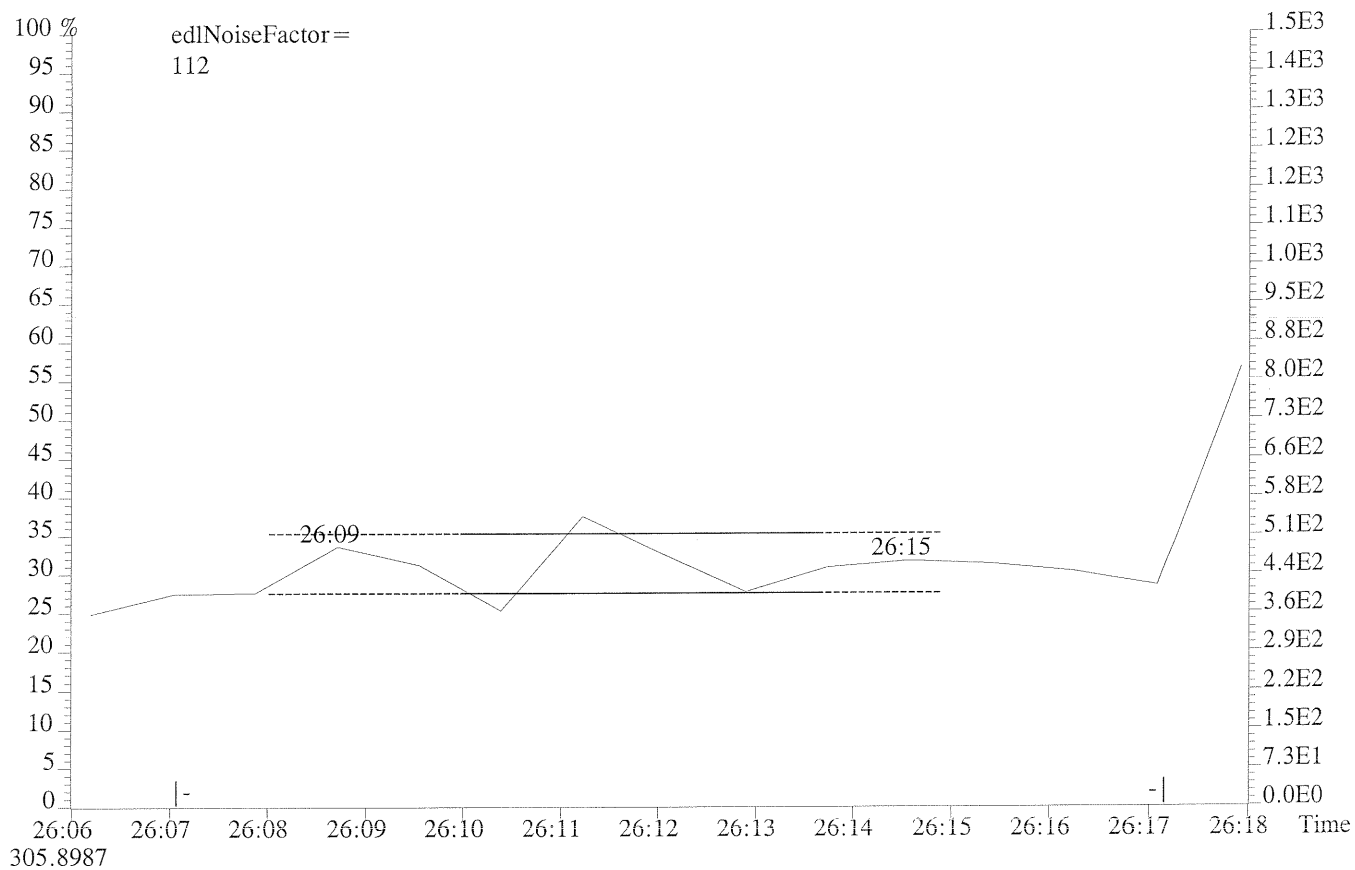


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

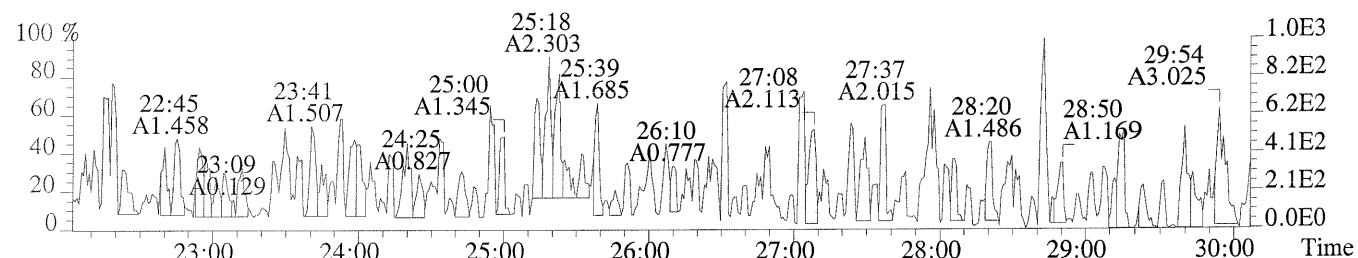




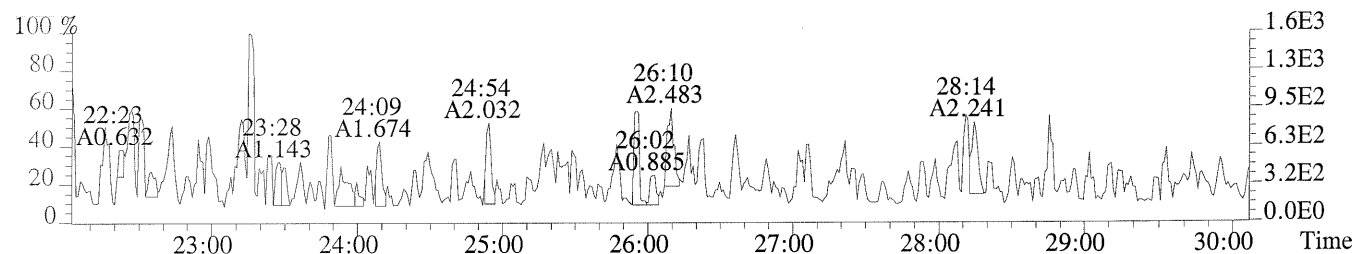
File:P173119 #1-579 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-005

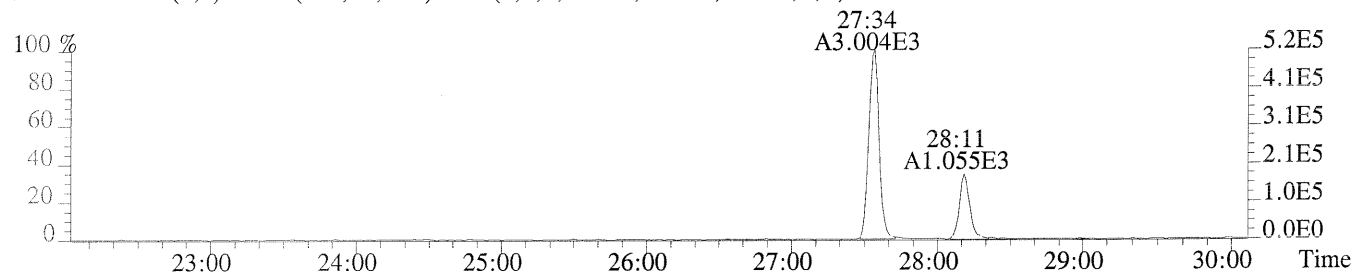
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



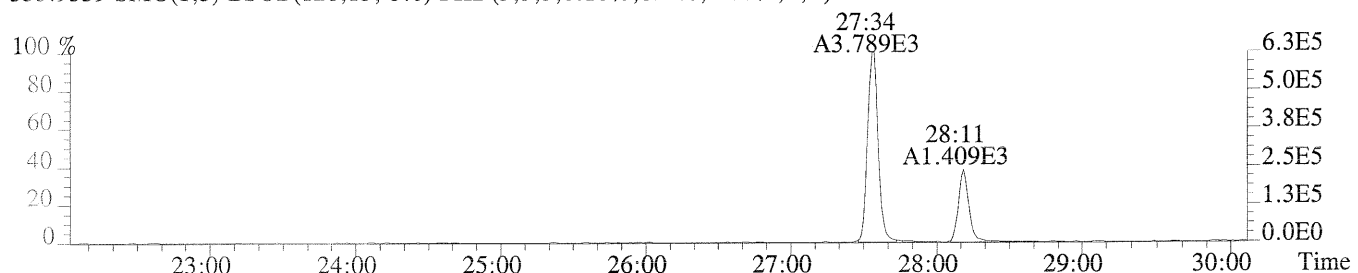
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,T)



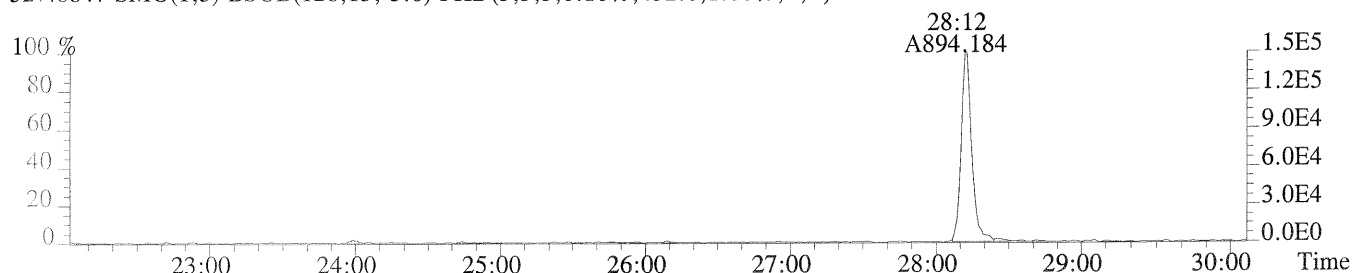
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1640.0,1.00%,F,T)



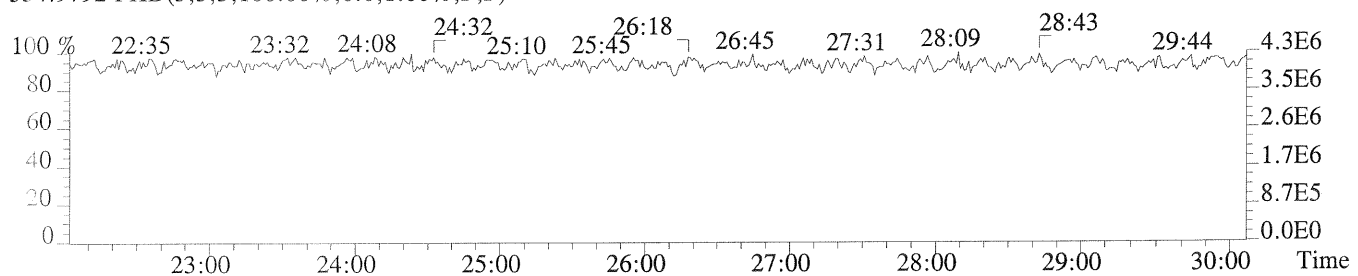
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



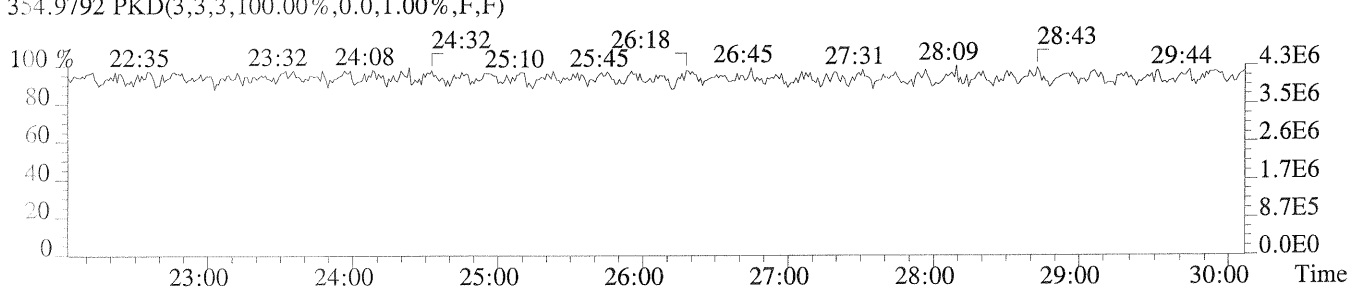
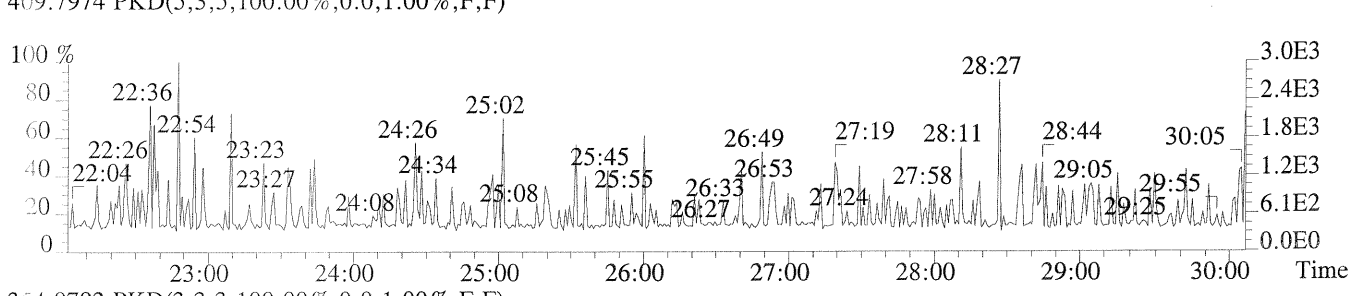
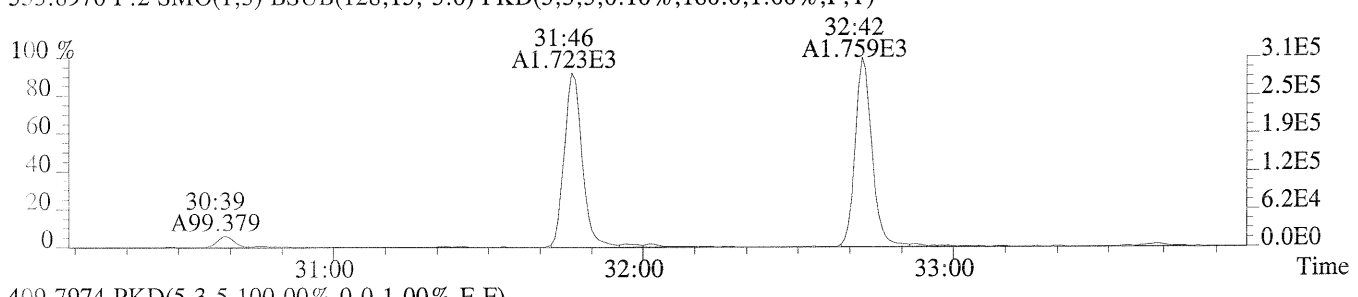
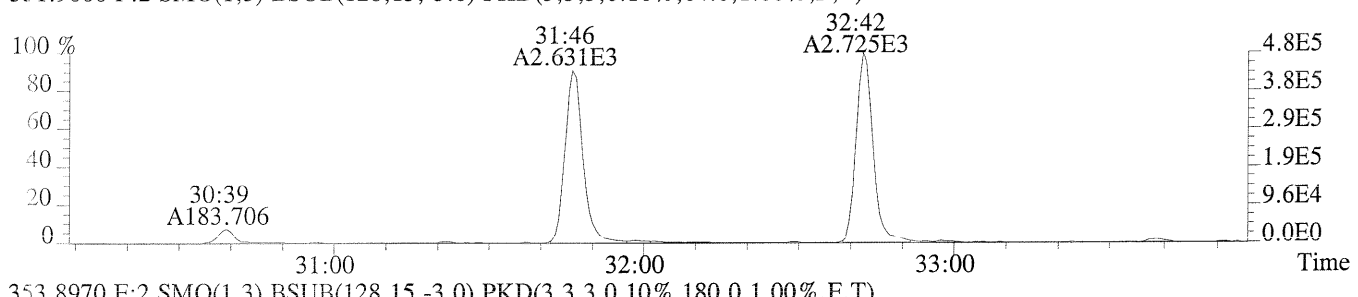
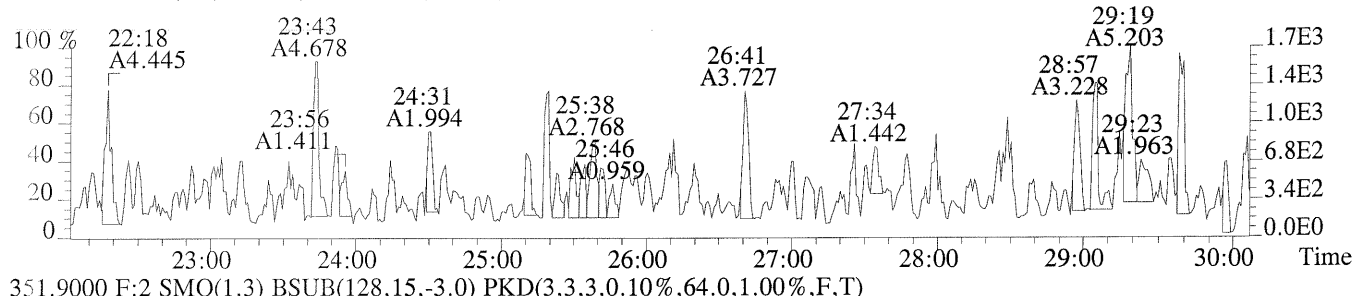
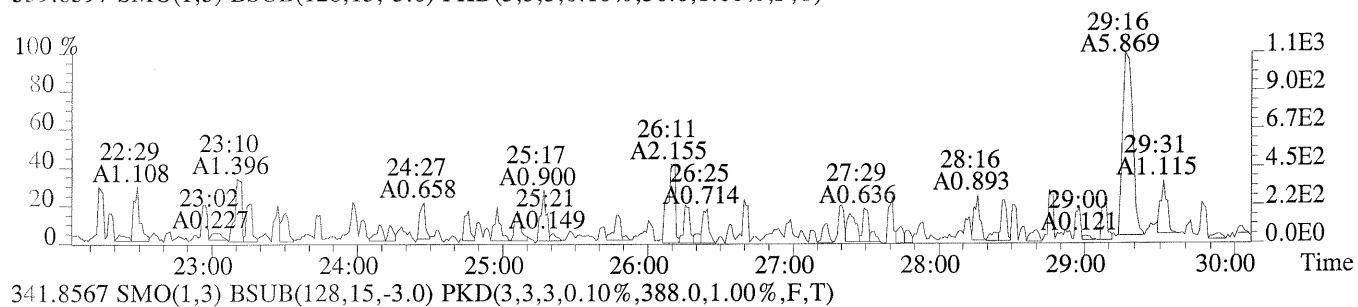
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



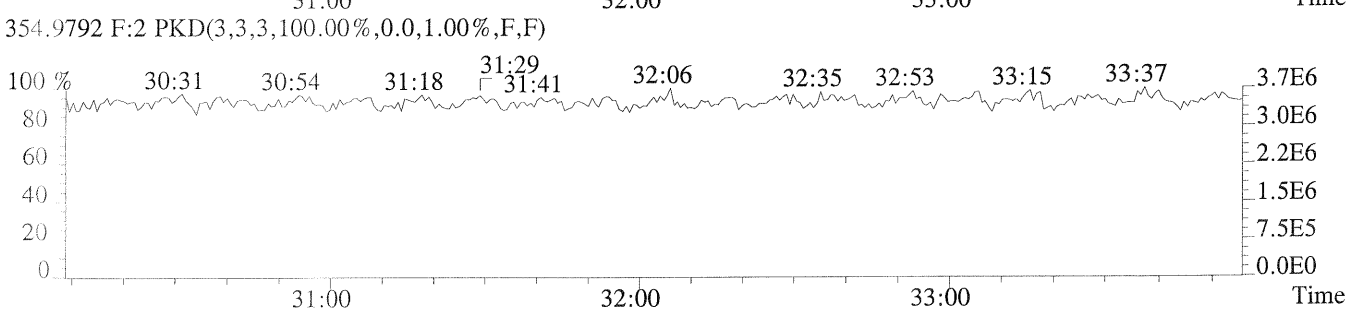
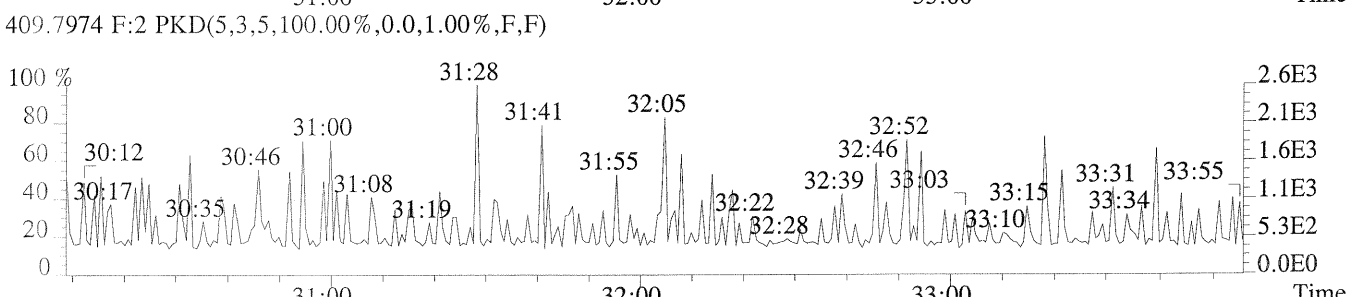
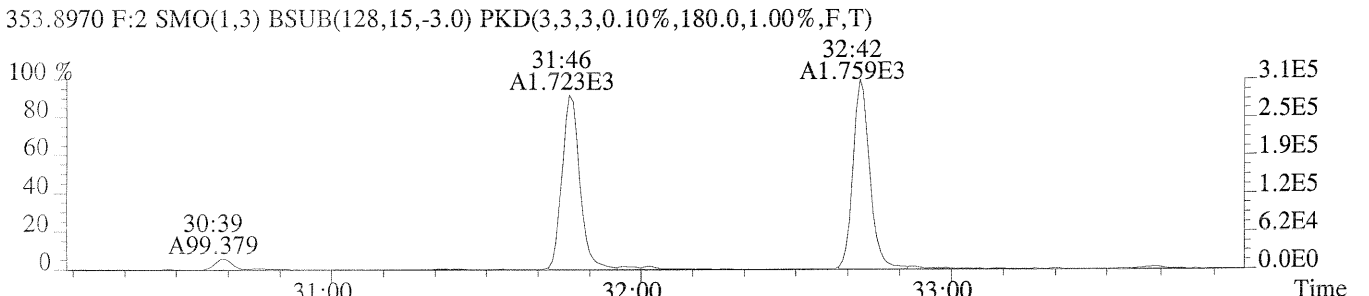
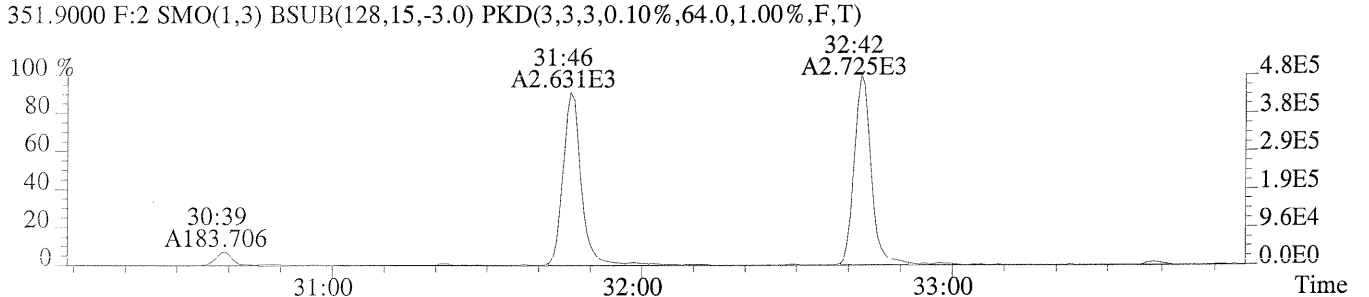
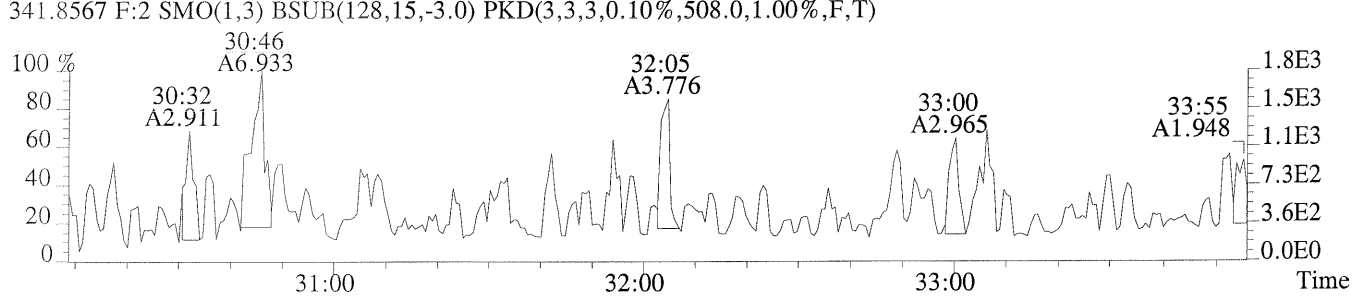
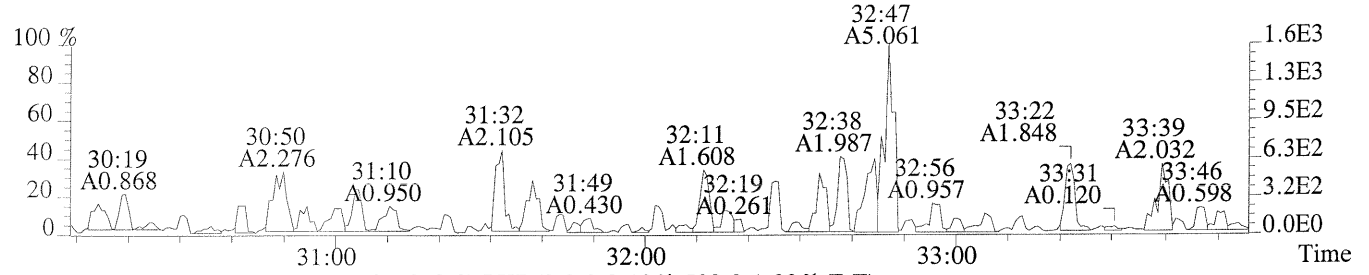
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



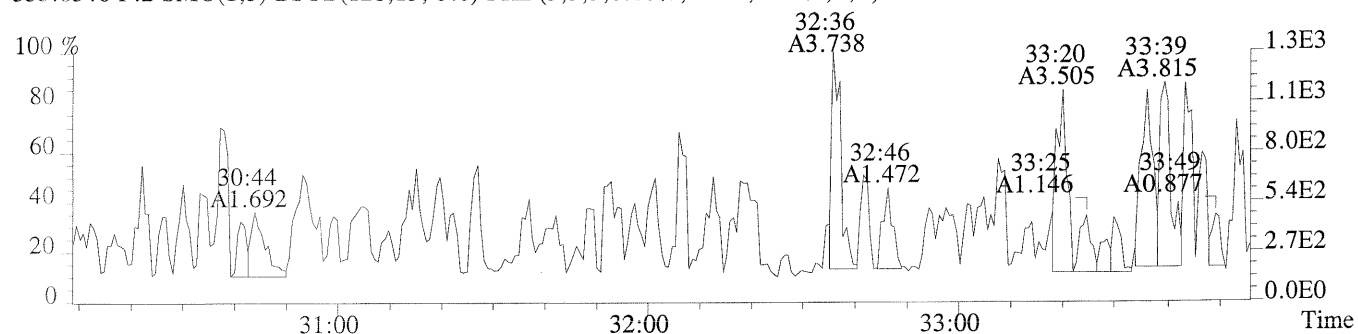
File:P173119 #1-579 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-005  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,T)



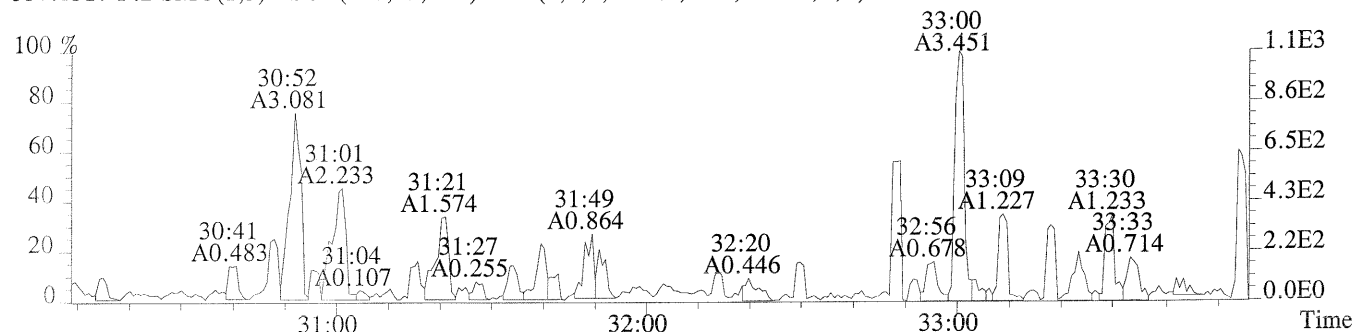
File:P173119 #1-344 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-005  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



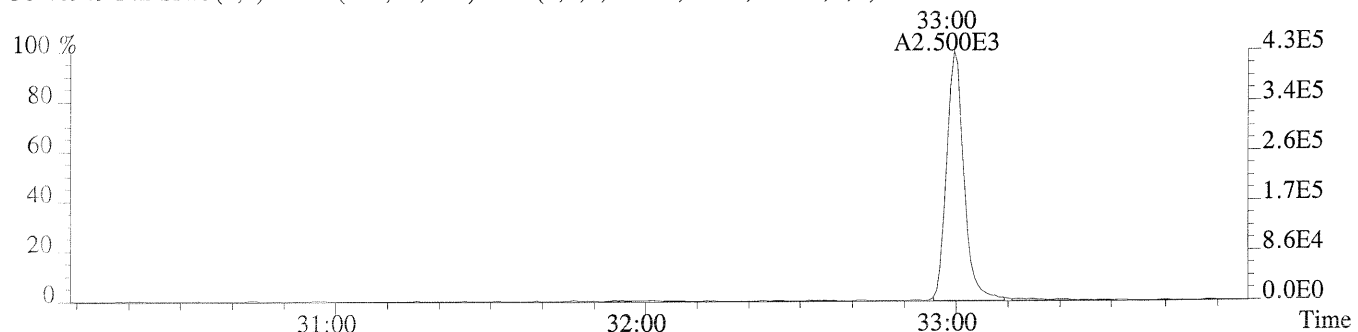
File:P173119 #1-344 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-005  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,T)



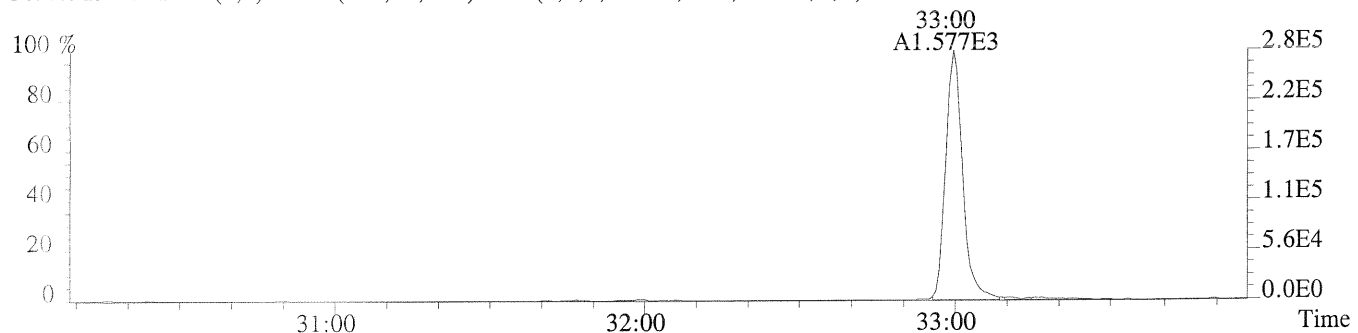
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



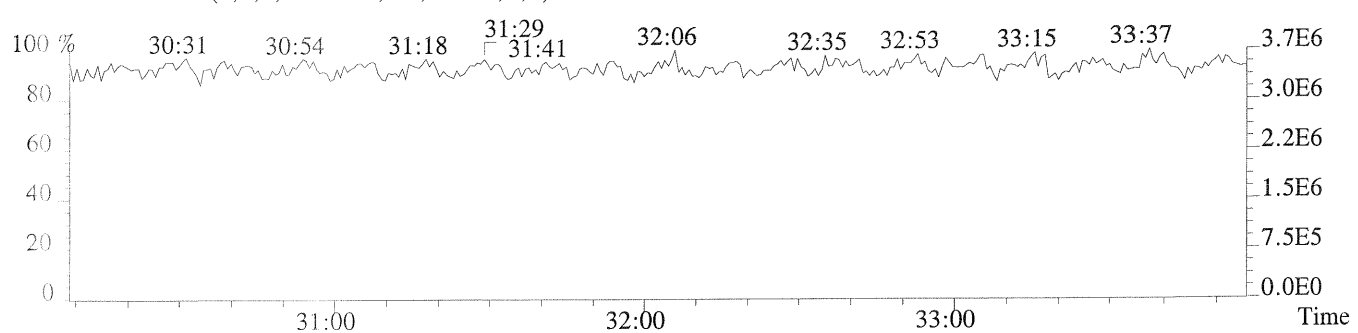
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,T)



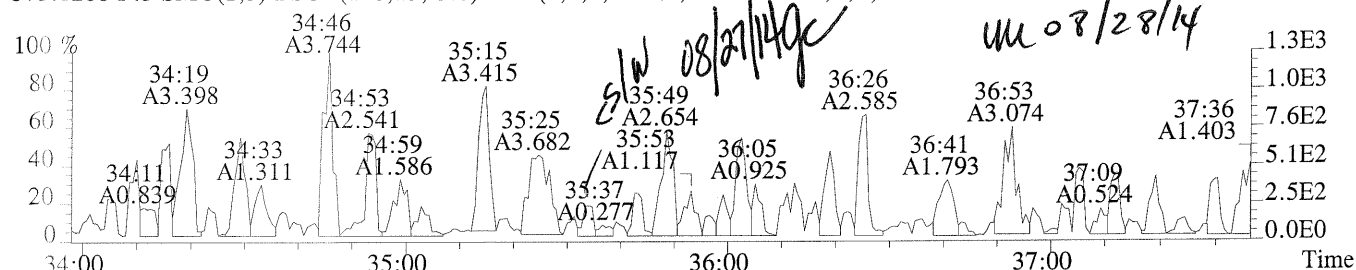
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,T)



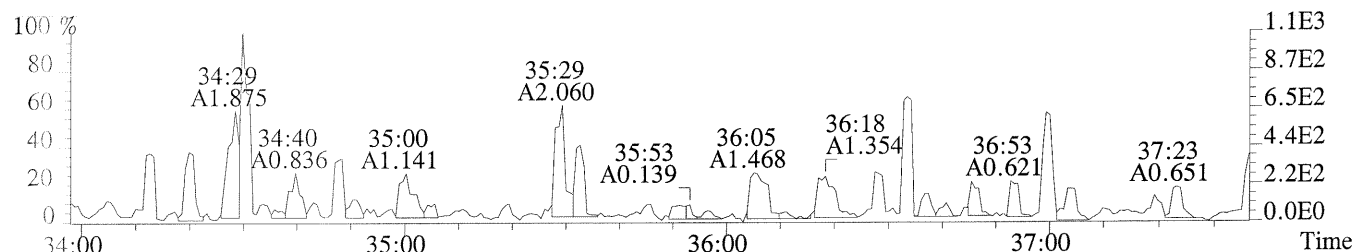
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



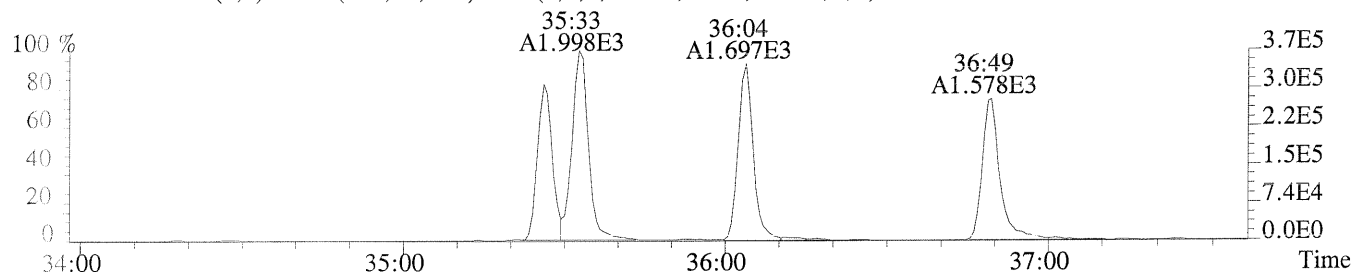




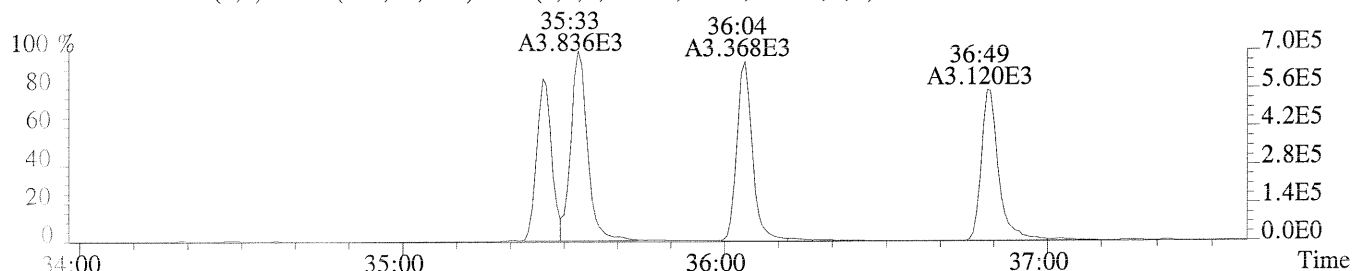
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.40%,F,T)



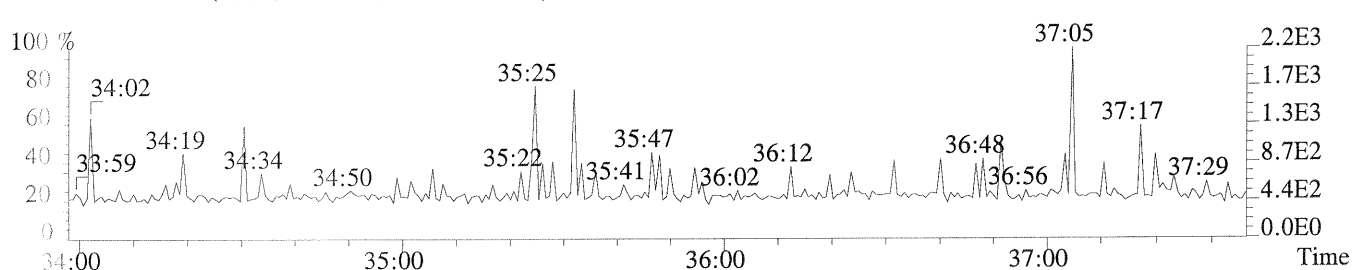
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



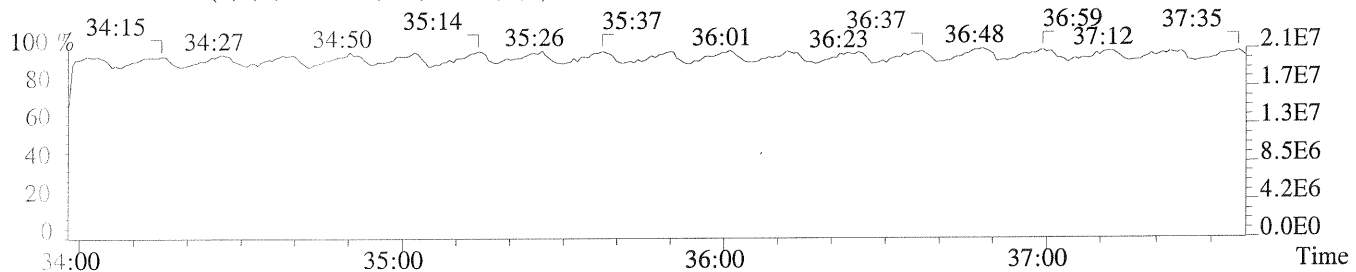
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,312.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



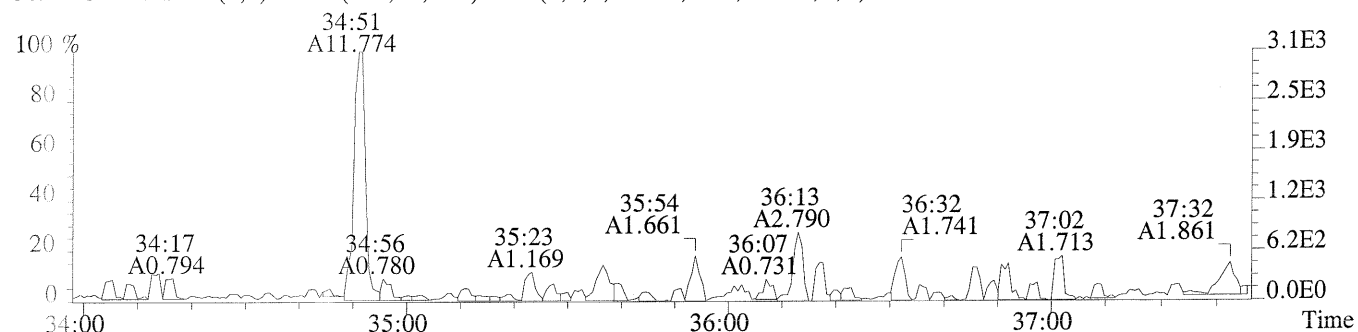
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



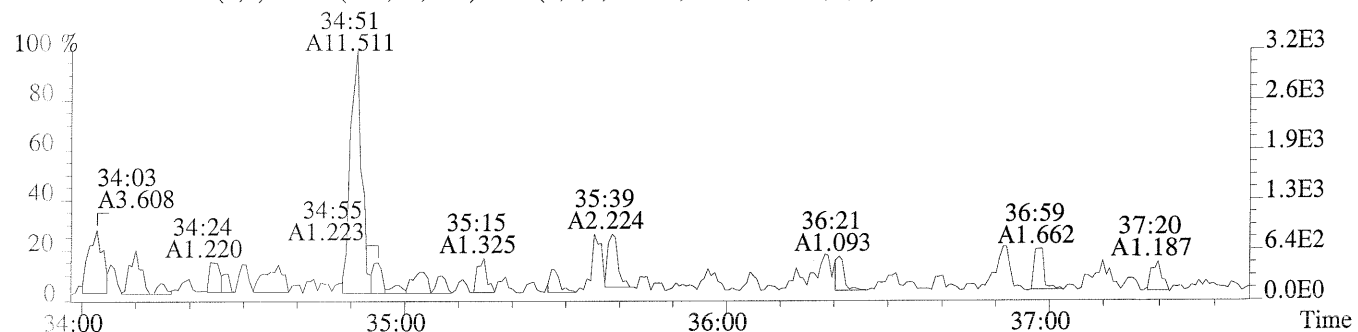
File:P173119 #1-331 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-005

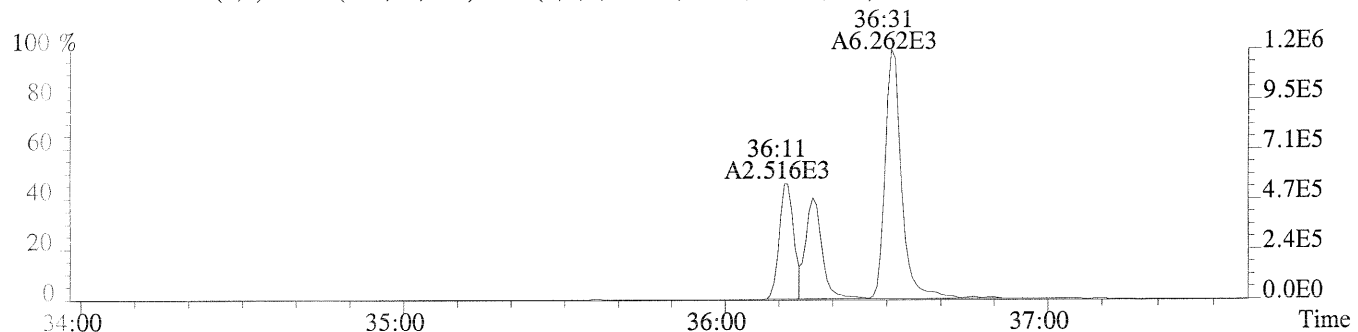
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)



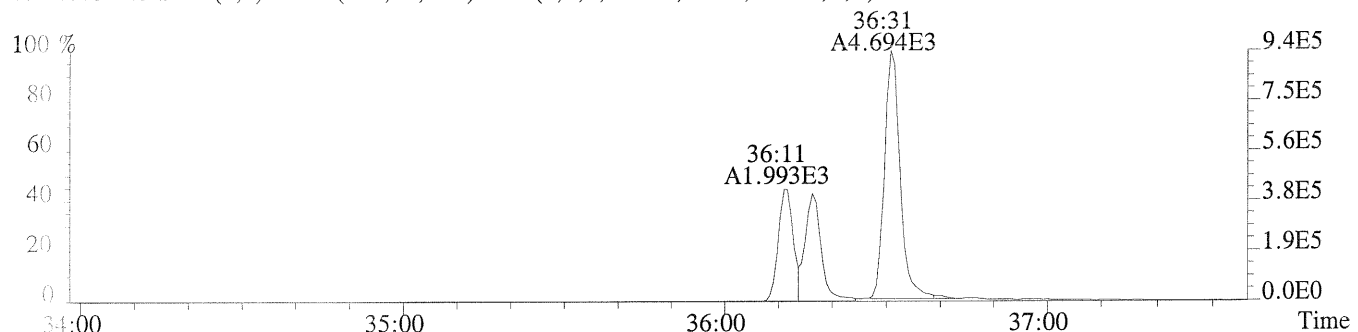
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



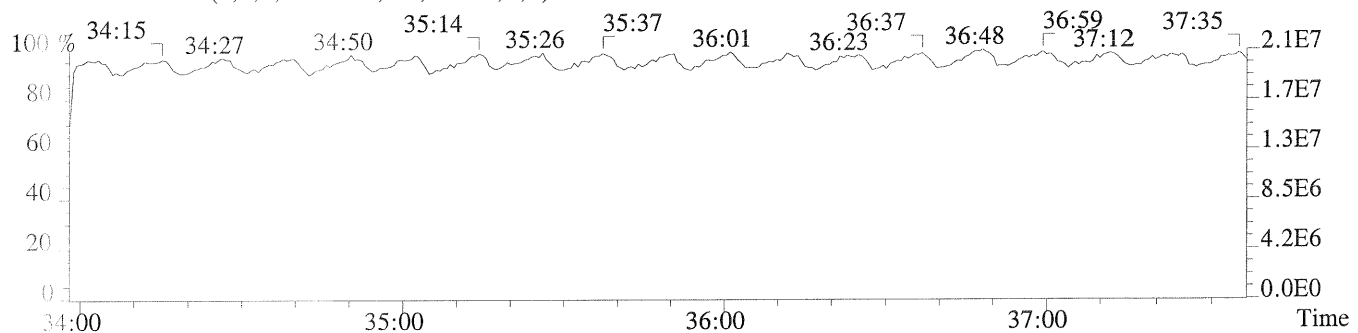
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,320.0,0.40%,F,T)



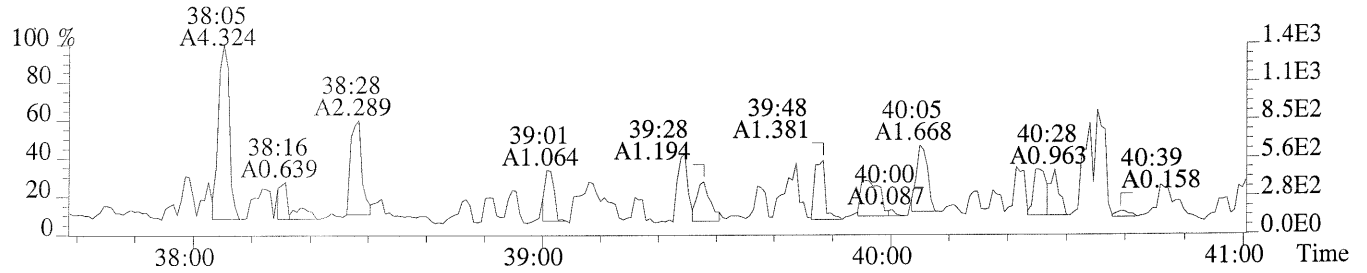
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



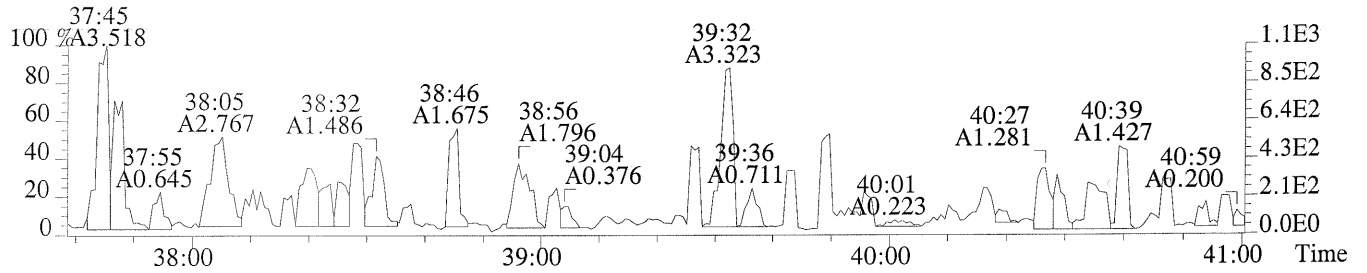
File:P173119 #1-306 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-005

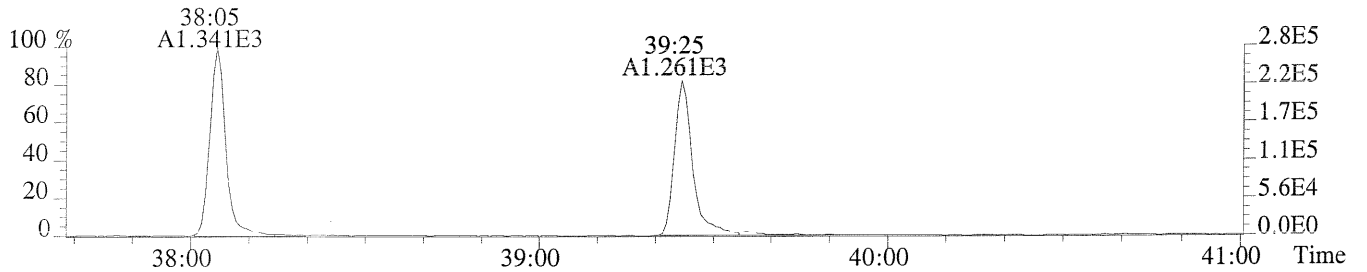
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.50%,F,T)



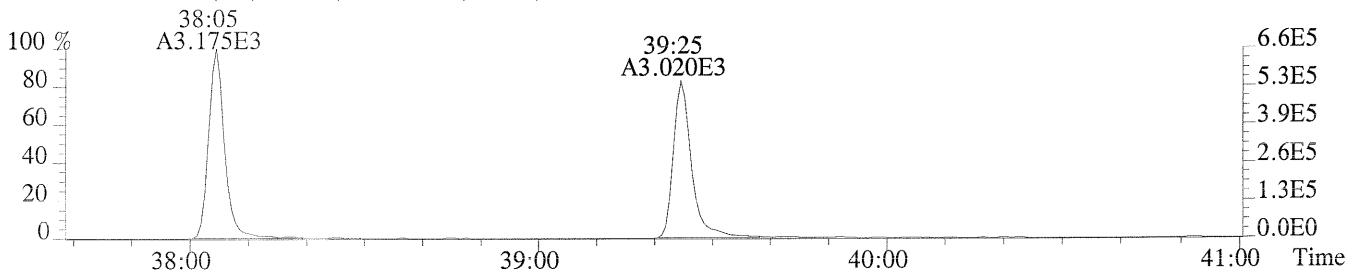
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.50%,F,T)



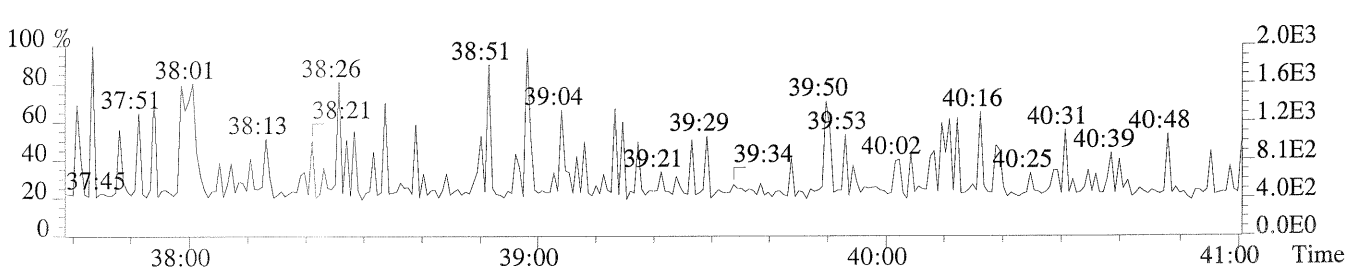
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.50%,F,T)



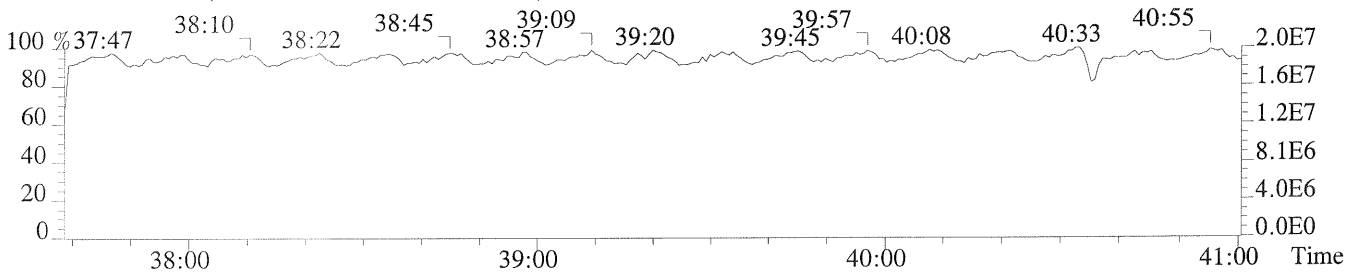
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



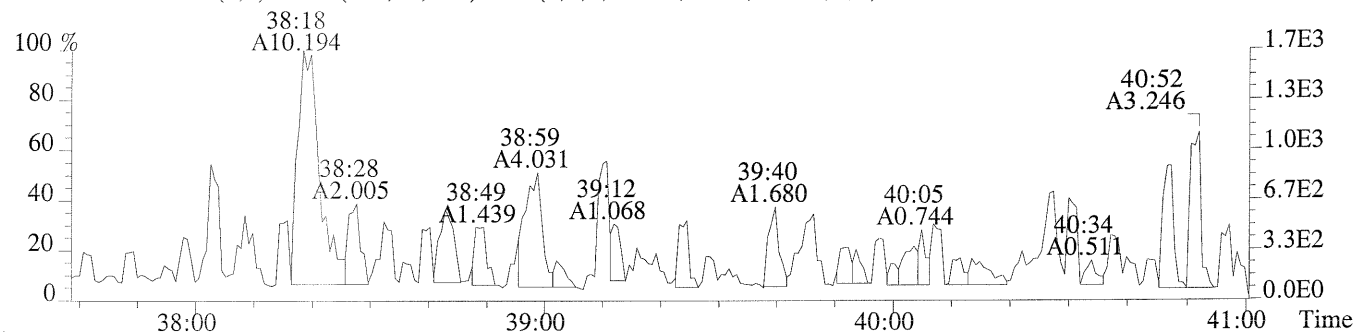
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



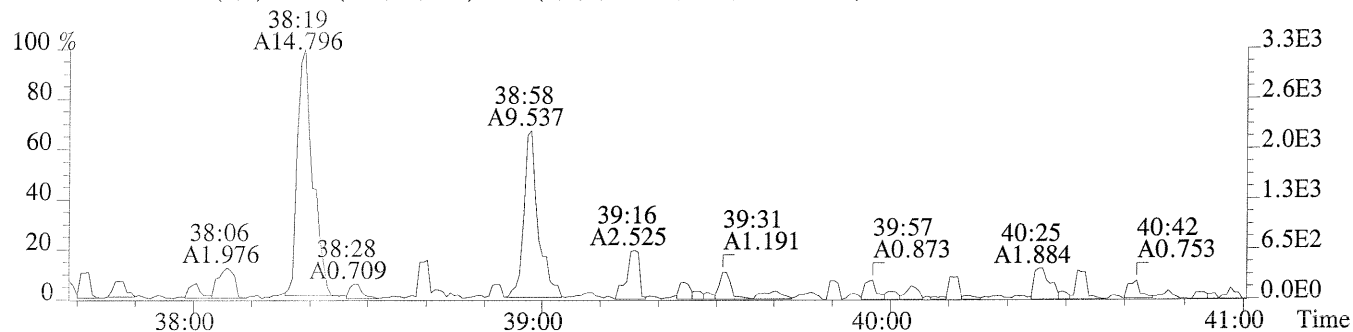
File:P173119 #1-306 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-005

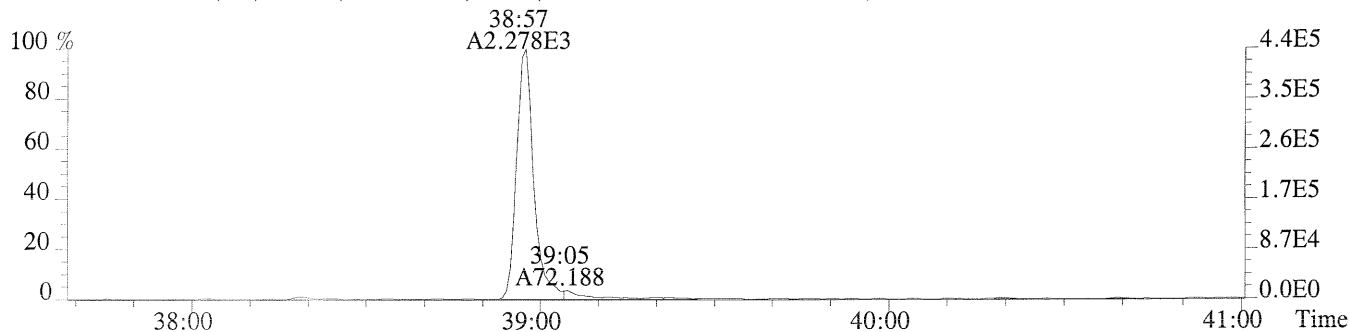
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



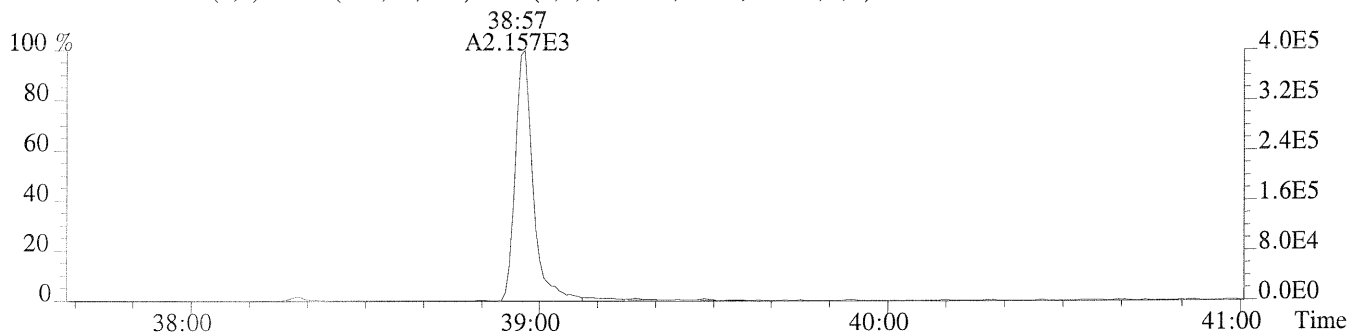
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.40%,F,T)



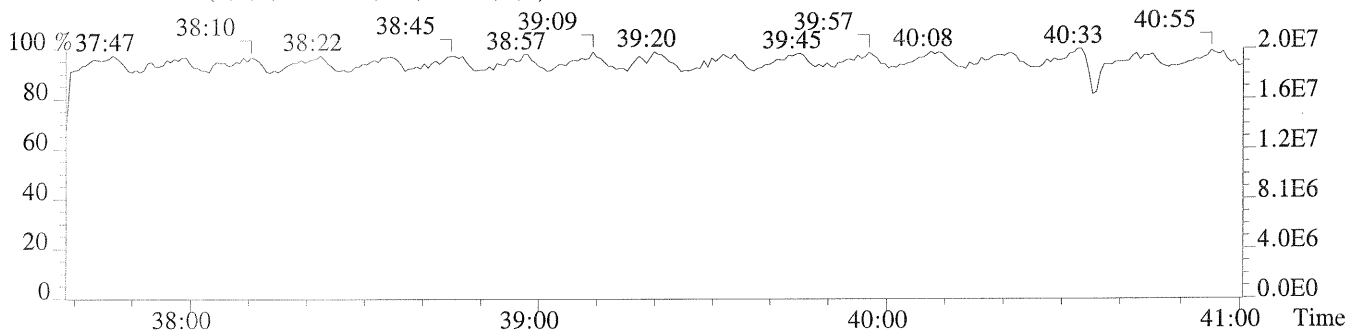
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.40%,F,T)



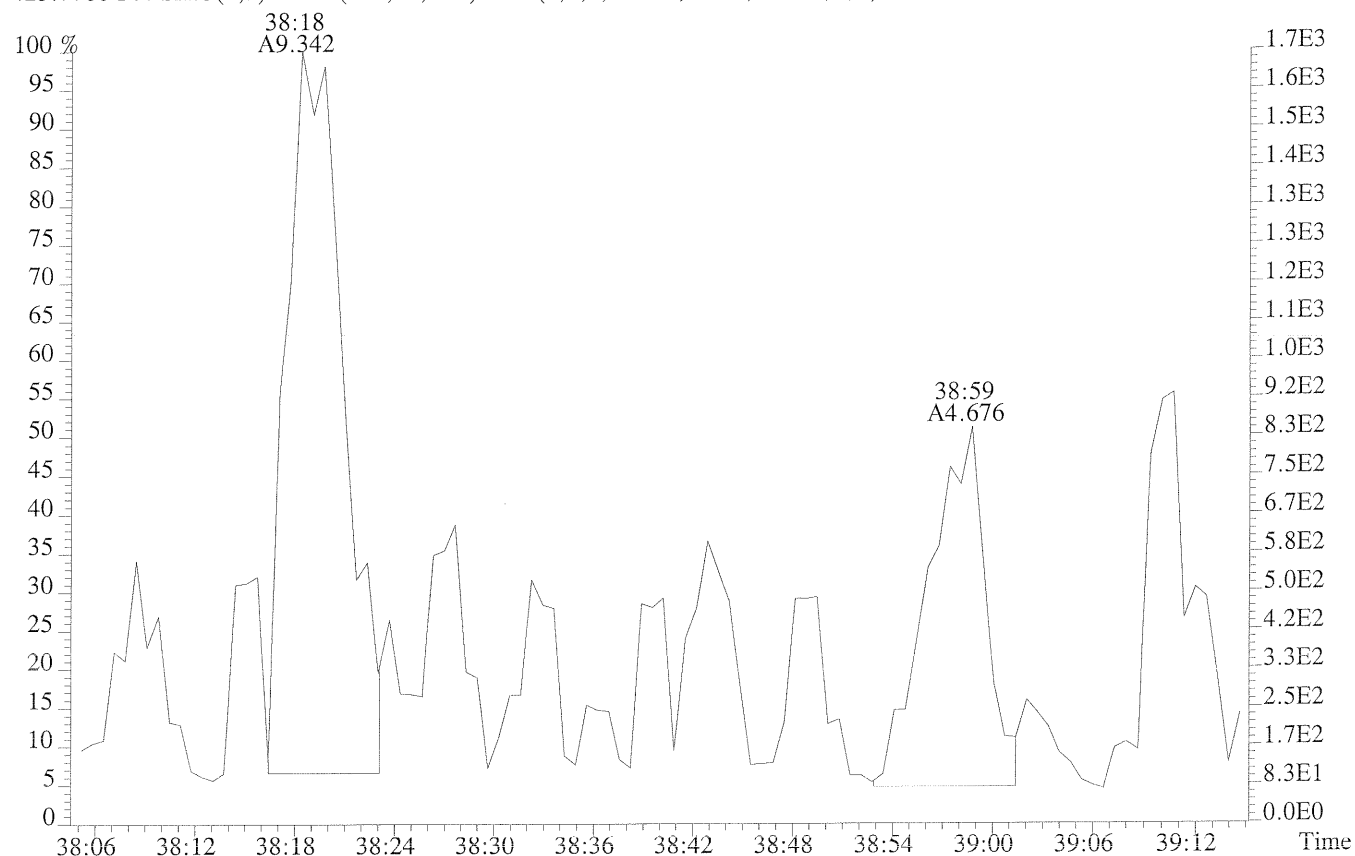
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)



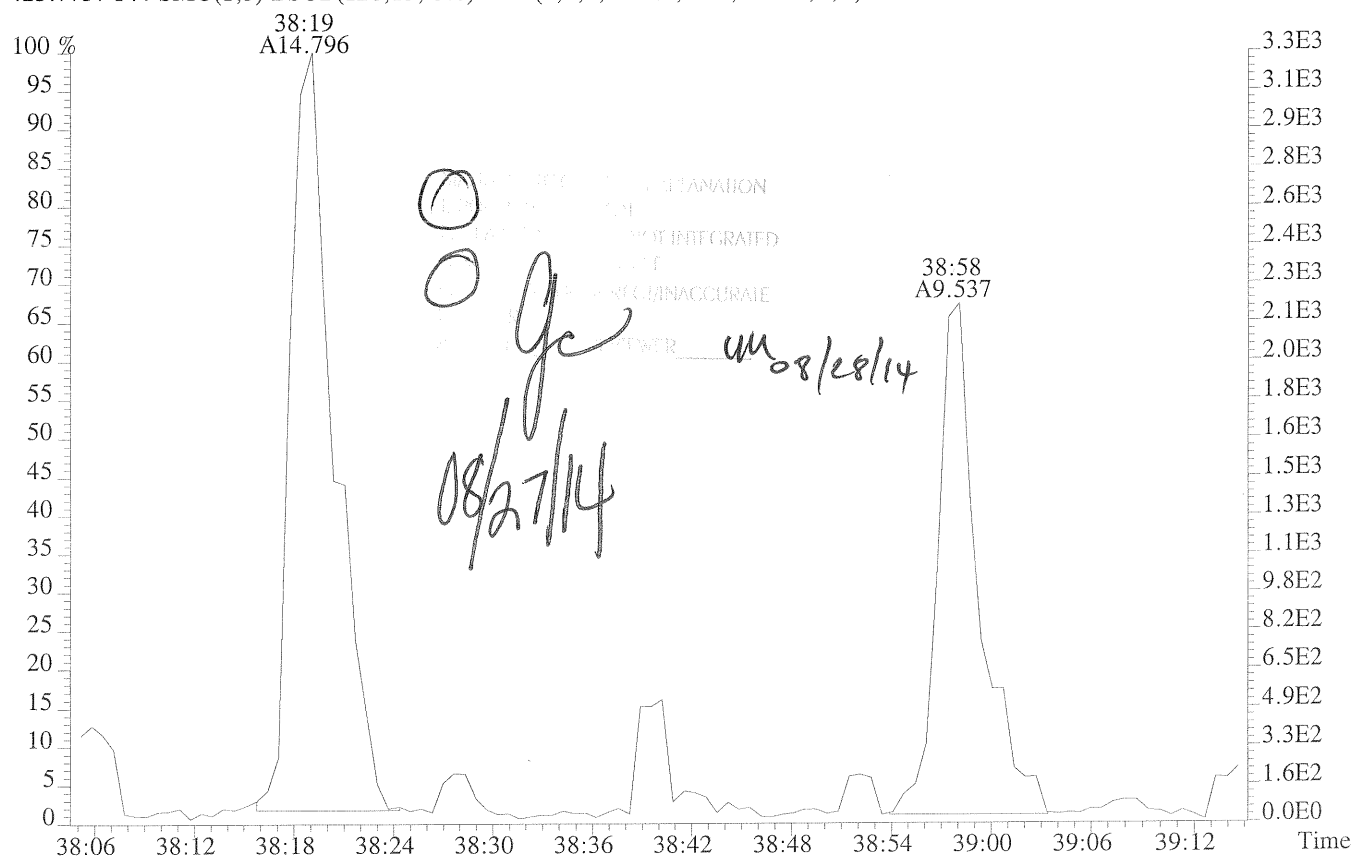
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173119 #1-306 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-005  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



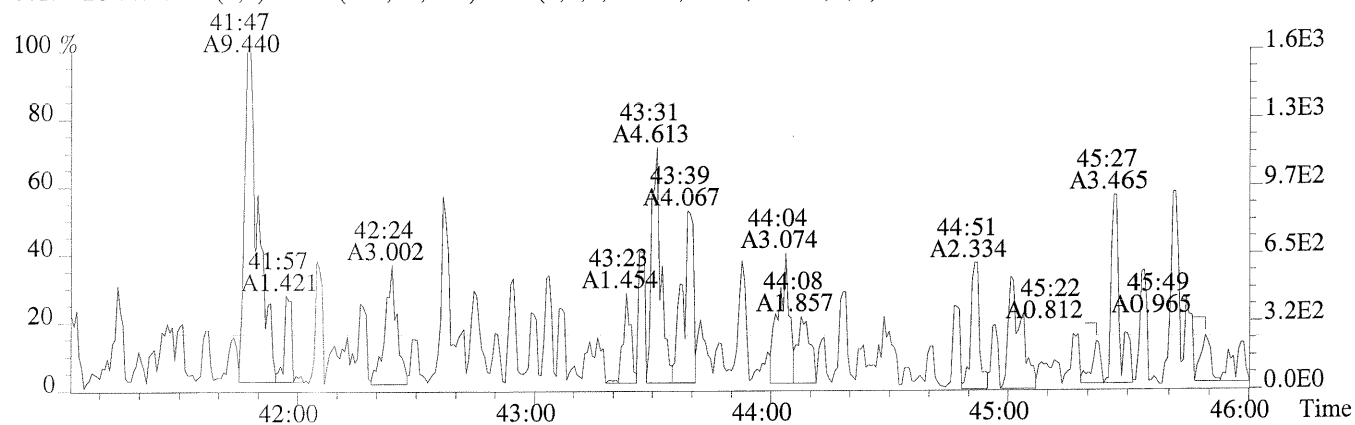
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.40%,F,T)



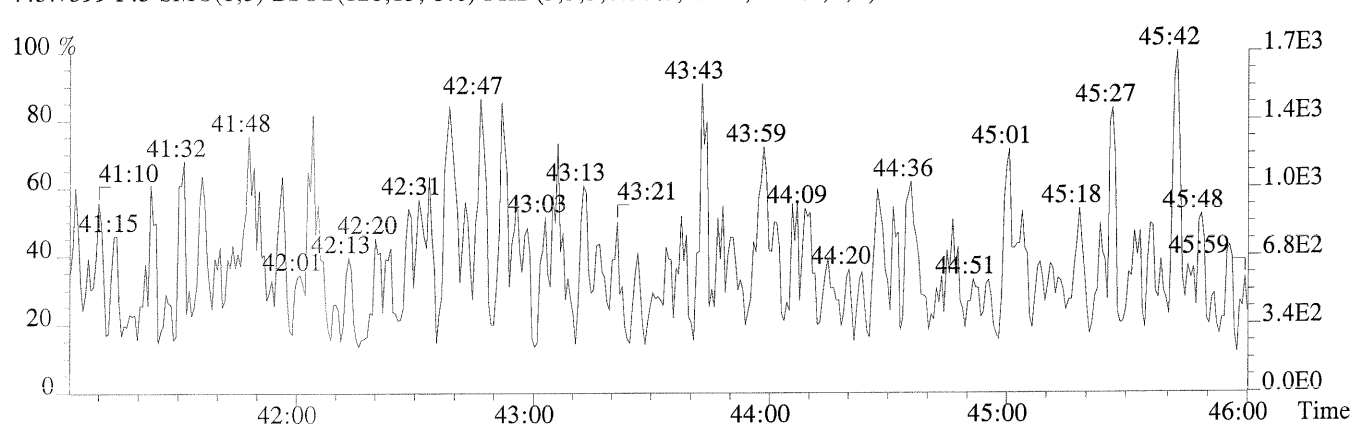
File:P173119 #1-456 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-005

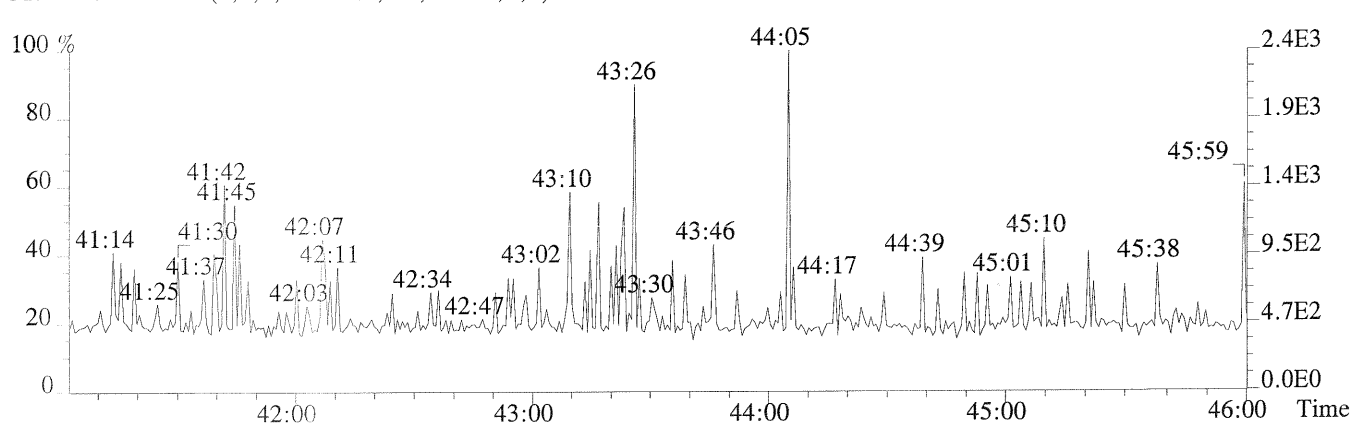
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,T)



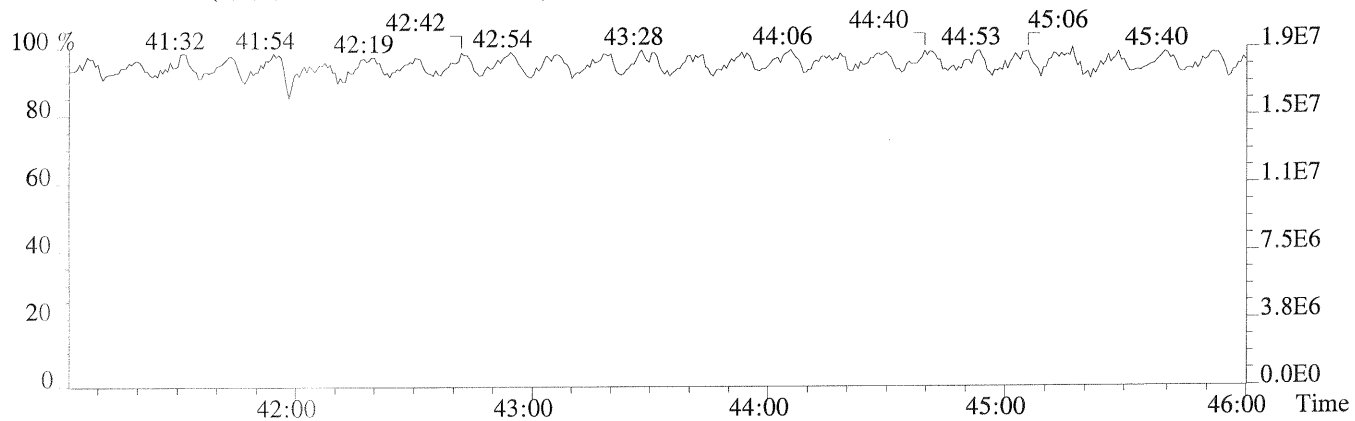
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,696.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



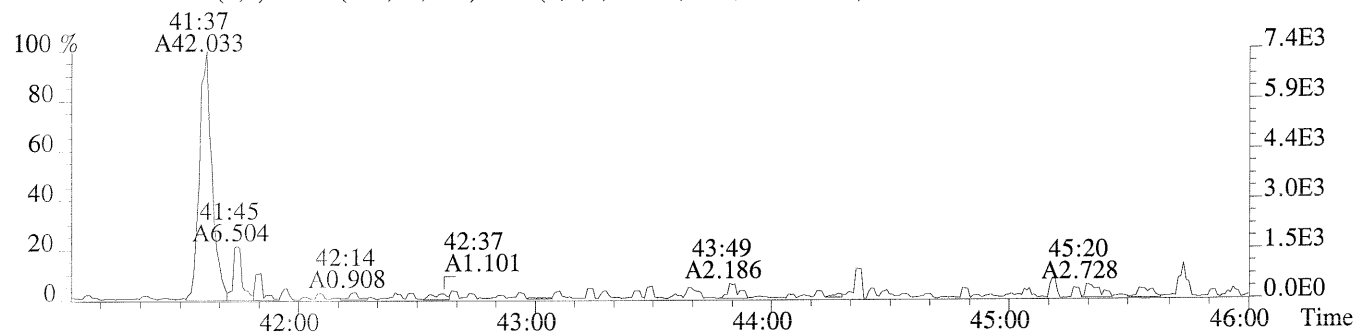
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



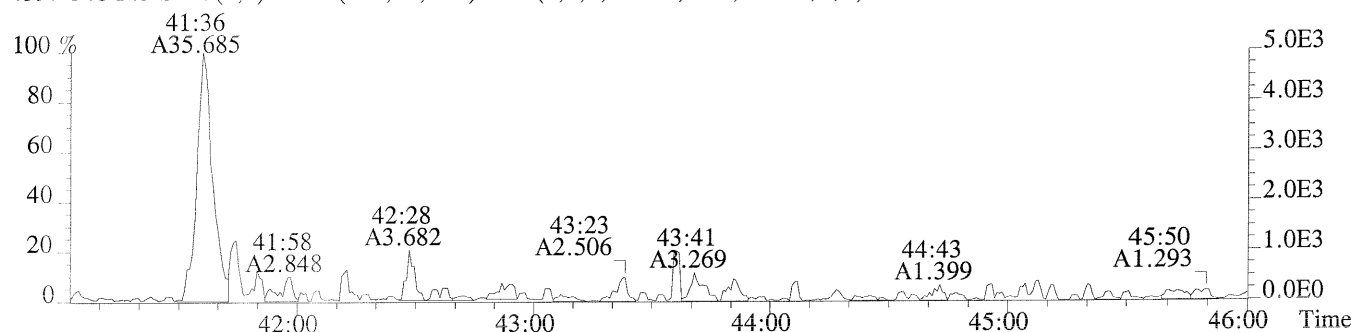
File:P173119 #1-456 Acq:27-AUG-2014 02:39:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-005

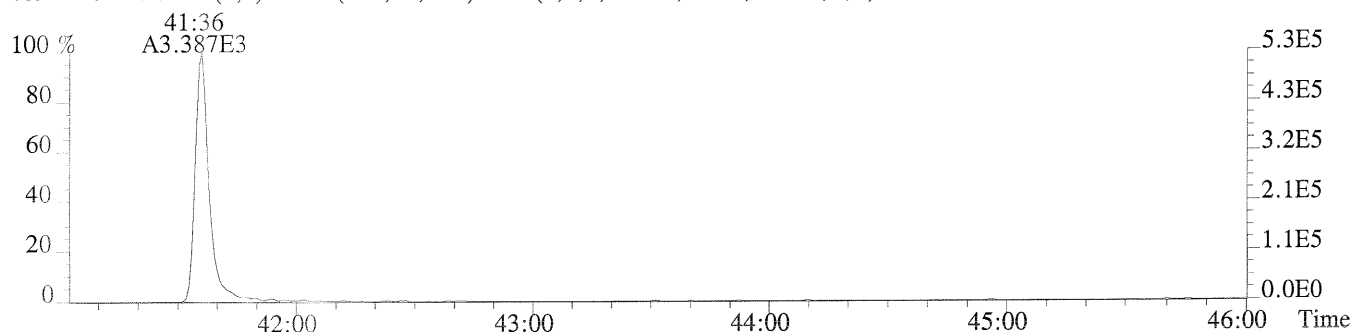
457.7377 F:5 BSMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,84.0,0.40%,F,T)



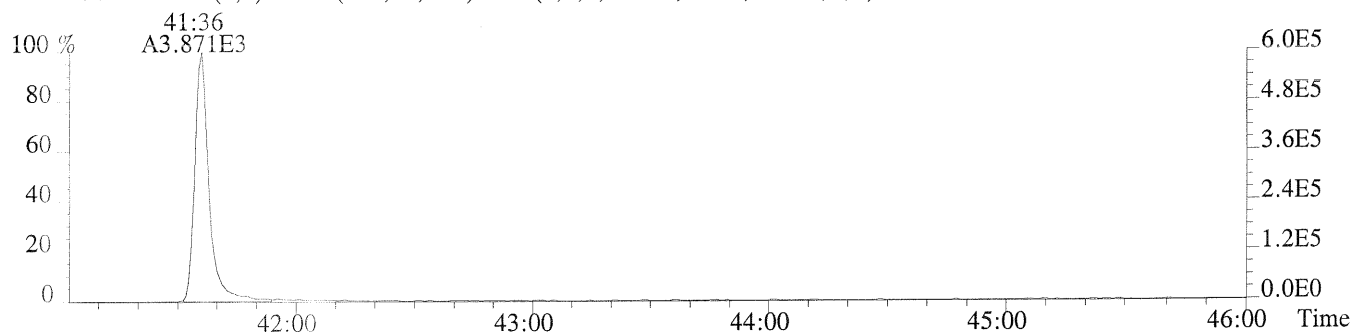
459.7348 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,60.0,0.40%,F,T)



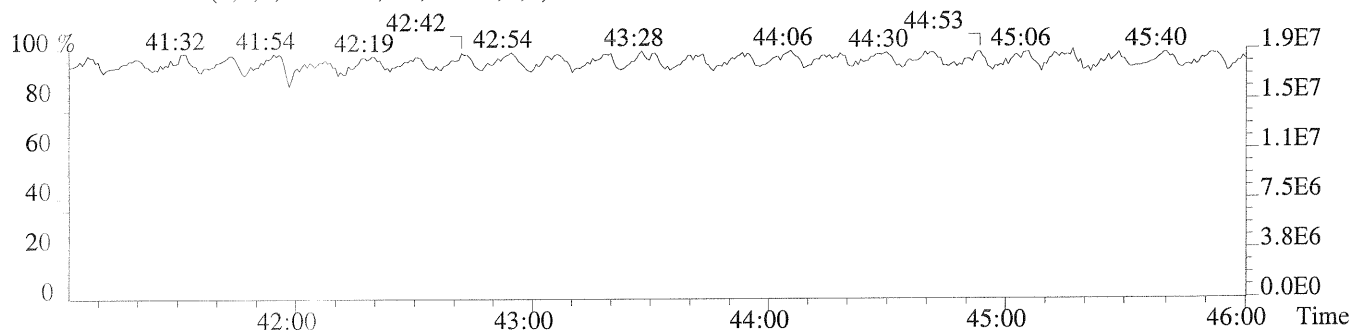
469.7779 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,328.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,872.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
METHOD 1613B/8290A

CLIENT ID.  
NV SYC14-AC R7

Run #11    Filename P173120    Samp: 1    Inj: 1    Acquired: 27-AUG-14 03:27:12  
Processed: 27-AUG-14 10:44:03    Sample ID: K1407971-006

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:05	3.642e+00	3.628e+00	1.00	yes	yes	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:57	9.862e+00	6.421e+00	1.54	no	no	1.016
17 Unk	OCDD	41:36	3.690e+01	3.109e+01	1.19	no	yes	1.079
18 IS	13C-2,3,7,8-TCDF	27:21	1.566e+03	2.088e+03	0.75	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	2.823e+03	1.757e+03	1.61	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	3.184e+03	2.067e+03	1.54	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.453e+03	2.871e+03	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:32	2.015e+03	3.957e+03	0.51	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:03	1.928e+03	3.649e+03	0.53	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	1.688e+03	3.160e+03	0.53	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	1.408e+03	3.158e+03	0.45	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:24	1.275e+03	2.915e+03	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	1.211e+03	1.559e+03	0.78	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	32:59	2.712e+03	1.735e+03	1.56	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.553e+03	1.900e+03	1.34	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.734e+03	2.161e+03	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	2.433e+03	2.357e+03	1.03	yes	no	0.862
32 IS	13C-OCDD	41:36	3.756e+03	4.072e+03	0.92	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:33	3.411e+03	4.226e+03	0.81	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:30	5.992e+03	4.882e+03	1.23	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	8.768e+02				no	1.125

$$\text{OCDD} = \frac{(3.690e+01 + 3.109e+01) \times 4000 \text{ pg} \times 1}{(3.756e+03 + 4.072e+03) \times 8.1629 \times 100 \times 1.079} = 3.944 \text{ ng/kg}$$

*3.944 ng/kg*  
*11/08/28/14*

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1613RESP1



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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-AC REP.3

Run #11 Filename P173120 Samp: 1 Inj: 1 Acquired: 27-AUG-14 03:27:12  
Processed: 27-AUG-14 10:44:031 LAB. ID: K1407971-006

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	5.70e+01	*	*	7.41e+02	*
2	1,2,3,7,8-PeCDF	*	9.20e+01	*	*	3.04e+02	*
3	2,3,4,7,8-PeCDF	*	9.20e+01	*	*	3.04e+02	*
4	1,2,3,4,7,8-HxCDF	*	1.88e+02	*	*	8.40e+01	*
5	1,2,3,6,7,8-HxCDF	*	1.88e+02	*	*	8.40e+01	*
6	2,3,4,6,7,8-HxCDF	*	1.88e+02	*	*	8.40e+01	*
7	1,2,3,7,8,9-HxCDF	*	1.88e+02	*	*	8.40e+01	*
8	1,2,3,4,6,7,8-HpCDF	7.52e+02	7.20e+01	1.0e+01	1.14e+03	6.80e+01	1.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	7.20e+01	*	*	6.80e+01	*
10	OCDF	*	9.20e+01	*	*	4.36e+02	*
11	2,3,7,8-TCDD	*	3.60e+02	*	*	2.92e+02	*
12	1,2,3,7,8-PeCDD	*	3.80e+02	*	*	6.80e+01	*
13	1,2,3,4,7,8-HxCDD	*	9.20e+01	*	*	3.28e+02	*
14	1,2,3,6,7,8-HxCDD	*	9.20e+01	*	*	3.28e+02	*
15	1,2,3,7,8,9-HxCDD	*	9.20e+01	*	*	3.28e+02	*
16	1,2,3,4,6,7,8-HpCDD	2.48e+03	2.72e+02	9.1e+00	1.63e+03	7.20e+01	2.3e+01
17	OCDD	6.80e+03	9.20e+01	7.4e+01	4.81e+03	2.96e+02	1.6e+01
18	13C-2,3,7,8-TCDF	2.50e+05	6.88e+02	3.6e+02	3.37e+05	5.88e+02	5.7e+02
19	13C-1,2,3,7,8-PeCDF	4.76e+05	6.80e+01	7.0e+03	2.96e+05	2.88e+02	1.0e+03
20	13C-2,3,4,7,8-PeCDF	5.65e+05	6.80e+01	8.3e+03	3.58e+05	2.88e+02	1.2e+03
21	13C-1,2,3,4,7,8-HxCDF	3.08e+05	1.00e+02	3.1e+03	5.96e+05	4.96e+02	1.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.69e+05	1.00e+02	3.7e+03	7.40e+05	4.96e+02	1.5e+03
23	13C-2,3,4,6,7,8-HxCDF	3.85e+05	1.00e+02	3.9e+03	7.26e+05	4.96e+02	1.5e+03
24	13C-1,2,3,7,8,9-HxCDF	2.93e+05	1.00e+02	2.9e+03	5.57e+05	4.96e+02	1.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.82e+05	3.92e+02	7.2e+02	6.61e+05	7.20e+02	9.2e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.27e+05	3.92e+02	5.8e+02	5.22e+05	7.20e+02	7.3e+02
27	13C-2,3,7,8-TCDD	2.02e+05	2.35e+03	8.6e+01	2.63e+05	1.08e+03	2.4e+02
28	13C-1,2,3,7,8-PeCDD	4.65e+05	4.00e+02	1.2e+03	3.15e+05	7.20e+01	4.4e+03
29	13C-1,2,3,4,7,8-HxCDD	5.51e+05	1.68e+02	3.3e+03	4.11e+05	9.60e+01	4.3e+03
30	13C-1,2,3,6,7,8-HxCDD	5.30e+05	1.68e+02	3.2e+03	4.14e+05	9.60e+01	4.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.61e+05	2.56e+02	1.8e+03	4.57e+05	1.20e+02	3.8e+03
32	13C-OCDD	6.10e+05	1.15e+03	5.3e+02	6.45e+05	1.35e+03	4.8e+02
33	13C-1,2,3,4-TCDD	5.77e+05	2.35e+03	2.5e+02	7.22e+05	1.08e+03	6.7e+02
34	13C-1,2,3,7,8,9-HxCDD	1.16e+06	1.68e+02	6.9e+03	9.56e+05	9.60e+01	1.0e+04
35	37Cl-2,3,7,8-TCDD	1.48e+05	6.00e+02	2.5e+02			

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Peak List Summary

CLIENT ID.

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NV SYC14-AC REP.3

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Entry: 43      Totals Name: Total Hepta-Furans

Run: 11      File: P173120      Sample: 1    Injection: 1    Function: 4

Llim: 38:00      Ulim: 39:36

Acquired: 27-AUG-14      03:27:12      Processed: 27-AUG-14 10:44:03

Mass: 407.7820    409.7790      Tot Response: 7.27e+00    RRF: 1.365

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	38:05	3.64e+00	3.63e+00	1.00	yes	7.27e+00	1,2,3,4,6,7,8-HpCDF	n	n

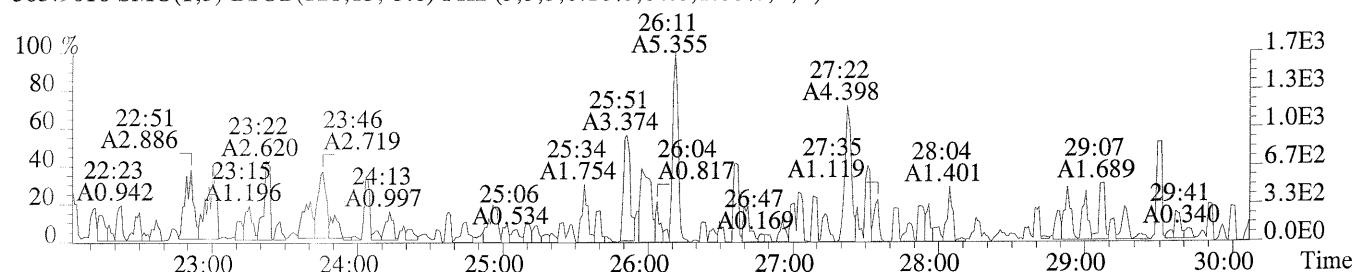
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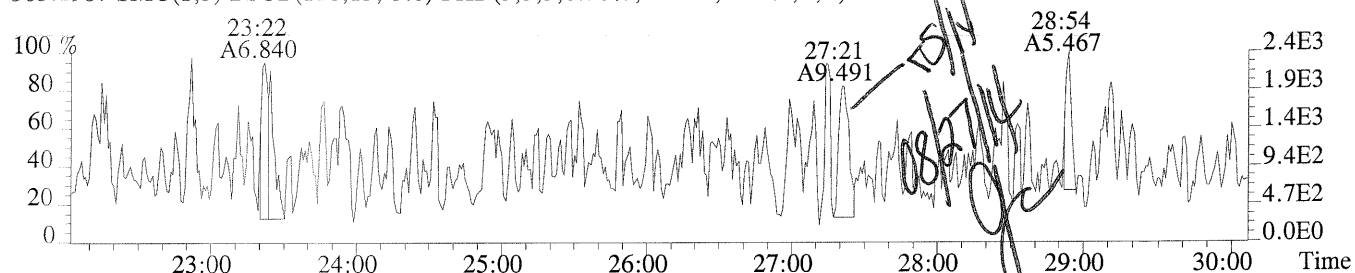
File:P173120 #1-579 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-006

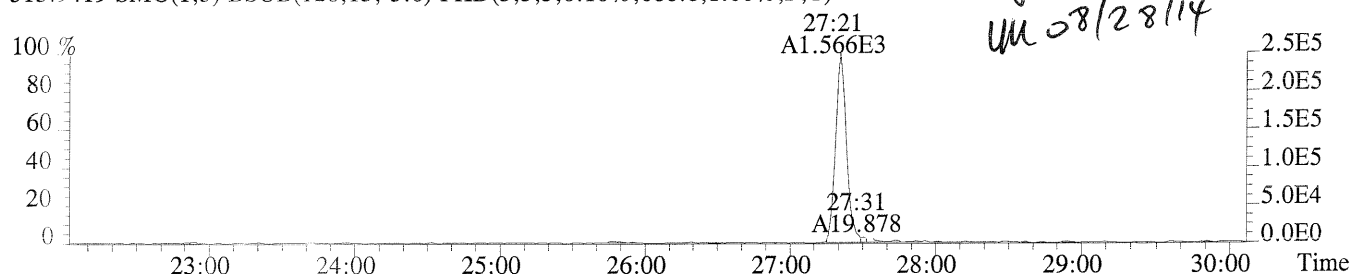
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



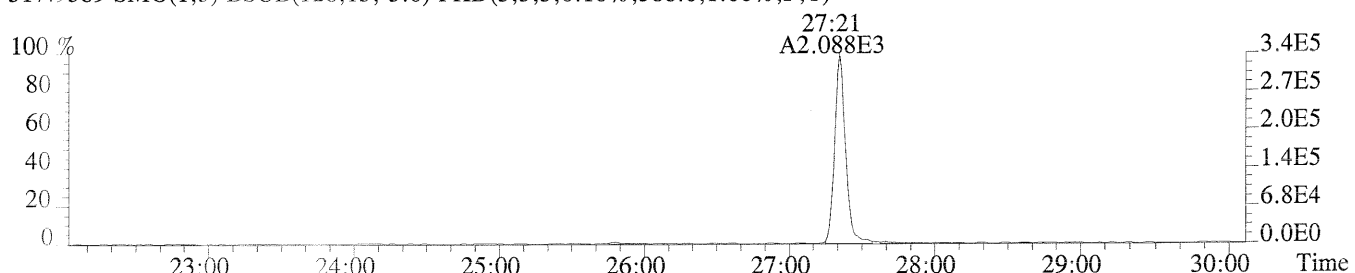
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)



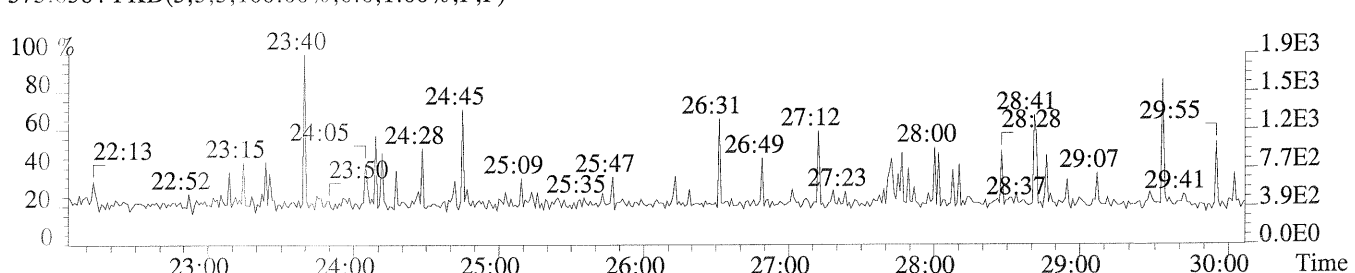
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



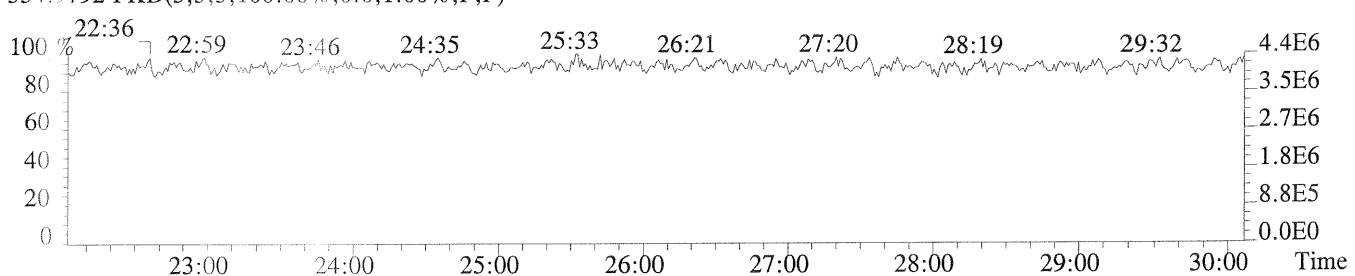
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)

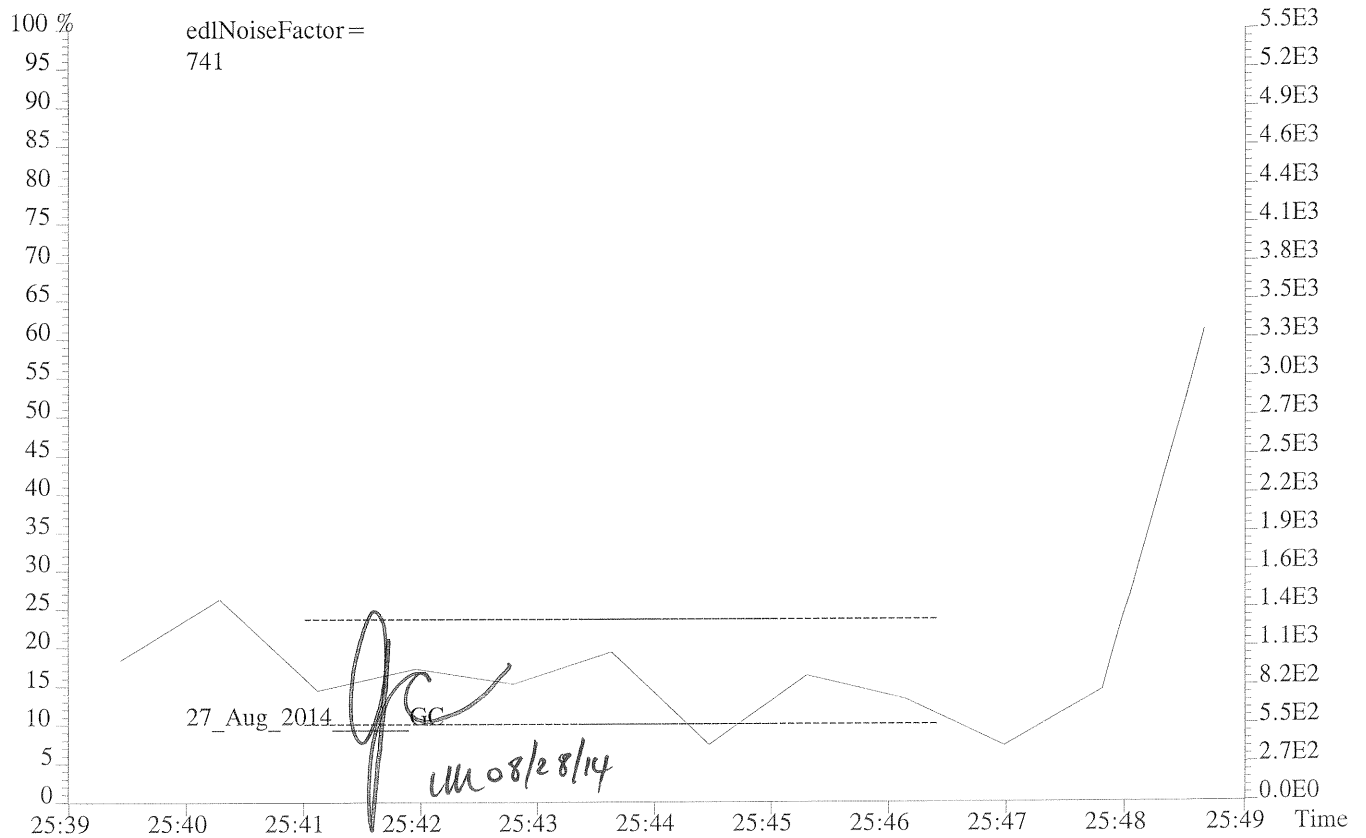
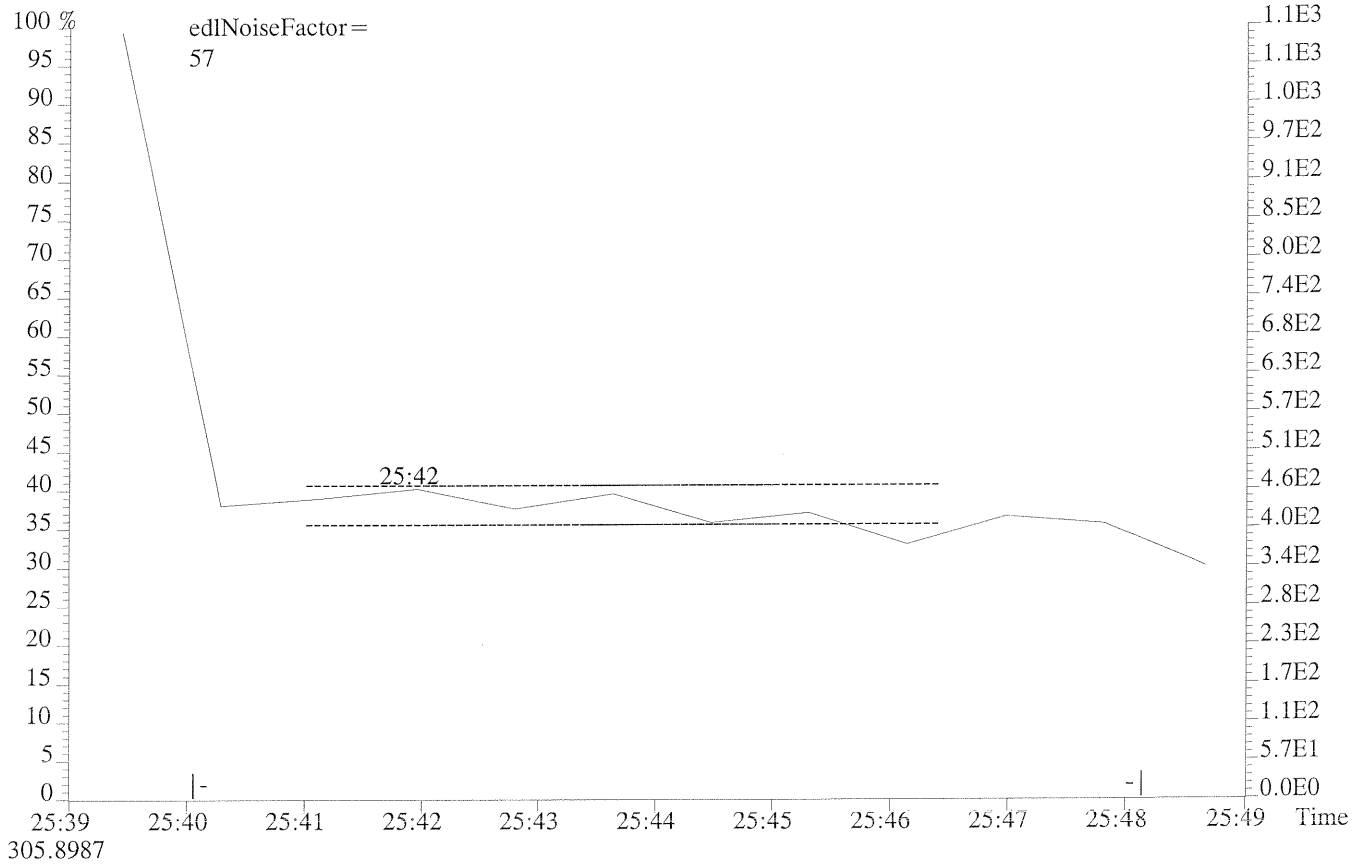


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

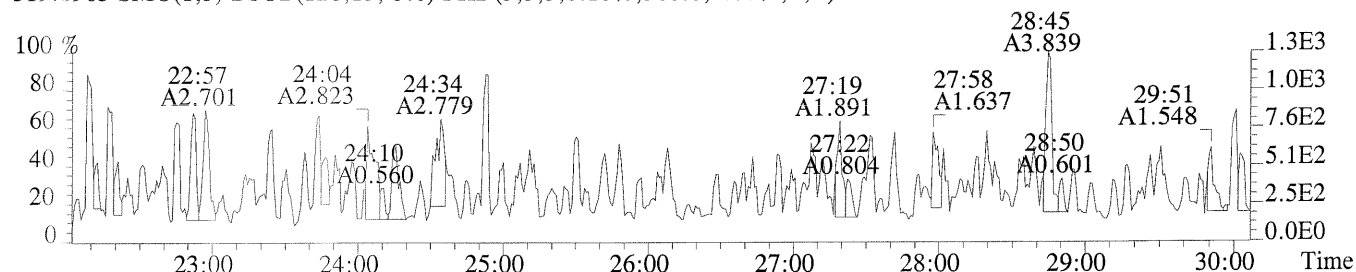




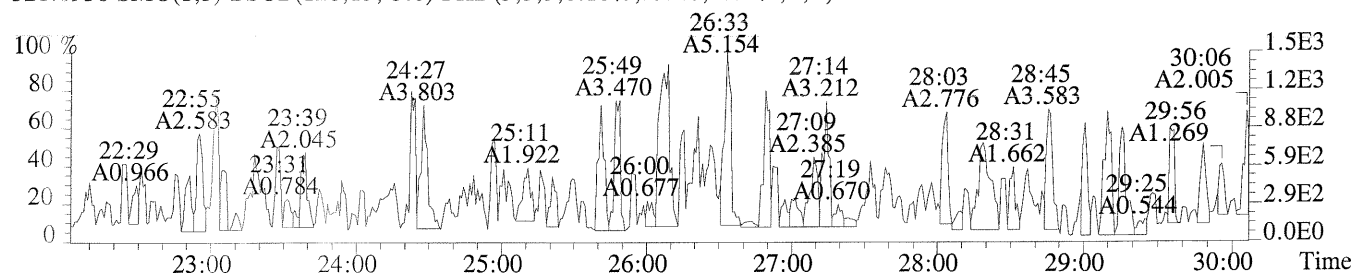
File:P173120 #1-579 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-006

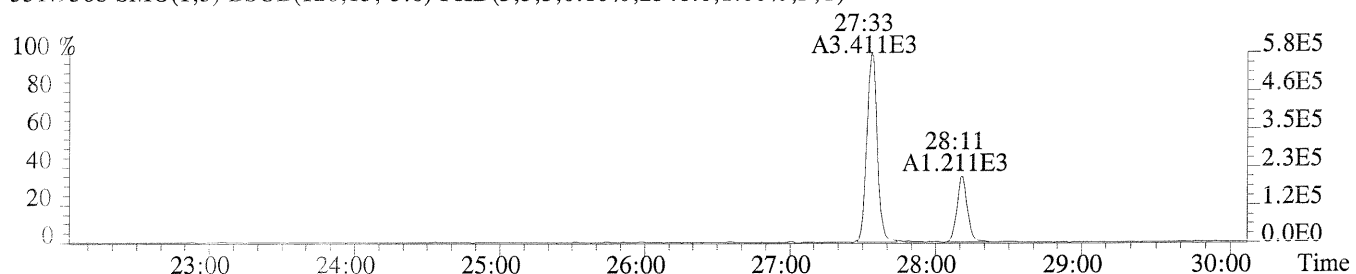
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,T)



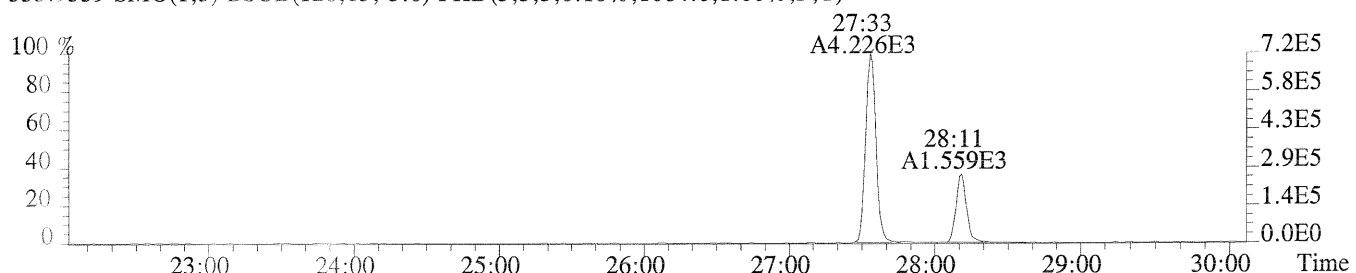
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,T)



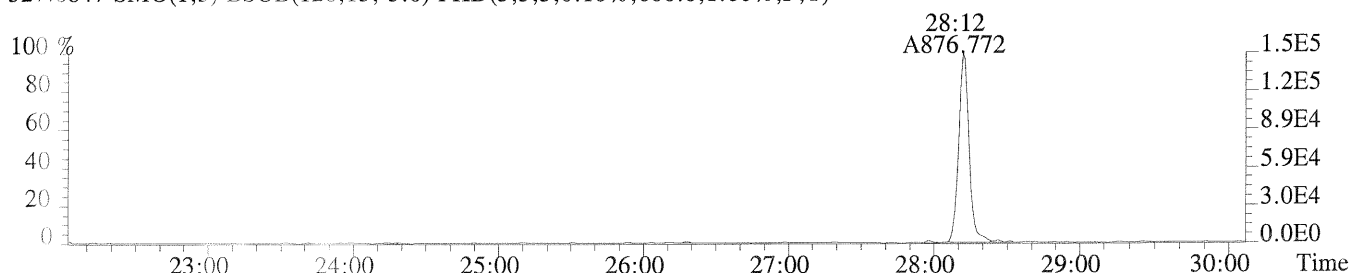
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2348.0,1.00%,F,T)



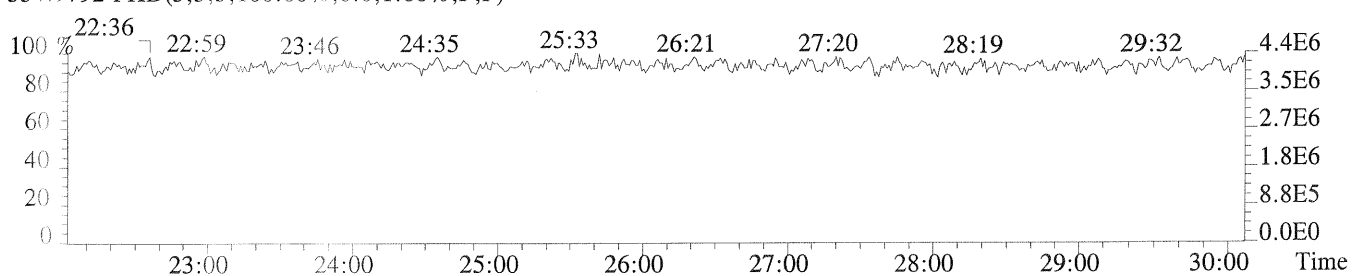
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1084.0,1.00%,F,T)



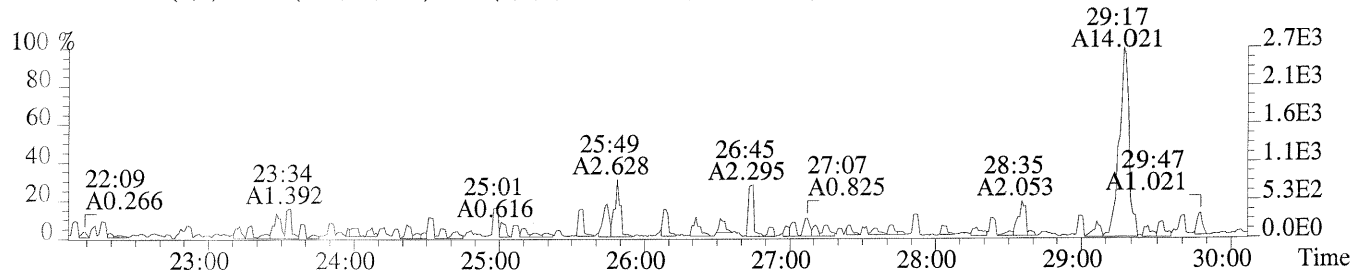
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



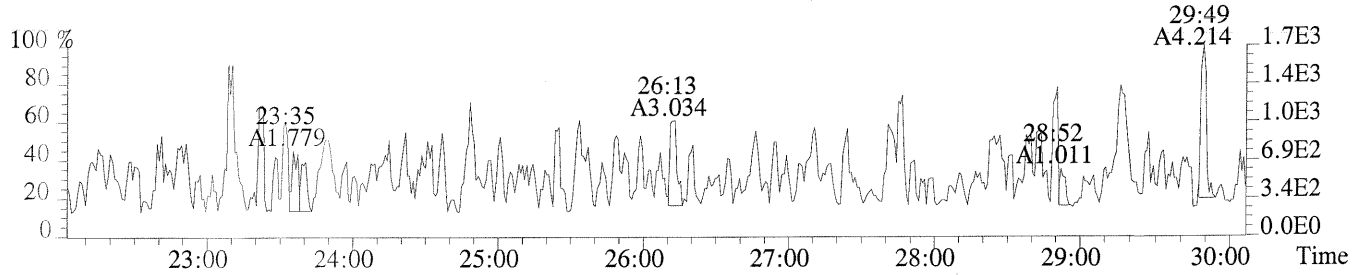
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



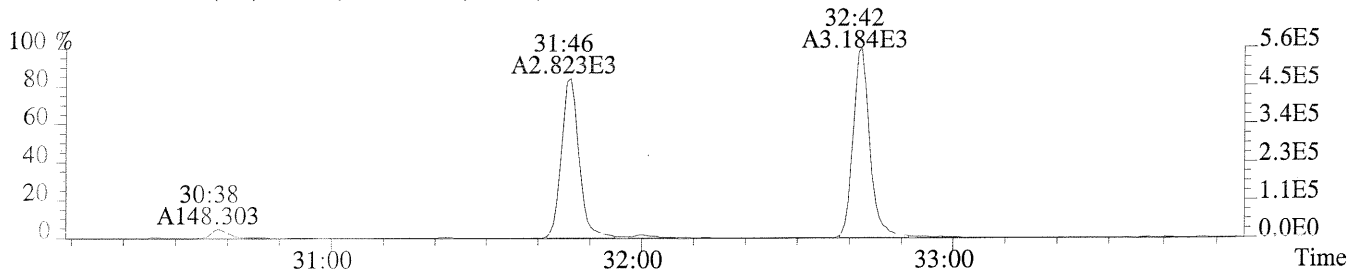
File: P173120 #1-579 Acq: 27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp: K1407971-006  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



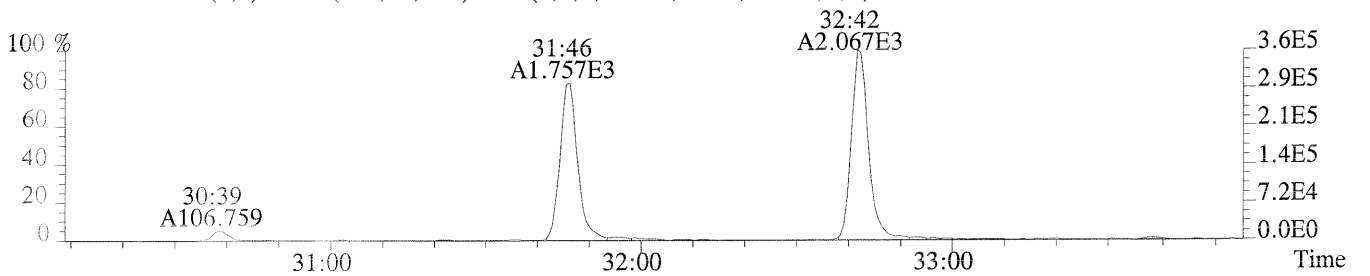
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



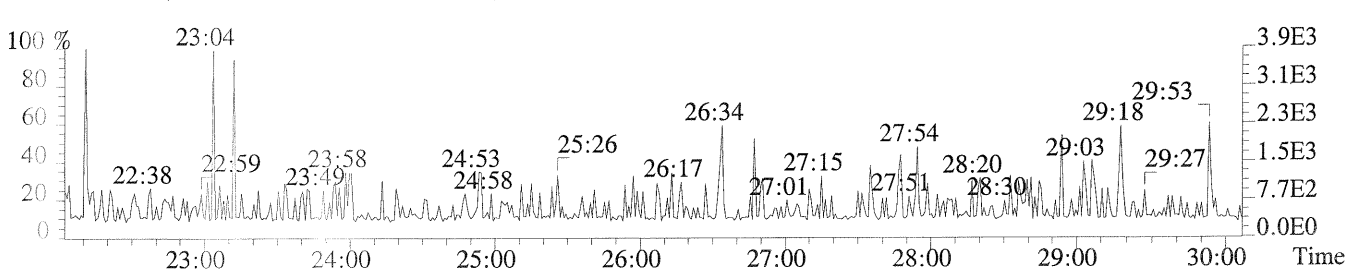
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



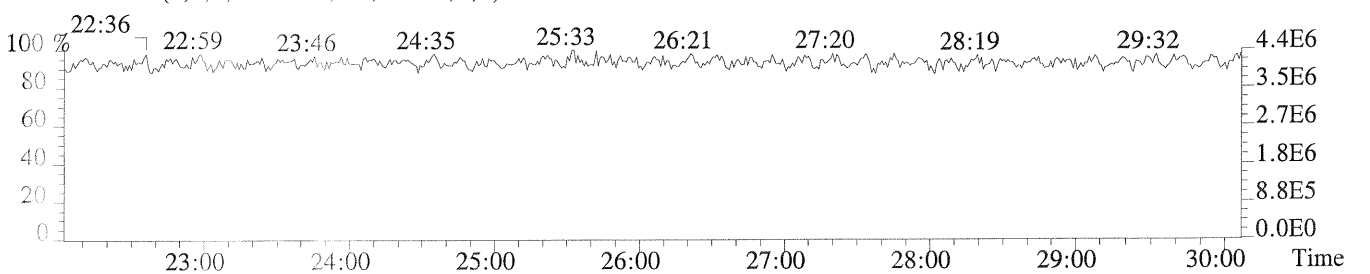
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



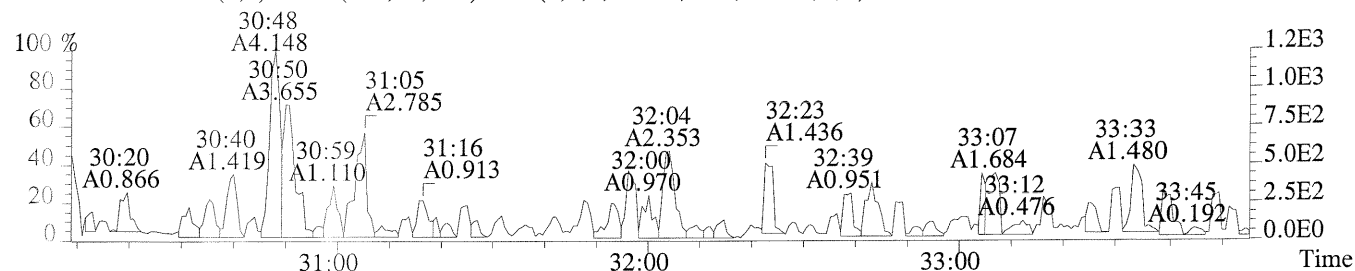
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



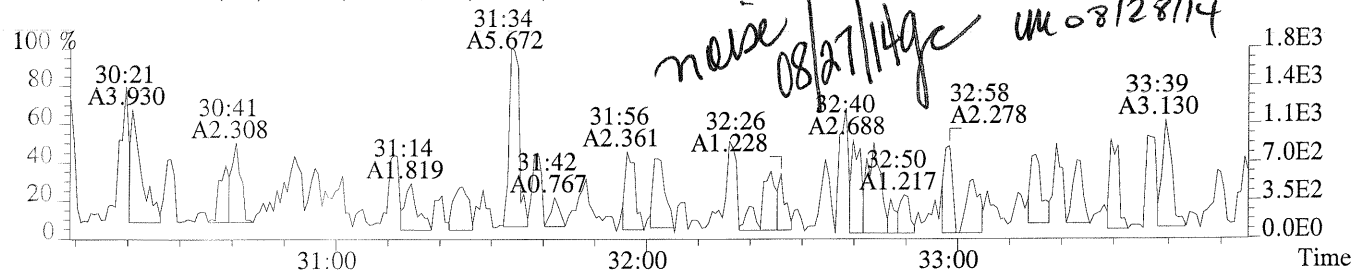
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



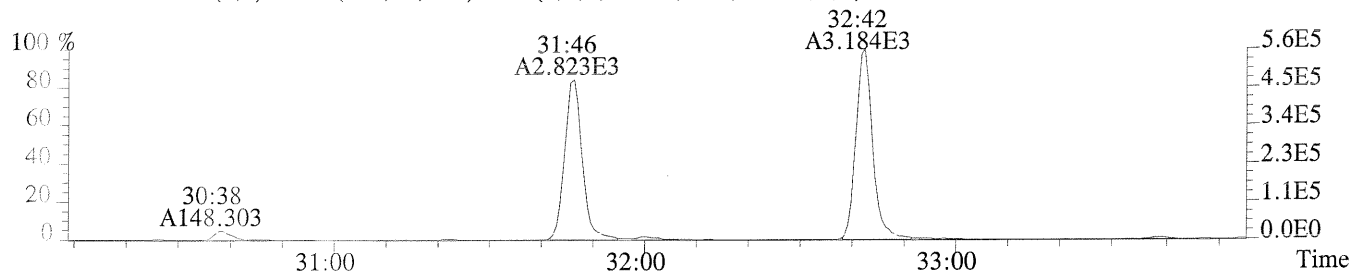
File: P173120 #1-343 Acq: 27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: K1407971-006  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



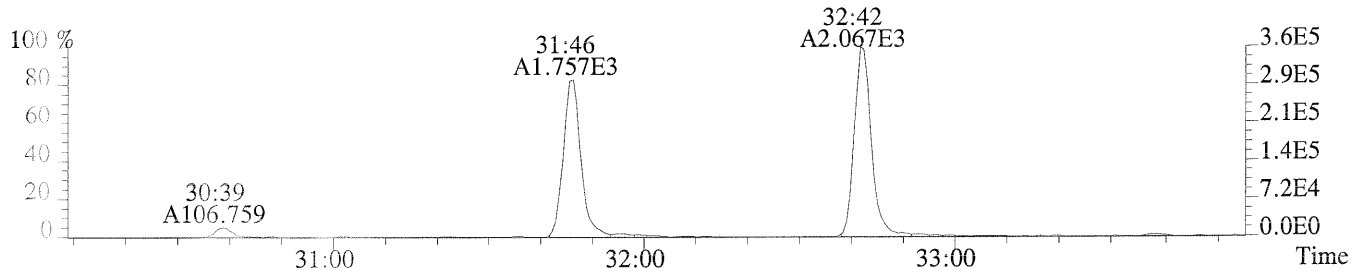
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



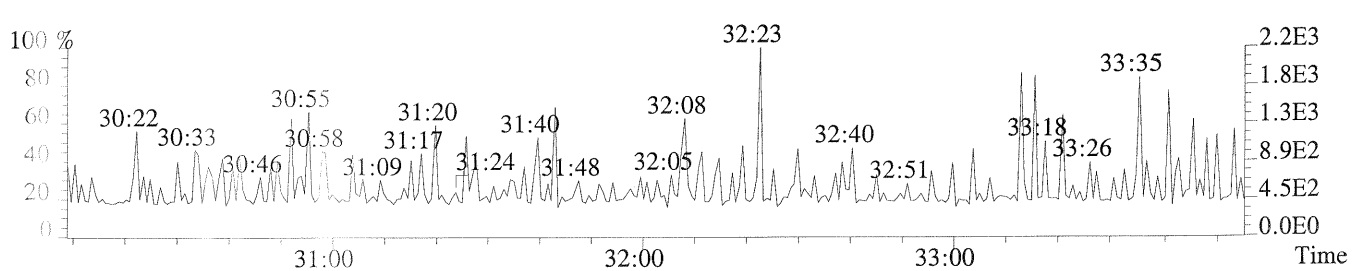
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



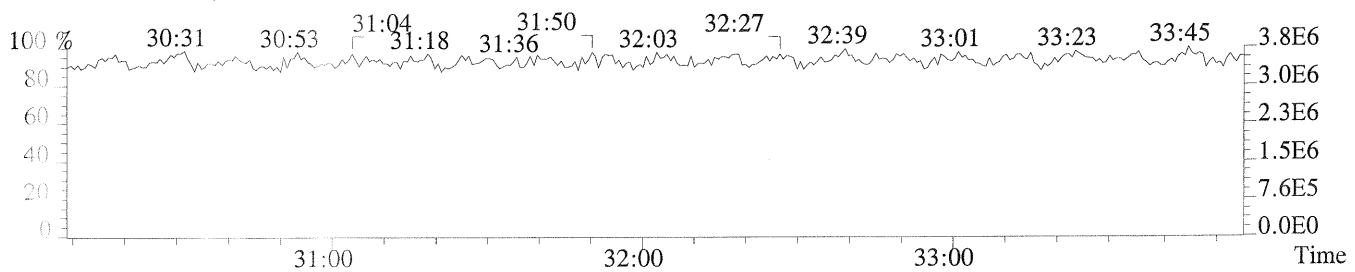
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



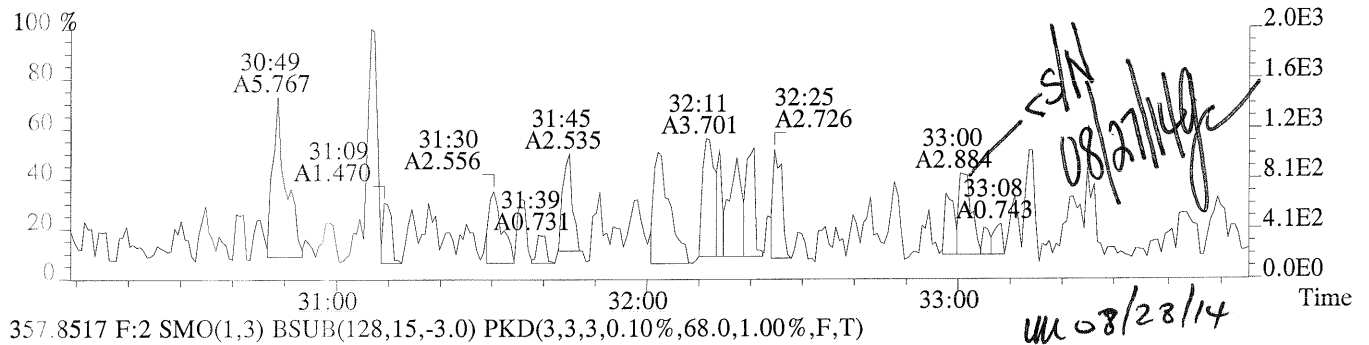
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



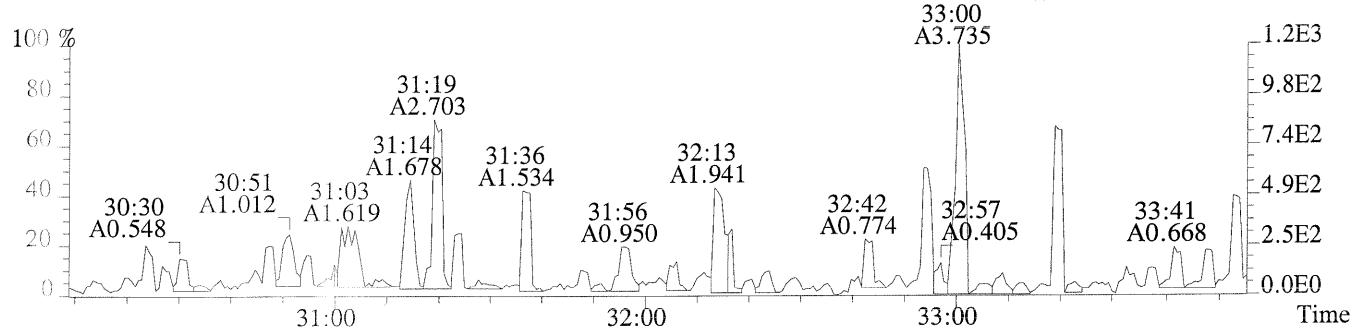
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



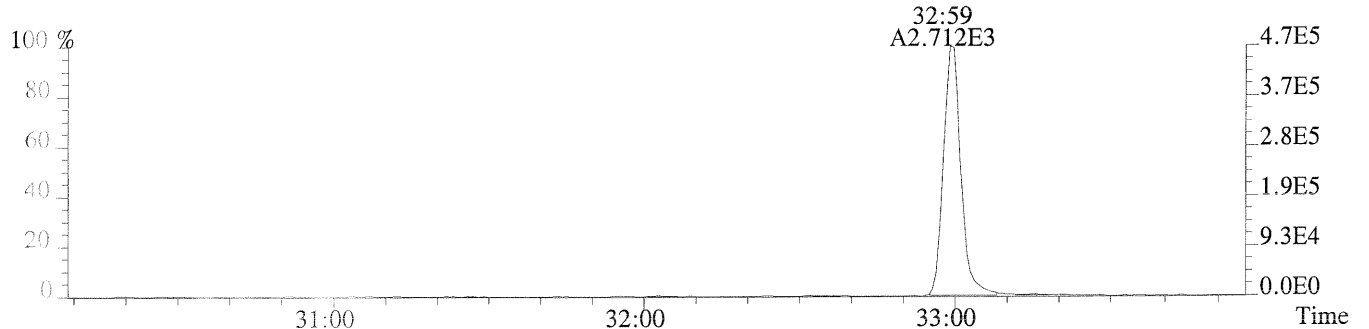
File: P173120 #1-343 Acq: 27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: K1407971-006  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,380.0,1.00%,F,T)



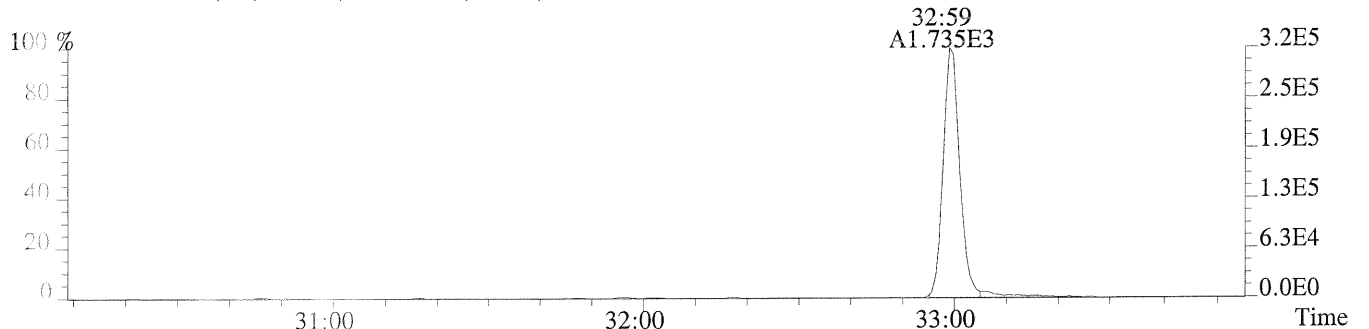
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



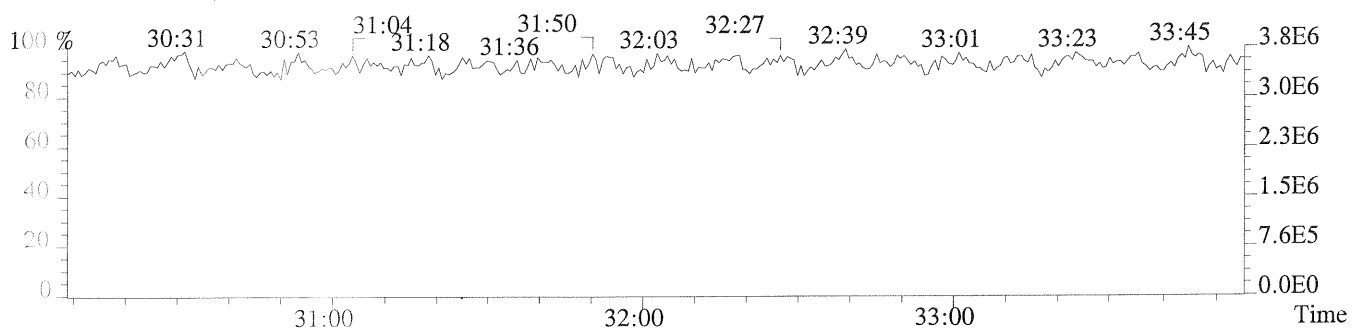
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)

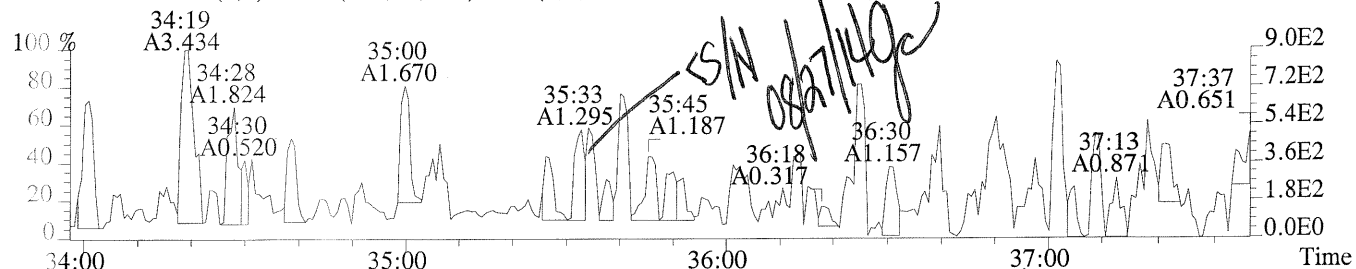


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

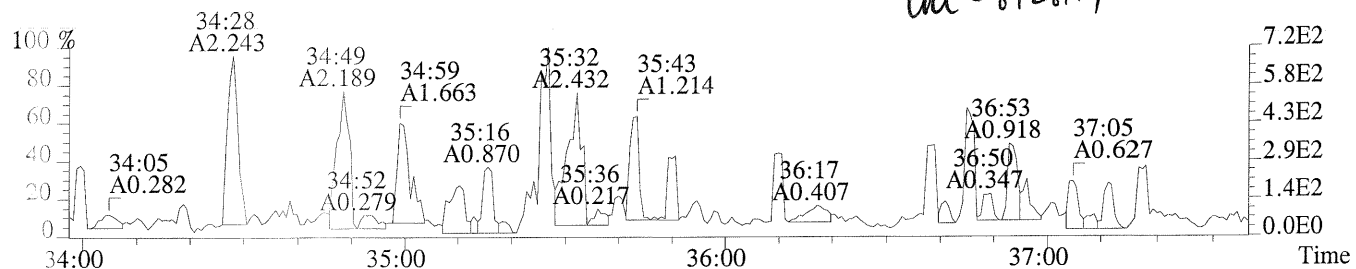




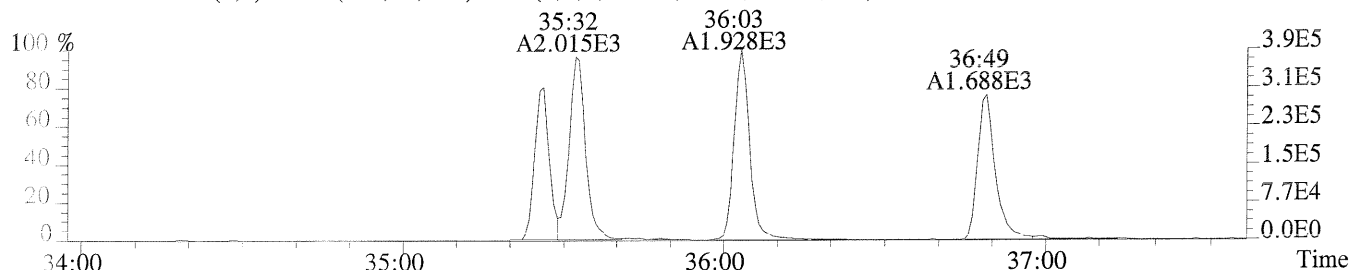
File:P173120 #1-332 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-006  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,188.0,0.40%,F,T)



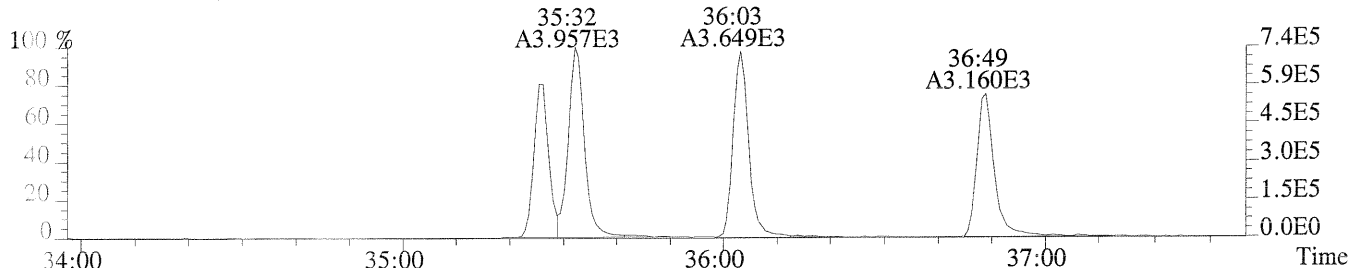
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,T)



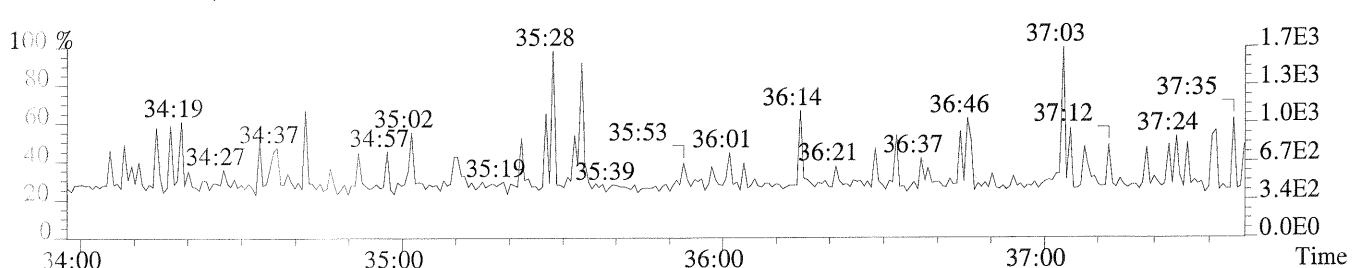
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)



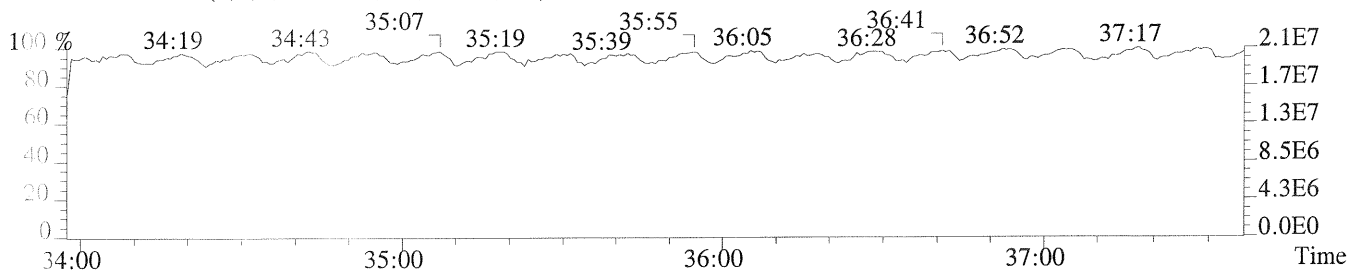
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)

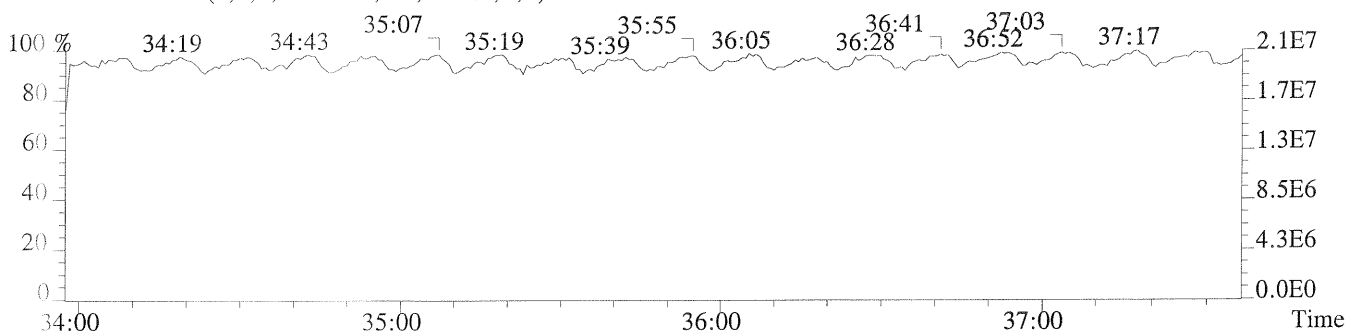
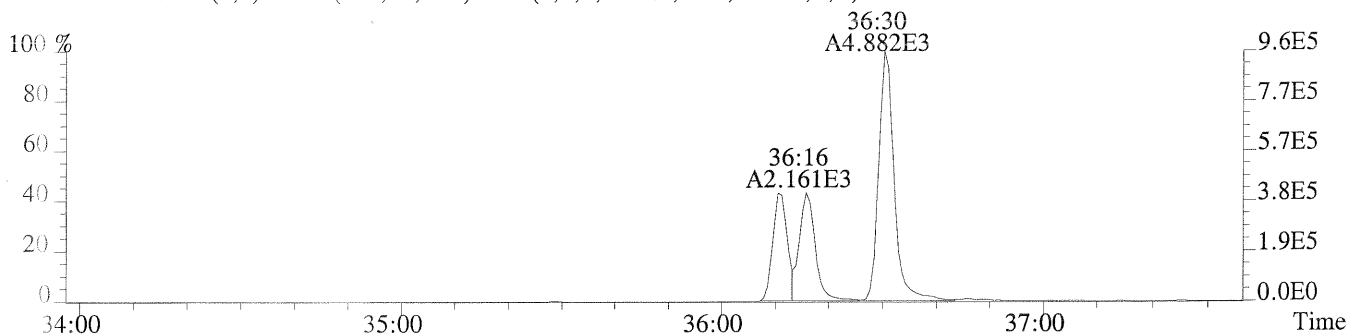
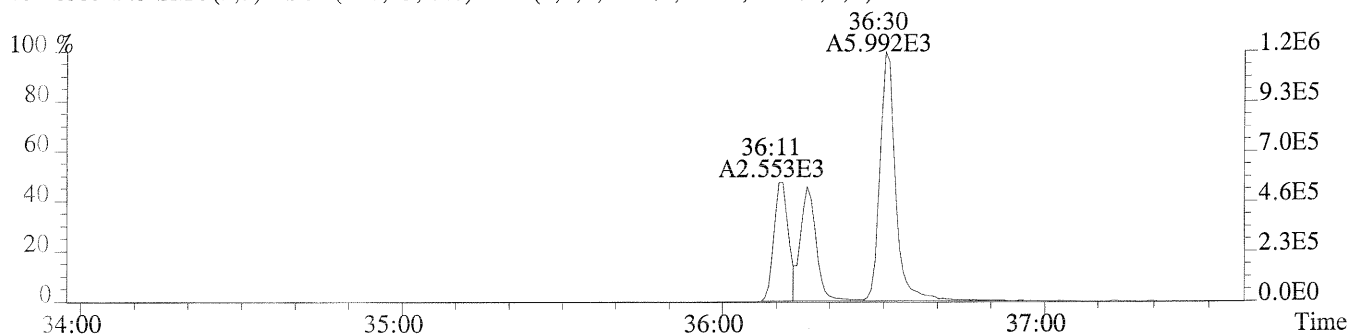
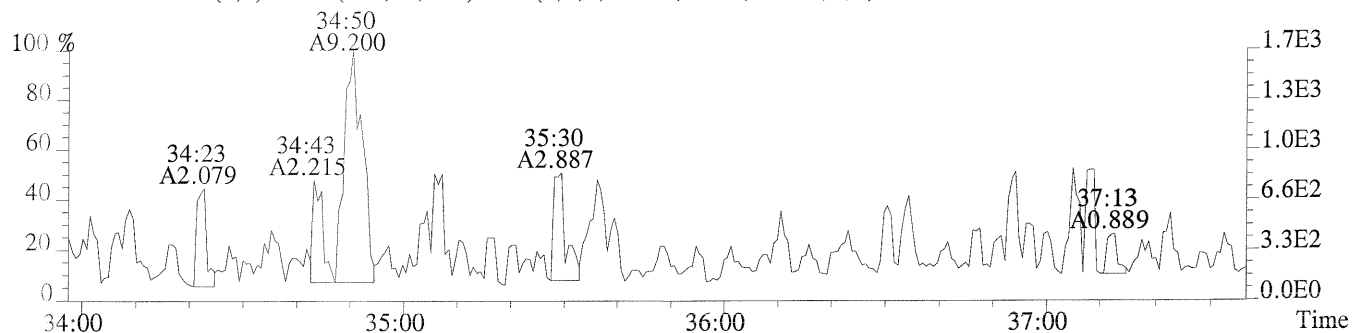
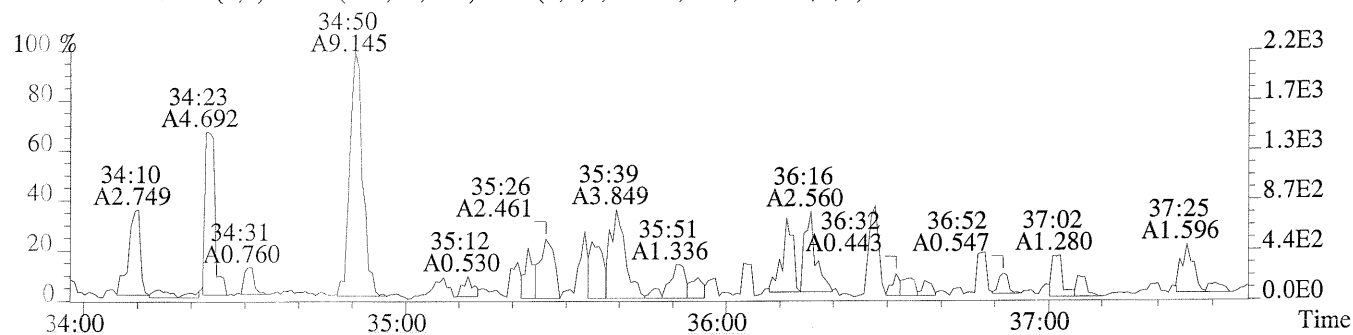


445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

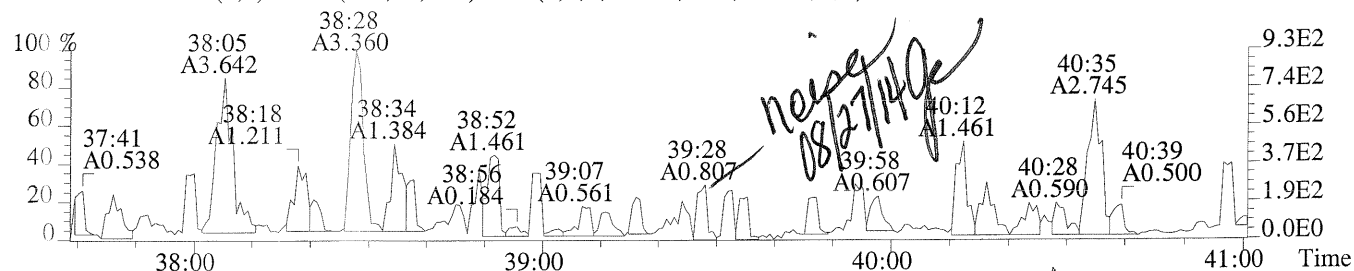


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

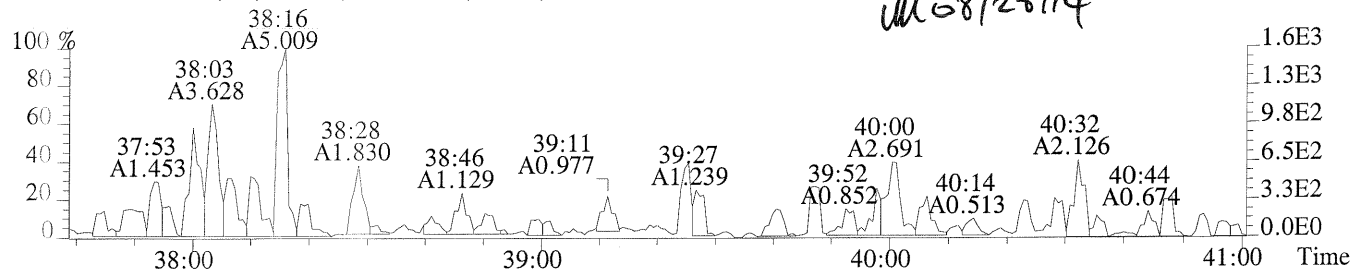




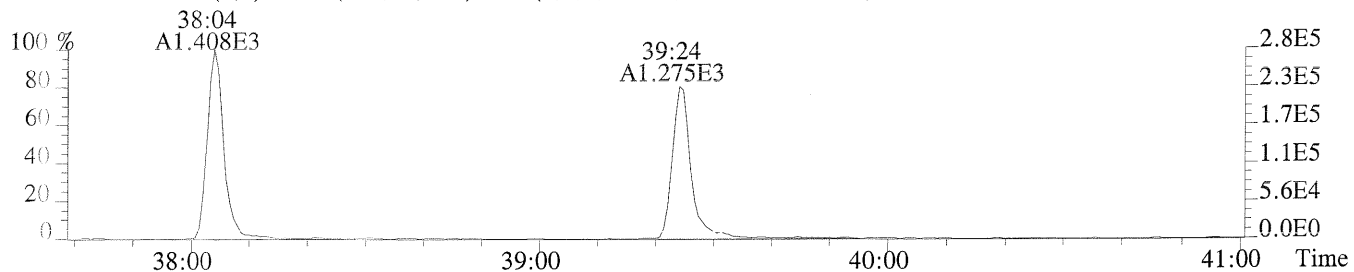
File:P173120 #1-306 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-006  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.50%,F,T)



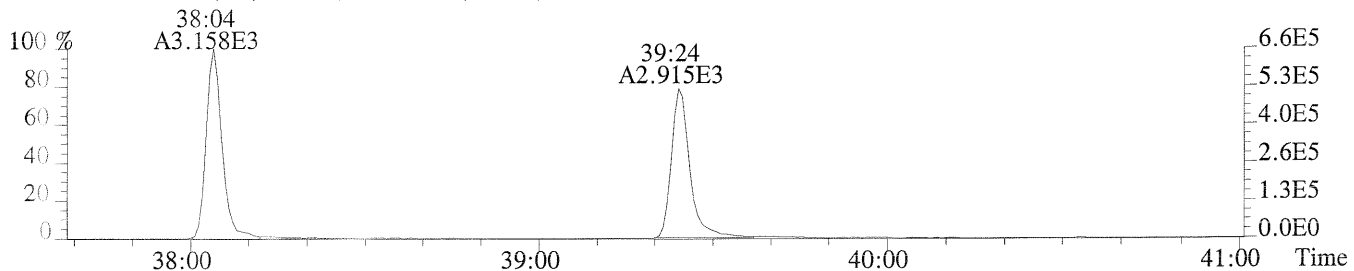
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



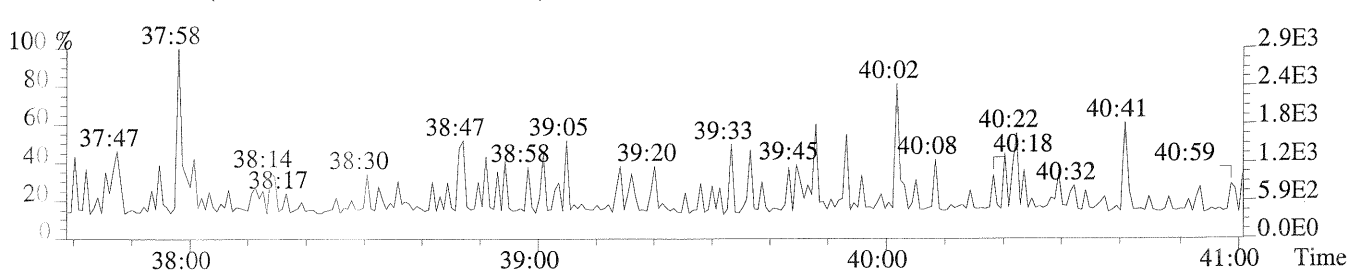
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,392.0,0.50%,F,T)



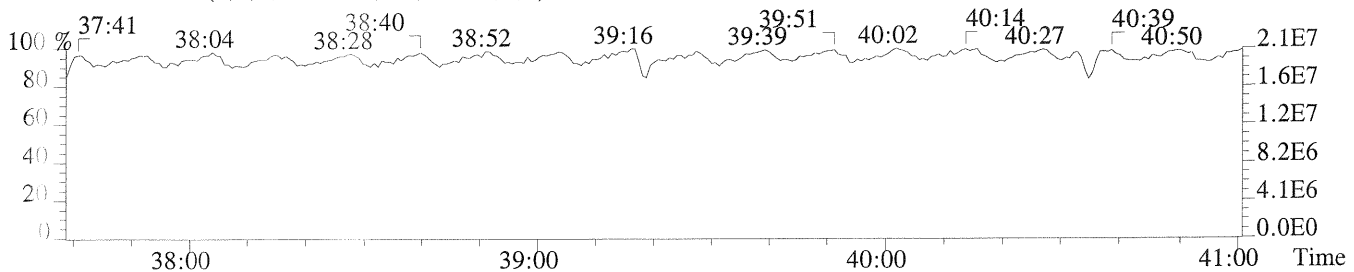
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.50%,F,T)



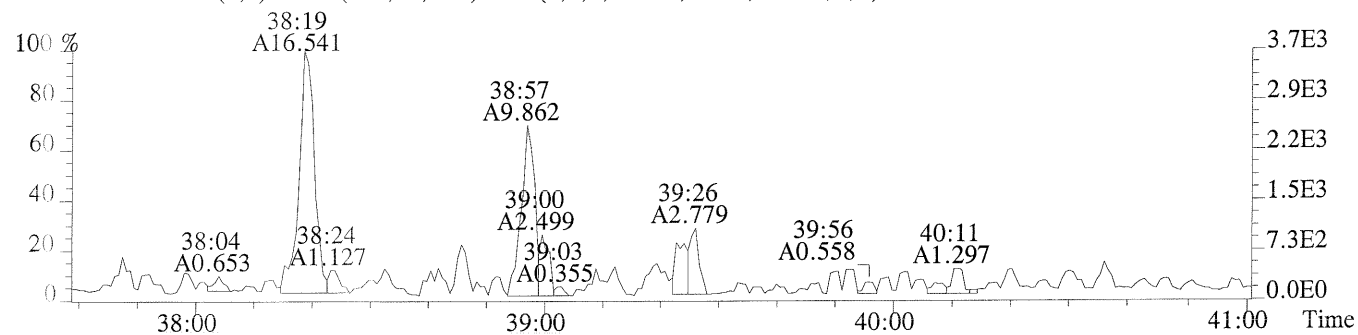
479.7165 F:4 PKD(5,3,5,100.0%,0.0,1.00%,F,F)



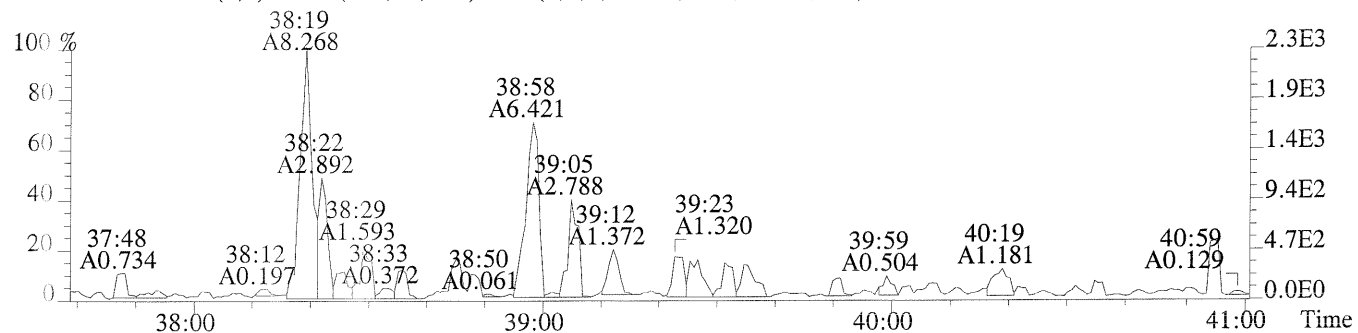
430.9728 F:4 PKD(3,3,3,100.0%,0.0,1.00%,F,F)



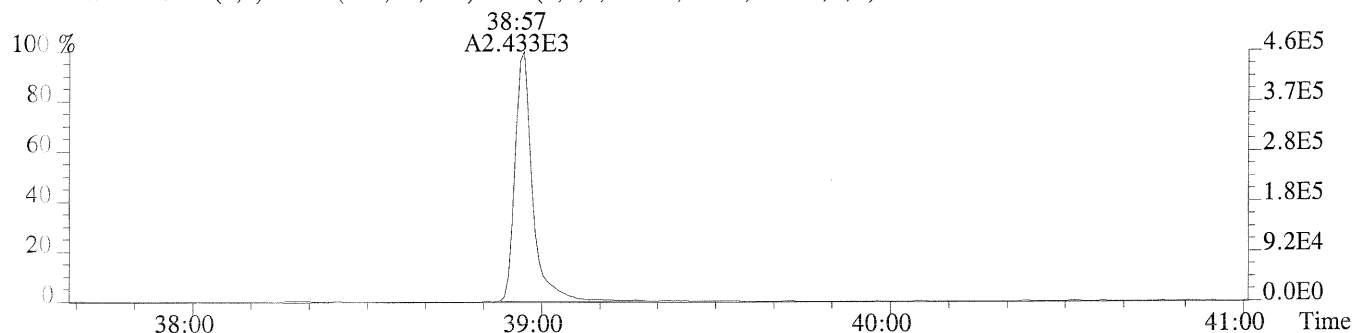
File:P173120 #1-306 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-006  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,T)



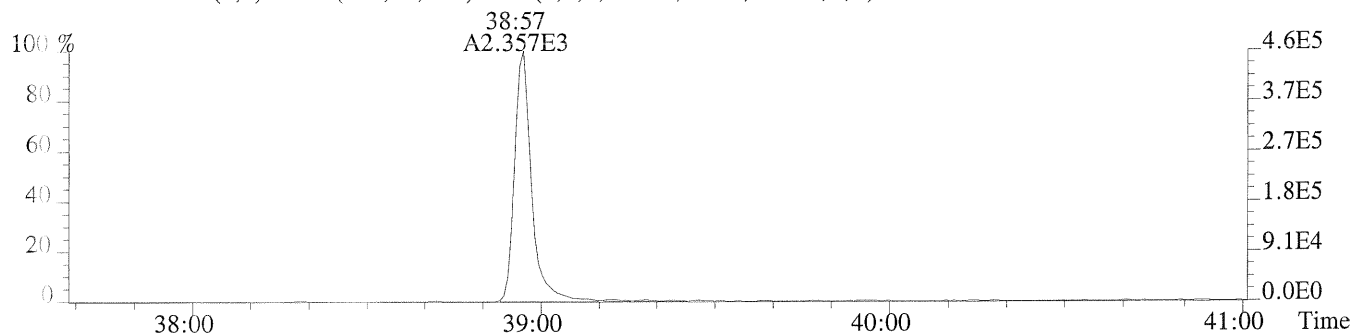
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



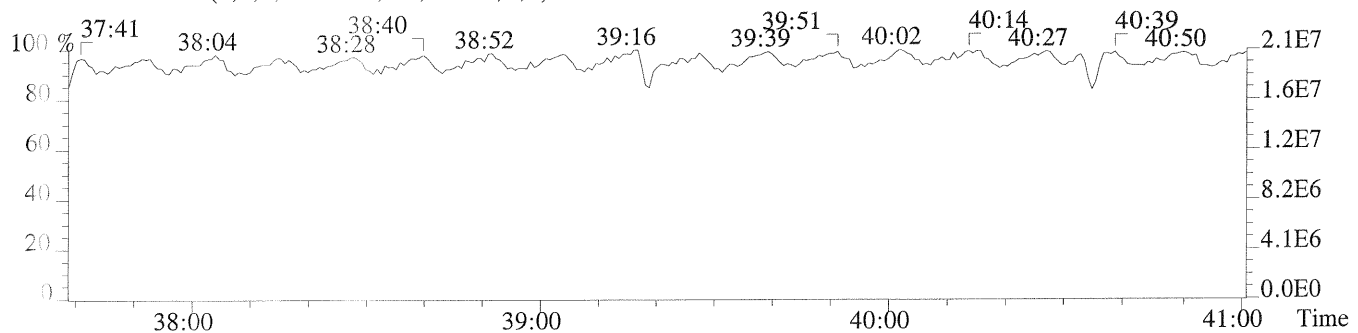
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.40%,F,T)



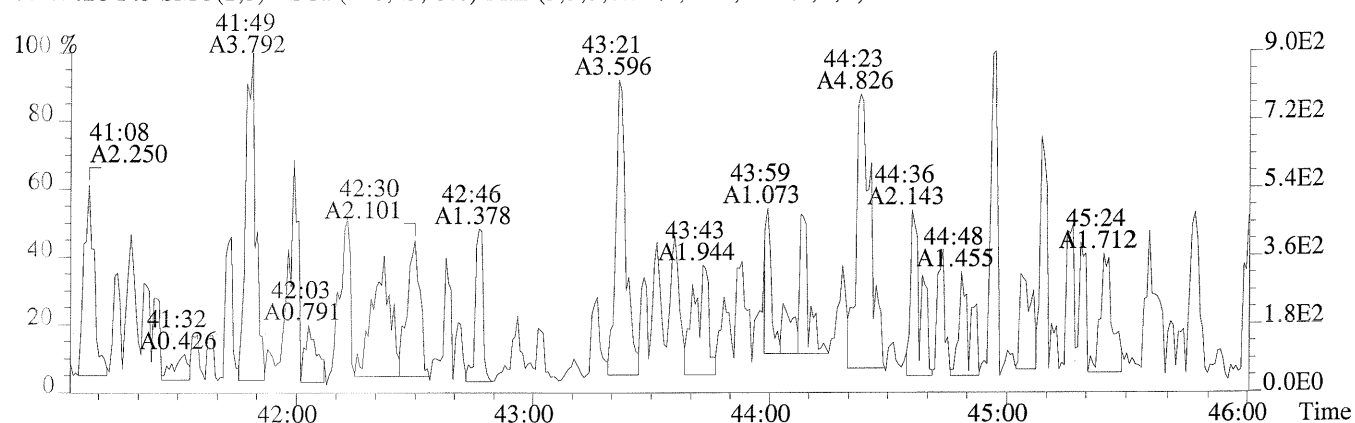
439.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



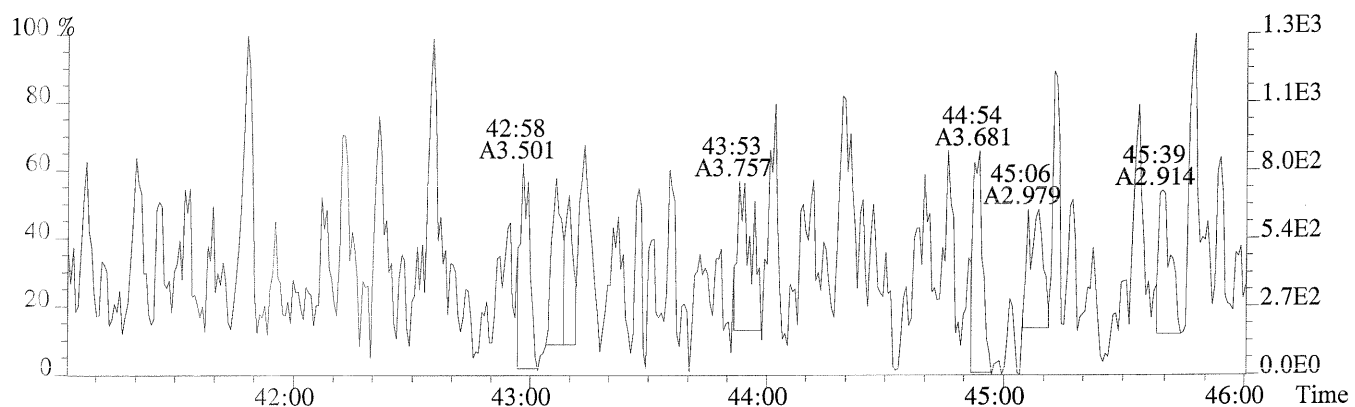
File:P173120 #1-456 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-006

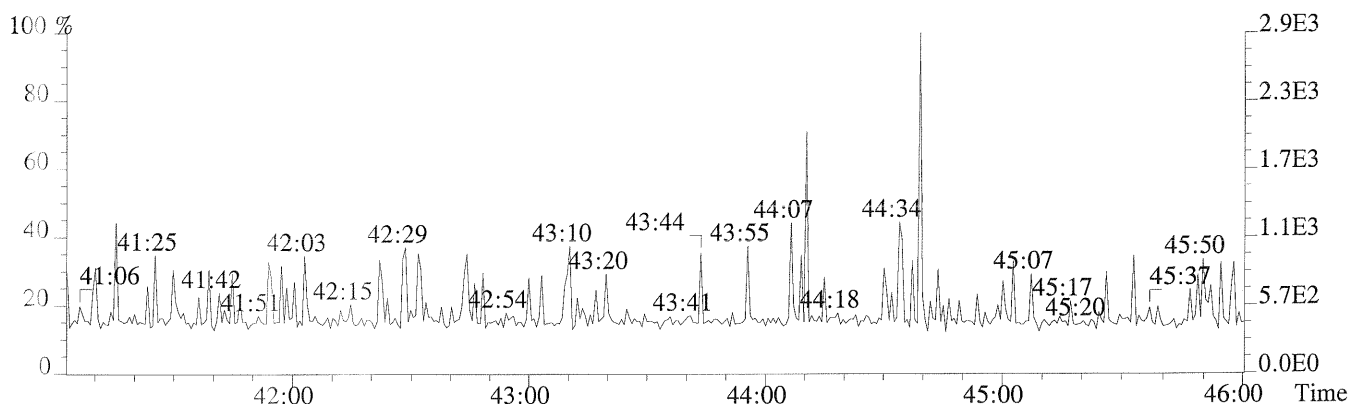
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,92.0,0.40%,F,T)



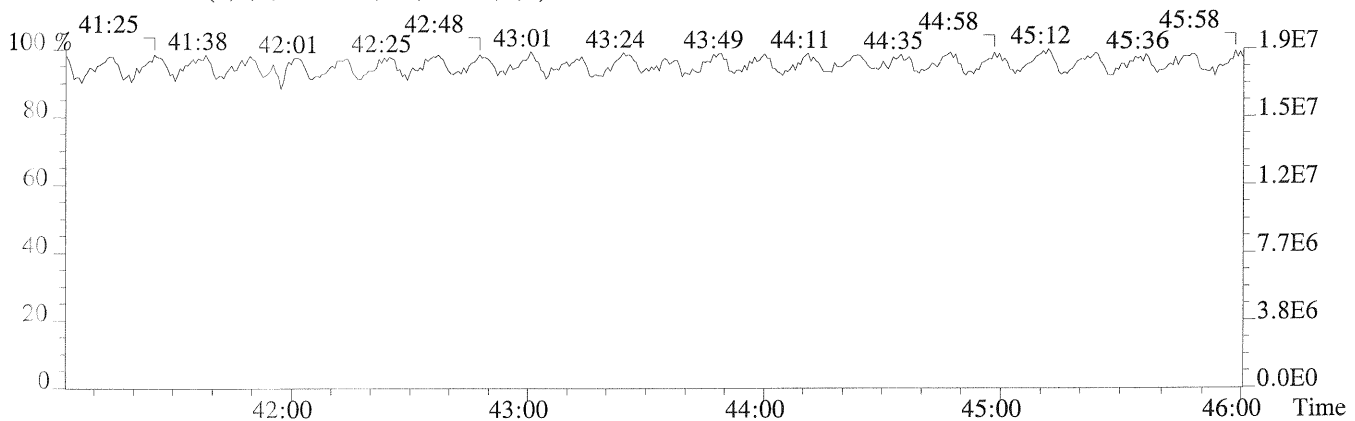
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,436.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



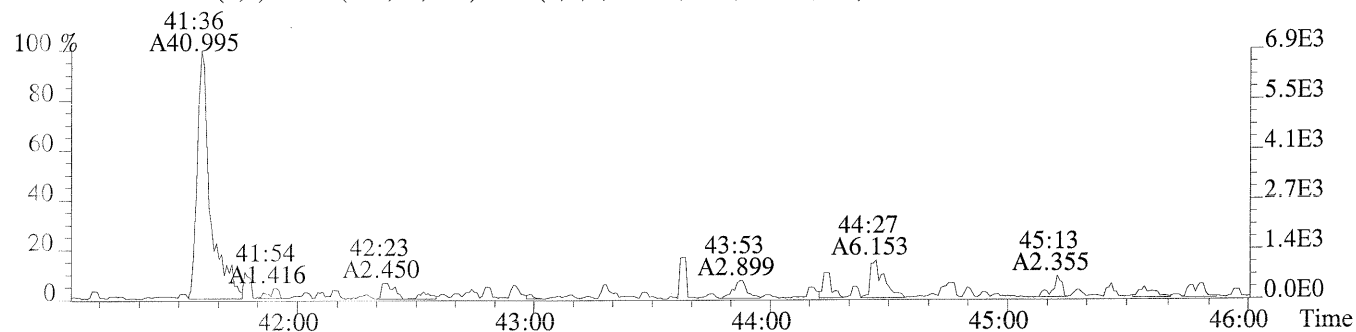
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



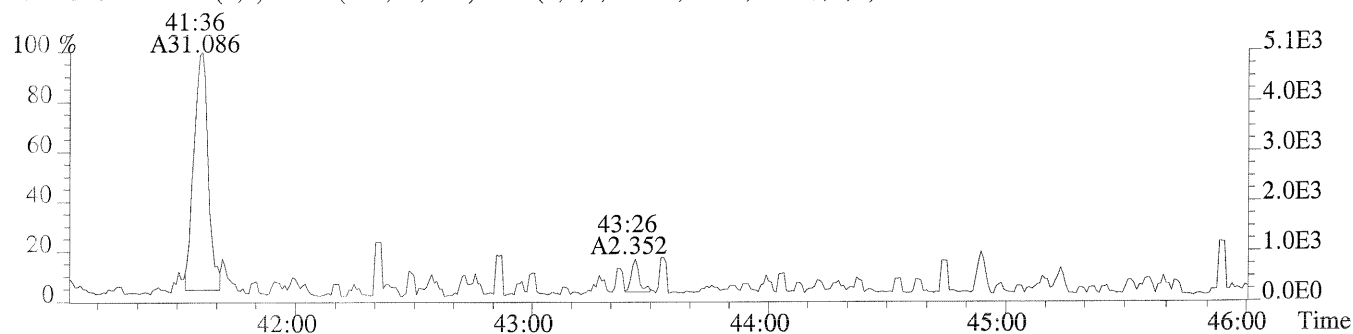
File:P173120 #1-456 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-006

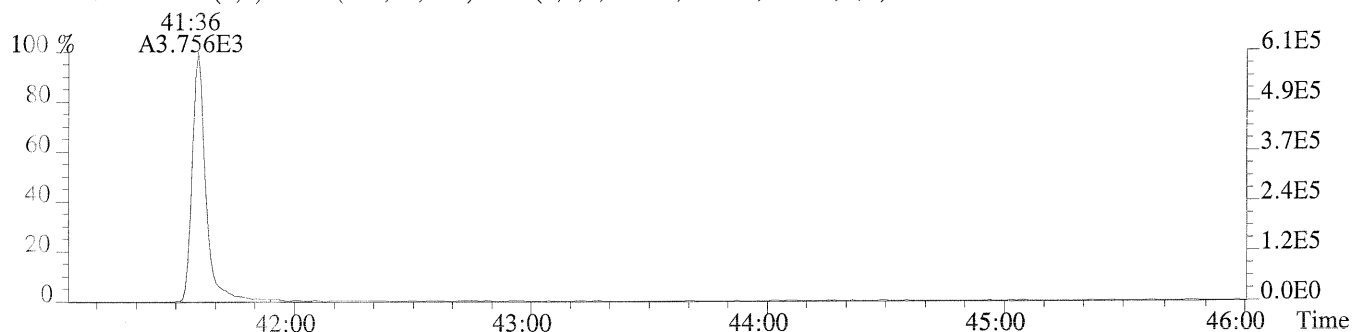
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,92.0,0.40%,F,T)



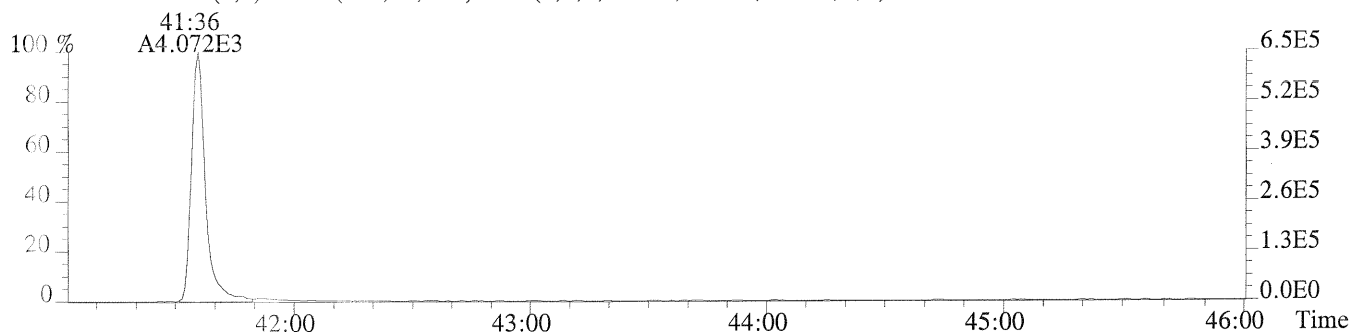
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



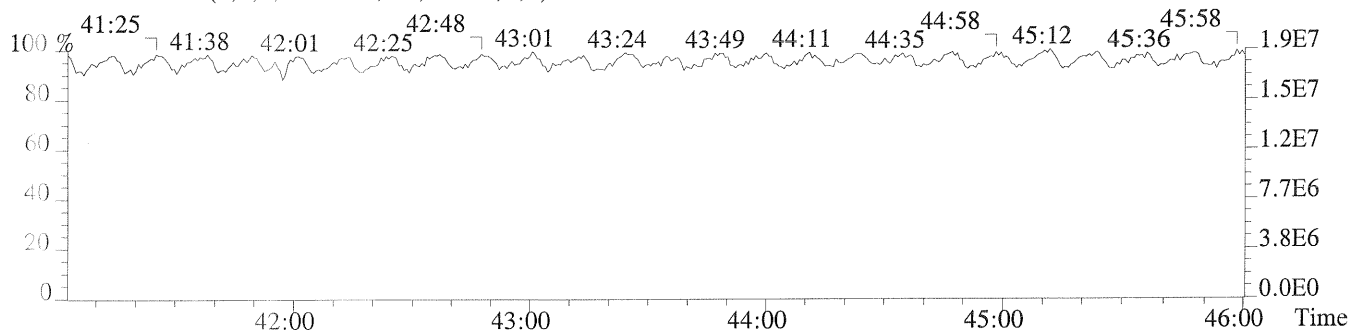
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1148.0,0.40%,F,T)



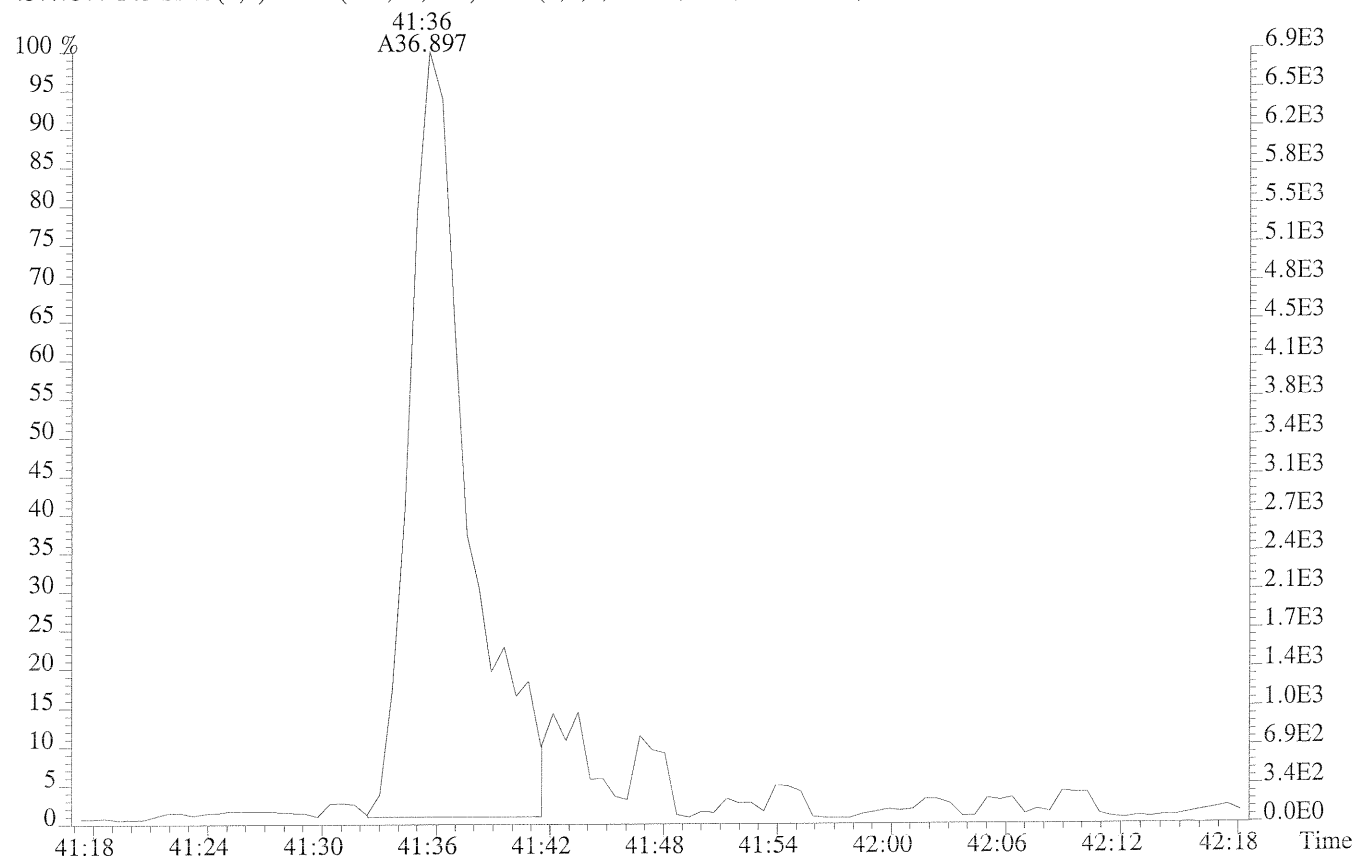
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1348.0,0.40%,F,T)



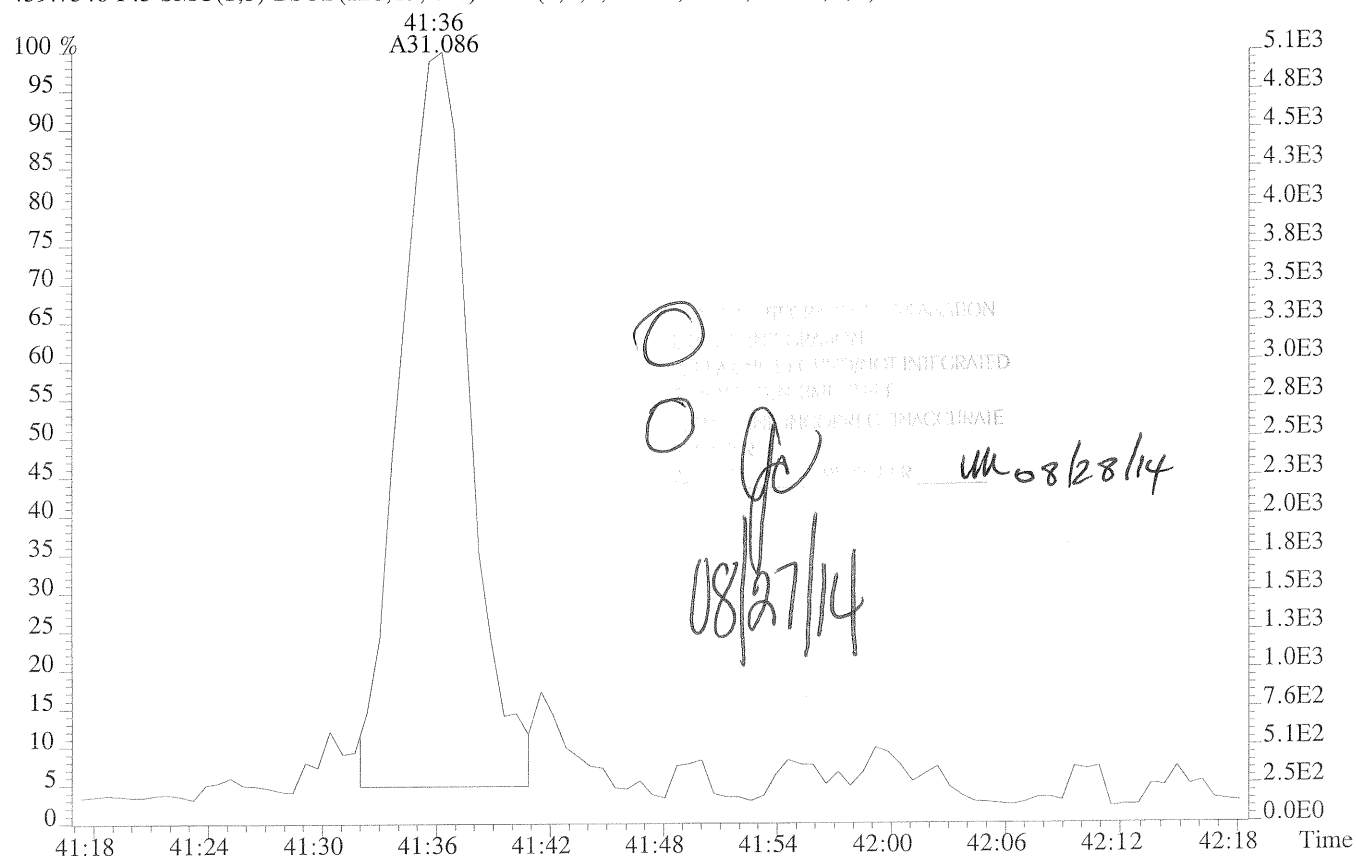
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P173120 #1-456 Acq:27-AUG-2014 03:27:12 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-006  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,92.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 METHOD 1613B/8290A

CLIENT ID.  
 NV SYC14-AC R7

Run #12    Filename P173121    Samp: 1    Inj: 1    Acquired: 27-AUG-14 04:15:20  
 Processed: 27-AUG-14 10:44:13    Sample ID: K1407971-007

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:04	1.823e+00	4.562e+00	0.40	no	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:57	9.713e+00	1.262e+01	0.77	no	no	1.016
17 Unk	OCDD	41:38	4.637e+01	5.559e+01	0.83	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	1.594e+03	2.052e+03	0.78	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	2.853e+03	1.812e+03	1.57	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:43	3.054e+03	1.928e+03	1.58	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.505e+03	2.984e+03	0.50	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	2.008e+03	4.052e+03	0.50	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	1.700e+03	3.473e+03	0.49	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:50	1.587e+03	3.084e+03	0.51	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	1.384e+03	3.191e+03	0.43	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.326e+03	3.016e+03	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	1.172e+03	1.598e+03	0.73	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	2.573e+03	1.644e+03	1.57	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.505e+03	2.040e+03	1.23	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.743e+03	2.201e+03	1.25	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	2.490e+03	2.352e+03	1.06	yes	no	0.862
32 IS	13C-OCDD	41:36	3.705e+03	4.359e+03	0.85	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	2.674e+03	3.392e+03	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	5.529e+03	4.292e+03	1.29	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:13	8.949e+02				no	1.125

OCDD =  $(4.637e+01 + 5.559e+01) \times 4000 \text{ pg} \times 1$   
 $(3.705e+03 + 4.359e+03) \times 6.721 \text{ g} \times 100 \times 1.079$

6.974 mg/kg  
 UM 8/28/14

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1613RESP1



ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-AC REP.4

Run #12 Filename P173121 Samp: 1 Inj: 1 Acquired: 27-AUG-14 04:15:20  
Processed: 27-AUG-14 10:44:131 LAB. ID: K1407971-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	7.20e+01	*	*	8.72e+02	*
2	1,2,3,7,8-PeCDF	*	7.60e+01	*	*	2.52e+02	*
3	2,3,4,7,8-PeCDF	*	7.60e+01	*	*	2.52e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.00e+02	*	*	7.20e+01	*
5	1,2,3,6,7,8-HxCDF	*	2.00e+02	*	*	7.20e+01	*
6	2,3,4,6,7,8-HxCDF	*	2.00e+02	*	*	7.20e+01	*
7	1,2,3,7,8,9-HxCDF	*	2.00e+02	*	*	7.20e+01	*
8	1,2,3,4,6,7,8-HpCDF	5.11e+02	6.80e+01	7.5e+00	1.17e+03	4.80e+01	2.4e+01
9	1,2,3,4,7,8,9-HpCDF	*	6.80e+01	*	*	4.80e+01	*
10	OCDF	*	2.52e+02	*	*	5.00e+02	*
11	2,3,7,8-TCDD	*	2.76e+02	*	*	2.36e+02	*
12	1,2,3,7,8-PeCDD	*	4.12e+02	*	*	8.00e+01	*
13	1,2,3,4,7,8-HxCDD	*	8.00e+01	*	*	2.36e+02	*
14	1,2,3,6,7,8-HxCDD	*	8.00e+01	*	*	2.36e+02	*
15	1,2,3,7,8,9-HxCDD	*	8.00e+01	*	*	2.36e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.47e+03	2.00e+02	7.3e+00	2.56e+03	6.00e+01	4.3e+01
17	OCDD	6.21e+03	6.40e+01	9.7e+01	9.26e+03	2.16e+02	4.3e+01
18	13C-2,3,7,8-TCDF	2.50e+05	4.20e+02	6.0e+02	3.10e+05	4.48e+02	6.9e+02
19	13C-1,2,3,7,8-PeCDF	4.71e+05	2.88e+02	1.6e+03	2.99e+05	3.44e+02	8.7e+02
20	13C-2,3,4,7,8-PeCDF	5.26e+05	2.88e+02	1.8e+03	3.54e+05	3.44e+02	1.0e+03
21	13C-1,2,3,4,7,8-HxCDF	3.14e+05	9.60e+01	3.3e+03	6.17e+05	3.56e+02	1.7e+03
22	13C-1,2,3,6,7,8-HxCDF	3.74e+05	9.60e+01	3.9e+03	7.62e+05	3.56e+02	2.1e+03
23	13C-2,3,4,6,7,8-HxCDF	3.30e+05	9.60e+01	3.4e+03	6.84e+05	3.56e+02	1.9e+03
24	13C-1,2,3,7,8,9-HxCDF	2.81e+05	9.60e+01	2.9e+03	5.43e+05	3.56e+02	1.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.82e+05	4.00e+02	7.1e+02	6.51e+05	5.60e+02	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.35e+05	4.00e+02	5.9e+02	5.39e+05	5.60e+02	9.6e+02
27	13C-2,3,7,8-TCDD	1.93e+05	1.70e+03	1.1e+02	2.58e+05	9.44e+02	2.7e+02
28	13C-1,2,3,7,8-PeCDD	4.48e+05	3.00e+02	1.5e+03	2.86e+05	6.40e+01	4.5e+03
29	13C-1,2,3,4,7,8-HxCDD	5.41e+05	2.56e+02	2.1e+03	4.38e+05	2.68e+02	1.6e+03
30	13C-1,2,3,6,7,8-HxCDD	5.15e+05	2.56e+02	2.0e+03	4.19e+05	2.68e+02	1.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.62e+05	3.08e+02	1.5e+03	4.42e+05	7.20e+01	6.1e+03
32	13C-OCDD	5.71e+05	6.40e+02	8.9e+02	6.57e+05	5.60e+02	1.2e+03
33	13C-1,2,3,4-TCDD	4.45e+05	1.70e+03	2.6e+02	5.67e+05	9.44e+02	6.0e+02
34	13C-1,2,3,7,8,9-HxCDD	1.07e+06	2.56e+02	4.2e+03	8.44e+05	2.68e+02	3.1e+03
35	37Cl-2,3,7,8-TCDD	1.47e+05	4.36e+02	3.4e+02			

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

NV SYC14-AC REP.4

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 12      File: P173121      Sample: 1 Injection: 1 Function: 3

Llim: 34:46      Ulim: 36:37

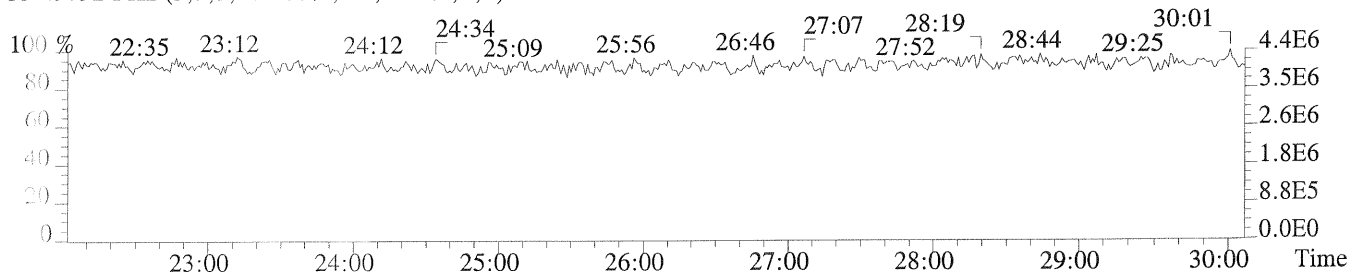
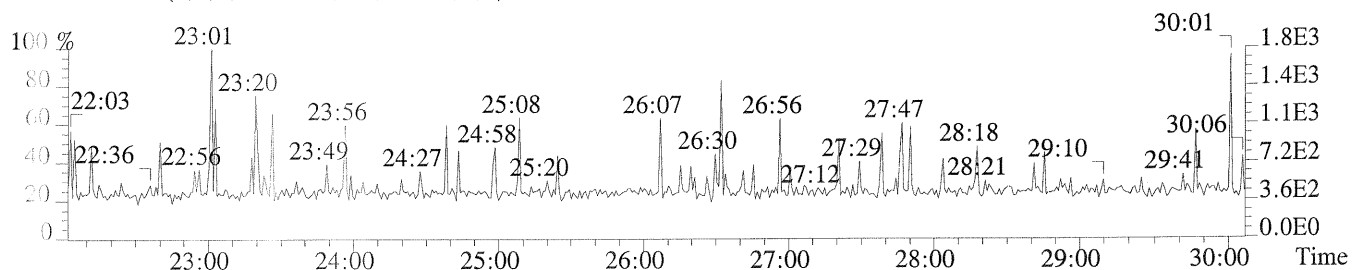
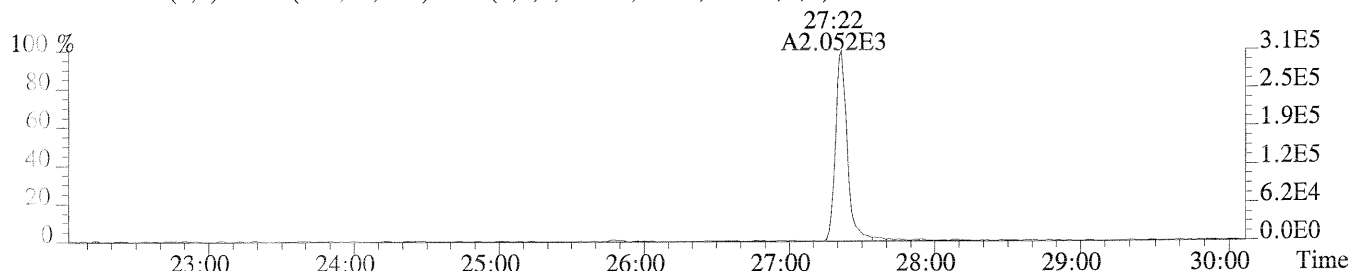
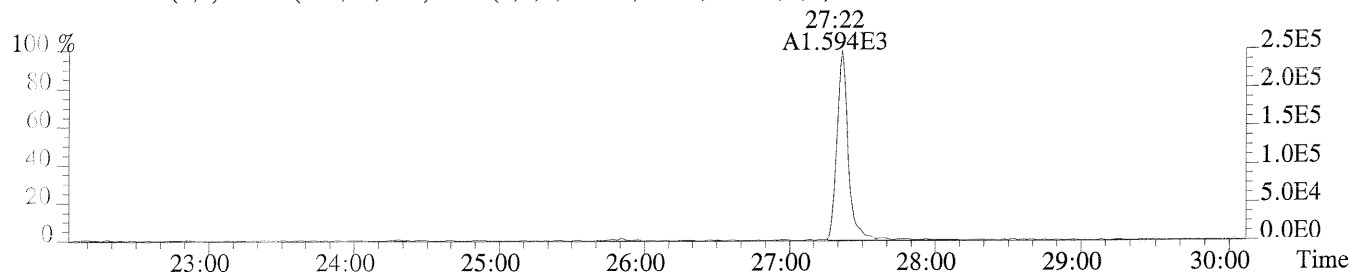
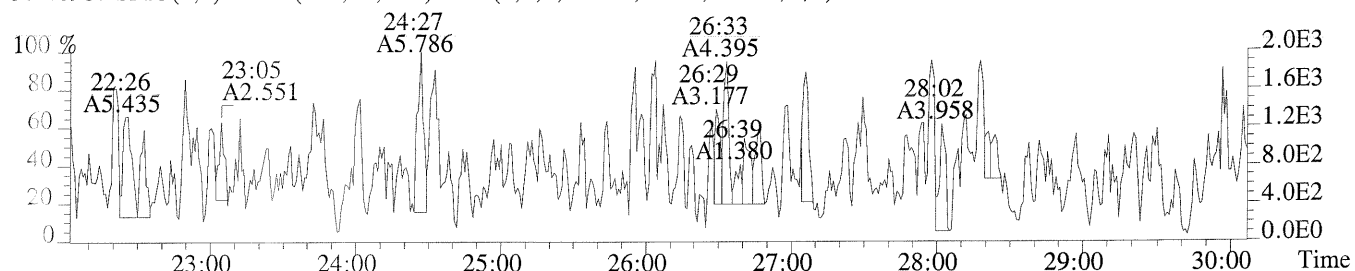
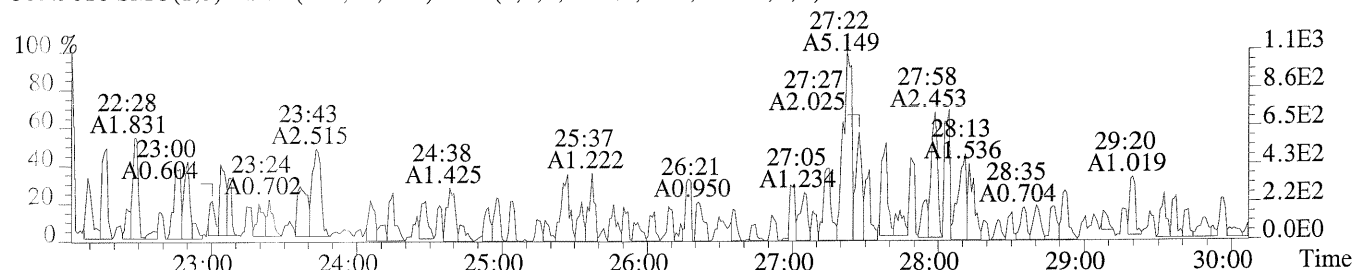
Acquired: 27-AUG-14      04:15:20      Processed: 27-AUG-14 10:44:13

Mass: 389.8160      391.8130      Tot Response: 1.42e+01      RRF: 1.040

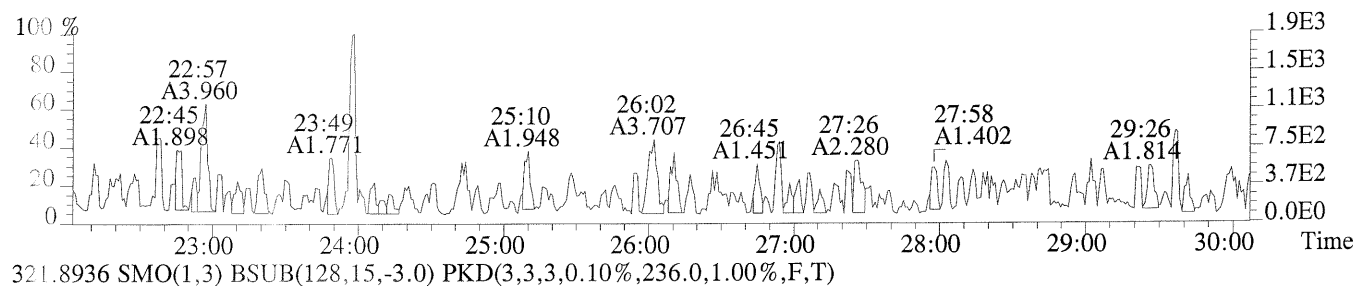
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:51	3.73e+00	3.04e+00	1.23	yes	6.77e+00	n	n
2	34:53	3.90e+00	3.56e+00	1.10	yes	7.46e+00	n	n

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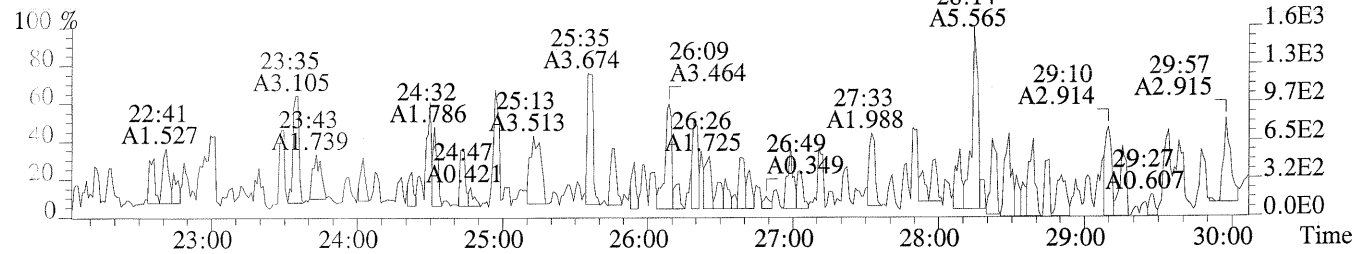
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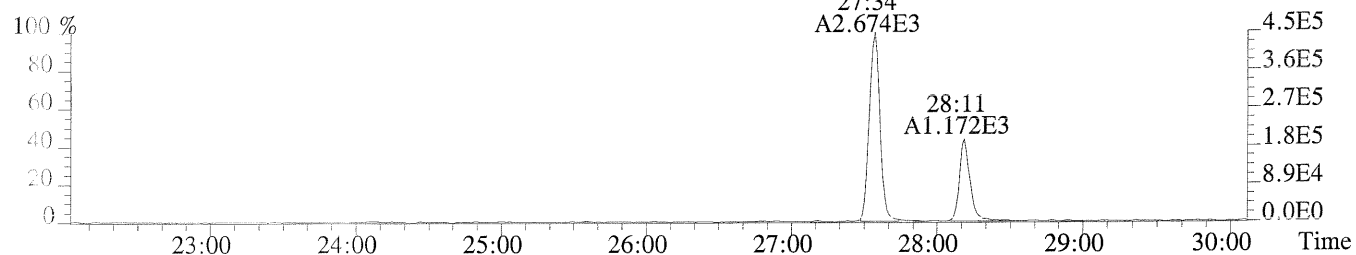
File:P173121 #1-579 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-007  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,T)



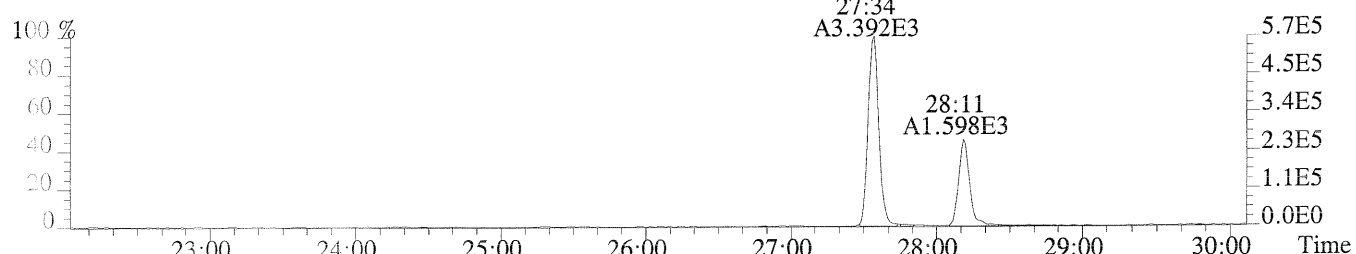
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



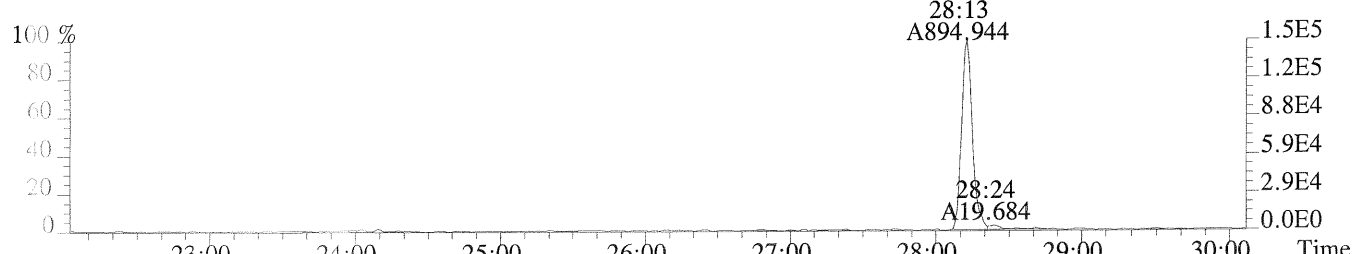
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1704.0,1.00%,F,T)



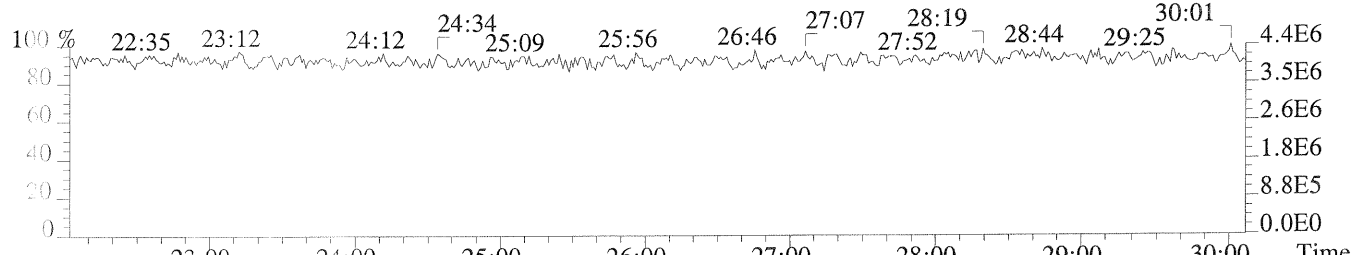
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,T)



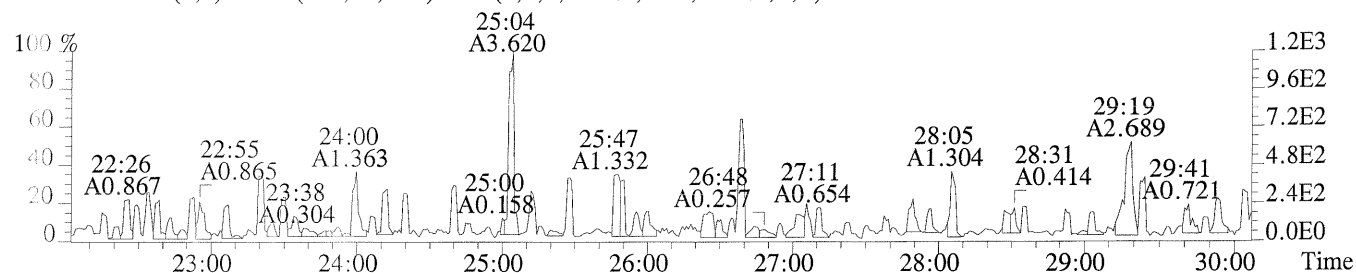
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



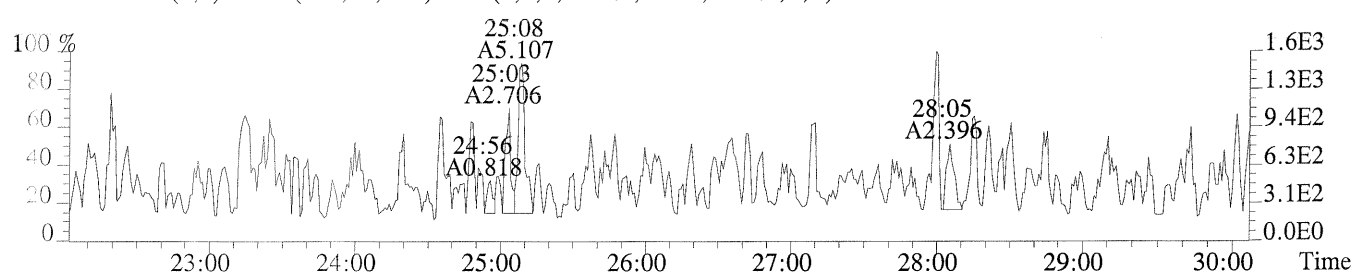
File:P173121 #1-579 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-007

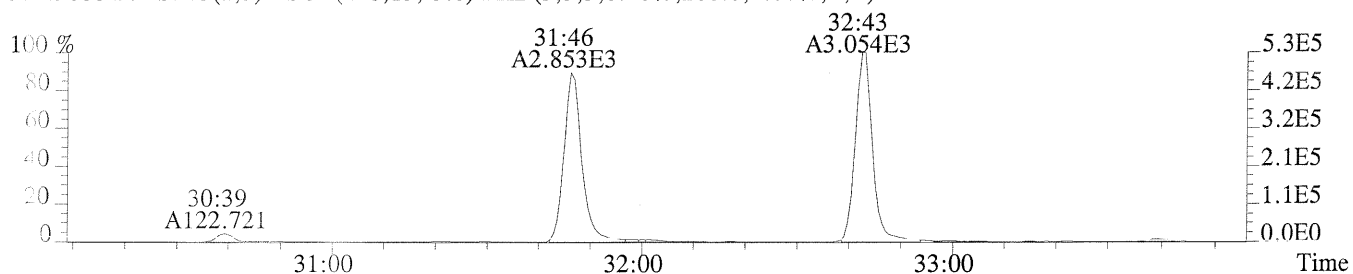
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



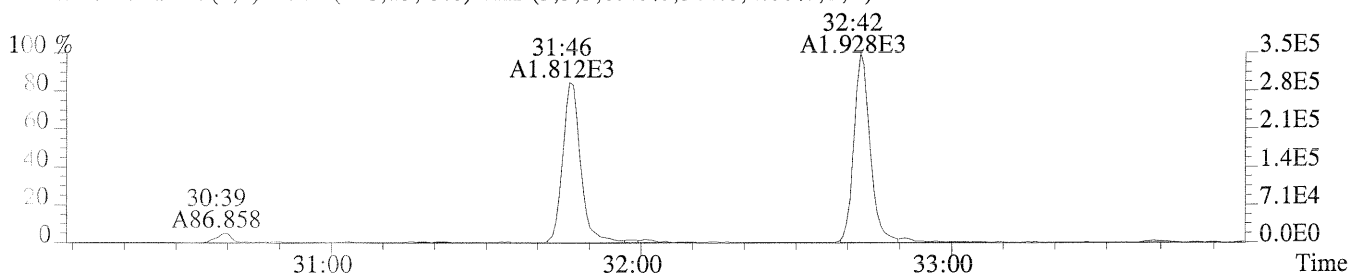
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



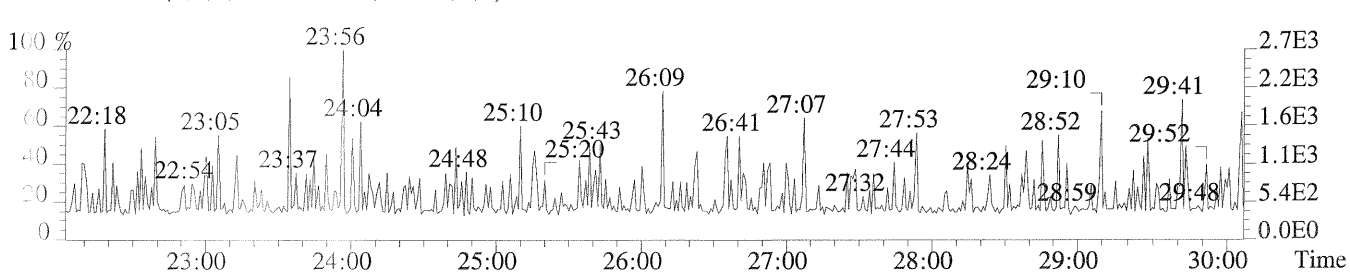
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



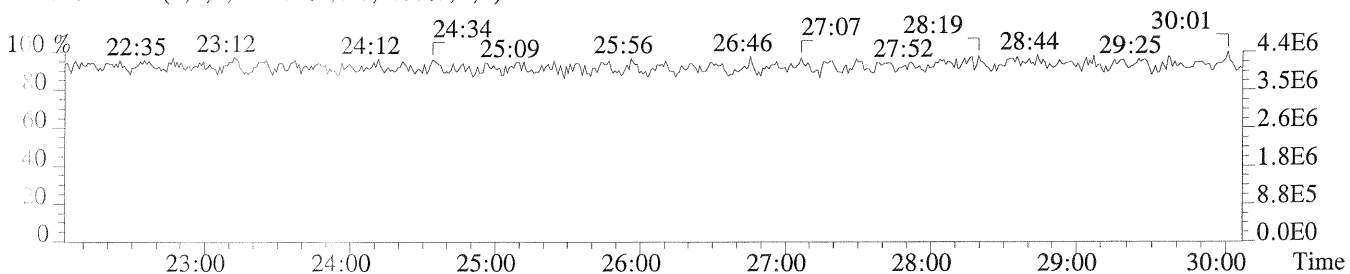
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,T)

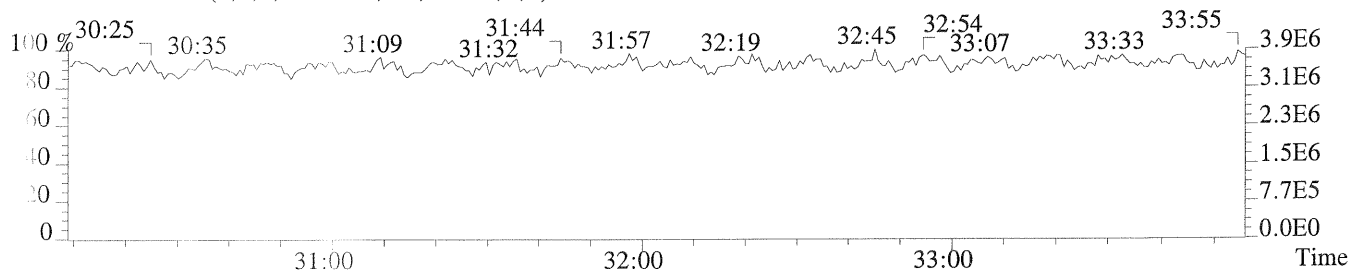
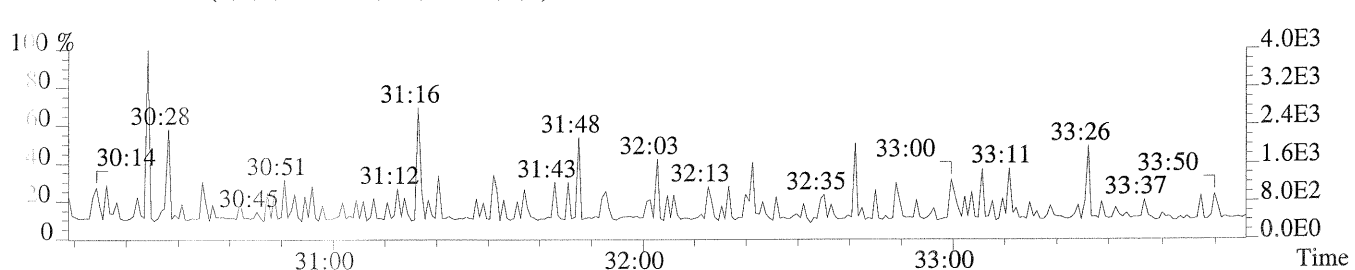
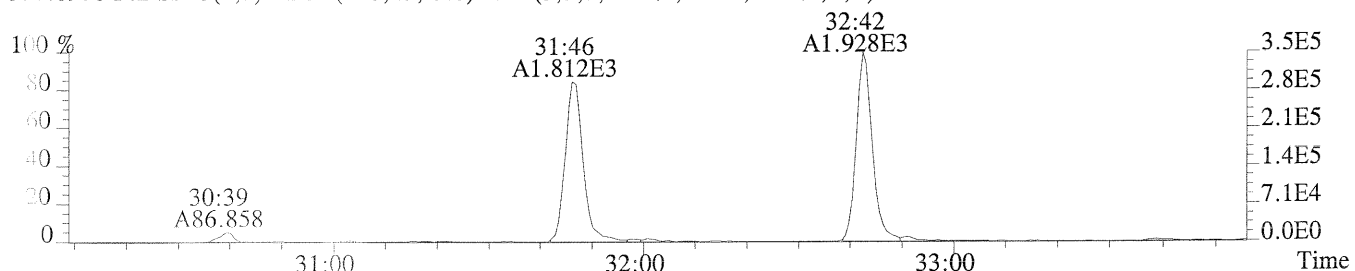
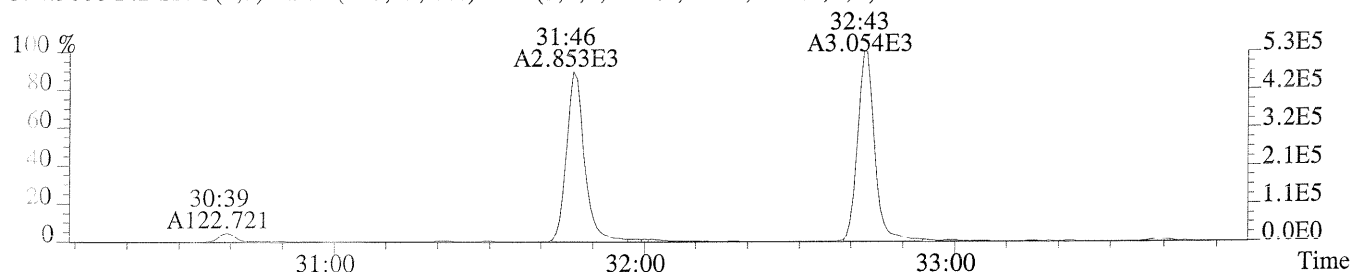
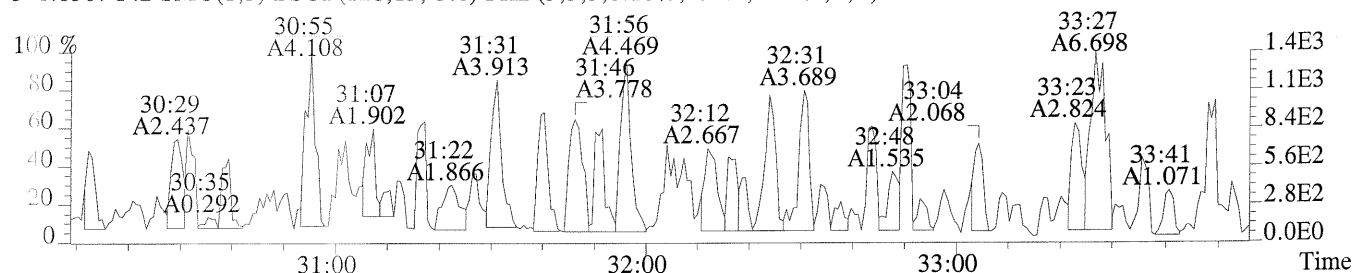
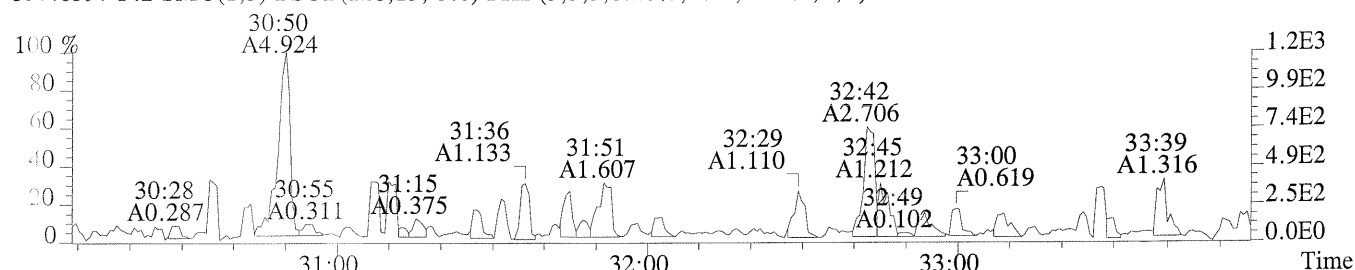


409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

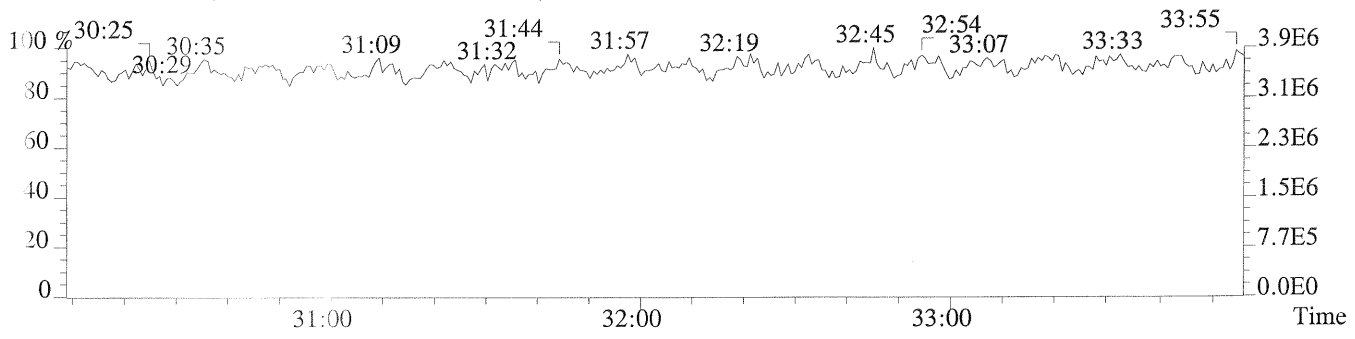
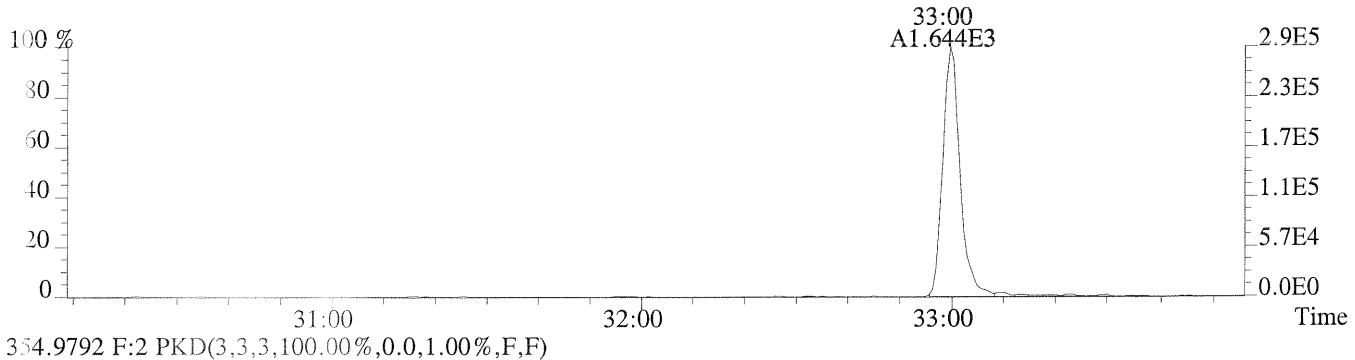
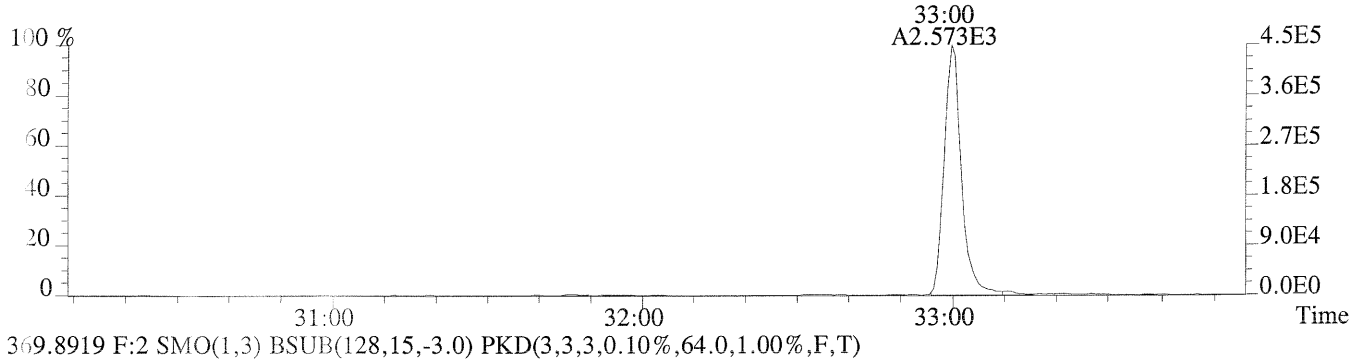
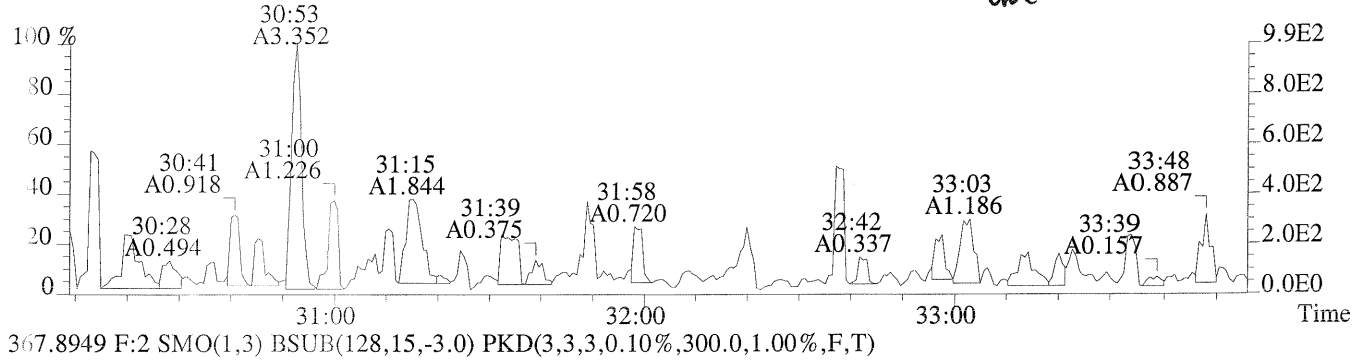
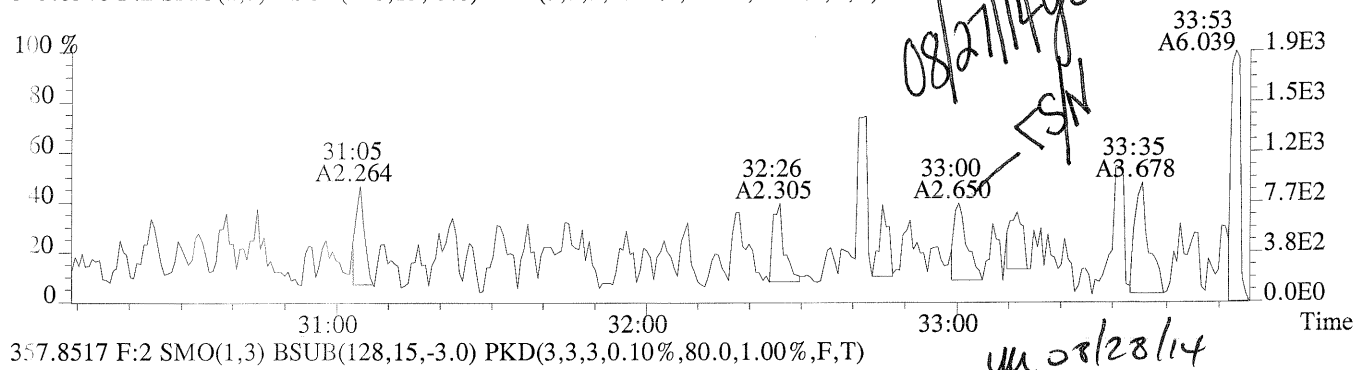


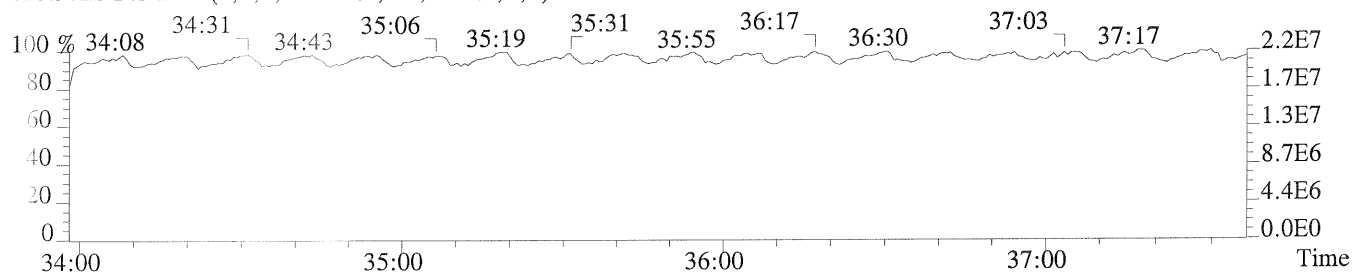
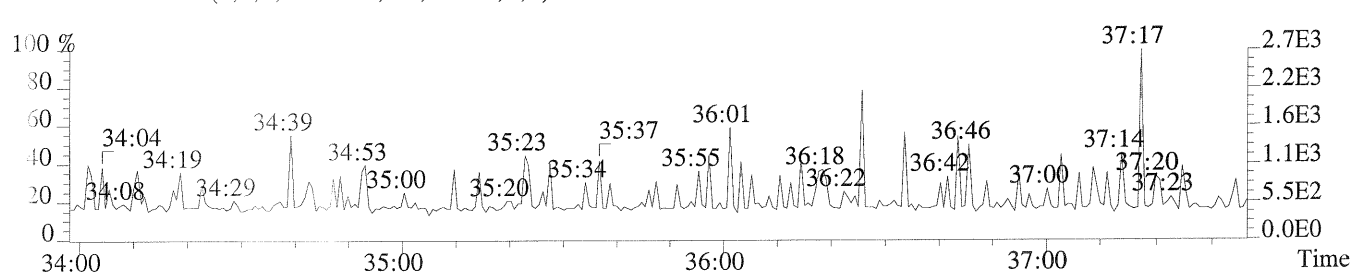
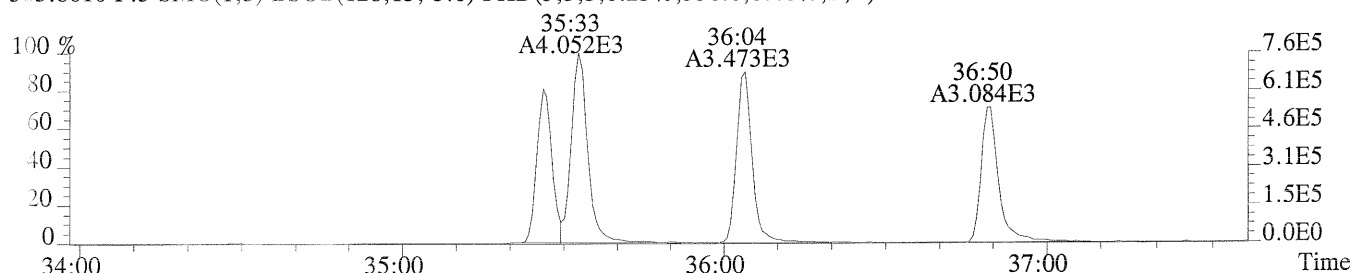
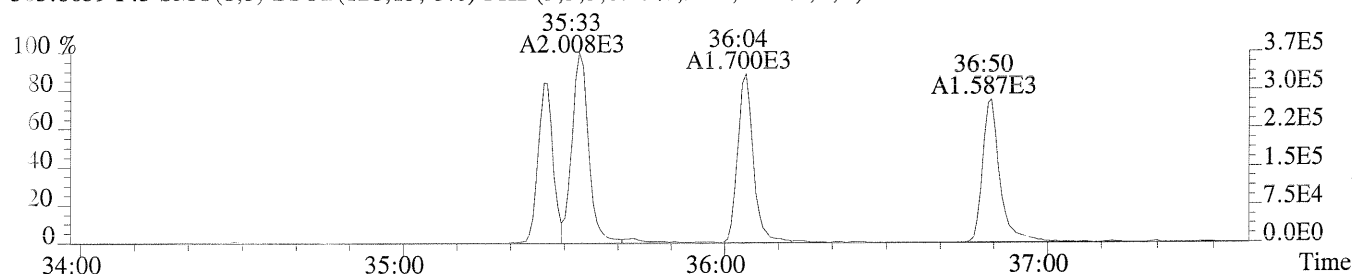
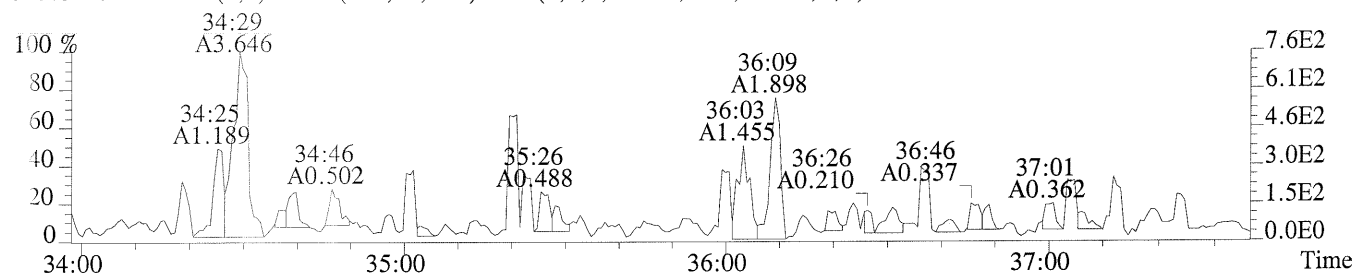
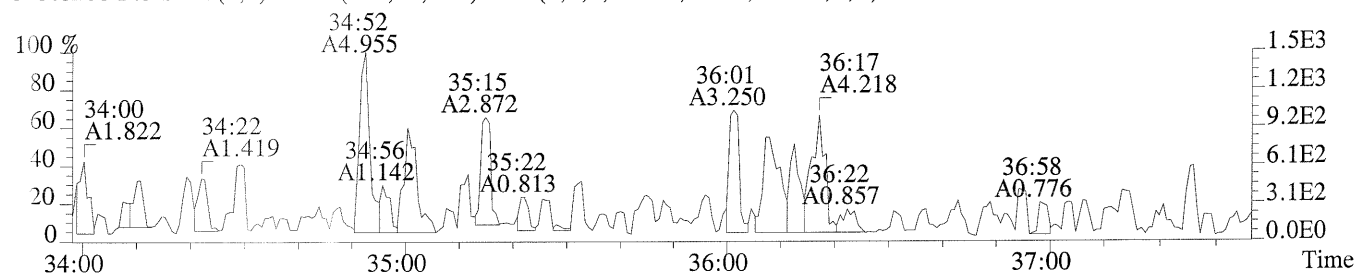
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)





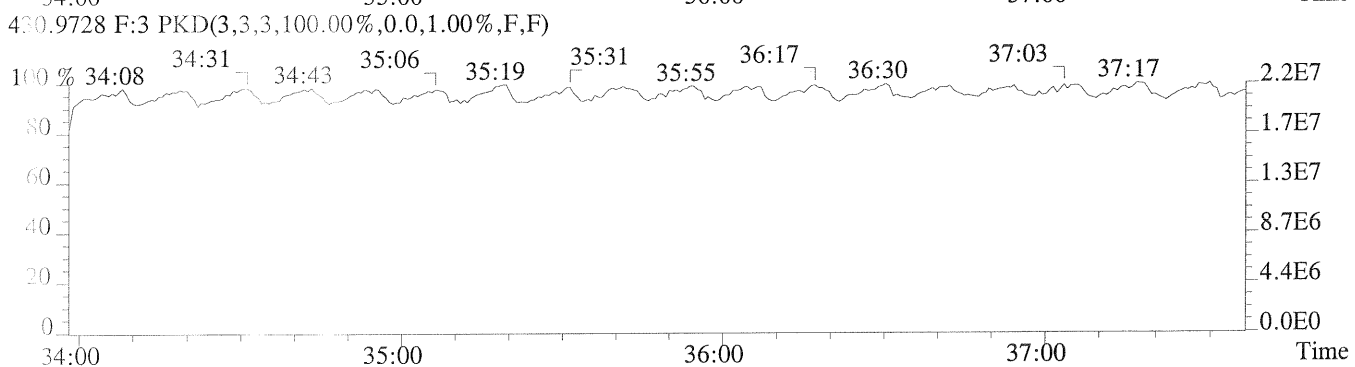
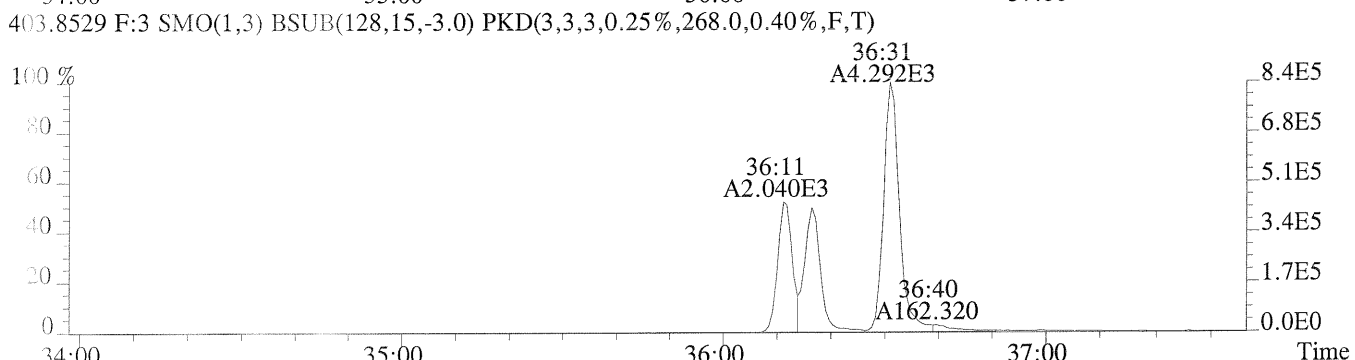
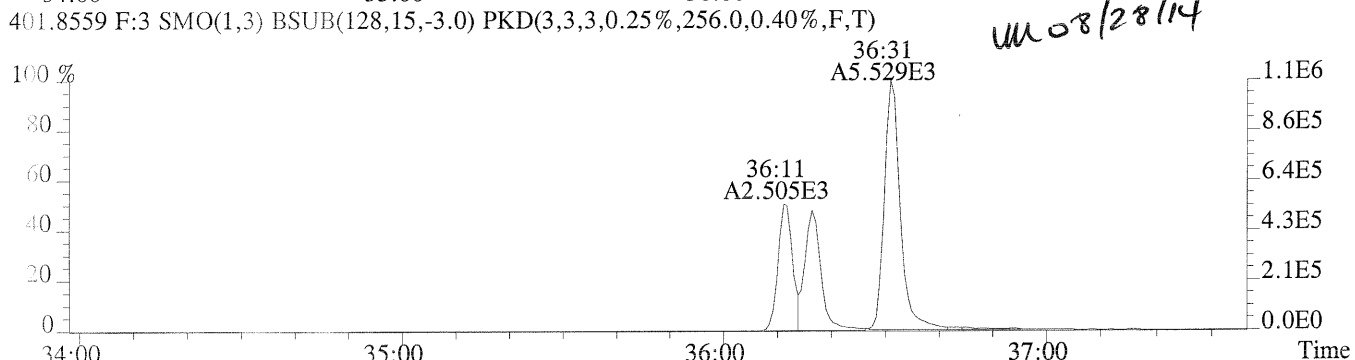
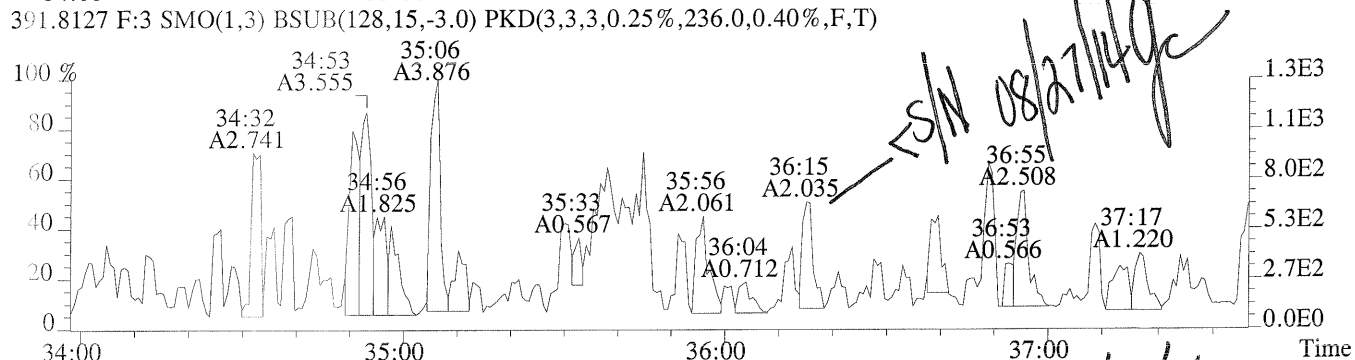
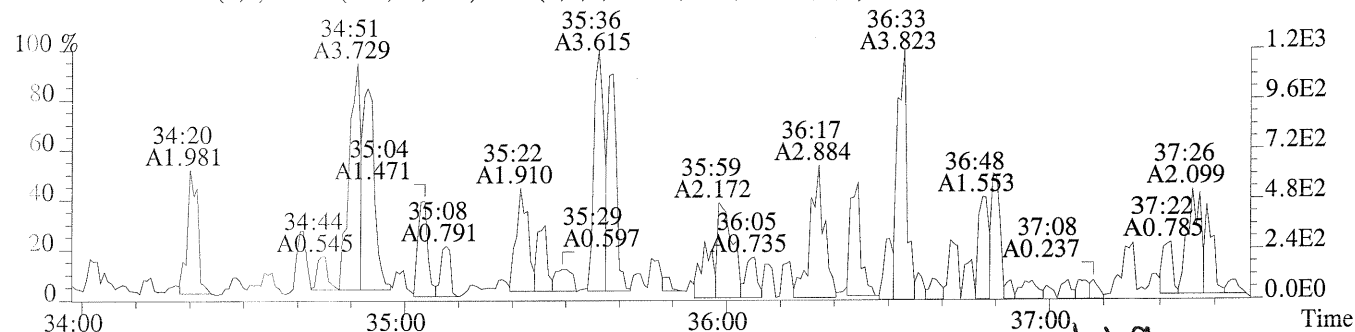
File:P173121 #1-344 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-007  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,412.0,1.00%,F,T)







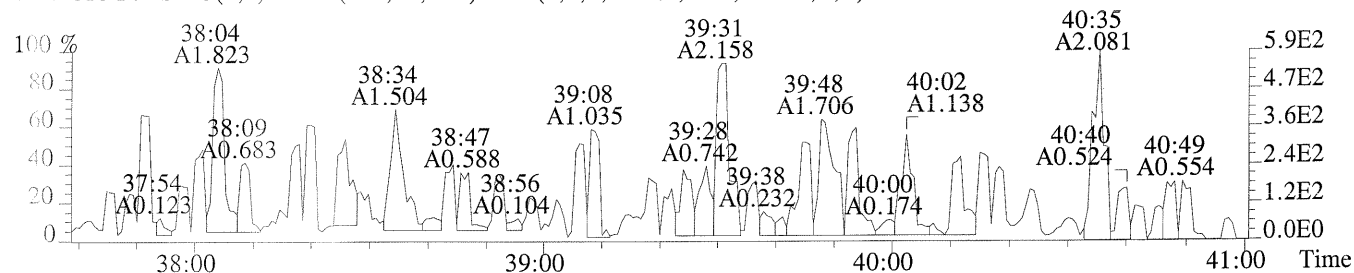
File:P173121 #1-331 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-007  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)



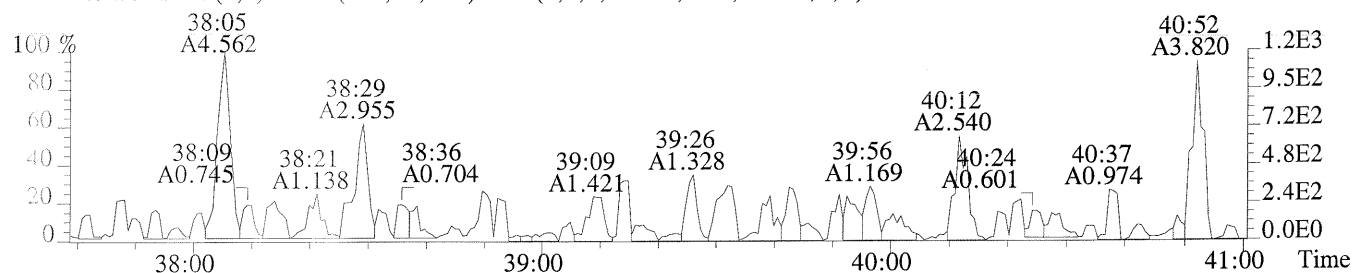
File:P173121 #1-306 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-007

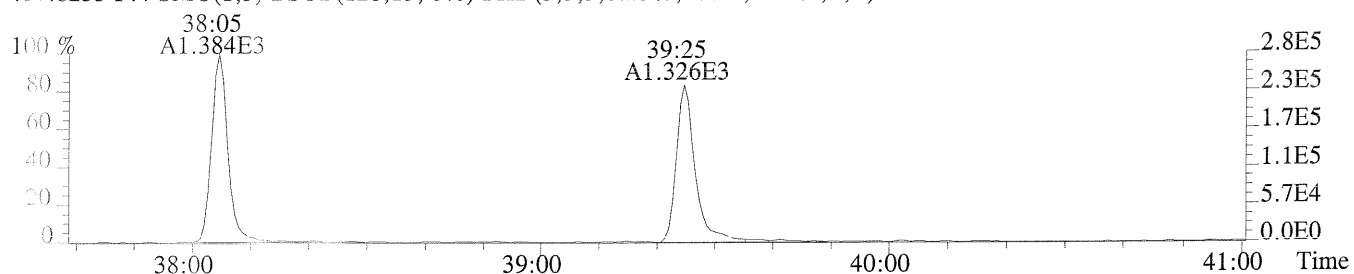
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



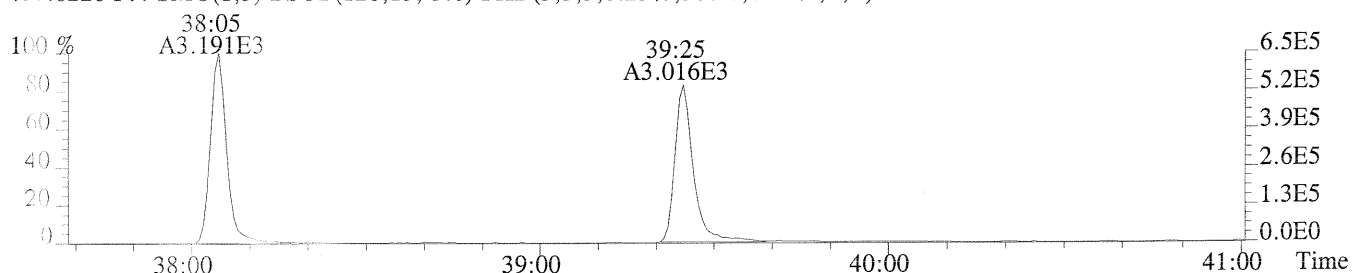
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,48.0,0.50%,F,T)



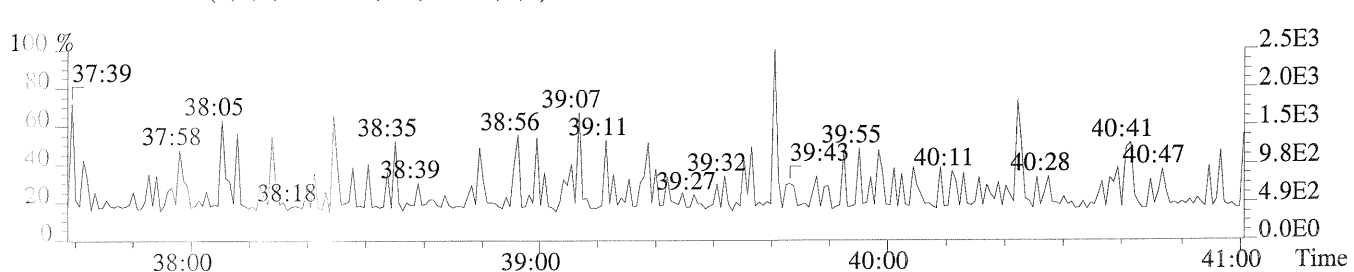
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,400.0,0.50%,F,T)



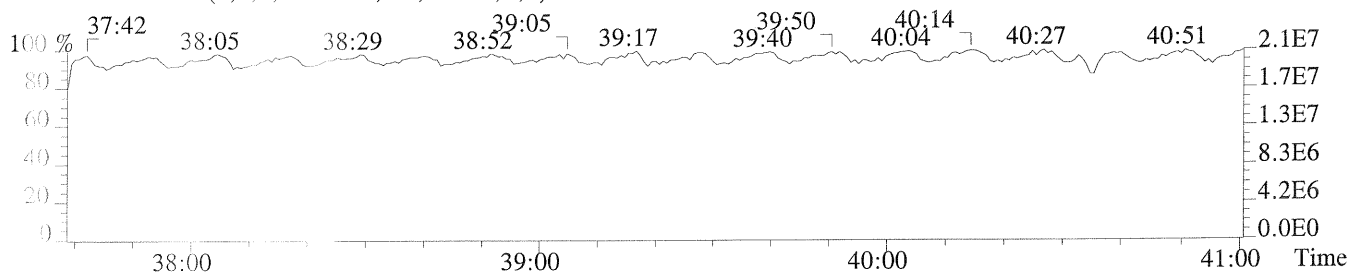
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



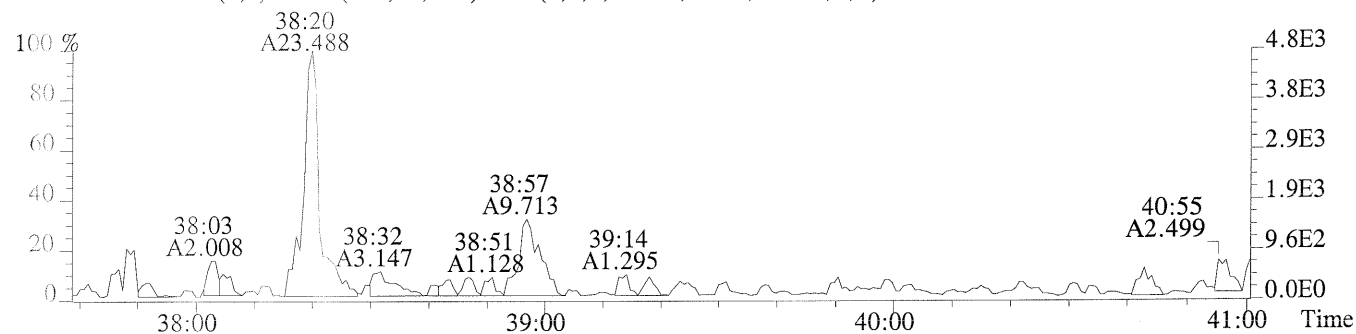
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



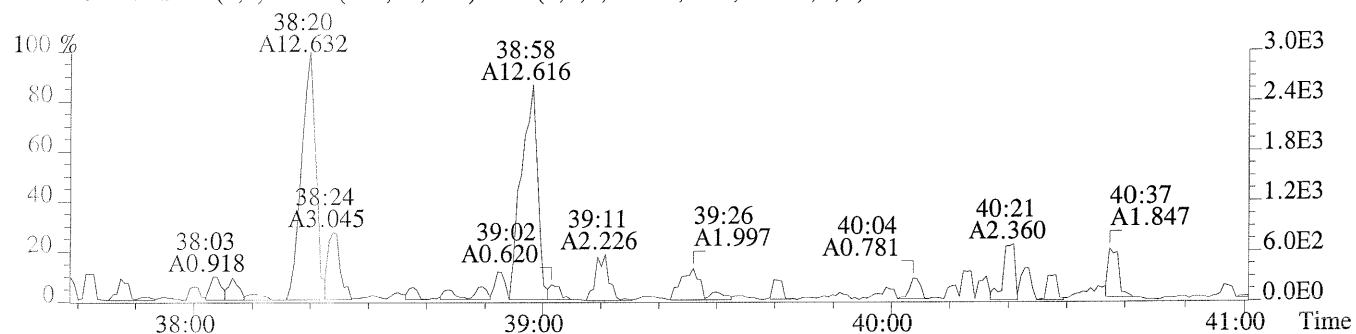
File:P173121 #1-306 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-007

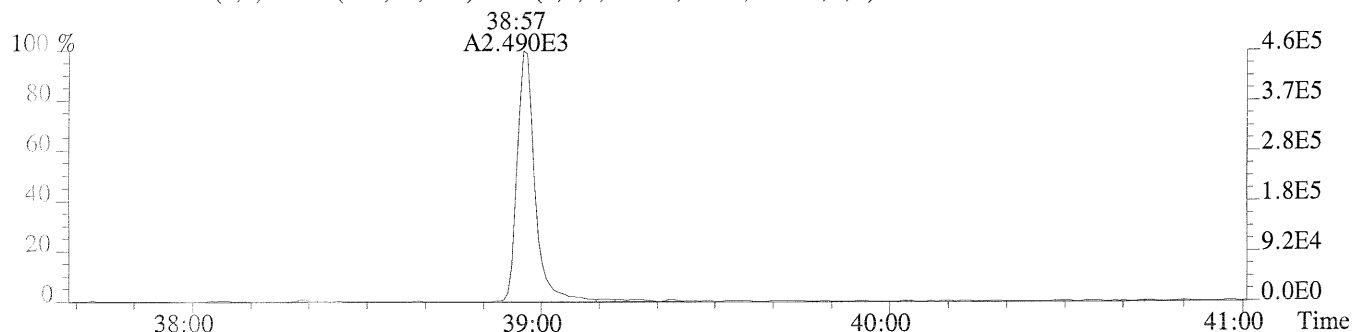
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



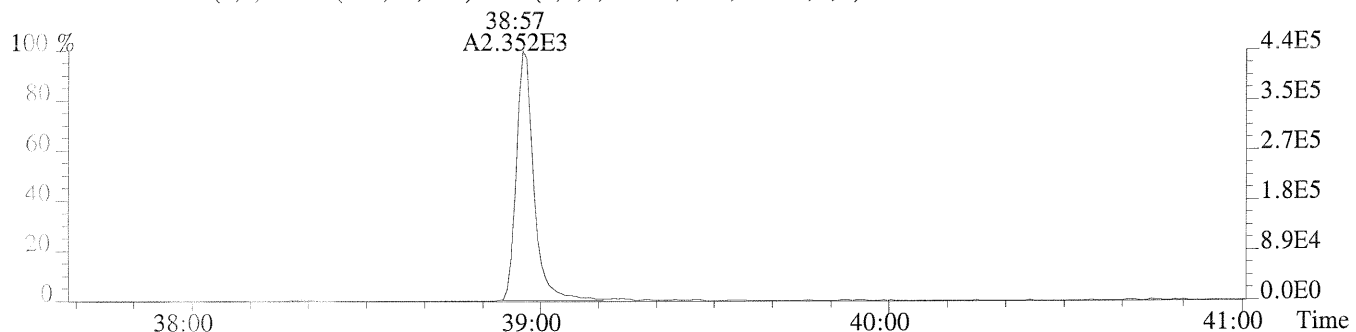
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.40%,F,T)



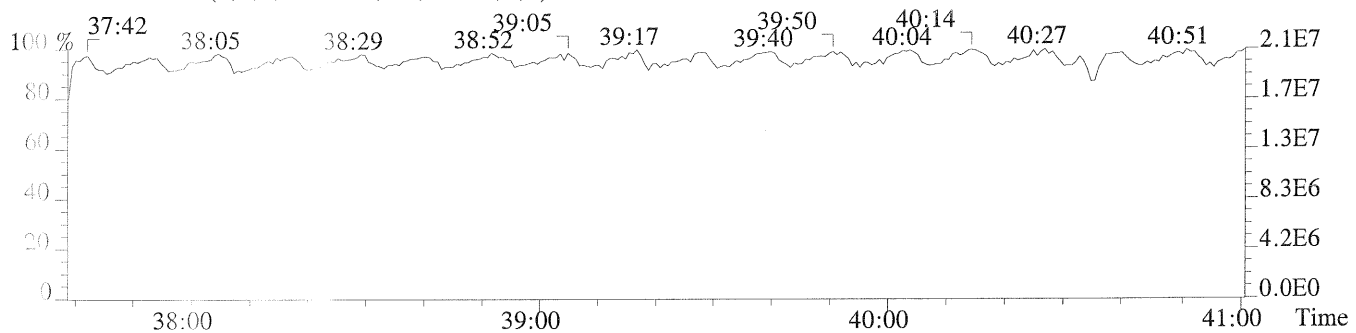
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



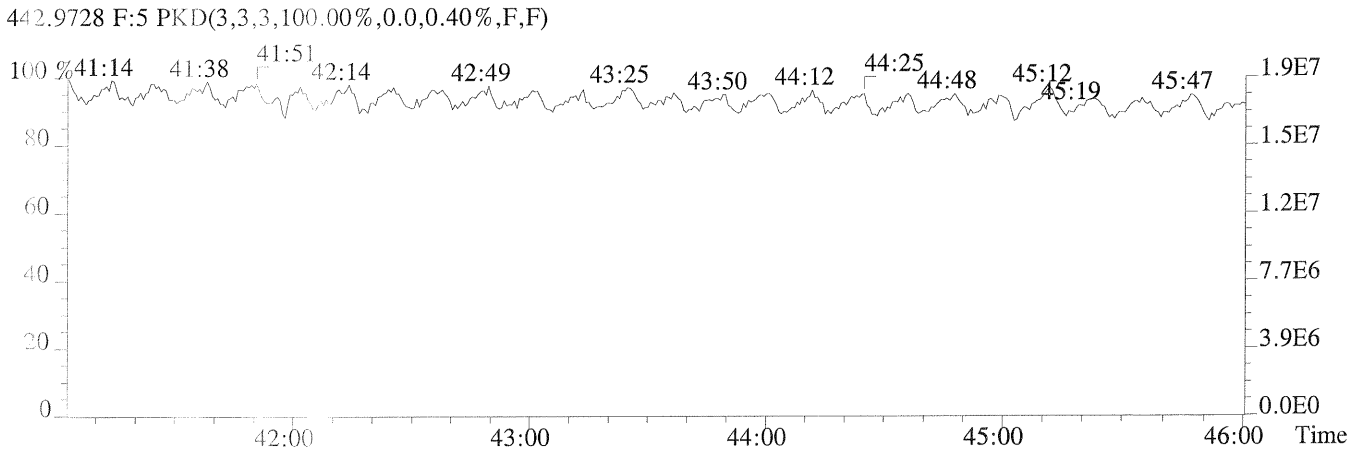
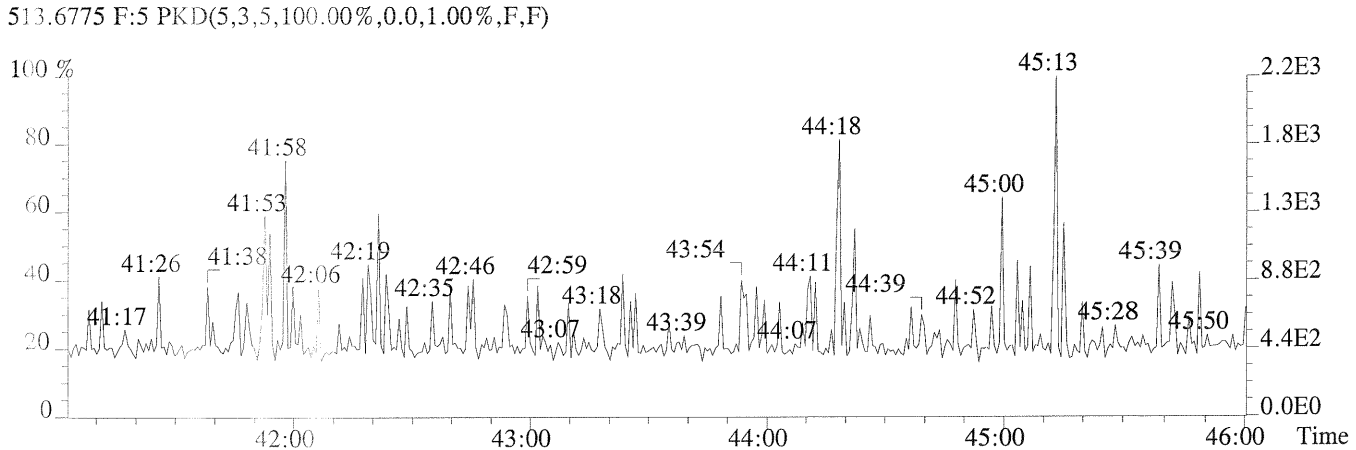
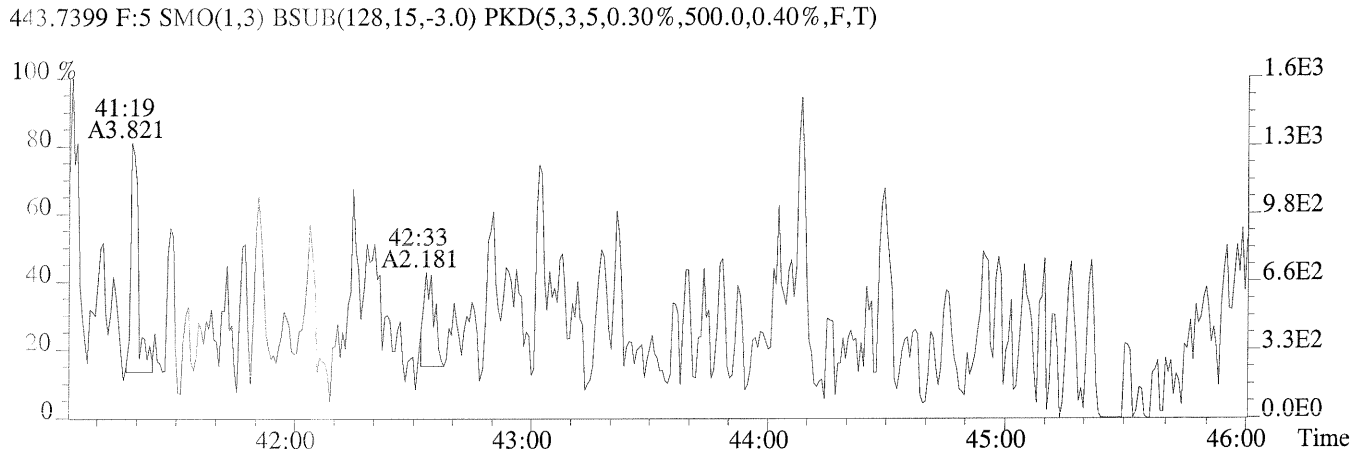
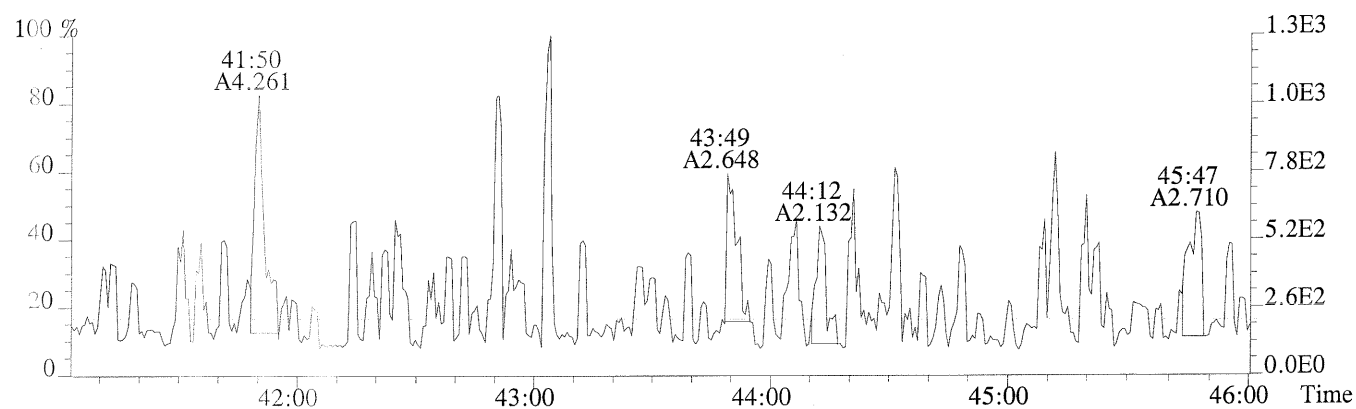
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



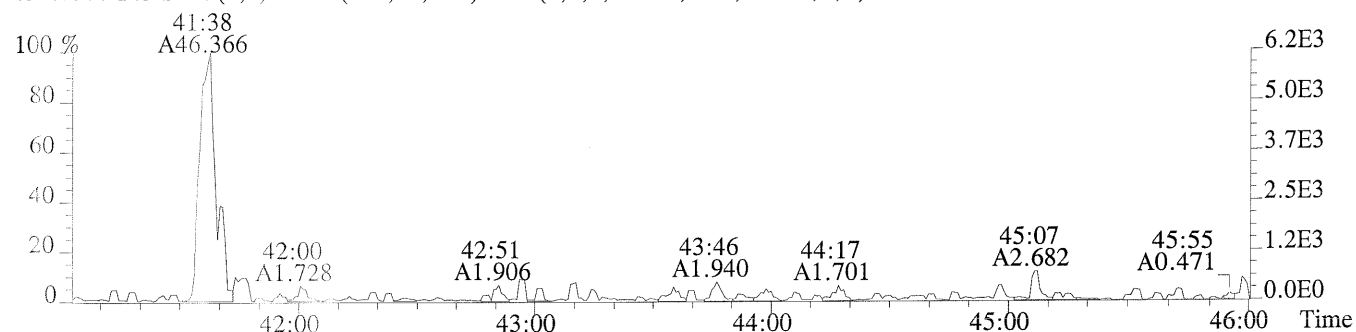
File:P173121 #1-456 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-007  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,252.0,0.40%,F,T)



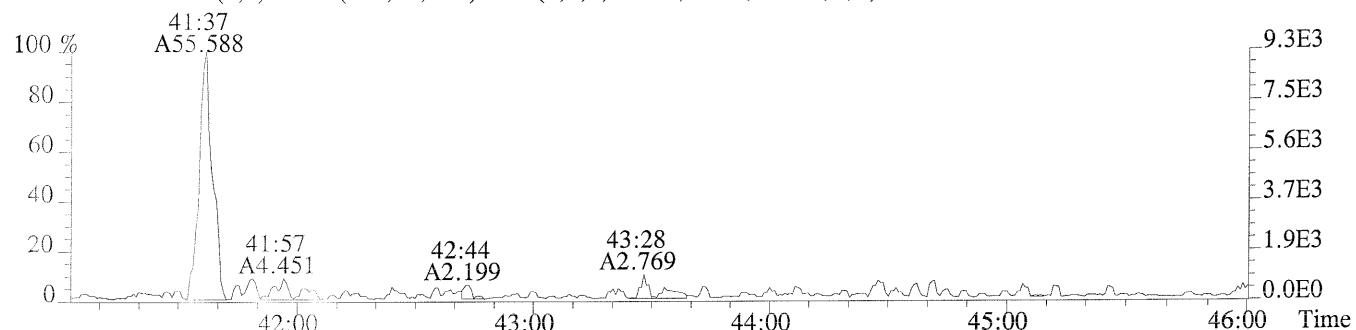
File:P173121 #1-456 Acq:27-AUG-2014 04:15:20 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-007

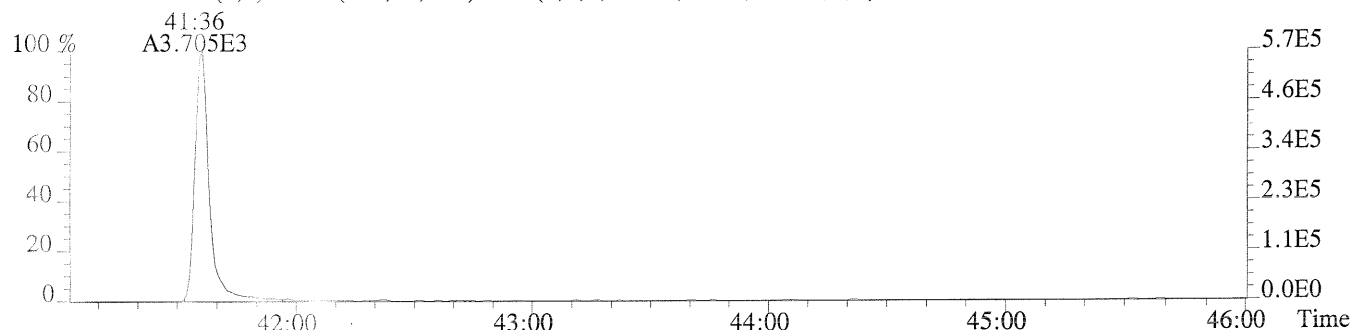
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,64.0,0.40%,F,T)



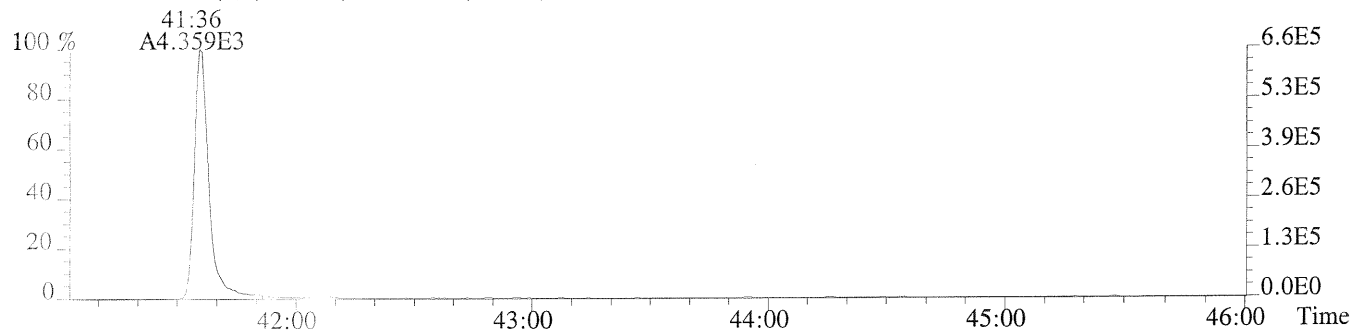
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



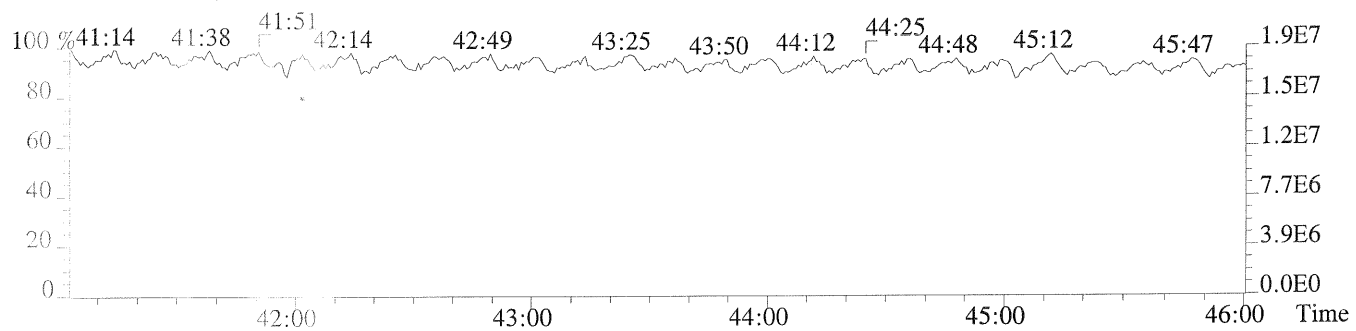
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,640.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,560.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
METHOD 1613B/8290A

CLIENT ID.  
NV SYC14-AC R7

Run #13    Filename P173122    Samp: 1    Inj: 1    Acquired: 27-AUG-14 05:03:27  
Processed: 27-AUG-14 10:44:23    Sample ID: K1407971-008

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	41:47	1.028e+01	1.355e+01	0.76	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	5.017e+00	9.335e+00	0.54	no	no	1.016
17 Unk	OCDD	41:36	2.801e+01	4.583e+01	0.61	no	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	1.672e+03	2.233e+03	0.75	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	2.964e+03	2.014e+03	1.47	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	3.182e+03	2.058e+03	1.55	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.529e+03	2.952e+03	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	2.074e+03	4.005e+03	0.52	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	1.803e+03	3.574e+03	0.50	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:50	1.644e+03	3.186e+03	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	1.372e+03	3.220e+03	0.43	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.227e+03	2.946e+03	0.42	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	1.271e+03	1.725e+03	0.74	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	2.918e+03	1.738e+03	1.68	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:12	2.480e+03	1.957e+03	1.27	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.714e+03	2.212e+03	1.23	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:58	2.382e+03	2.306e+03	1.03	yes	no	0.862
32 IS	13C-OCDD	41:36	3.538e+03	3.996e+03	0.89	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	3.476e+03	4.425e+03	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	6.104e+03	4.865e+03	1.25	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:13	1.038e+03				no	1.125

$$\text{OCDD} = \frac{(2.801e+01 + 4.583e+01) \times 4000 \text{ pg} \times 1}{(3.538e+03 + 3.996e+03) \times 7.783 \text{ g} \times 100} \times 1.079$$

*4.668 ng/kg*  
*un08/28/14*

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Office (713) 266-1599. Fax (713) 266-0130

1613RESP1

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-AC REP.5

Run #13 Filename P173122 Samp: 1 Inj: 1 Acquired: 27-AUG-14 05:03:27  
Processed: 27-AUG-14 10:44:231 LAB. ID: K1407971-008

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.84e+02	*	*	9.84e+02	*
2	1,2,3,7,8-PeCDF	*	6.40e+01	*	*	6.24e+02	*
3	2,3,4,7,8-PeCDF	*	6.40e+01	*	*	6.24e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.76e+02	*	*	7.20e+01	*
5	1,2,3,6,7,8-HxCDF	*	2.76e+02	*	*	7.20e+01	*
6	2,3,4,6,7,8-HxCDF	*	2.76e+02	*	*	7.20e+01	*
7	1,2,3,7,8,9-HxCDF	*	2.76e+02	*	*	7.20e+01	*
8	1,2,3,4,6,7,8-HpCDF	*	1.00e+02	*	*	6.00e+01	*
9	1,2,3,4,7,8,9-HpCDF	*	1.00e+02	*	*	6.00e+01	*
10	OCDF	1.79e+03	1.12e+02	1.6e+01	2.25e+03	5.08e+02	4.4e+00
11	2,3,7,8-TCDD	*	2.80e+02	*	*	2.68e+02	*
12	1,2,3,7,8-PeCDD	*	3.04e+02	*	*	8.00e+01	*
13	1,2,3,4,7,8-HxCDD	*	7.60e+01	*	*	4.80e+01	*
14	1,2,3,6,7,8-HxCDD	*	7.60e+01	*	*	4.80e+01	*
15	1,2,3,7,8,9-HxCDD	*	7.60e+01	*	*	4.80e+01	*
16	1,2,3,4,6,7,8-HpCDD	1.24e+03	2.76e+02	4.5e+00	2.07e+03	6.00e+01	3.4e+01
17	OCDD	5.22e+03	6.80e+01	7.7e+01	6.16e+03	1.00e+02	6.2e+01
18	13C-2,3,7,8-TCDF	2.60e+05	5.96e+02	4.4e+02	3.59e+05	4.28e+02	8.4e+02
19	13C-1,2,3,7,8-PeCDF	4.87e+05	9.60e+01	5.1e+03	3.45e+05	1.60e+02	2.2e+03
20	13C-2,3,4,7,8-PeCDF	5.70e+05	9.60e+01	5.9e+03	3.65e+05	1.60e+02	2.3e+03
21	13C-1,2,3,4,7,8-HxCDF	3.17e+05	5.20e+01	6.1e+03	6.27e+05	5.24e+02	1.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.73e+05	5.20e+01	7.2e+03	7.61e+05	5.24e+02	1.5e+03
23	13C-2,3,4,6,7,8-HxCDF	3.62e+05	5.20e+01	7.0e+03	7.11e+05	5.24e+02	1.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.00e+05	5.20e+01	5.8e+03	5.65e+05	5.24e+02	1.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.77e+05	6.52e+02	4.2e+02	6.60e+05	7.92e+02	8.3e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.10e+05	6.52e+02	3.2e+02	5.20e+05	7.92e+02	6.6e+02
27	13C-2,3,7,8-TCDD	2.17e+05	1.76e+03	1.2e+02	2.83e+05	1.16e+03	2.4e+02
28	13C-1,2,3,7,8-PeCDD	5.45e+05	3.72e+02	1.5e+03	3.10e+05	1.40e+02	2.2e+03
29	13C-1,2,3,4,7,8-HxCDD	5.46e+05	1.72e+02	3.2e+03	4.22e+05	2.68e+02	1.6e+03
30	13C-1,2,3,6,7,8-HxCDD	5.15e+05	1.72e+02	3.0e+03	4.24e+05	2.68e+02	1.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.45e+05	2.92e+02	1.5e+03	4.43e+05	2.00e+02	2.2e+03
32	13C-OCDD	5.63e+05	7.76e+02	7.3e+02	6.45e+05	5.92e+02	1.1e+03
33	13C-1,2,3,4-TCDD	6.04e+05	1.76e+03	3.4e+02	7.60e+05	1.16e+03	6.5e+02
34	13C-1,2,3,7,8,9-HxCDD	1.18e+06	1.72e+02	6.9e+03	9.49e+05	2.68e+02	3.5e+03
35	37Cl-2,3,7,8-TCDD	1.70e+05	3.08e+02	5.5e+02			

ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
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Office: (713)266-1599. Fax: (713)266-0130

ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

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NV SYC14-AC REP.5

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Entry: 43      Totals Name: Total Hepta-Furans

Run: 13      File: P173122      Sample: 1    Injection: 1    Function: 4

Llim: 38:00      Ulim: 39:36

Acquired: 27-AUG-14    05:03:27      Processed: 27-AUG-14 10:44:23

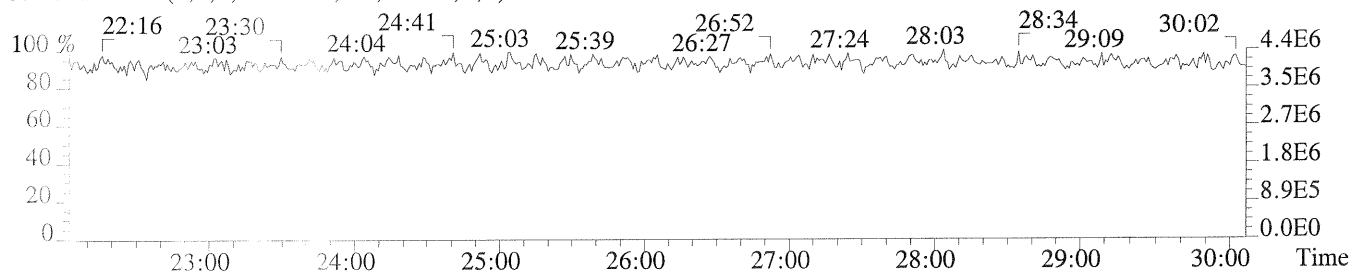
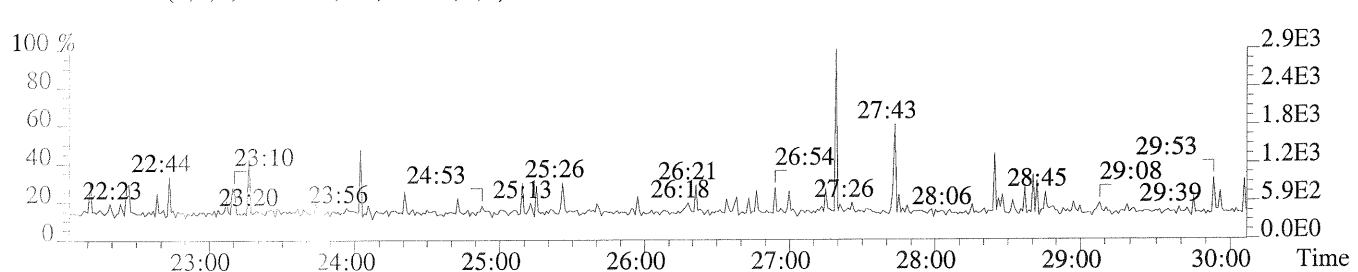
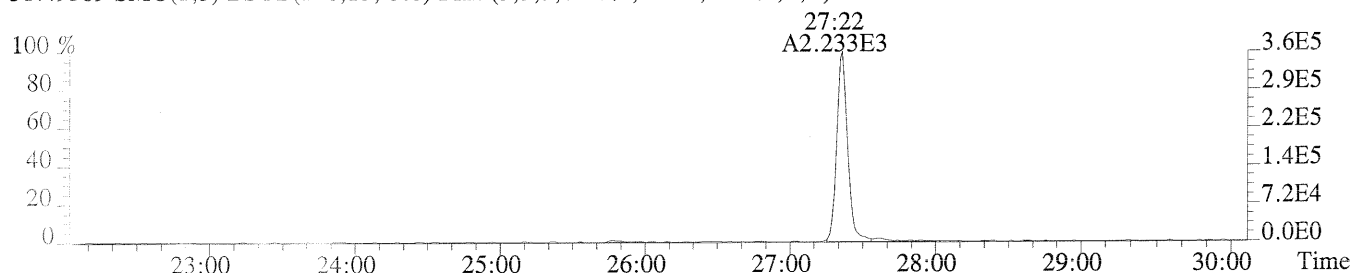
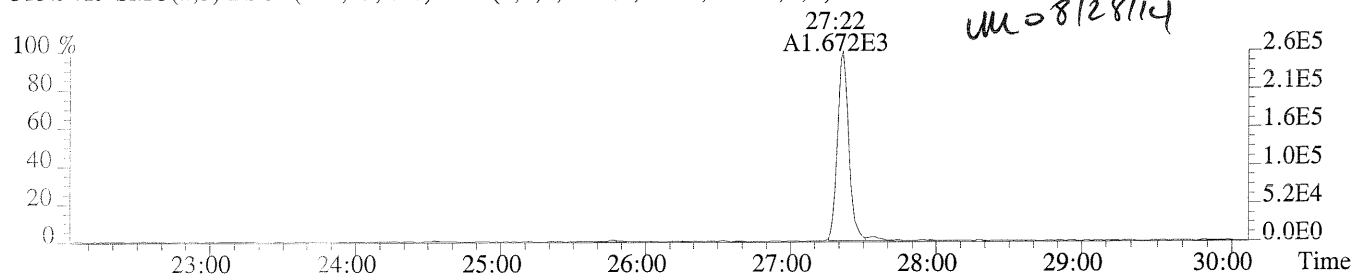
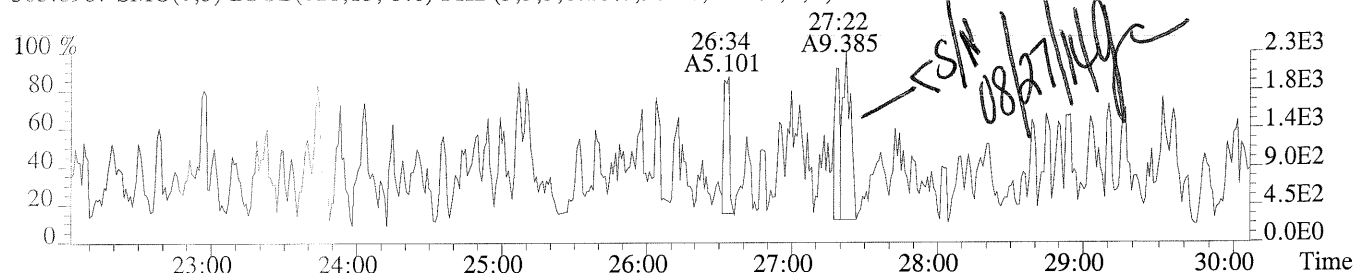
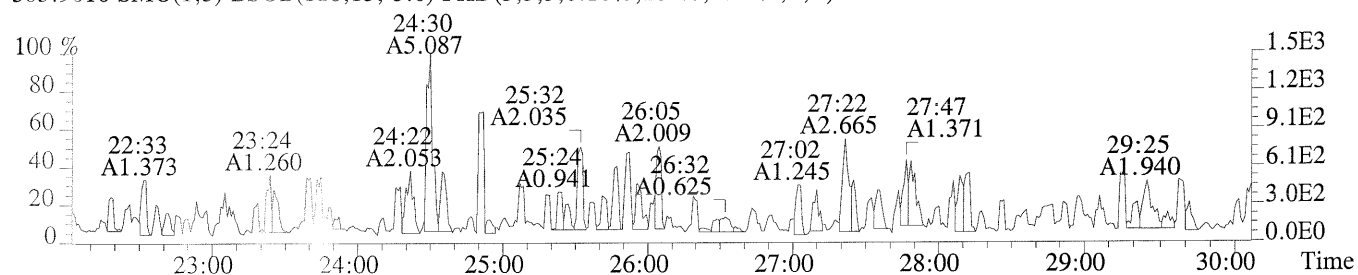
Mass: 407.7820    409.7790      Tot Response: 3.88e+00    RRF: 1.365

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:30	2.05e+00	1.84e+00	1.12	yes	3.88e+00	n	n

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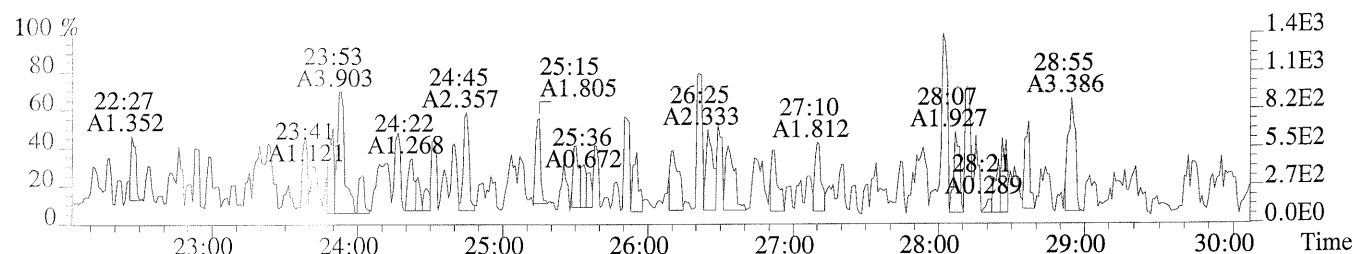




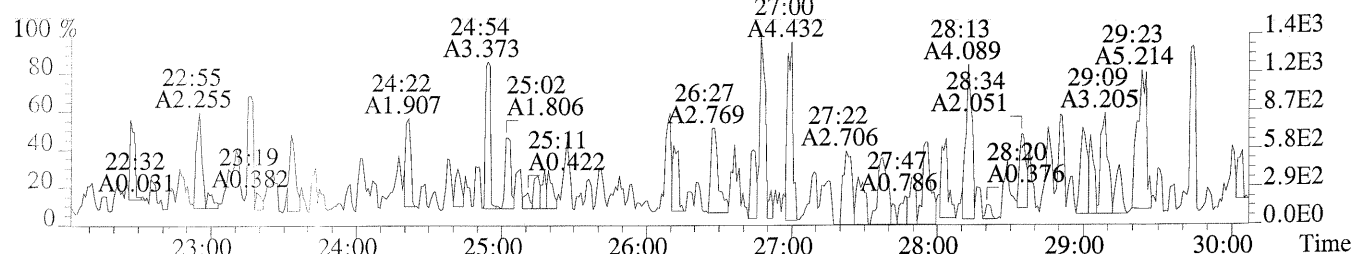
File:P173122 #1-579 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-008

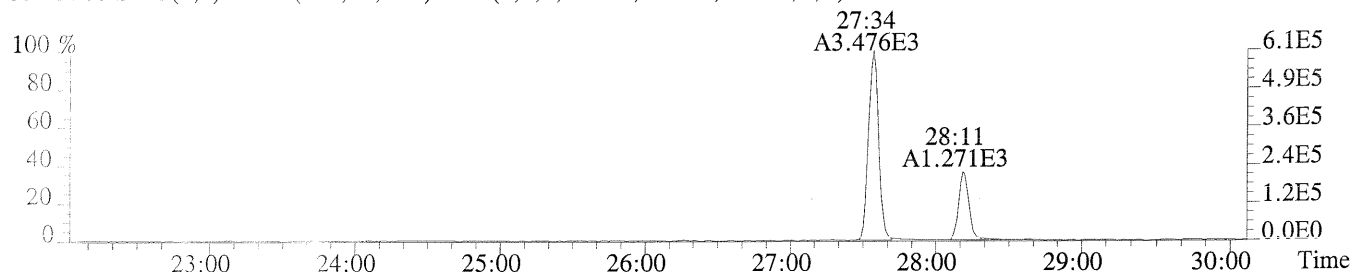
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,280.0,1.00%,F,T)



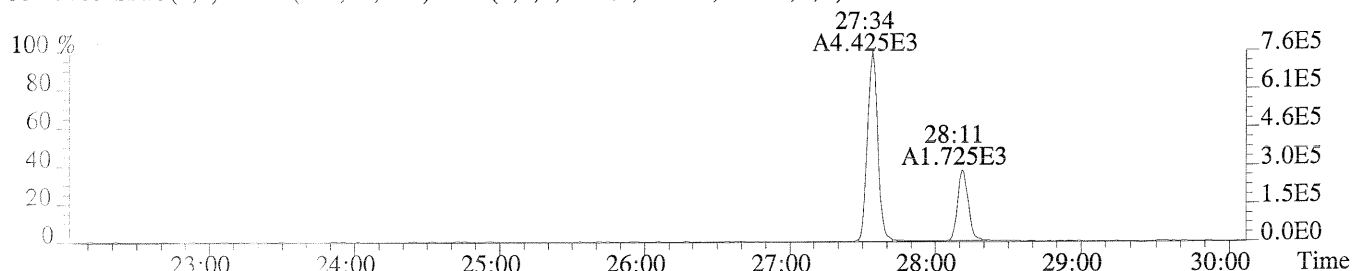
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



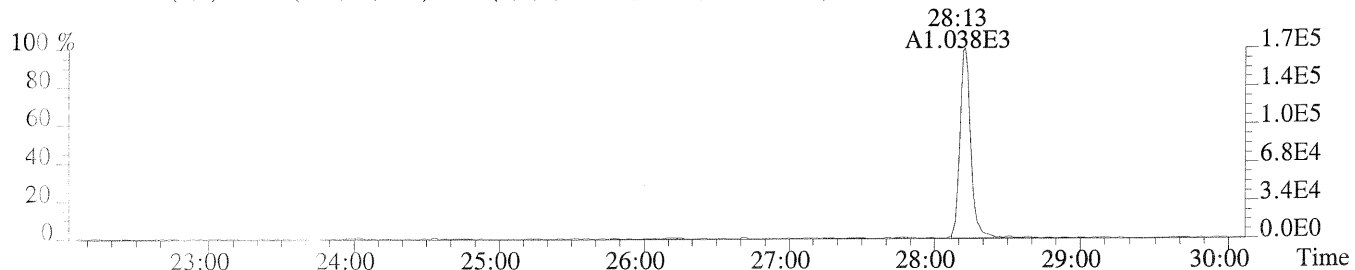
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1760.0,1.00%,F,T)



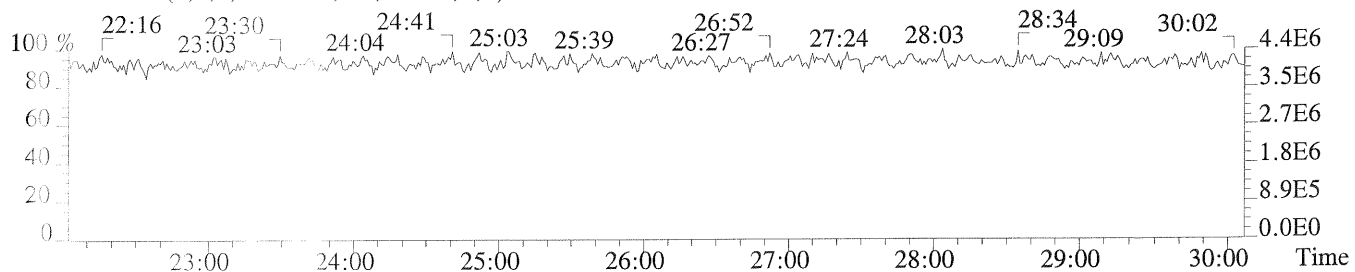
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)



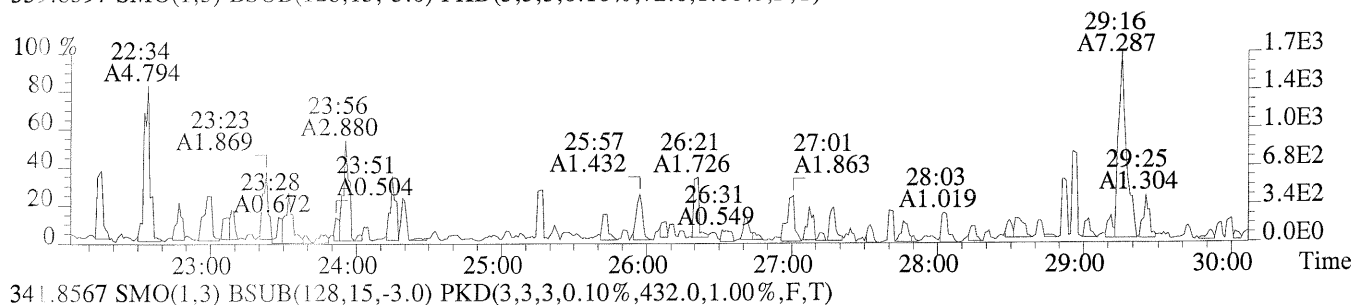
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,T)



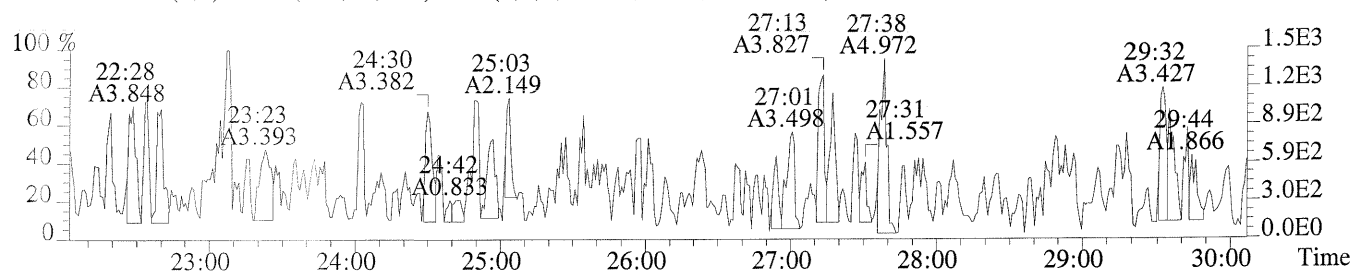
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



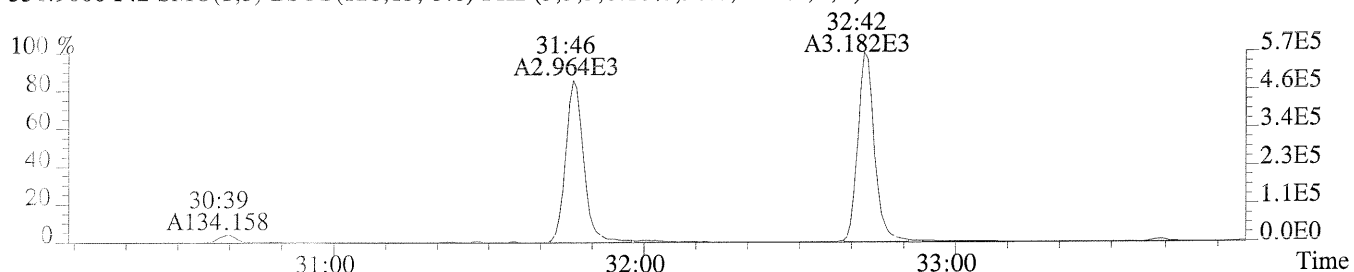
File:P173122 #1-579 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-008  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



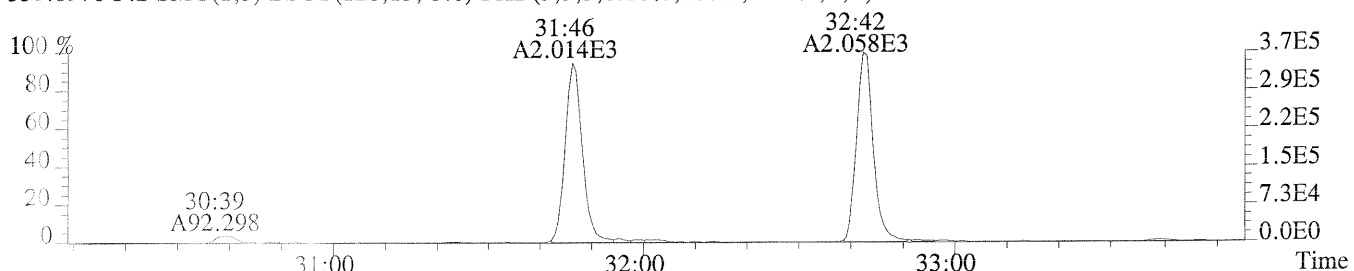
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



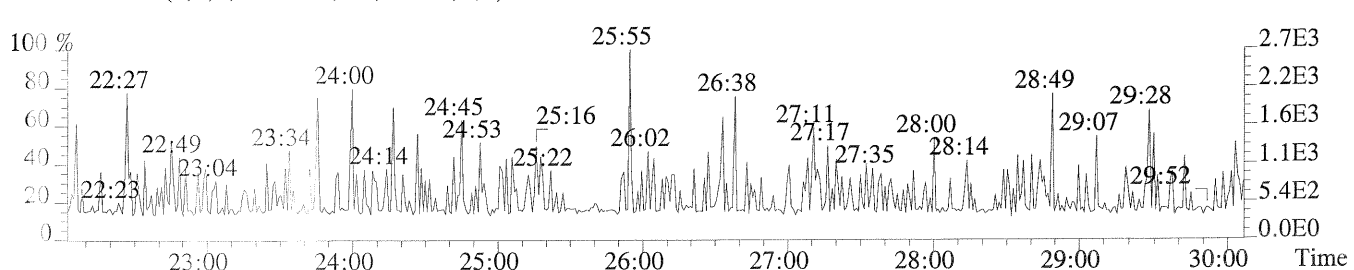
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



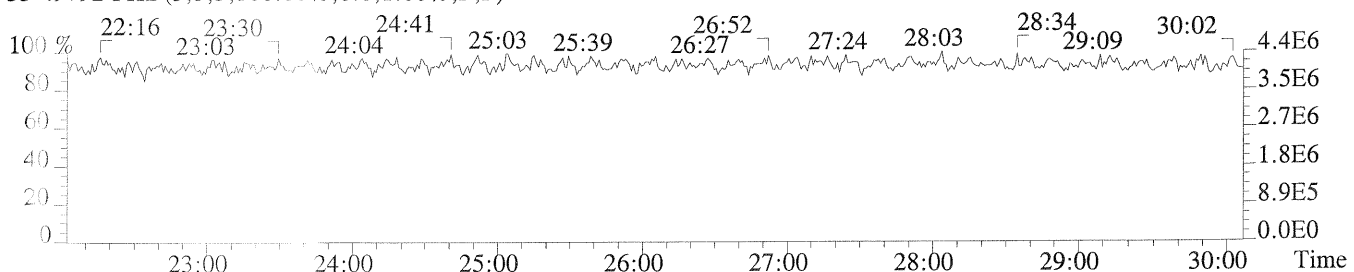
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



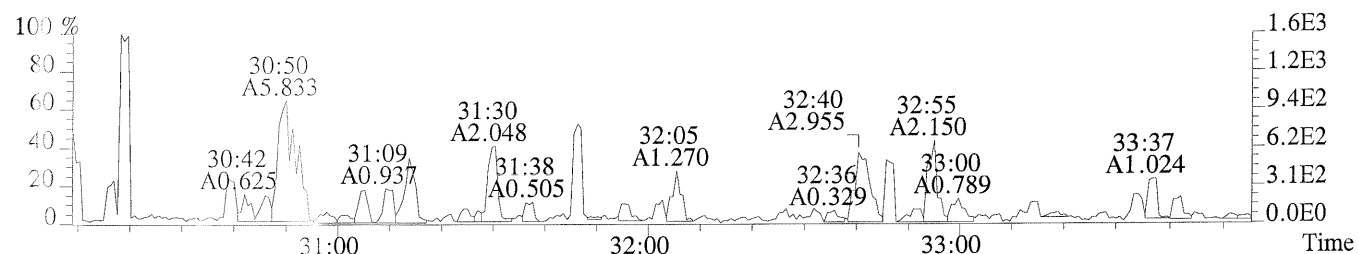
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



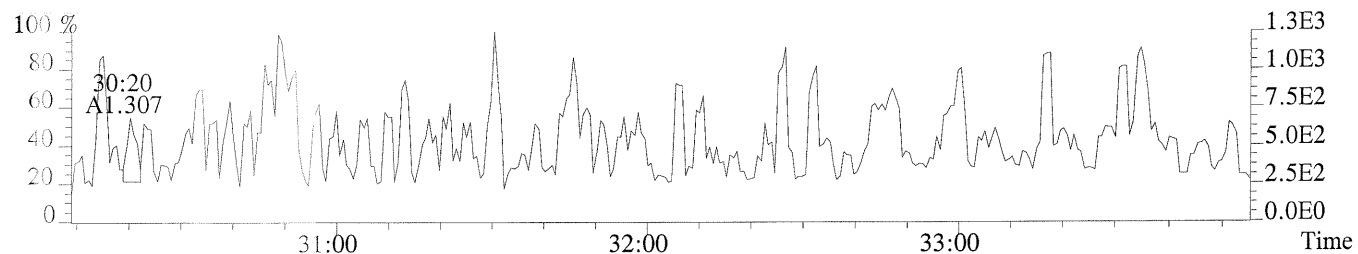
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



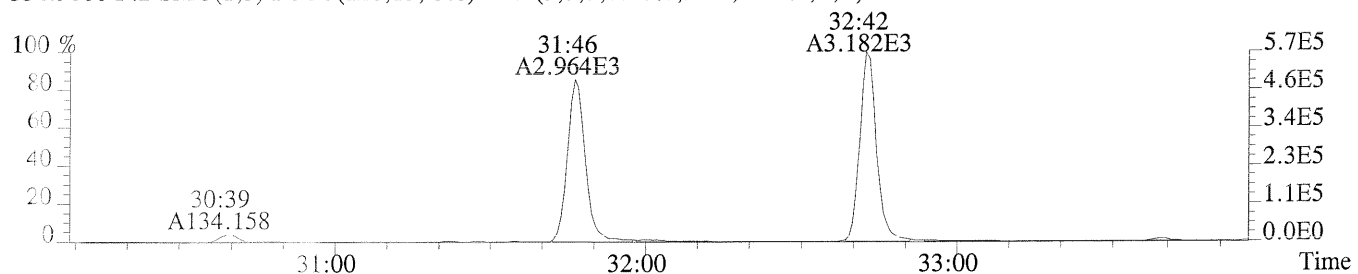
File:P173122 #1-343 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-008  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



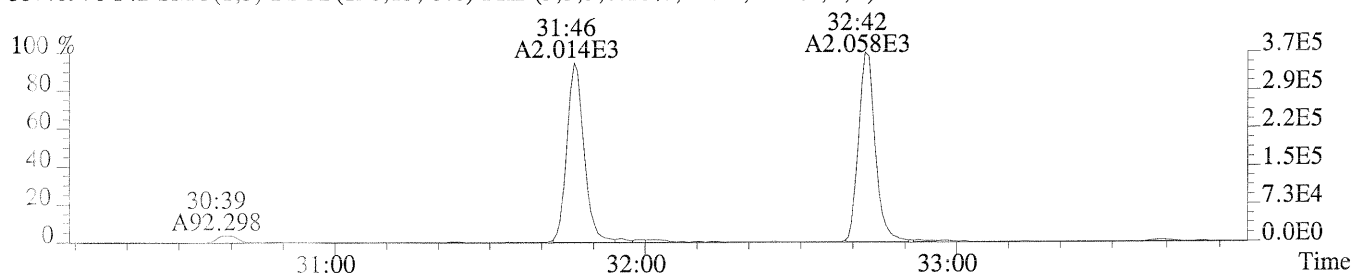
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



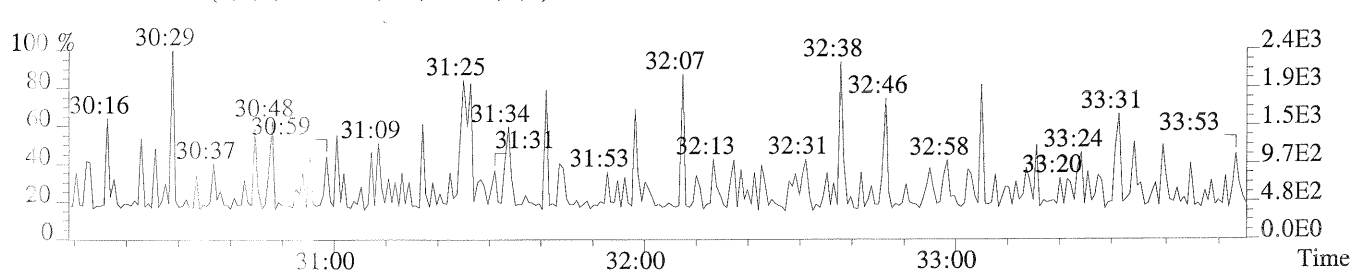
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



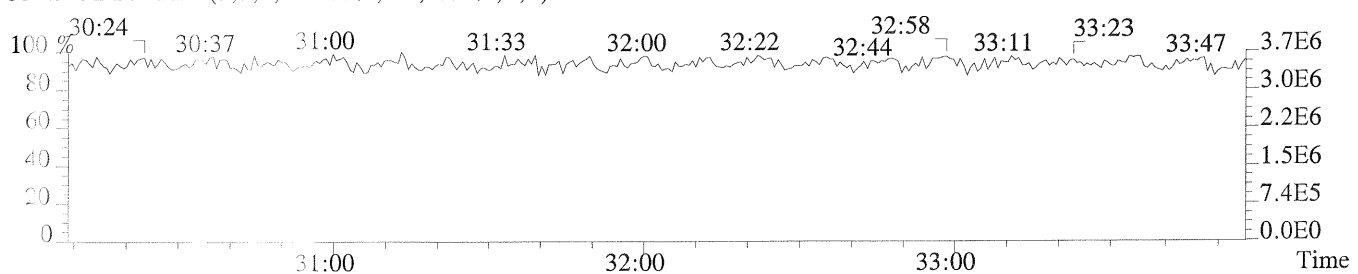
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)

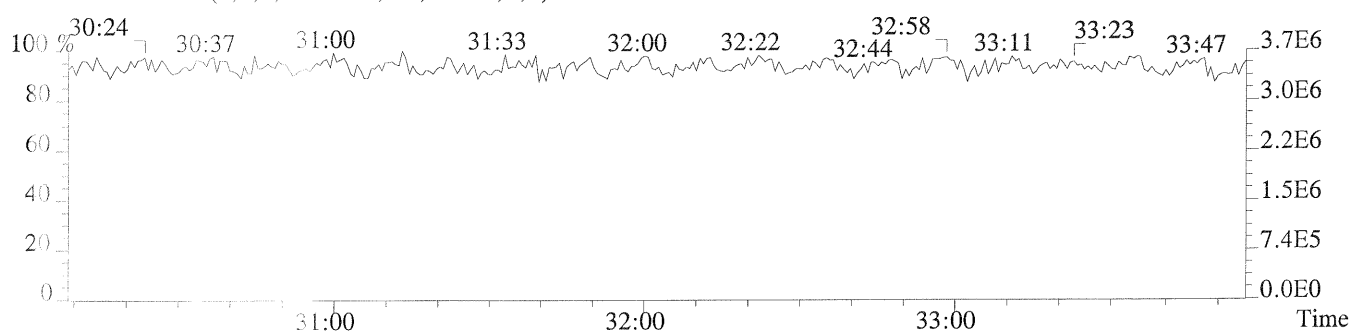
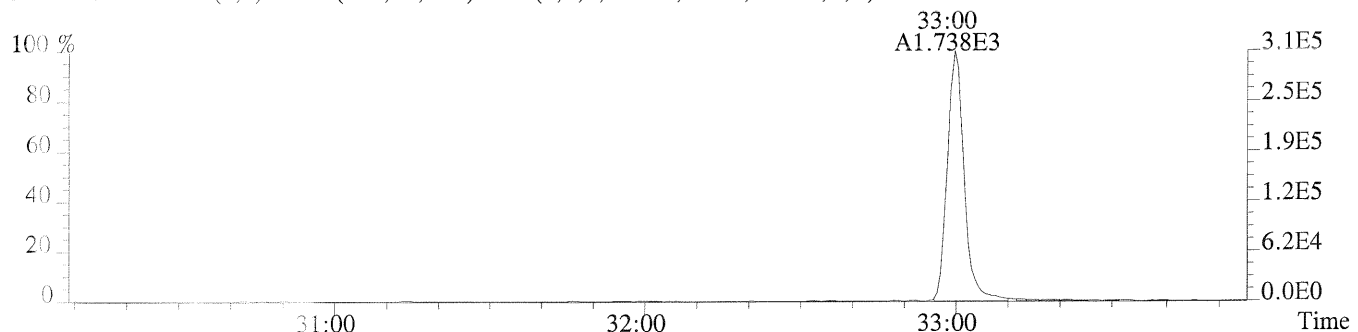
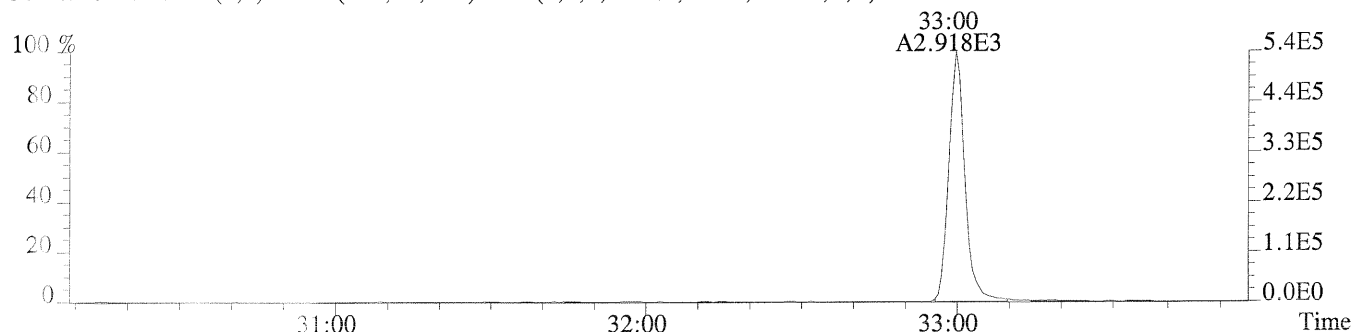
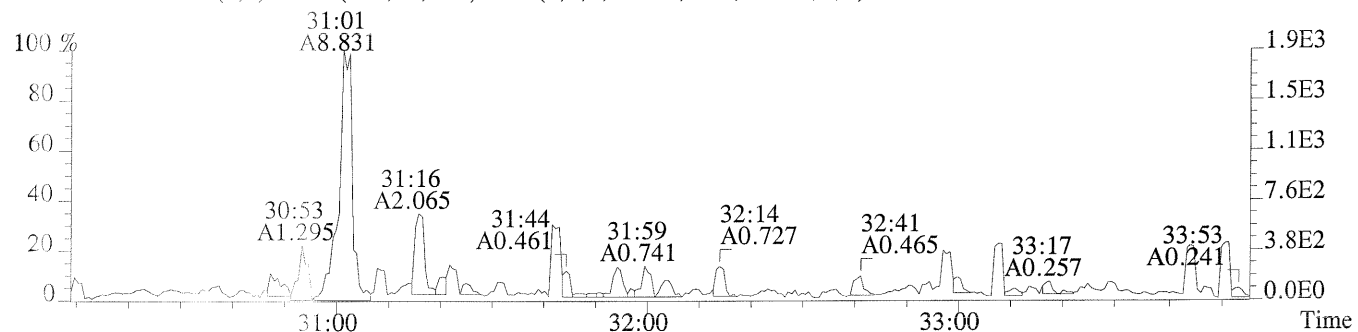
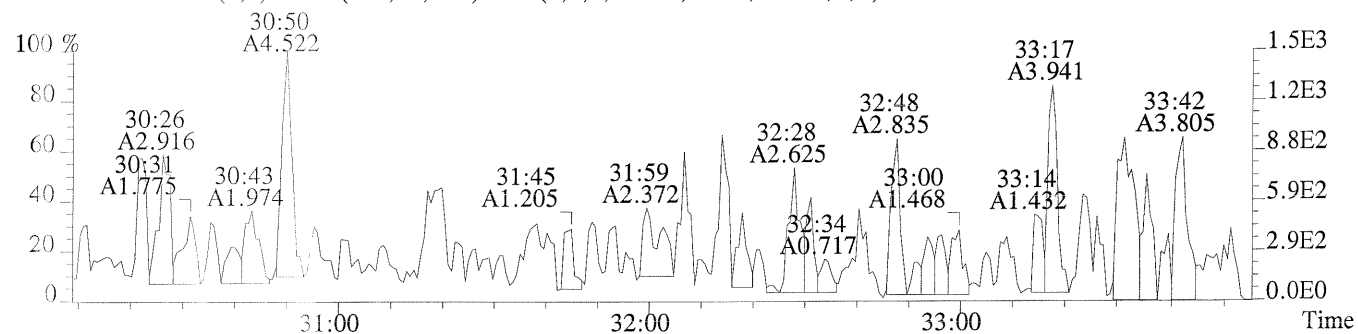


409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

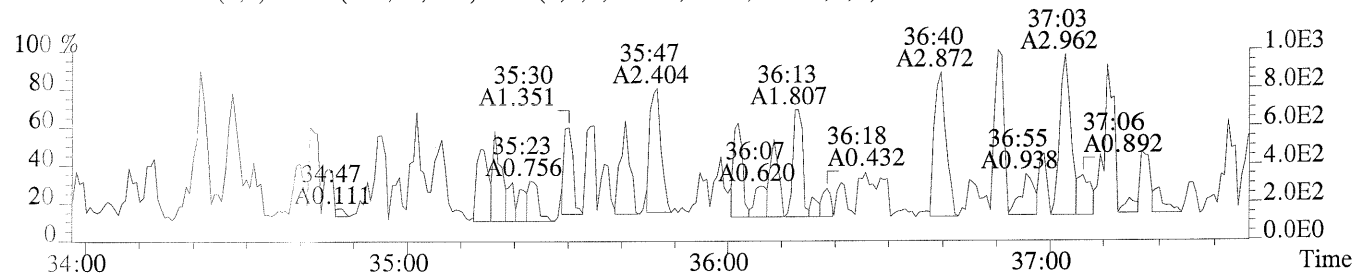


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

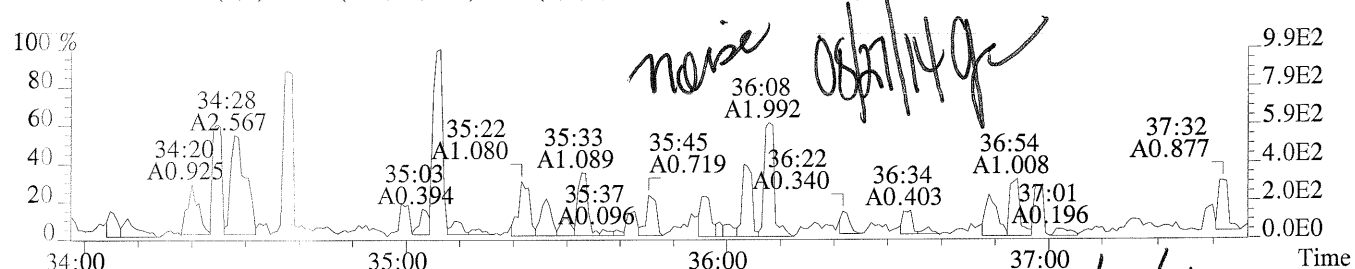




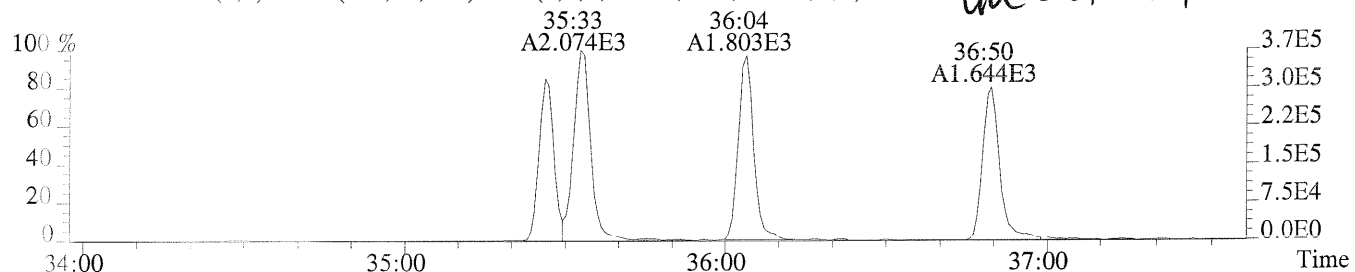
File:P173122 #1-332 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-008  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)



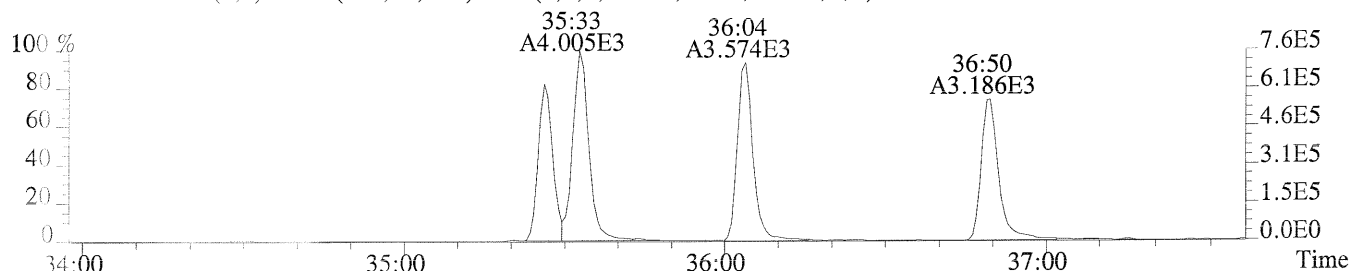
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



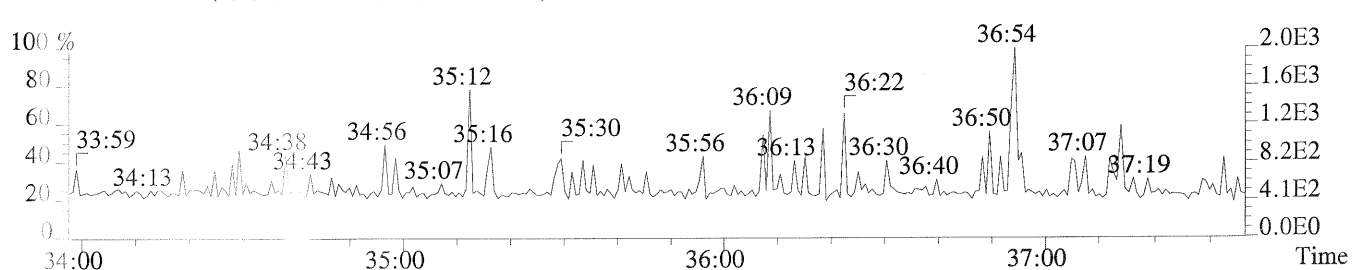
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



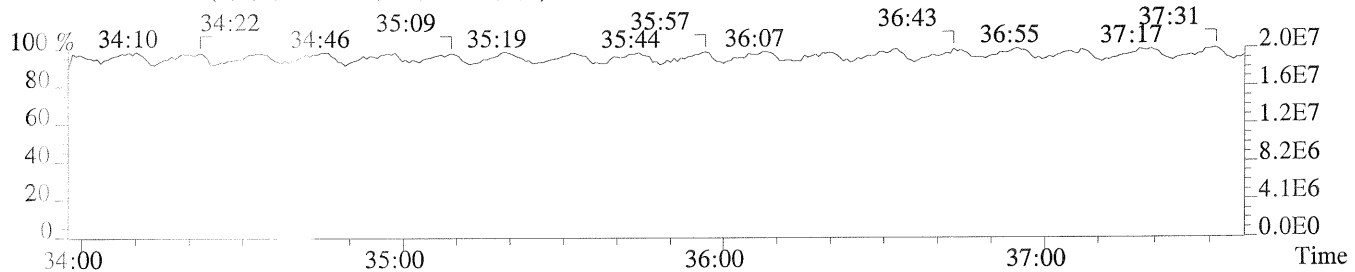
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,524.0,0.40%,F,T)

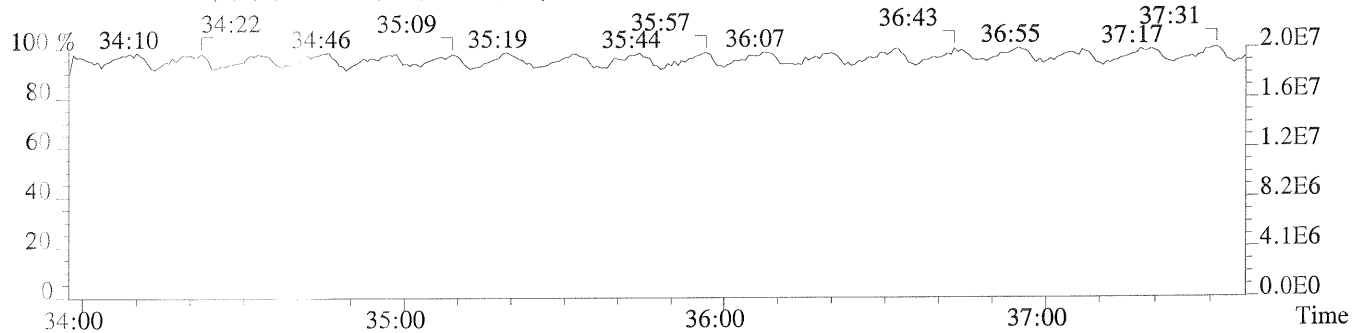
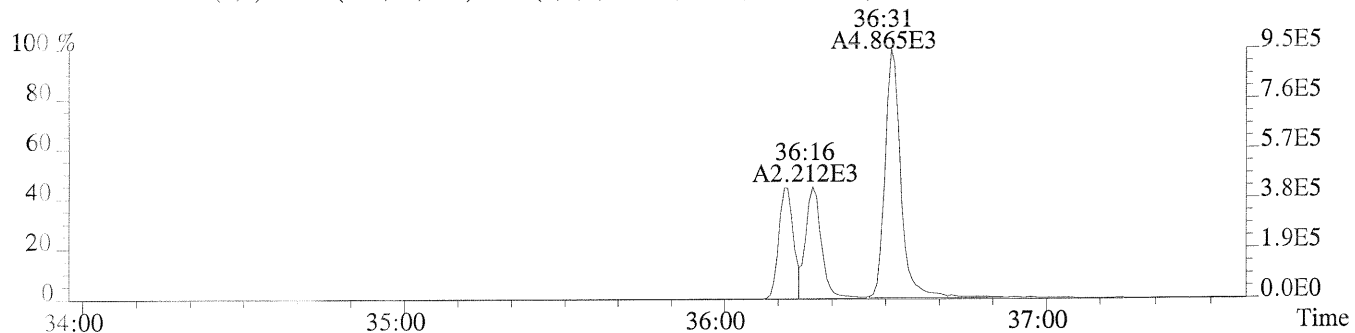
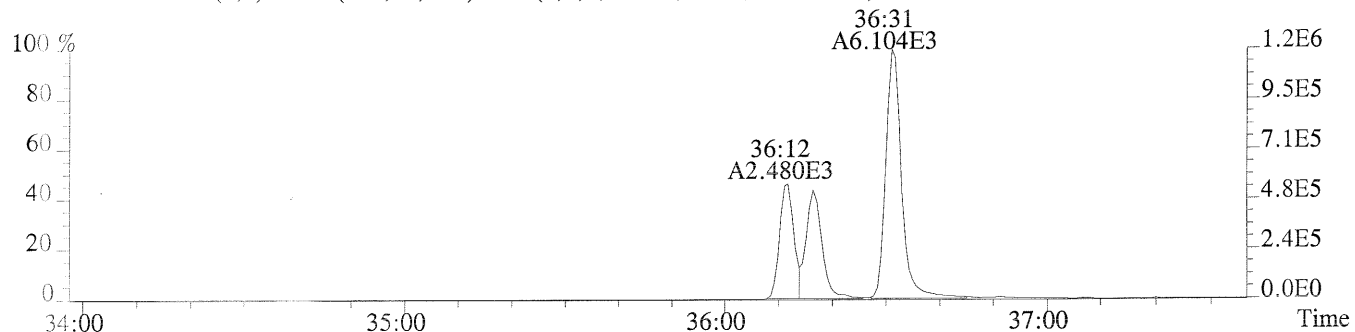
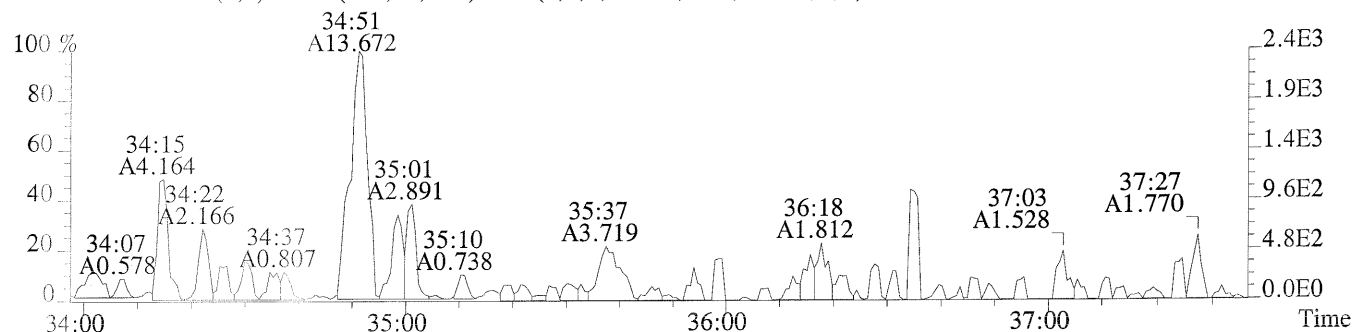
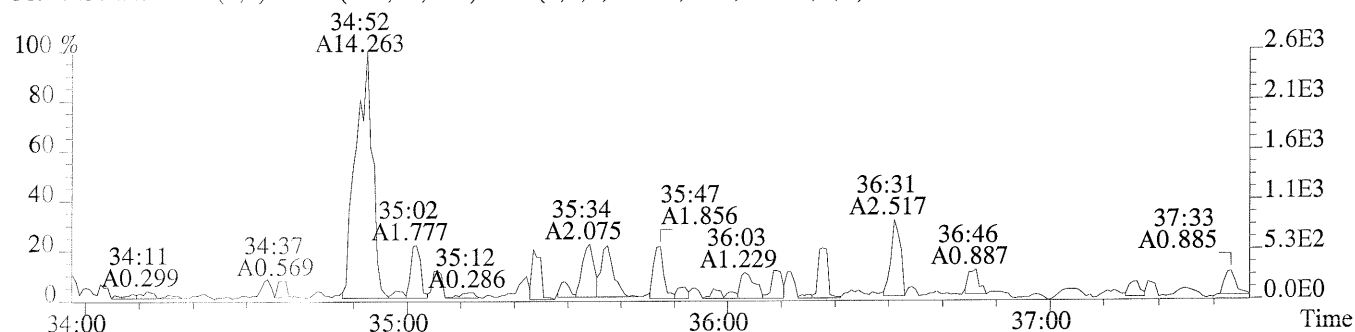


445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

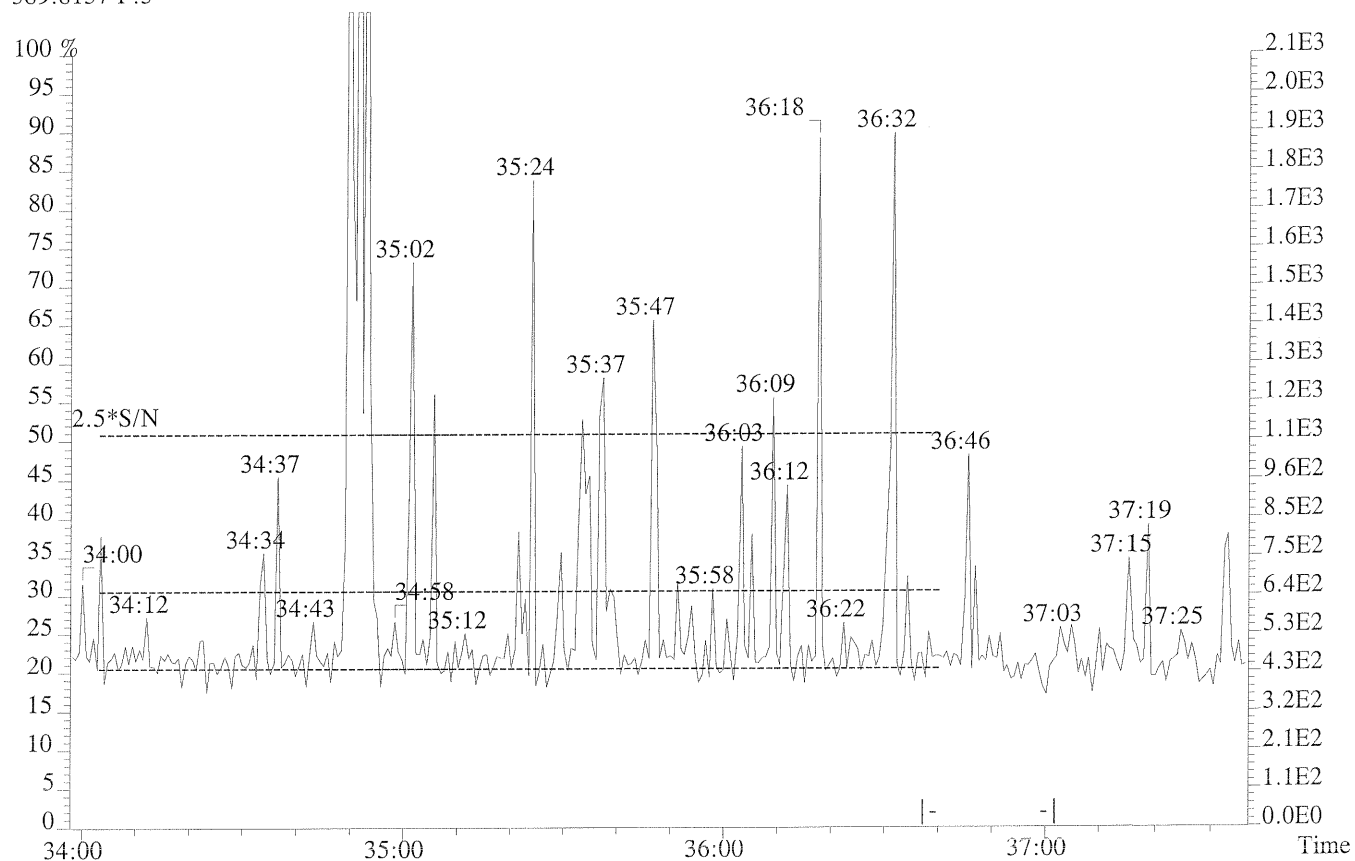


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

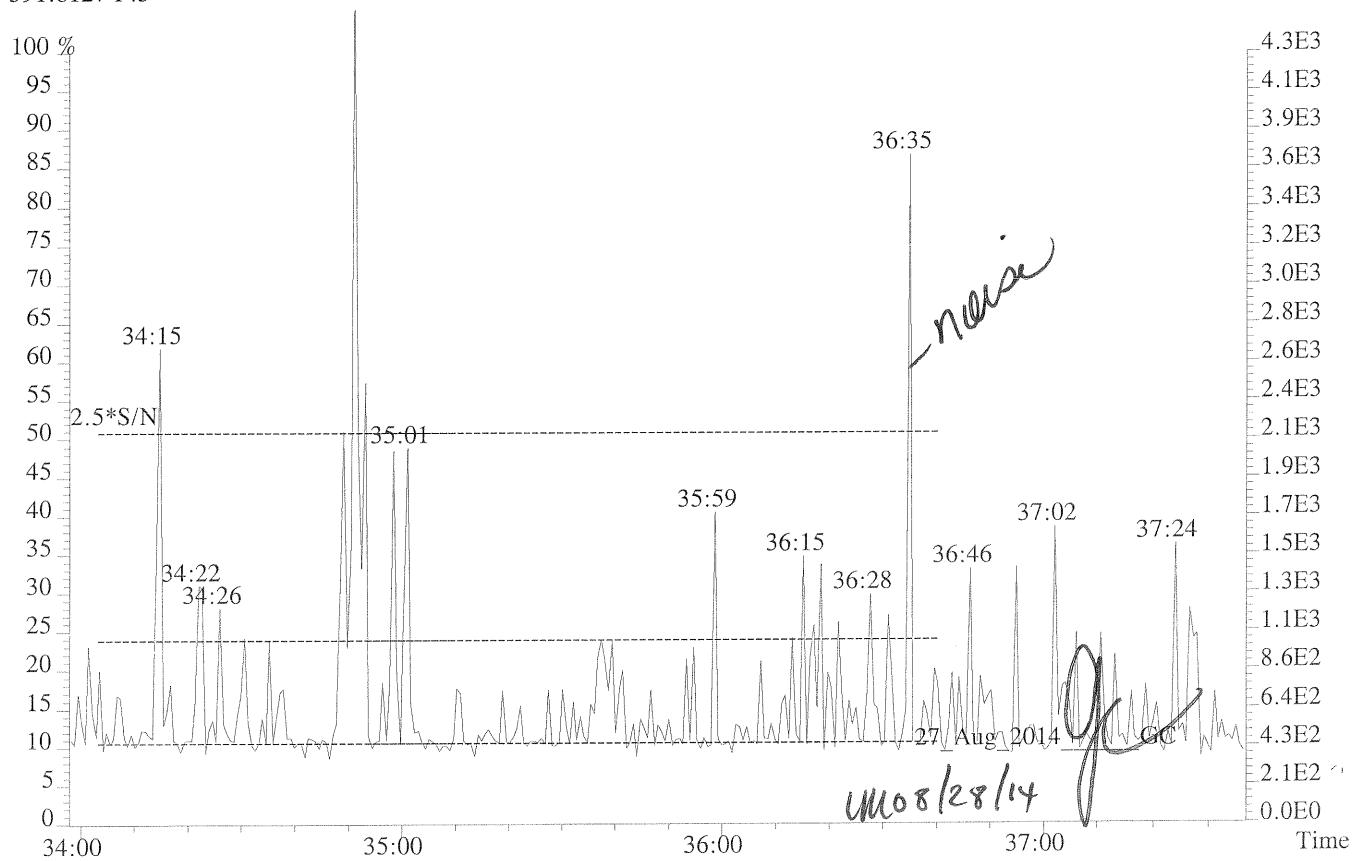




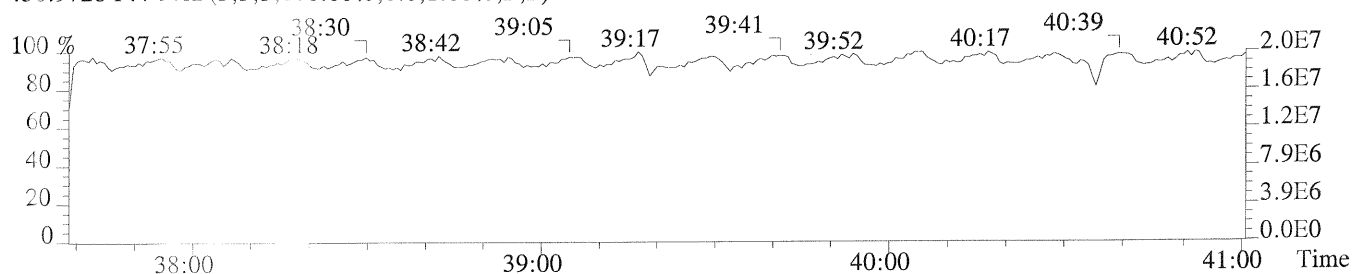
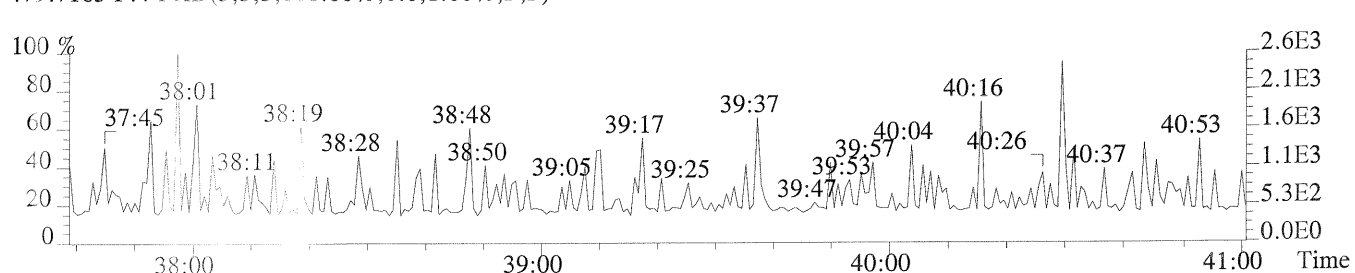
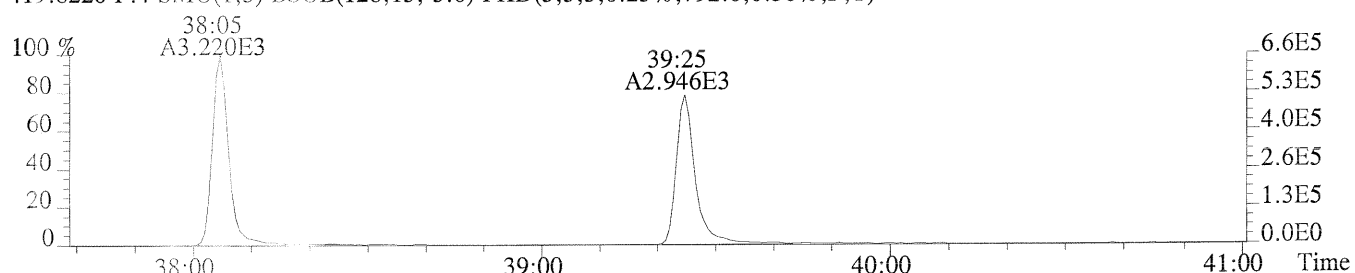
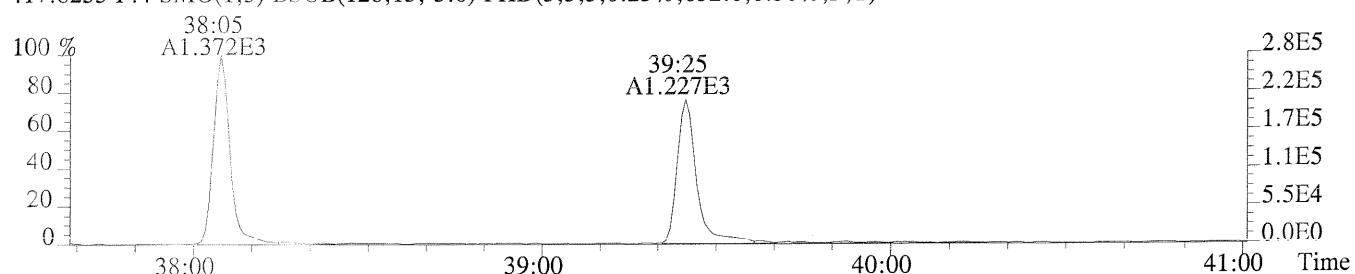
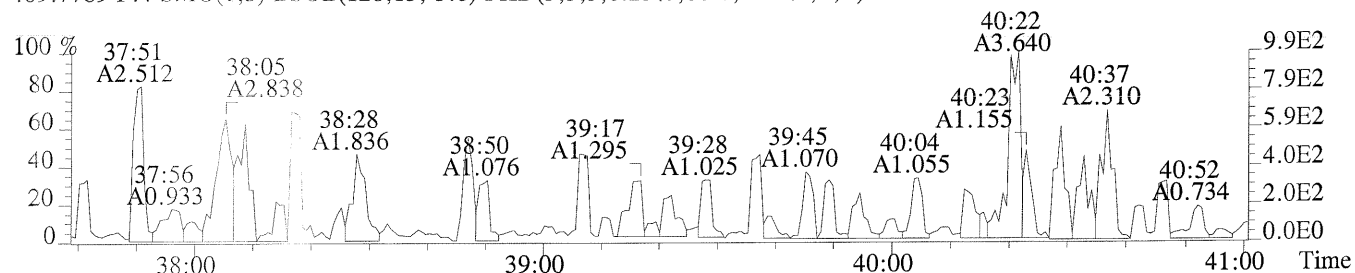
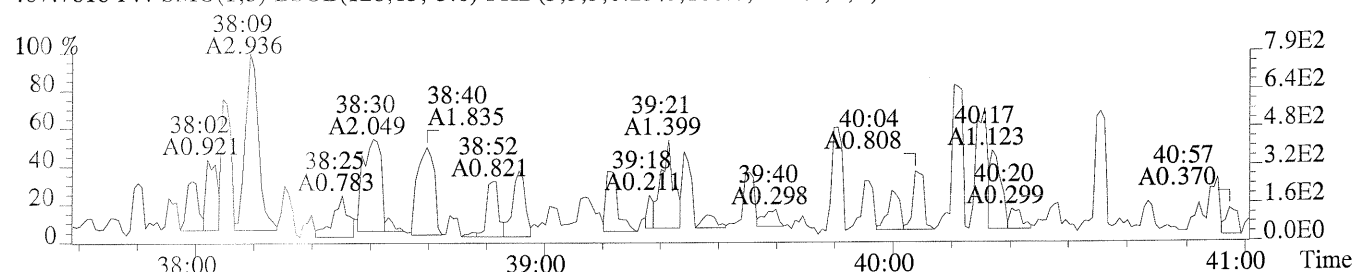
File:P173122 #1-332 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-008  
389.8157 F:3



391.8127 F:3

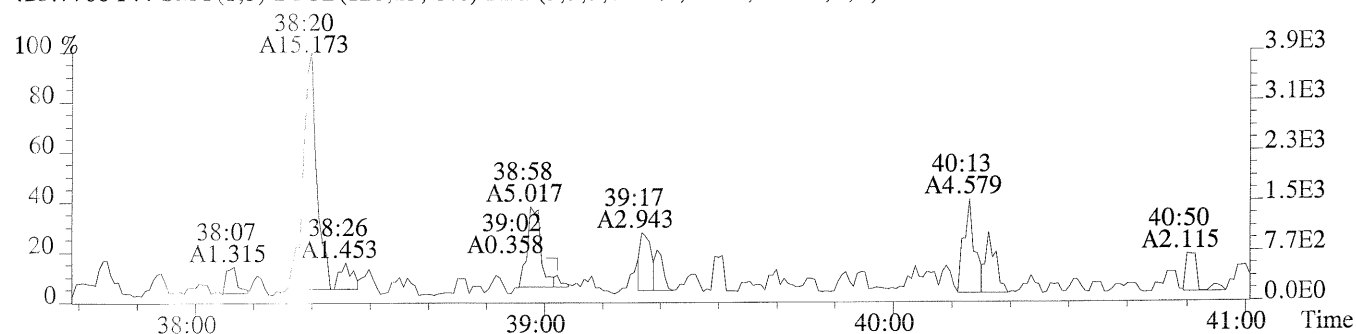




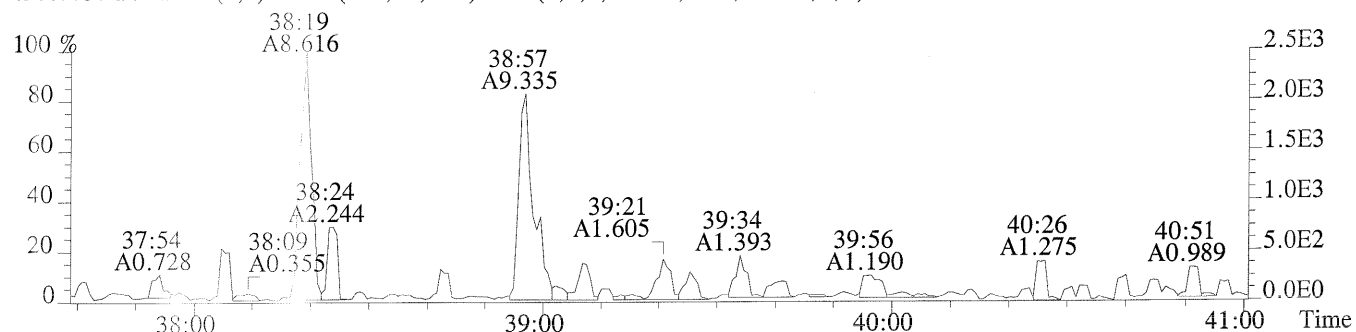


Sample#1 Exp:K1407971-008

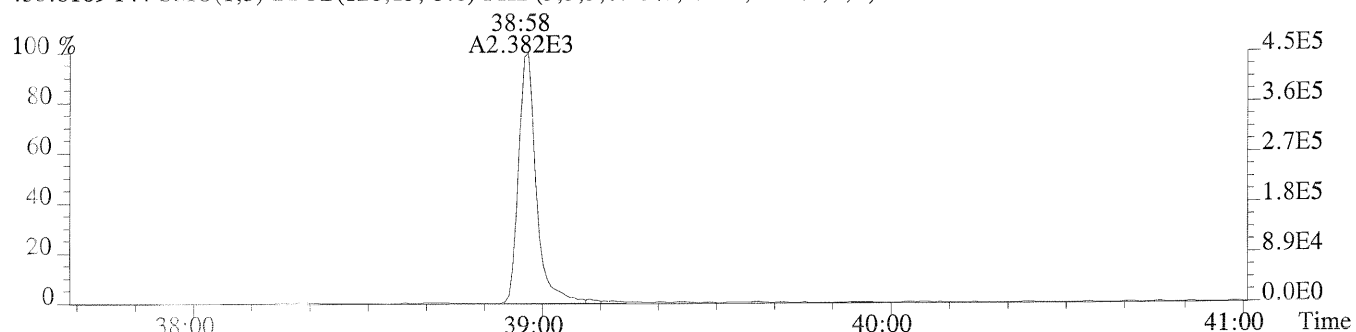
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)



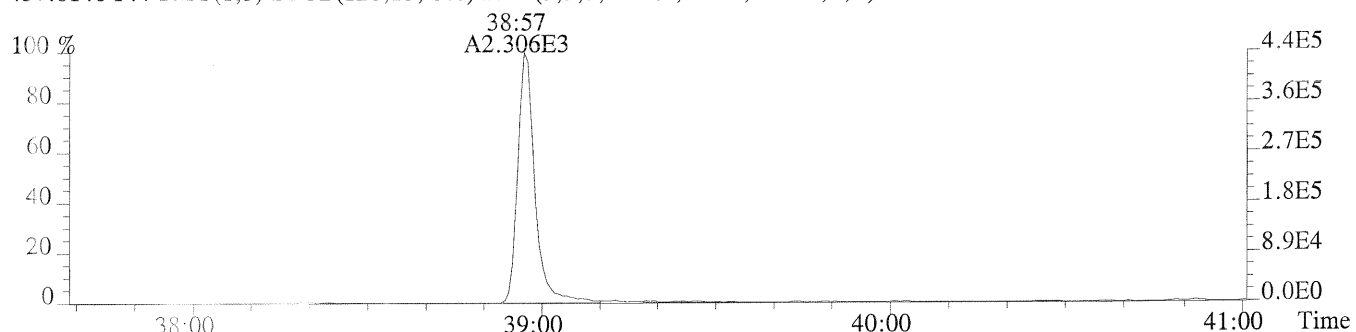
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.40%,F,T)



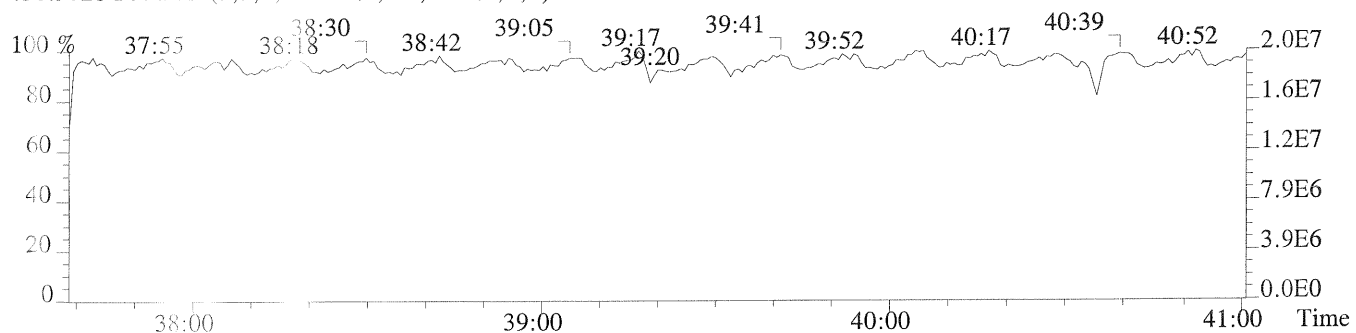
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,292.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



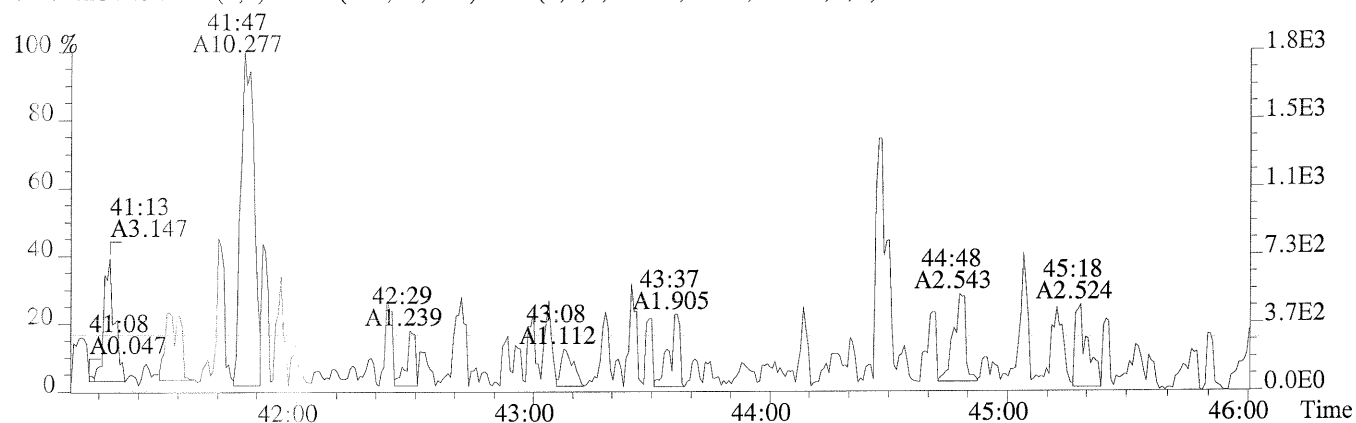
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



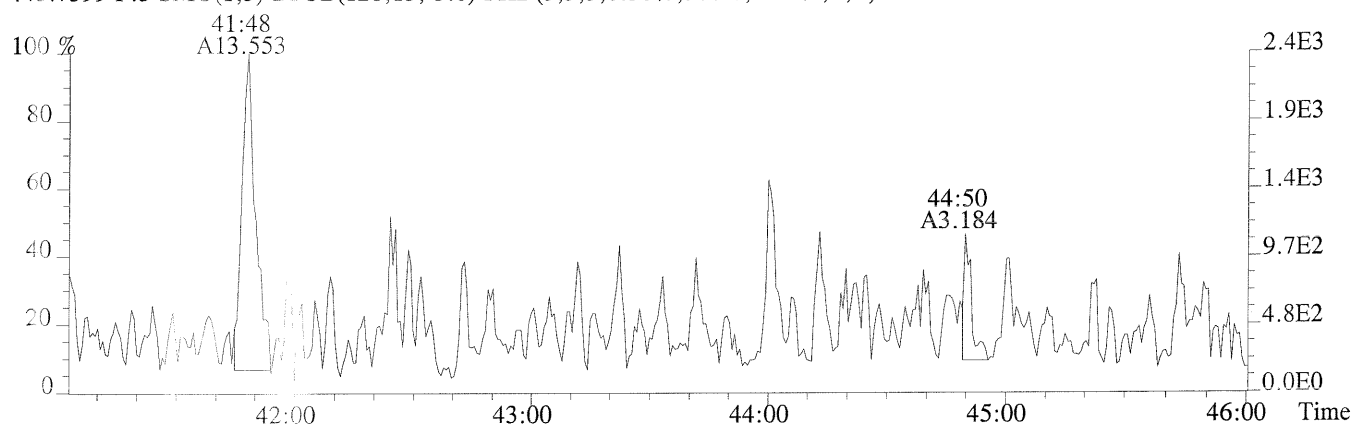
File:P173122 #1-456 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-008

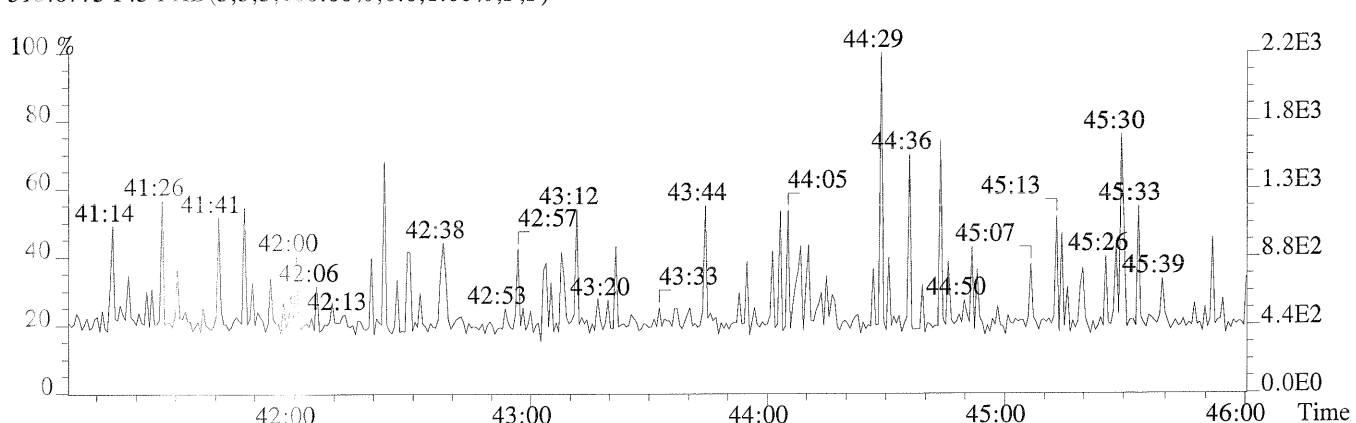
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,112.0,0.40%,F,T)



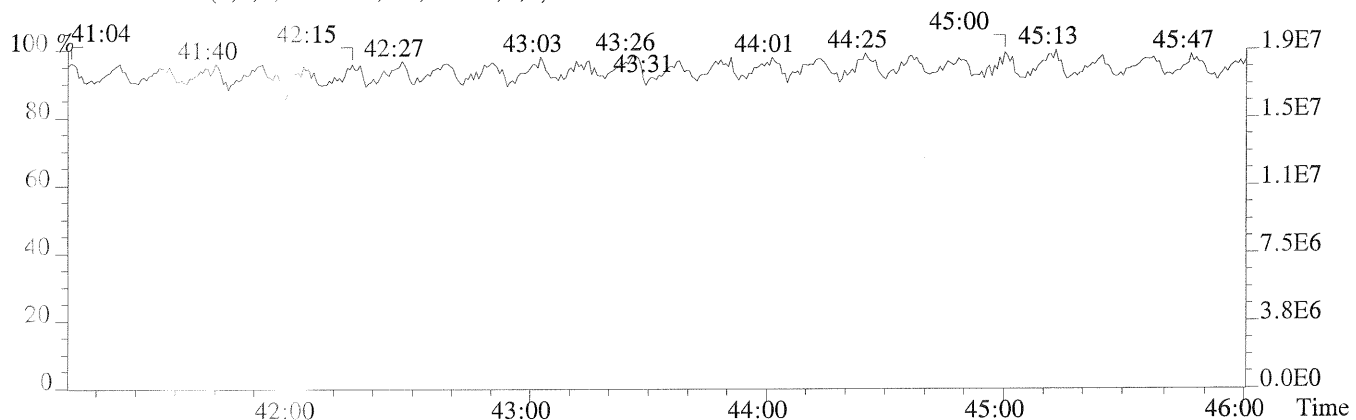
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,508.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



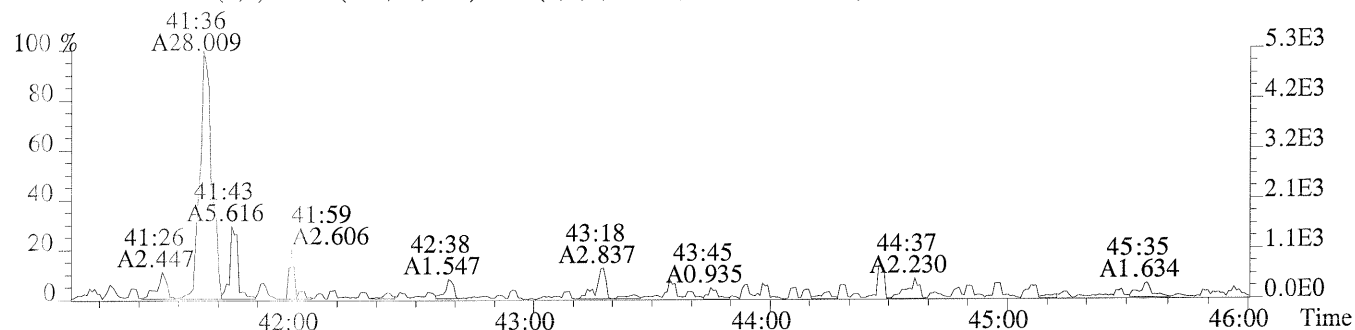
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



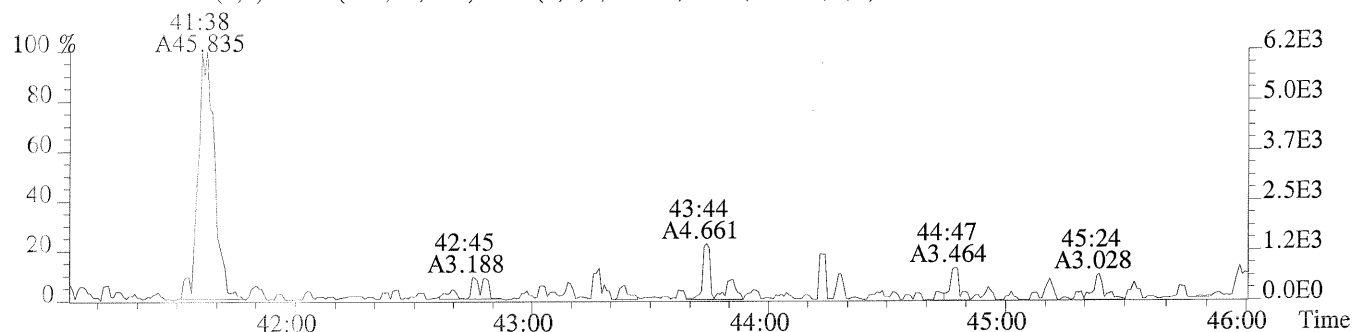
File:P173122 #1-456 Acq:27-AUG-2014 05:03:27 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-008

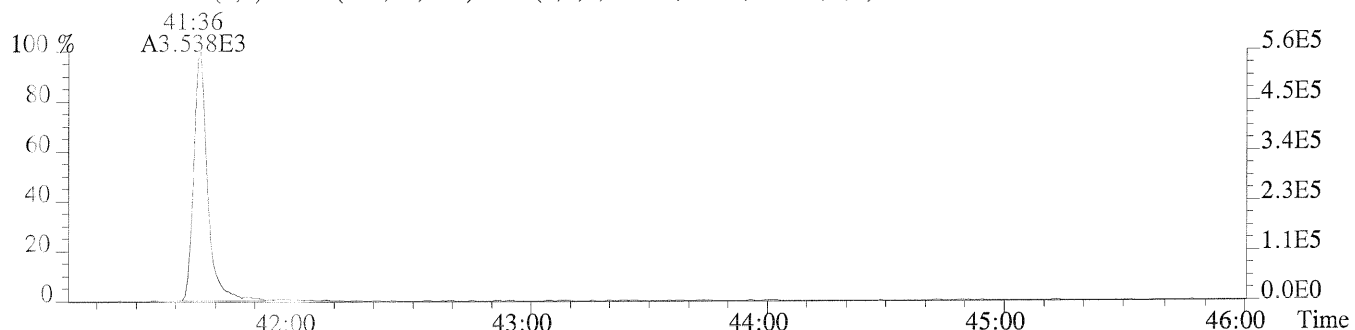
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



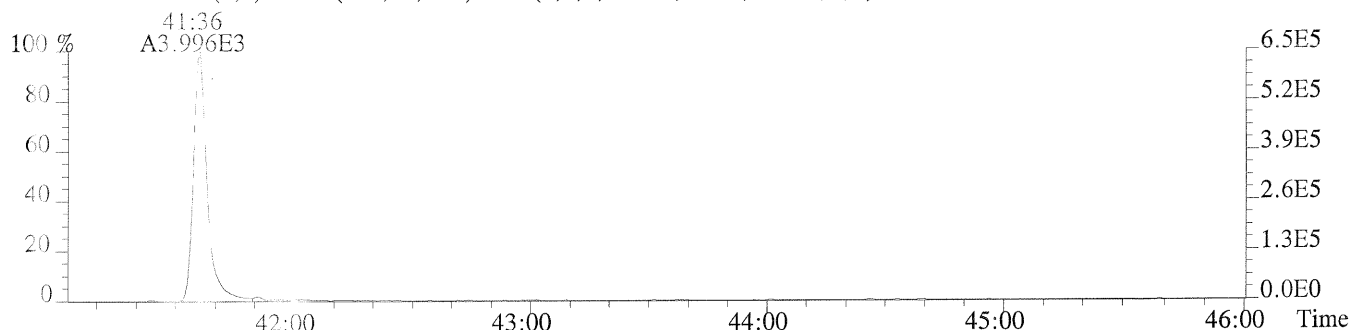
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,100.0,0.40%,F,T)



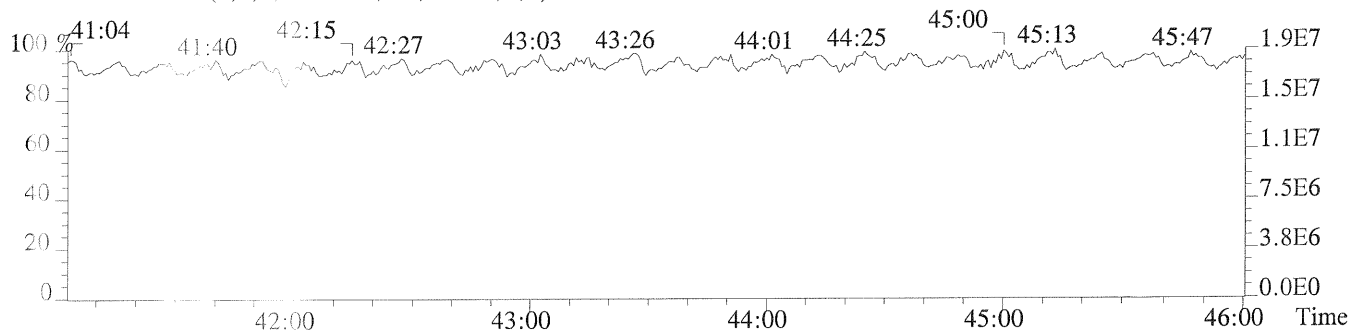
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,592.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 METHOD 1613B/8290A

CLIENT ID.  
 NV SYC14-TB R<sub>7</sub>

Run #14    Filename P173123    Samp: 1    Inj: 1    Acquired: 27-AUG-14 05:51:35  
 Processed: 27-AUG-14 10:44:33    Sample ID: K1407971-009

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:07	6.124e+00	5.571e+00	1.10	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	6.393e+00	8.015e+00	0.80	no	yes	1.016
17 Unk	OCDD	41:38	4.027e+01	4.817e+01	0.84	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	1.539e+03	1.947e+03	0.79	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:47	2.854e+03	1.793e+03	1.59	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:43	3.111e+03	1.918e+03	1.62	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:27	1.570e+03	3.215e+03	0.49	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	2.138e+03	4.213e+03	0.51	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	1.830e+03	3.553e+03	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:50	1.701e+03	3.381e+03	0.50	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	1.525e+03	3.300e+03	0.46	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	1.480e+03	3.312e+03	0.45	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:12	1.151e+03	1.462e+03	0.79	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	2.705e+03	1.771e+03	1.53	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:12	2.833e+03	2.221e+03	1.28	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.710e+03	2.207e+03	1.23	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:58	2.671e+03	2.458e+03	1.09	yes	no	0.862
32 IS	13C-OCDD	41:36	3.989e+03	4.476e+03	0.89	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	2.643e+03	3.523e+03	0.75	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:32	5.809e+03	4.515e+03	1.29	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:13	8.784e+02				no	1.125

$$\text{OCDD} = \frac{(4.027e+01 + 4.817e+01) \times 4000 \text{ pg} \times 1}{(3.989e+03 + 4.476e+03) \times 6.8729 \times 100 \times 1.079}$$

*5.636 ng/kg*  
*UM08/28/14*

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1613RESP1

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-TB REP.1

Run #14 Filename P173123 Samp: 1 Inj: 1 Acquired: 27-AUG-14 05:51:35  
Processed: 27-AUG-14 10:44:331 LAB. ID: K1407971-009

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	6.80e+01	*	*	8.88e+02	*
2	1,2,3,7,8-PeCDF	*	6.00e+01	*	*	3.60e+02	*
3	2,3,4,7,8-PeCDF	*	6.00e+01	*	*	3.60e+02	*
4	1,2,3,4,7,8-HxCDF	*	3.12e+02	*	*	5.20e+01	*
5	1,2,3,6,7,8-HxCDF	*	3.12e+02	*	*	5.20e+01	*
6	2,3,4,6,7,8-HxCDF	*	3.12e+02	*	*	5.20e+01	*
7	1,2,3,7,8,9-HxCDF	*	3.12e+02	*	*	5.20e+01	*
8	1,2,3,4,6,7,8-HpCDF	1.34e+03	8.40e+01	1.6e+01	1.71e+03	6.40e+01	2.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	8.40e+01	*	*	6.40e+01	*
10	OCDF	*	1.80e+02	*	*	5.92e+02	*
11	2,3,7,8-TCDD	*	2.16e+02	*	*	2.96e+02	*
12	1,2,3,7,8-PeCDD	*	3.32e+02	*	*	7.20e+01	*
13	1,2,3,4,7,8-HxCDD	*	7.60e+01	*	*	2.12e+02	*
14	1,2,3,6,7,8-HxCDD	*	7.60e+01	*	*	2.12e+02	*
15	1,2,3,7,8,9-HxCDD	*	7.60e+01	*	*	2.12e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.34e+03	2.36e+02	5.7e+00	1.51e+03	6.80e+01	2.2e+01
17	OCDD	7.34e+03	6.40e+01	1.1e+02	9.38e+03	1.76e+02	5.3e+01
18	13C-2,3,7,8-TCDF	2.38e+05	4.88e+02	4.9e+02	2.99e+05	5.56e+02	5.4e+02
19	13C-1,2,3,7,8-PeCDF	4.65e+05	6.40e+01	7.3e+03	2.92e+05	9.60e+01	3.0e+03
20	13C-2,3,4,7,8-PeCDF	5.34e+05	6.40e+01	8.3e+03	3.39e+05	9.60e+01	3.5e+03
21	13C-1,2,3,4,7,8-HxCDF	2.98e+05	1.16e+02	2.6e+03	6.34e+05	4.44e+02	1.4e+03
22	13C-1,2,3,6,7,8-HxCDF	3.88e+05	1.16e+02	3.3e+03	7.65e+05	4.44e+02	1.7e+03
23	13C-2,3,4,6,7,8-HxCDF	3.65e+05	1.16e+02	3.1e+03	7.17e+05	4.44e+02	1.6e+03
24	13C-1,2,3,7,8,9-HxCDF	2.99e+05	1.16e+02	2.6e+03	6.02e+05	4.44e+02	1.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.11e+05	5.12e+02	6.1e+02	6.71e+05	5.08e+02	1.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.58e+05	5.12e+02	5.0e+02	5.82e+05	5.08e+02	1.1e+03
27	13C-2,3,7,8-TCDD	1.90e+05	1.80e+03	1.1e+02	2.32e+05	9.52e+02	2.4e+02
28	13C-1,2,3,7,8-PeCDD	4.74e+05	3.04e+02	1.6e+03	3.03e+05	6.40e+01	4.7e+03
29	13C-1,2,3,4,7,8-HxCDD	5.92e+05	1.76e+02	3.4e+03	4.69e+05	1.80e+02	2.6e+03
30	13C-1,2,3,6,7,8-HxCDD	5.20e+05	1.76e+02	3.0e+03	4.40e+05	1.80e+02	2.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.01e+05	4.60e+02	1.1e+03	4.71e+05	8.00e+01	5.9e+03
32	13C-OCDD	6.22e+05	6.48e+02	9.6e+02	7.16e+05	1.55e+03	4.6e+02
33	13C-1,2,3,4-TCDD	4.43e+05	1.80e+03	2.5e+02	5.93e+05	9.52e+02	6.2e+02
34	13C-1,2,3,7,8,9-HxCDD	1.08e+06	1.76e+02	6.2e+03	8.51e+05	1.80e+02	4.7e+03
35	37Cl-2,3,7,8-TCDD	1.41e+05	4.92e+02	2.9e+02			

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Peak List Summary

CLIENT ID.

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NV SYC14-TB REP.1

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Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 14 File: P173123 Sample: 1 Injection: 1 Function: 3  
Llim: 34:46 Ulim: 36:37  
Acquired: 27-AUG-14 05:51:35 Processed: 27-AUG-14 10:44:33  
Mass: 389.8160 391.8130 Tot Response: 4.29e+01 RRF: 1.040

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:52	2.16e+01	1.63e+01	1.32	yes	3.79e+01	n	n
2	35:39	2.69e+00	2.27e+00	1.18	yes	4.96e+00	n	n

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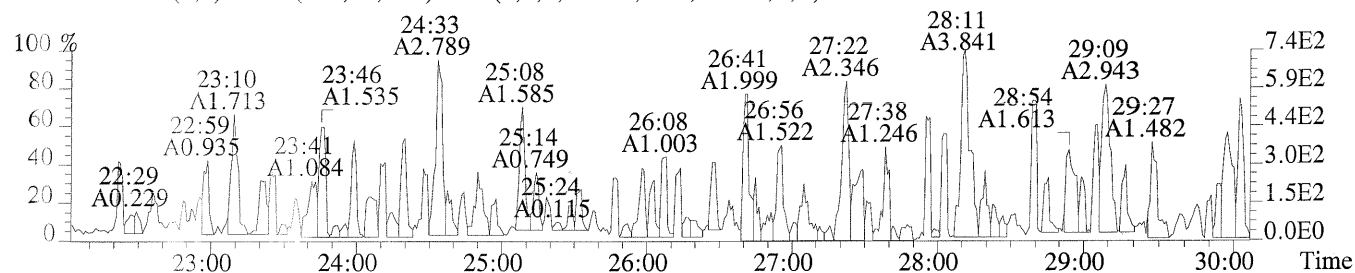




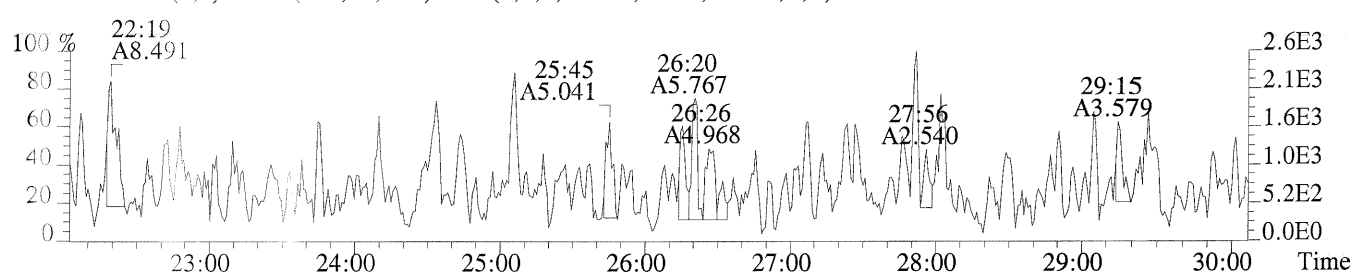
File:P173123 #1-579 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-009

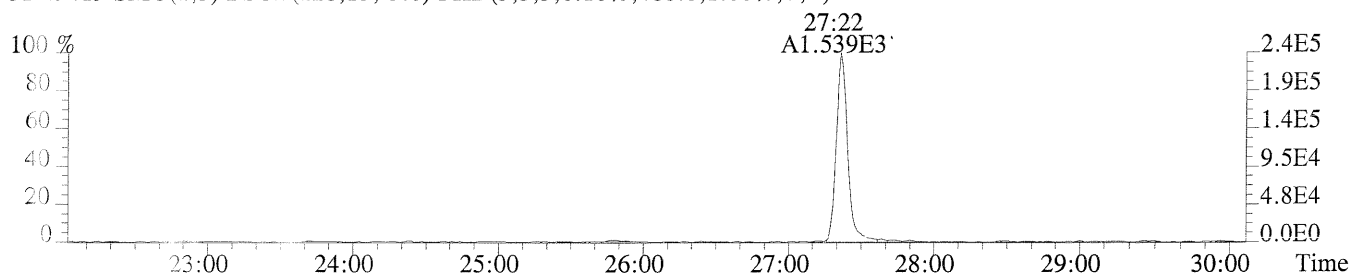
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



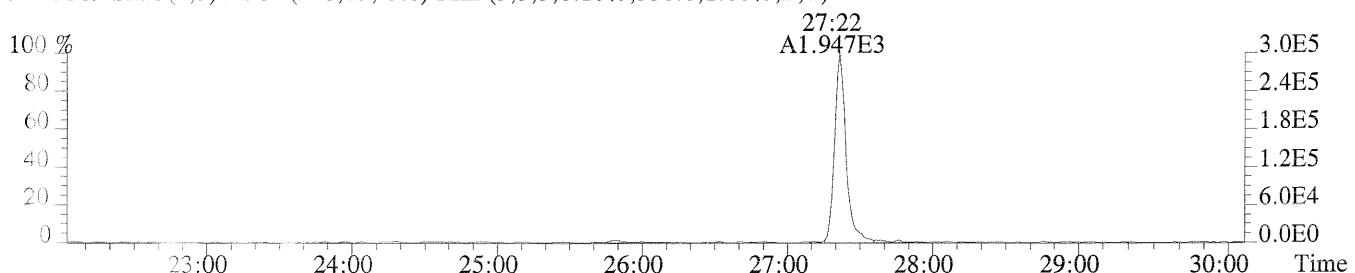
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



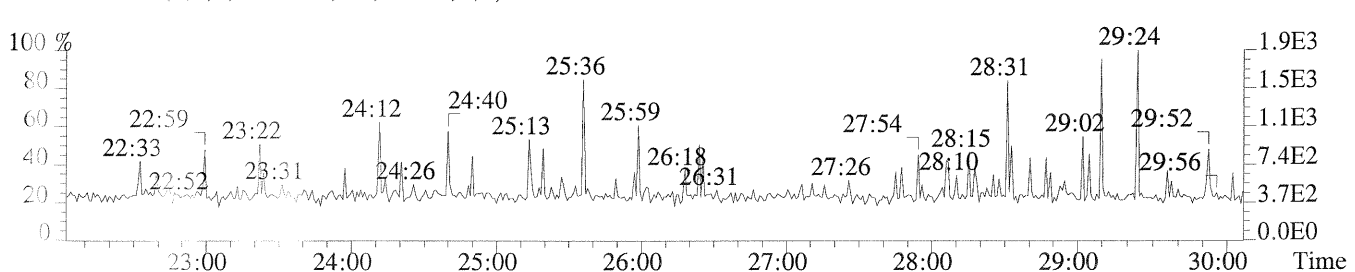
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,T)



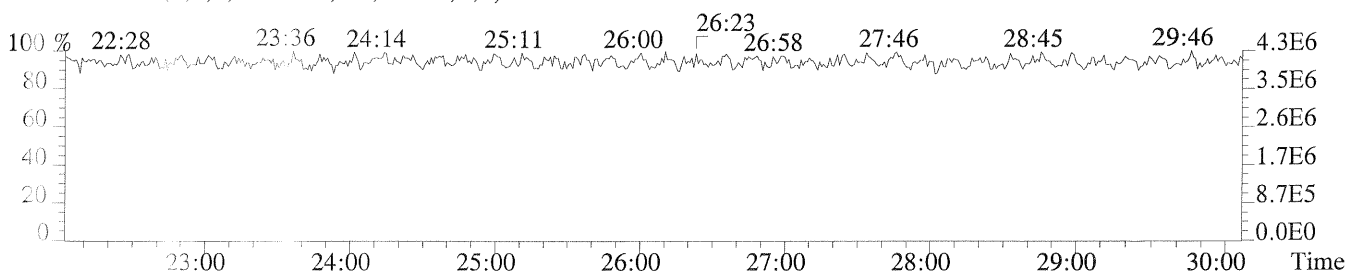
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

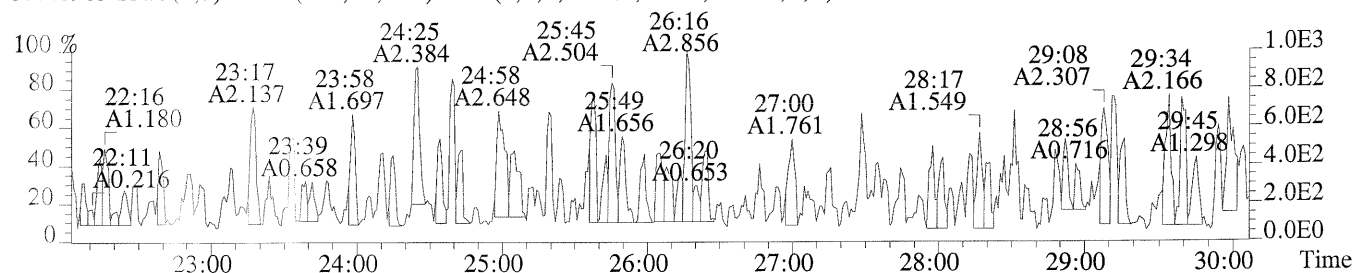


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

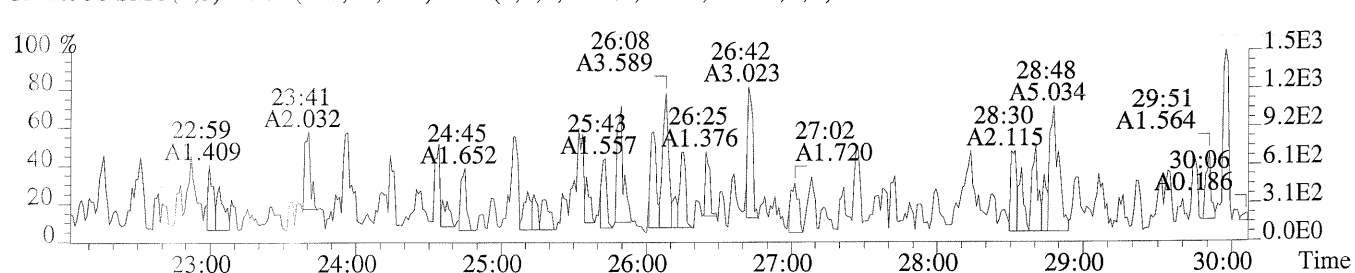


Sample#1 Exp:K1407971-009

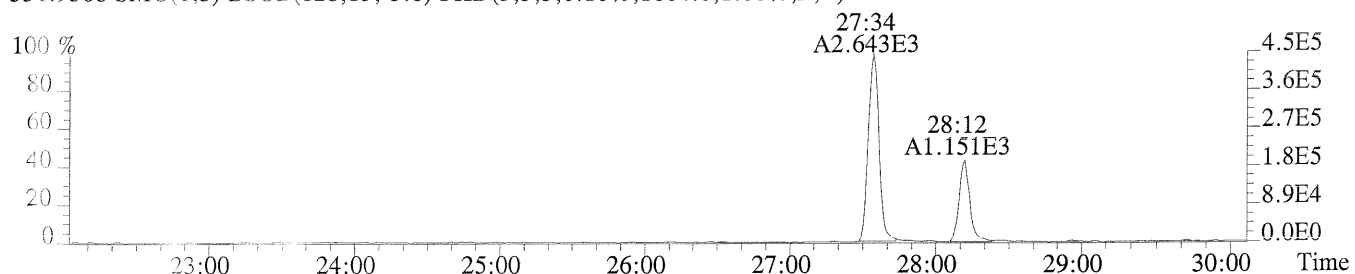
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



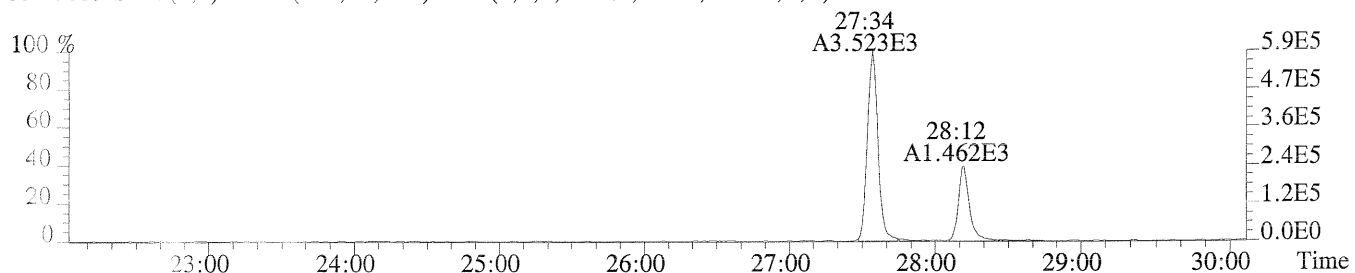
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,T)



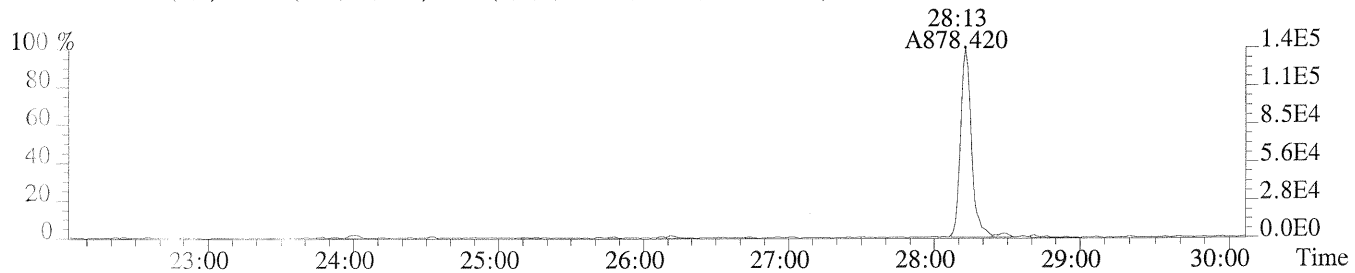
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



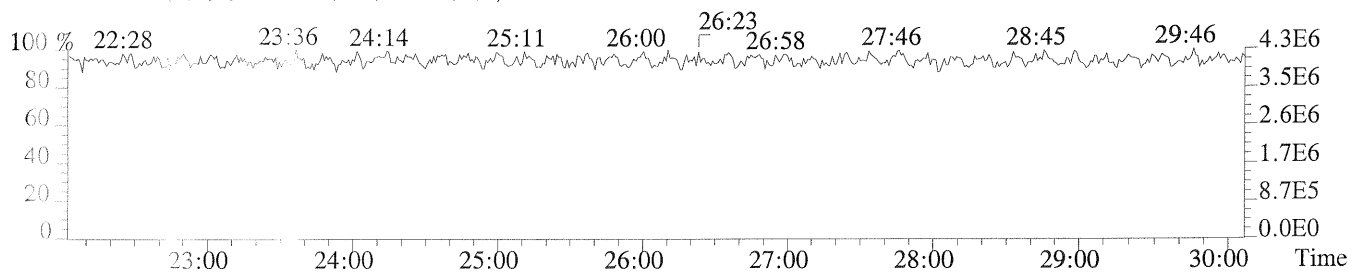
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



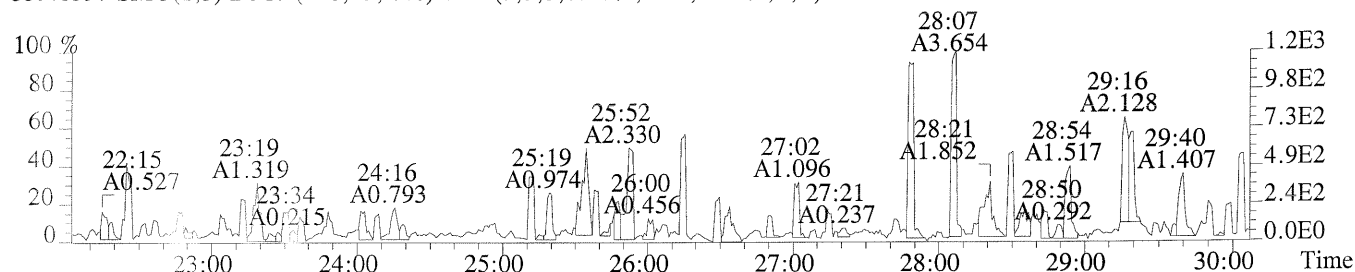
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



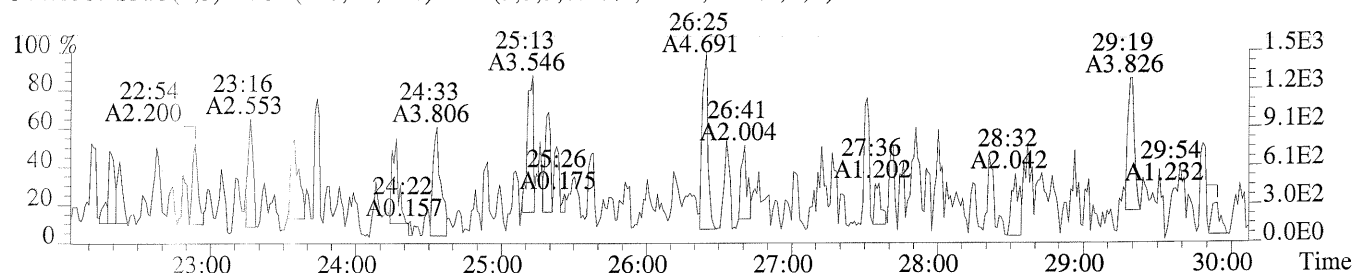
File:P173123 #1-579 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-009

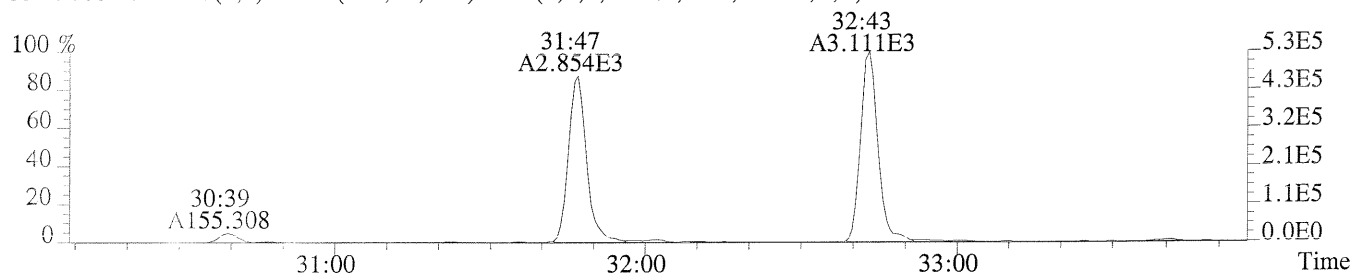
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



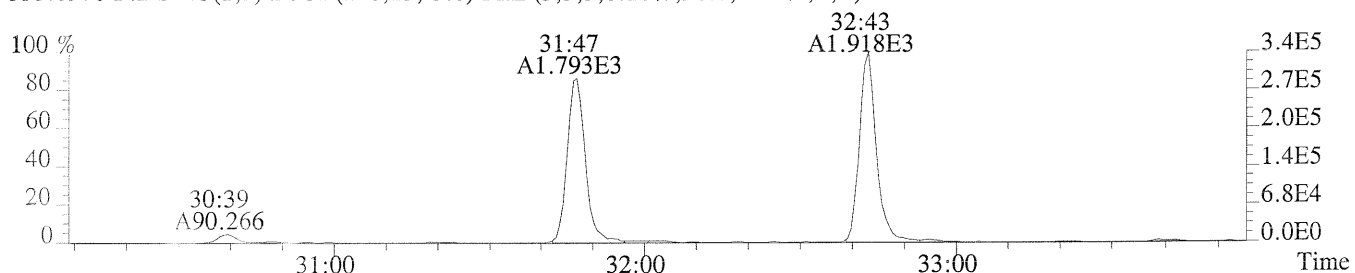
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,336.0,1.00%,F,T)



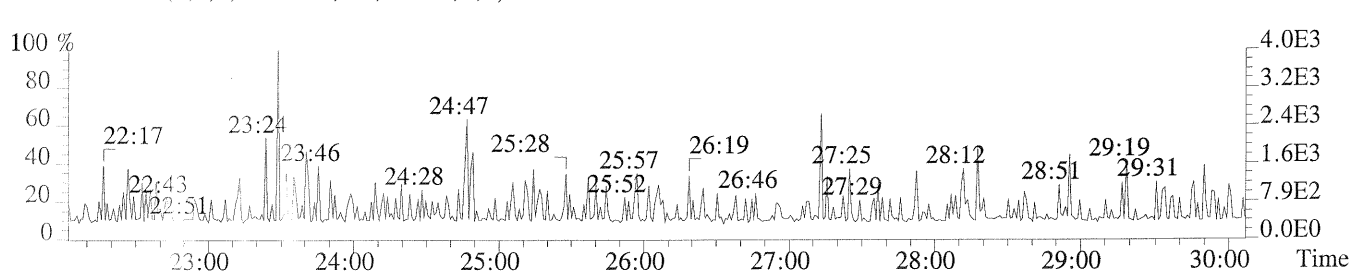
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



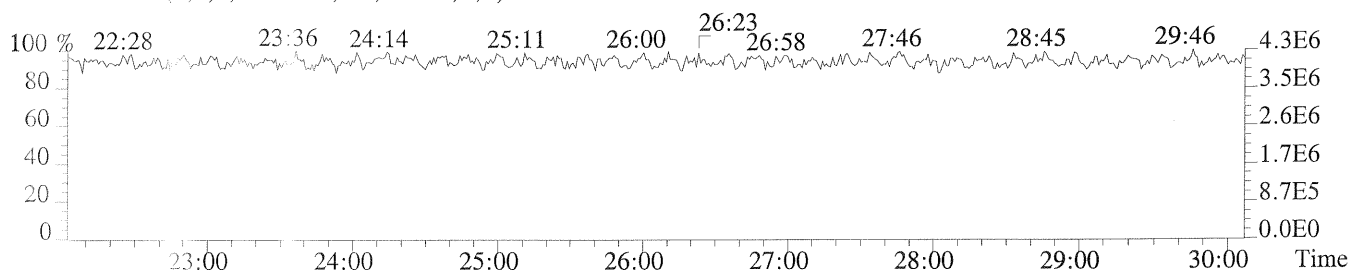
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



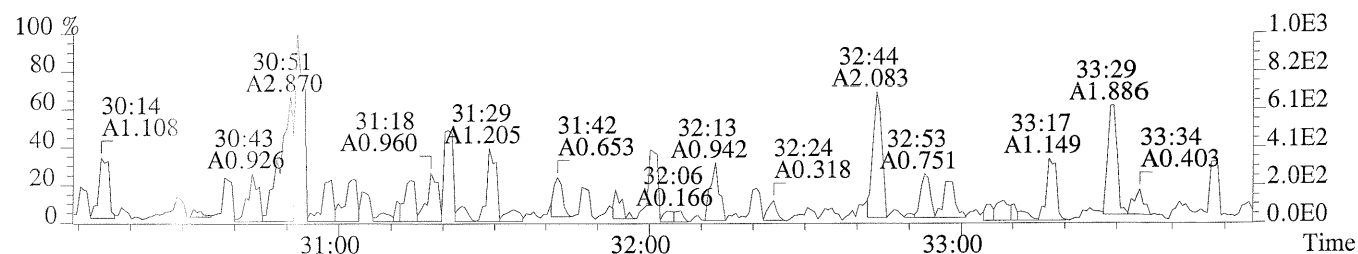
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



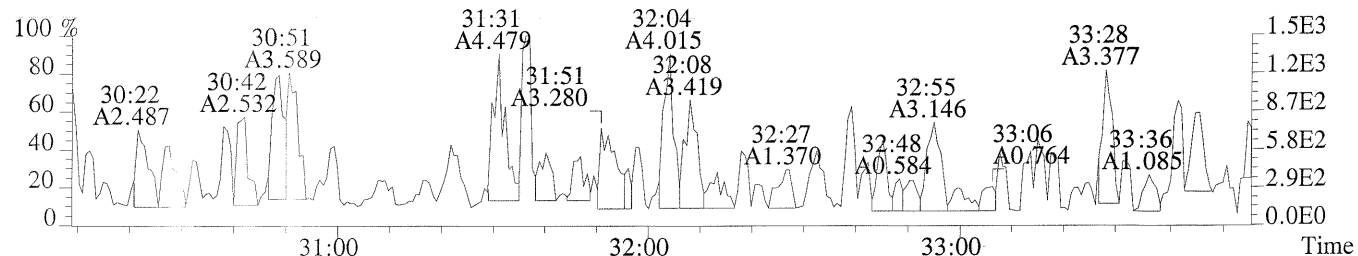
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



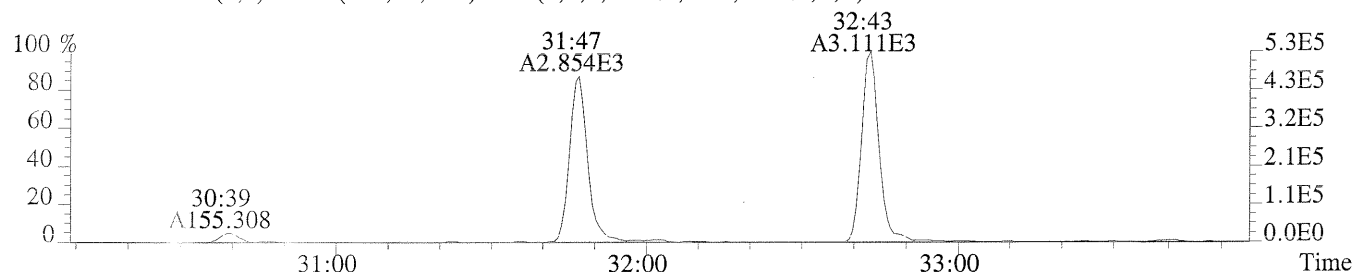
File:P173123 #1-343 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-009  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



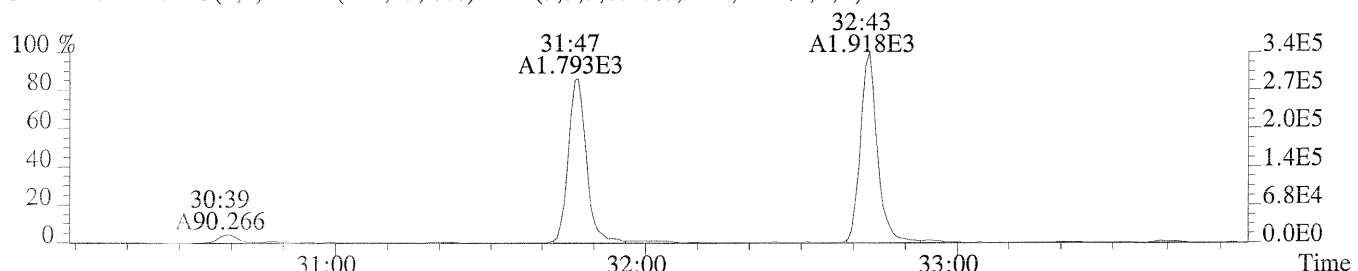
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,T)



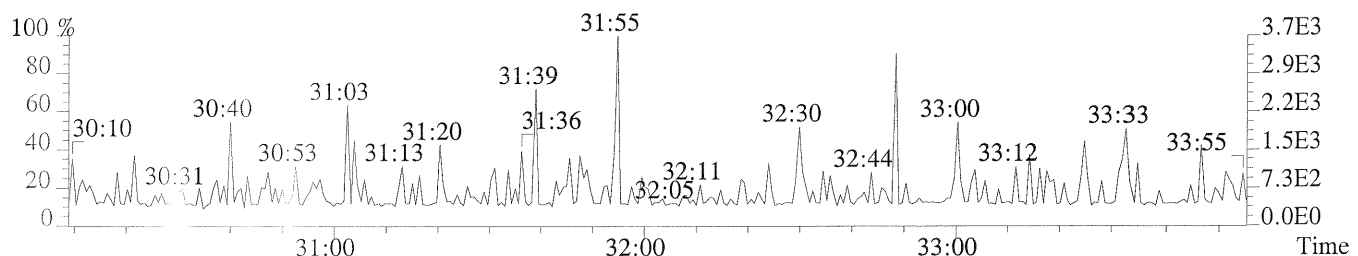
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



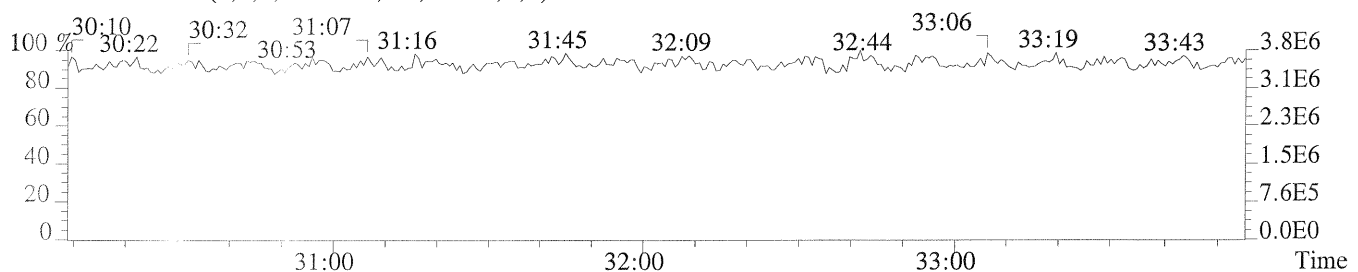
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



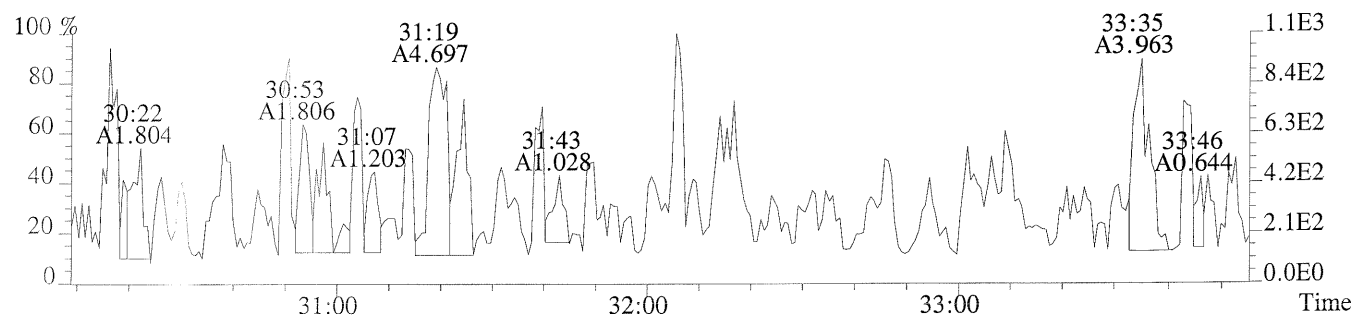
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



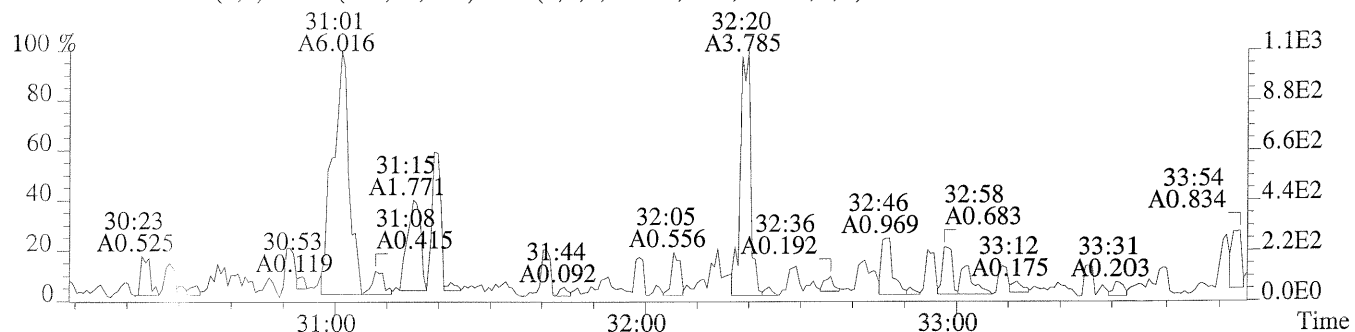
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



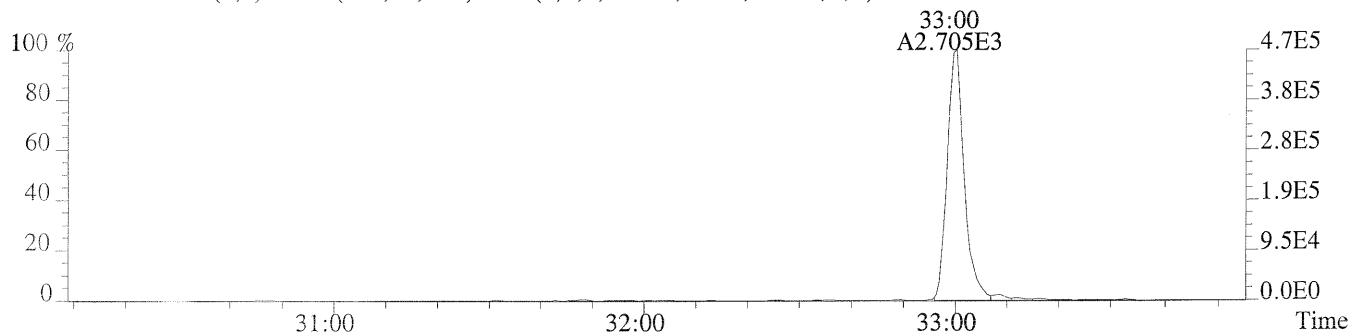
File:P173123 #1-343 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-009  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,332.0,1.00%,F,T)



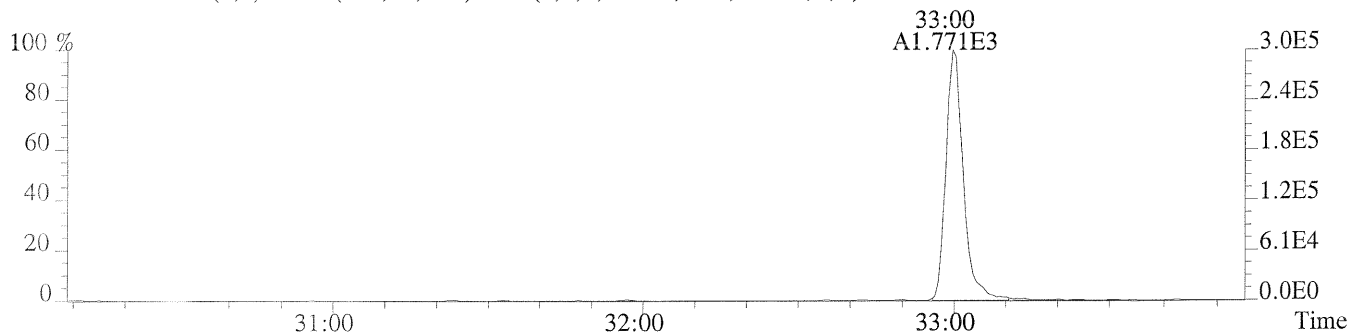
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



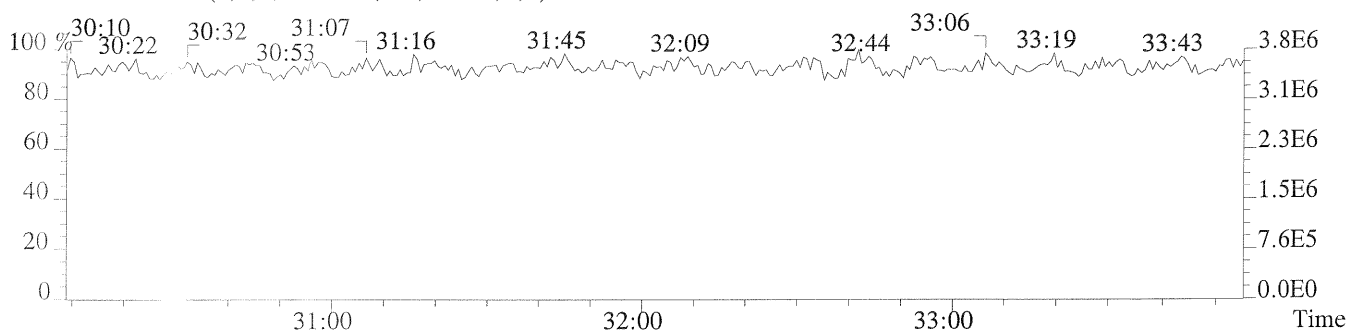
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



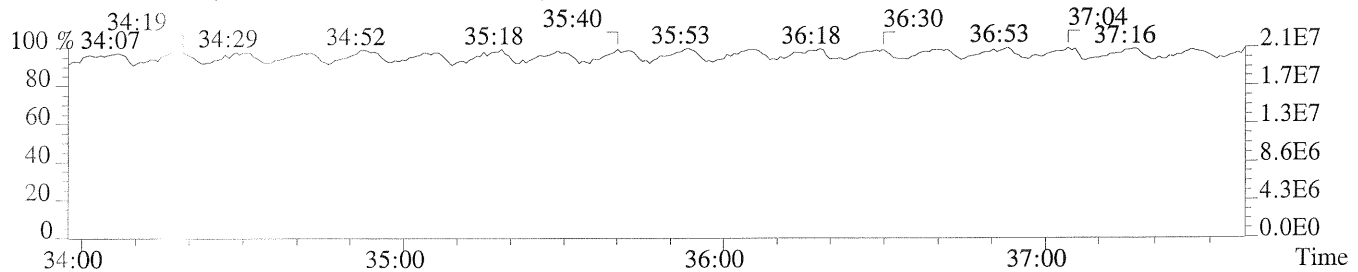
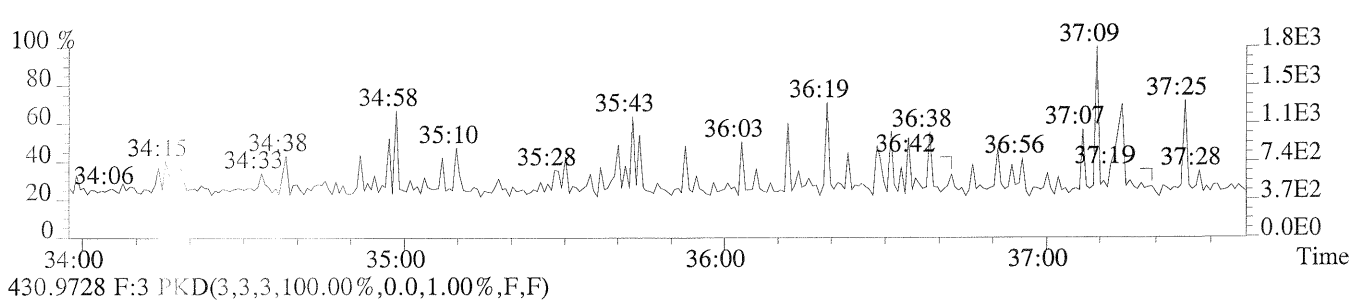
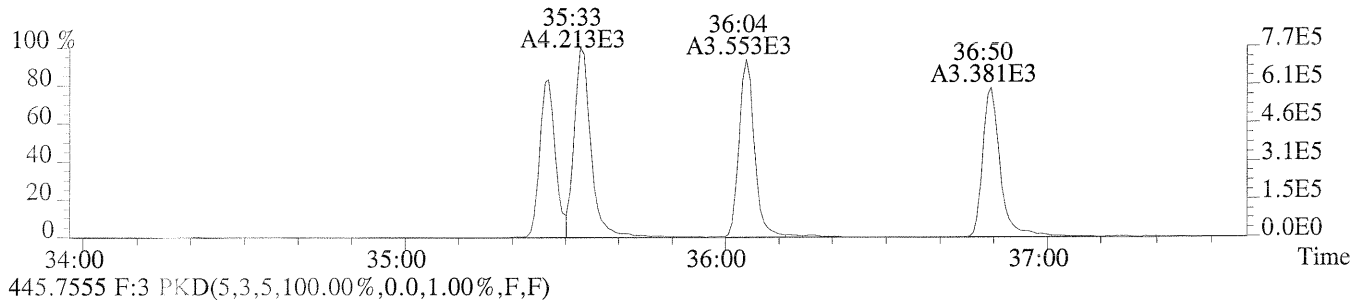
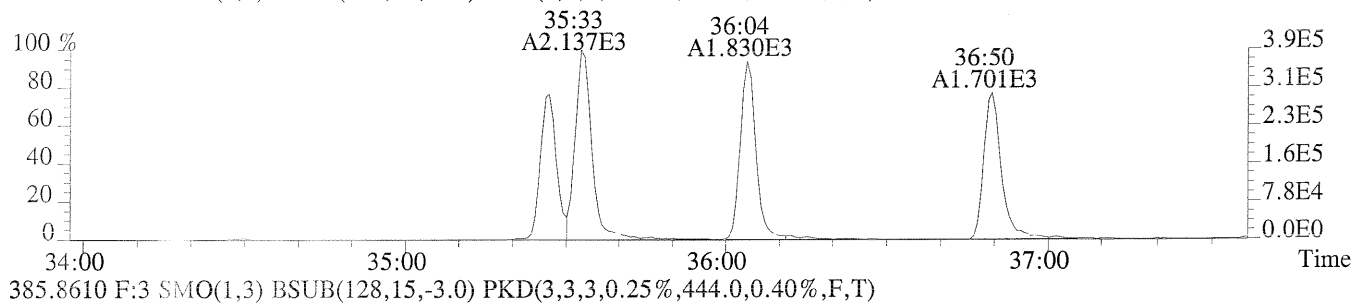
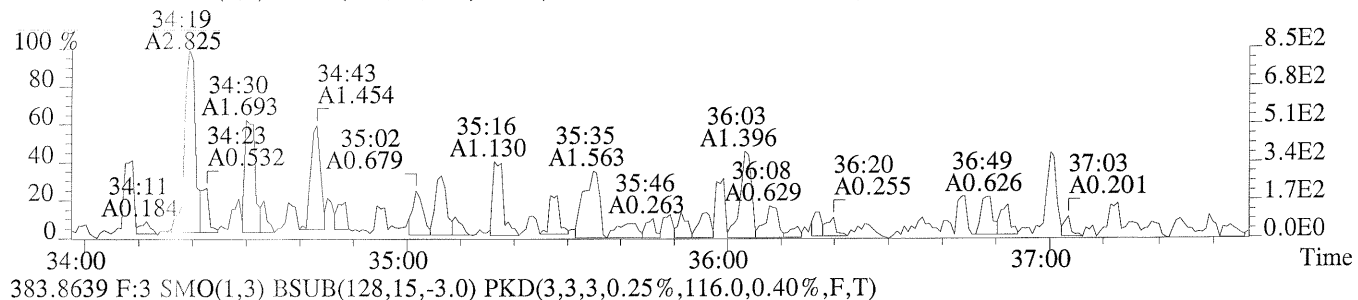
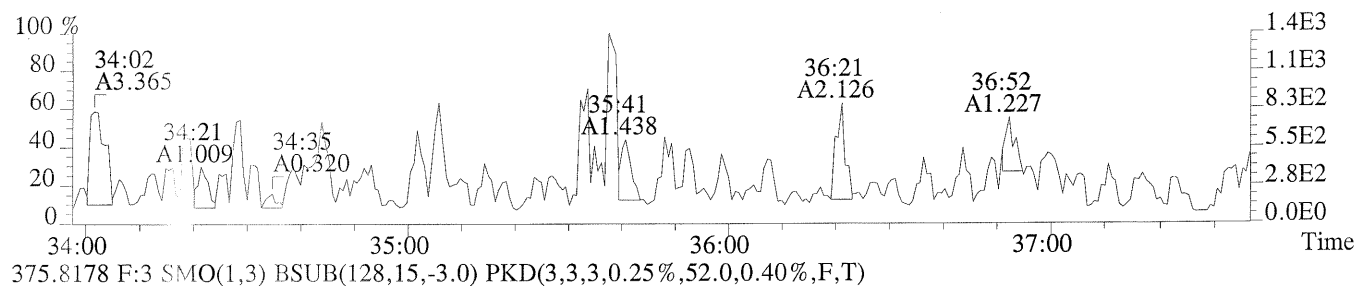
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)

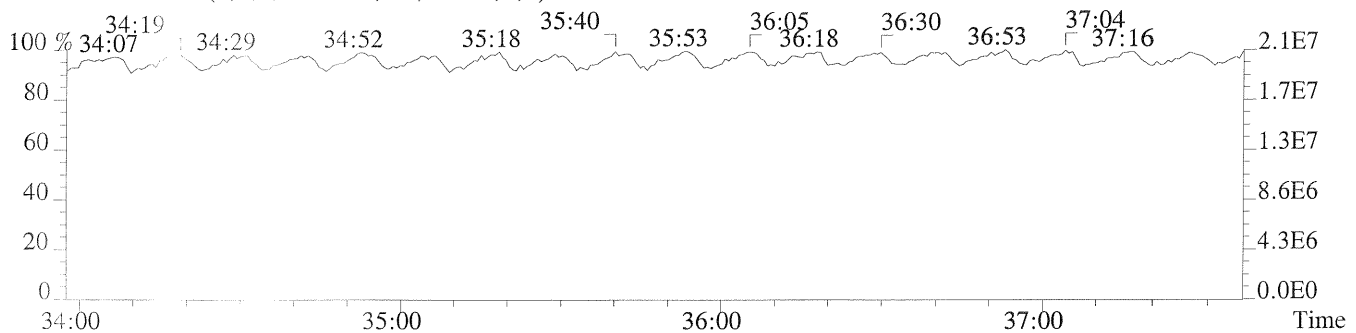
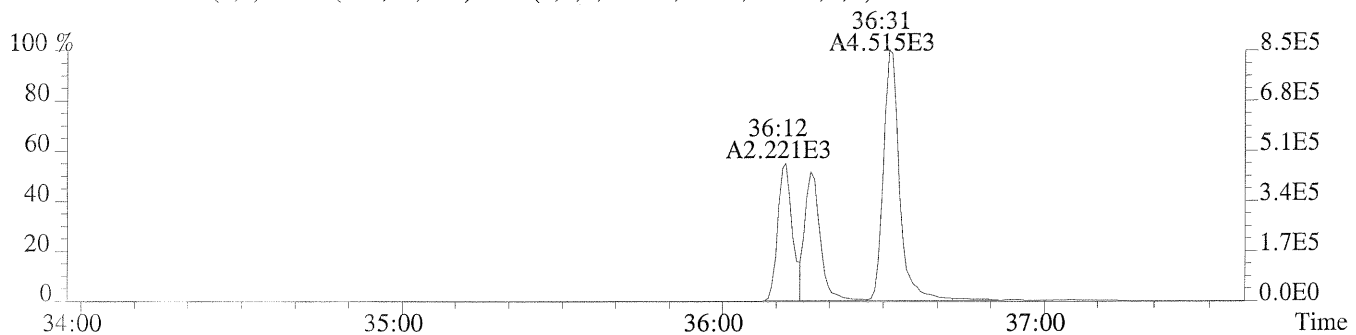
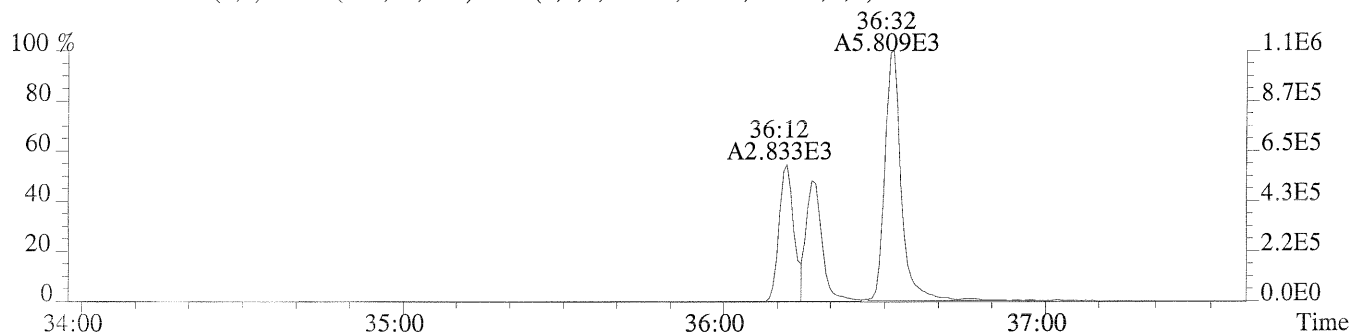
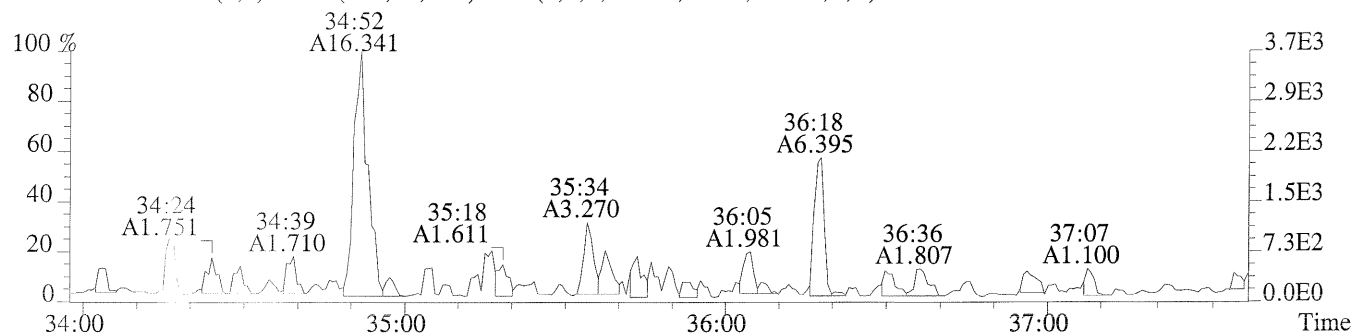
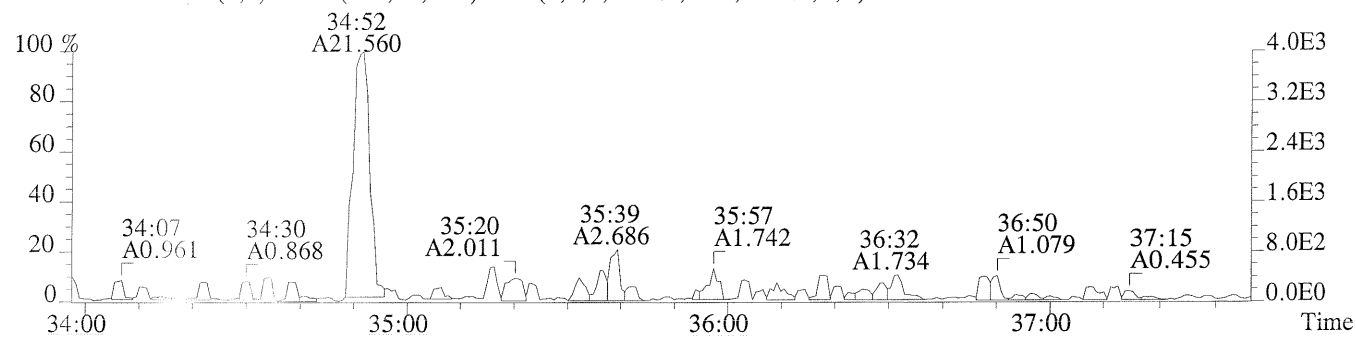


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173123 #1-332 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-009  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,312.0,0.40%,F,T)

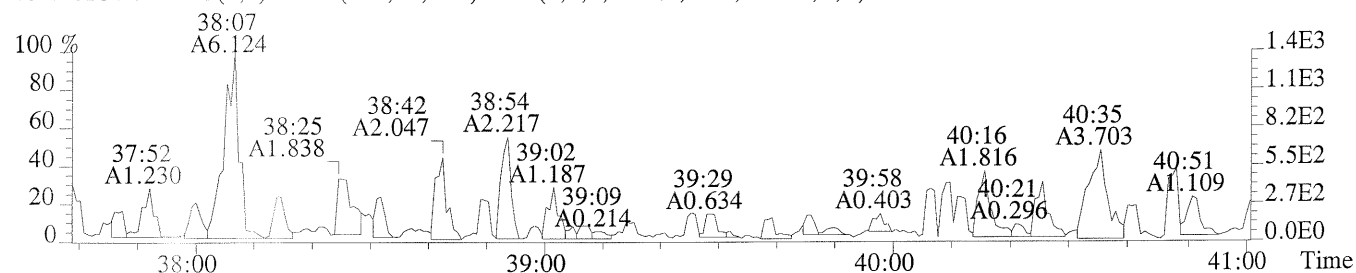




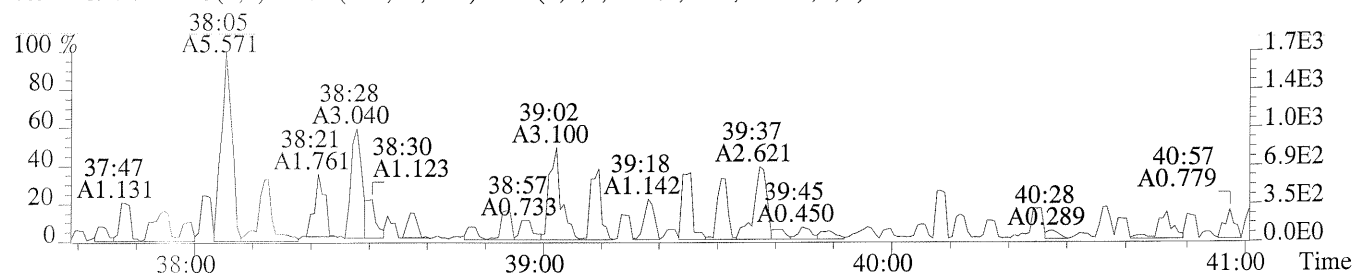
File:P173123 #1-306 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-009

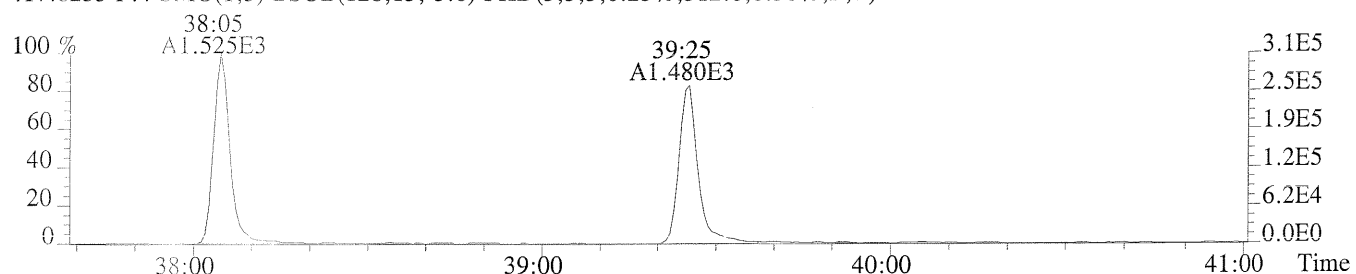
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.50%,F,T)



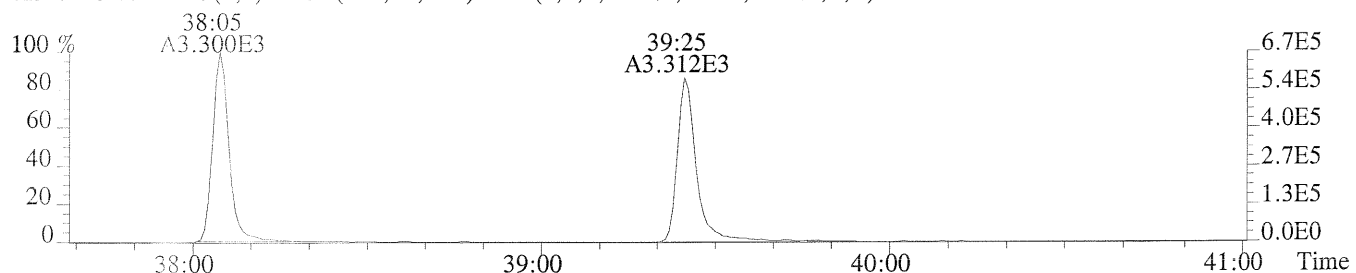
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.50%,F,T)



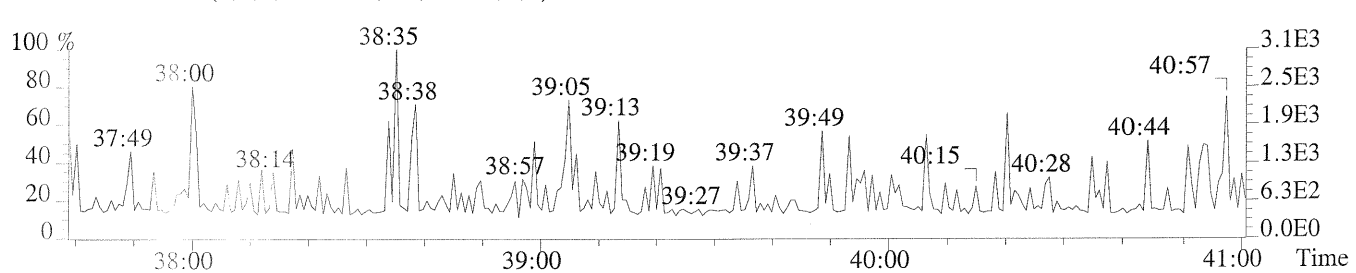
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,512.0,0.50%,F,T)



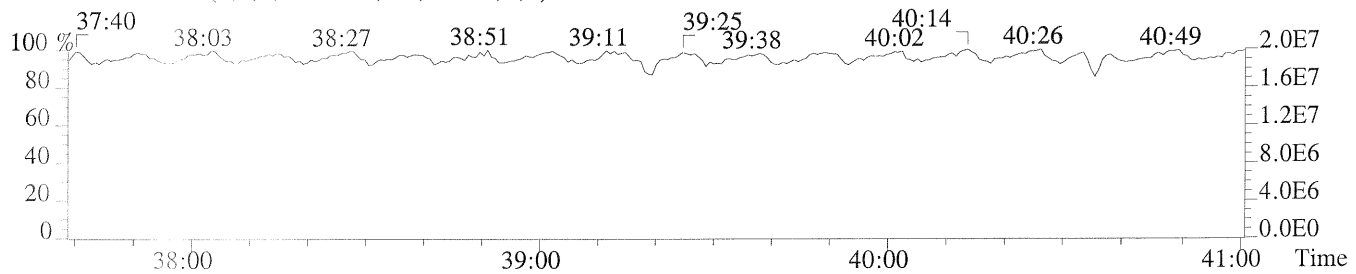
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

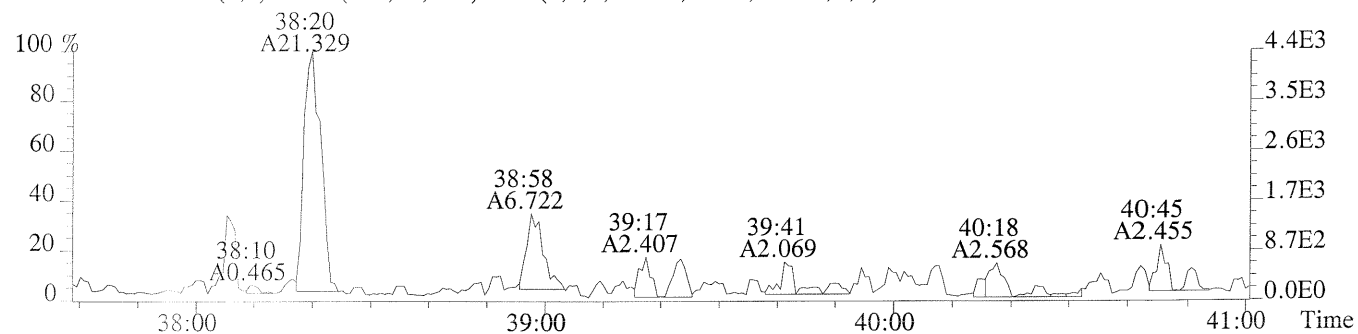




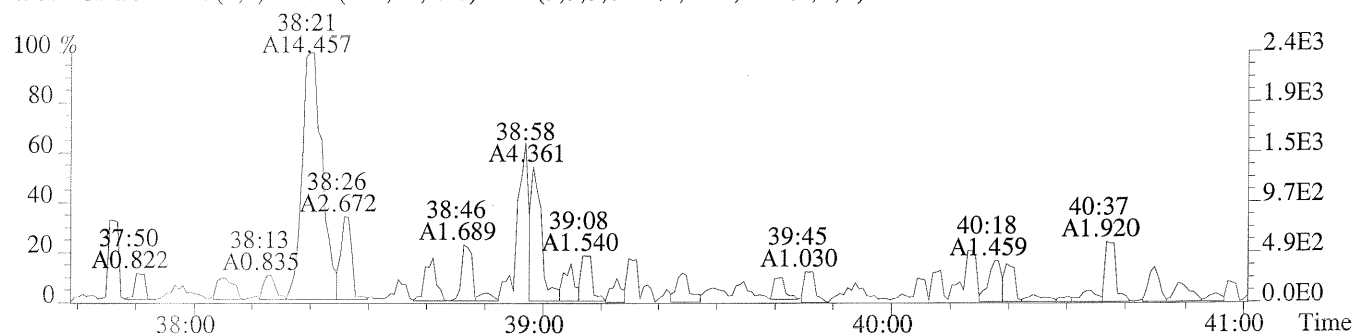
File:P173123 #1-306 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-009

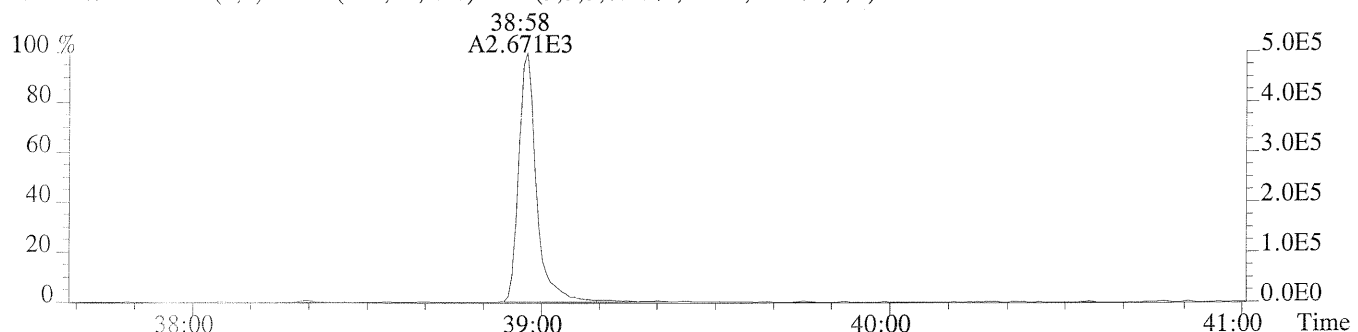
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,T)



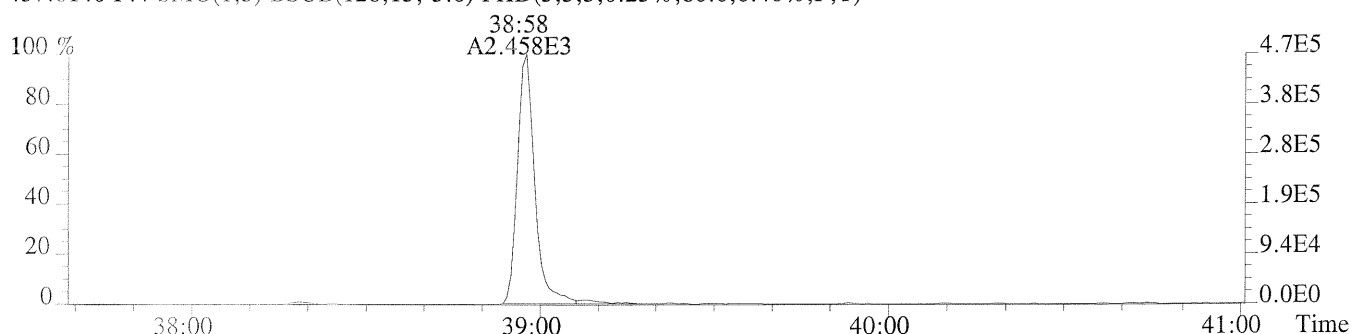
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



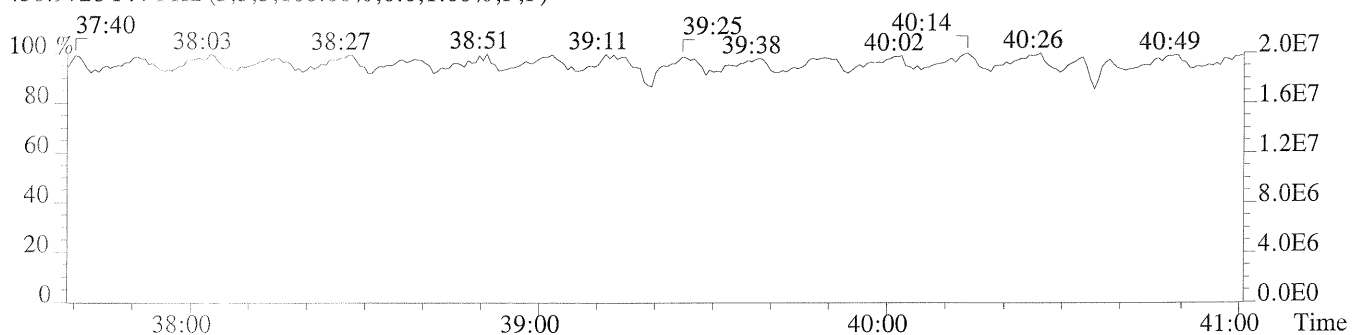
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,460.0,0.40%,F,T)



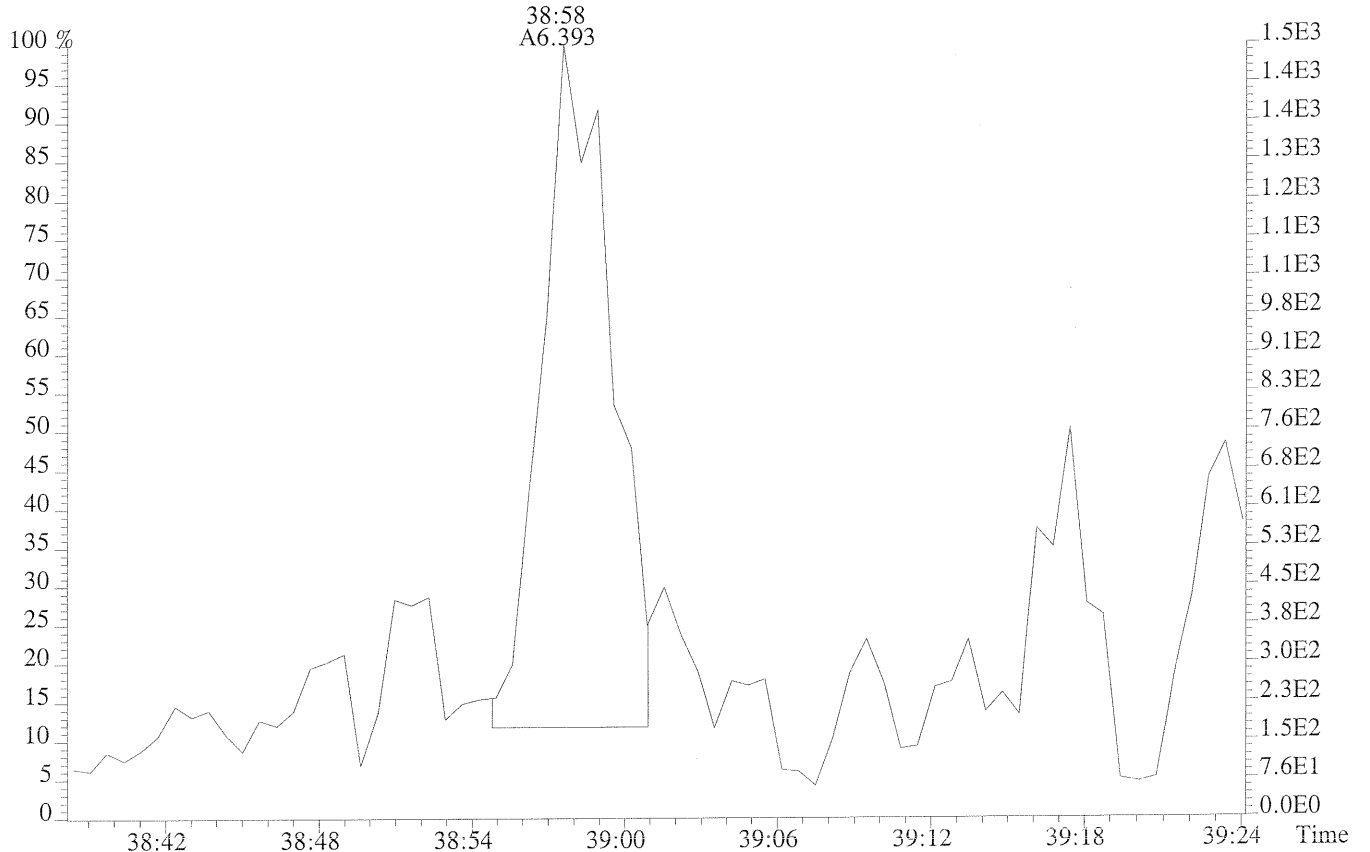
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)



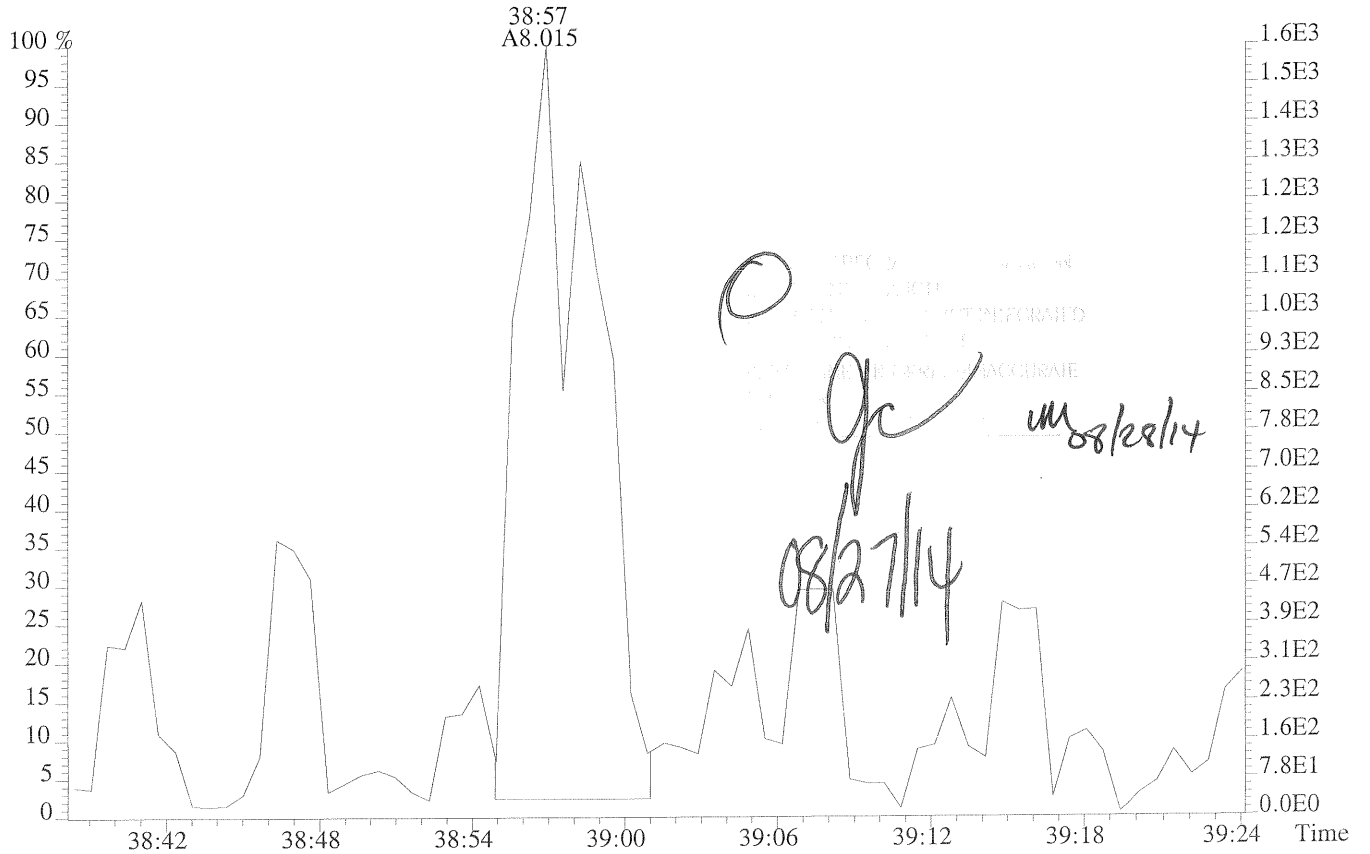
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



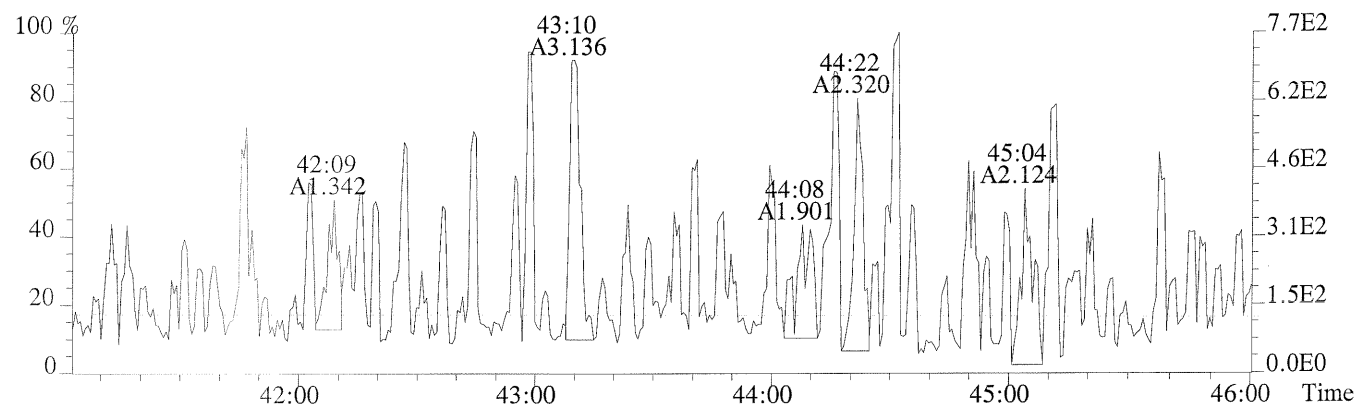
File:P173123 #1-306 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-009  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,T)



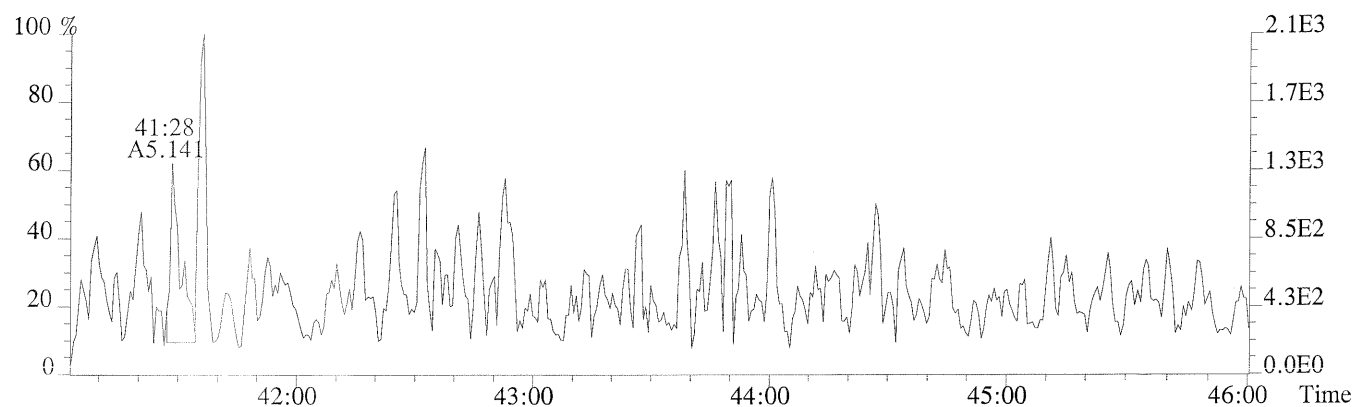
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



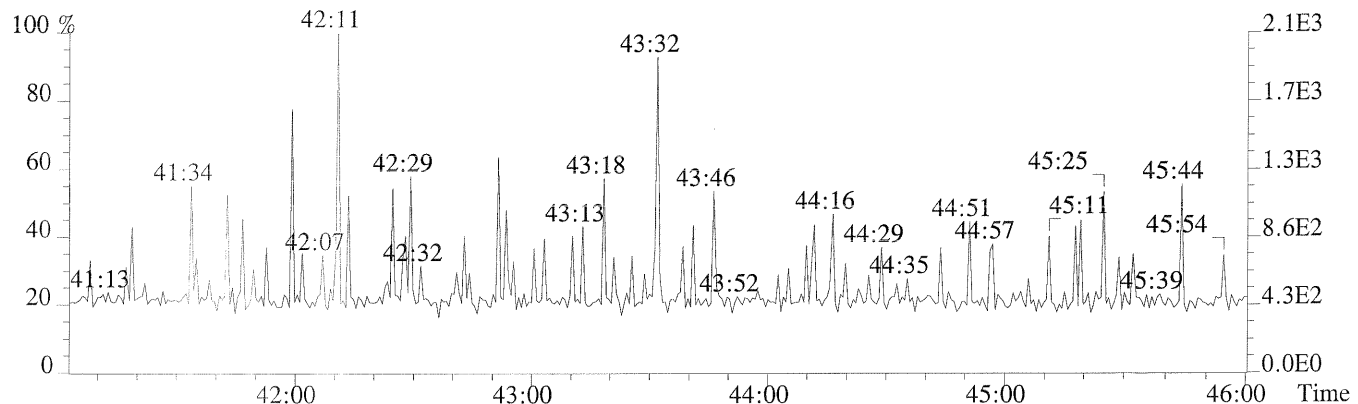
File:P173123 #1-456 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-009  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,180.0,0.40%,F,T)



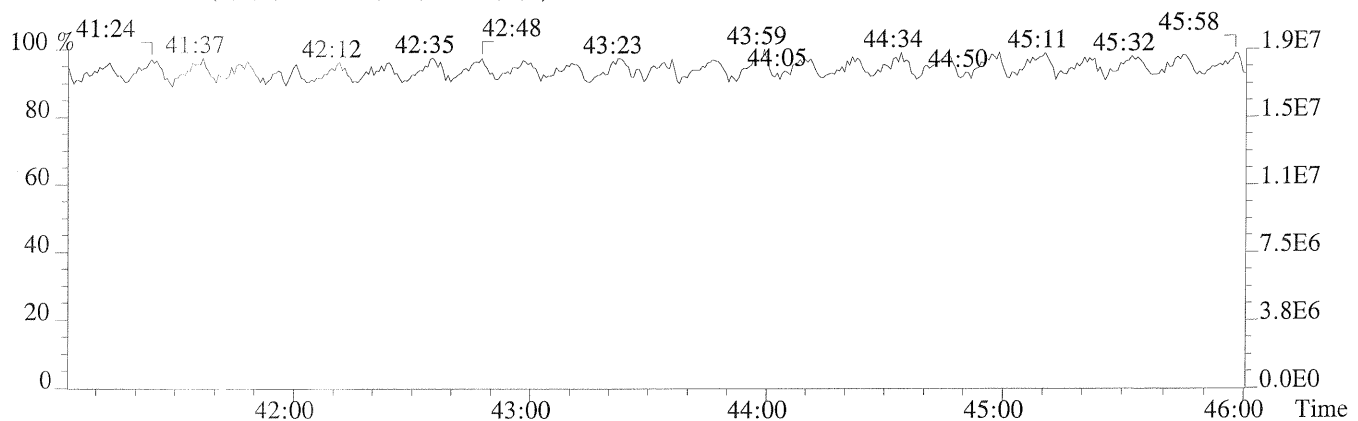
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,592.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



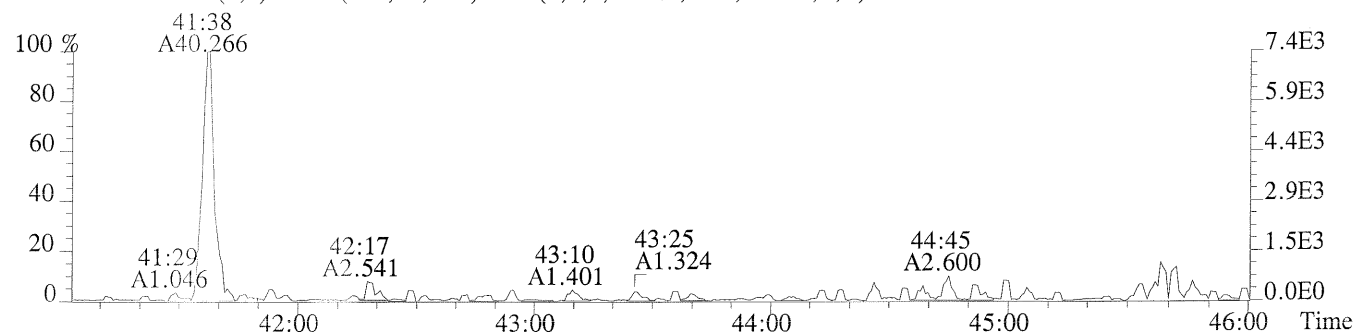
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



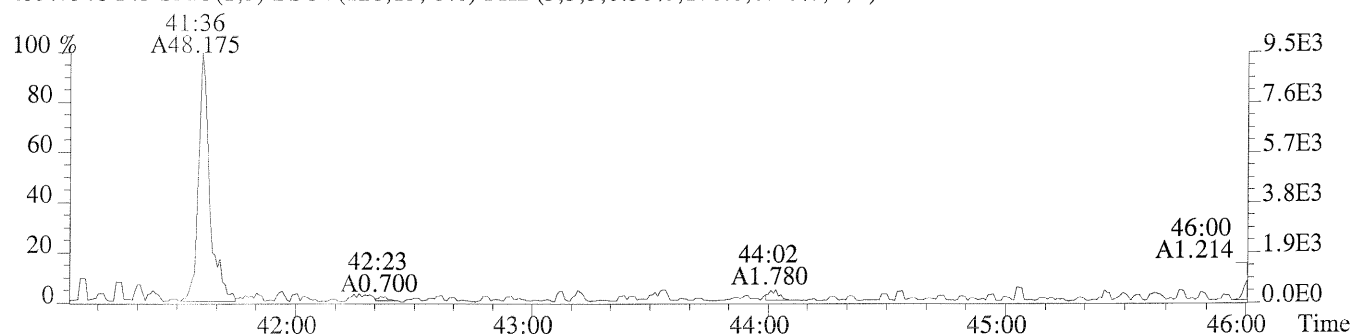
File:P173123 #1-456 Acq:27-AUG-2014 05:51:35 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-009

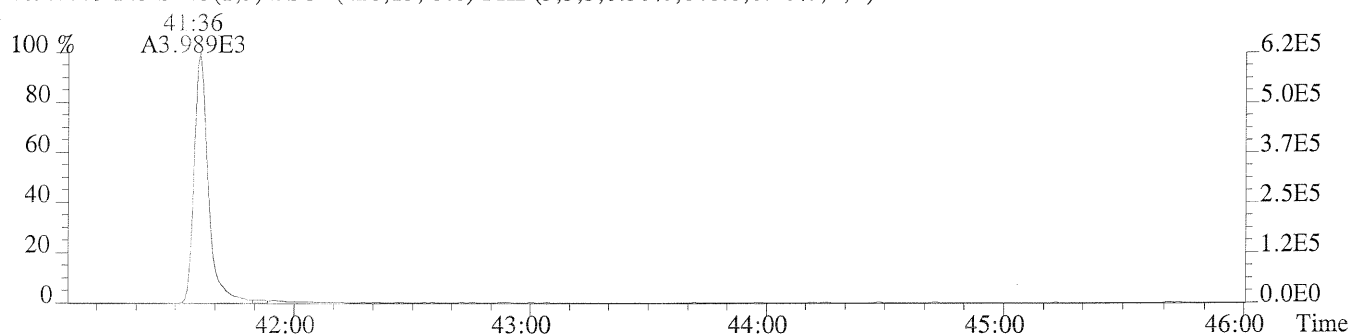
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,64.0,0.40%,F,T)



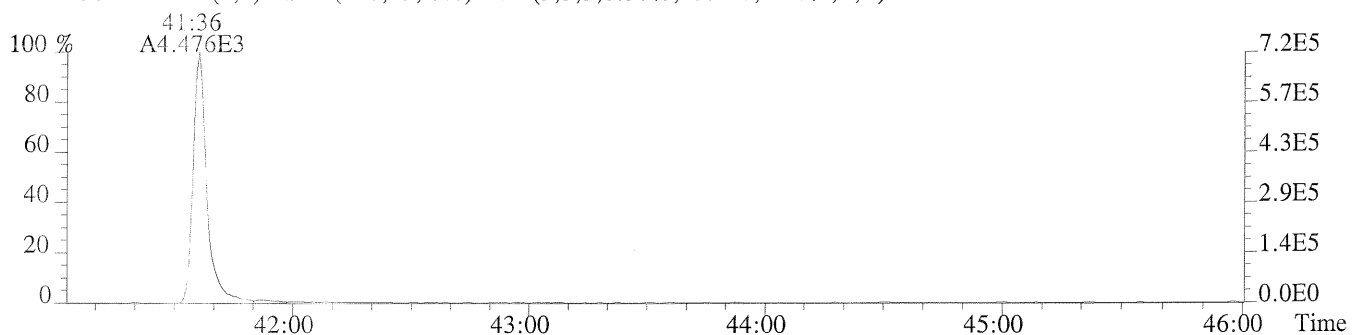
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,176.0,0.40%,F,T)



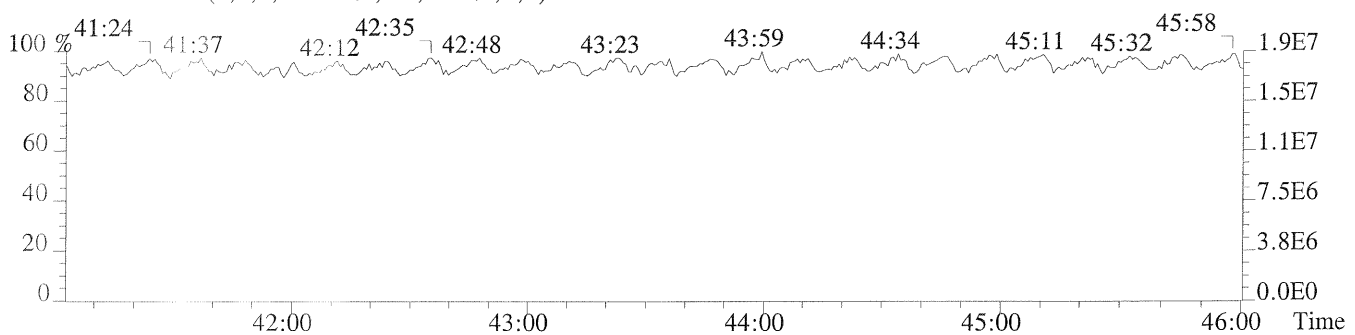
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1552.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-TB REP.2

Run #15 Filename P173124 Samp: 1 Inj: 1 Acquired: 27-AUG-14 06:39:45  
Processed: 27-AUG-14 10:44:421 LAB. ID: K1407971-010

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	7.60e+01	*	*	6.76e+02	*
2	1,2,3,7,8-PeCDF	*	4.80e+01	*	*	4.08e+02	*
3	2,3,4,7,8-PeCDF	*	4.80e+01	*	*	4.08e+02	*
4	1,2,3,4,7,8-HxCDF	*	6.40e+01	*	*	8.00e+01	*
5	1,2,3,6,7,8-HxCDF	*	6.40e+01	*	*	8.00e+01	*
6	2,3,4,6,7,8-HxCDF	*	6.40e+01	*	*	8.00e+01	*
7	1,2,3,7,8,9-HxCDF	*	6.40e+01	*	*	8.00e+01	*
8	1,2,3,4,6,7,8-HpCDF	5.27e+02	5.60e+01	9.4e+00	8.62e+02	1.16e+02	7.4e+00
9	1,2,3,4,7,8,9-HpCDF	*	5.60e+01	*	*	1.16e+02	*
10	OCDF	*	8.00e+01	*	*	4.20e+02	*
11	2,3,7,8-TCDD	*	4.52e+02	*	*	3.24e+02	*
12	1,2,3,7,8-PeCDD	*	3.12e+02	*	*	6.80e+01	*
13	1,2,3,4,7,8-HxCDD	*	6.40e+01	*	*	1.36e+02	*
14	1,2,3,6,7,8-HxCDD	*	6.40e+01	*	*	1.36e+02	*
15	1,2,3,7,8,9-HxCDD	*	6.40e+01	*	*	1.36e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.28e+03	1.40e+02	9.1e+00	1.03e+03	6.80e+01	1.5e+01
17	OCDD	7.40e+03	1.00e+02	7.4e+01	9.85e+03	2.16e+02	4.6e+01
18	13C-2,3,7,8-TCDF	2.46e+05	5.20e+02	4.7e+02	3.03e+05	3.92e+02	7.7e+02
19	13C-1,2,3,7,8-PeCDF	4.94e+05	6.80e+01	7.3e+03	2.94e+05	1.84e+02	1.6e+03
20	13C-2,3,4,7,8-PeCDF	5.62e+05	6.80e+01	8.3e+03	3.48e+05	1.84e+02	1.9e+03
21	13C-1,2,3,4,7,8-HxCDF	3.15e+05	1.32e+02	2.4e+03	6.20e+05	2.36e+02	2.6e+03
22	13C-1,2,3,6,7,8-HxCDF	4.01e+05	1.32e+02	3.0e+03	8.03e+05	2.36e+02	3.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.72e+05	1.32e+02	2.8e+03	7.19e+05	2.36e+02	3.0e+03
24	13C-1,2,3,7,8,9-HxCDF	2.79e+05	1.32e+02	2.1e+03	5.75e+05	2.36e+02	2.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.99e+05	7.36e+02	4.1e+02	7.00e+05	8.24e+02	8.5e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.37e+05	7.36e+02	3.2e+02	5.36e+05	8.24e+02	6.5e+02
27	13C-2,3,7,8-TCDD	1.99e+05	1.54e+03	1.3e+02	2.60e+05	8.80e+02	3.0e+02
28	13C-1,2,3,7,8-PeCDD	4.81e+05	2.40e+02	2.0e+03	3.08e+05	6.80e+01	4.5e+03
29	13C-1,2,3,4,7,8-HxCDD	5.73e+05	2.80e+02	2.0e+03	4.39e+05	2.44e+02	1.8e+03
30	13C-1,2,3,6,7,8-HxCDD	5.21e+05	2.80e+02	1.9e+03	4.38e+05	2.44e+02	1.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.84e+05	3.44e+02	1.4e+03	4.29e+05	6.00e+01	7.2e+03
32	13C-OCDD	6.40e+05	8.12e+02	7.9e+02	7.07e+05	7.08e+02	1.0e+03
33	13C-1,2,3,4-TCDD	5.15e+05	1.54e+03	3.4e+02	6.85e+05	8.80e+02	7.8e+02
34	13C-1,2,3,7,8,9-HxCDD	1.17e+06	2.80e+02	4.2e+03	9.51e+05	2.44e+02	3.9e+03
35	37Cl-2,3,7,8-TCDD	1.55e+05	3.84e+02	4.0e+02			

ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office: (713)266-1599. Fax: (713)266-0130

ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

NV SYC14-TB REP.2

Entry: 41 Totals Name: Total Hexa-Furans

Run: 15 File: P173124 Sample: 1 Injection: 1 Function: 3  
Llim: 34:15 Ulim: 37:01  
Acquired: 27-AUG-14 06:39:45 Processed: 27-AUG-14 10:44:42  
Mass: 373.8210 375.8180 Tot Response: 5.61e+00 RRF: 1.180

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:30	3.30e+00	2.31e+00	1.42	yes	5.61e+00	n	n

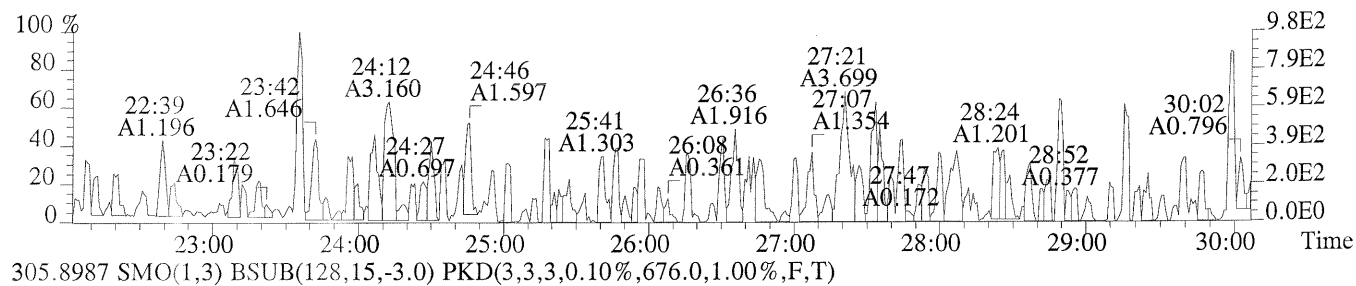
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ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office (713) 266-1599. Fax (713) 266-0130

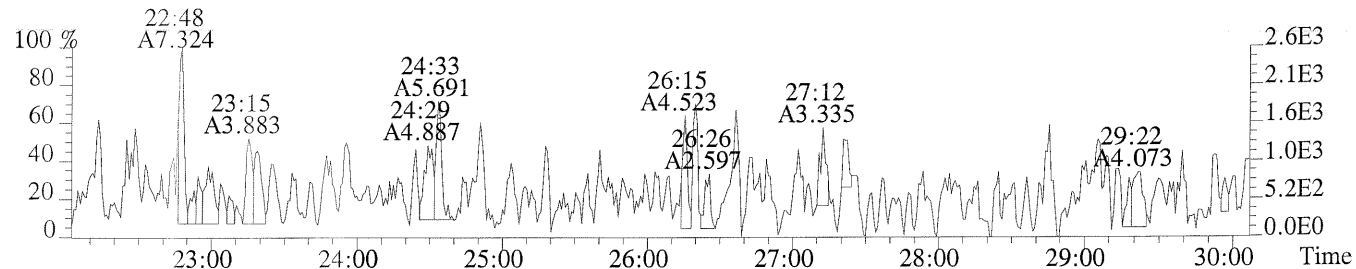




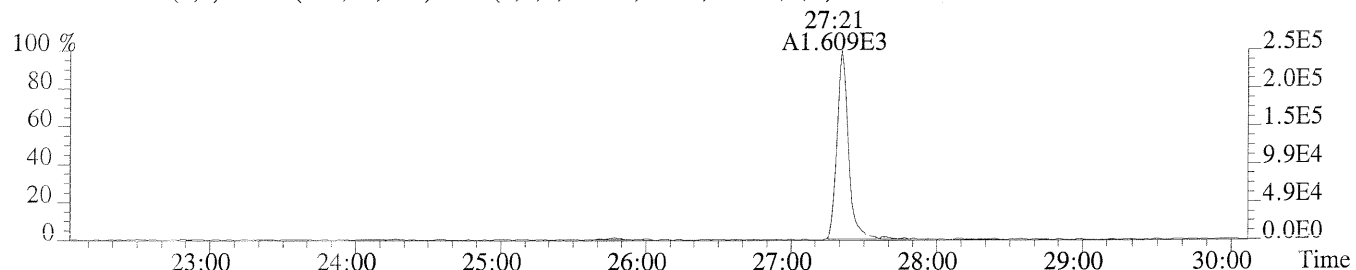
File:P173124 #1-579 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



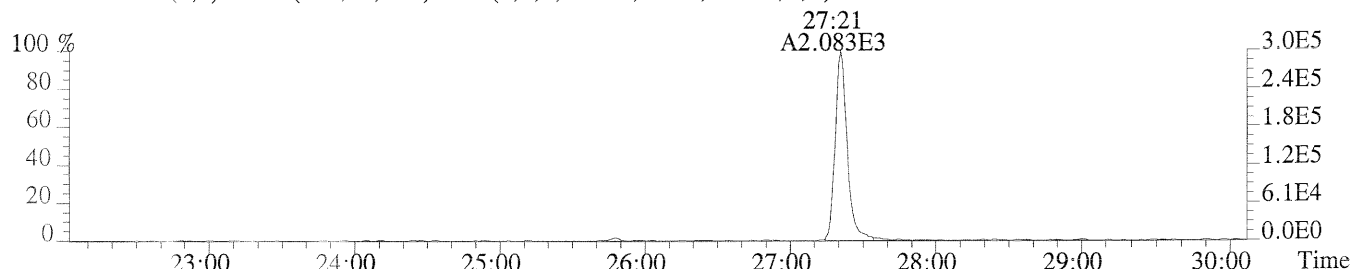
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)



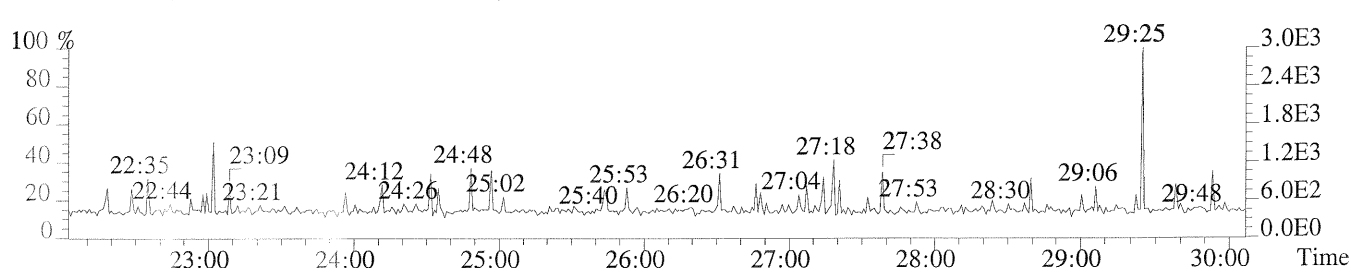
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



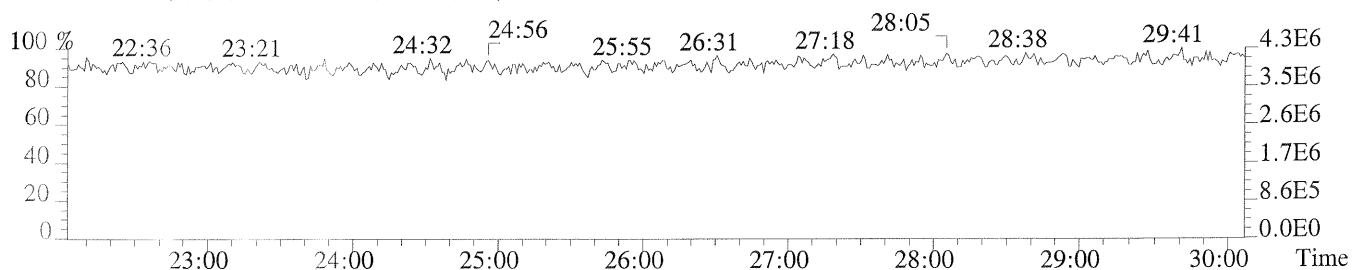
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



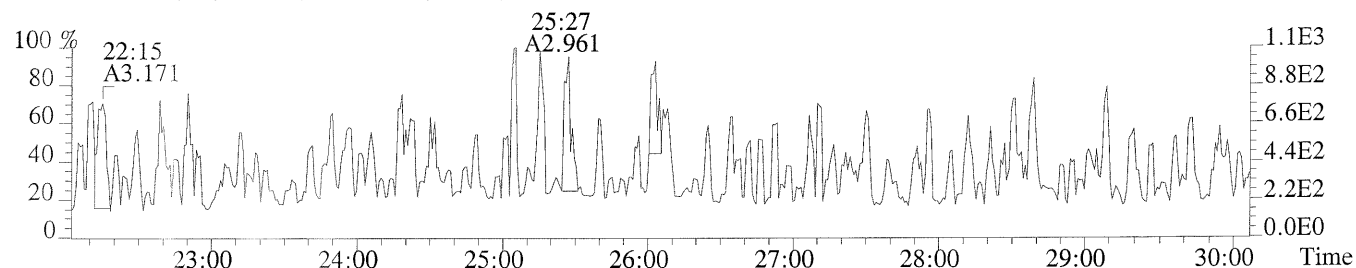
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



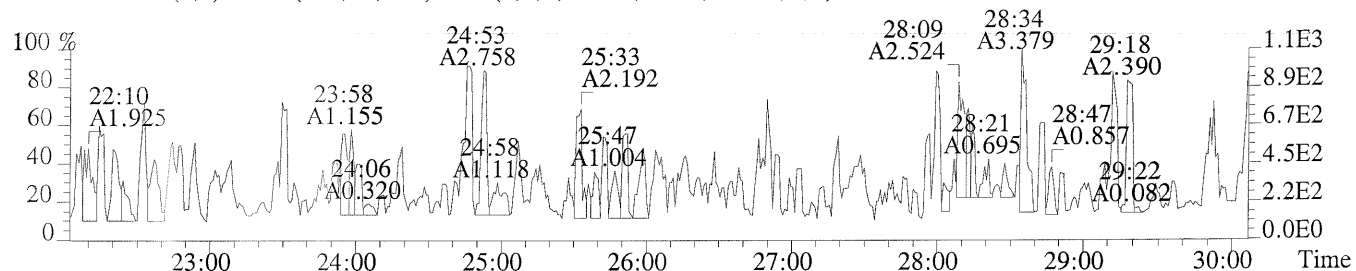
File:P173124 #1-579 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-010

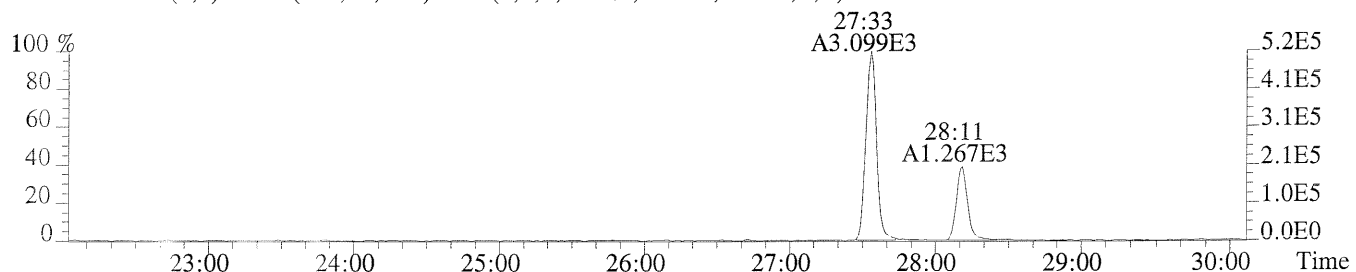
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



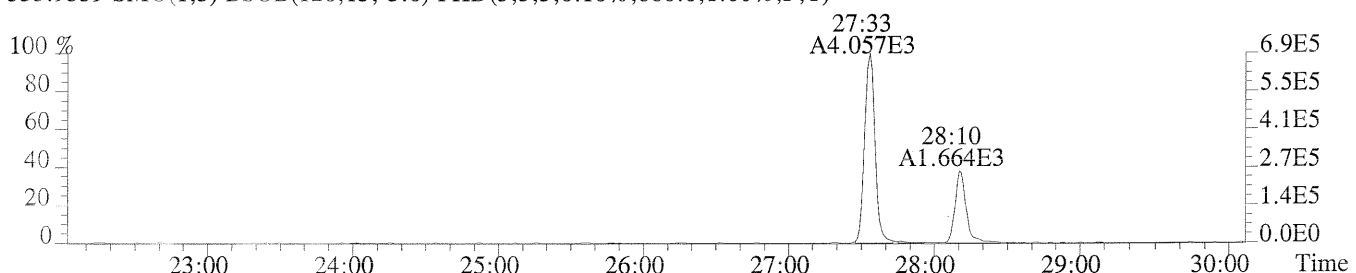
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,T)



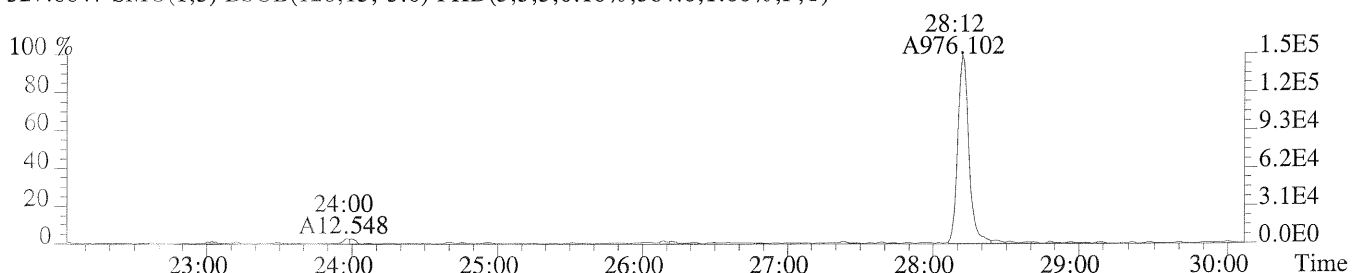
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1536.0,1.00%,F,T)



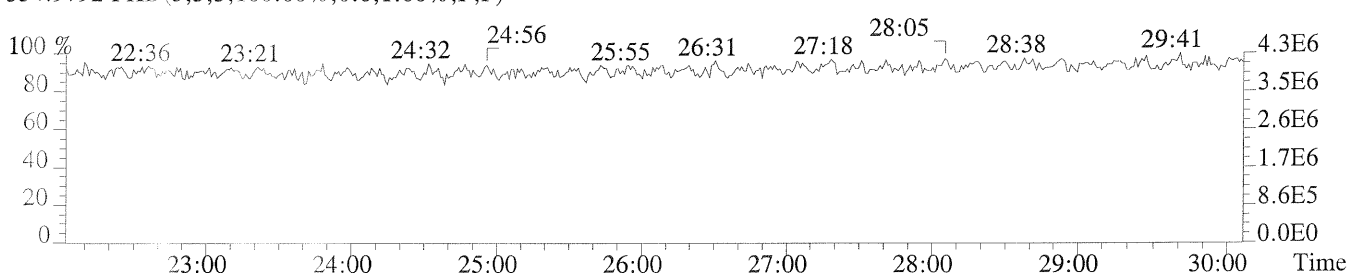
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



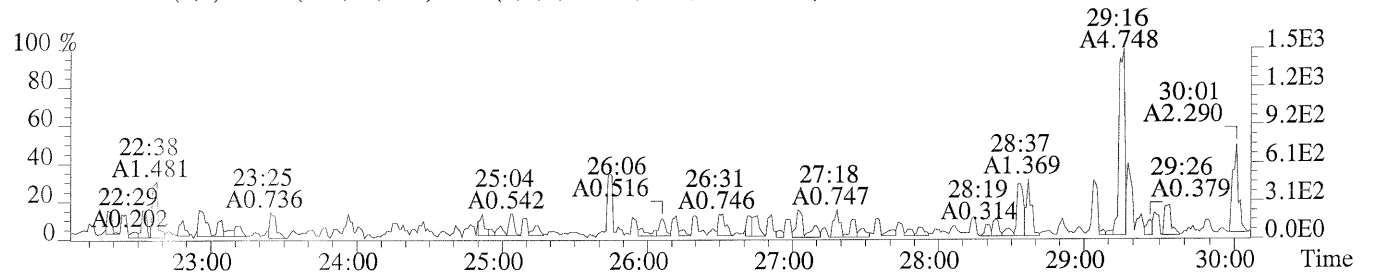
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,384.0,1.00%,F,T)



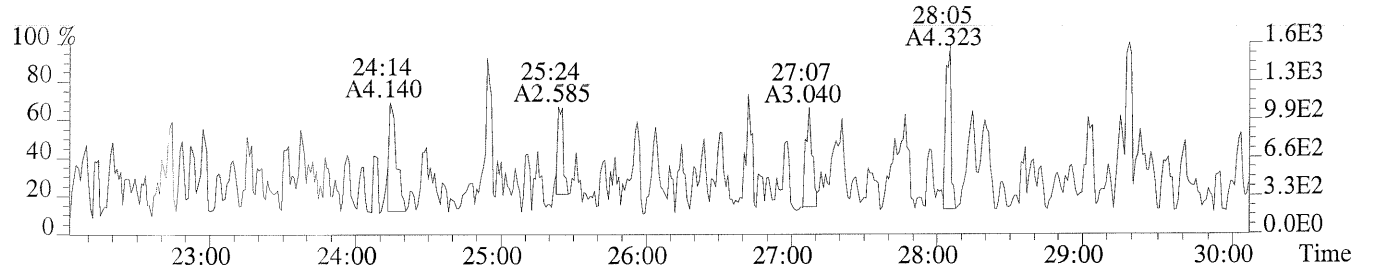
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



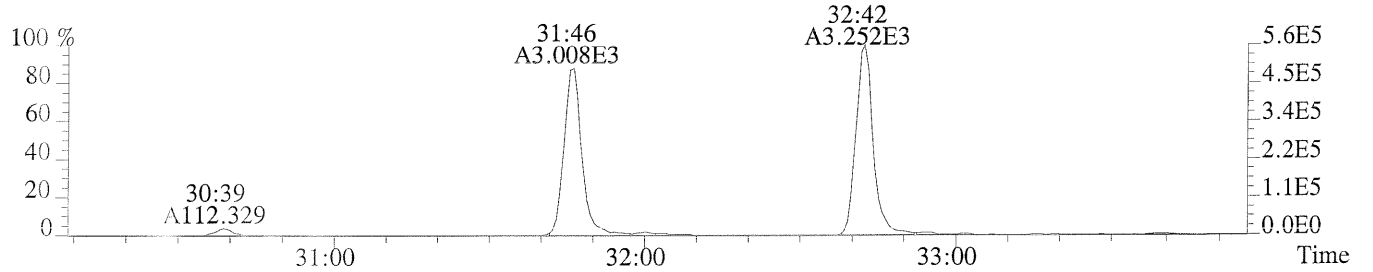
File:P173124 #1-579 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



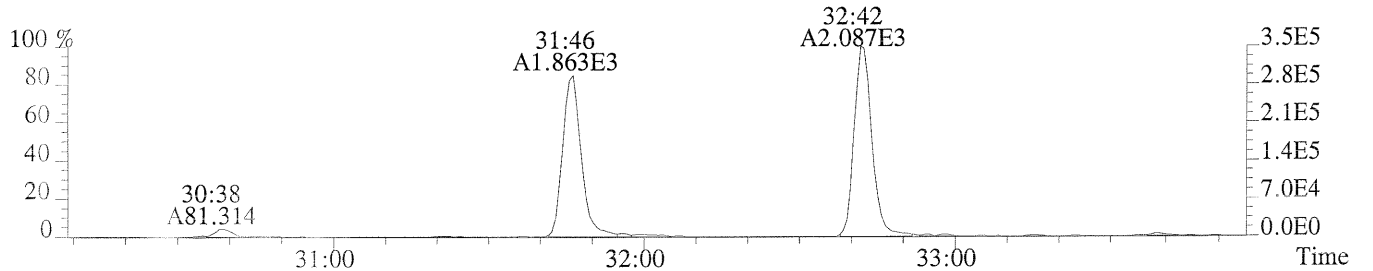
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



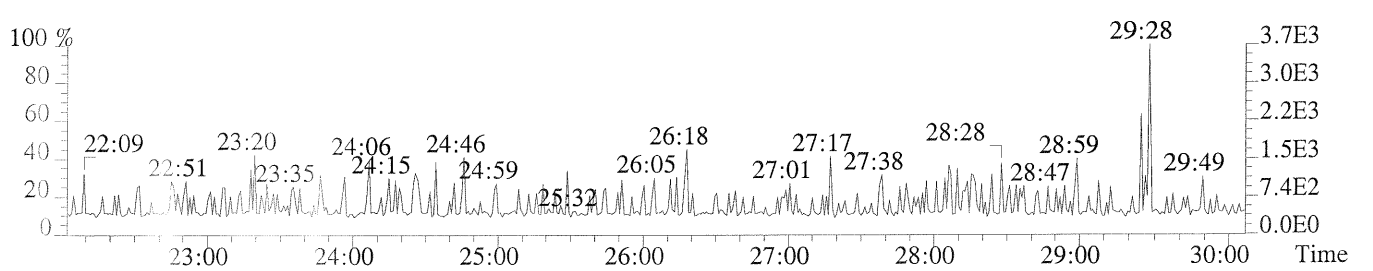
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



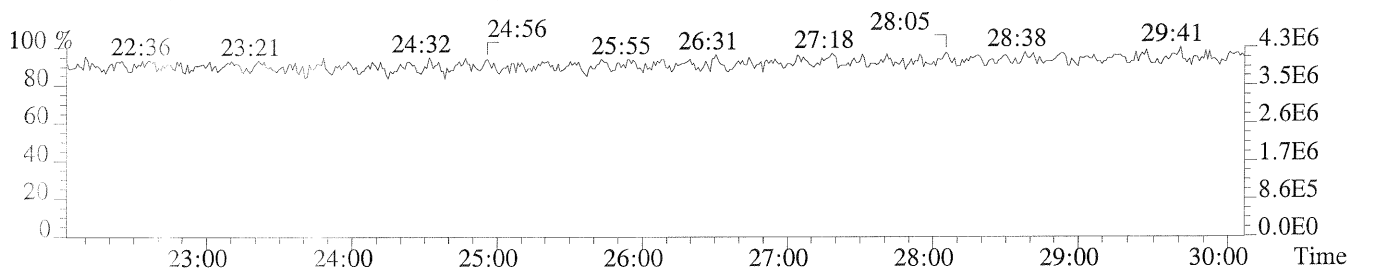
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



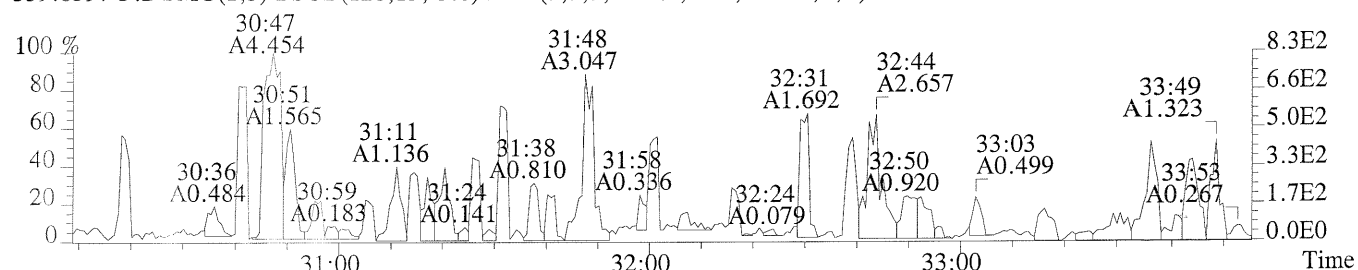
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



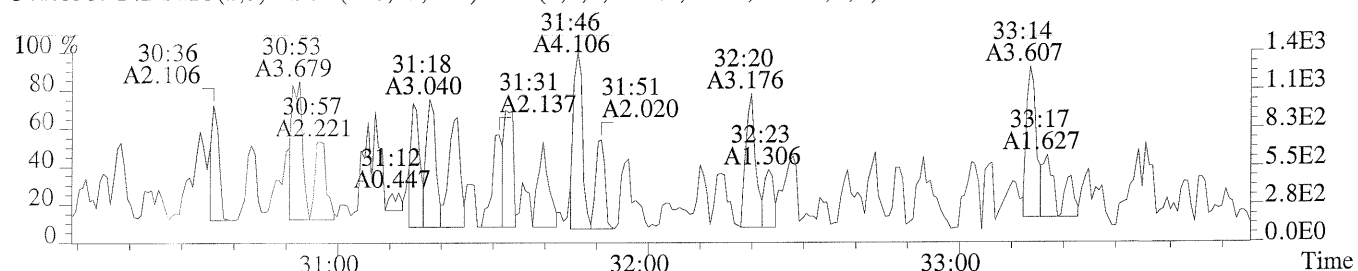
File:P173124 #1-343 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-010

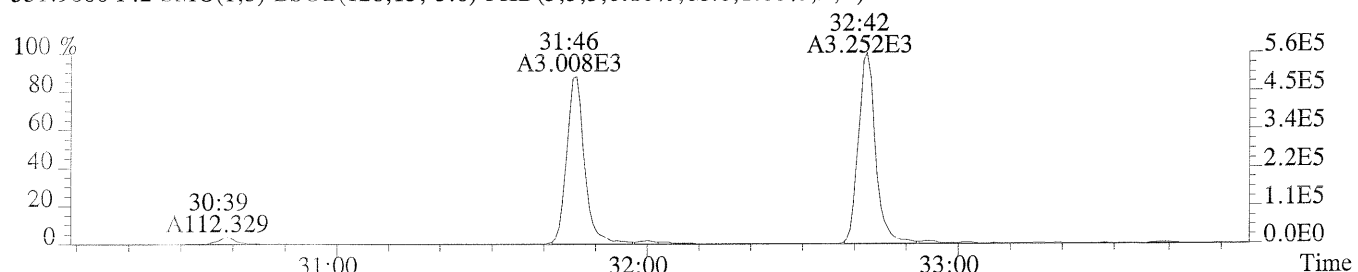
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,48.0,1.00%,F,T)



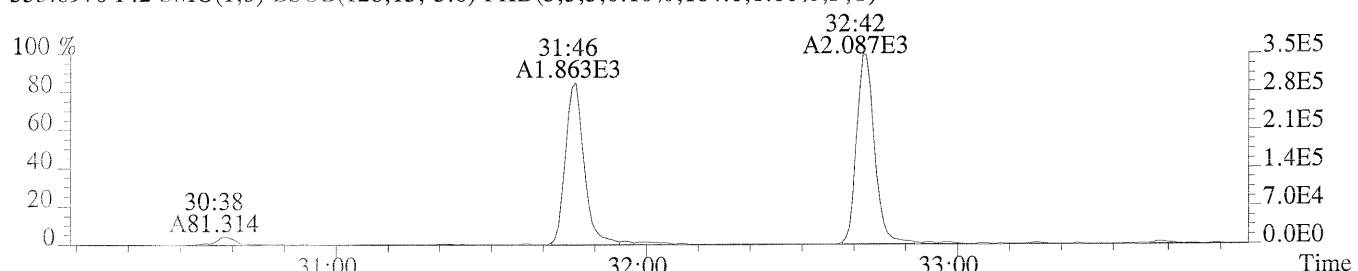
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



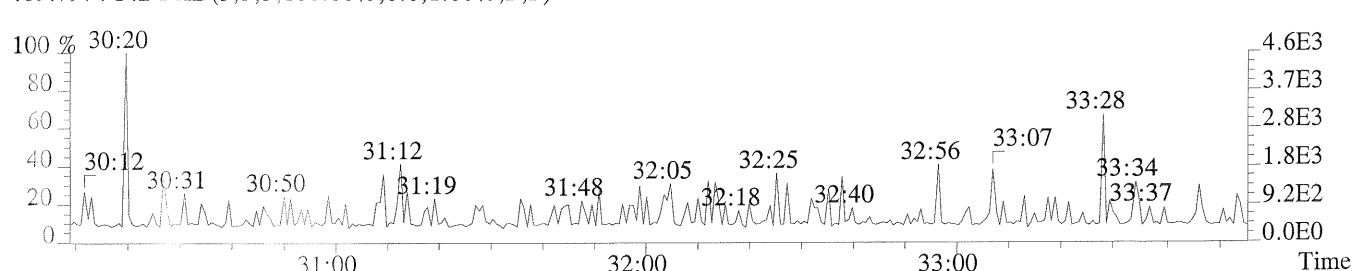
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



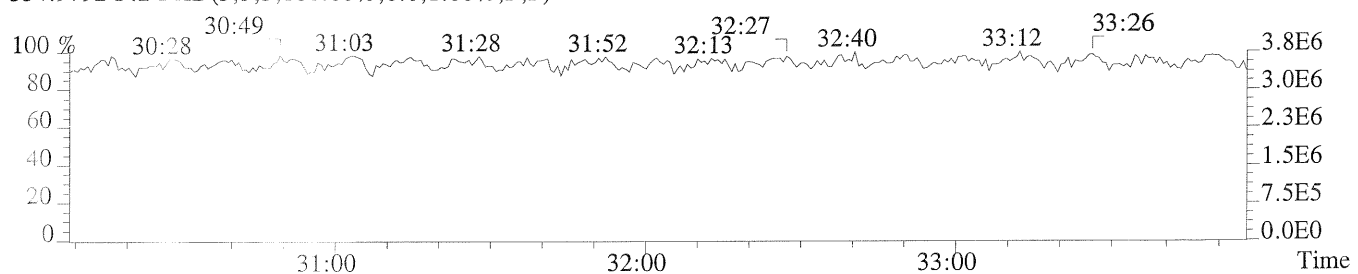
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



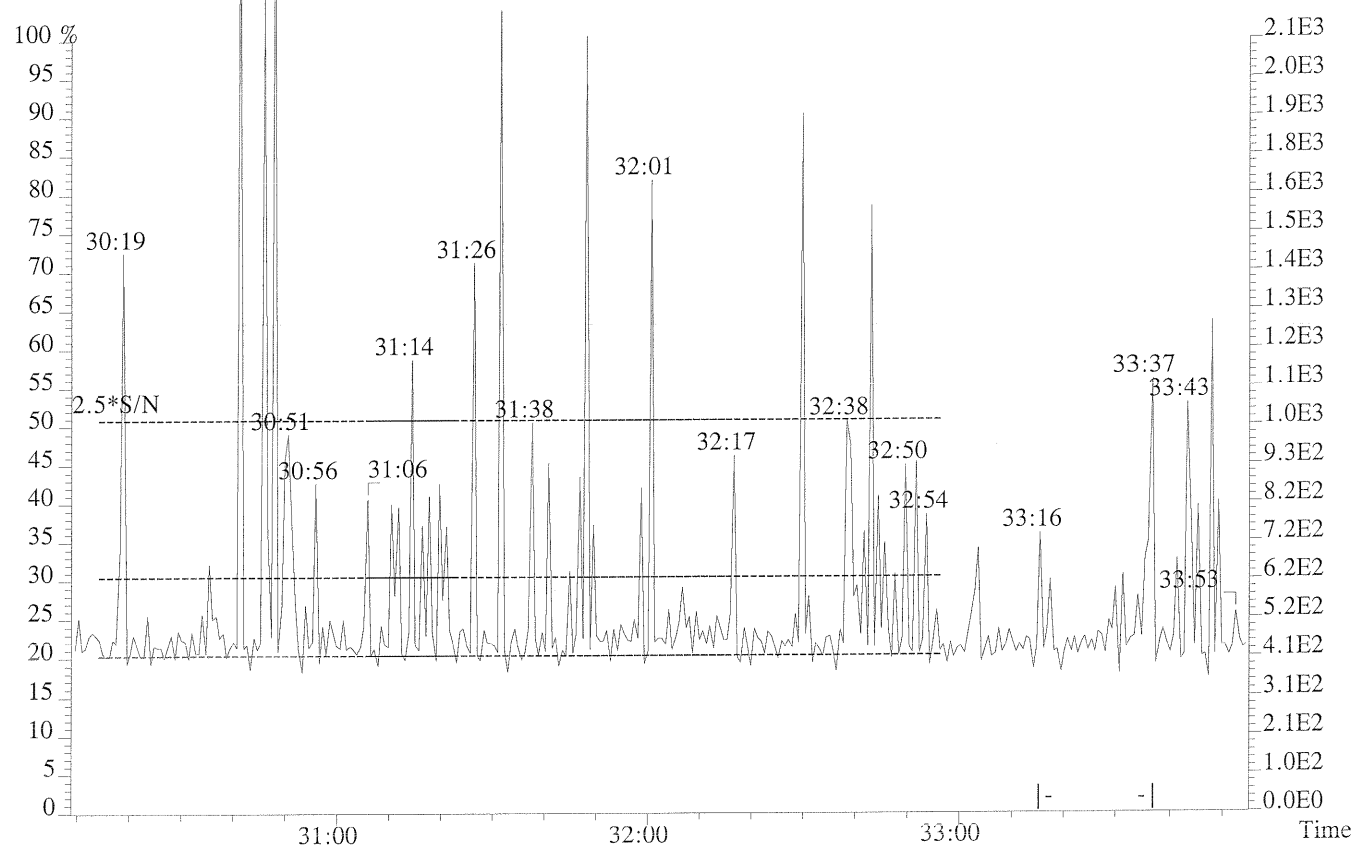
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



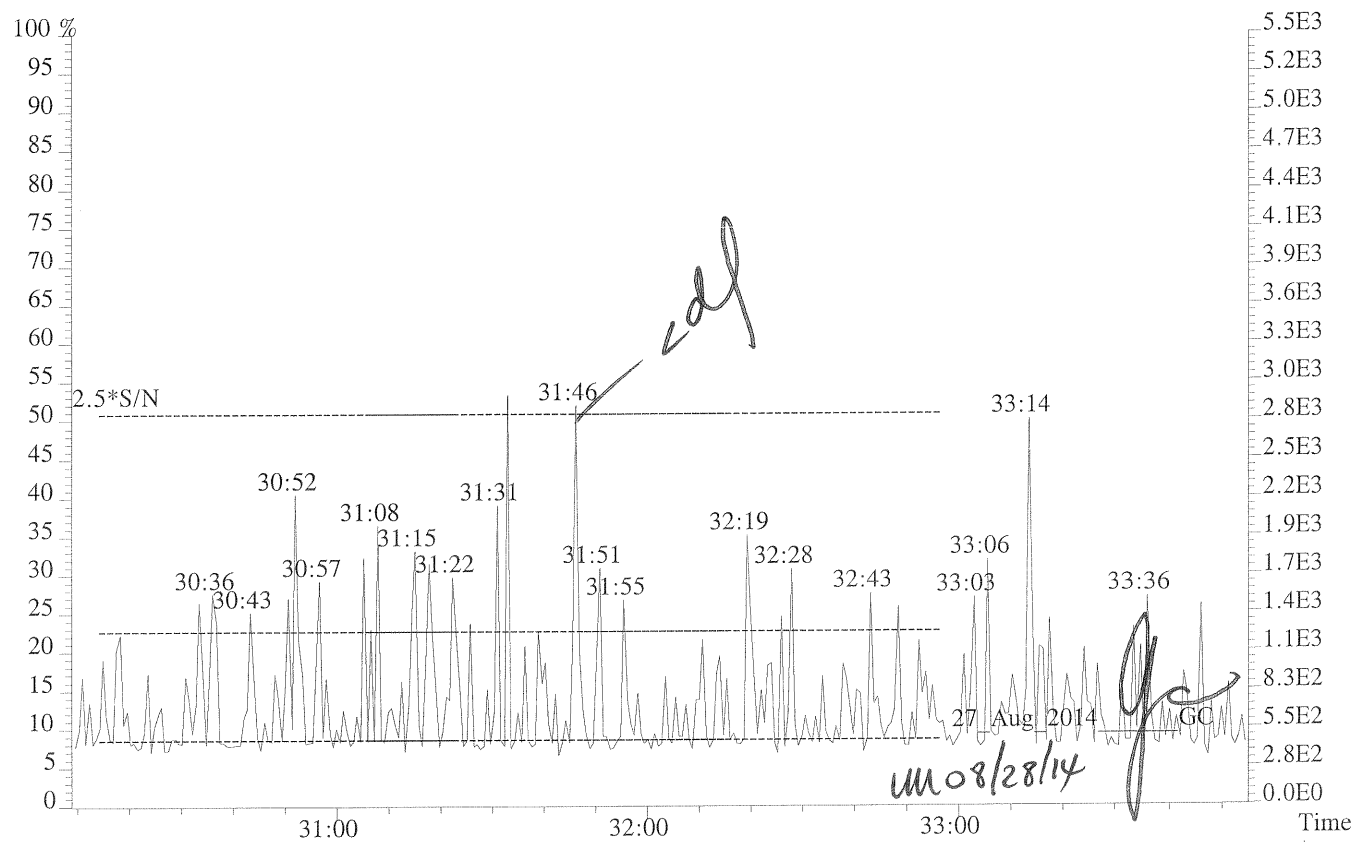
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



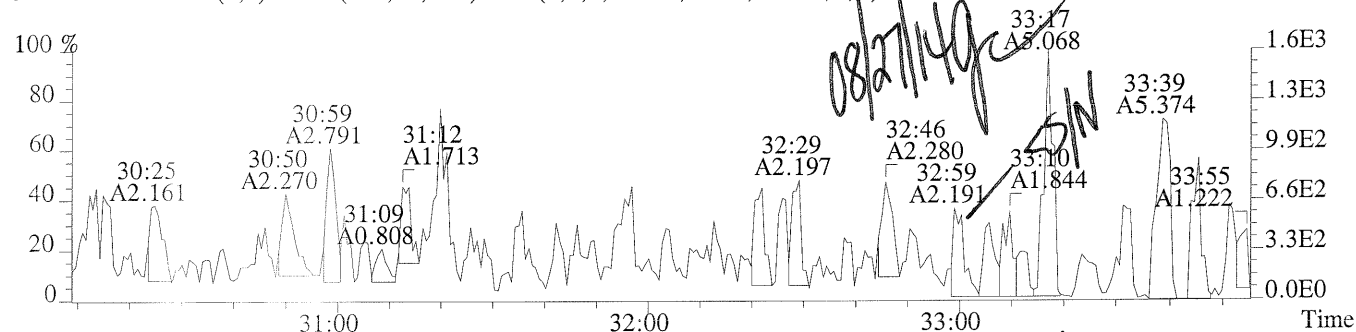
File:P173124 #1-343 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
339.8597 F:2



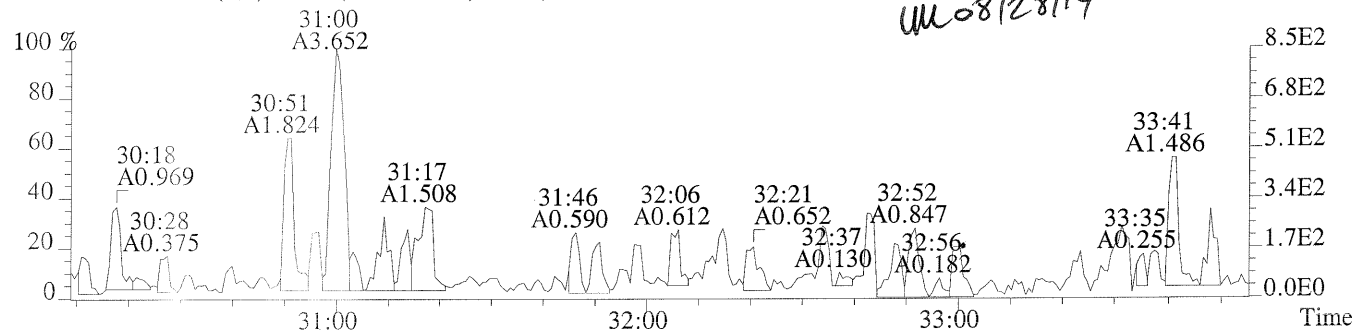
341.8567 F:2



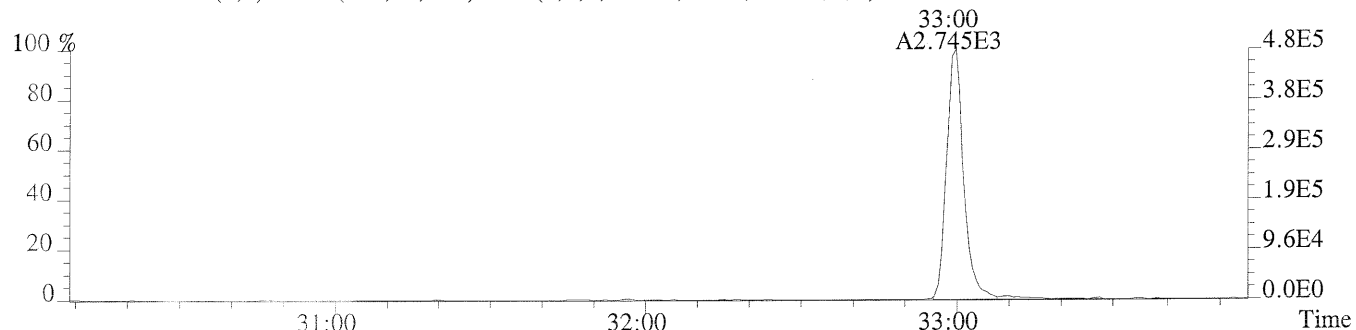
File:P173124 #1-343 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)



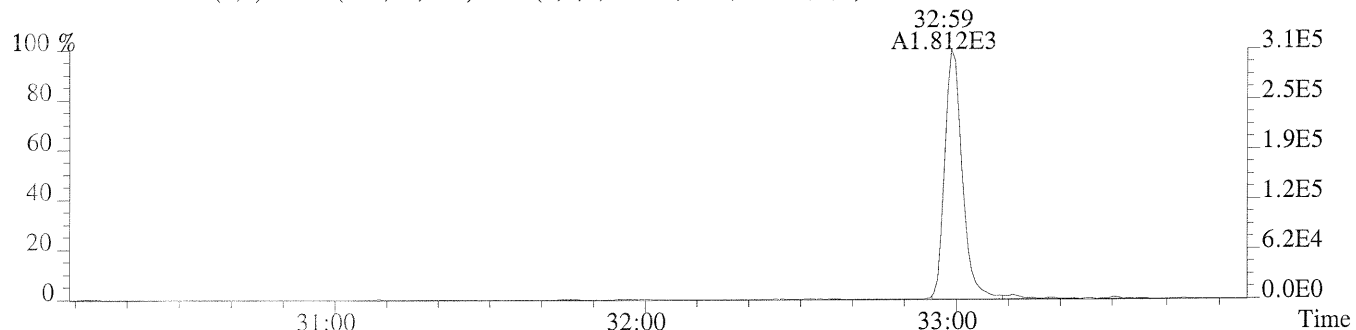
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



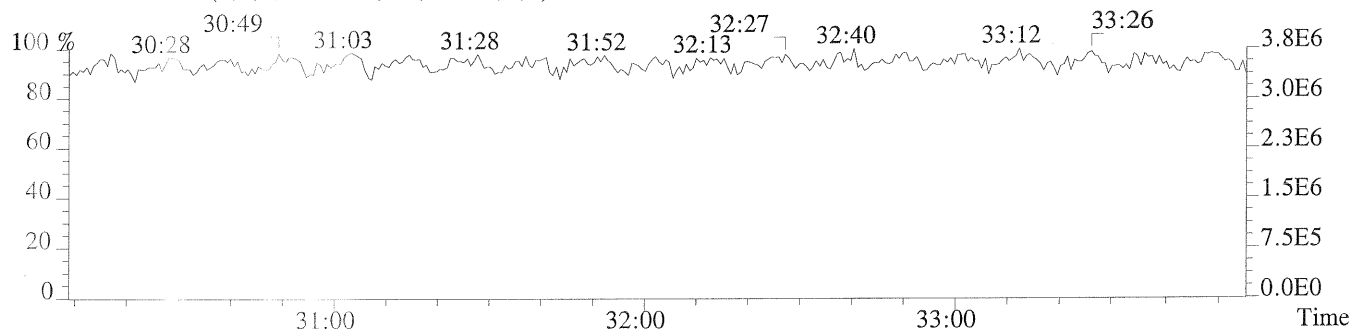
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



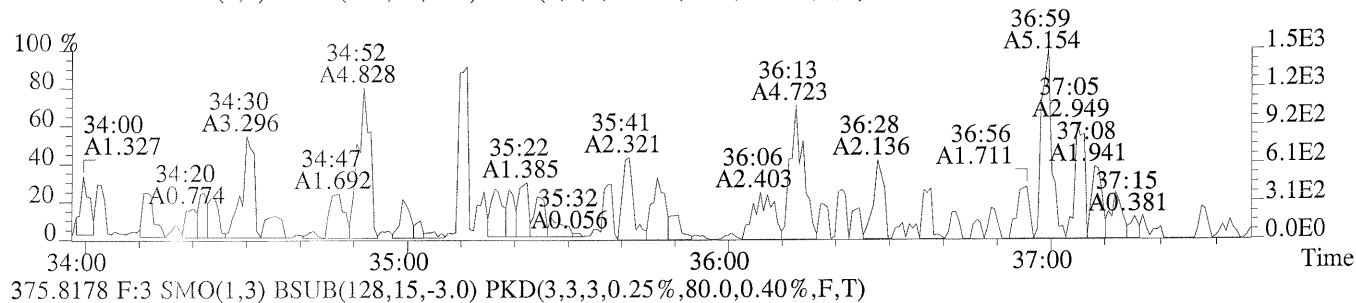
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



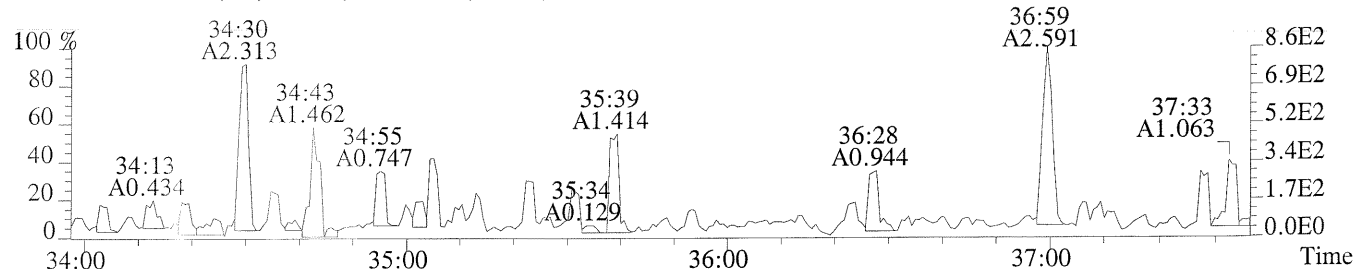
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



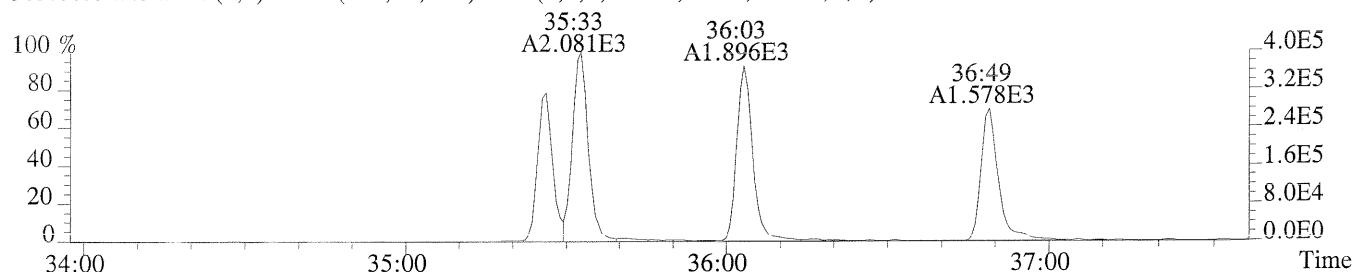
File:P173124 #1-332 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



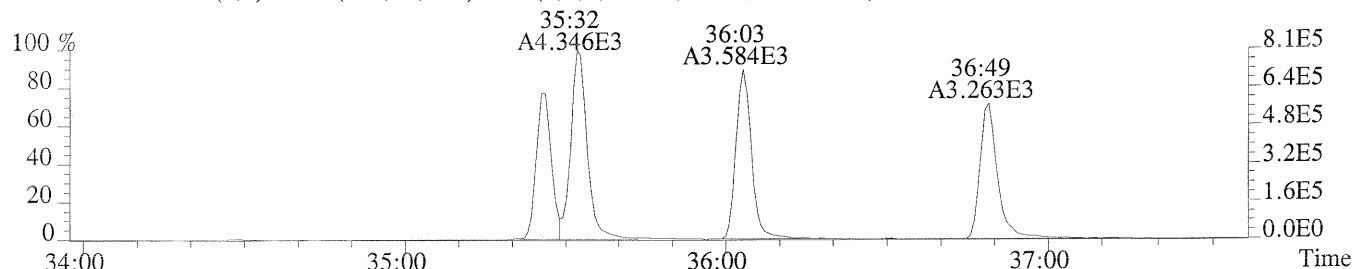
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)



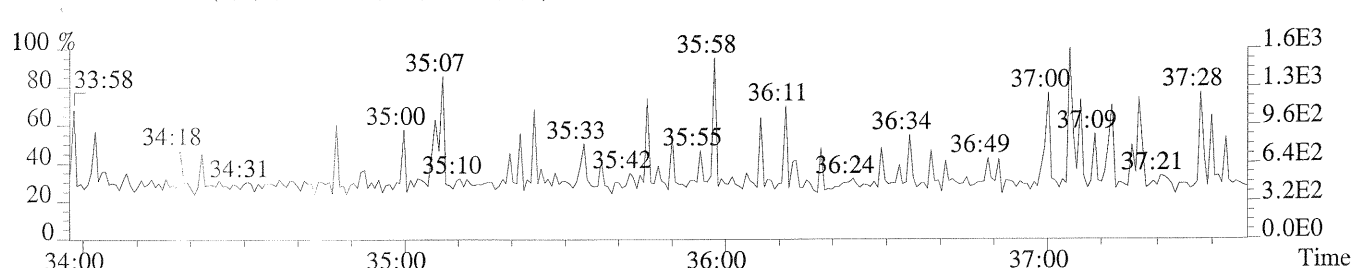
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



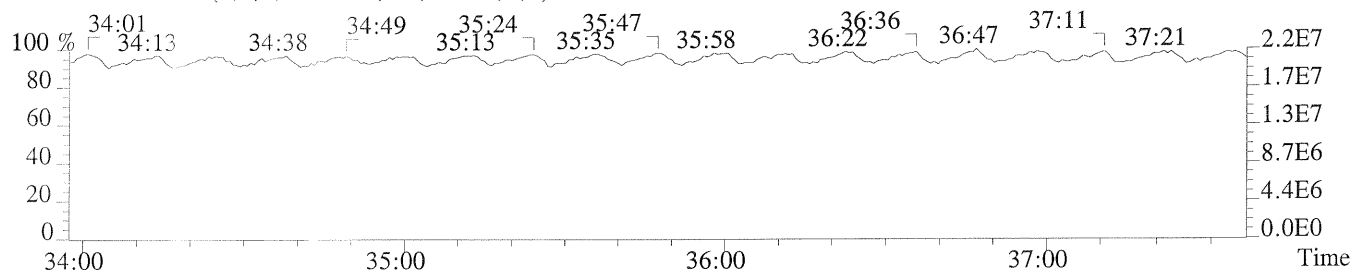
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



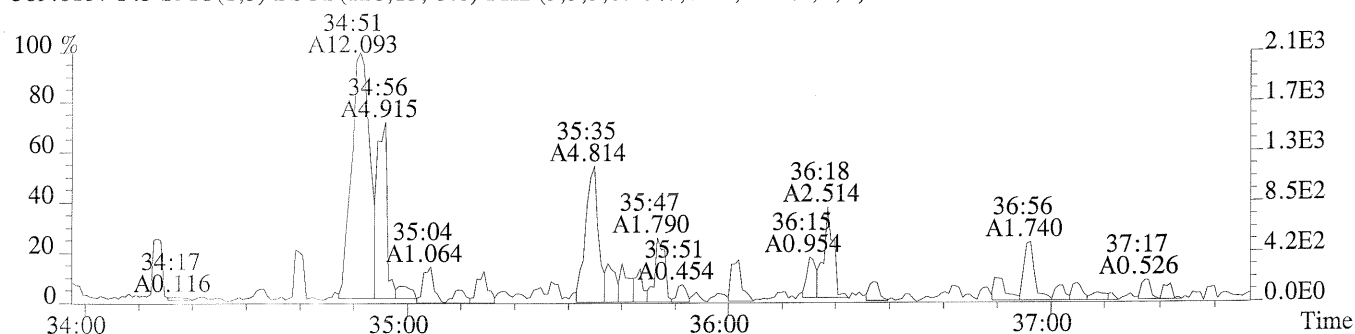
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



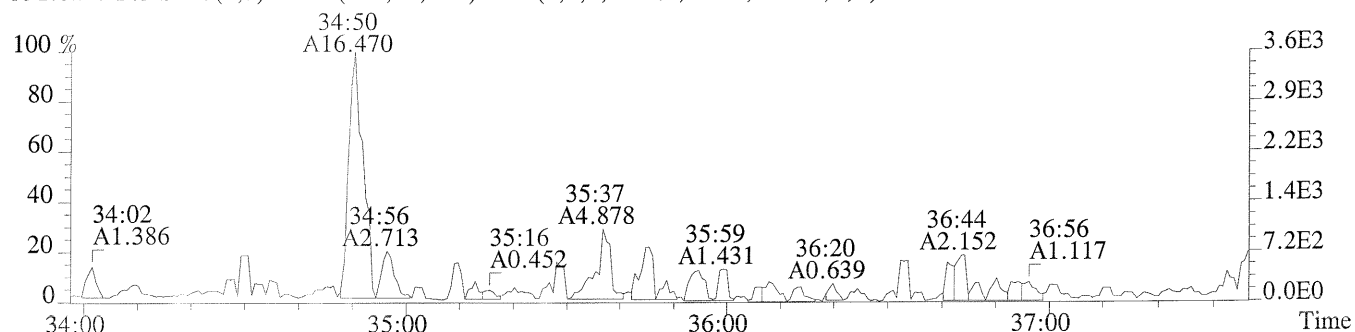
File:P173124 #1-332 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-010

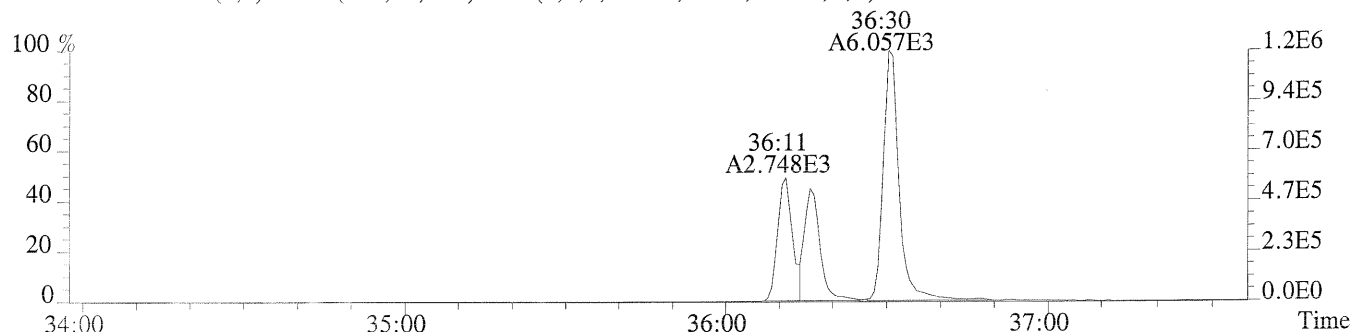
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



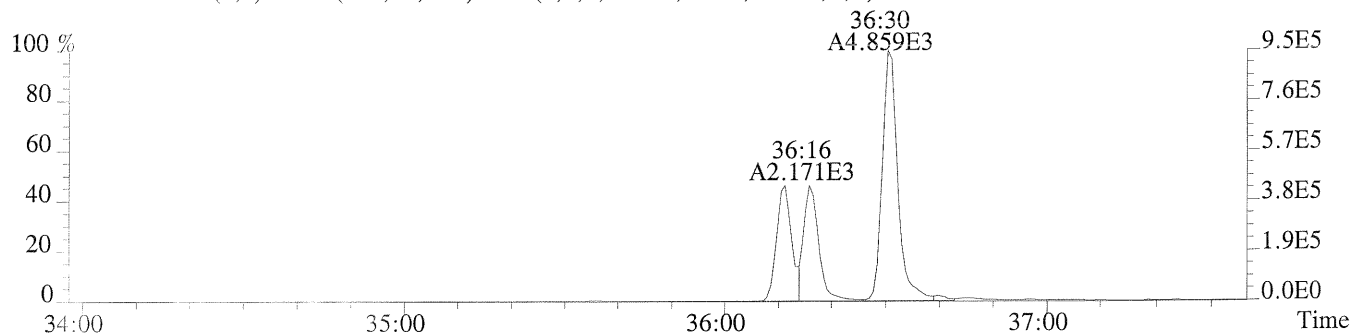
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



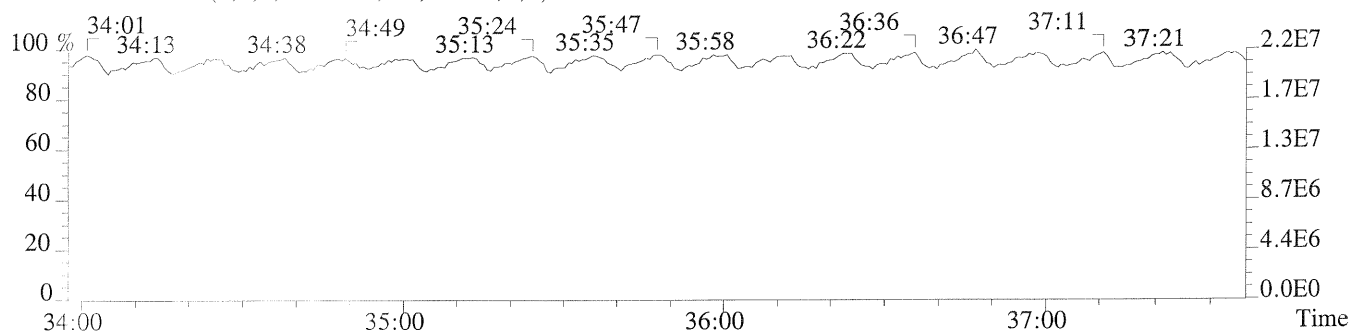
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

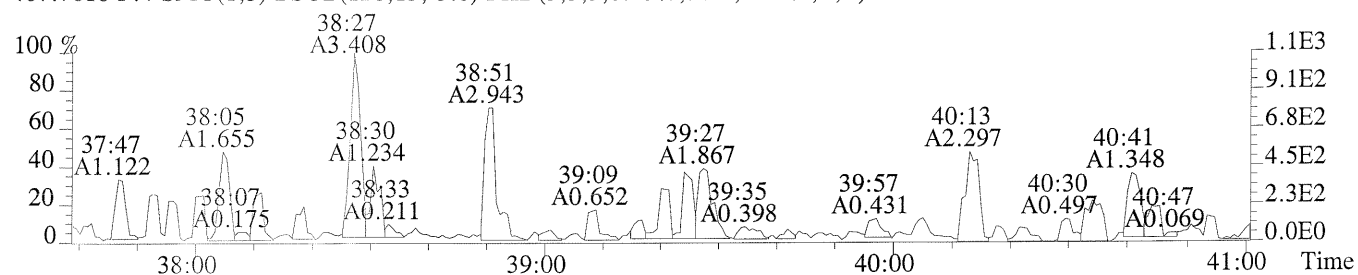




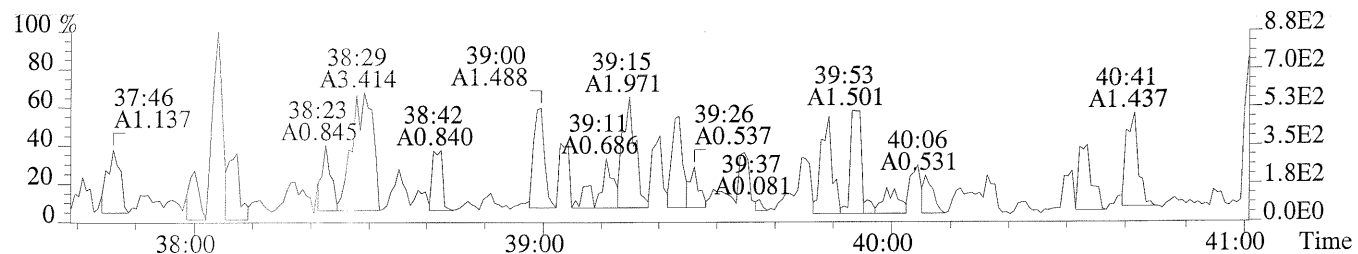
File:P173124 #1-306 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-010

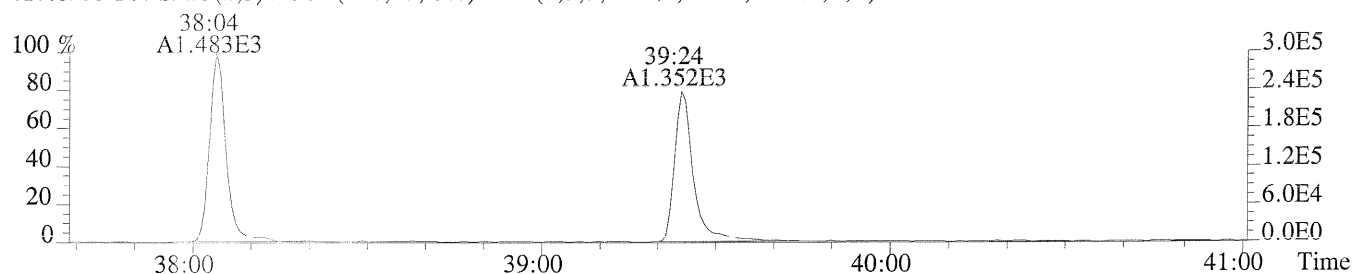
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.50%,F,T)



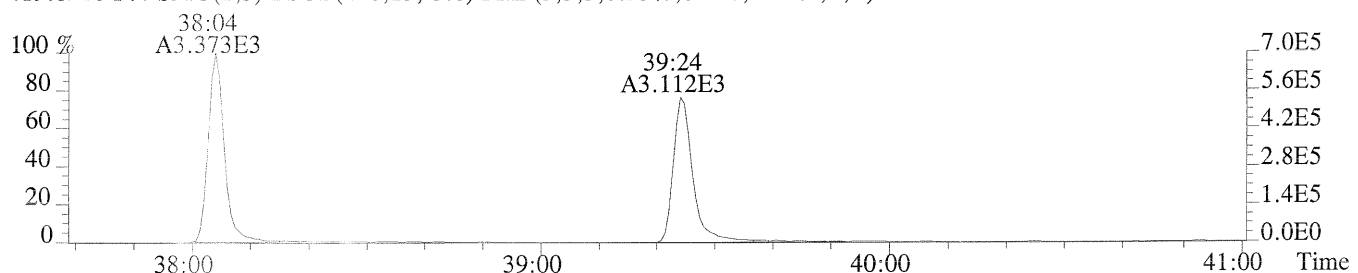
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.50%,F,T)



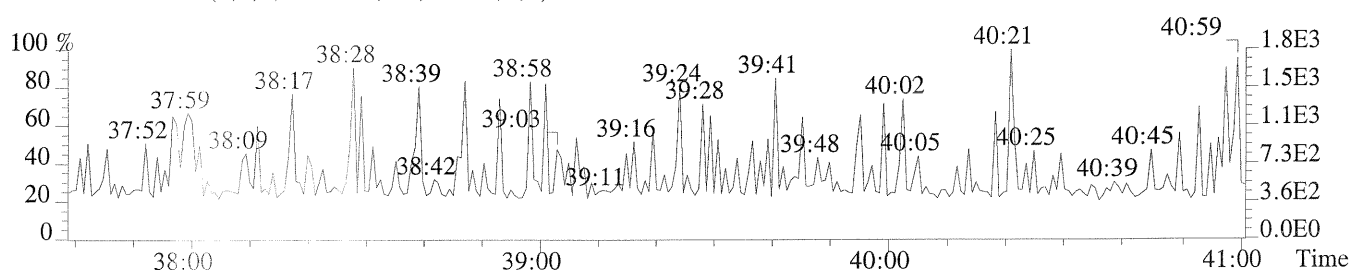
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.50%,F,T)



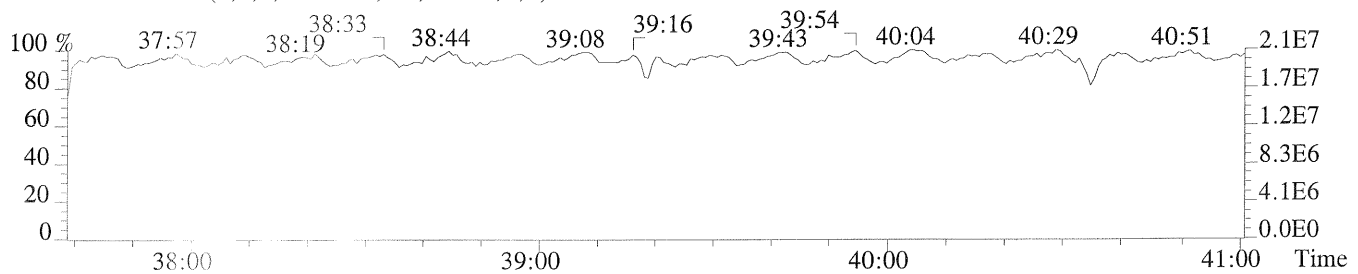
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.50%,F,T)



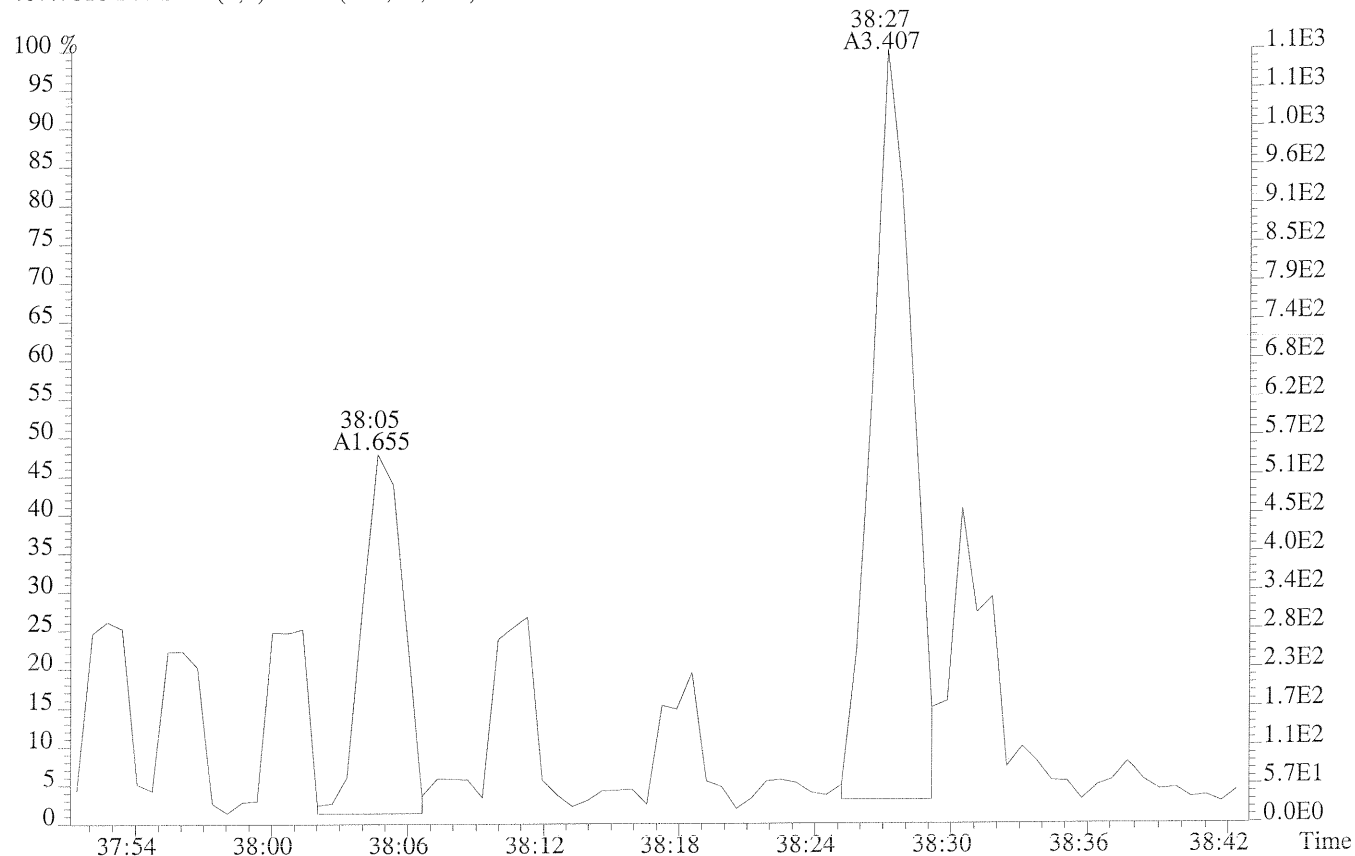
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



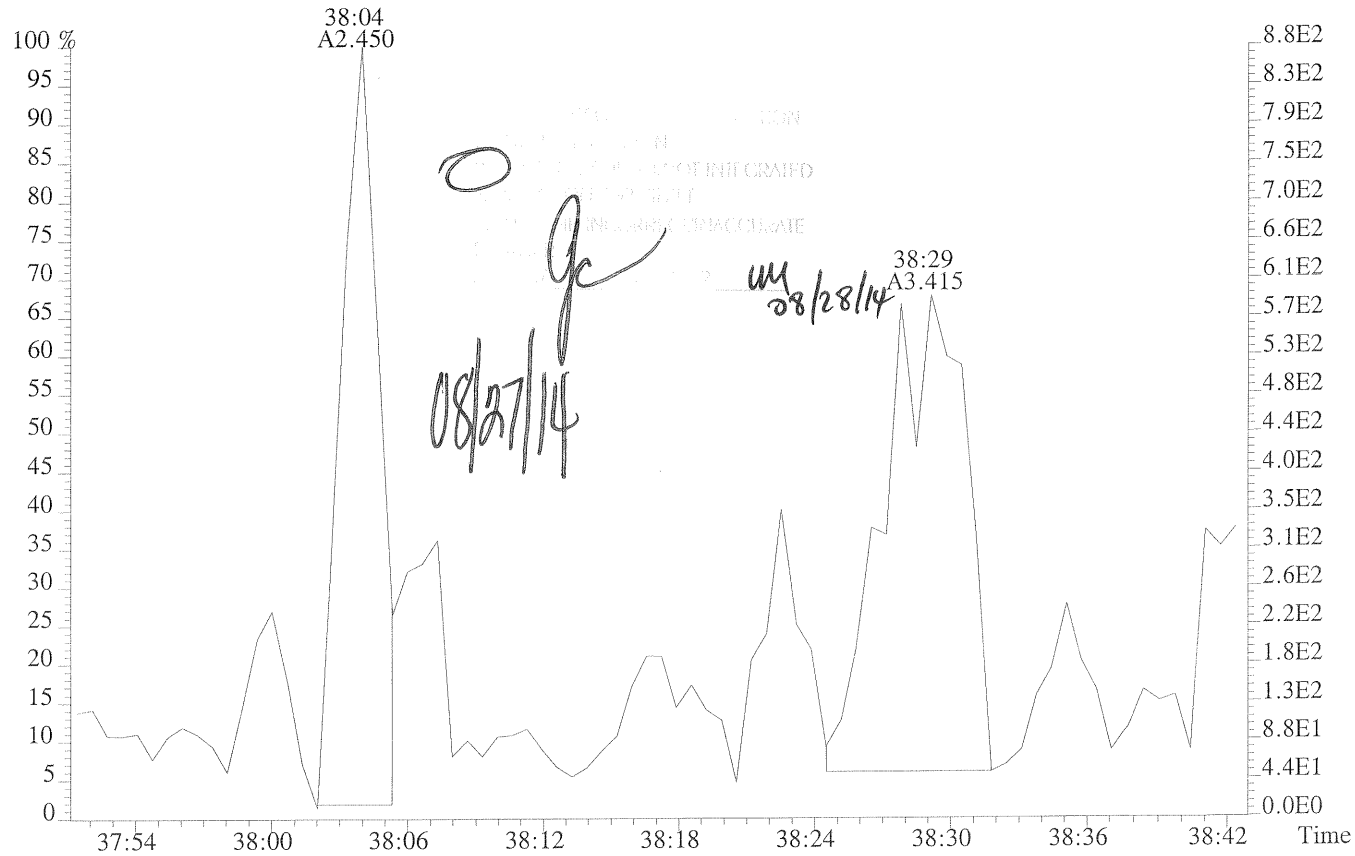
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173124 #1-306 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0)



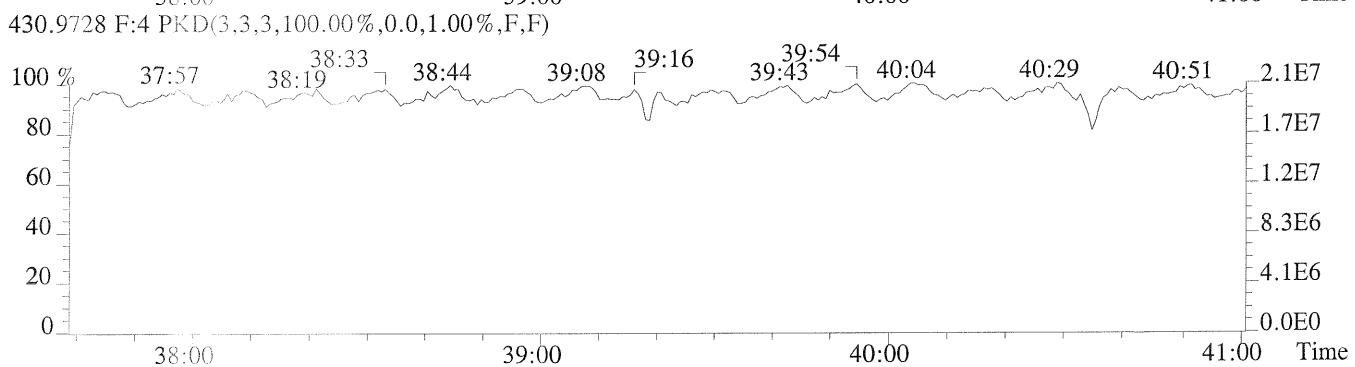
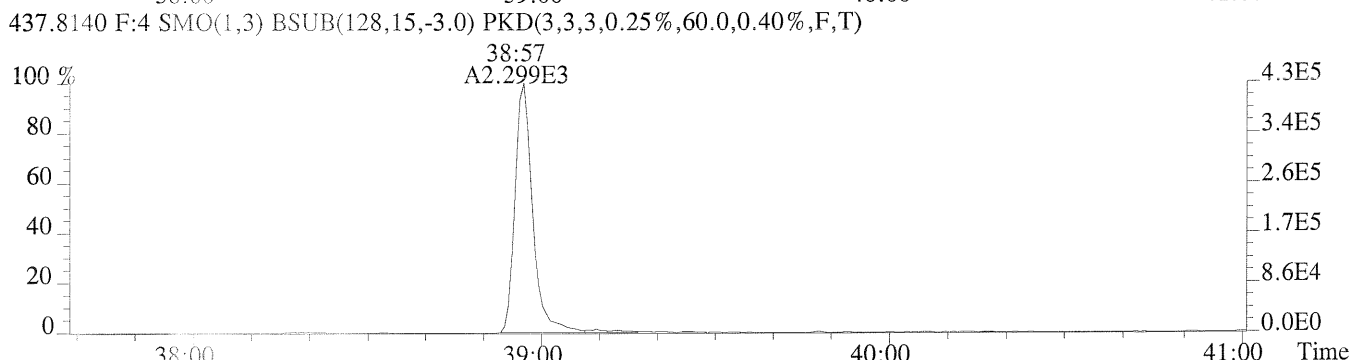
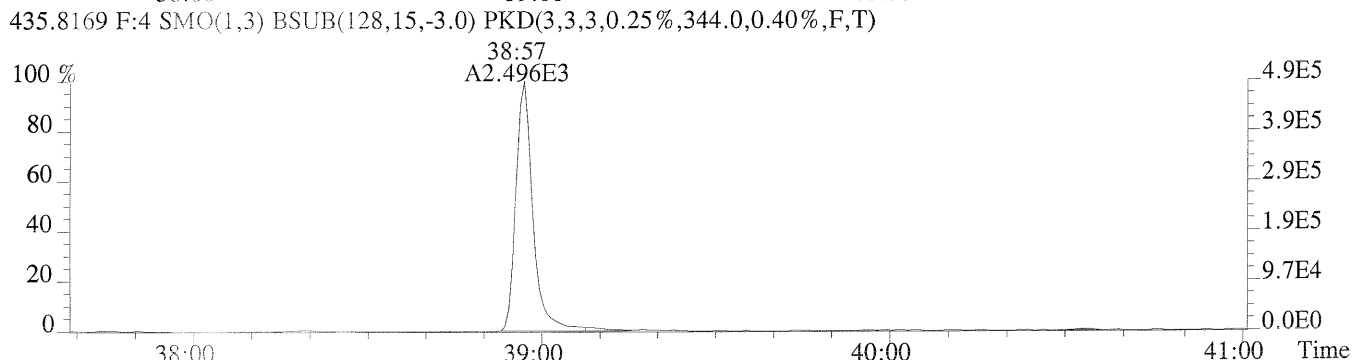
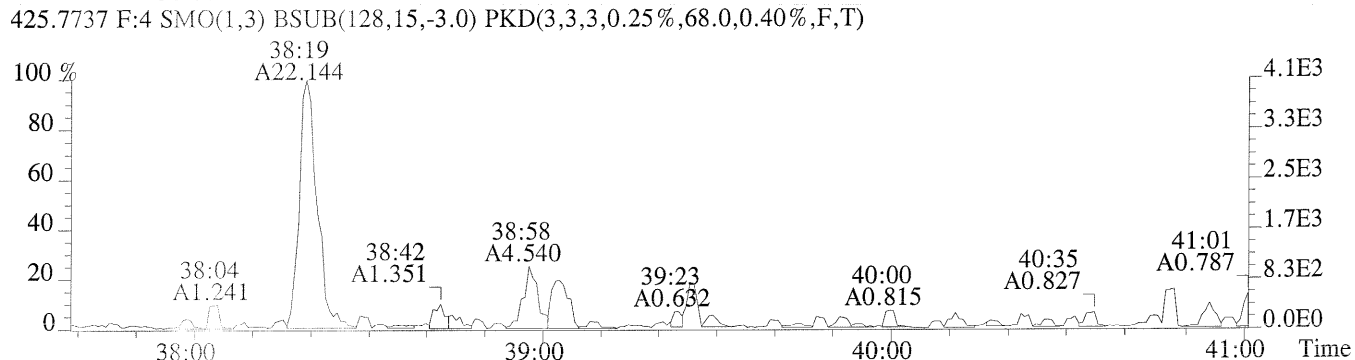
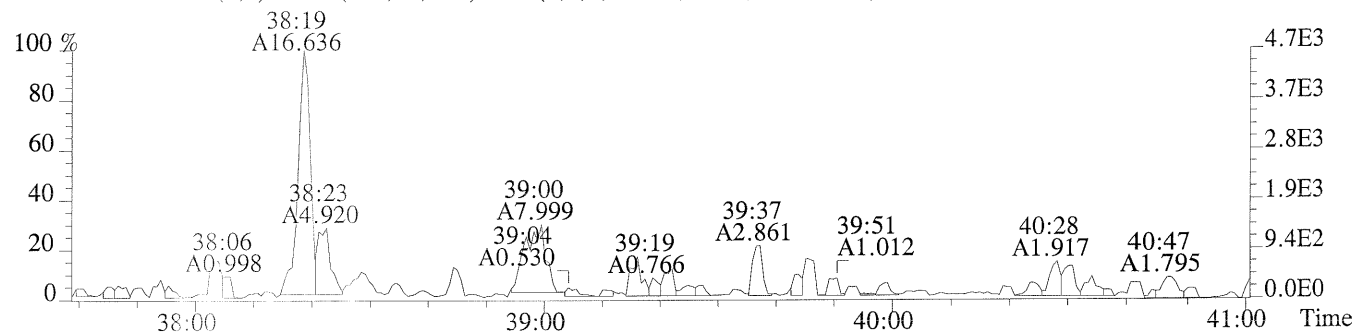
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0)



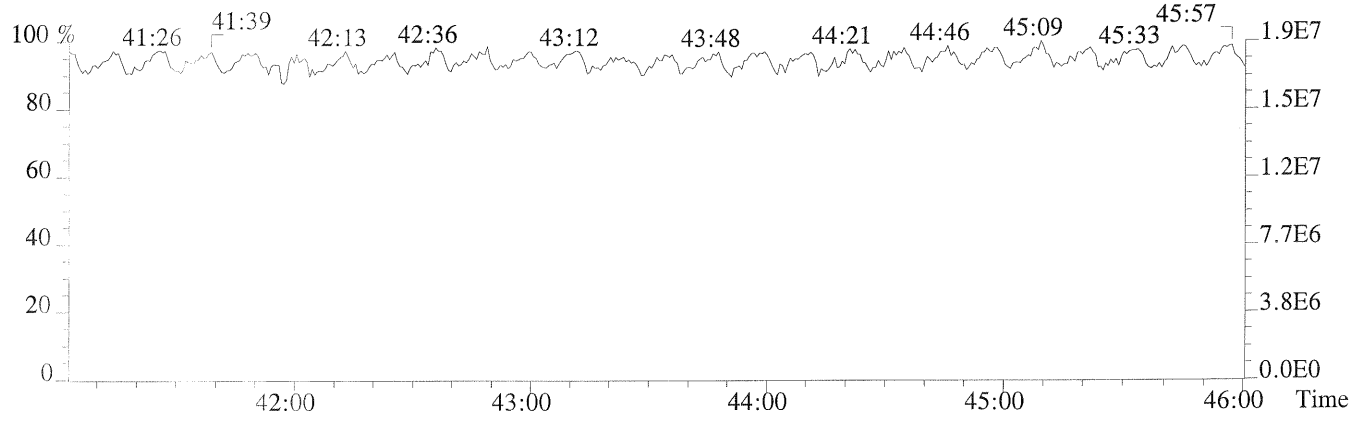
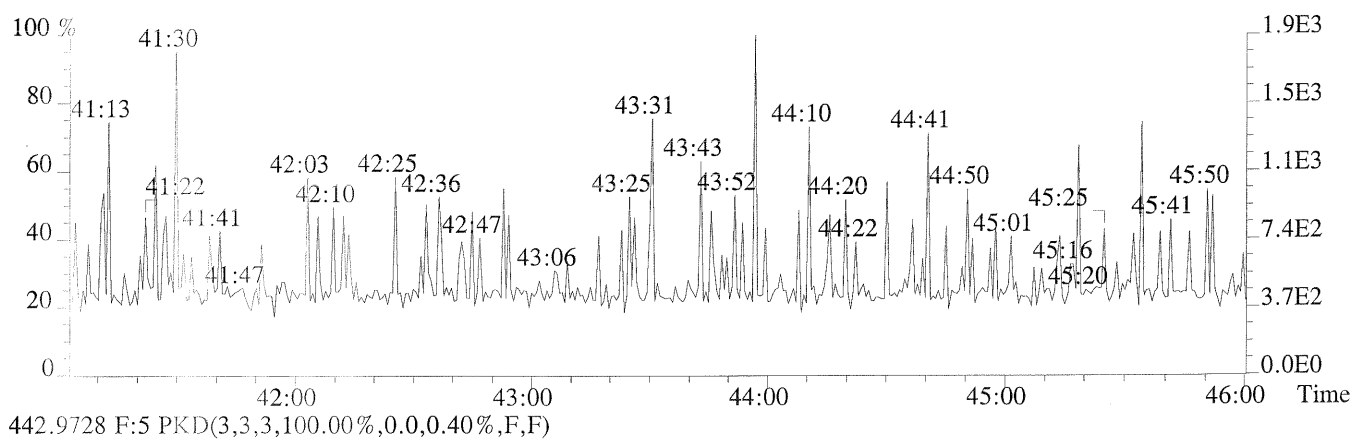
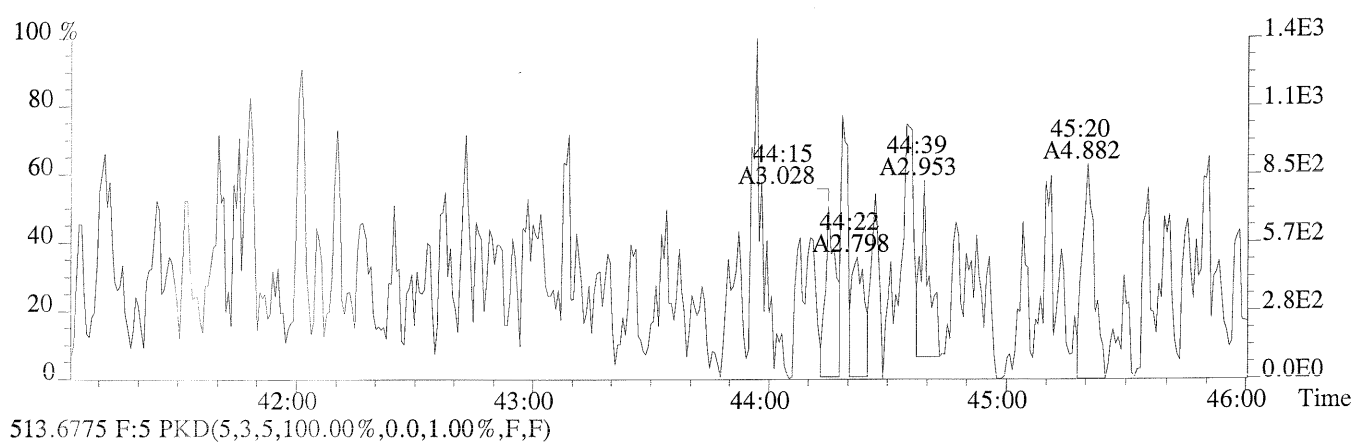
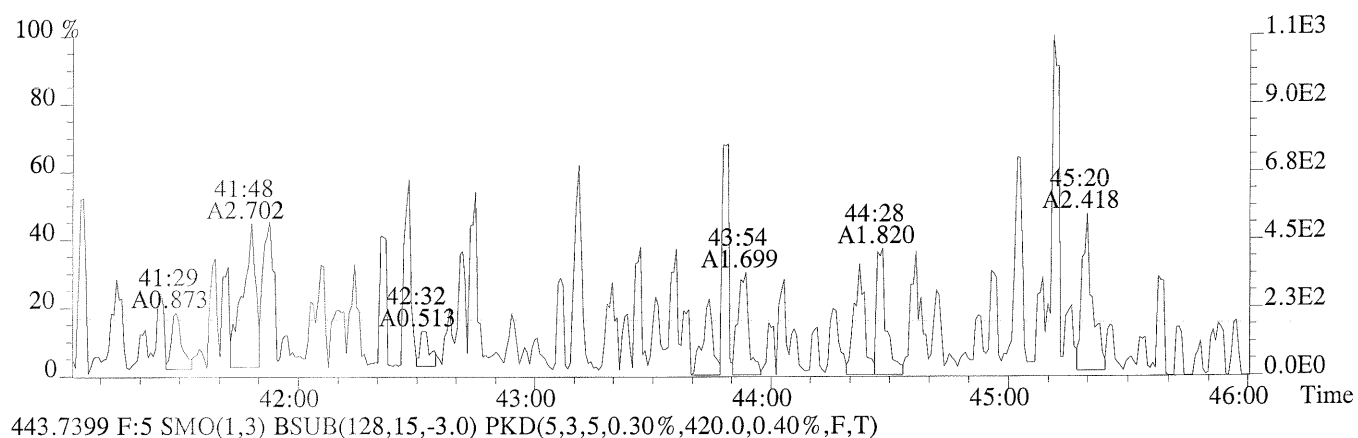
File:P173124 #1-306 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-010

423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.40%,F,T)



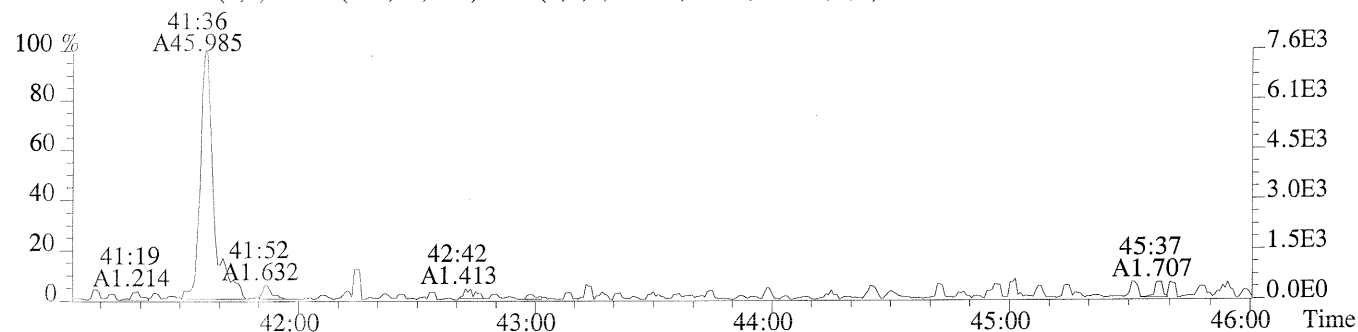
File:P173124 #1-456 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-010  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,80.0,0.40%,F,T)



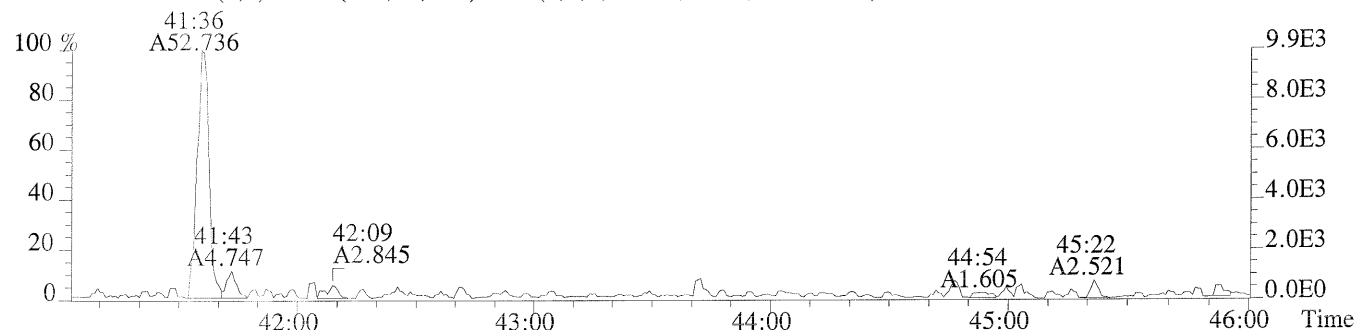
File:P173124 #1-456 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-010

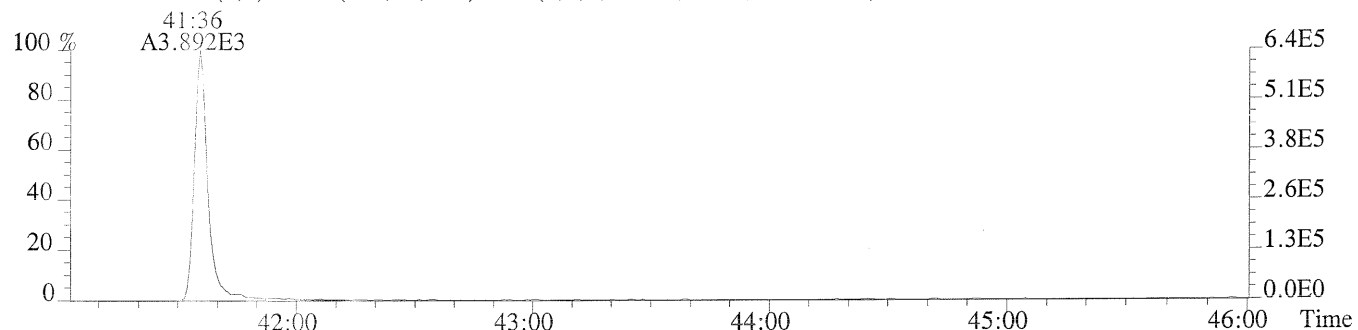
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,100.0,0.40%,F,T)



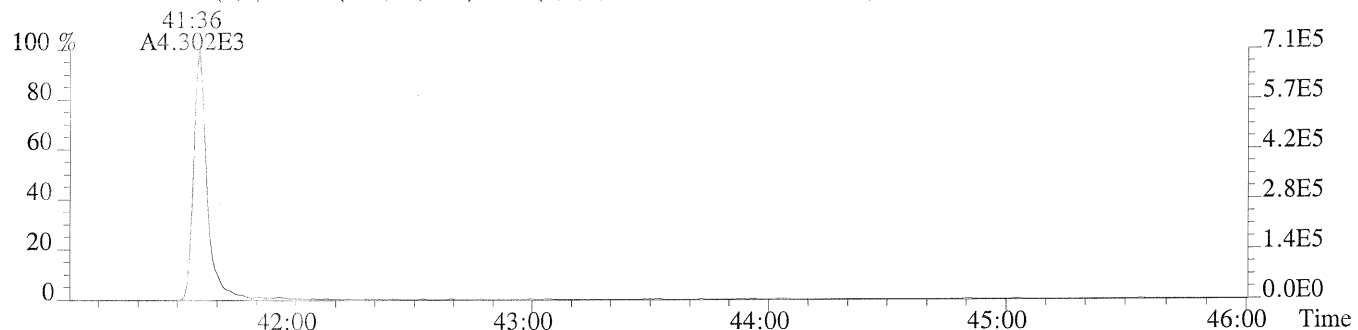
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



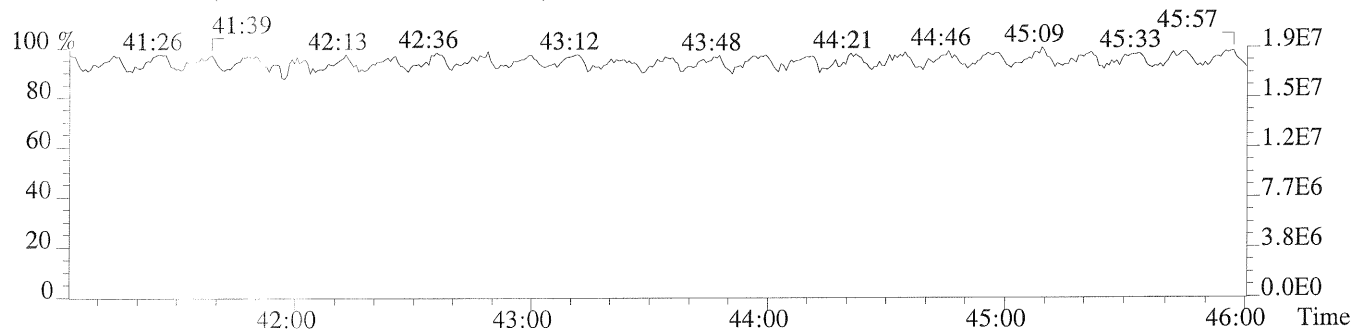
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



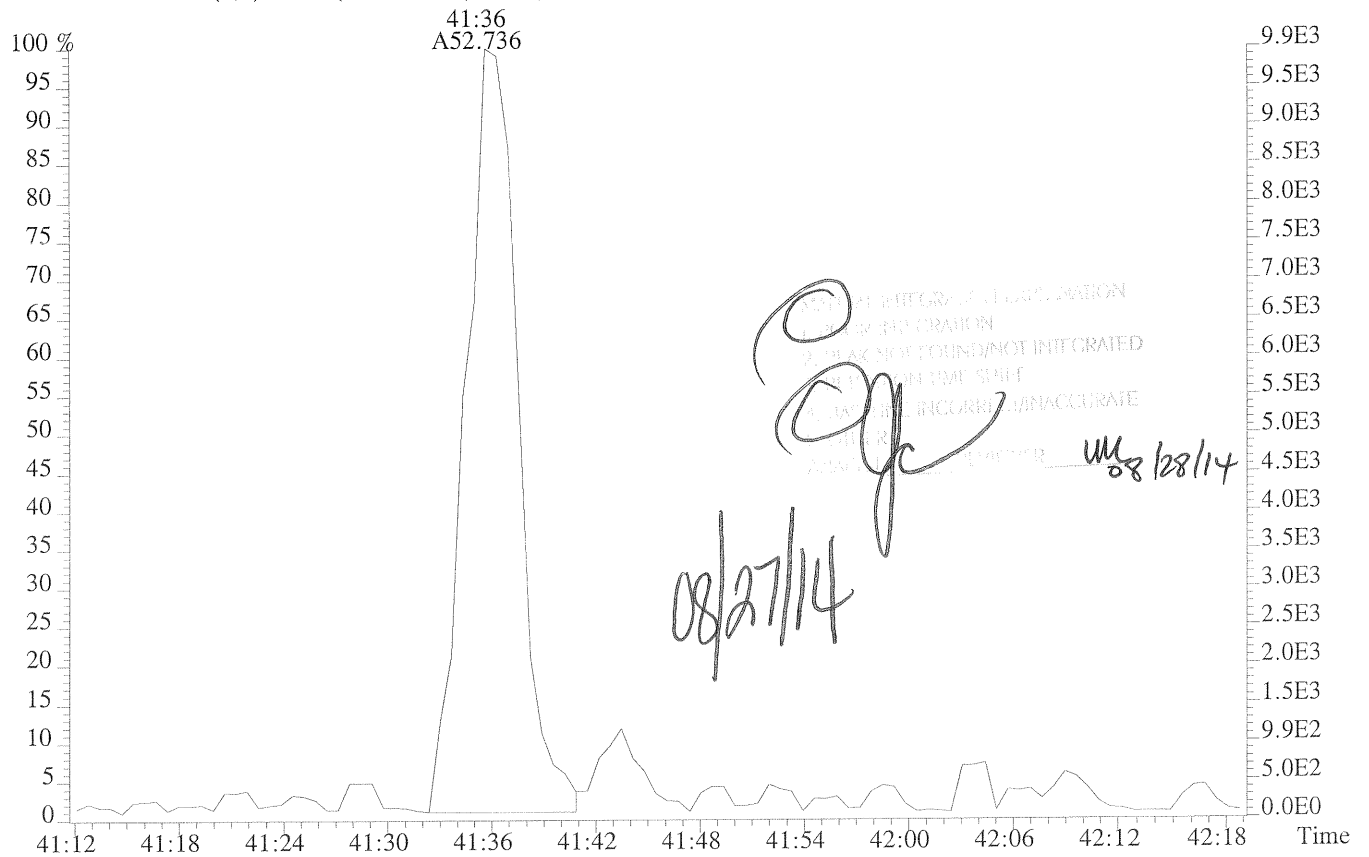
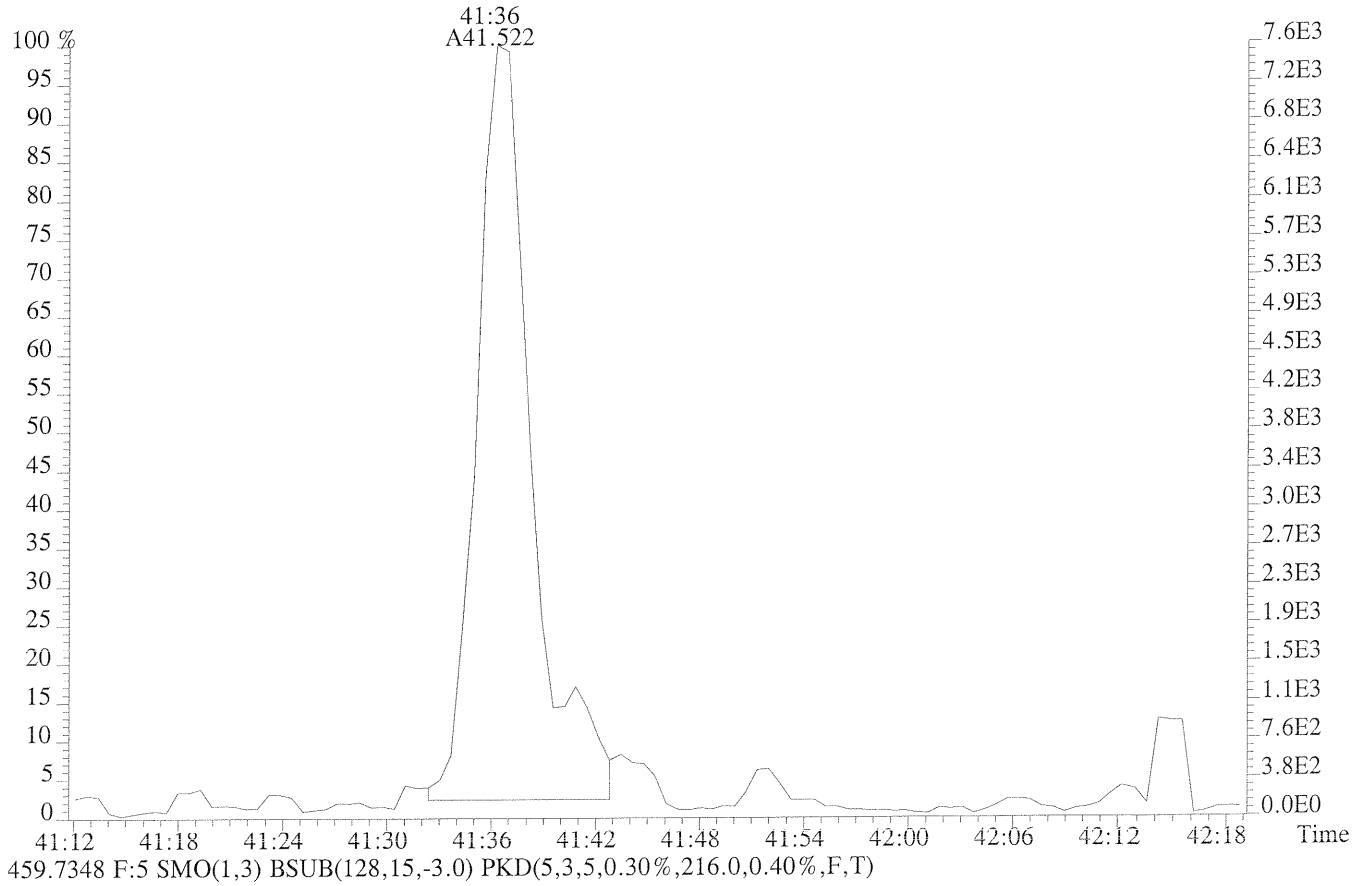
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,708.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P173124 #1-456 Acq:27-AUG-2014 06:39:45 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-010  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,100.0,0.40%,F,T)



ALS ENVIRONMENTAL  
Sample Response Summary  
METHOD 1613B/8290A

CLIENT ID.  
NV SYC14-TB R7

Run #16    Filename P173125    Samp: 1    Inj: 1    Acquired: 27-AUG-14 07:27:53  
Processed: 27-AUG-14 10:44:52    Sample ID: K1407971-011

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.945
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.017
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.241
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	yes	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.324
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.307
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.037
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.041
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.990
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	1.167e+01	9.088e+00	1.28	no	yes	1.016
17 Unk	OCDD	41:36	4.837e+01	6.125e+01	0.79	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:21	1.356e+03	1.696e+03	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	2.353e+03	1.476e+03	1.59	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	2.497e+03	1.653e+03	1.51	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	1.182e+03	2.329e+03	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:32	1.709e+03	3.229e+03	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:03	1.566e+03	3.045e+03	0.51	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	1.287e+03	2.490e+03	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	1.148e+03	2.494e+03	0.46	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:24	1.055e+03	2.312e+03	0.46	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:10	1.002e+03	1.283e+03	0.78	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	32:59	2.311e+03	1.347e+03	1.72	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	2.131e+03	1.697e+03	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	2.138e+03	1.765e+03	1.21	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	1.941e+03	1.906e+03	1.02	yes	no	0.862
32 IS	13C-OCDD	41:36	2.946e+03	3.356e+03	0.88	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:33	3.011e+03	3.723e+03	0.81	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	5.570e+03	4.279e+03	1.30	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	8.303e+02				no	1.125

$$\text{OCDD} = \frac{(4.837e+01 + 6.125e+01) \times 4000 \text{ pg} \times 1}{(2.946e+03 + 3.356e+03) \times 6.305 \text{ g} \times 100 \times 1.079}$$

*10.227 ng/kg*  
*mm 08/28/14*

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1613RESP1

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
NV SYC14-TB REP.3

Run #16 Filename P173125 Samp: 1 Inj: 1 Acquired: 27-AUG-14 07:27:53  
Processed: 27-AUG-14 10:44:521 LAB. ID: K1407971-011

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.35e+02	*	*	5.59e+02	*
2	1,2,3,7,8-PeCDF	*	8.00e+01	*	*	2.84e+02	*
3	2,3,4,7,8-PeCDF	*	8.00e+01	*	*	2.84e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.88e+02	*	*	8.80e+01	*
5	1,2,3,6,7,8-HxCDF	*	2.88e+02	*	*	8.80e+01	*
6	2,3,4,6,7,8-HxCDF	*	2.88e+02	*	*	8.80e+01	*
7	1,2,3,7,8,9-HxCDF	*	2.88e+02	*	*	8.80e+01	*
8	1,2,3,4,6,7,8-HpCDF	*	7.60e+01	*	*	1.40e+02	*
9	1,2,3,4,7,8,9-HpCDF	*	7.60e+01	*	*	1.40e+02	*
10	OCDF	*	1.52e+02	*	*	4.72e+02	*
11	2,3,7,8-TCDD	*	3.52e+02	*	*	1.32e+02	*
12	1,2,3,7,8-PeCDD	*	5.16e+02	*	*	9.60e+01	*
13	1,2,3,4,7,8-HxCDD	*	1.04e+02	*	*	1.04e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.04e+02	*	*	1.04e+02	*
15	1,2,3,7,8,9-HxCDD	*	1.04e+02	*	*	1.04e+02	*
16	1,2,3,4,6,7,8-HpCDD	2.18e+03	2.80e+02	7.8e+00	1.48e+03	1.88e+02	7.9e+00
17	OCDD	8.20e+03	6.80e+01	1.2e+02	1.07e+04	2.20e+02	4.9e+01
18	13C-2,3,7,8-TCDF	2.04e+05	5.28e+02	3.9e+02	2.64e+05	6.72e+02	3.9e+02
19	13C-1,2,3,7,8-PeCDF	3.82e+05	6.00e+01	6.4e+03	2.35e+05	3.68e+02	6.4e+02
20	13C-2,3,4,7,8-PeCDF	4.24e+05	6.00e+01	7.1e+03	2.70e+05	3.68e+02	7.3e+02
21	13C-1,2,3,4,7,8-HxCDF	2.45e+05	1.08e+02	2.3e+03	4.56e+05	4.88e+02	9.3e+02
22	13C-1,2,3,6,7,8-HxCDF	3.04e+05	1.08e+02	2.8e+03	6.00e+05	4.88e+02	1.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.13e+05	1.08e+02	2.9e+03	6.16e+05	4.88e+02	1.3e+03
24	13C-1,2,3,7,8,9-HxCDF	2.39e+05	1.08e+02	2.2e+03	4.46e+05	4.88e+02	9.1e+02
25	13C-1,2,3,4,6,7,8-HpCDF	2.30e+05	3.84e+02	6.0e+02	4.91e+05	1.20e+02	4.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.71e+05	3.84e+02	4.5e+02	4.08e+05	1.20e+02	3.4e+03
27	13C-2,3,7,8-TCDD	1.57e+05	1.63e+03	9.6e+01	2.01e+05	1.13e+03	1.8e+02
28	13C-1,2,3,7,8-PeCDD	3.88e+05	2.28e+02	1.7e+03	2.29e+05	1.76e+02	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	4.49e+05	2.84e+02	1.6e+03	3.55e+05	2.68e+02	1.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.09e+05	2.84e+02	1.4e+03	3.51e+05	2.68e+02	1.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.68e+05	5.24e+02	7.0e+02	3.51e+05	2.88e+02	1.2e+03
32	13C-OCDD	4.65e+05	8.36e+02	5.6e+02	5.30e+05	7.76e+02	6.8e+02
33	13C-1,2,3,4-TCDD	5.02e+05	1.63e+03	3.1e+02	6.18e+05	1.13e+03	5.5e+02
34	13C-1,2,3,7,8,9-HxCDD	1.05e+06	2.84e+02	3.7e+03	8.25e+05	2.68e+02	3.1e+03
35	37Cl-2,3,7,8-TCDD	1.33e+05	2.76e+02	4.8e+02			

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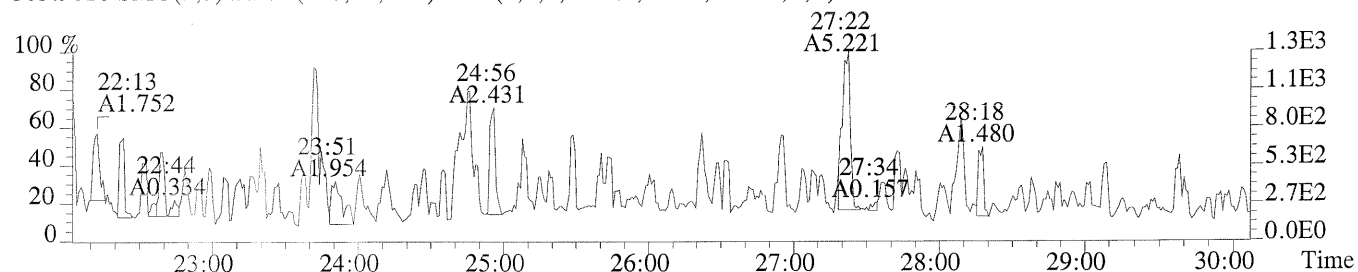




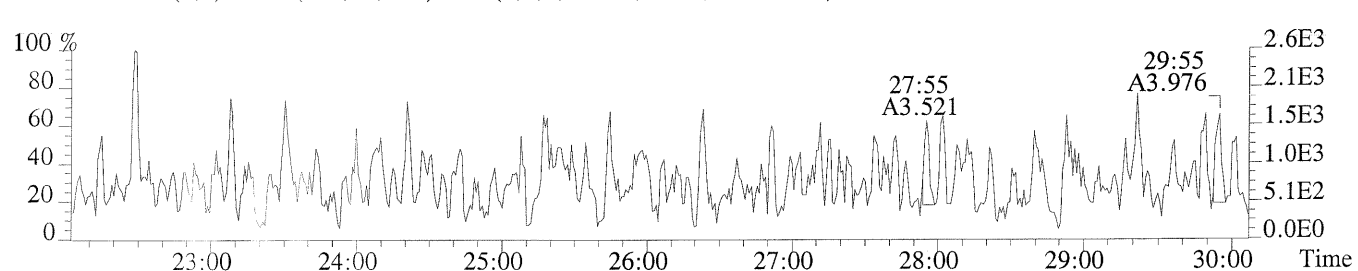
File:P173125 #1-579 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-011

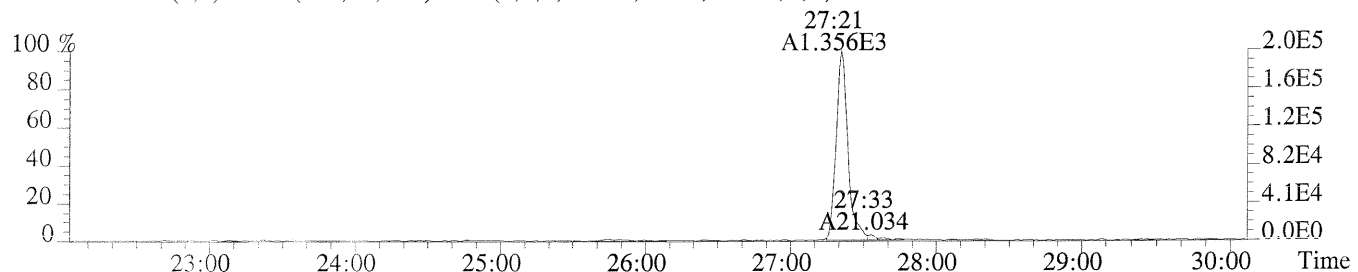
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



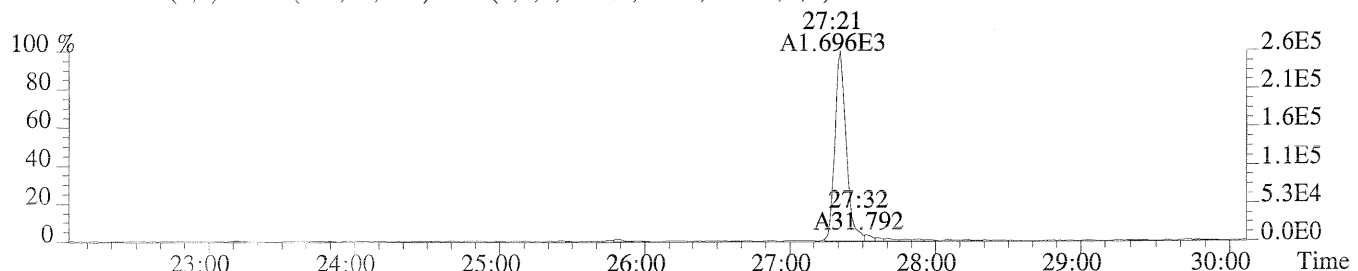
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



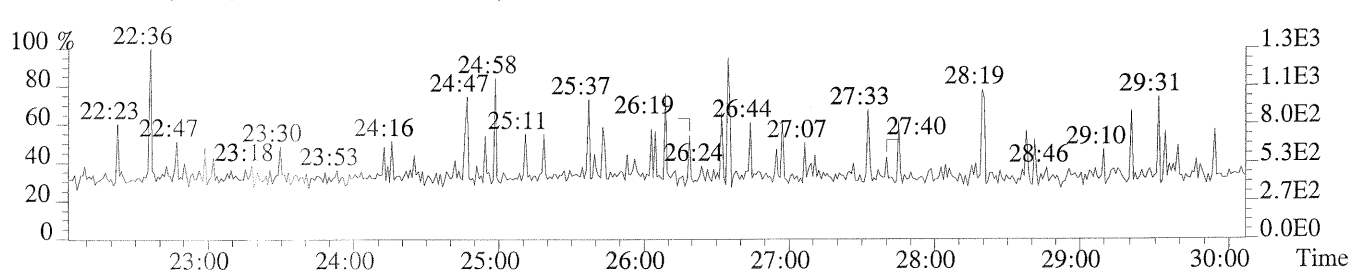
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,T)



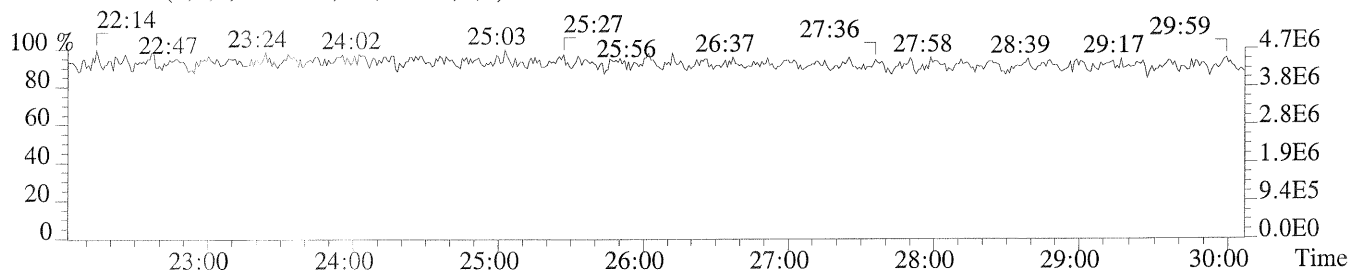
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)

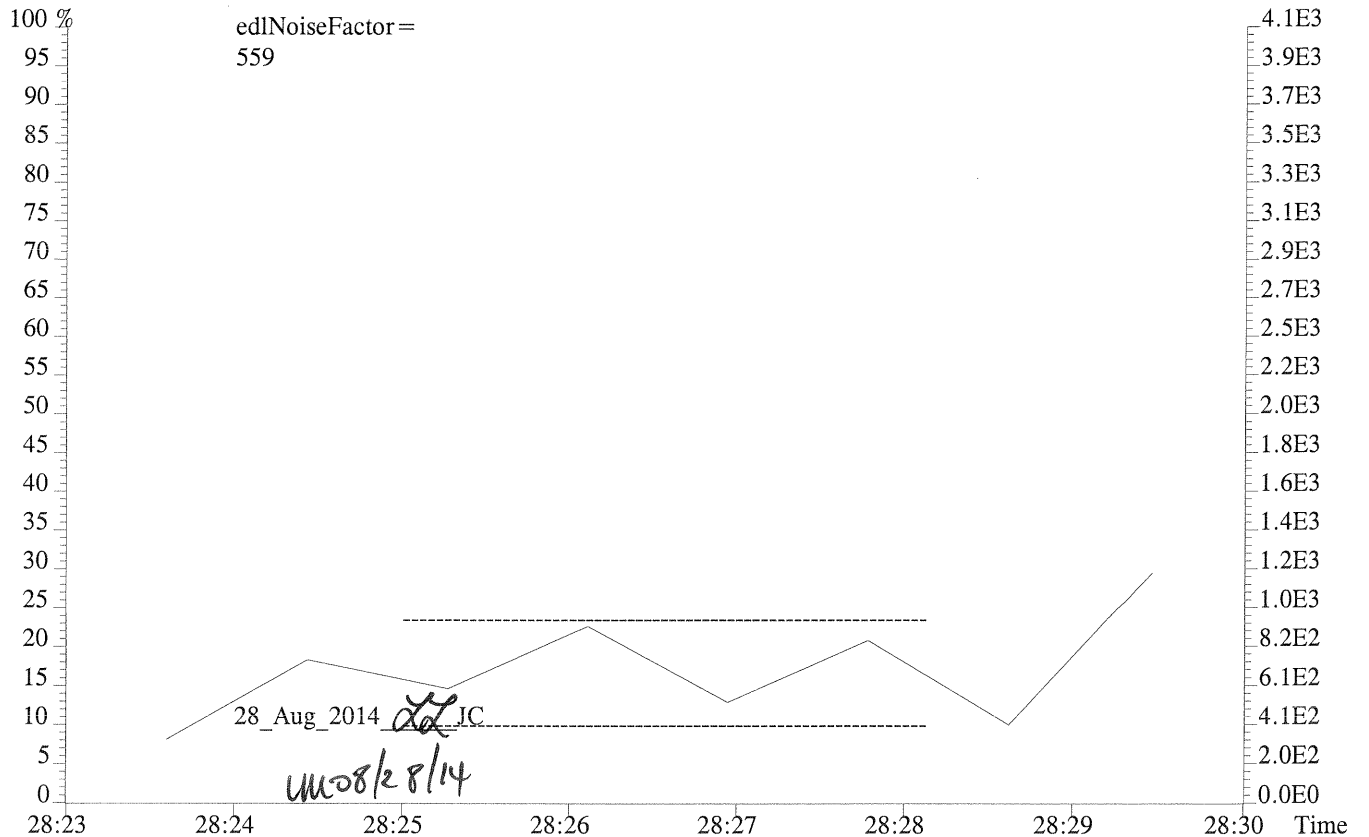
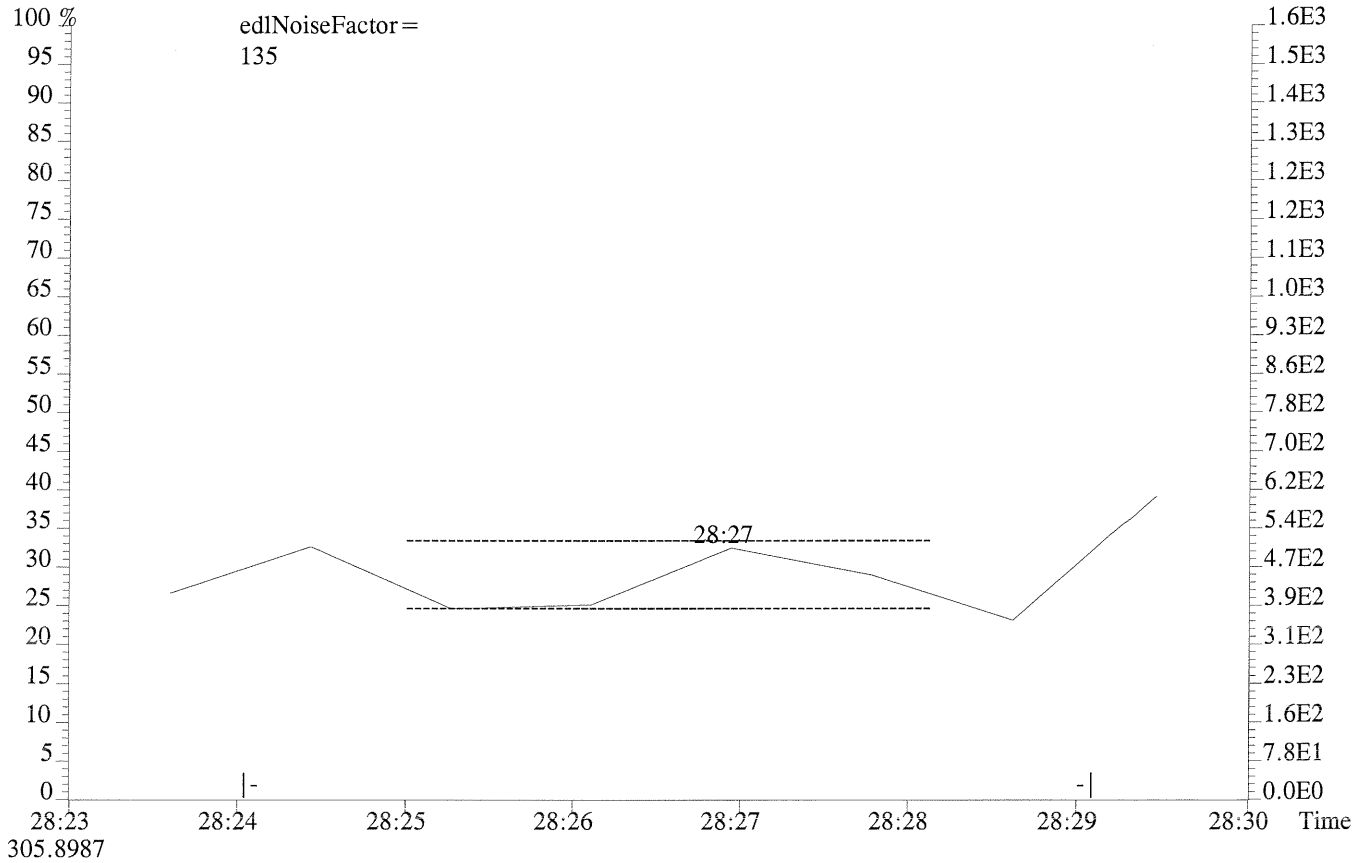


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

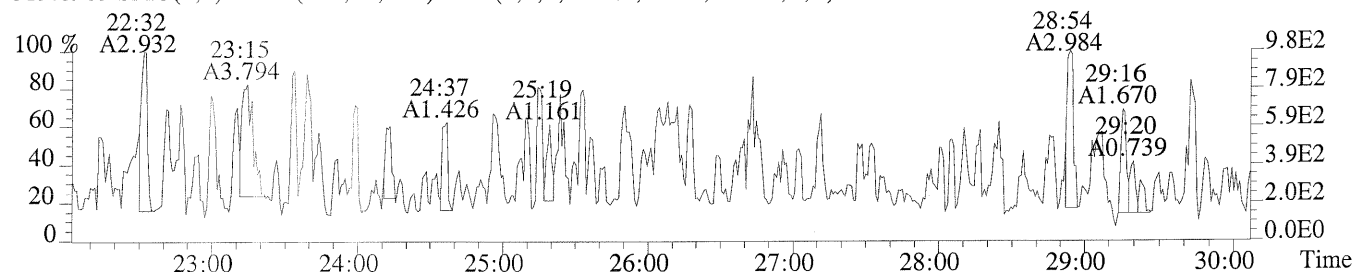




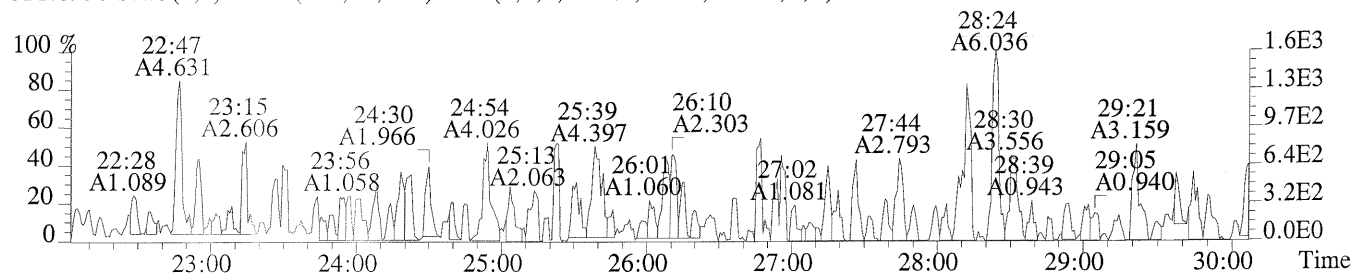
File:P173125 #1-579 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-011

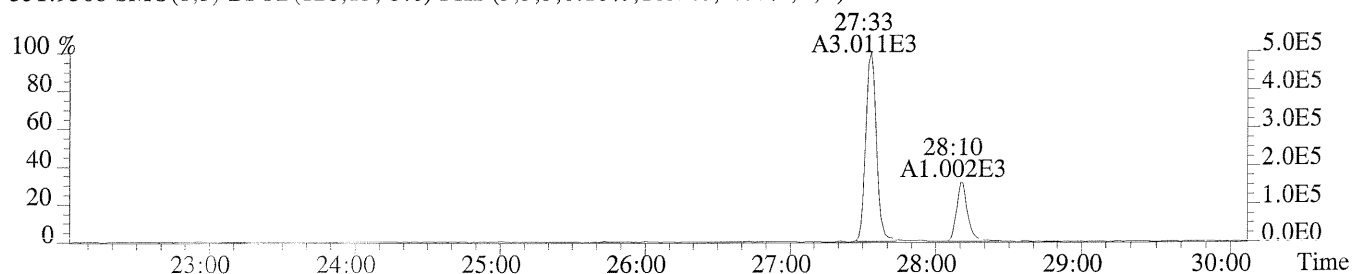
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



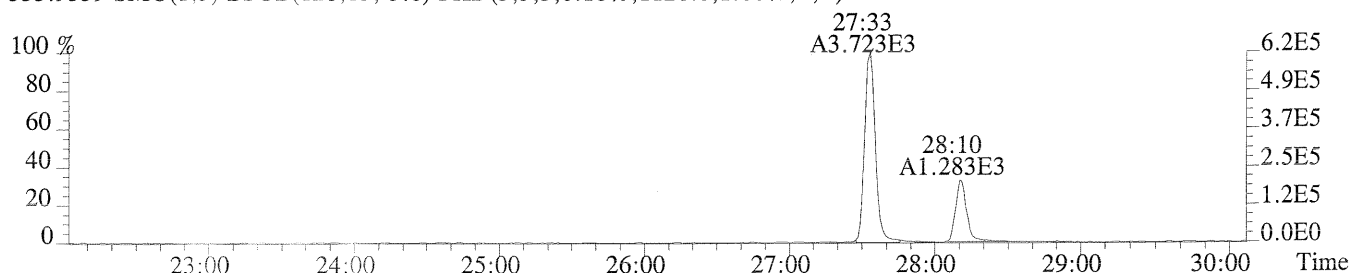
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)



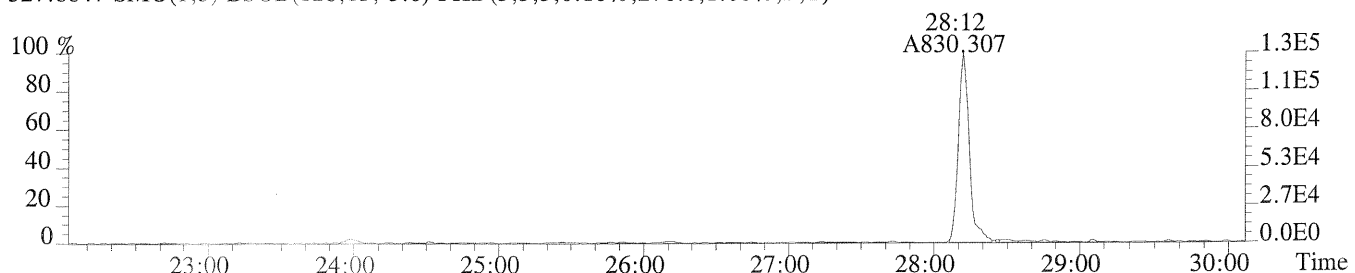
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)



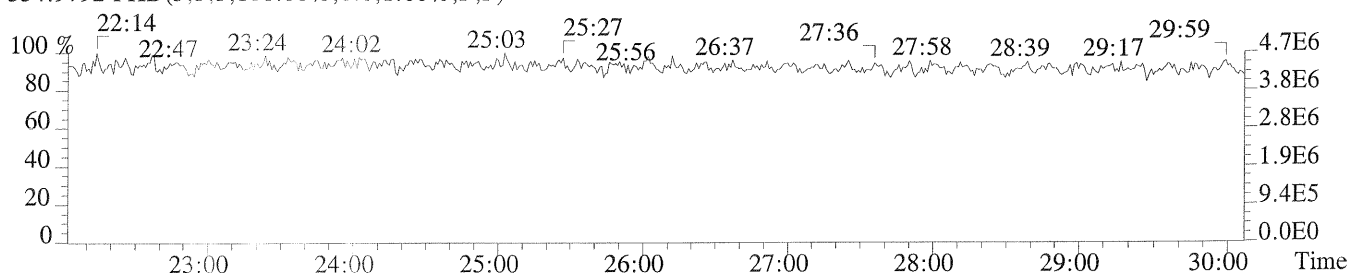
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



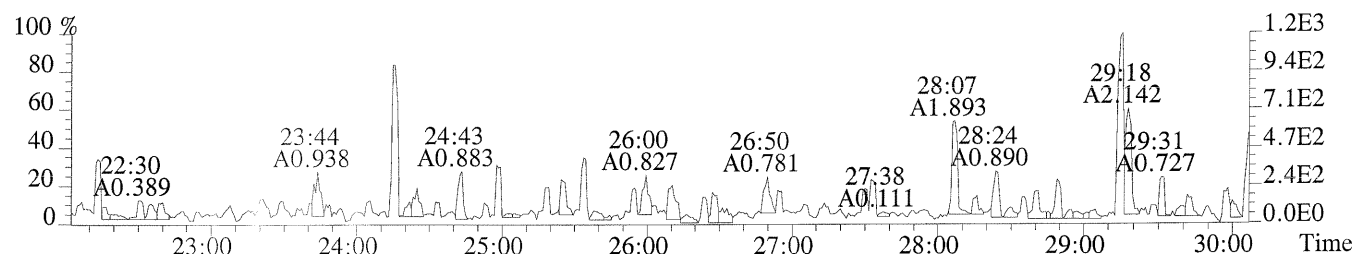
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,T)



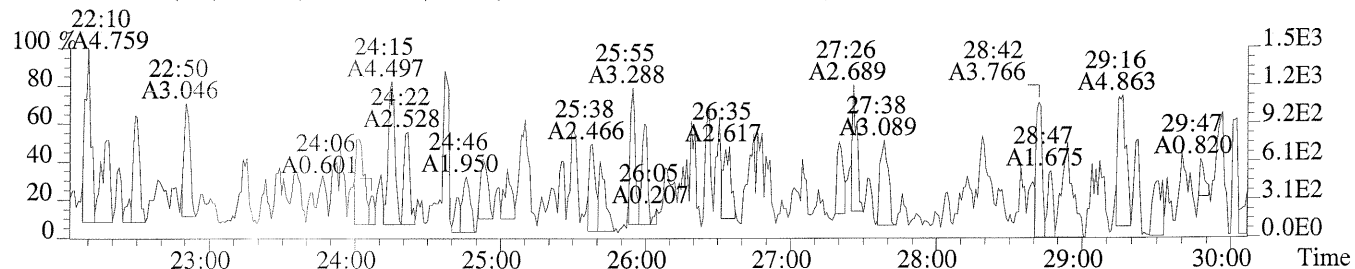
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



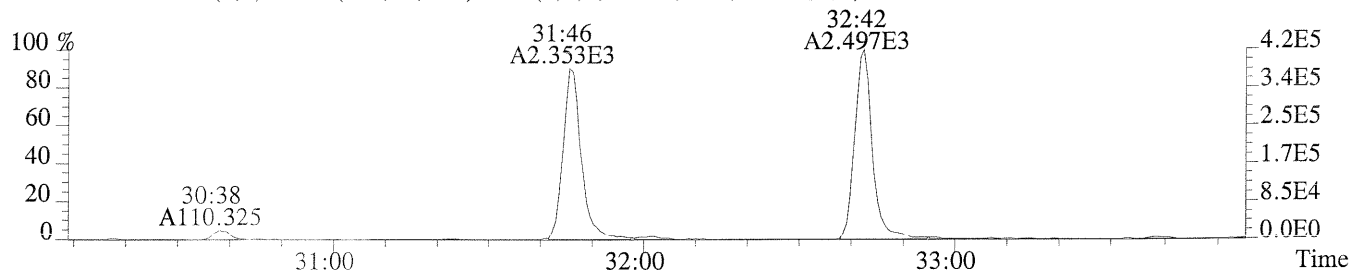
File:P173125 #1-579 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-011  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,84.0,1.00%,F,T)



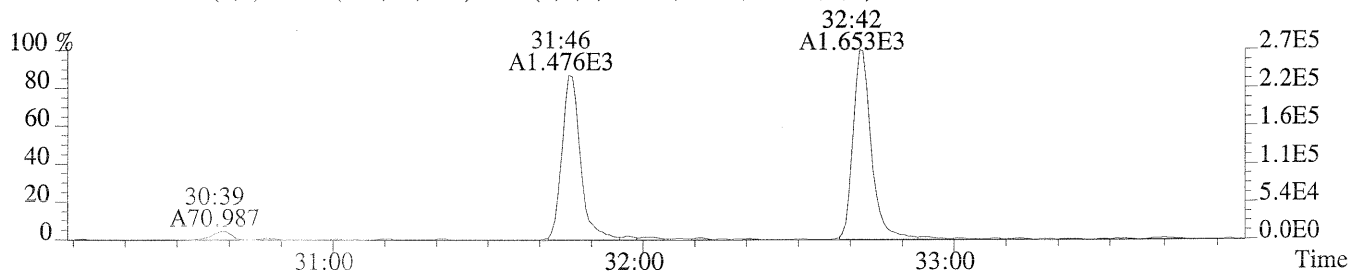
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,372.0,1.00%,F,T)



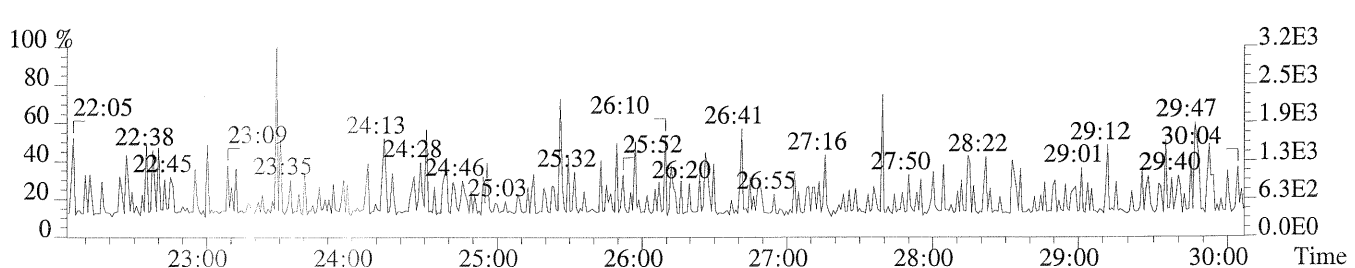
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



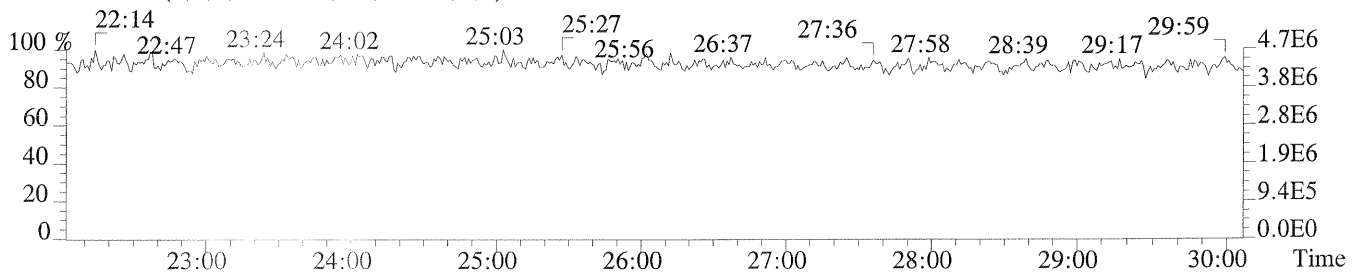
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



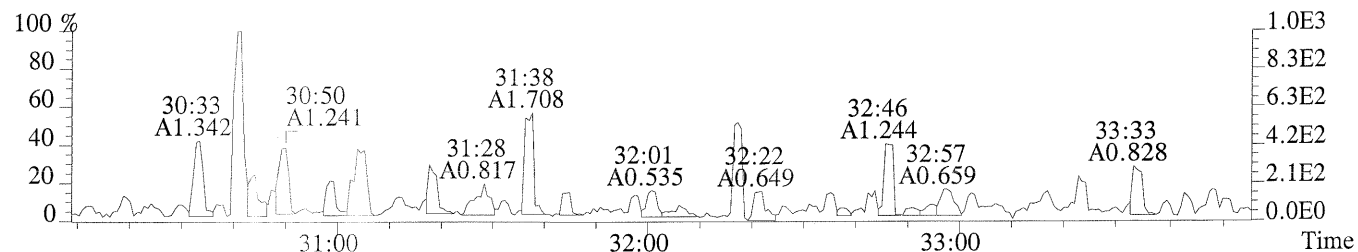
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



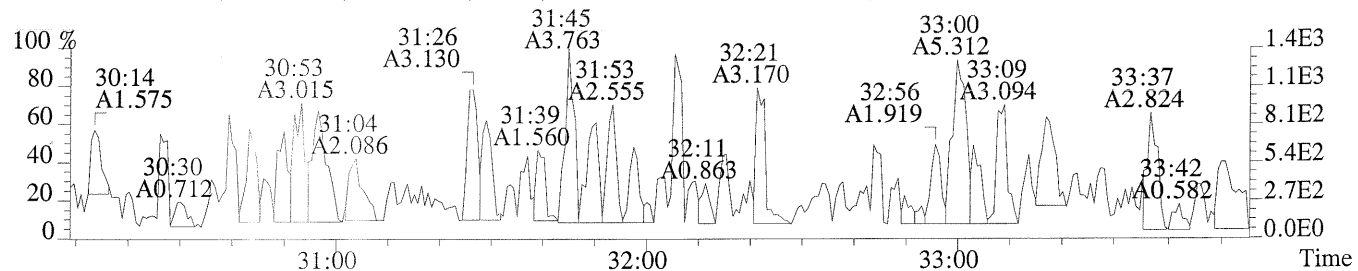
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



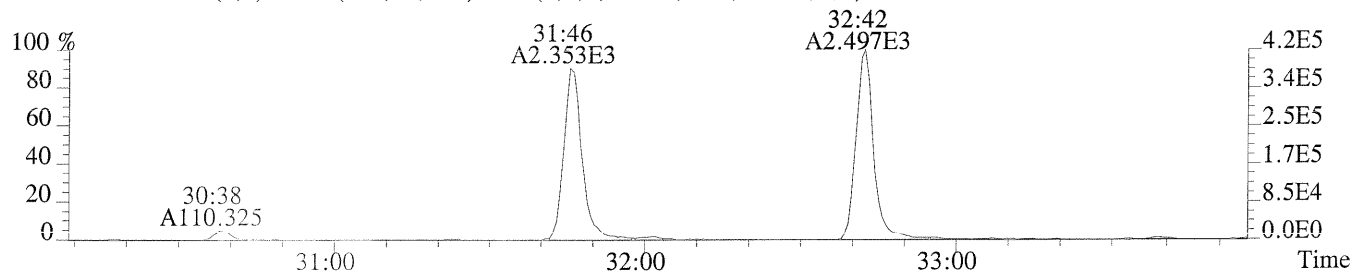
File:P173125 #1-343 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-011  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



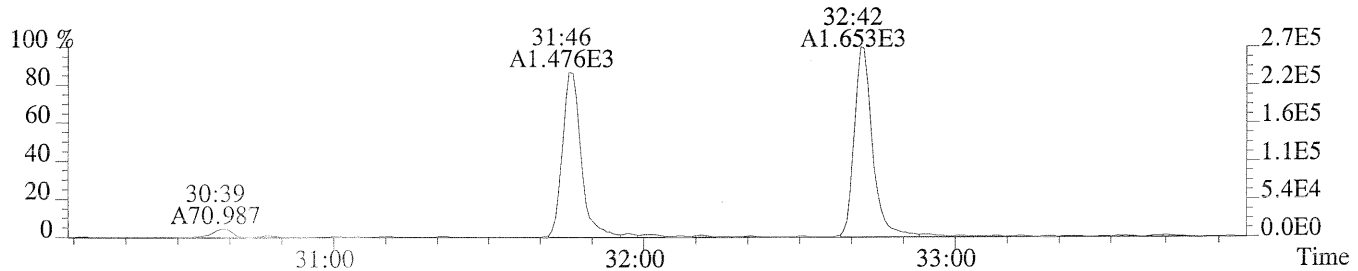
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



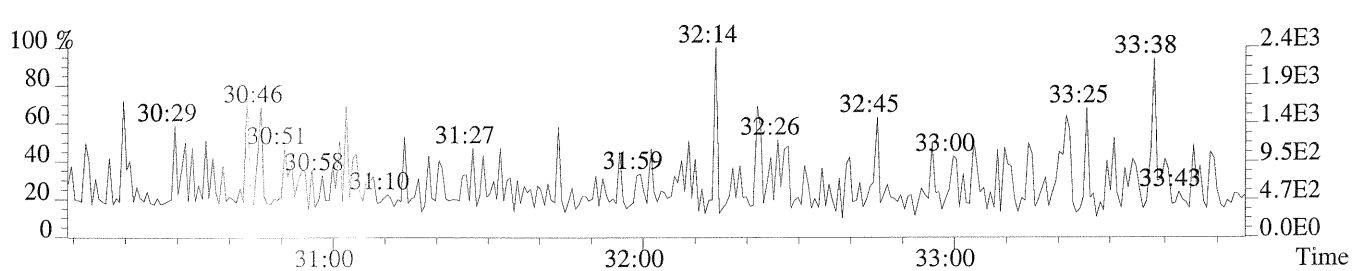
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



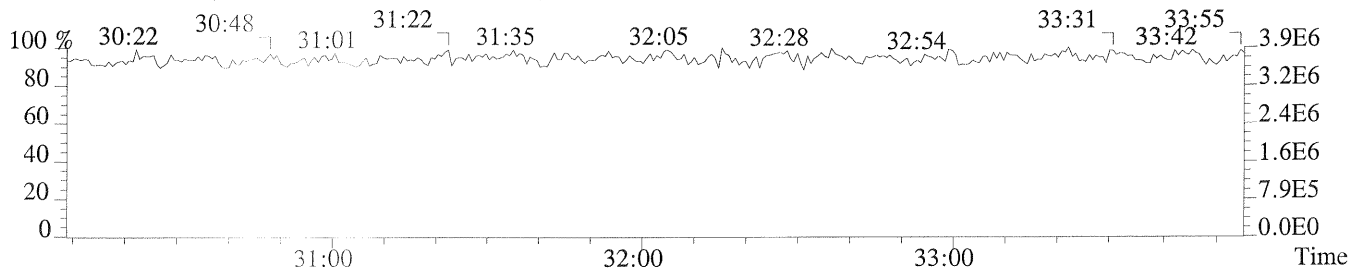
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



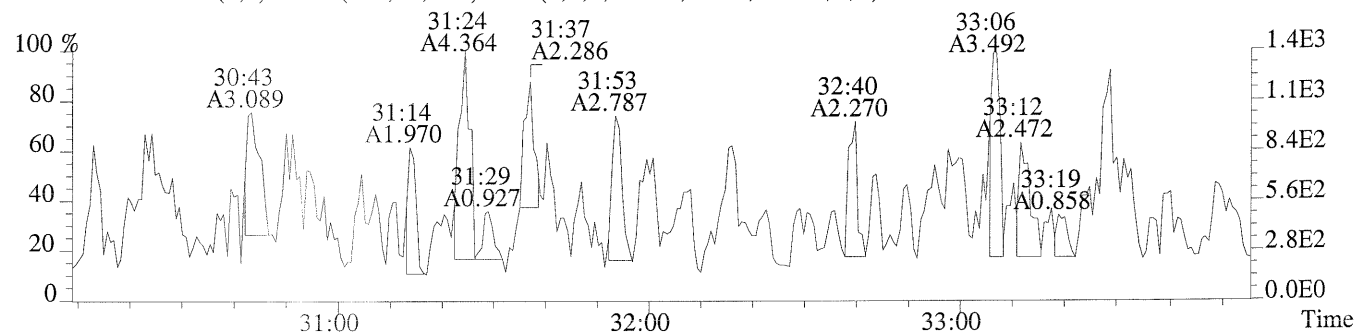
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



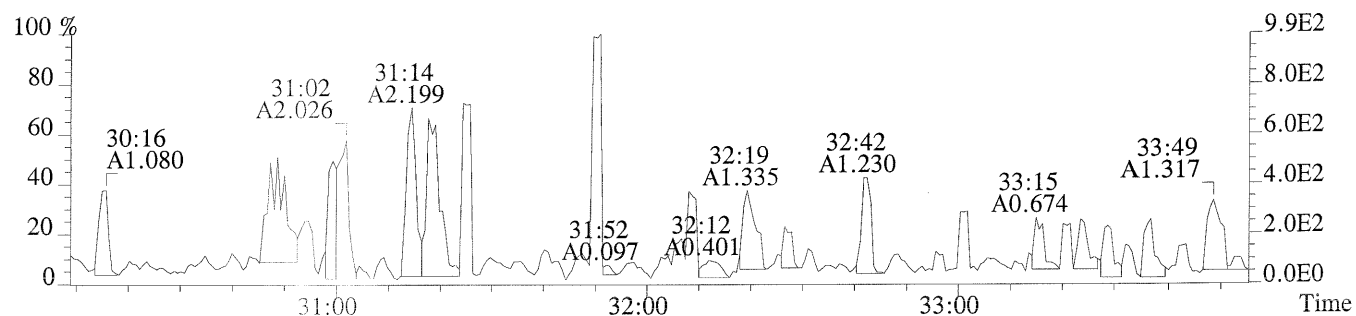
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



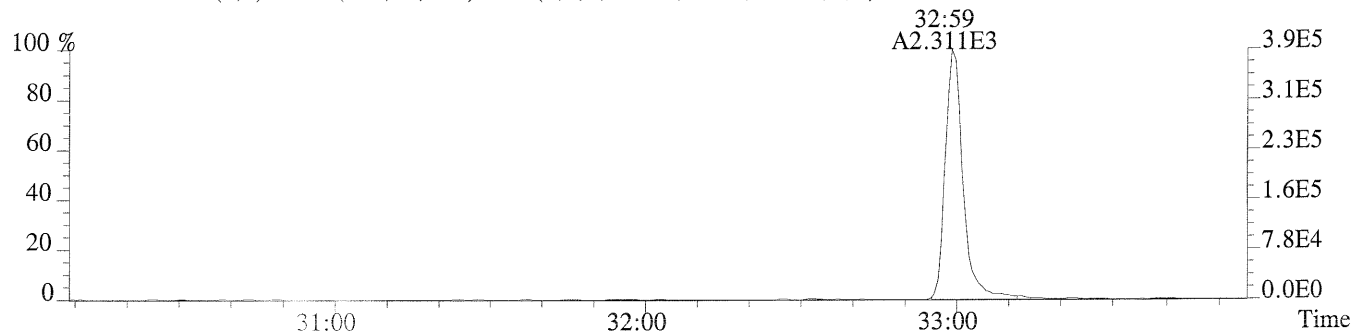
File:P173125 #1-343 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-011  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



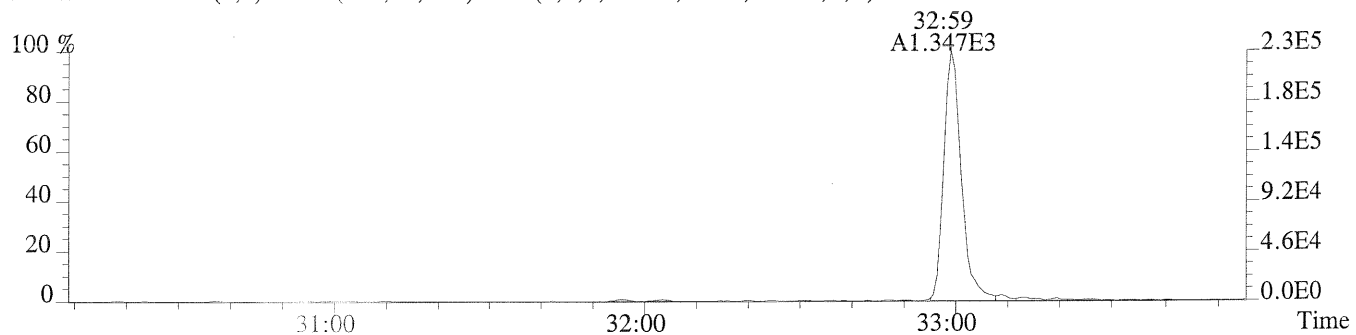
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



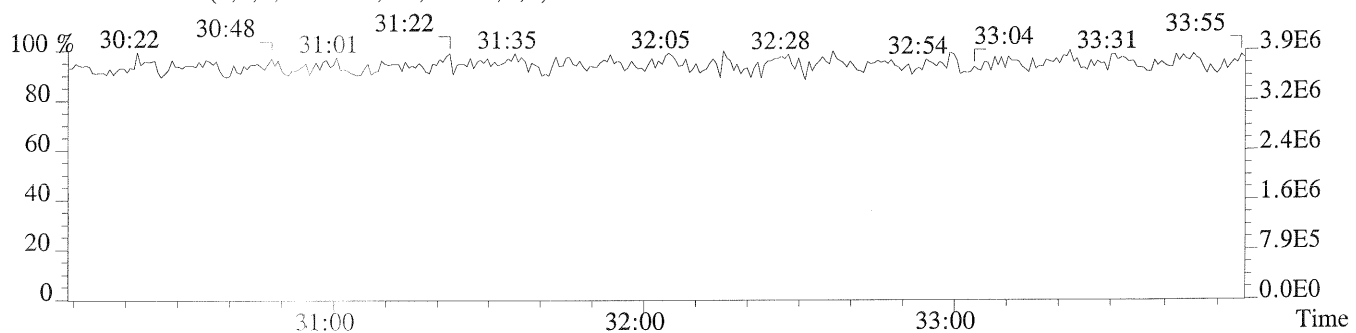
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



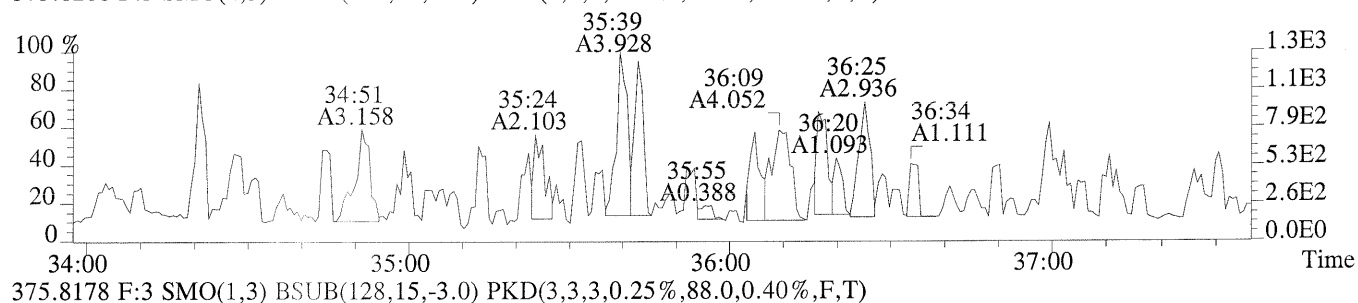
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,176.0,1.00%,F,T)



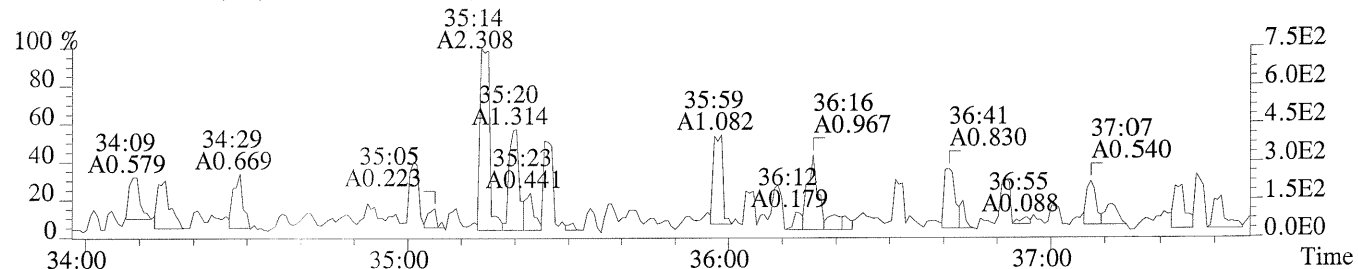
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



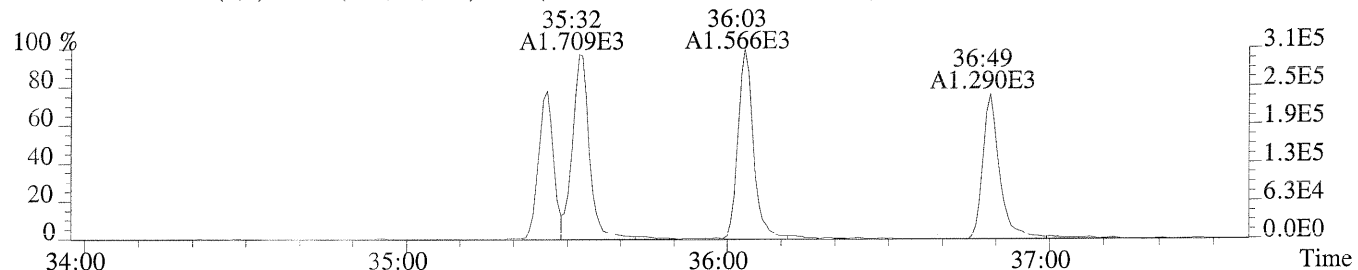
File:P173125 #1-332 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:K1407971-011  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



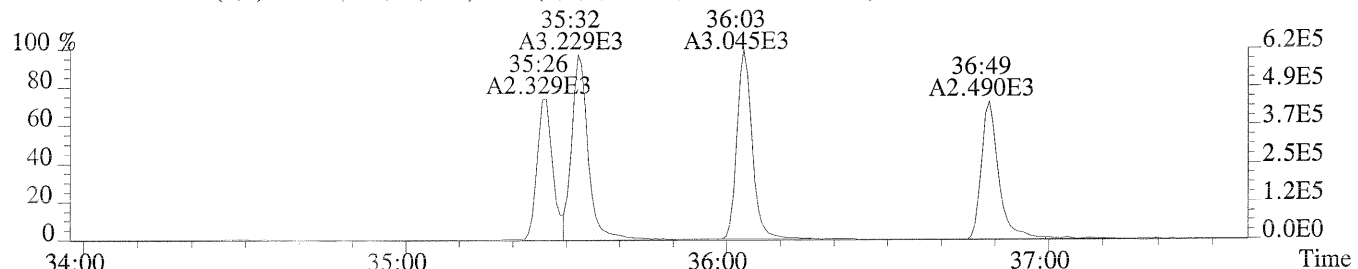
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,T)



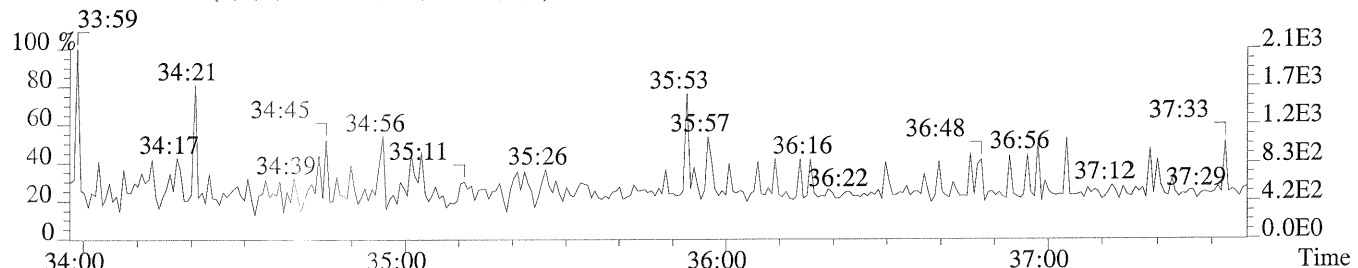
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,108.0,0.40%,F,T)



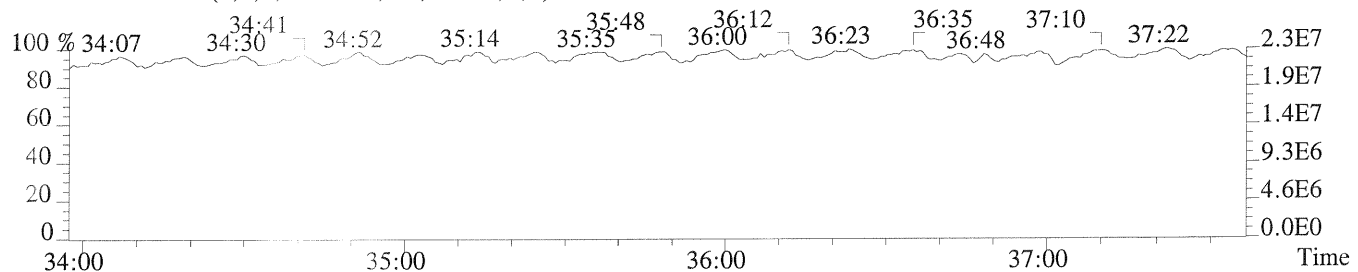
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



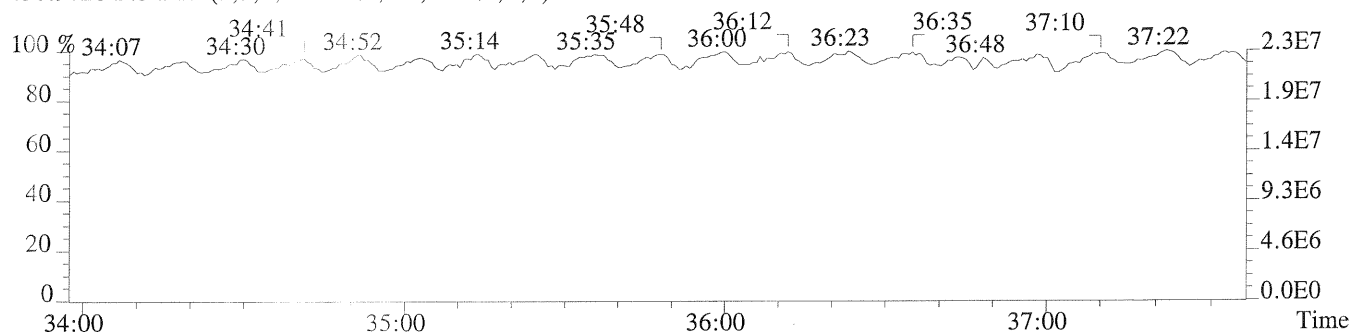
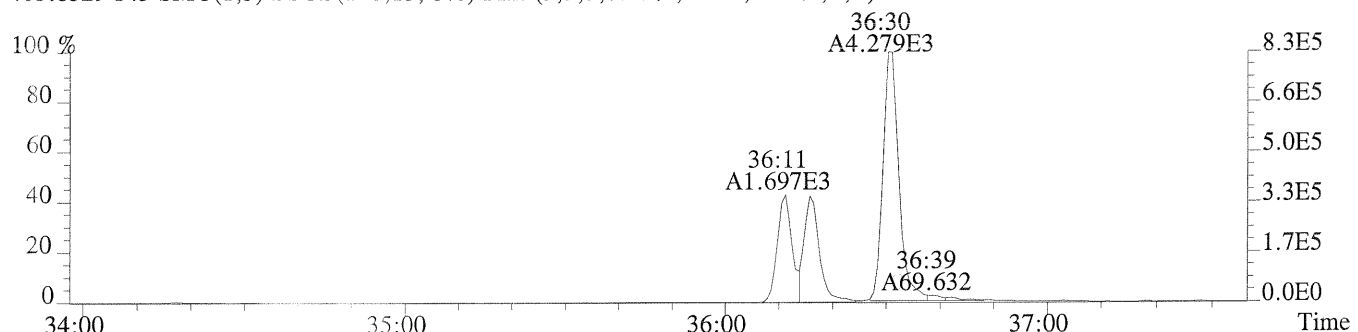
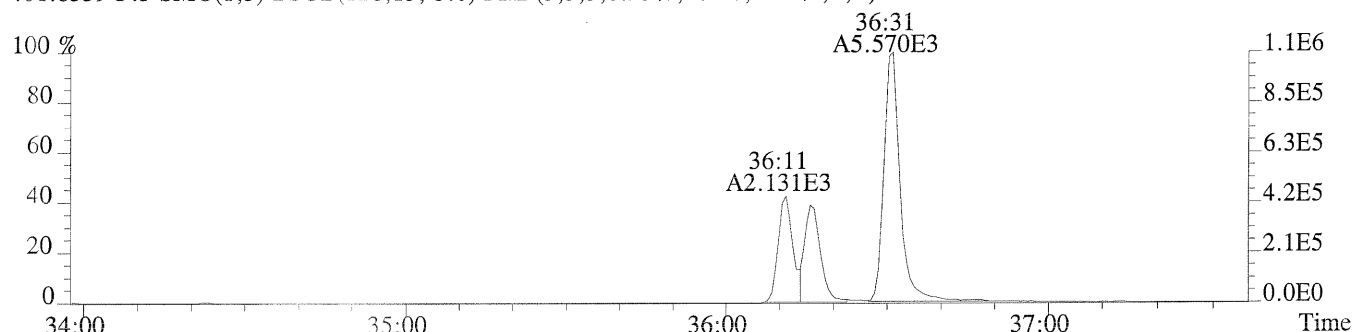
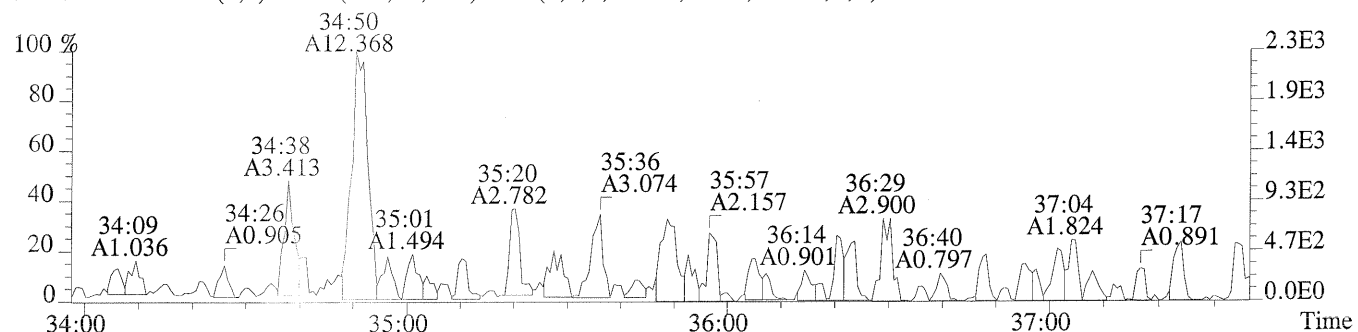
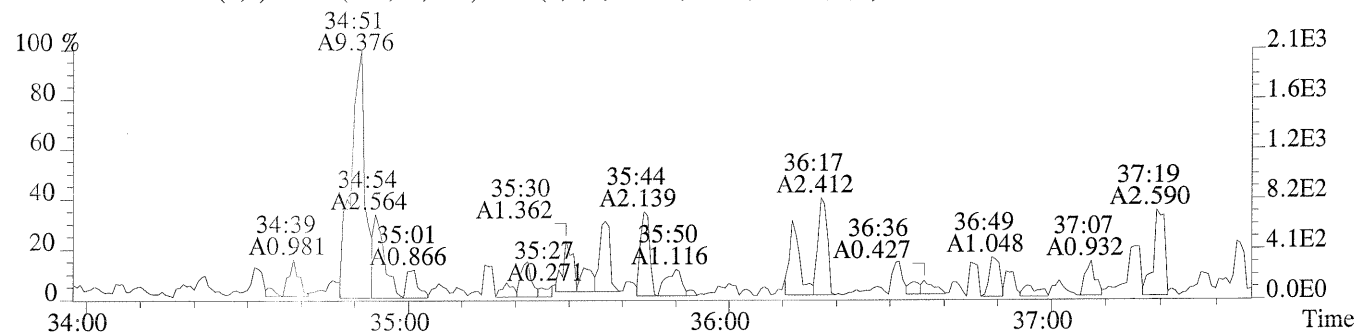
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

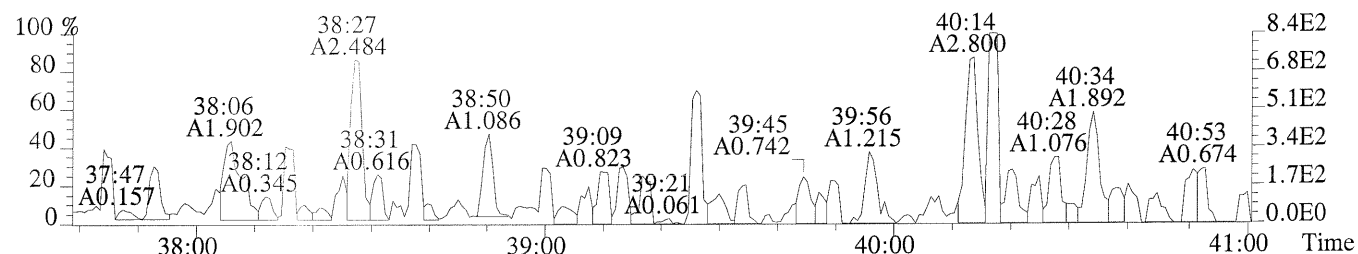


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

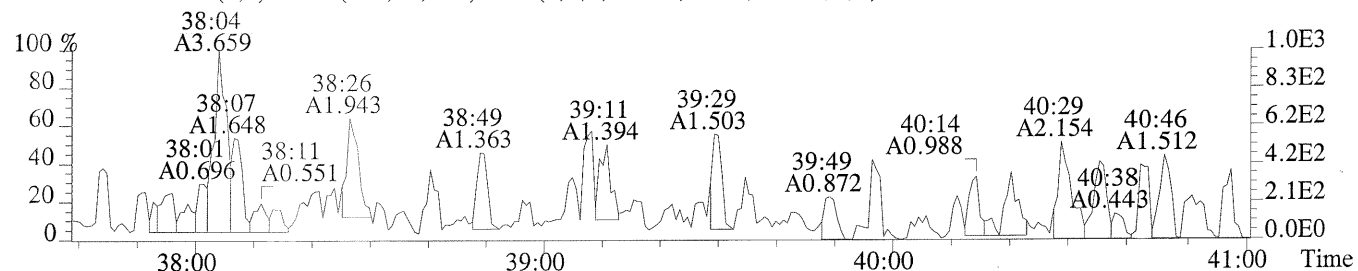




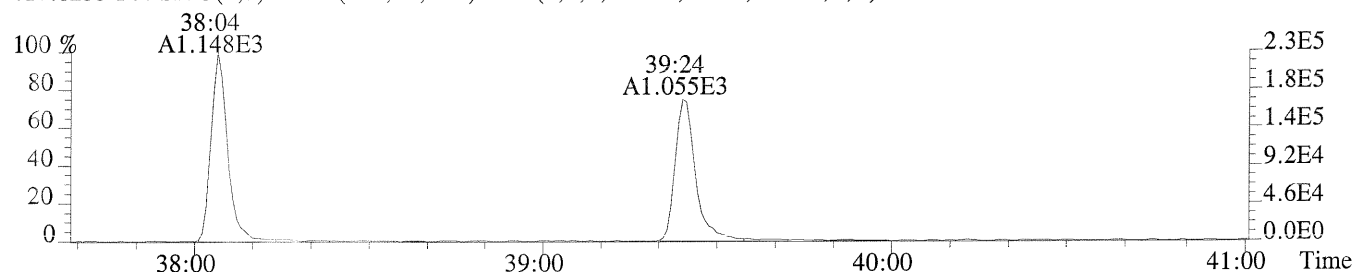




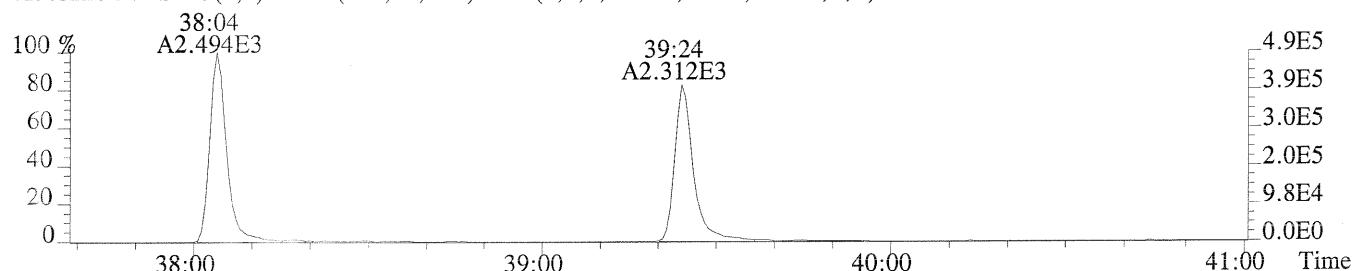
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.50%,F,T)



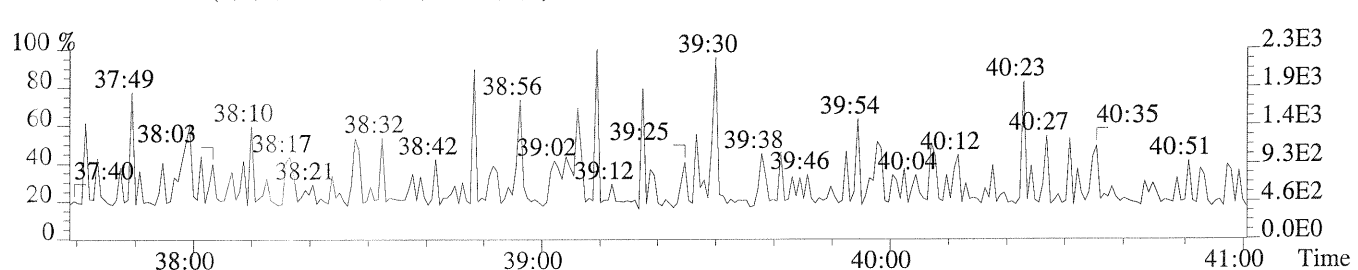
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.50%,F,T)



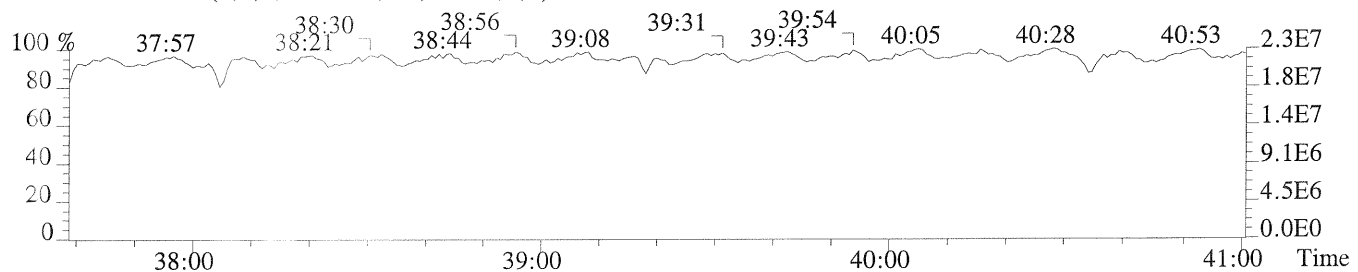
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.50%,F,T)



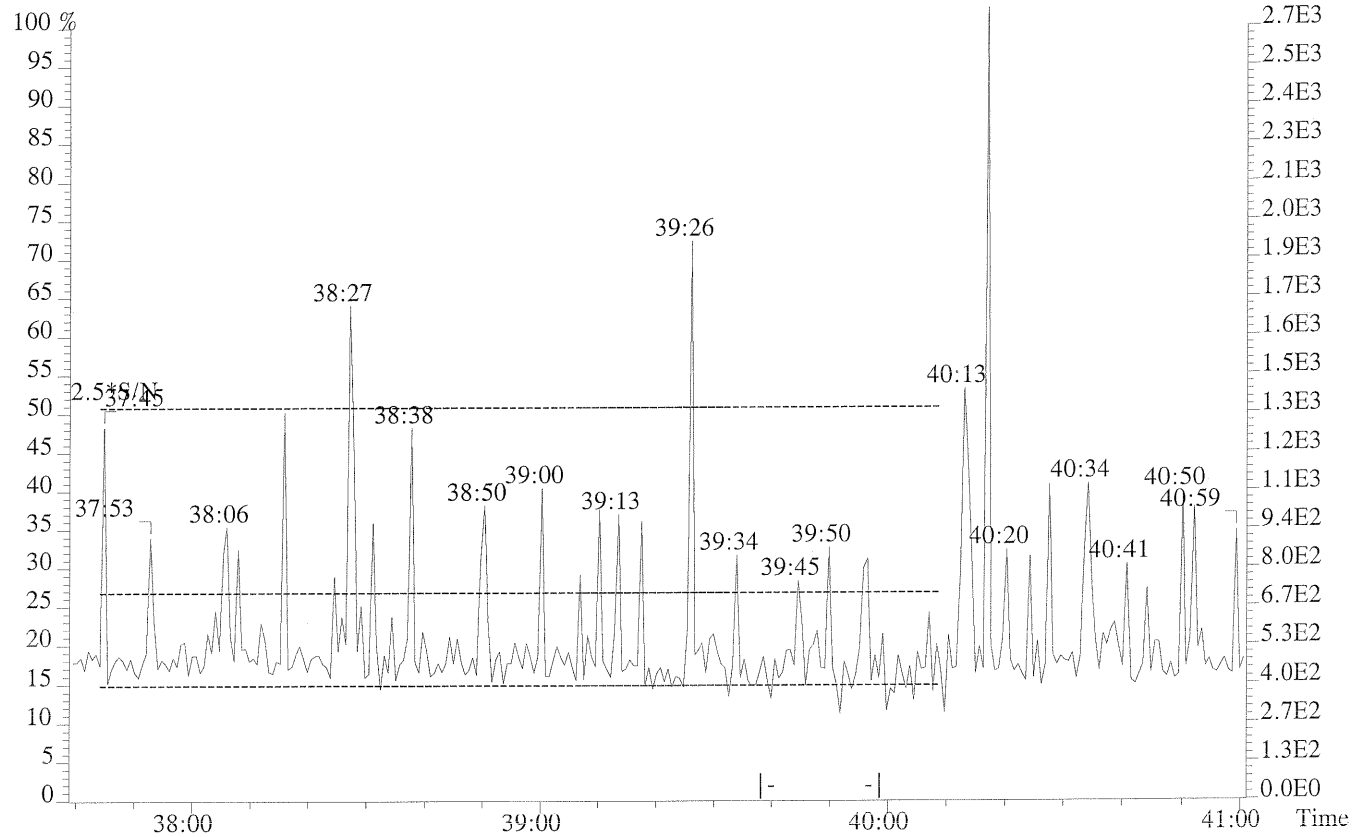
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



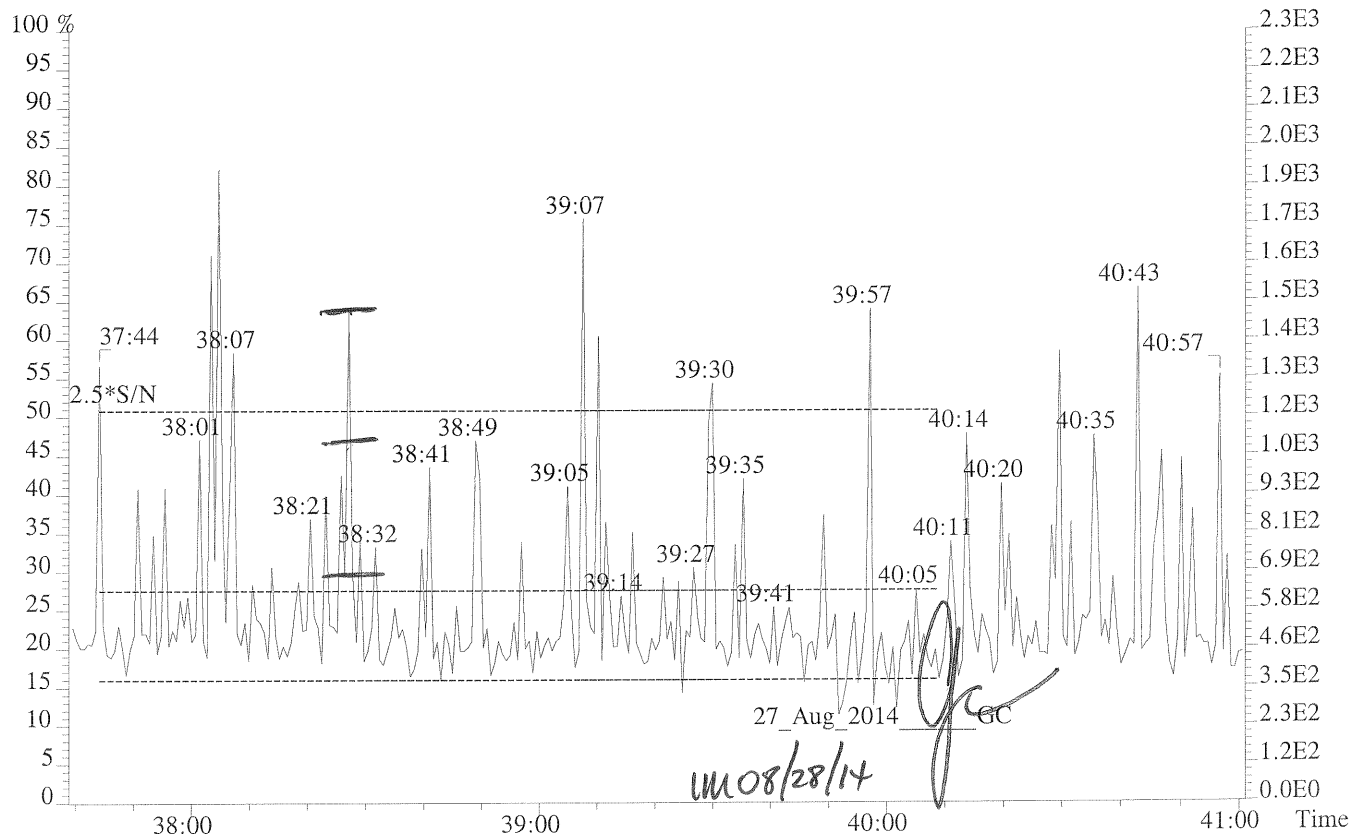
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P173125 #1-306 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-011  
407.7818 F:4



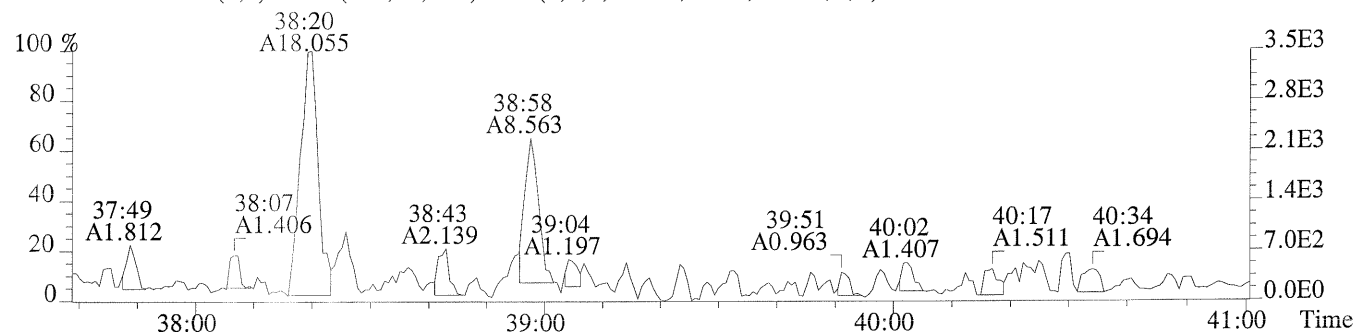
409.7789 F:4



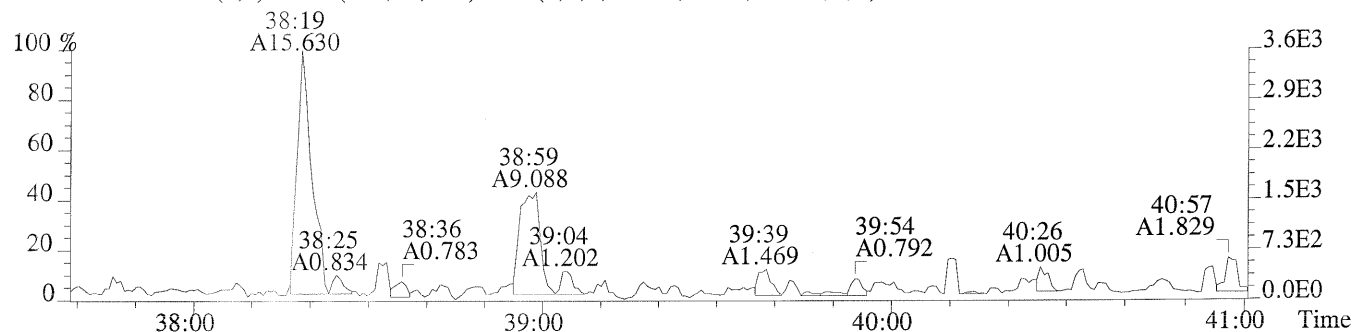
File:P173125 #1-306 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-011

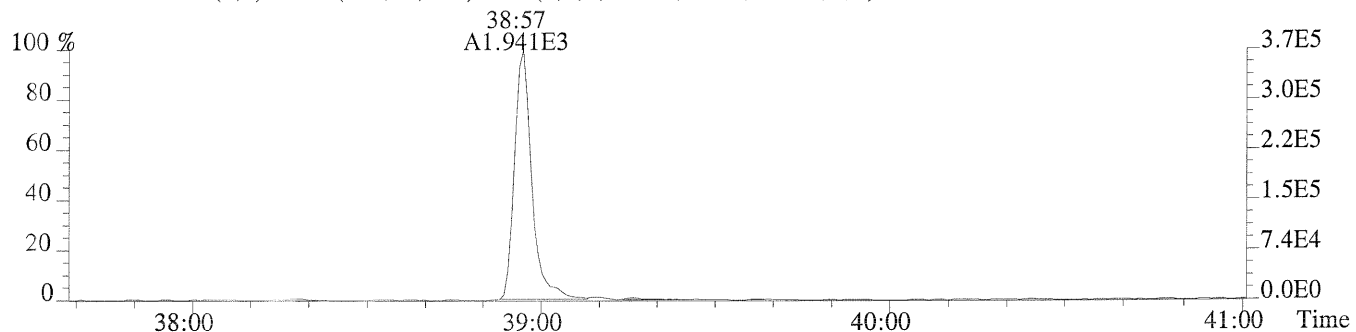
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,T)



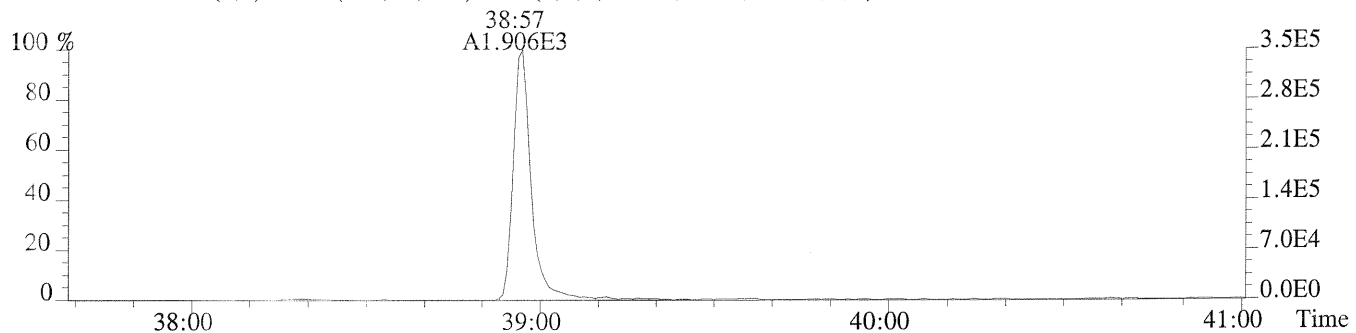
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,188.0,0.40%,F,T)



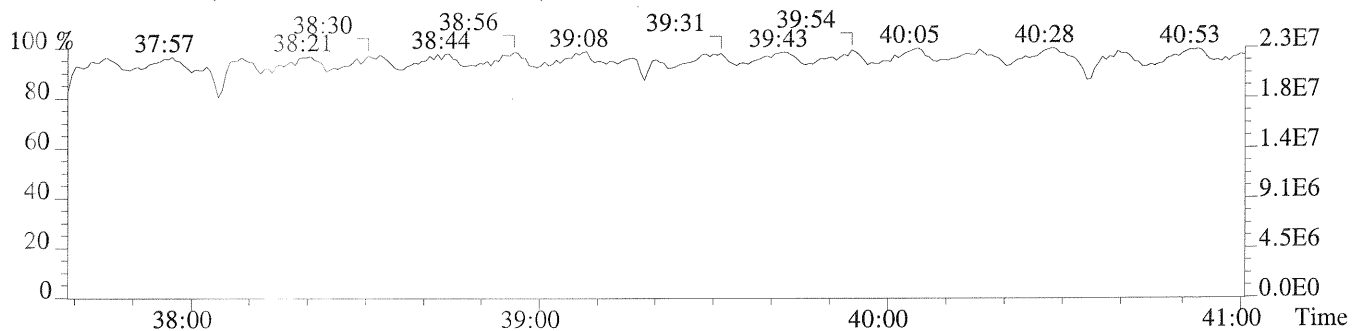
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,524.0,0.40%,F,T)



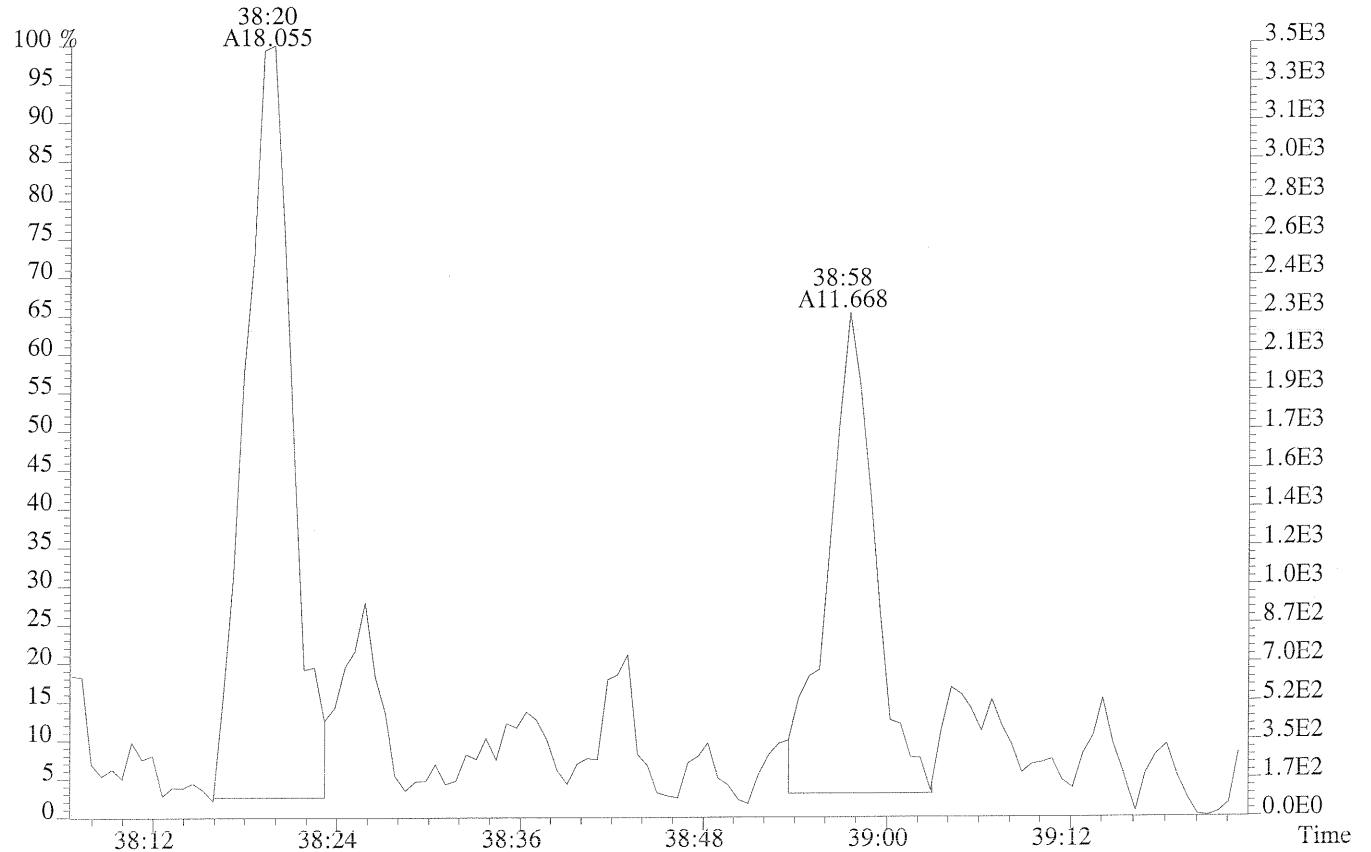
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



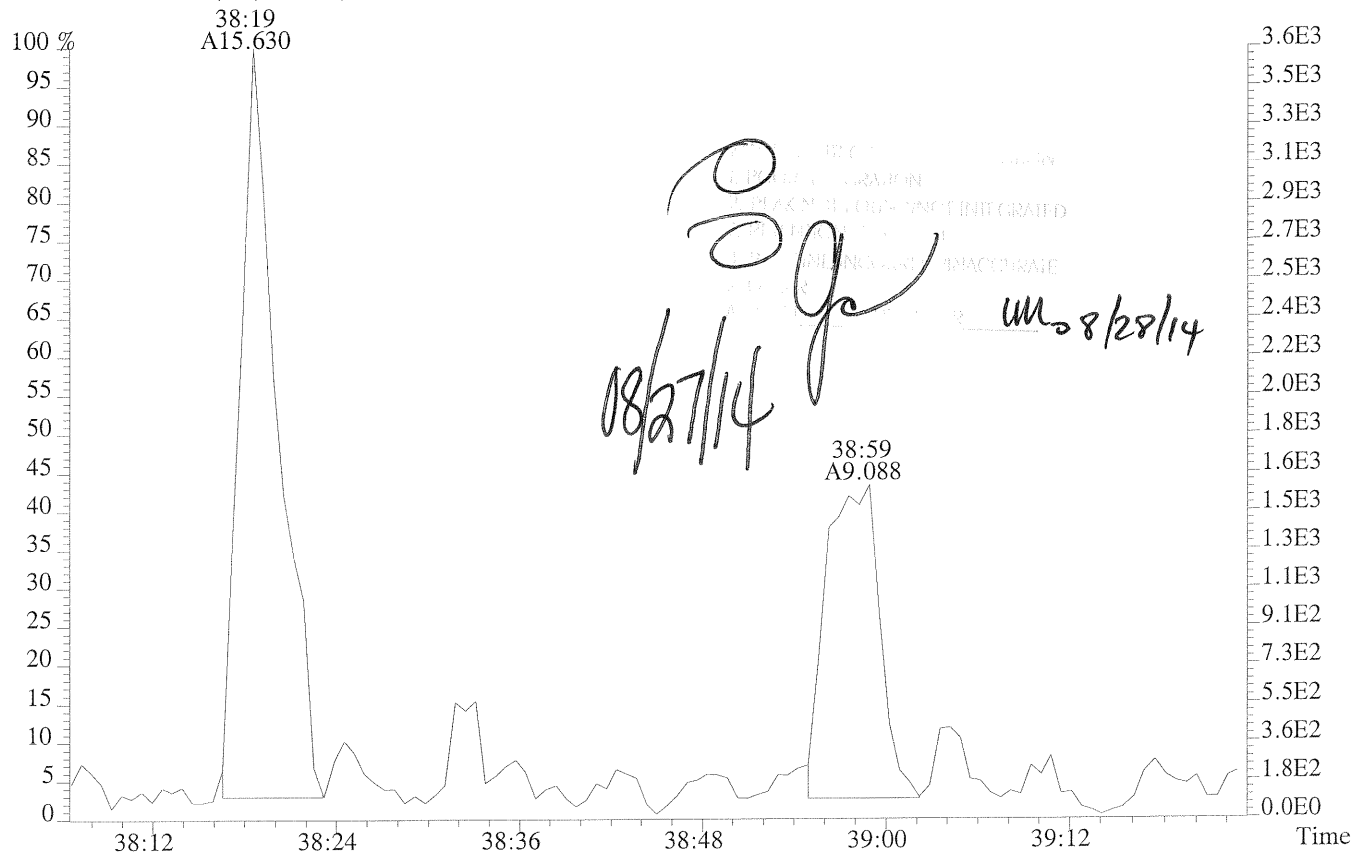
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



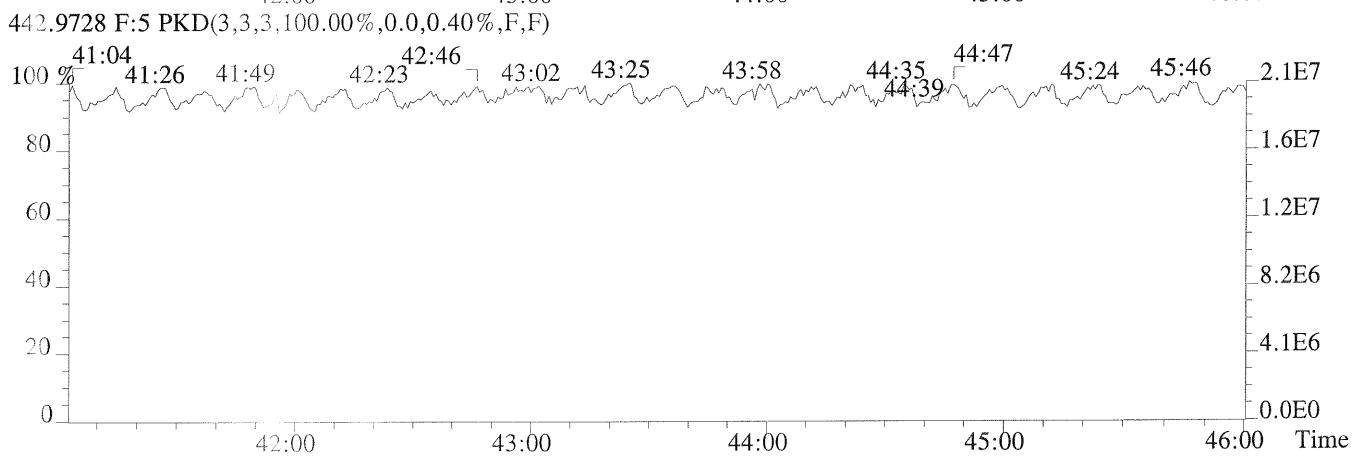
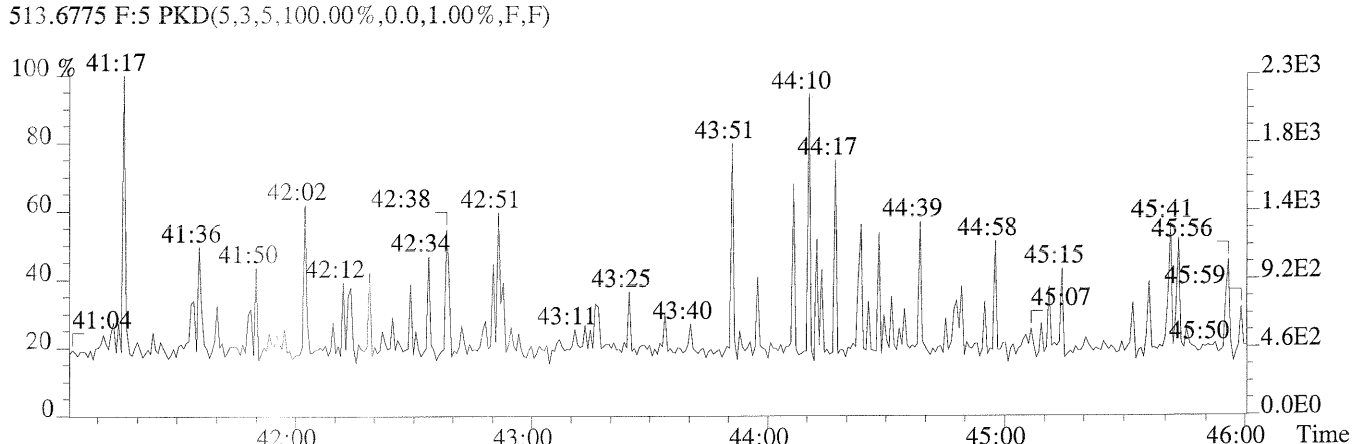
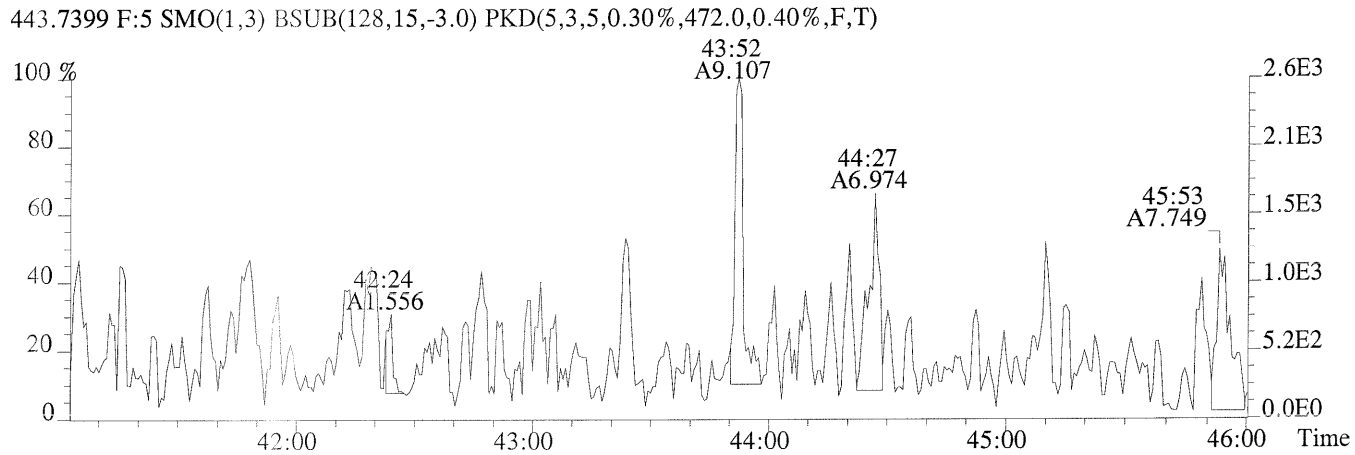
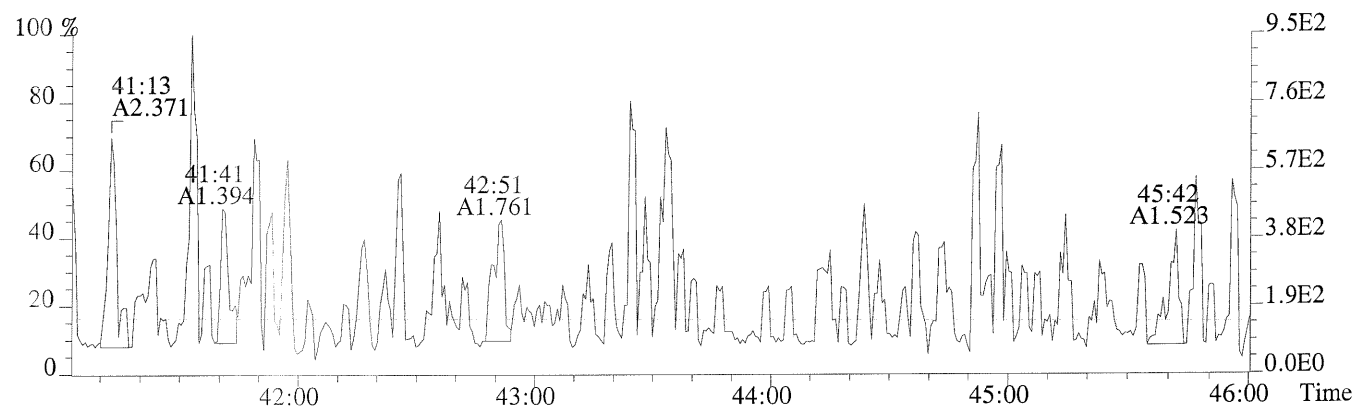
File:P173125 #1-306 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-011  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,T)



425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,188.0,0.40%,F,T)



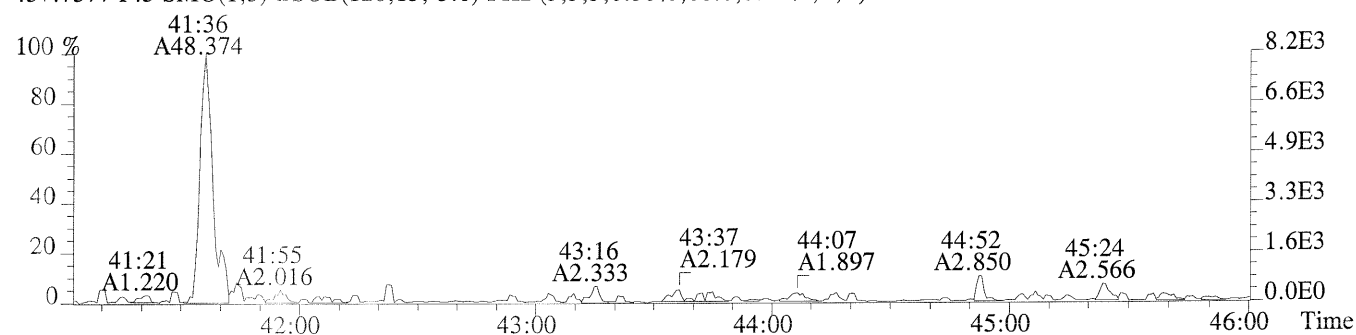
File:P173125 #1-456 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-011  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,152.0,0.40%,F,T)



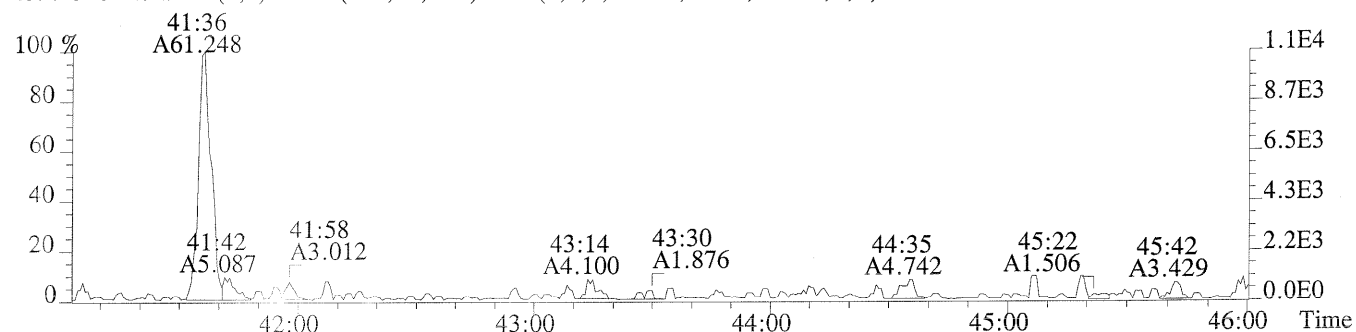
File:P173125 #1-456 Acq:27-AUG-2014 07:27:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-011

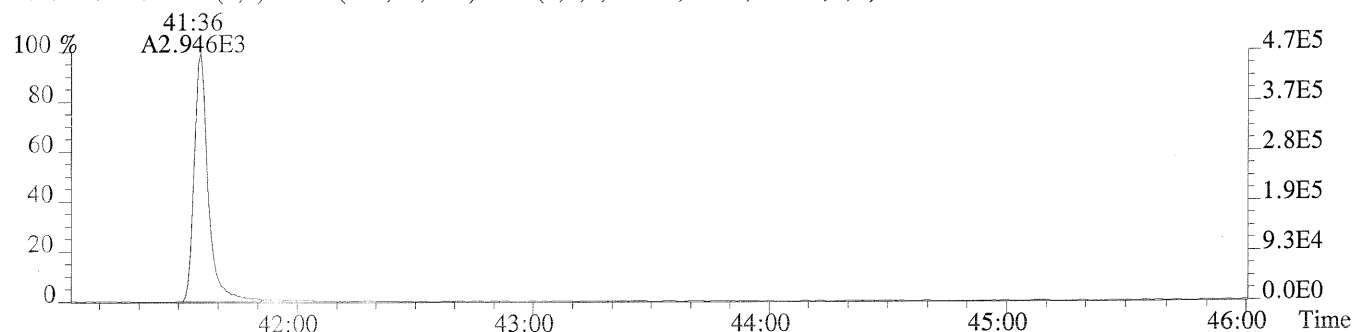
457.7377 F:5 BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



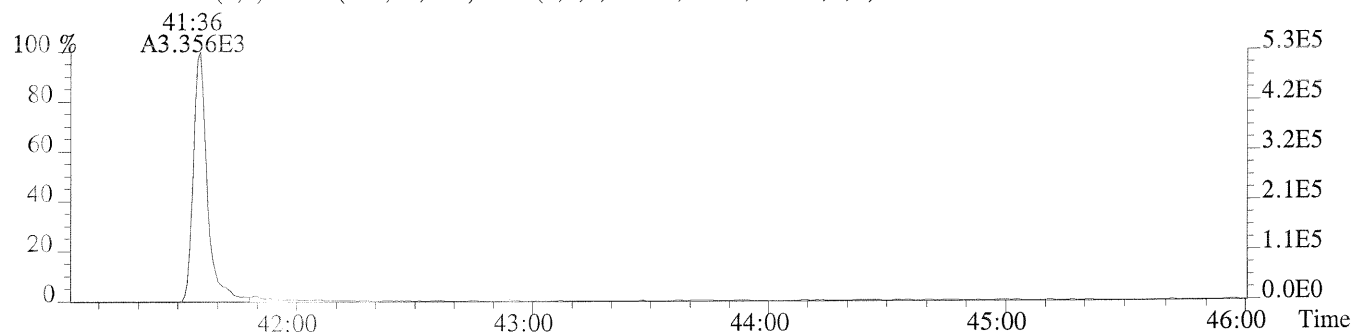
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,T)



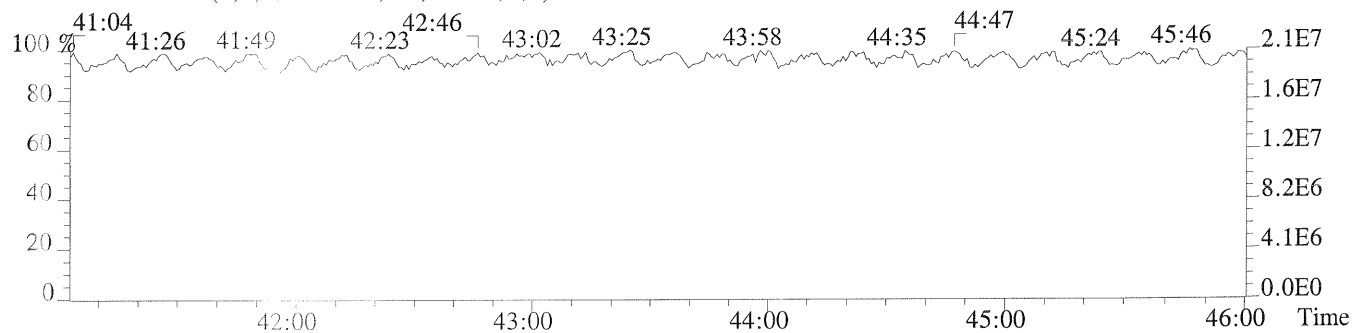
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-TB R7

Run #11    Filename P230808    Samp: 1    Inj: 1    Acquired: 27-AUG-14 03:34:33  
 Processed: 27-AUG-14 16:38:44    Sample ID: K1407971-012

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:18	3.062e+01	5.202e+01	0.59	no	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.000
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.039e+01	1.736e+01	1.17	yes	yes	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.274
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	36:44	9.905e+00	3.397e+00	2.92	no	no	1.118
14 Unk	1,2,3,6,7,8-HxCDD	36:50	7.042e+00	5.060e+00	1.39	yes	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	37:03	9.917e+00	6.394e+00	1.55	no	no	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:30	6.255e+01	5.861e+01	1.07	yes	no	1.053
17 Unk	OCDD	42:17	2.544e+02	2.667e+02	0.95	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:15	1.674e+04	2.124e+04	0.79	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:25	3.241e+04	2.020e+04	1.60	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:20	3.357e+04	2.156e+04	1.56	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	1.482e+04	2.868e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:05	1.928e+04	3.668e+04	0.53	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.639e+04	3.178e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.405e+04	2.729e+04	0.51	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:34	1.046e+04	2.410e+04	0.43	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	9.284e+03	2.153e+04	0.43	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:02	1.221e+04	1.551e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:36	2.596e+04	1.654e+04	1.57	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:43	2.162e+04	1.677e+04	1.29	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:48	2.147e+04	1.707e+04	1.26	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	1.730e+04	1.619e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:17	1.940e+04	2.146e+04	0.90	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:27	2.376e+04	3.025e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	3.960e+04	3.134e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:03	9.085e+03				no	1.099

$$\text{OCDD} = \frac{(2.544e+02 + 2.667e+02) \times 4000 \text{ pg} \times 1}{(1.940e+04 + 2.146e+04) \times 7.70 \text{ g} \times / 100 \times 1.169} =$$

5.67

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1613RESPA



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-TB Rep.4

Run #11    Filename P230808                    Samp: 1    Inj: 1                    Acquired: 27-AUG-14 03:34:33  
 Processed: 27-AUG-14 16:38:441                    LAB. ID: K1407971-012

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.47e+03	6.80e+01	9.5e+01	1.07e+04	8.80e+02	1.2e+01
2	1,2,3,7,8-PeCDF	*	2.52e+02	*	*	8.80e+02	*
3	2,3,4,7,8-PeCDF	*	2.52e+02	*	*	8.80e+02	*
4	1,2,3,4,7,8-HxCDF	*	1.11e+03	*	*	4.80e+01	*
5	1,2,3,6,7,8-HxCDF	*	1.11e+03	*	*	4.80e+01	*
6	2,3,4,6,7,8-HxCDF	*	1.11e+03	*	*	4.80e+01	*
7	1,2,3,7,8,9-HxCDF	*	1.11e+03	*	*	4.80e+01	*
8	1,2,3,4,6,7,8-HpCDF	4.08e+03	3.64e+02	1.1e+01	3.50e+03	1.52e+02	2.3e+01
9	1,2,3,4,7,8,9-HpCDF	*	3.64e+02	*	*	1.52e+02	*
10	OCDF	*	1.44e+02	*	*	7.40e+02	*
11	2,3,7,8-TCDD	*	6.24e+02	*	*	3.48e+02	*
12	1,2,3,7,8-PeCDD	*	8.20e+02	*	*	1.72e+02	*
13	1,2,3,4,7,8-HxCDD	2.55e+03	1.00e+02	2.5e+01	9.47e+02	1.36e+02	7.0e+00
14	1,2,3,6,7,8-HxCDD	2.10e+03	1.00e+02	2.1e+01	1.69e+03	1.36e+02	1.2e+01
15	1,2,3,7,8,9-HxCDD	1.67e+03	1.00e+02	1.7e+01	1.57e+03	1.36e+02	1.2e+01
16	1,2,3,4,6,7,8-HpCDD	1.33e+04	6.40e+01	2.1e+02	1.33e+04	7.60e+01	1.8e+02
17	OCDD	4.67e+04	7.20e+01	6.5e+02	4.56e+04	5.20e+02	8.8e+01
18	13C-2,3,7,8-TCDF	3.45e+06	1.47e+03	2.4e+03	4.37e+06	1.29e+03	3.4e+03
19	13C-1,2,3,7,8-PeCDF	6.19e+06	2.16e+02	2.9e+04	3.84e+06	5.04e+02	7.6e+03
20	13C-2,3,4,7,8-PeCDF	6.64e+06	2.16e+02	3.1e+04	4.27e+06	5.04e+02	8.5e+03
21	13C-1,2,3,4,7,8-HxCDF	3.30e+06	5.32e+02	6.2e+03	6.41e+06	5.32e+02	1.2e+04
22	13C-1,2,3,6,7,8-HxCDF	4.20e+06	5.32e+02	7.9e+03	7.90e+06	5.32e+02	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	3.51e+06	5.32e+02	6.6e+03	6.62e+06	5.32e+02	1.2e+04
24	13C-1,2,3,7,8,9-HxCDF	2.95e+06	5.32e+02	5.5e+03	5.64e+06	5.32e+02	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.35e+06	8.56e+02	2.7e+03	5.51e+06	1.47e+03	3.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.85e+06	8.56e+02	2.2e+03	4.35e+06	1.47e+03	3.0e+03
27	13C-2,3,7,8-TCDD	2.52e+06	4.14e+03	6.1e+02	3.23e+06	1.37e+03	2.4e+03
28	13C-1,2,3,7,8-PeCDD	5.14e+06	6.32e+02	8.1e+03	3.27e+06	2.76e+02	1.2e+04
29	13C-1,2,3,4,7,8-HxCDD	4.88e+06	1.19e+03	4.1e+03	3.83e+06	5.24e+02	7.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.70e+06	1.19e+03	3.9e+03	3.71e+06	5.24e+02	7.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.74e+06	4.80e+02	7.8e+03	3.49e+06	6.80e+01	5.1e+04
32	13C-OCDD	3.52e+06	3.44e+02	1.0e+04	3.79e+06	2.96e+02	1.3e+04
33	13C-1,2,3,4-TCDD	4.98e+06	4.14e+03	1.2e+03	6.41e+06	1.37e+03	4.7e+03
34	13C-1,2,3,7,8,9-HxCDD	8.52e+06	1.19e+03	7.1e+03	6.62e+06	5.24e+02	1.3e+04
35	37Cl-2,3,7,8-TCDD	1.94e+06	8.76e+02	2.2e+03			

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Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.4

Entry: 36      Totals Name: Total Tetra-Furans

Run: 11      File: P230808      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    03:34:33      Processed: 27-AUG-14 16:38:44

Mass: 303.9020    305.8990      Tot Response: 3.68e+01    RRF: 0.9861

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:38	1.49e+01	2.18e+01	0.68	yes	3.68e+01	Y	Y

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Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.4

Entry: 40      Totals Name: Total Penta-Dioxins

Run: 11      File: P230808      Sample: 1    Injection: 1    Function: 2

Llim: -      Ulim: -

Acquired: 27-AUG-14    03:34:33      Processed: 27-AUG-14 16:38:44

Mass: 355.8550    357.8520      Tot Response: 9.95e+01    RRF: 0.9921

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:32	3.04e+01	2.21e+01	1.38	yes	5.25e+01	n	y
2	31:58	2.85e+01	1.85e+01	1.54	yes	4.70e+01	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.4

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 11      File: P230808      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    03:34:33      Processed: 27-AUG-14 16:38:44

Mass: 389.8160    391.8130      Tot Response: 2.76e+02    RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:24	1.50e+02	1.13e+02	1.33	yes	2.63e+02	n	n
2	36:50	7.04e+00	5.06e+00	1.39	yes	1.21e+01	y	n

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Peak List Summary

CLIENT ID.

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Nv SYC14-TB Rep.4

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Entry: 43      Totals Name: Total Hepta-Furans

Run: 11      File: P230808      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    03:34:33      Processed: 27-AUG-14 16:38:44

Mass: 407.7820    409.7790      Tot Response: 3.77e+01    RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:35	2.04e+01	1.74e+01	1.17	yes	3.77e+01	1,2,3,4,6,7,8-HpCDF	n    y

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.4

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P230808 Sample: 1 Injection: 1 Function: 4

Llim: - Ulim: -

Acquired: 27-AUG-14 03:34:33 Processed: 27-AUG-14 16:38:44

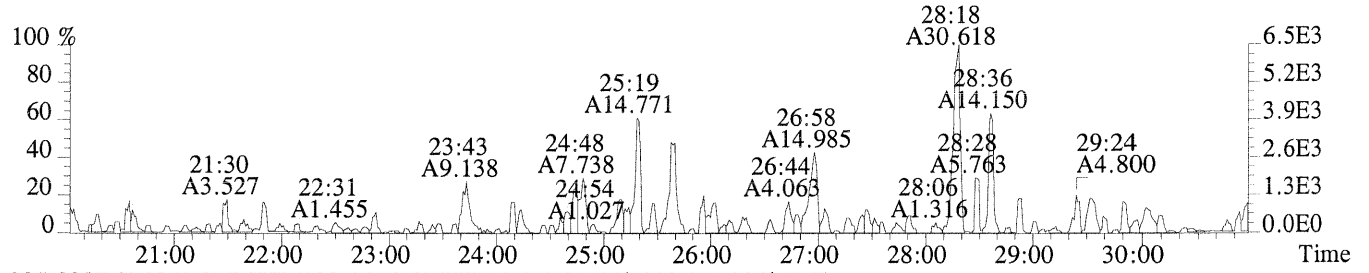
Mass: 423.7770 425.7740 Tot Response: 4.23e+02 RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:50	1.59e+02	1.43e+02	1.11	yes	3.02e+02	n	n
2	39:30	6.26e+01	5.86e+01	1.07	yes	1.21e+02	n	n

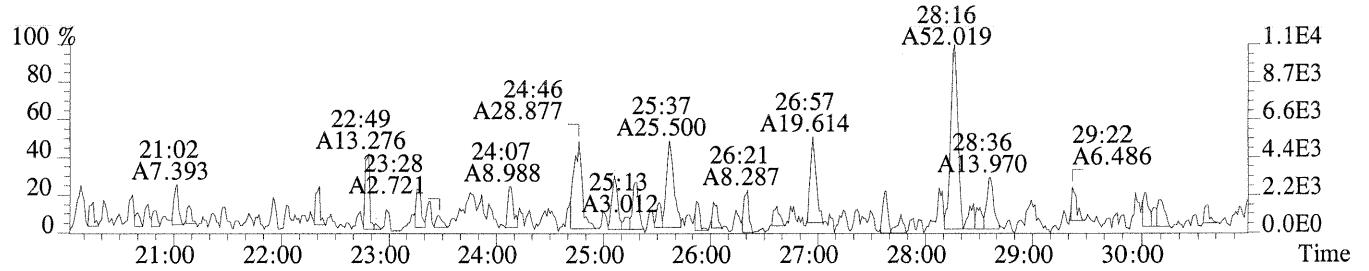
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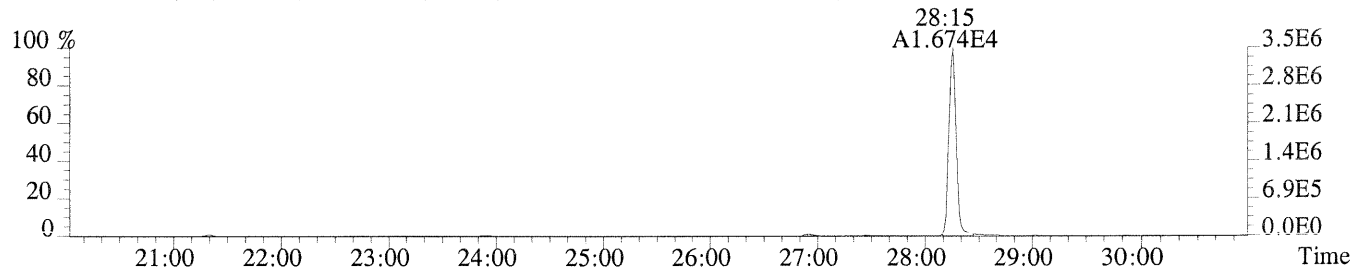
File:P230808 #1-687 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



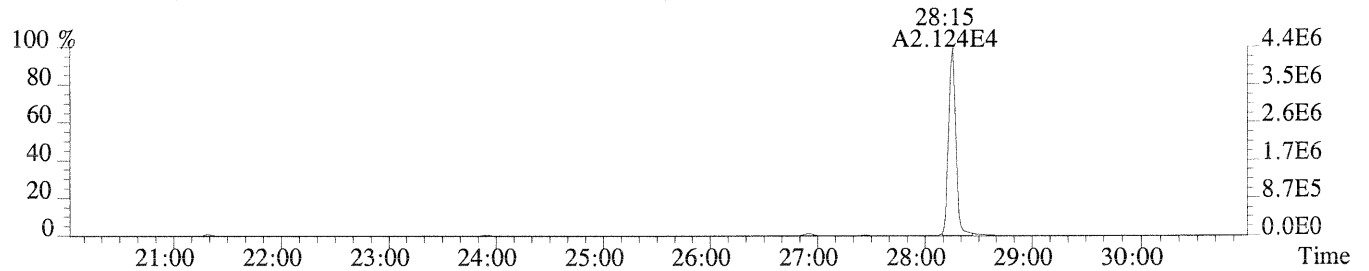
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



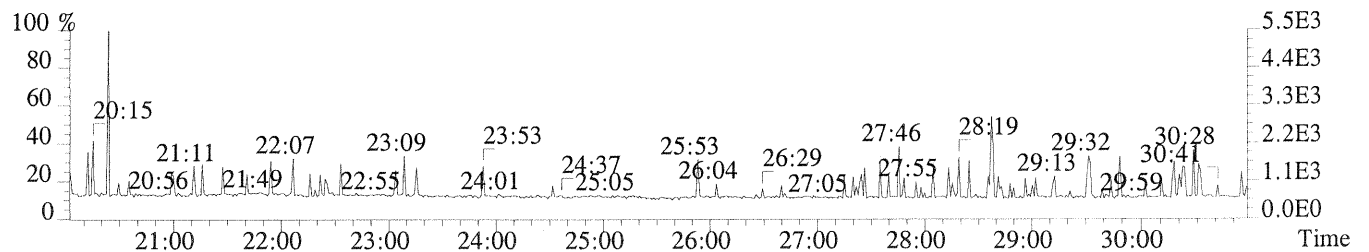
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,T)



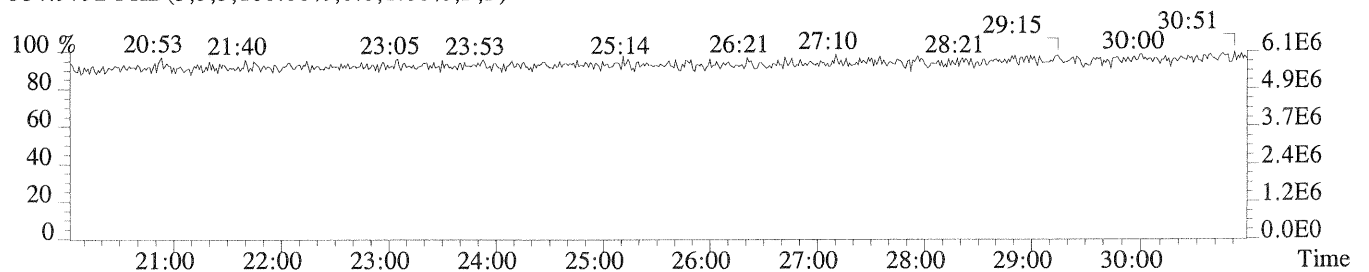
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



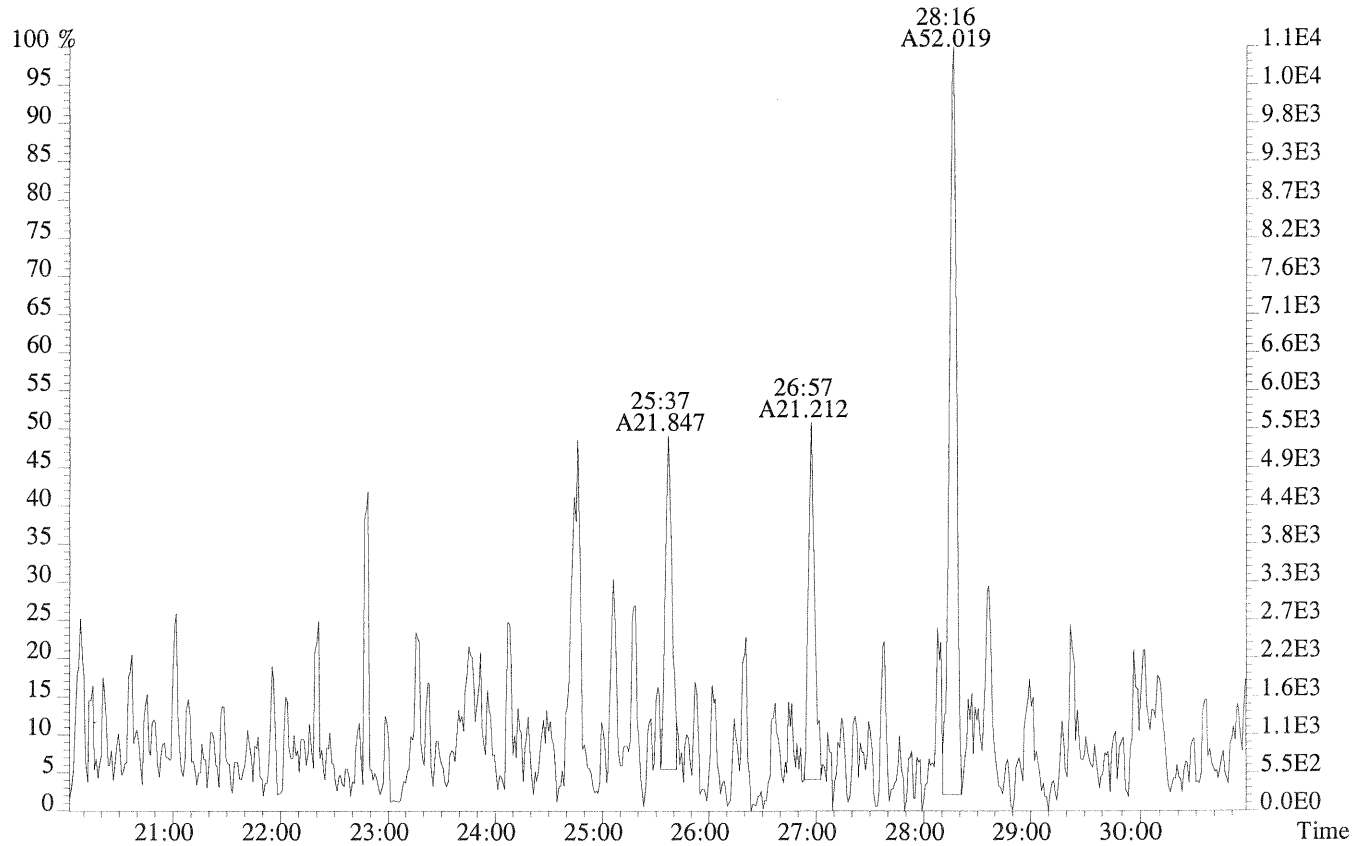
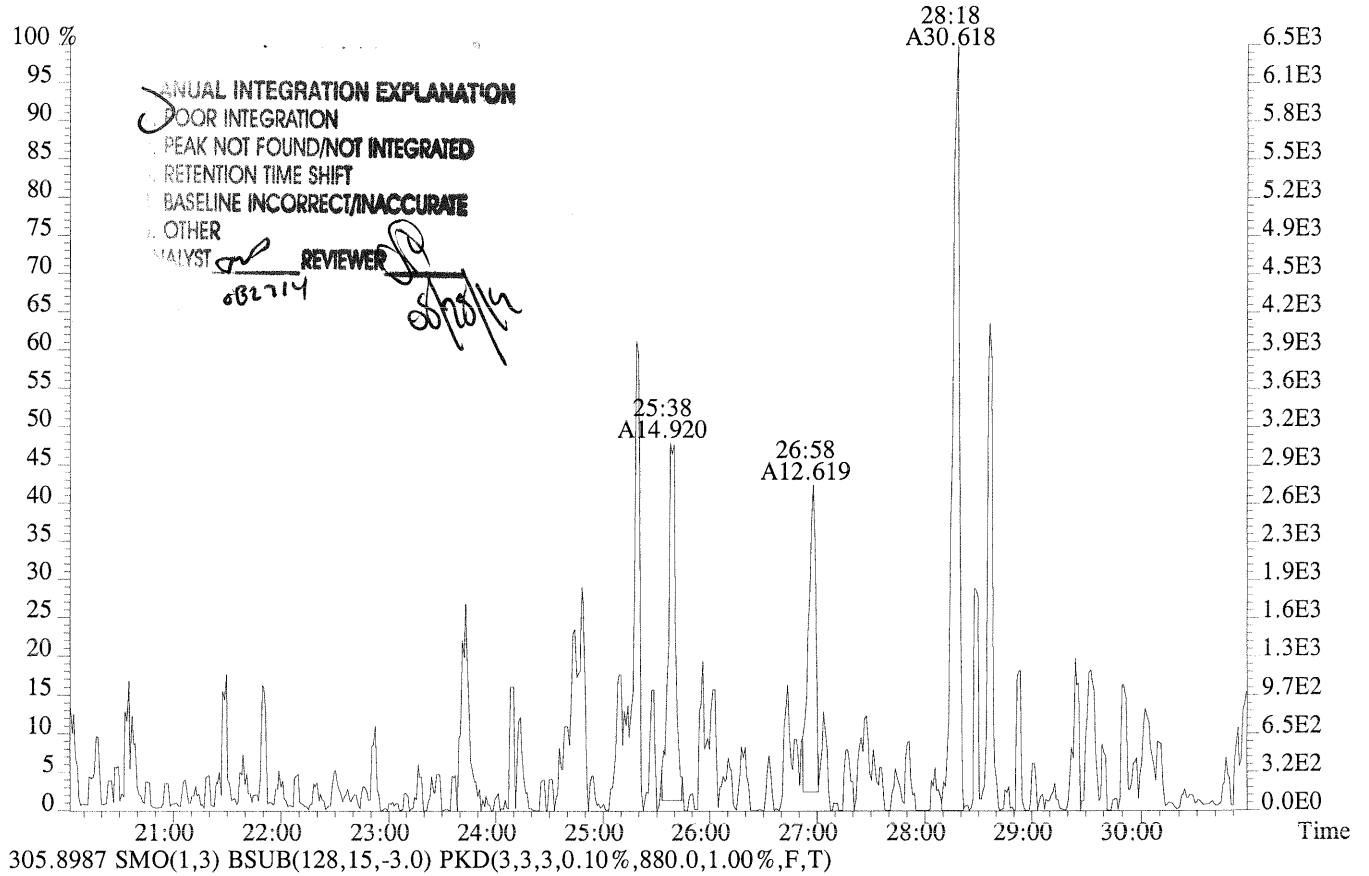
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

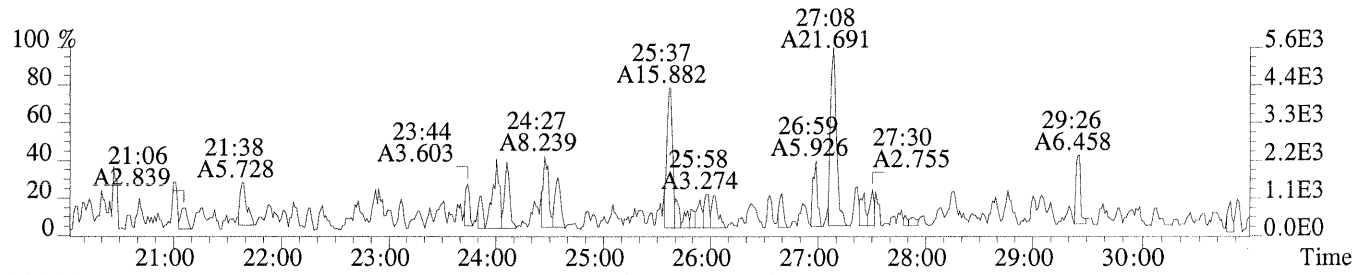


File:P230808 #1-687 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-012  
 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)

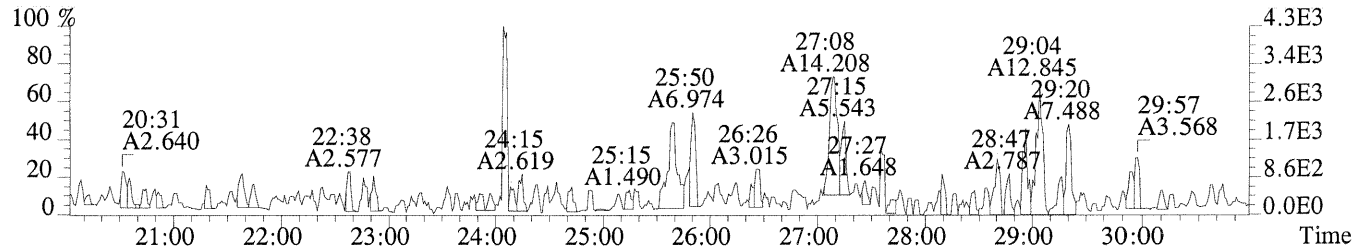




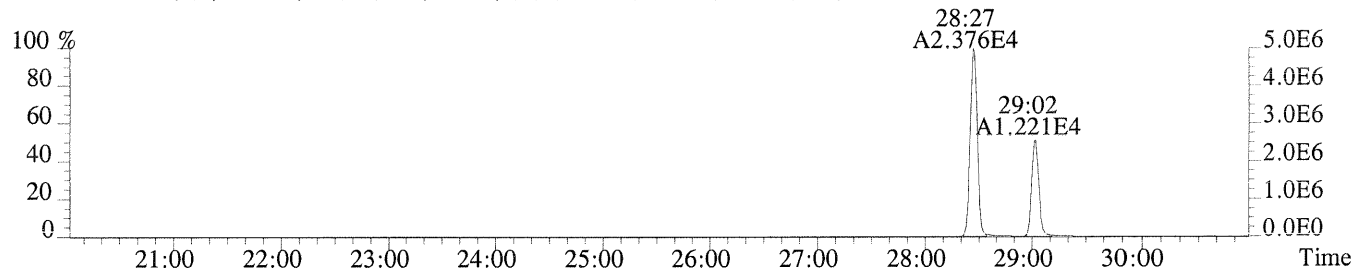
File:P230808 #1-687 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



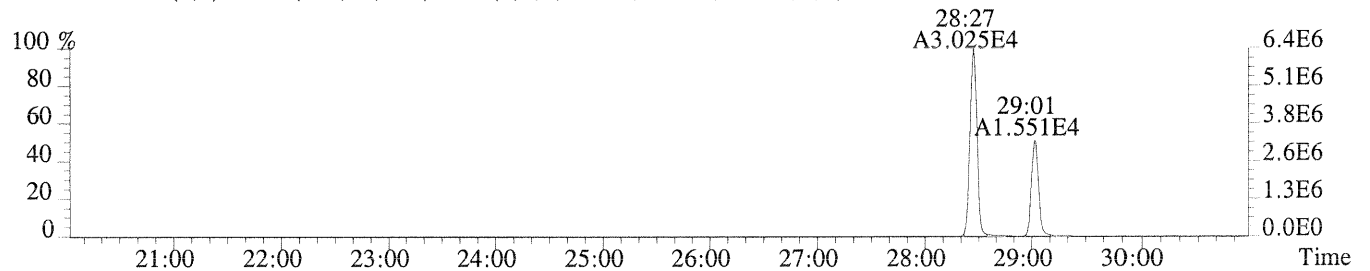
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



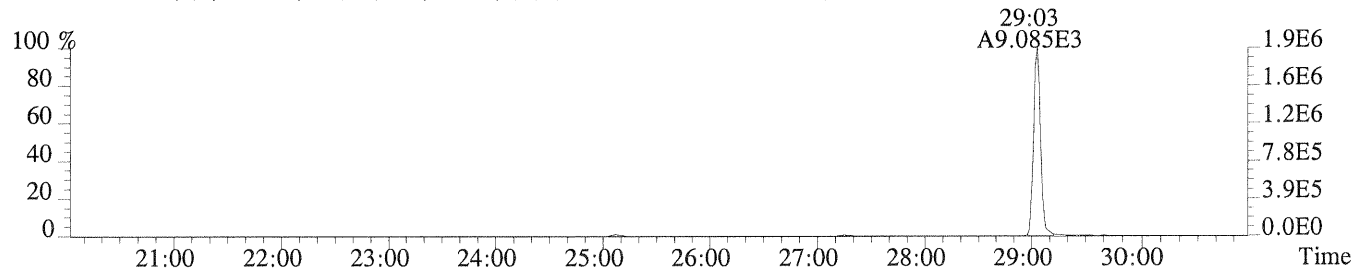
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4136.0,1.00%,F,T)



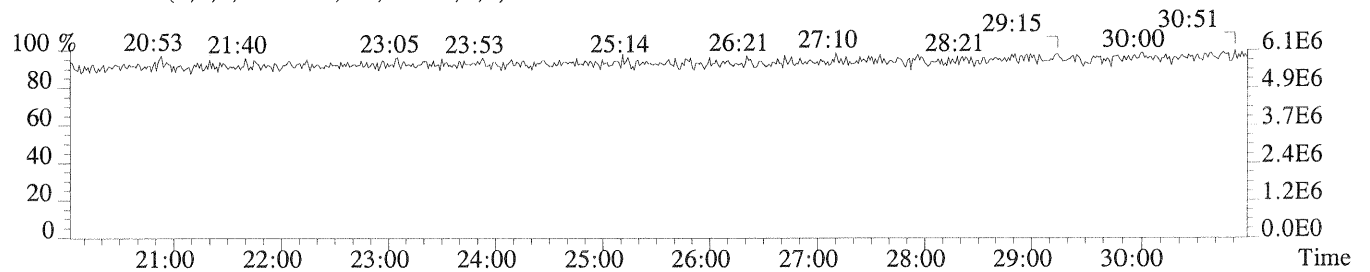
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,T)

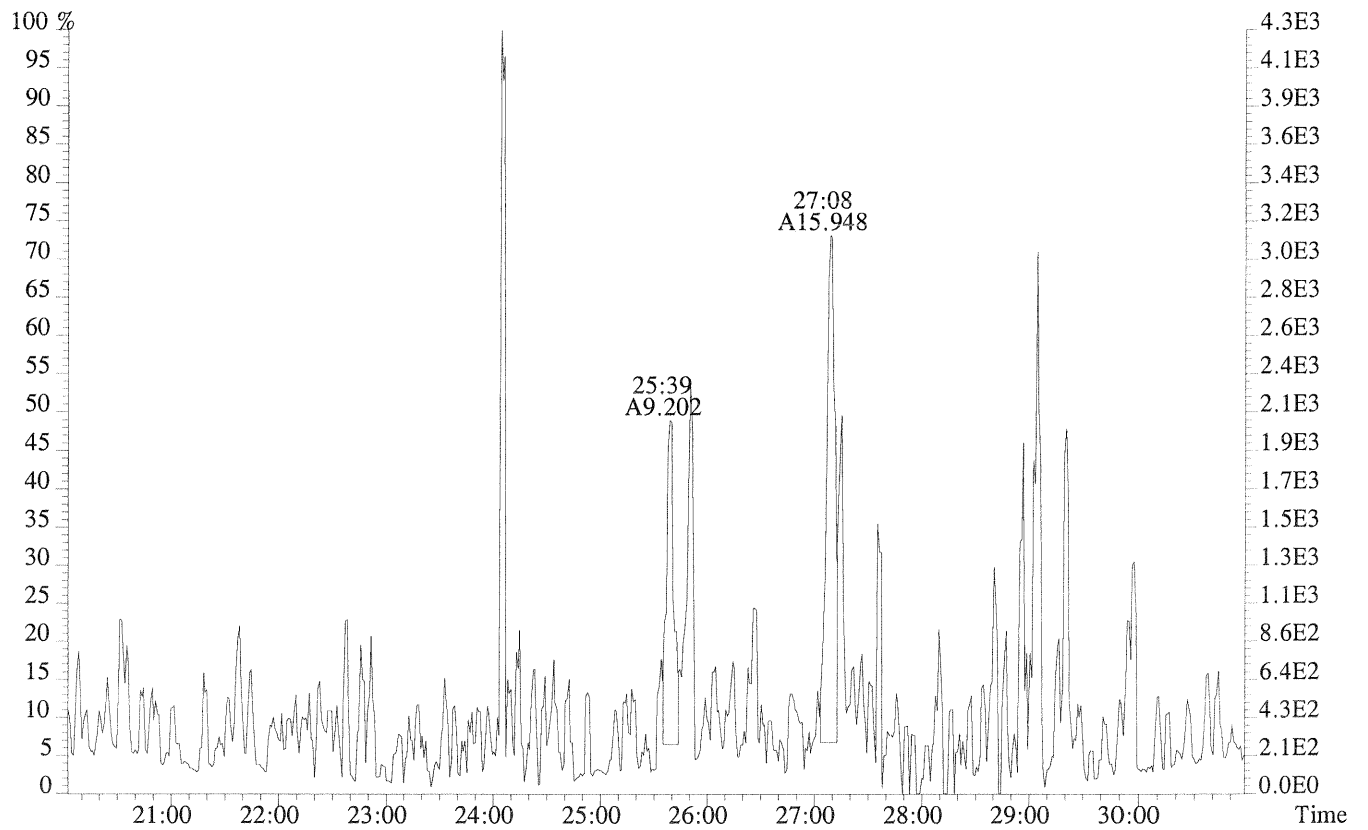
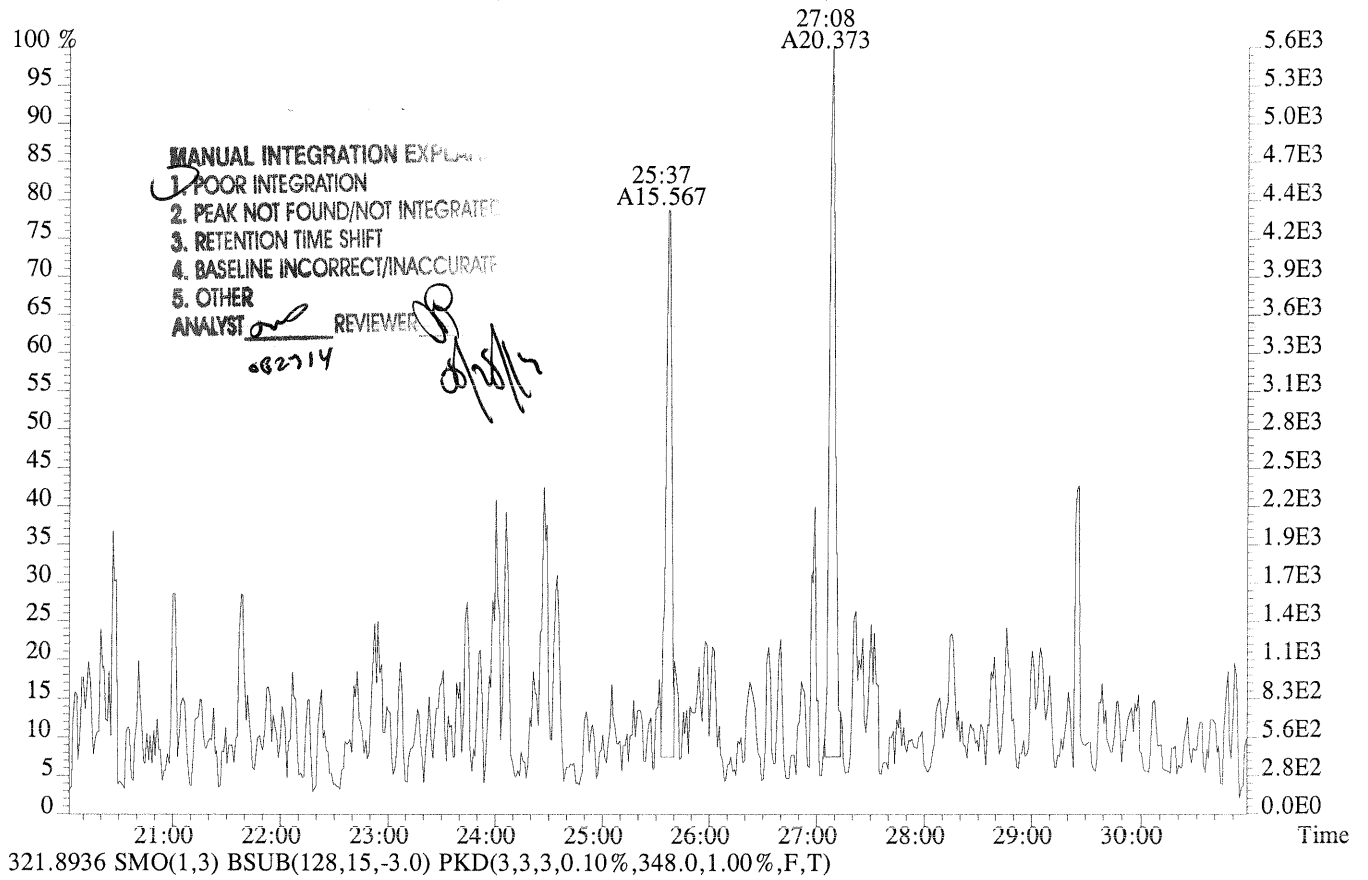


327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)

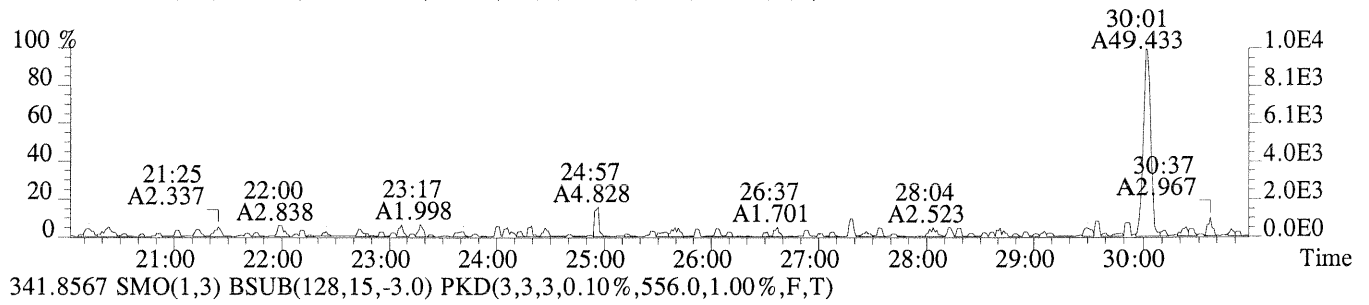


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

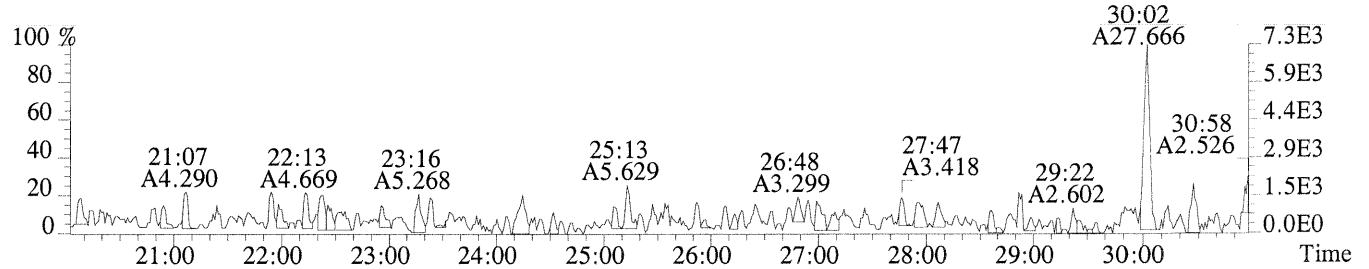




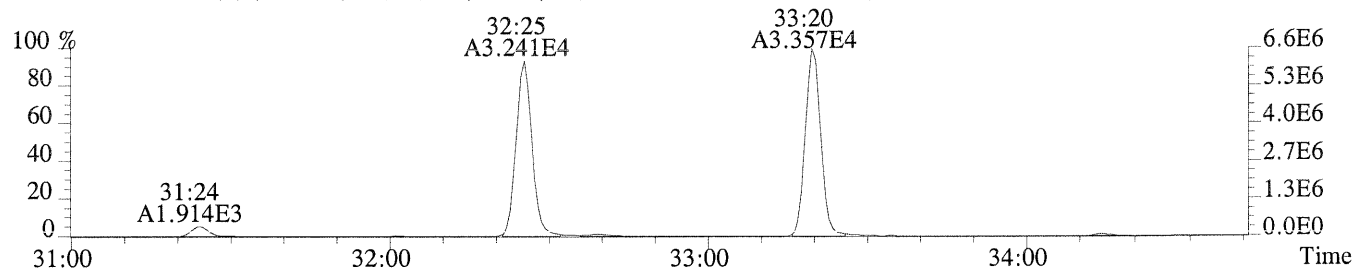
File:P230808 #1-687 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



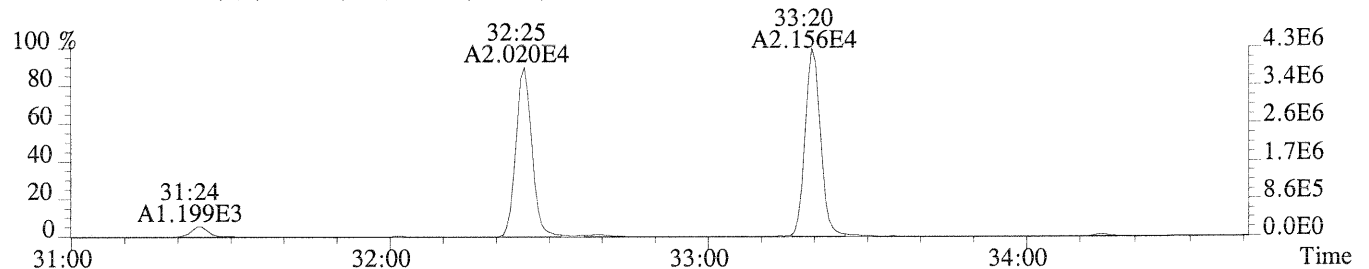
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



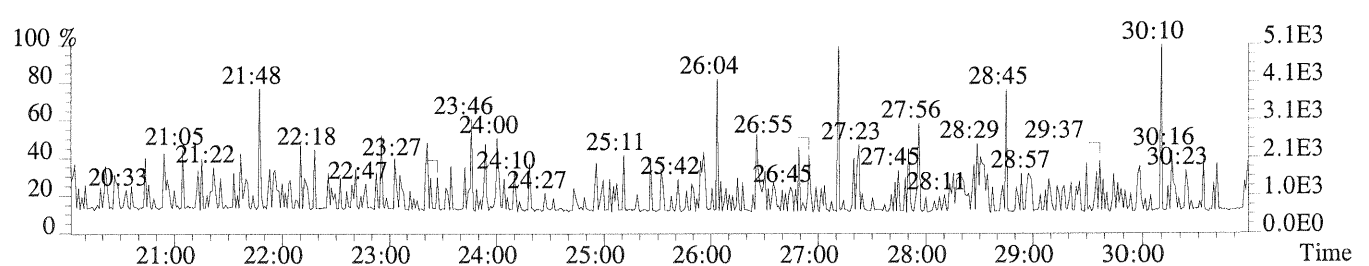
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



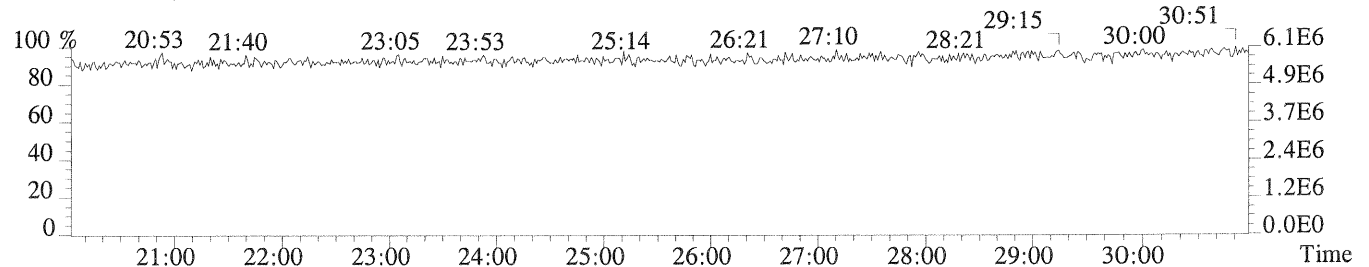
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



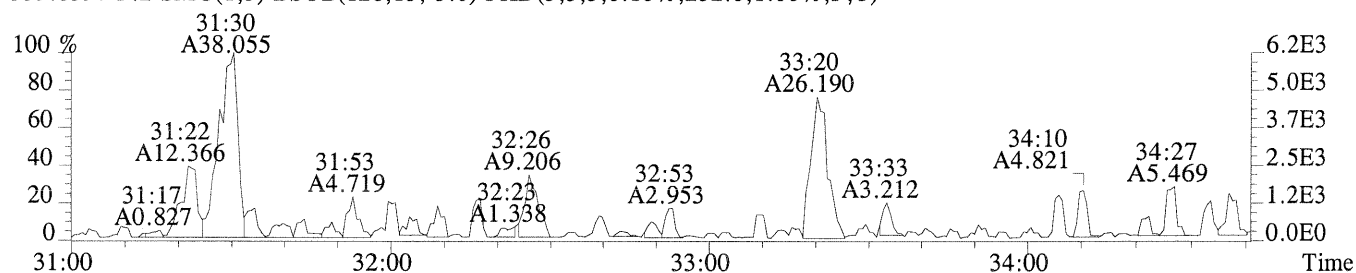
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



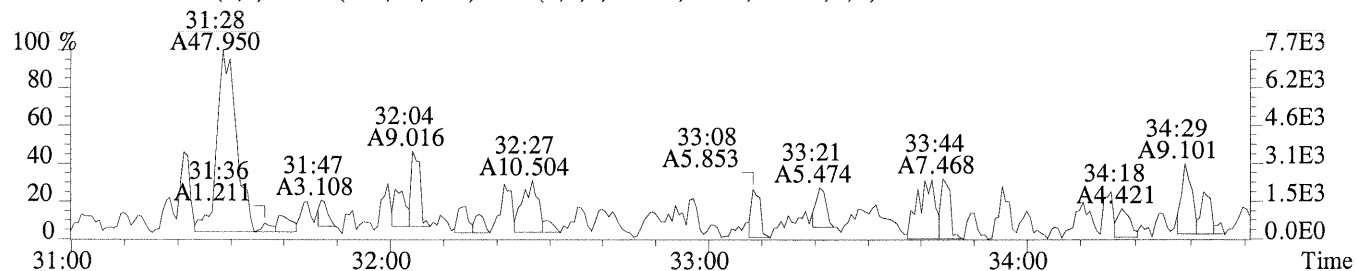
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



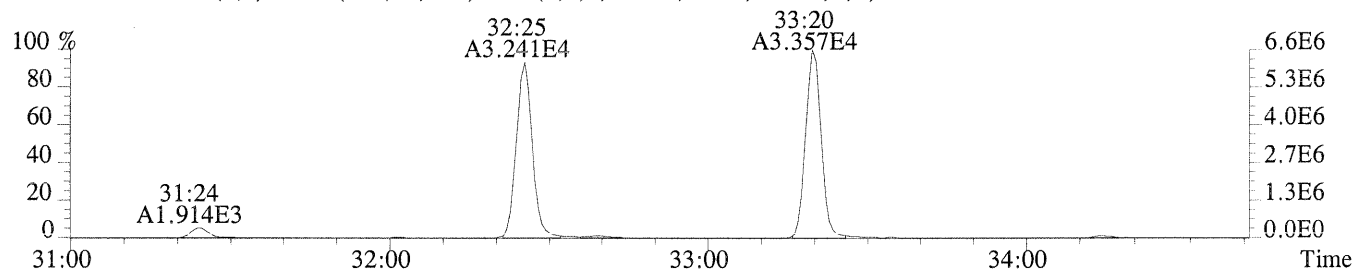
File:P230808 #1-335 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,T)



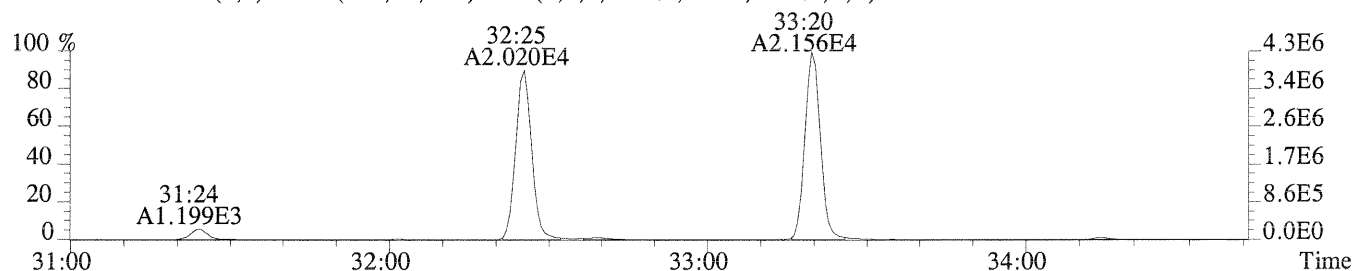
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



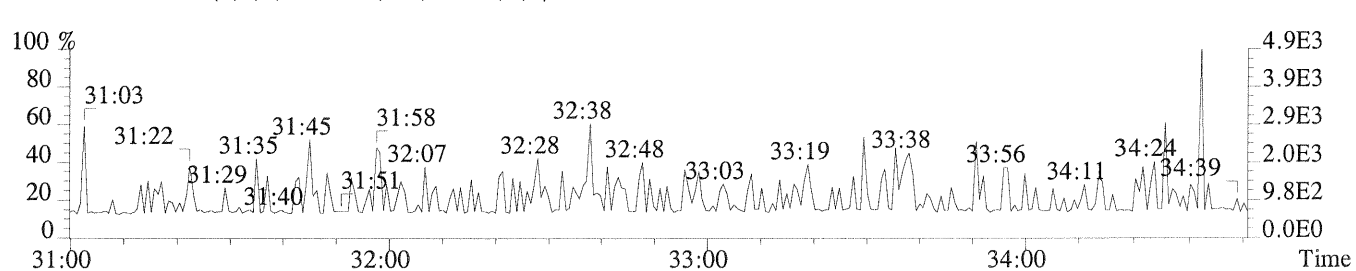
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



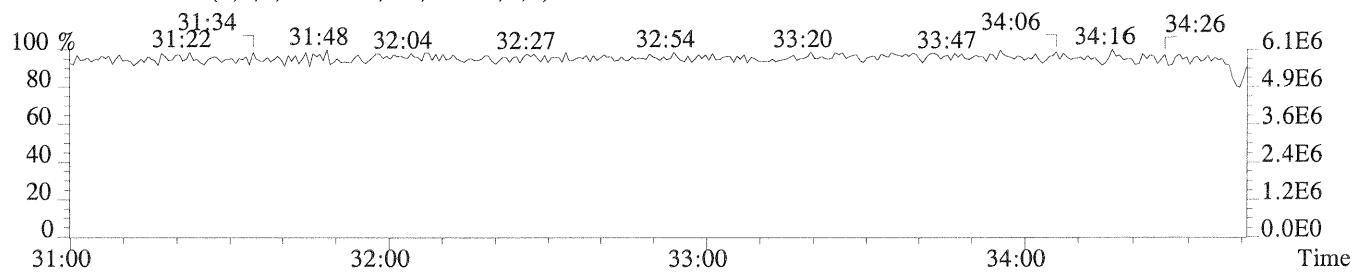
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



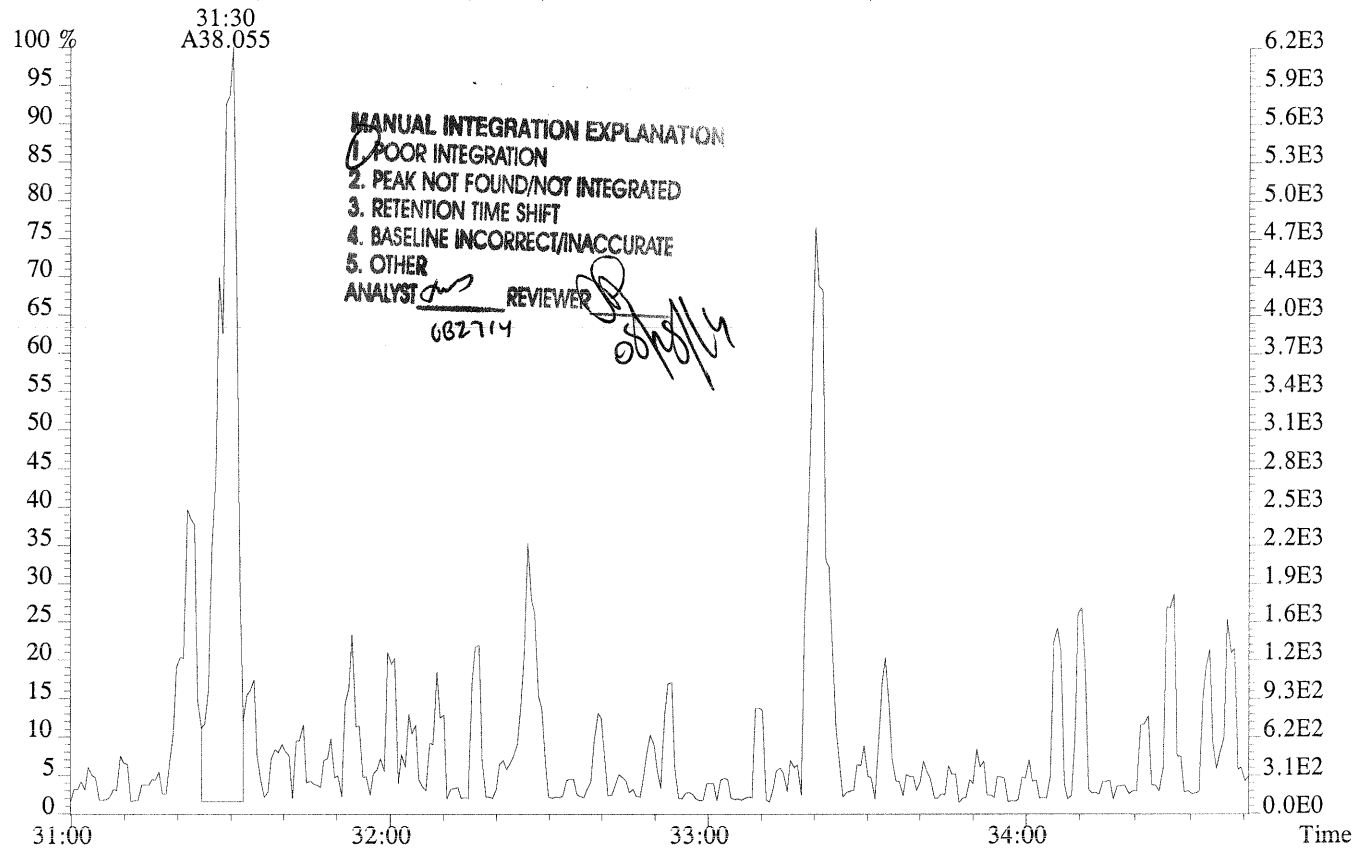
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



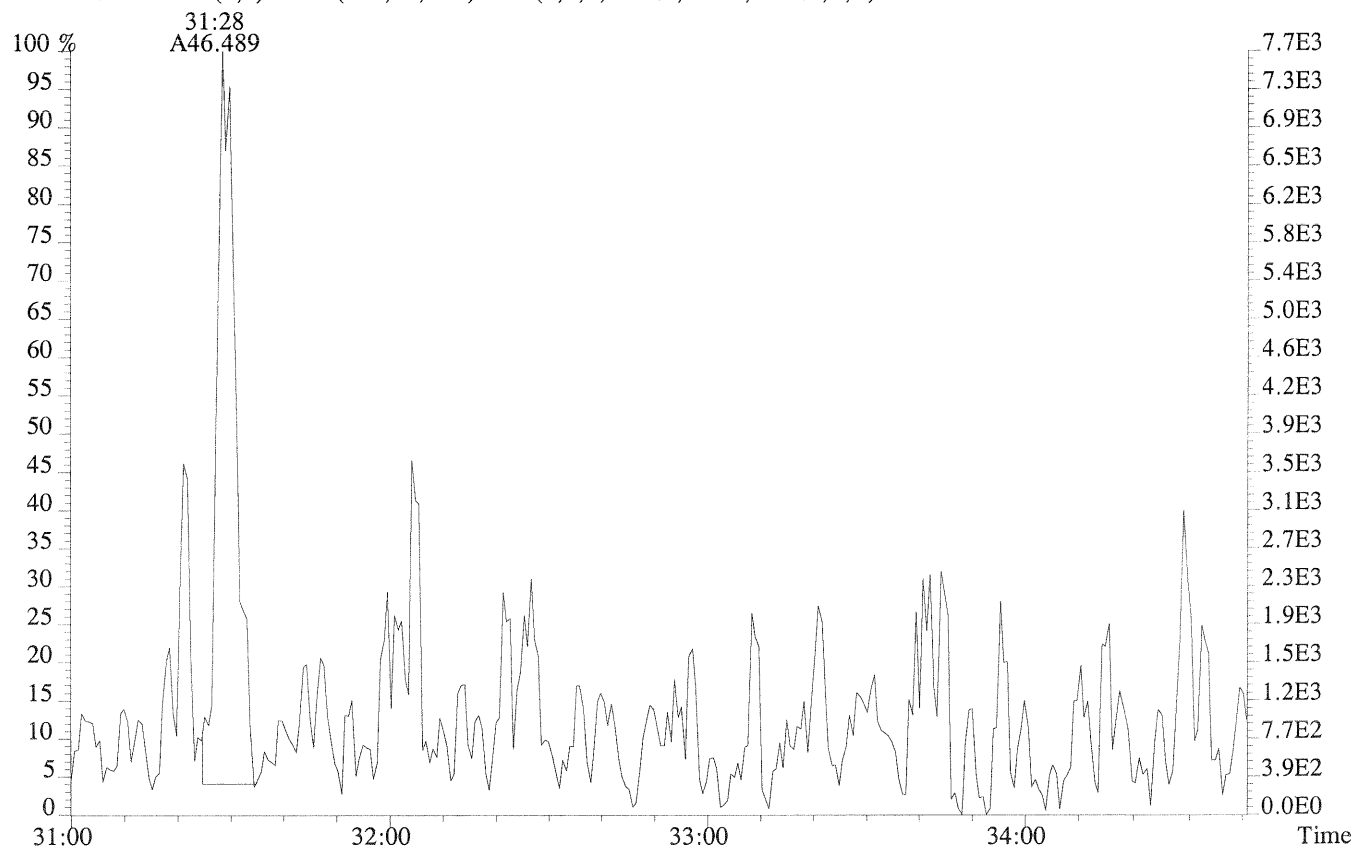
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230808 #1-335 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,T)



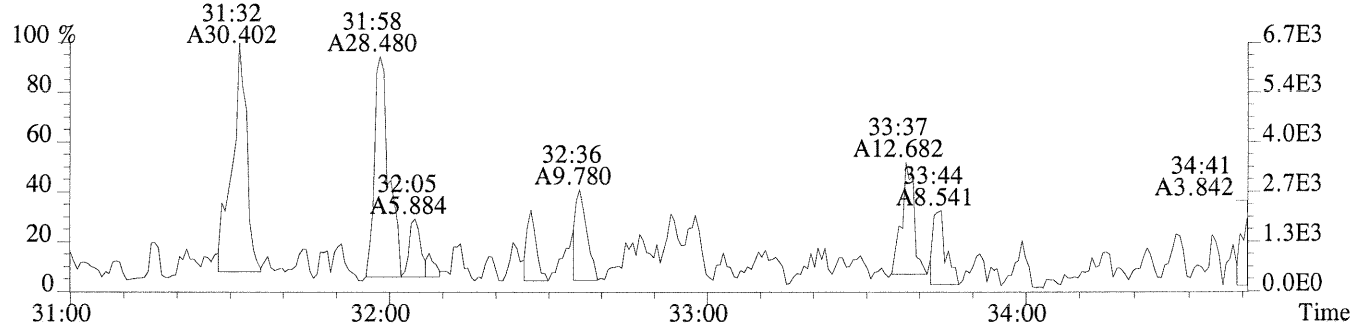
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



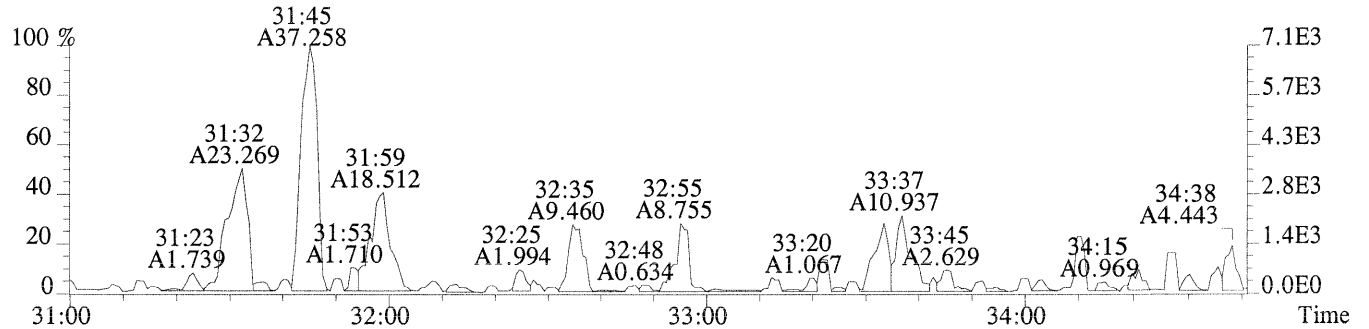
File:P230808 #1-335 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-012

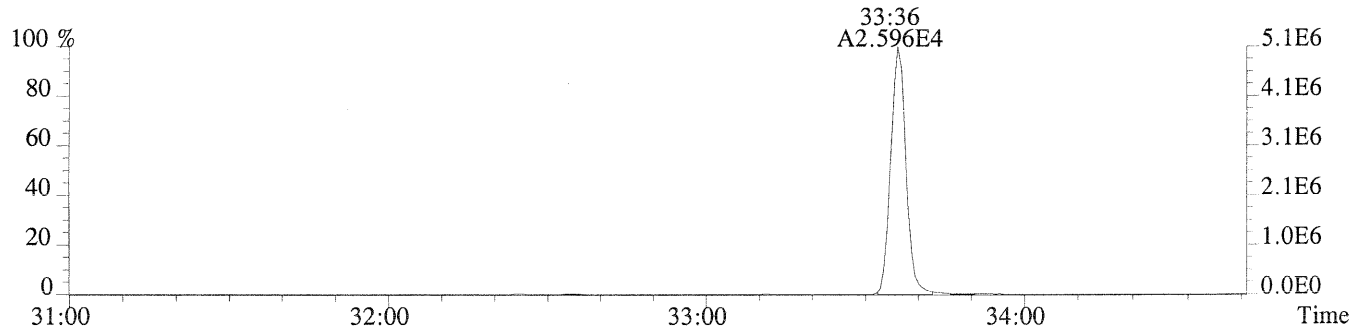
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



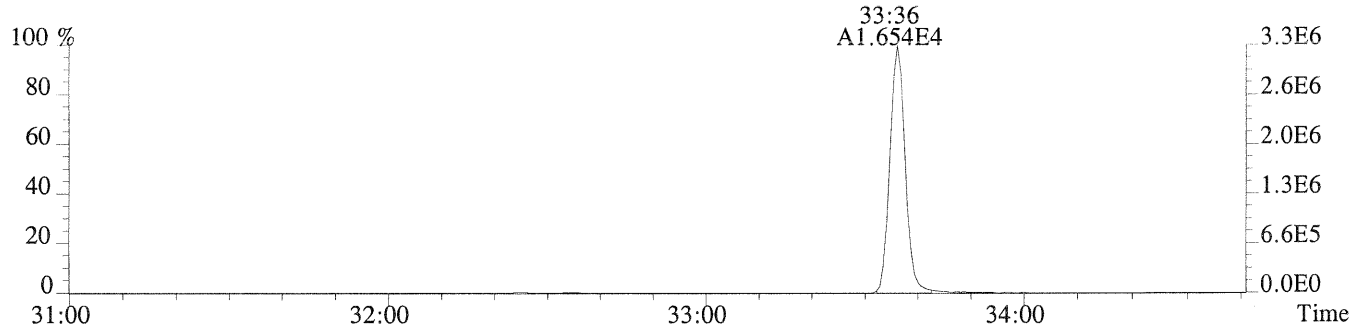
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



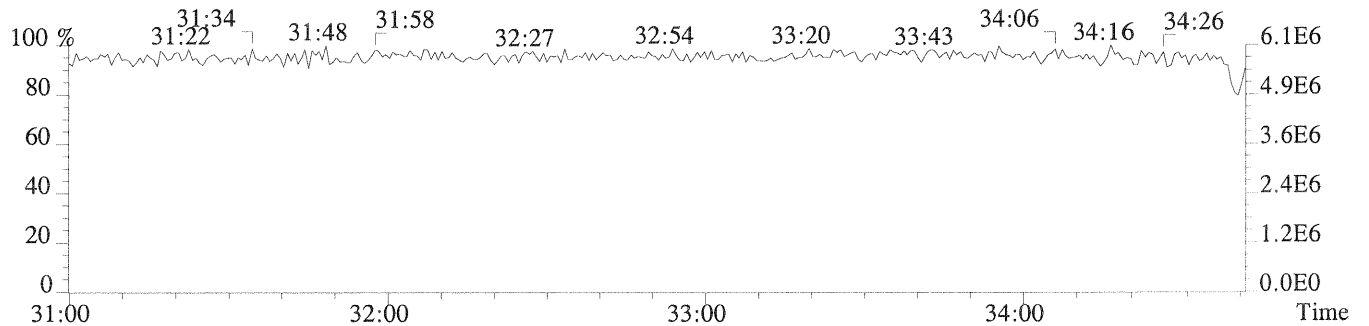
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



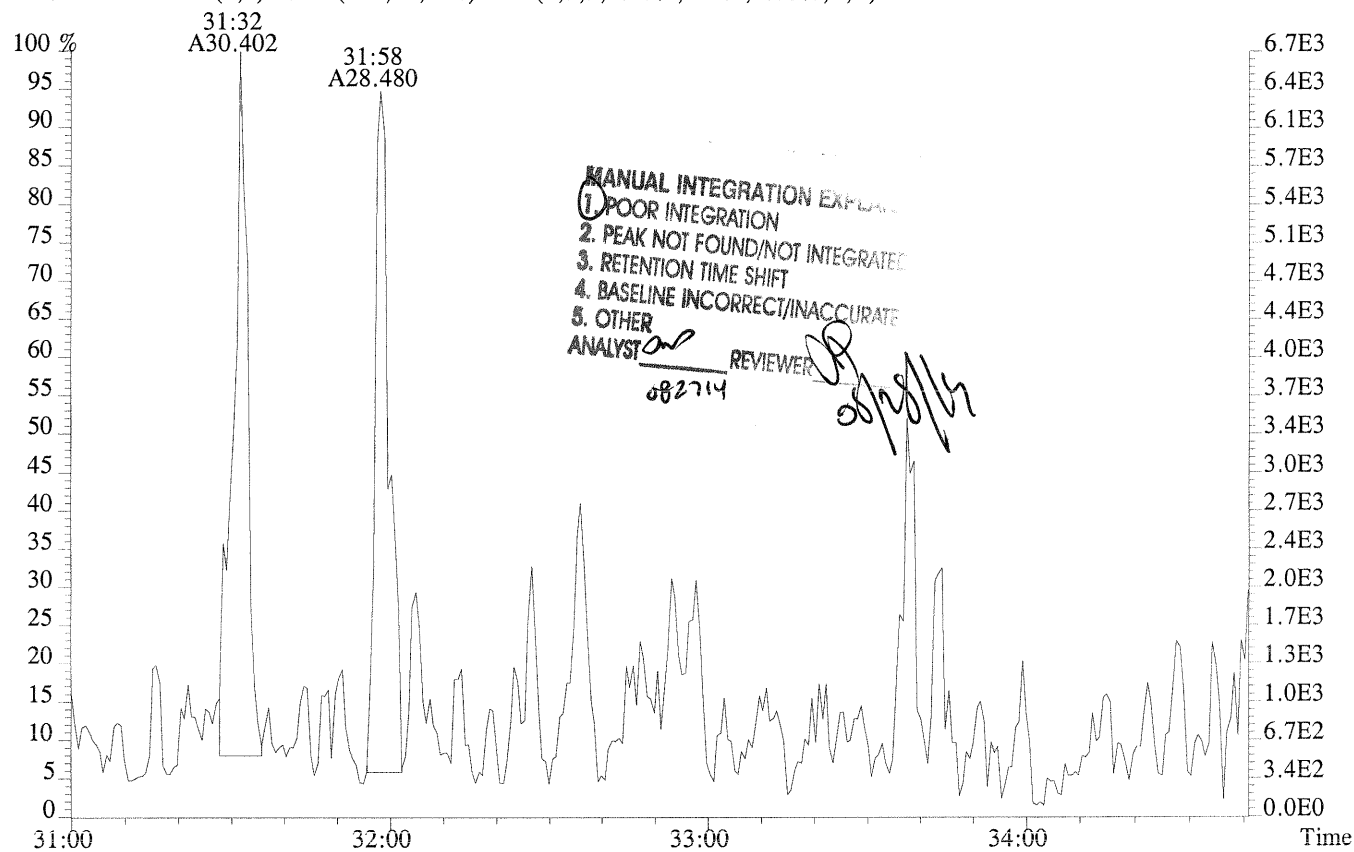
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,T)



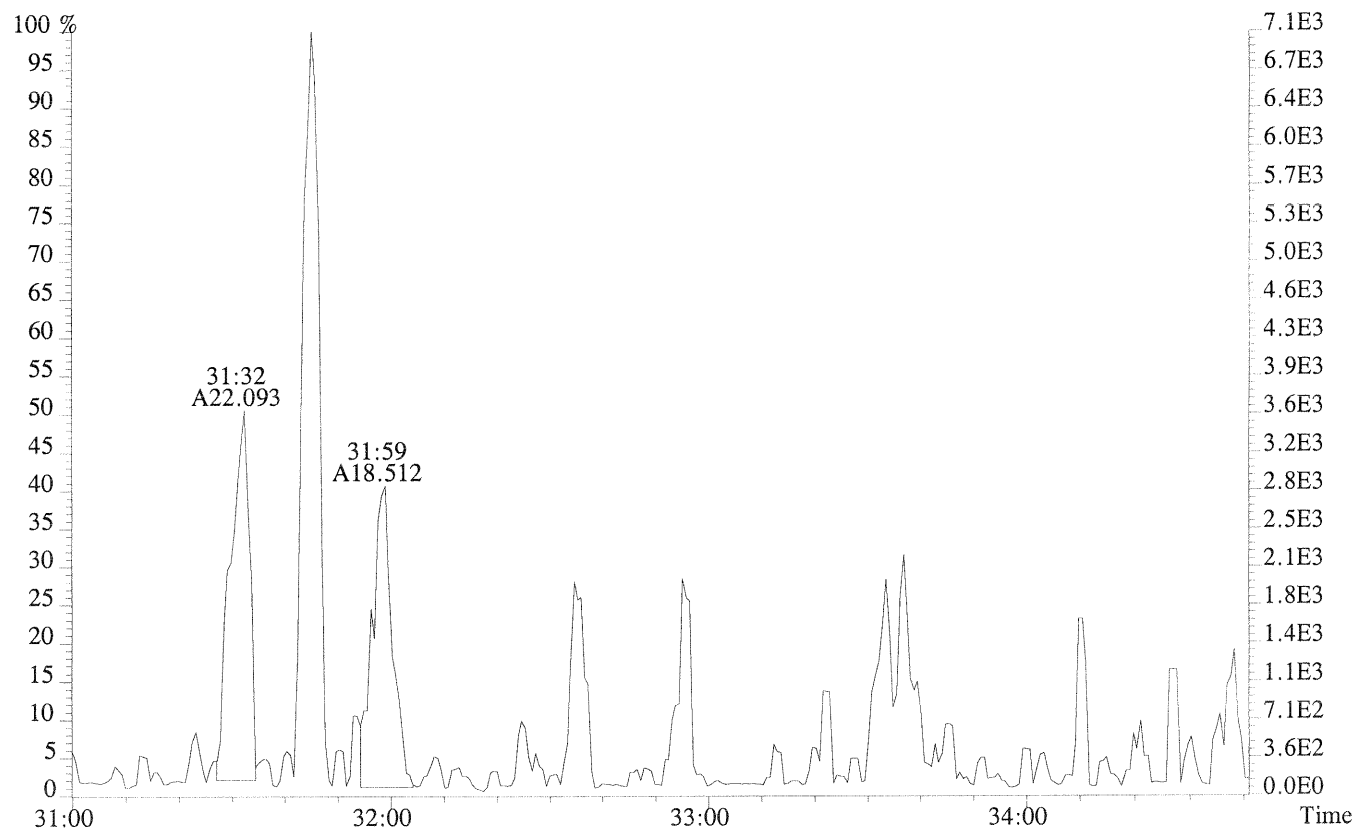
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230808 #1-335 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



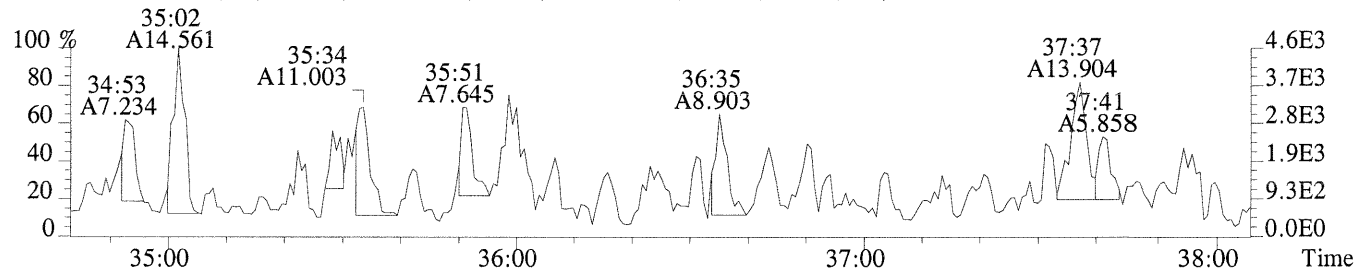
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



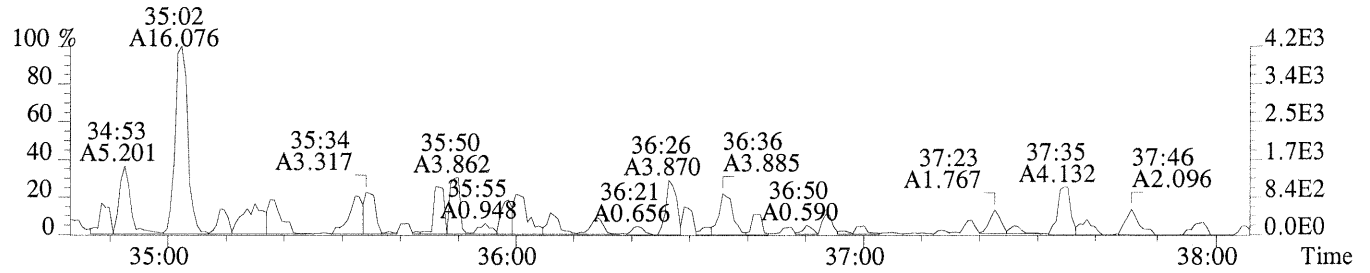
File:P230808 #1-307 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-012

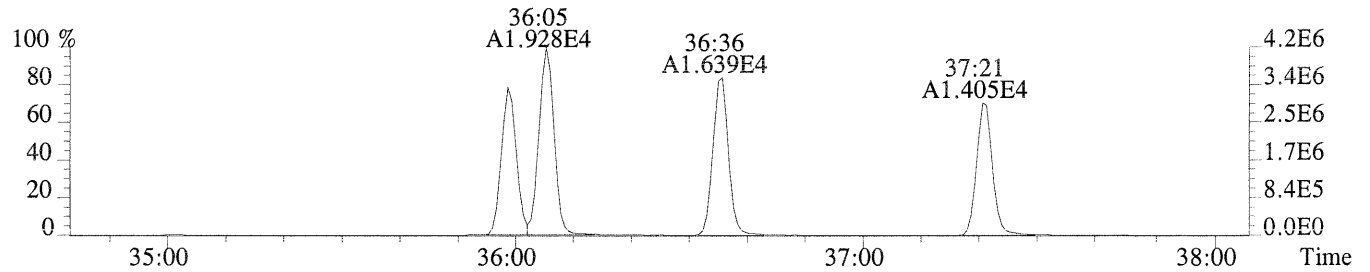
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



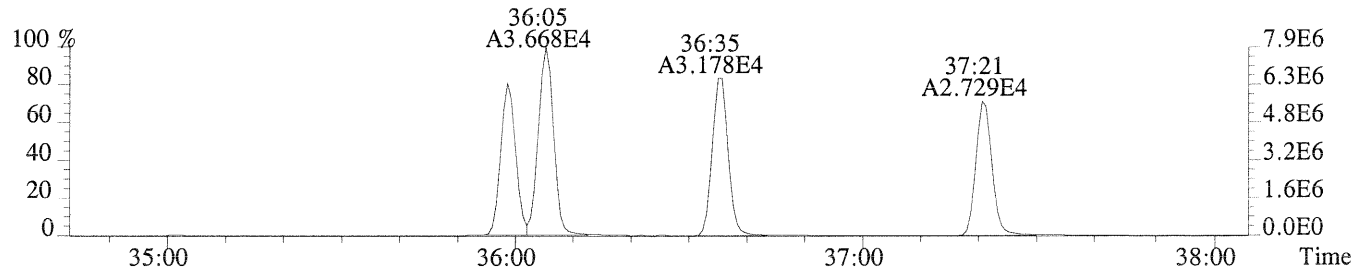
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,48.0,0.40%,F,T)



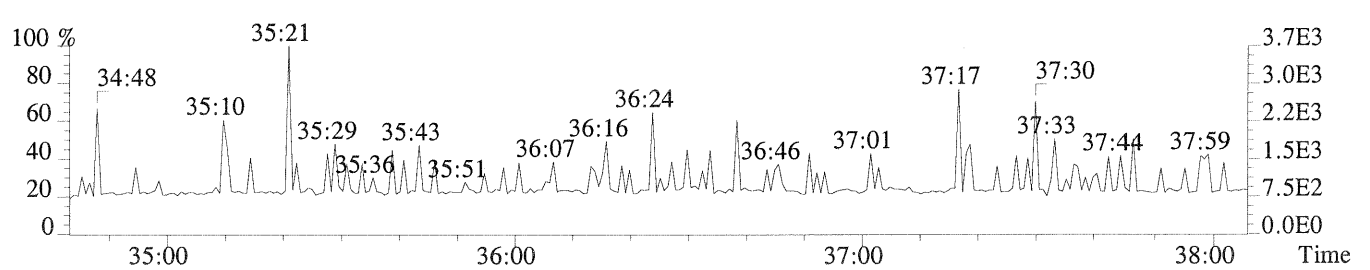
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



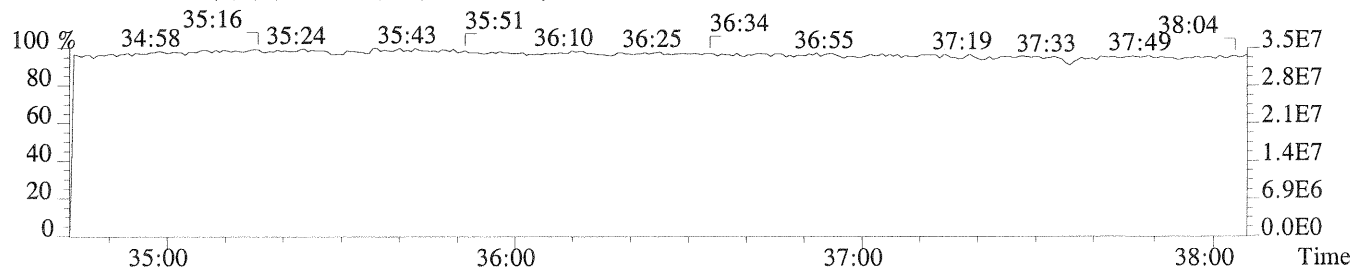
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



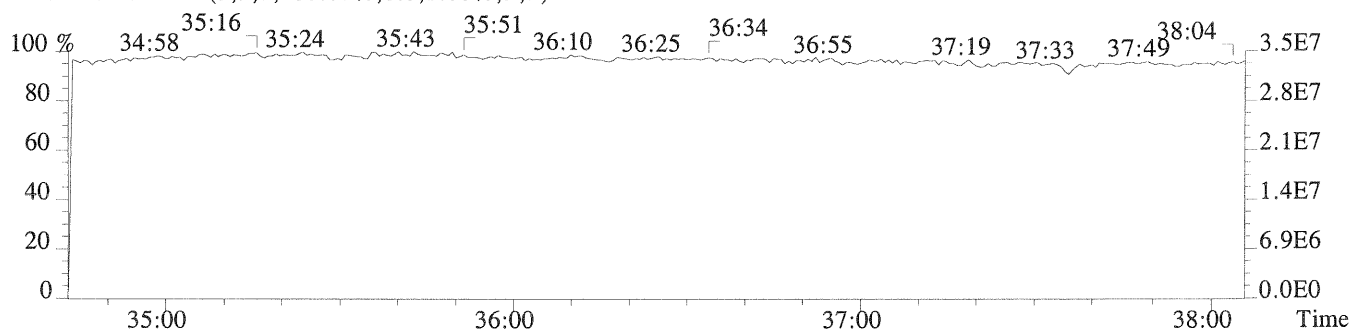
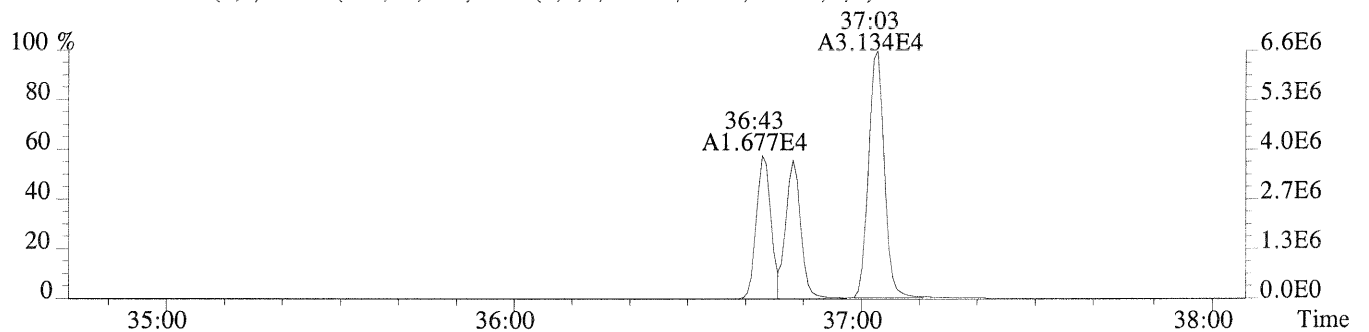
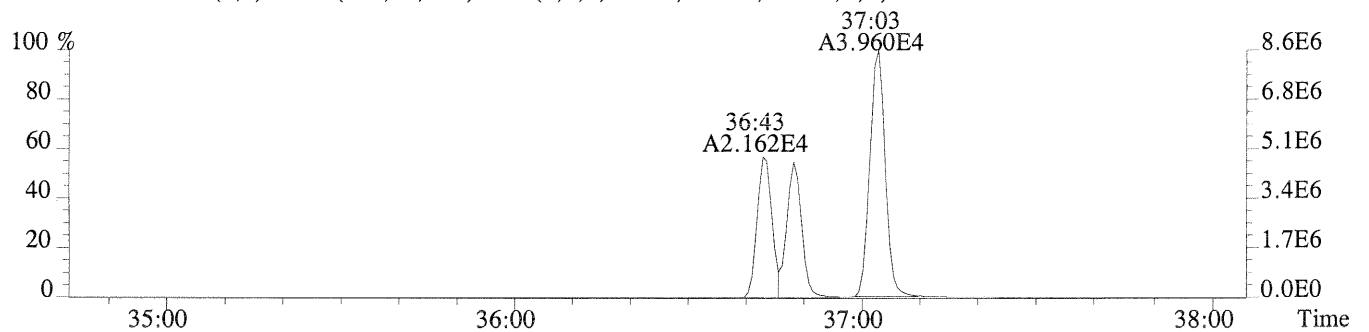
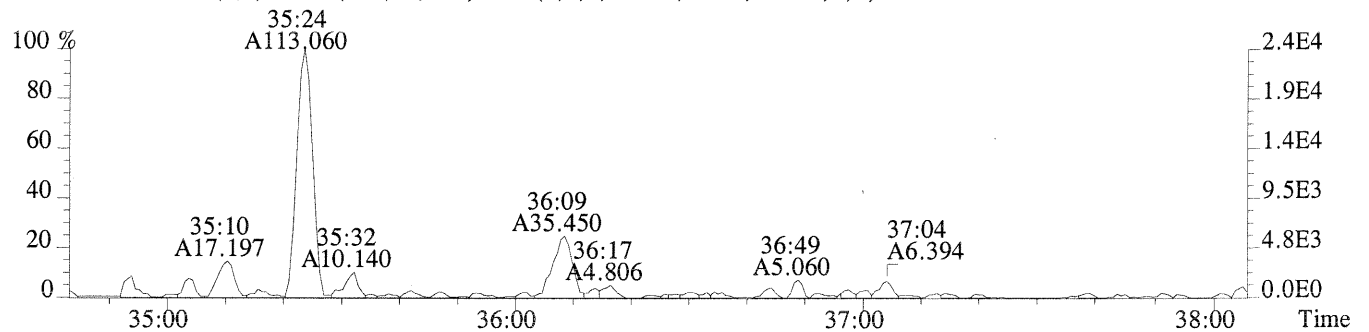
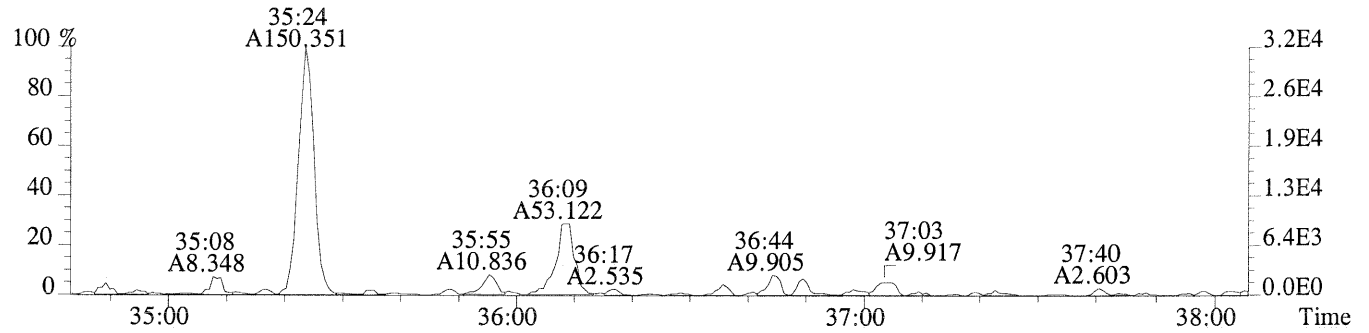
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



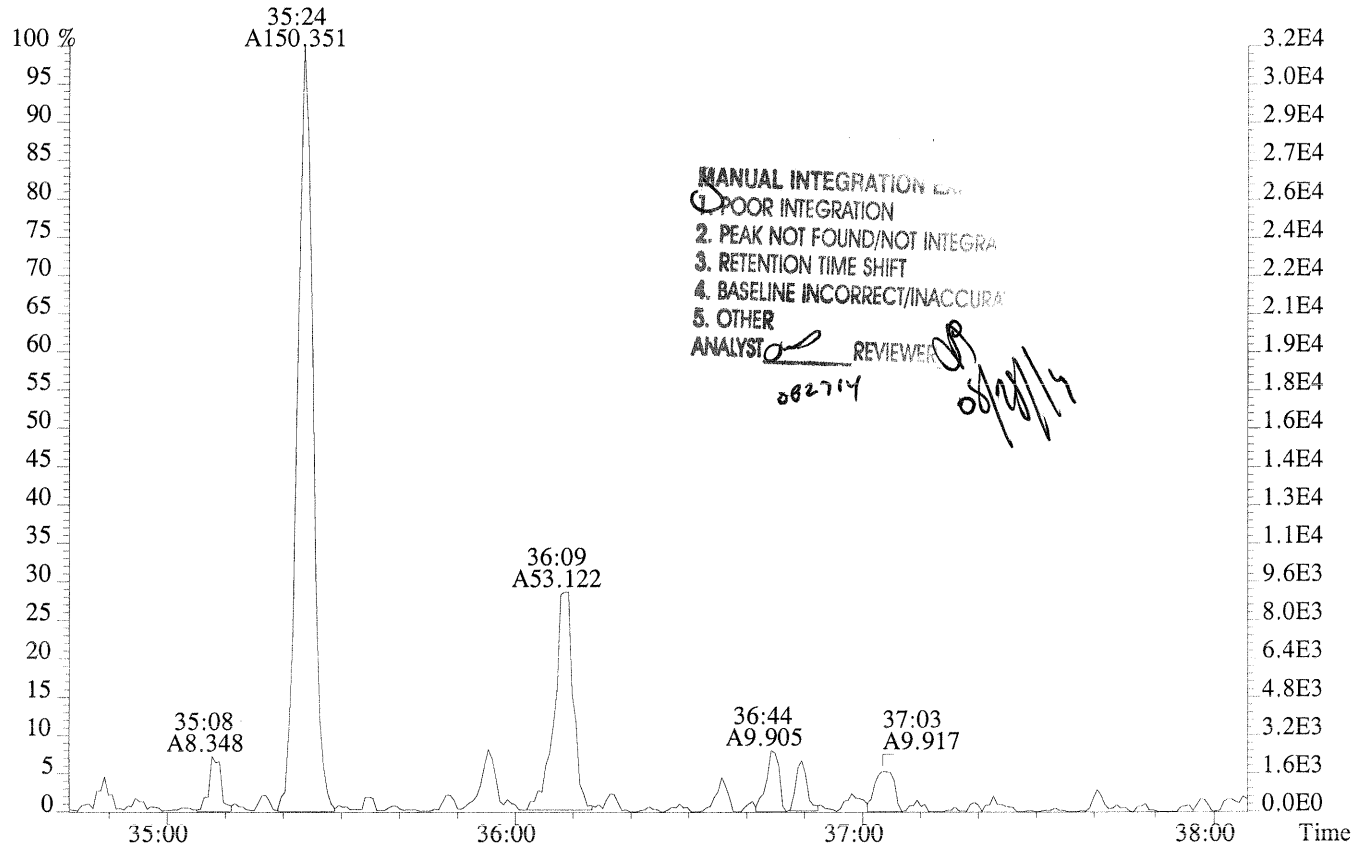
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



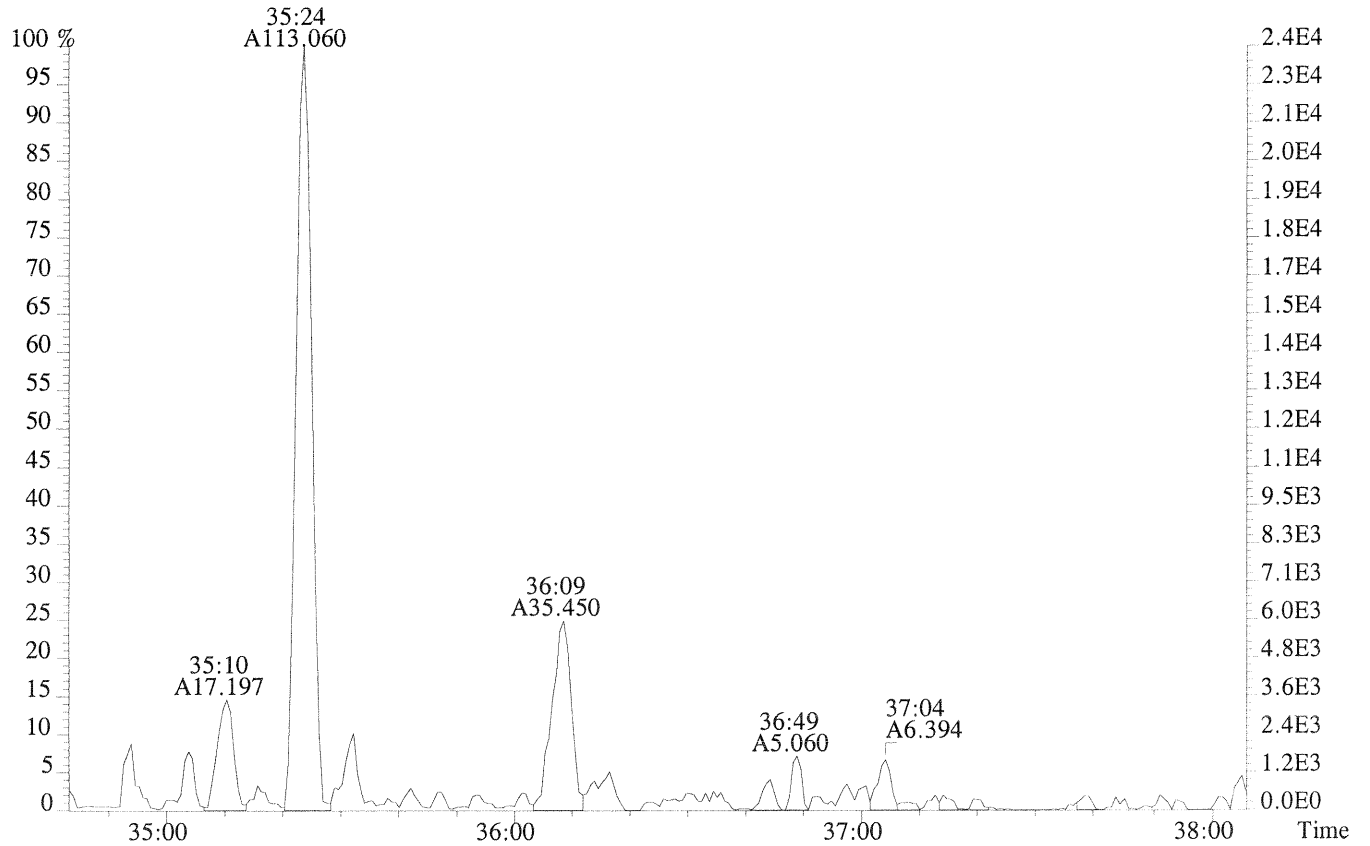


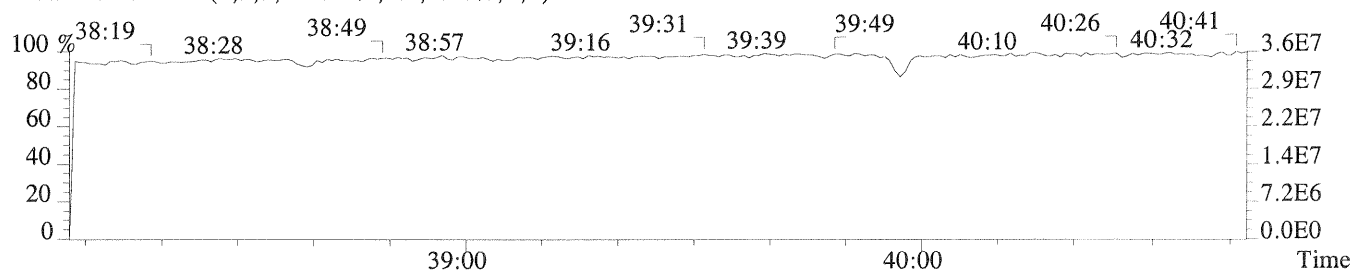
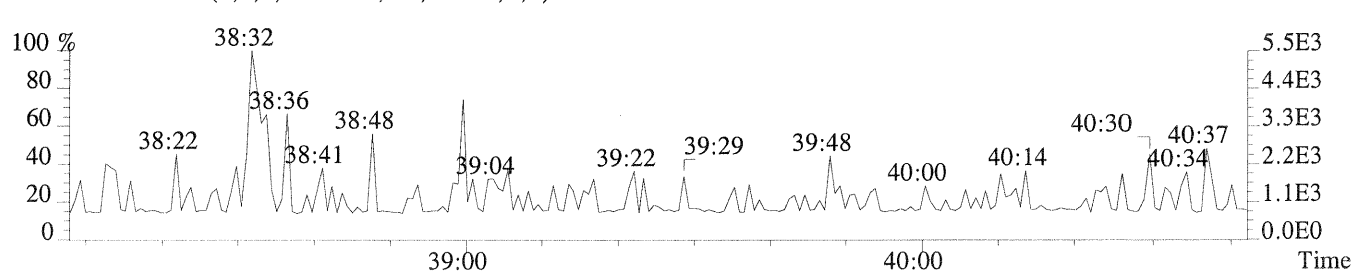
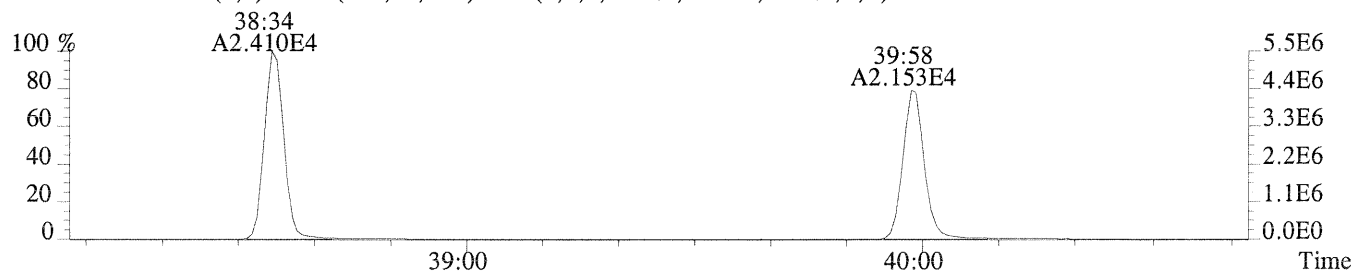
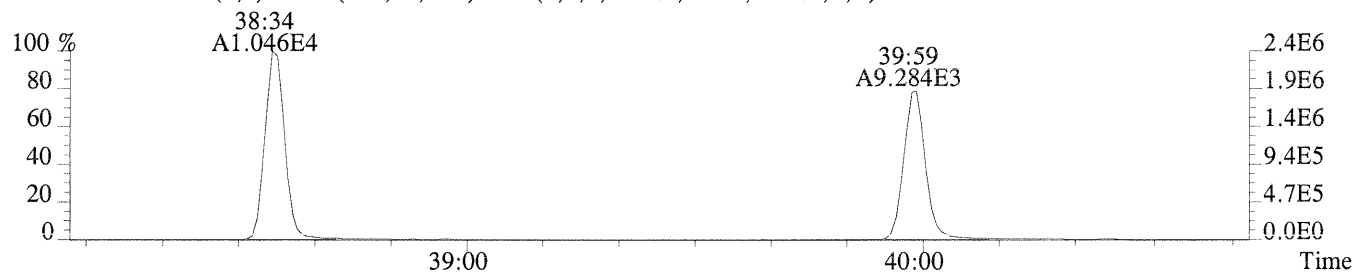
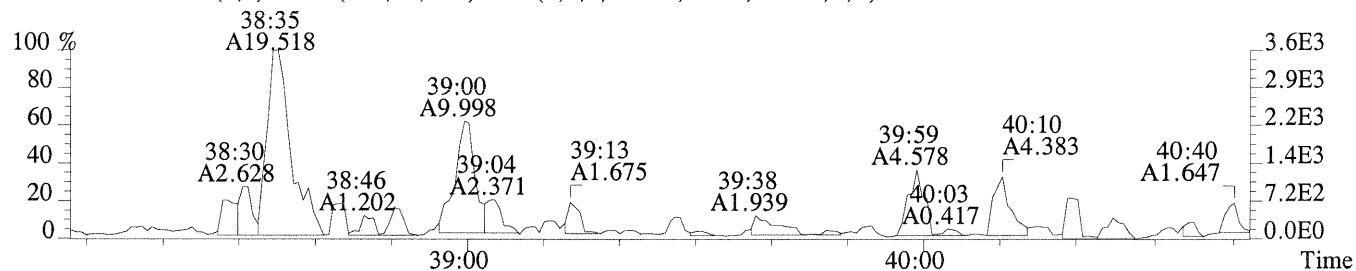
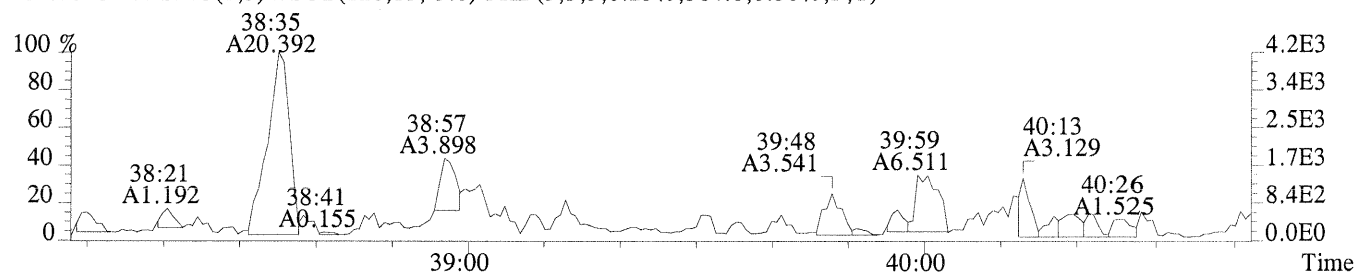


File: P230808 #1-307 Acq: 27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: K1407971-012  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)

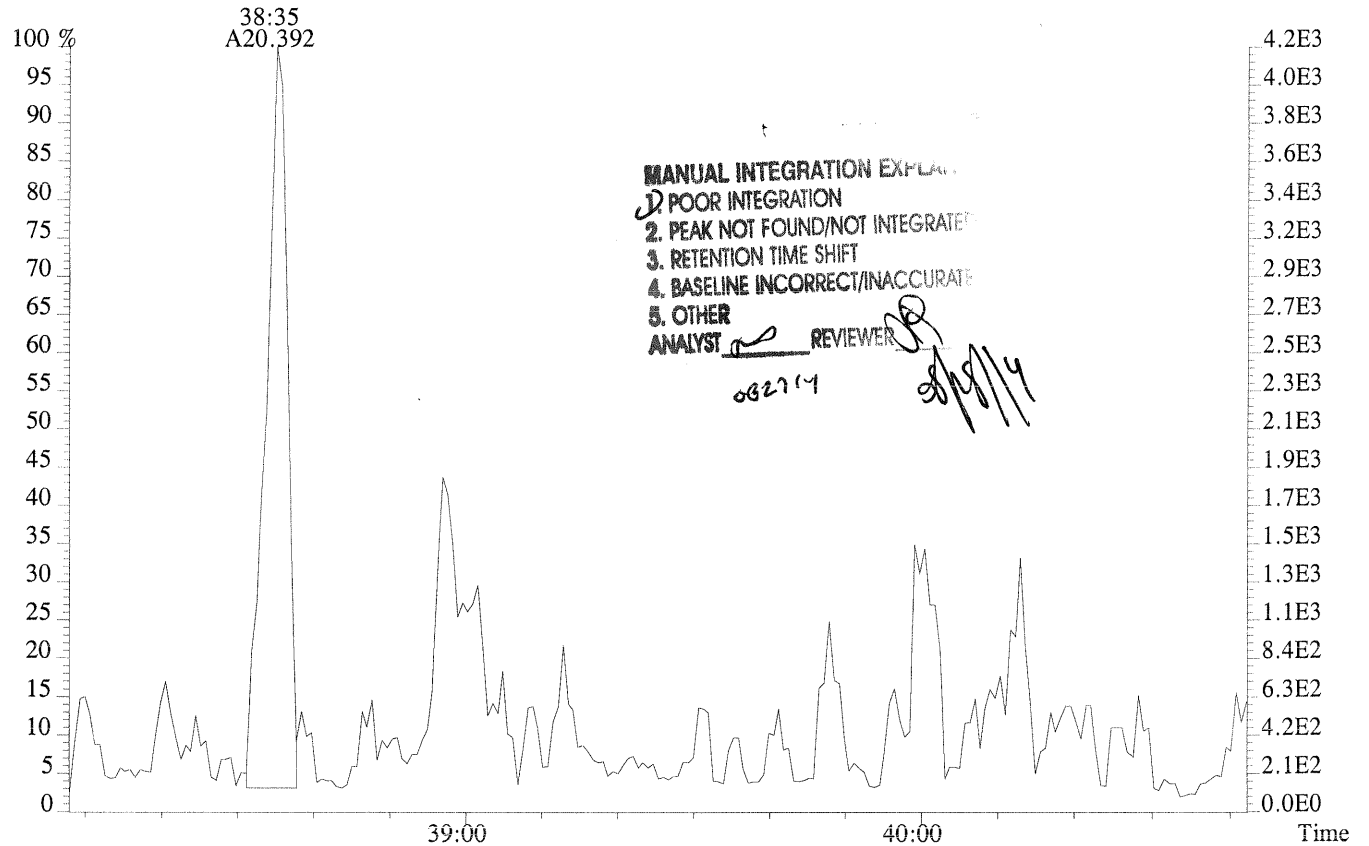


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)

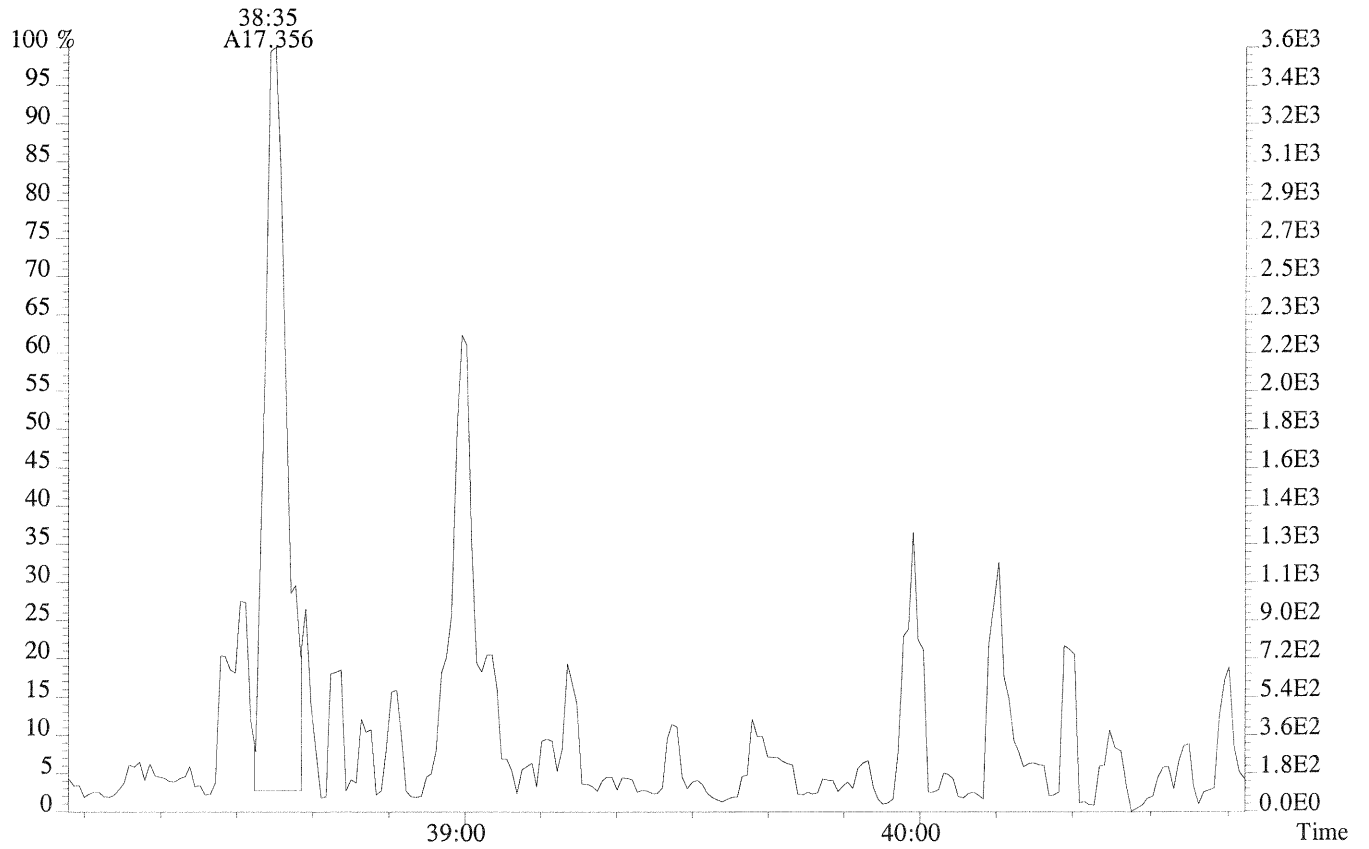


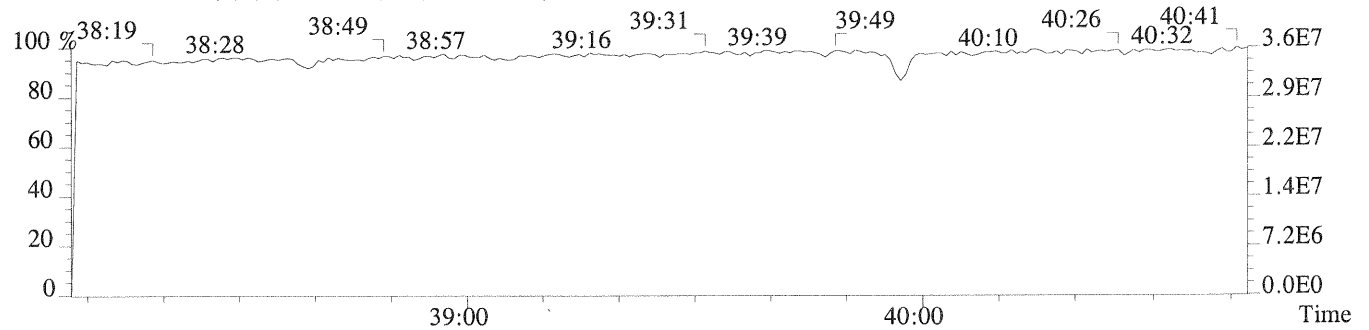
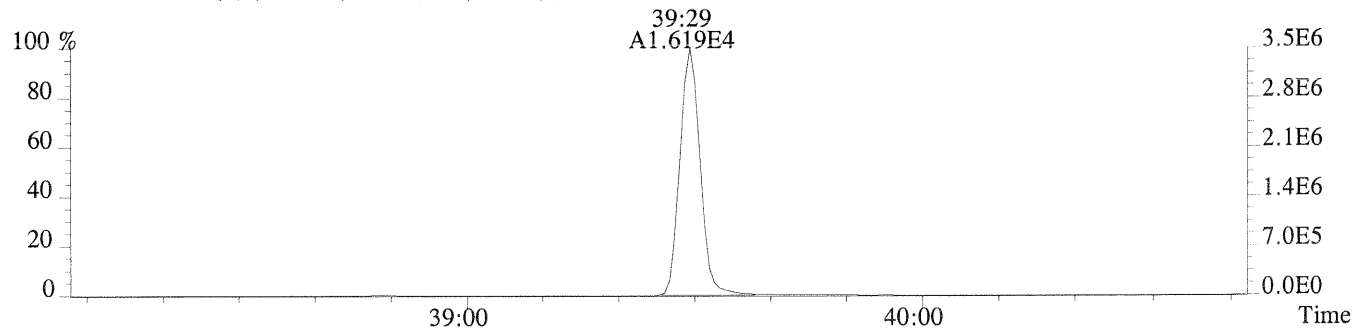
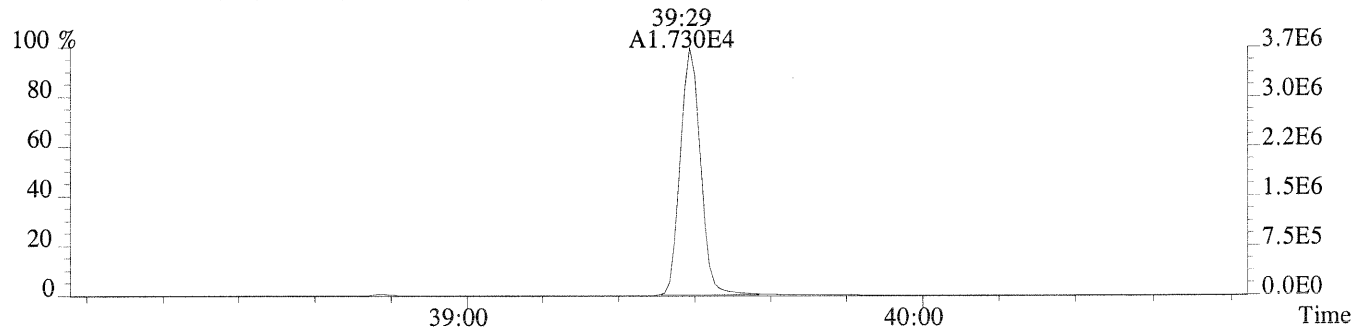
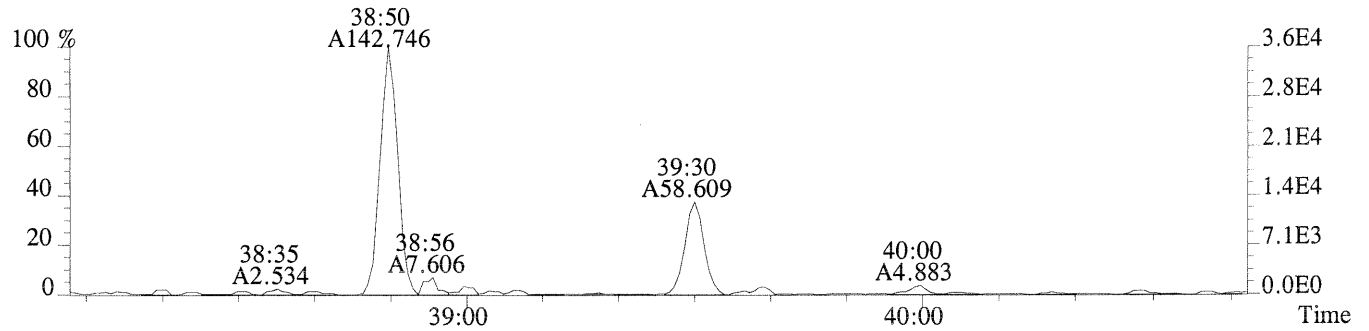
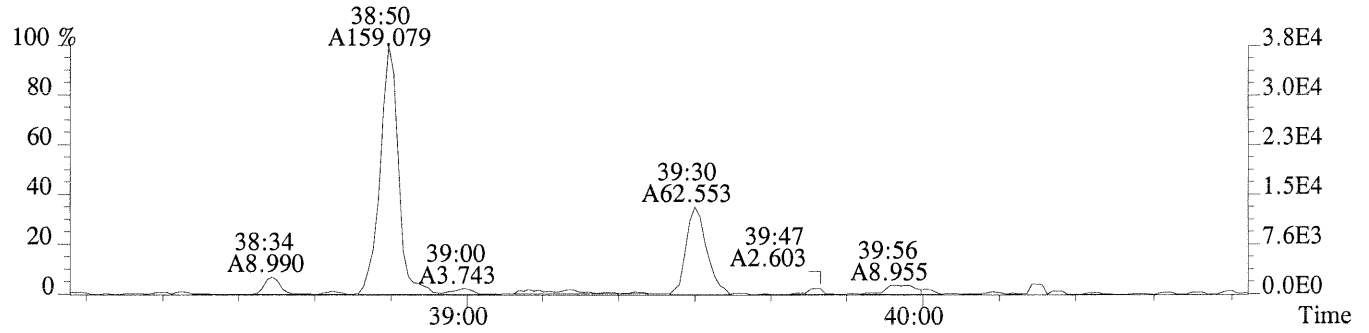


File:P230808 #1-234 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-012  
 407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.50%,F,T)

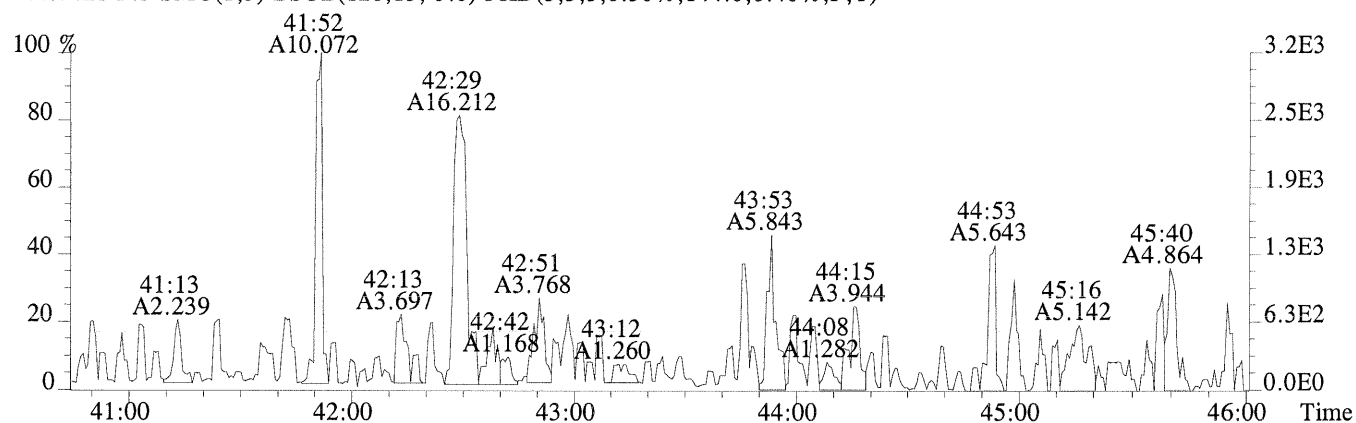


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,152.0,0.50%,F,T)

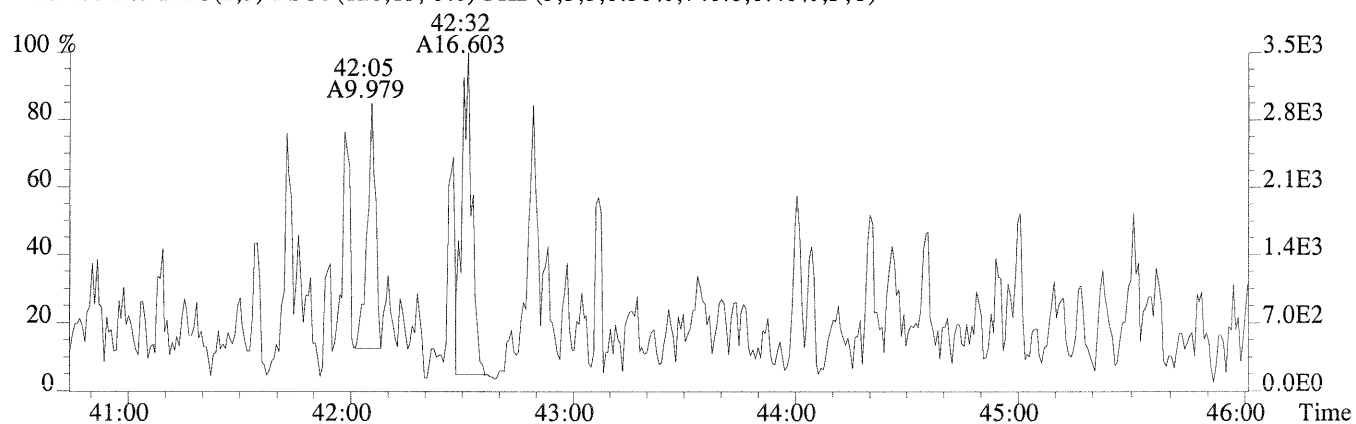




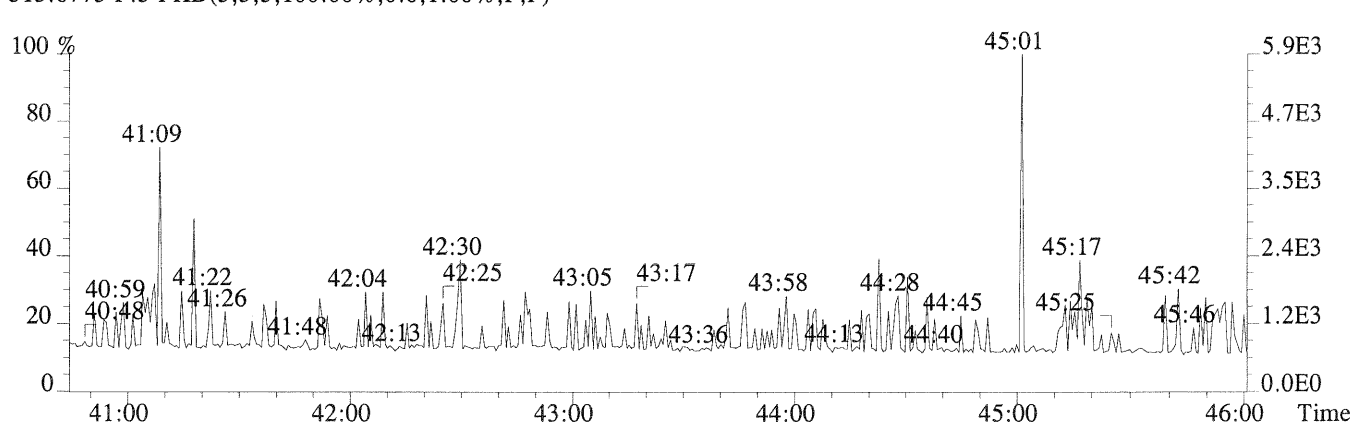
File:P230808 #1-485 Acq:27-AUG-2014 03:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-012  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,144.0,0.40%,F,T)



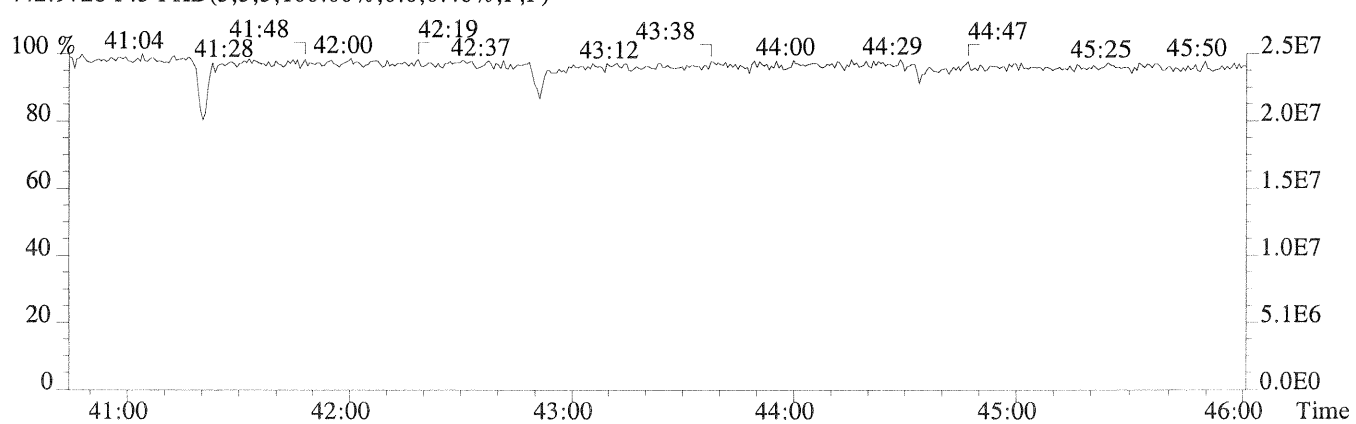
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,740.0,0.40%,F,T)

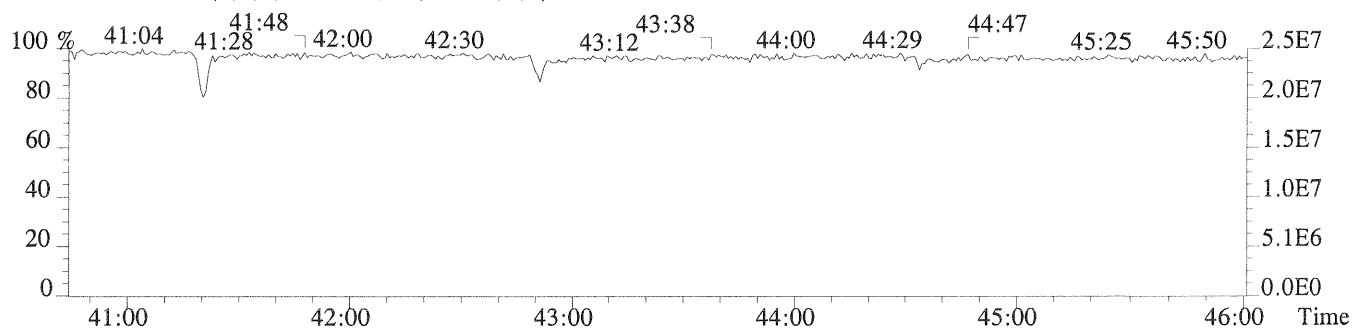
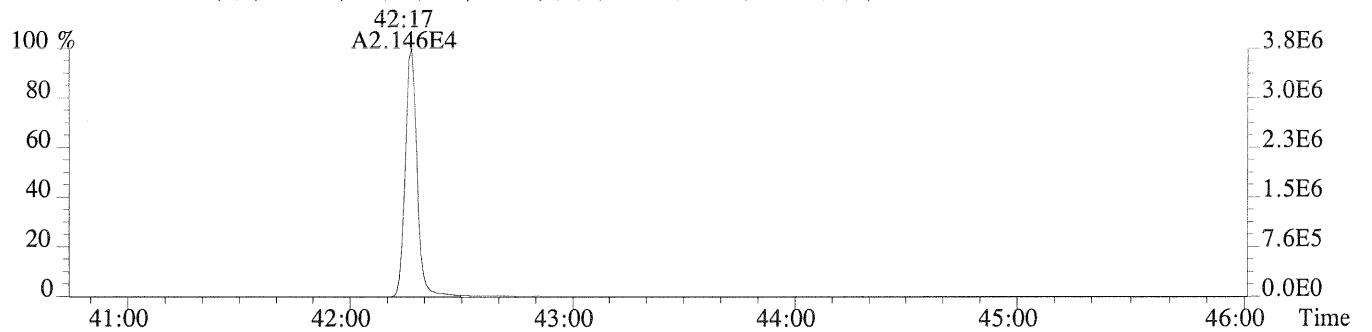
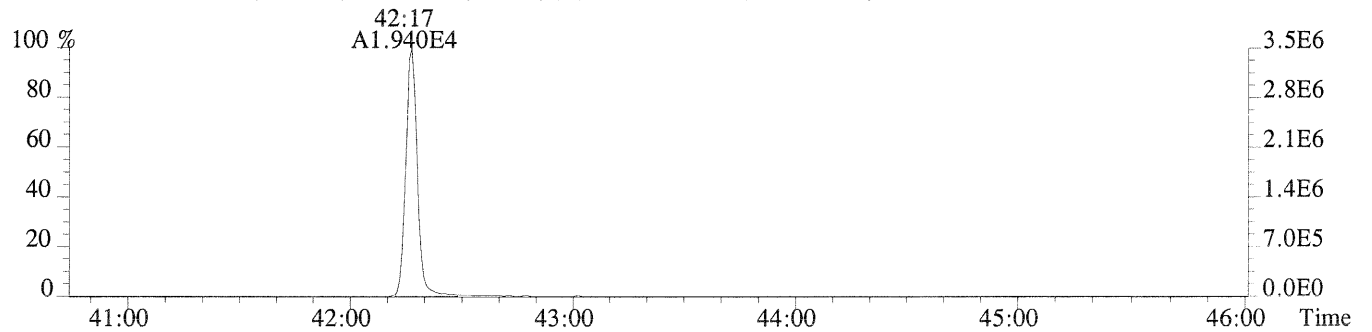
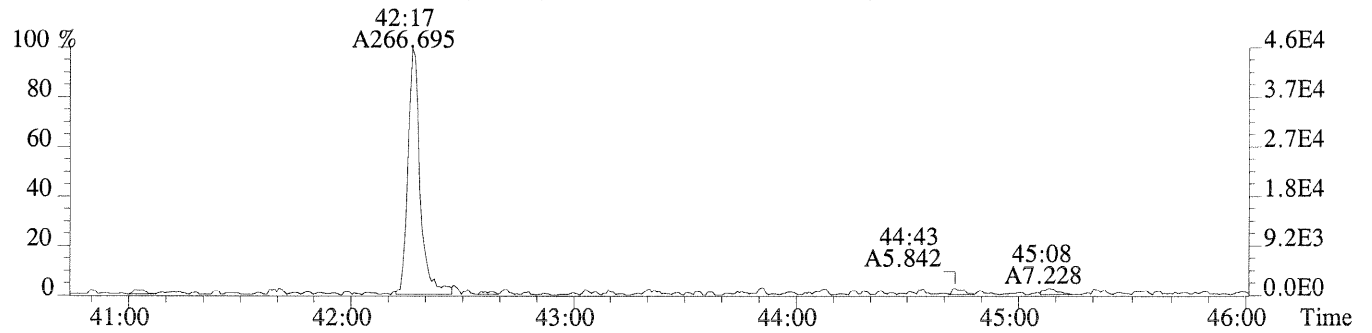
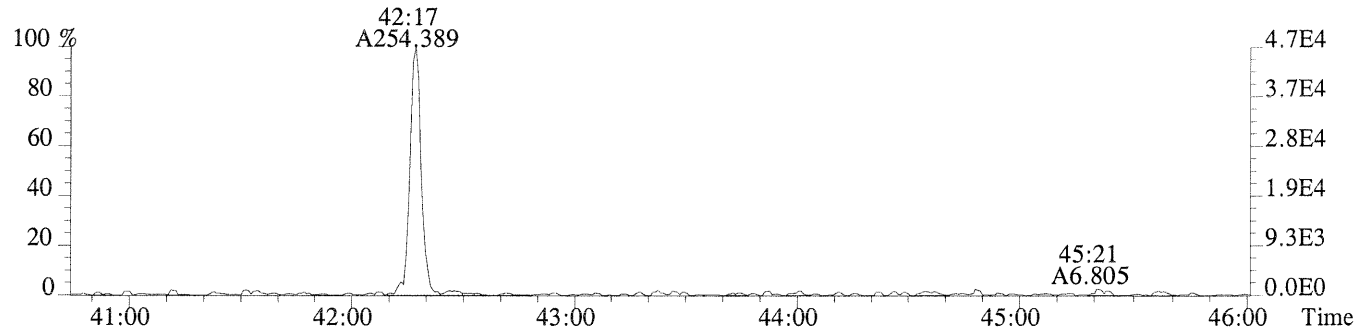


513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
Nv SYC14-TB R7

Run #12    Filename P230809    Samp: 1    Inj: 1    Acquired: 27-AUG-14 04:22:25  
Processed: 27-AUG-14 16:54:32    Sample ID: K1407971-013

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:17	3.411e+01	4.805e+01	0.71	yes	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.000
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	2.924e+01	2.493e+01	1.17	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	40:00	9.287e+00	6.364e+00	1.46	no	yes	1.274
10 Unk	OCDF	42:30	1.796e+01	2.736e+01	0.66	no	yes	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.061
12 Unk	1,2,3,7,8-PeCDD	33:38	1.521e+01	1.902e+01	0.80	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	6.795e+01	5.610e+01	1.21	no	no	1.053
17 Unk	OCDD	42:18	2.897e+02	2.944e+02	0.98	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:16	1.458e+04	1.808e+04	0.81	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:26	2.899e+04	1.845e+04	1.57	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:20	3.129e+04	1.966e+04	1.59	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	1.388e+04	2.706e+04	0.51	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	1.783e+04	3.357e+04	0.53	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.533e+04	2.958e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.338e+04	2.582e+04	0.52	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:35	9.642e+03	2.211e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	8.895e+03	2.039e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:02	1.040e+04	1.323e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	2.367e+04	1.512e+04	1.57	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	2.051e+04	1.598e+04	1.28	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:49	1.942e+04	1.546e+04	1.26	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	1.632e+04	1.532e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:17	1.914e+04	2.087e+04	0.92	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:28	2.432e+04	3.042e+04	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	3.962e+04	3.134e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	8.178e+03				no	1.099

$$\text{OCDD} = \frac{(2.897e+02 + 2.944e+02) \times 4000 \text{ pg} \times 1}{(1.914e+04 + 2.087e+04) \times 7.189 \text{ g} \times / 100 \times 1.169}$$

*6.95 MJK*  
*2/25/14*

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1613RESPA ✓



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 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-TB Rep.5

Run #12 Filename P230809 Samp: 1 Inj: 1 Acquired: 27-AUG-14 04:22:25  
 Processed: 27-AUG-14 16:54:321 LAB. ID: K1407971-013

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.83e+03	2.68e+02	2.5e+01	8.43e+03	6.12e+02	1.4e+01
2	1,2,3,7,8-PeCDF	*	7.80e+02	*	*	1.32e+03	*
3	2,3,4,7,8-PeCDF	*	7.80e+02	*	*	1.32e+03	*
4	1,2,3,4,7,8-HxCDF	*	7.04e+02	*	*	1.00e+02	*
5	1,2,3,6,7,8-HxCDF	*	7.04e+02	*	*	1.00e+02	*
6	2,3,4,6,7,8-HxCDF	*	7.04e+02	*	*	1.00e+02	*
7	1,2,3,7,8,9-HxCDF	*	7.04e+02	*	*	1.00e+02	*
8	1,2,3,4,6,7,8-HpCDF	6.65e+03	6.80e+01	9.8e+01	5.66e+03	2.88e+02	2.0e+01
9	1,2,3,4,7,8,9-HpCDF	2.64e+03	6.80e+01	3.9e+01	1.88e+03	2.88e+02	6.5e+00
10	OCDF	3.77e+03	2.00e+02	1.9e+01	7.26e+03	6.84e+02	1.1e+01
11	2,3,7,8-TCDD	*	3.44e+02	*	*	3.56e+02	*
12	1,2,3,7,8-PeCDD	2.79e+03	8.04e+02	3.5e+00	3.86e+03	2.76e+02	1.4e+01
13	1,2,3,4,7,8-HxCDD	*	1.32e+02	*	*	2.20e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.32e+02	*	*	2.20e+02	*
15	1,2,3,7,8,9-HxCDD	*	1.32e+02	*	*	2.20e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.29e+04	2.84e+02	4.5e+01	1.29e+04	4.80e+01	2.7e+02
17	OCDD	5.25e+04	6.00e+01	8.8e+02	4.66e+04	7.44e+02	6.3e+01
18	13C-2,3,7,8-TCDF	3.04e+06	1.44e+03	2.1e+03	3.70e+06	1.28e+03	2.9e+03
19	13C-1,2,3,7,8-PeCDF	5.61e+06	5.80e+02	9.7e+03	3.56e+06	7.36e+02	4.8e+03
20	13C-2,3,4,7,8-PeCDF	6.25e+06	5.80e+02	1.1e+04	3.96e+06	7.36e+02	5.4e+03
21	13C-1,2,3,4,7,8-HxCDF	3.09e+06	2.72e+02	1.1e+04	6.06e+06	1.21e+03	5.0e+03
22	13C-1,2,3,6,7,8-HxCDF	3.89e+06	2.72e+02	1.4e+04	7.25e+06	1.21e+03	6.0e+03
23	13C-2,3,4,6,7,8-HxCDF	3.32e+06	2.72e+02	1.2e+04	6.49e+06	1.21e+03	5.4e+03
24	13C-1,2,3,7,8,9-HxCDF	2.97e+06	2.72e+02	1.1e+04	5.62e+06	1.21e+03	4.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.25e+06	1.40e+03	1.6e+03	5.04e+06	3.05e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.84e+06	1.40e+03	1.3e+03	4.23e+06	3.05e+03	1.4e+03
27	13C-2,3,7,8-TCDD	2.26e+06	3.19e+03	7.1e+02	2.87e+06	1.94e+03	1.5e+03
28	13C-1,2,3,7,8-PeCDD	4.79e+06	6.60e+02	7.3e+03	3.05e+06	3.96e+02	7.7e+03
29	13C-1,2,3,4,7,8-HxCDD	4.73e+06	9.80e+02	4.8e+03	3.63e+06	8.84e+02	4.1e+03
30	13C-1,2,3,6,7,8-HxCDD	4.32e+06	9.80e+02	4.4e+03	3.39e+06	8.84e+02	3.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.55e+06	6.52e+02	5.4e+03	3.29e+06	4.08e+02	8.1e+03
32	13C-OCDD	3.41e+06	5.20e+01	6.6e+04	3.75e+06	1.84e+02	2.0e+04
33	13C-1,2,3,4-TCDD	5.21e+06	3.19e+03	1.6e+03	6.60e+06	1.94e+03	3.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.71e+06	9.80e+02	8.9e+03	6.96e+06	8.84e+02	7.9e+03
35	37Cl-2,3,7,8-TCDD	1.72e+06	5.16e+02	3.3e+03			

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XLSN

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Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.5

Entry: 36      Totals Name: Total Tetra-Furans

Run: 12      File: P230809      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    04:22:25      Processed: 27-AUG-14 16:54:32

Mass: 303.9020    305.8990      Tot Response: 8.22e+01    RRF: 0.9861

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	28:17	3.41e+01	4.80e+01	0.71	yes	8.22e+01	2,3,7,8-TCDF	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.5

Entry: 38      Totals Name: Total Penta-Furan1

Run: 12      File: P230809      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    04:22:25      Processed: 27-AUG-14 16:54:32

Mass: 339.8600    341.8570      Tot Response: 7.32e+01    RRF: 0.9848

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:02	4.52e+01	2.80e+01	1.61	yes	7.32e+01	n	n

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Peak List Summary

CLIENT ID.

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Nv SYC14-TB Rep.5

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Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: P230809 Sample: 1 Injection: 1 Function: 3

Llim: - Ulim: -

Acquired: 27-AUG-14 04:22:25 Processed: 27-AUG-14 16:54:32

Mass: 389.8160 391.8130 Tot Response: 3.79e+02 RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:24	1.59e+02	1.39e+02	1.14	yes	2.98e+02	n	n
2	36:10	4.53e+01	3.56e+01	1.27	yes	8.09e+01	n	n

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.5

Entry: 43      Totals Name: Total Hepta-Furans

Run: 12      File: P230809      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    04:22:25      Processed: 27-AUG-14 16:54:32

Mass: 407.7820    409.7790      Tot Response: 9.95e+01    RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	38:36	2.92e+01	2.49e+01	1.17	yes	5.42e+01	1,2,3,4,6,7,8-HpCDF	n	n
2	39:00	2.37e+01	2.16e+01	1.10	yes	4.54e+01		n	y

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ALS ENVIRONMENTAL  
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Office (713) 266-1599. Fax (713) 266-0130

ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

Nv SYC14-TB Rep.5

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P230809 Sample: 1 Injection: 1 Function: 4

Llim: - Ulim: -

Acquired: 27-AUG-14 04:22:25 Processed: 27-AUG-14 16:54:32

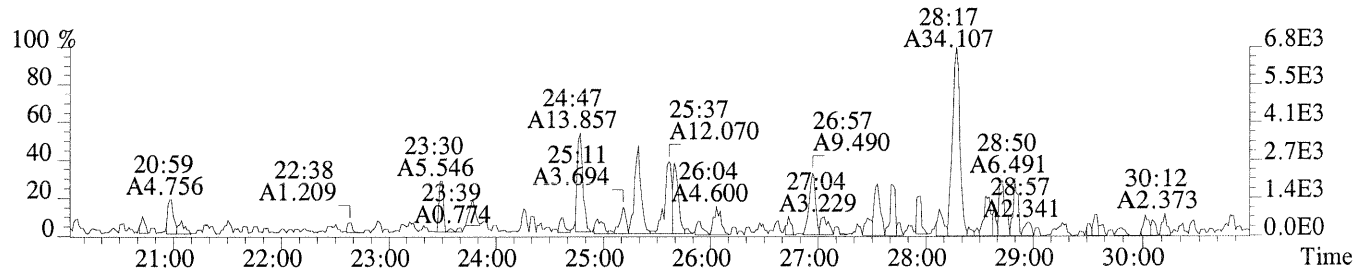
Mass: 423.7770 425.7740 Tot Response: 3.44e+02 RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:50	1.80e+02	1.64e+02	1.10	yes 3.44e+02		n	n

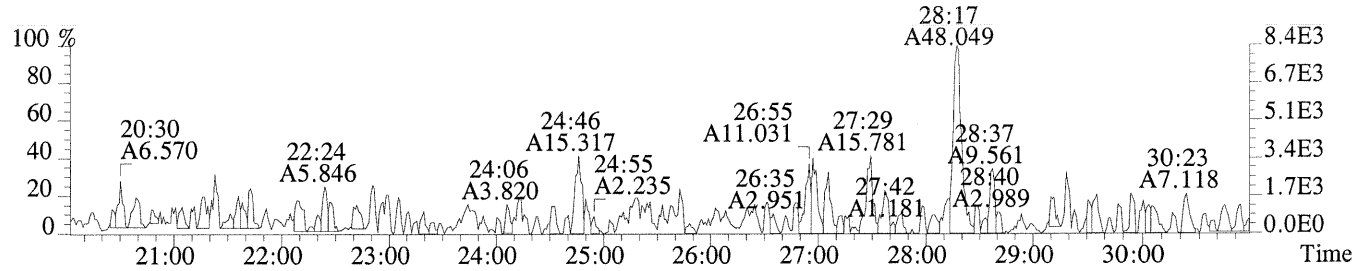
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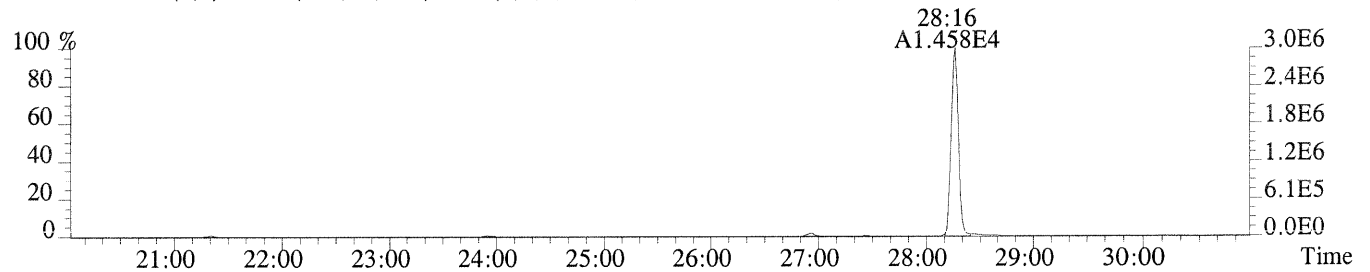
File:P230809 #1-687 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



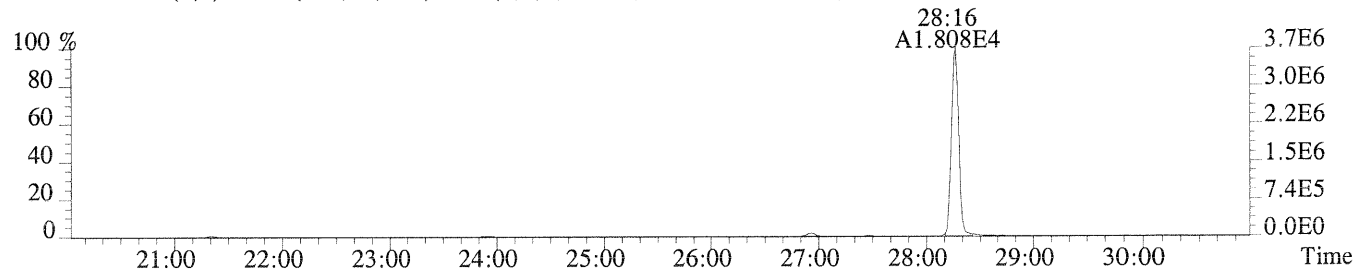
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



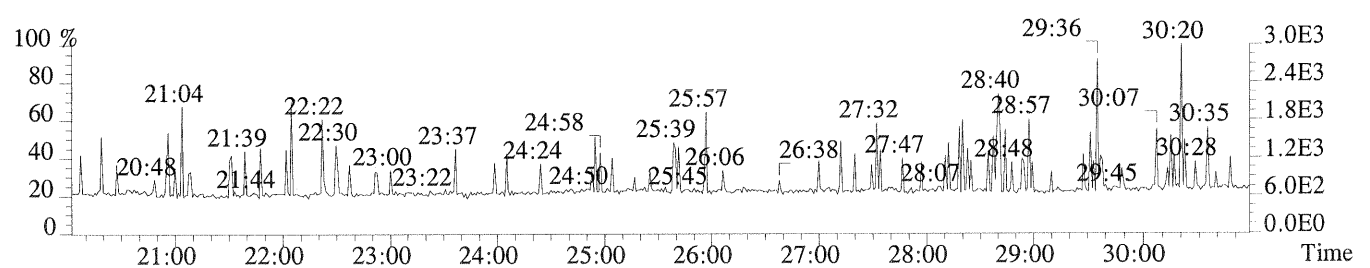
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



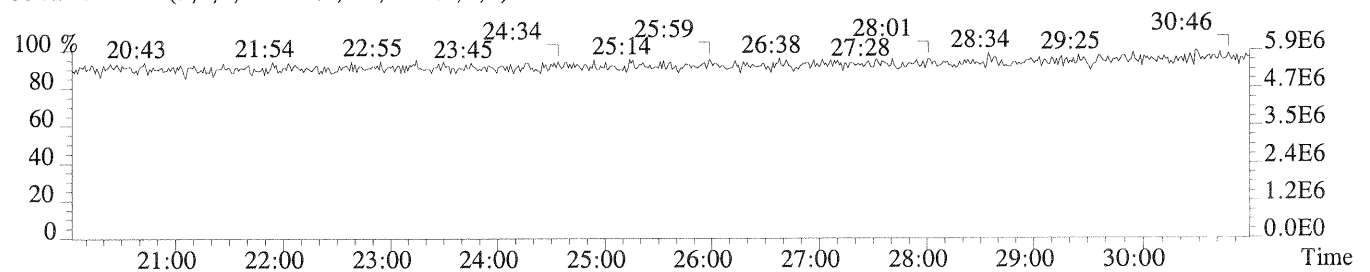
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1280.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

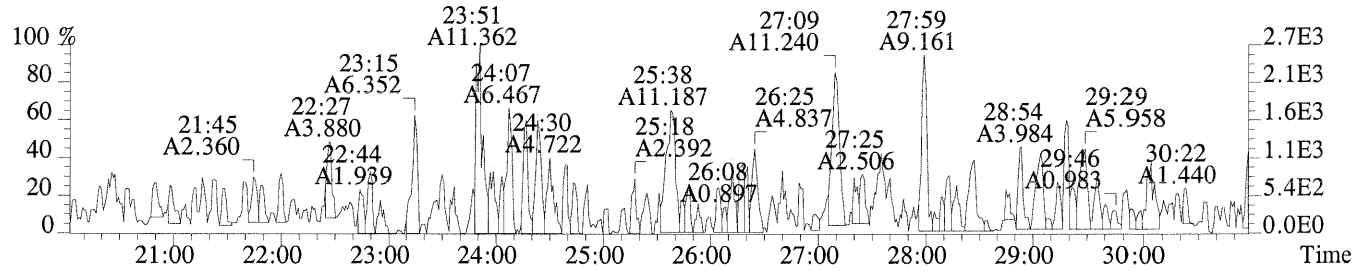


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

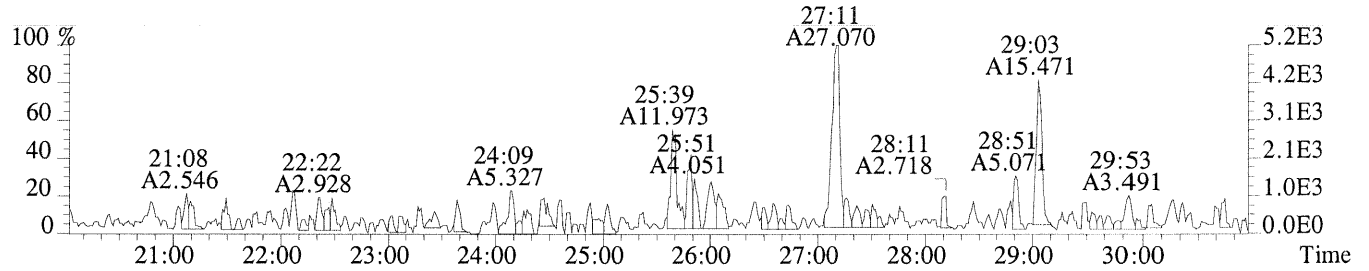


File:P230809 #1-687 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013

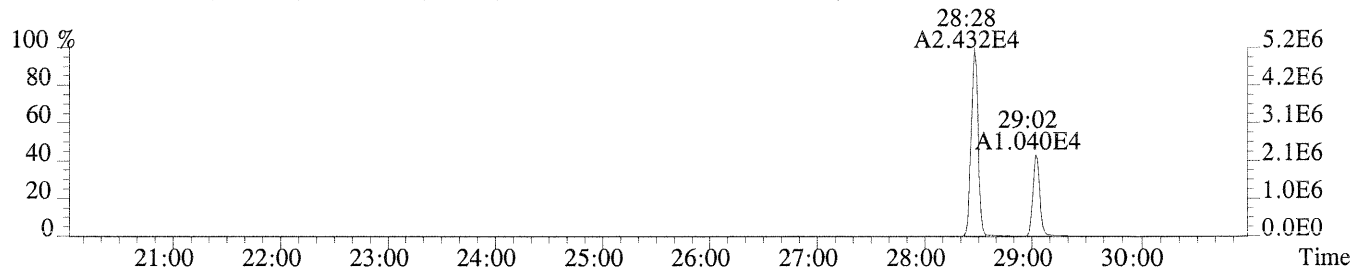
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,T)



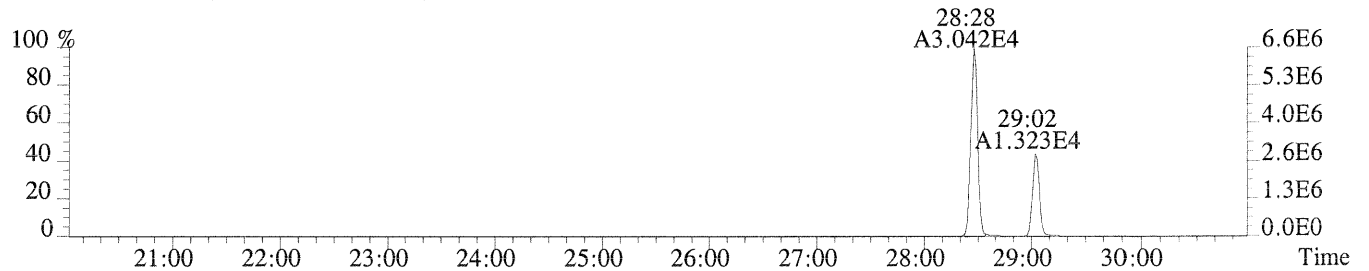
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,T)



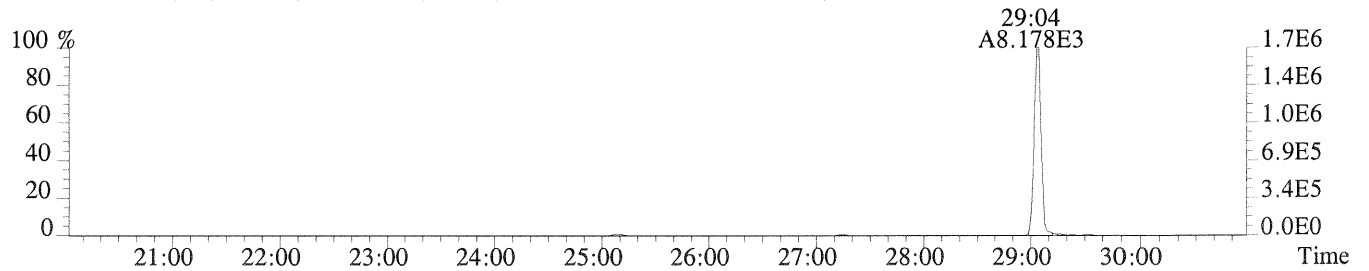
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3192.0,1.00%,F,T)



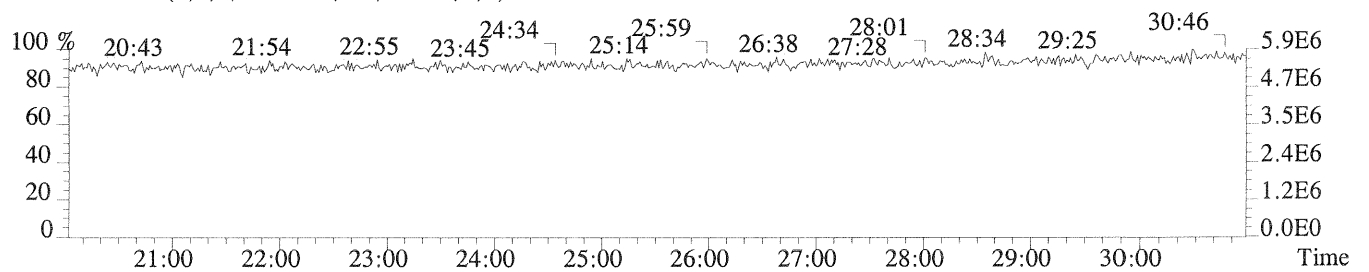
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)

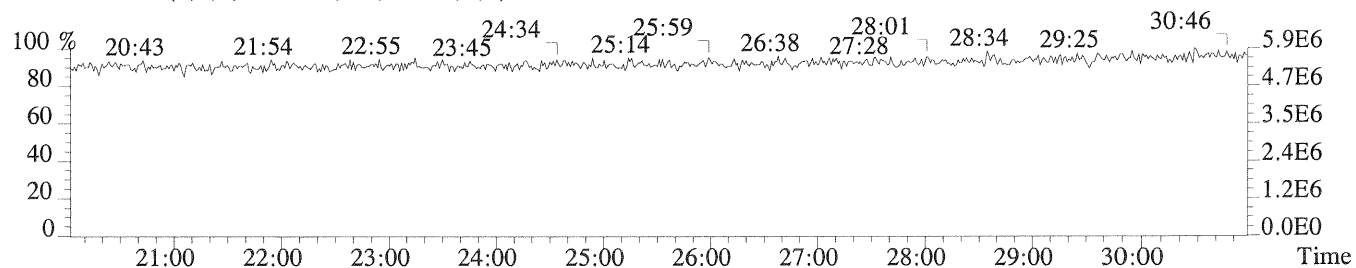
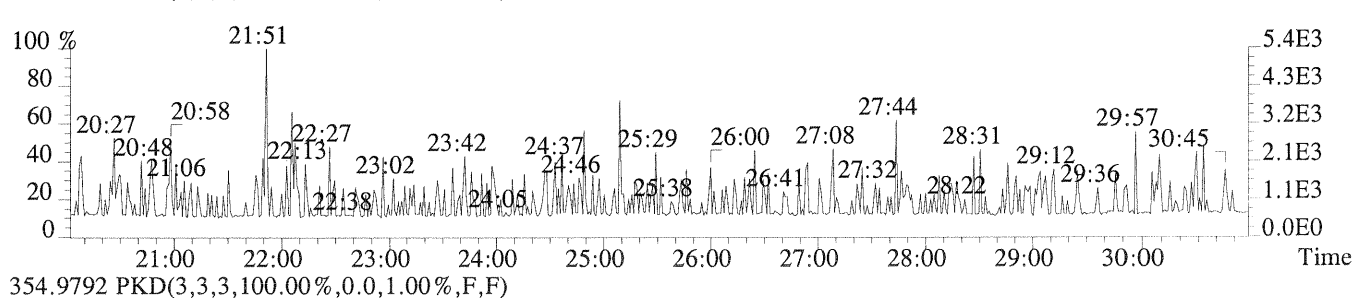
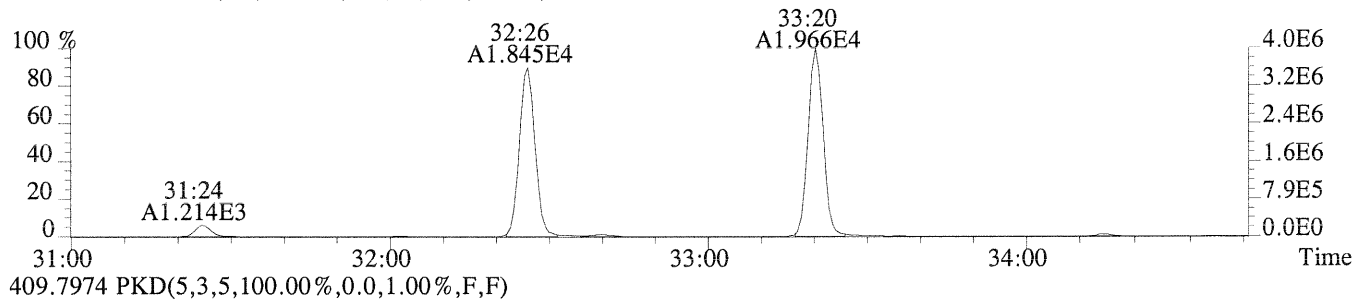
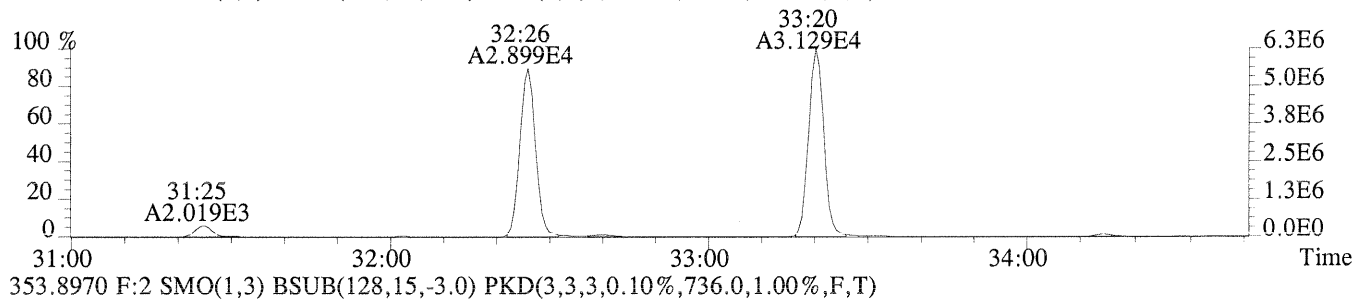
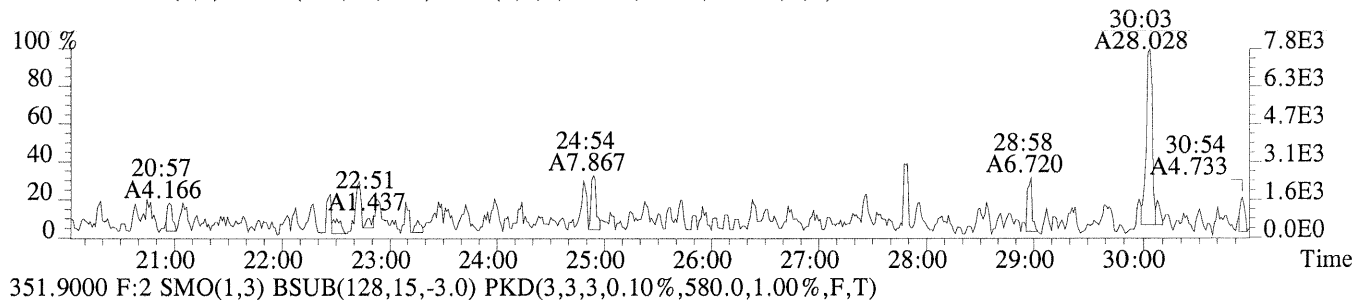
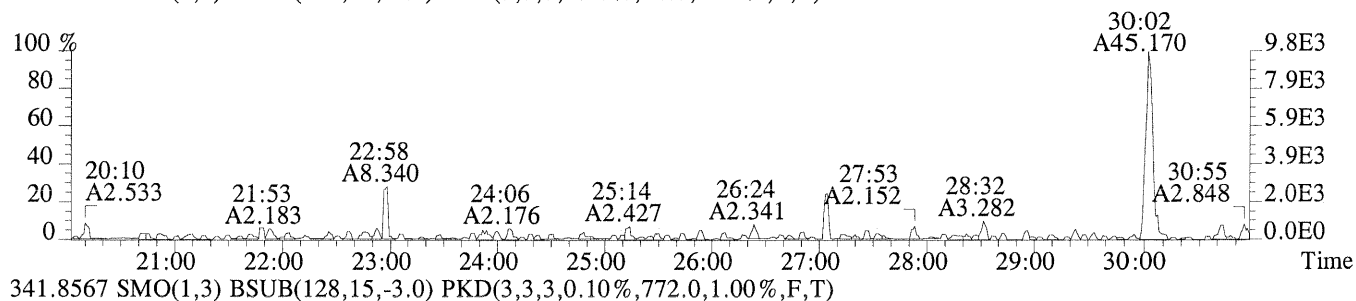


354.9792 PKD(3,3,3,100.0%,0.0,1.00%,F,T)

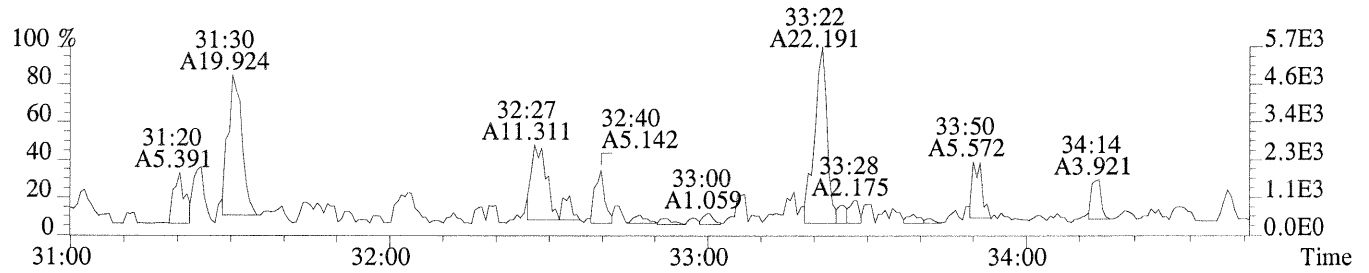




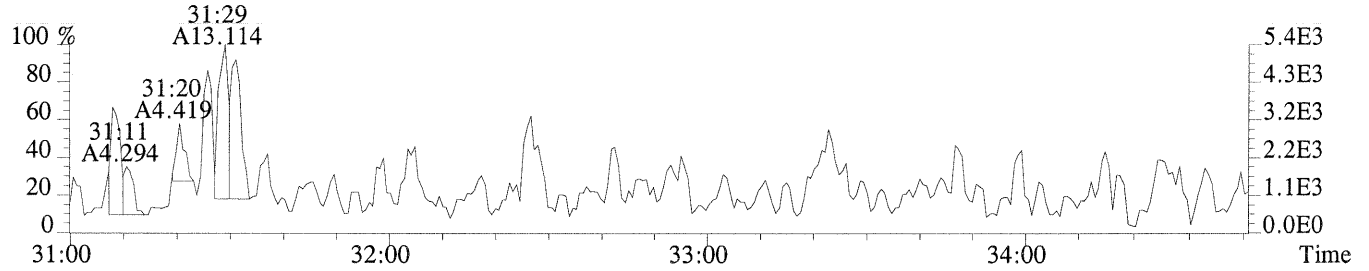
File:P230809 #1-687 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



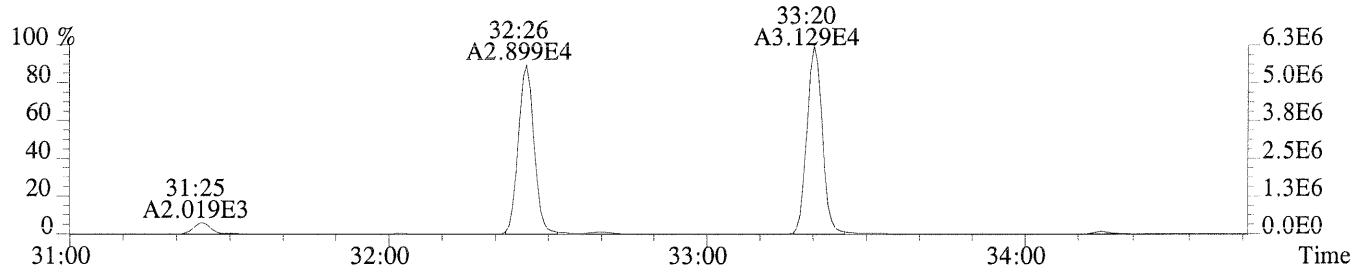
File:P230809 #1-335 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)



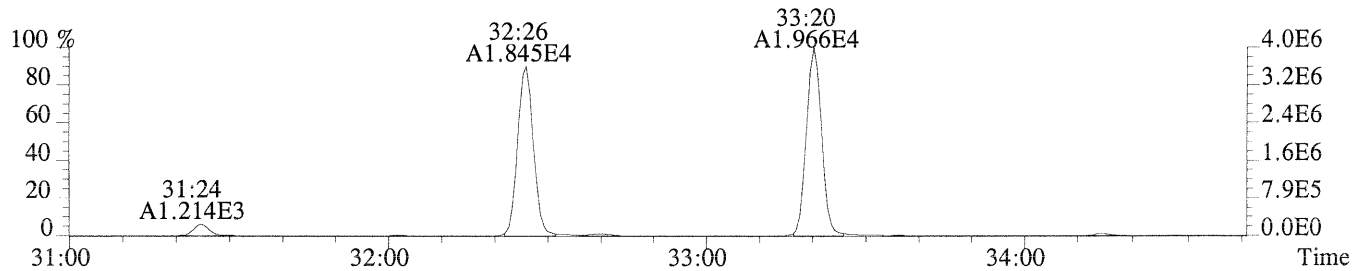
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



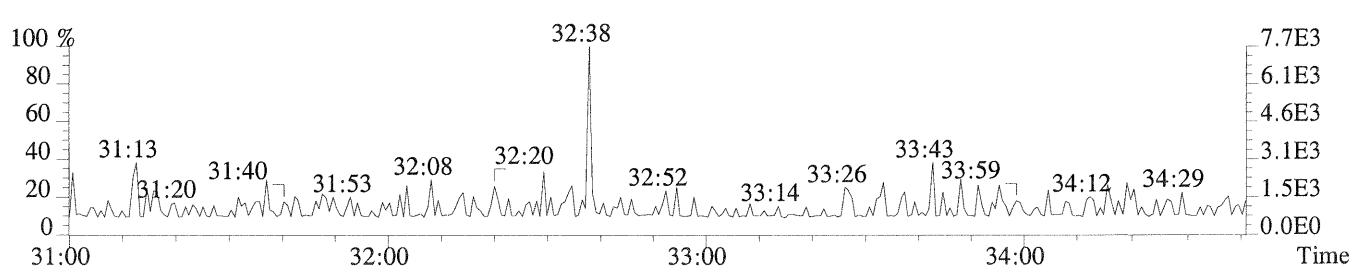
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,580.0,1.00%,F,T)



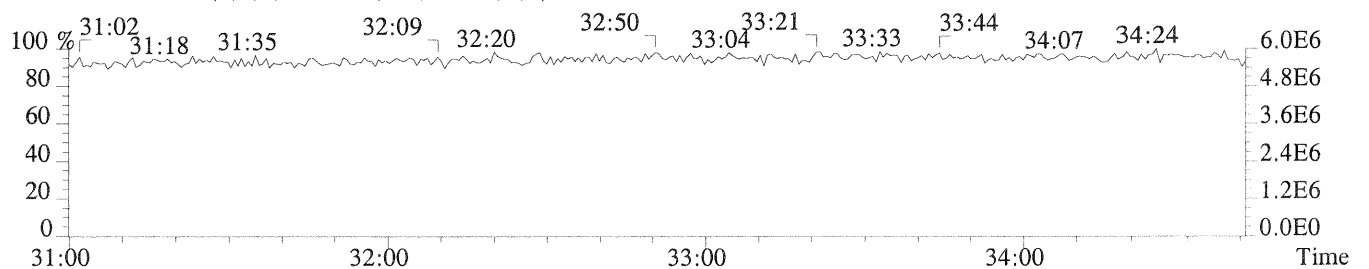
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



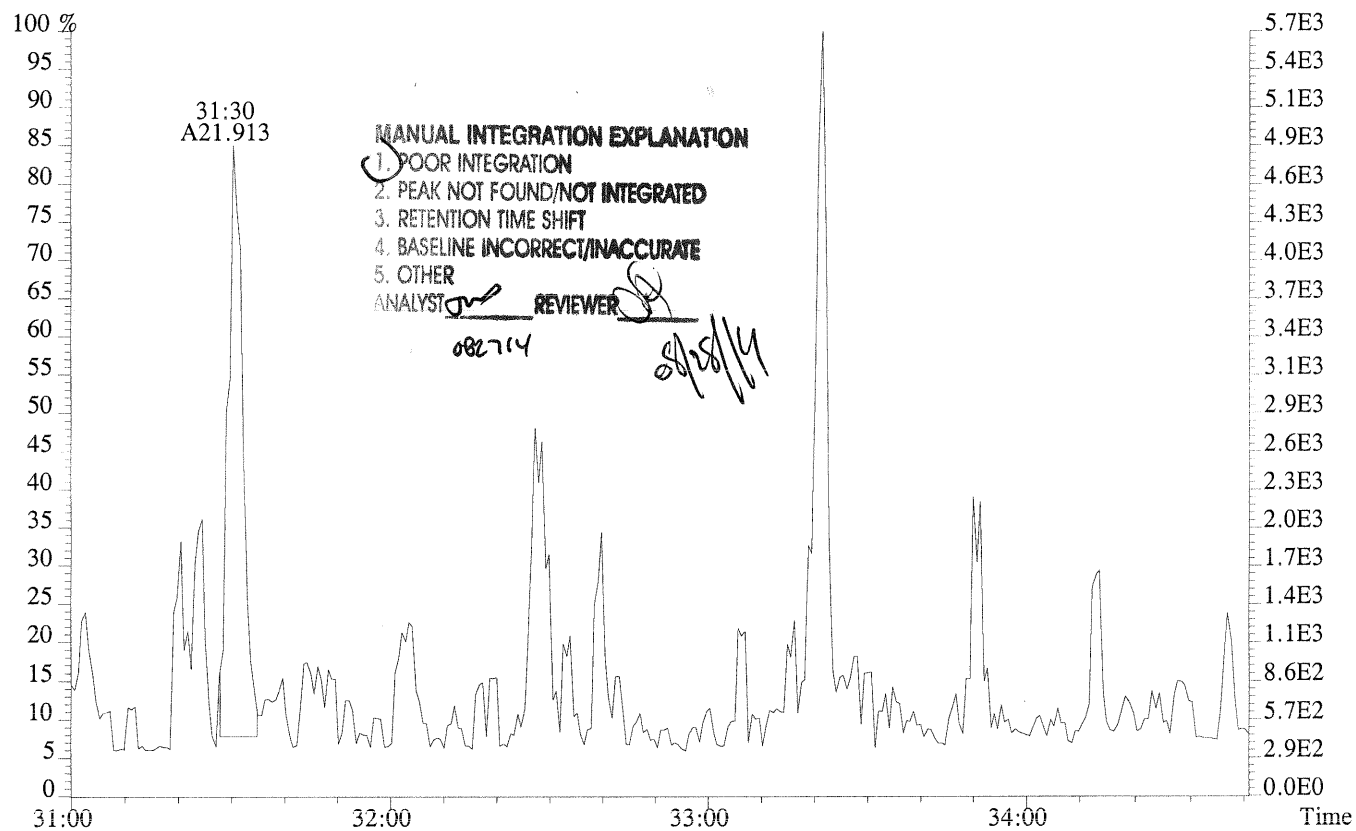
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



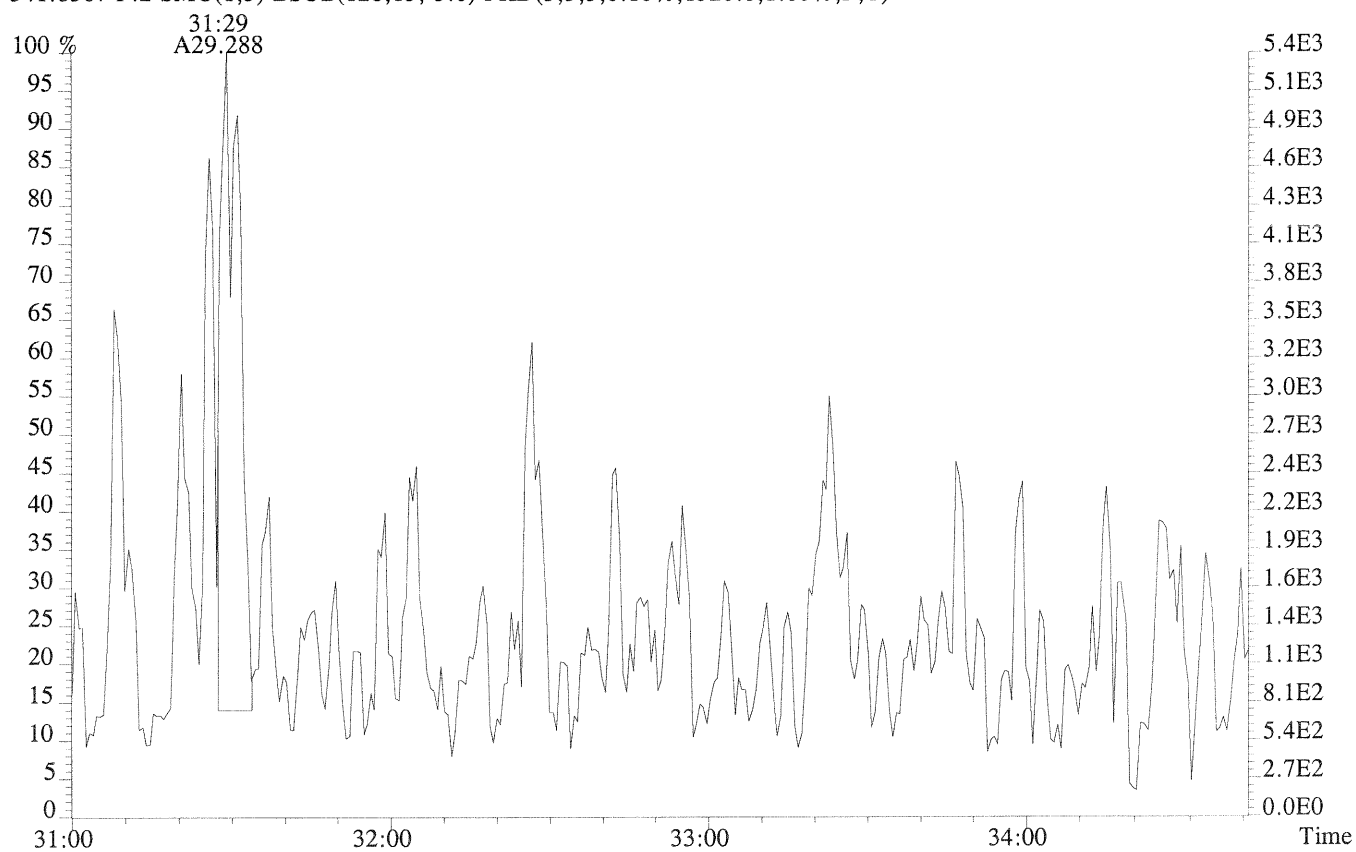
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

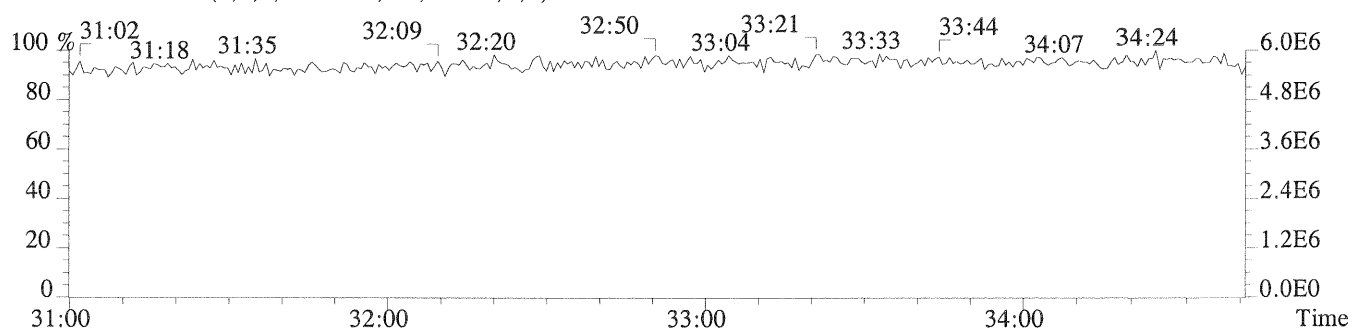
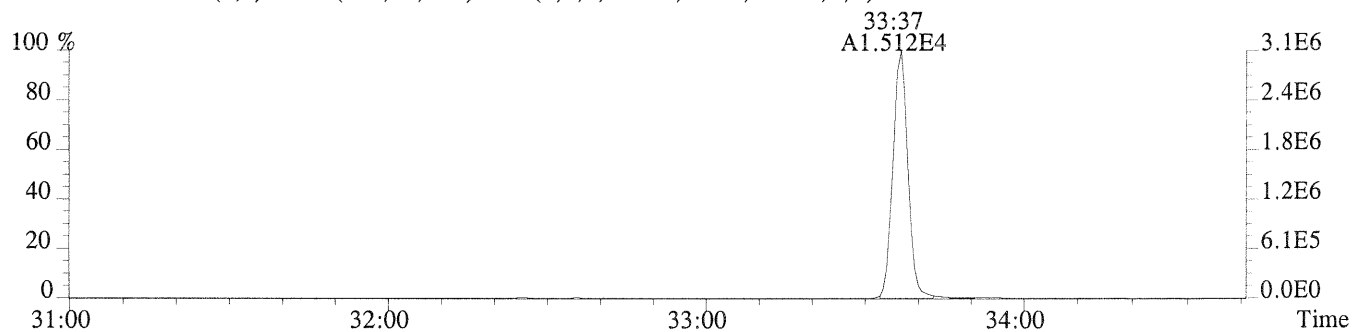
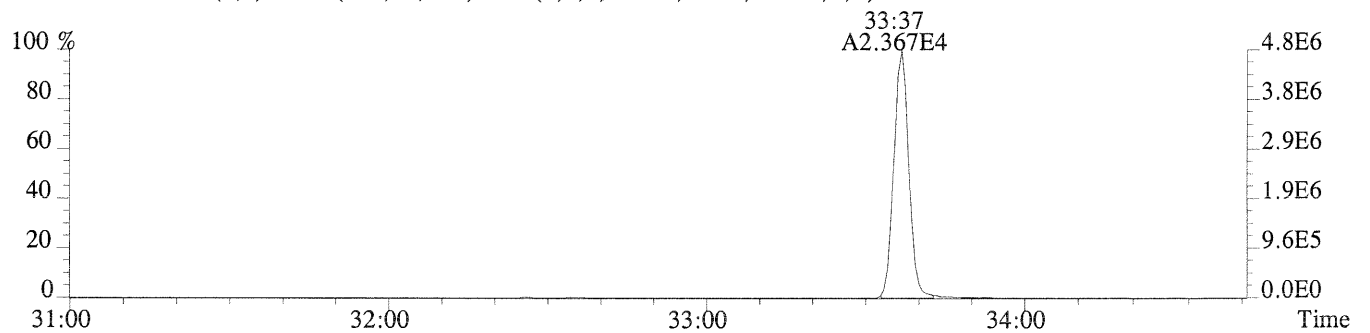
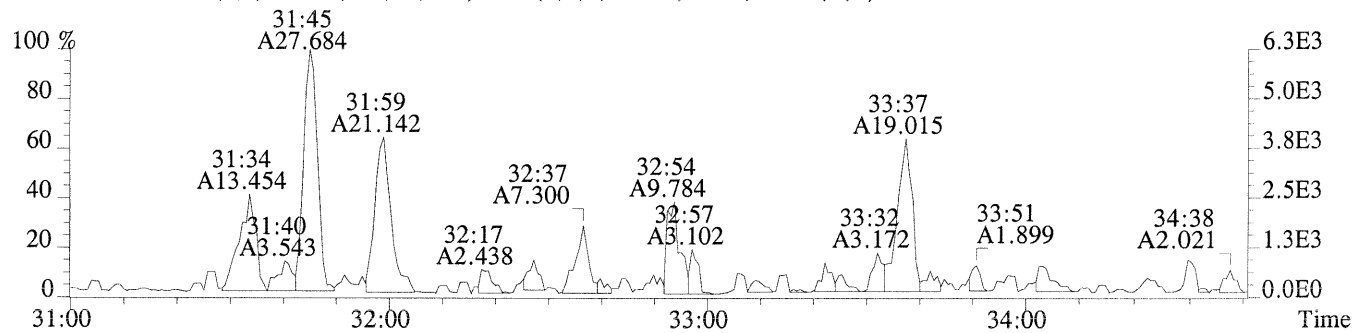
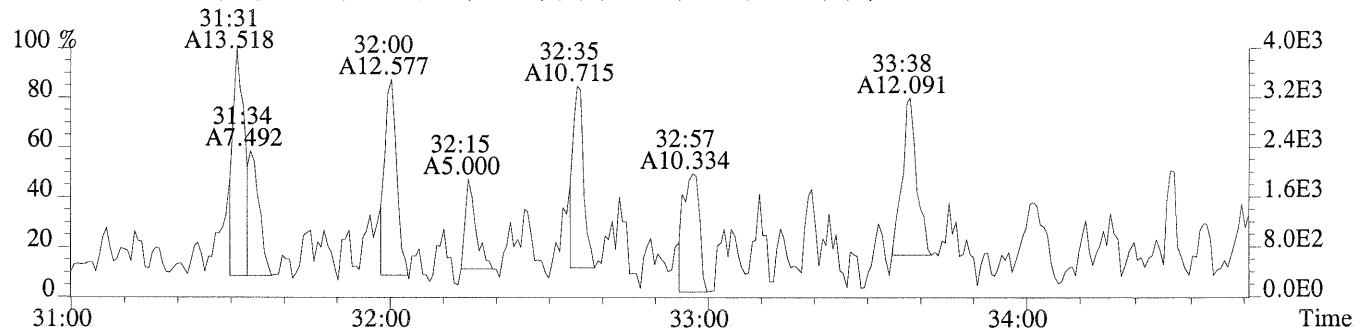


File:P230809 #1-335 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)

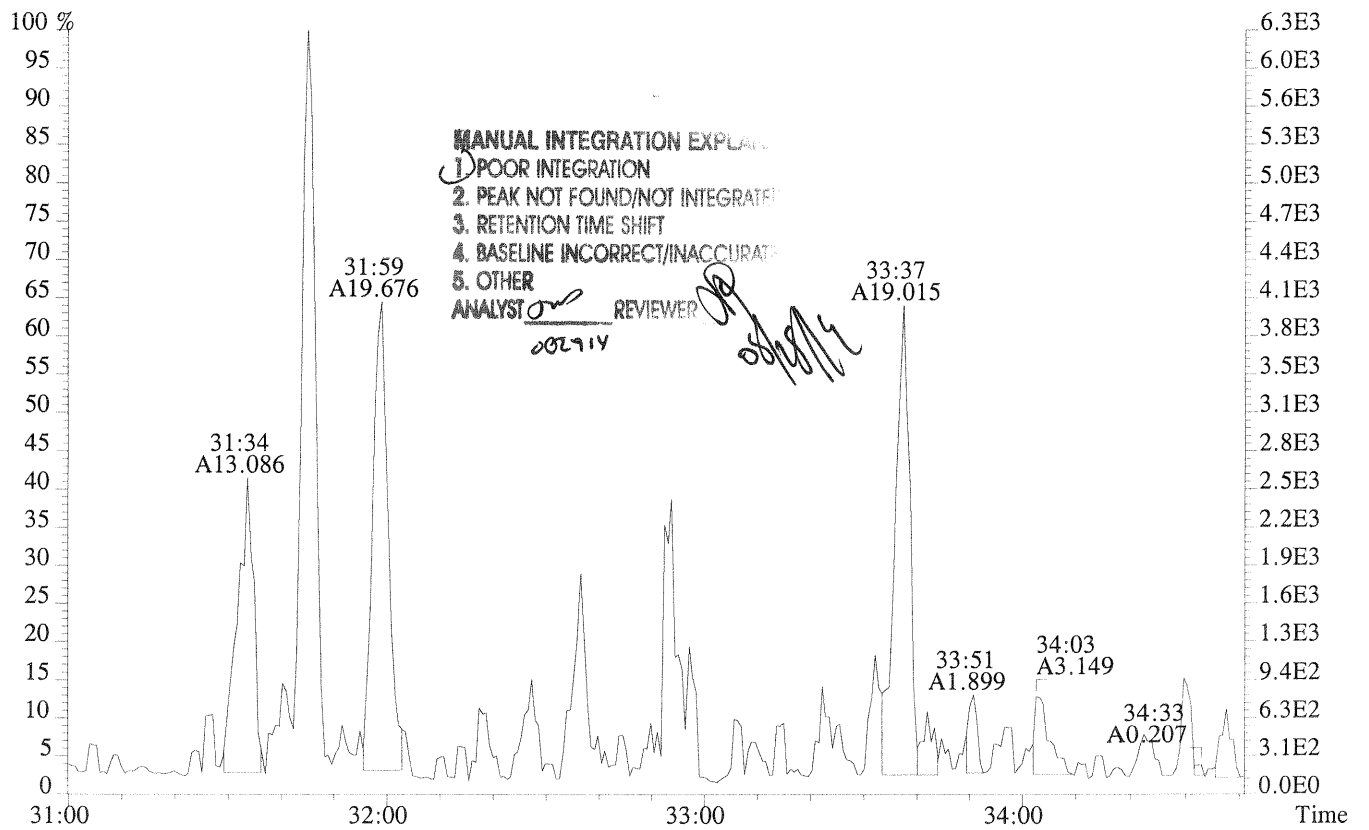
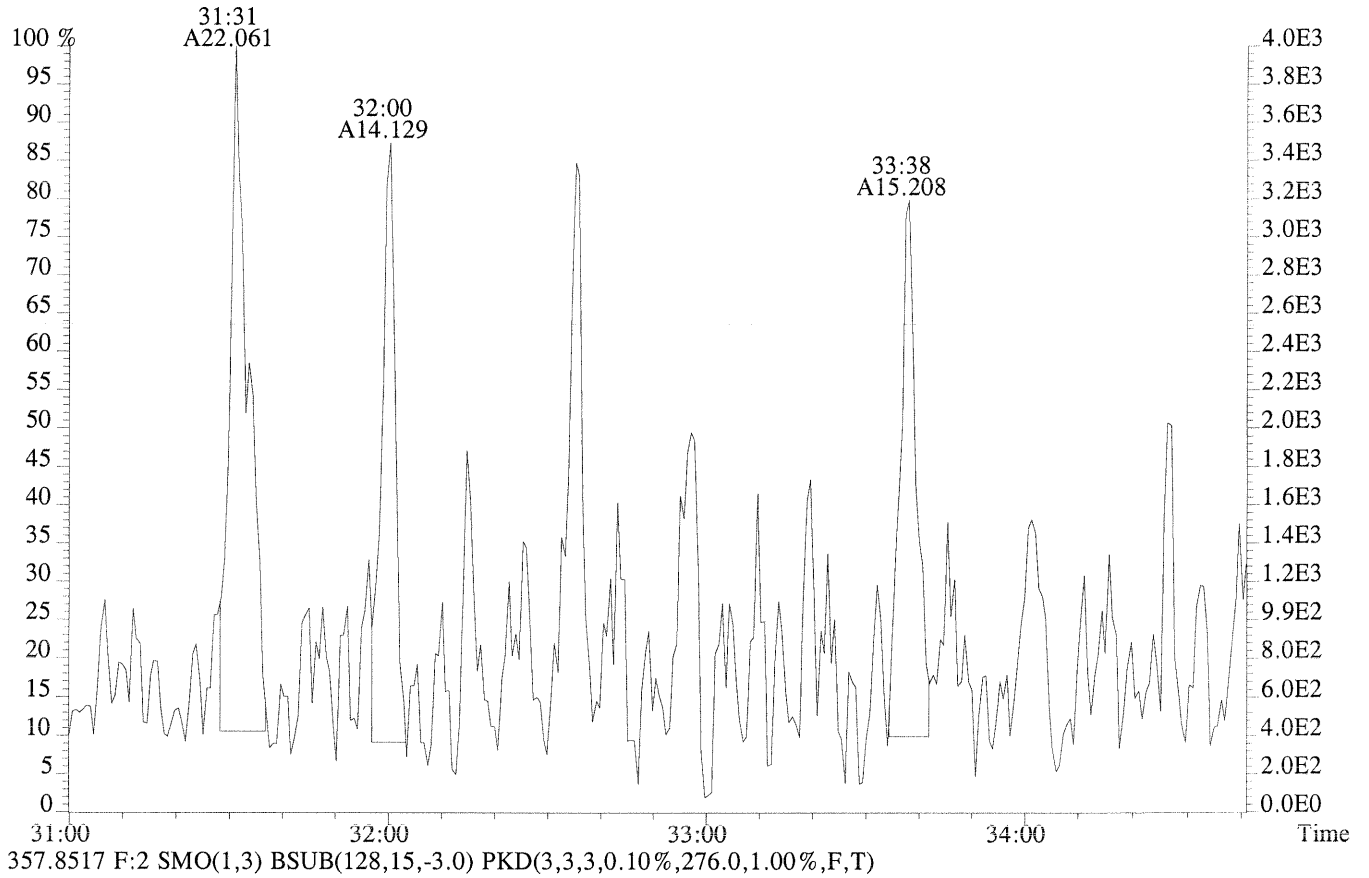


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)

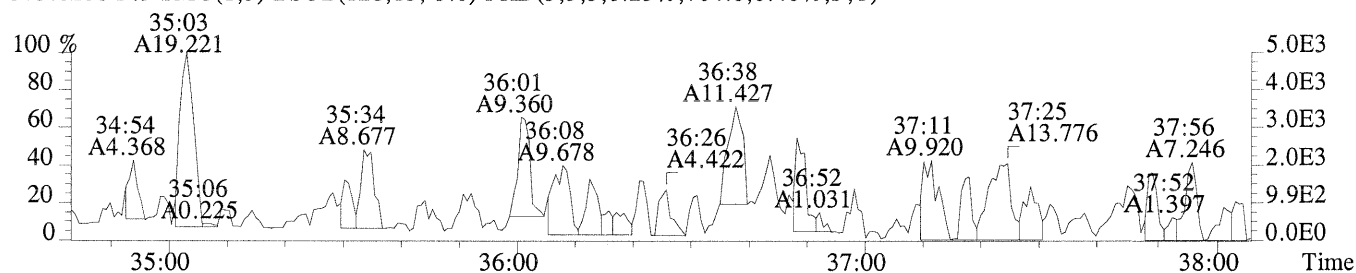




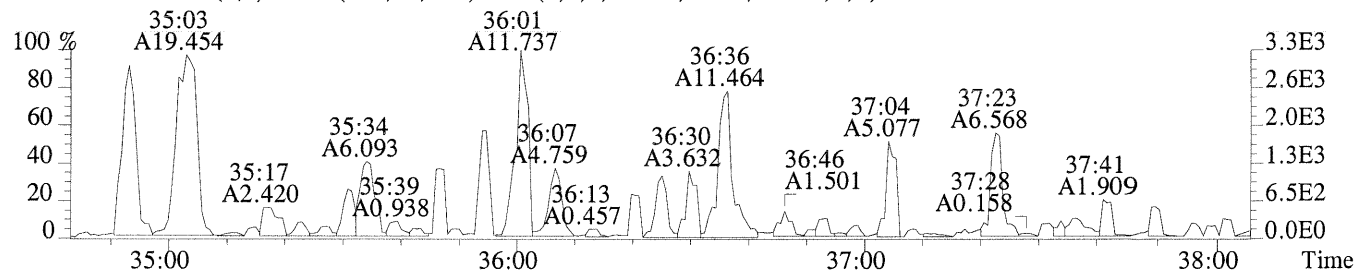
File: P230809 #1-335 Acq: 27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp: K1407971-013  
 355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



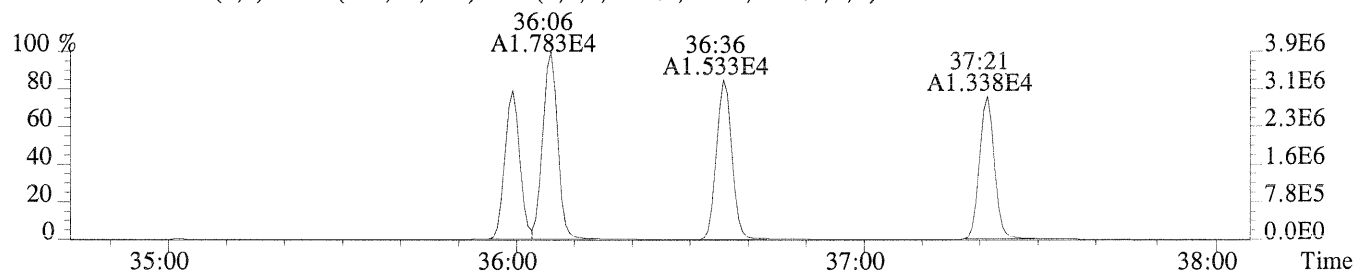
File:P230809 #1-307 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,704.0,0.40%,F,T)



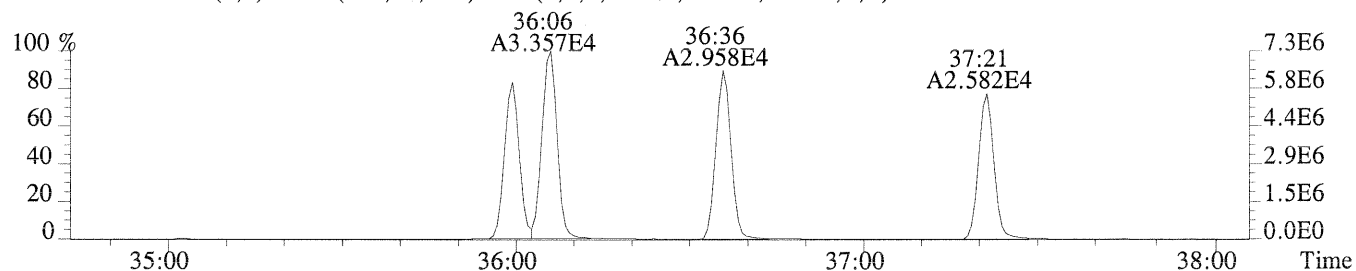
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)



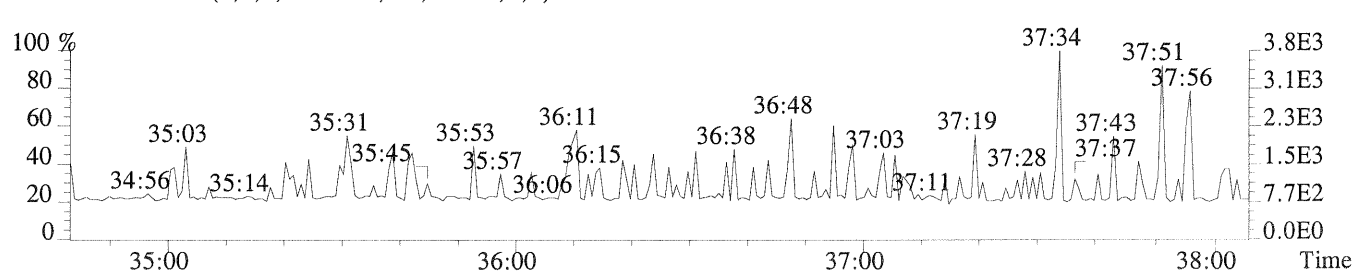
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,T)



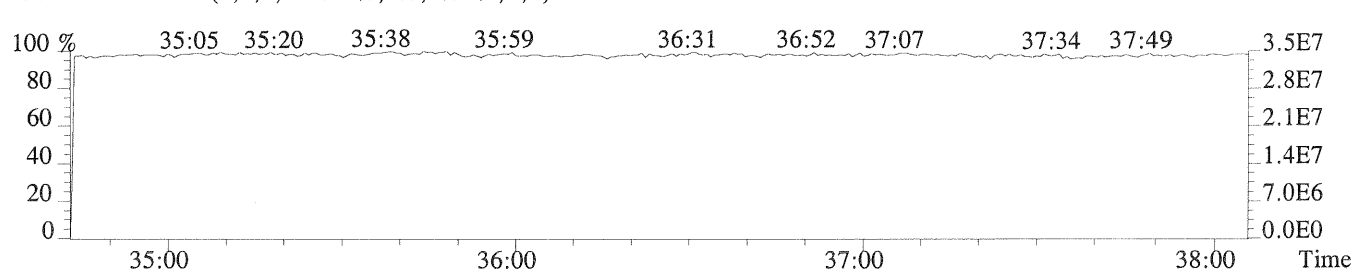
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



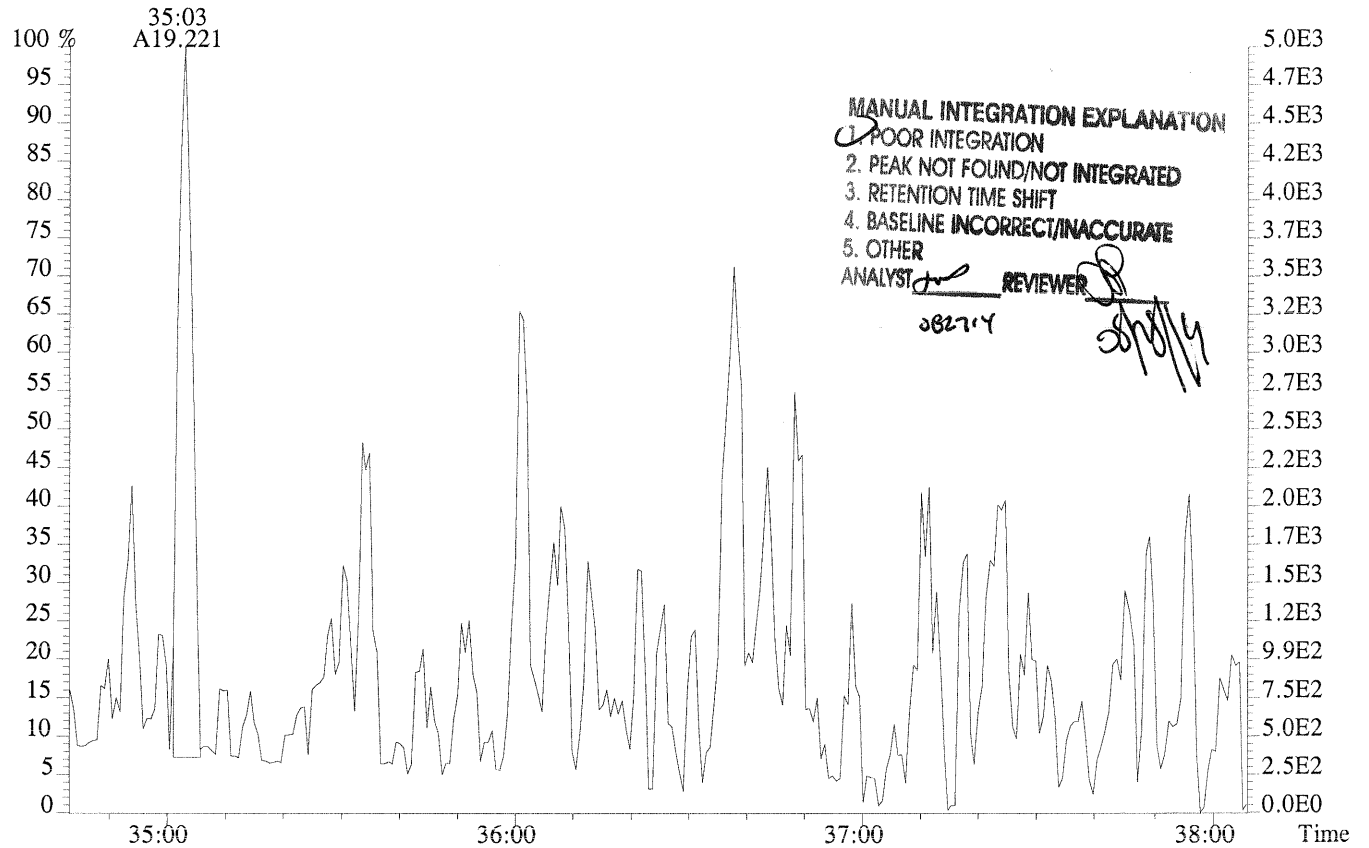
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



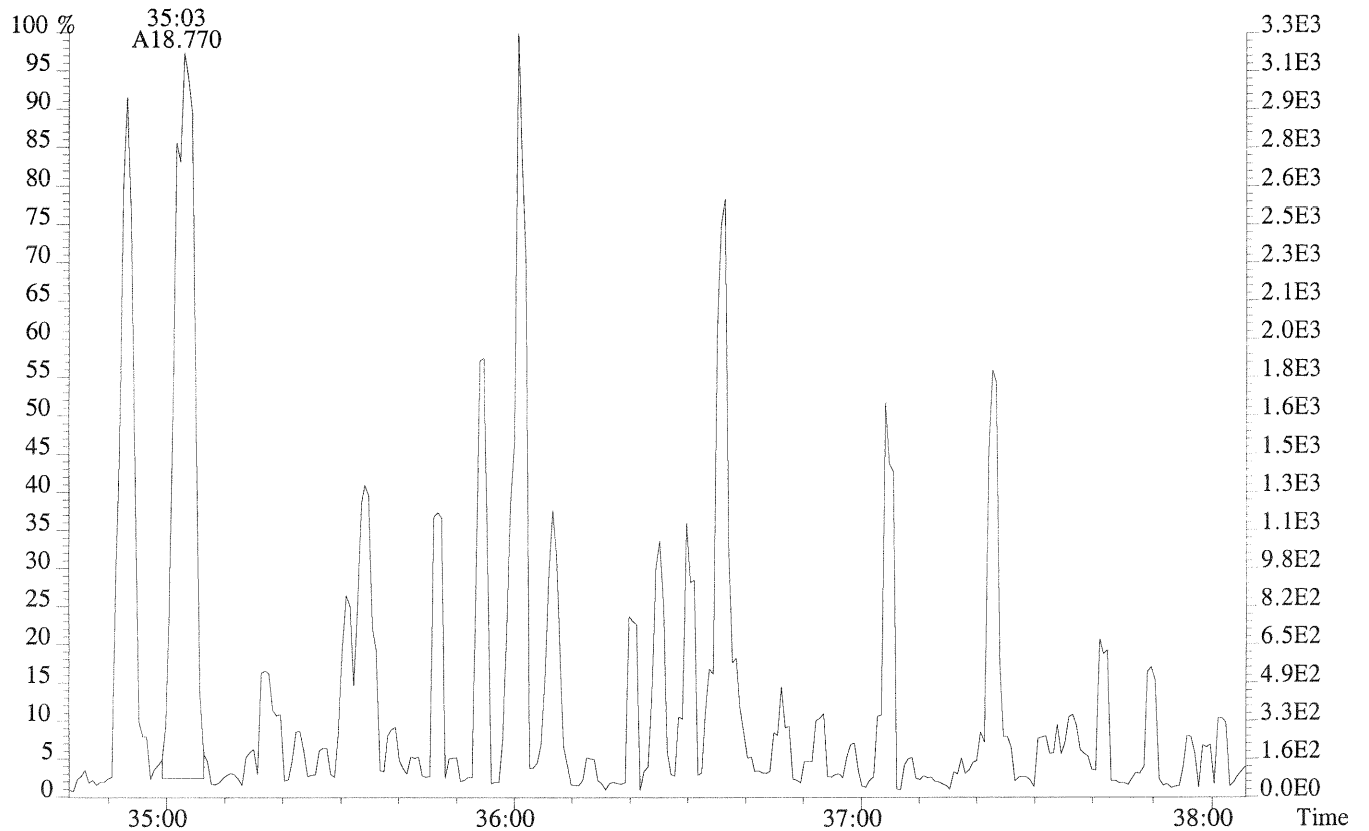
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230809 #1-307 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,704.0,0.40%,F,T)

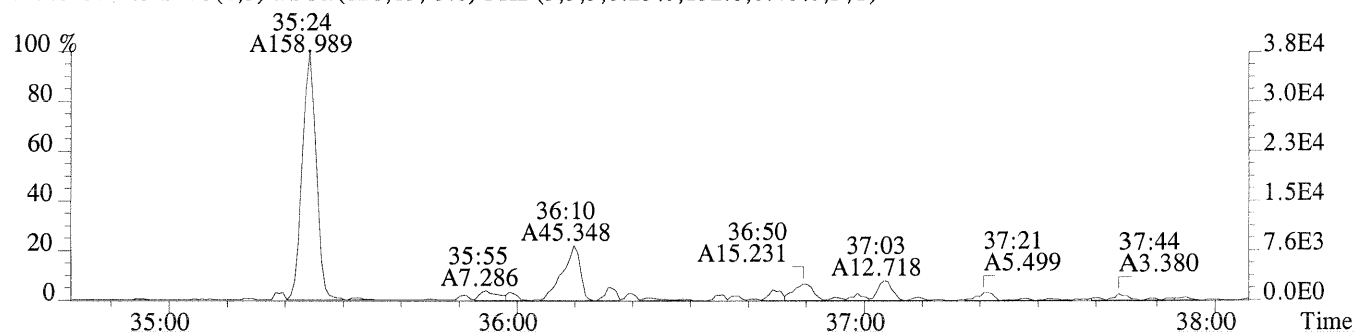


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)

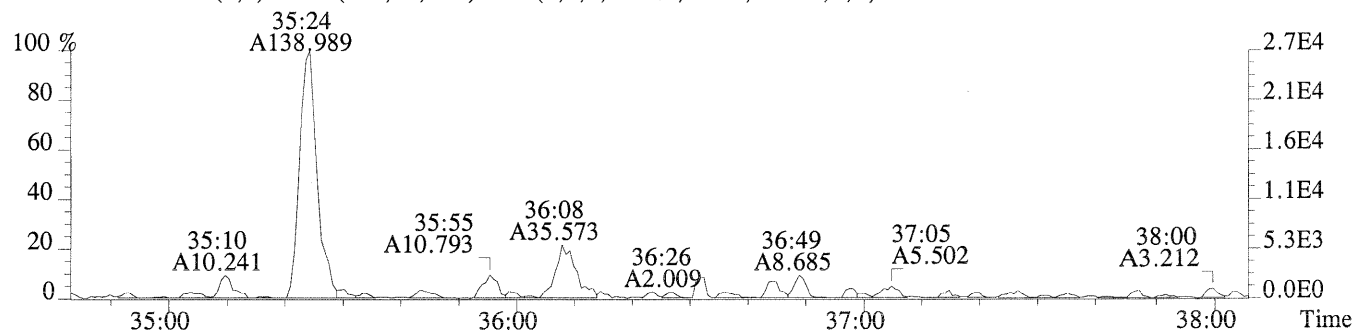


Sample#1 Exp:K1407971-013

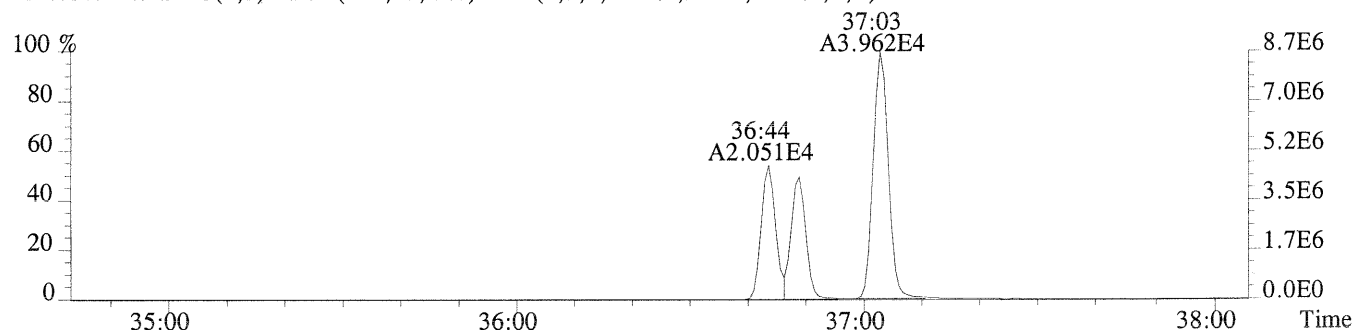
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



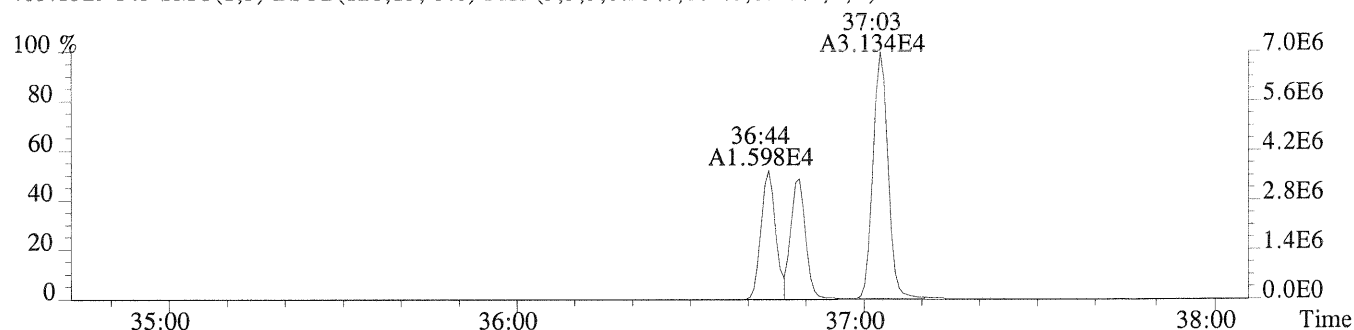
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



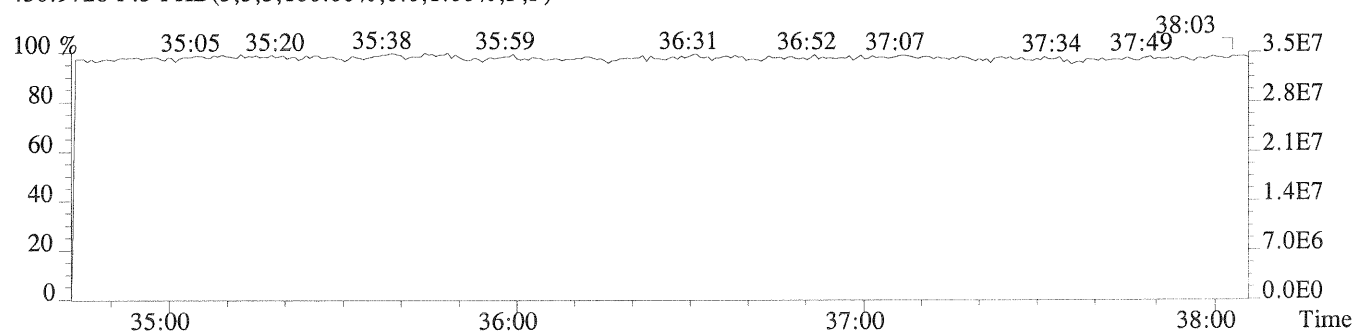
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,T)

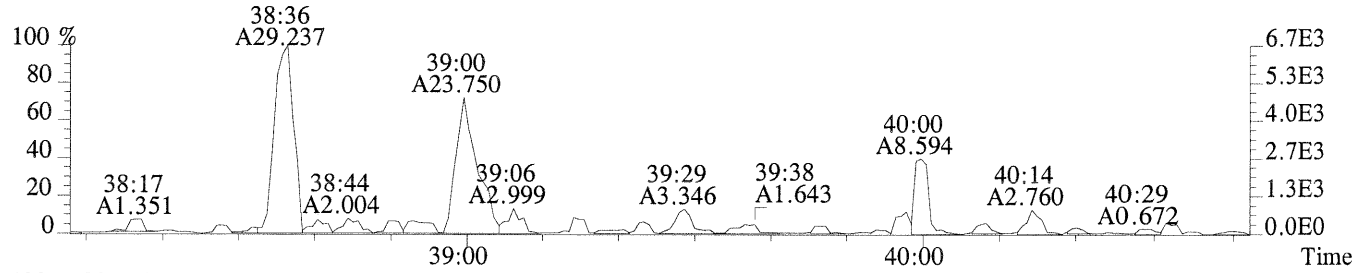


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

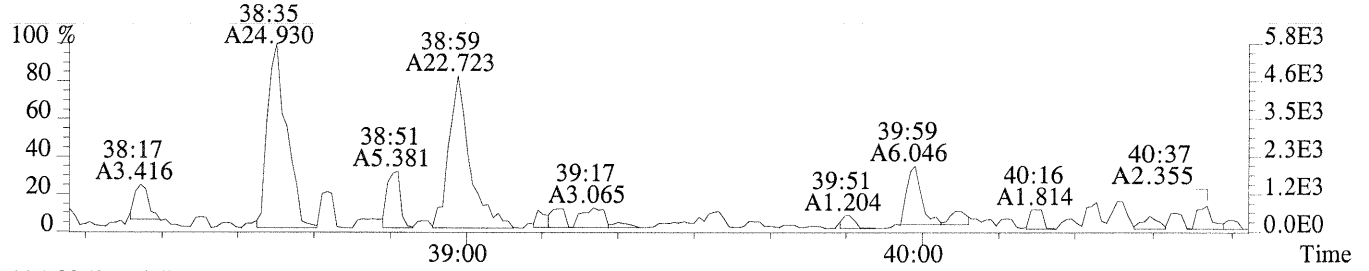




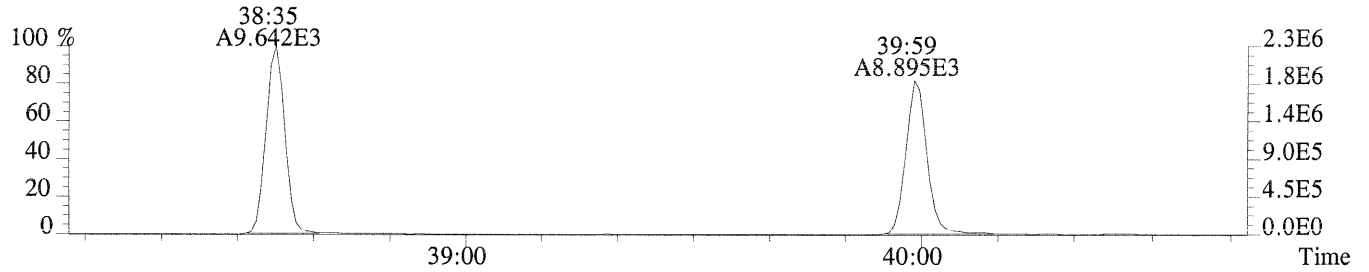
File:P230809 #1-234 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



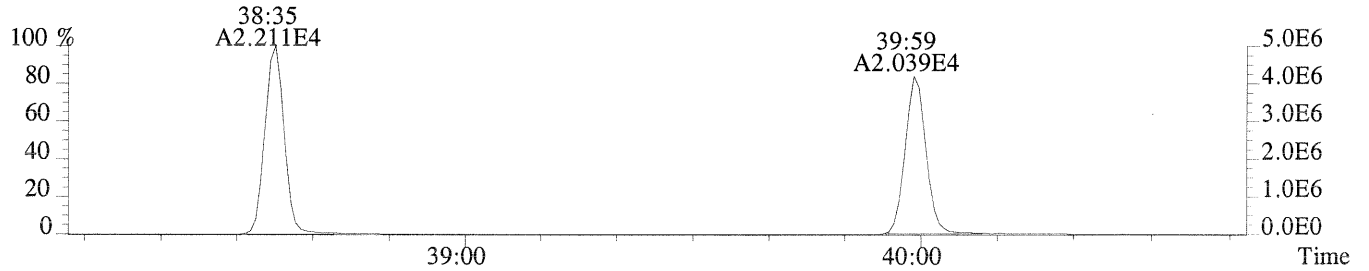
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.50%,F,T)



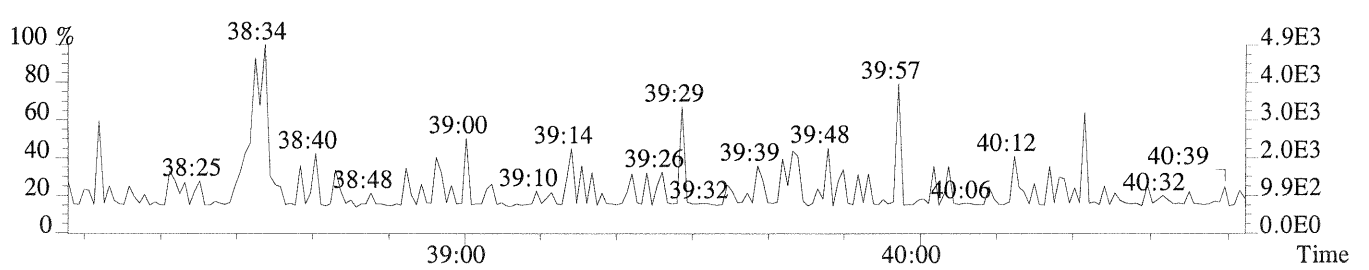
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1396.0,0.50%,F,T)



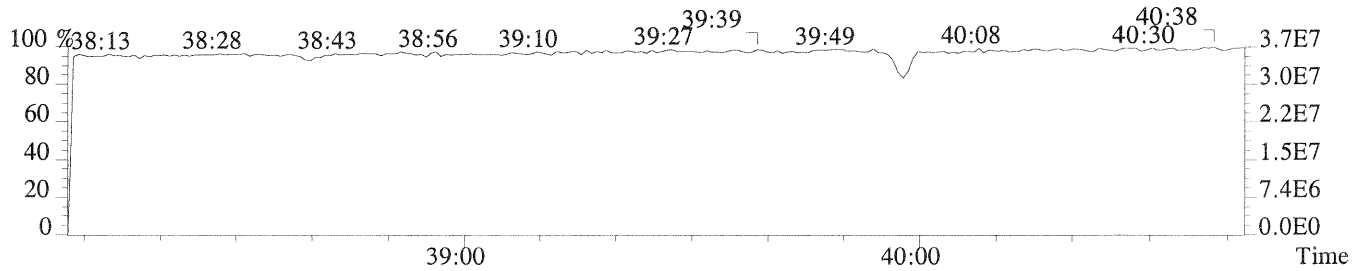
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3048.0,0.50%,F,T)



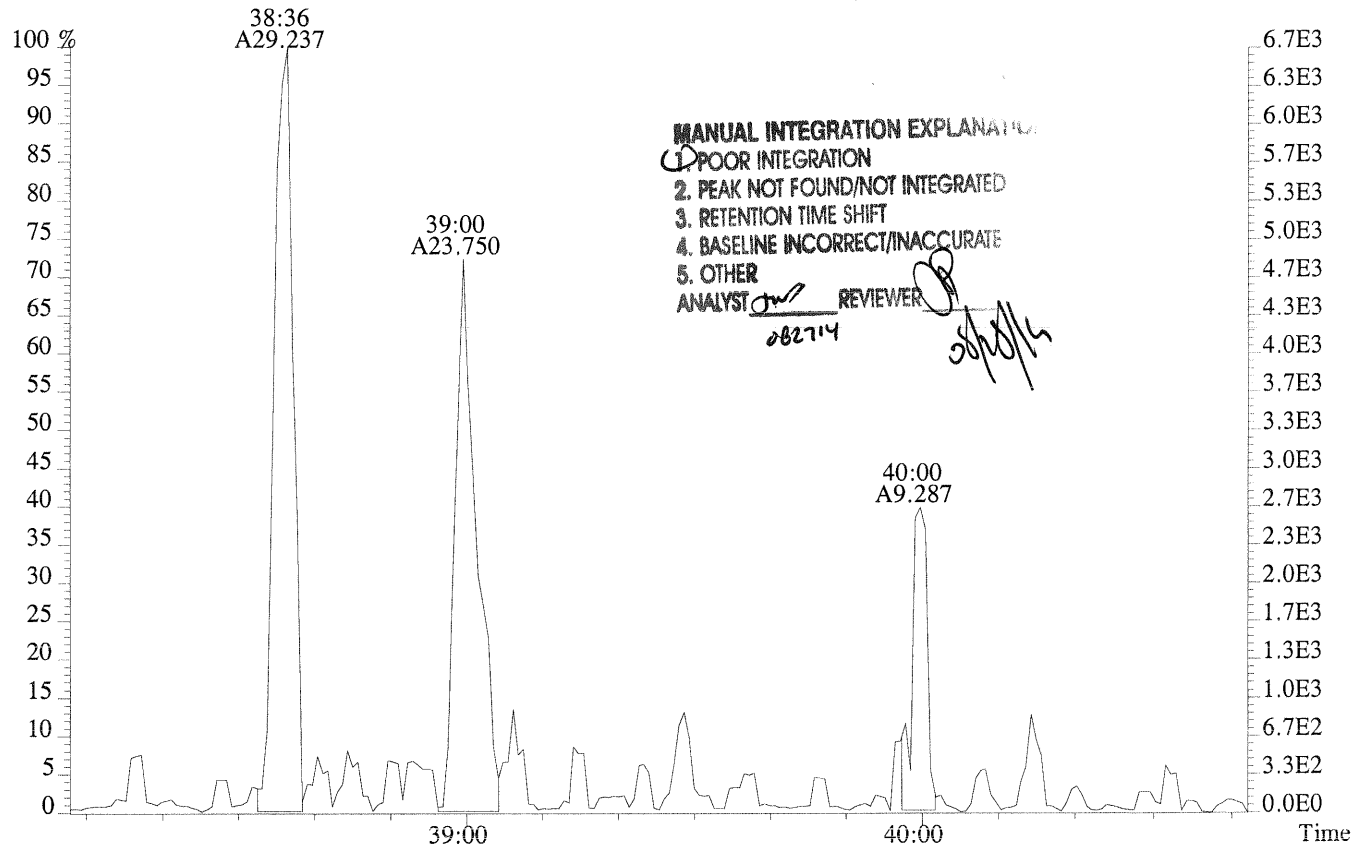
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



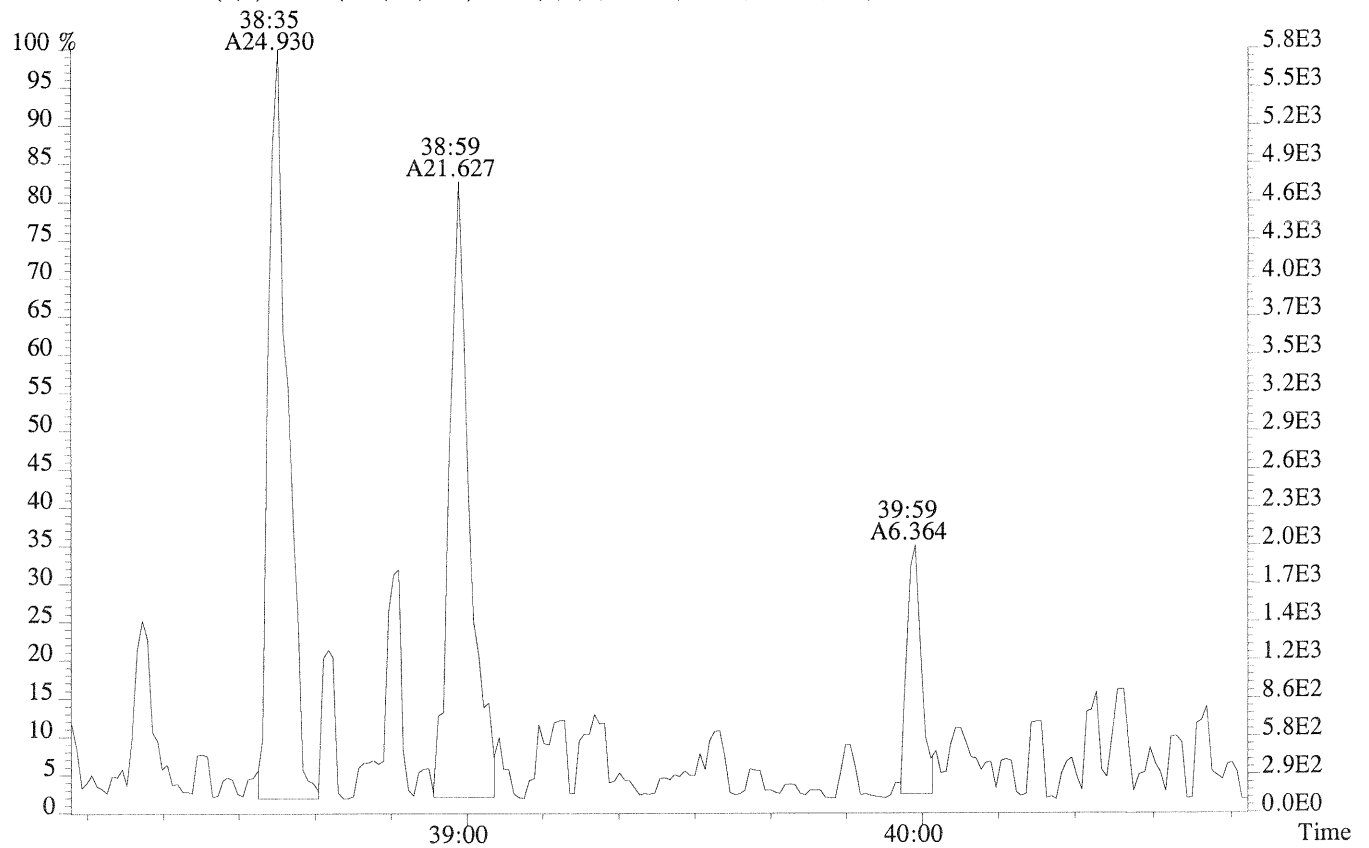
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

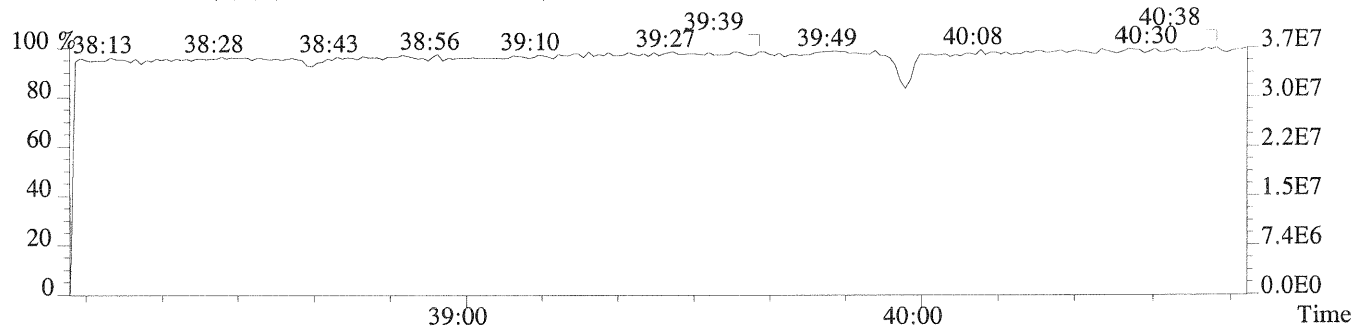
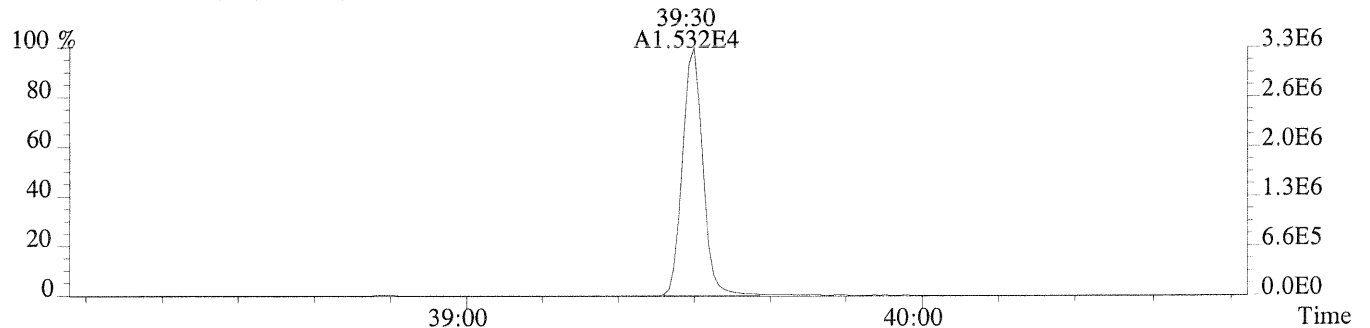
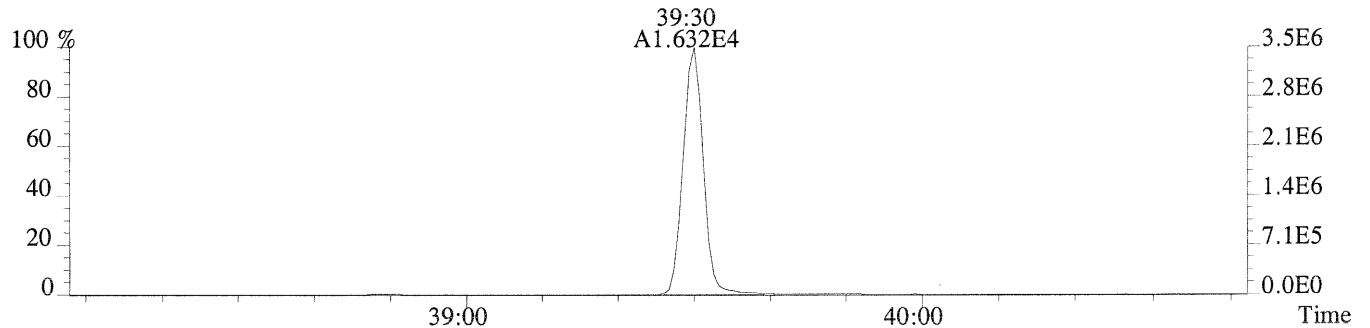
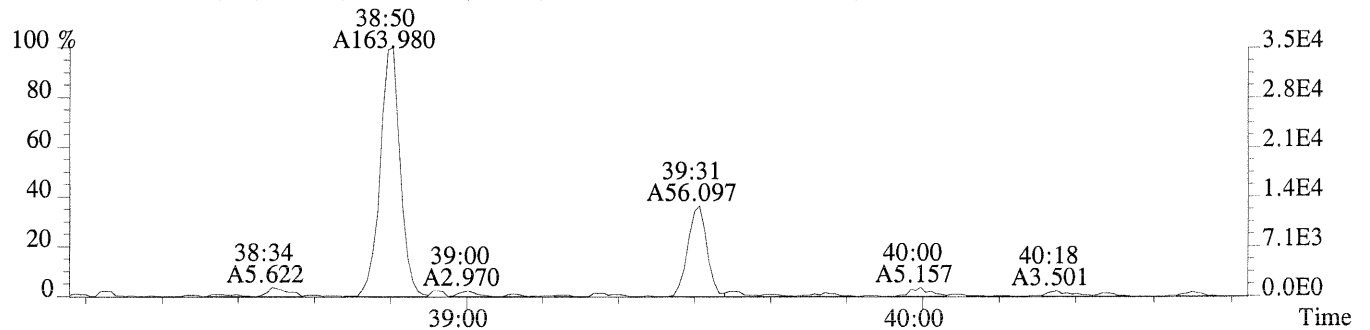
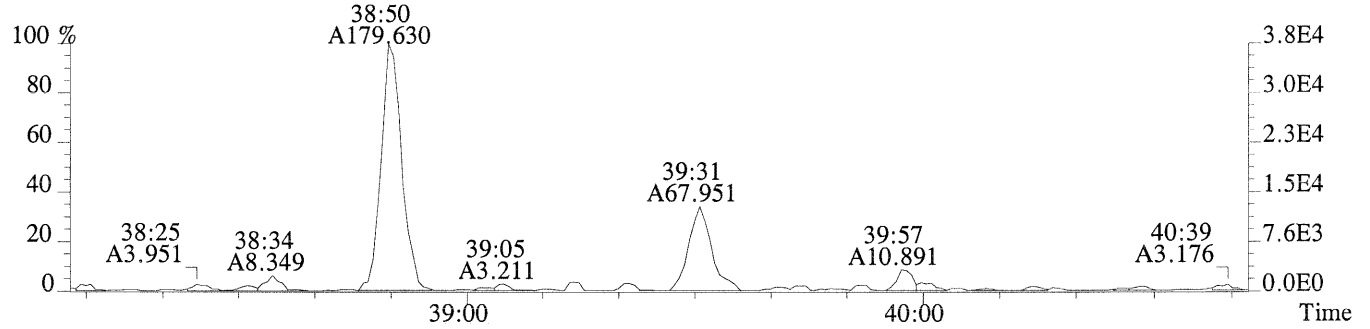


File:P230809 #1-234 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-013  
 407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.50%,F,T)

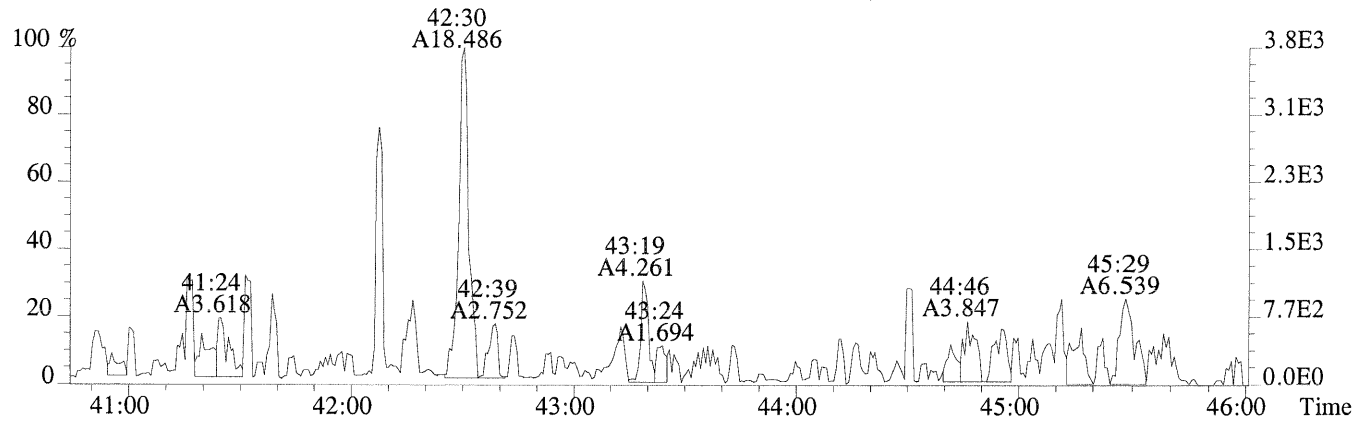




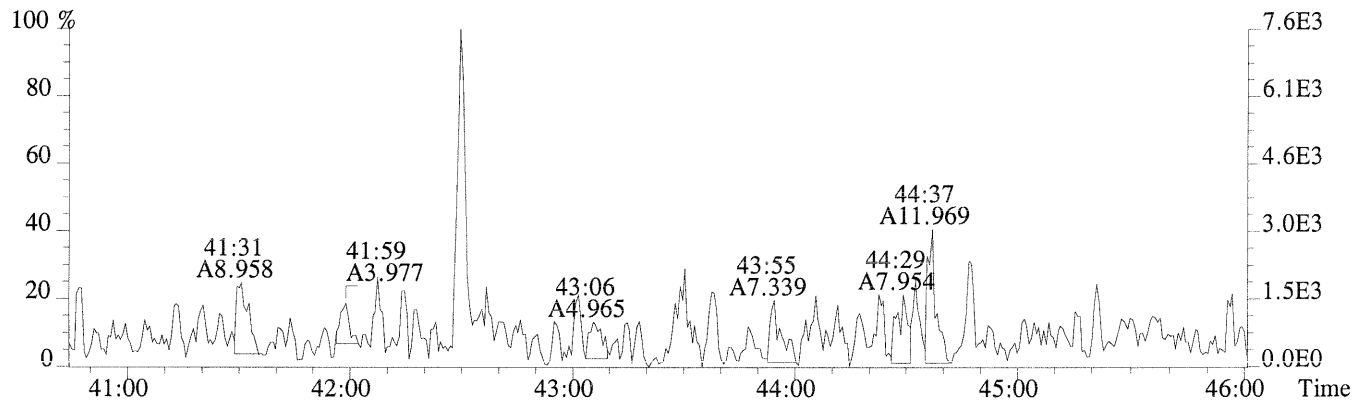
File:P230809 #1-485 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-013

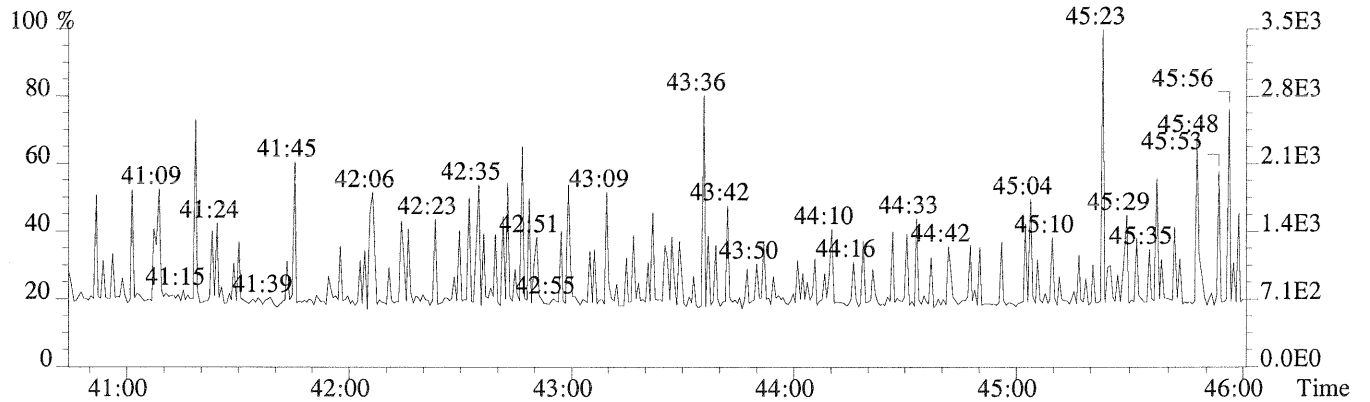
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,200.0,0.40%,F,T)



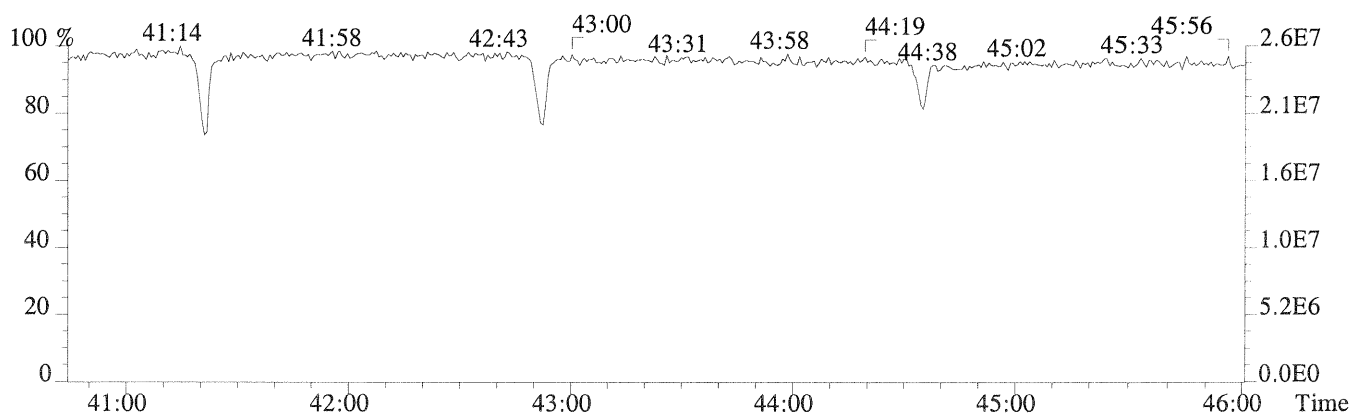
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,684.0,0.40%,F,T)



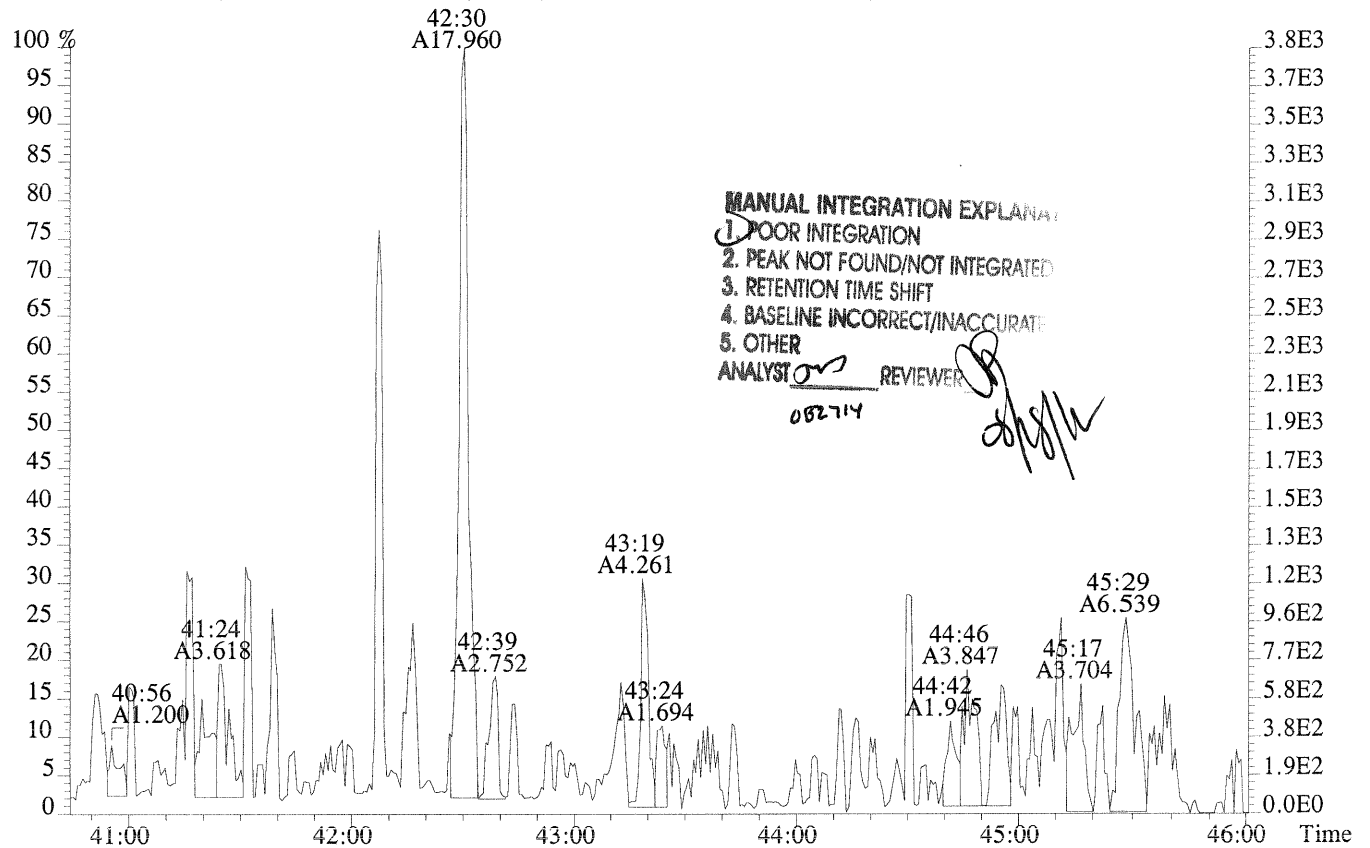
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



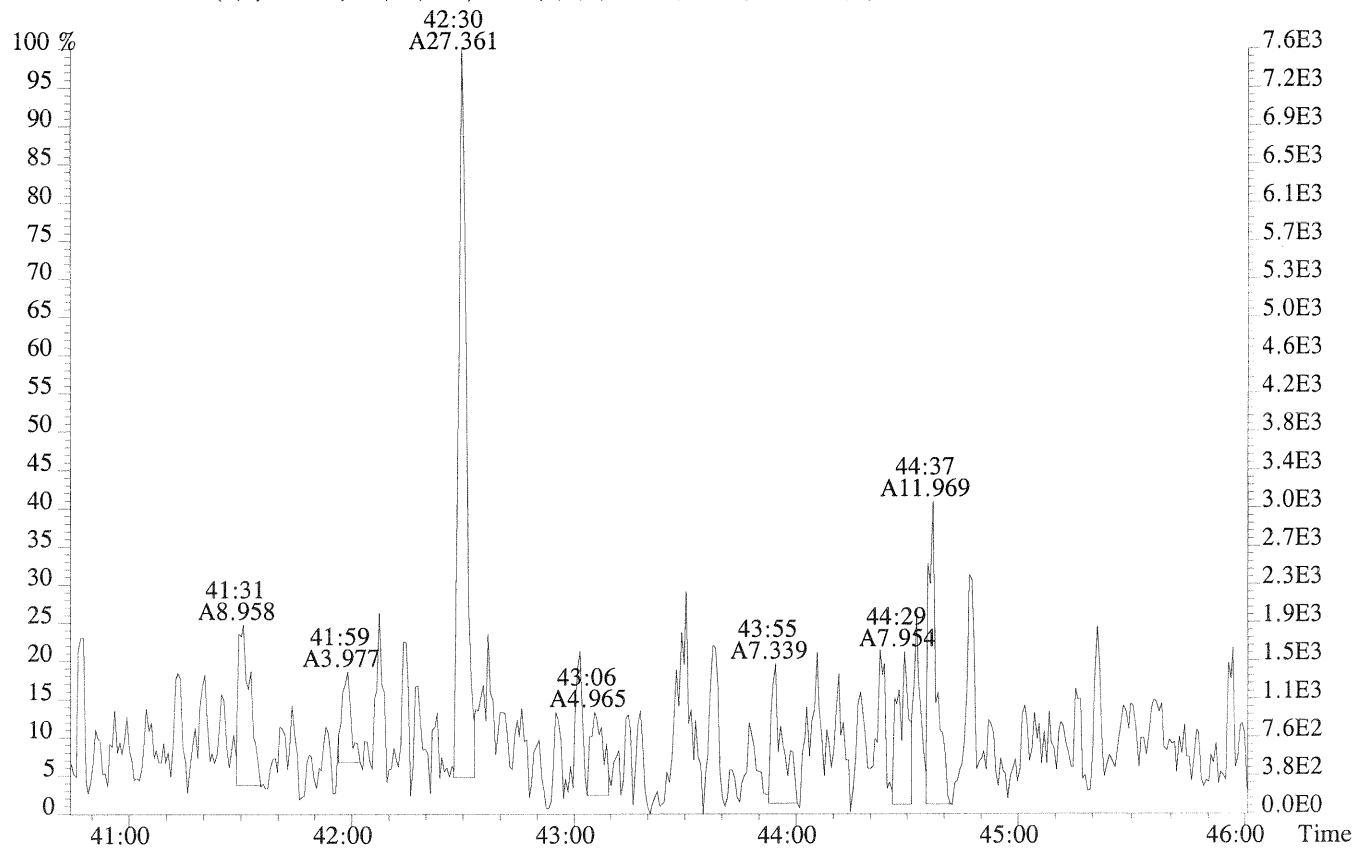
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

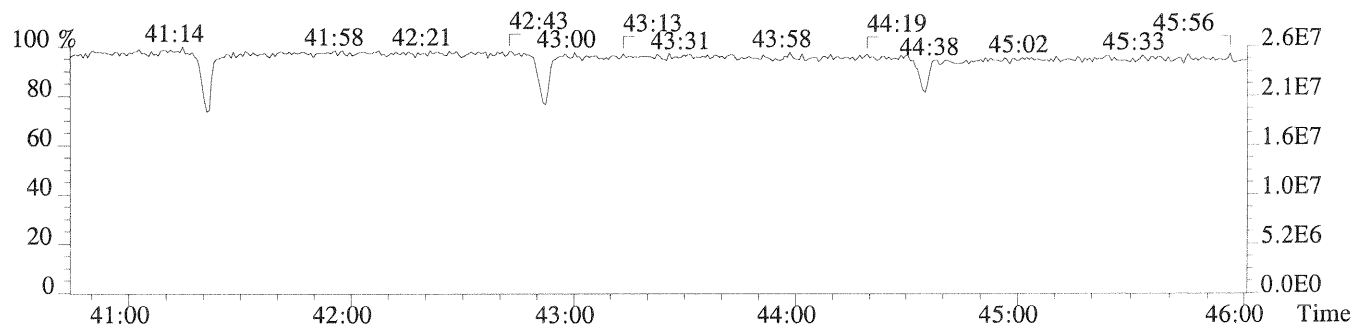
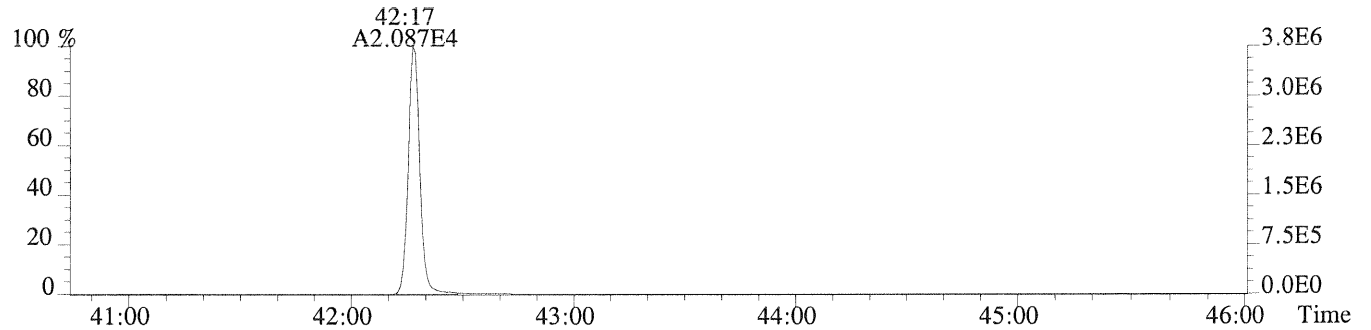
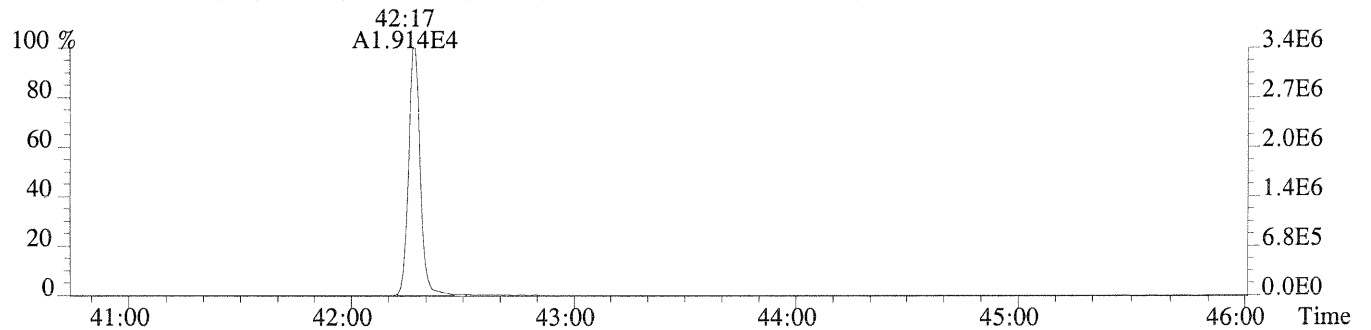
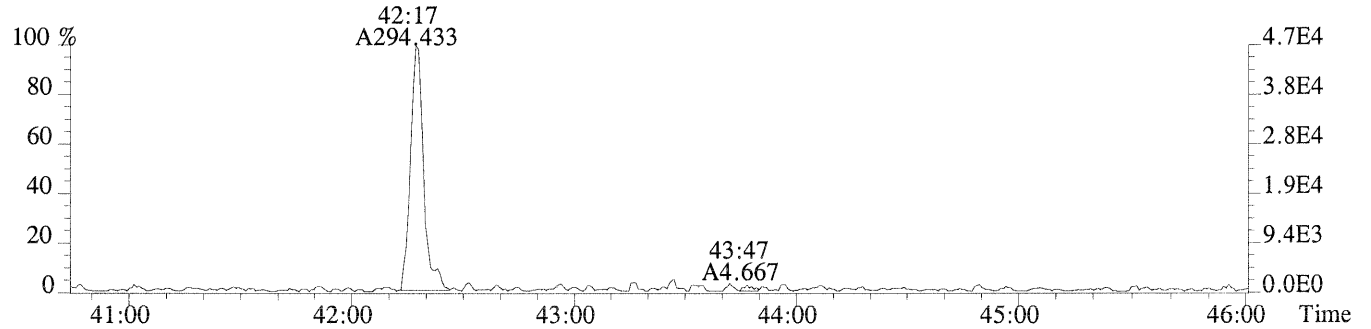
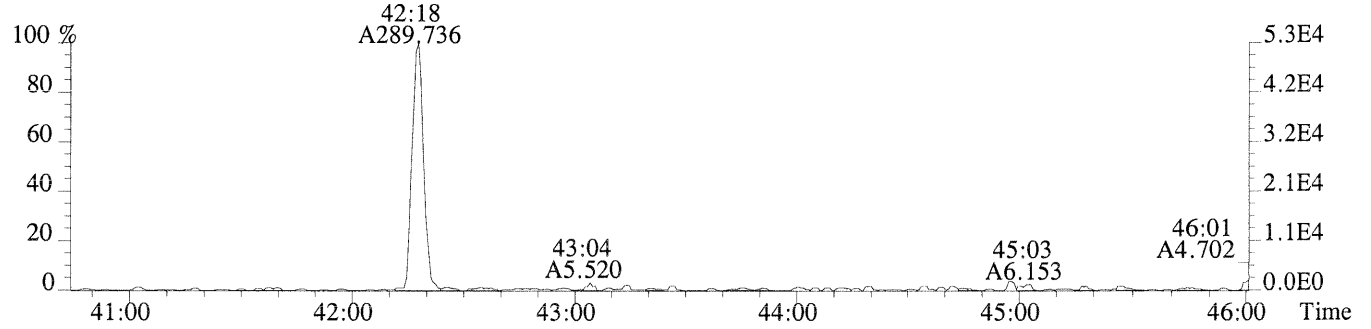


File:P230809 #1-485 Acq:27-AUG-2014 04:22:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-013  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,200.0,0.40%,F,T)



443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,684.0,0.40%,F,T)





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 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-REF 7

Run #13    Filename P230810    Samp: 1    Inj: 1    Acquired: 27-AUG-14 05:10:11  
 Processed: 27-AUG-14 17:17:46    Sample ID: K1407971-014

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:17	3.135e+01	3.963e+01	0.79	yes	yes	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.000
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	1.278e+01	1.313e+01	0.97	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	40:01	4.728e+00	4.933e+00	0.96	yes	no	1.274
10 Unk	OCDF	42:32	1.998e+01	1.419e+01	1.41	no	yes	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	4.382e+01	4.410e+01	0.99	yes	yes	1.053
17 Unk	OCDD	42:18	2.068e+02	2.435e+02	0.85	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:16	1.299e+04	1.625e+04	0.80	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:26	2.704e+04	1.733e+04	1.56	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:21	2.930e+04	1.837e+04	1.60	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	1.331e+04	2.549e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	1.700e+04	3.273e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.461e+04	2.832e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.280e+04	2.488e+04	0.51	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:35	9.755e+03	2.223e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:60	8.776e+03	2.003e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:03	9.447e+03	1.207e+04	0.78	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	2.304e+04	1.431e+04	1.61	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	1.924e+04	1.518e+04	1.27	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:49	1.907e+04	1.521e+04	1.25	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	1.622e+04	1.507e+04	1.08	yes	no	0.850
32 IS	13C-OCDD	42:17	1.837e+04	2.016e+04	0.91	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:28	2.432e+04	3.069e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	4.055e+04	3.125e+04	1.30	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	7.226e+03				no	1.099

OCDD =  $(2.068e+02 + 2.435e+02) \times 4000 \text{ pg} \times 1$   
 $(1.837e+04 + 2.016e+04) \times 6.462 \text{ g} \times / 100 \times 1.169$

*6-19-14*  
*[Signature]*  
 1613RESRA

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 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-REF Rep7

Run #13    Filename P230810    Samp: 1    Inj: 1    Acquired: 27-AUG-14 05:10:11  
 Processed: 27-AUG-14 17:17:461    LAB. ID: K1407971-014

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.86e+03	3.60e+01	1.6e+02	6.14e+03	1.12e+03	5.5e+00
2	1,2,3,7,8-PeCDF	*	3.32e+02	*	*	1.57e+03	*
3	2,3,4,7,8-PeCDF	*	3.32e+02	*	*	1.57e+03	*
4	1,2,3,4,7,8-HxCDF	*	5.52e+02	*	*	7.20e+01	*
5	1,2,3,6,7,8-HxCDF	*	5.52e+02	*	*	7.20e+01	*
6	2,3,4,6,7,8-HxCDF	*	5.52e+02	*	*	7.20e+01	*
7	1,2,3,7,8,9-HxCDF	*	5.52e+02	*	*	7.20e+01	*
8	1,2,3,4,6,7,8-HpCDF	3.20e+03	2.68e+02	1.2e+01	3.08e+03	1.16e+02	2.7e+01
9	1,2,3,4,7,8,9-HpCDF	1.44e+03	2.68e+02	5.4e+00	1.35e+03	1.16e+02	1.2e+01
10	OCDF	3.25e+03	6.80e+01	4.8e+01	2.46e+03	6.60e+02	3.7e+00
11	2,3,7,8-TCDD	*	5.44e+02	*	*	3.28e+02	*
12	1,2,3,7,8-PeCDD	*	6.08e+02	*	*	6.00e+01	*
13	1,2,3,4,7,8-HxCDD	*	9.20e+01	*	*	1.84e+02	*
14	1,2,3,6,7,8-HxCDD	*	9.20e+01	*	*	1.84e+02	*
15	1,2,3,7,8,9-HxCDD	*	9.20e+01	*	*	1.84e+02	*
16	1,2,3,4,6,7,8-HpCDD	9.52e+03	5.20e+01	1.8e+02	1.09e+04	7.60e+01	1.4e+02
17	OCDD	3.57e+04	7.20e+01	5.0e+02	4.06e+04	1.64e+02	2.5e+02
18	13C-2,3,7,8-TCDF	2.70e+06	1.64e+03	1.6e+03	3.36e+06	1.02e+03	3.3e+03
19	13C-1,2,3,7,8-PeCDF	5.13e+06	9.36e+02	5.5e+03	3.31e+06	2.84e+02	1.2e+04
20	13C-2,3,4,7,8-PeCDF	5.78e+06	9.36e+02	6.2e+03	3.60e+06	2.84e+02	1.3e+04
21	13C-1,2,3,4,7,8-HxCDF	2.92e+06	2.72e+02	1.1e+04	5.62e+06	1.10e+03	5.1e+03
22	13C-1,2,3,6,7,8-HxCDF	3.65e+06	2.72e+02	1.3e+04	7.03e+06	1.10e+03	6.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.16e+06	2.72e+02	1.2e+04	6.17e+06	1.10e+03	5.6e+03
24	13C-1,2,3,7,8,9-HxCDF	2.72e+06	2.72e+02	1.0e+04	5.28e+06	1.10e+03	4.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.24e+06	1.62e+03	1.4e+03	5.07e+06	1.76e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.87e+06	1.62e+03	1.2e+03	4.15e+06	1.76e+03	2.4e+03
27	13C-2,3,7,8-TCDD	2.02e+06	4.15e+03	4.9e+02	2.55e+06	1.90e+03	1.3e+03
28	13C-1,2,3,7,8-PeCDD	4.47e+06	7.16e+02	6.2e+03	2.77e+06	1.52e+02	1.8e+04
29	13C-1,2,3,4,7,8-HxCDD	4.38e+06	8.84e+02	5.0e+03	3.51e+06	6.76e+02	5.2e+03
30	13C-1,2,3,6,7,8-HxCDD	4.19e+06	8.84e+02	4.7e+03	3.38e+06	6.76e+02	5.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.46e+06	8.20e+02	4.2e+03	3.26e+06	3.64e+02	8.9e+03
32	13C-OCDD	3.26e+06	1.92e+02	1.7e+04	3.60e+06	2.96e+02	1.2e+04
33	13C-1,2,3,4-TCDD	5.15e+06	4.15e+03	1.2e+03	6.47e+06	1.90e+03	3.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.67e+06	8.84e+02	9.8e+03	6.70e+06	6.76e+02	9.9e+03
35	37Cl-2,3,7,8-TCDD	1.58e+06	5.00e+02	3.2e+03			

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XLSN





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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 43 Totals Name: Total Hepta-Furans

Run: 13 File: P230810 Sample: 1 Injection: 1 Function: 4

Llim: - Ulim: -

Acquired: 27-AUG-14 05:10:11 Processed: 27-AUG-14 17:17:46

Mass: 407.7820 409.7790 Tot Response: 3.56e+01 RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:36	1.28e+01	1.31e+01	0.97	yes	2.59e+01	1,2,3,4,6,7,8-HpCDF	n n
2	40:01	4.73e+00	4.93e+00	0.96	yes	9.66e+00	1,2,3,4,7,8,9-HpCDF	n n

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

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Nv SYC14-REF Repη

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Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 13 File: P230810 Sample: 1 Injection: 1 Function: 4

Llim: - Ulim: -

Acquired: 27-AUG-14 05:10:11 Processed: 27-AUG-14 17:17:46

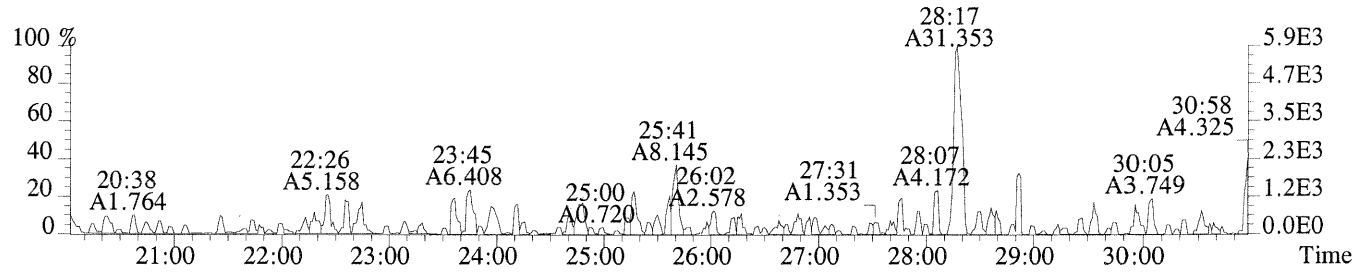
Mass: 423.7770 425.7740 Tot Response: 2.41e+02 RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:50	8.12e+01	7.15e+01	1.14	yes	1.53e+02	n	n
2	39:31	4.38e+01	4.41e+01	0.99	yes	8.79e+01	y	n

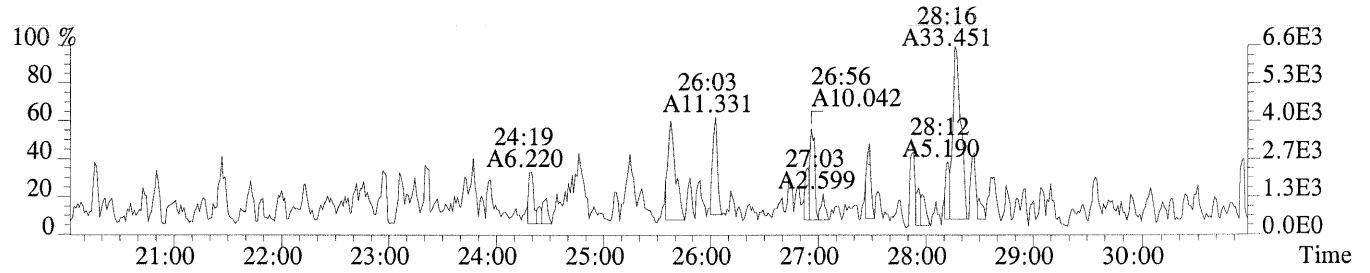
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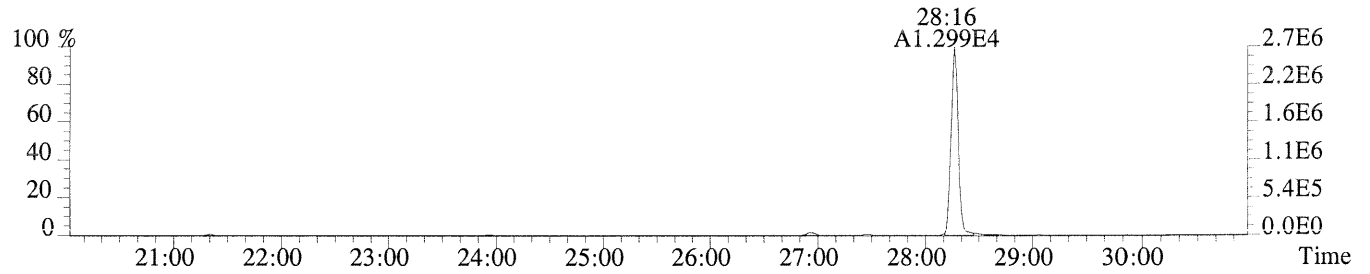
File:P230810 #1-687 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,36.0,1.00%,F,T)



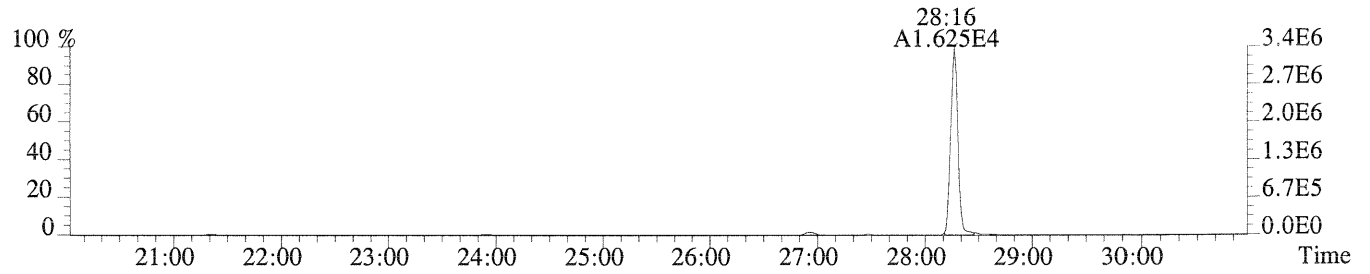
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



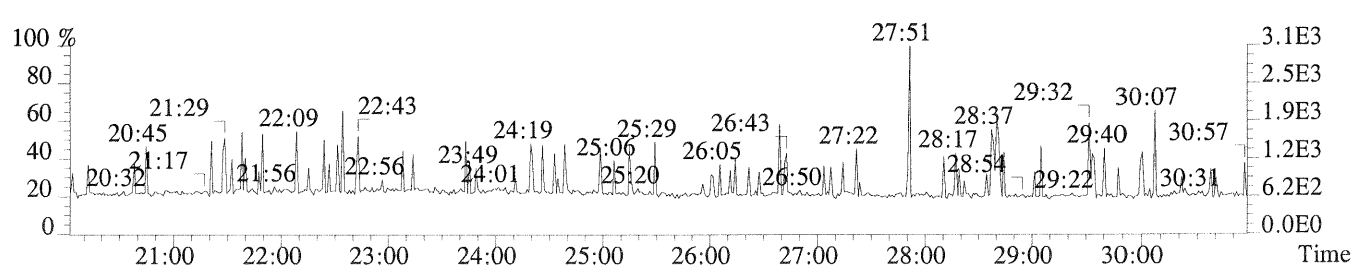
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,T)



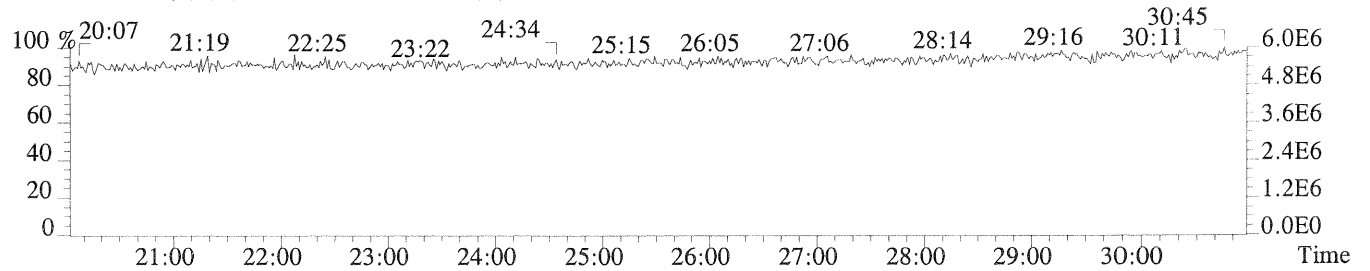
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



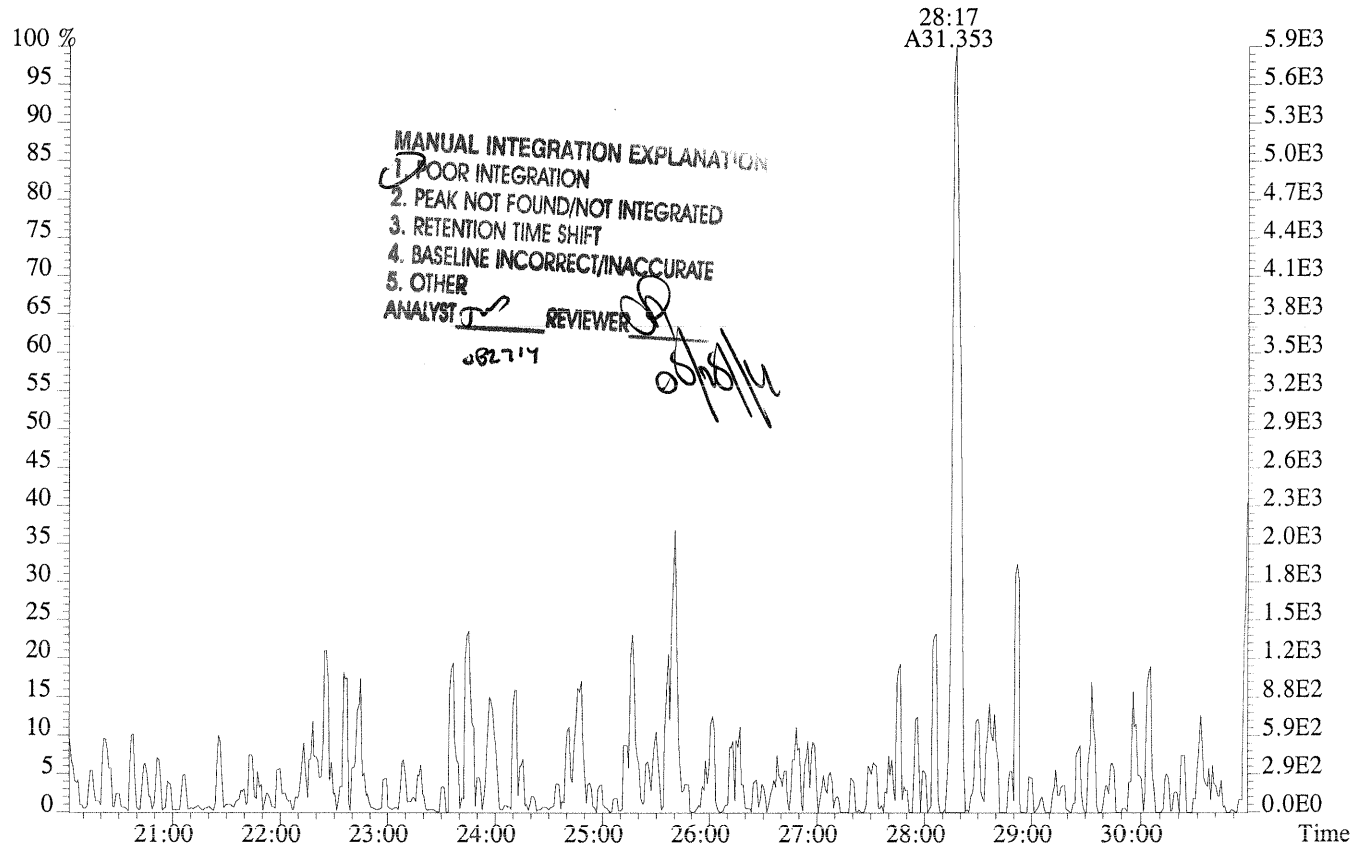
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



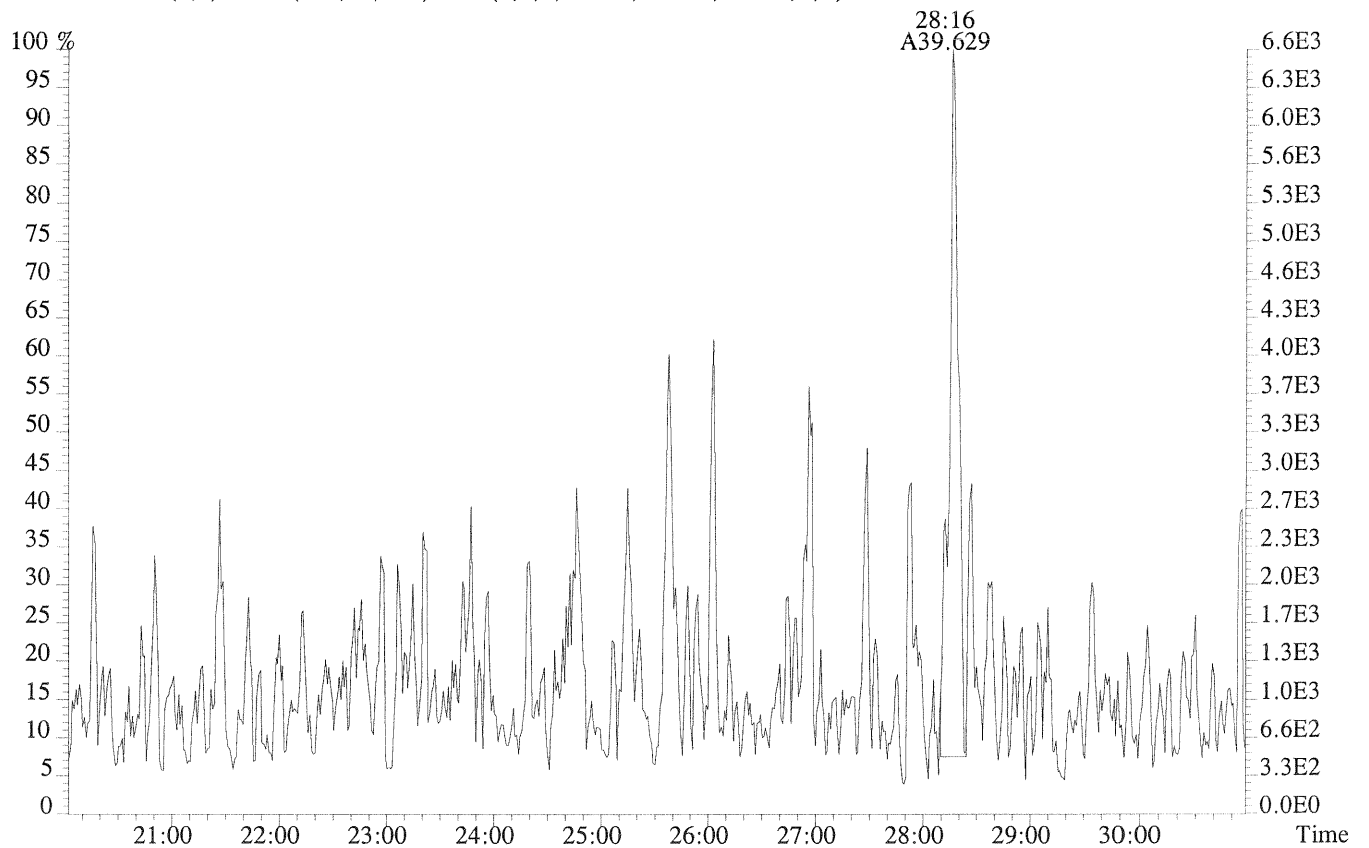
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

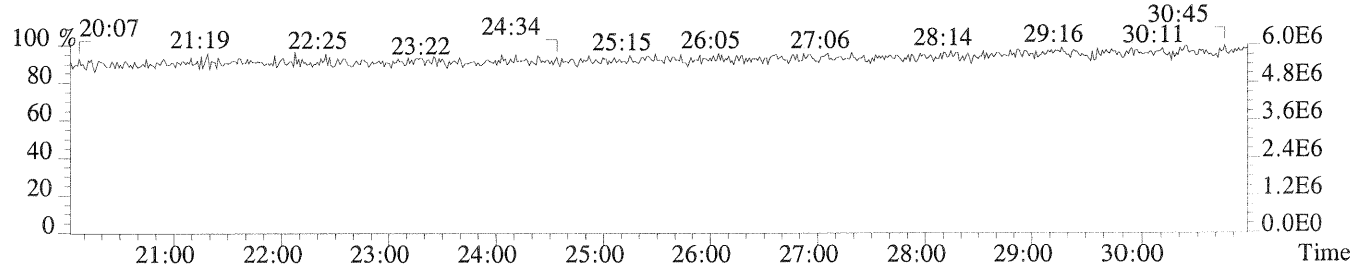
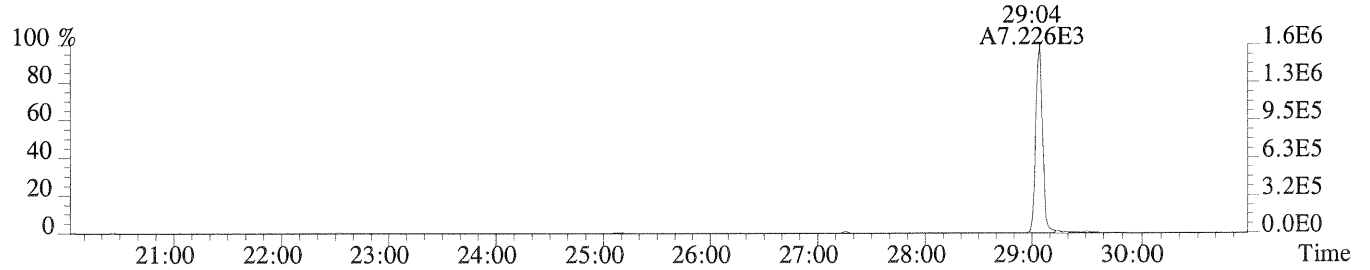
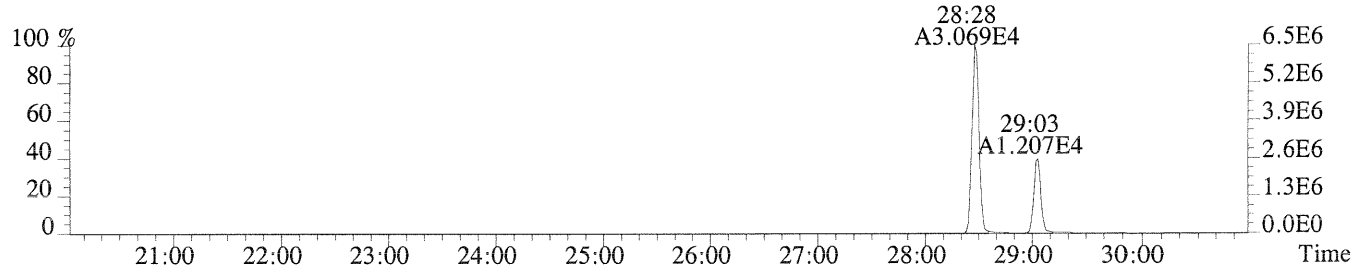
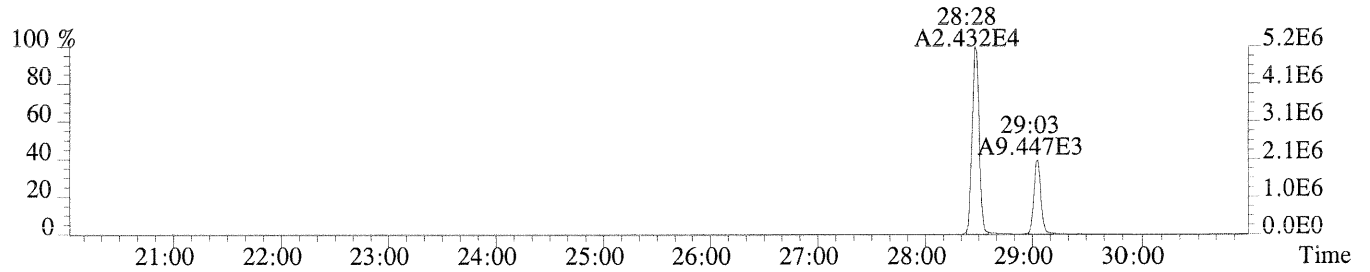
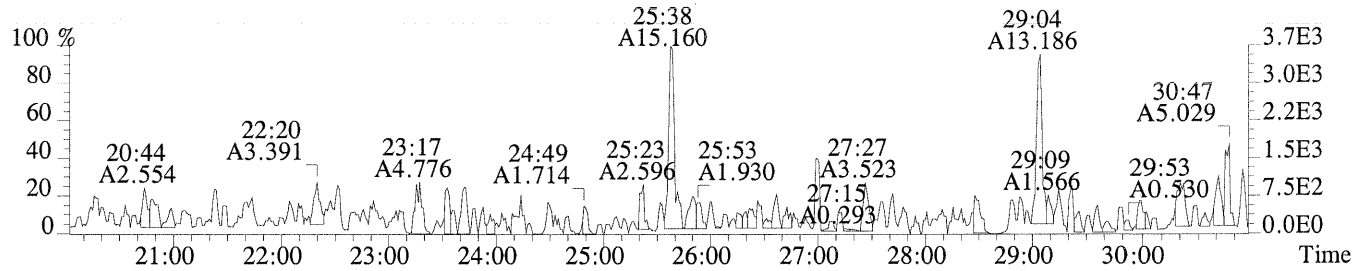
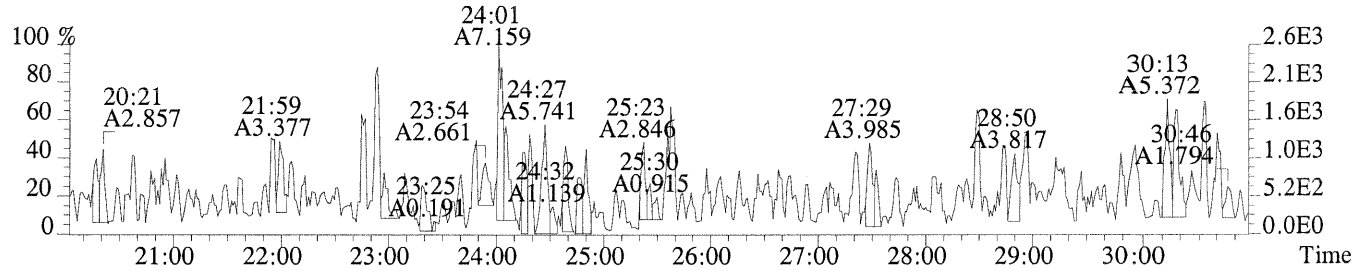


File:P230810 #1-687 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,36.0,1.00%,F,T)

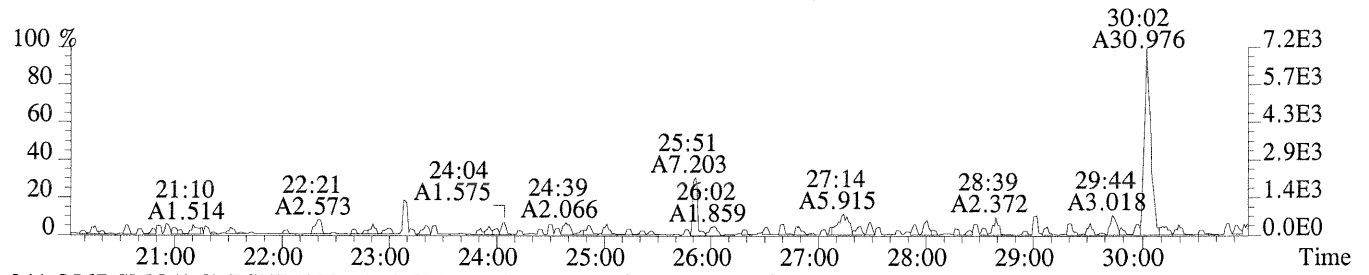


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)

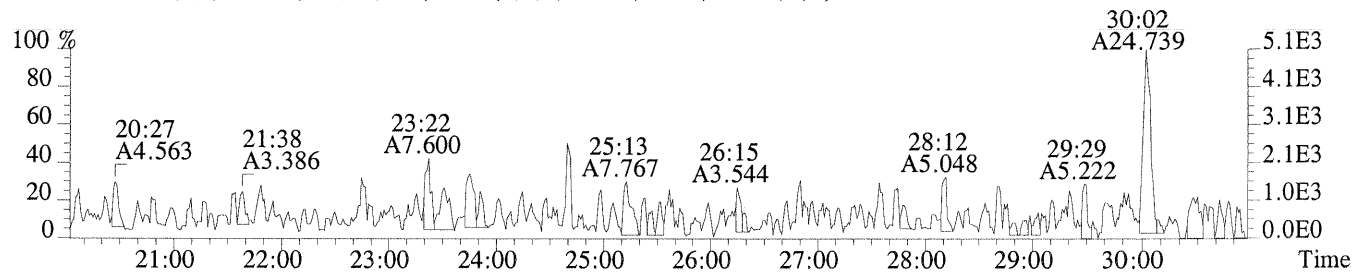




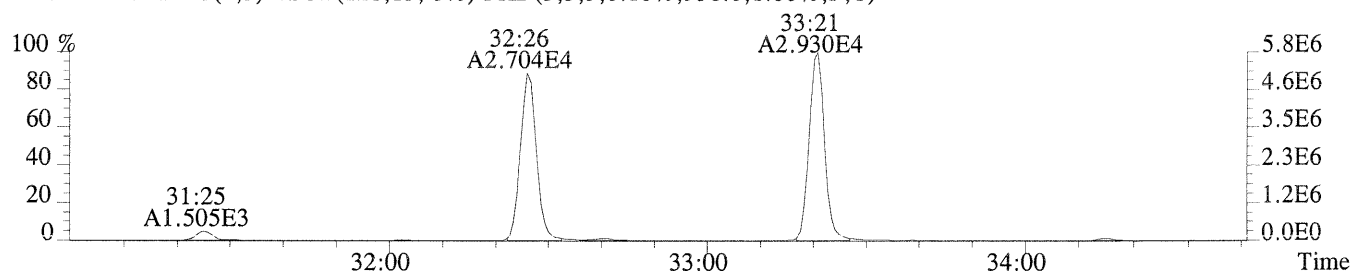
File:P230810 #1-687 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



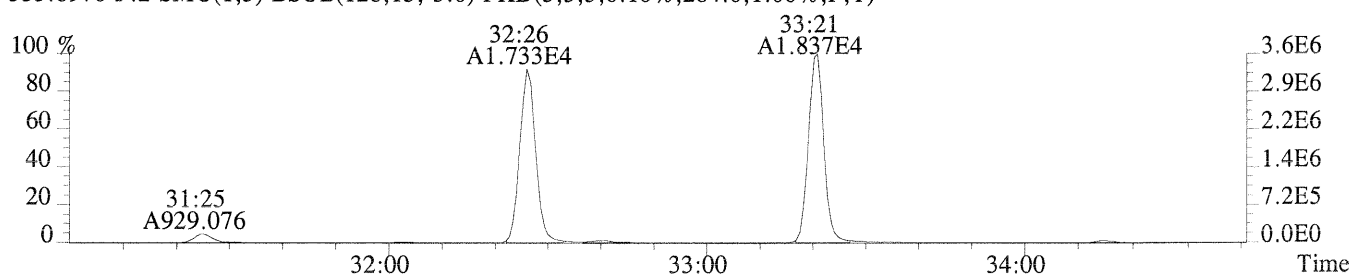
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



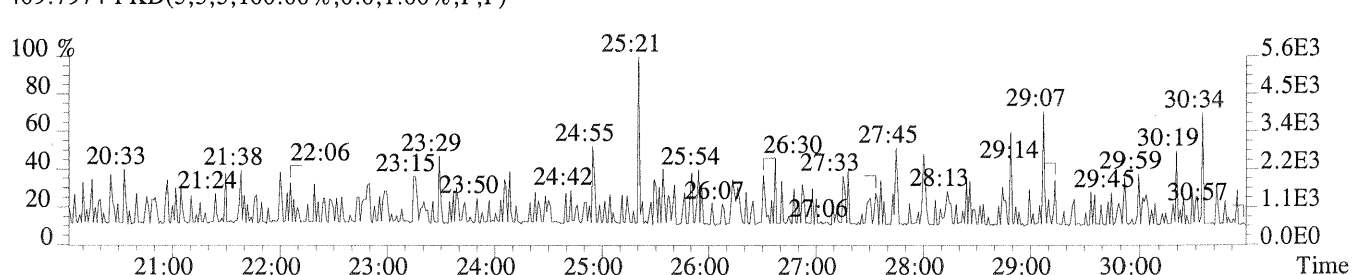
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,T)



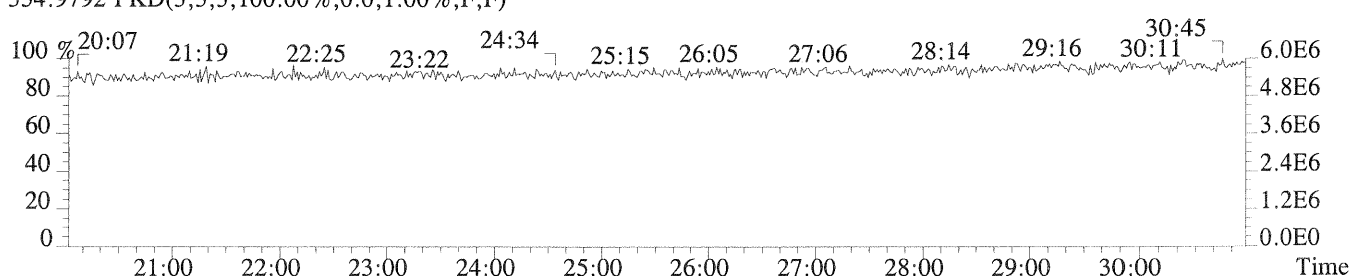
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



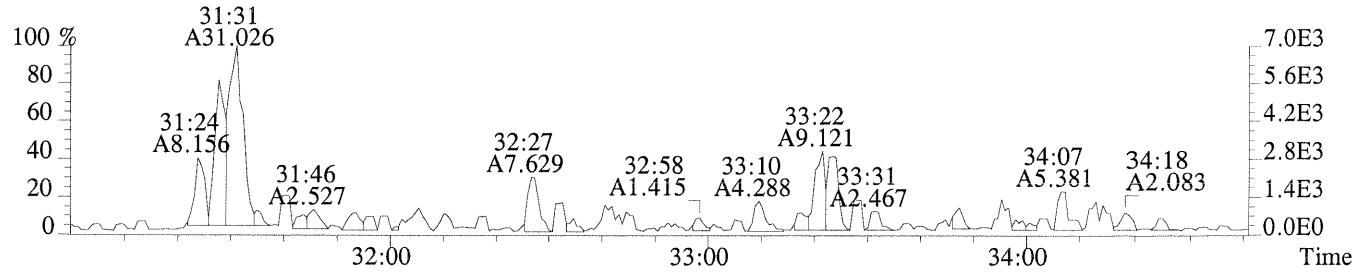
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



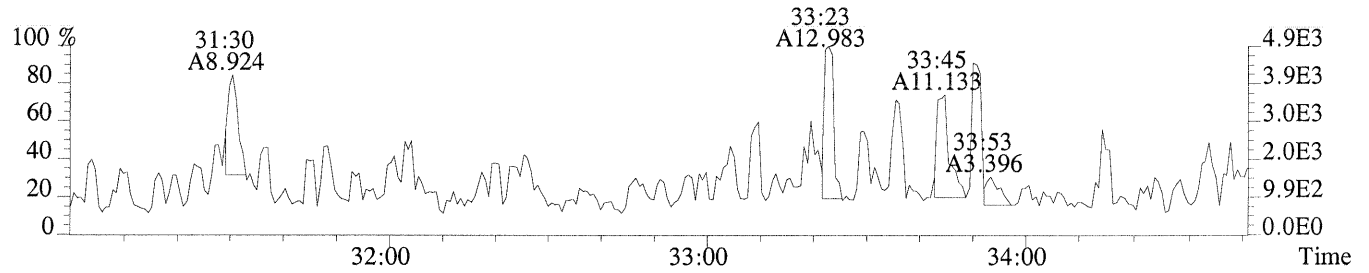
File:P230810 #1-335 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-014

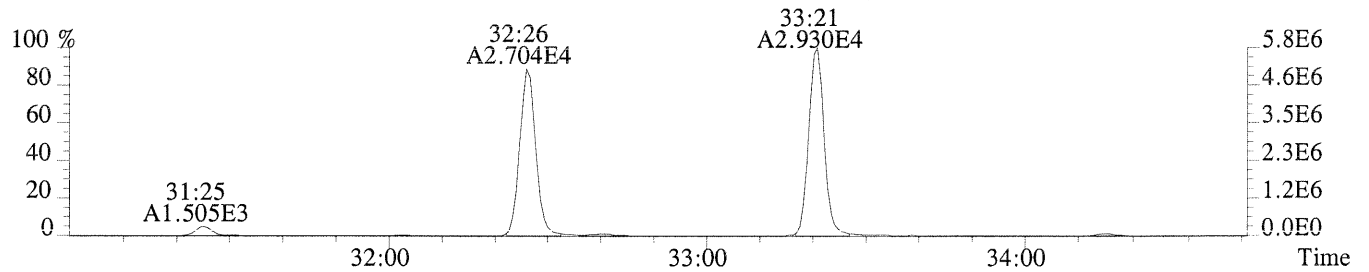
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,332.0,1.00%,F,T)



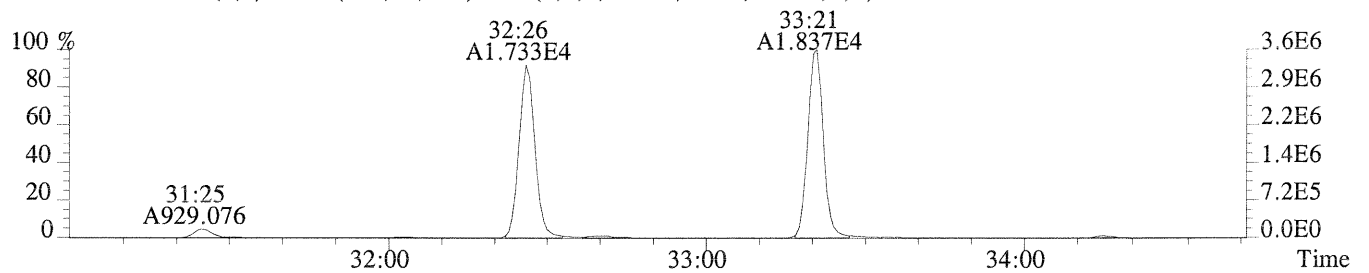
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



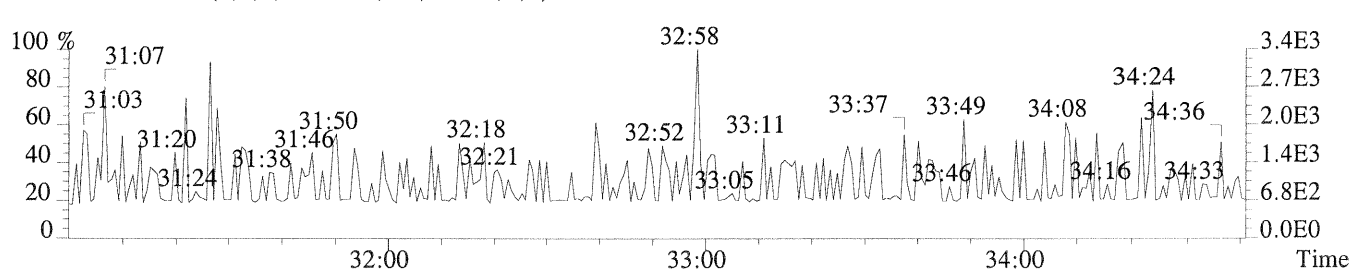
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,T)



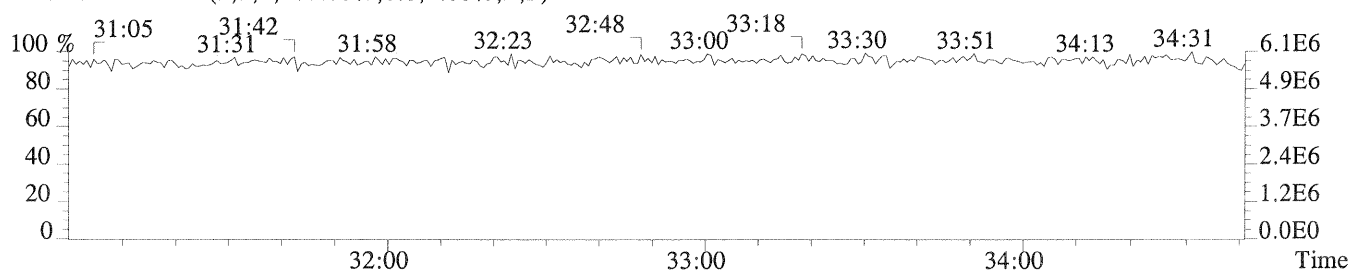
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

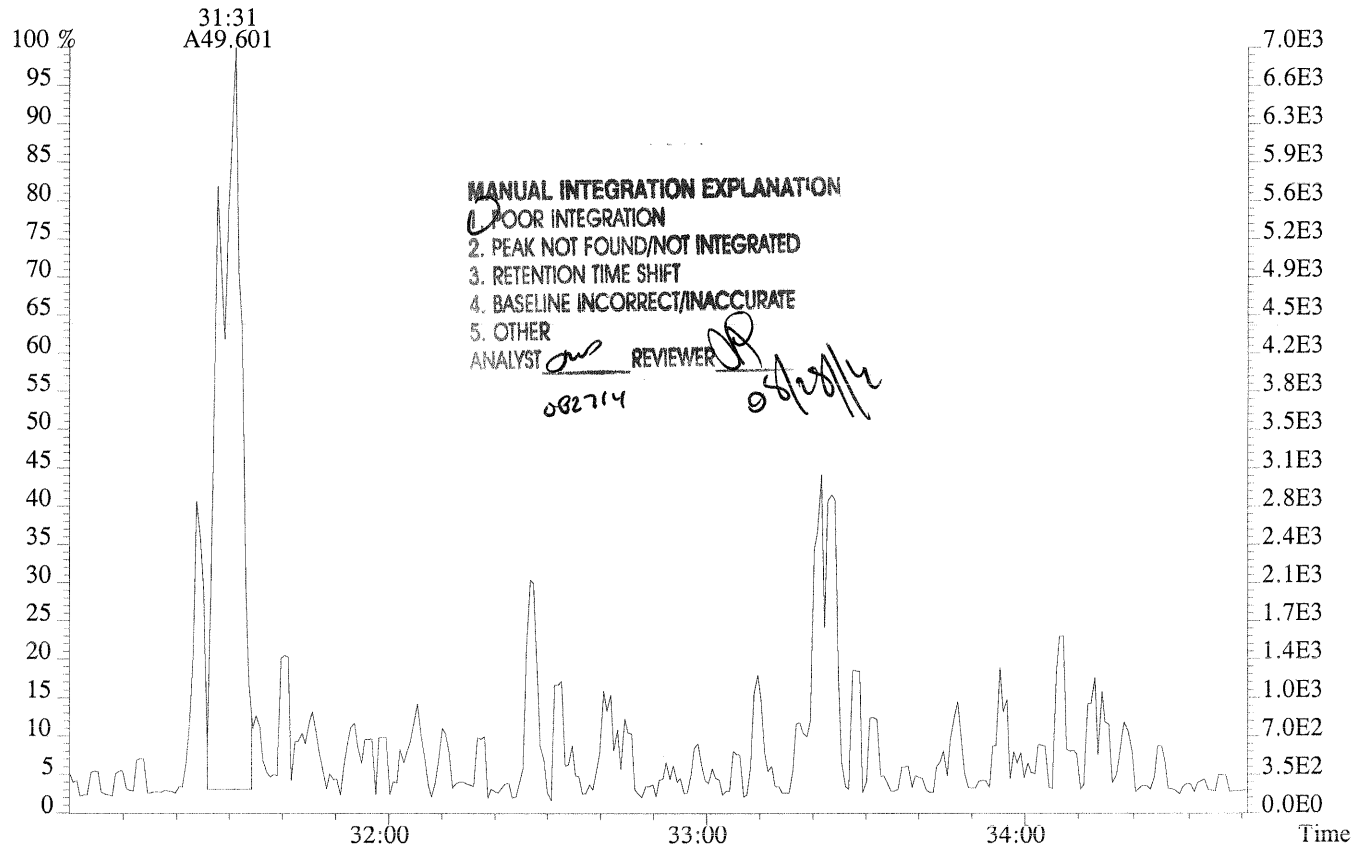


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

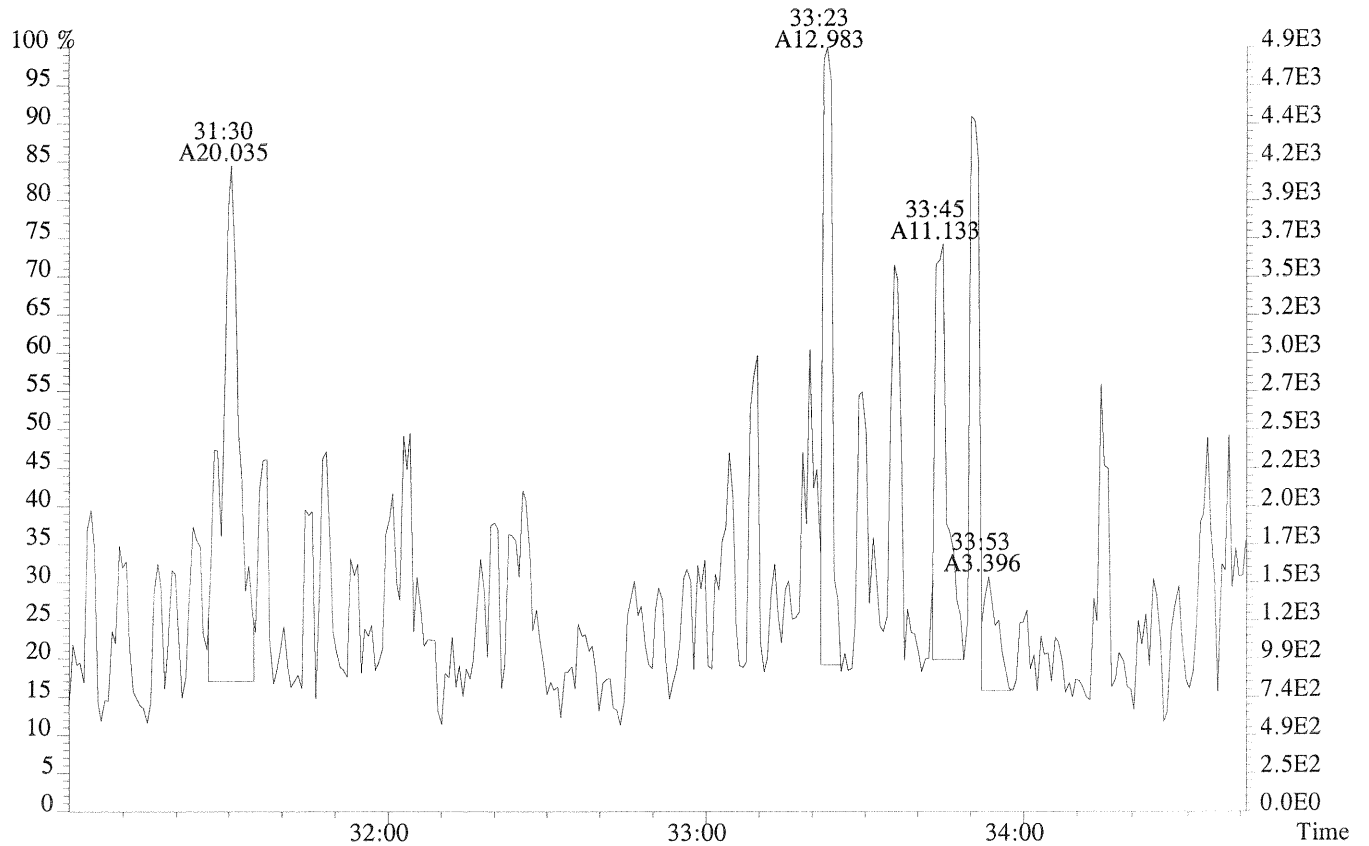


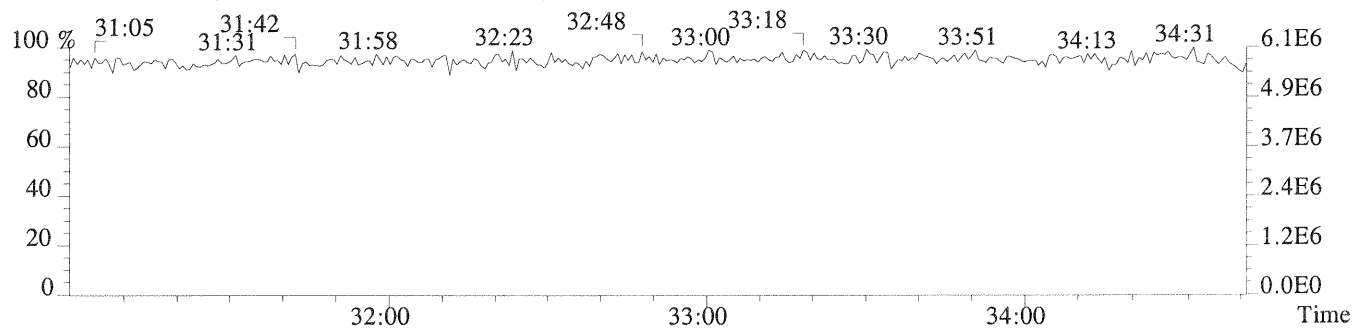
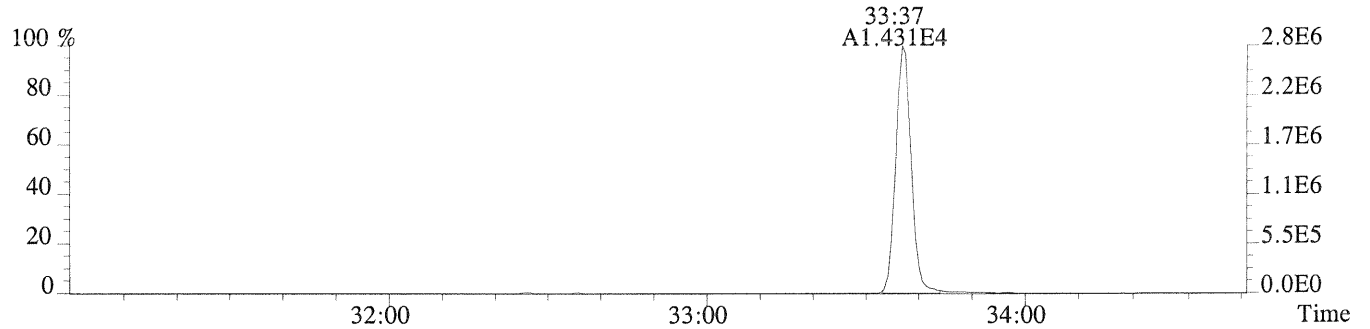
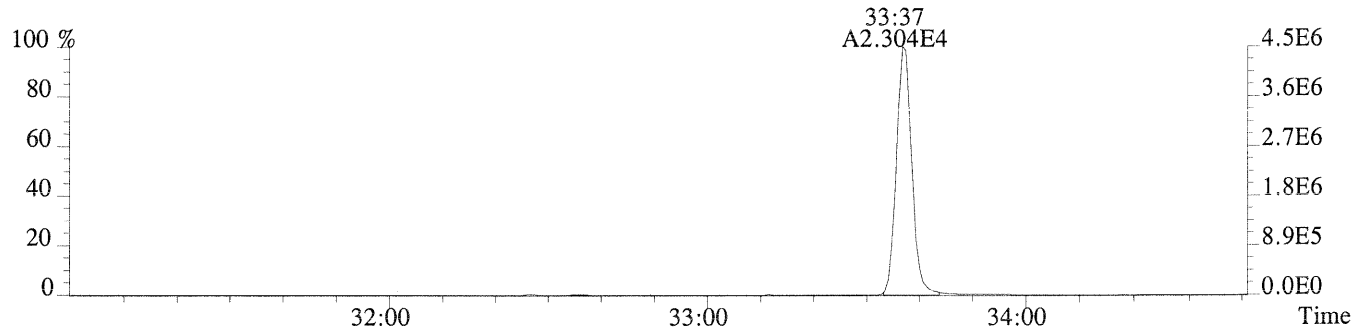
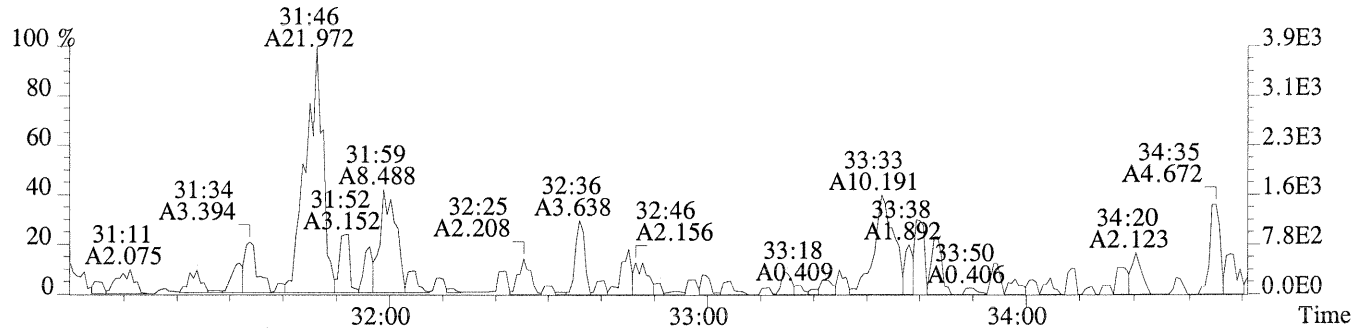
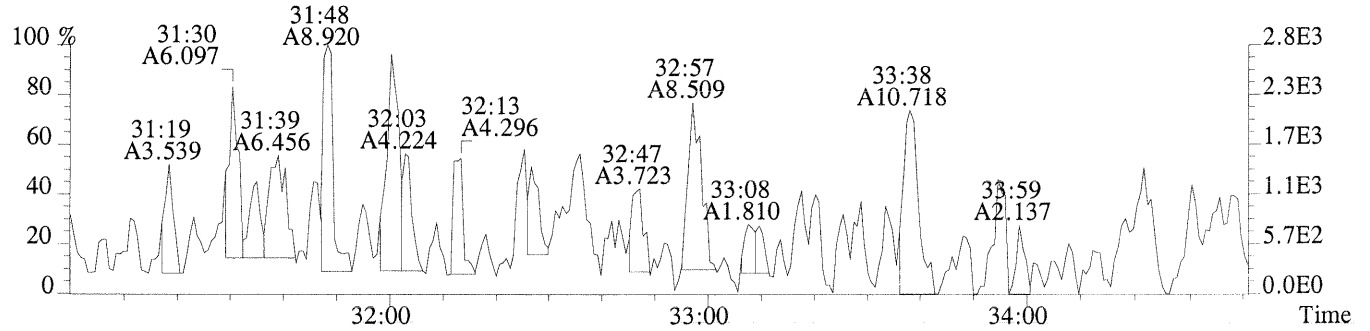


File:P230810 #1-335 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,332.0,1.00%,F,T)



341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)

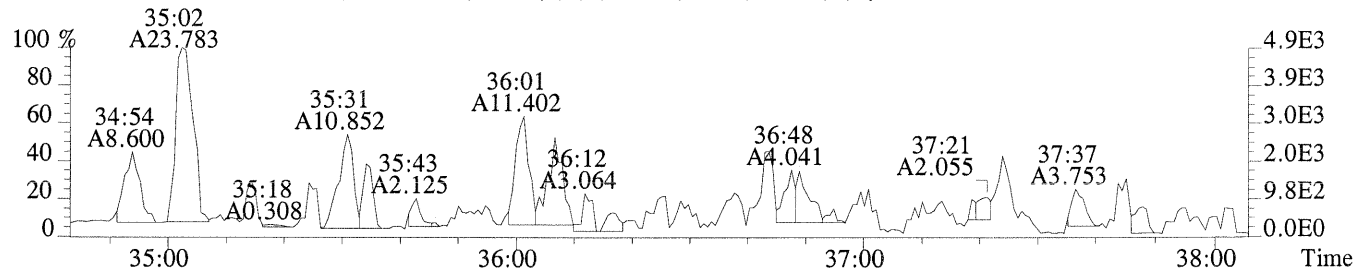




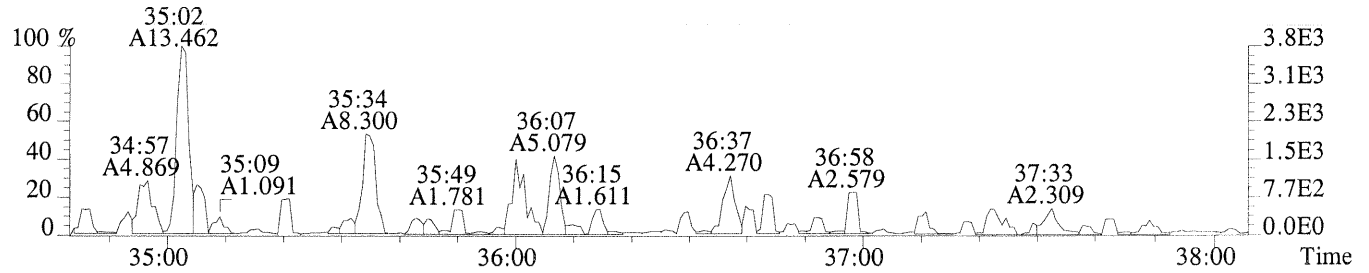
File:P230810 #1-307 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-014

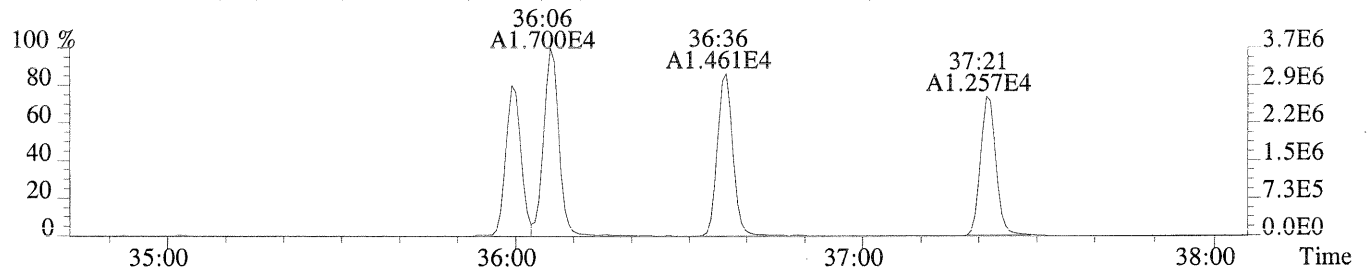
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,T)



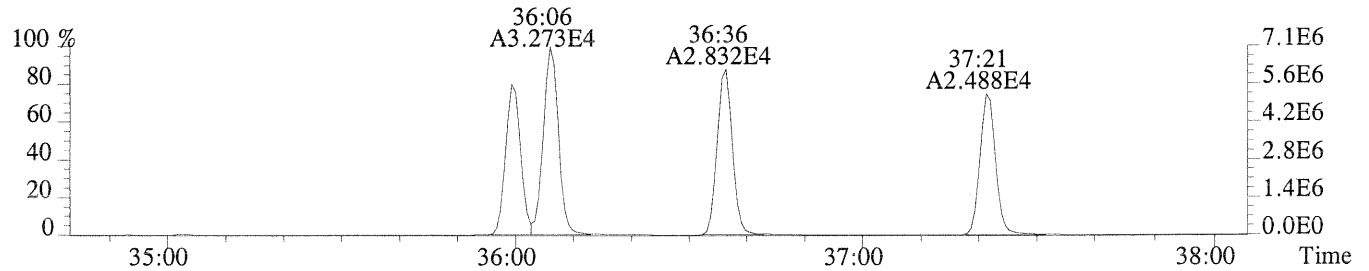
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



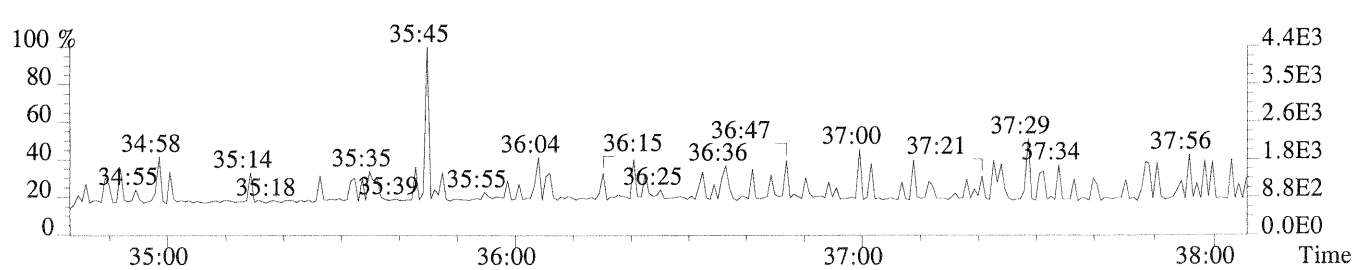
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,T)



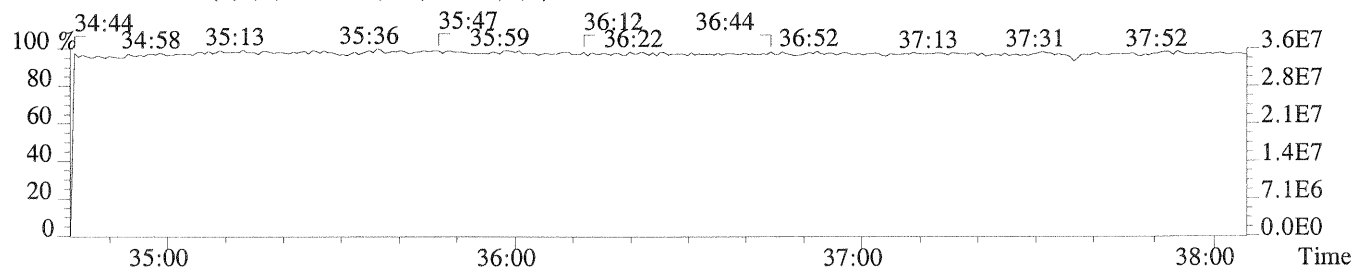
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1096.0,0.40%,F,T)



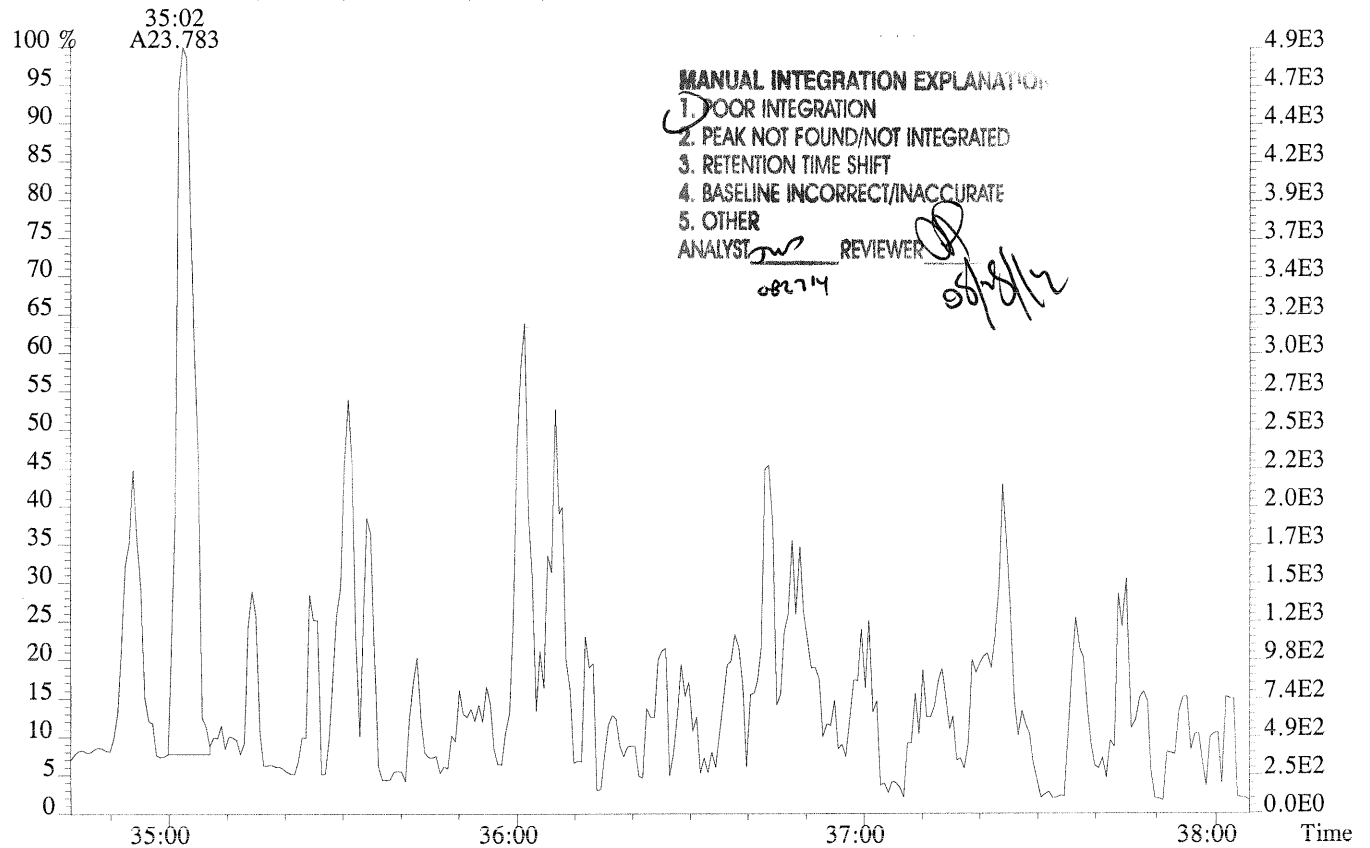
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



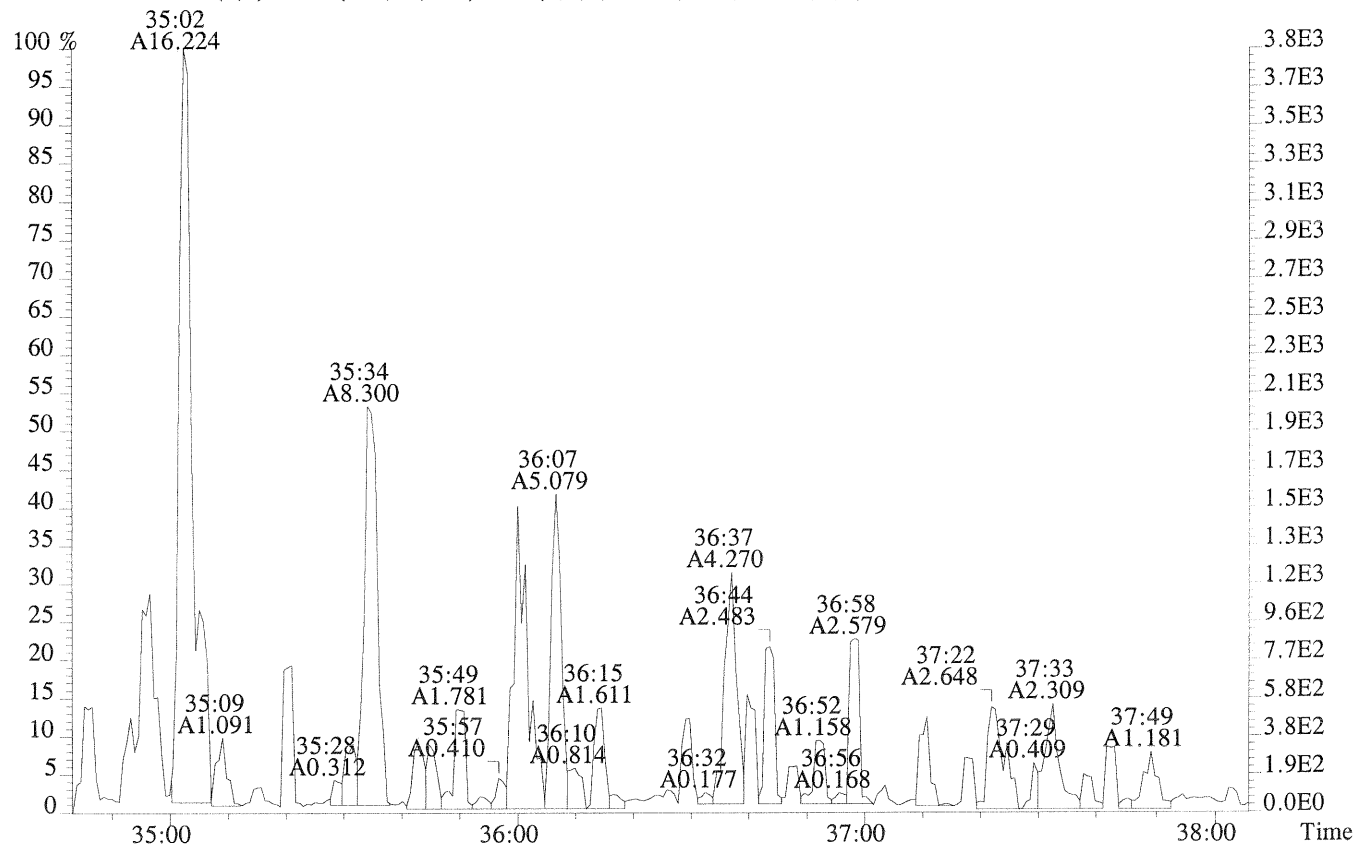
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230810 #1-307 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-014  
 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,T)



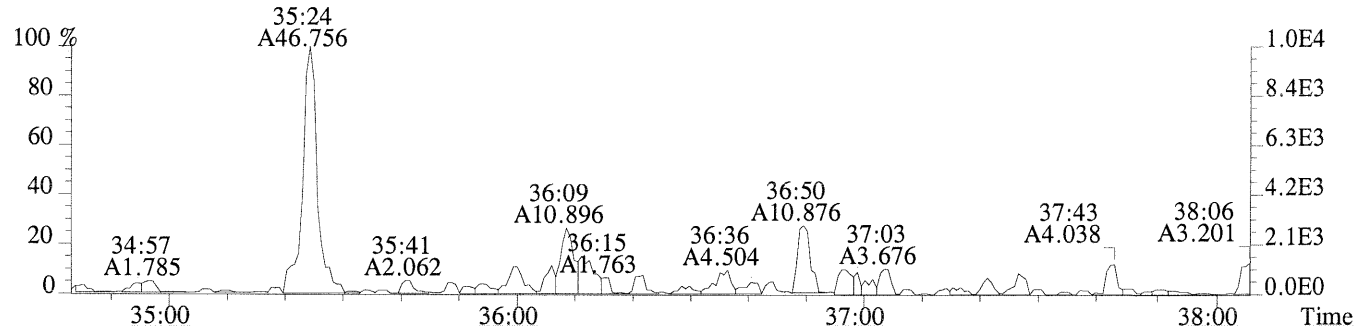
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)



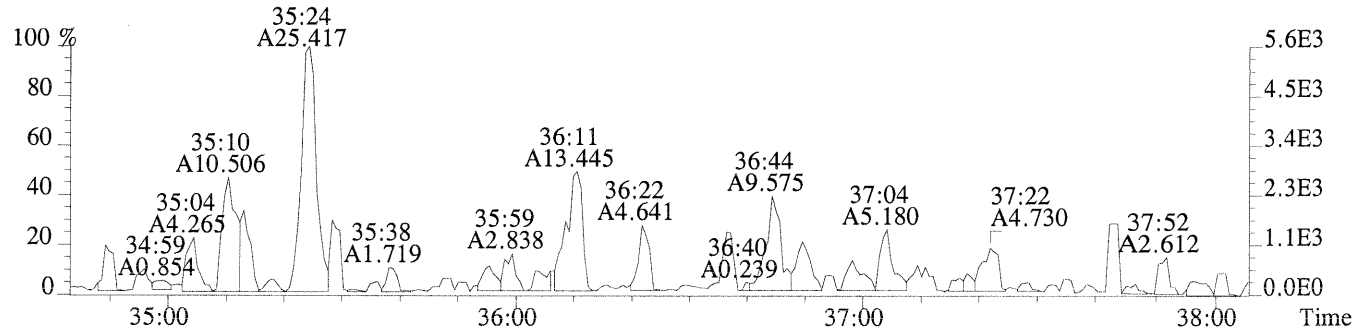
File:P230810 #1-307 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-014

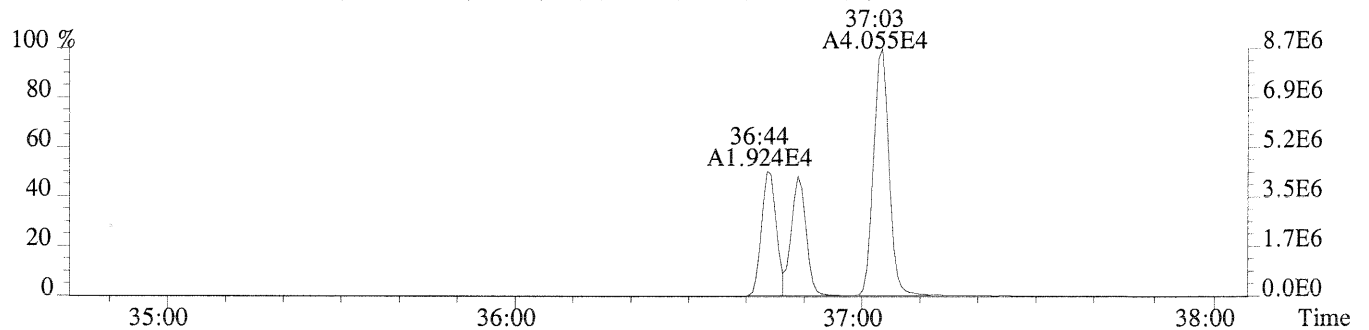
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.40%,F,T)



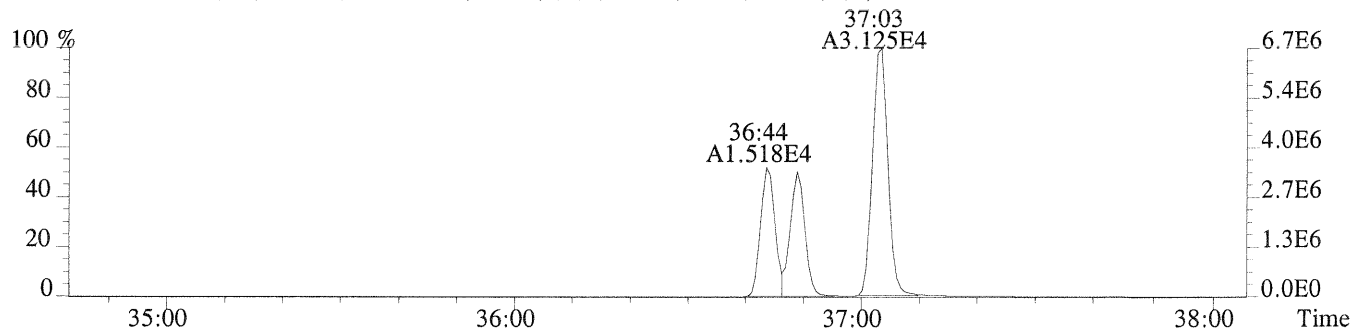
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



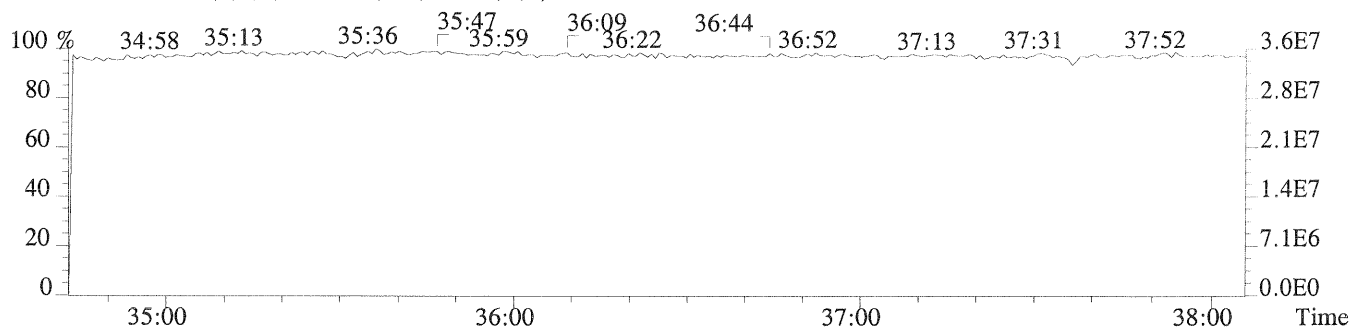
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,T)



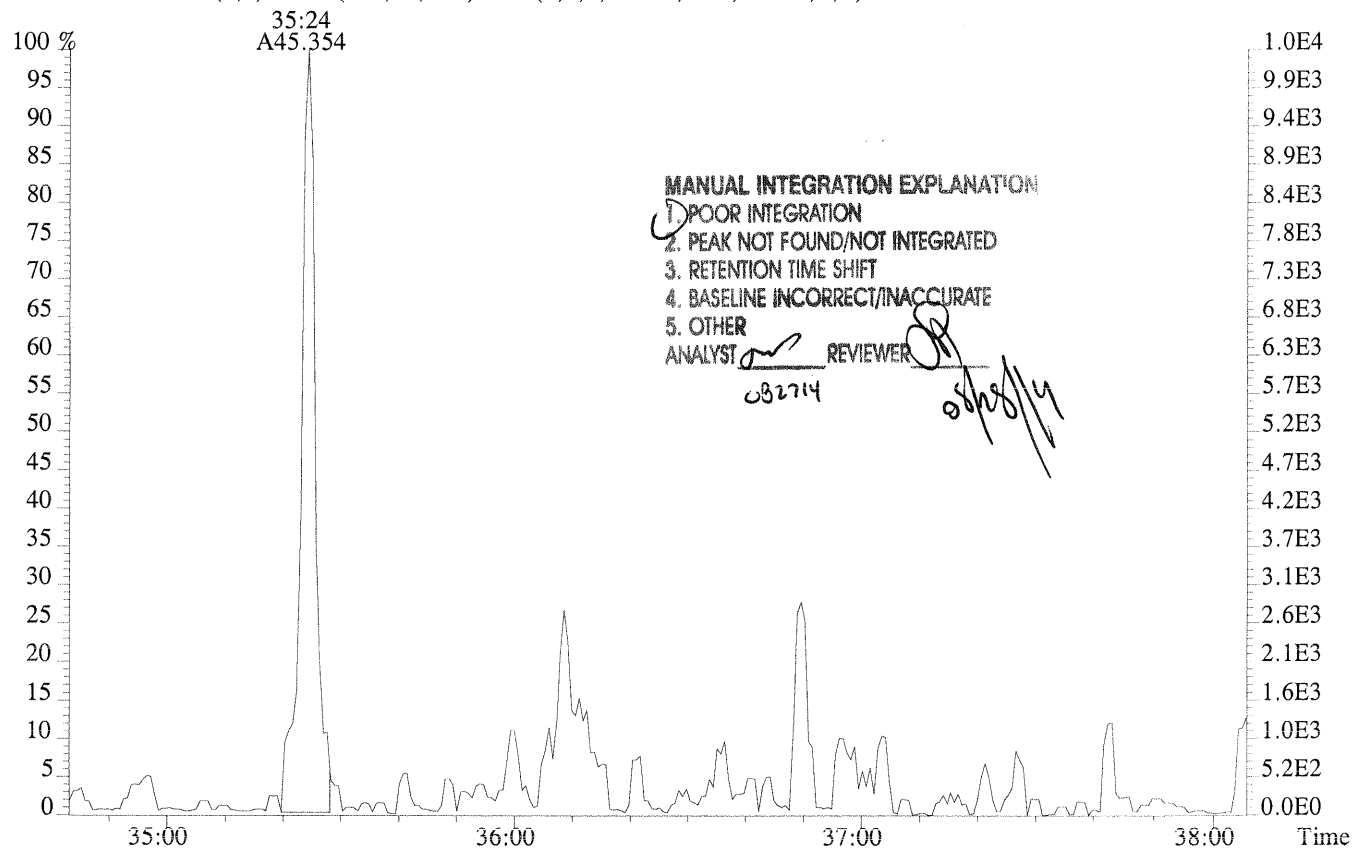
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



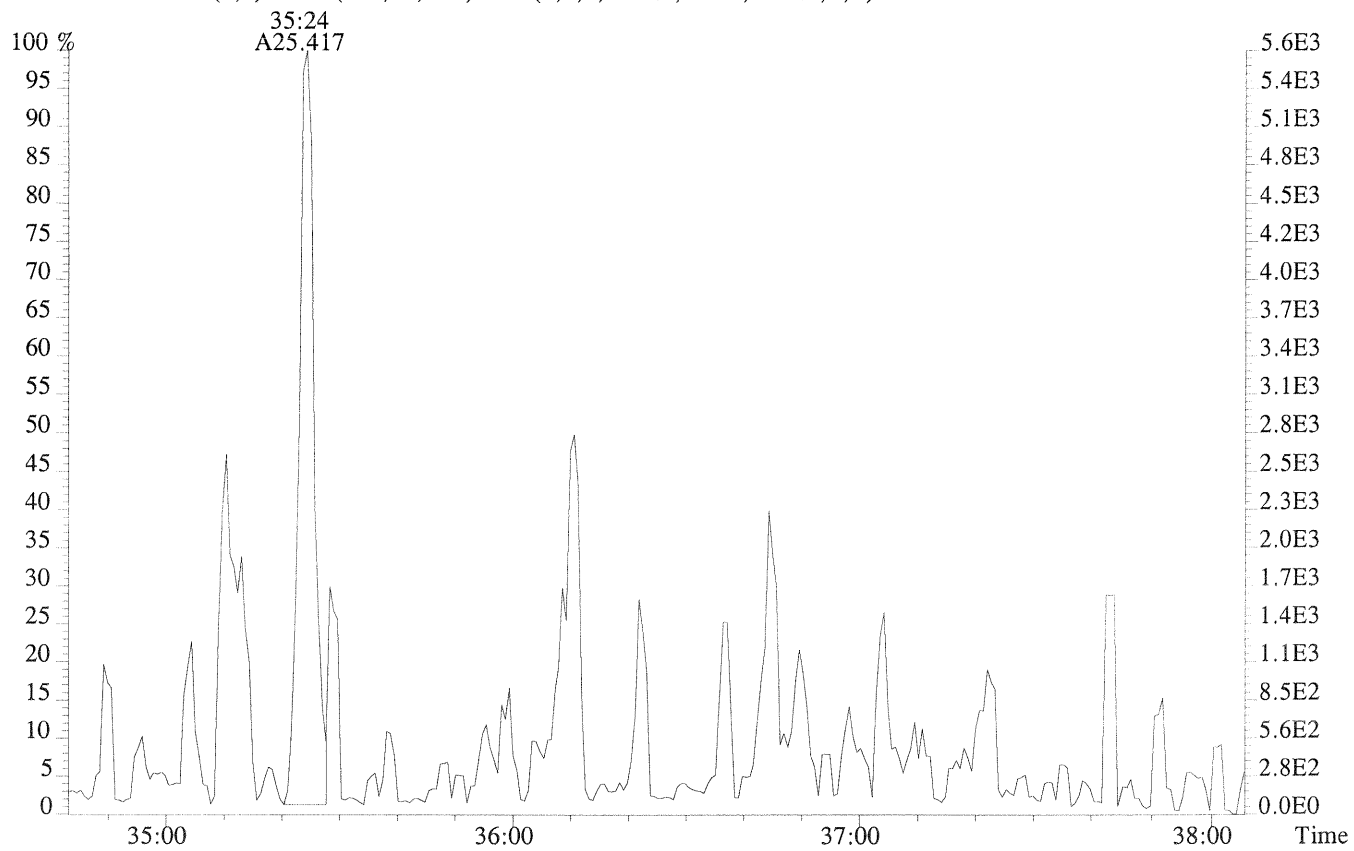
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

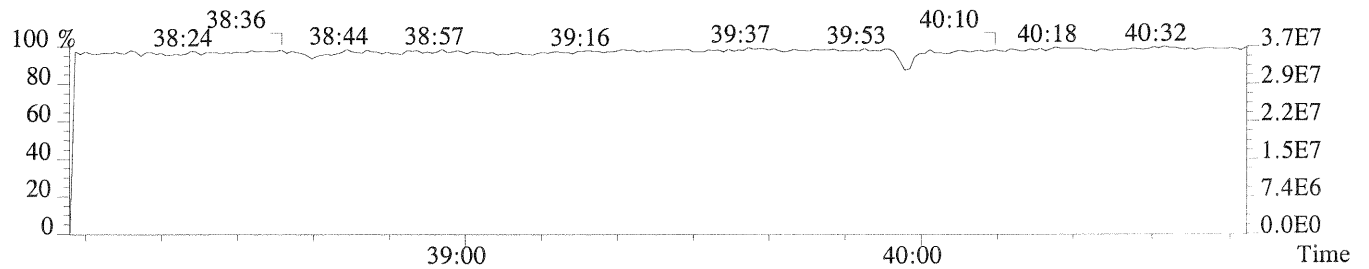
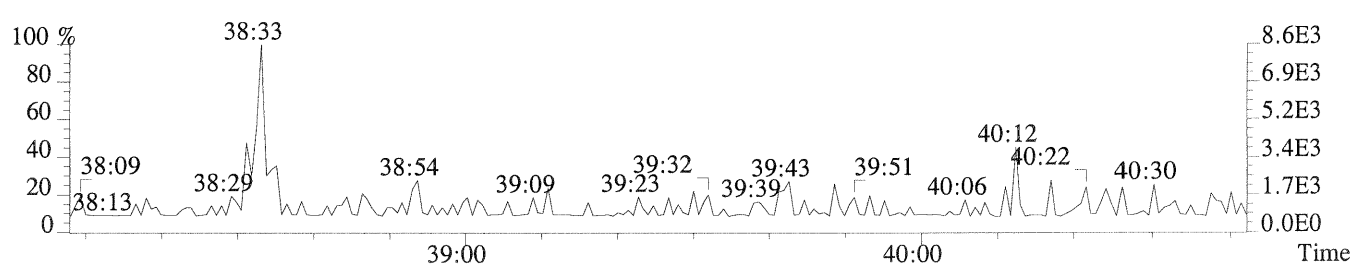
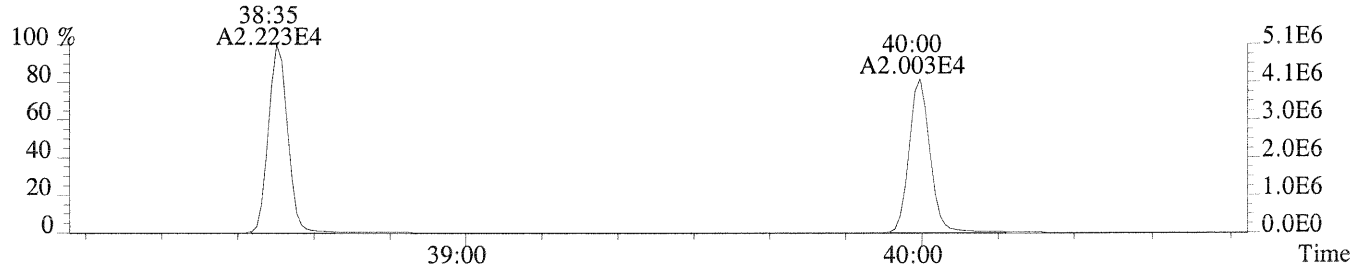
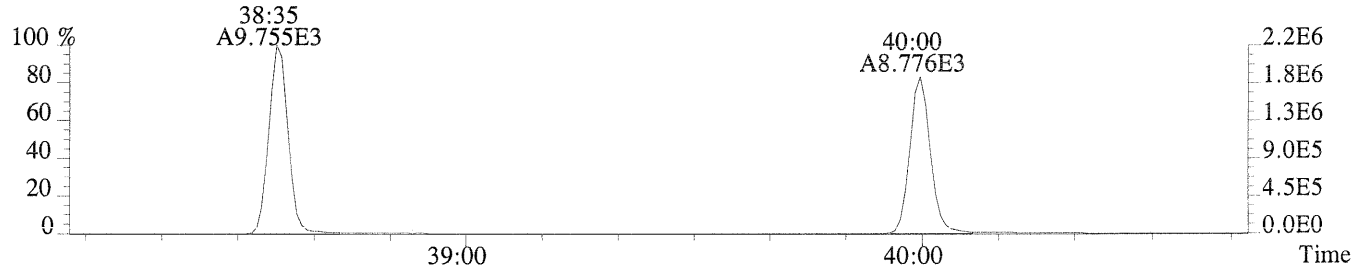
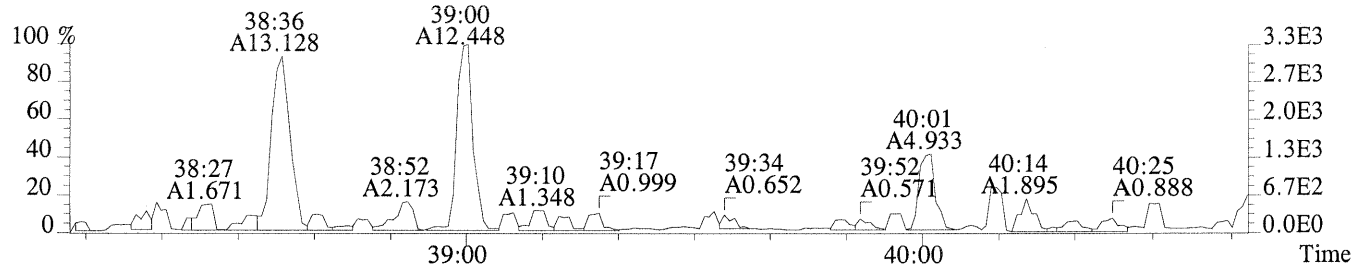
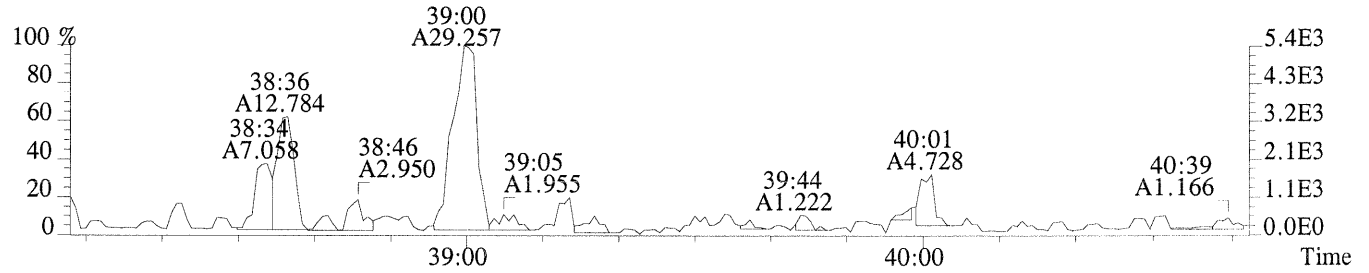


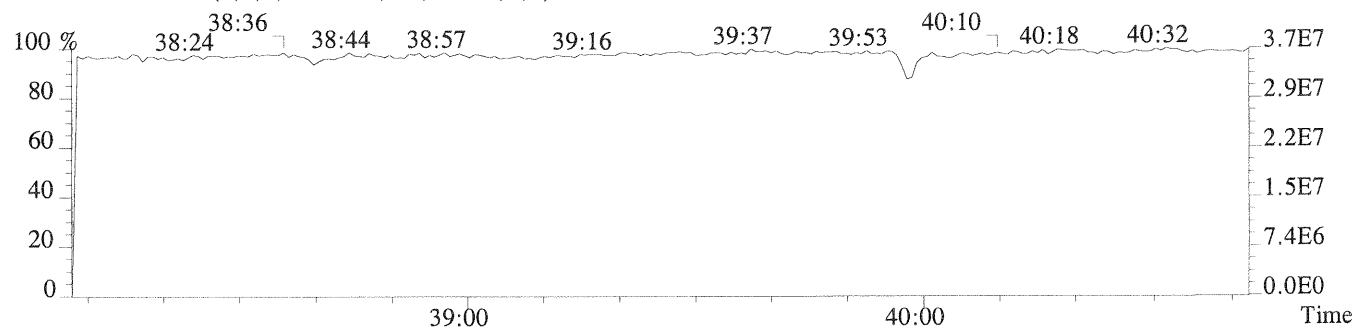
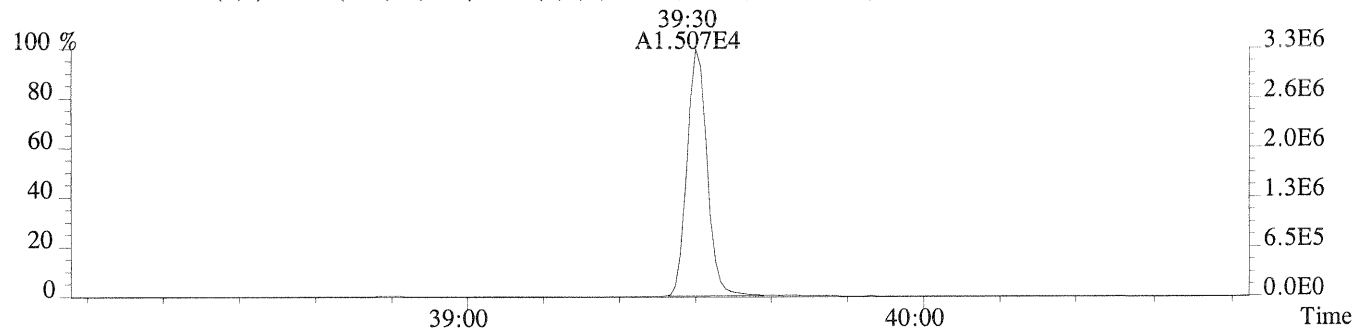
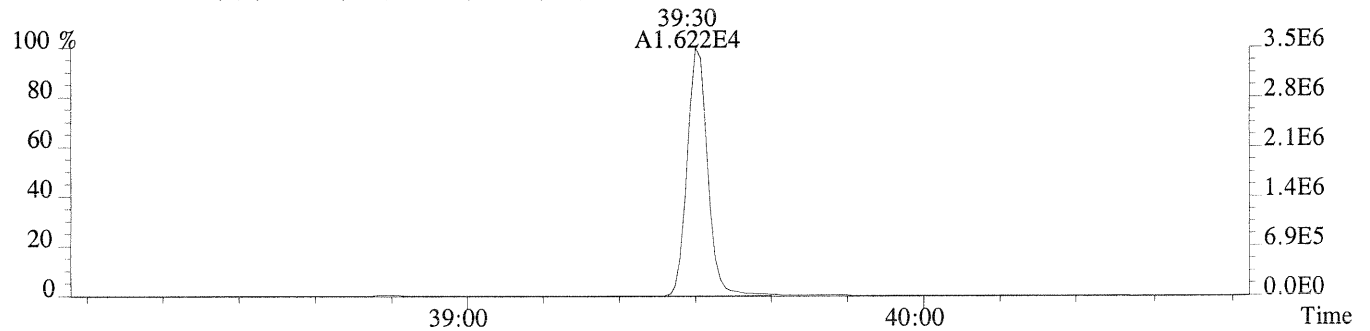
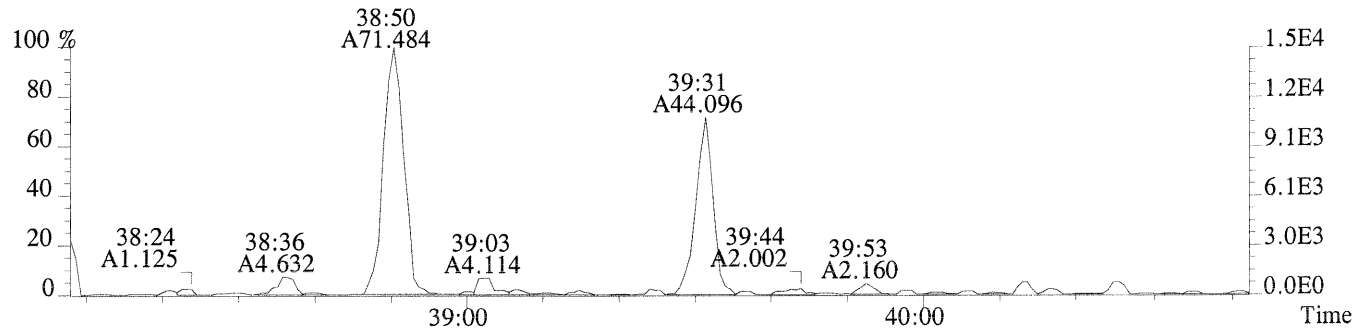
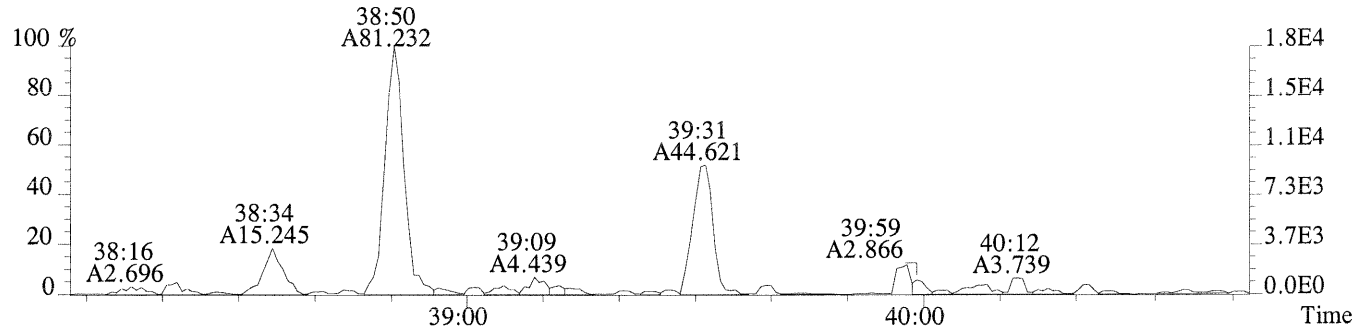
File:P230810 #1-307 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,92.0,0.40%,F,T)



391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)

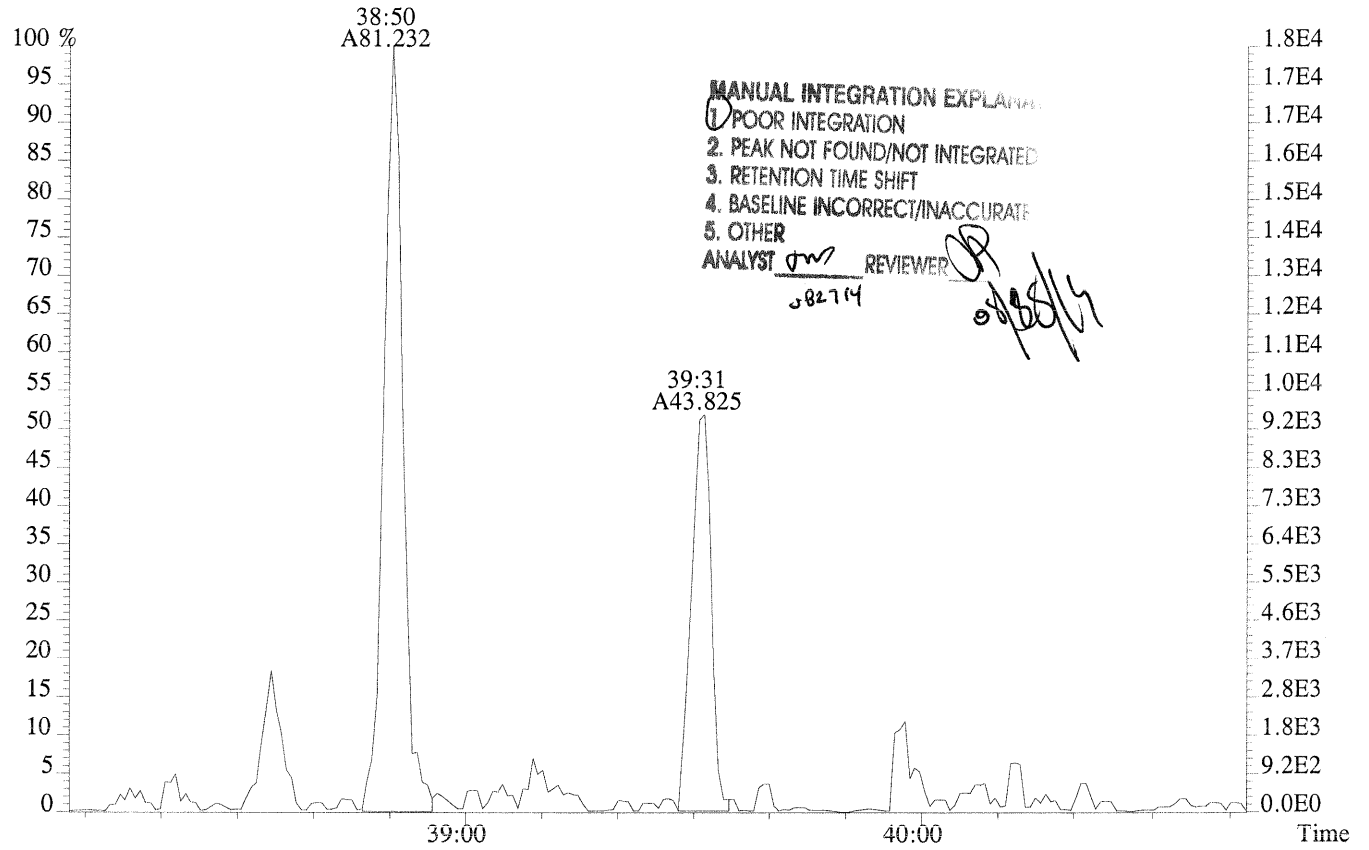




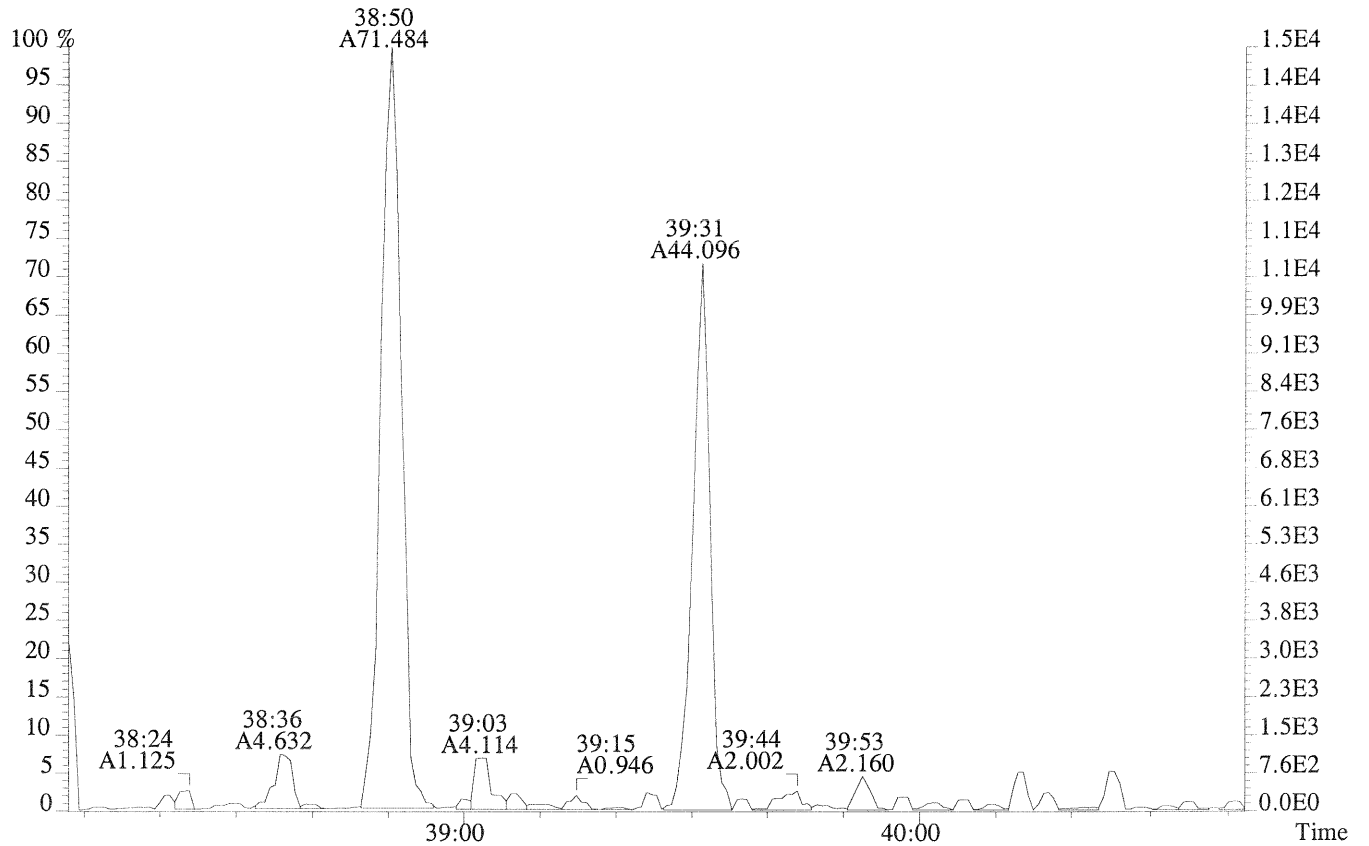




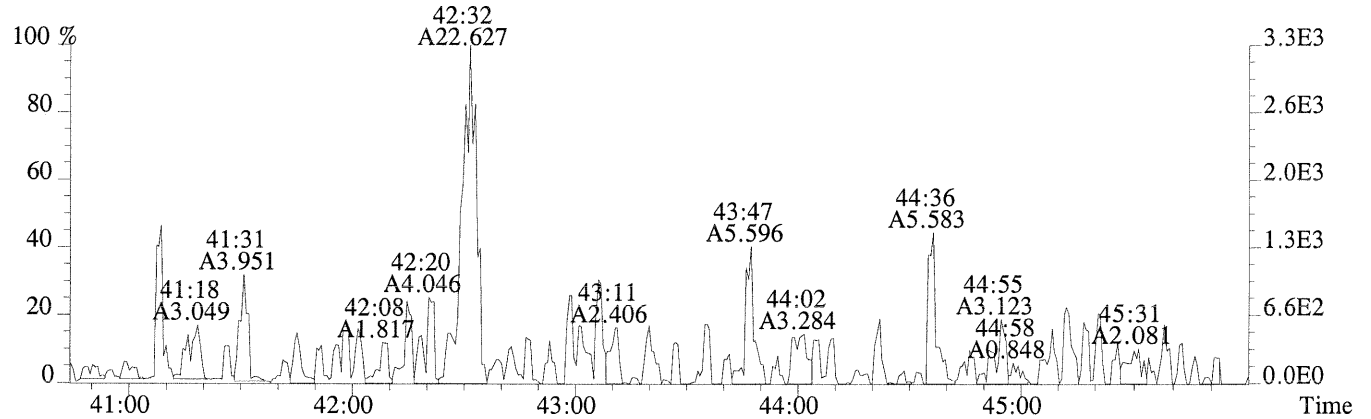
File:P230810 #1-234 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-014  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



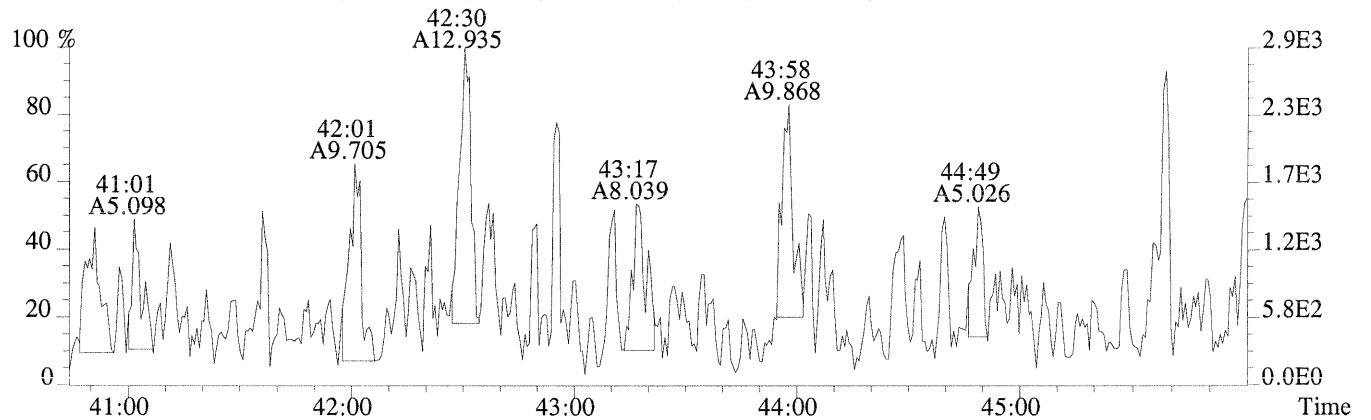
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,T)



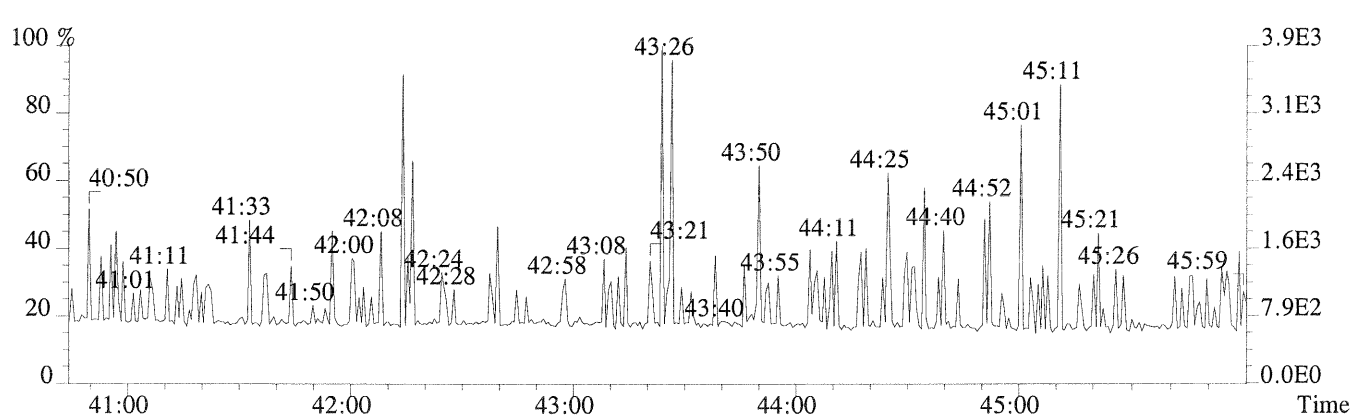
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



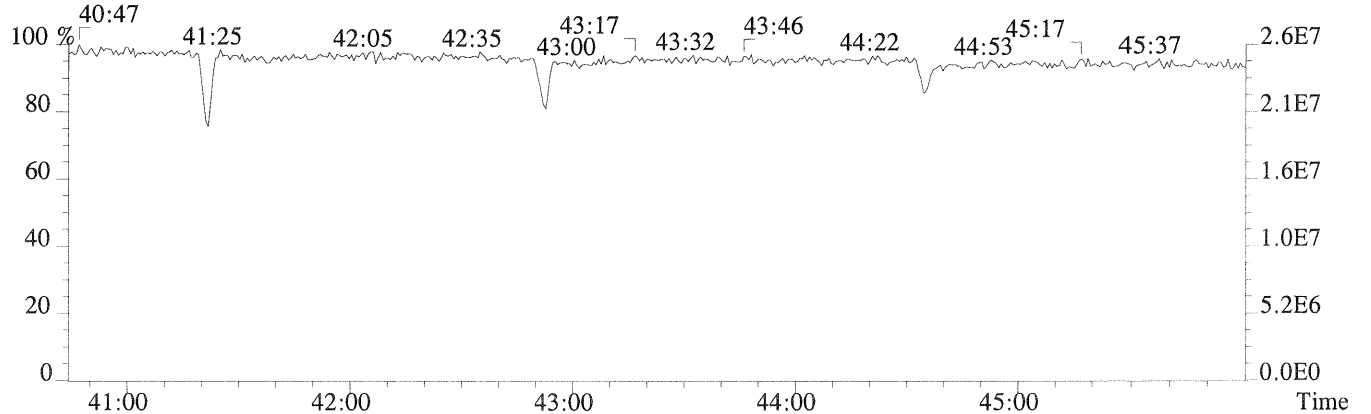
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,660.0,0.40%,F,T)



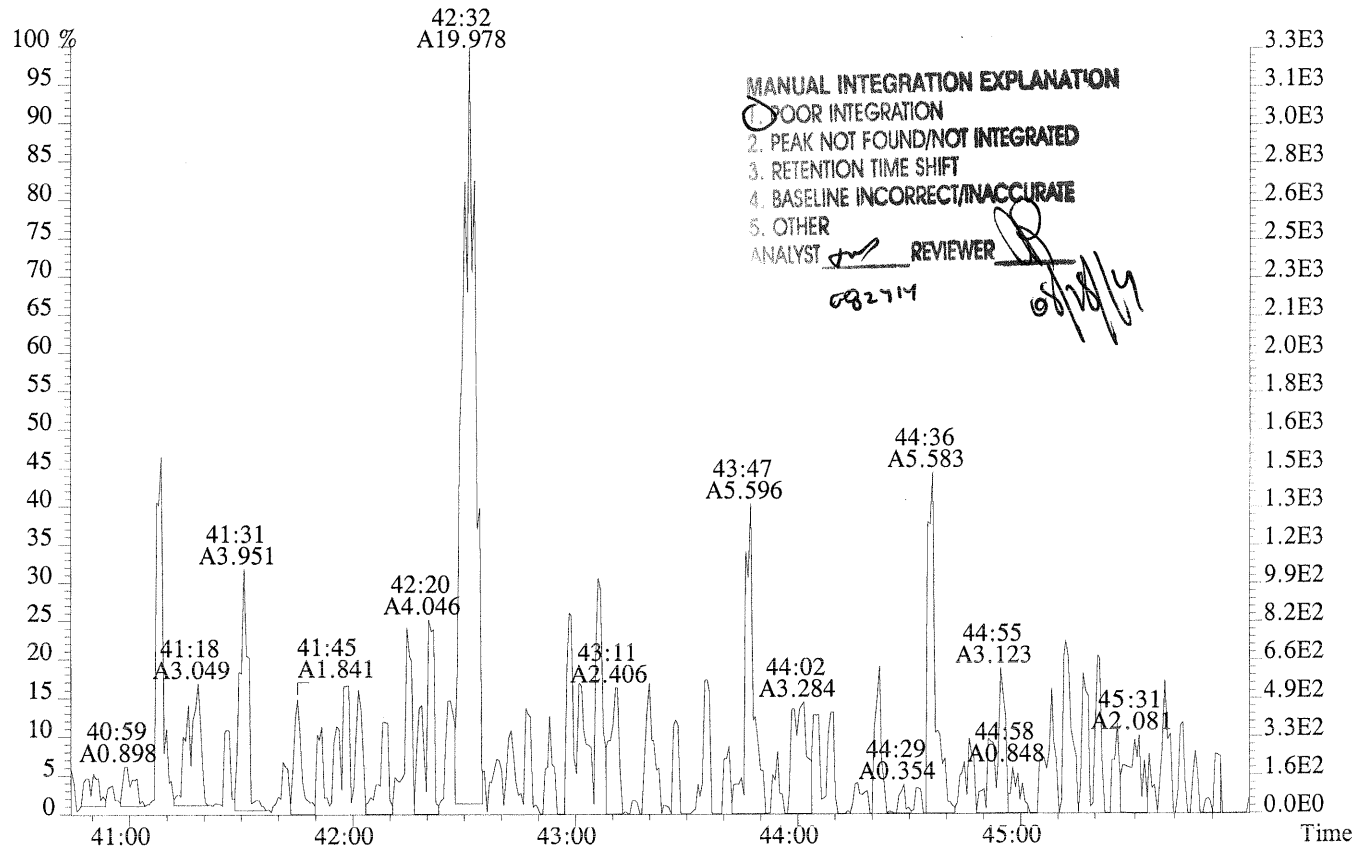
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P230810 #1-484 Acq:27-AUG-2014 05:10:11 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-014  
 441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)

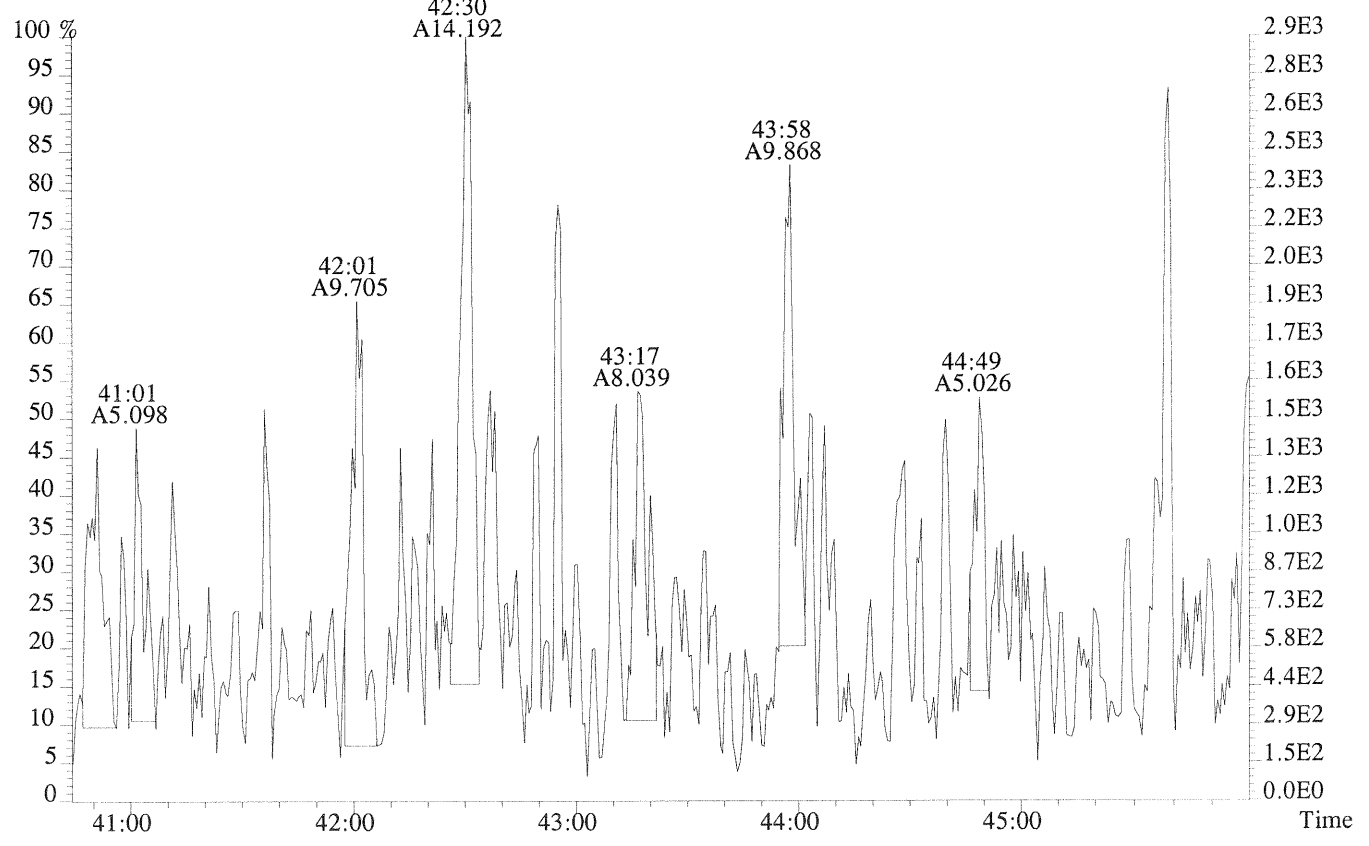


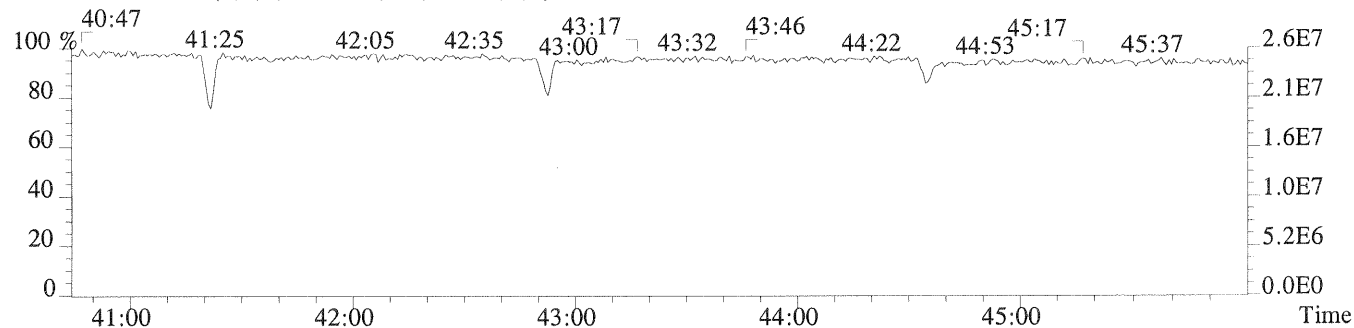
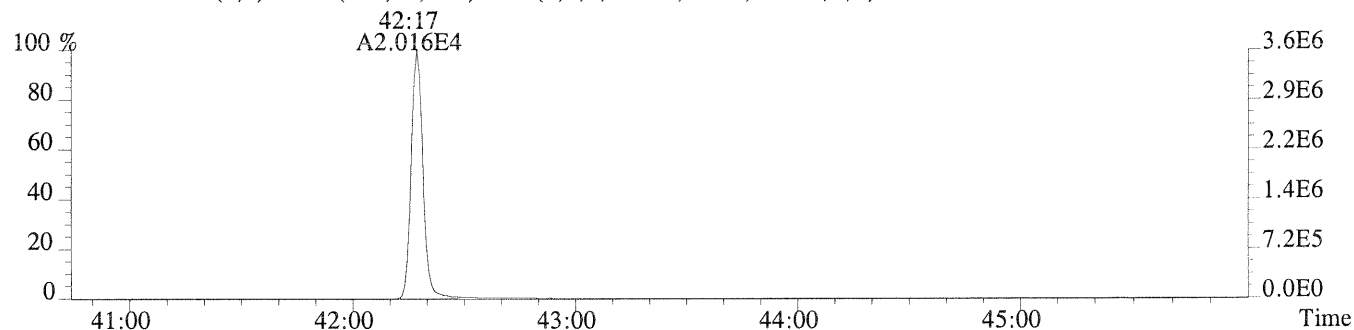
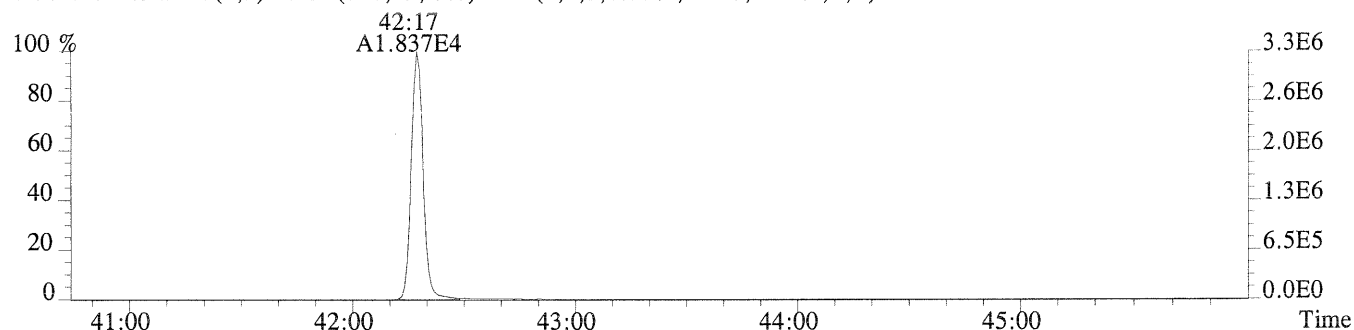
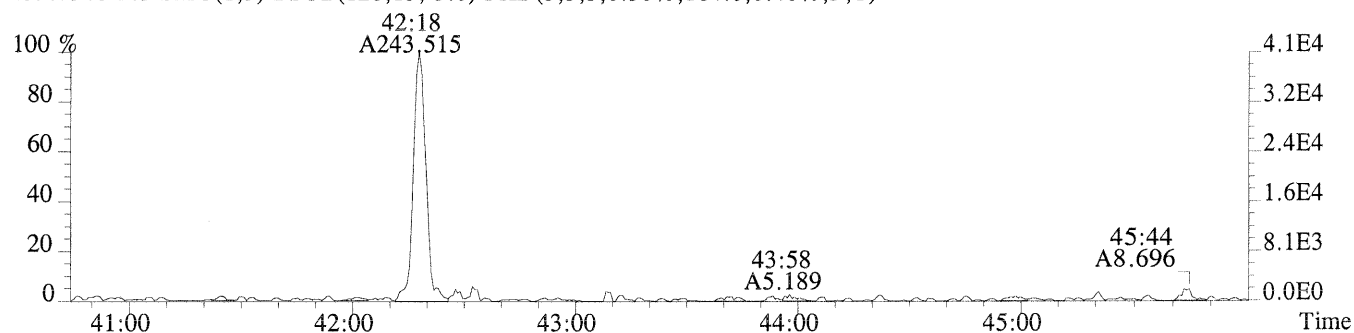
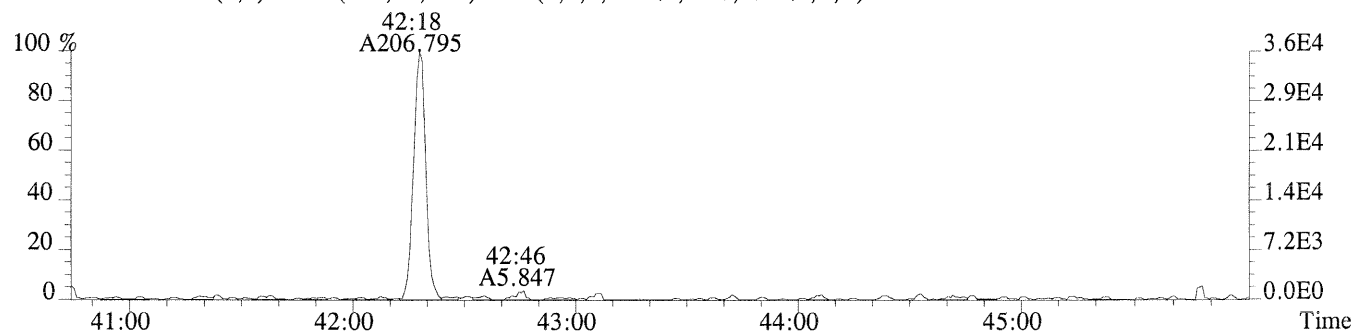
**MANUAL INTEGRATION EXPLANATION**

- 1. POOR INTEGRATION
- 2. PEAK NOT FOUND/NOT INTEGRATED
- 3. RETENTION TIME SHIFT
- 4. BASELINE INCORRECT/INACCURATE
- 5. OTHER

ANALYST *[Signature]* REVIEWER *[Signature]*  
 082714 08/28/14

443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,660.0,0.40%,F,T)





ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
Nv SYC14-REF 7

Run #14    Filename P230811    Samp: 1    Inj: 1    Acquired: 27-AUG-14 05:57:57  
Processed: 27-AUG-14 17:28:06    Sample ID: K1407971-015

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:17	3.395e+01	5.964e+01	0.57	no	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.000
3 Unk	2,3,4,7,8-PeCDF	33:22	2.153e+01	1.954e+01	1.10	no	yes	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.271e+01	1.968e+01	1.15	yes	yes	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.274
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	3.805e+01	4.674e+01	0.81	no	yes	1.053
17 Unk	OCDD	42:18	1.285e+02	1.535e+02	0.84	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:16	1.616e+04	2.021e+04	0.80	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:26	3.095e+04	1.958e+04	1.58	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:20	3.096e+04	1.917e+04	1.62	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	1.392e+04	2.694e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	1.782e+04	3.434e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.451e+04	2.830e+04	0.51	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.317e+04	2.492e+04	0.53	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:35	1.016e+04	2.307e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:60	8.477e+03	1.963e+04	0.43	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:02	1.168e+04	1.460e+04	0.80	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	2.393e+04	1.528e+04	1.57	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	1.988e+04	1.595e+04	1.25	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:49	1.938e+04	1.508e+04	1.29	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	1.617e+04	1.526e+04	1.06	yes	no	0.850
32 IS	13C-OCDD	42:17	1.921e+04	2.114e+04	0.91	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:28	2.491e+04	3.106e+04	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	4.108e+04	3.204e+04	1.28	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	9.398e+03				no	1.099

$$\text{OCDD} = \frac{(1.285e+02 + 1.535e+02) \times 4000 \text{ pg} \times 1}{(1.921e+04 + 2.114e+04) \times 7.25 \text{ g} \times / 100 \times 1.169} = 3.31e-04$$

*Handwritten signature and date:*  
3.31e-04  
08/28/14  
*[Signature]*

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1613RESPA

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 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-REF Rep7

Run #14 Filename P230811 Samp: 1 Inj: 1 Acquired: 27-AUG-14 05:57:57  
 Processed: 27-AUG-14 17:28:061 LAB. ID: K1407971-015

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.43e+03	4.40e+01	1.7e+02	1.24e+04	8.24e+02	1.5e+01
2	1,2,3,7,8-PeCDF	*	4.84e+02	*	*	8.60e+02	*
3	2,3,4,7,8-PeCDF	4.59e+03	4.84e+02	9.5e+00	3.87e+03	8.60e+02	4.5e+00
4	1,2,3,4,7,8-HxCDF	*	3.84e+02	*	*	7.60e+01	*
5	1,2,3,6,7,8-HxCDF	*	3.84e+02	*	*	7.60e+01	*
6	2,3,4,6,7,8-HxCDF	*	3.84e+02	*	*	7.60e+01	*
7	1,2,3,7,8,9-HxCDF	*	3.84e+02	*	*	7.60e+01	*
8	1,2,3,4,6,7,8-HpCDF	5.34e+03	1.32e+02	4.0e+01	4.47e+03	3.28e+02	1.4e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.32e+02	*	*	3.28e+02	*
10	OCDF	*	1.32e+02	*	*	5.52e+02	*
11	2,3,7,8-TCDD	*	6.92e+02	*	*	5.64e+02	*
12	1,2,3,7,8-PeCDD	*	9.64e+02	*	*	4.00e+02	*
13	1,2,3,4,7,8-HxCDD	*	7.20e+01	*	*	5.96e+02	*
14	1,2,3,6,7,8-HxCDD	*	7.20e+01	*	*	5.96e+02	*
15	1,2,3,7,8,9-HxCDD	*	7.20e+01	*	*	5.96e+02	*
16	1,2,3,4,6,7,8-HpCDD	8.92e+03	5.20e+01	1.7e+02	1.06e+04	6.80e+01	1.6e+02
17	OCDD	2.48e+04	1.24e+02	2.0e+02	2.67e+04	5.60e+02	4.8e+01
18	13C-2,3,7,8-TCDF	3.32e+06	1.33e+03	2.5e+03	4.07e+06	1.02e+03	4.0e+03
19	13C-1,2,3,7,8-PeCDF	5.88e+06	5.16e+02	1.1e+04	3.68e+06	5.44e+02	6.8e+03
20	13C-2,3,4,7,8-PeCDF	6.15e+06	5.16e+02	1.2e+04	3.83e+06	5.44e+02	7.0e+03
21	13C-1,2,3,4,7,8-HxCDF	3.08e+06	4.08e+02	7.6e+03	5.98e+06	5.60e+02	1.1e+04
22	13C-1,2,3,6,7,8-HxCDF	3.87e+06	4.08e+02	9.5e+03	7.46e+06	5.60e+02	1.3e+04
23	13C-2,3,4,6,7,8-HxCDF	3.10e+06	4.08e+02	7.6e+03	6.02e+06	5.60e+02	1.1e+04
24	13C-1,2,3,7,8,9-HxCDF	2.80e+06	4.08e+02	6.9e+03	5.25e+06	5.60e+02	9.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.35e+06	1.01e+03	2.3e+03	5.36e+06	1.96e+03	2.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.75e+06	1.01e+03	1.7e+03	4.01e+06	1.96e+03	2.0e+03
27	13C-2,3,7,8-TCDD	2.57e+06	2.99e+03	8.6e+02	3.19e+06	1.53e+03	2.1e+03
28	13C-1,2,3,7,8-PeCDD	4.80e+06	5.92e+02	8.1e+03	3.08e+06	4.40e+02	7.0e+03
29	13C-1,2,3,4,7,8-HxCDD	4.59e+06	9.40e+02	4.9e+03	3.64e+06	6.08e+02	6.0e+03
30	13C-1,2,3,6,7,8-HxCDD	4.25e+06	9.40e+02	4.5e+03	3.33e+06	6.08e+02	5.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.57e+06	1.26e+03	2.8e+03	3.33e+06	4.04e+02	8.2e+03
32	13C-OCDD	3.45e+06	3.64e+02	9.5e+03	3.78e+06	4.40e+02	8.6e+03
33	13C-1,2,3,4-TCDD	5.44e+06	2.99e+03	1.8e+03	6.79e+06	1.53e+03	4.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.66e+06	9.40e+02	9.2e+03	6.79e+06	6.08e+02	1.1e+04
35	37Cl-2,3,7,8-TCDD	1.99e+06	4.32e+02	4.6e+03			

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XLSN

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 38      Totals Name: Total Penta-Furan1

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

Mass: 339.8600    341.8570      Tot Response: 9.13e+01    RRF: 0.9848

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:02	5.44e+01	3.69e+01	1.47	yes	9.13e+01	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 39      Totals Name: Total Penta-Furan2

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 2

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

Mass: 339.8600    341.8570      Tot Response: 5.60e+01    RRF: 0.9848

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	31:30	3.52e+01	2.08e+01	1.69	yes	5.60e+01	1,2,3,7,8-PeCDF	Y	Y

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 41      Totals Name: Total Hexa-Furans

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

Mass: 373.8210    375.8180      Tot Response: 3.71e+01    RRF: 1.140

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:03	2.09e+01	1.63e+01	1.28	yes	3.71e+01	n	y

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

Mass: 389.8160    391.8130      Tot Response: 7.97e+01    RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:24	4.27e+01	3.70e+01	1.16	yes	7.97e+01	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 43      Totals Name: Total Hepta-Furans

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

Mass: 407.7820    409.7790      Tot Response: 6.90e+01    RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	38:35	2.27e+01	1.97e+01	1.15	yes	4.24e+01	1,2,3,4,6,7,8-HpCDF	n	y
2	39:01	1.26e+01	1.40e+01	0.90	yes	2.66e+01		n	n

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 44      Totals Name: Total Hepta-Dioxins

Run: 14      File: P230811      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    05:57:57      Processed: 27-AUG-14 17:28:06

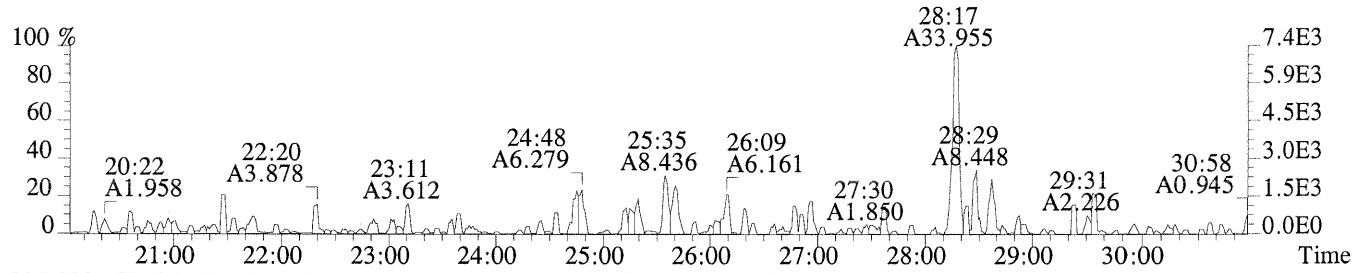
Mass: 423.7770    425.7740      Tot Response: 1.21e+02    RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:50	6.22e+01	5.83e+01	1.07	yes	1.21e+02	n	n

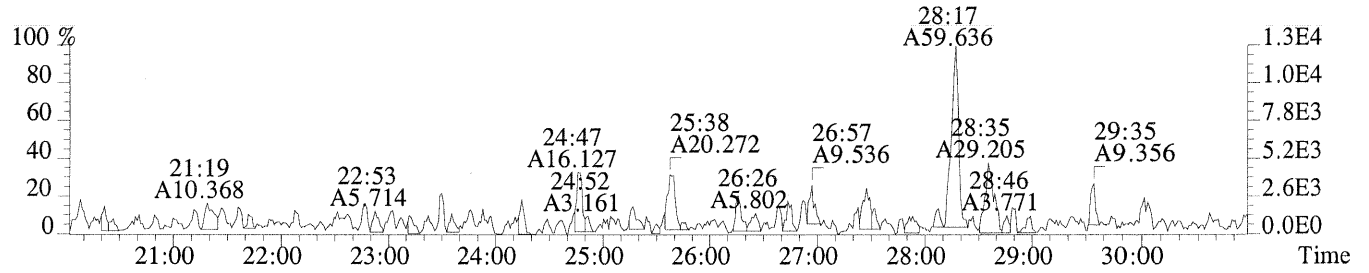
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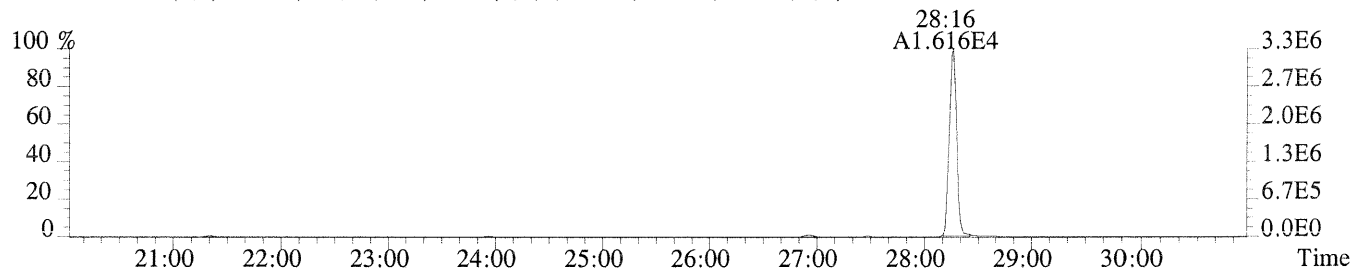
File:P230811 #1-687 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,44.0,1.00%,F,T)



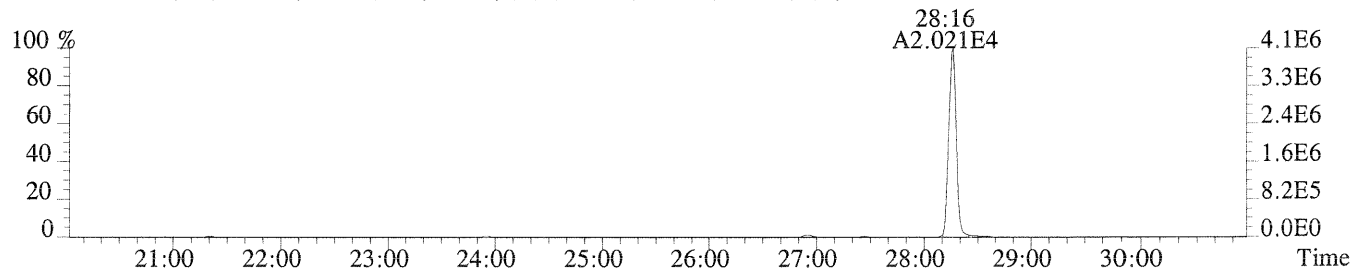
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



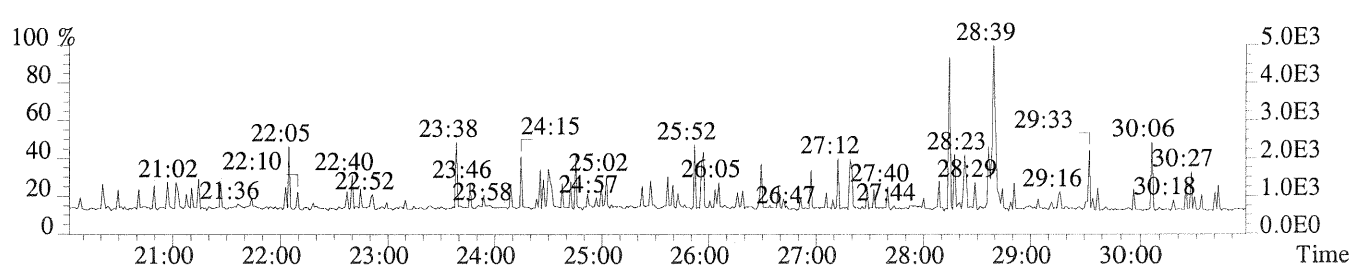
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



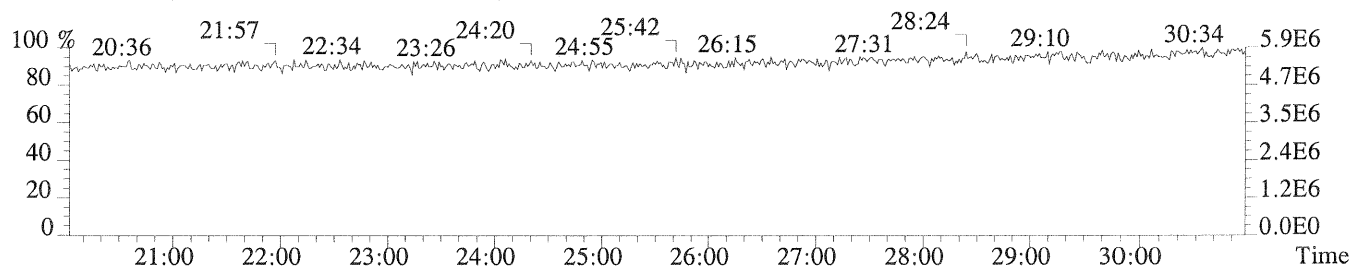
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)



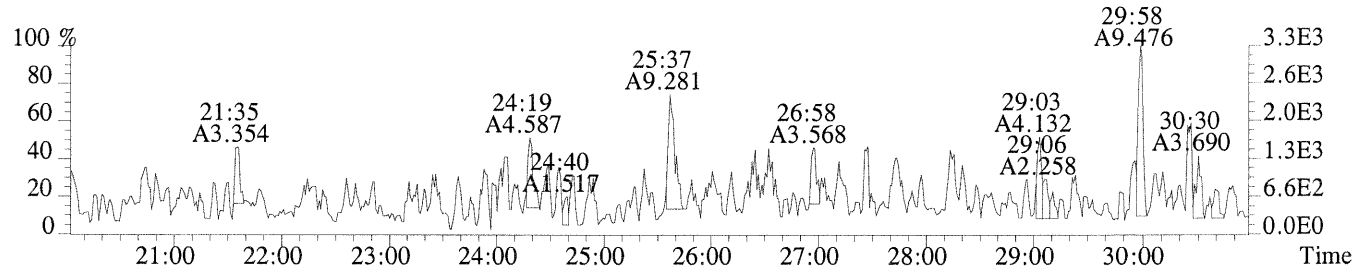
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



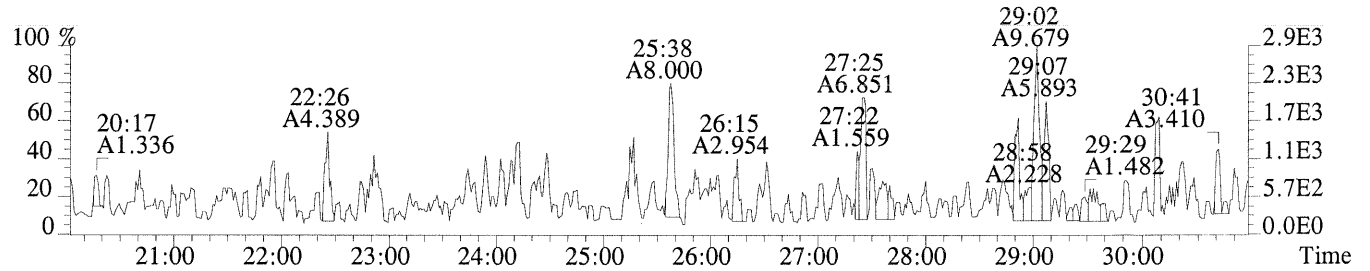
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



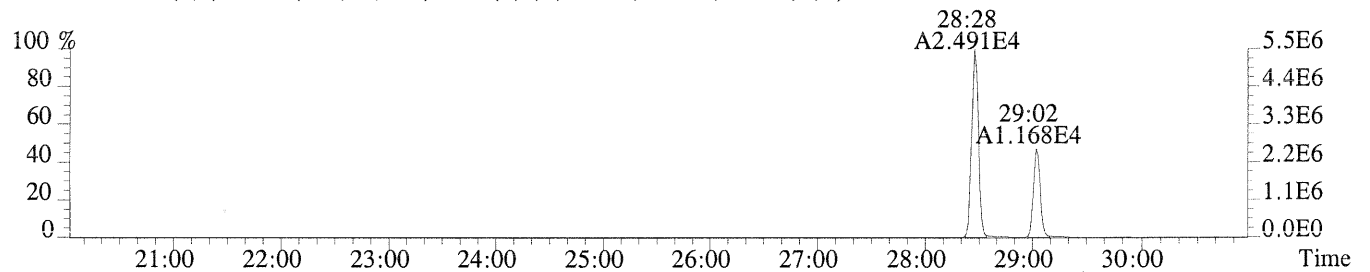
File:P230811 #1-687 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



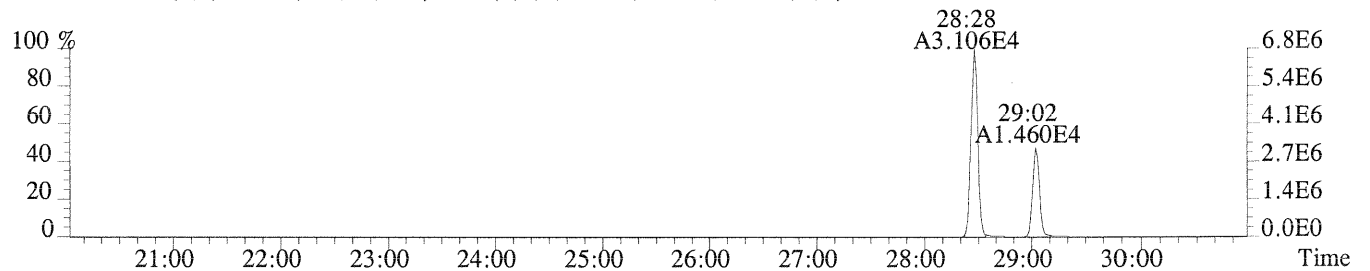
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,T)



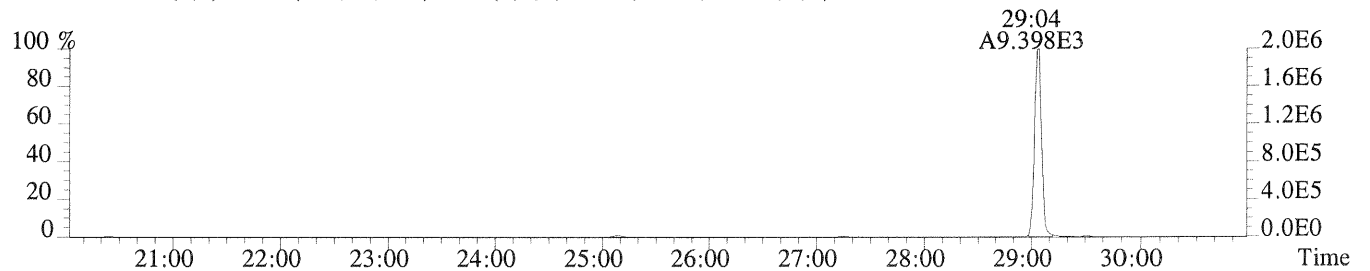
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



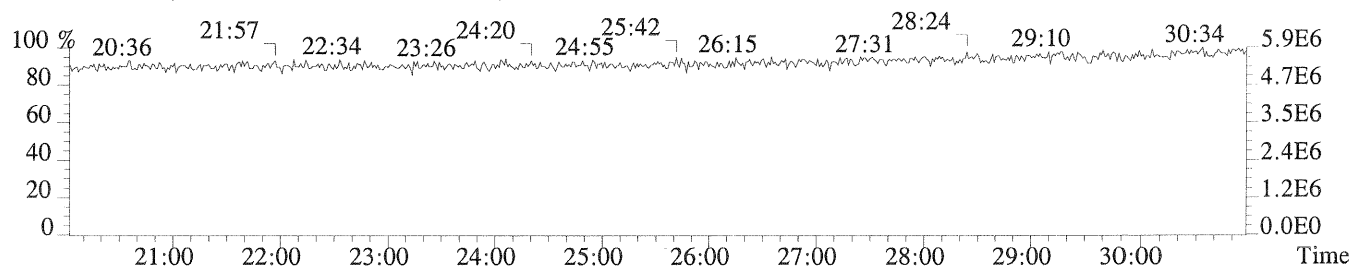
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1532.0,1.00%,F,T)



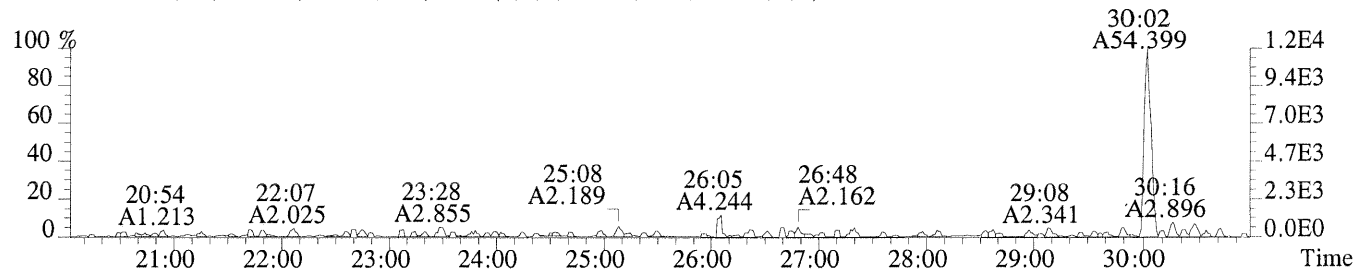
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



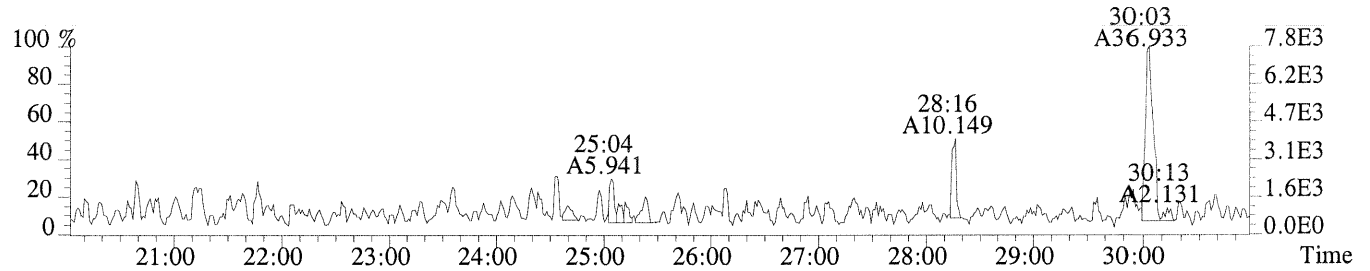
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



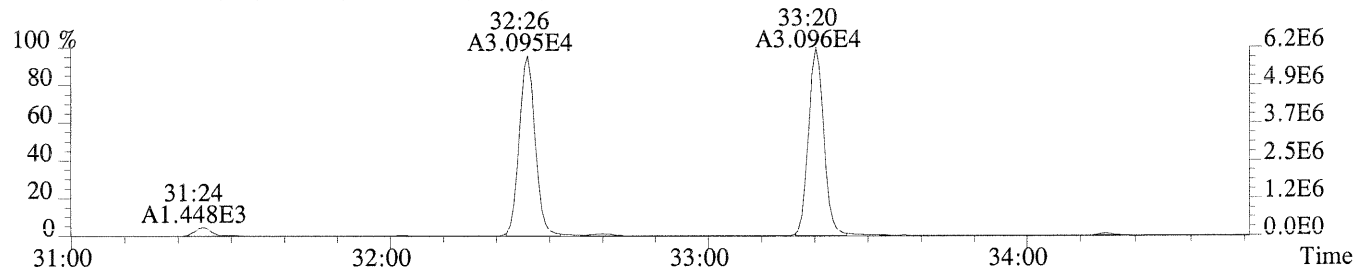
File:P230811 #1-687 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



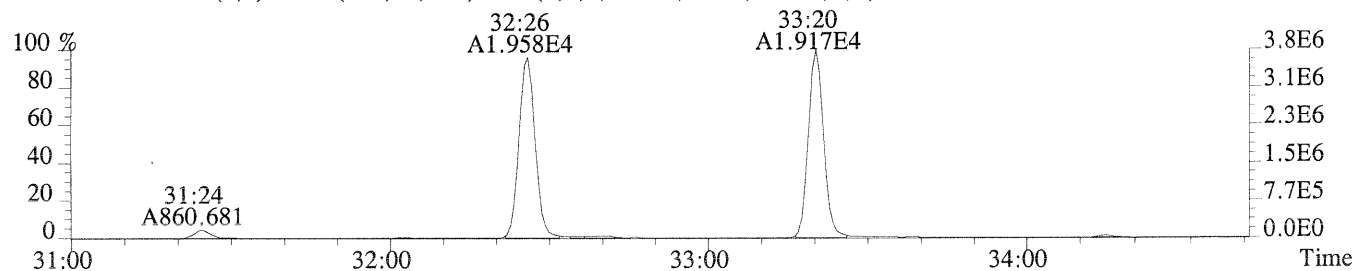
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



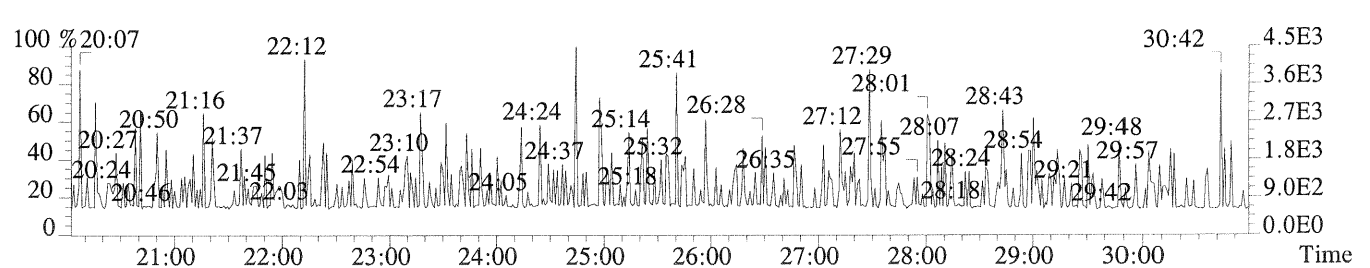
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



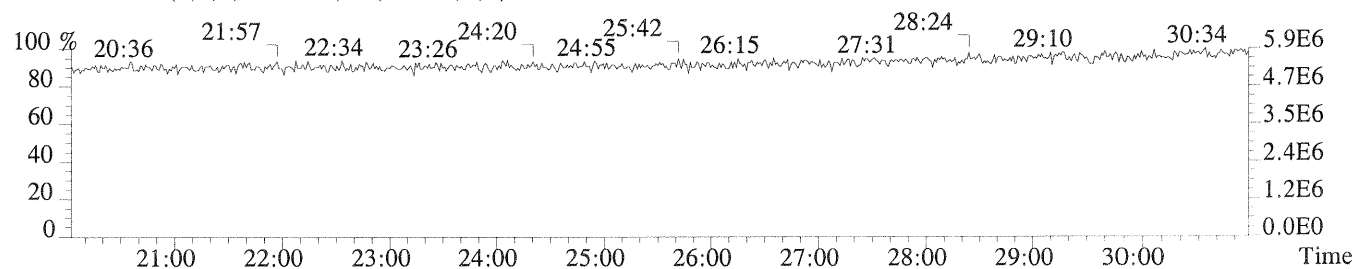
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



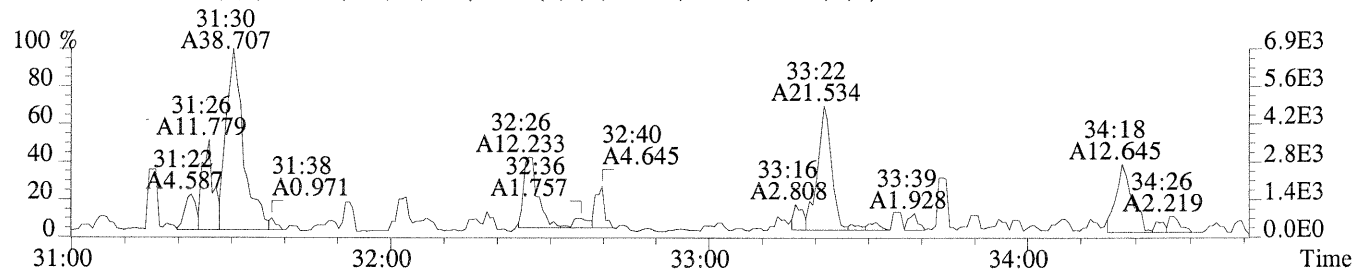
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



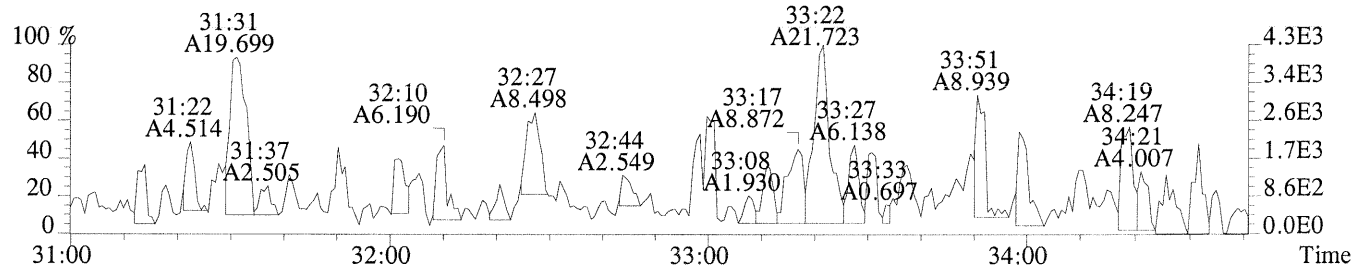
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



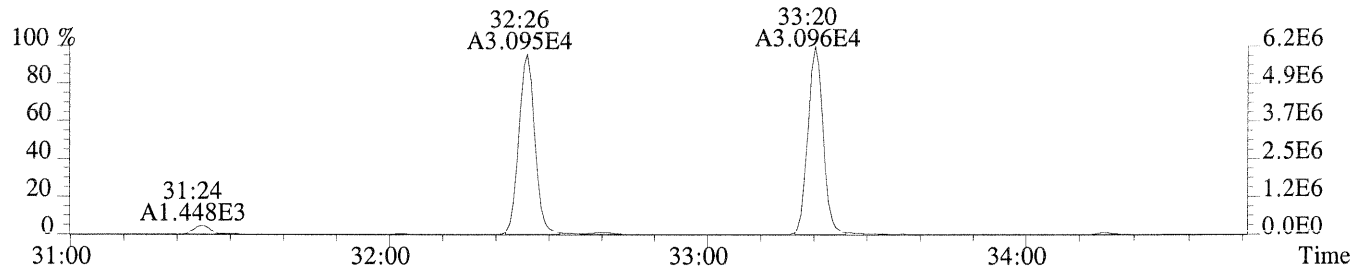
File:P230811 #1-335 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)



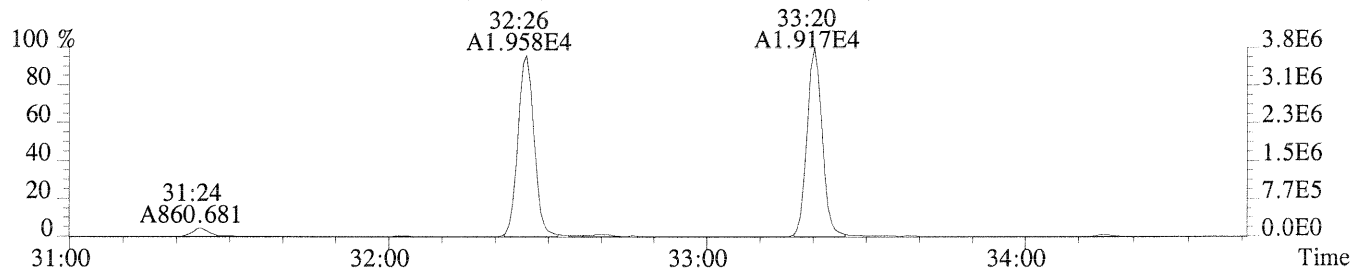
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



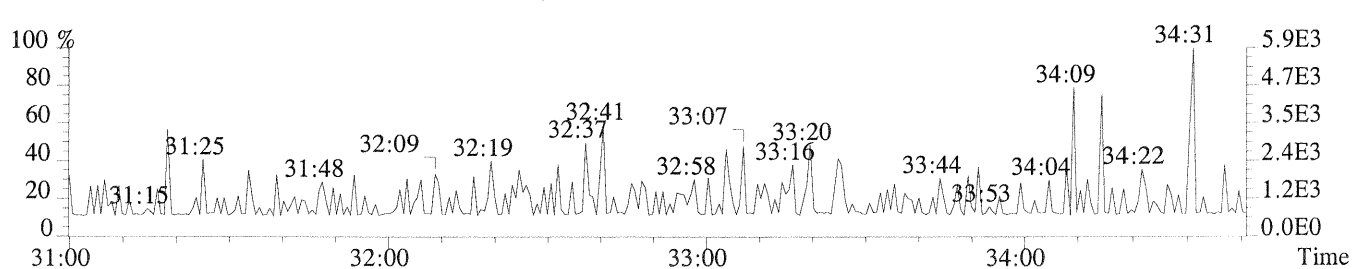
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



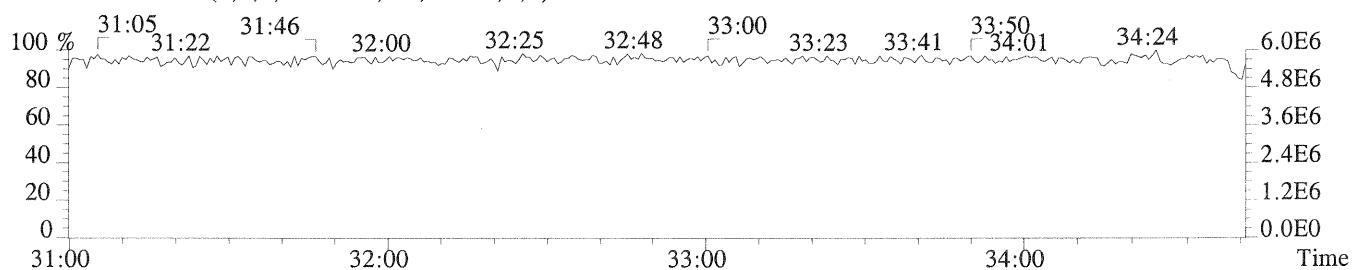
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

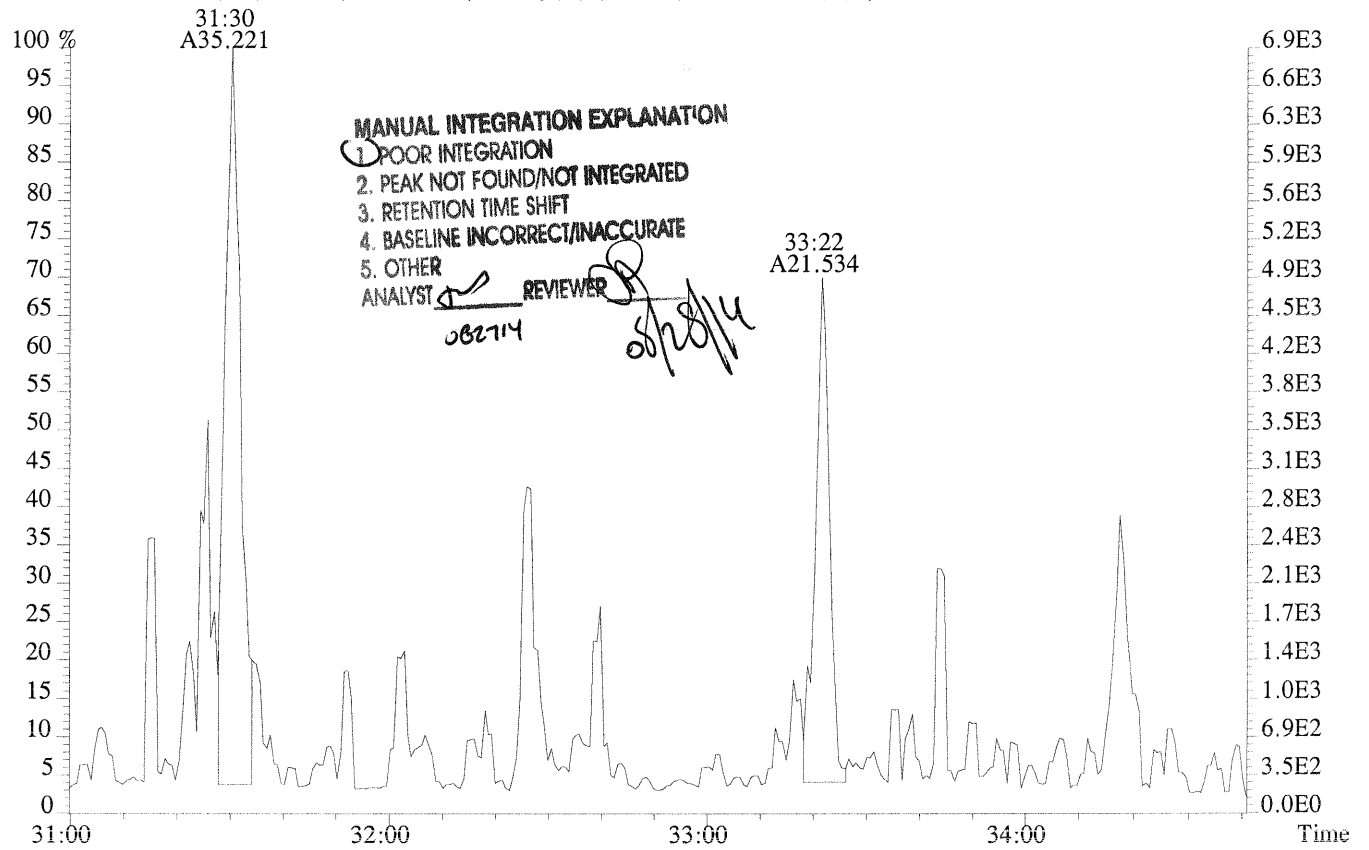


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

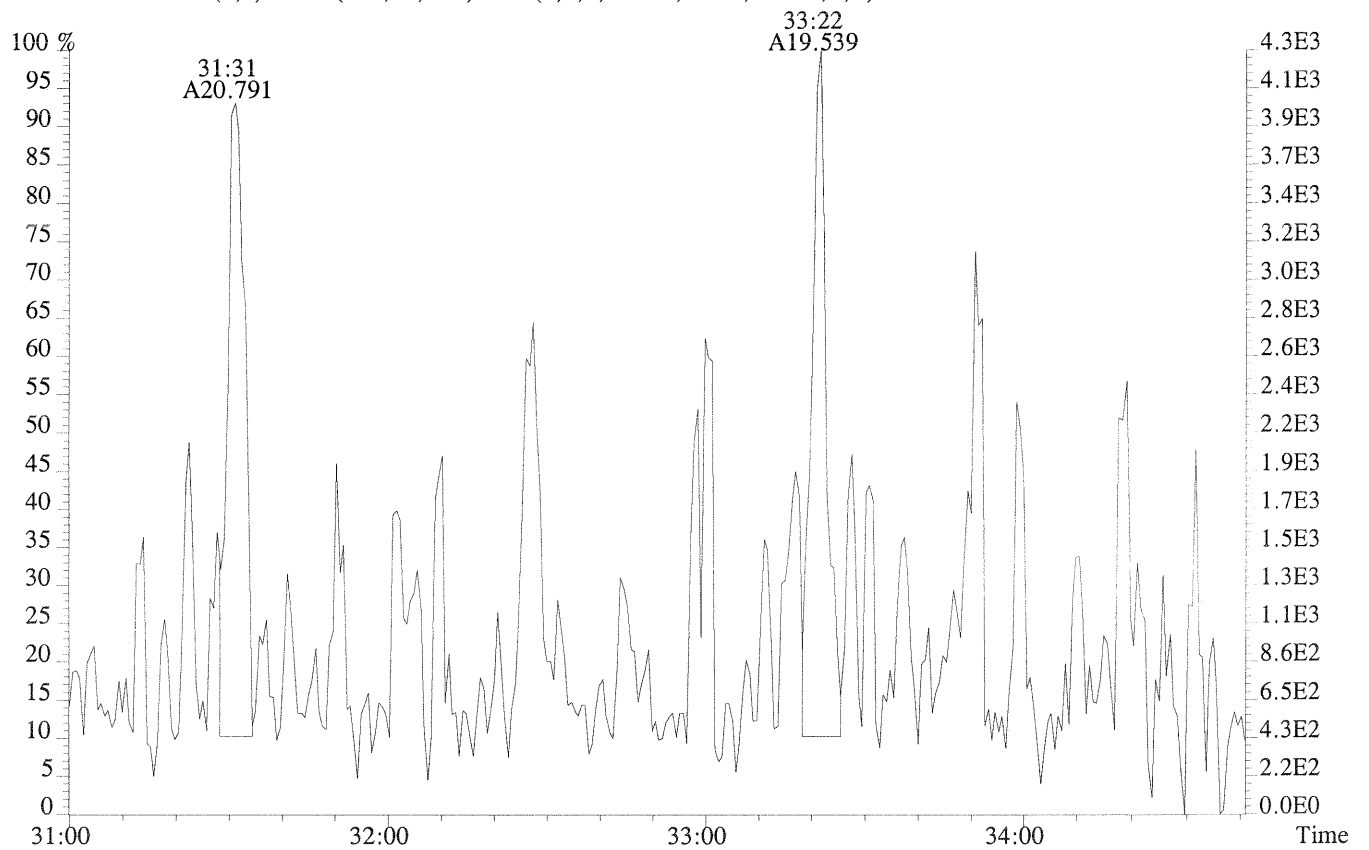


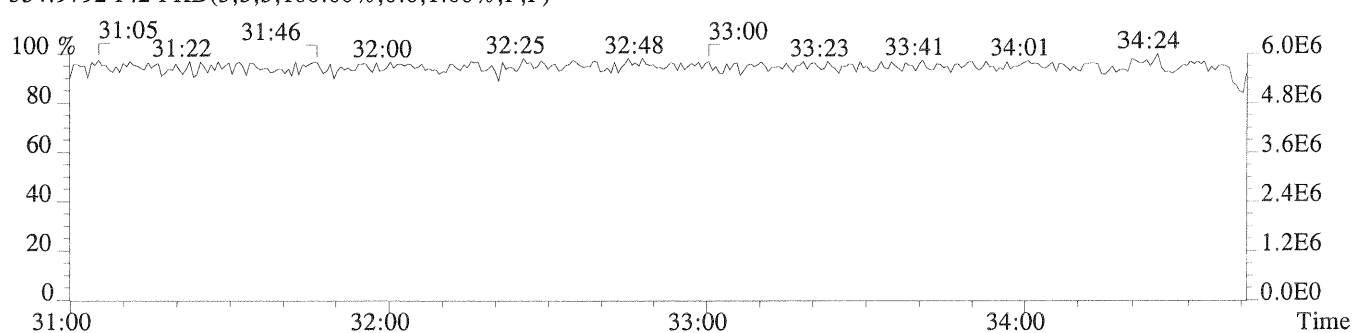
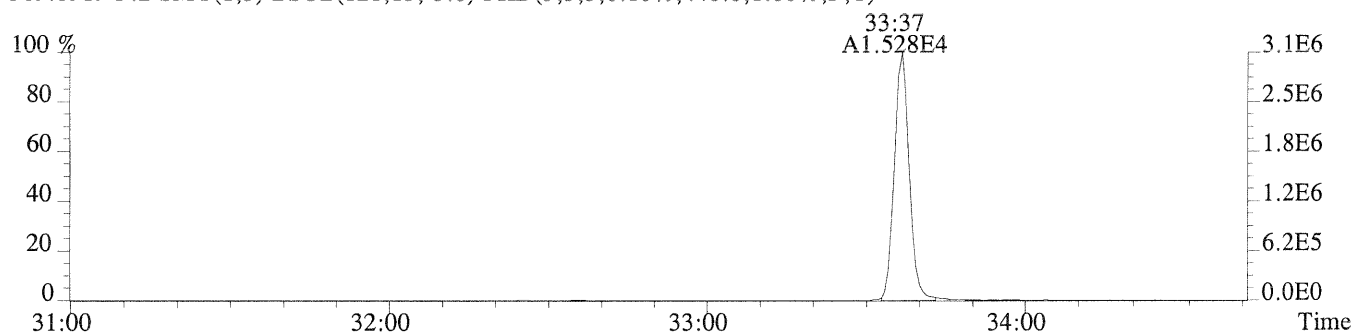
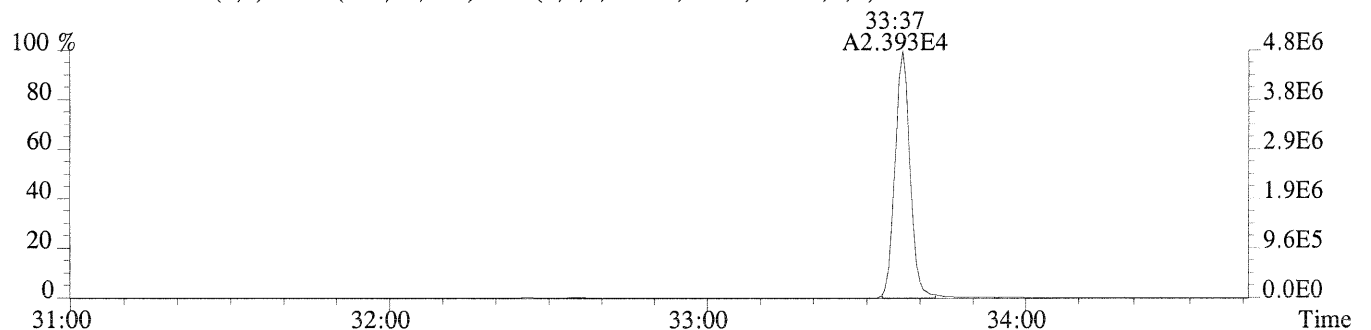
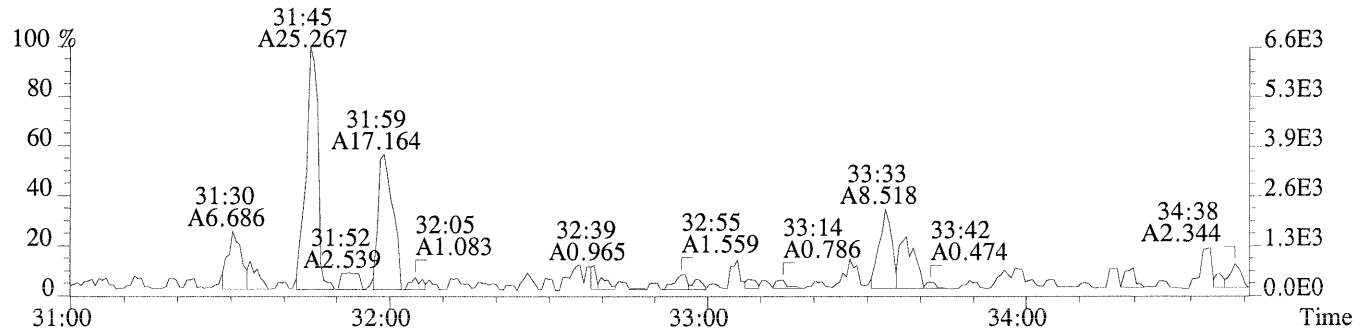
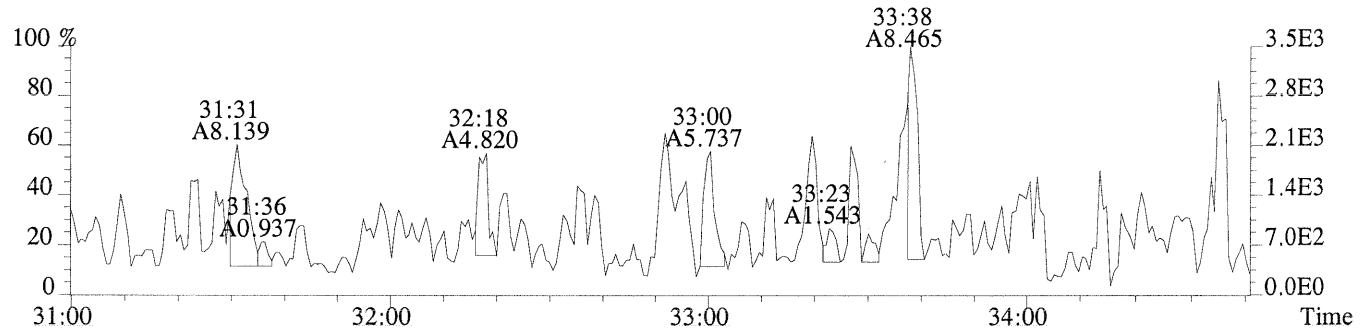


File:P230811 #1-335 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)

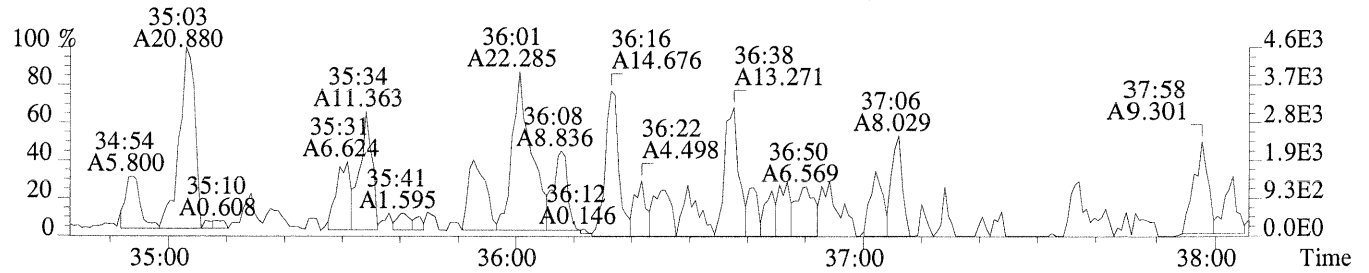


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)

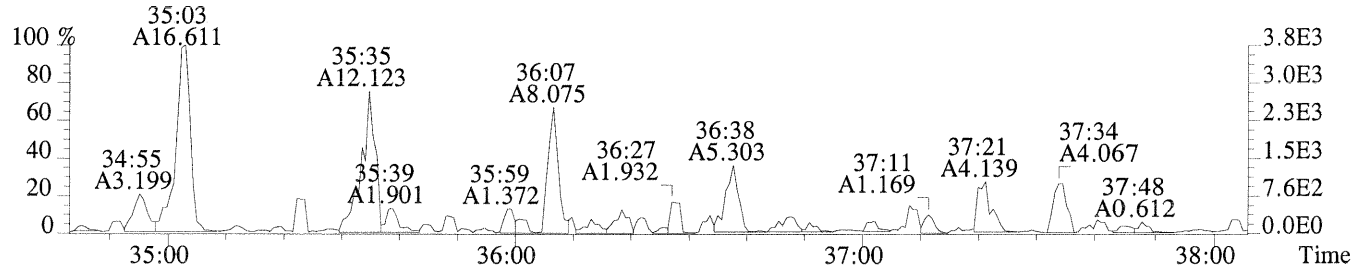




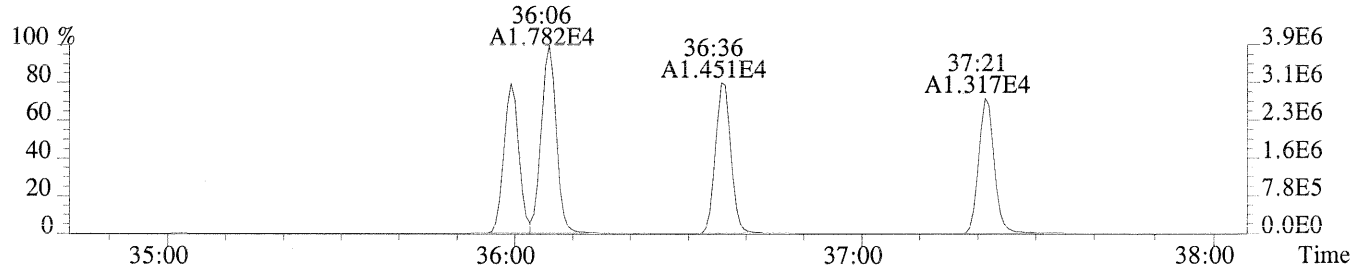
File:P230811 #1-307 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,T)



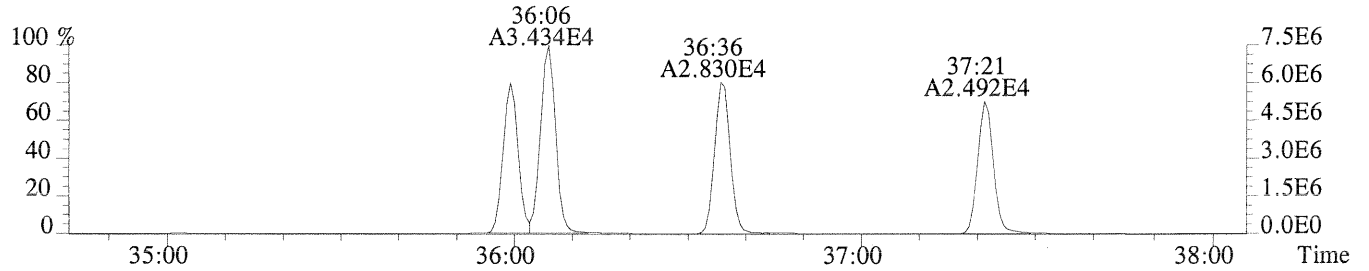
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,T)



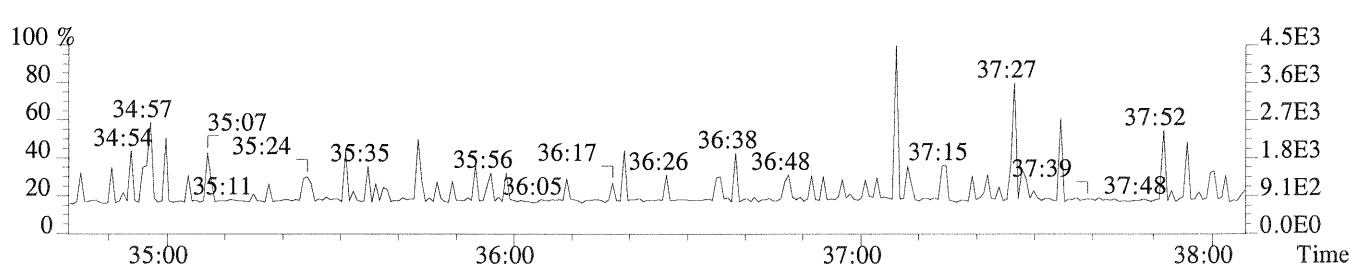
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,408.0,0.40%,F,T)



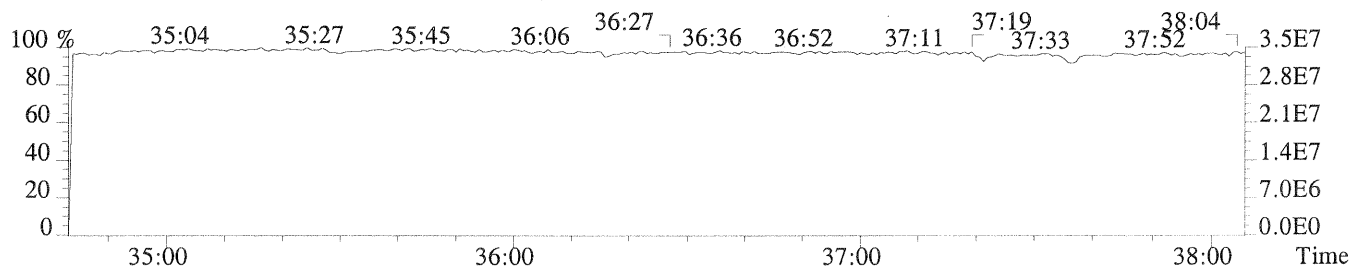
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.40%,F,T)



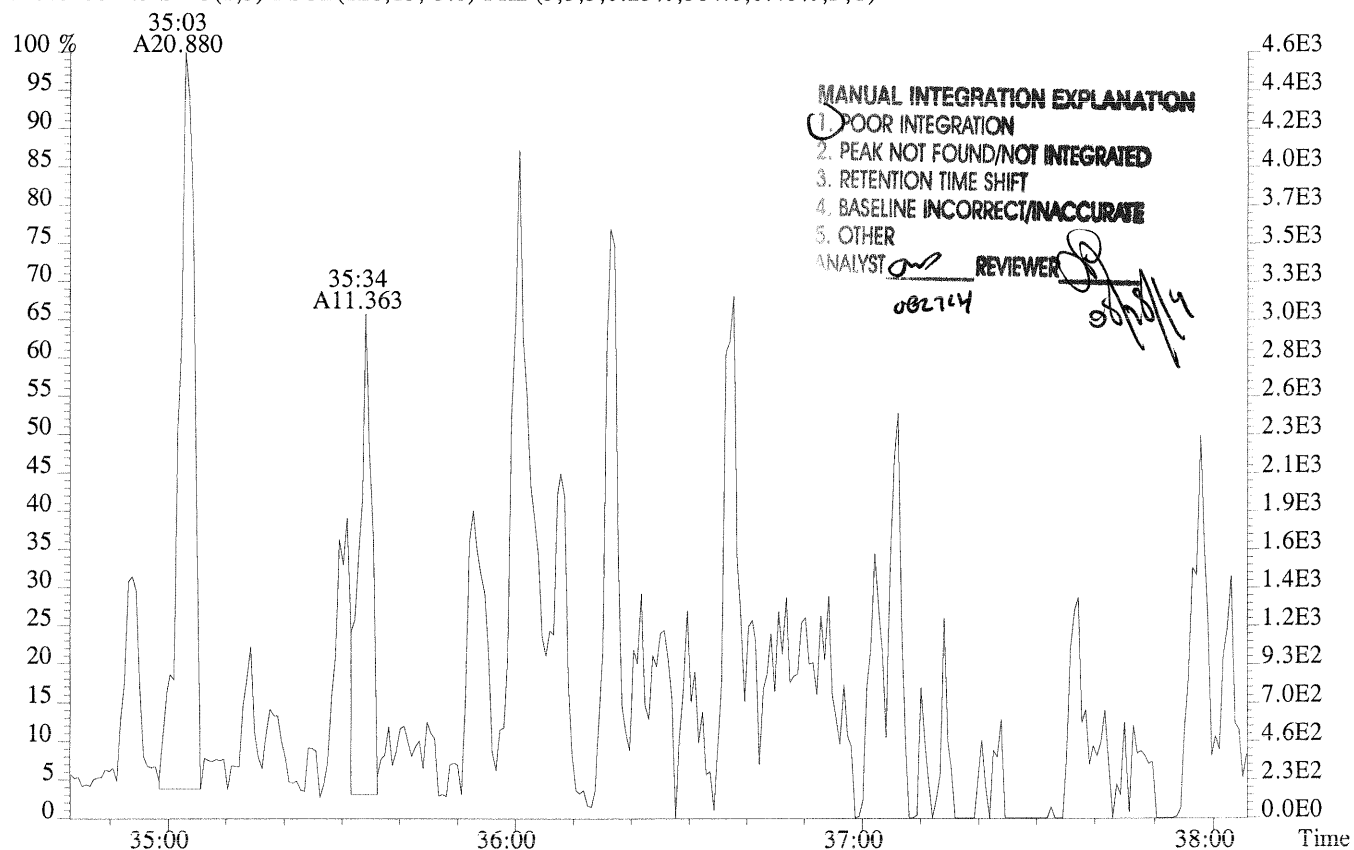
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



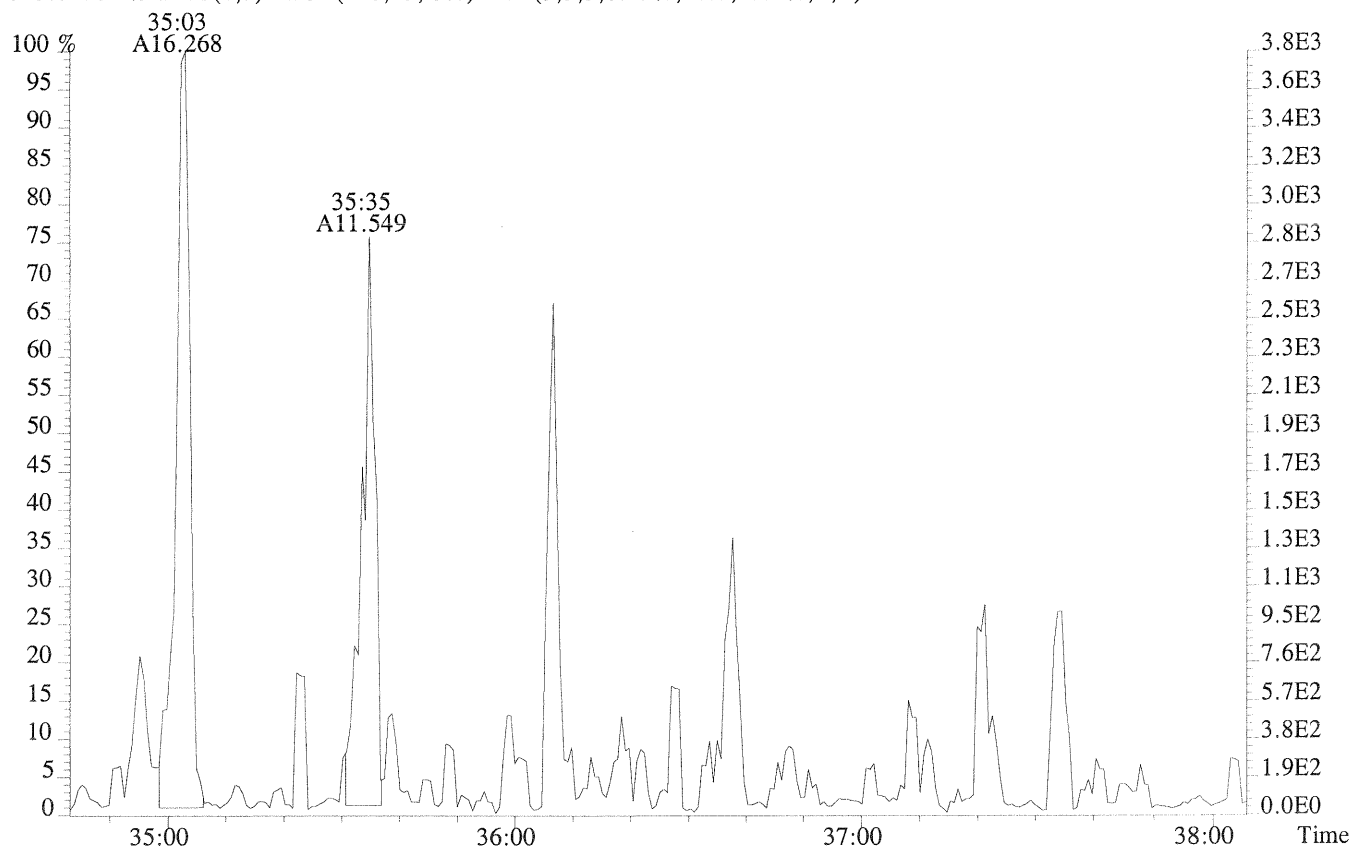
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

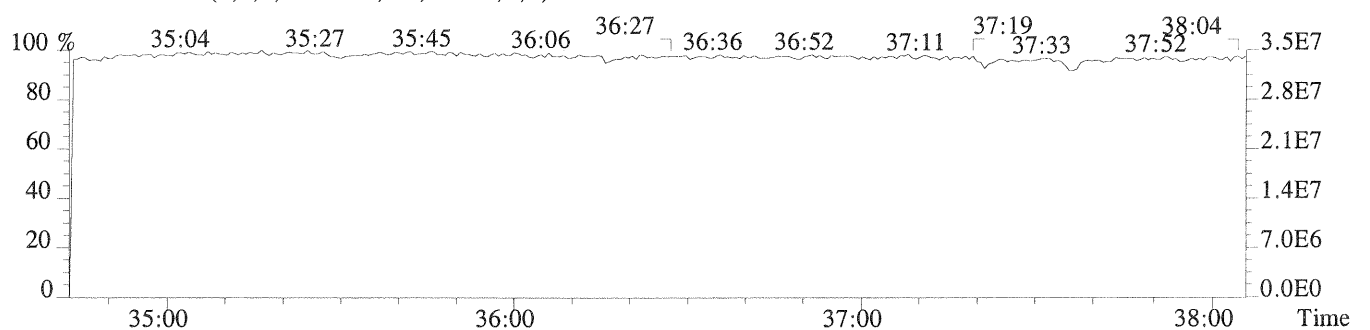
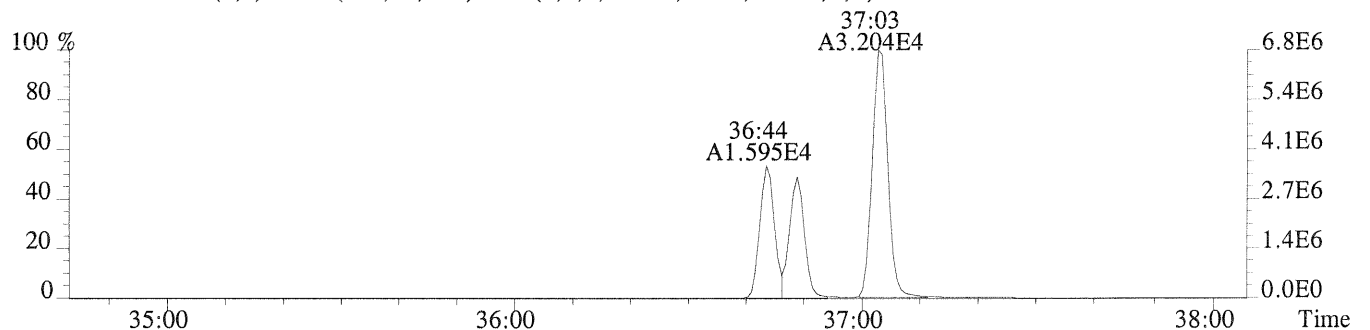
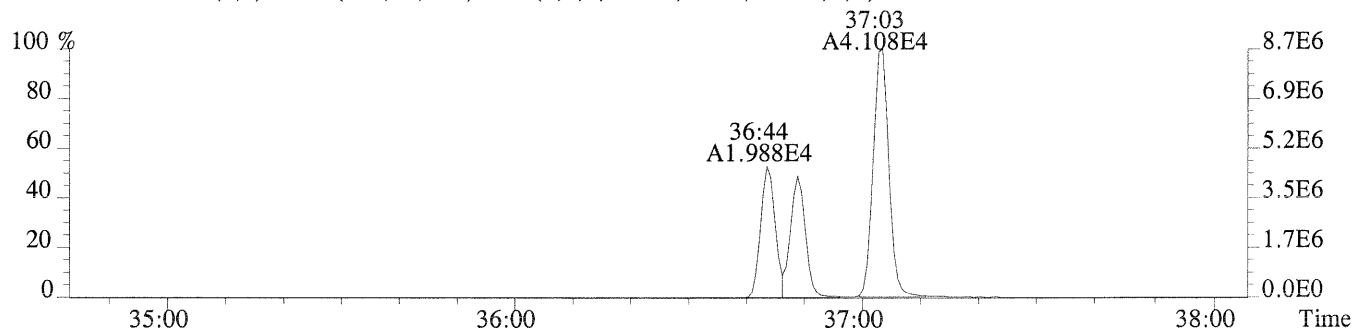
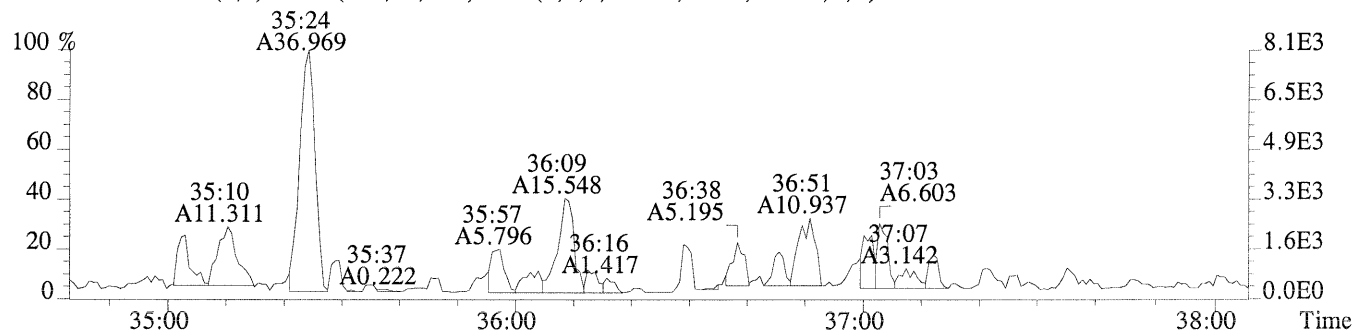
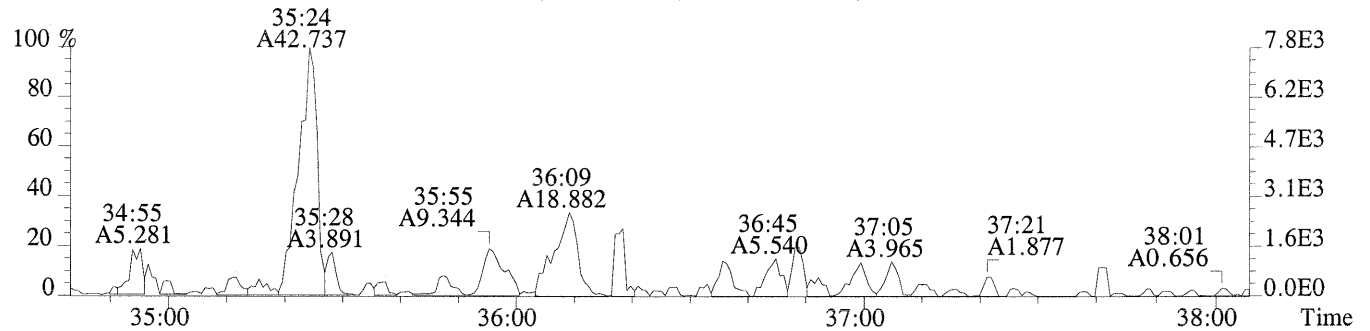


File:P230811 #1-307 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-015  
 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,T)

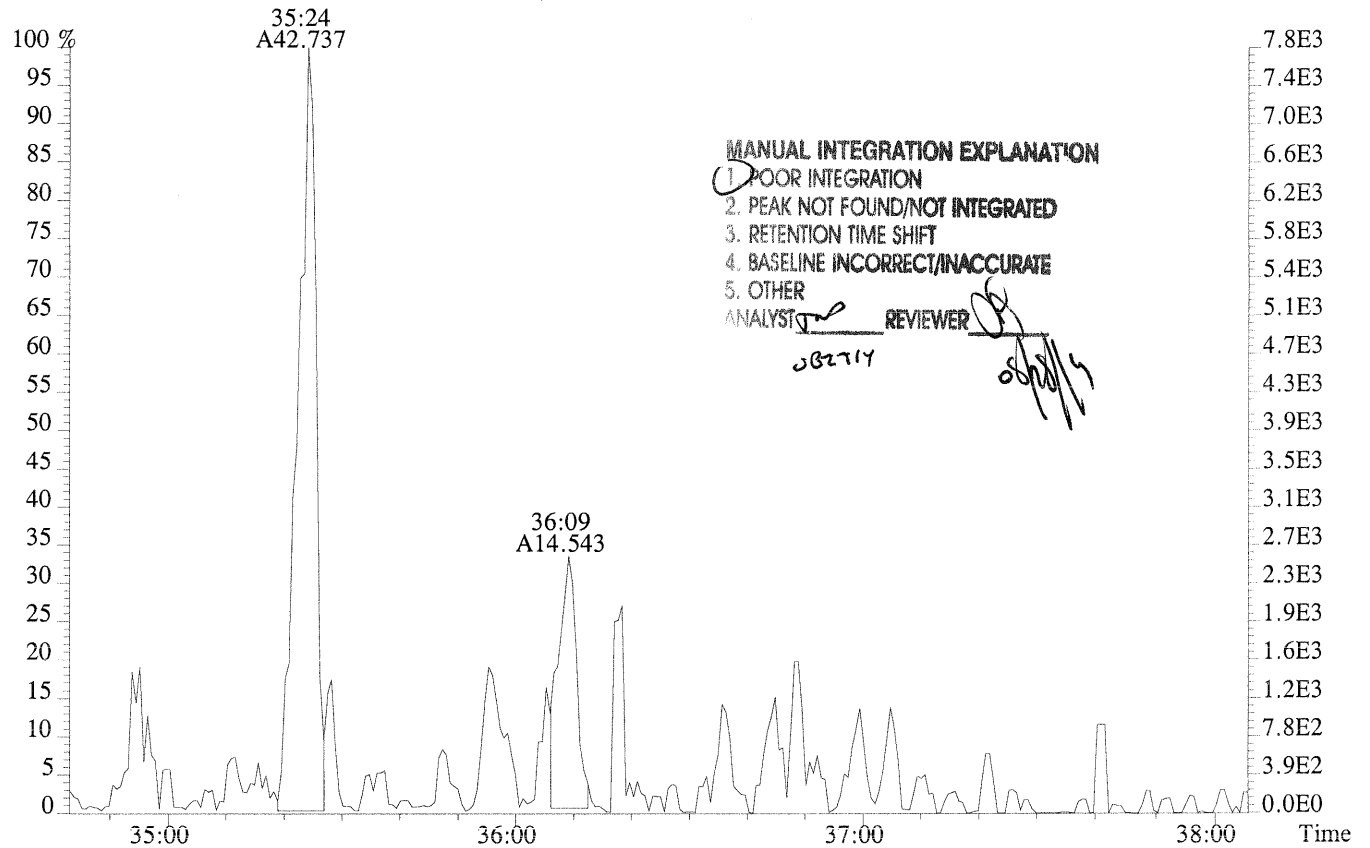


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,T)





File:P230811 #1-307 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,T)

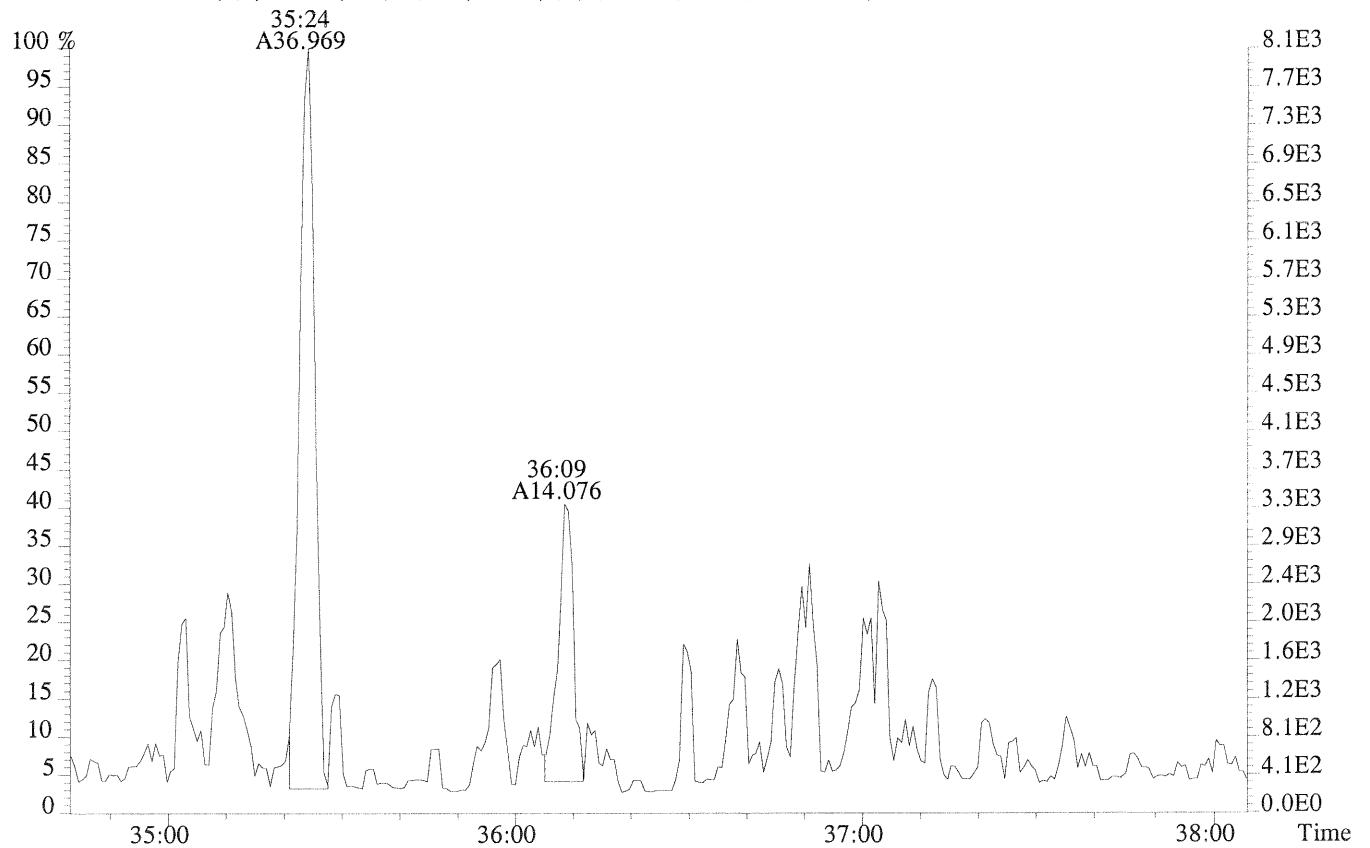


**MANUAL INTEGRATION EXPLANATION**

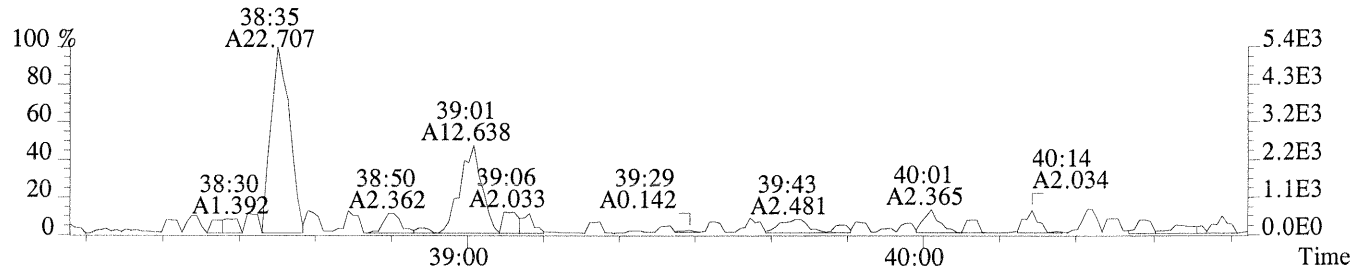
- 1. POOR INTEGRATION
- 2. PEAK NOT FOUND/NOT INTEGRATED
- 3. RETENTION TIME SHIFT
- 4. BASELINE INCORRECT/INACCURATE
- 5. OTHER

ANALYST: *[Signature]* REVIEWER: *[Signature]*  
08/27/14

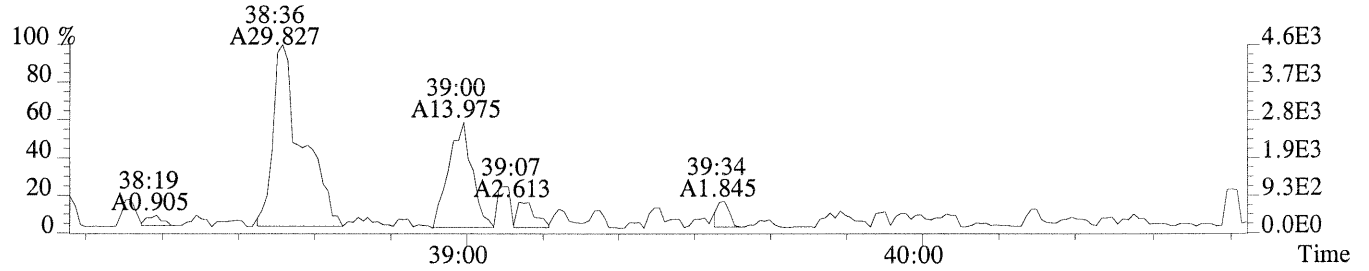
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,596.0,0.40%,F,T)



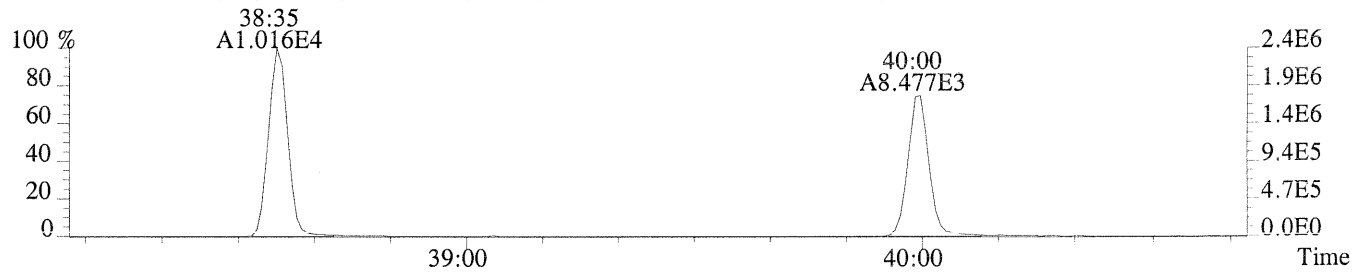
File:P230811 #1-234 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.50%,F,T)



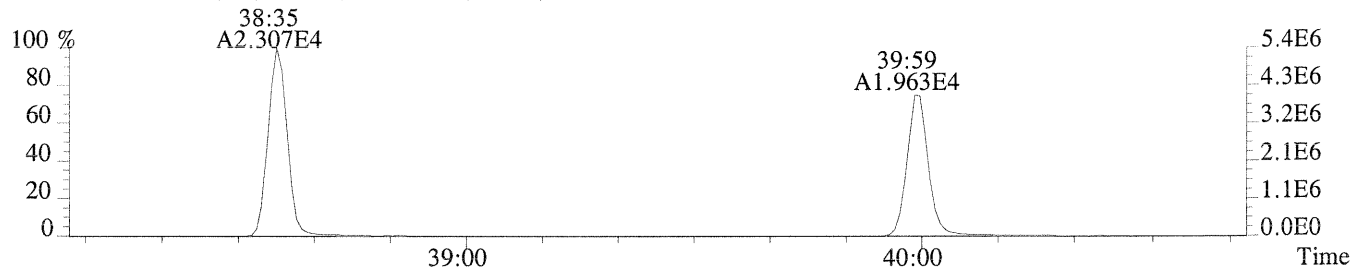
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,328.0,0.50%,F,T)



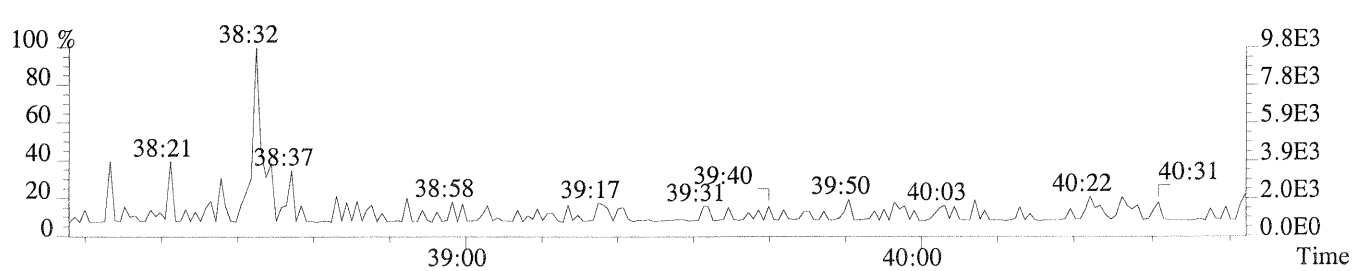
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.50%,F,T)



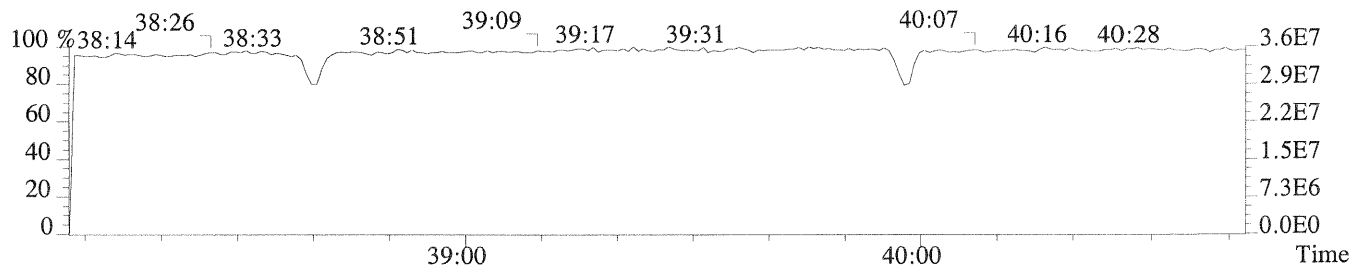
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1964.0,0.50%,F,T)



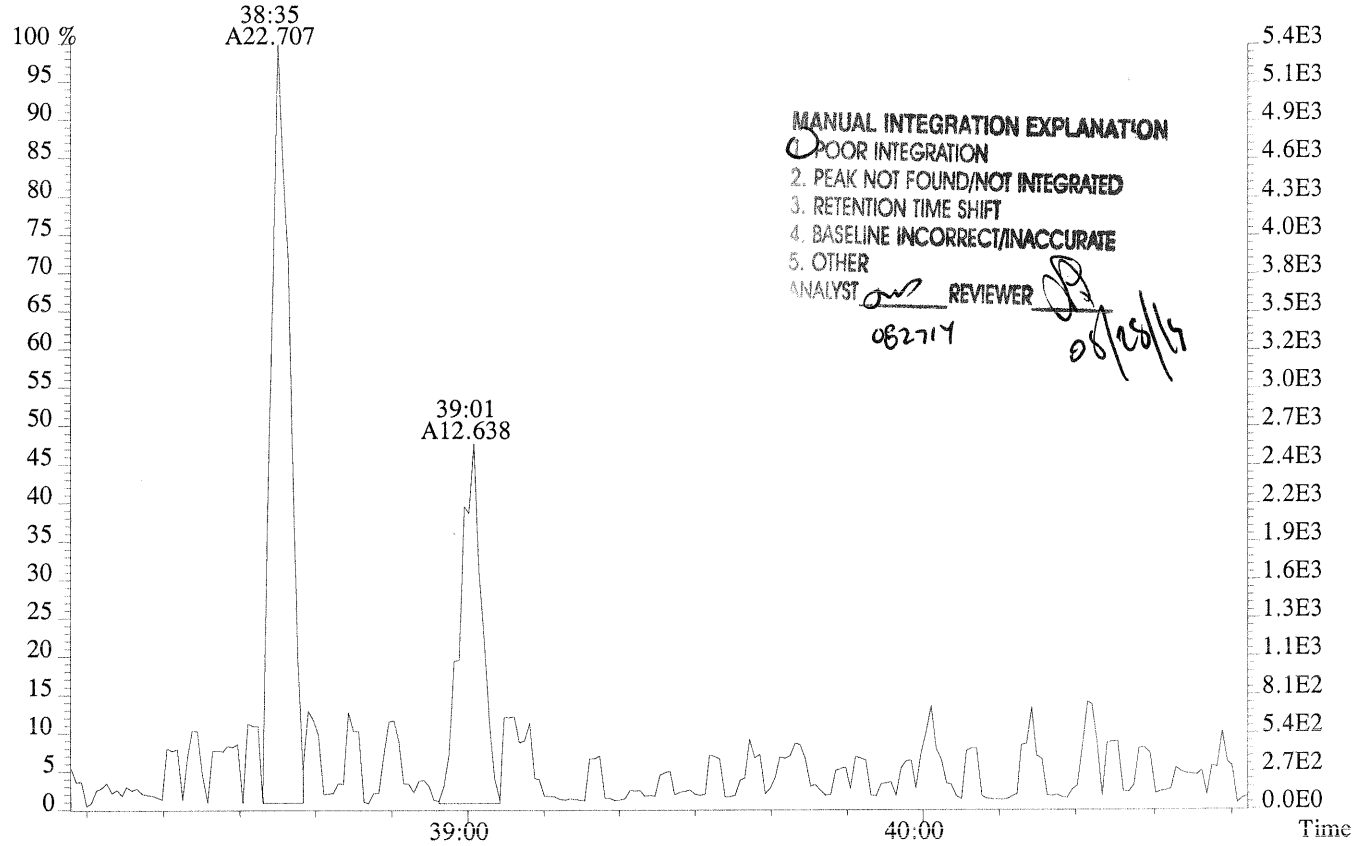
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



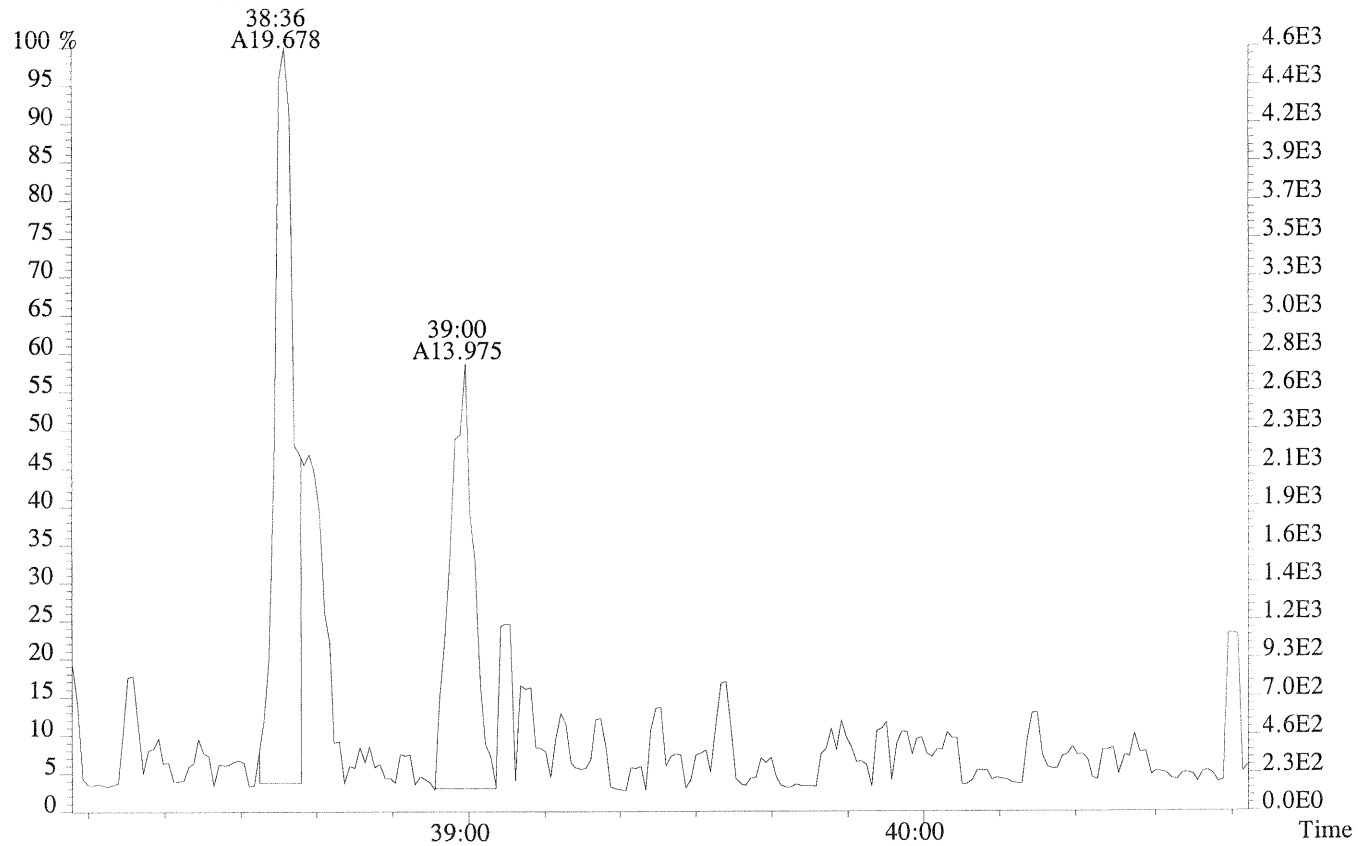
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230811 #1-234 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.50%,F,T)

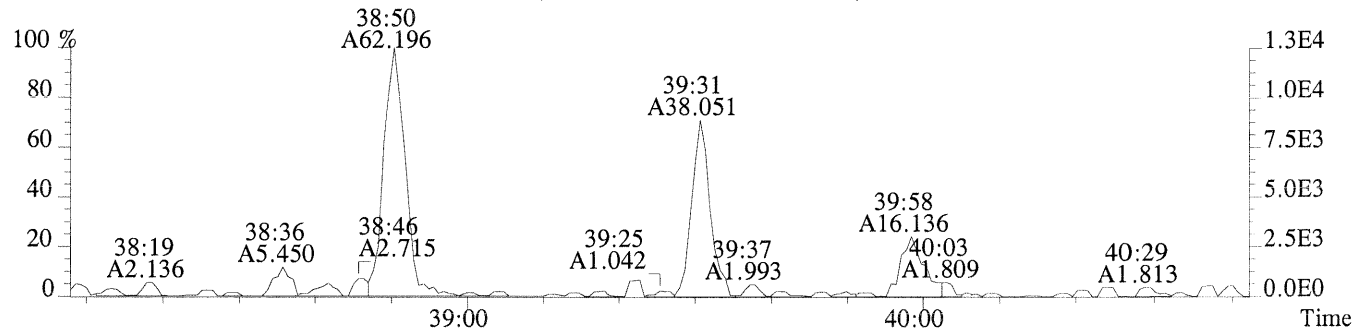


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,328.0,0.50%,F,T)

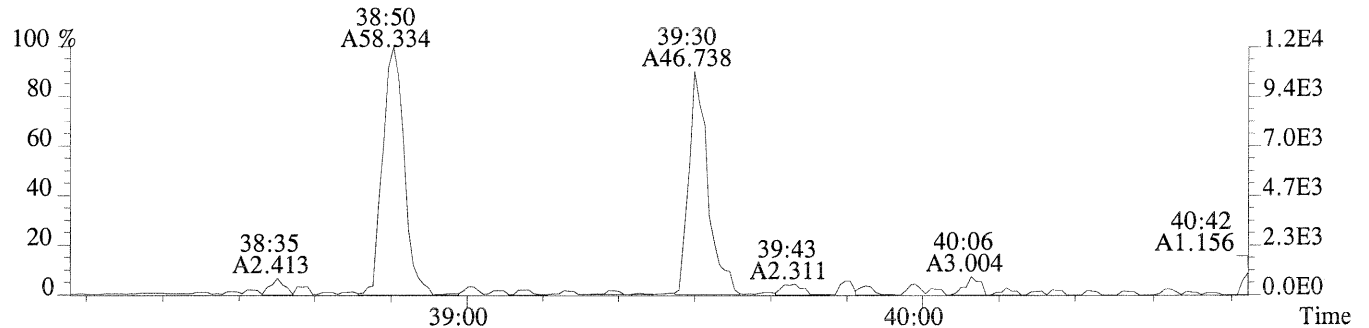




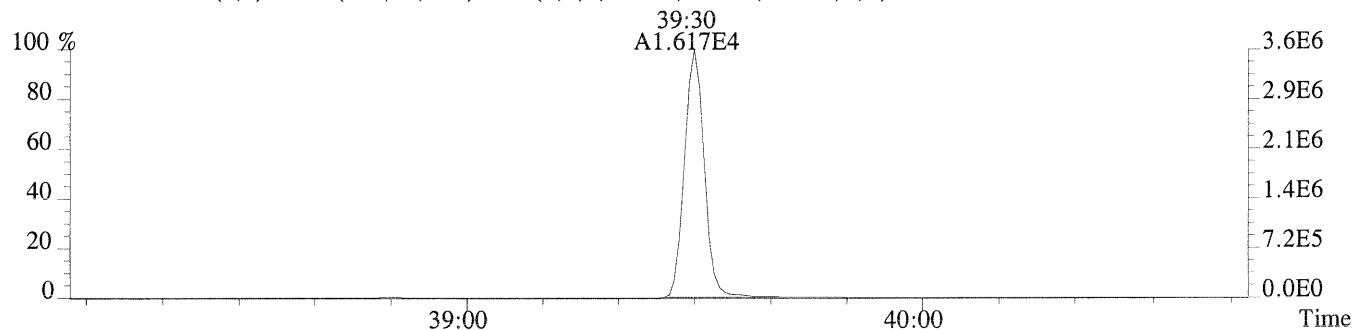
File:P230811 #1-234 Acq:27-AUG-2014 05:57:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-015  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



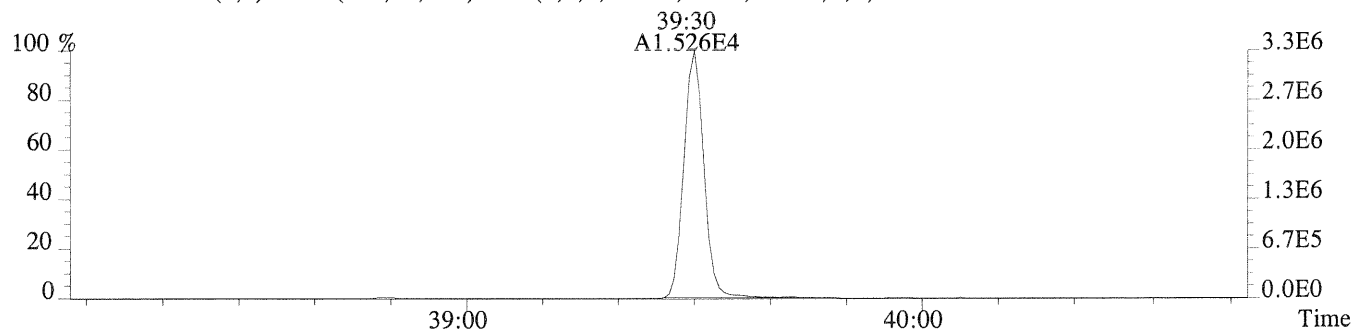
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



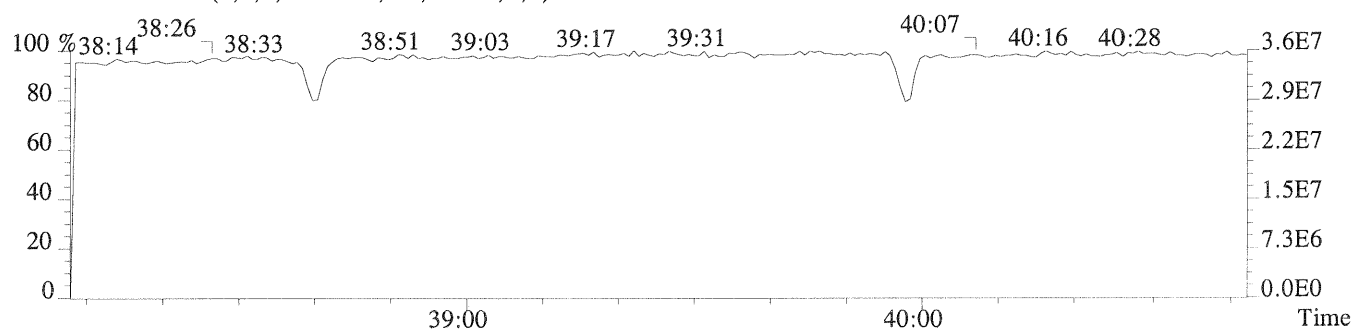
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)

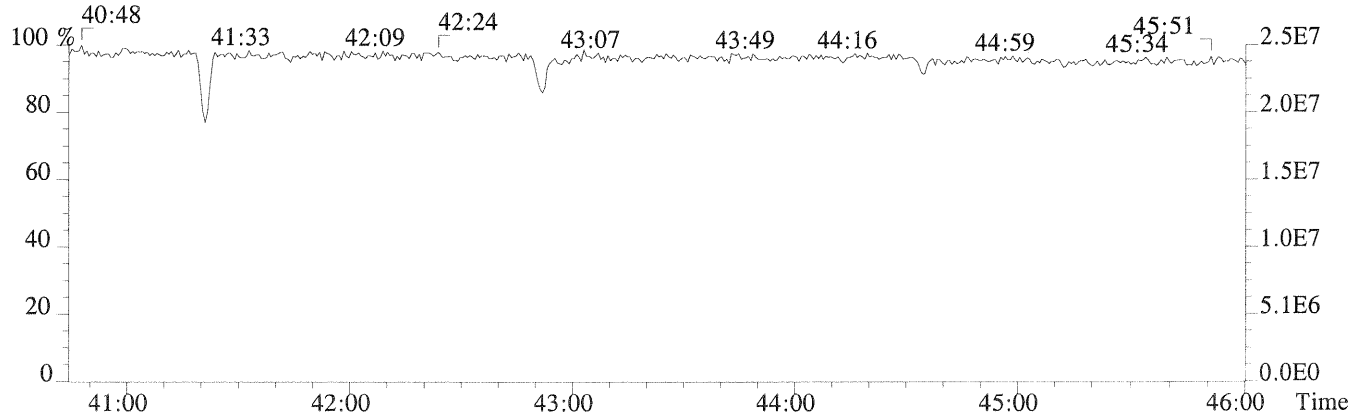
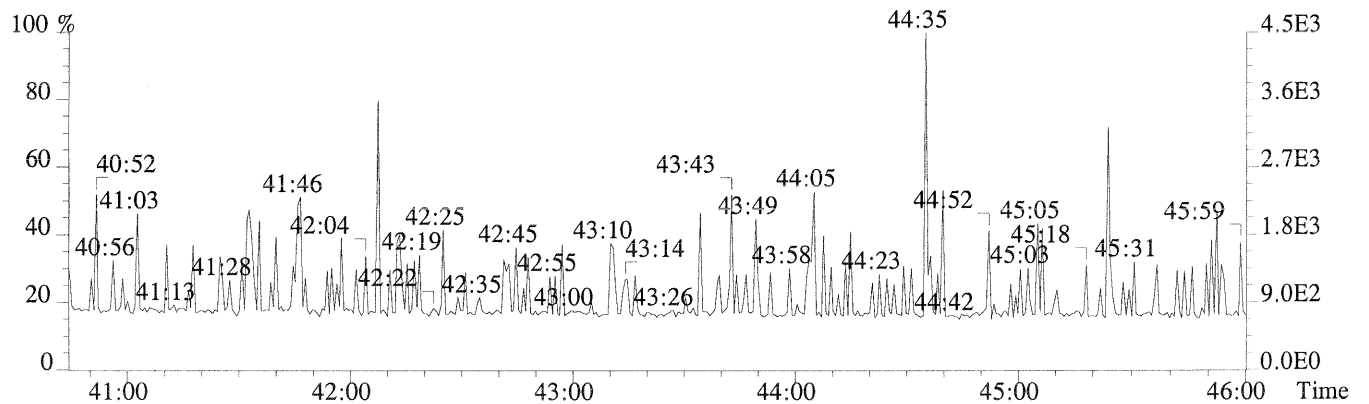
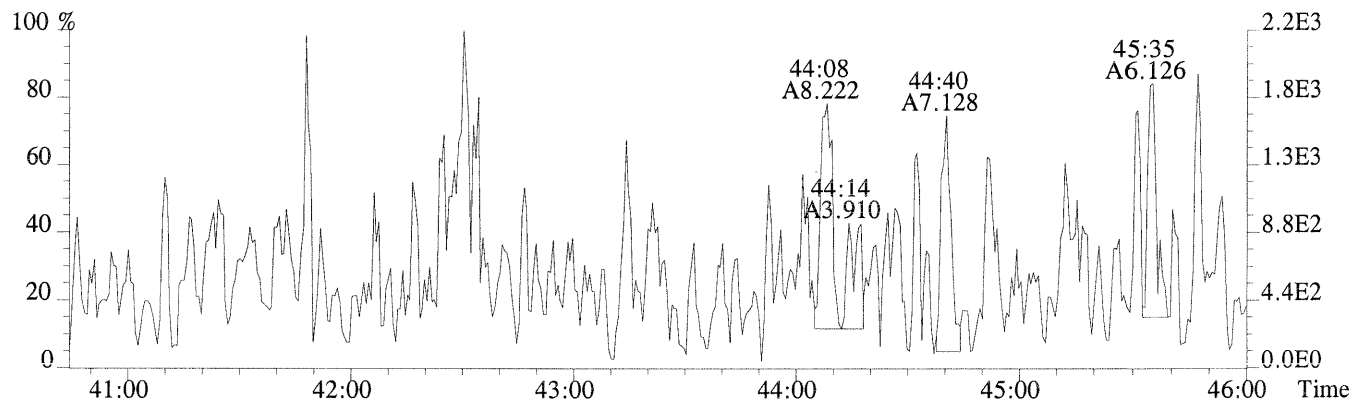
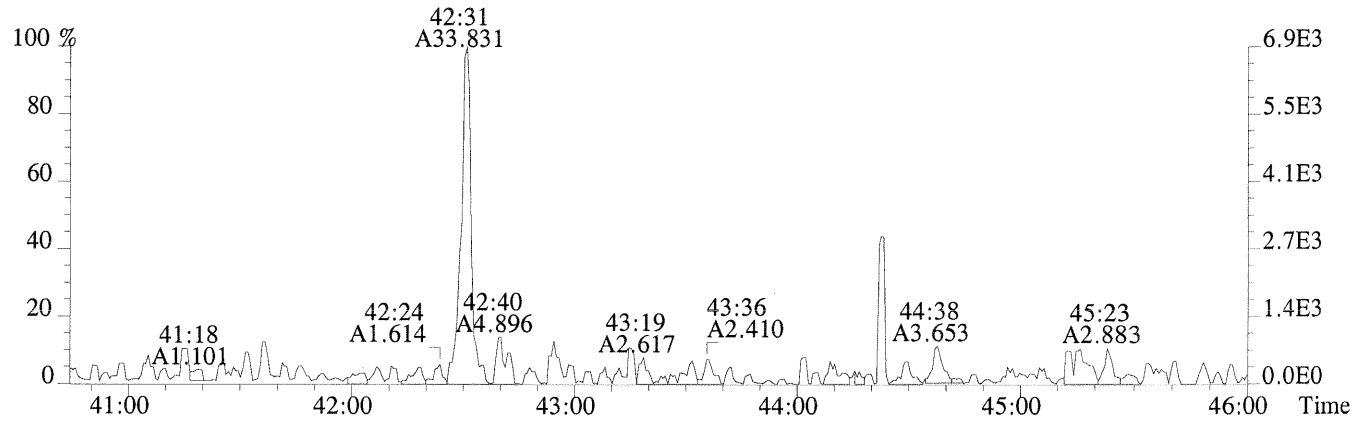


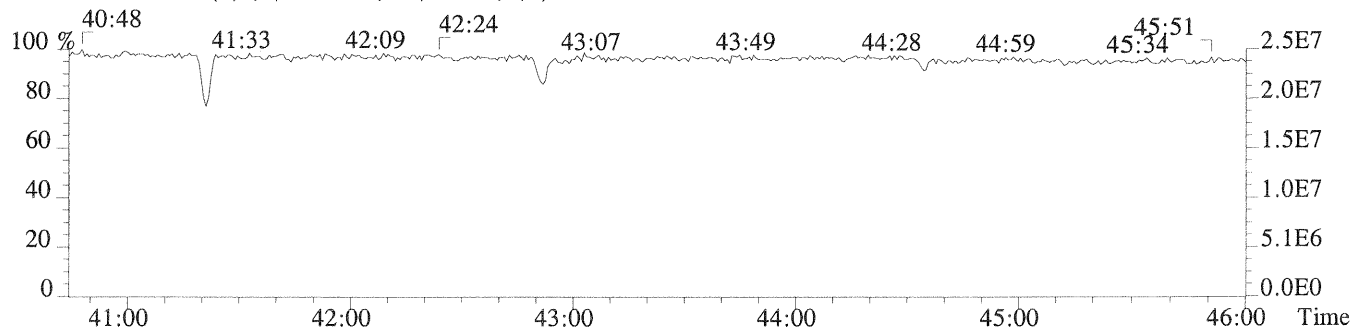
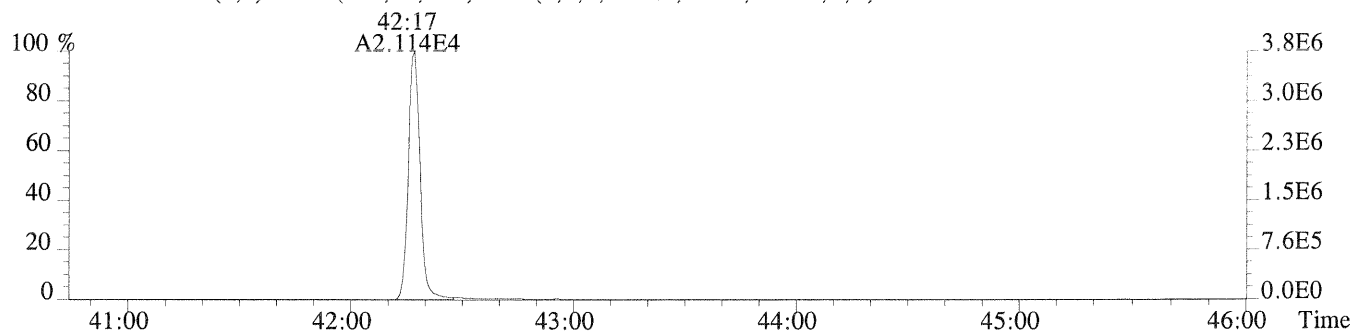
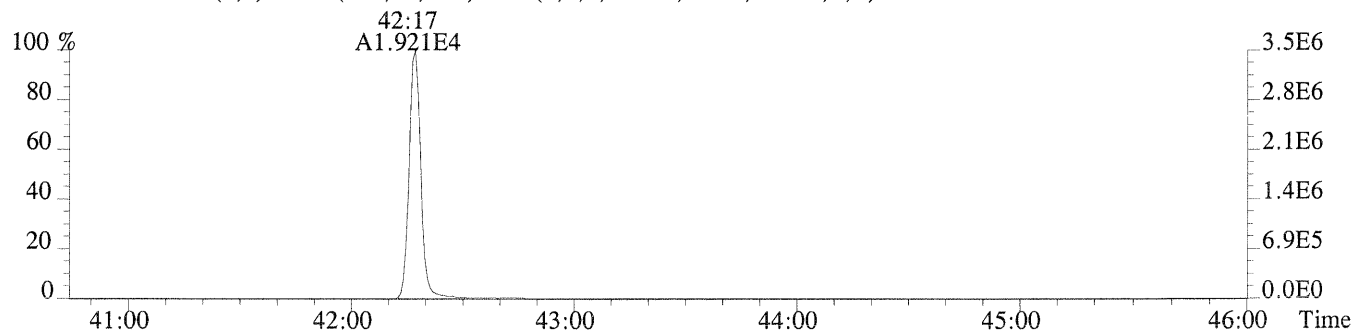
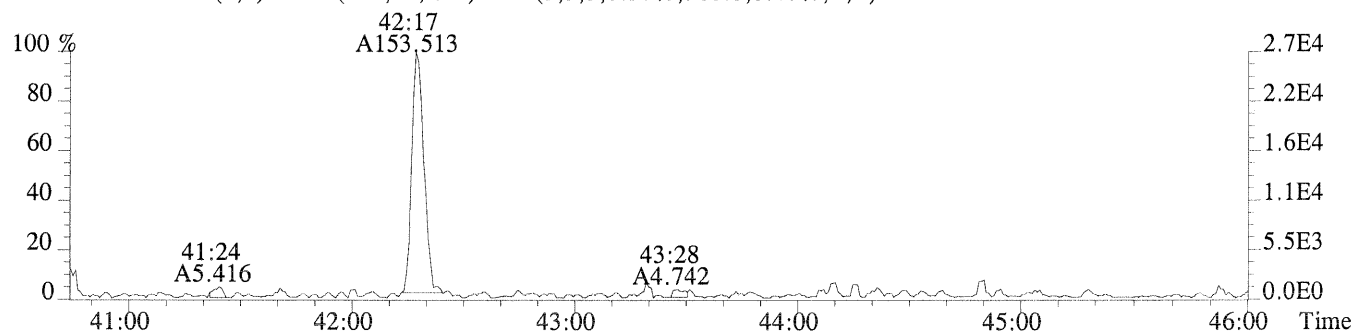
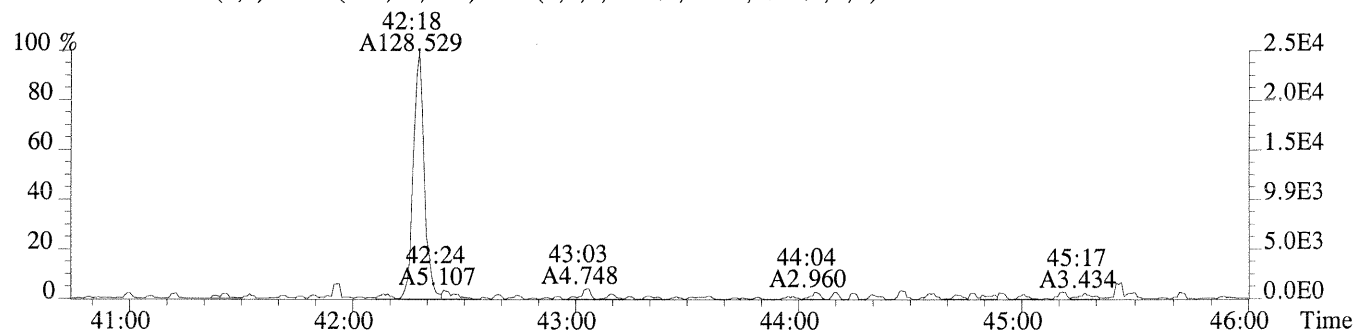
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,404.0,0.40%,F,T)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)







ALS ENVIRONMENTAL  
 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-REF 7

Run #15    Filename P230812    Samp: 1    Inj: 1    Acquired: 27-AUG-14 06:45:50  
 Processed: 27-AUG-14 17:38:52    Sample ID: K1407971-016

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:17	3.286e+01	4.474e+01	0.73	yes	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.000
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	yes	yes	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	1.848e+01	2.673e+01	0.69	no	yes	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.274
10 Unk	OCDF	42:31	1.730e+01	2.148e+01	0.81	yes	no	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.118
14 Unk	1,2,3,6,7,8-HxCDD	36:49	9.296e+00	1.007e+01	0.92	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	37:04	9.192e+00	7.966e+00	1.15	yes	yes	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	5.901e+01	6.040e+01	0.98	yes	no	1.053
17 Unk	OCDD	42:18	2.059e+02	1.683e+02	1.22	no	yes	1.169
18 IS	13C-2,3,7,8-TCDF	28:16	1.756e+04	2.195e+04	0.80	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:26	3.756e+04	2.382e+04	1.58	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:21	3.982e+04	2.457e+04	1.62	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:60	1.769e+04	3.427e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	2.277e+04	4.404e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.996e+04	3.793e+04	0.53	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:22	1.697e+04	3.303e+04	0.51	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	1.298e+04	2.949e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:60	1.124e+04	2.531e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:03	1.315e+04	1.666e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	3.095e+04	1.937e+04	1.60	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	2.625e+04	2.081e+04	1.26	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:50	2.528e+04	1.980e+04	1.28	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	2.124e+04	1.991e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:17	2.434e+04	2.710e+04	0.90	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:29	2.389e+04	3.024e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	3.945e+04	3.129e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	9.700e+03				no	1.099

$$\text{OCDD} = \frac{(2.059e+02 + 1.683e+02) \times 4000 \text{ pg} \times 1}{(2.434e+04 + 2.710e+04) \times 6.692 \text{ g} \times / 100 \times 1.169} = 3.721814$$

*Handwritten:* 3.721814  
 08/28/14

ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

1613RESPA

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-REF Rep7

Run #15    Filename P230812    Samp: 1    Inj: 1    Acquired: 27-AUG-14 06:45:50  
 Processed: 27-AUG-14 17:38:521    LAB. ID: K1407971-016

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.81e+03	4.40e+01	1.5e+02	8.16e+03	8.56e+02	9.5e+00
2	1,2,3,7,8-PeCDF	*	2.88e+02	*	*	1.26e+03	*
3	2,3,4,7,8-PeCDF	*	2.88e+02	*	*	1.26e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.00e+03	*	*	2.24e+02	*
5	1,2,3,6,7,8-HxCDF	*	1.00e+03	*	*	2.24e+02	*
6	2,3,4,6,7,8-HxCDF	*	1.00e+03	*	*	2.24e+02	*
7	1,2,3,7,8,9-HxCDF	*	1.00e+03	*	*	2.24e+02	*
8	1,2,3,4,6,7,8-HpCDF	4.23e+03	6.80e+01	6.2e+01	6.21e+03	6.40e+01	9.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	6.80e+01	*	*	6.40e+01	*
10	OCDF	3.34e+03	6.40e+01	5.2e+01	4.82e+03	9.56e+02	5.0e+00
11	2,3,7,8-TCDD	*	5.20e+02	*	*	3.68e+02	*
12	1,2,3,7,8-PeCDD	*	1.33e+03	*	*	1.84e+02	*
13	1,2,3,4,7,8-HxCDD	*	3.40e+02	*	*	5.04e+02	*
14	1,2,3,6,7,8-HxCDD	2.44e+03	3.40e+02	7.2e+00	2.01e+03	5.04e+02	4.0e+00
15	1,2,3,7,8,9-HxCDD	2.68e+03	3.40e+02	7.9e+00	1.92e+03	5.04e+02	3.8e+00
16	1,2,3,4,6,7,8-HpCDD	1.37e+04	7.16e+02	1.9e+01	1.31e+04	6.40e+01	2.1e+02
17	OCDD	3.87e+04	7.20e+01	5.4e+02	3.51e+04	5.24e+02	6.7e+01
18	13C-2,3,7,8-TCDF	3.66e+06	1.46e+03	2.5e+03	4.55e+06	9.76e+02	4.7e+03
19	13C-1,2,3,7,8-PeCDF	7.01e+06	5.84e+02	1.2e+04	4.48e+06	4.00e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	7.94e+06	5.84e+02	1.4e+04	4.88e+06	4.00e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	3.85e+06	6.88e+02	5.6e+03	7.50e+06	5.52e+02	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	4.88e+06	6.88e+02	7.1e+03	9.45e+06	5.52e+02	1.7e+04
23	13C-2,3,4,6,7,8-HxCDF	4.47e+06	6.88e+02	6.5e+03	8.50e+06	5.52e+02	1.5e+04
24	13C-1,2,3,7,8,9-HxCDF	3.64e+06	6.88e+02	5.3e+03	7.08e+06	5.52e+02	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	3.01e+06	1.59e+03	1.9e+03	6.84e+06	1.06e+03	6.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.37e+06	1.59e+03	1.5e+03	5.37e+06	1.06e+03	5.1e+03
27	13C-2,3,7,8-TCDD	2.82e+06	3.27e+03	8.6e+02	3.66e+06	1.74e+03	2.1e+03
28	13C-1,2,3,7,8-PeCDD	6.09e+06	6.84e+02	8.9e+03	3.82e+06	2.32e+02	1.6e+04
29	13C-1,2,3,4,7,8-HxCDD	5.98e+06	1.05e+03	5.7e+03	4.71e+06	9.04e+02	5.2e+03
30	13C-1,2,3,6,7,8-HxCDD	5.58e+06	1.05e+03	5.3e+03	4.34e+06	9.04e+02	4.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.50e+06	4.48e+02	1.0e+04	4.22e+06	1.96e+02	2.2e+04
32	13C-OCDD	4.39e+06	6.00e+01	7.3e+04	4.97e+06	4.28e+02	1.2e+04
33	13C-1,2,3,4-TCDD	5.05e+06	3.27e+03	1.5e+03	6.33e+06	1.74e+03	3.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.69e+06	1.05e+03	8.3e+03	6.89e+06	9.04e+02	7.6e+03
35	37Cl-2,3,7,8-TCDD	2.14e+06	3.64e+02	5.9e+03			

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XLSN



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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 15      File: P230812      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    06:45:50      Processed: 27-AUG-14 17:38:52

Mass: 389.8160    391.8130      Tot Response: 1.72e+01    RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:04	9.19e+00	7.97e+00	1.15	yes	1.72e+01	1,2,3,7,8,9-HxCDD	n    y

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 43      Totals Name: Total Hepta-Furans

Run: 15      File: P230812      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    06:45:50      Processed: 27-AUG-14 17:38:52

Mass: 407.7820    409.7790      Tot Response: 4.14e+01    RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:00	2.12e+01	2.02e+01	1.05	yes	4.14e+01	y	n

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

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Nv SYC14-REF Rep71

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Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P230812 Sample: 1 Injection: 1 Function: 4

Llim: - Ulim: -

Acquired: 27-AUG-14 06:45:50 Processed: 27-AUG-14 17:38:52

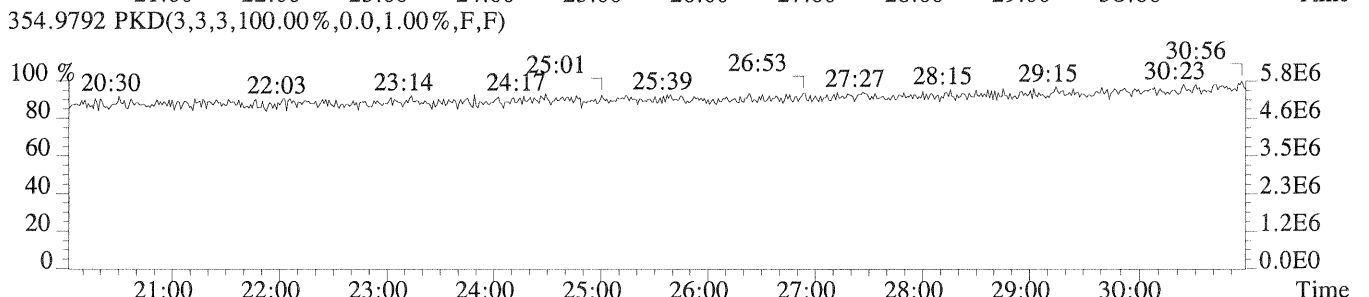
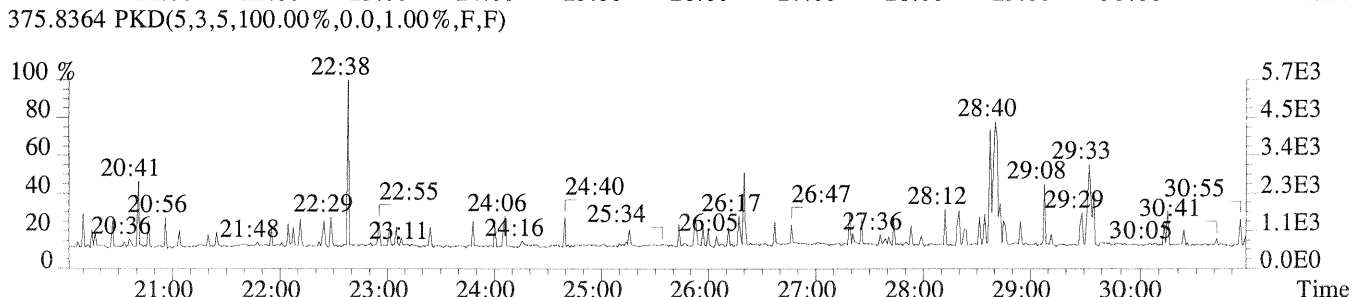
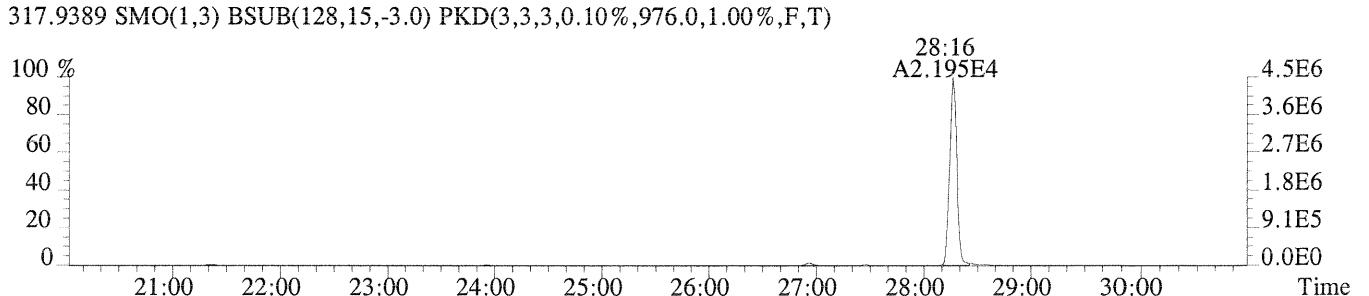
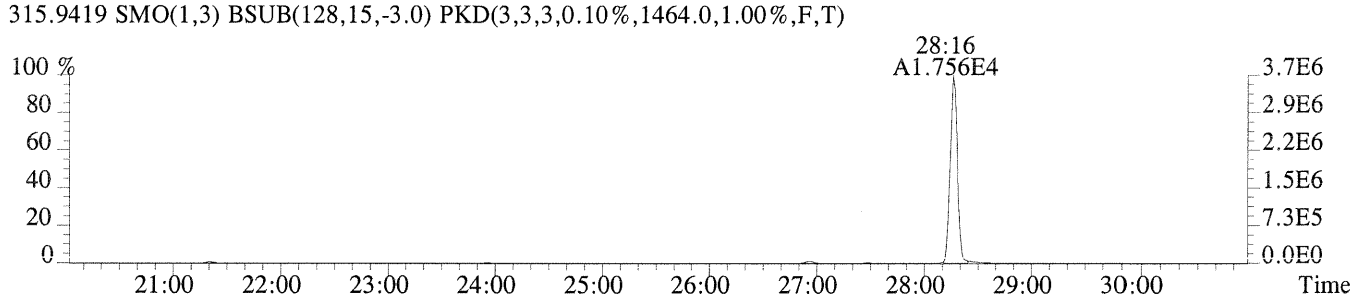
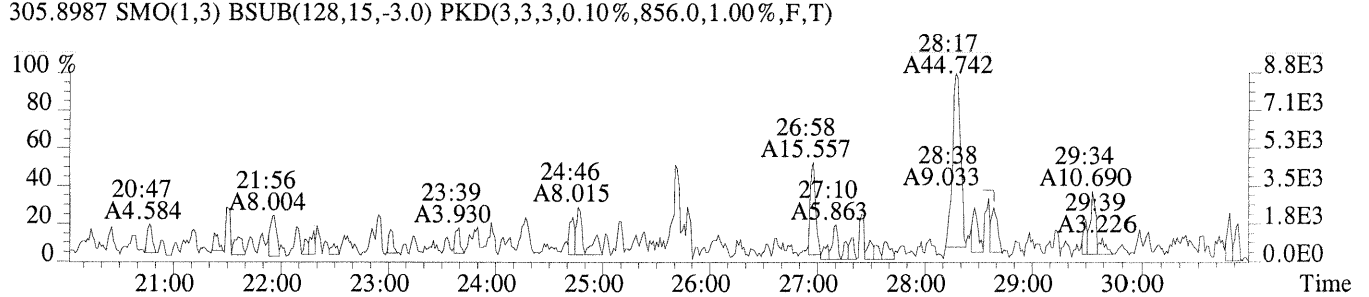
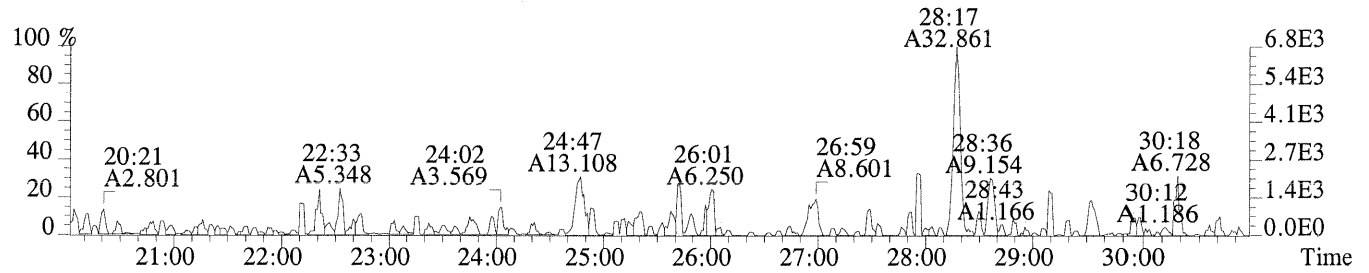
Mass: 423.7770 425.7740 Tot Response: 2.90e+02 RRF: 1.053

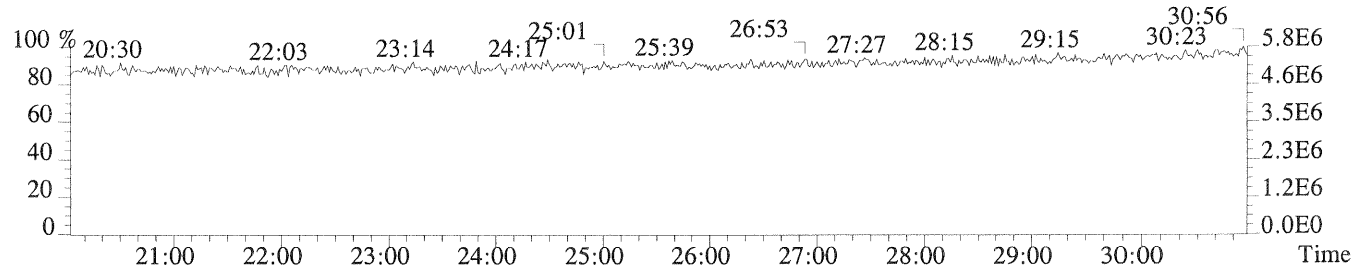
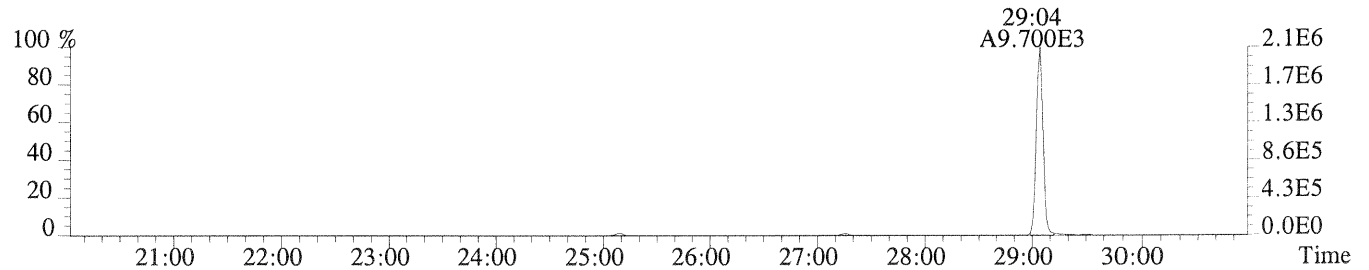
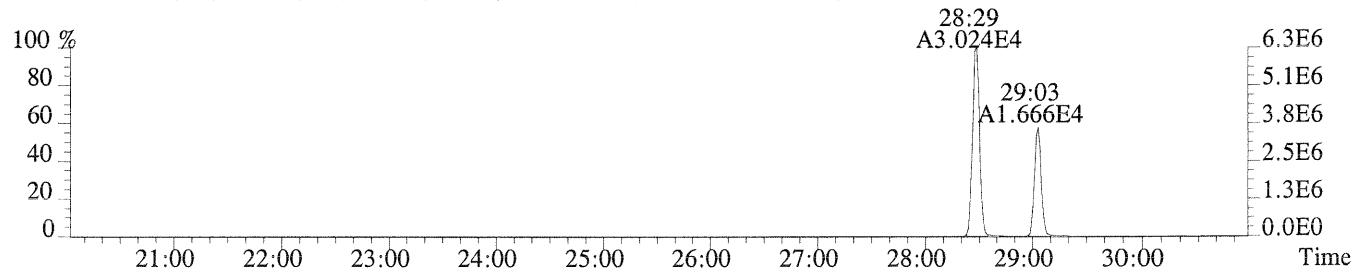
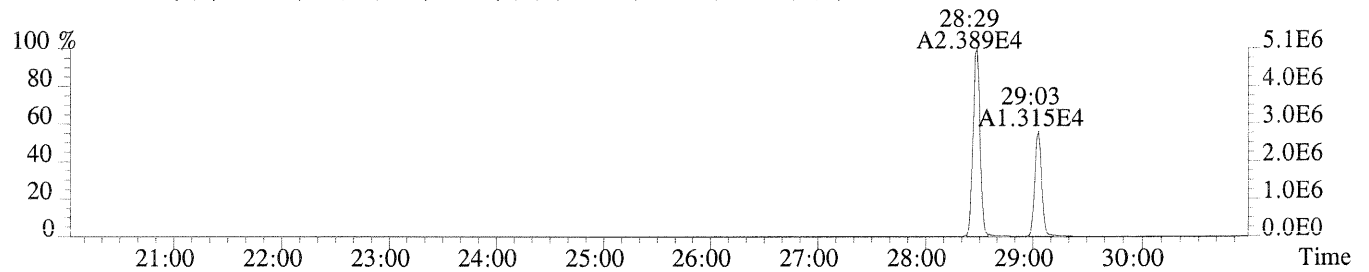
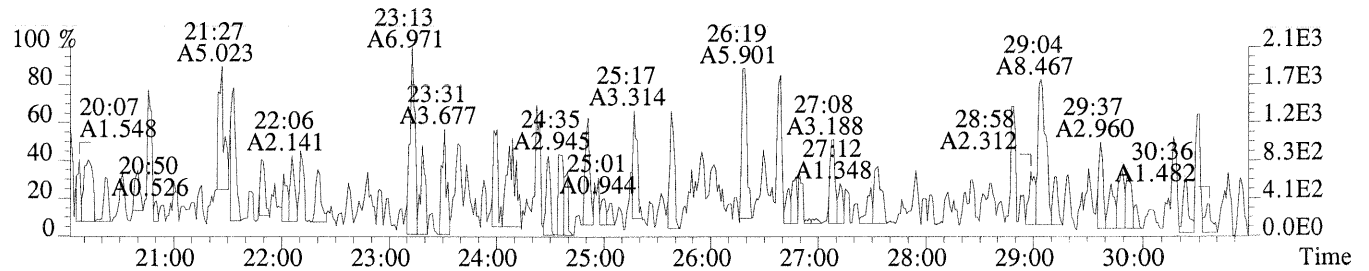
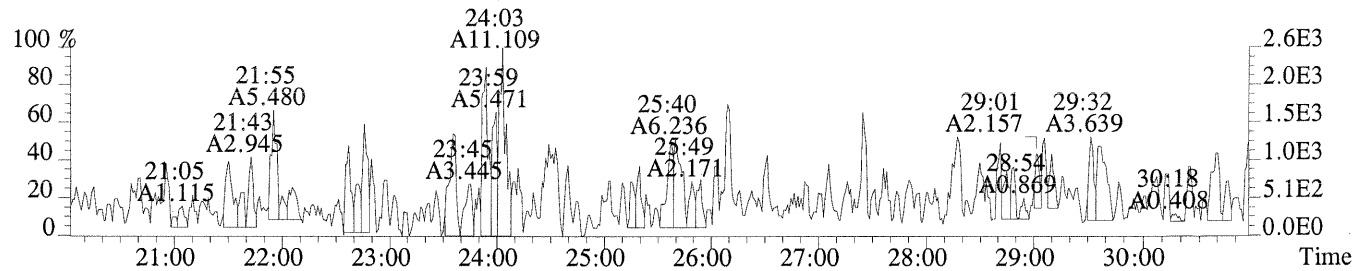
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:51	8.94e+01	8.12e+01	1.10	yes	1.71e+02	n	n
2	39:31	5.90e+01	6.04e+01	0.98	yes	1.19e+02	n	n

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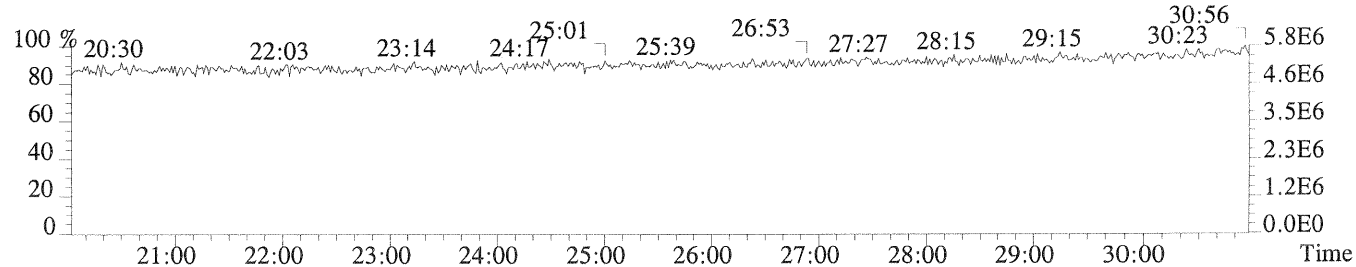
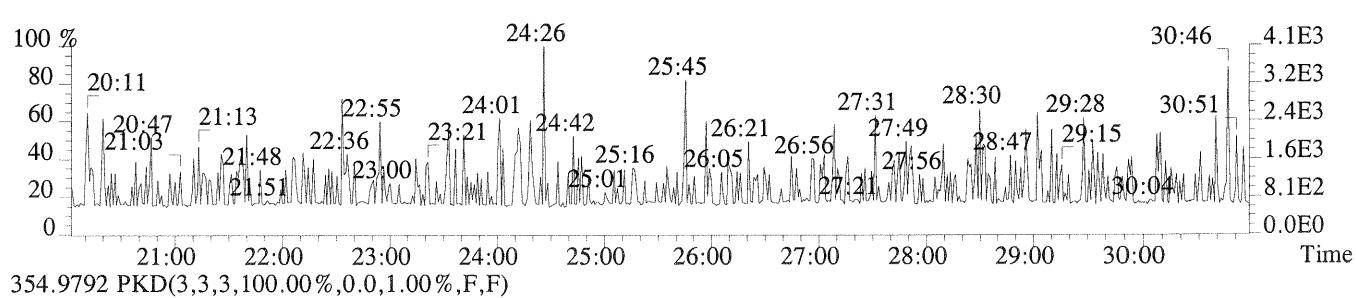
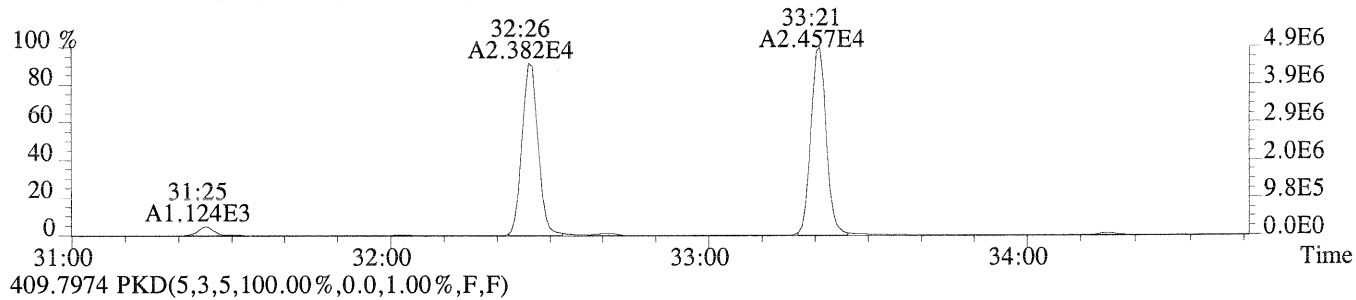
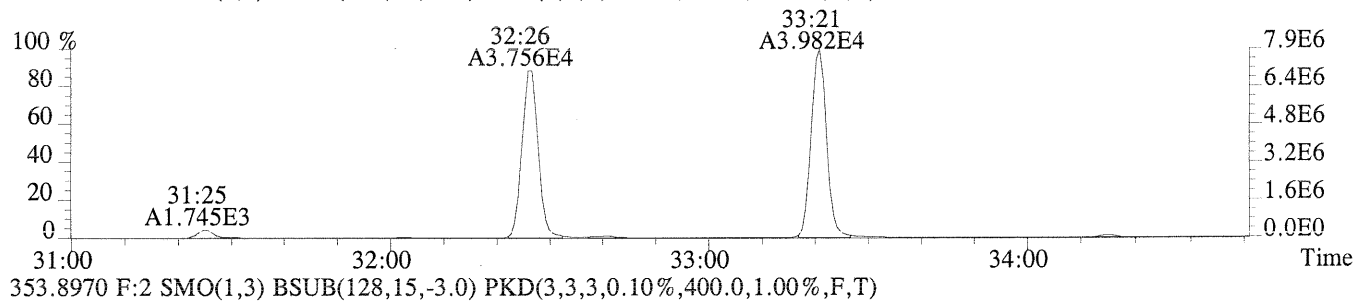
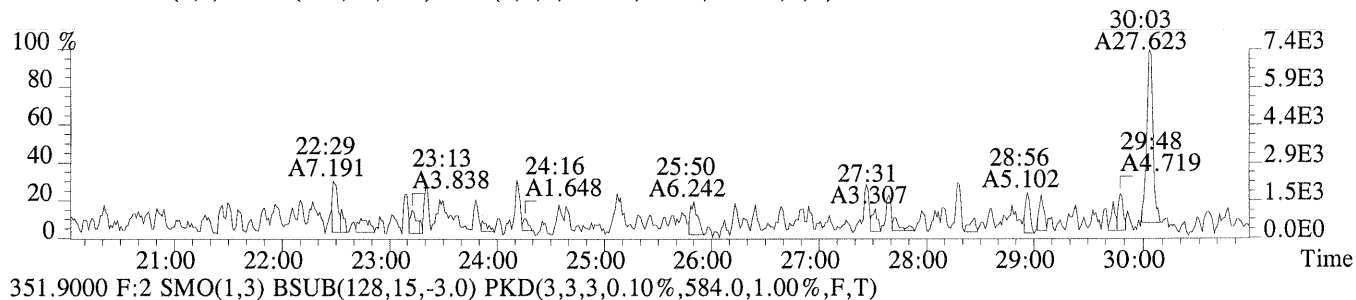
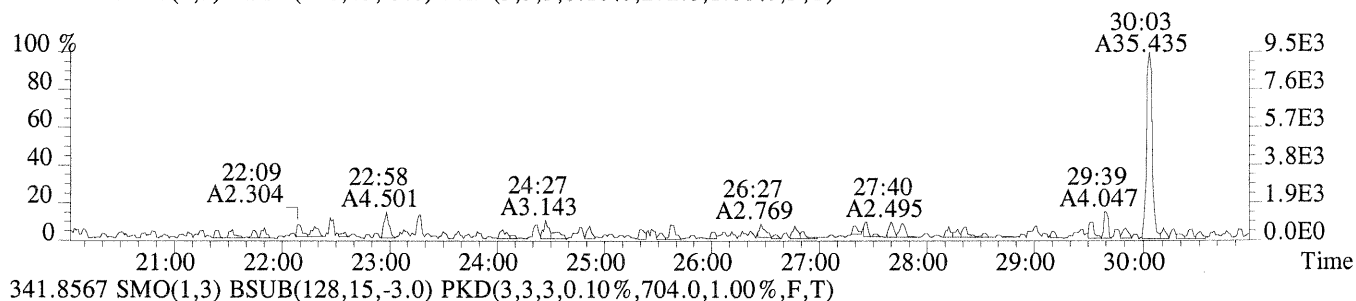
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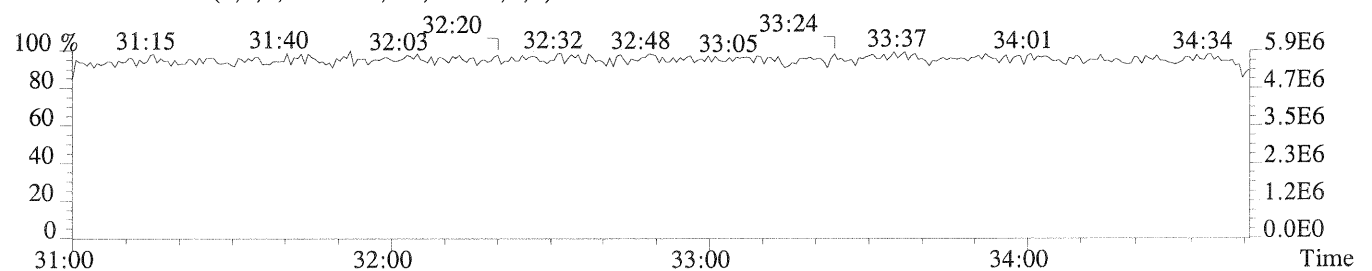
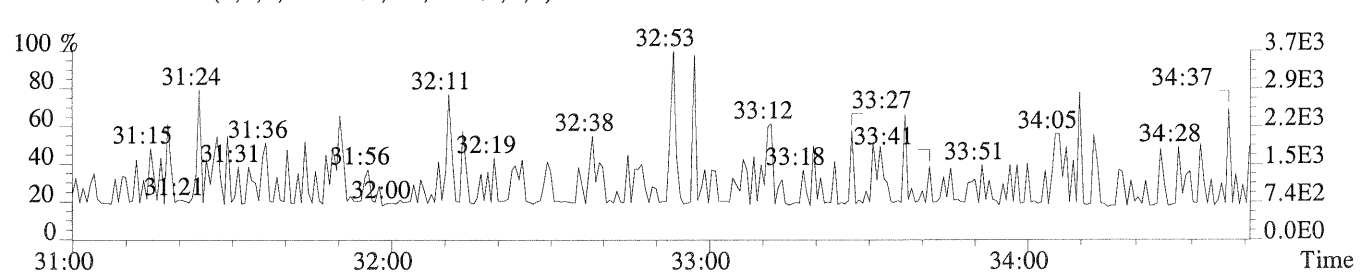
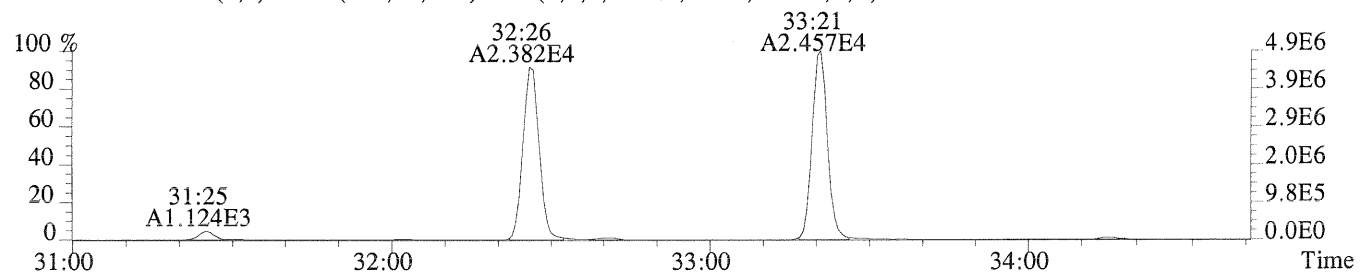
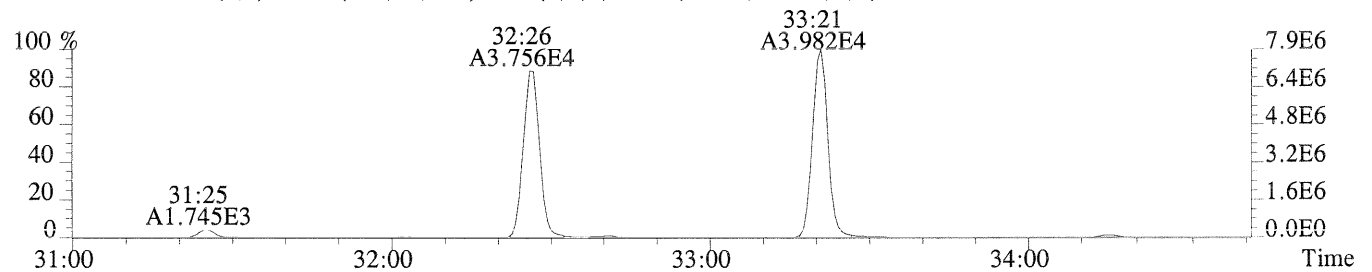
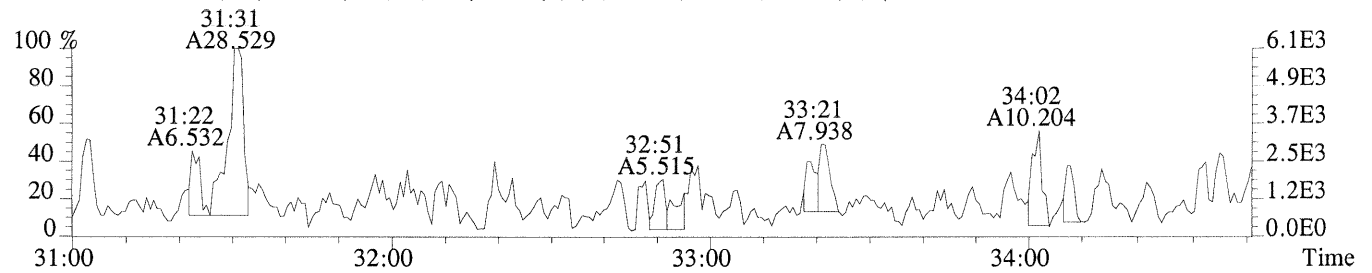
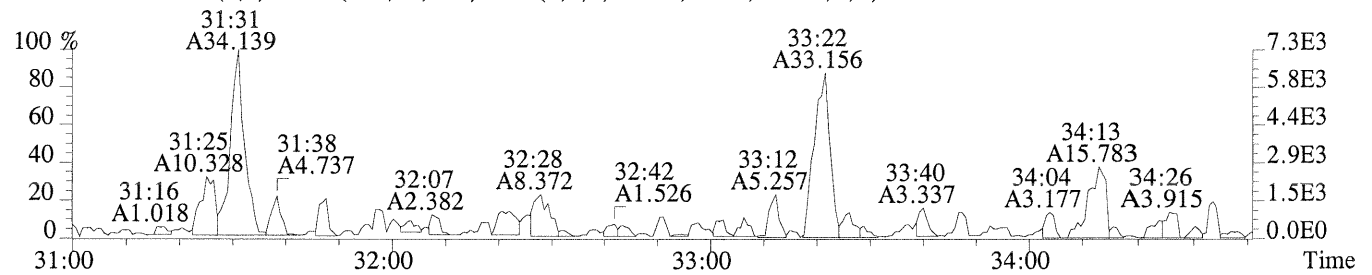
File:P230812 #1-687 Acq:27-AUG-2014 06:45:50 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-016  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,44.0,1.00%,F,T)

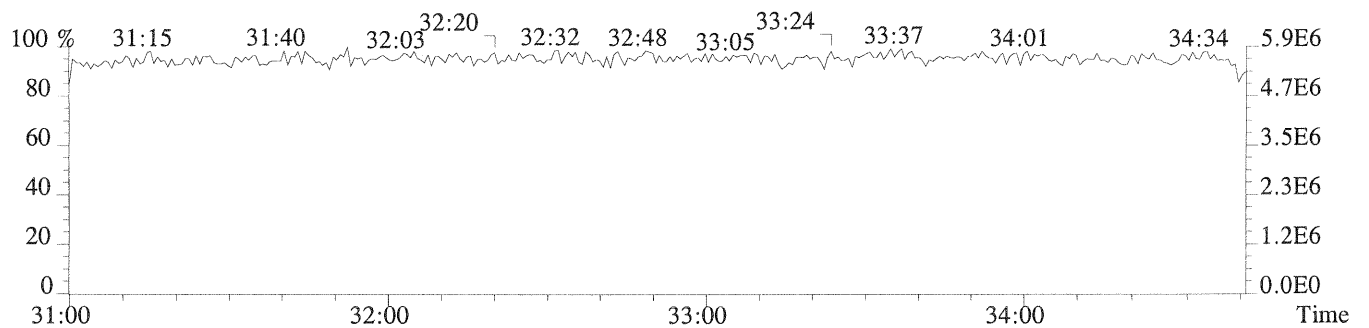
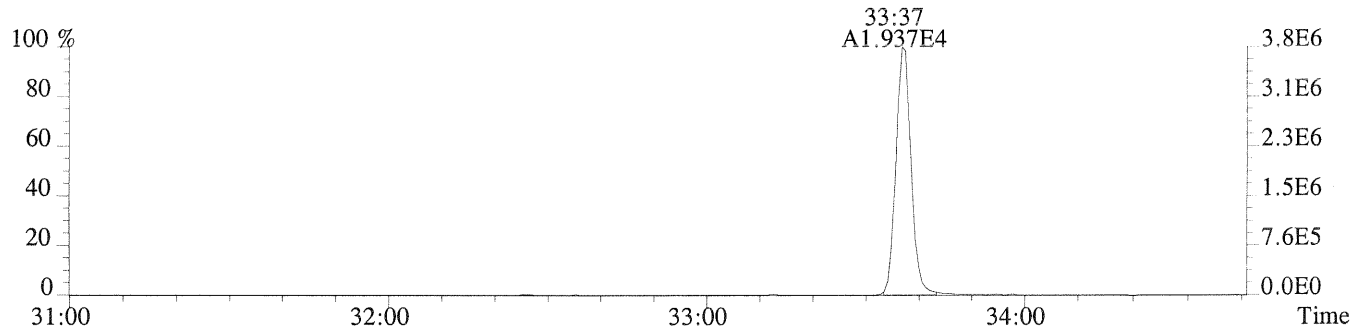
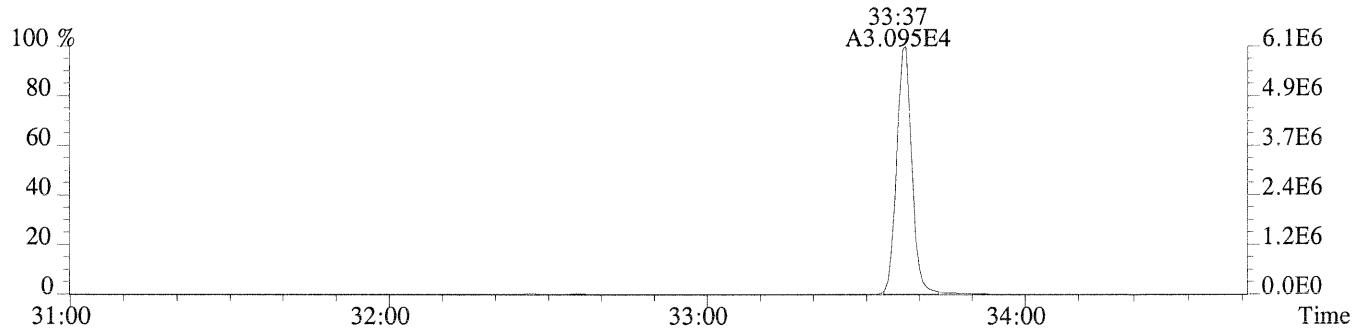
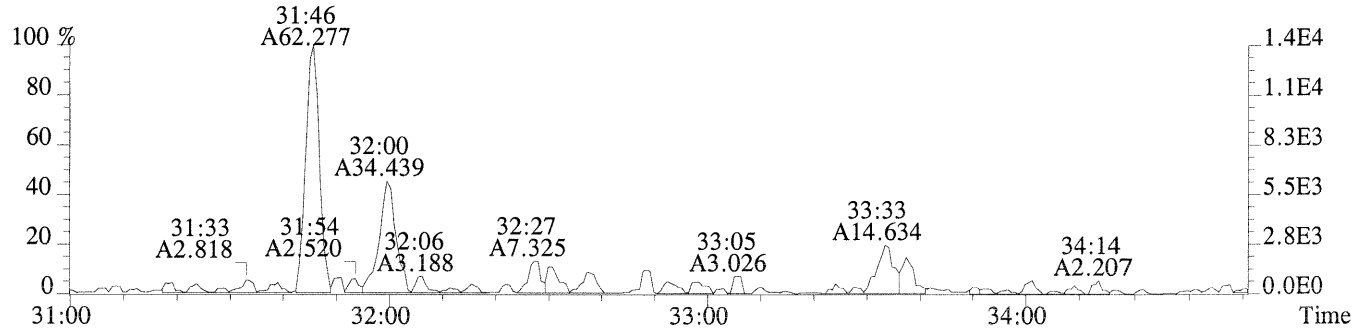
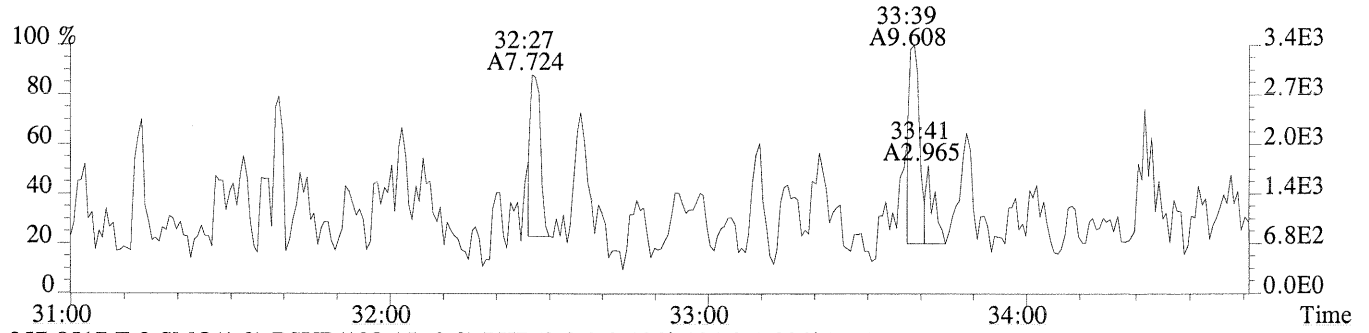




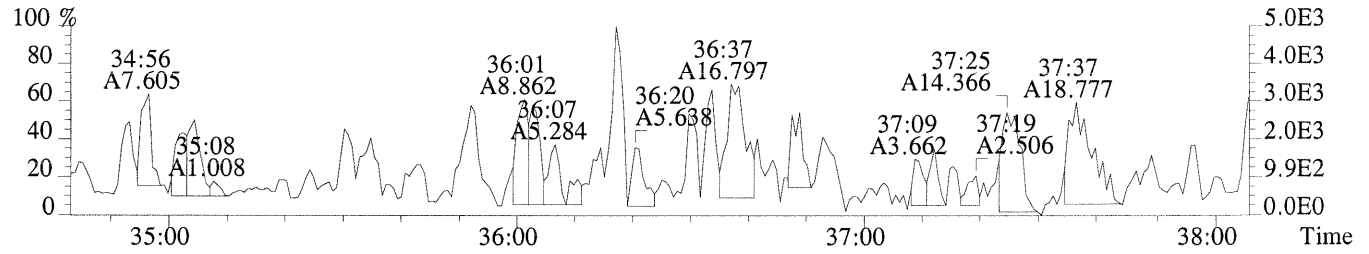
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Sample#1 Exp:K1407971-016  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,272.0,1.00%,F,T)



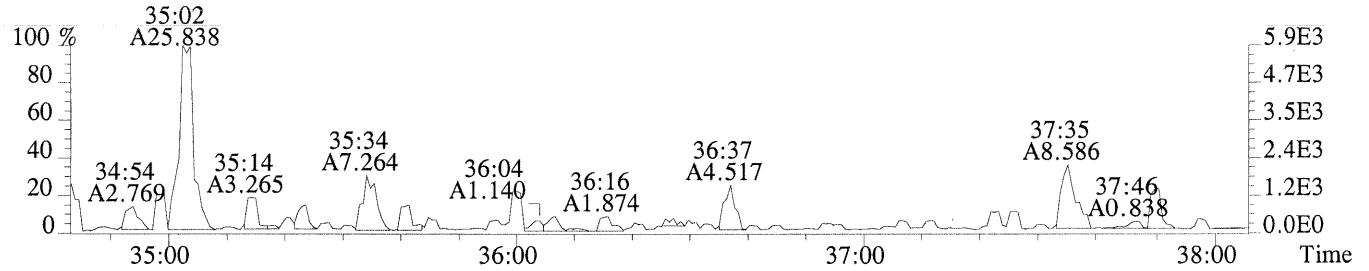




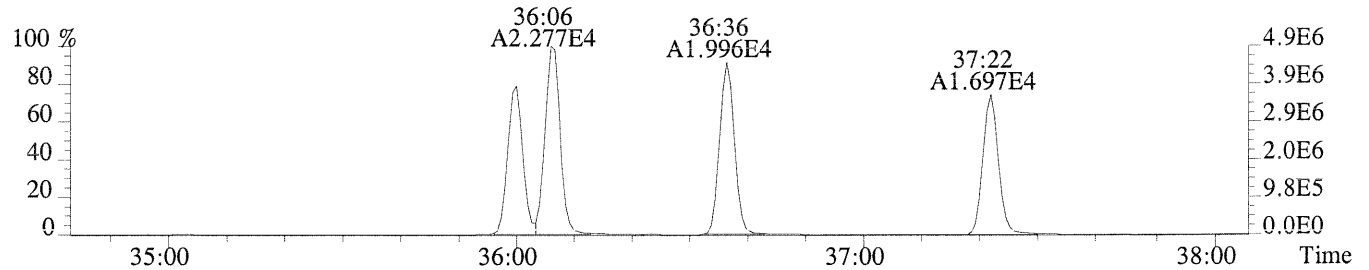
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Sample#1 Exp:K1407971-016  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1004.0,0.40%,F,T)



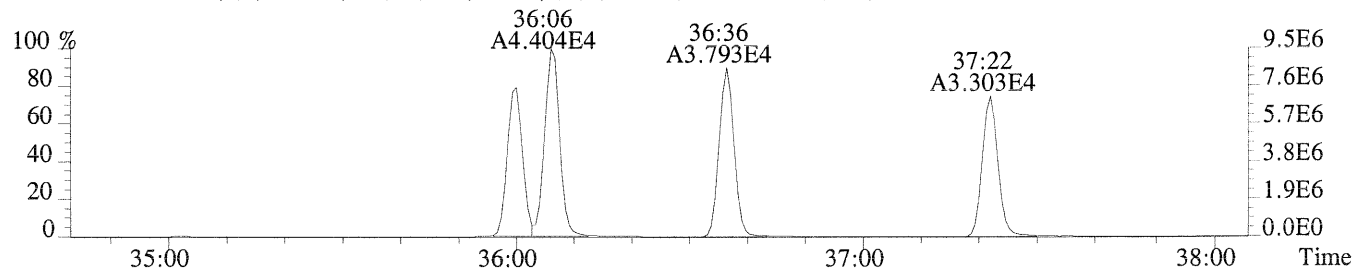
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



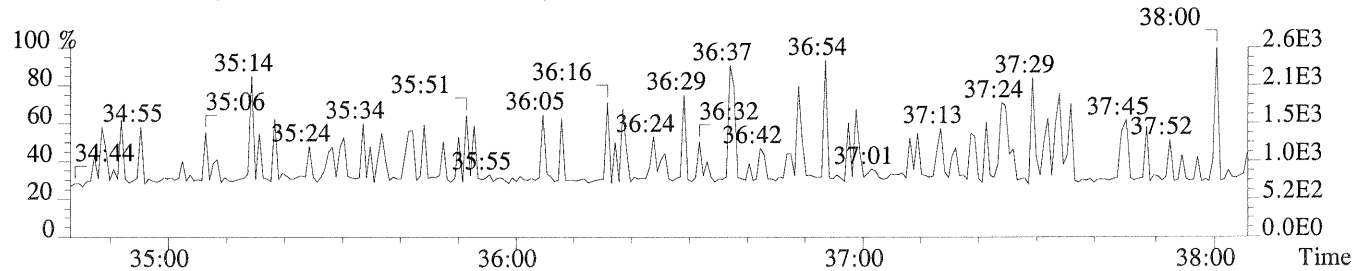
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



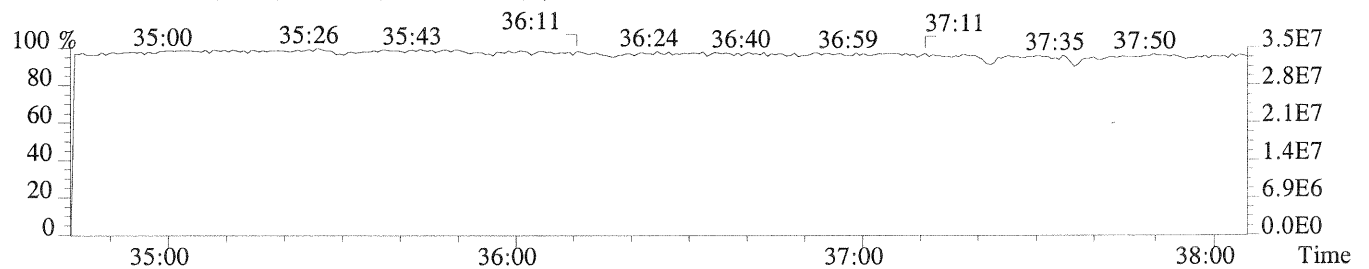
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



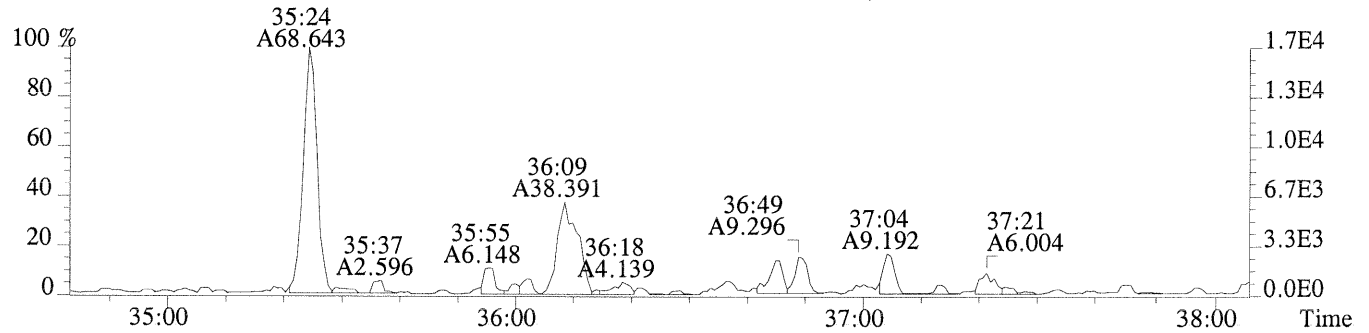
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



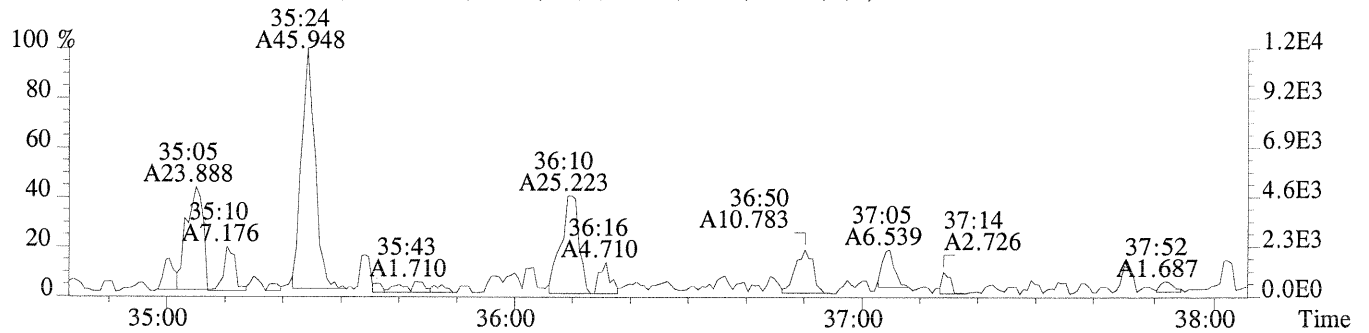
File:P230812 #1-307 Acq:27-AUG-2014 06:45:50 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:K1407971-016

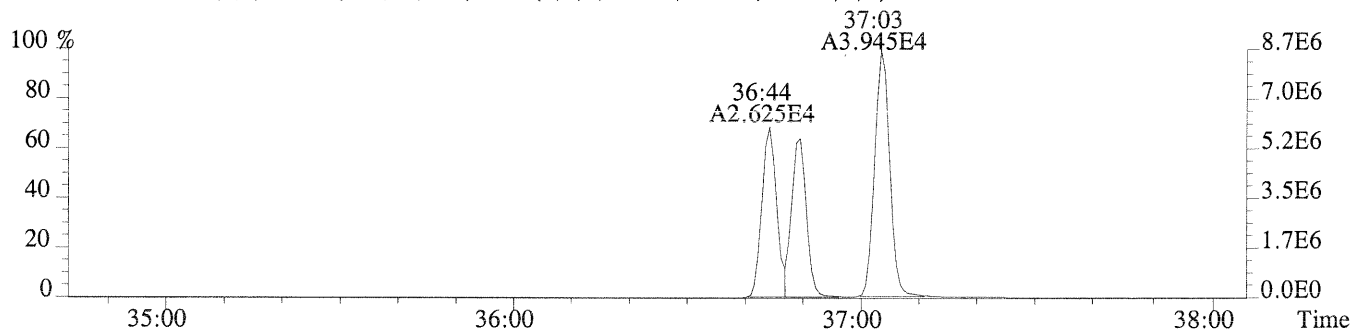
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)



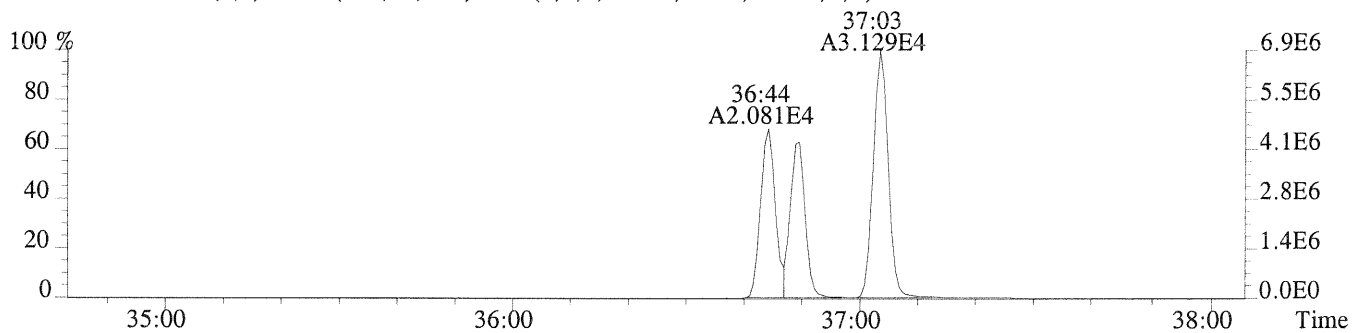
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.40%,F,T)



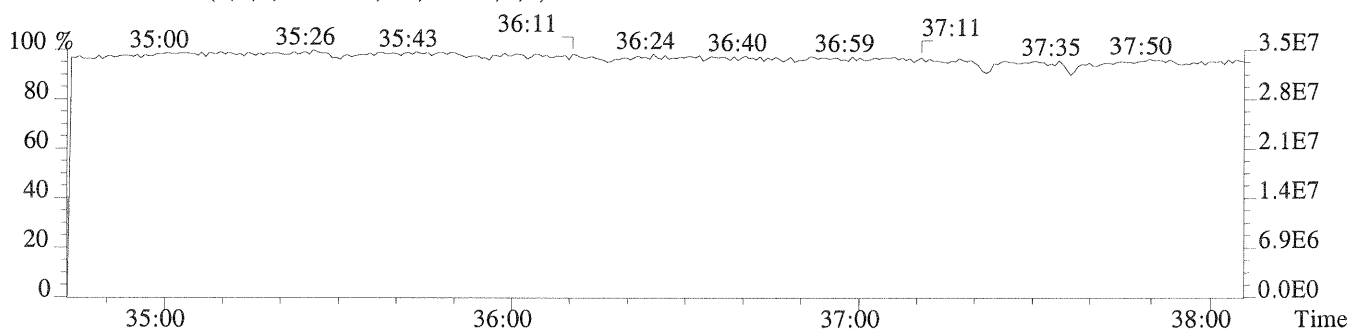
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)

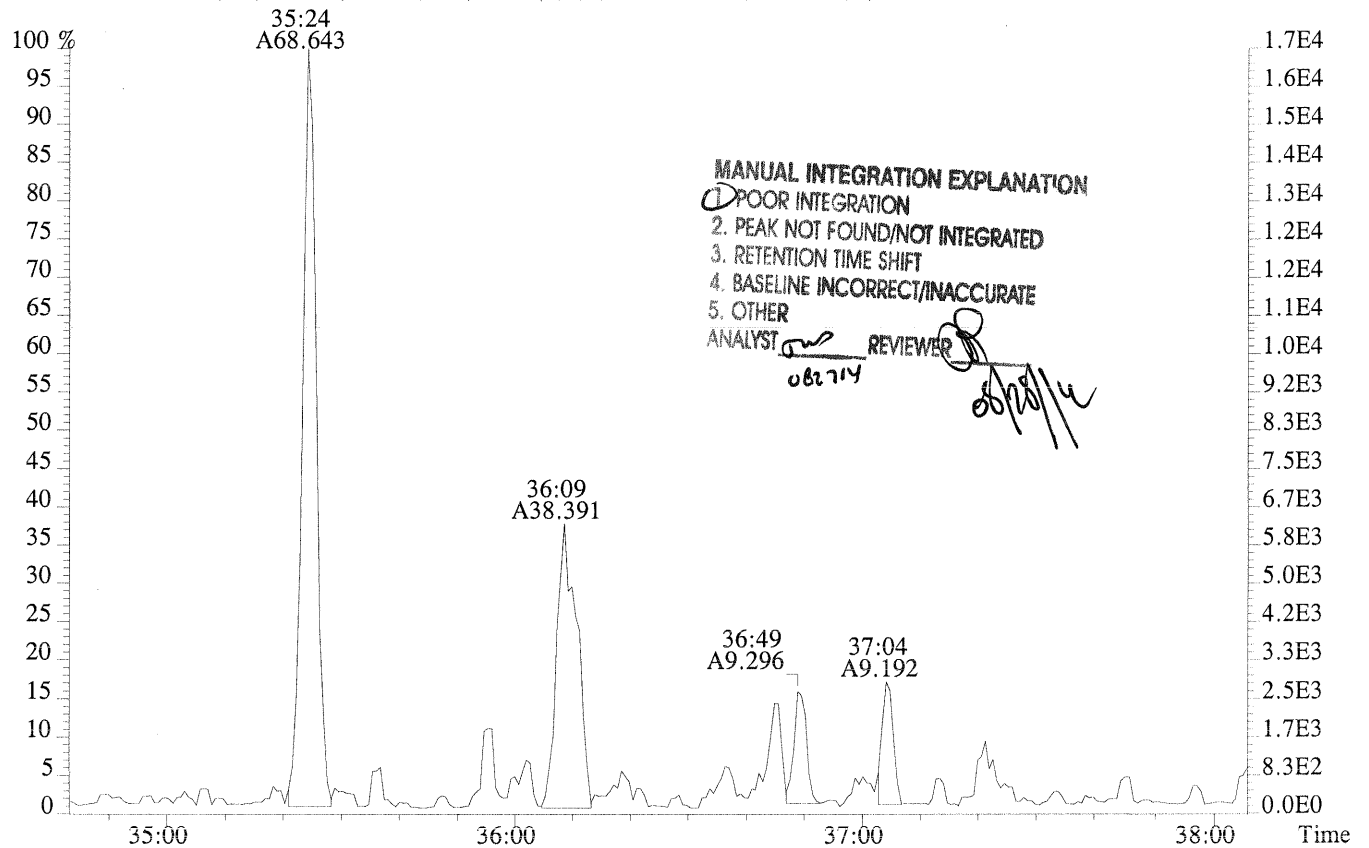


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

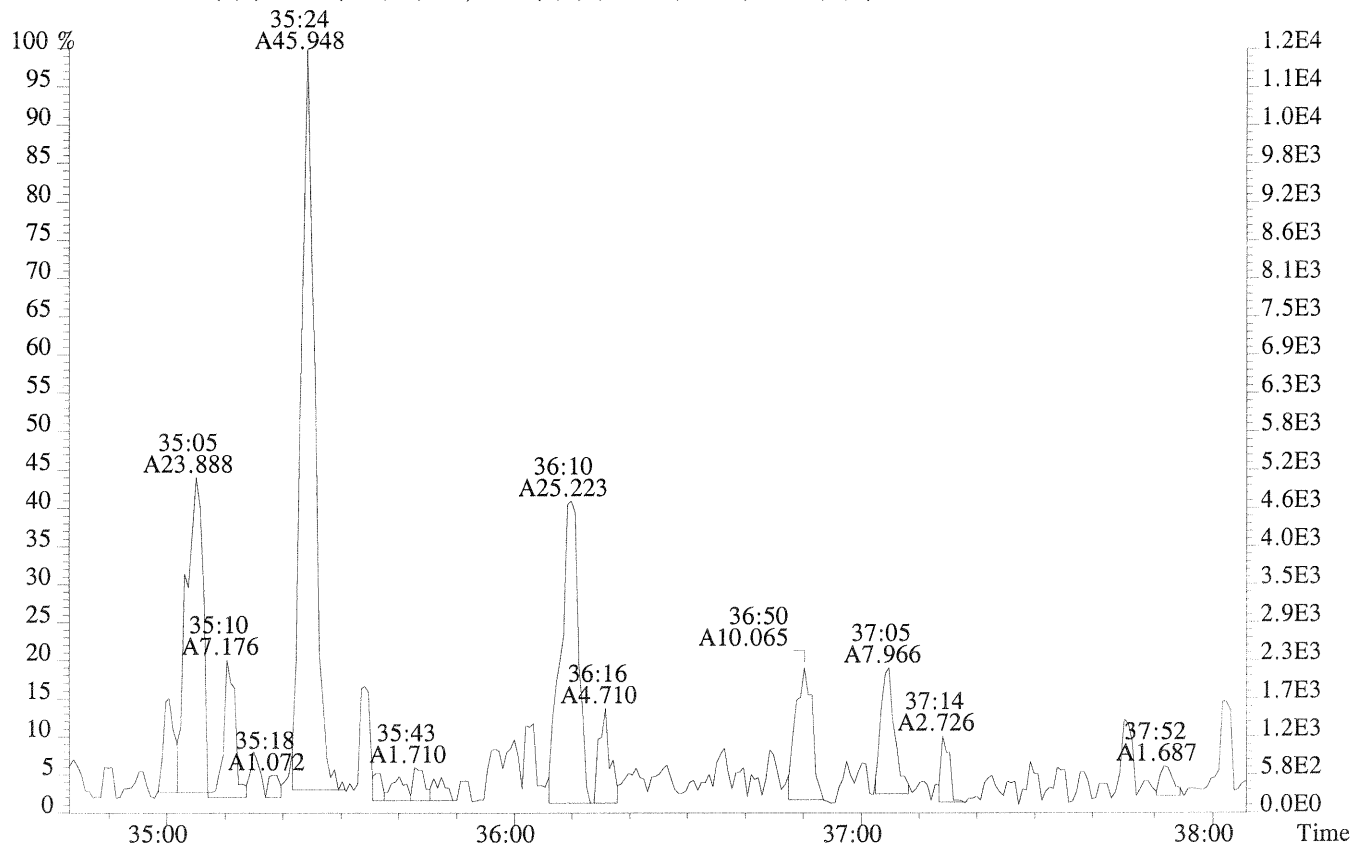


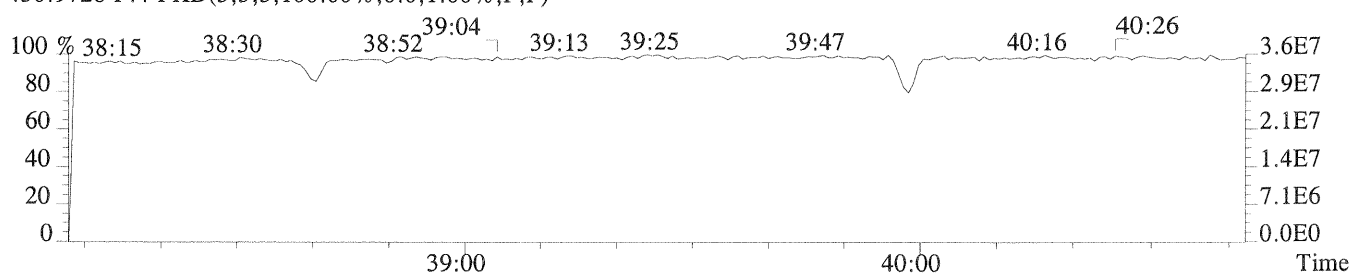
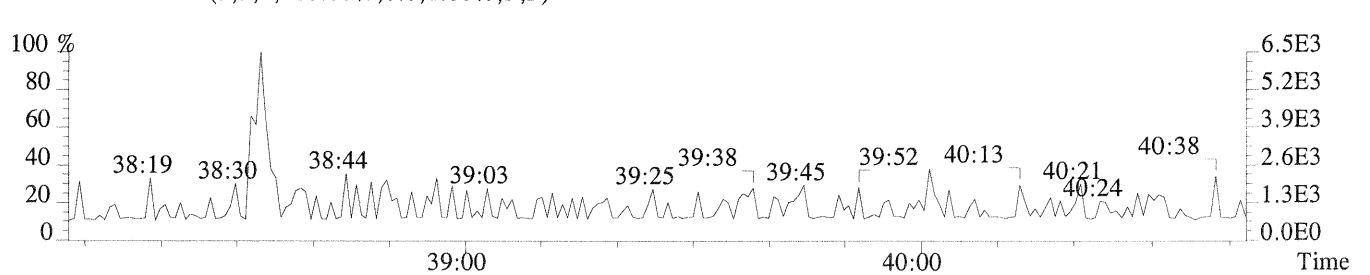
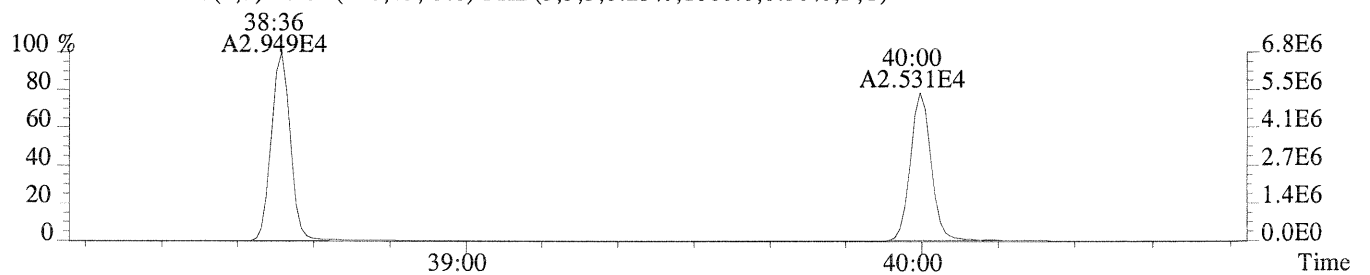
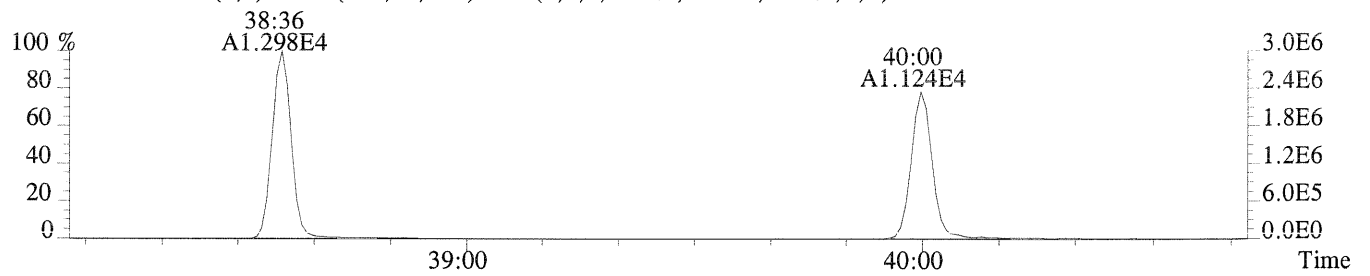
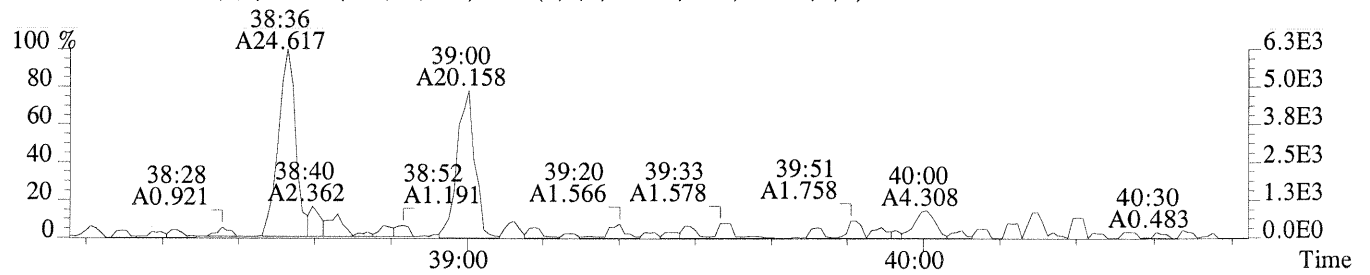
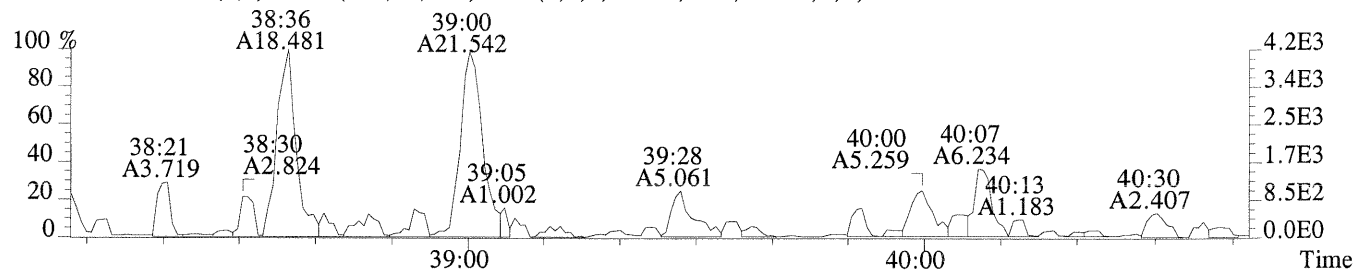


File:P230812 #1-307 Acq:27-AUG-2014 06:45:50 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-016  
 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)

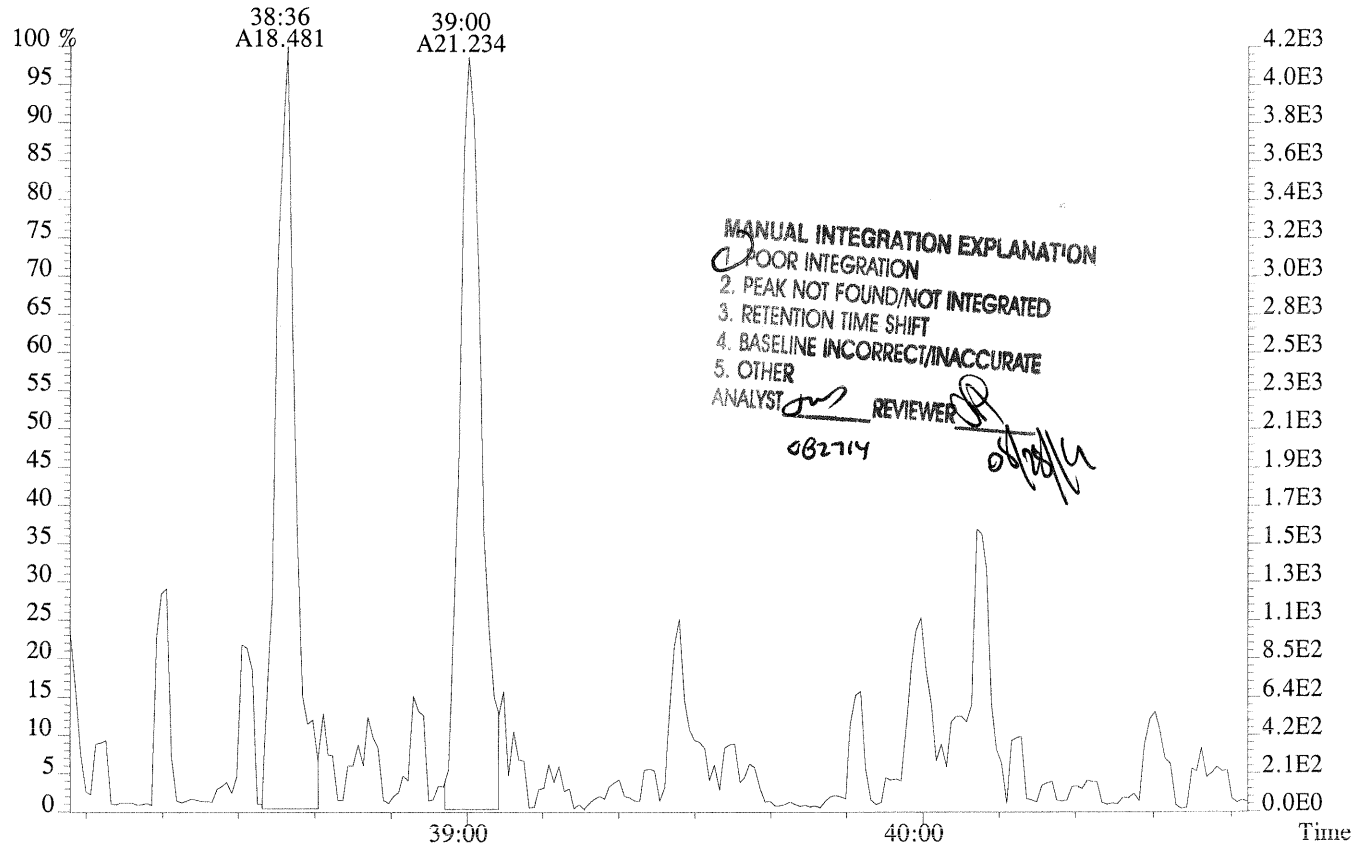


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.40%,F,T)

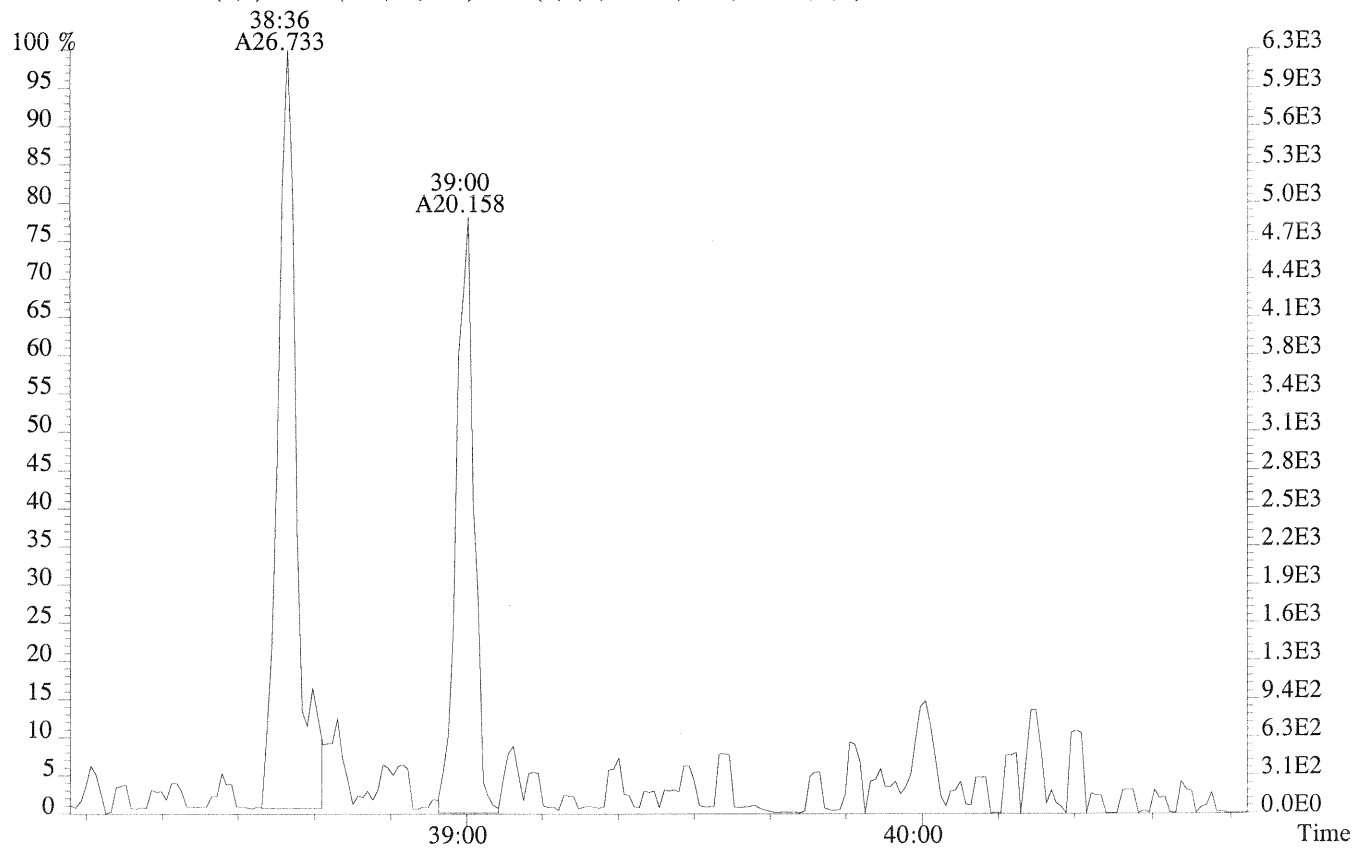


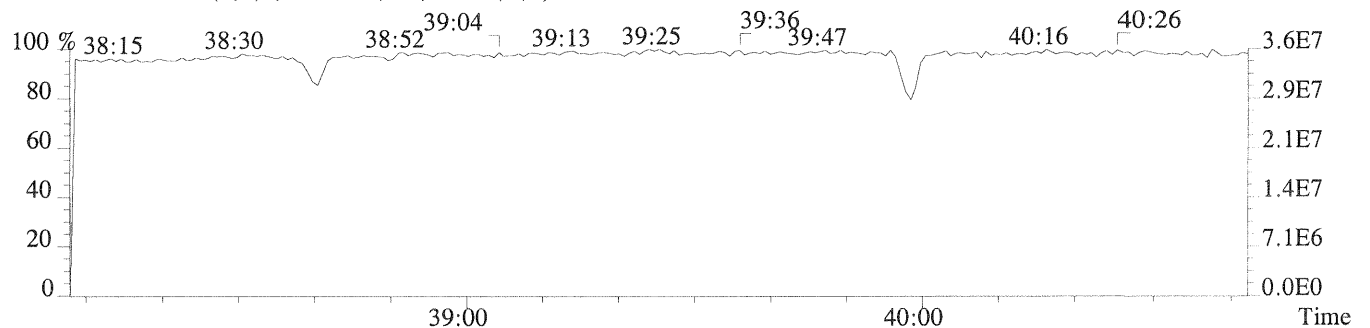
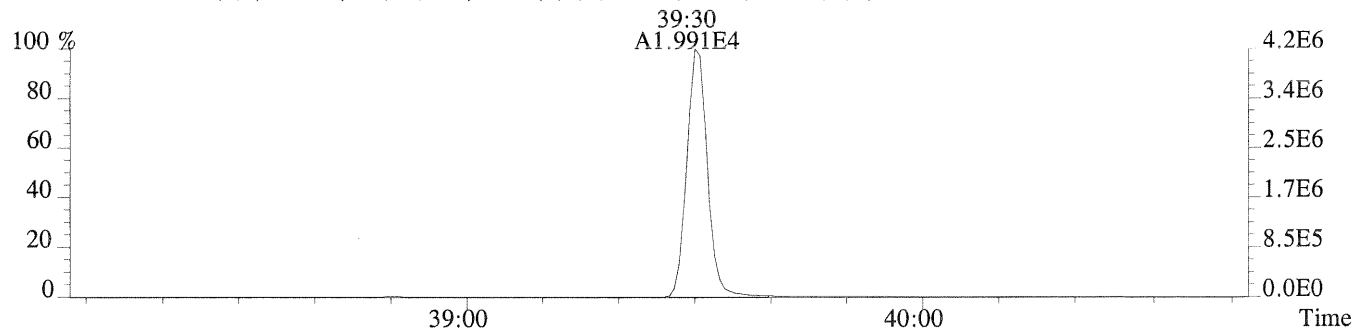
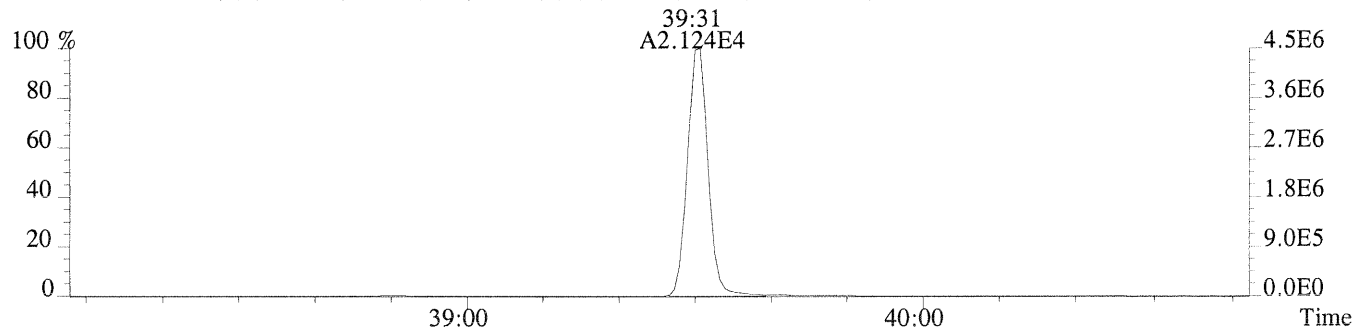
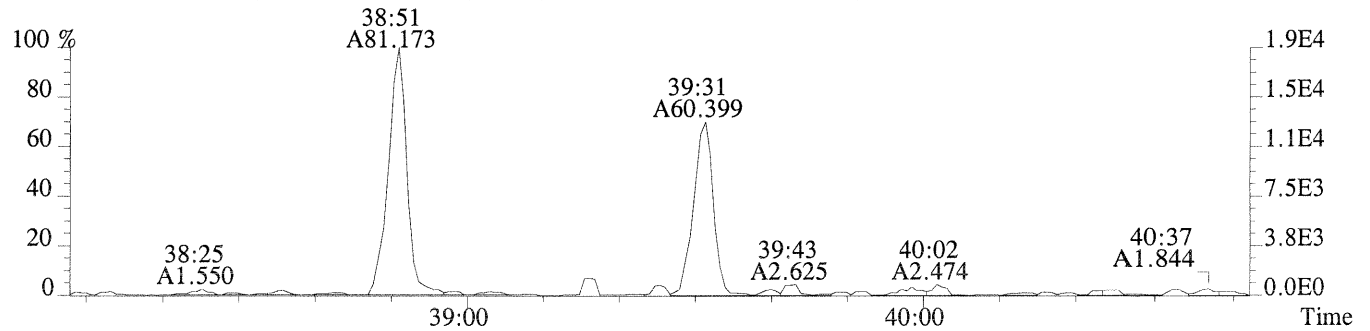
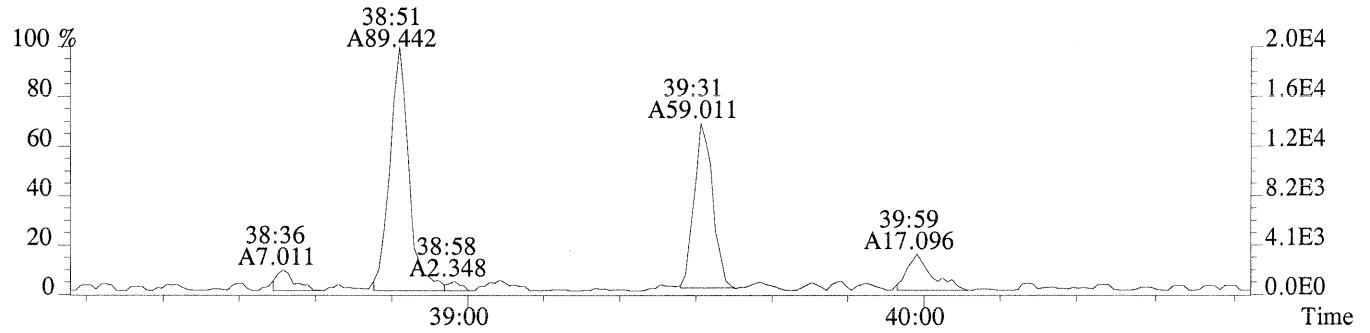


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Sample#1 Exp:K1407971-016  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.50%,F,T)



409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.50%,F,T)

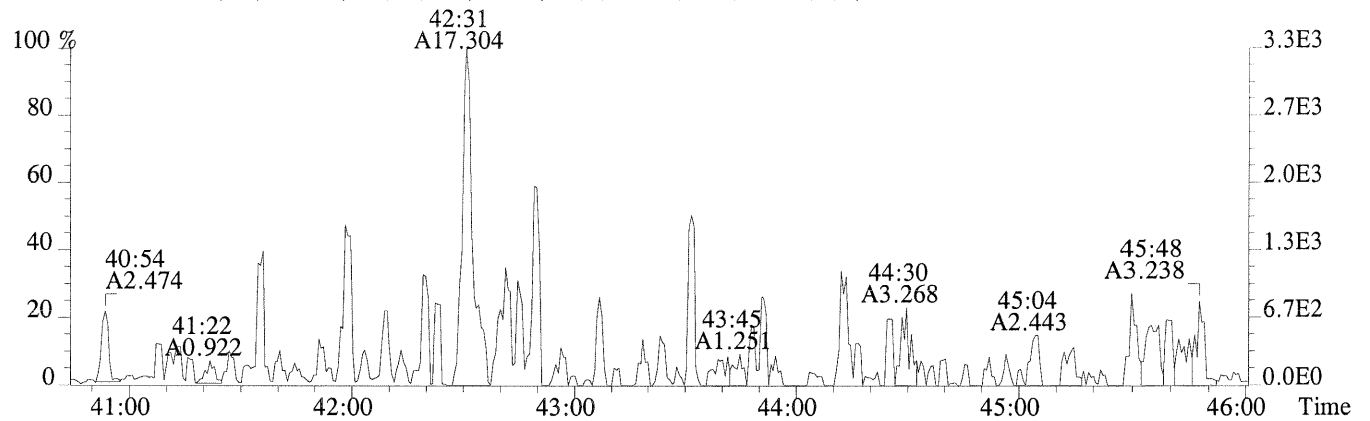




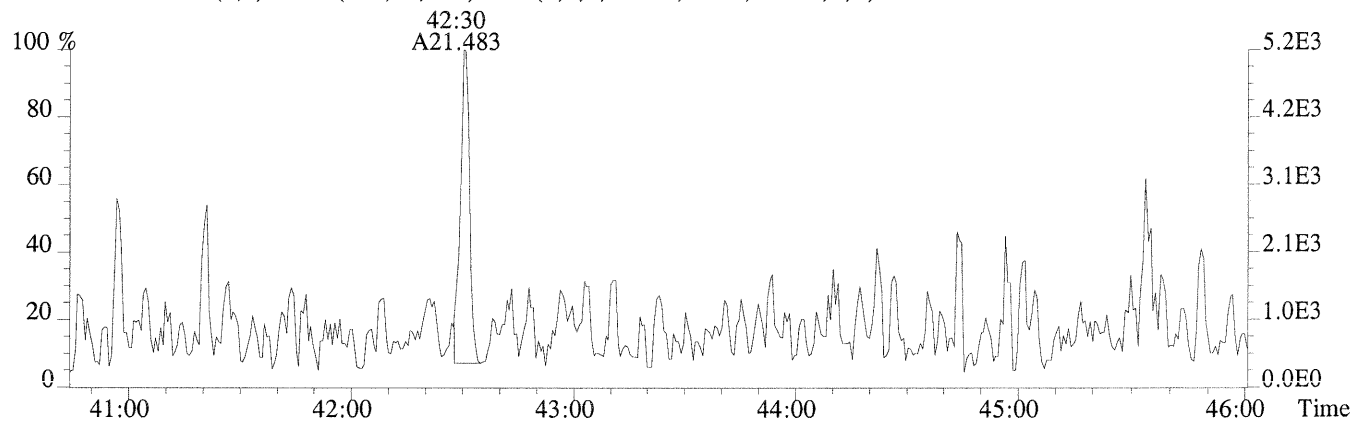
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Sample#1 Exp:K1407971-016

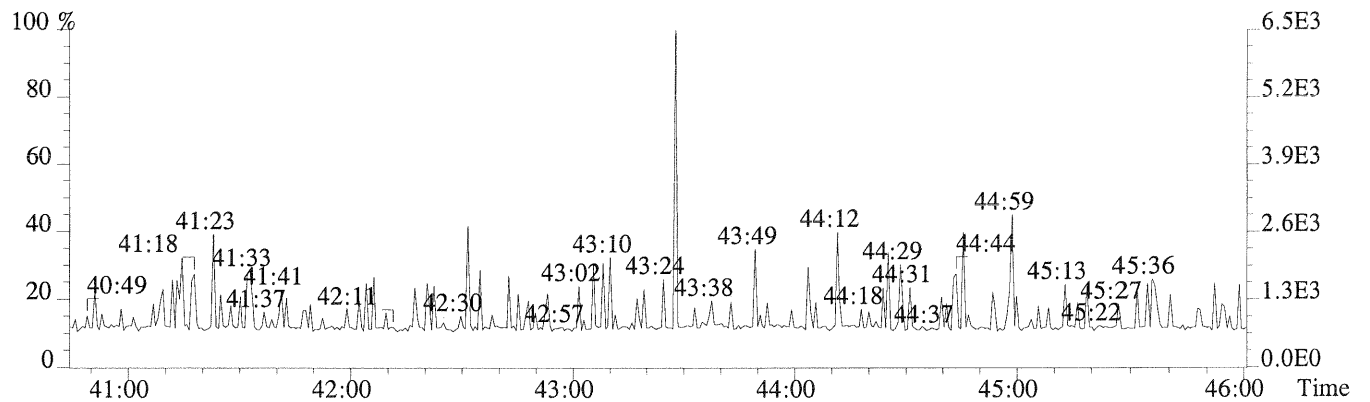
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,64.0,0.40%,F,T)



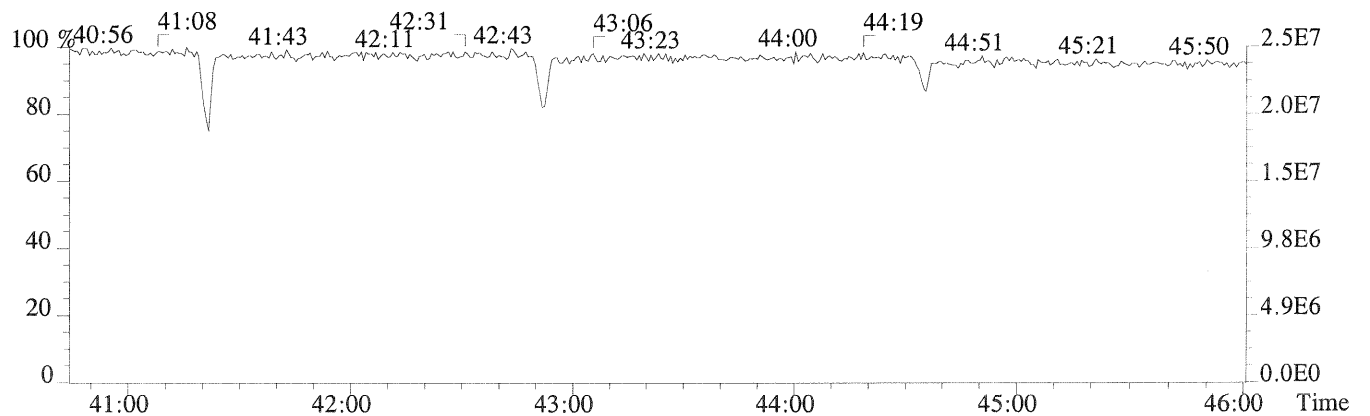
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,F,T)

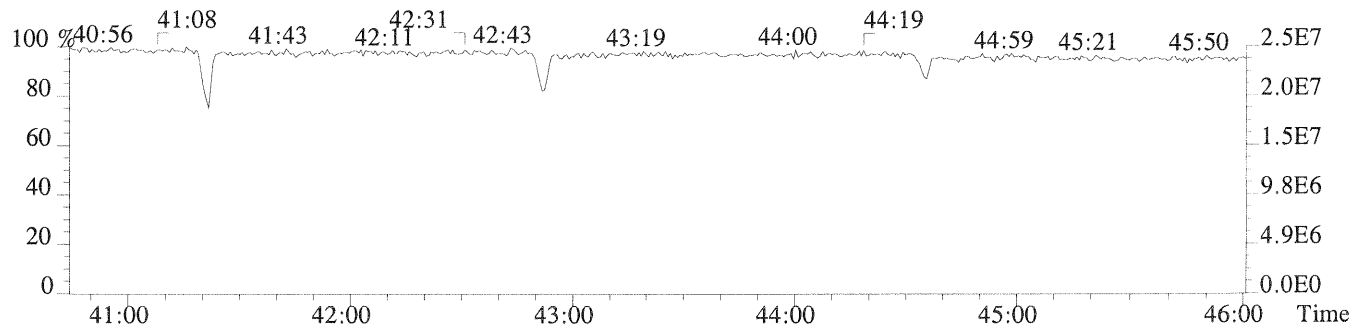
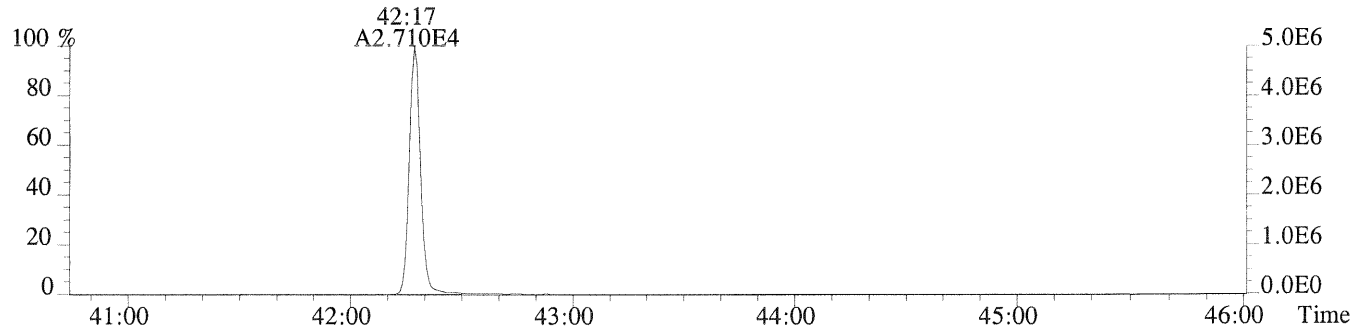
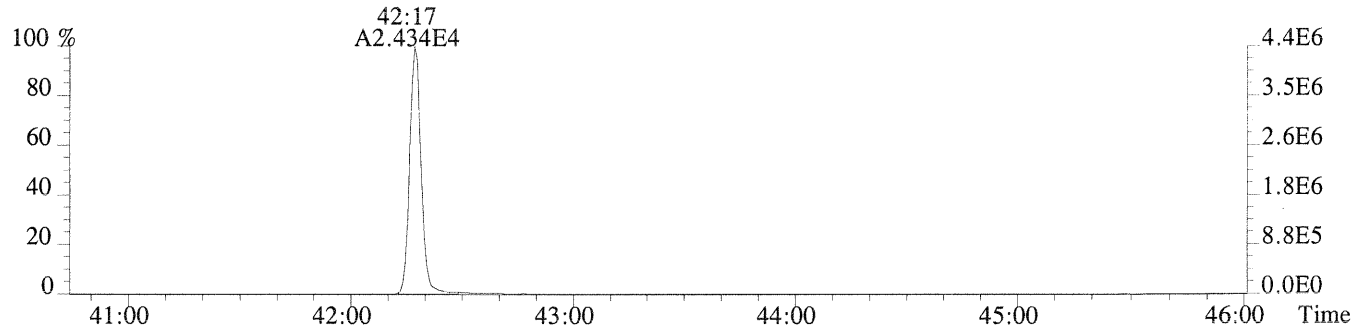
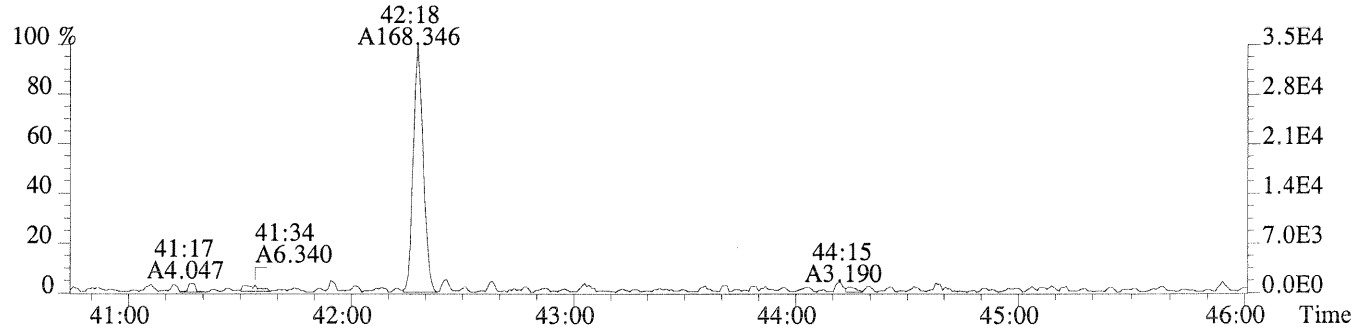
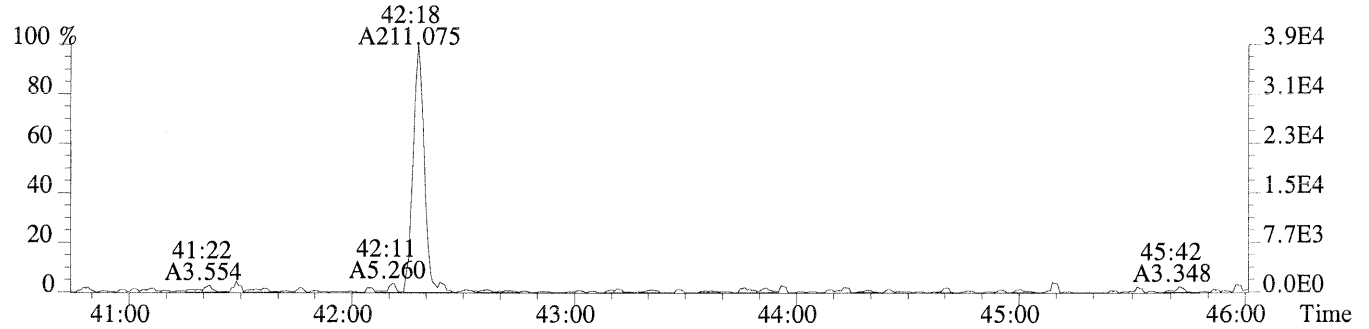


513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

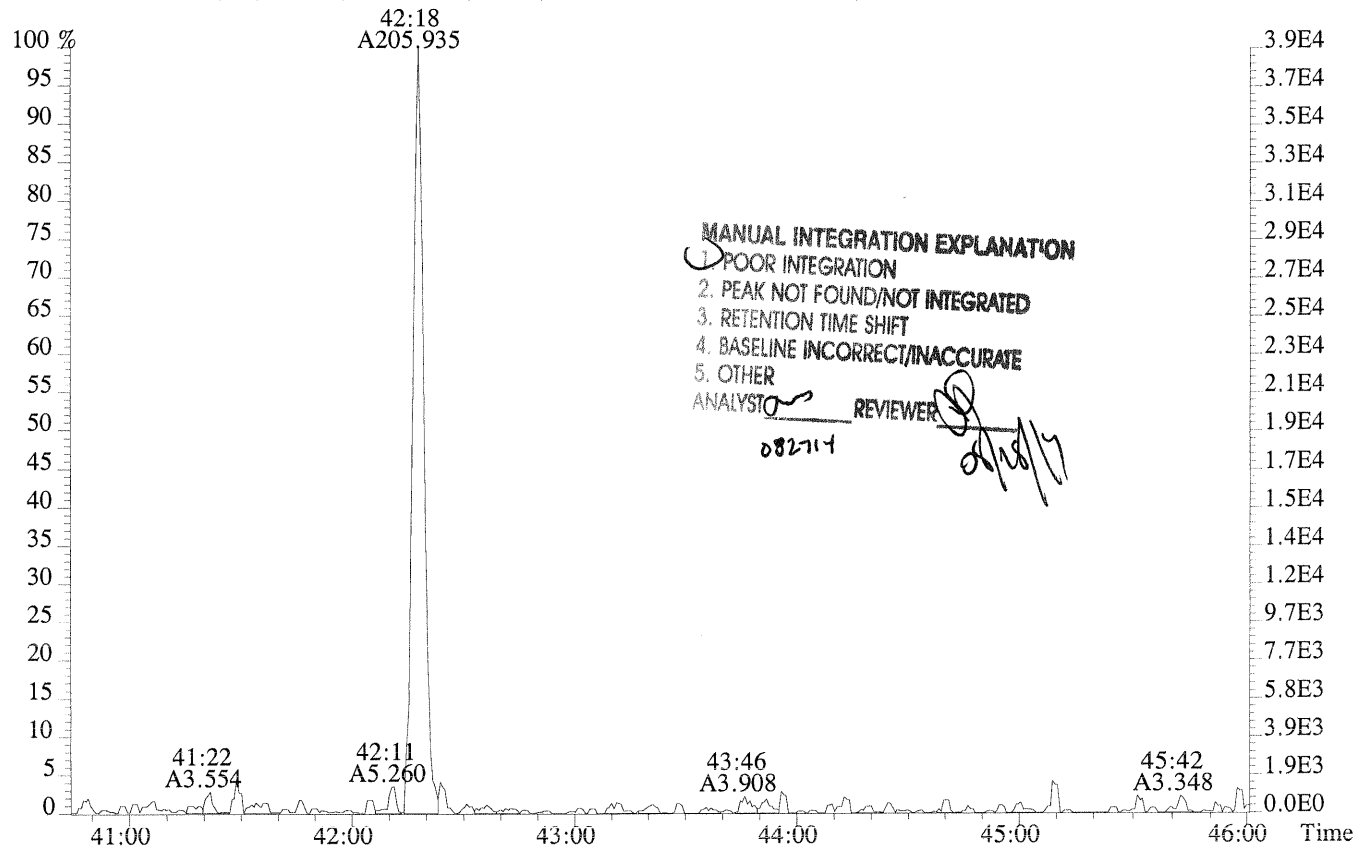


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

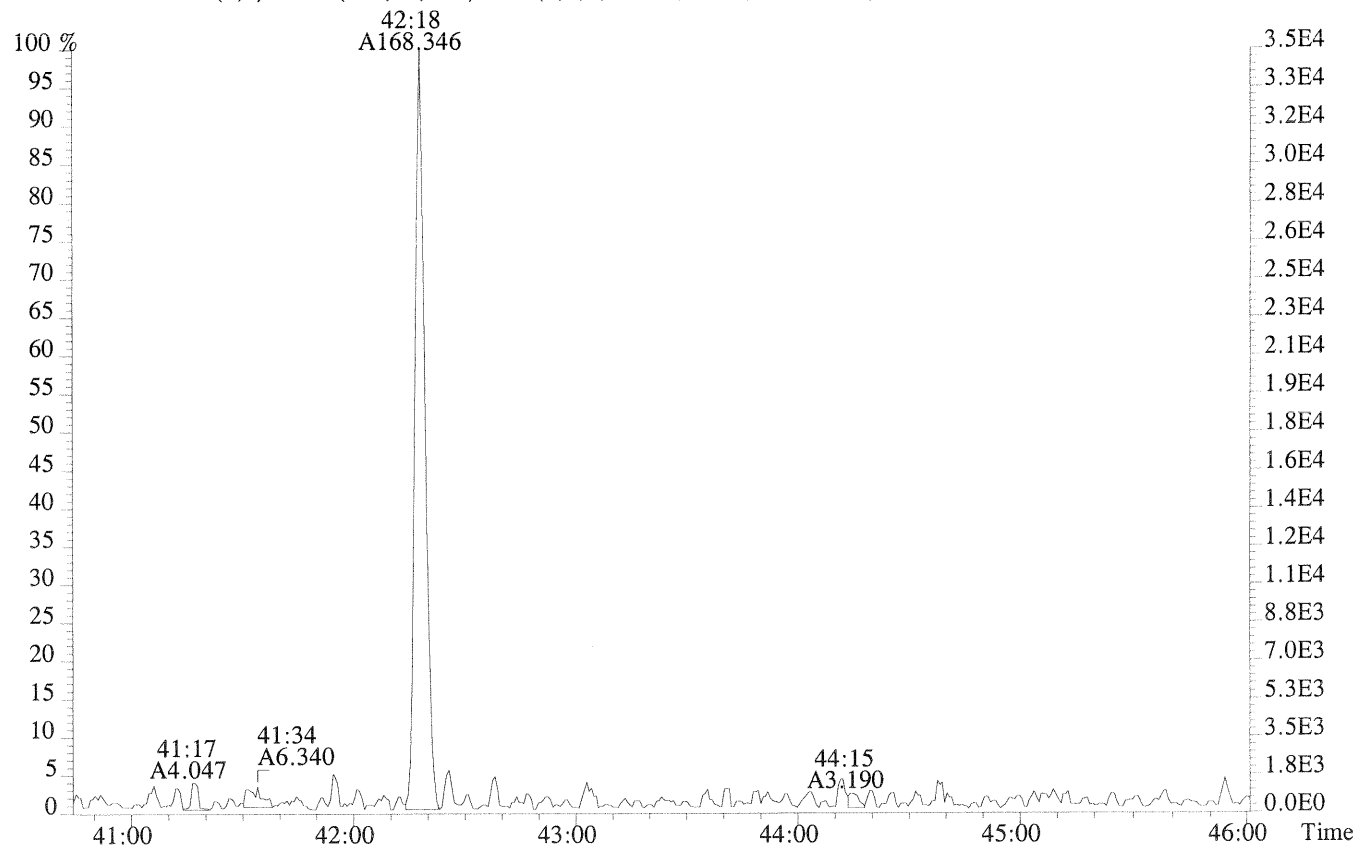




File: P230812 #1-485 Acq: 27-AUG-2014 06:45:50 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: K1407971-016  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,72.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,524.0,0.40%,F,T)



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 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-REF 7

Run #16    Filename P230813    Samp: 1    Inj: 1    Acquired: 27-AUG-14 07:33:42  
 Processed: 27-AUG-14 17:46:55    Sample ID: K1407971-017

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:16	2.471e+01	3.430e+01	0.72	yes	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.000
3 Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.421e+01	1.645e+01	1.47	no	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.274
10 Unk	OCDF	NotFnd	*	*	*	no	no	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:30	4.458e+01	3.237e+01	1.38	no	no	1.053
17 Unk	OCDD	42:17	1.377e+02	1.903e+02	0.72	no	yes	1.169
18 IS	13C-2,3,7,8-TCDF	28:15	1.682e+04	2.122e+04	0.79	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:25	3.330e+04	2.089e+04	1.59	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:20	3.524e+04	2.184e+04	1.61	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	1.566e+04	3.001e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:05	1.988e+04	3.807e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:35	1.690e+04	3.275e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.474e+04	2.852e+04	0.52	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:34	1.089e+04	2.483e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:58	9.382e+03	2.153e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:01	1.197e+04	1.506e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:36	2.634e+04	1.692e+04	1.56	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:43	2.278e+04	1.785e+04	1.28	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:43	2.278e+04	1.785e+04	1.28	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	1.776e+04	1.691e+04	1.05	yes	no	0.850
32 IS	13C-OCDD	42:17	1.979e+04	2.210e+04	0.90	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:27	2.369e+04	3.045e+04	0.78	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:02	4.014e+04	3.203e+04	1.25	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:03	9.767e+03				no	1.099

OCDD =  $(1.377e+02 + 1.903e+02) \times 4000 \text{ pg} \times 1$   
 $(1.979e+04 + 2.210e+04) \times 6.896 \text{ g} \times / 100 \times 1.169$

*3.89 mg / 6.896 g*  
*8/29/14*  
*[Signature]*

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1613RESPA



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 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-REF Rep7

Run #16 Filename P230813 Samp: 1 Inj: 1 Acquired: 27-AUG-14 07:33:42  
 Processed: 27-AUG-14 17:46:551 LAB. ID: K1407971-017

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.18e+03	7.20e+01	5.8e+01	7.67e+03	5.08e+02	1.5e+01
2	1,2,3,7,8-PeCDF	*	3.80e+02	*	*	9.60e+02	*
3	2,3,4,7,8-PeCDF	*	3.80e+02	*	*	9.60e+02	*
4	1,2,3,4,7,8-HxCDF	*	5.08e+02	*	*	1.20e+02	*
5	1,2,3,6,7,8-HxCDF	*	5.08e+02	*	*	1.20e+02	*
6	2,3,4,6,7,8-HxCDF	*	5.08e+02	*	*	1.20e+02	*
7	1,2,3,7,8,9-HxCDF	*	5.08e+02	*	*	1.20e+02	*
8	1,2,3,4,6,7,8-HpCDF	4.68e+03	5.60e+01	8.3e+01	3.82e+03	3.40e+02	1.1e+01
9	1,2,3,4,7,8,9-HpCDF	*	5.60e+01	*	*	3.40e+02	*
10	OCDF	*	3.40e+02	*	*	6.84e+02	*
11	2,3,7,8-TCDD	*	5.12e+02	*	*	6.80e+02	*
12	1,2,3,7,8-PeCDD	*	9.60e+02	*	*	7.20e+01	*
13	1,2,3,4,7,8-HxCDD	*	4.64e+02	*	*	8.00e+01	*
14	1,2,3,6,7,8-HxCDD	*	4.64e+02	*	*	8.00e+01	*
15	1,2,3,7,8,9-HxCDD	*	4.64e+02	*	*	8.00e+01	*
16	1,2,3,4,6,7,8-HpCDD	1.14e+04	3.04e+02	3.7e+01	6.74e+03	4.40e+01	1.5e+02
17	OCDD	2.24e+04	7.60e+01	2.9e+02	3.38e+04	4.88e+02	6.9e+01
18	13C-2,3,7,8-TCDF	3.29e+06	1.47e+03	2.2e+03	4.23e+06	8.96e+02	4.7e+03
19	13C-1,2,3,7,8-PeCDF	6.25e+06	4.16e+02	1.5e+04	3.89e+06	8.00e+02	4.9e+03
20	13C-2,3,4,7,8-PeCDF	6.90e+06	4.16e+02	1.7e+04	4.26e+06	8.00e+02	5.3e+03
21	13C-1,2,3,4,7,8-HxCDF	3.49e+06	3.40e+02	1.0e+04	6.66e+06	6.60e+02	1.0e+04
22	13C-1,2,3,6,7,8-HxCDF	4.33e+06	3.40e+02	1.3e+04	8.24e+06	6.60e+02	1.2e+04
23	13C-2,3,4,6,7,8-HxCDF	3.66e+06	3.40e+02	1.1e+04	7.08e+06	6.60e+02	1.1e+04
24	13C-1,2,3,7,8,9-HxCDF	3.15e+06	3.40e+02	9.3e+03	6.18e+06	6.60e+02	9.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.50e+06	1.32e+03	1.9e+03	5.82e+06	2.01e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.91e+06	1.32e+03	1.5e+03	4.40e+06	2.01e+03	2.2e+03
27	13C-2,3,7,8-TCDD	2.46e+06	3.20e+03	7.7e+02	3.16e+06	1.20e+03	2.6e+03
28	13C-1,2,3,7,8-PeCDD	5.23e+06	5.52e+02	9.5e+03	3.36e+06	4.08e+02	8.2e+03
29	13C-1,2,3,4,7,8-HxCDD	5.17e+06	8.16e+02	6.3e+03	4.08e+06	7.92e+02	5.2e+03
30	13C-1,2,3,6,7,8-HxCDD	5.17e+06	8.16e+02	6.3e+03	4.08e+06	7.92e+02	5.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.90e+06	7.28e+02	5.4e+03	3.73e+06	4.84e+02	7.7e+03
32	13C-OCDD	3.48e+06	5.28e+02	6.6e+03	3.95e+06	4.64e+02	8.5e+03
33	13C-1,2,3,4-TCDD	5.01e+06	3.20e+03	1.6e+03	6.41e+06	1.20e+03	5.3e+03
34	13C-1,2,3,7,8,9-HxCDD	8.58e+06	8.16e+02	1.1e+04	6.89e+06	7.92e+02	8.7e+03
35	37Cl-2,3,7,8-TCDD	2.03e+06	1.06e+03	1.9e+03			

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XLSN

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 36      Totals Name: Total Tetra-Furans

Run: 16      File: P230813      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    07:33:42      Processed: 27-AUG-14 17:46:55

Mass: 303.9020    305.8990      Tot Response: 5.90e+01    RRF: 0.9861

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	28:16	2.47e+01	3.43e+01	0.72	yes	5.90e+01	2,3,7,8-TCDF	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 38      Totals Name: Total Penta-Furan1

Run: 16      File: P230813      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 27-AUG-14    07:33:42      Processed: 27-AUG-14 17:46:55

Mass: 339.8600    341.8570      Tot Response: 5.91e+01    RRF: 0.9848

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:01	3.55e+01	2.36e+01	1.50	yes	5.91e+01	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep7

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 16      File: P230813      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    07:33:42      Processed: 27-AUG-14 17:46:55

Mass: 389.8160    391.8130      Tot Response: 7.44e+01    RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:24	4.02e+01	3.41e+01	1.18	yes	7.44e+01	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 44      Totals Name: Total Hepta-Dioxins

Run: 16      File: P230813      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    07:33:42      Processed: 27-AUG-14 17:46:55

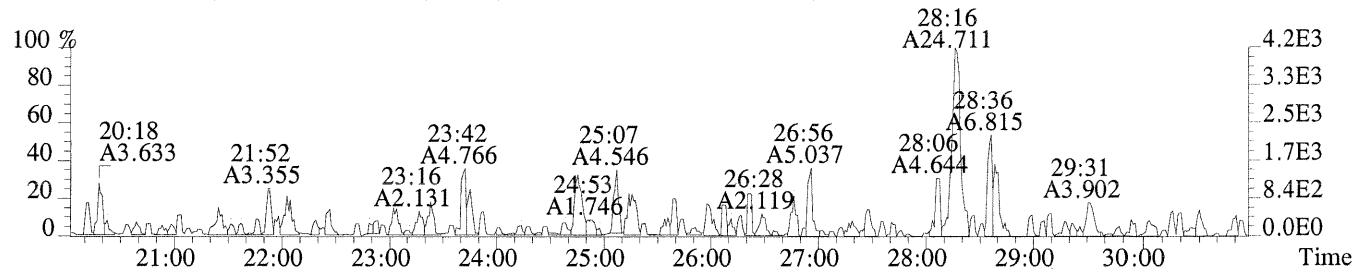
Mass: 423.7770    425.7740      Tot Response: 1.58e+02    RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:49	8.24e+01	7.52e+01	1.10	yes	1.58e+02	n	n

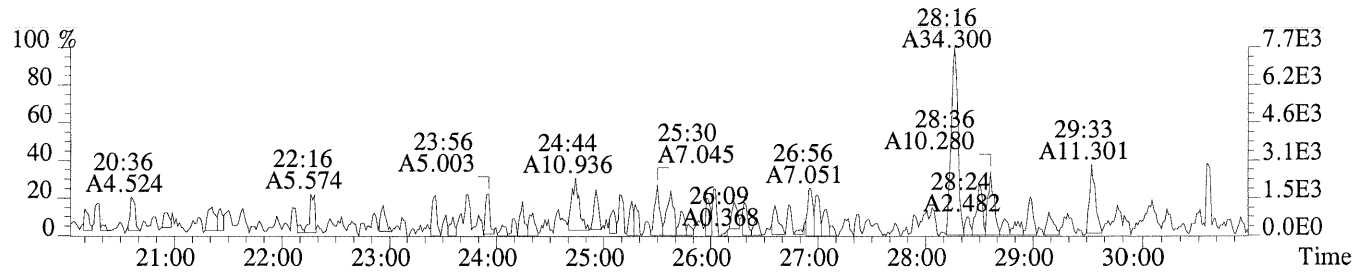
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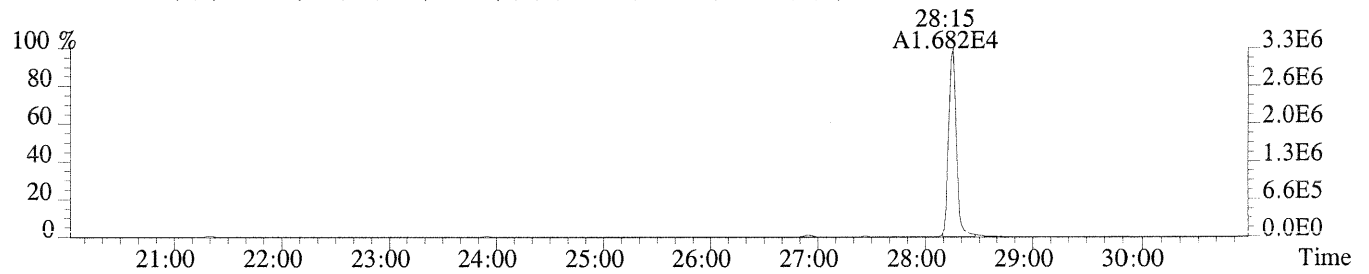
File:P230813 #1-687 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



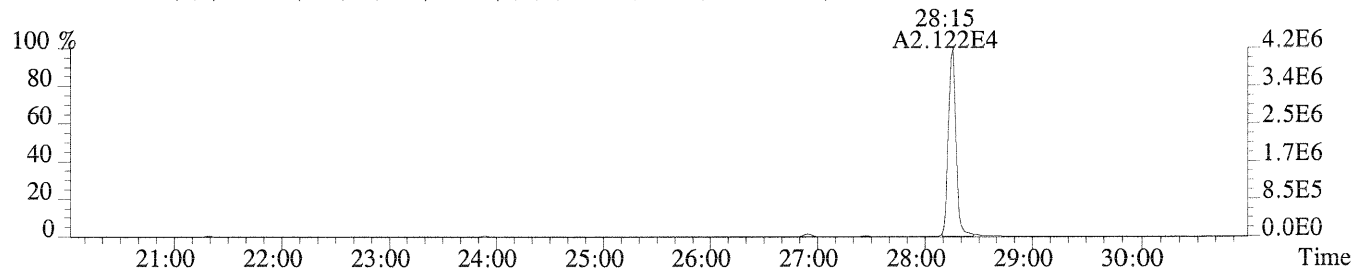
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,T)



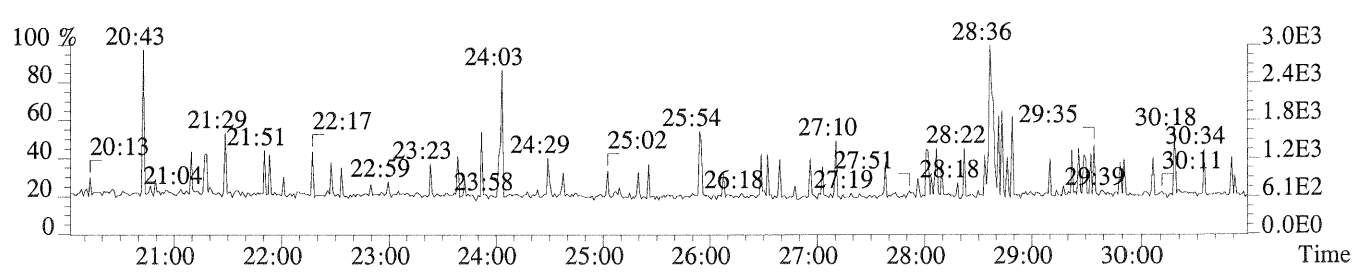
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



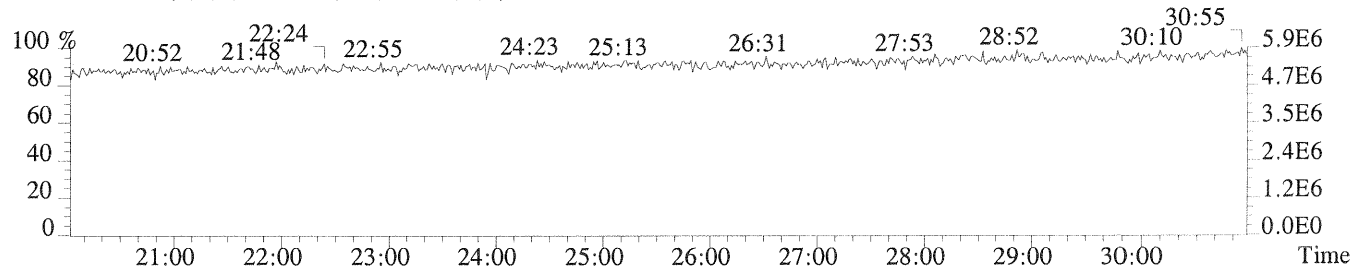
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)

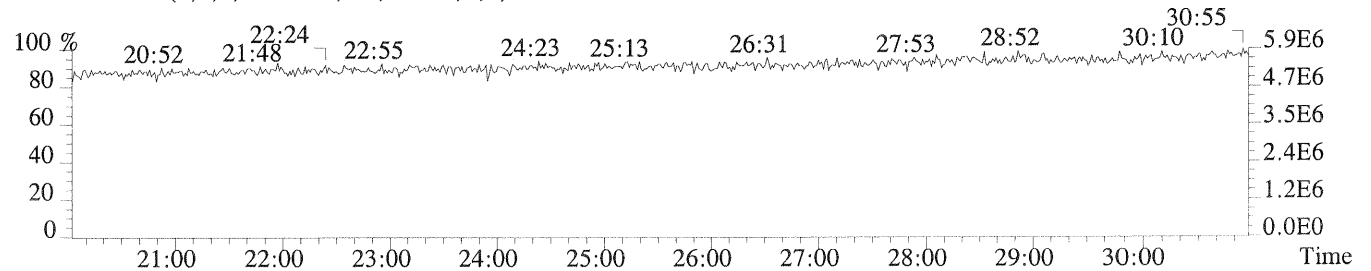
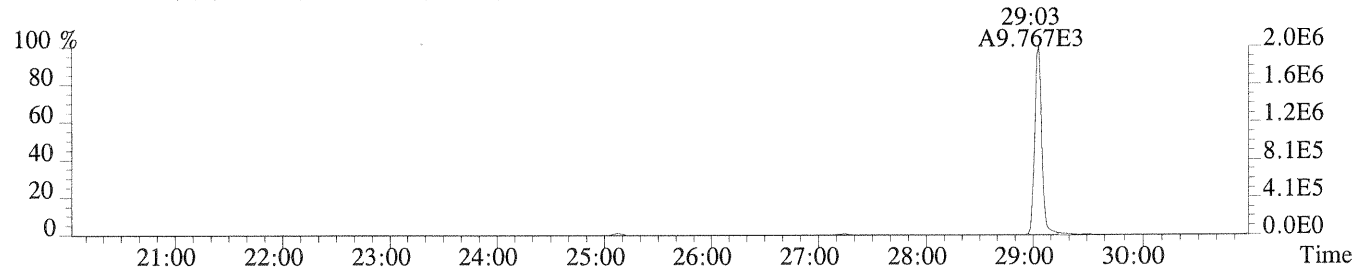
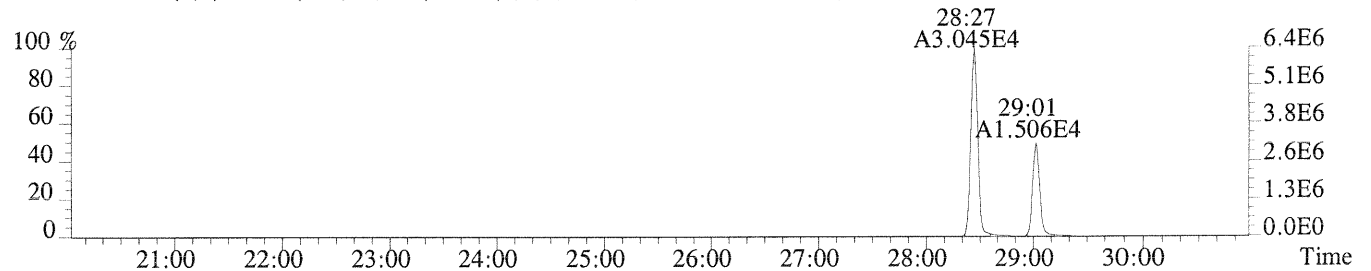
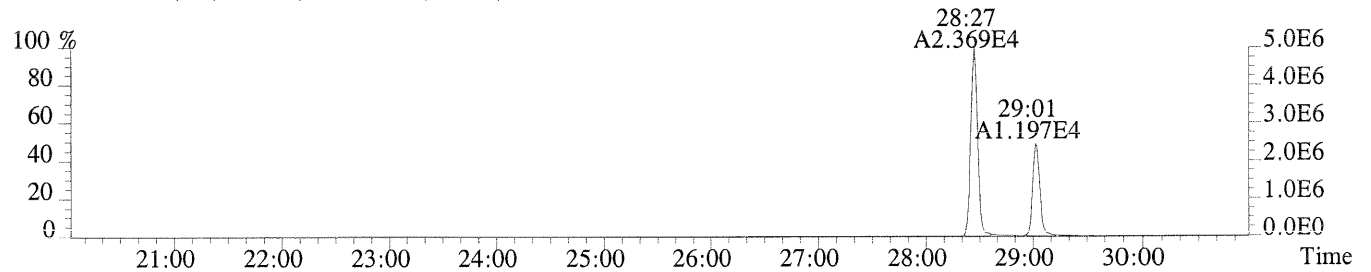
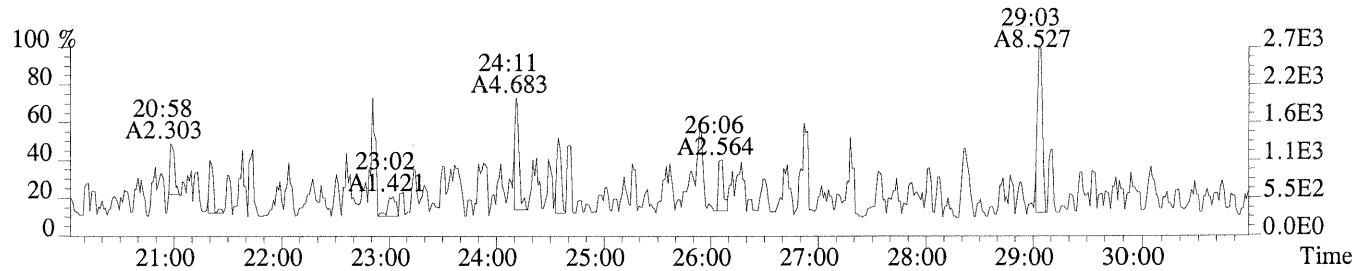
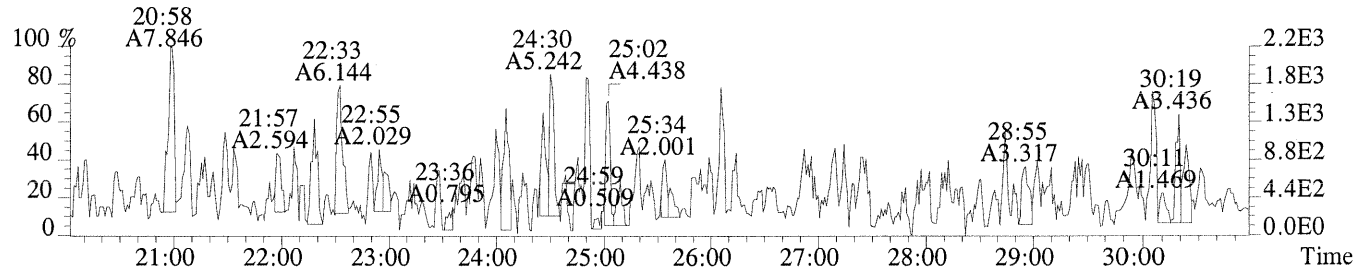


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

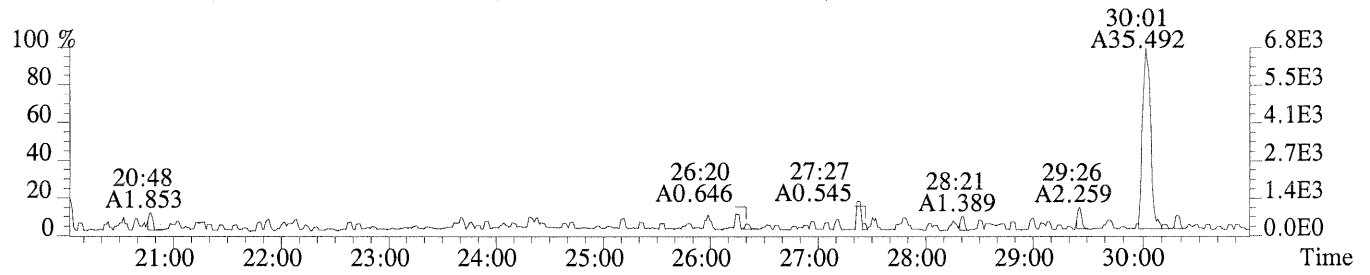


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

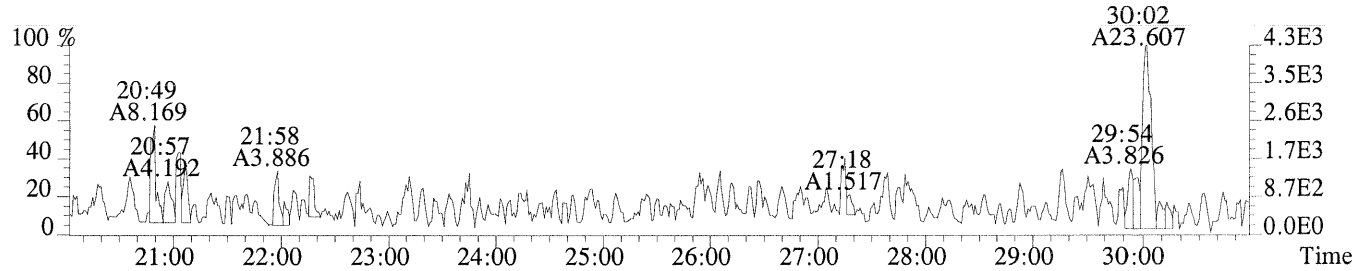




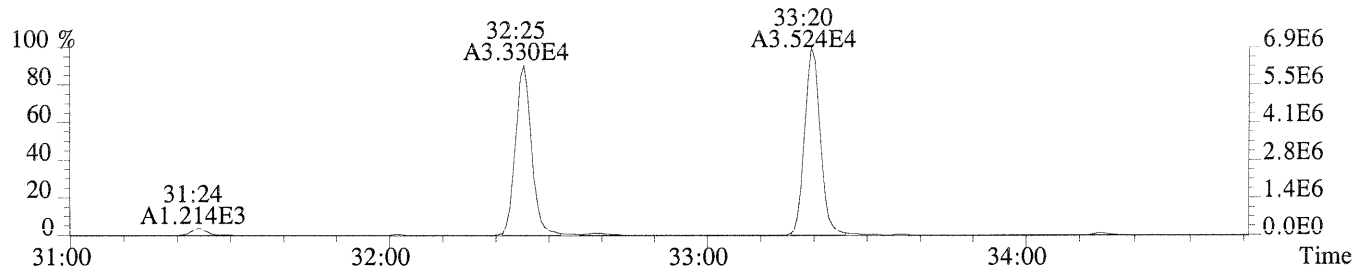
File:P230813 #1-687 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)



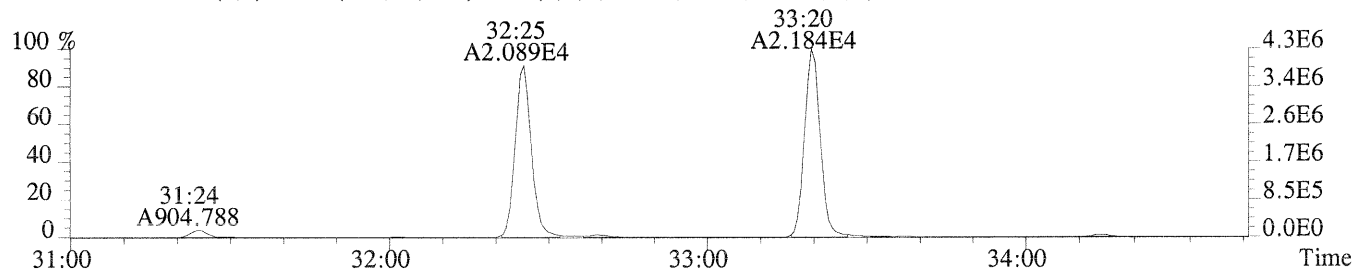
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



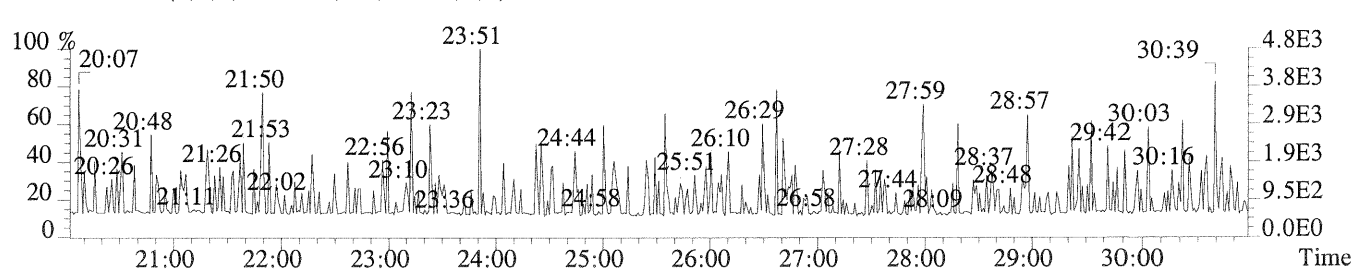
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,416.0,1.00%,F,T)



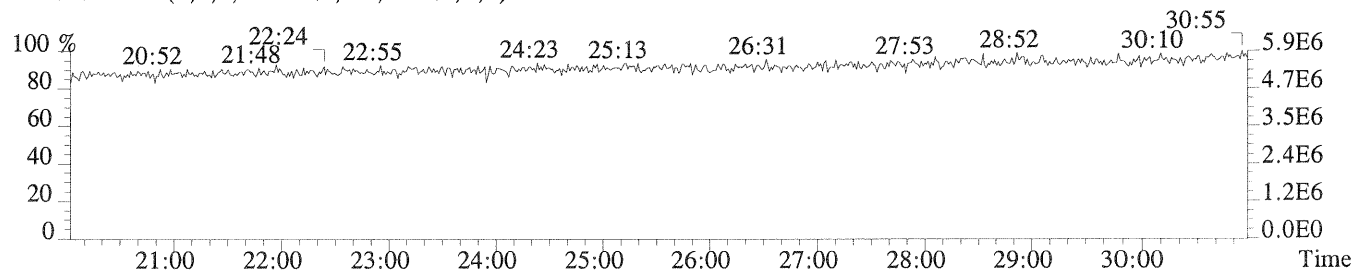
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

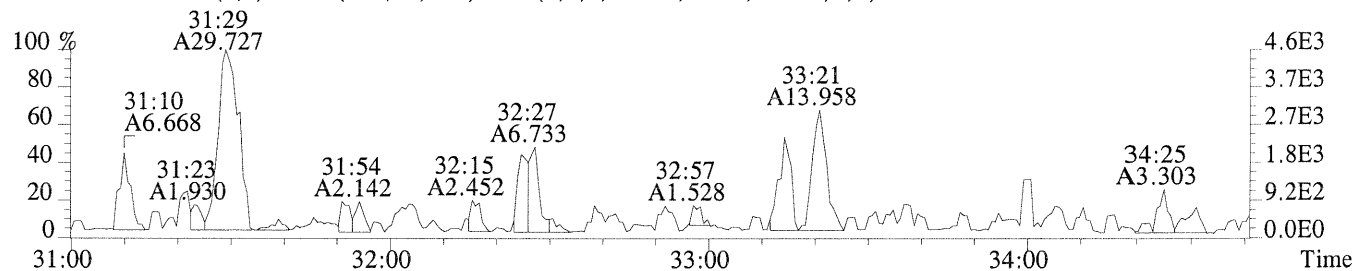


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

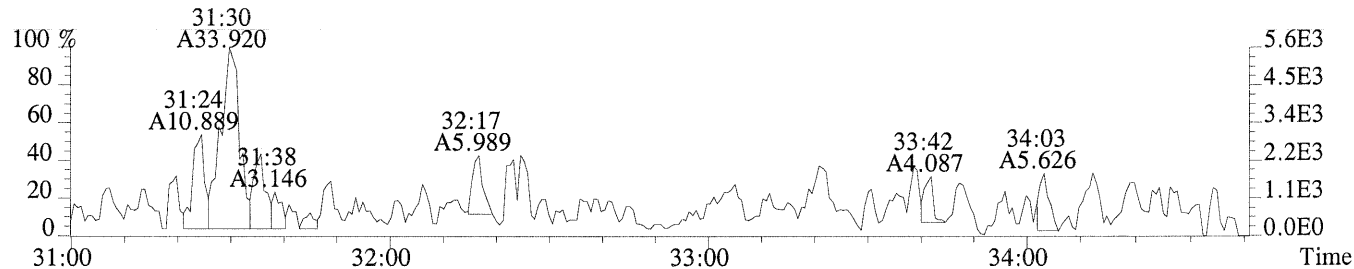




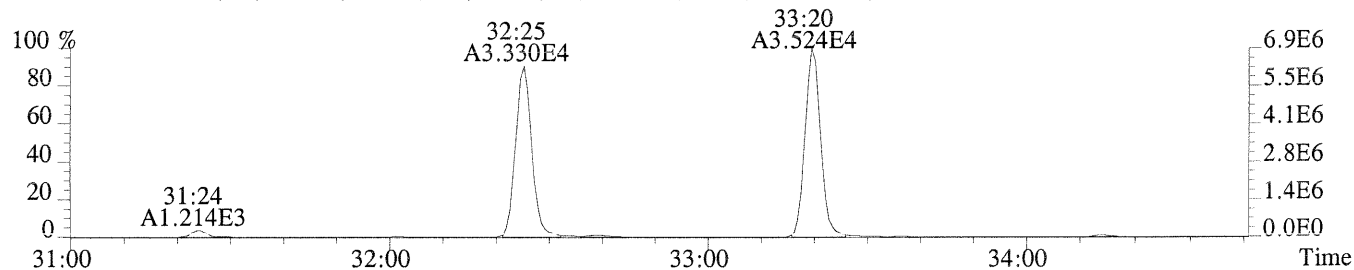
File:P230813 #1-335 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,380.0,1.00%,F,T)



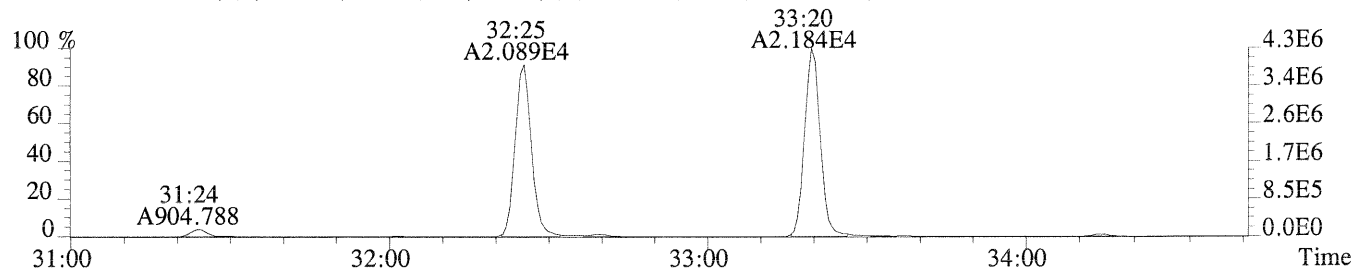
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



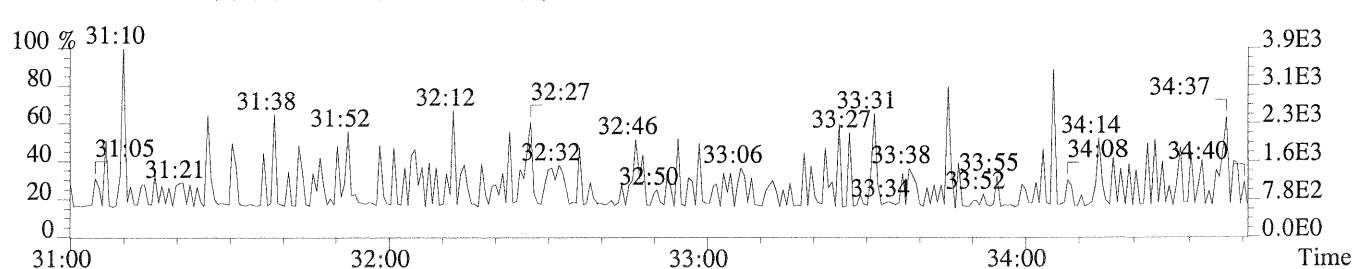
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,416.0,1.00%,F,T)



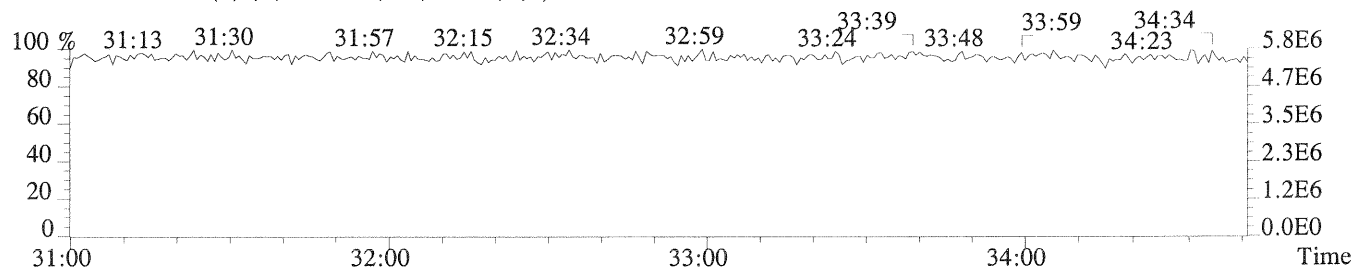
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,T)

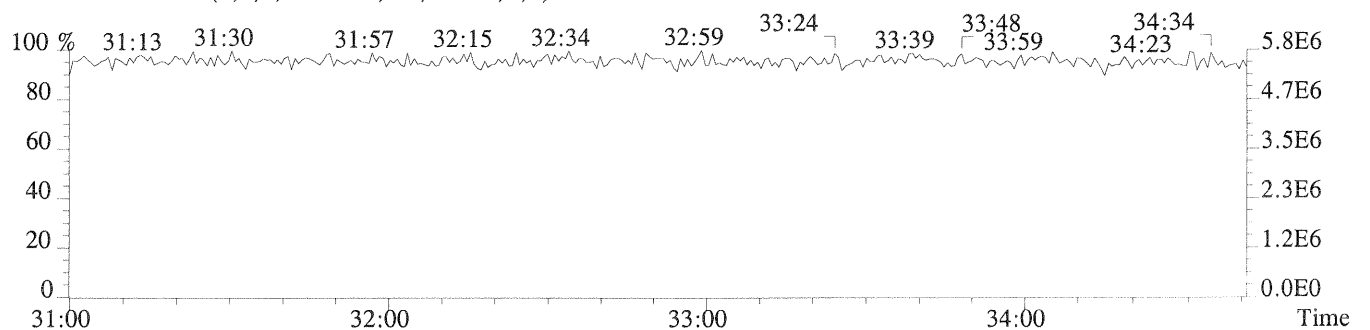
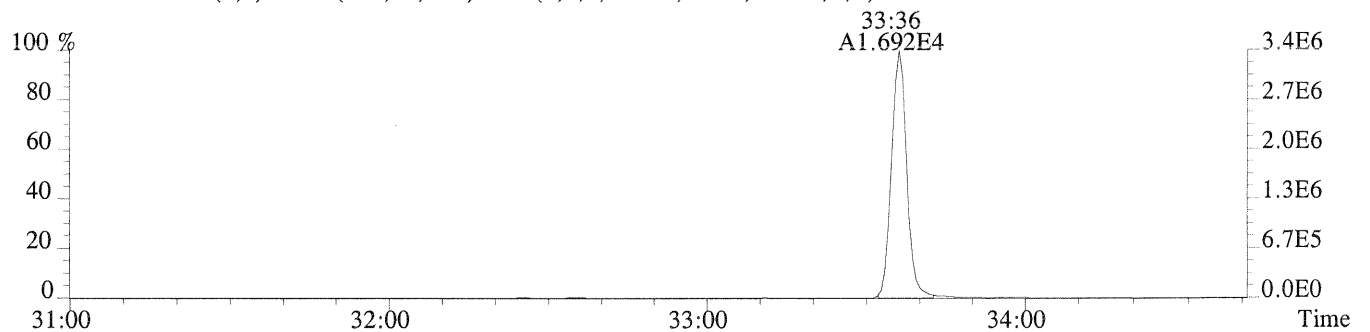
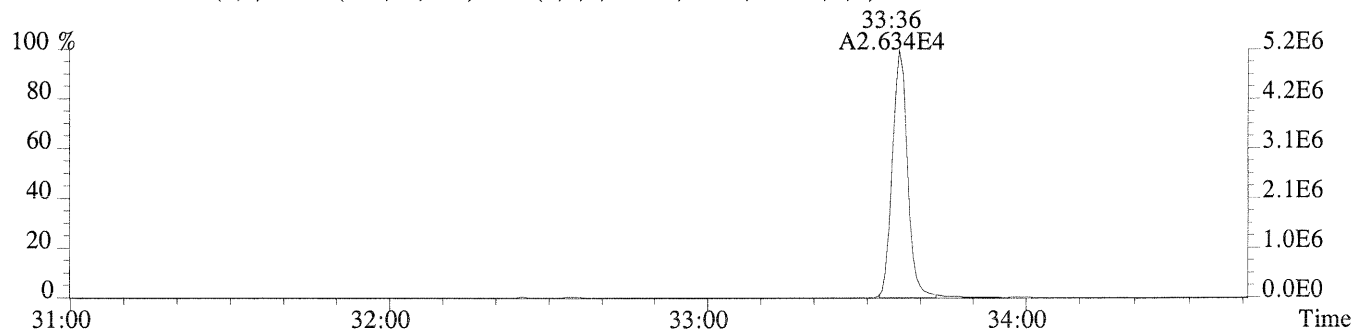
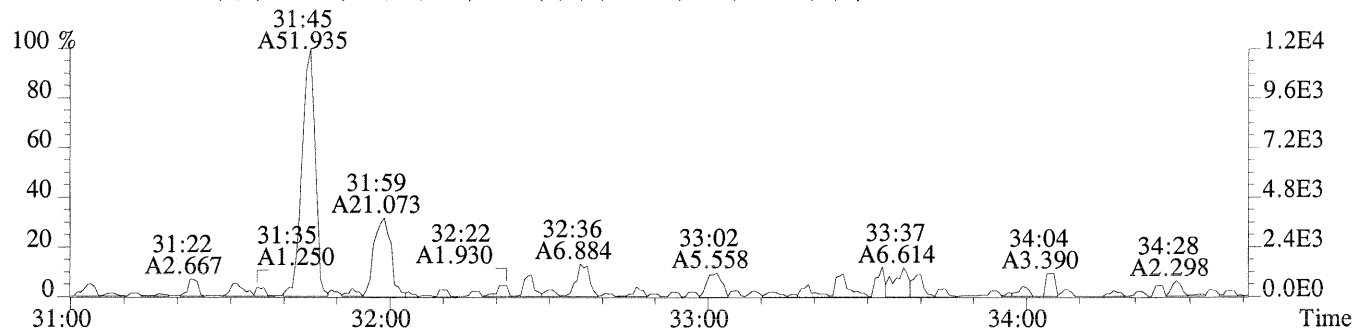
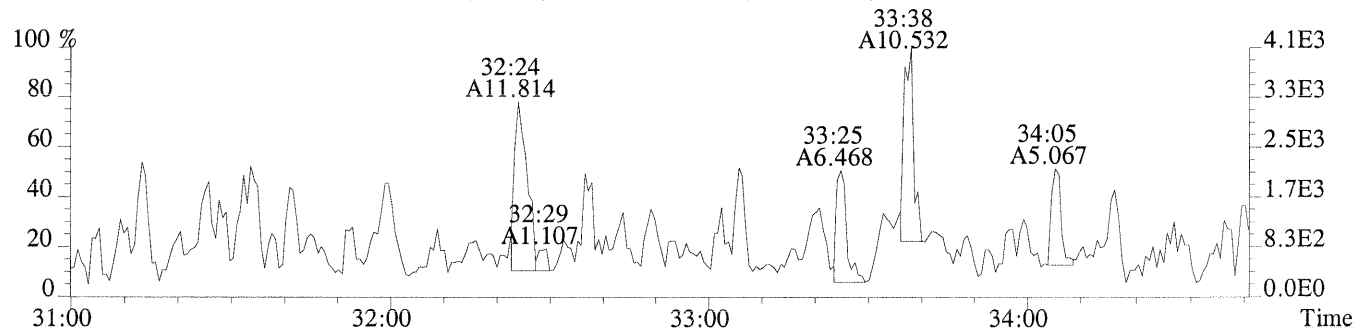


409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

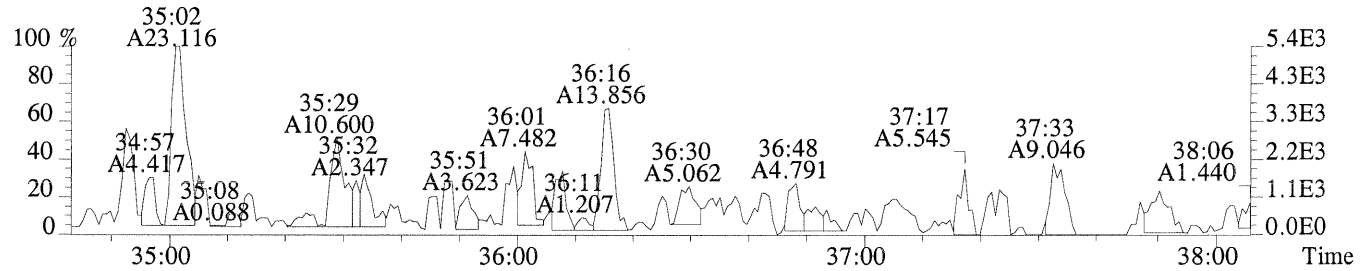


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

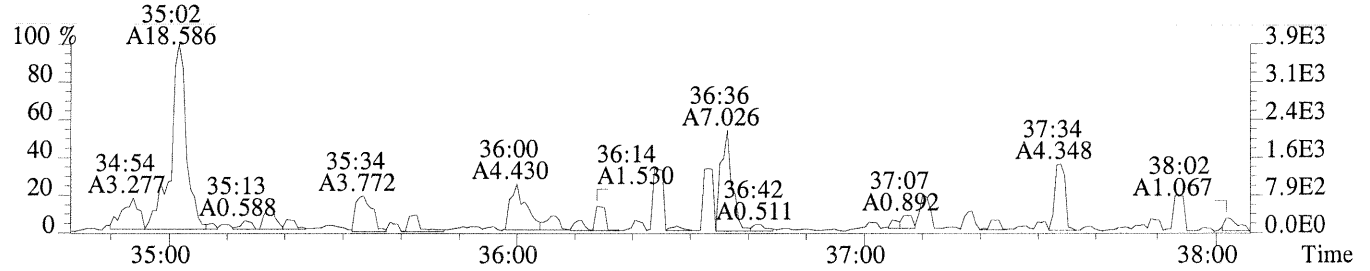




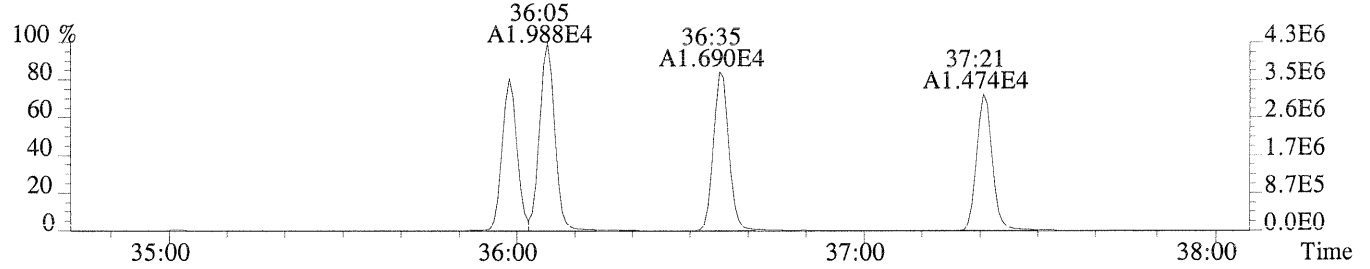
File:P230813 #1-307 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.40%,F,T)



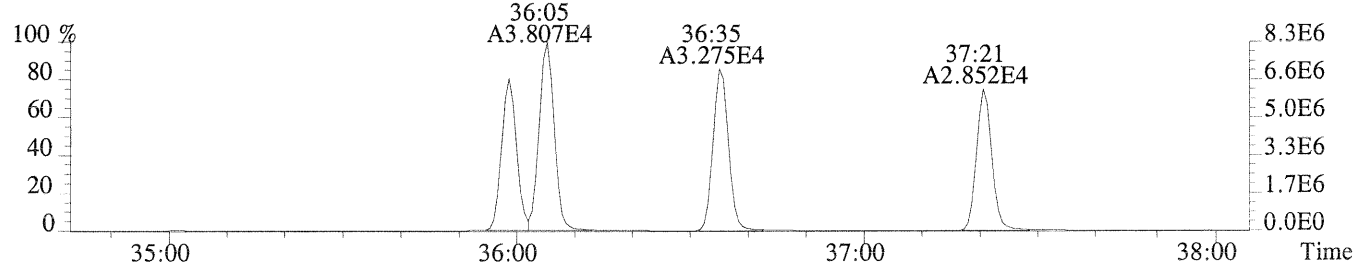
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.40%,F,T)



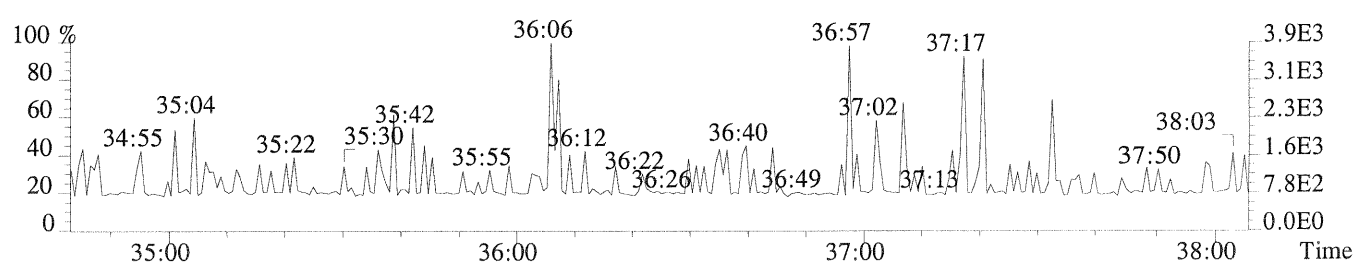
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)



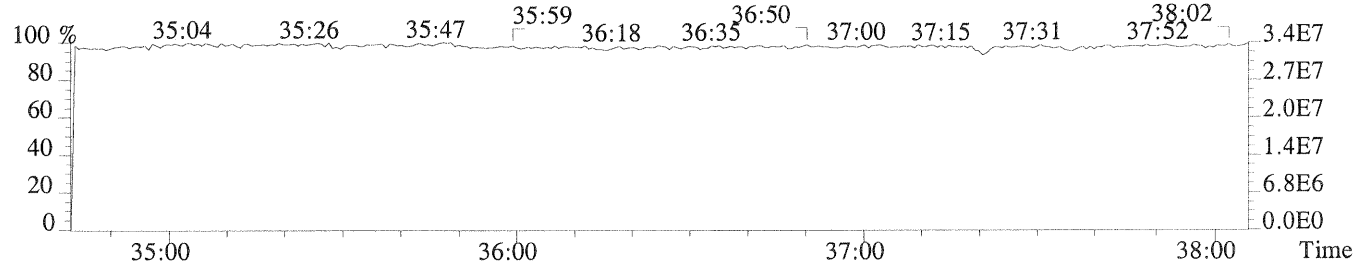
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,660.0,0.40%,F,T)



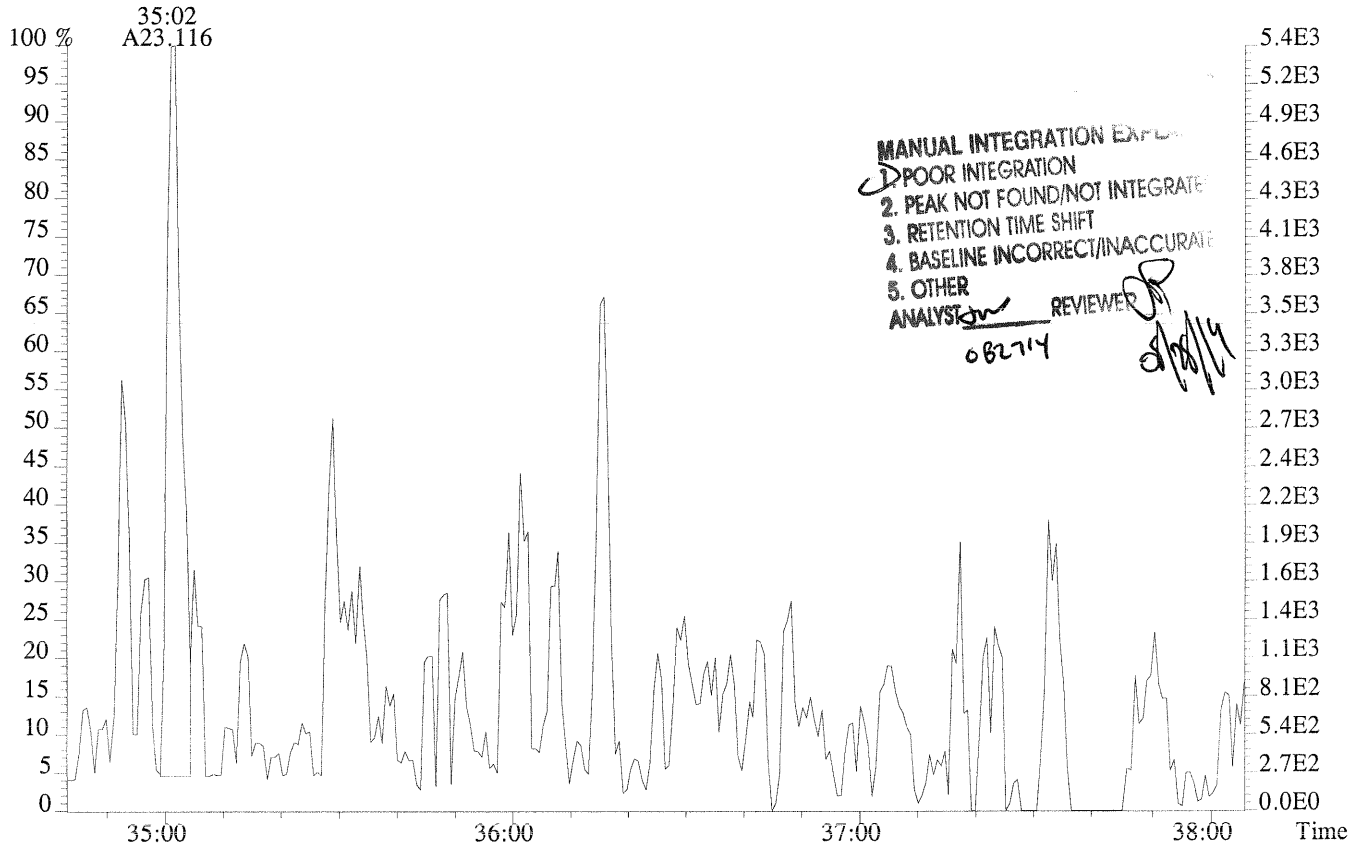
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



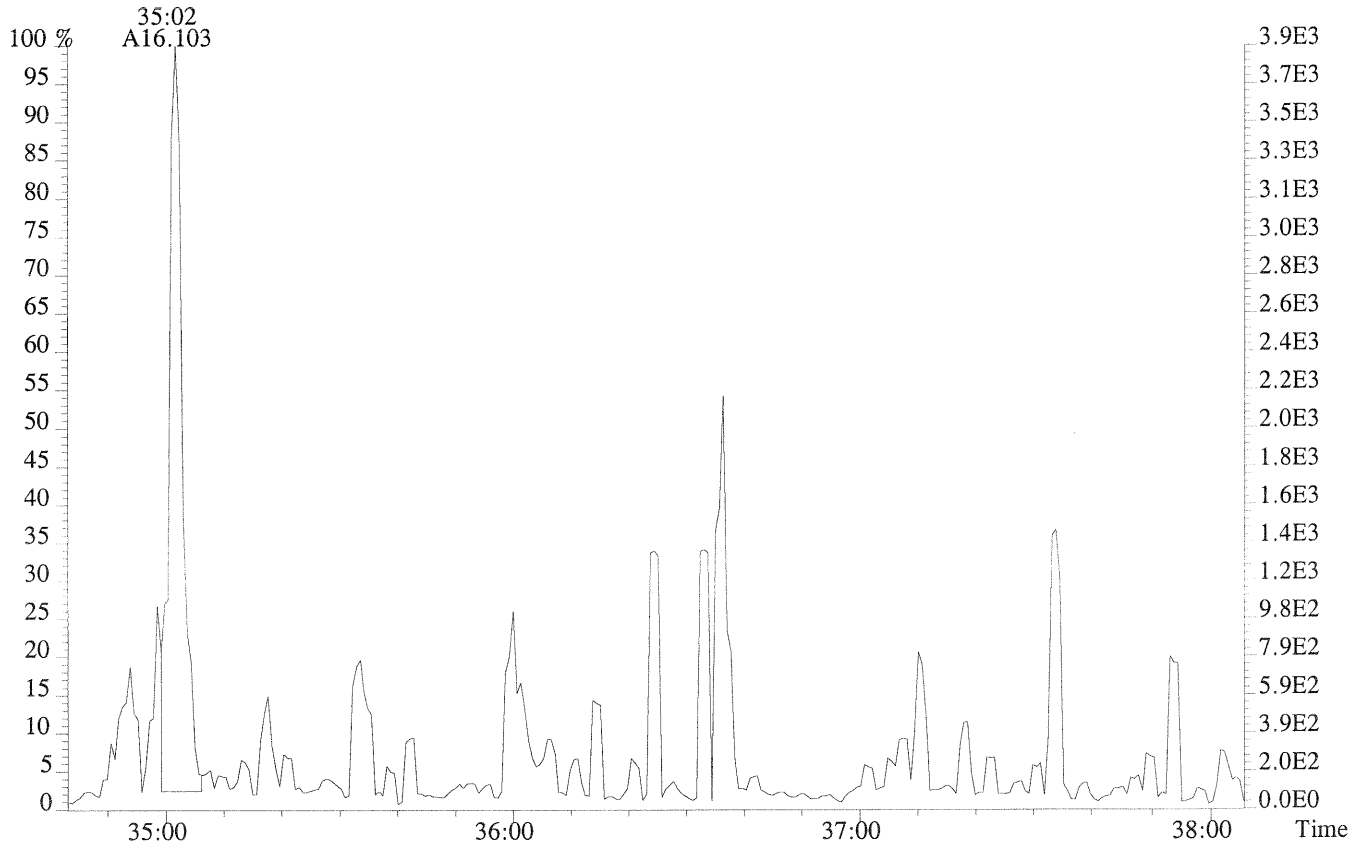
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

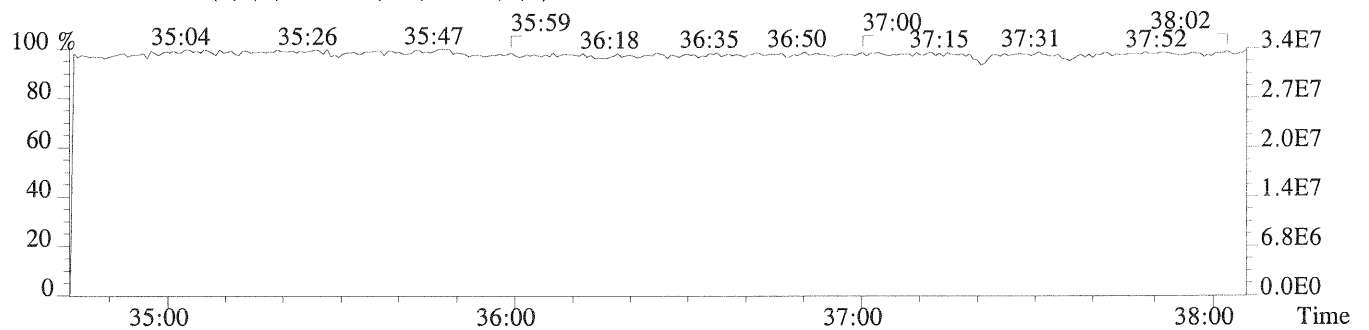
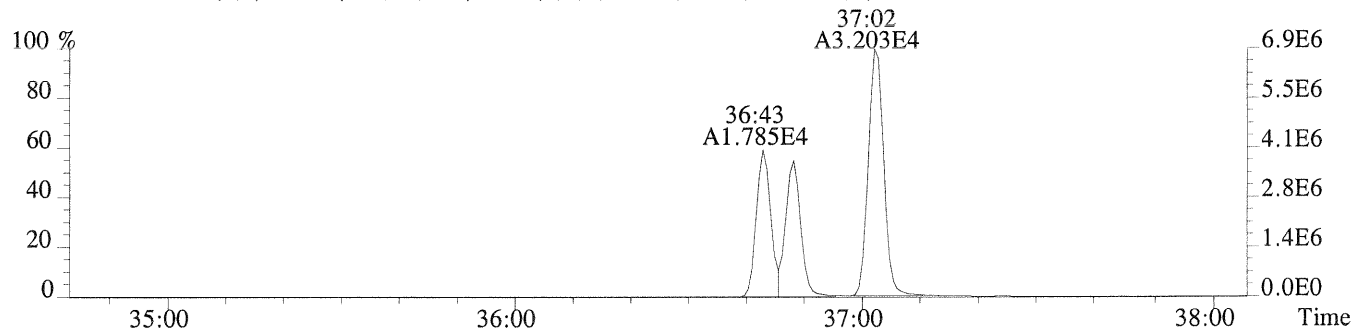
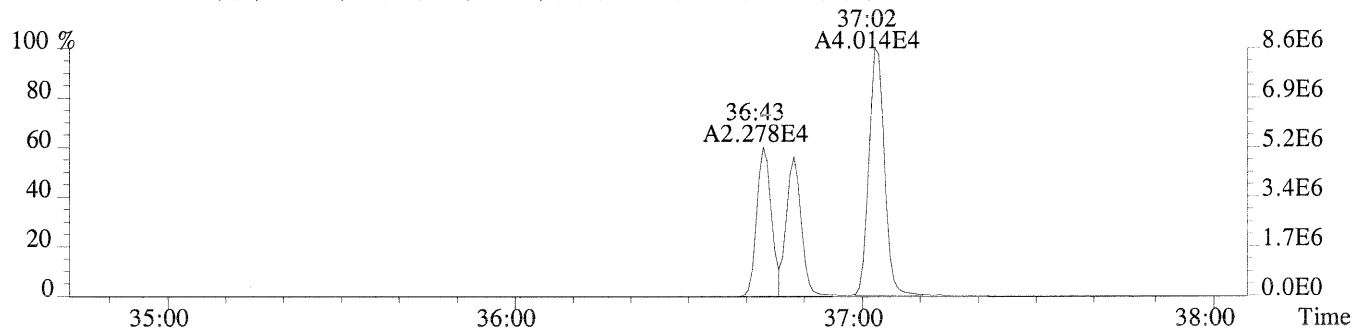
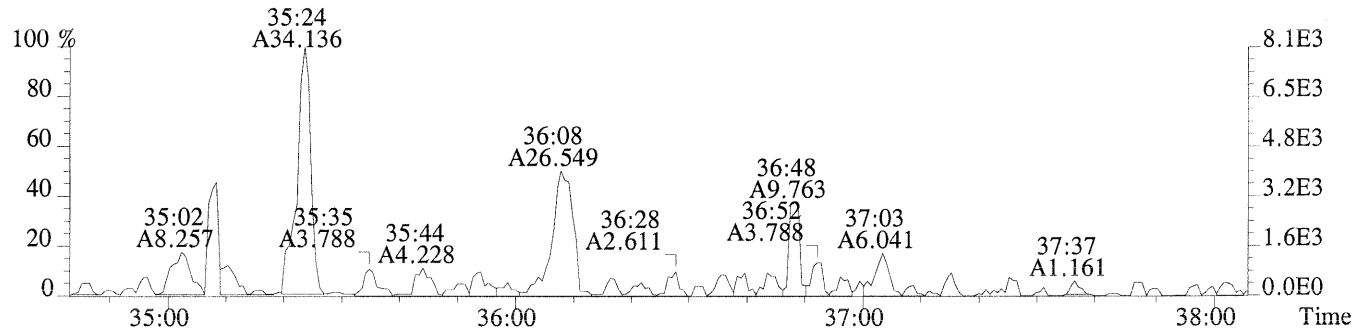
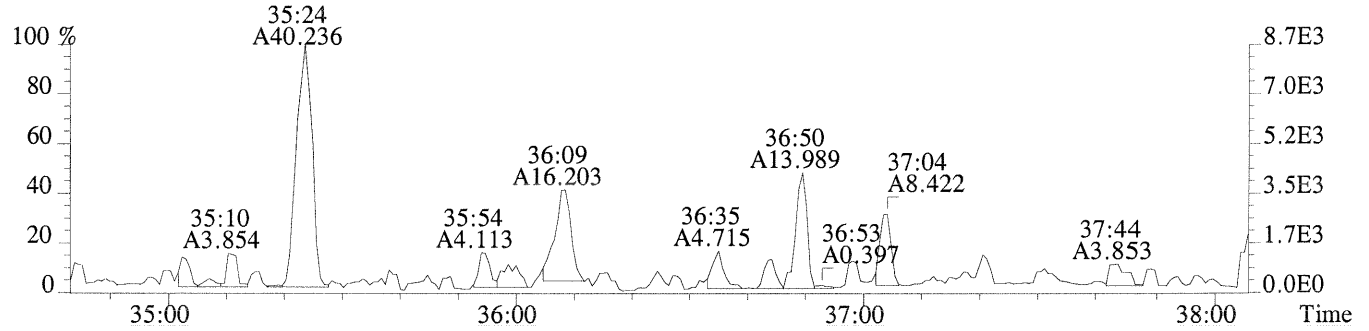


File: P230813 #1-307 Acq: 27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: K1407971-017  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.40%,F,T)

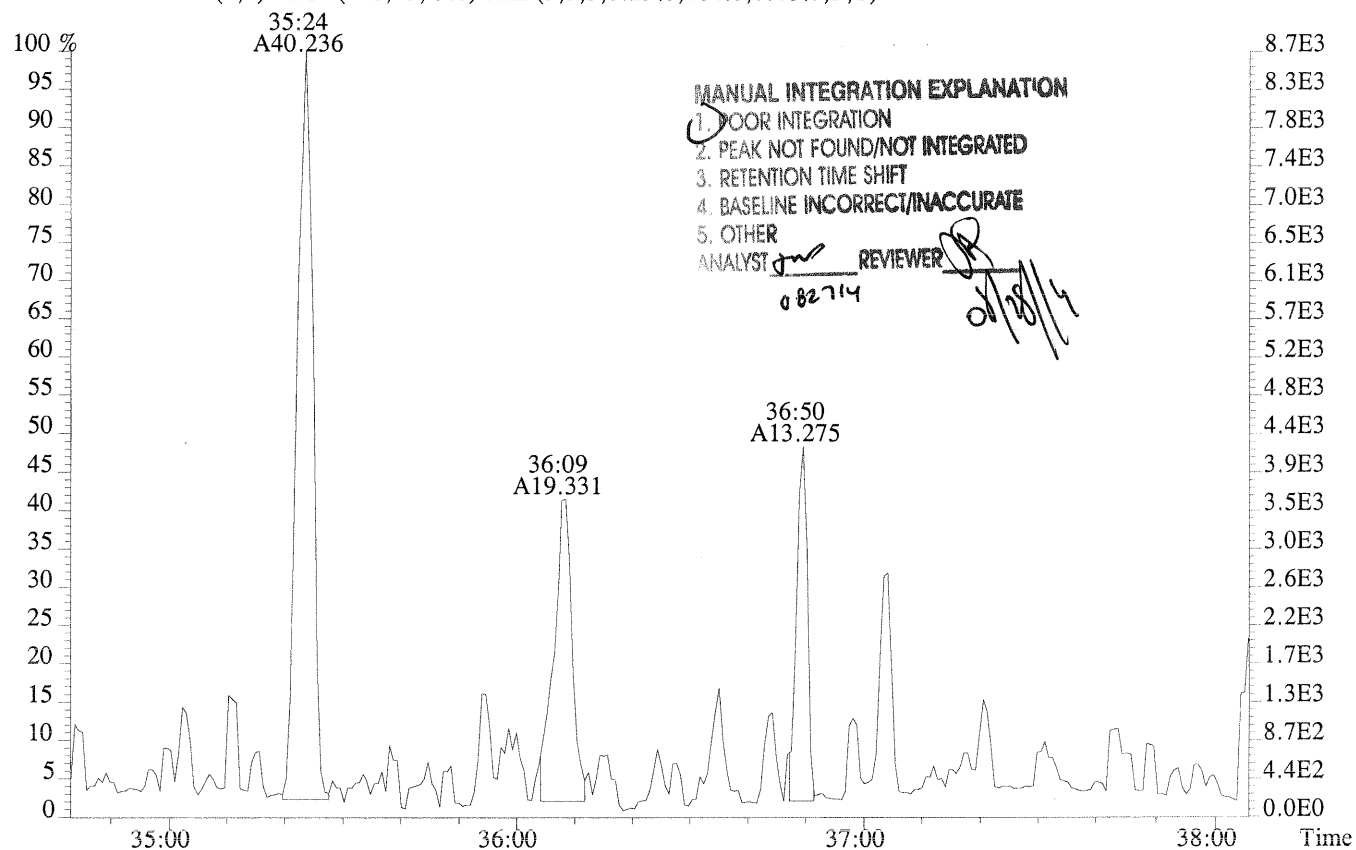


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.40%,F,T)

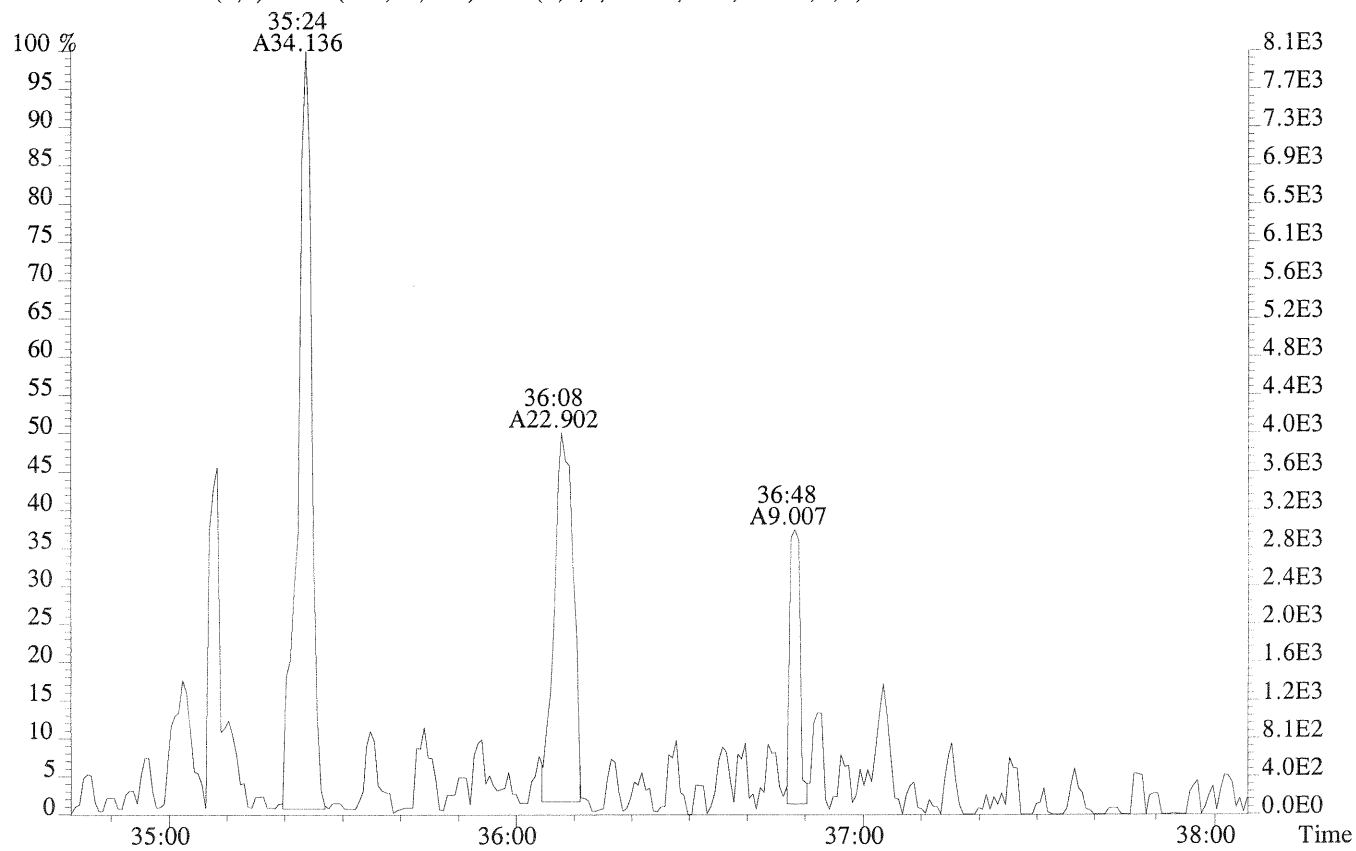


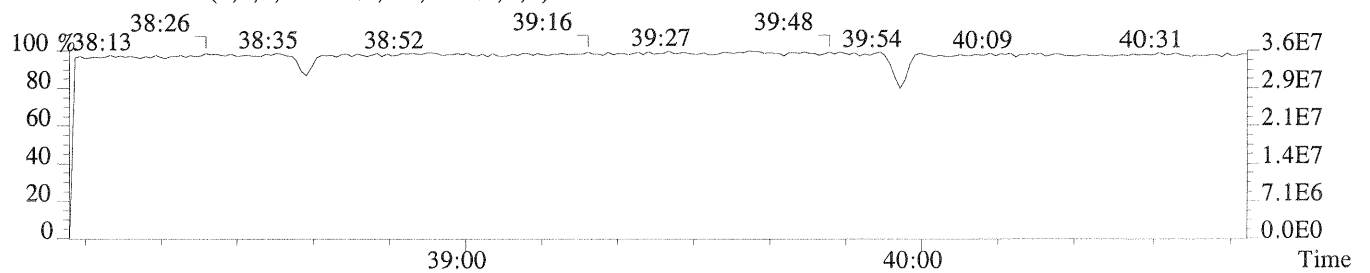
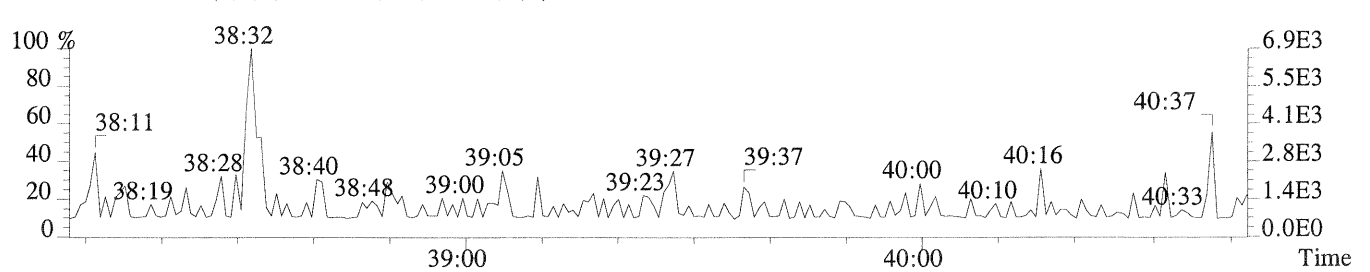
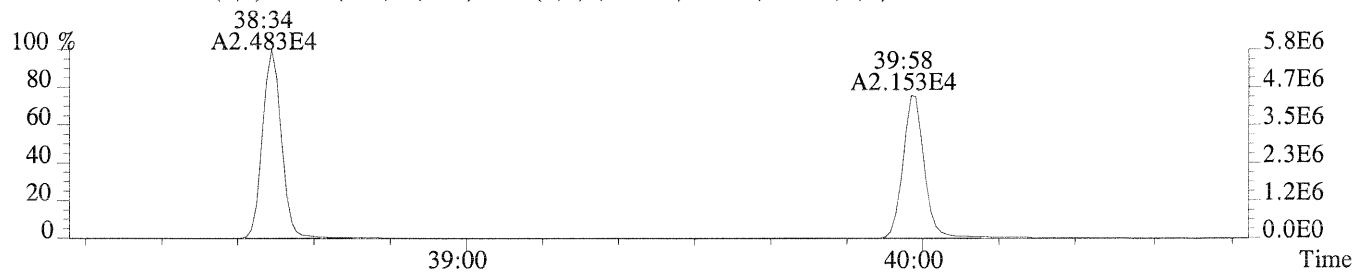
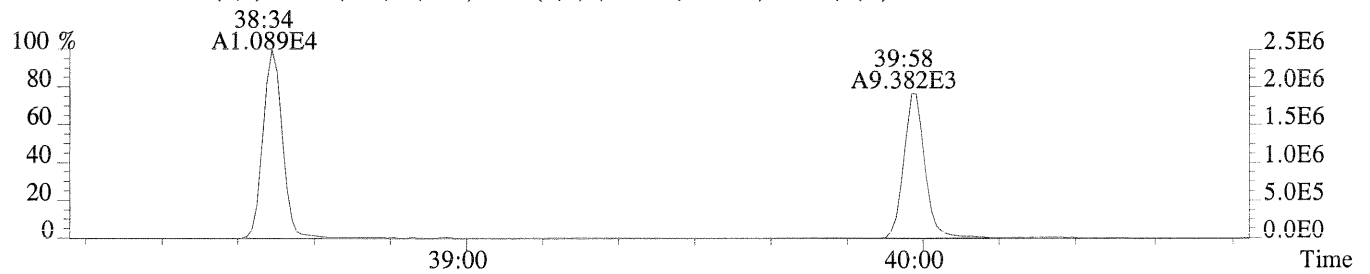
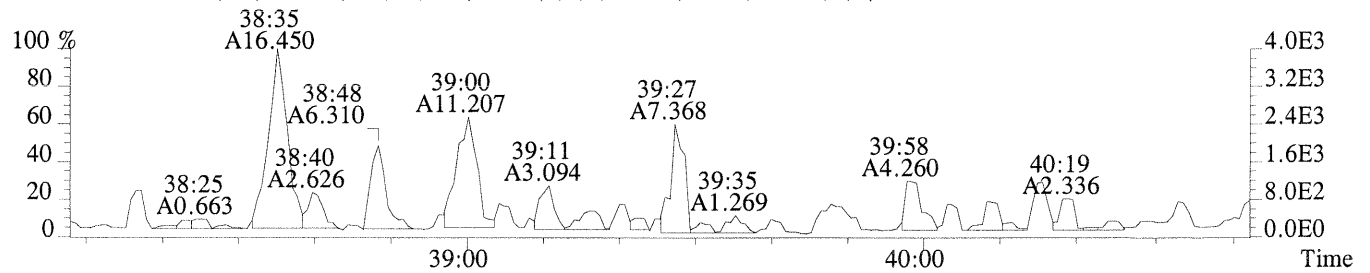
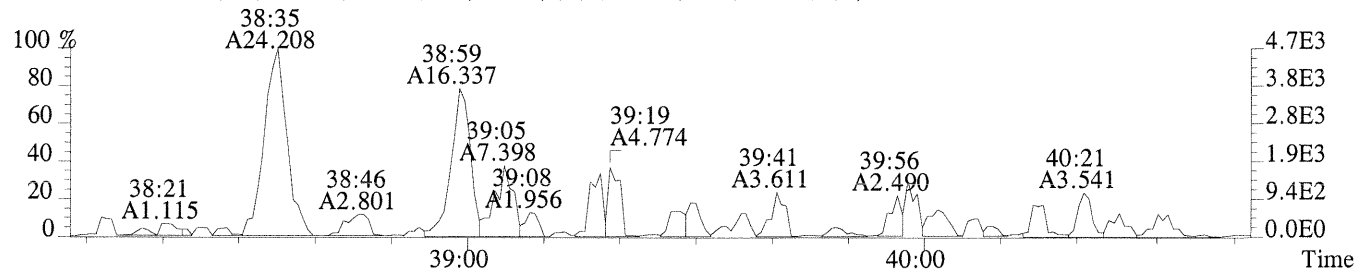


File: P230813 #1-307 Acq: 27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp: K1407971-017  
 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,464.0,0.40%,F,T)

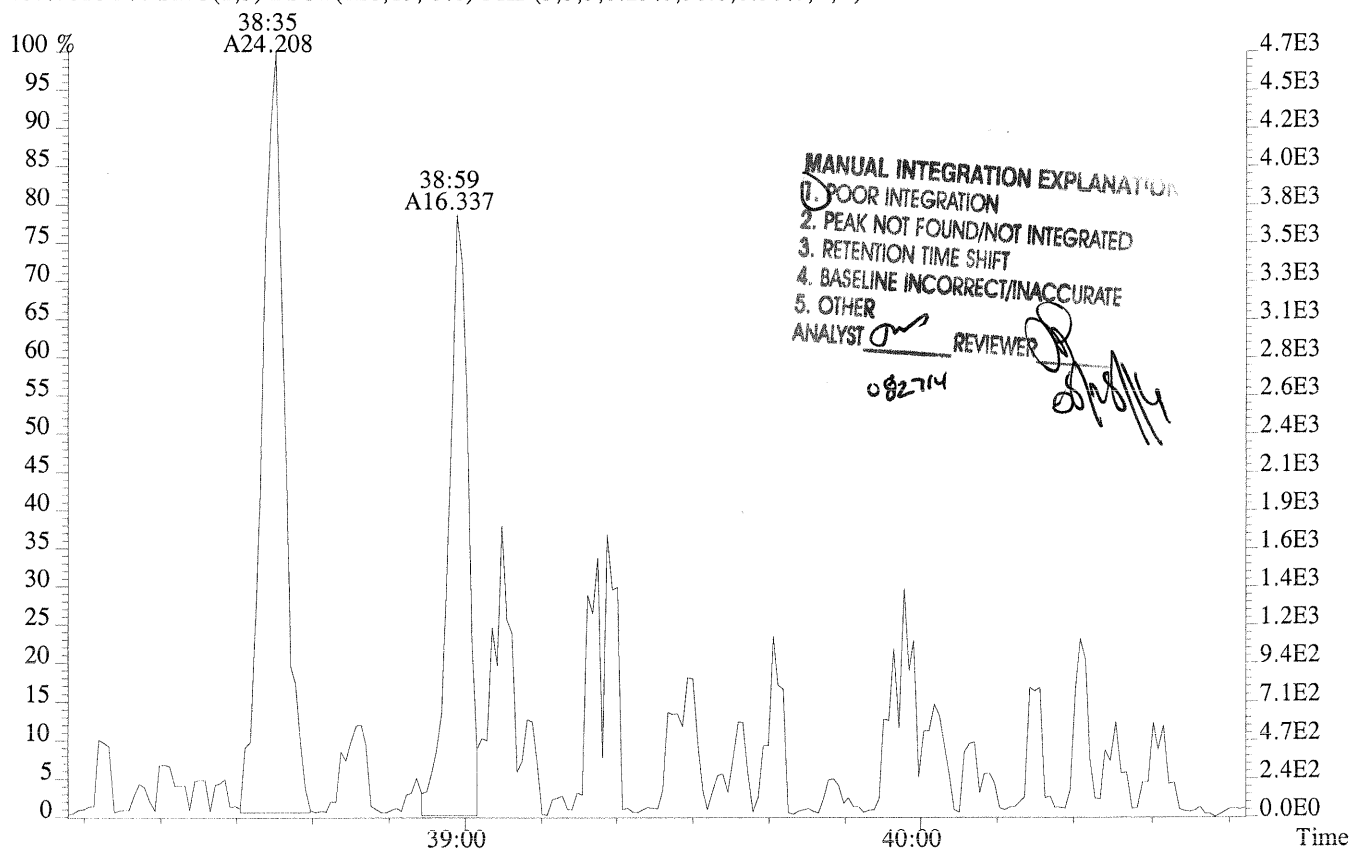


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,80.0,0.40%,F,T)

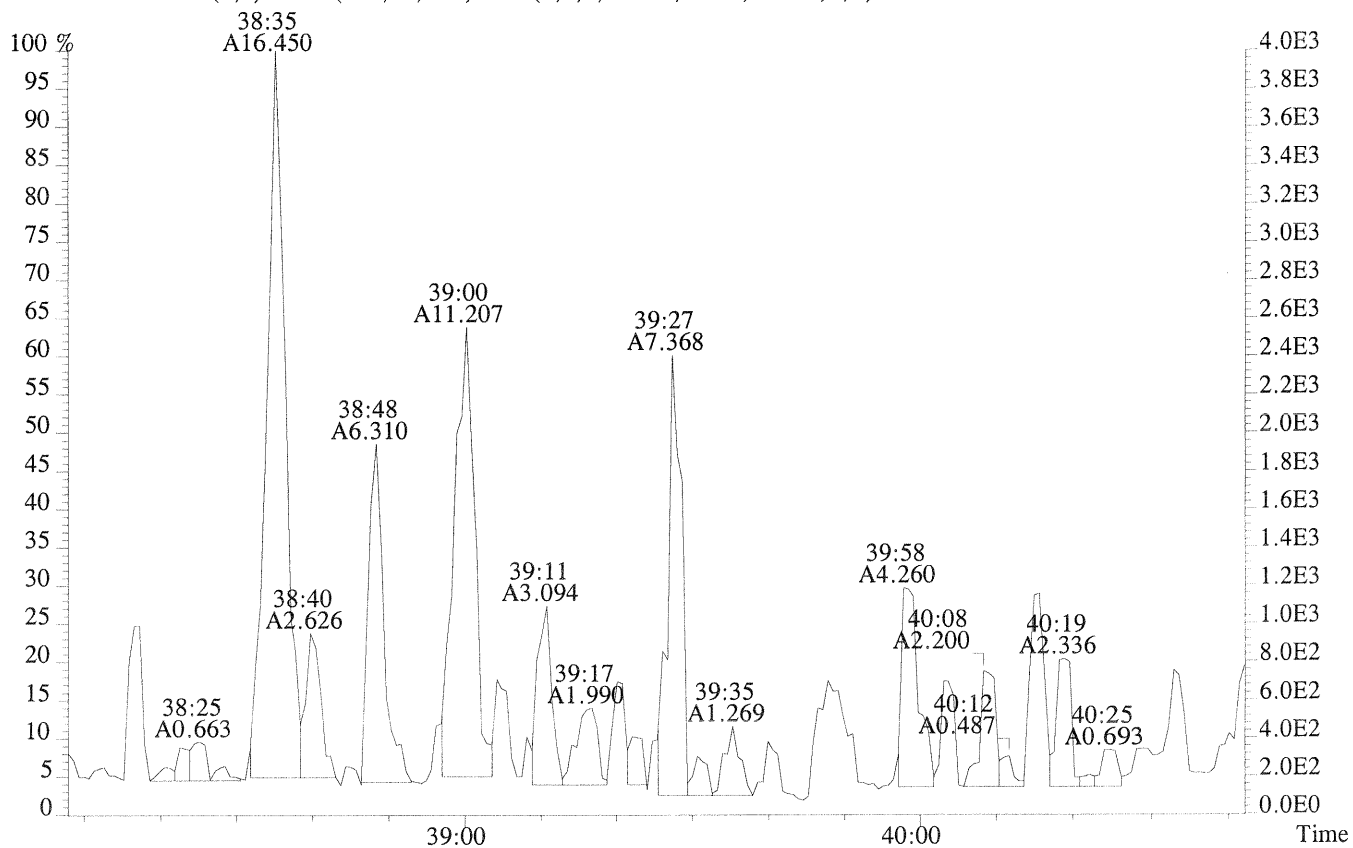




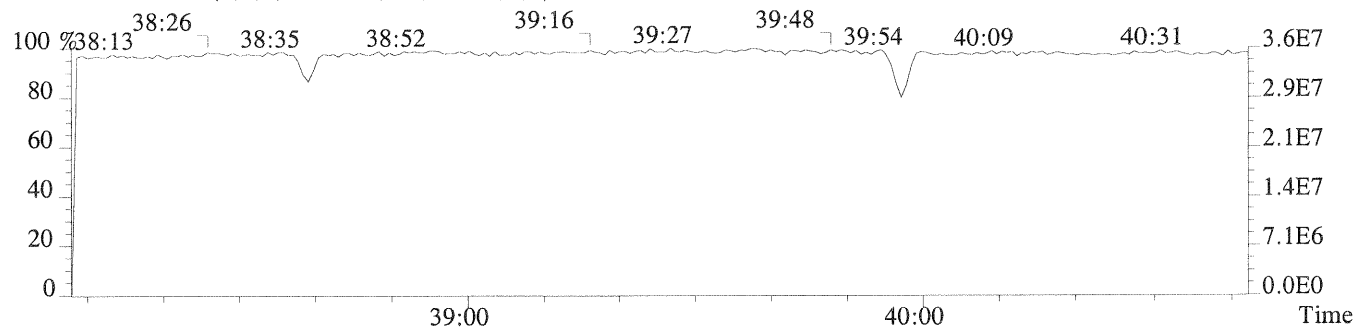
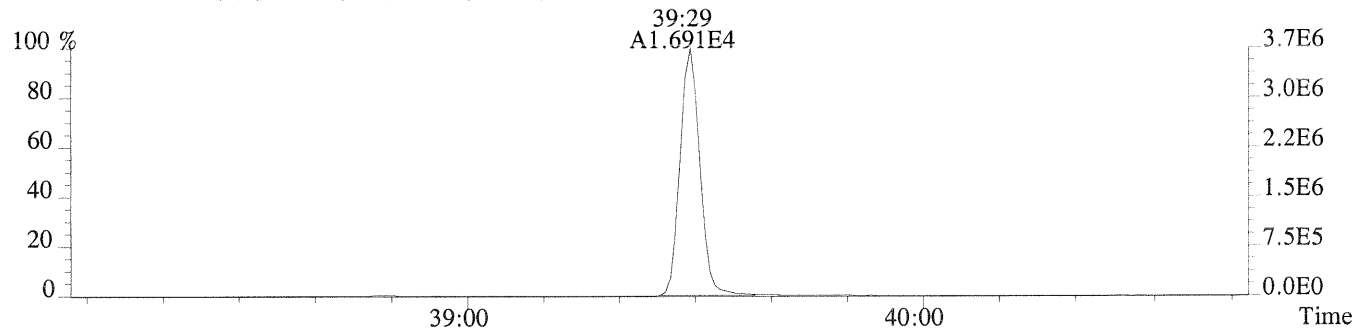
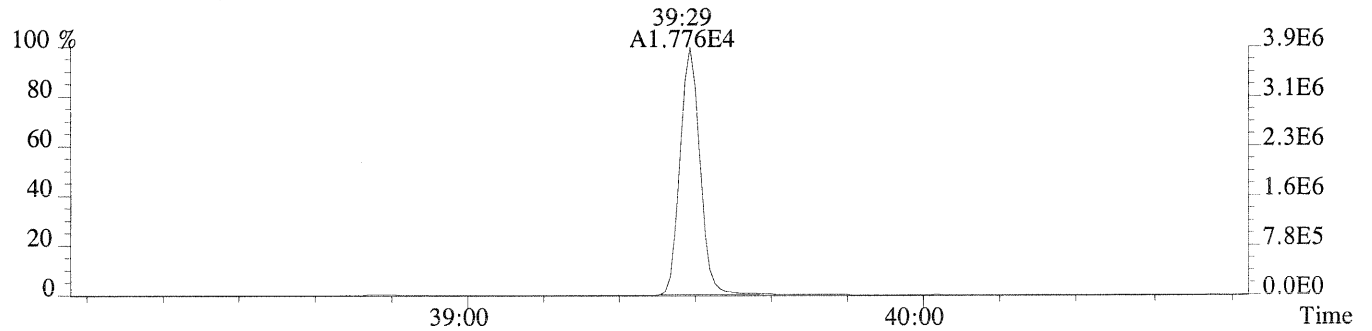
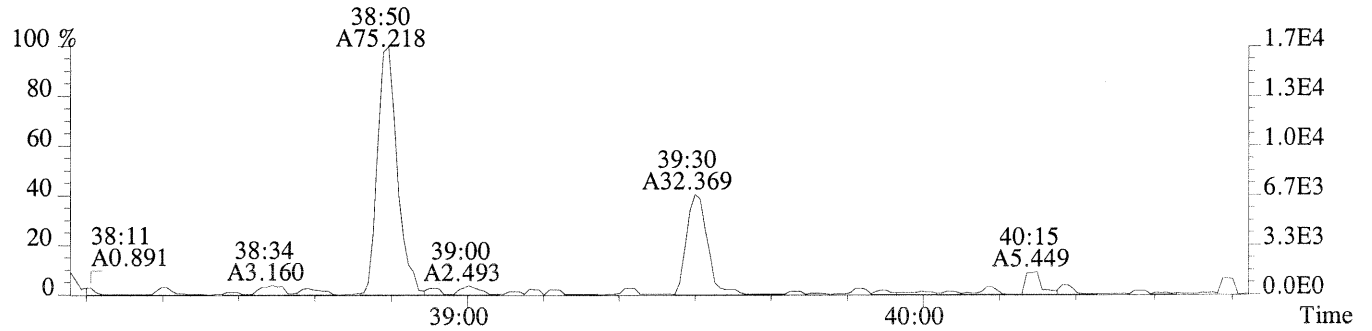
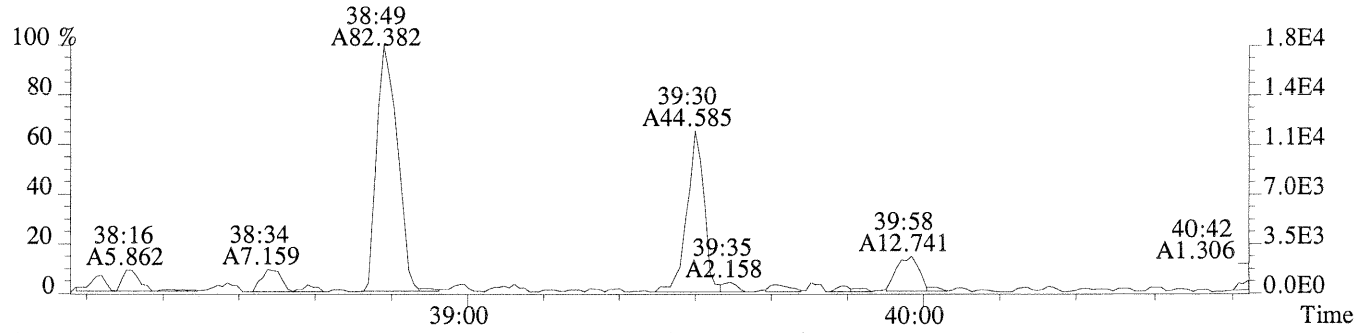
File:P230813 #1-234 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-017  
 407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.50%,F,T)



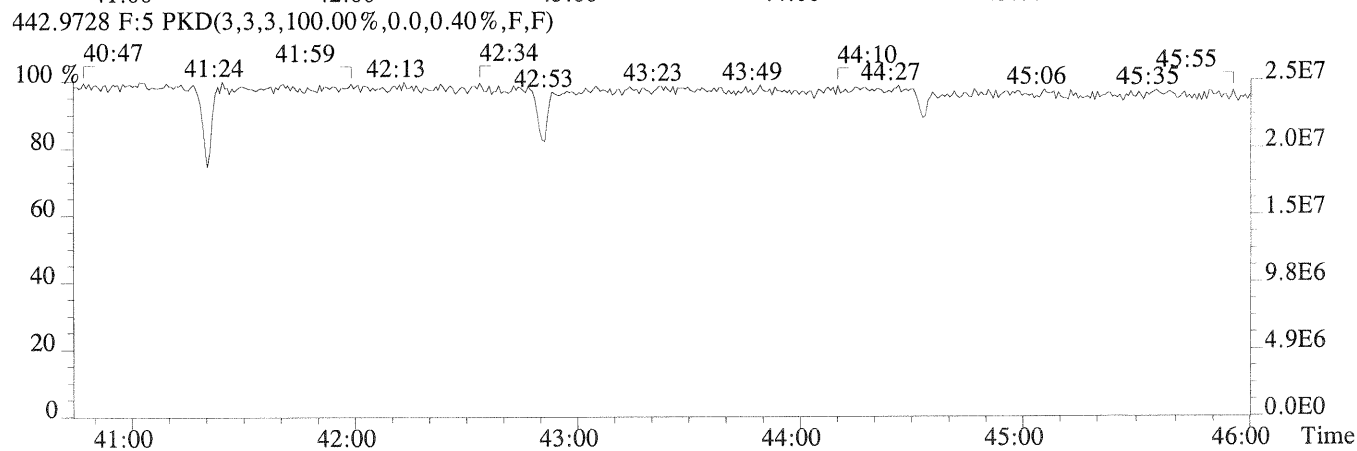
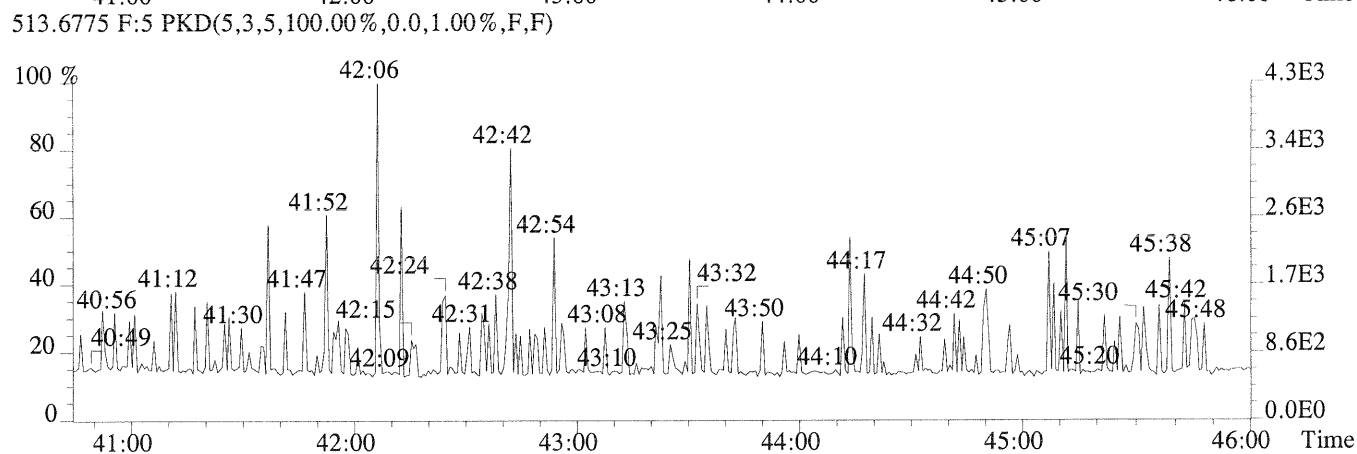
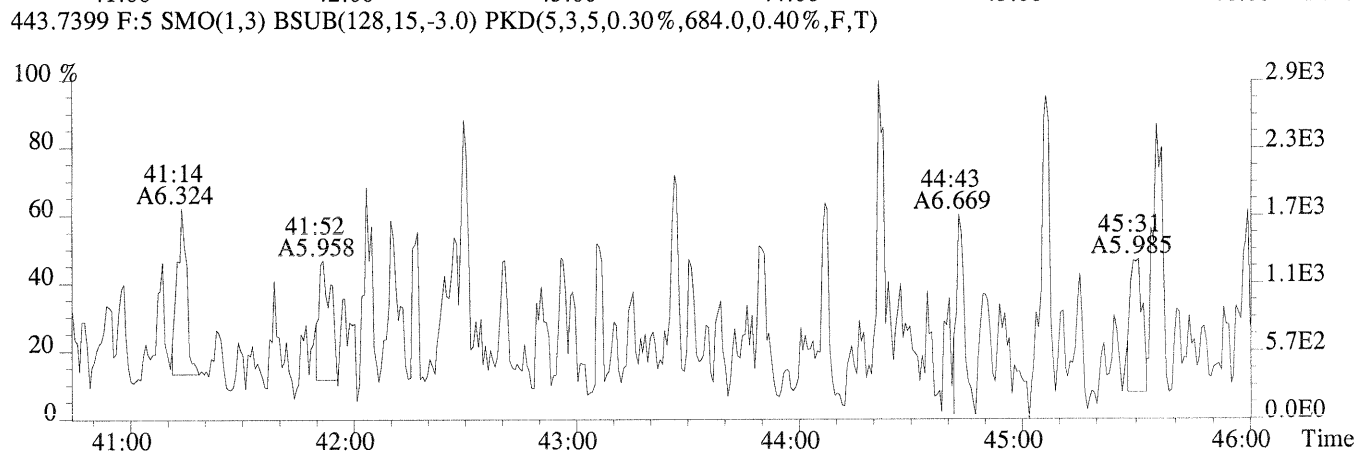
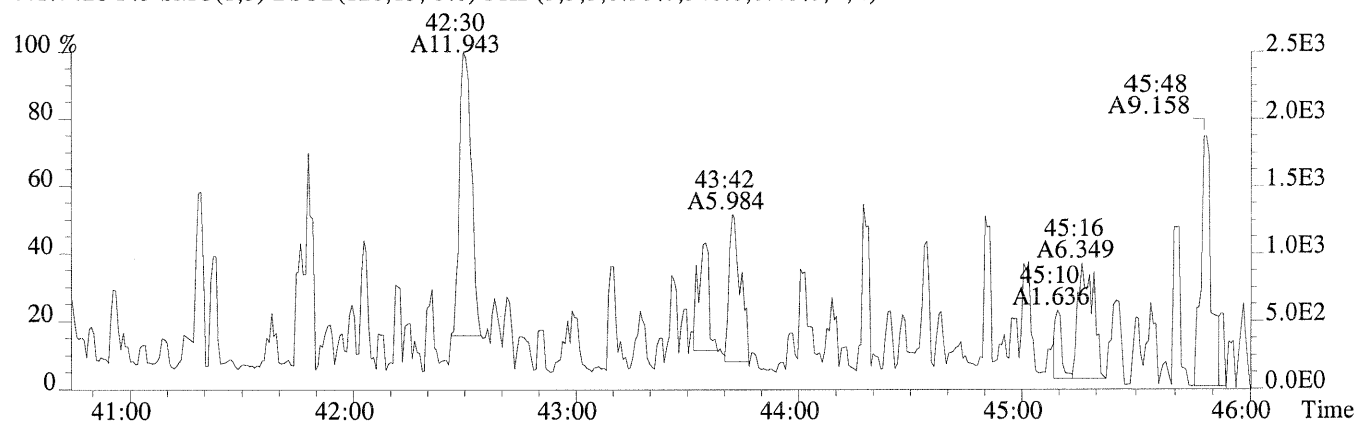
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.50%,F,T)

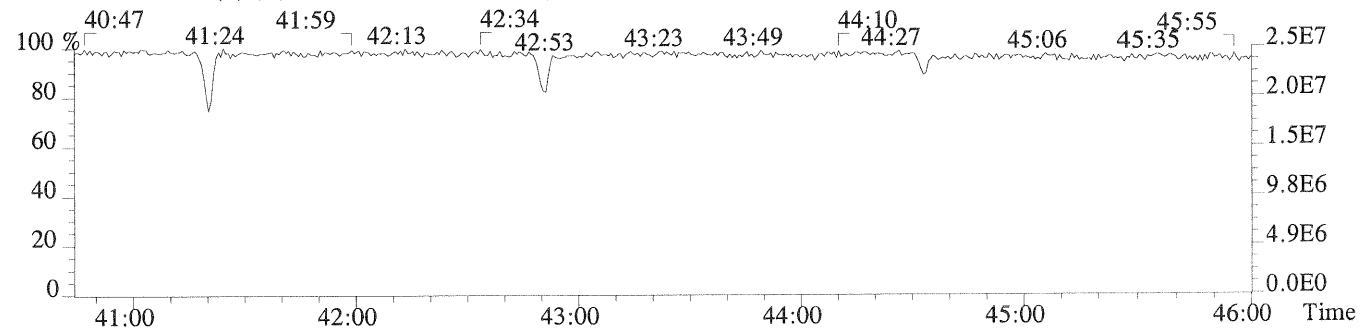
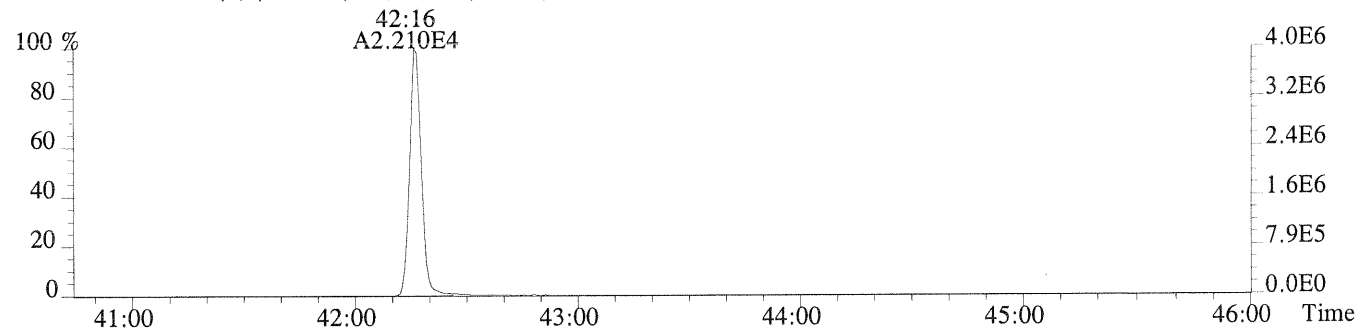
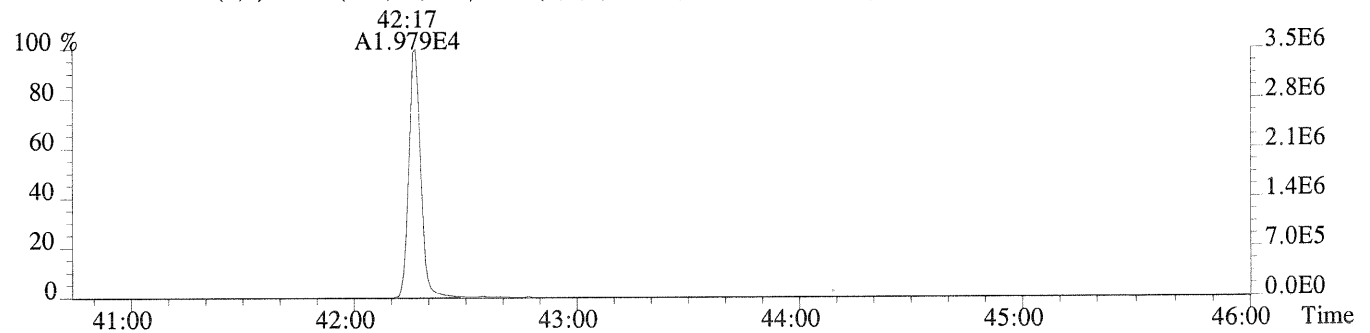
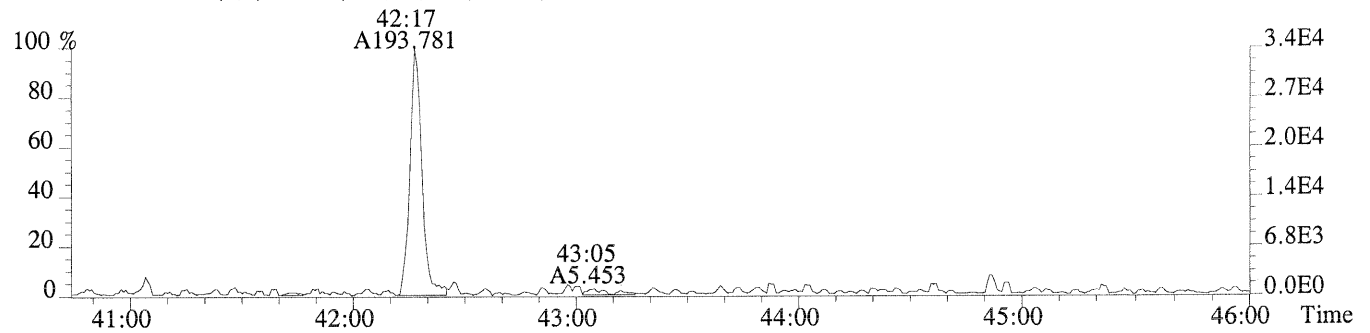
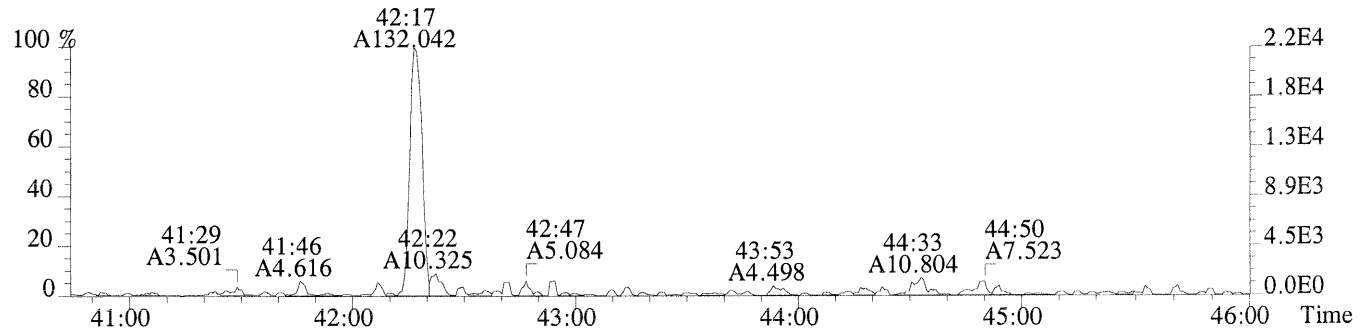




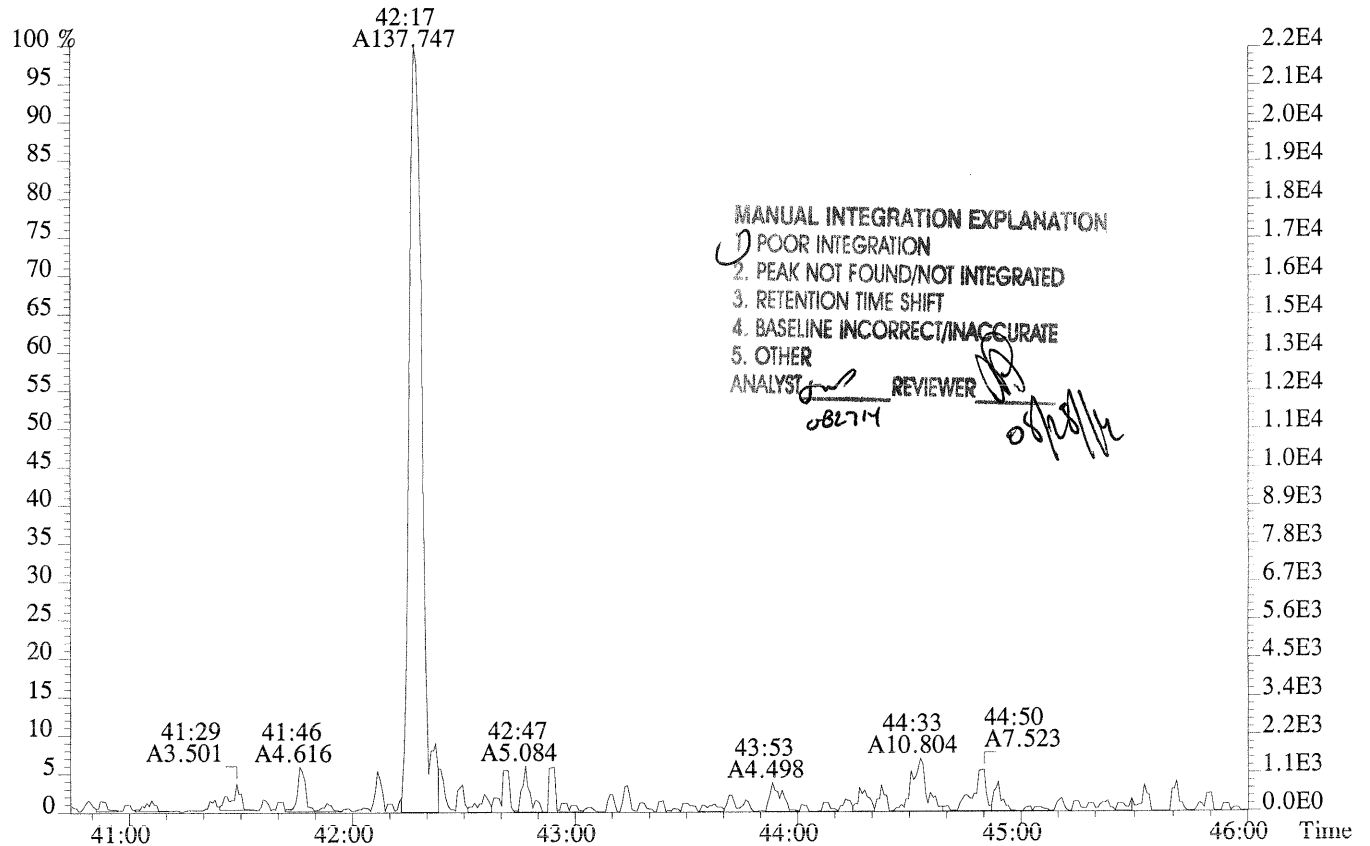


File:P230813 #1-484 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,340.0,0.40%,F,T)



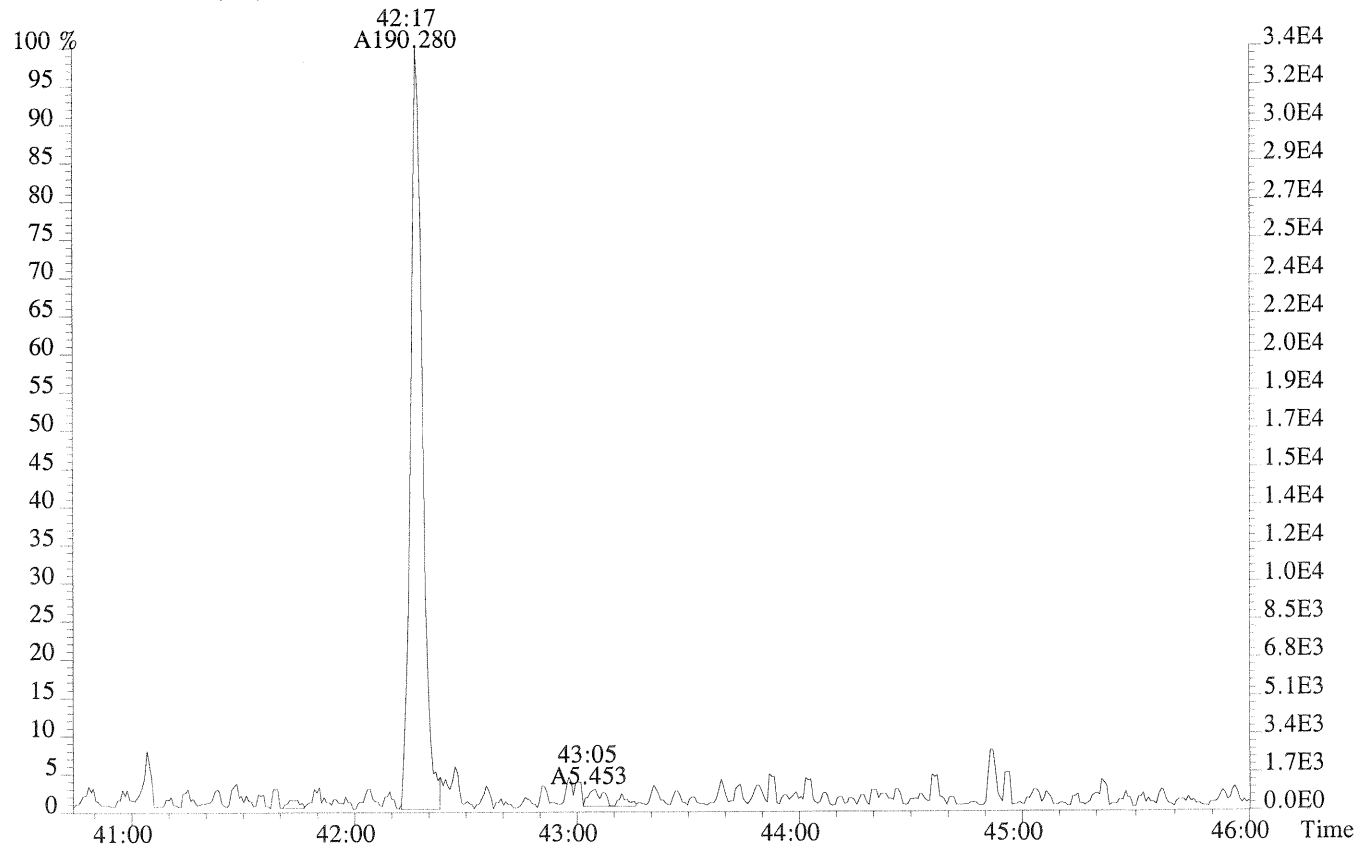


File:P230813 #1-484 Acq:27-AUG-2014 07:33:42 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-017  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,76.0,0.40%,F,T)



MANUAL INTEGRATION EXPLANATION  
1. POOR INTEGRATION  
2. PEAK NOT FOUND/NOT INTEGRATED  
3. RETENTION TIME SHIFT  
4. BASELINE INCORRECT/INACCURATE  
5. OTHER  
ANALYST *[Signature]* REVIEWER *[Signature]*  
082714

459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,488.0,0.40%,F,T)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-REF 7

Run #17 Filename P230814 Samp: 1 Inj: 1 Acquired: 27-AUG-14 08:21:28  
 Processed: 27-AUG-14 17:54:48 Sample ID: K1407971-018

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:17	5.414e+01	4.406e+01	1.23	no	no	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.000
3 Unk	2,3,4,7,8-PeCDF	33:21	1.677e+01	1.628e+01	1.03	no	yes	0.970
4 Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	2.865e+01	2.391e+01	1.20	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.274
10 Unk	OCDF	42:30	2.017e+01	2.549e+01	0.79	yes	no	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	6.440e+01	6.622e+01	0.97	yes	no	1.053
17 Unk	OCDD	42:18	2.334e+02	2.326e+02	1.00	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:16	2.209e+04	2.736e+04	0.81	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:26	4.335e+04	2.709e+04	1.60	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:20	4.428e+04	2.799e+04	1.58	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	2.009e+04	3.850e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	2.539e+04	4.876e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	2.201e+04	4.280e+04	0.51	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	1.948e+04	3.760e+04	0.52	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:35	1.462e+04	3.304e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	1.254e+04	2.884e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:03	1.591e+04	2.013e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	3.454e+04	2.225e+04	1.55	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	2.980e+04	2.308e+04	1.29	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:44	2.980e+04	2.308e+04	1.29	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	2.369e+04	2.208e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:17	2.733e+04	2.998e+04	0.91	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:28	2.454e+04	3.093e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	4.077e+04	3.249e+04	1.25	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	1.232e+04				no	1.099

$$\text{OCDD} = \frac{(2.334e+02 + 2.326e+02) \times 4000 \text{ pg} \times 1}{(2.733e+04 + 2.998e+04) \times 2.09 \text{ g} \times / 100 \times 1.169} = 3.92 \text{ ng/g}$$

*Handwritten signature and date: 3.92 ng/g 8/27/14*

ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

1613RESPA

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-REF Rep7

Run #17    Filename P230814    Samp: 1    Inj: 1    Acquired: 27-AUG-14 08:21:28  
 Processed: 27-AUG-14 17:54:481    LAB. ID: K1407971-018

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.75e+03	3.88e+02	2.5e+01	1.01e+04	5.44e+02	1.9e+01
2	1,2,3,7,8-PeCDF	*	4.20e+02	*	*	1.21e+03	*
3	2,3,4,7,8-PeCDF	3.35e+03	4.20e+02	8.0e+00	3.44e+03	1.21e+03	2.8e+00
4	1,2,3,4,7,8-HxCDF	*	5.20e+02	*	*	2.88e+02	*
5	1,2,3,6,7,8-HxCDF	*	5.20e+02	*	*	2.88e+02	*
6	2,3,4,6,7,8-HxCDF	*	5.20e+02	*	*	2.88e+02	*
7	1,2,3,7,8,9-HxCDF	*	5.20e+02	*	*	2.88e+02	*
8	1,2,3,4,6,7,8-HpCDF	7.06e+03	2.92e+02	2.4e+01	4.70e+03	2.28e+02	2.1e+01
9	1,2,3,4,7,8,9-HpCDF	*	2.92e+02	*	*	2.28e+02	*
10	OCDF	4.78e+03	1.68e+02	2.8e+01	4.34e+03	6.68e+02	6.5e+00
11	2,3,7,8-TCDD	*	4.28e+02	*	*	5.20e+02	*
12	1,2,3,7,8-PeCDD	*	1.17e+03	*	*	5.20e+01	*
13	1,2,3,4,7,8-HxCDD	*	3.20e+02	*	*	3.00e+02	*
14	1,2,3,6,7,8-HxCDD	*	3.20e+02	*	*	3.00e+02	*
15	1,2,3,7,8,9-HxCDD	*	3.20e+02	*	*	3.00e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.55e+04	4.28e+02	3.6e+01	1.25e+04	4.80e+01	2.6e+02
17	OCDD	4.32e+04	8.00e+01	5.4e+02	3.57e+04	6.16e+02	5.8e+01
18	13C-2,3,7,8-TCDF	4.63e+06	1.76e+03	2.6e+03	5.79e+06	1.48e+03	3.9e+03
19	13C-1,2,3,7,8-PeCDF	8.48e+06	5.76e+02	1.5e+04	5.30e+06	1.41e+03	3.8e+03
20	13C-2,3,4,7,8-PeCDF	8.80e+06	5.76e+02	1.5e+04	5.57e+06	1.41e+03	4.0e+03
21	13C-1,2,3,4,7,8-HxCDF	4.45e+06	6.84e+02	6.5e+03	8.56e+06	1.02e+03	8.4e+03
22	13C-1,2,3,6,7,8-HxCDF	5.53e+06	6.84e+02	8.1e+03	1.07e+07	1.02e+03	1.0e+04
23	13C-2,3,4,6,7,8-HxCDF	4.72e+06	6.84e+02	6.9e+03	9.24e+06	1.02e+03	9.1e+03
24	13C-1,2,3,7,8,9-HxCDF	4.22e+06	6.84e+02	6.2e+03	8.11e+06	1.02e+03	8.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.37e+06	1.60e+03	2.1e+03	7.65e+06	2.04e+03	3.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.59e+06	1.60e+03	1.6e+03	6.04e+06	2.04e+03	3.0e+03
27	13C-2,3,7,8-TCDD	3.44e+06	4.92e+03	7.0e+02	4.34e+06	1.51e+03	2.9e+03
28	13C-1,2,3,7,8-PeCDD	7.04e+06	8.24e+02	8.5e+03	4.53e+06	4.60e+02	9.8e+03
29	13C-1,2,3,4,7,8-HxCDD	6.92e+06	1.04e+03	6.6e+03	5.38e+06	6.24e+02	8.6e+03
30	13C-1,2,3,6,7,8-HxCDD	6.92e+06	1.04e+03	6.6e+03	5.38e+06	6.24e+02	8.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.18e+06	9.64e+02	5.4e+03	4.78e+06	3.60e+02	1.3e+04
32	13C-OCDD	4.83e+06	5.68e+02	8.5e+03	5.36e+06	4.76e+02	1.1e+04
33	13C-1,2,3,4-TCDD	5.21e+06	4.92e+03	1.1e+03	6.59e+06	1.51e+03	4.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.72e+06	1.04e+03	8.3e+03	7.02e+06	6.24e+02	1.1e+04
35	37Cl-2,3,7,8-TCDD	2.72e+06	5.28e+02	5.2e+03			

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XLSN

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Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 42      Totals Name: Total Hexa-Dioxins

Run: 17      File: P230814      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 27-AUG-14    08:21:28      Processed: 27-AUG-14 17:54:48

Mass: 389.8160    391.8130      Tot Response: 8.06e+01    RRF: 1.129

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:24	4.59e+01	3.47e+01	1.32	yes	8.06e+01	n	n

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ALS ENVIRONMENTAL  
Peak List Summary

CLIENT ID.

Nv SYC14-REF Rep

Entry: 43      Totals Name: Total Hepta-Furans

Run: 17      File: P230814      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 27-AUG-14    08:21:28      Processed: 27-AUG-14 17:54:48

Mass: 407.7820    409.7790      Tot Response: 9.44e+01    RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	38:36	2.86e+01	2.39e+01	1.20	yes	5.26e+01	1,2,3,4,6,7,8-HpCDF	n	n
2	39:00	2.20e+01	1.99e+01	1.10	yes	4.19e+01		n	n

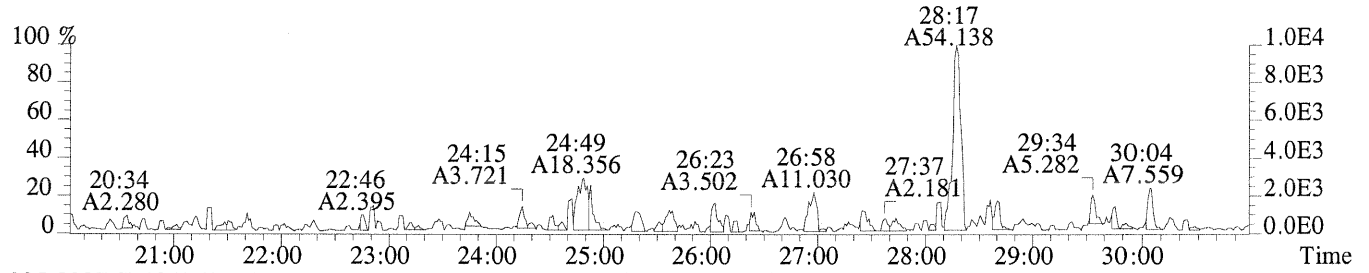
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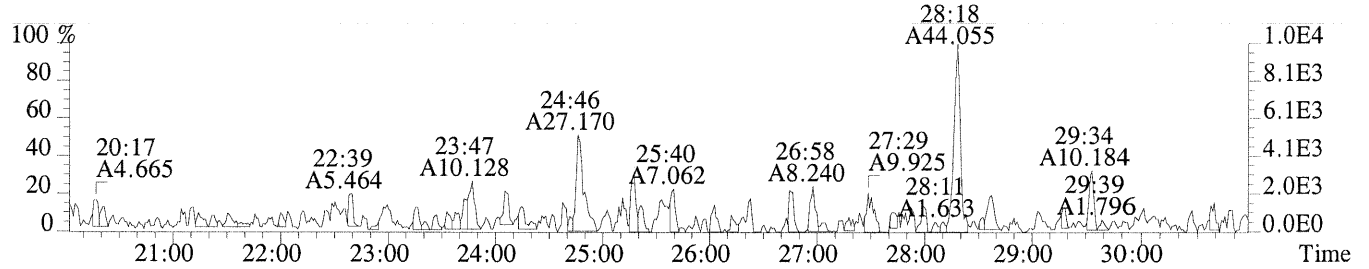




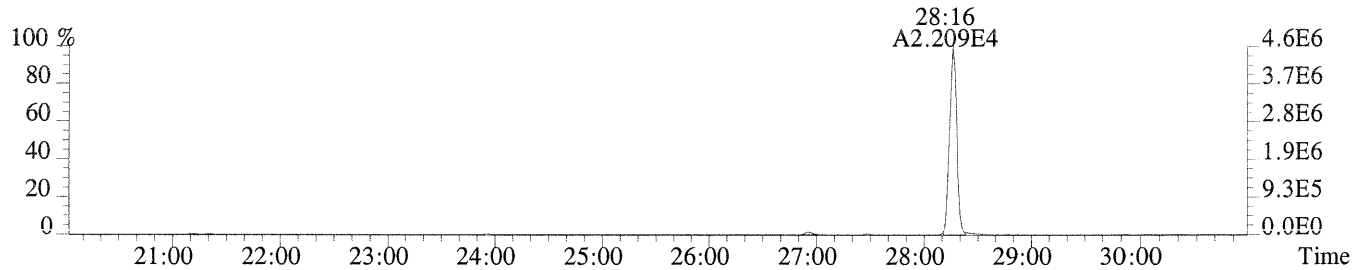
File:P230814 #1-687 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-018  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



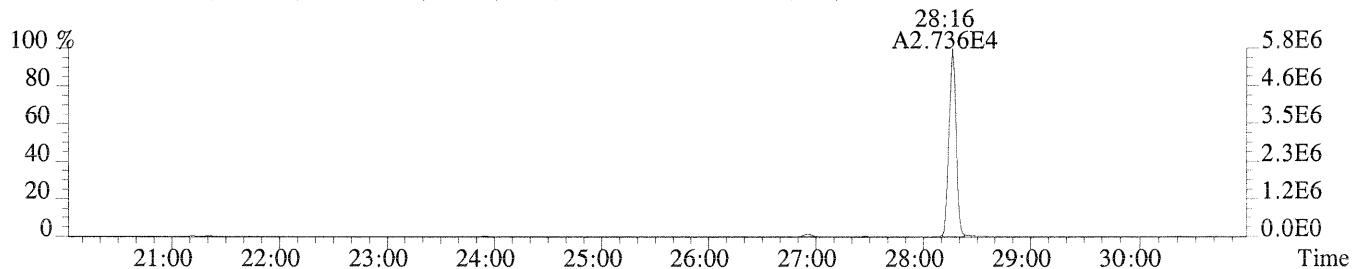
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



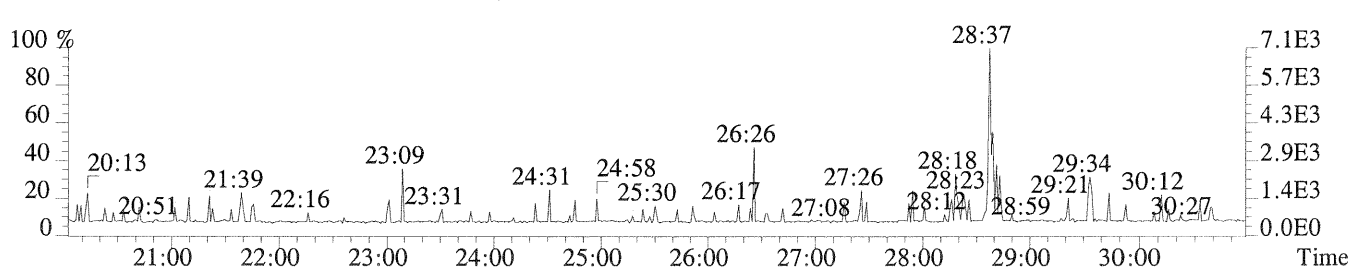
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



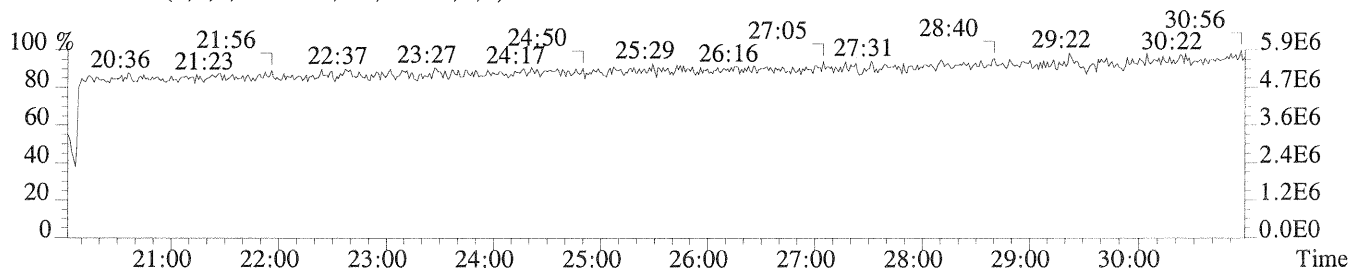
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1480.0,1.00%,F,T)

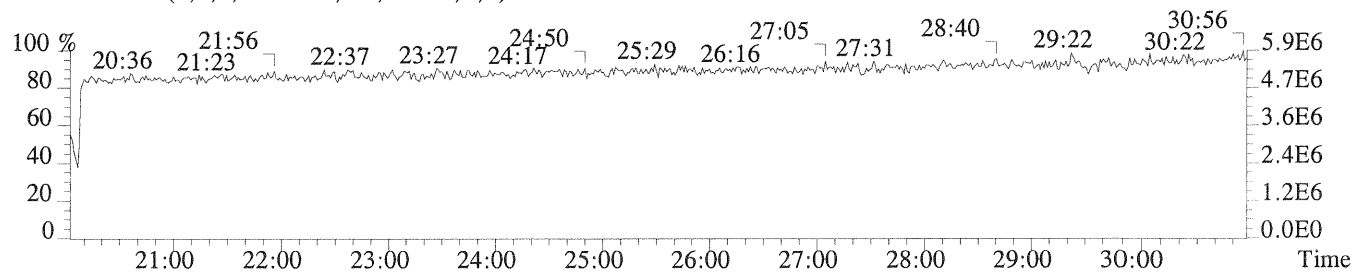
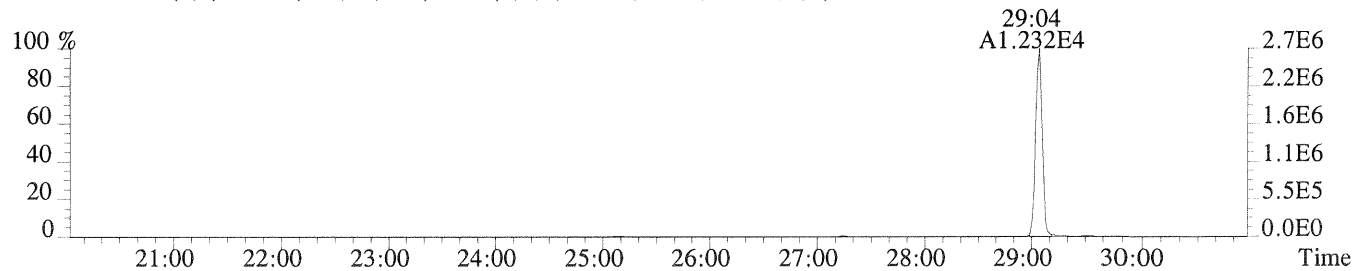
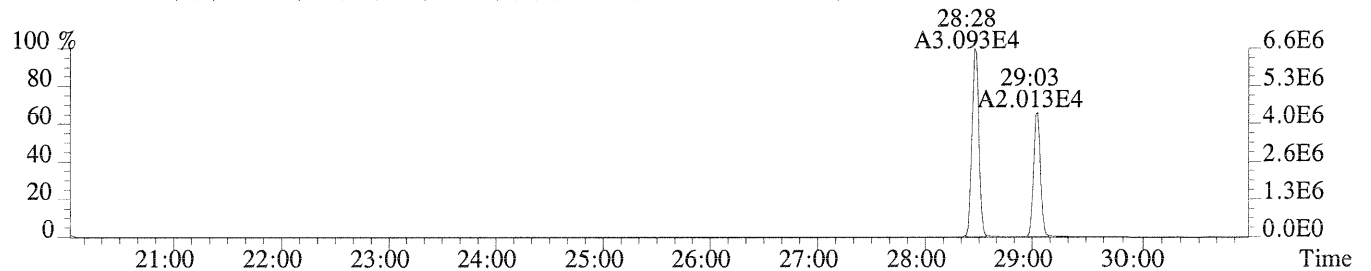
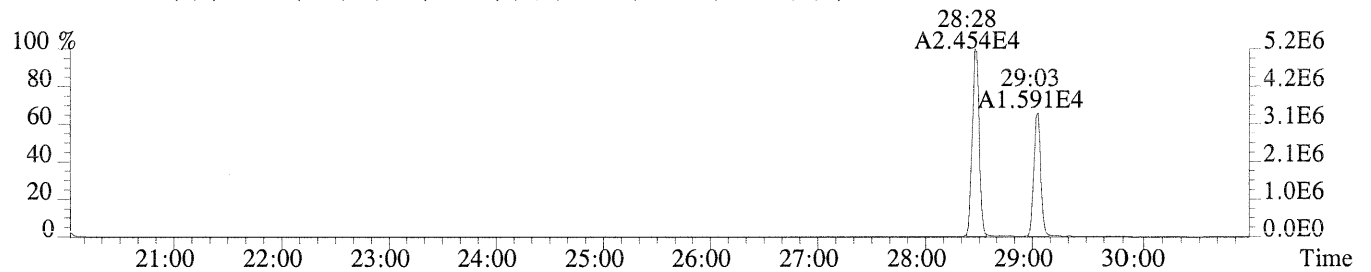
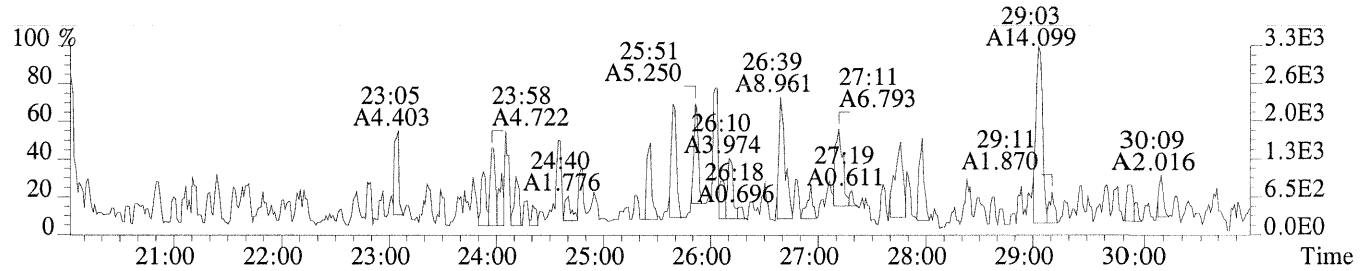
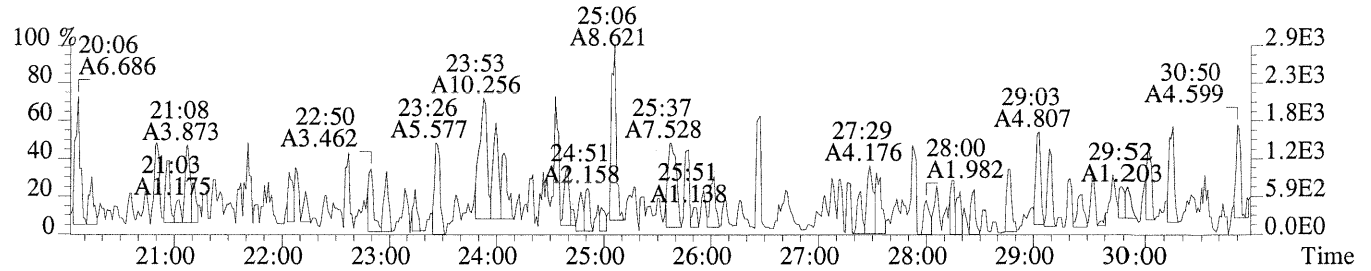


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

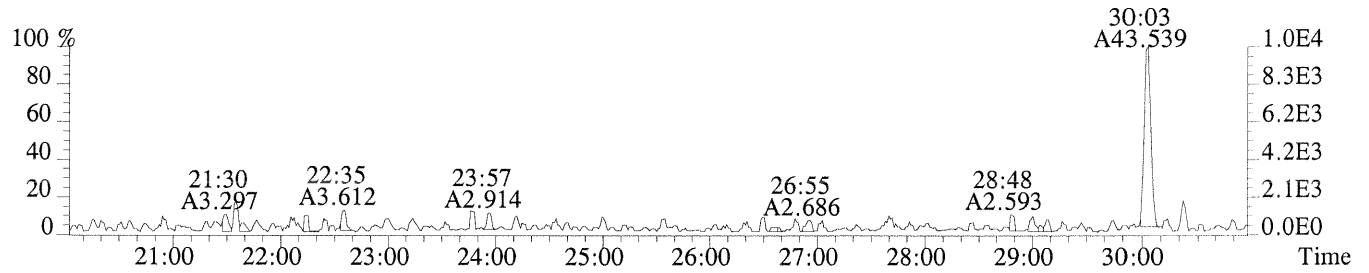


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

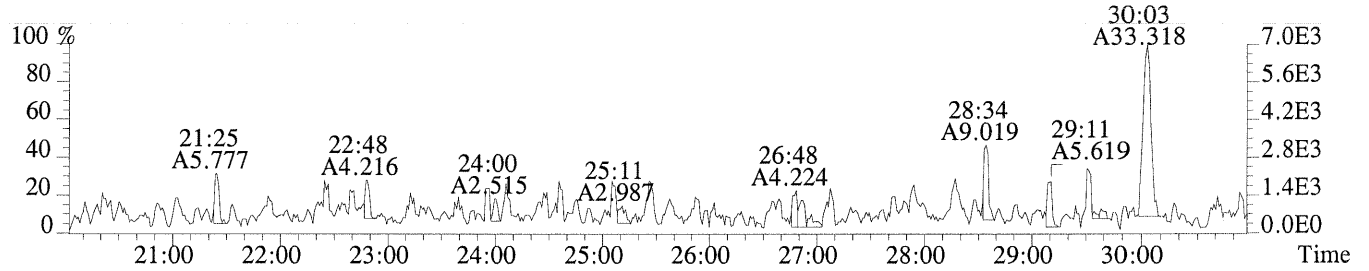




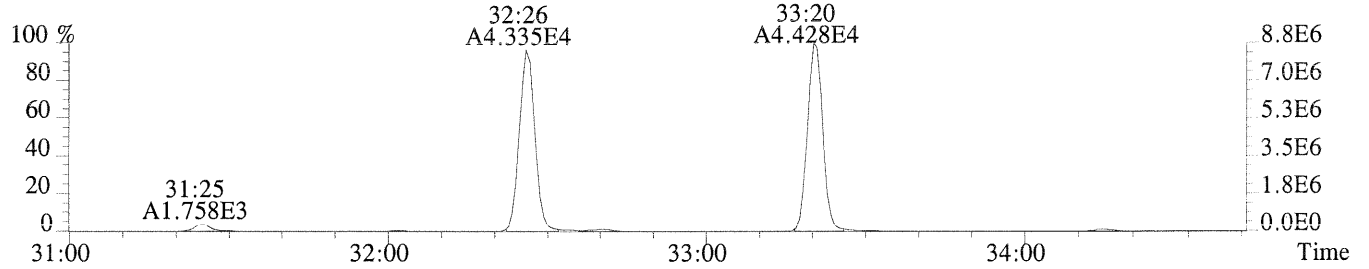
File:P230814 #1-687 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-018  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,T)



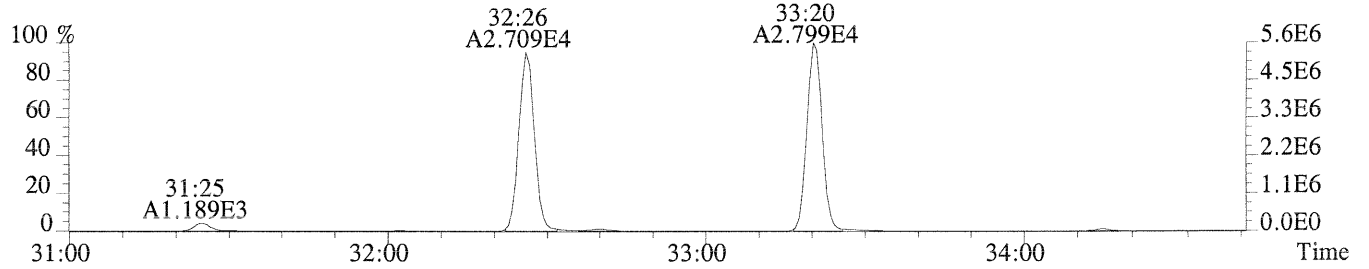
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



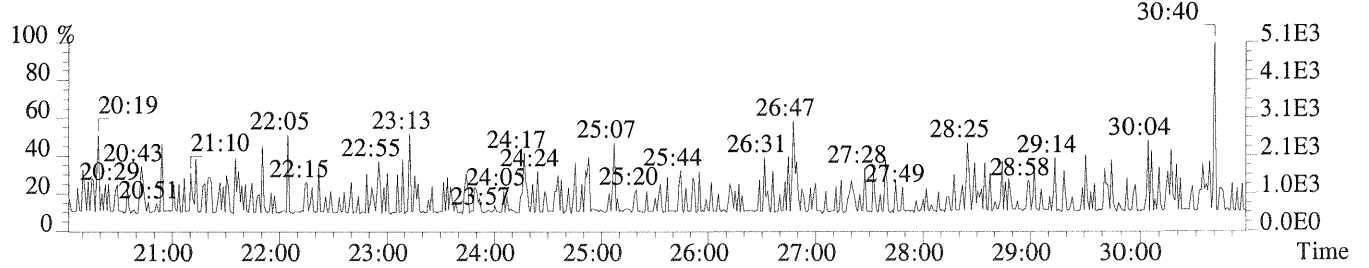
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



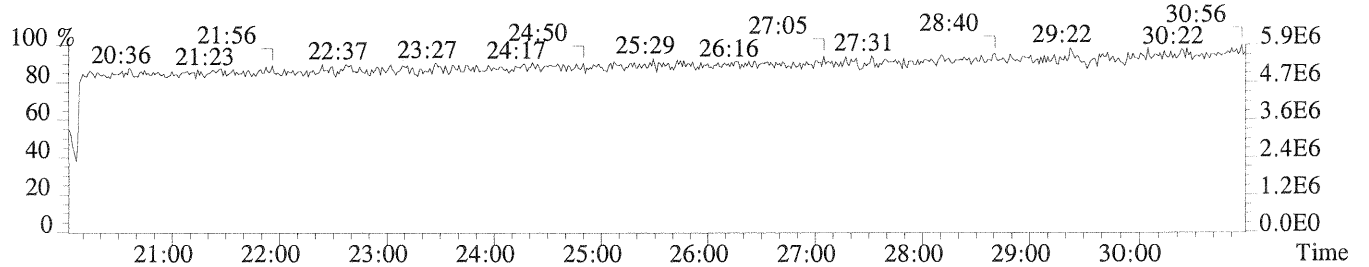
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



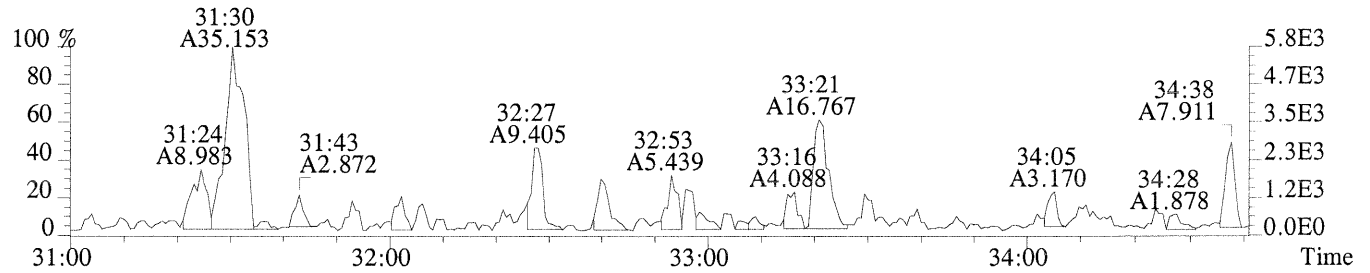
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



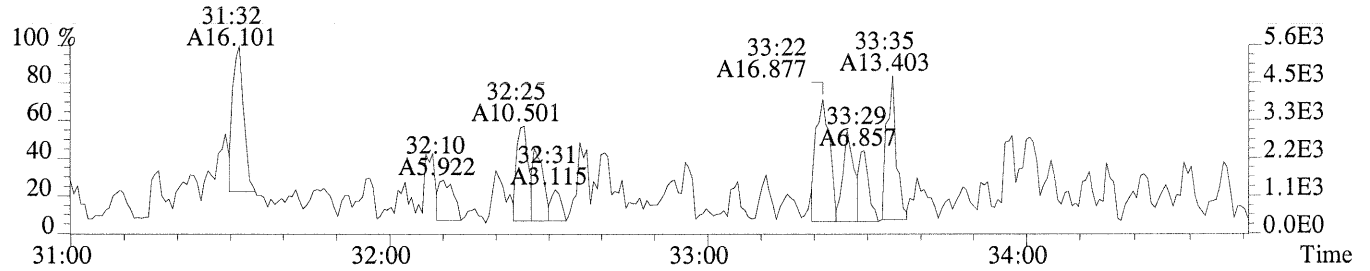
File:P230814 #1-335 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:K1407971-018

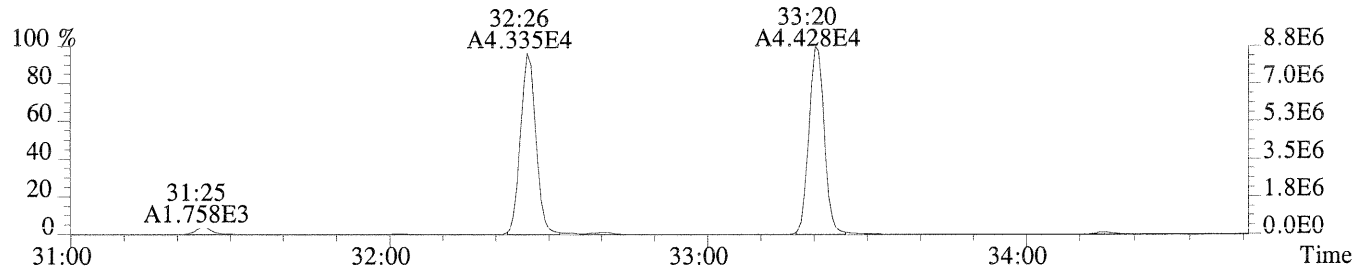
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)



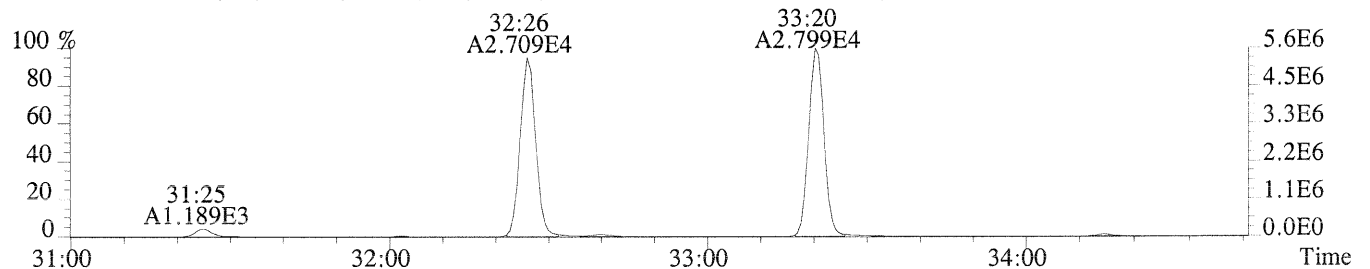
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



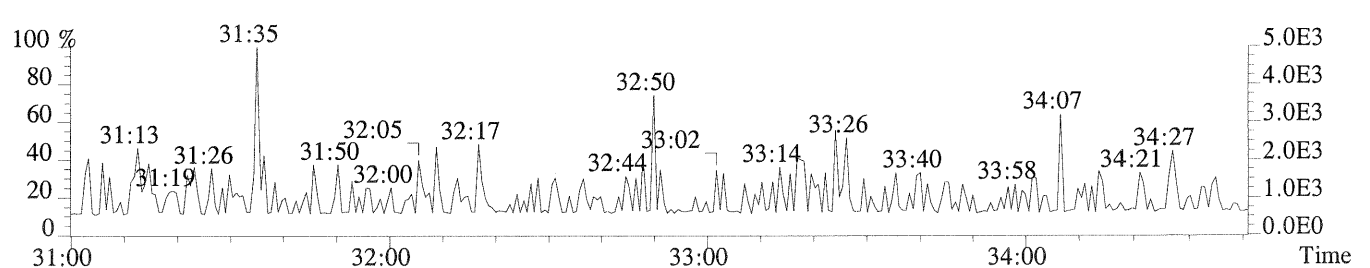
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



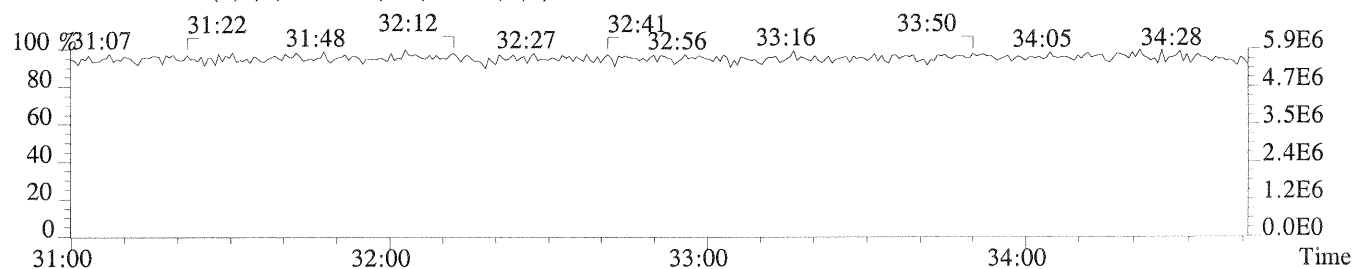
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



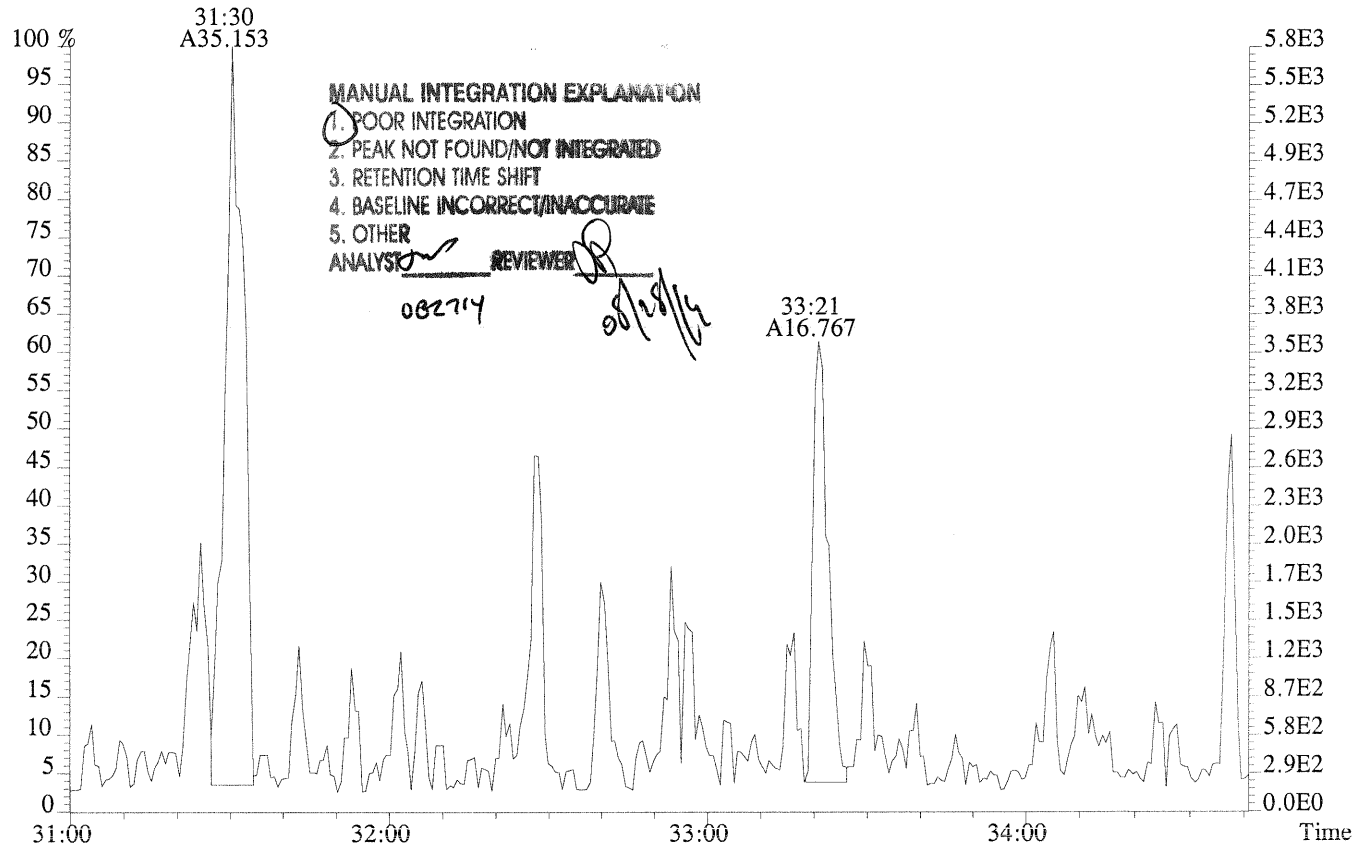
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



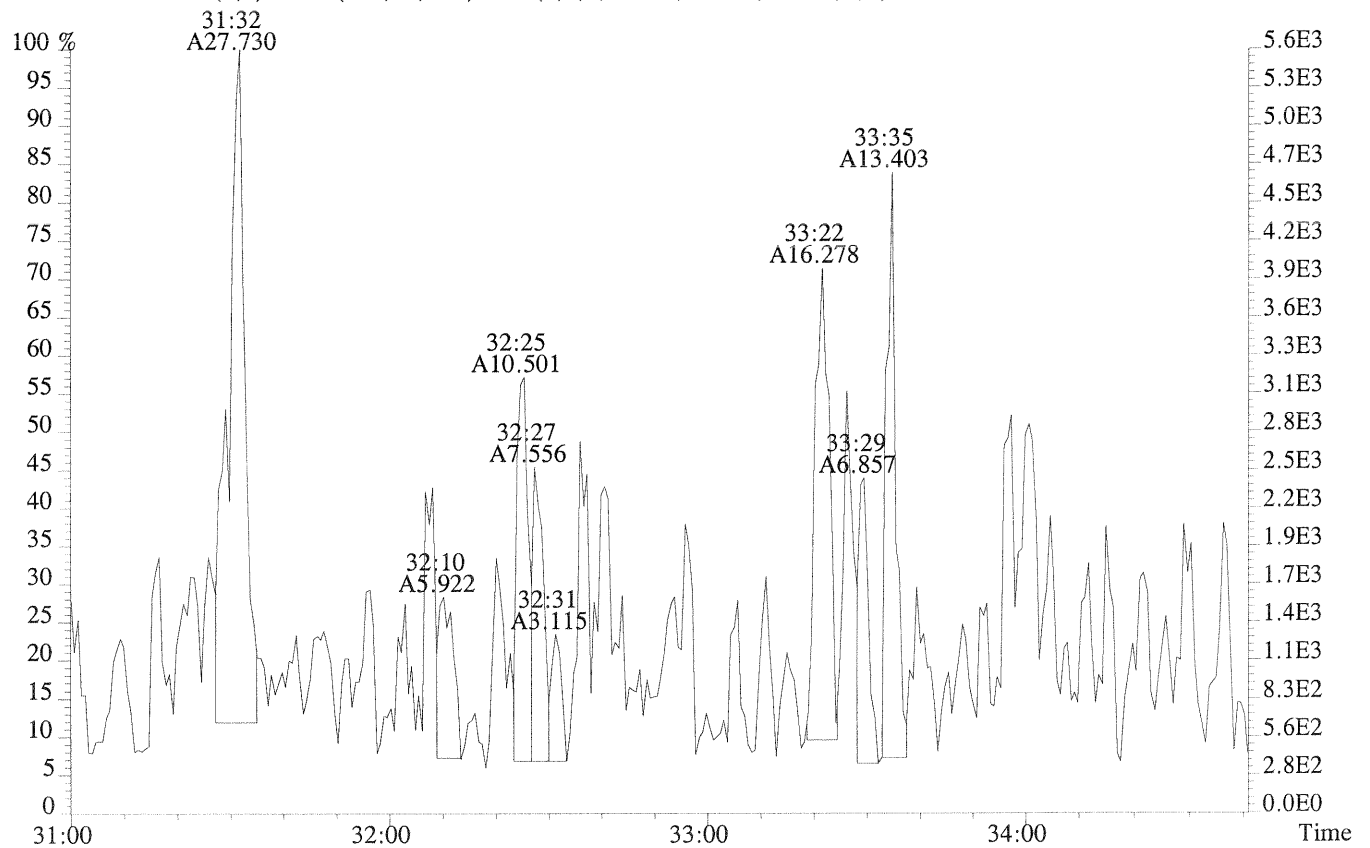
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

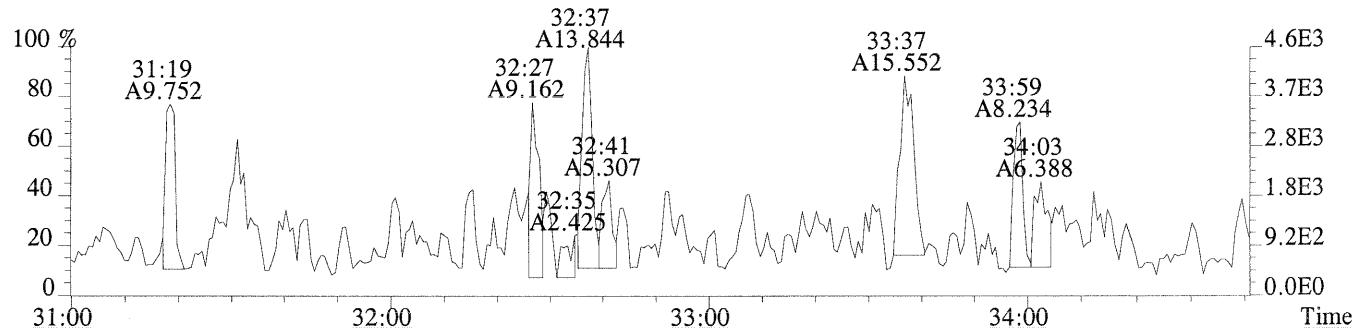


File:P230814 #1-335 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:K1407971-018  
 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)

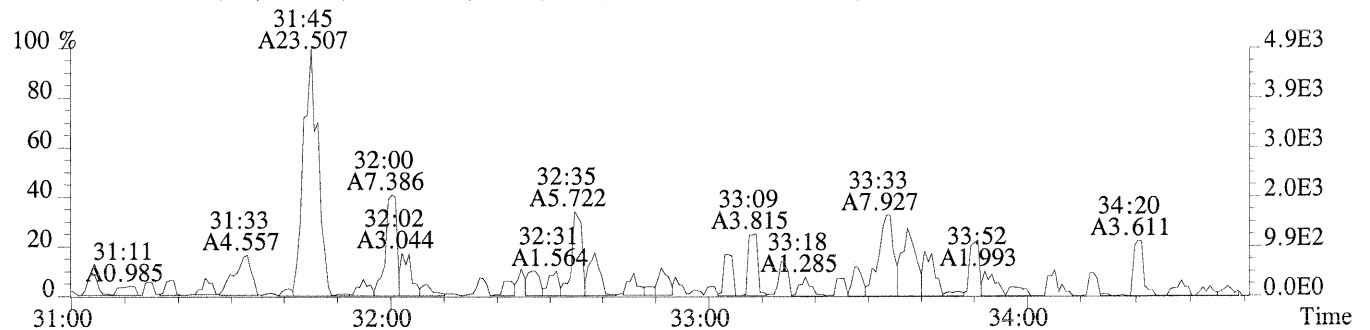


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)

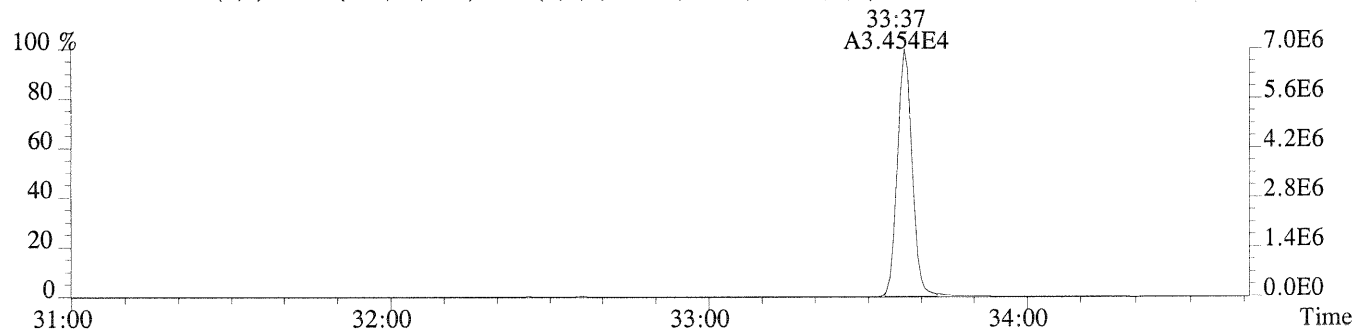




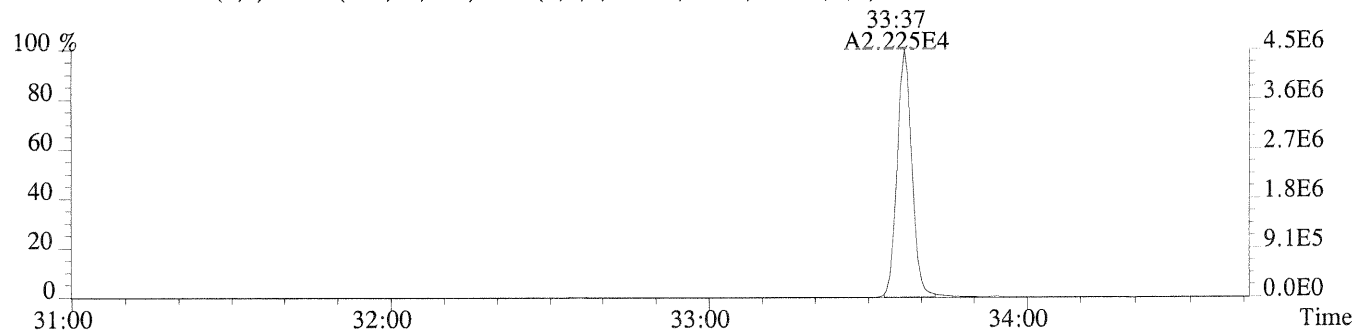
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,52.0,1.00%,F,T)



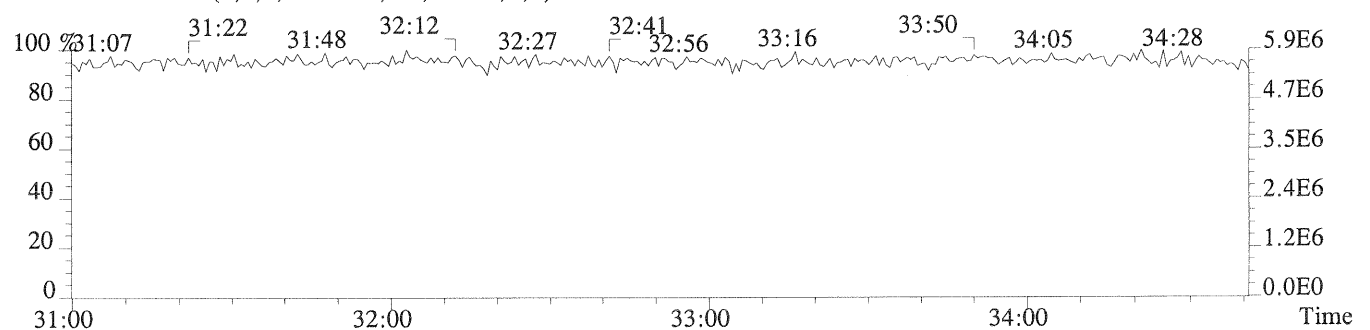
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



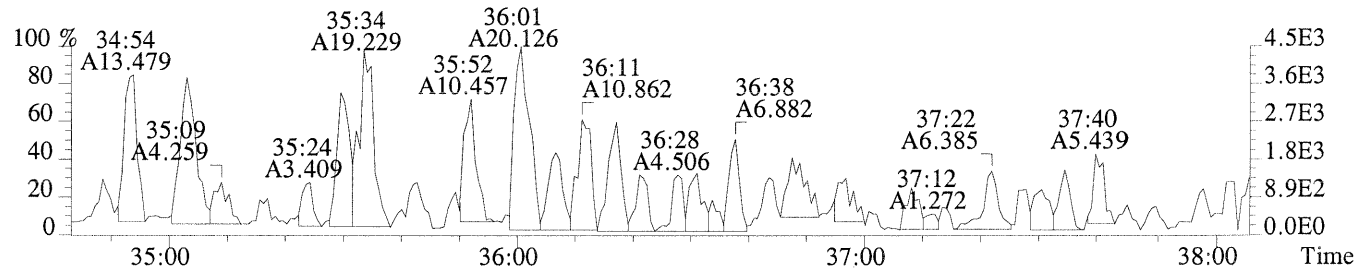
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,T)



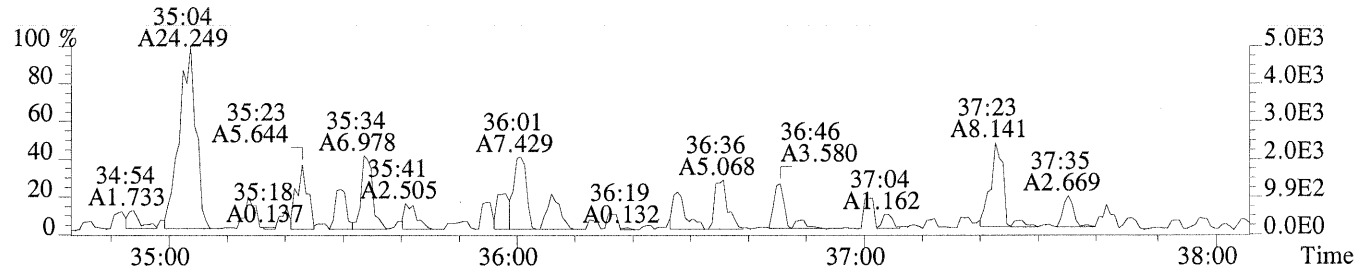
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



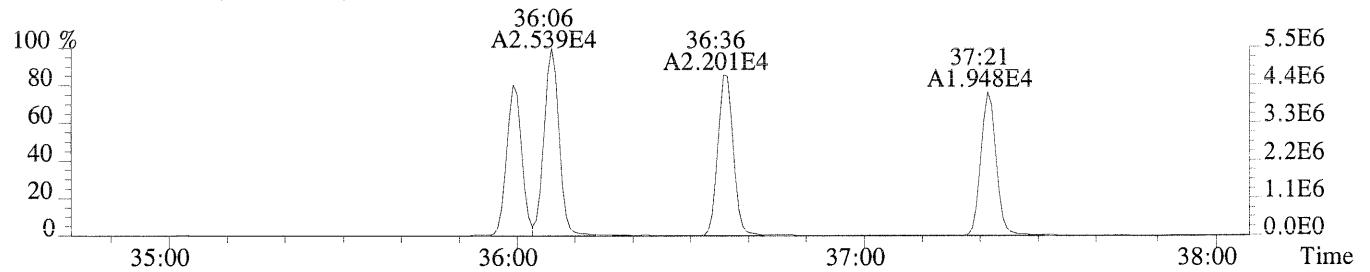
File:P230814 #1-307 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-018  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,T)



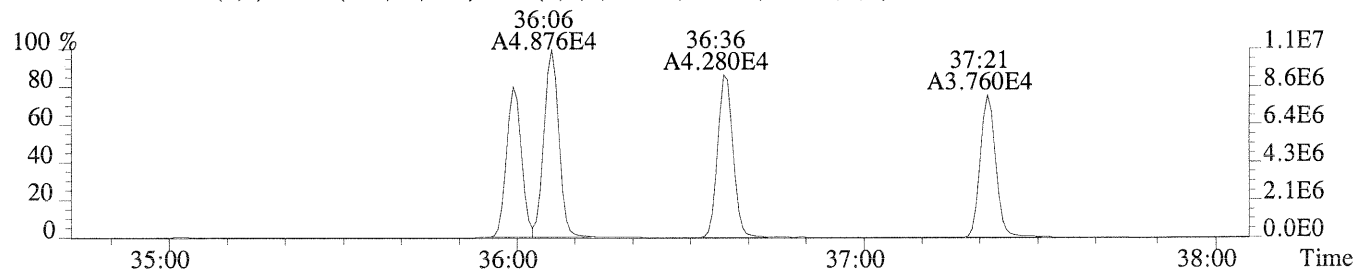
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



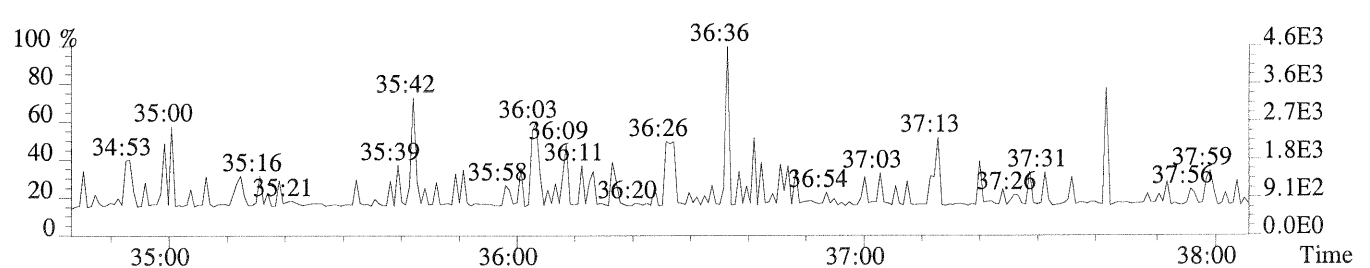
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



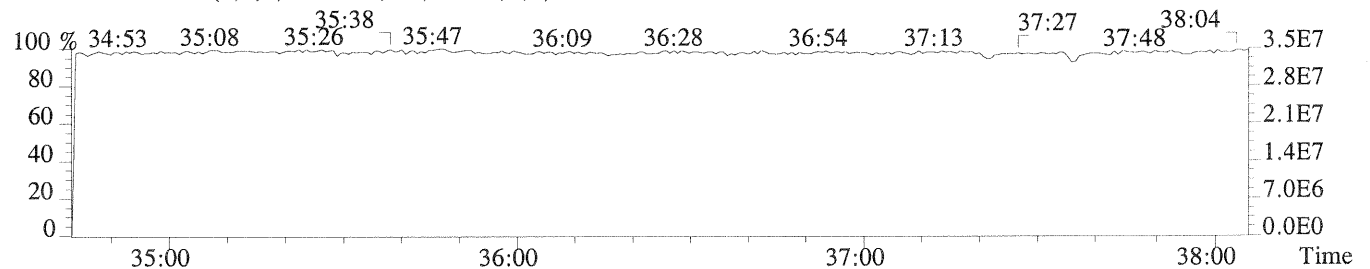
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1020.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



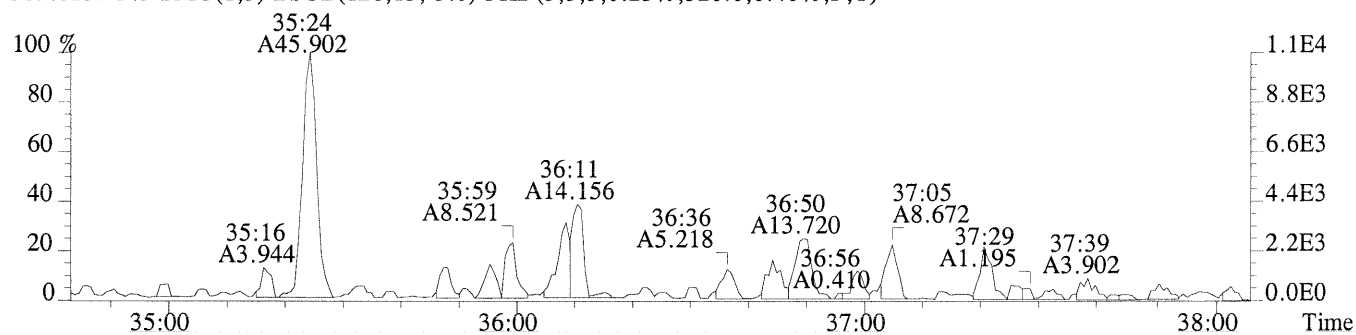
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



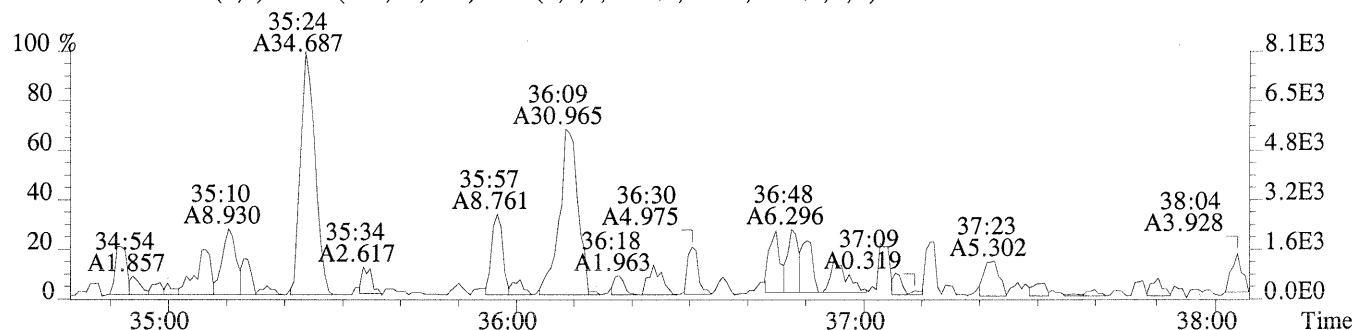


Sample#1 Exp:K1407971-018

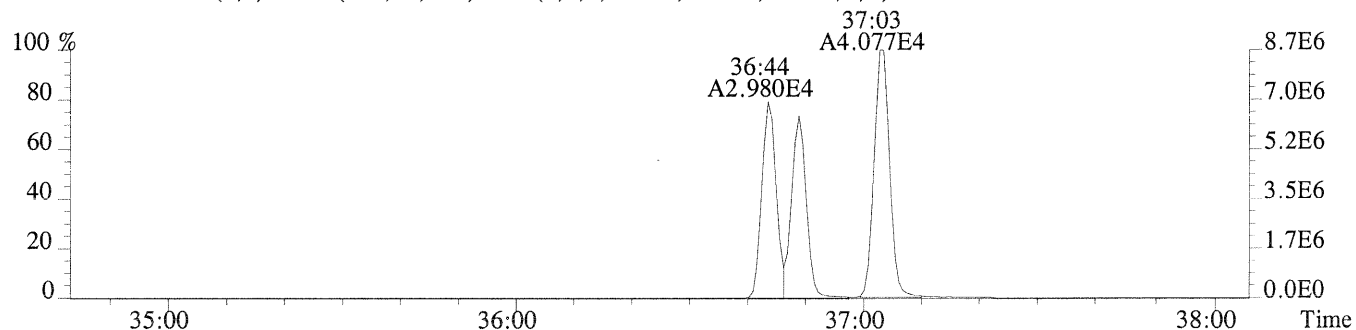
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,320.0,0.40%,F,T)



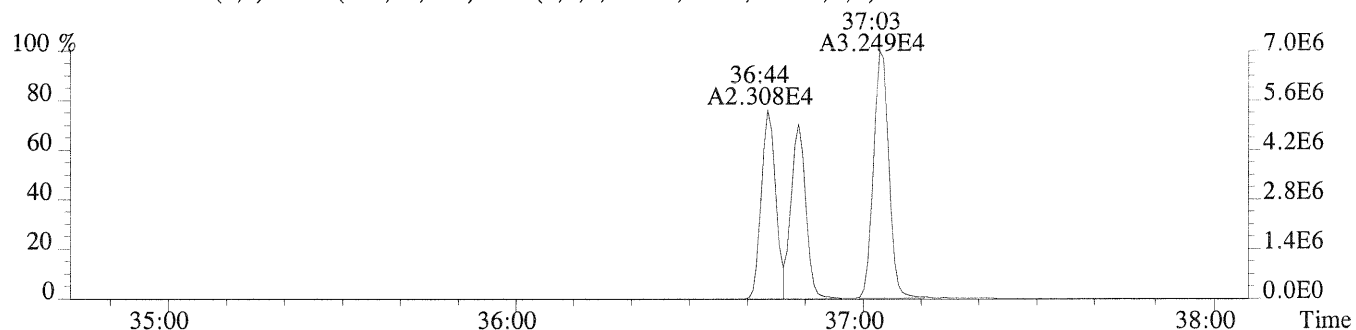
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,T)



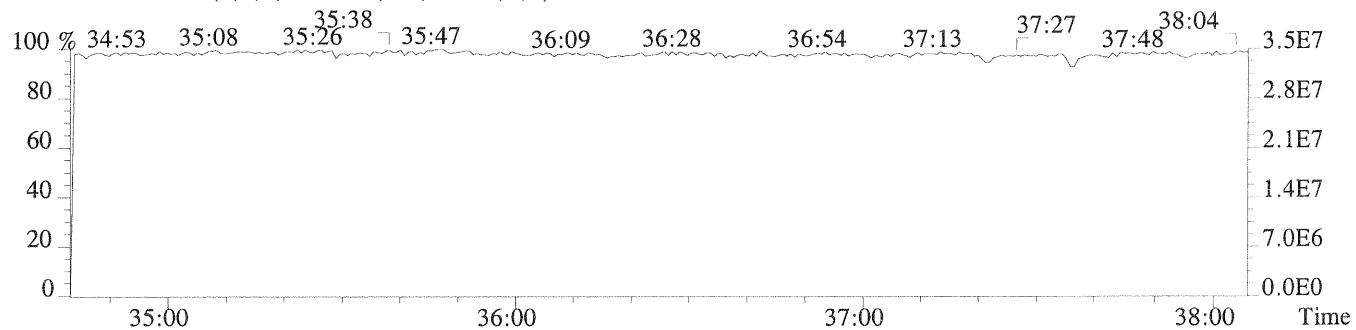
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,T)



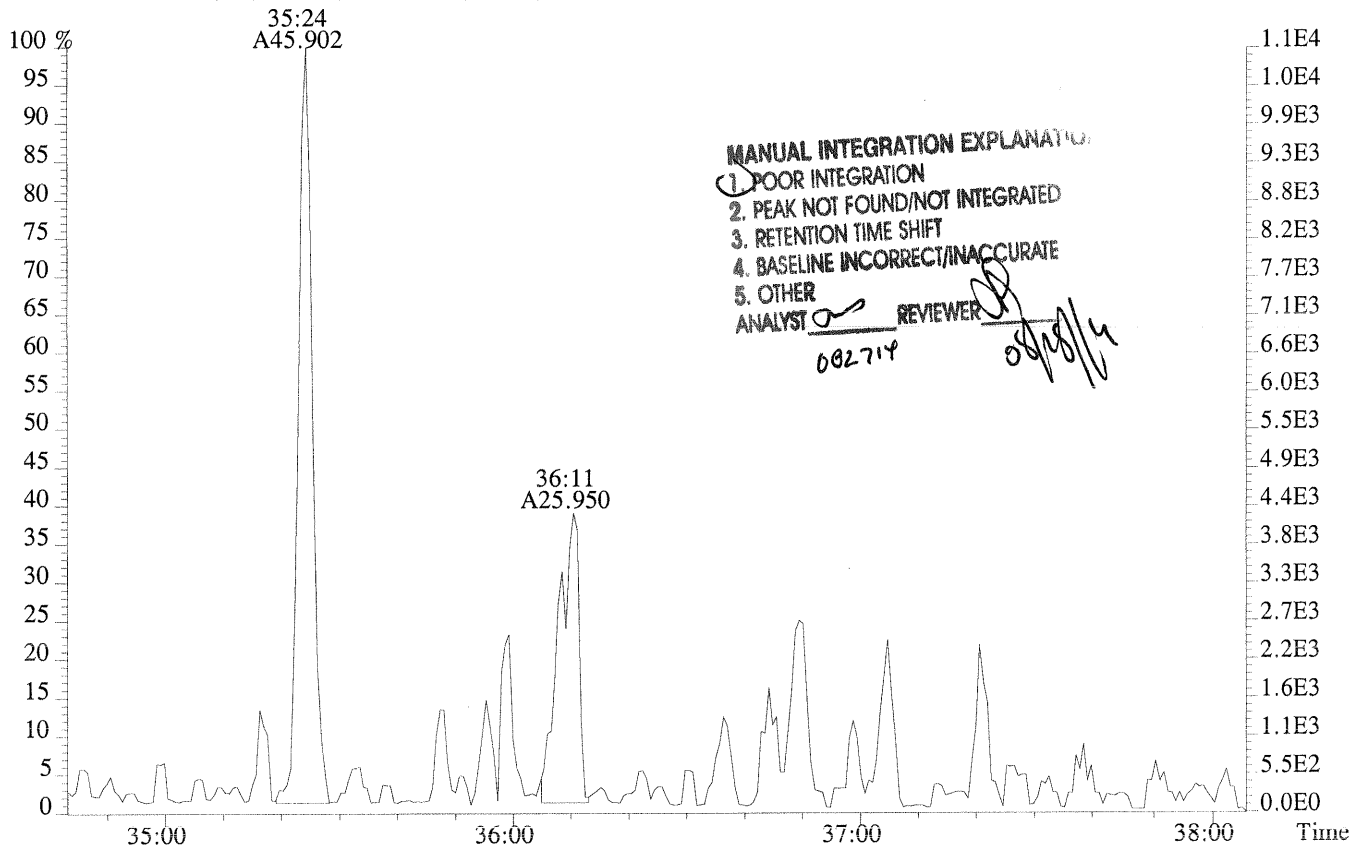
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



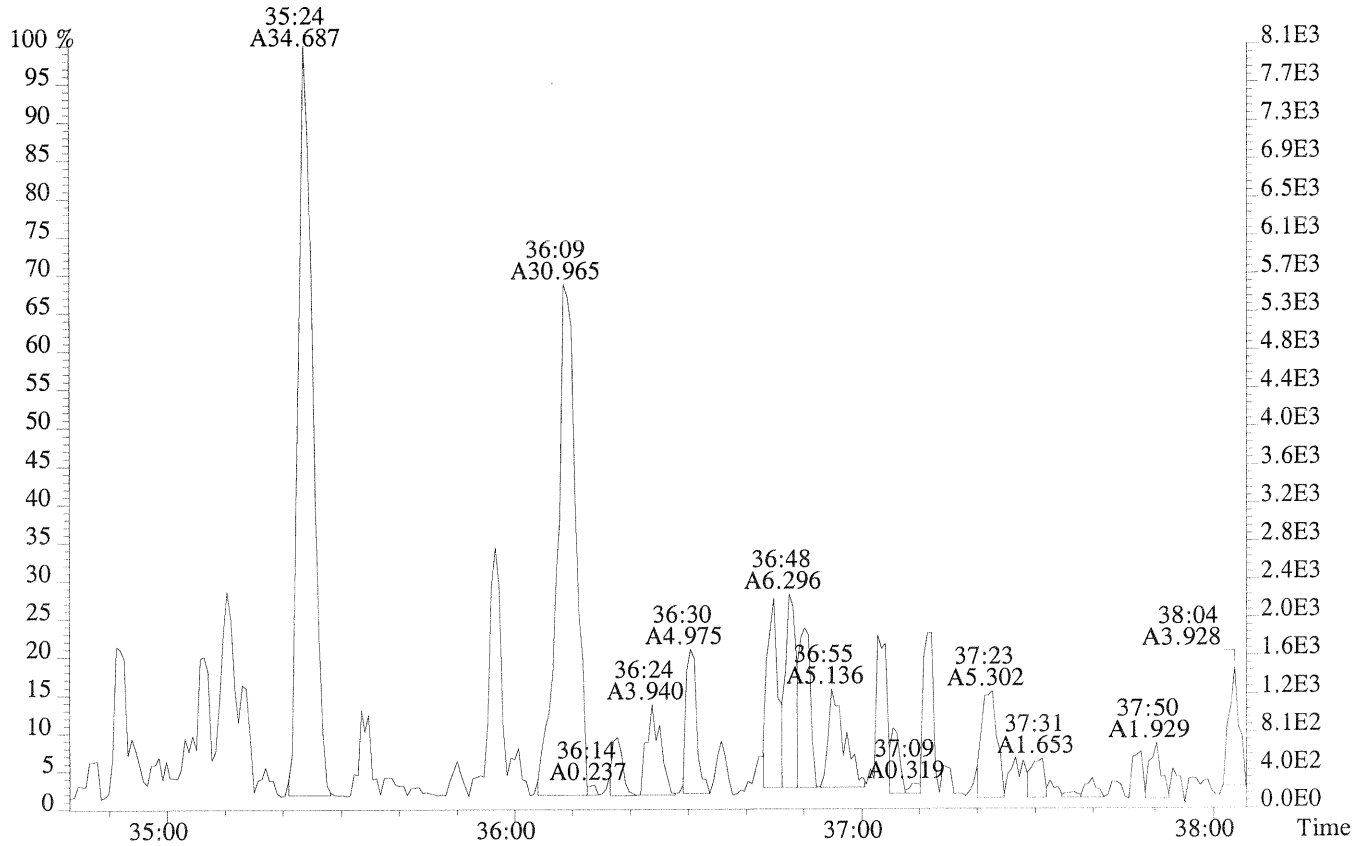
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



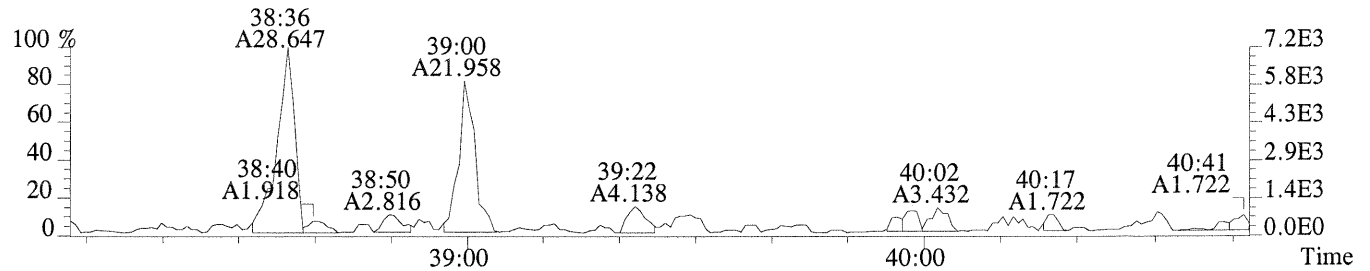
File: P230814 #1-307 Acq: 27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp: K1407971-018  
 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,320.0,0.40%,F,T)



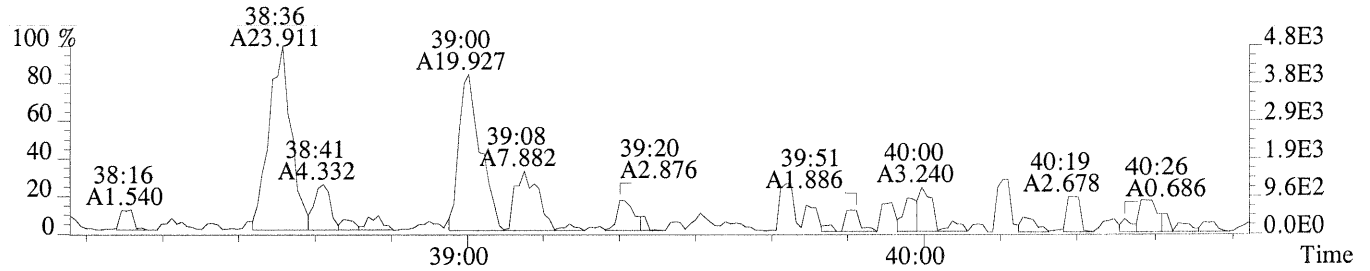
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,T)



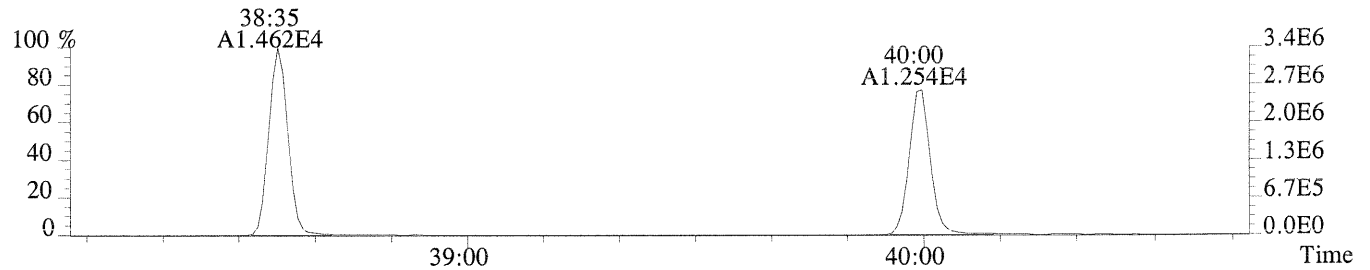
File:P230814 #1-234 Acq:27-AUG-2014 08:21:28 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:K1407971-018  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,292.0,0.50%,F,T)



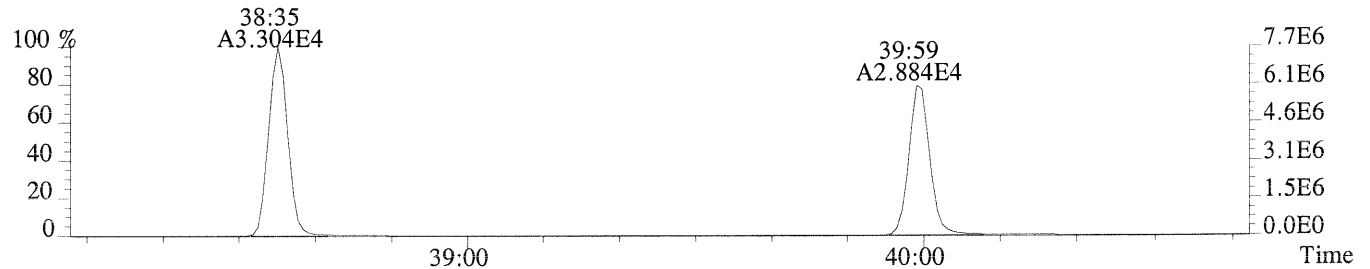
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.50%,F,T)



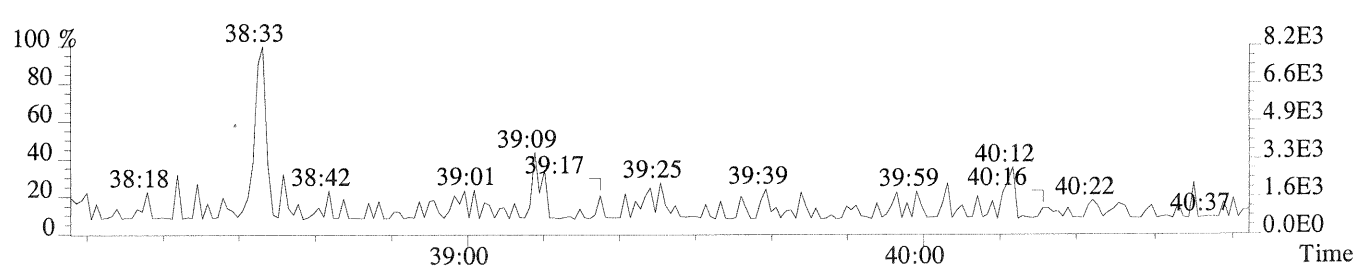
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1604.0,0.50%,F,T)



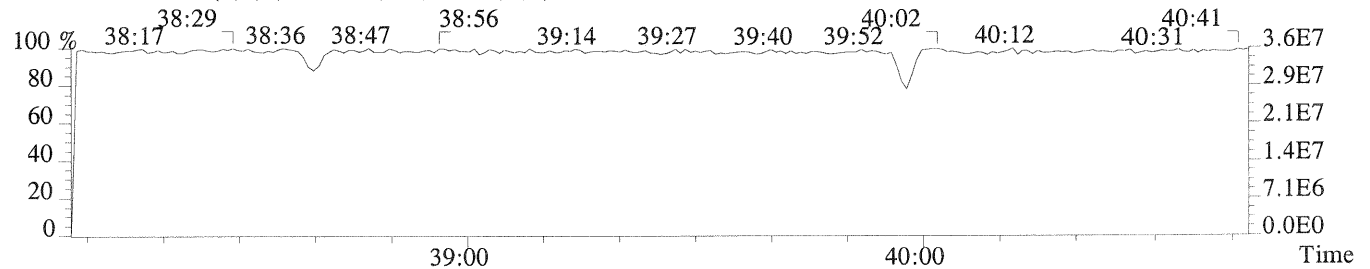
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2040.0,0.50%,F,T)

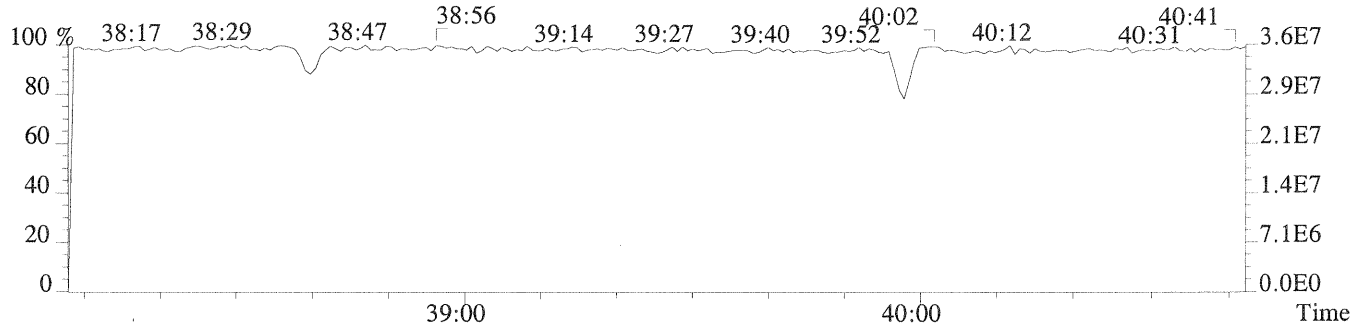
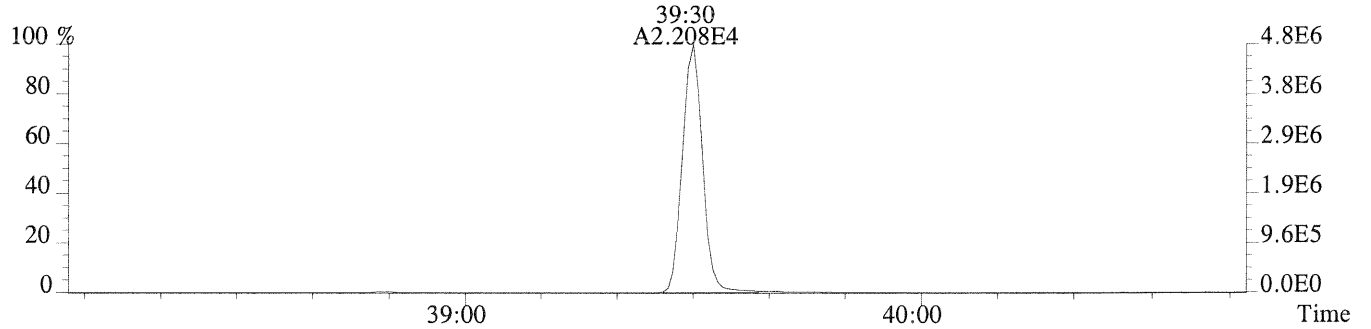
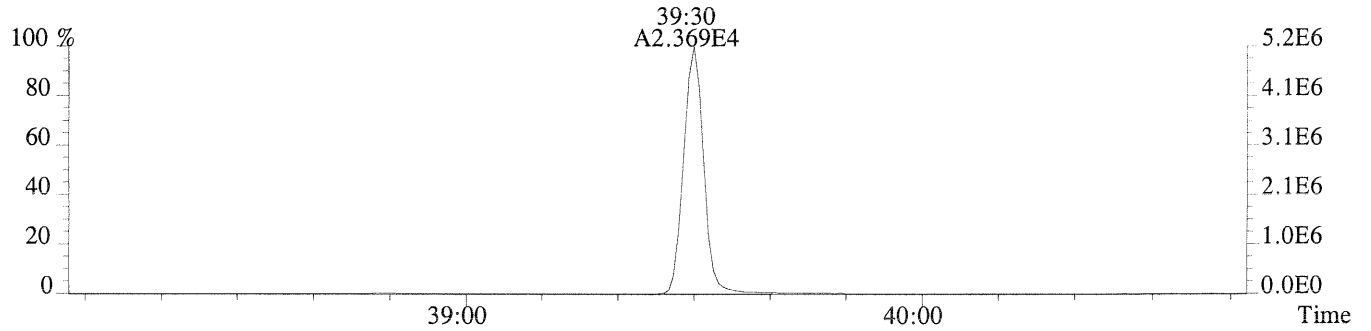
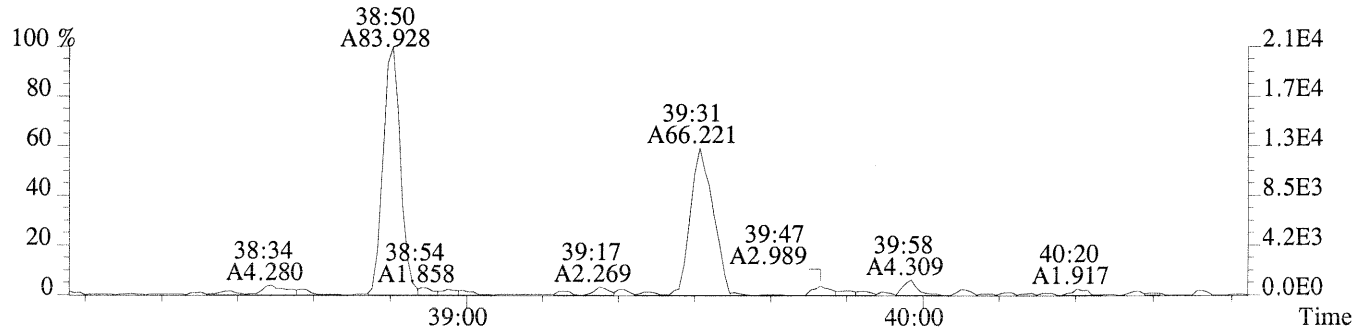
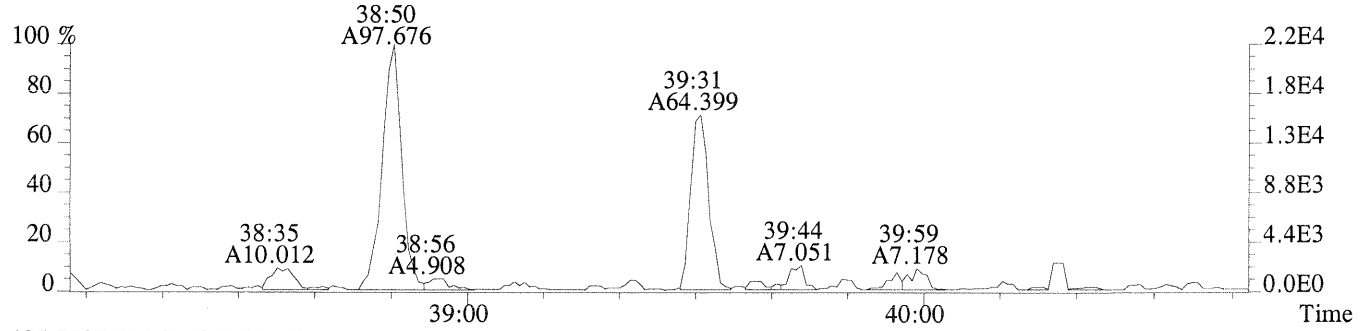


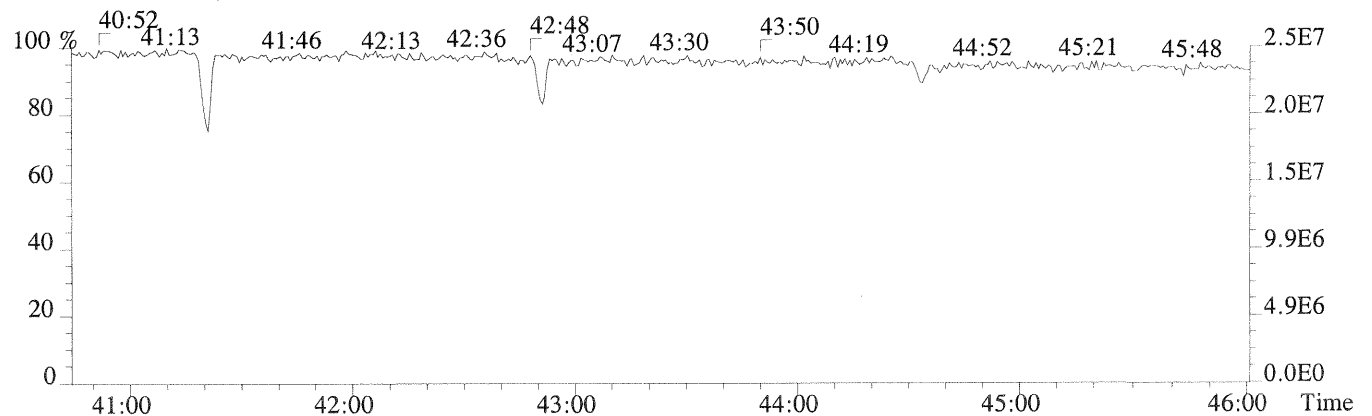
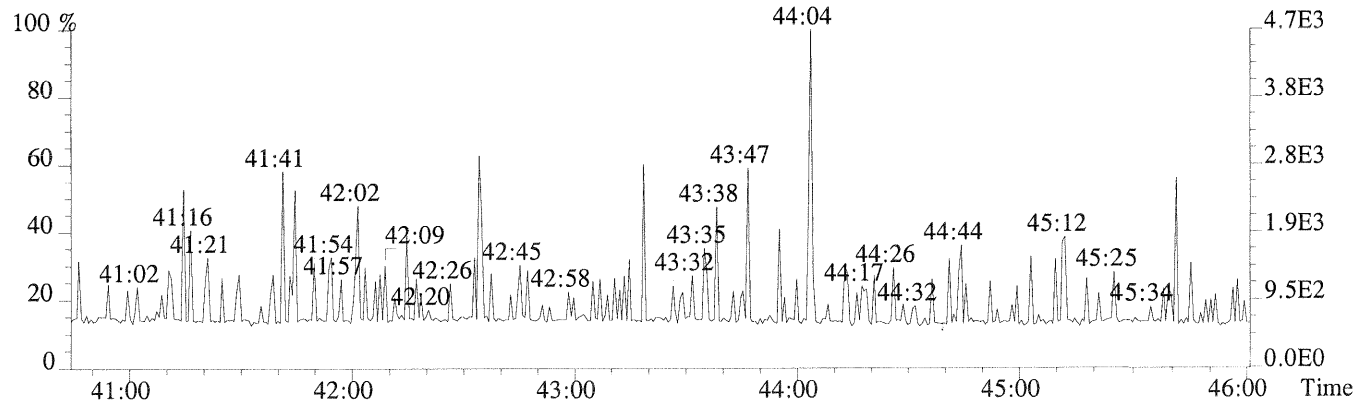
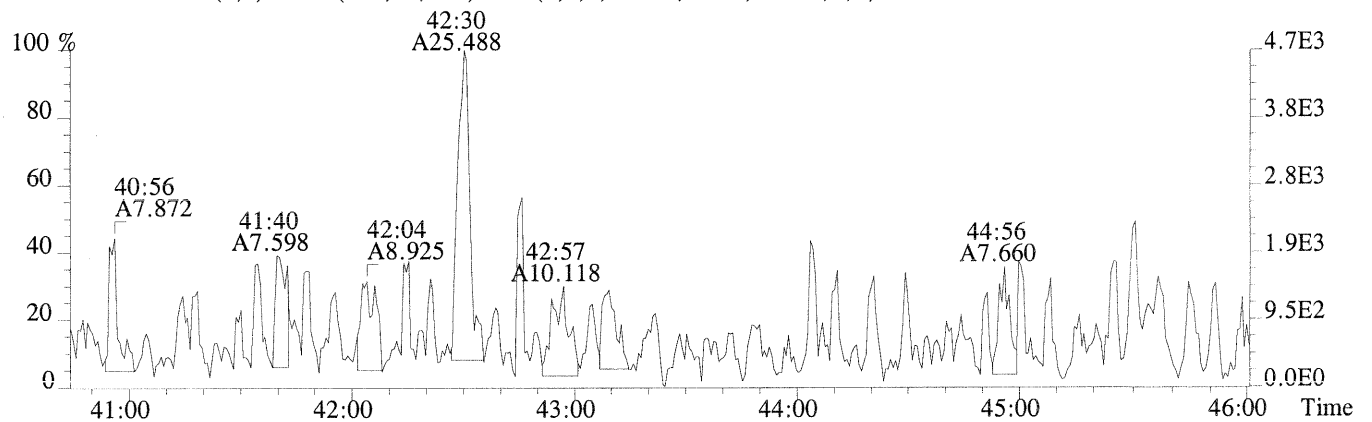
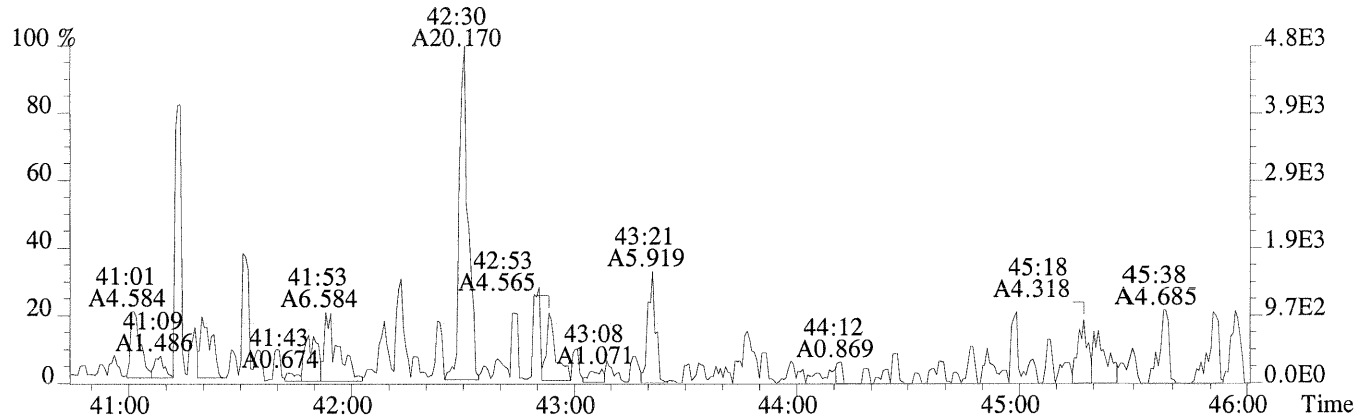
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)







ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
Nv SYC14-AC R7

Run #11      Filename U150520      Samp: 1      Inj: 1      Acquired: 23-AUG-14 14:29:57  
Processed: 27-AUG-14 14:07:36      Sample ID: EQ1400478-03

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:00	2.517e+02	3.143e+02	0.80	yes	no	1.057
2 Unk	1,2,3,7,8-PeCDF	31:33	2.371e+03	1.548e+03	1.53	yes	no	1.020
3 Unk	2,3,4,7,8-PeCDF	32:31	2.357e+03	1.512e+03	1.56	yes	no	0.979
4 Unk	1,2,3,4,7,8-HxCDF	35:17	2.103e+03	1.603e+03	1.31	yes	no	1.236
5 Unk	1,2,3,6,7,8-HxCDF	35:23	2.528e+03	1.949e+03	1.30	yes	no	1.149
6 Unk	2,3,4,6,7,8-HxCDF	35:55	2.152e+03	1.811e+03	1.19	yes	no	1.156
7 Unk	1,2,3,7,8,9-HxCDF	36:41	1.859e+03	1.523e+03	1.22	yes	no	1.180
8 Unk	1,2,3,4,6,7,8-HpCDF	37:57	1.725e+03	1.686e+03	1.02	yes	no	1.364
9 Unk	1,2,3,4,7,8,9-HpCDF	39:19	1.514e+03	1.387e+03	1.09	yes	no	1.317
10 Unk	OCDF	41:42	2.147e+03	2.455e+03	0.87	yes	no	1.466
11 Unk	2,3,7,8-TCDD	27:51	1.624e+02	2.121e+02	0.77	yes	no	0.972
12 Unk	1,2,3,7,8-PeCDD	32:48	1.680e+03	1.004e+03	1.67	yes	yes	1.120
13 Unk	1,2,3,4,7,8-HxCDD	36:03	1.373e+03	1.115e+03	1.23	yes	no	1.330
14 Unk	1,2,3,6,7,8-HxCDD	36:08	1.686e+03	1.337e+03	1.26	yes	yes	1.250
15 Unk	1,2,3,7,8,9-HxCDD	36:23	1.723e+03	1.332e+03	1.29	yes	yes	1.395
16 Unk	1,2,3,4,6,7,8-HpCDD	38:51	1.223e+03	1.188e+03	1.03	yes	no	1.102
17 Unk	OCDD	41:31	1.749e+03	1.965e+03	0.89	yes	no	1.329
18 IS	13C-2,3,7,8-TCDF	26:59	2.371e+03	2.914e+03	0.81	yes	no	1.406
19 IS	13C-1,2,3,7,8-PeCDF	31:32	4.153e+03	2.709e+03	1.53	yes	no	1.870
20 IS	13C-2,3,4,7,8-PeCDF	32:30	4.456e+03	2.842e+03	1.57	yes	no	1.888
21 IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.824e+03	3.530e+03	0.52	yes	no	1.181
22 IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.585e+03	5.188e+03	0.50	yes	no	1.511
23 IS	13C-2,3,4,6,7,8-HxCDF	35:55	1.997e+03	4.180e+03	0.48	yes	no	1.346
24 IS	13C-1,2,3,7,8,9-HxCDF	36:41	1.767e+03	3.481e+03	0.51	yes	no	1.041
25 IS	13C-1,2,3,4,6,7,8-HpCDF	37:57	1.477e+03	3.305e+03	0.45	yes	no	1.006
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:19	1.221e+03	2.868e+03	0.43	yes	no	0.732
27 IS	13C-2,3,7,8-TCDD	27:50	1.594e+03	2.099e+03	0.76	yes	no	0.980
28 IS	13C-1,2,3,7,8-PeCDD	32:48	3.064e+03	1.948e+03	1.57	yes	no	1.075
29 IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.347e+03	1.845e+03	1.27	yes	no	0.773
30 IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.759e+03	2.139e+03	1.29	yes	no	0.975
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:51	2.273e+03	1.895e+03	1.20	yes	no	0.845
32 IS	13C-OCDD	41:31	2.487e+03	2.767e+03	0.90	yes	no	0.501
33 RS/RT	13C-1,2,3,4-TCDD	27:11	3.551e+03	4.737e+03	0.75	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	5.573e+03	4.295e+03	1.30	yes	no	-
35 C/Up	37C1-2,3,7,8-TCDD	27:52	1.242e+03				no	0.955

OCDD =  $(1.749e+03 + 1.965e+03) \times 4000 \text{ pg} \times 1$   
-----  
 $(2.487e+03 + 2.767e+03) \times 6.991 \text{ g} \times / 100 \times 1.329$

*304 N114*  
*08/25/14*  
*[Signature]*

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1613RESPA

Form 1

PCDD/PCDF ANALYSIS DATA SHEET  
METHOD 1613B/8290A

CLIENT ID.

METHOD BLANK

Lab Name: ALS ENVIRONMENTAL

Contract:

SDG No:

Lab Code:

Case No:

Client No:

Lab ID: EQ1400478-01

Client Name:

Sample Wt/Vol:

g or mL:

Matrix (Solid/Aqueous/Waste/Ash):

Initial Calibration Date: 08/24/14

Sample Receipt Date:

Instrument ID: E-HRMS-04

Ext. Date:

GC Column:DB-5MSUI

Ext. Vol(ul):20

Inj. Vol(ul):1

Sample Data Filename: P230753

Analysis Date: 25-AUG-14 Time: 05:42:33

Blank Data Filename: EQ478

Dilution Factor: 1

Cal. Ver. Data Filename: P230751

Concentration Units (pg/L or ng/Kg dry weight): pg

% Solids/Lipids:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	1.001		*	*	1.06
1,2,3,7,8-PeCDD	*	0.721		*	*	0.99
1,2,3,4,7,8-HxCDD	*	0.375		*	*	1.12
1,2,3,6,7,8-HxCDD	*	0.415		*	*	1.09
1,2,3,7,8,9-HxCDD	2.254	0.367		1.04	1.004	1.19
1,2,3,4,6,7,8-HpCDD	7.042	0.294		1.13	1.000	1.05
OCDD	10.456	0.965		0.78	1.000	1.17
2,3,7,8-TCDF	*	1.378		*	*	0.99
1,2,3,7,8-PeCDF	*	0.543		*	*	1.00
2,3,4,7,8-PeCDF	1.308	0.492		2.16	1.001	0.97
1,2,3,4,7,8-HxCDF	0.950	0.134		1.17	1.000	1.19
1,2,3,6,7,8-HxCDF	0.624	0.115		1.93	1.000	1.13
1,2,3,7,8,9-HxCDF	1.526	0.170		0.72	1.000	1.13
2,3,4,6,7,8-HxCDF	1.350	0.133		1.14	1.001	1.11
1,2,3,4,6,7,8-HpCDF	4.965	0.298		1.16	1.000	1.35
1,2,3,4,7,8,9-HpCDF	4.838	0.474		1.07	1.001	1.27
OCDF	4.616	1.637		0.66	1.005	1.20
Total Tetra-Dioxins	*	1.001				
Total Penta-Dioxins	*	0.721				
Total Hexa-Dioxins	*	0.385				
Total Hepta-Dioxins	7.042	0.294				
Total Tetra-Furans	*	1.378				
Total Penta-Furan1	*	0.681				
Total Penta-Furan2	*	0.517				
Total Hexa-Furans	2.301	0.135				
Total Hepta-Furans	9.803	0.370				
Total PentaFurans						0.000

*OK to Report*  
*low < MRL*

(1) Qualifier U indicates not detected; The K indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.  
(2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613B.

USEPA

Method:1613B/8290A  
 FORM 2: PCDD/PCDF LABELED COMPOUND AND  
 CLEANUP STANDARD RECOVERIES

CLIENT ID.

METHOD BLANK

Lab Name: ALS Environmental Contract: SDG No:  
 Lab Code: Case No: Client No: Lab ID:EQ1400478-01  
 Client Name: Sample Wt/Vol: g or mL:  
 Matrix (Solid/Aqueous/Waste/Ash): Initial Calibration Date: 08/24/14  
 Sample Receipt Date: Instrument ID: E-HRMS-04  
 GC Column ID: DB-5MSUI  
 Analysis Date: 25-AUG-14 Time: 05:42:33 Sample Data Filename: P230753  
 Ext. Vol(uL): 20.0 Inj. Vol(uL): 1 Blank Data Filename: EQ478  
 Dilution Factor: 1 Cal. Ver. Data Filename: P230751  
 Concentration Units (pg/L or ng/Kg dry weight): pg

LABELED COMPOUNDS	SPIKE CONC.	CONC. FOUND	R(%) (1)	QC Limit(1)	ION	RRT (2)
					ABUND. RATIO (2)	
13C-2,3,7,8-TCDD	2000	770.51	38.53	25-164	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1056.80	52.84	25-181	1.58	1.180
13C-1,2,3,4,7,8-HxCDD	2000	1071.25	53.56	32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1031.09	51.55	28-130	1.24	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	988.97	49.45	23-140	1.07	1.067
13C-OCDD	4000	1730.70	43.27	17-157	0.91	1.142
13C-2,3,7,8-TCDF	2000	720.64	36.03	24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	882.63	44.13	24-185	1.61	1.139
13C-2,3,4,7,8-PeCDF	2000	956.07	47.80	21-178	1.58	1.171
13C-1,2,3,4,7,8-HxCDF	2000	968.11	48.41	26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1086.95	54.35	26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1005.54	50.28	29-147	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	993.61	49.68	28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	954.94	47.75	28-143	0.46	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1001.64	50.08	26-138	0.44	1.080
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	800	240.26	30.03	35-197		1.020

- (1) Contract-required limits for percent recovery (R) are specified in Table 7, Method 1613B.
- (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613B. NOTE: There is no ion abundance ratio for 37Cl4-2378-TCDD (cleanup standard).

RFP C500273T1



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
METHOD BLANK

Run #9      Filename P230753      Samp: 1      Inj: 1      Acquired: 25-AUG-14 05:42:33  
Processed: 25-AUG-14 17:09:06      Sample ID: EQ1400478-01

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.986
2 Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.000
3 Unk	2,3,4,7,8-PeCDF	33:24	2.153e+01	9.968e+00	2.16	no	no	0.970
4 Unk	1,2,3,4,7,8-HxCDF	36:01	1.261e+01	1.079e+01	1.17	yes	yes	1.191
5 Unk	1,2,3,6,7,8-HxCDF	36:08	1.198e+01	6.197e+00	1.93	no	yes	1.131
6 Unk	2,3,4,6,7,8-HxCDF	36:38	1.792e+01	1.566e+01	1.14	yes	yes	1.109
7 Unk	1,2,3,7,8,9-HxCDF	37:23	1.273e+01	1.767e+01	0.72	no	yes	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	5.656e+01	4.892e+01	1.16	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	40:02	3.737e+01	3.487e+01	1.07	yes	yes	1.274
10 Unk	OCDF	42:30	1.995e+01	3.018e+01	0.66	no	yes	1.195
11 Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.061
12 Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.992
13 Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.118
14 Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	yes	1.086
15 Unk	1,2,3,7,8,9-HxCDD	36:59	2.412e+01	2.325e+01	1.04	no	no	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:32	5.984e+01	5.319e+01	1.13	yes	no	1.053
17 Unk	OCDD	42:19	4.861e+01	6.246e+01	0.78	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:17	1.293e+04	1.615e+04	0.80	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:27	2.851e+04	1.766e+04	1.61	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:22	3.042e+04	1.923e+04	1.58	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	36:00	1.404e+04	2.729e+04	0.51	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:07	1.762e+04	3.391e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	1.527e+04	2.957e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:22	1.193e+04	2.329e+04	0.51	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	9.951e+03	2.155e+04	0.46	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	7.154e+03	1.629e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:04	9.394e+03	1.207e+04	0.78	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:38	2.323e+04	1.472e+04	1.58	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	2.016e+04	1.577e+04	1.28	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:50	1.935e+04	1.560e+04	1.24	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	1.574e+04	1.475e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:18	1.735e+04	1.899e+04	0.91	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:30	2.464e+04	3.076e+04	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	4.061e+04	3.196e+04	1.27	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:05	7.312e+03				no	1.099

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1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
METHOD BLANK

Run #9    Filename P230753    Samp: 1    Inj: 1    Acquired: 25-AUG-14 05:42:33  
Processed: 25-AUG-14 17:09:061    LAB. ID: EQ1400478-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	3.60e+02	*	*	1.25e+03	*
2	1,2,3,7,8-PeCDF	*	3.48e+02	*	*	6.20e+02	*
3	2,3,4,7,8-PeCDF	4.46e+03	3.48e+02	1.3e+01	3.09e+03	6.20e+02	5.0e+00
4	1,2,3,4,7,8-HxCDF	3.15e+03	1.96e+02	1.6e+01	2.71e+03	9.60e+01	2.8e+01
5	1,2,3,6,7,8-HxCDF	2.84e+03	1.96e+02	1.5e+01	1.55e+03	9.60e+01	1.6e+01
6	2,3,4,6,7,8-HxCDF	4.19e+03	1.96e+02	2.1e+01	4.80e+03	9.60e+01	5.0e+01
7	1,2,3,7,8,9-HxCDF	3.16e+03	1.96e+02	1.6e+01	4.01e+03	9.60e+01	4.2e+01
8	1,2,3,4,6,7,8-HpCDF	1.48e+04	7.60e+01	2.0e+02	1.02e+04	4.96e+02	2.1e+01
9	1,2,3,4,7,8,9-HpCDF	7.57e+03	7.60e+01	1.0e+02	9.41e+03	4.96e+02	1.9e+01
10	OCDF	3.42e+03	2.52e+02	1.4e+01	4.89e+03	1.03e+03	4.7e+00
11	2,3,7,8-TCDD	*	5.80e+02	*	*	4.28e+02	*
12	1,2,3,7,8-PeCDD	*	1.00e+03	*	*	9.60e+01	*
13	1,2,3,4,7,8-HxCDD	*	1.24e+02	*	*	5.76e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.24e+02	*	*	5.76e+02	*
15	1,2,3,7,8,9-HxCDD	6.43e+03	1.24e+02	5.2e+01	5.74e+03	5.76e+02	1.0e+01
16	1,2,3,4,6,7,8-HpCDD	1.26e+04	3.48e+02	3.6e+01	1.03e+04	6.00e+01	1.7e+02
17	OCDD	7.94e+03	2.88e+02	2.8e+01	1.25e+04	4.52e+02	2.8e+01
18	13C-2,3,7,8-TCDF	2.61e+06	1.67e+03	1.6e+03	3.29e+06	1.32e+03	2.5e+03
19	13C-1,2,3,7,8-PeCDF	5.48e+06	1.52e+02	3.6e+04	3.40e+06	5.00e+02	6.8e+03
20	13C-2,3,4,7,8-PeCDF	6.21e+06	1.52e+02	4.1e+04	3.90e+06	5.00e+02	7.8e+03
21	13C-1,2,3,4,7,8-HxCDF	3.14e+06	3.64e+02	8.6e+03	5.96e+06	1.00e+03	6.0e+03
22	13C-1,2,3,6,7,8-HxCDF	3.85e+06	3.64e+02	1.1e+04	7.37e+06	1.00e+03	7.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.33e+06	3.64e+02	9.1e+03	6.52e+06	1.00e+03	6.5e+03
24	13C-1,2,3,7,8,9-HxCDF	2.55e+06	3.64e+02	7.0e+03	5.00e+06	1.00e+03	5.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.22e+06	1.38e+03	1.6e+03	4.89e+06	1.83e+03	2.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.45e+06	1.38e+03	1.1e+03	3.27e+06	1.83e+03	1.8e+03
27	13C-2,3,7,8-TCDD	2.07e+06	4.77e+03	4.3e+02	2.65e+06	2.37e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	4.67e+06	9.36e+02	5.0e+03	2.96e+06	2.32e+02	1.3e+04
29	13C-1,2,3,4,7,8-HxCDD	4.67e+06	9.04e+02	5.2e+03	3.65e+06	8.08e+02	4.5e+03
30	13C-1,2,3,6,7,8-HxCDD	4.29e+06	9.04e+02	4.7e+03	3.45e+06	8.08e+02	4.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.40e+06	8.36e+02	4.1e+03	3.17e+06	6.80e+01	4.7e+04
32	13C-OCDD	3.12e+06	2.96e+02	1.1e+04	3.41e+06	4.28e+02	8.0e+03
33	13C-1,2,3,4-TCDD	5.34e+06	4.77e+03	1.1e+03	6.62e+06	2.37e+03	2.8e+03
34	13C-1,2,3,7,8,9-HxCDD	8.95e+06	9.04e+02	9.9e+03	7.03e+06	8.08e+02	8.7e+03
35	37Cl-2,3,7,8-TCDD	1.61e+06	1.00e+03	1.6e+03			

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Peak List Summary

CLIENT ID.

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METHOD BLANK

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Entry: 41 Totals Name: Total Hexa-Furans

Run: 9 File: P230753 Sample: 1 Injection: 1 Function: 3

Llim: 34:49 Ulim: 37:34

Acquired: 25-AUG-14 05:42:33 Processed: 25-AUG-14 17:09:06

Mass: 373.8210 375.8180 Tot Response: 5.70e+01 RRF: 1.140

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	36:01	1.26e+01	1.08e+01	1.17	yes	2.34e+01	1,2,3,4,7,8-HxCDF	y	n
2	36:38	1.79e+01	1.57e+01	1.14	yes	3.36e+01	2,3,4,6,7,8-HxCDF	y	y

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CLIENT ID.

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METHOD BLANK

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Entry: 43      Totals Name: Total Hepta-Furans

Run: 9      File: P230753      Sample: 1 Injection: 1 Function: 4

Llim: 38:31      Ulim: 40:10

Acquired: 25-AUG-14      05:42:33      Processed: 25-AUG-14 17:09:06

Mass: 407.7820      409.7790      Tot Response: 1.78e+02      RRF: 1.317

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:36	5.66e+01	4.89e+01	1.16	yes	1.05e+02	1,2,3,4,6,7,8-HpCDF	n      n
2	40:02	3.74e+01	3.49e+01	1.07	yes	7.22e+01	1,2,3,4,7,8,9-HpCDF	n      n

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Peak List Summary

CLIENT ID.

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METHOD BLANK

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Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 9 File: P230753 Sample: 1 Injection: 1 Function: 4

Llim: 38:45 Ulim: 39:41

Acquired: 25-AUG-14 05:42:33 Processed: 25-AUG-14 17:09:06

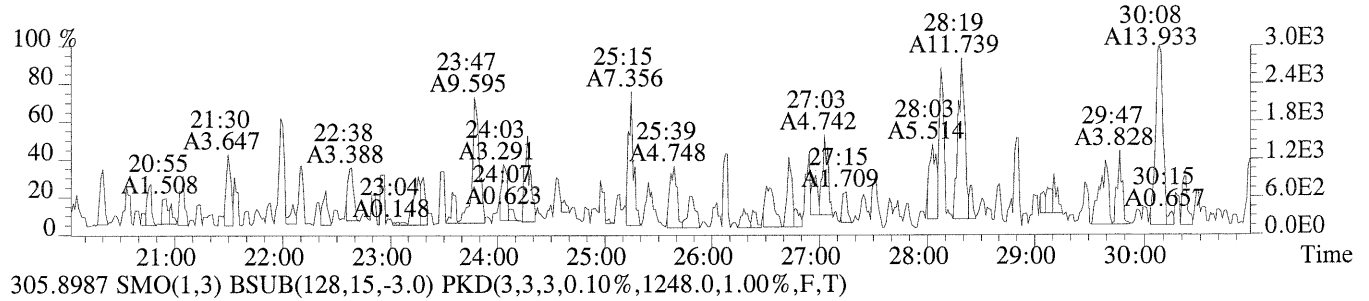
Mass: 423.7770 425.7740 Tot Response: 1.13e+02 RRF: 1.053

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	39:32	5.98e+01	5.32e+01	1.13	yes	1.13e+02	1,2,3,4,6,7,8-HpCDD	n	n

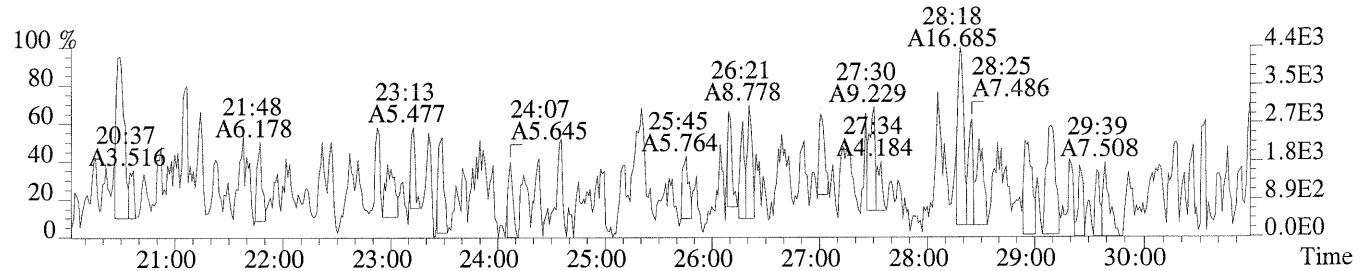
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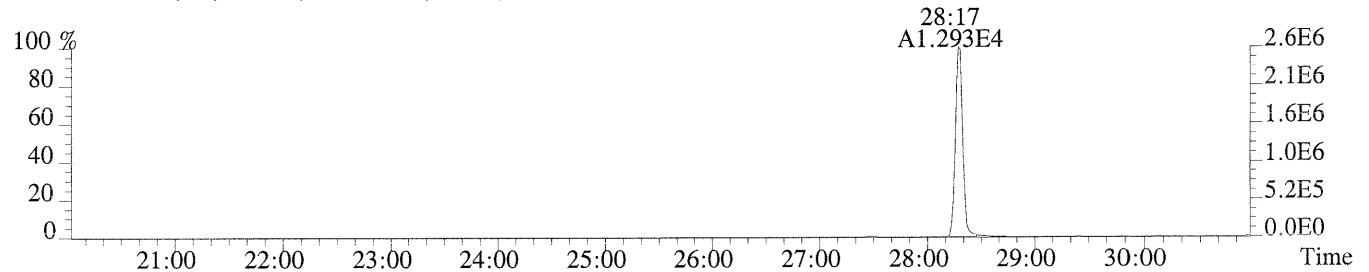
File:P230753 #1-687 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,T)



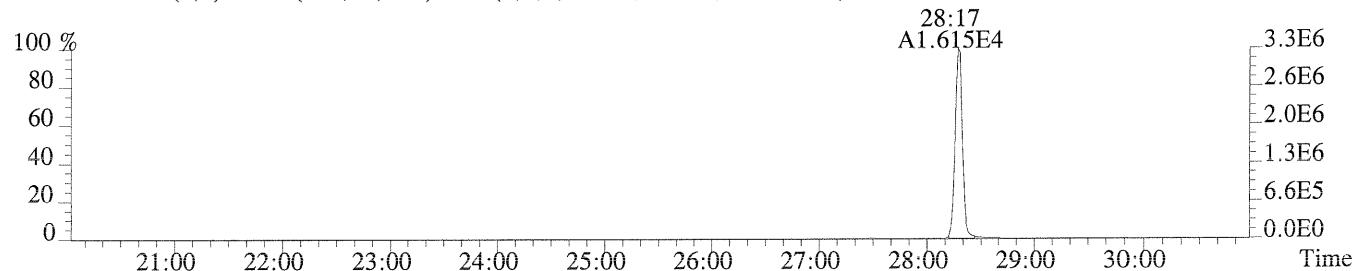
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



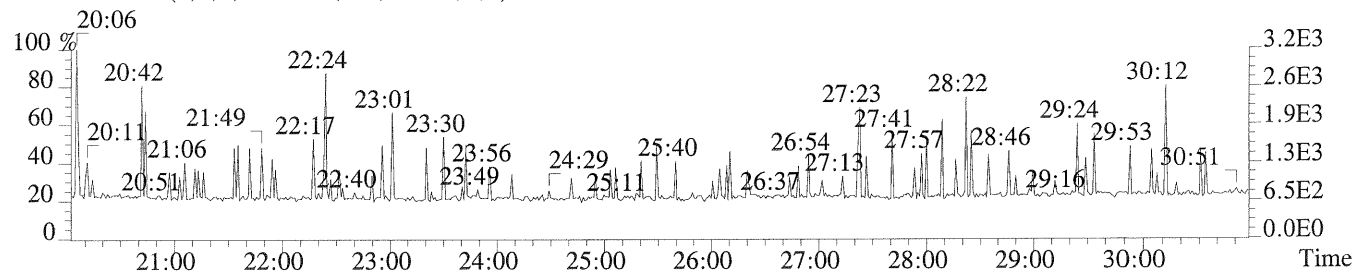
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1672.0,1.00%,F,T)



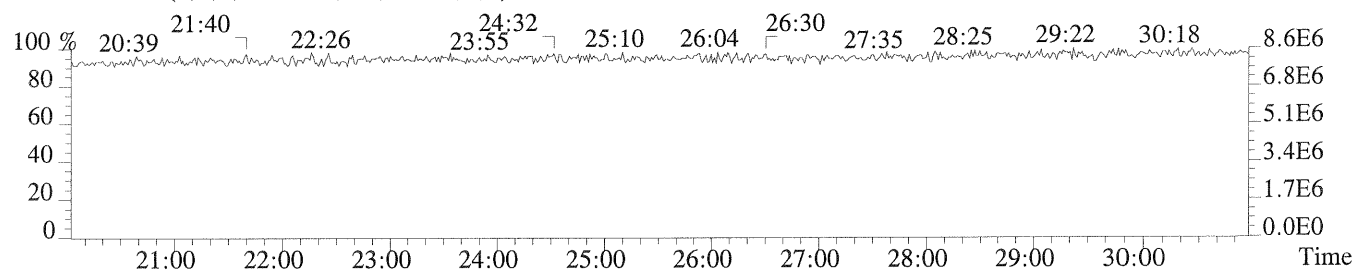
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)

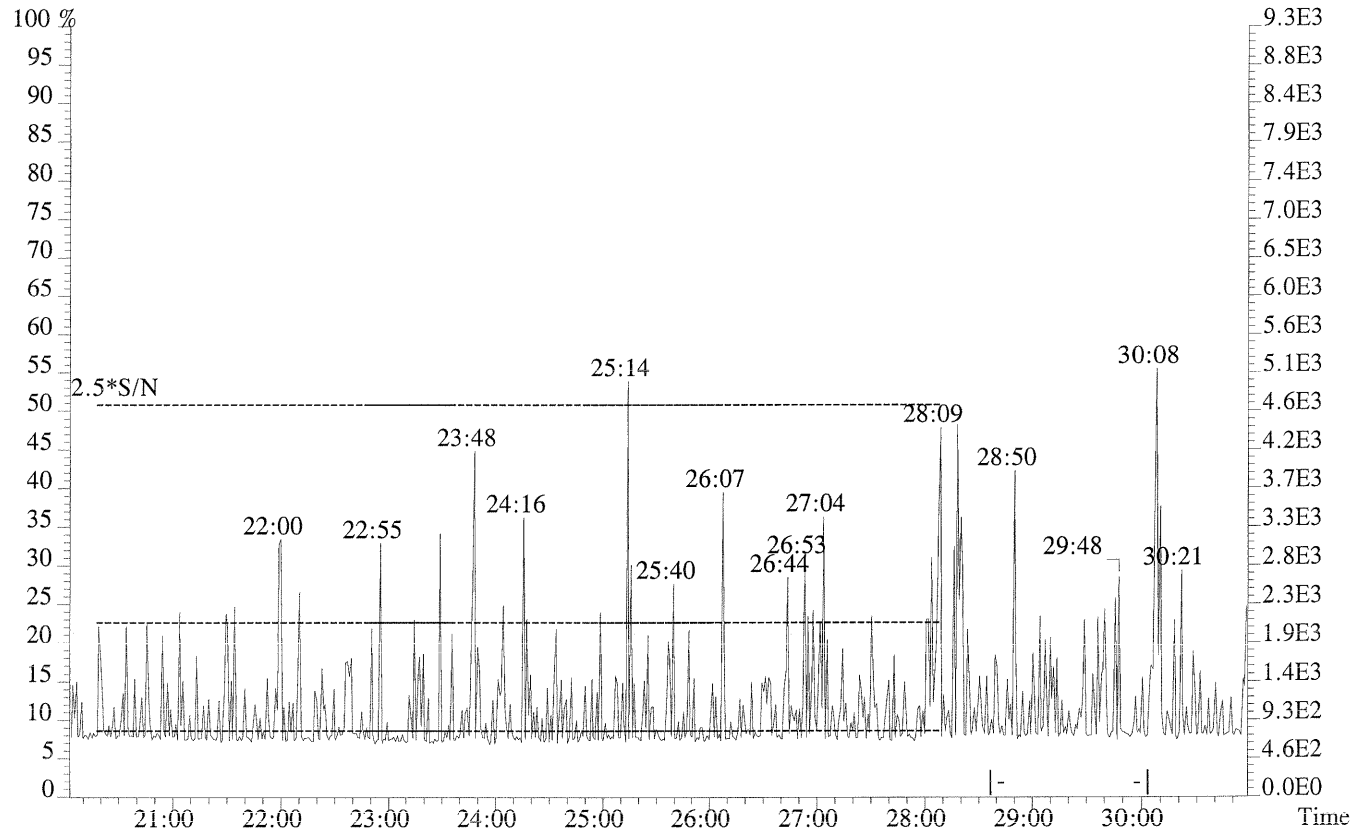


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

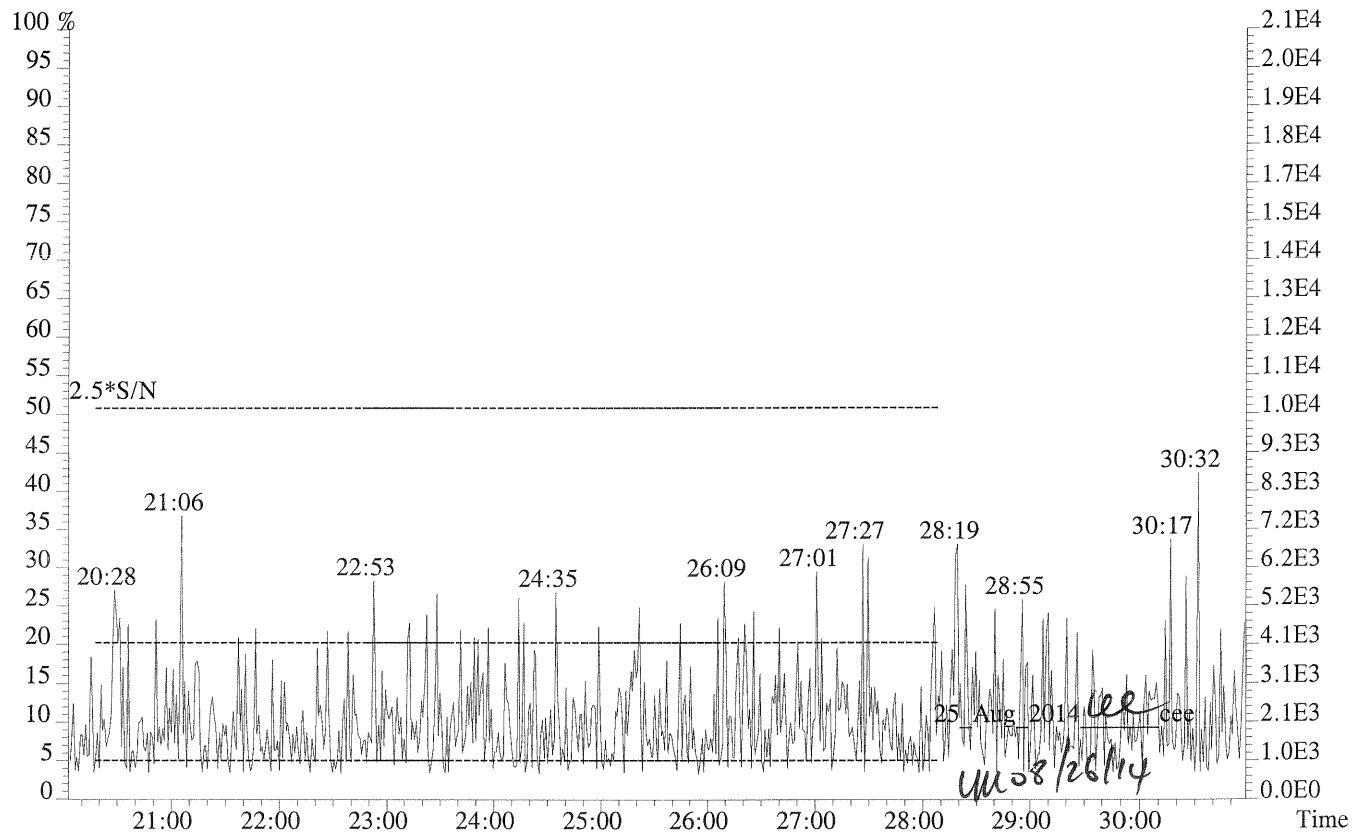


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

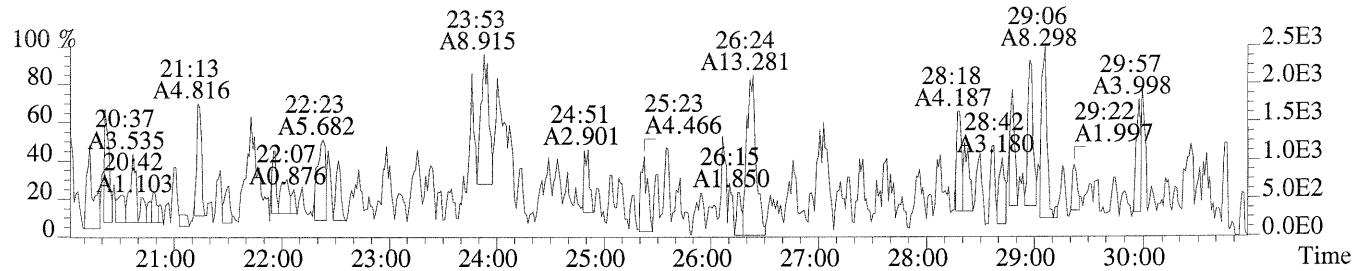




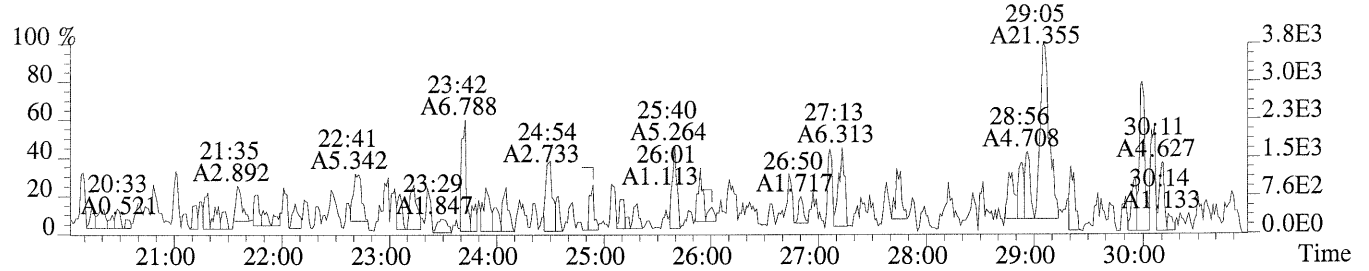
305.8987



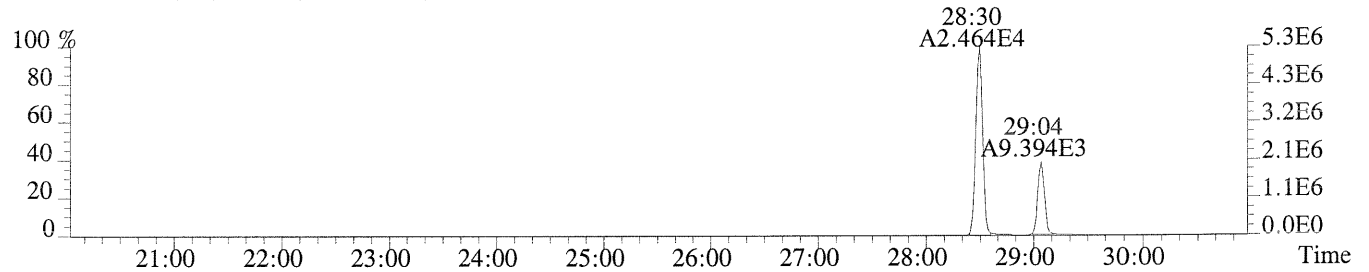
File:P230753 #1-687 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,580.0,1.00%,F,T)



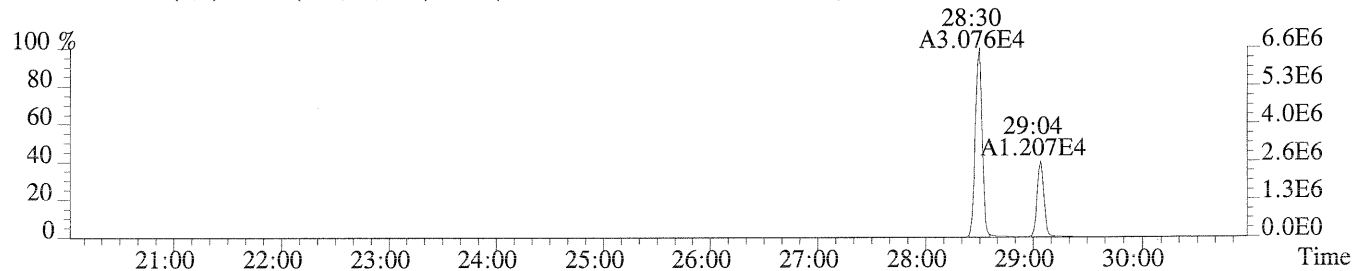
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,428.0,1.00%,F,T)



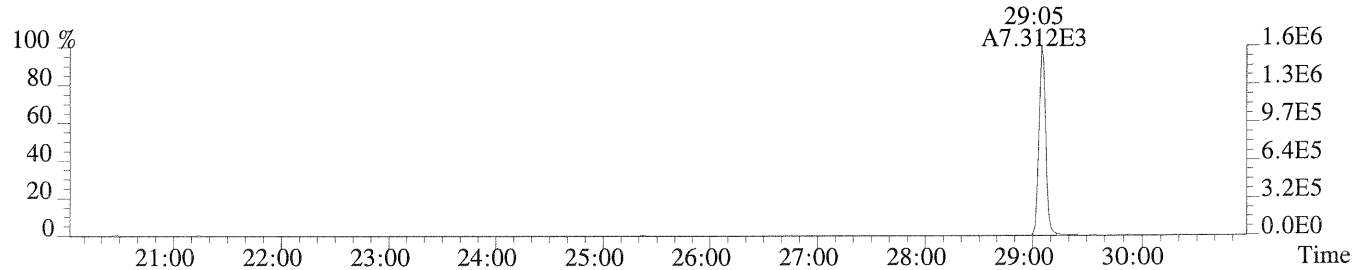
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4768.0,1.00%,F,T)



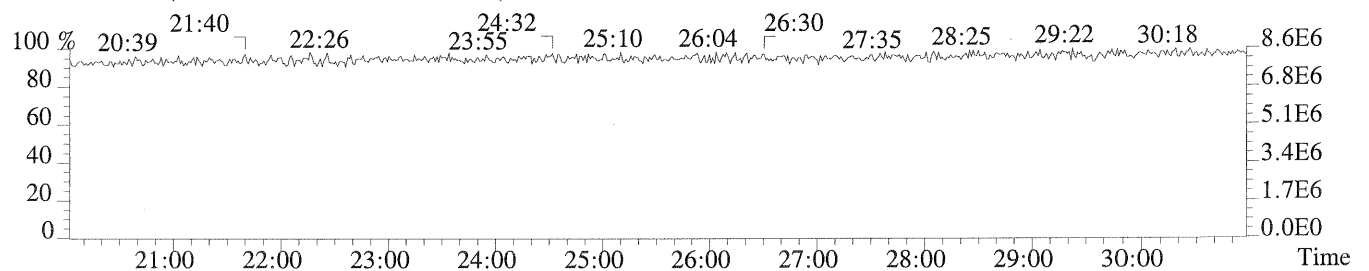
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



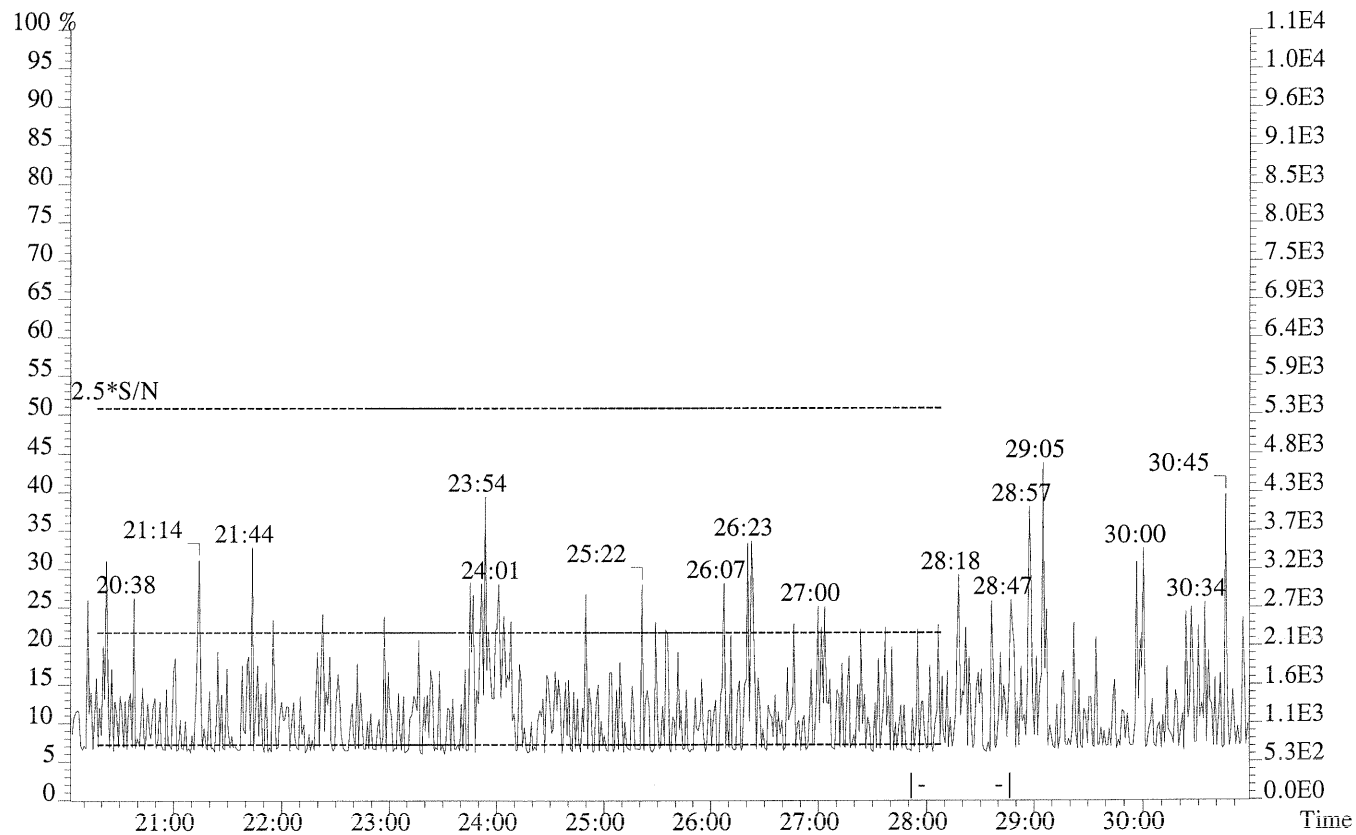
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



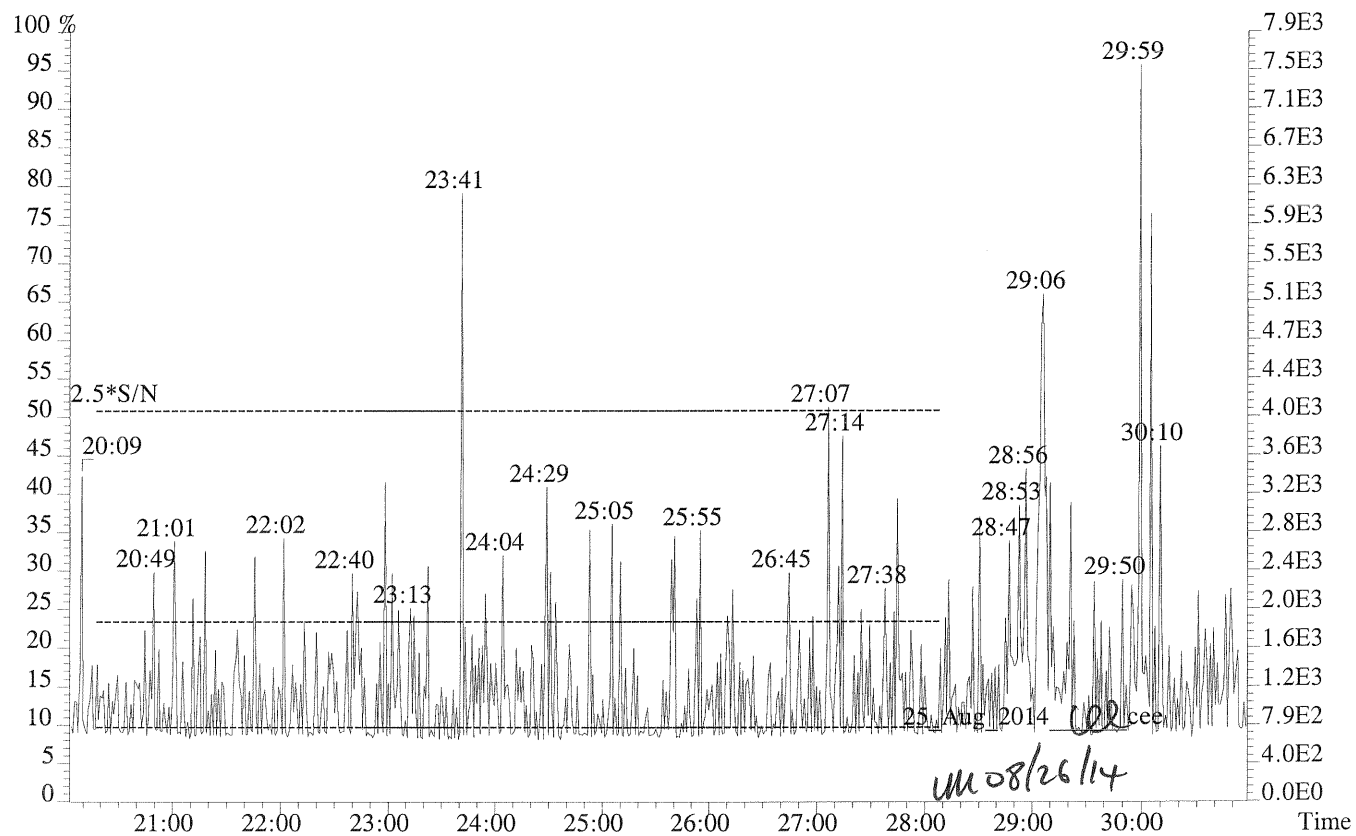
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



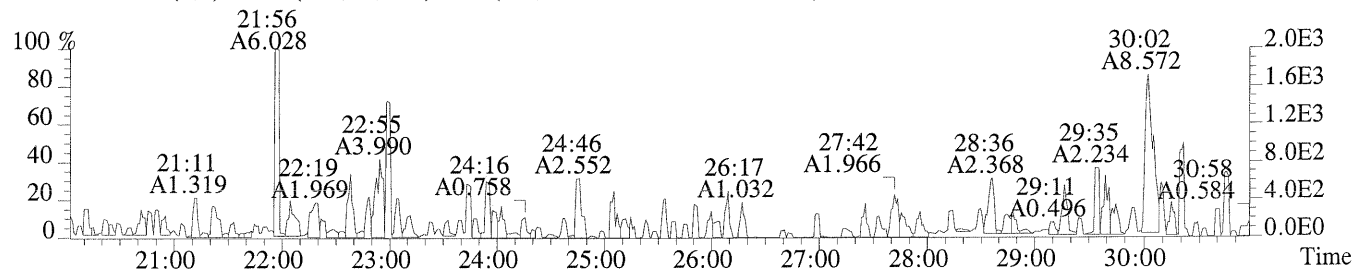




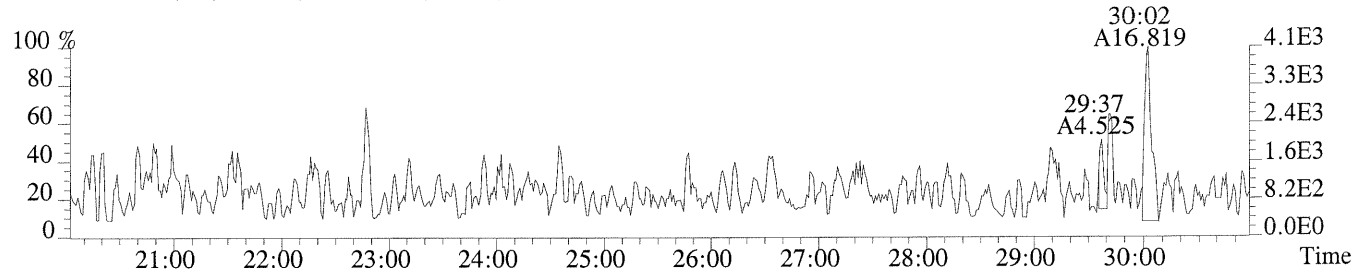
321.8936



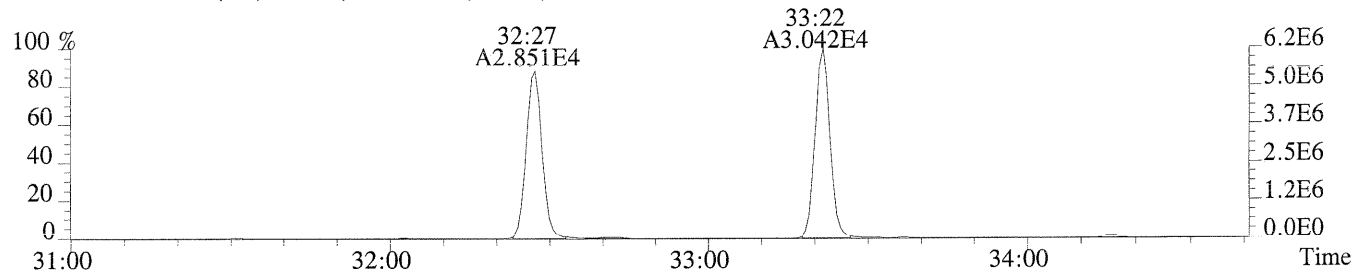
File:P230753 #1-687 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
339.8597 SMO(1,3) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



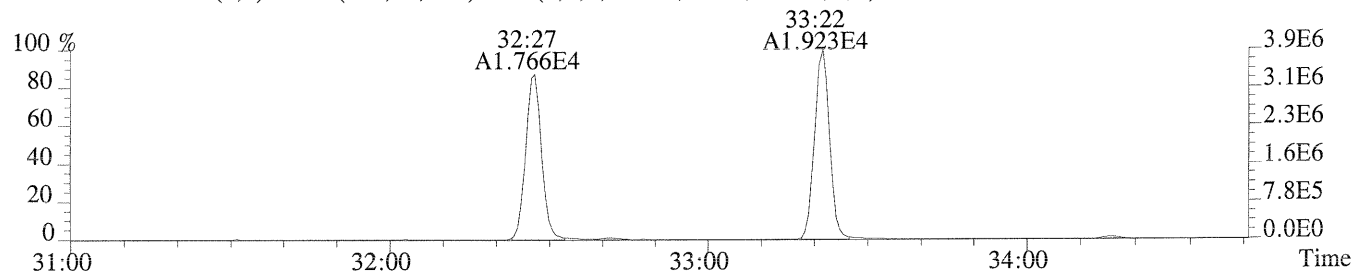
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1212.0,1.00%,F,T)



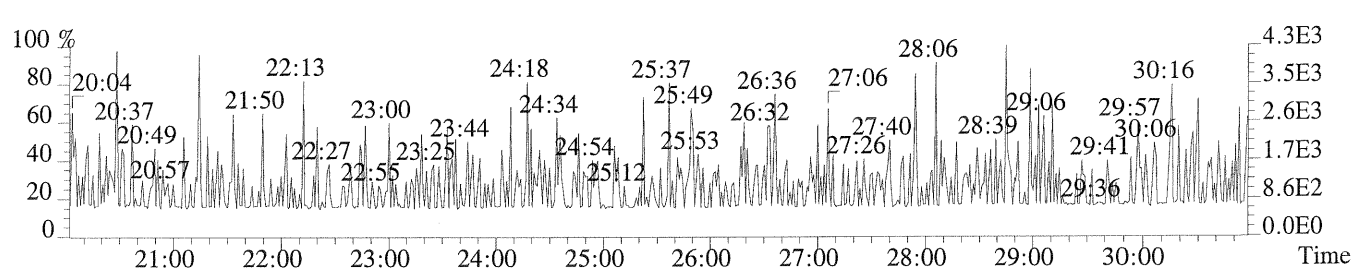
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



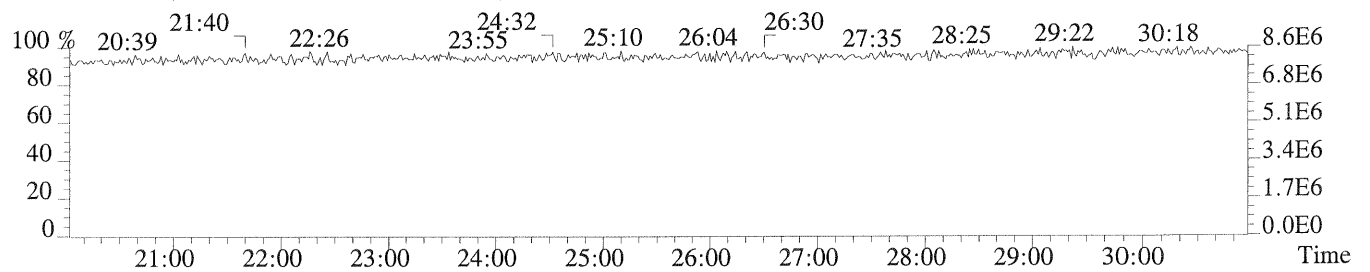
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



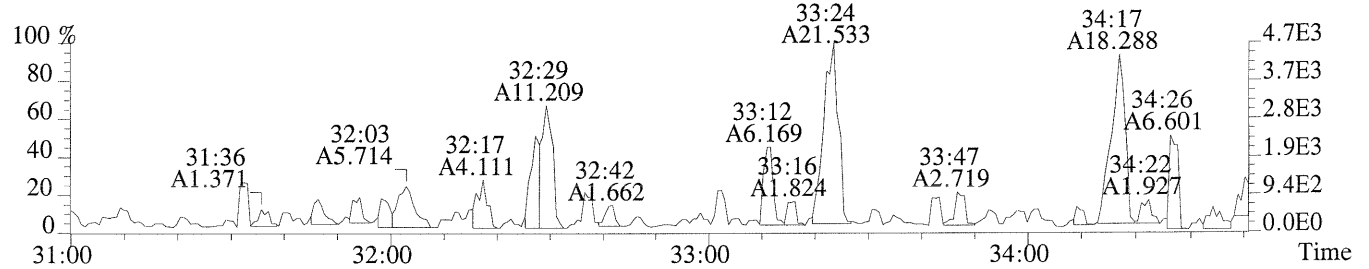
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



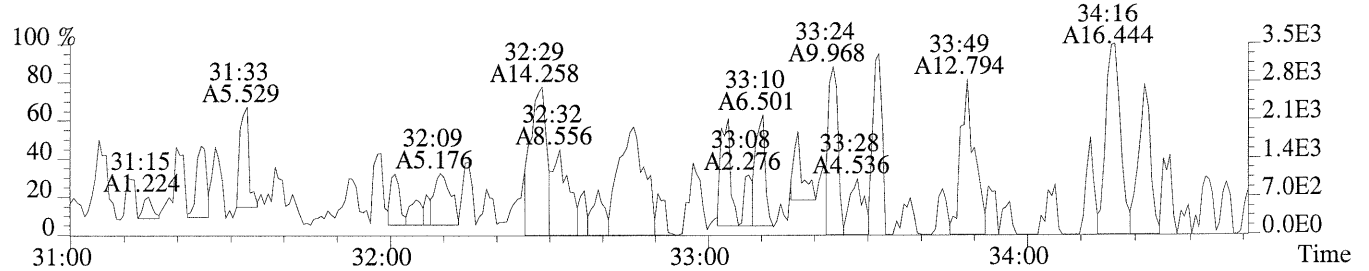
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



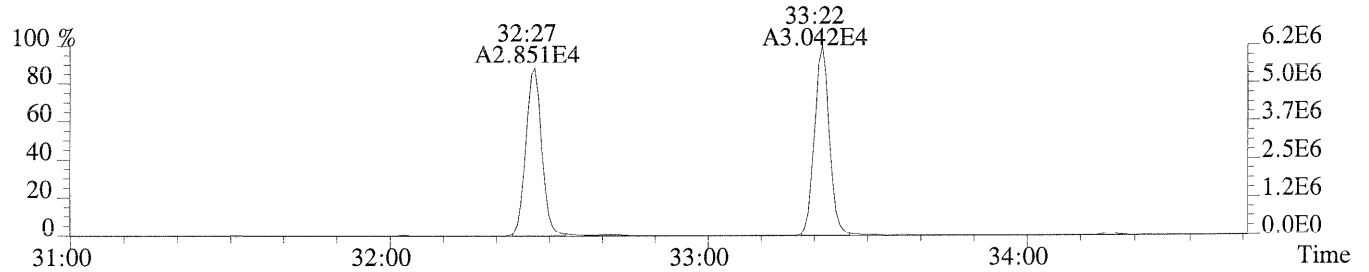
File:P230753 #1-335 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



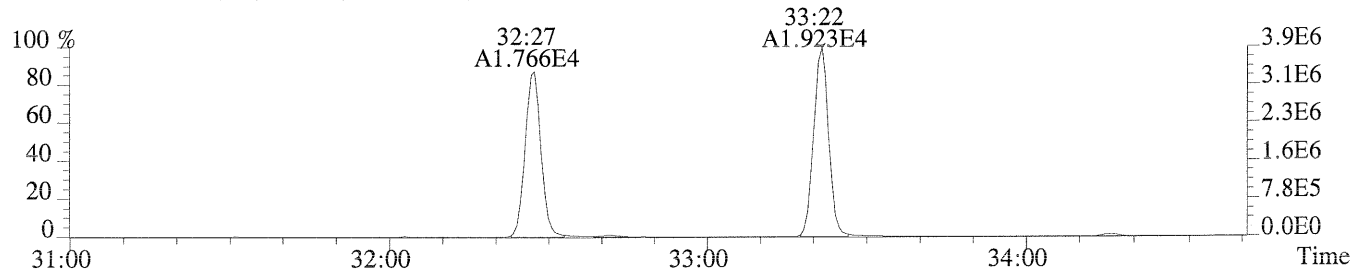
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



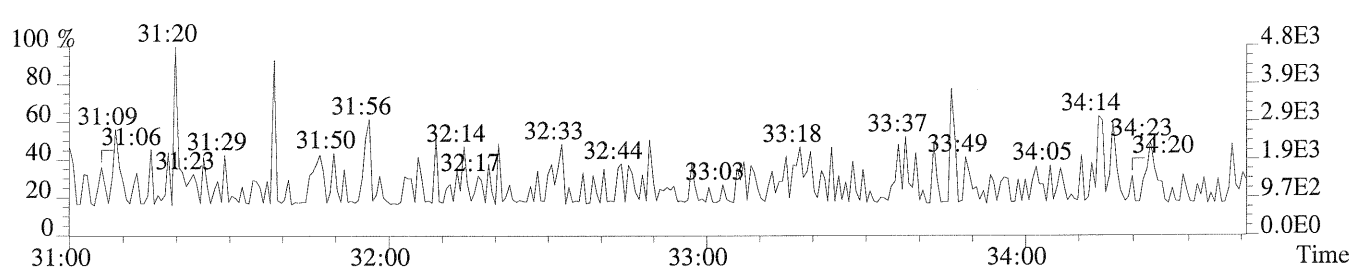
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



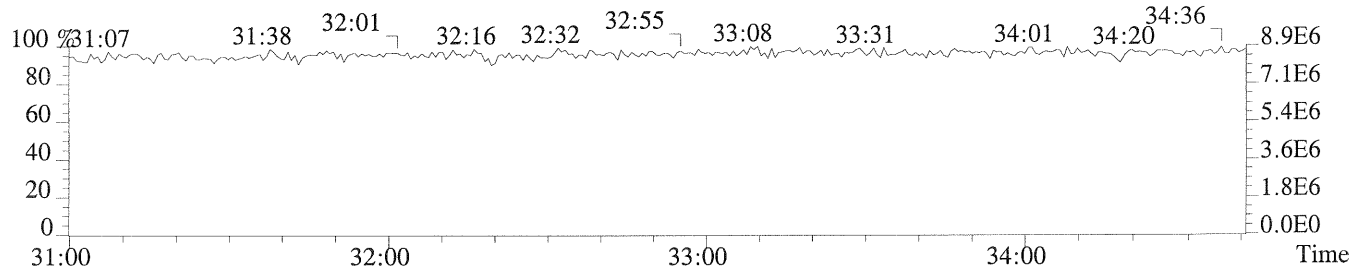
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



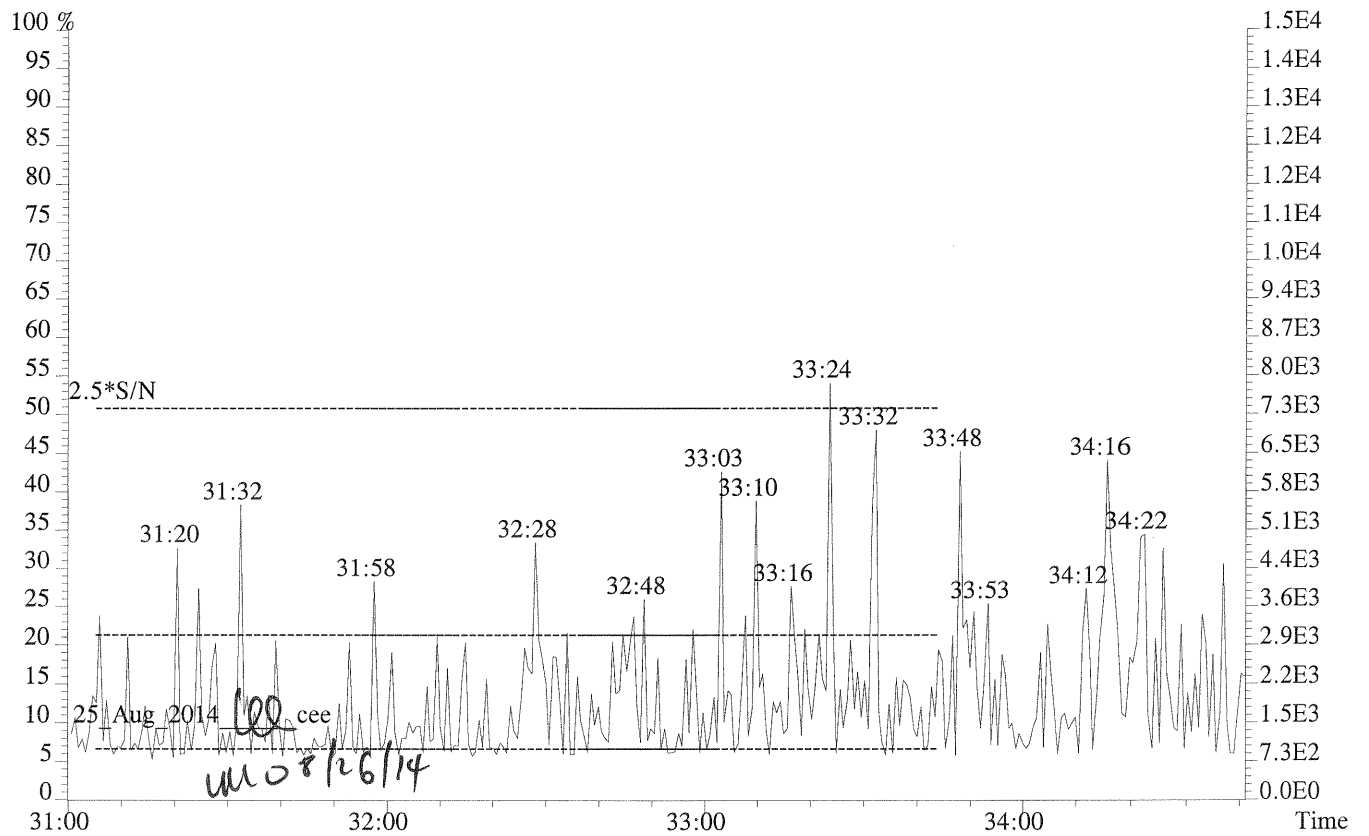
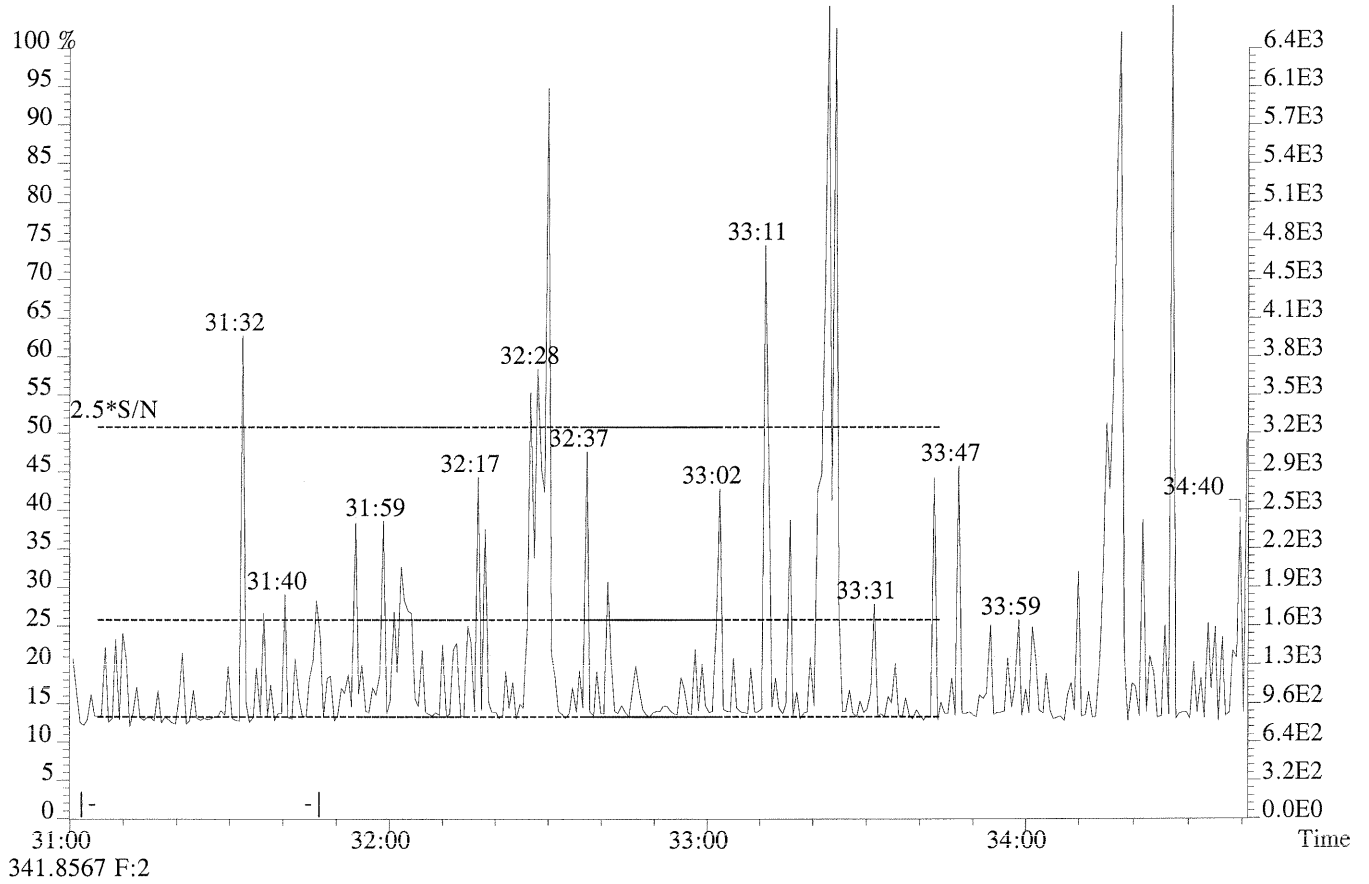
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



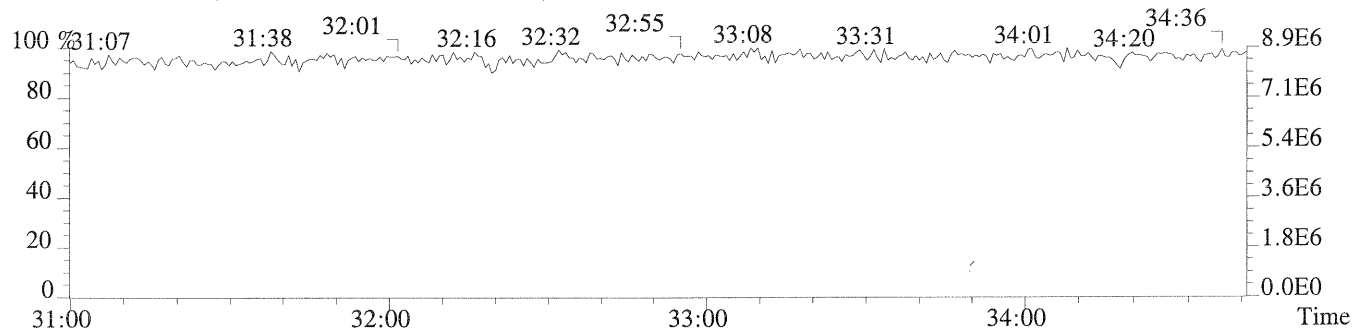
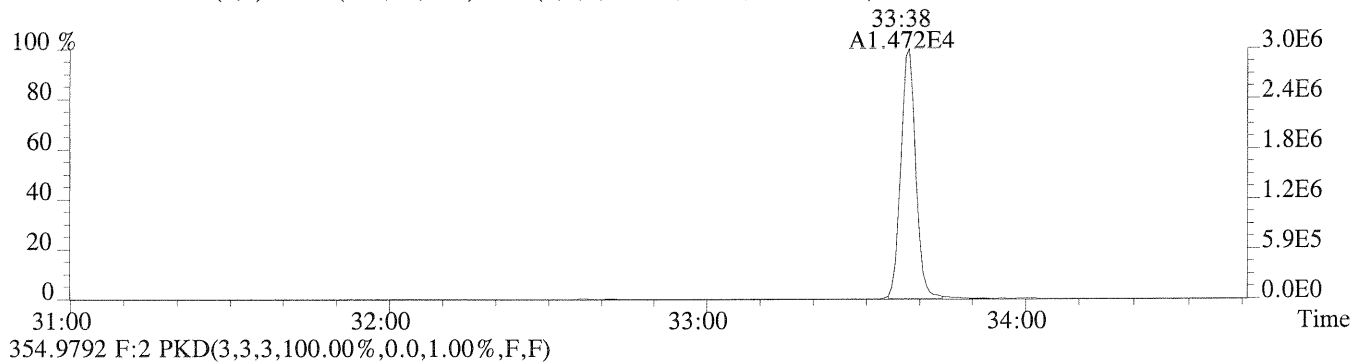
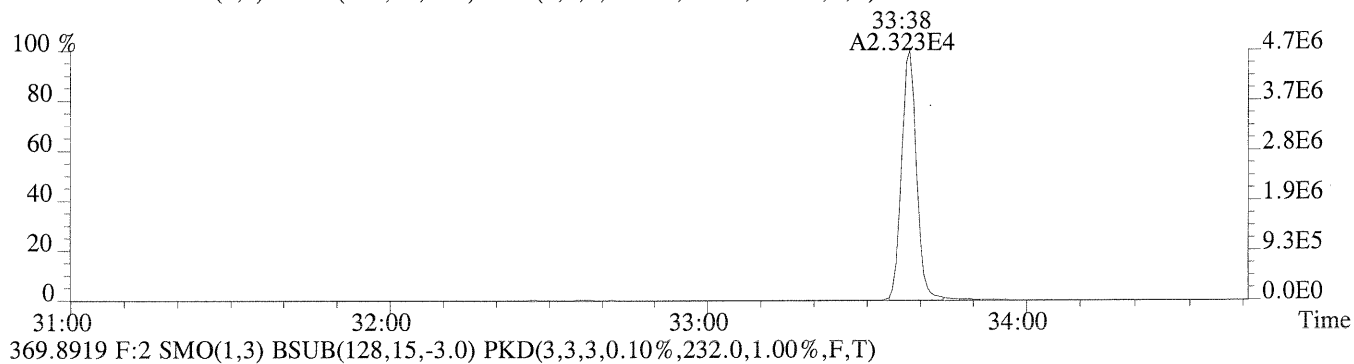
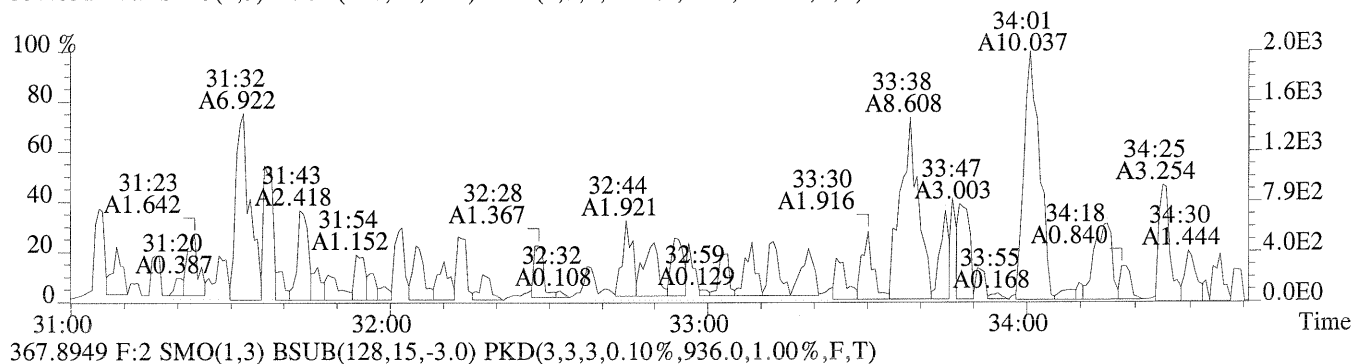
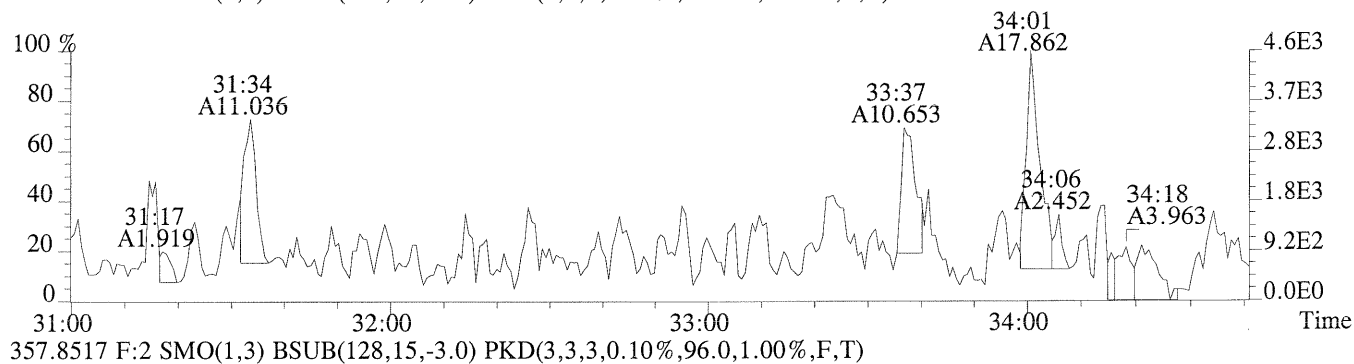
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

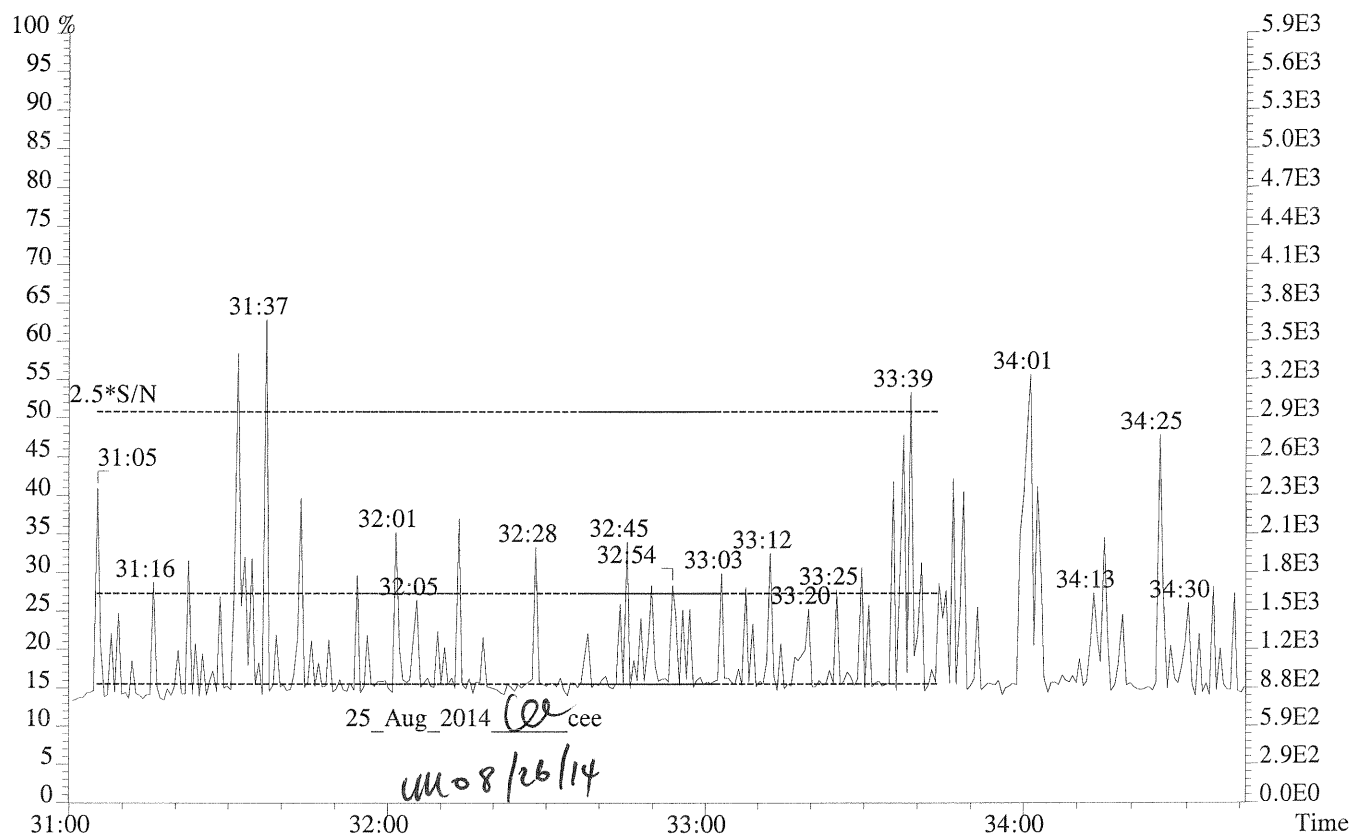
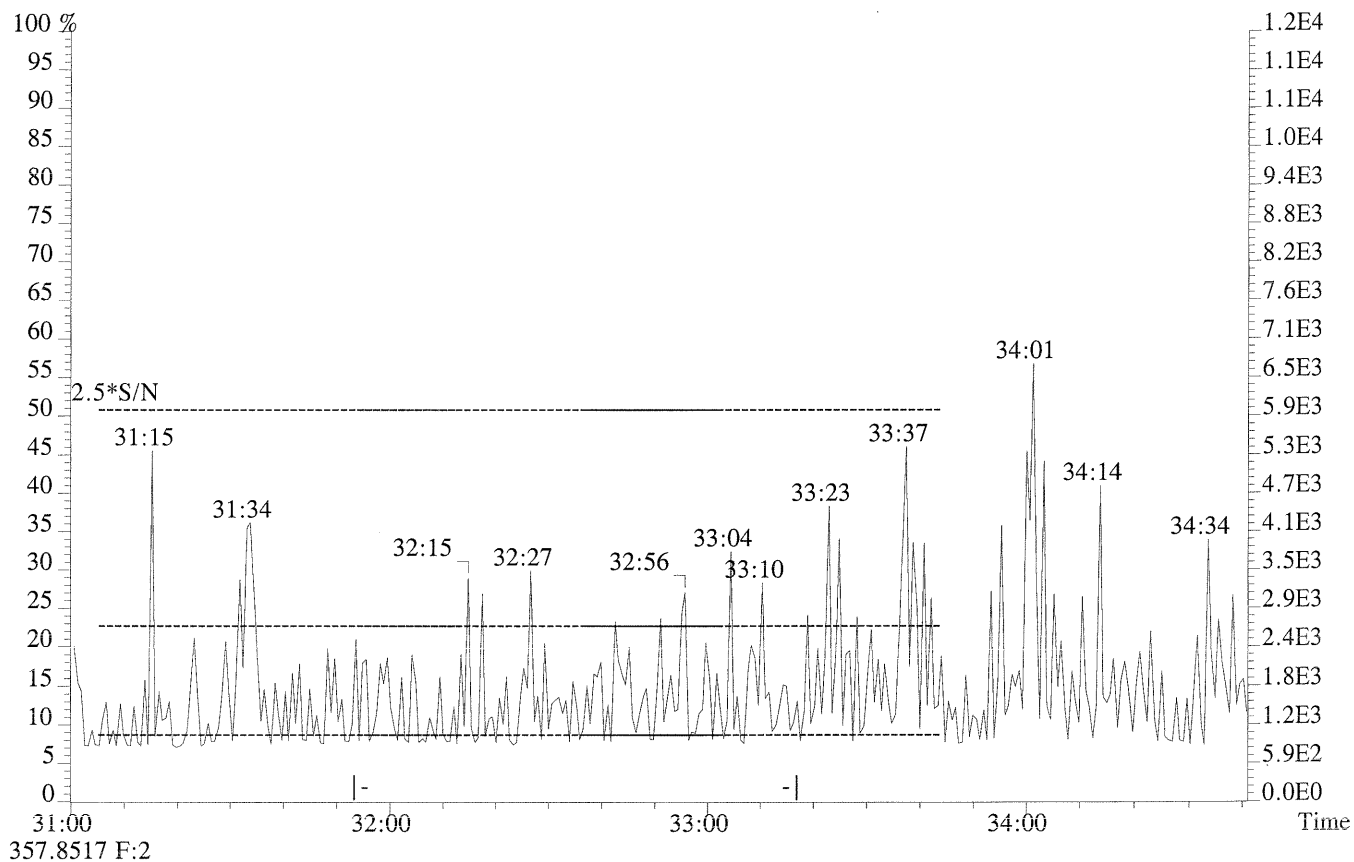


File:P230753 #1-335 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
339.8597 F:2

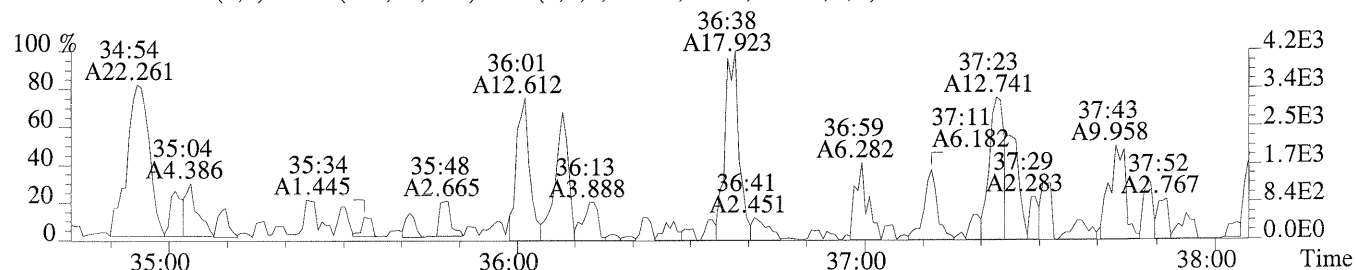


File:P230753 #1-335 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,T)

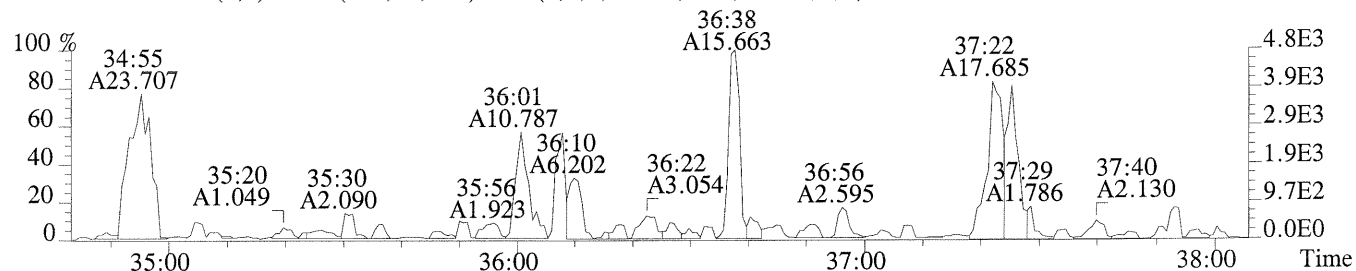




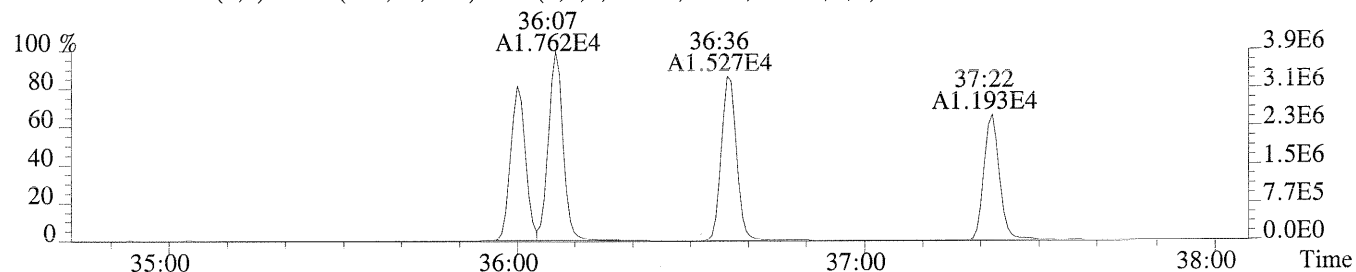
File:P230753 #1-307 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,T)



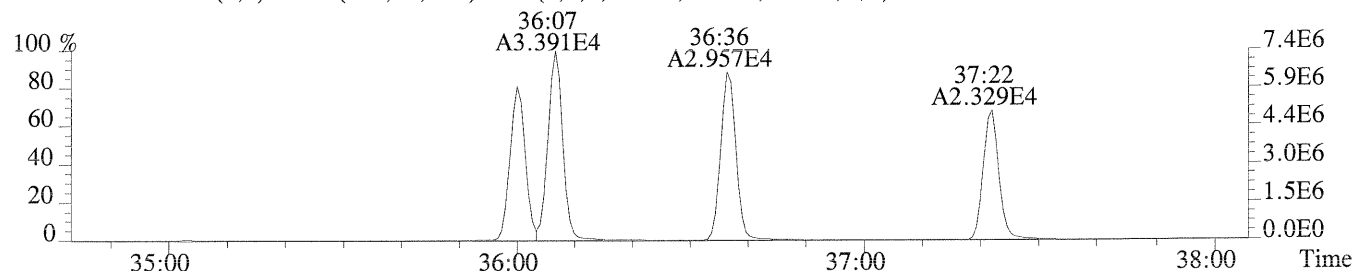
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,T)



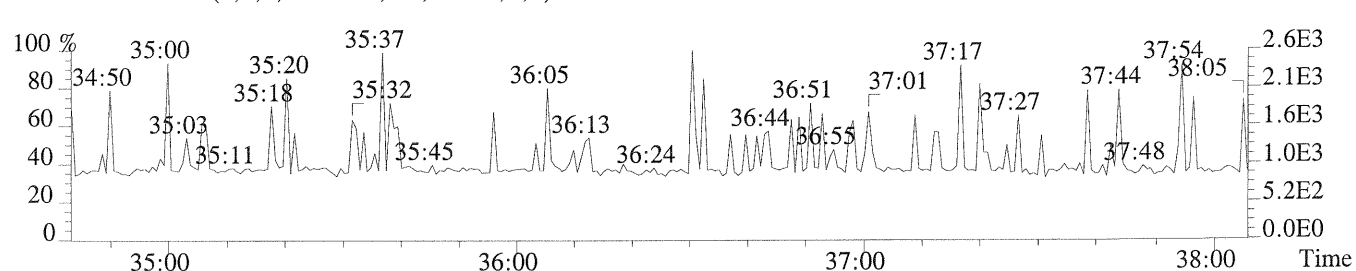
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.40%,F,T)



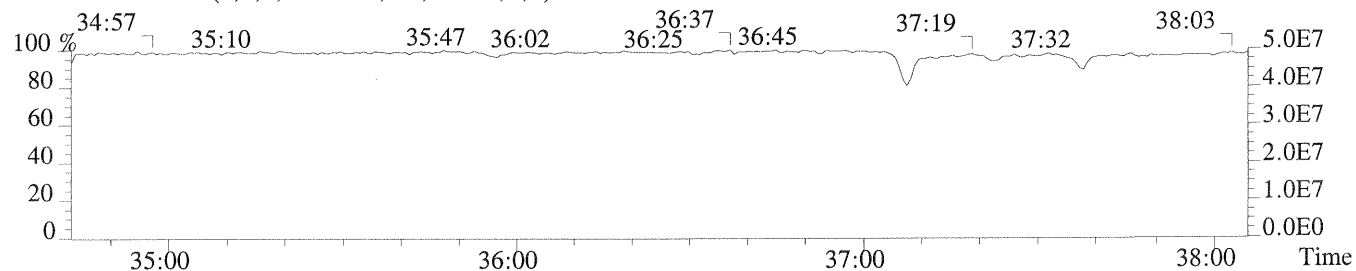
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



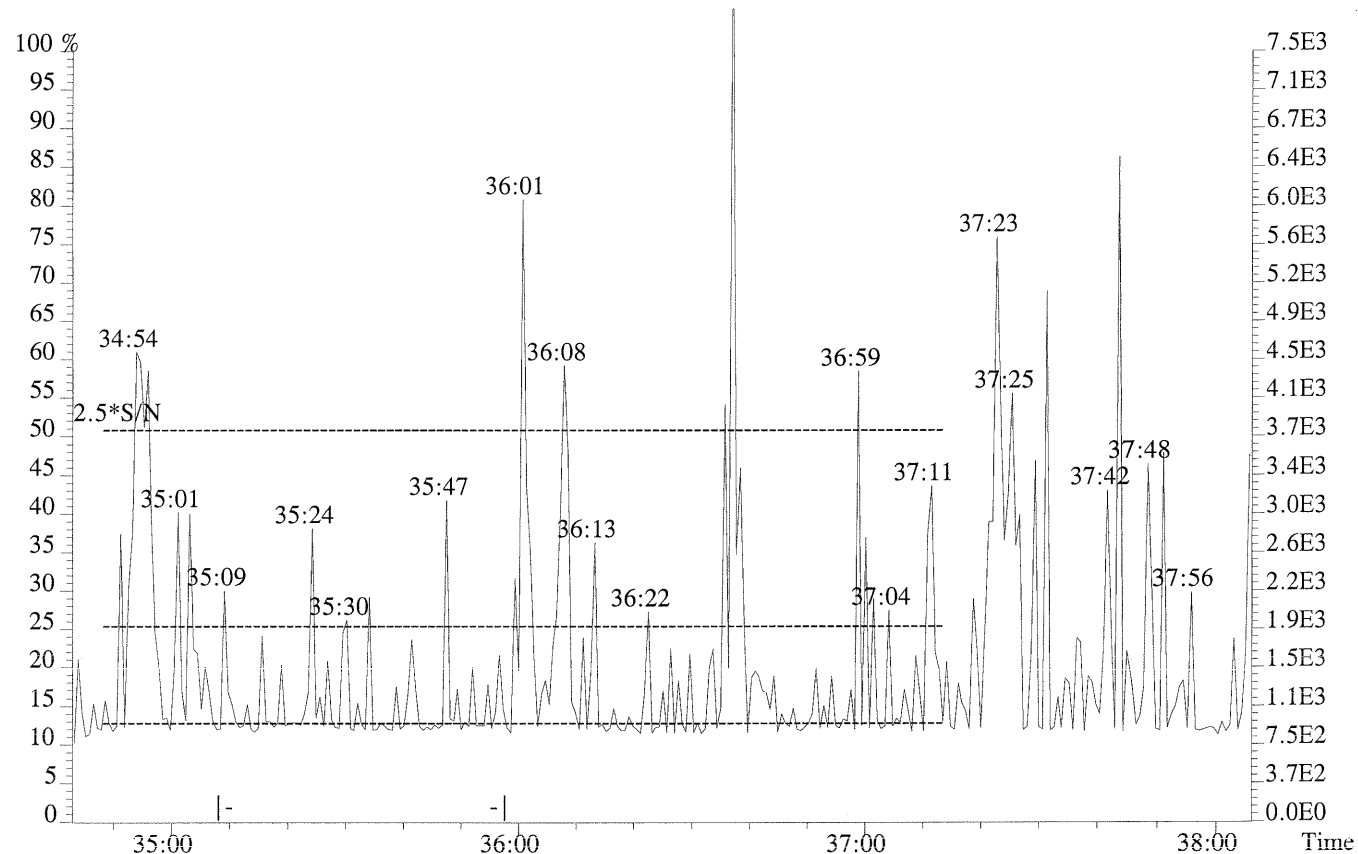
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



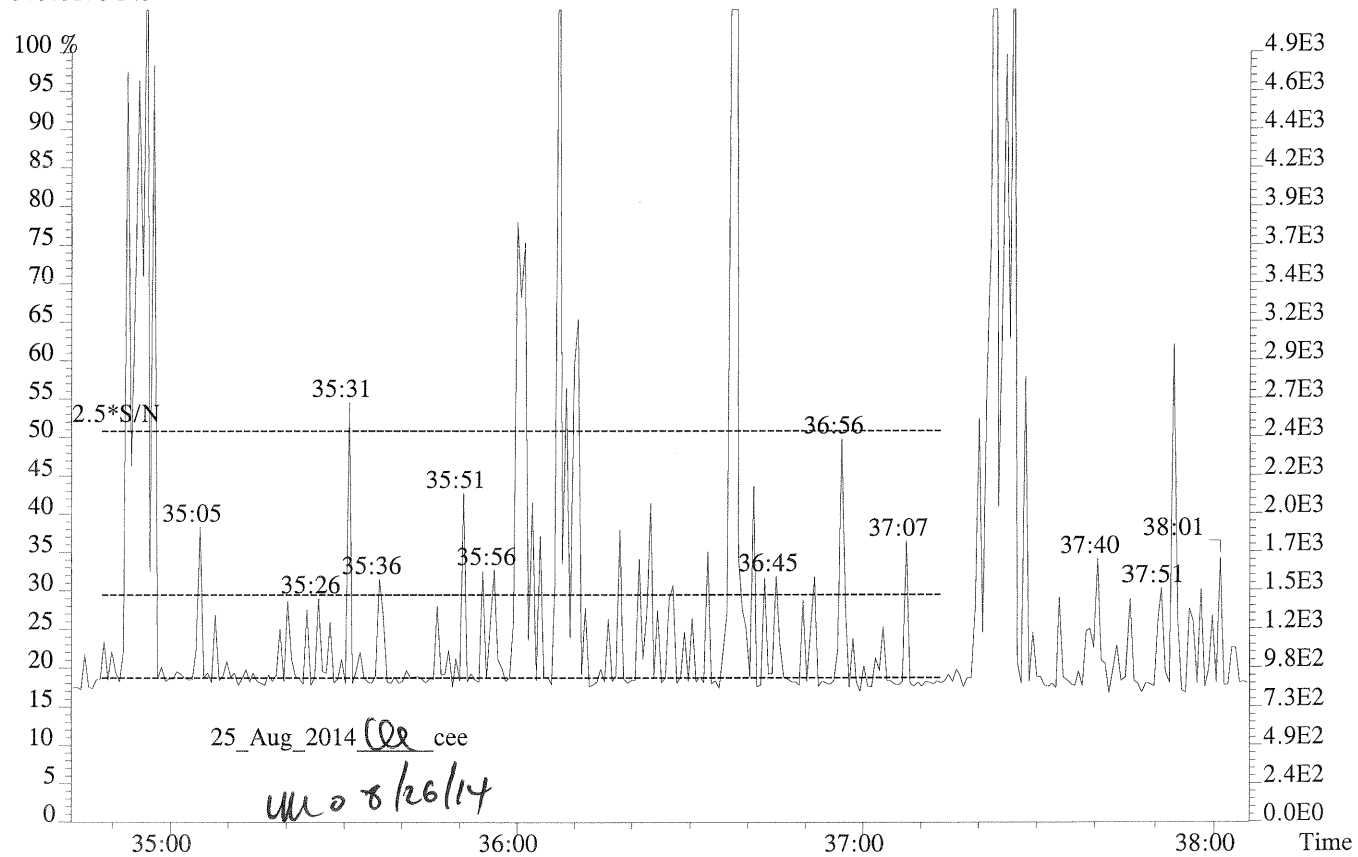
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230753 #1-307 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
373.8208 F:3

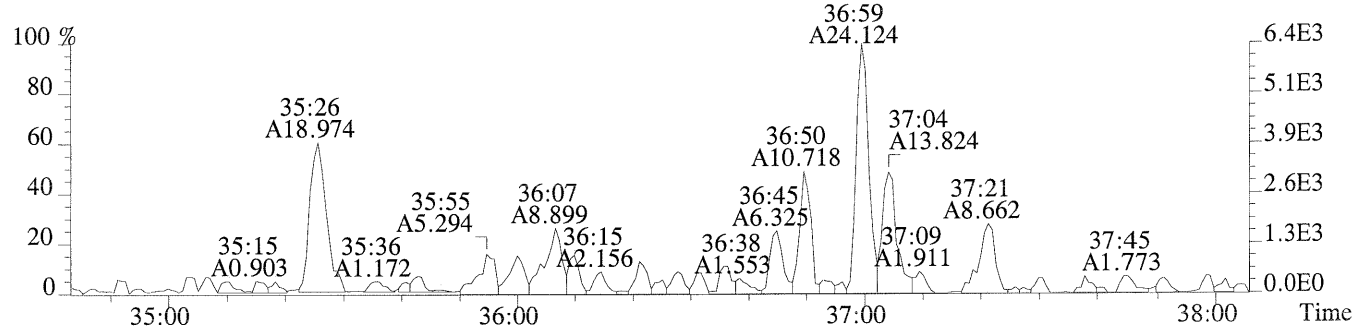


375.8178 F:3

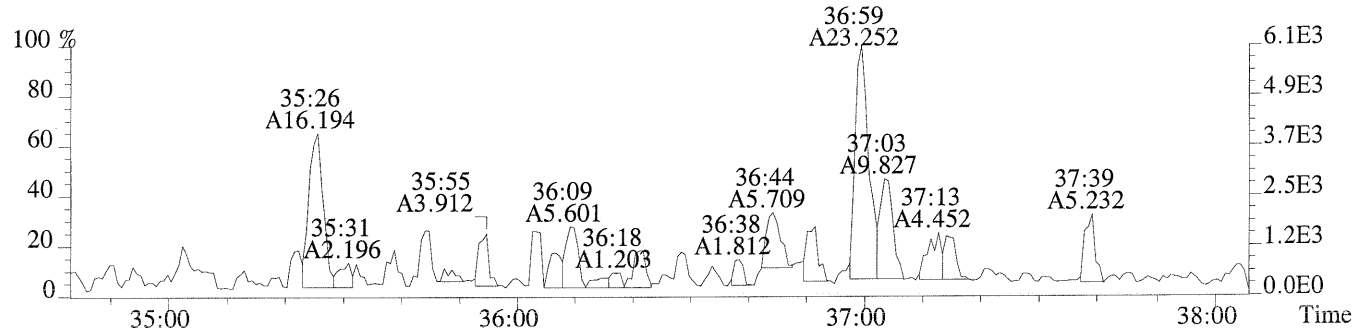




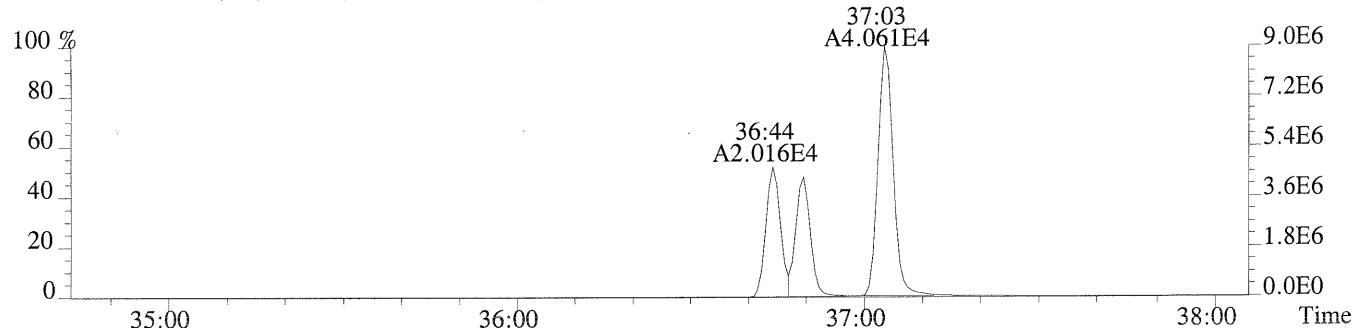
File:P230753 #1-307 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,124.0,0.40%,F,T)



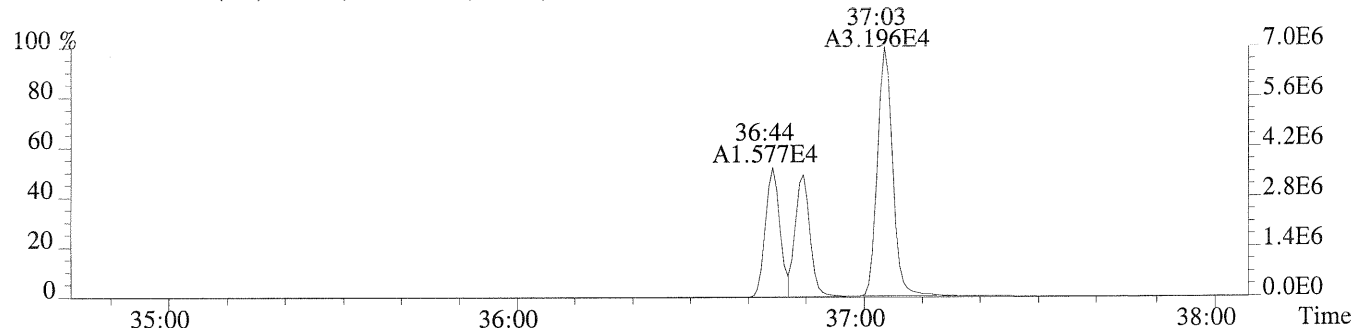
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,T)



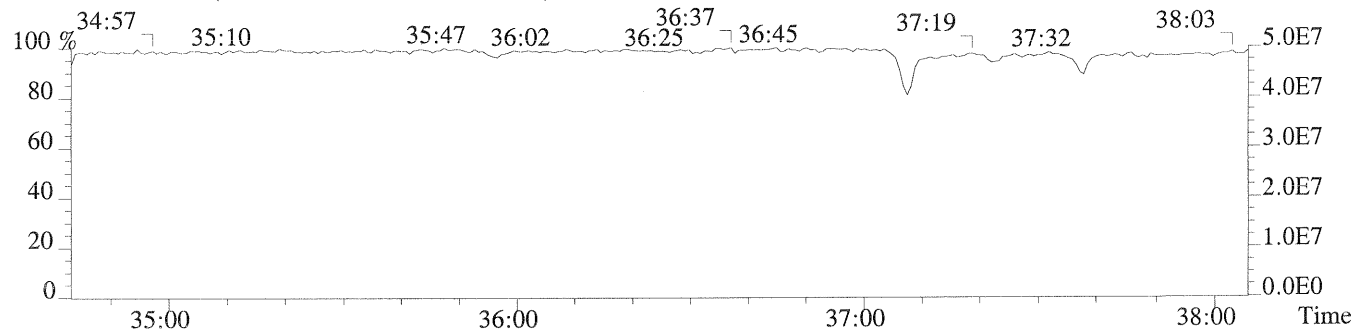
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



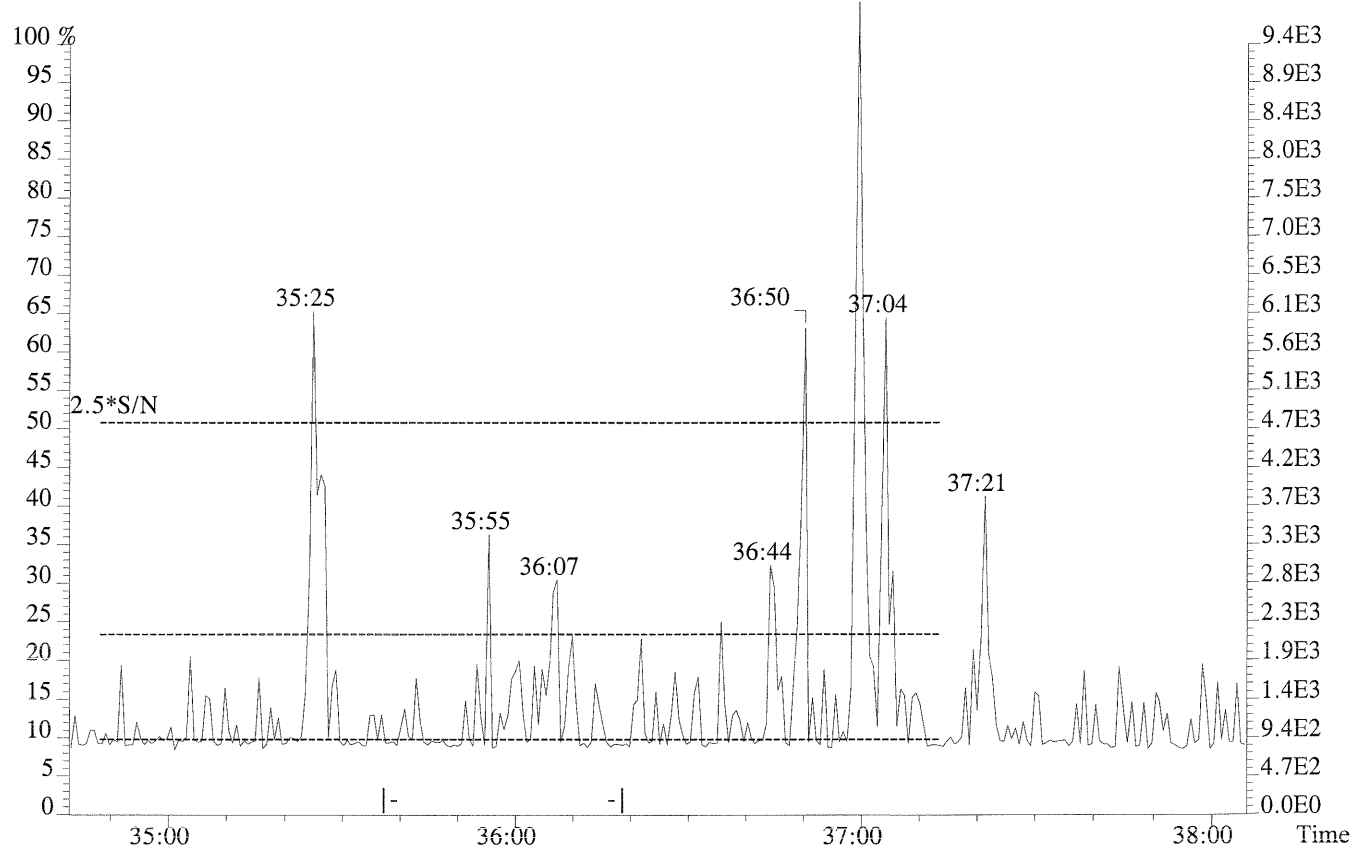
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,808.0,0.40%,F,T)



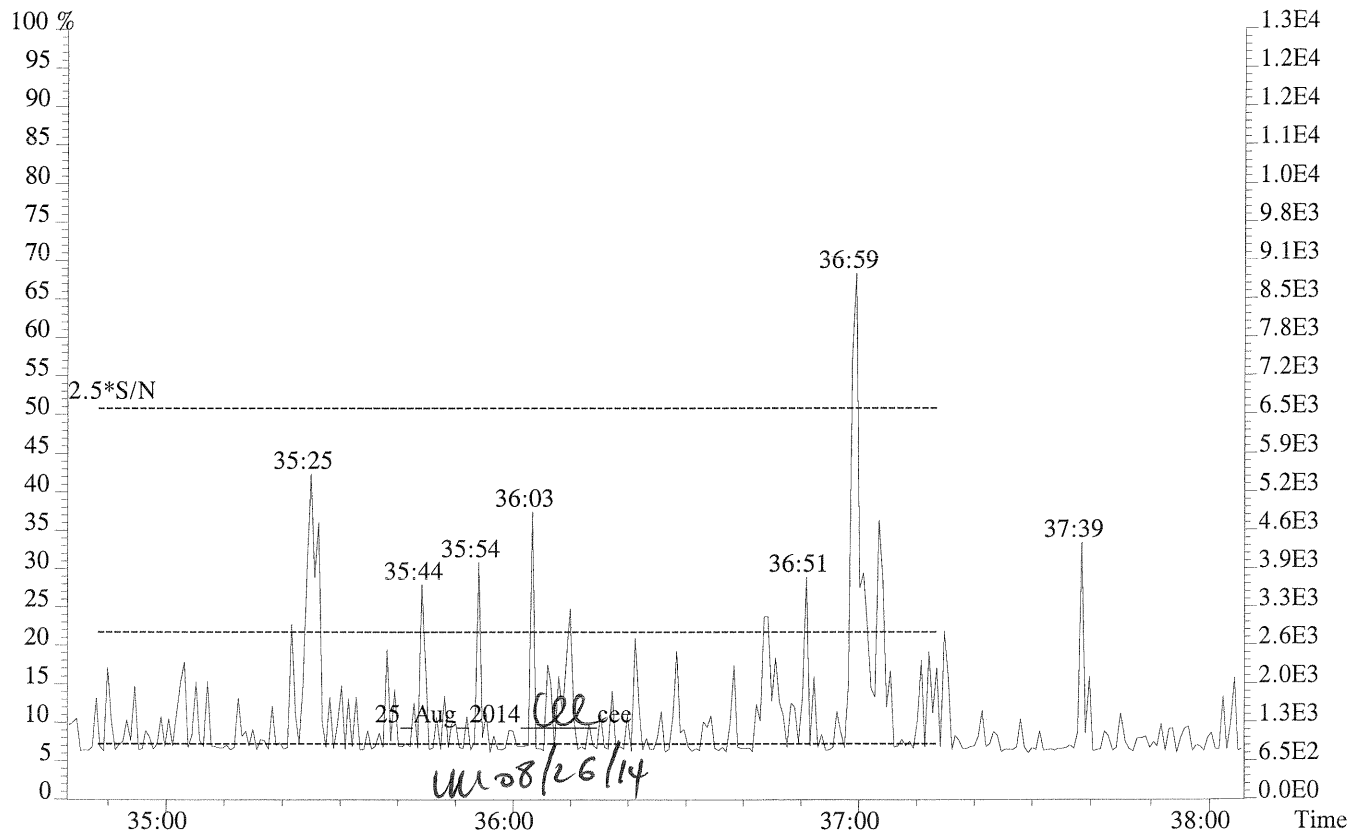
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



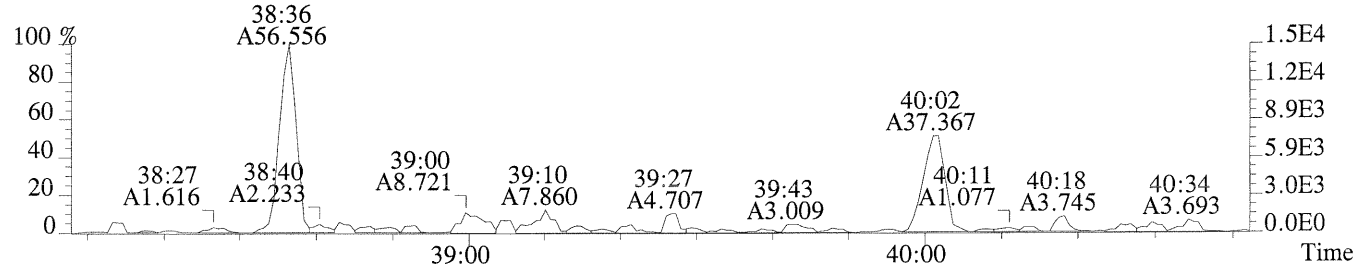
File:P230753 #1-307 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
389.8157 F:3



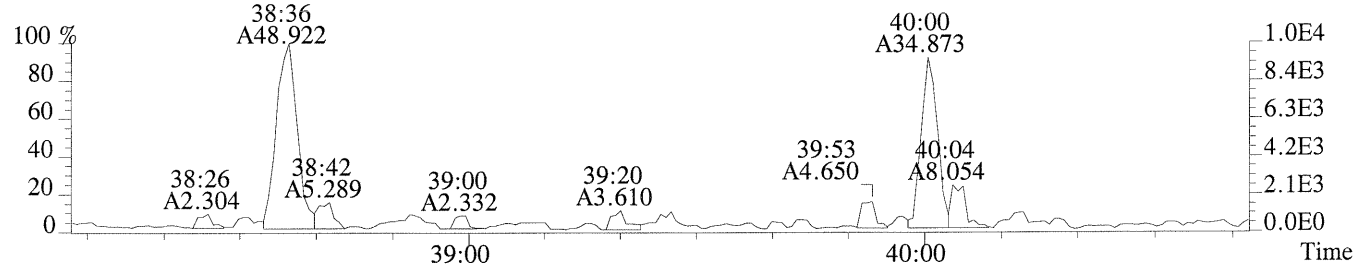
391.8127 F:3



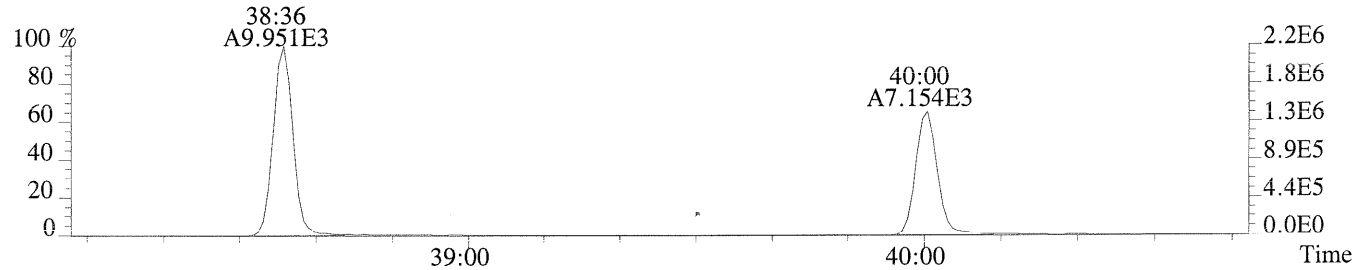
File:P230753 #1-234 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.50%,F,T)



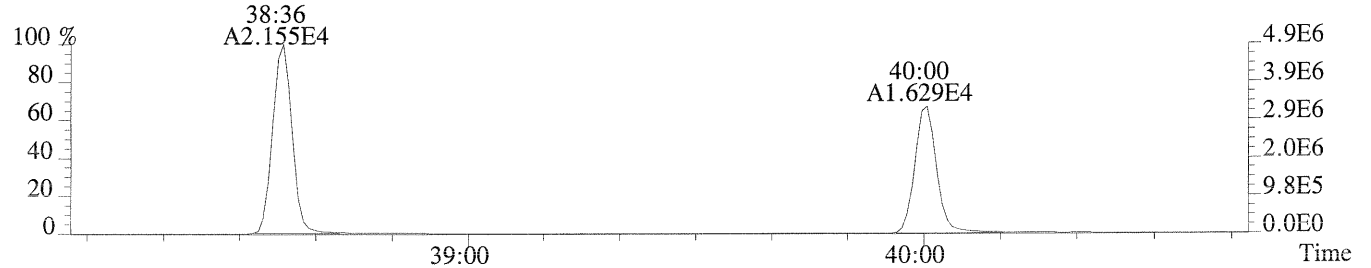
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.50%,F,T)



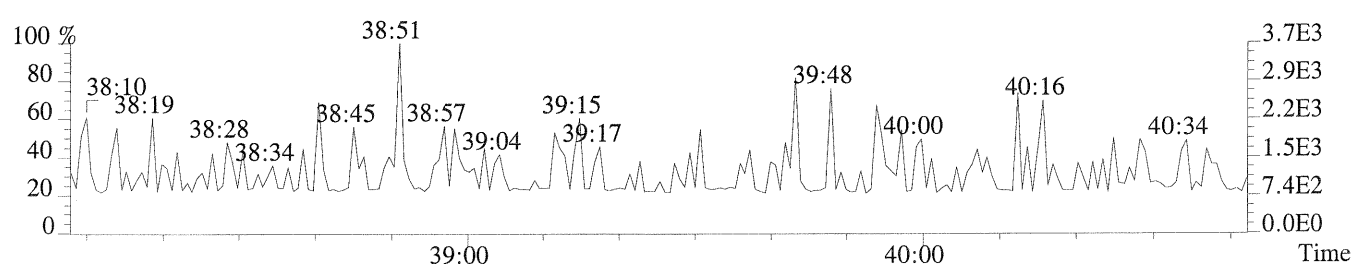
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.50%,F,T)



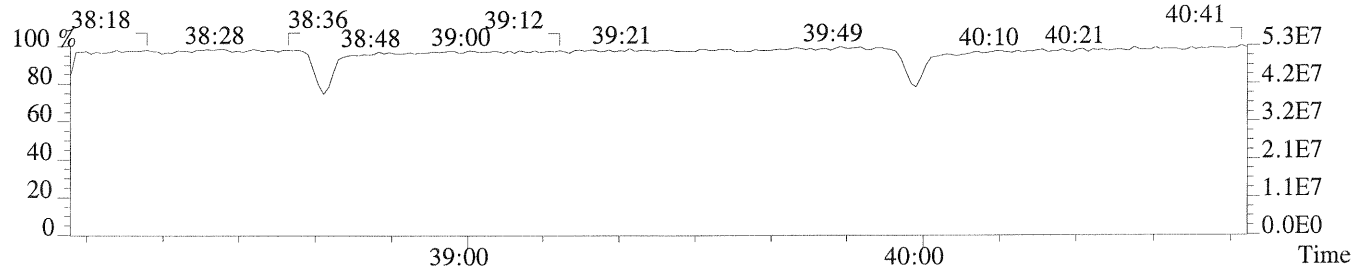
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1832.0,0.50%,F,T)



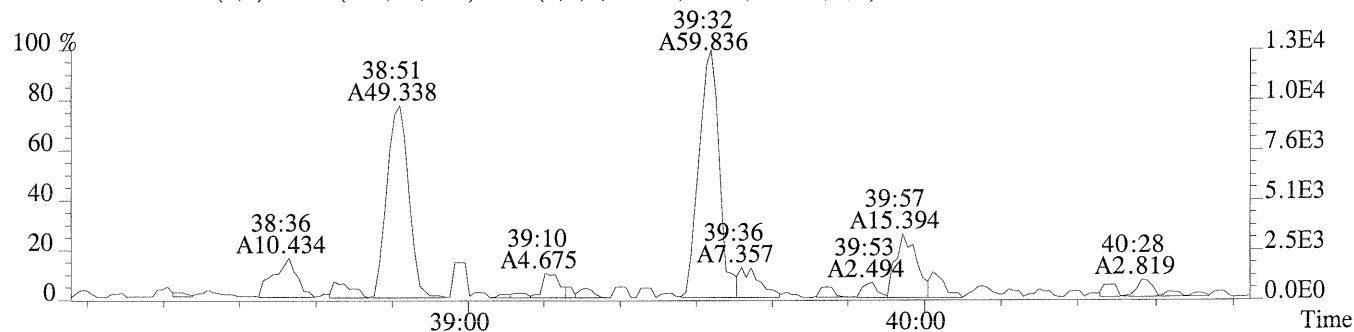
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



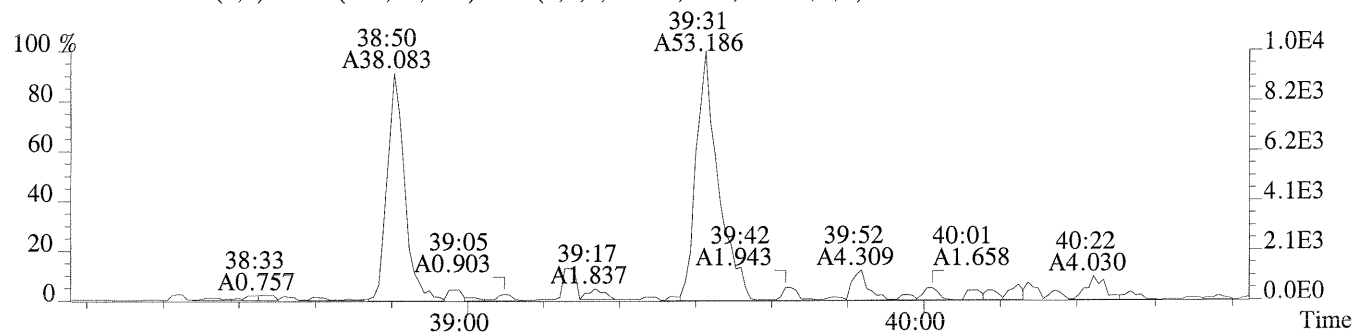
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



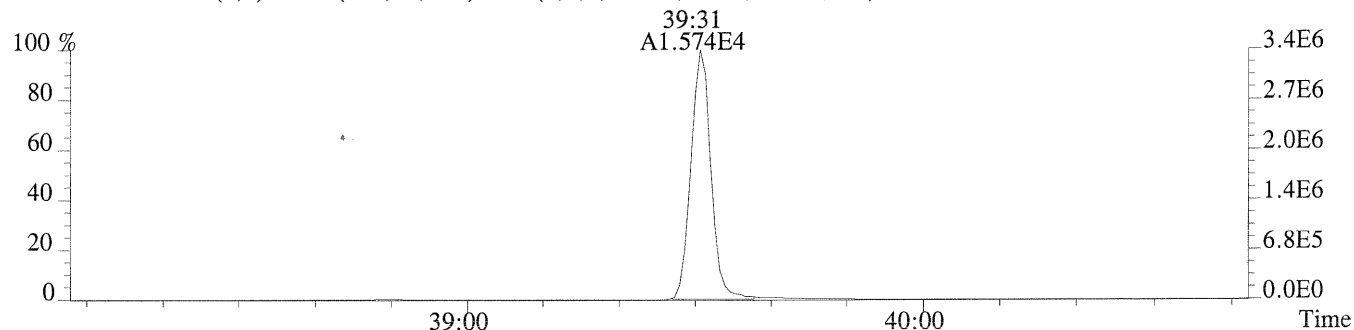
File:P230753 #1-234 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,T)



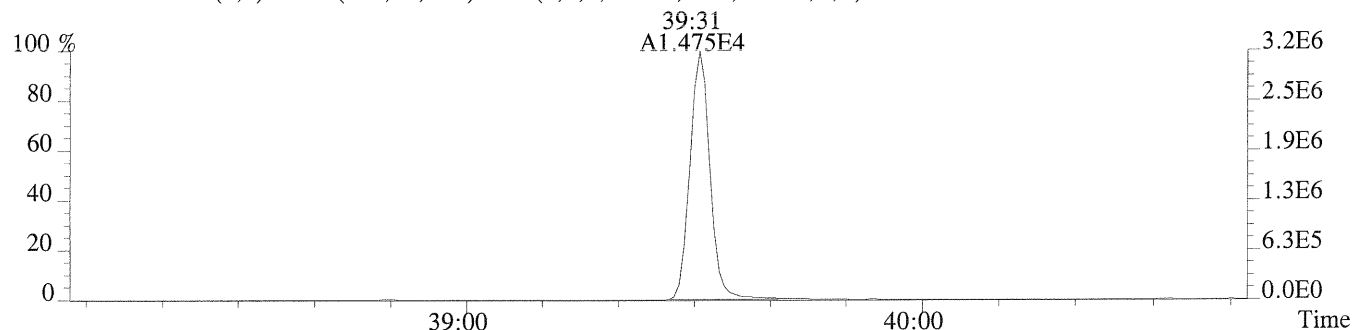
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.40%,F,T)



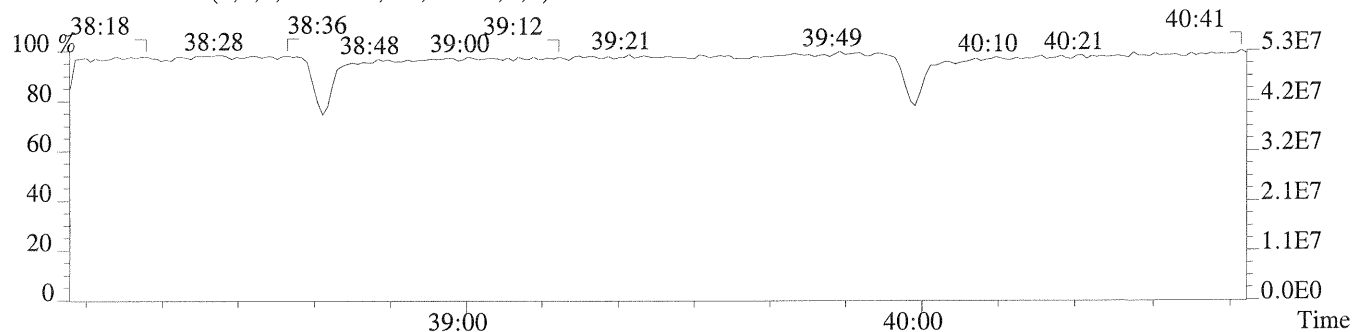
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



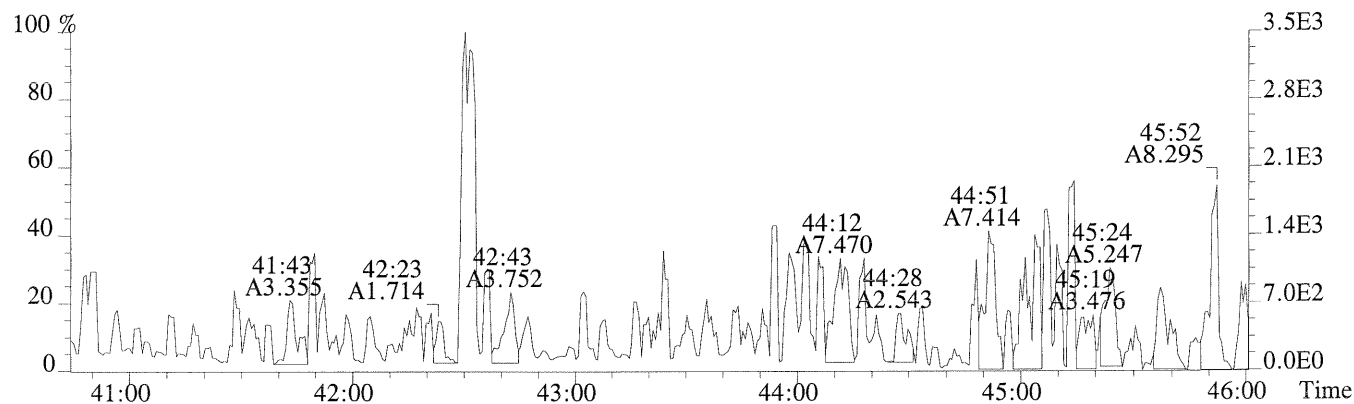
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



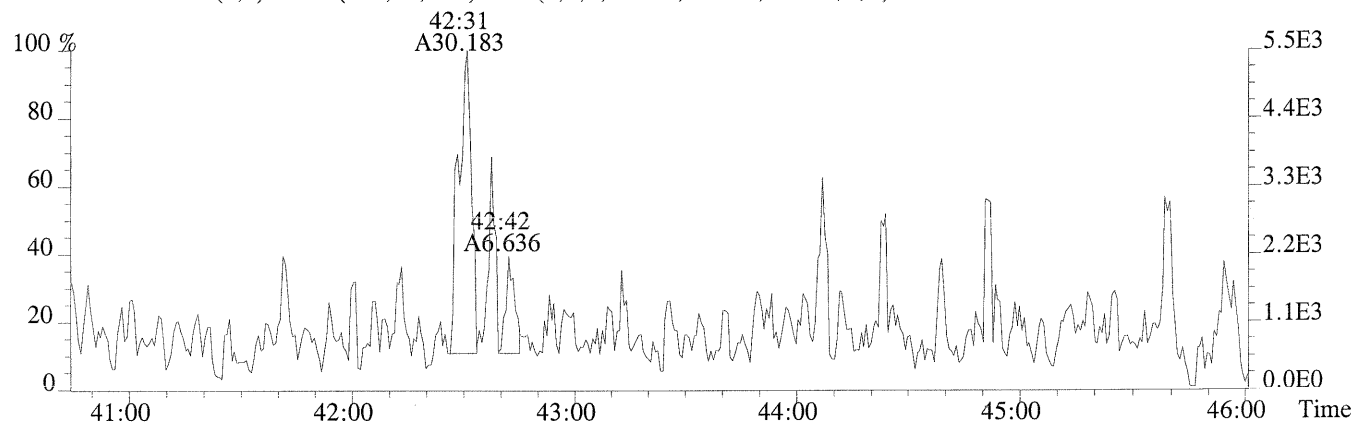
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



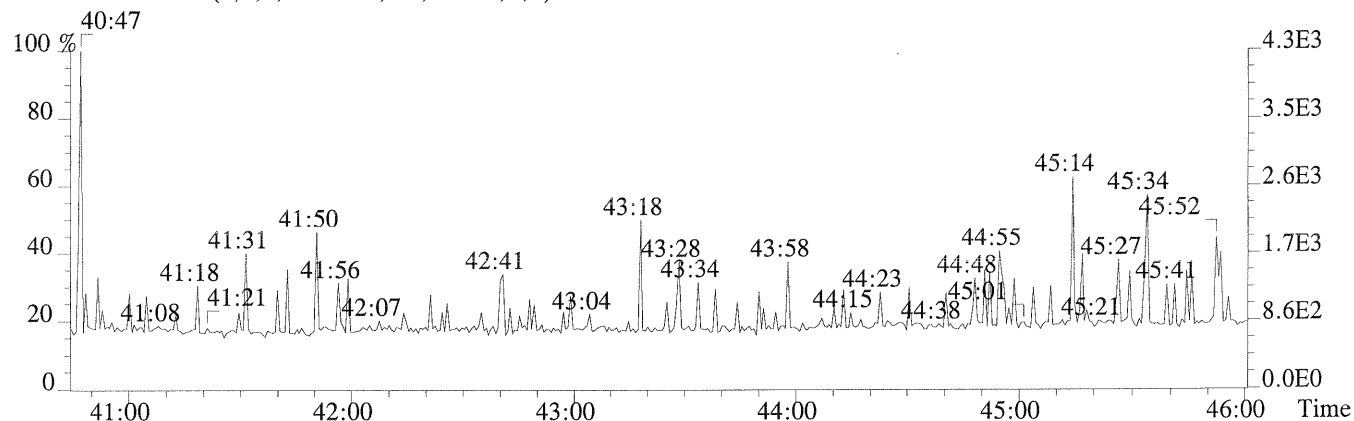
File:P230753 #1-485 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,252.0,0.40%,F,T)



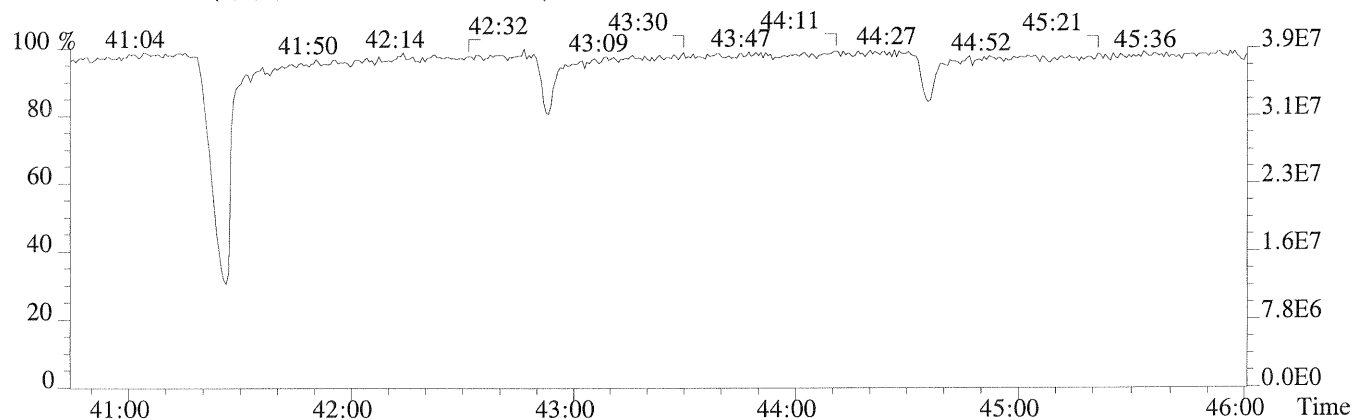
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1032.0,0.40%,F,T)



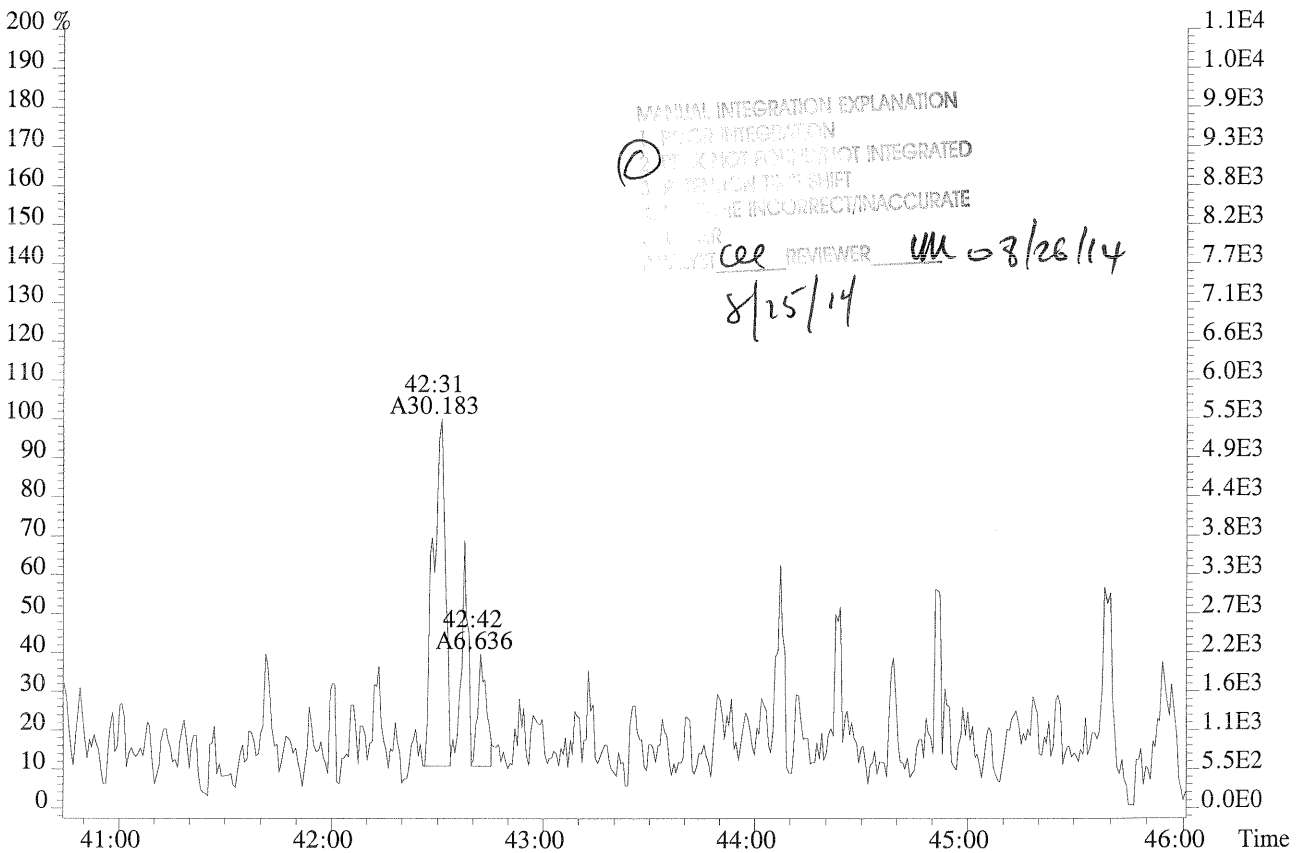
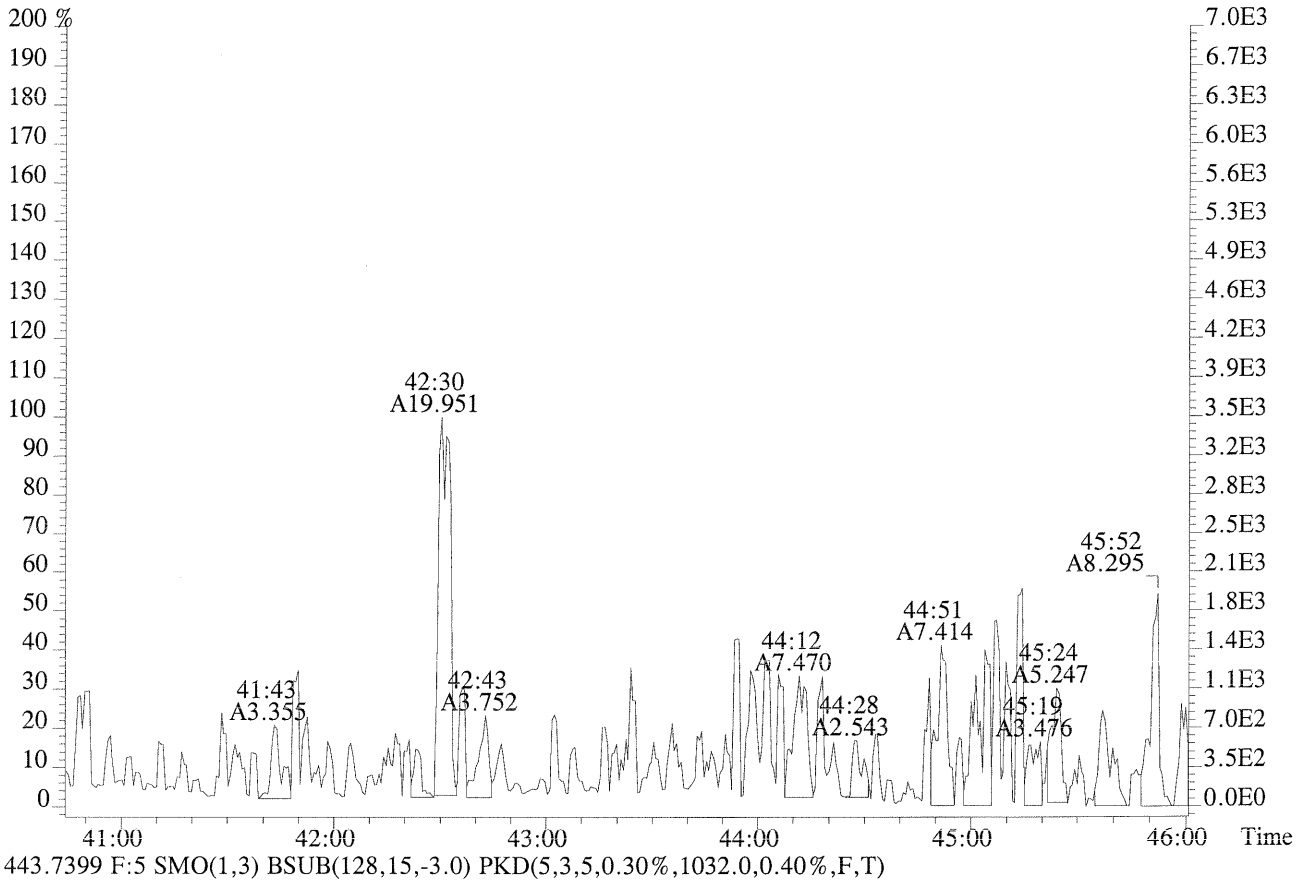
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



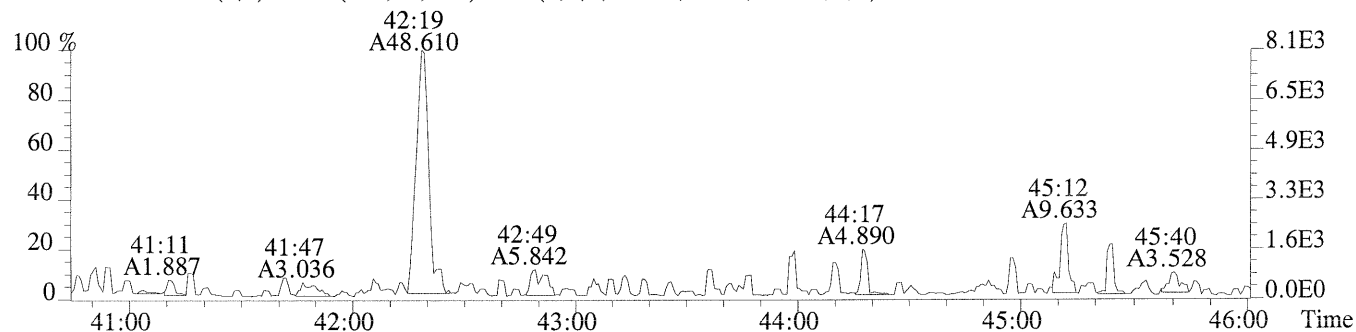
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



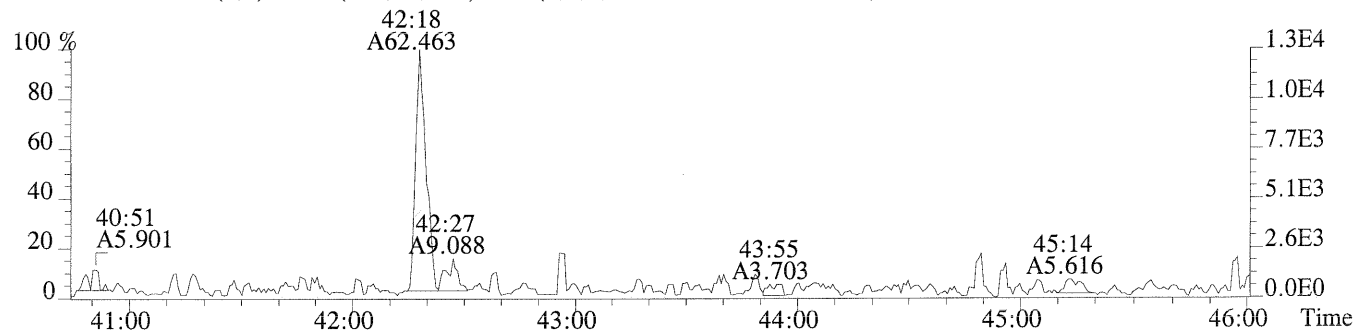
File:P230753 #1-485 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass sf  
 Sample#1 Exp:EQ1400478-01 MB  
 441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,252.0,0.40%,F,T)



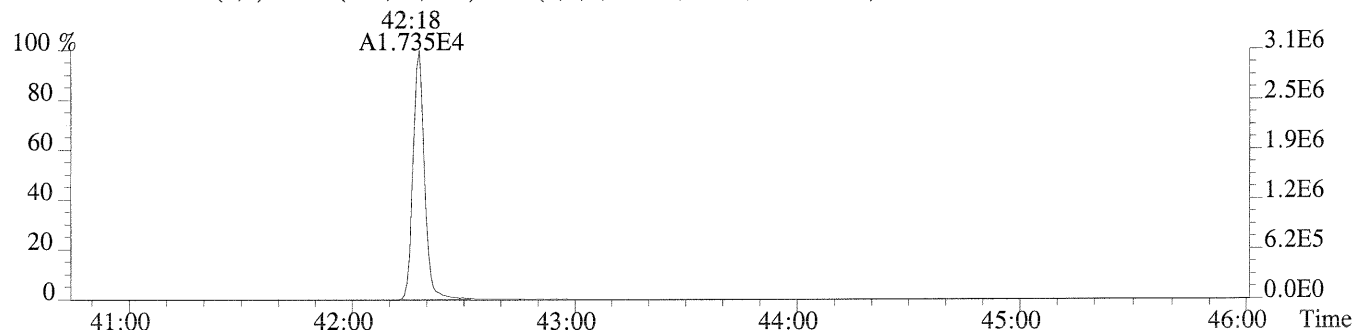
File:P230753 #1-485 Acq:25-AUG-2014 05:42:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-01 MB  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,288.0,0.40%,F,T)



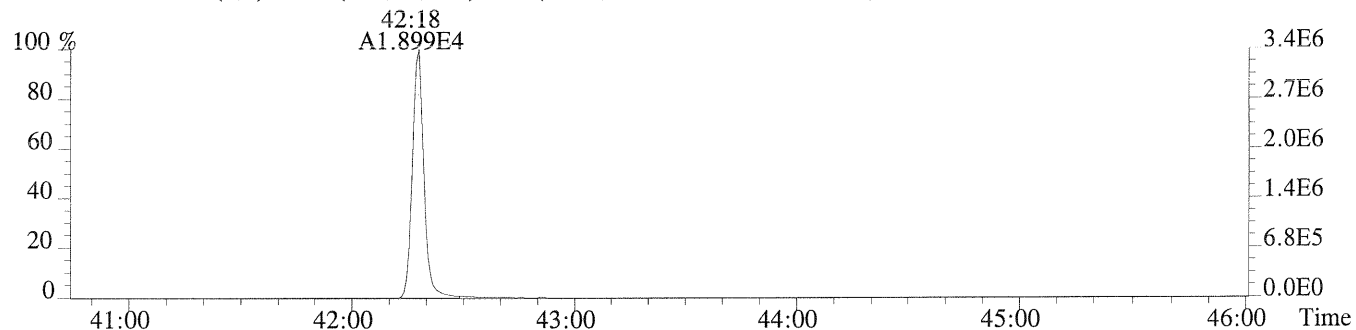
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



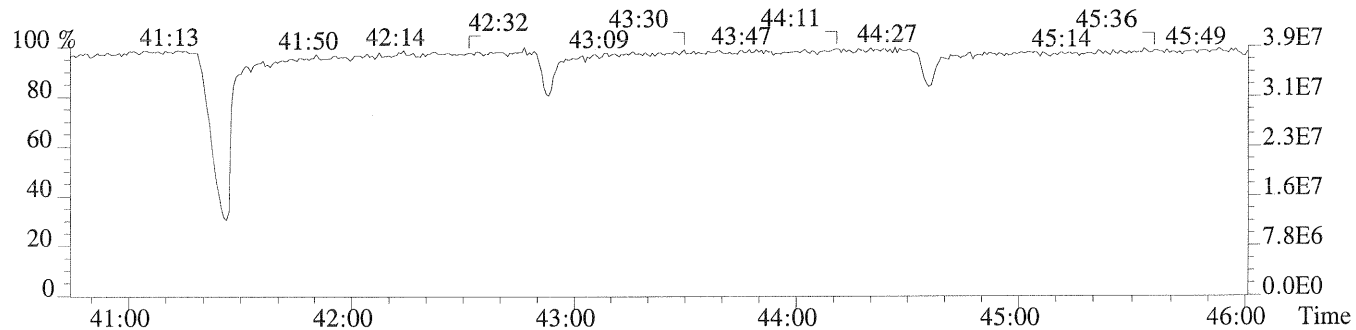
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,428.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
LCS

Run #10      Filename U150519      Samp: 1      Inj: 1      Acquired: 23-AUG-14 13:41:29  
Processed: 27-AUG-14 14:03:42      Sample ID: EQ1400478-02

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:01	2.253e+02	2.960e+02	0.76	yes	no	1.057
2 Unk	1,2,3,7,8-PeCDF	31:33	2.353e+03	1.489e+03	1.58	yes	no	1.020
3 Unk	2,3,4,7,8-PeCDF	32:32	2.346e+03	1.481e+03	1.58	yes	no	0.979
4 Unk	1,2,3,4,7,8-HxCDF	35:17	2.074e+03	1.623e+03	1.28	yes	no	1.236
5 Unk	1,2,3,6,7,8-HxCDF	35:23	2.553e+03	2.003e+03	1.27	yes	no	1.149
6 Unk	2,3,4,6,7,8-HxCDF	35:55	2.149e+03	1.826e+03	1.18	yes	no	1.156
7 Unk	1,2,3,7,8,9-HxCDF	36:41	1.952e+03	1.530e+03	1.28	yes	no	1.180
8 Unk	1,2,3,4,6,7,8-HpCDF	37:57	1.870e+03	1.774e+03	1.05	yes	no	1.364
9 Unk	1,2,3,4,7,8,9-HpCDF	39:20	1.517e+03	1.514e+03	1.00	yes	no	1.317
10 Unk	OCDF	41:43	2.195e+03	2.383e+03	0.92	yes	no	1.466
11 Unk	2,3,7,8-TCDD	27:52	1.684e+02	2.052e+02	0.82	yes	no	0.972
12 Unk	1,2,3,7,8-PeCDD	32:48	1.642e+03	9.885e+02	1.66	yes	no	1.120
13 Unk	1,2,3,4,7,8-HxCDD	36:03	1.370e+03	1.087e+03	1.26	yes	no	1.330
14 Unk	1,2,3,6,7,8-HxCDD	36:08	1.791e+03	1.366e+03	1.31	yes	no	1.250
15 Unk	1,2,3,7,8,9-HxCDD	36:23	1.716e+03	1.415e+03	1.21	yes	no	1.395
16 Unk	1,2,3,4,6,7,8-HpCDD	38:51	1.289e+03	1.248e+03	1.03	yes	no	1.102
17 Unk	OCDD	41:31	1.752e+03	1.961e+03	0.89	yes	no	1.329
18 IS	13C-2,3,7,8-TCDF	26:59	2.264e+03	2.782e+03	0.81	yes	no	1.406
19 IS	13C-1,2,3,7,8-PeCDF	31:32	4.282e+03	2.746e+03	1.56	yes	no	1.870
20 IS	13C-2,3,4,7,8-PeCDF	32:30	4.559e+03	2.948e+03	1.55	yes	no	1.888
21 IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.908e+03	3.731e+03	0.51	yes	no	1.181
22 IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.843e+03	5.668e+03	0.50	yes	no	1.511
23 IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.272e+03	4.399e+03	0.52	yes	no	1.346
24 IS	13C-1,2,3,7,8,9-HxCDF	36:41	1.852e+03	3.671e+03	0.50	yes	no	1.041
25 IS	13C-1,2,3,4,6,7,8-HpCDF	37:57	1.605e+03	3.708e+03	0.43	yes	no	1.006
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:19	1.374e+03	3.209e+03	0.43	yes	no	0.732
27 IS	13C-2,3,7,8-TCDD	27:51	1.549e+03	2.079e+03	0.74	yes	no	0.980
28 IS	13C-1,2,3,7,8-PeCDD	32:48	3.106e+03	1.997e+03	1.55	yes	no	1.075
29 IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.673e+03	1.916e+03	1.40	yes	no	0.773
30 IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.885e+03	2.341e+03	1.23	yes	no	0.975
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:51	2.536e+03	2.346e+03	1.08	yes	no	0.845
32 IS	13C-OCDD	41:31	2.866e+03	3.156e+03	0.91	yes	no	0.501
33 RS/RT	13C-1,2,3,4-TCDD	27:11	3.867e+03	5.091e+03	0.76	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	5.930e+03	4.462e+03	1.33	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	27:53	1.186e+03				no	0.955

$$\text{OCDD} = \frac{(1.752e+03 + 1.961e+03) \times 4000 \text{ pg} \times 1}{(2.866e+03 + 3.156e+03) \times \text{g} \times / 100 \times 1.329} =$$

ALS ENVIRONMENTAL  
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Office (713) 266-1599. Fax (713) 266-0130

1613RESPA



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 LCS

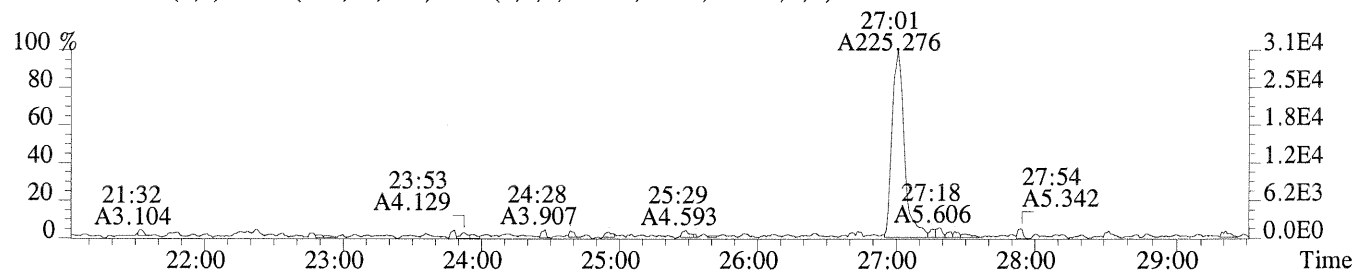
Run #10    Filename U150519    Samp: 1    Inj: 1    Acquired: 23-AUG-14 13:41:29  
 Processed: 27-AUG-14 14:03:421    LAB. ID: EQ1400478-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.06e+04	5.36e+02	5.7e+01	4.46e+04	1.16e+03	3.8e+01
2	1,2,3,7,8-PeCDF	3.88e+05	3.88e+02	1.0e+03	2.49e+05	7.08e+02	3.5e+02
3	2,3,4,7,8-PeCDF	3.85e+05	3.88e+02	9.9e+02	2.43e+05	7.08e+02	3.4e+02
4	1,2,3,4,7,8-HxCDF	4.34e+05	8.68e+02	5.0e+02	3.33e+05	6.00e+02	5.6e+02
5	1,2,3,6,7,8-HxCDF	4.32e+05	8.68e+02	5.0e+02	3.47e+05	6.00e+02	5.8e+02
6	2,3,4,6,7,8-HxCDF	4.01e+05	8.68e+02	4.6e+02	3.34e+05	6.00e+02	5.6e+02
7	1,2,3,7,8,9-HxCDF	3.22e+05	8.68e+02	3.7e+02	2.56e+05	6.00e+02	4.3e+02
8	1,2,3,4,6,7,8-HpCDF	3.44e+05	4.68e+02	7.3e+02	3.32e+05	1.37e+03	2.4e+02
9	1,2,3,4,7,8,9-HpCDF	2.61e+05	4.68e+02	5.6e+02	2.57e+05	1.37e+03	1.9e+02
10	OCDF	3.22e+05	6.00e+02	5.4e+02	3.46e+05	1.06e+03	3.3e+02
11	2,3,7,8-TCDD	2.59e+04	7.36e+02	3.5e+01	3.49e+04	6.92e+02	5.0e+01
12	1,2,3,7,8-PeCDD	2.66e+05	8.28e+02	3.2e+02	1.59e+05	4.72e+02	3.4e+02
13	1,2,3,4,7,8-HxCDD	2.96e+05	6.20e+02	4.8e+02	2.30e+05	6.84e+02	3.4e+02
14	1,2,3,6,7,8-HxCDD	2.96e+05	6.20e+02	4.8e+02	2.20e+05	6.84e+02	3.2e+02
15	1,2,3,7,8,9-HxCDD	2.97e+05	6.20e+02	4.8e+02	2.40e+05	6.84e+02	3.5e+02
16	1,2,3,4,6,7,8-HpCDD	2.26e+05	5.68e+02	4.0e+02	2.29e+05	5.52e+02	4.2e+02
17	OCDD	2.60e+05	3.72e+02	7.0e+02	2.92e+05	5.56e+02	5.2e+02
18	13C-2,3,7,8-TCDF	3.39e+05	9.40e+02	3.6e+02	4.17e+05	9.44e+02	4.4e+02
19	13C-1,2,3,7,8-PeCDF	7.04e+05	5.96e+02	1.2e+03	4.39e+05	6.96e+02	6.3e+02
20	13C-2,3,4,7,8-PeCDF	7.70e+05	5.96e+02	1.3e+03	5.05e+05	6.96e+02	7.3e+02
21	13C-1,2,3,4,7,8-HxCDF	3.89e+05	5.48e+02	7.1e+02	7.63e+05	7.92e+02	9.6e+02
22	13C-1,2,3,6,7,8-HxCDF	4.70e+05	5.48e+02	8.6e+02	9.75e+05	7.92e+02	1.2e+03
23	13C-2,3,4,6,7,8-HxCDF	4.29e+05	5.48e+02	7.8e+02	8.27e+05	7.92e+02	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	3.23e+05	5.48e+02	5.9e+02	6.43e+05	7.92e+02	8.1e+02
25	13C-1,2,3,4,6,7,8-HpCDF	3.23e+05	1.23e+03	2.6e+02	7.03e+05	8.84e+02	7.9e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.36e+05	1.23e+03	1.9e+02	5.27e+05	8.84e+02	6.0e+02
27	13C-2,3,7,8-TCDD	2.59e+05	2.29e+03	1.1e+02	3.28e+05	1.10e+03	3.0e+02
28	13C-1,2,3,7,8-PeCDD	5.18e+05	7.52e+02	6.9e+02	3.38e+05	5.40e+02	6.3e+02
29	13C-1,2,3,4,7,8-HxCDD	5.36e+05	6.80e+02	7.9e+02	4.09e+05	7.48e+02	5.5e+02
30	13C-1,2,3,6,7,8-HxCDD	5.08e+05	6.80e+02	7.5e+02	4.06e+05	7.48e+02	5.4e+02
31	13C-1,2,3,4,6,7,8-HpCDD	4.66e+05	7.64e+02	6.1e+02	4.07e+05	5.48e+02	7.4e+02
32	13C-OCDD	4.35e+05	4.36e+02	1.0e+03	4.79e+05	7.84e+02	6.1e+02
33	13C-1,2,3,4-TCDD	6.36e+05	2.29e+03	2.8e+02	8.29e+05	1.10e+03	7.5e+02
34	13C-1,2,3,7,8,9-HxCDD	1.04e+06	6.80e+02	1.5e+03	7.76e+05	7.48e+02	1.0e+03
35	37Cl-2,3,7,8-TCDD	1.82e+05	8.44e+02	2.2e+02			

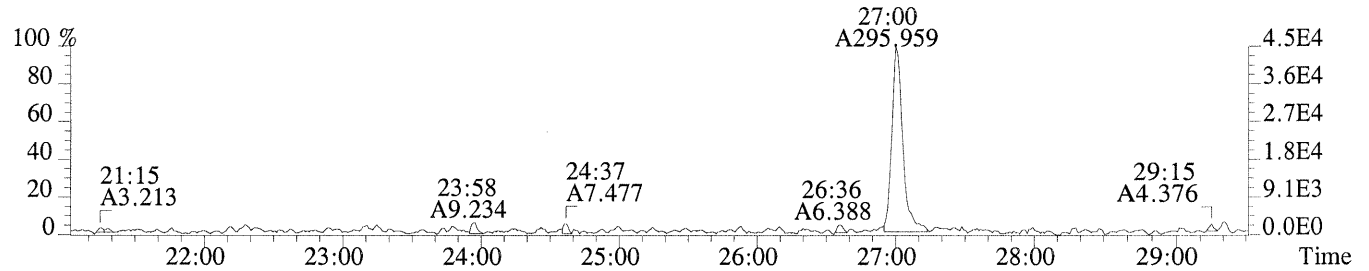
ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

XLSN

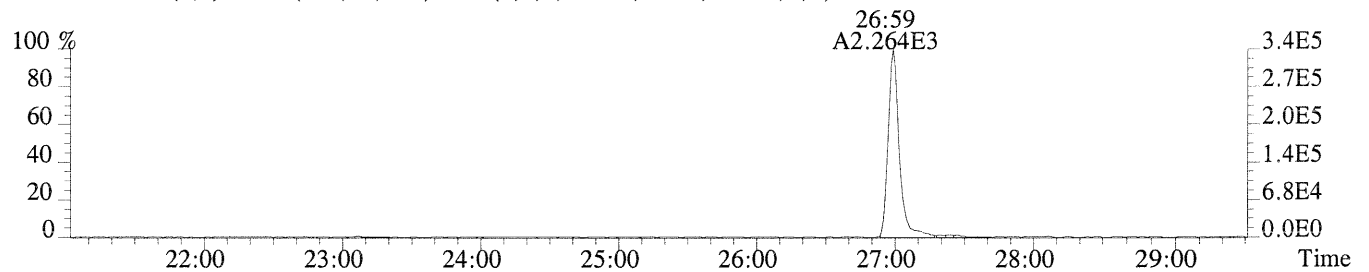
File:U150519 #1-608 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-02  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,536.0,1.00%,F,T)



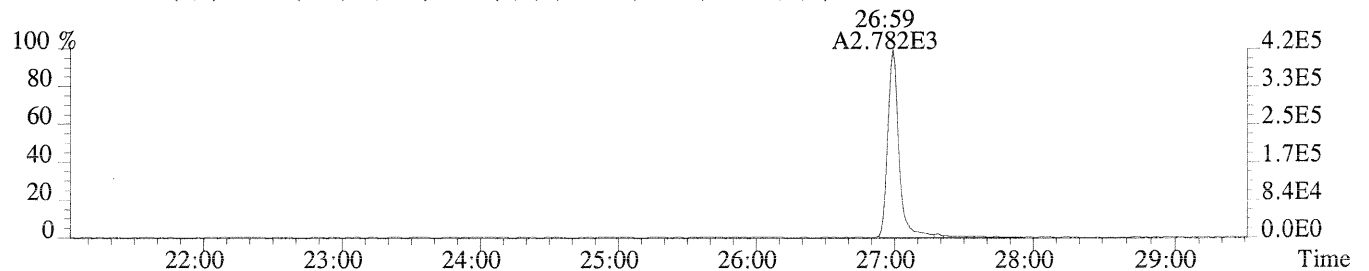
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)



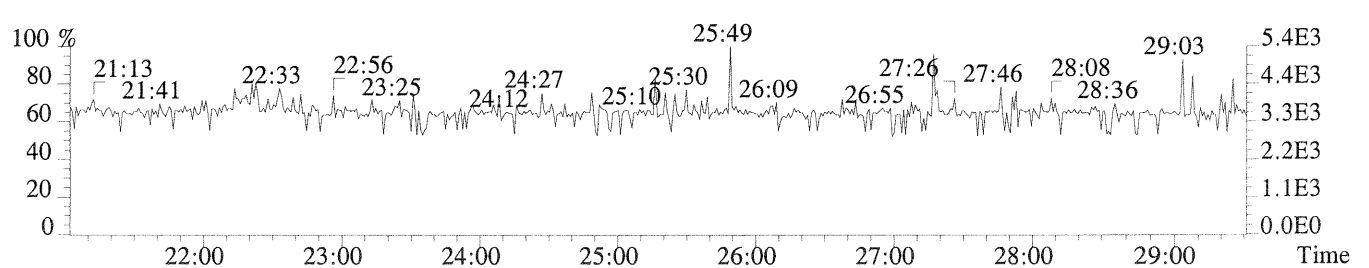
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



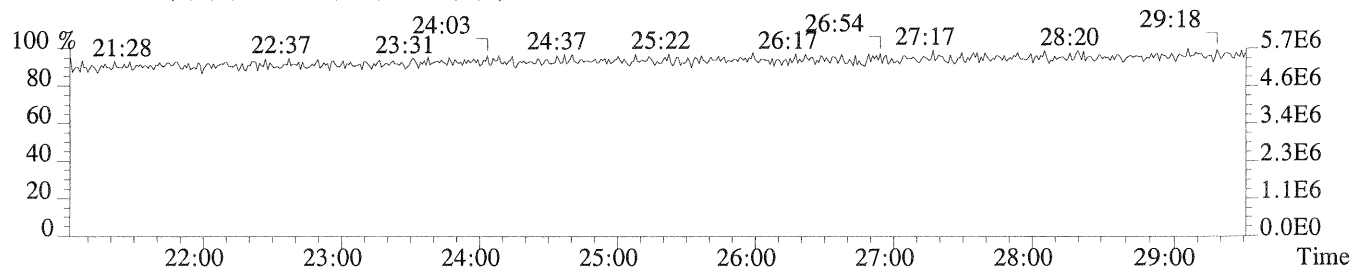
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



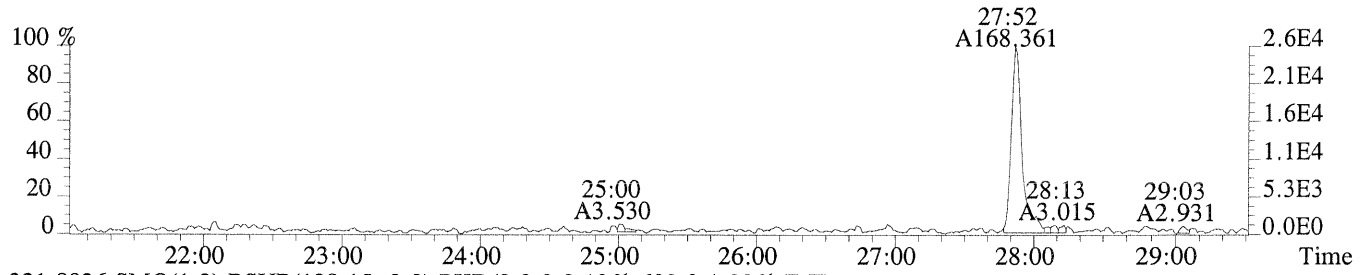
375.8364 PKD(5,3,5,100.0%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.0%,0.0,1.00%,F,F)



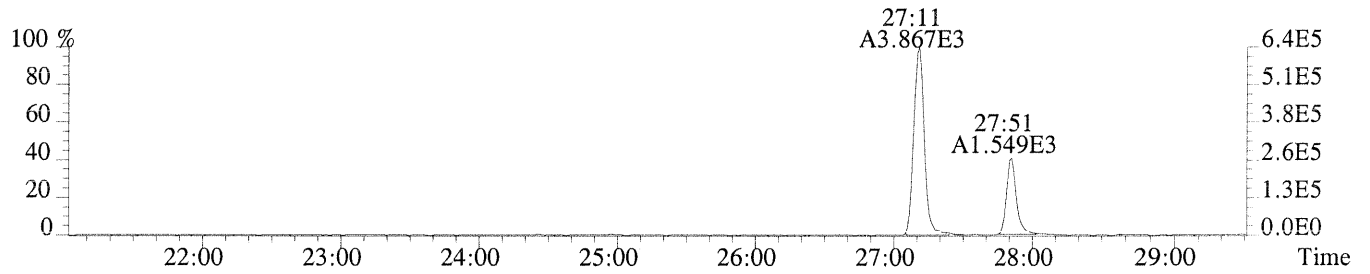
File:U150519 #1-608 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-02  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



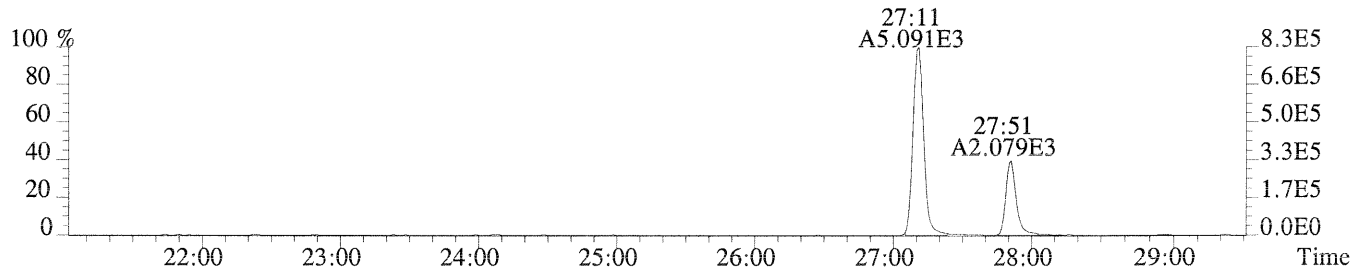
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



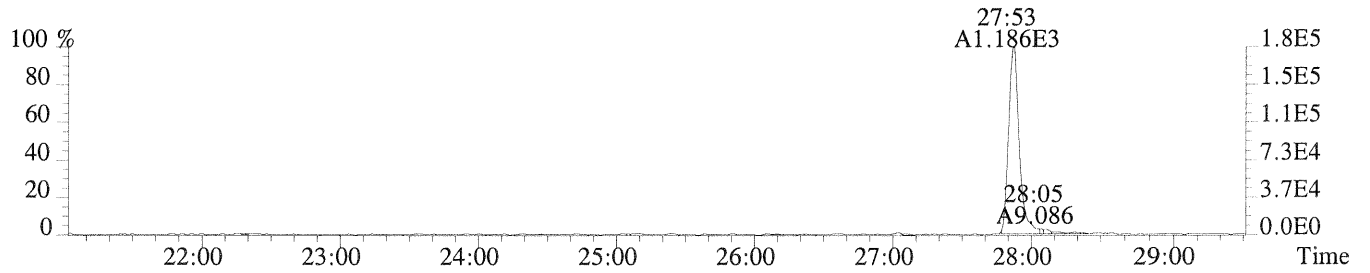
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2288.0,1.00%,F,T)



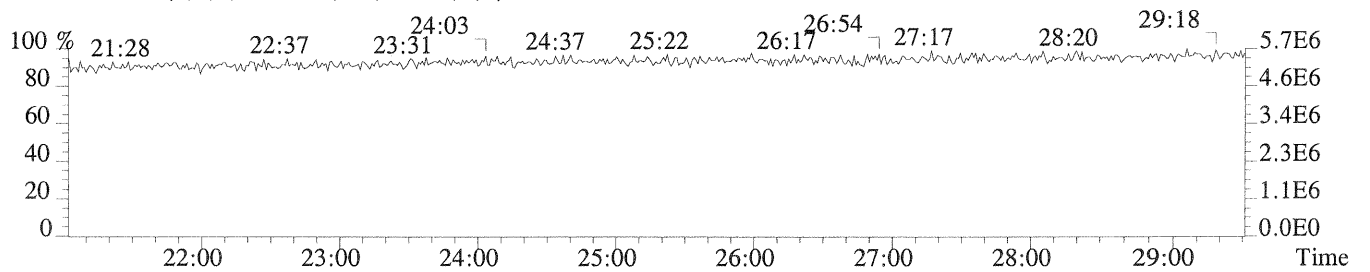
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1104.0,1.00%,F,T)

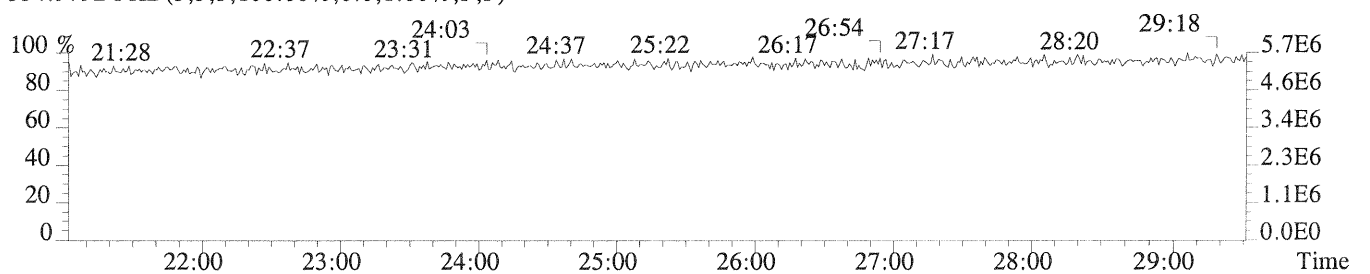
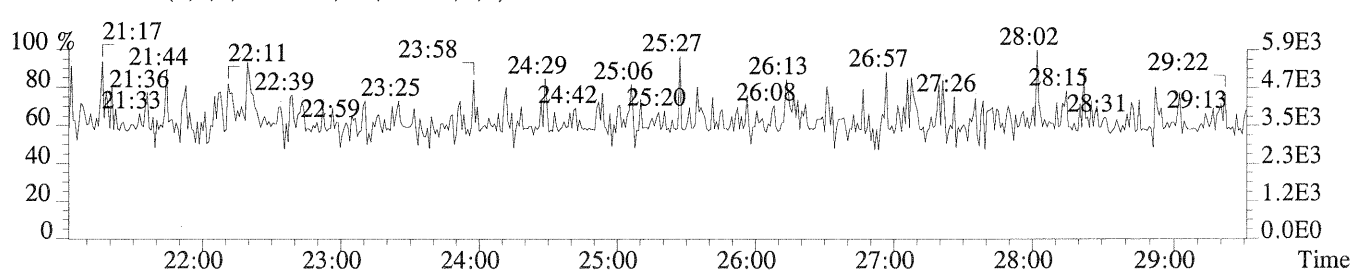
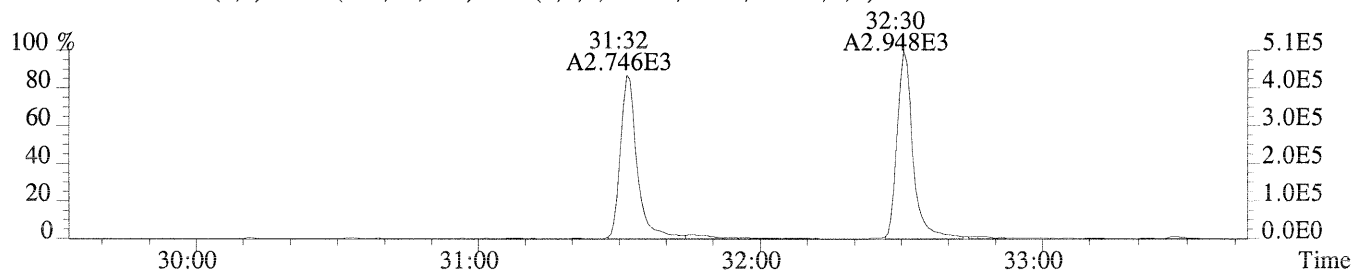
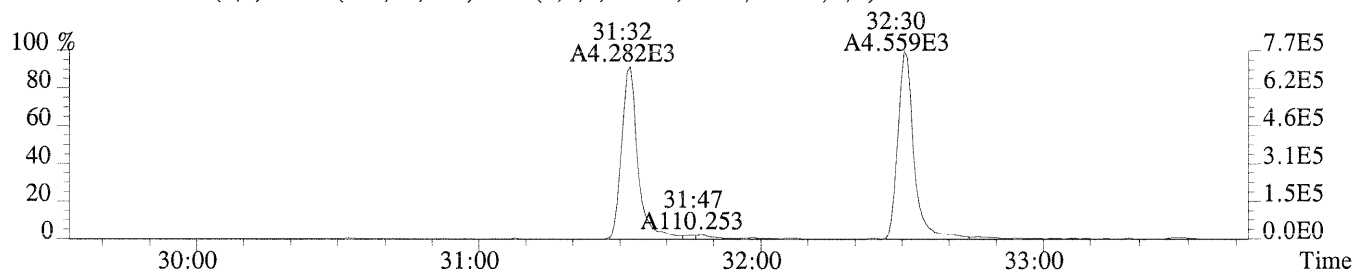
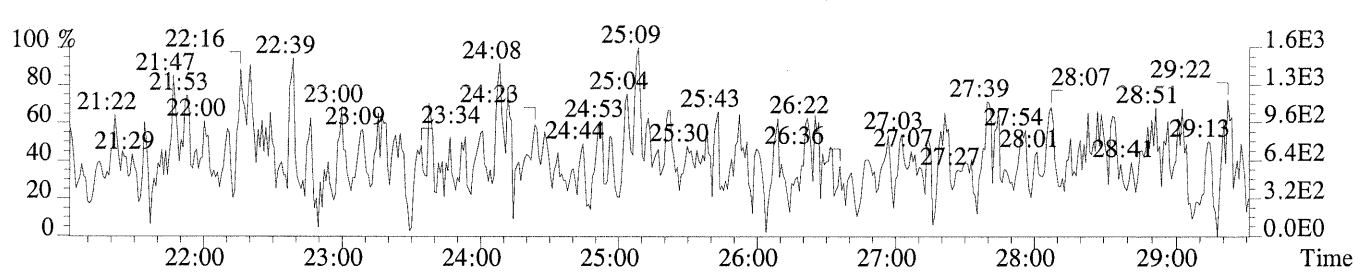
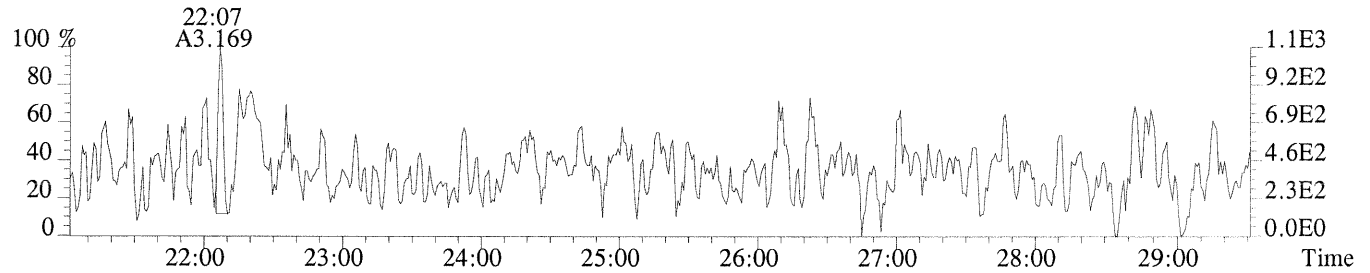


327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,T)

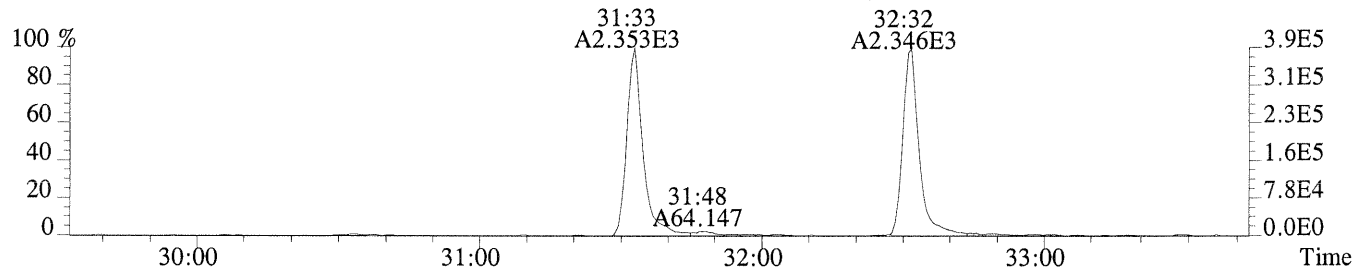


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

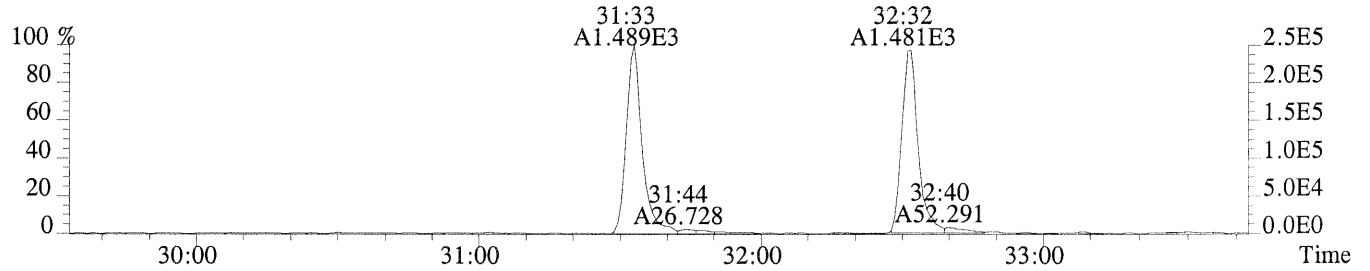




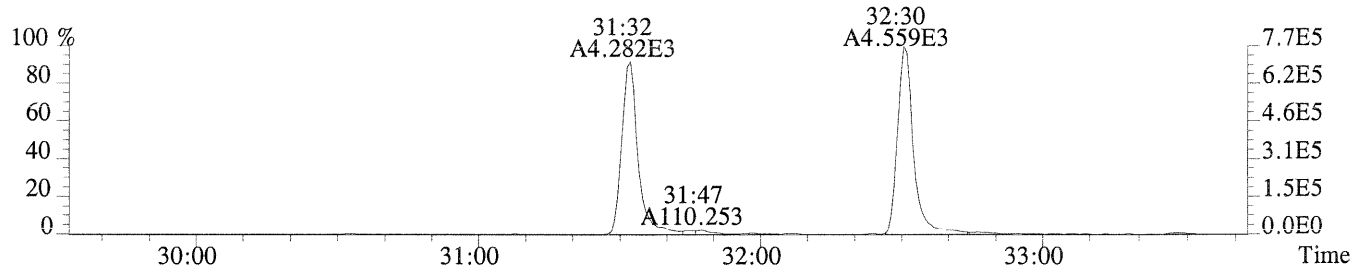
File:U150519 #1-378 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-02  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



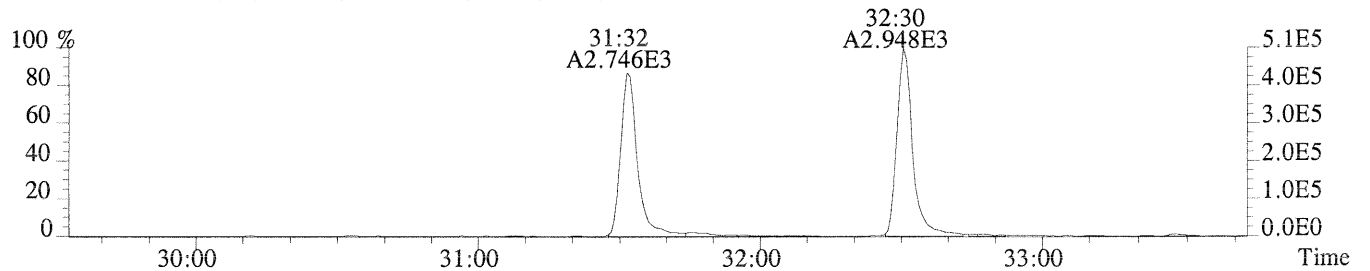
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



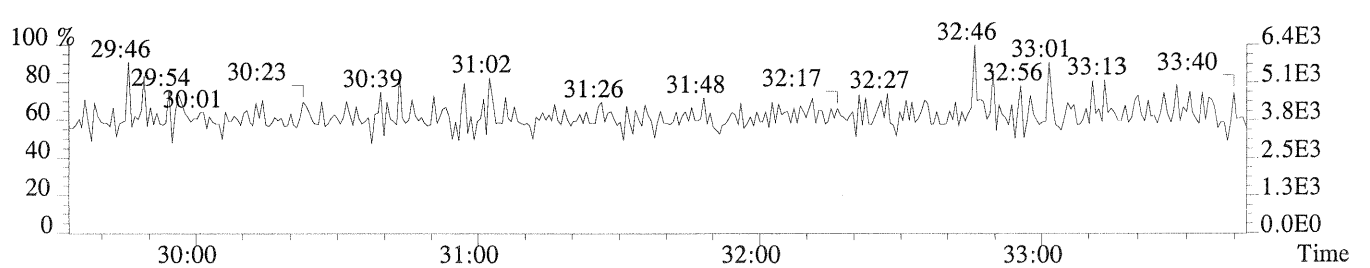
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



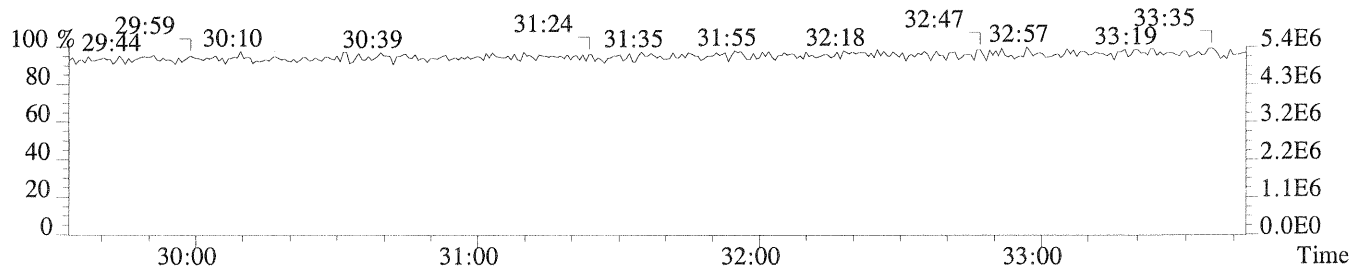
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)

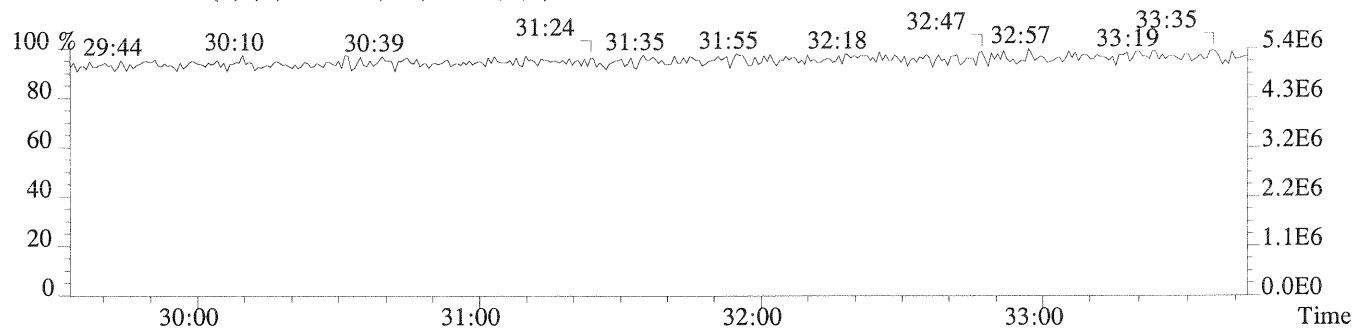
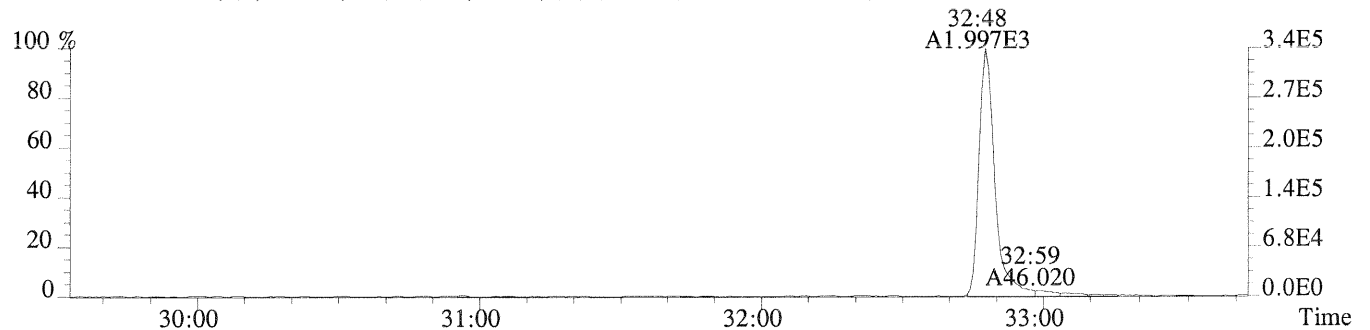
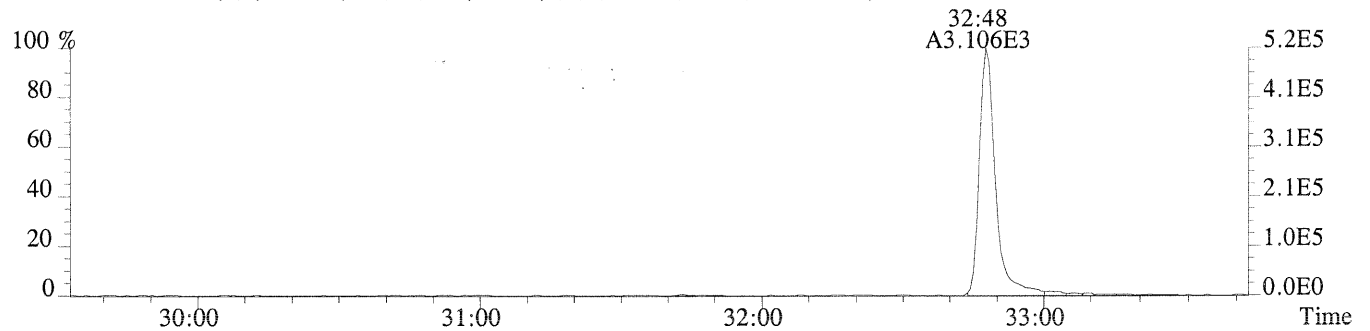
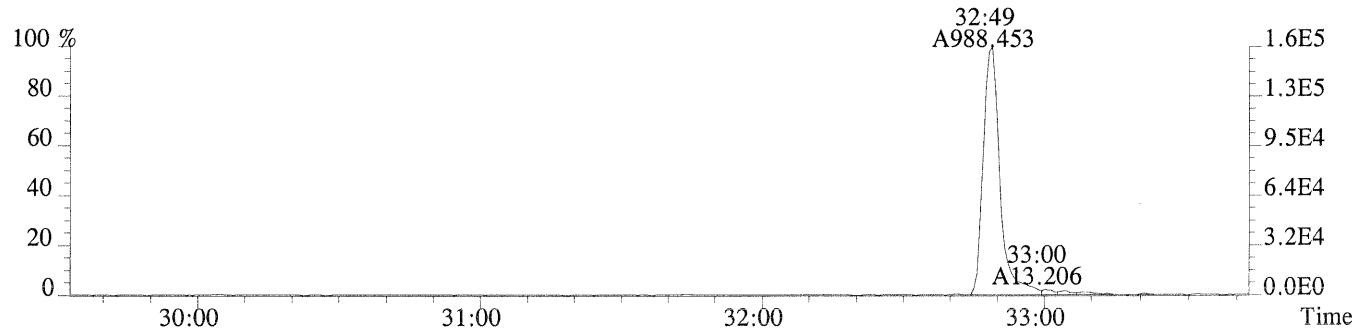
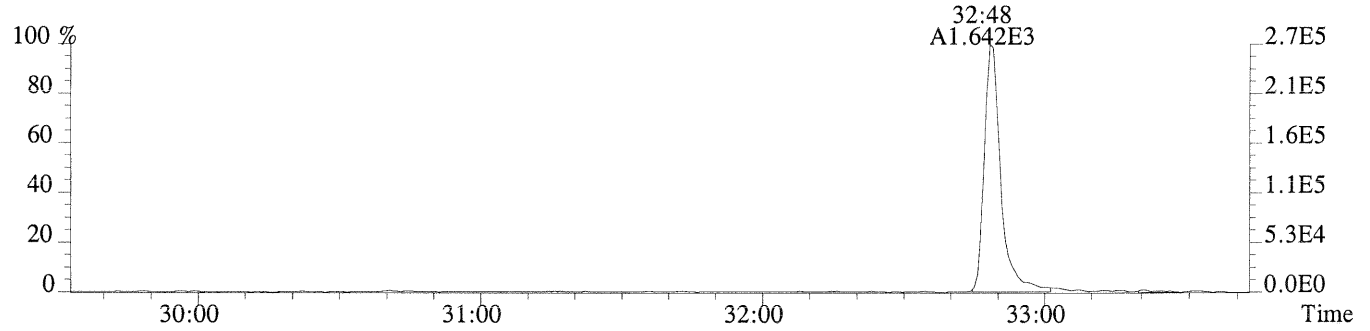


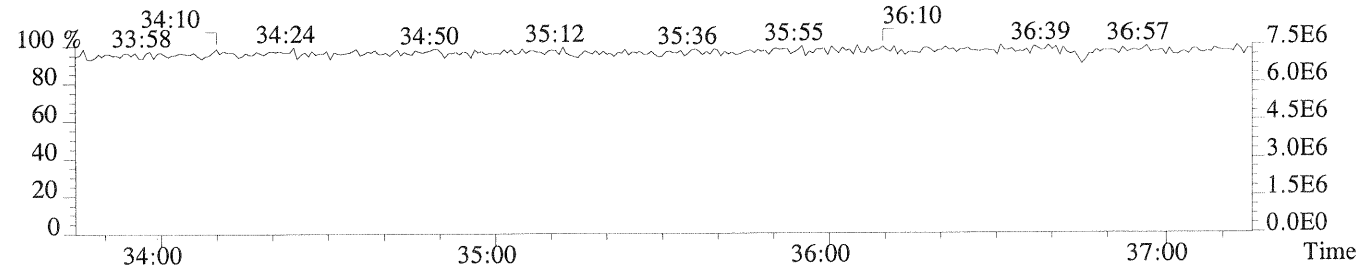
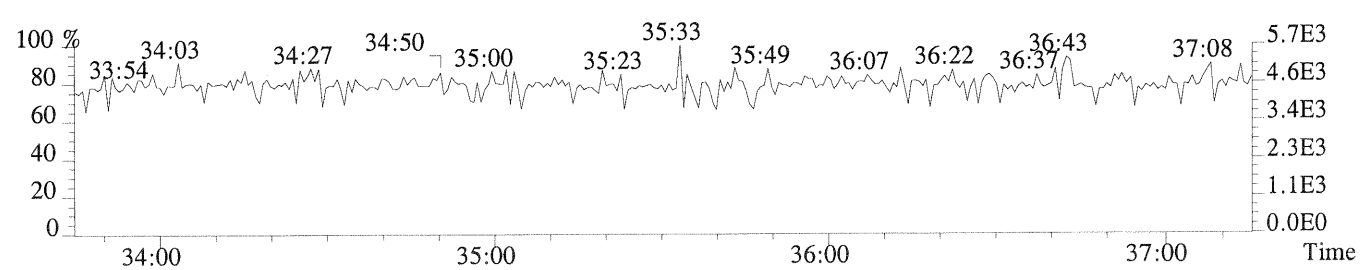
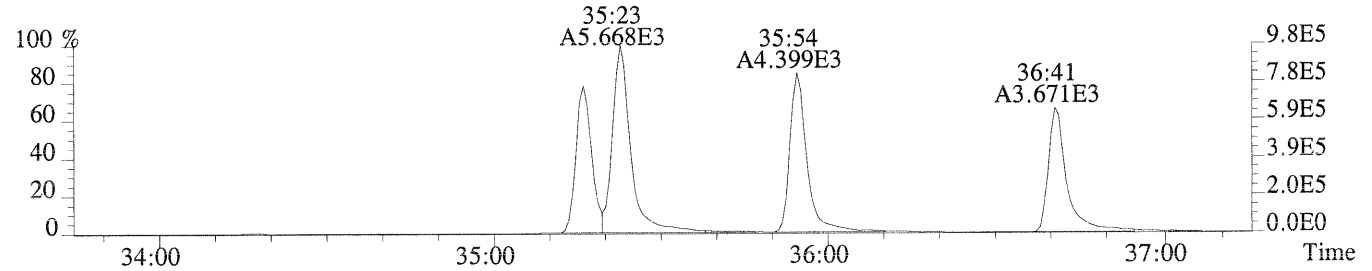
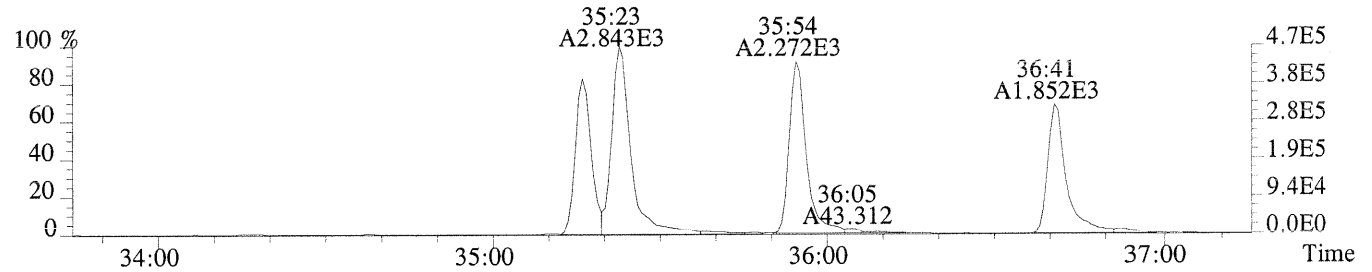
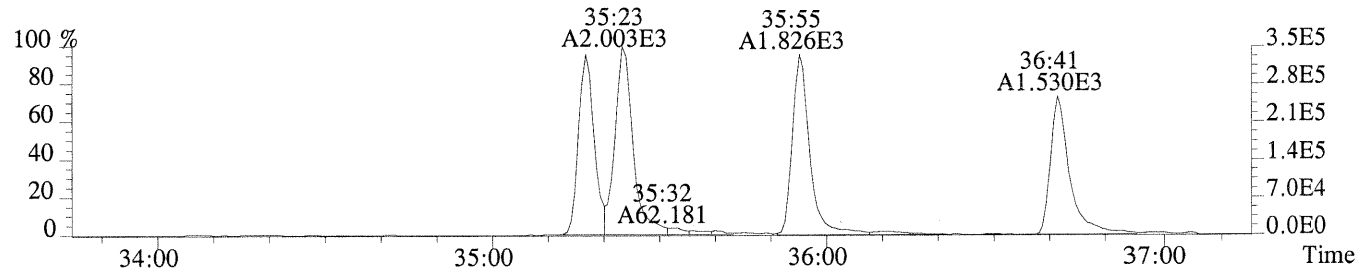
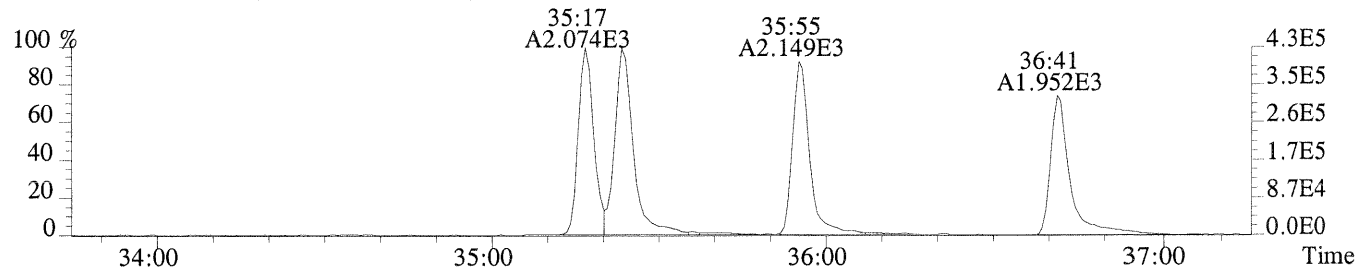
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



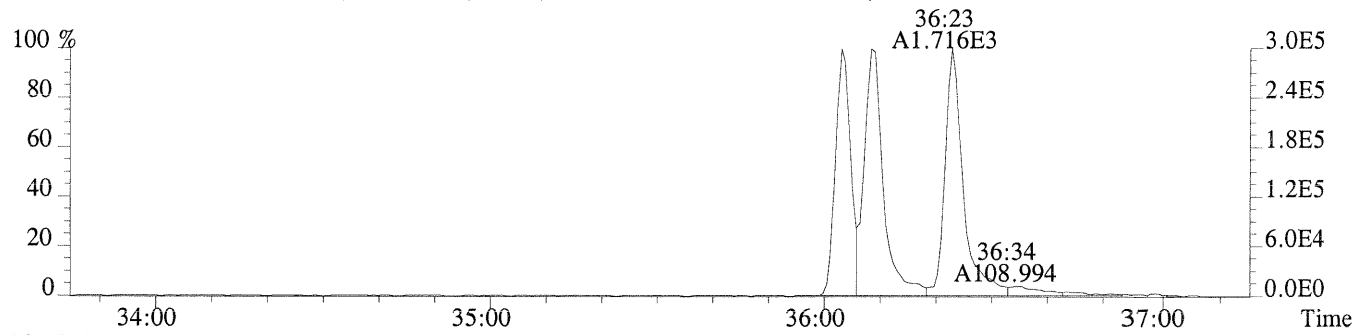
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



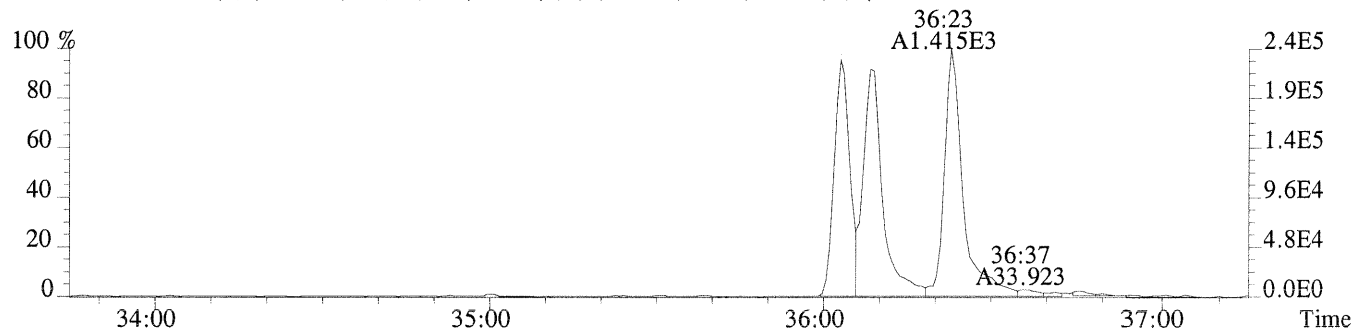




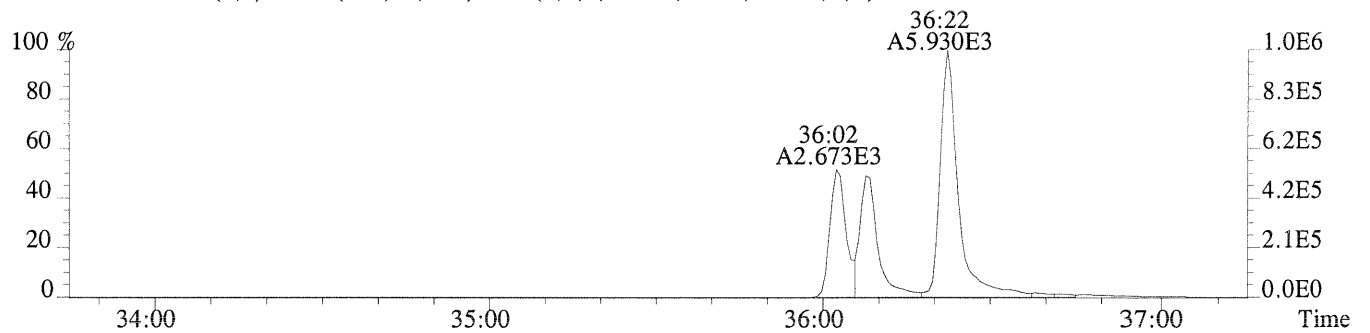
File:U150519 #1-319 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-02  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



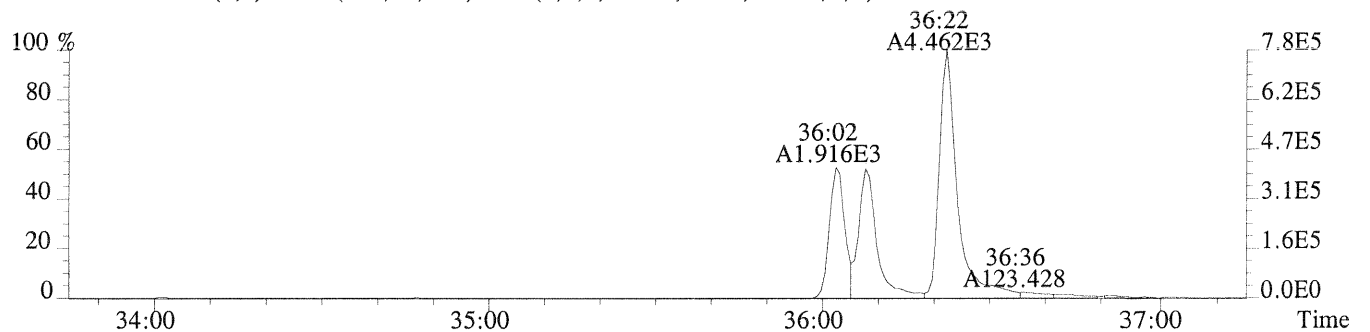
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



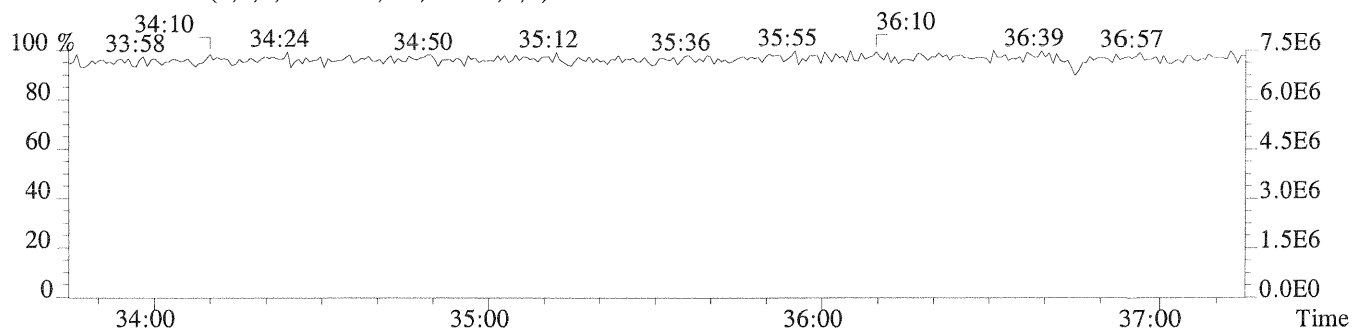
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,680.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,748.0,0.40%,F,T)

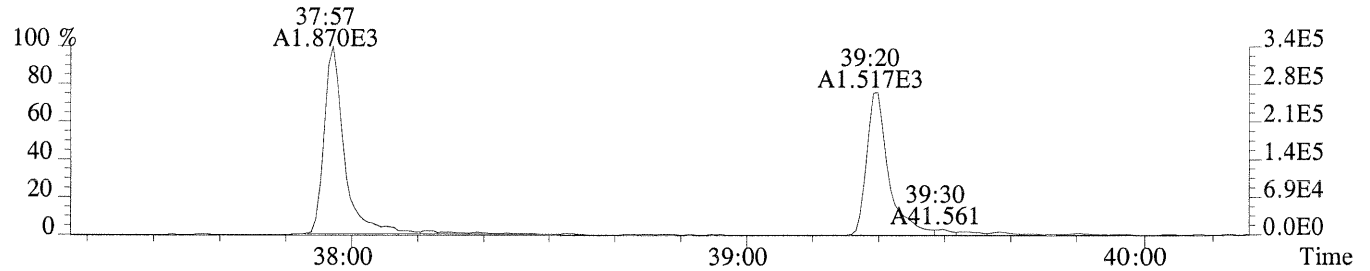


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

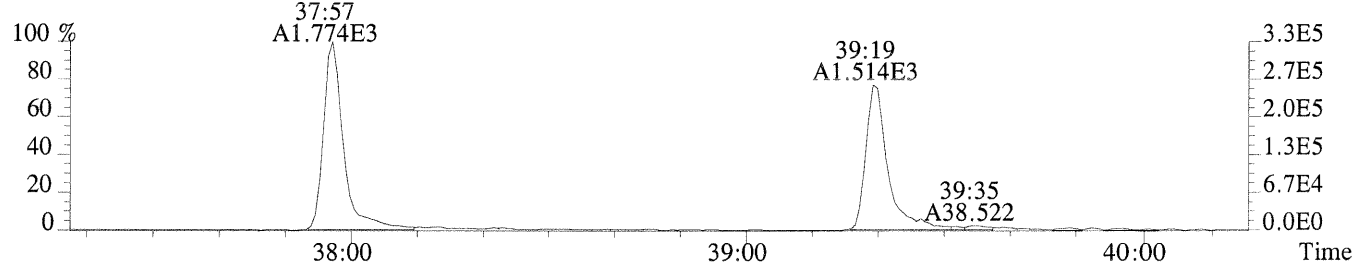




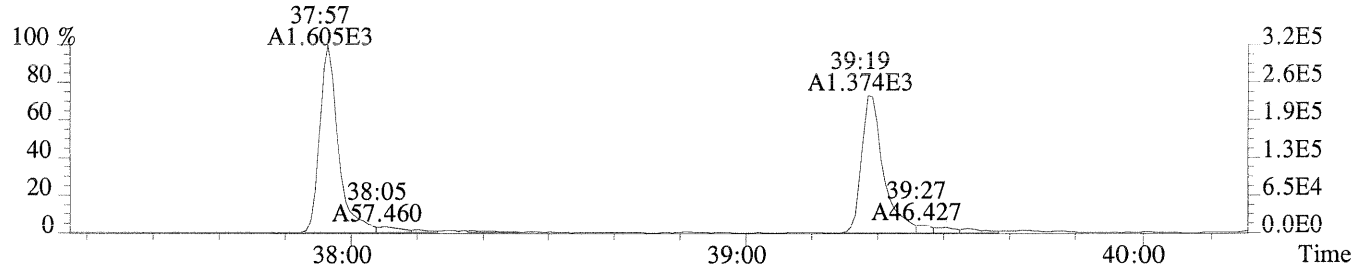
File:U150519 #1-270 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-02  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.50%,F,T)



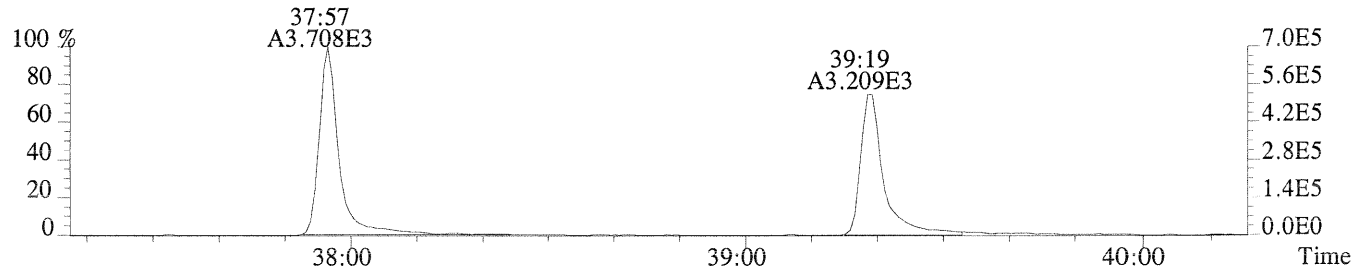
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.50%,F,T)



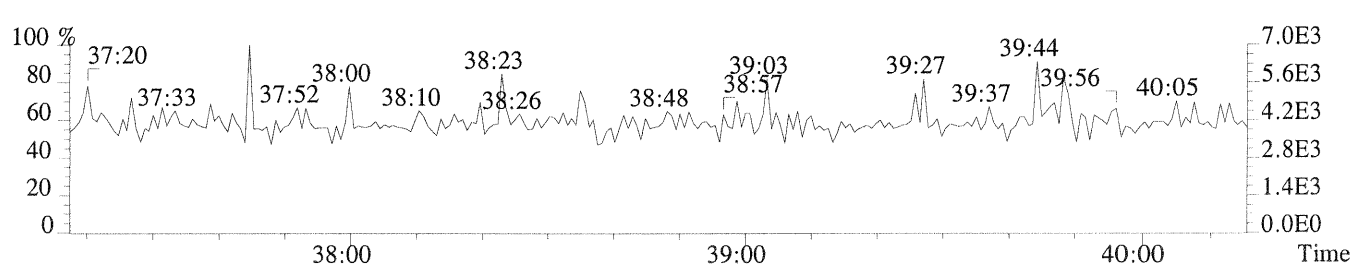
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.50%,F,T)



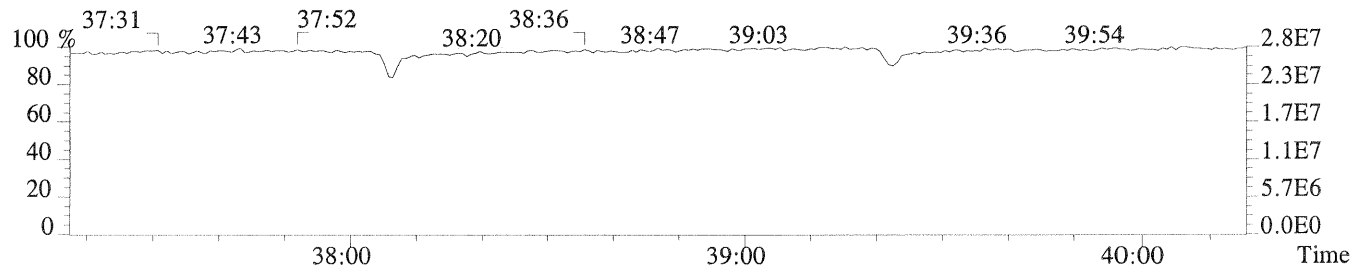
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.50%,F,T)

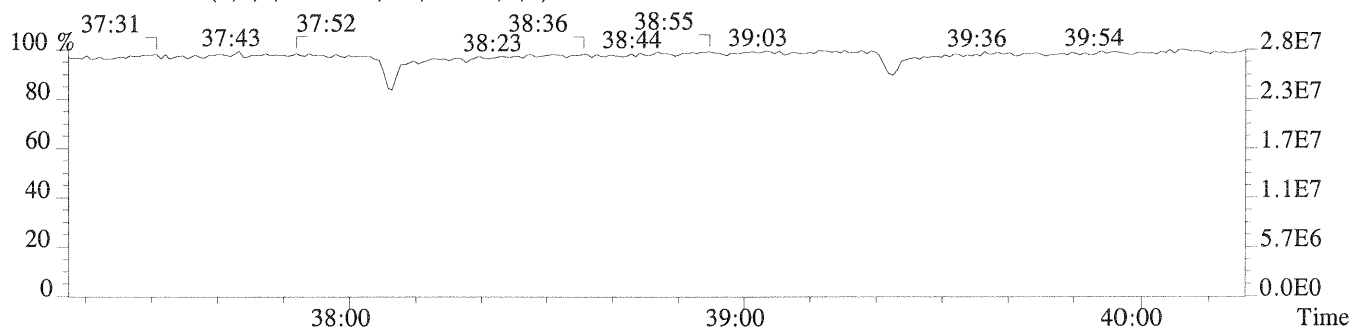
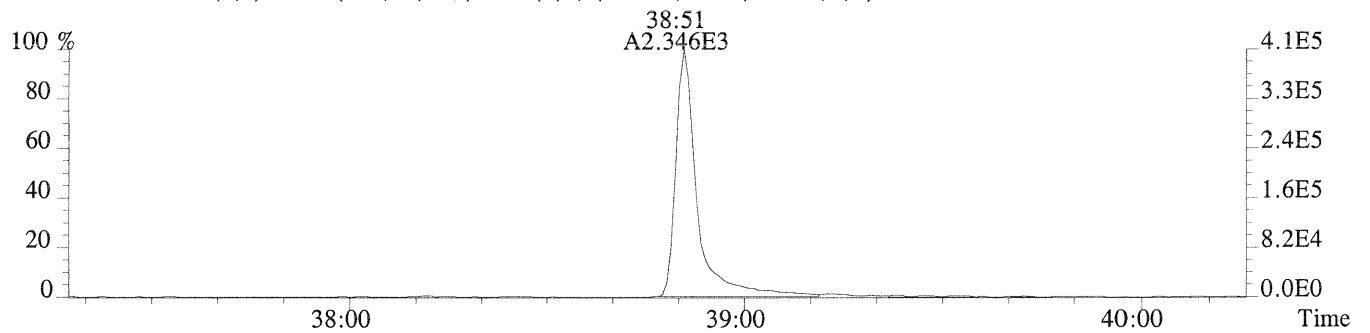
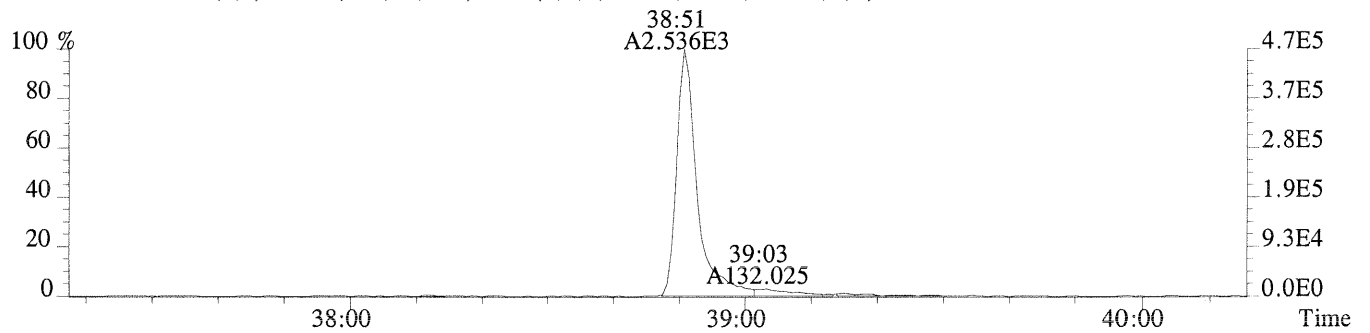
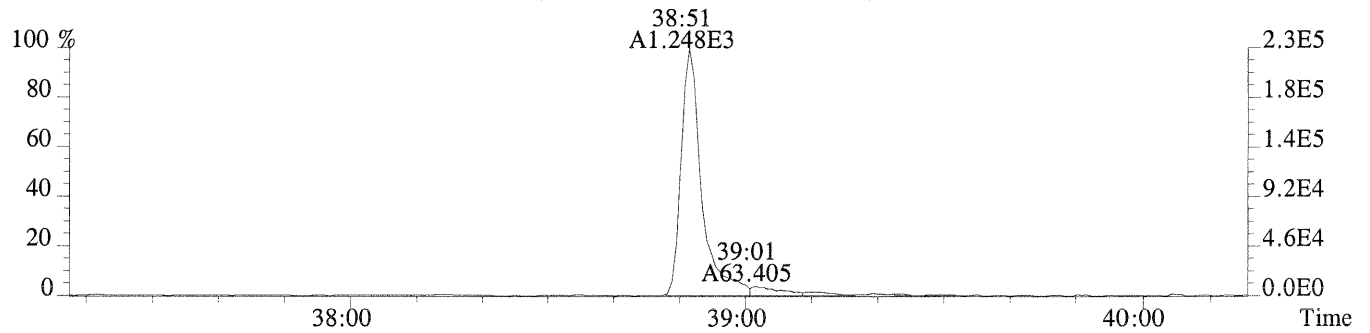
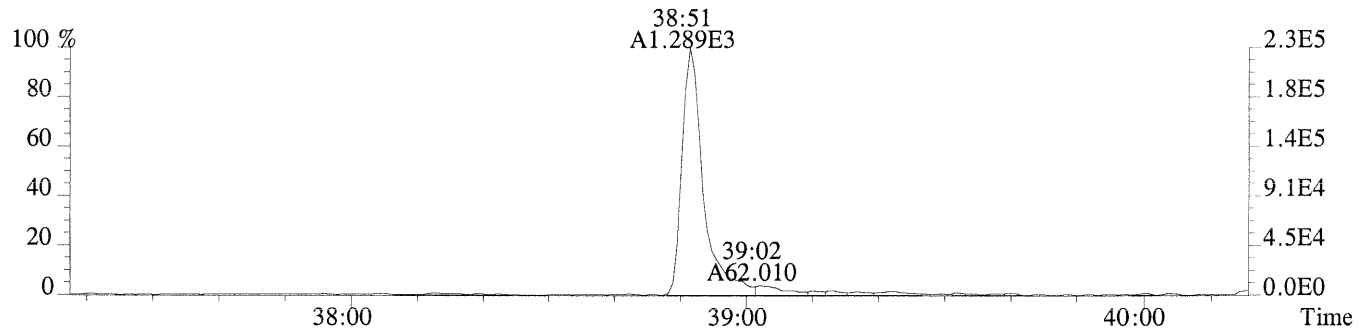


479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

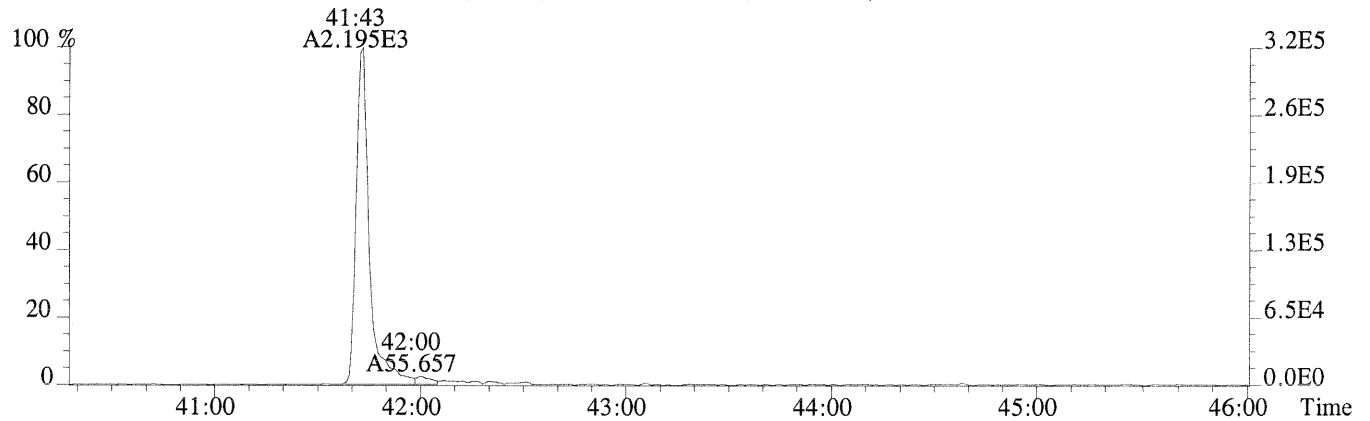




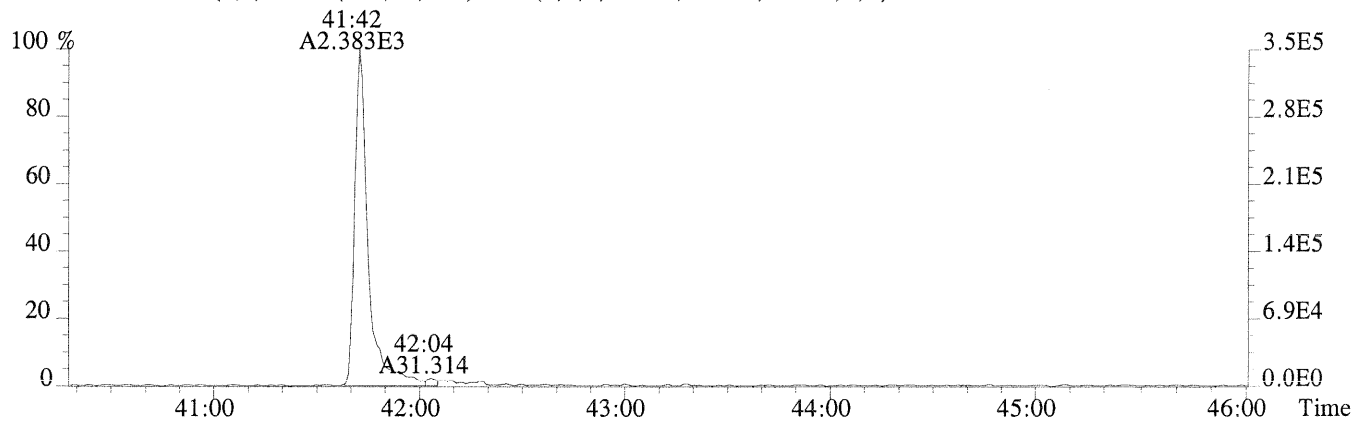
File:U150519 #1-519 Acq:23-AUG-2014 13:41:29 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:EQ1400478-02

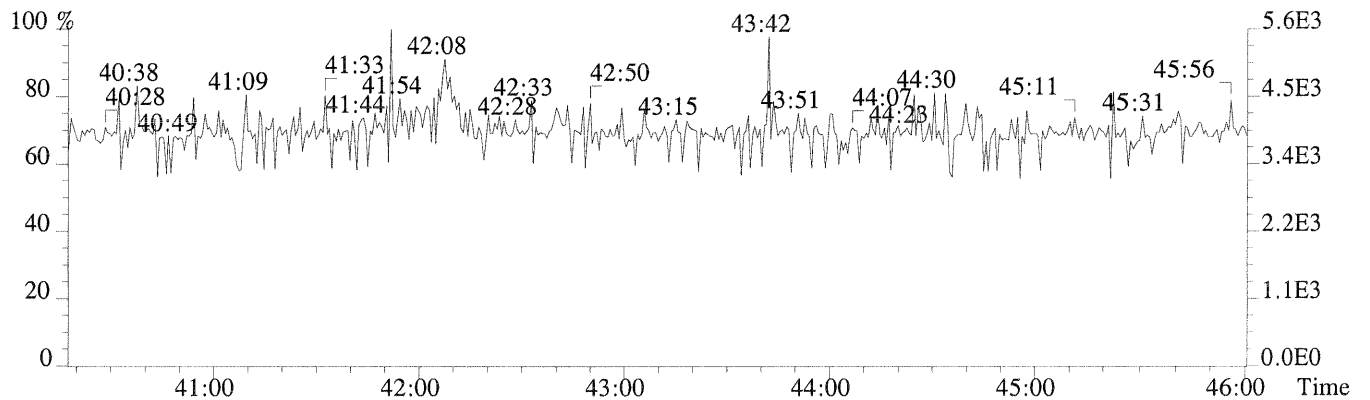
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,600.0,0.40%,F,T)



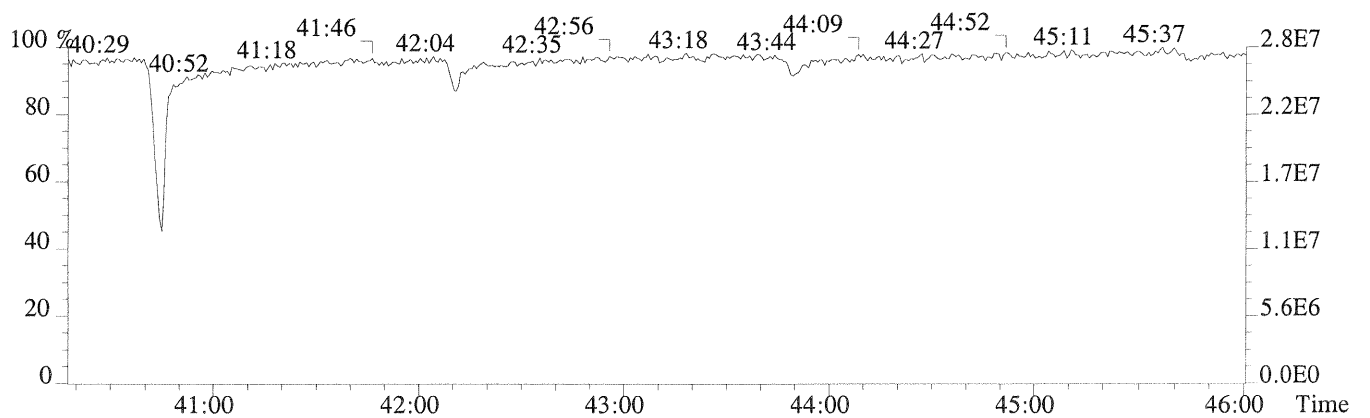
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)

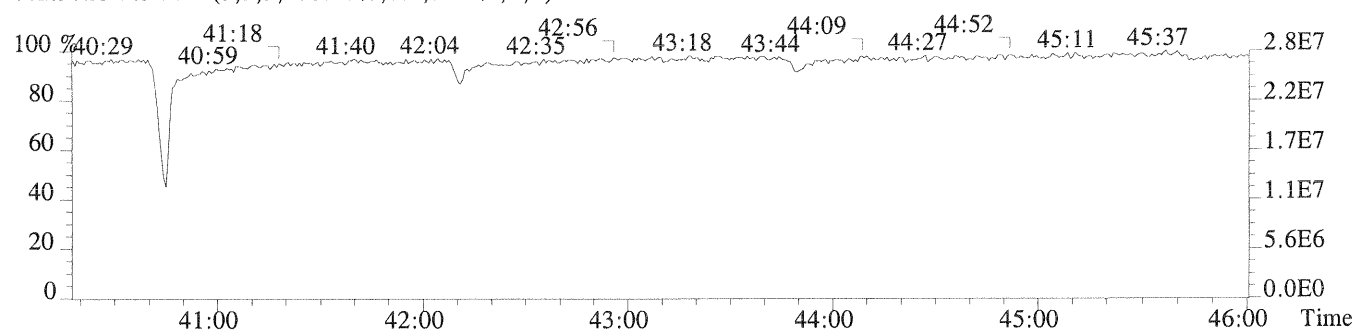
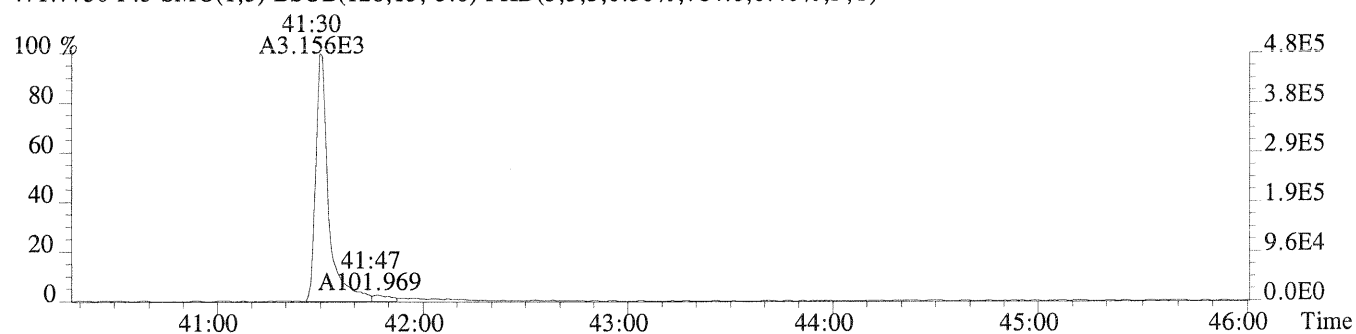
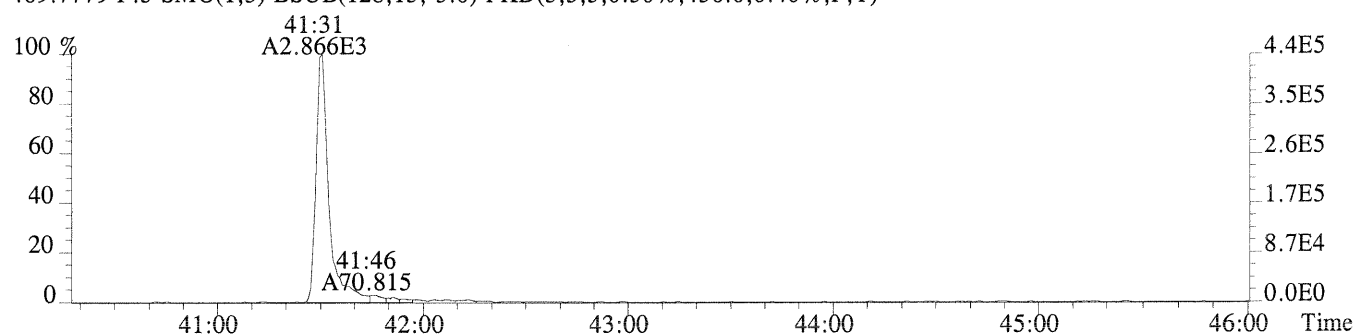
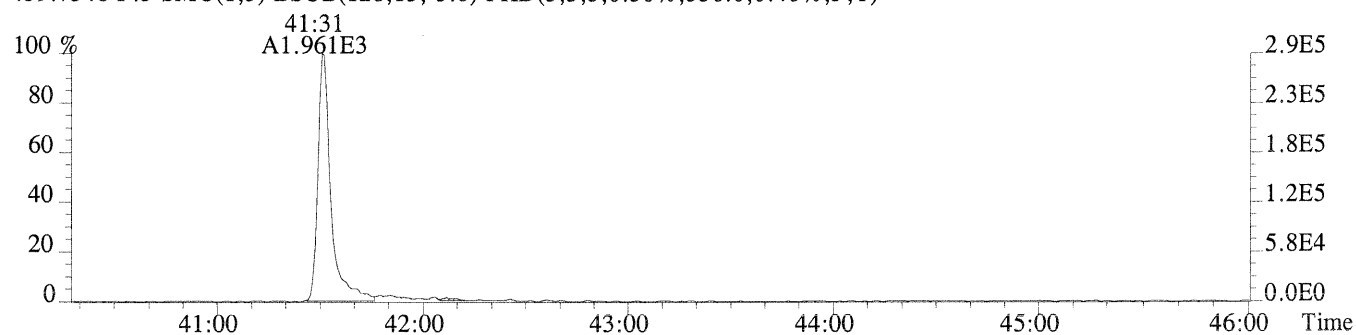
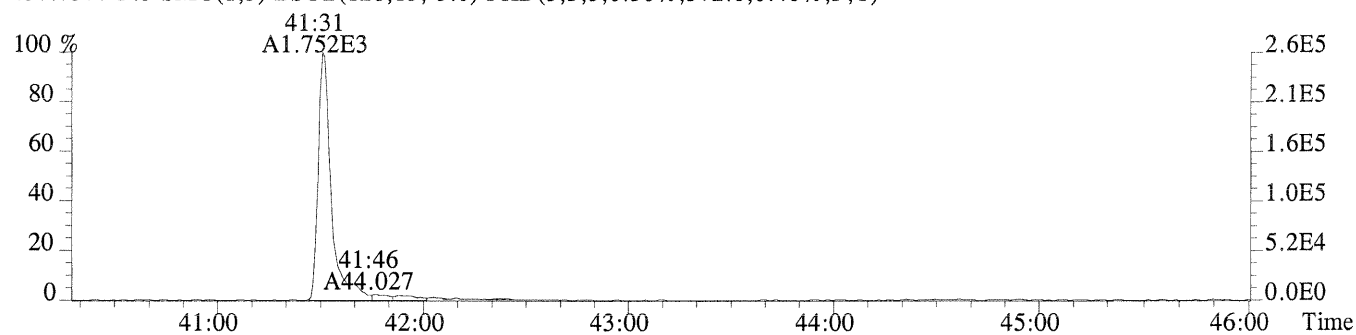


513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
Nv SYC14-AC R7

Run #11    Filename U150520    Samp: 1    Inj: 1    Acquired: 23-AUG-14 14:29:57  
Processed: 27-AUG-14 14:07:36    Sample ID: EQ1400478-03

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:00	2.517e+02	3.143e+02	0.80	yes	no	1.057
2 Unk	1,2,3,7,8-PeCDF	31:33	2.371e+03	1.548e+03	1.53	yes	no	1.020
3 Unk	2,3,4,7,8-PeCDF	32:31	2.357e+03	1.512e+03	1.56	yes	no	0.979
4 Unk	1,2,3,4,7,8-HxCDF	35:17	2.103e+03	1.603e+03	1.31	yes	no	1.236
5 Unk	1,2,3,6,7,8-HxCDF	35:23	2.528e+03	1.949e+03	1.30	yes	no	1.149
6 Unk	2,3,4,6,7,8-HxCDF	35:55	2.152e+03	1.811e+03	1.19	yes	no	1.156
7 Unk	1,2,3,7,8,9-HxCDF	36:41	1.859e+03	1.523e+03	1.22	yes	no	1.180
8 Unk	1,2,3,4,6,7,8-HpCDF	37:57	1.725e+03	1.686e+03	1.02	yes	no	1.364
9 Unk	1,2,3,4,7,8,9-HpCDF	39:19	1.514e+03	1.387e+03	1.09	yes	no	1.317
10 Unk	OCDF	41:42	2.147e+03	2.455e+03	0.87	yes	no	1.466
11 Unk	2,3,7,8-TCDD	27:51	1.624e+02	2.121e+02	0.77	yes	no	0.972
12 Unk	1,2,3,7,8-PeCDD	32:48	1.680e+03	1.004e+03	1.67	yes	yes	1.120
13 Unk	1,2,3,4,7,8-HxCDD	36:03	1.373e+03	1.115e+03	1.23	yes	no	1.330
14 Unk	1,2,3,6,7,8-HxCDD	36:08	1.686e+03	1.337e+03	1.26	yes	yes	1.250
15 Unk	1,2,3,7,8,9-HxCDD	36:23	1.723e+03	1.332e+03	1.29	yes	yes	1.395
16 Unk	1,2,3,4,6,7,8-HpCDD	38:51	1.223e+03	1.188e+03	1.03	yes	no	1.102
17 Unk	OCDD	41:31	1.749e+03	1.965e+03	0.89	yes	no	1.329
18 IS	13C-2,3,7,8-TCDF	26:59	2.371e+03	2.914e+03	0.81	yes	no	1.406
19 IS	13C-1,2,3,7,8-PeCDF	31:32	4.153e+03	2.709e+03	1.53	yes	no	1.870
20 IS	13C-2,3,4,7,8-PeCDF	32:30	4.456e+03	2.842e+03	1.57	yes	no	1.888
21 IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.824e+03	3.530e+03	0.52	yes	no	1.181
22 IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.585e+03	5.188e+03	0.50	yes	no	1.511
23 IS	13C-2,3,4,6,7,8-HxCDF	35:55	1.997e+03	4.180e+03	0.48	yes	no	1.346
24 IS	13C-1,2,3,7,8,9-HxCDF	36:41	1.767e+03	3.481e+03	0.51	yes	no	1.041
25 IS	13C-1,2,3,4,6,7,8-HpCDF	37:57	1.477e+03	3.305e+03	0.45	yes	no	1.006
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:19	1.221e+03	2.868e+03	0.43	yes	no	0.732
27 IS	13C-2,3,7,8-TCDD	27:50	1.594e+03	2.099e+03	0.76	yes	no	0.980
28 IS	13C-1,2,3,7,8-PeCDD	32:48	3.064e+03	1.948e+03	1.57	yes	no	1.075
29 IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.347e+03	1.845e+03	1.27	yes	no	0.773
30 IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.759e+03	2.139e+03	1.29	yes	no	0.975
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:51	2.273e+03	1.895e+03	1.20	yes	no	0.845
32 IS	13C-OCDD	41:31	2.487e+03	2.767e+03	0.90	yes	no	0.501
33 RS/RT	13C-1,2,3,4-TCDD	27:11	3.551e+03	4.737e+03	0.75	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	5.573e+03	4.295e+03	1.30	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	27:52	1.242e+03				no	0.955

OCDD =  $(1.749e+03 + 1.965e+03) \times 4000 \text{ pg} \times 1$   
 $(2.487e+03 + 2.767e+03) \times 6.991 \text{ g} \times / 100 \times 1.329$

*304 Nally*  
*08/25/14*

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1613RESPA

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 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-AC Rep.7

Run #11 Filename U150520 Samp: 1 Inj: 1 Acquired: 23-AUG-14 14:29:57  
 Processed: 27-AUG-14 14:07:361 LAB. ID: EQ1400478-03

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.04e+04	5.28e+02	7.7e+01	4.70e+04	1.18e+03	4.0e+01
2	1,2,3,7,8-PeCDF	3.60e+05	6.12e+02	5.9e+02	2.49e+05	8.08e+02	3.1e+02
3	2,3,4,7,8-PeCDF	4.10e+05	6.12e+02	6.7e+02	2.71e+05	8.08e+02	3.4e+02
4	1,2,3,4,7,8-HxCDF	4.16e+05	8.52e+02	4.9e+02	3.18e+05	6.48e+02	4.9e+02
5	1,2,3,6,7,8-HxCDF	4.43e+05	8.52e+02	5.2e+02	3.57e+05	6.48e+02	5.5e+02
6	2,3,4,6,7,8-HxCDF	4.14e+05	8.52e+02	4.9e+02	3.44e+05	6.48e+02	5.3e+02
7	1,2,3,7,8,9-HxCDF	3.21e+05	8.52e+02	3.8e+02	2.68e+05	6.48e+02	4.1e+02
8	1,2,3,4,6,7,8-HpCDF	3.31e+05	6.20e+02	5.3e+02	3.23e+05	1.37e+03	2.4e+02
9	1,2,3,4,7,8,9-HpCDF	2.68e+05	6.20e+02	4.3e+02	2.47e+05	1.37e+03	1.8e+02
10	OCDF	3.55e+05	7.20e+02	4.9e+02	3.86e+05	7.88e+02	4.9e+02
11	2,3,7,8-TCDD	2.44e+04	5.84e+02	4.2e+01	3.67e+04	5.24e+02	7.0e+01
12	1,2,3,7,8-PeCDD	2.93e+05	9.24e+02	3.2e+02	1.69e+05	4.52e+02	3.7e+02
13	1,2,3,4,7,8-HxCDD	2.93e+05	5.32e+02	5.5e+02	2.45e+05	6.84e+02	3.6e+02
14	1,2,3,6,7,8-HxCDD	2.94e+05	5.32e+02	5.5e+02	2.43e+05	6.84e+02	3.5e+02
15	1,2,3,7,8,9-HxCDD	2.97e+05	5.32e+02	5.6e+02	2.27e+05	6.84e+02	3.3e+02
16	1,2,3,4,6,7,8-HpCDD	2.34e+05	5.36e+02	4.4e+02	2.24e+05	6.00e+02	3.7e+02
17	OCDD	2.84e+05	6.32e+02	4.5e+02	3.11e+05	5.20e+02	6.0e+02
18	13C-2,3,7,8-TCDF	3.57e+05	7.52e+02	4.7e+02	4.37e+05	8.60e+02	5.1e+02
19	13C-1,2,3,7,8-PeCDF	6.80e+05	5.36e+02	1.3e+03	4.39e+05	5.52e+02	8.0e+02
20	13C-2,3,4,7,8-PeCDF	7.90e+05	5.36e+02	1.5e+03	5.10e+05	5.52e+02	9.2e+02
21	13C-1,2,3,4,7,8-HxCDF	3.59e+05	7.40e+02	4.9e+02	6.97e+05	6.76e+02	1.0e+03
22	13C-1,2,3,6,7,8-HxCDF	4.72e+05	7.40e+02	6.4e+02	9.36e+05	6.76e+02	1.4e+03
23	13C-2,3,4,6,7,8-HxCDF	4.04e+05	7.40e+02	5.5e+02	7.84e+05	6.76e+02	1.2e+03
24	13C-1,2,3,7,8,9-HxCDF	3.22e+05	7.40e+02	4.4e+02	6.17e+05	6.76e+02	9.1e+02
25	13C-1,2,3,4,6,7,8-HpCDF	2.95e+05	1.20e+03	2.5e+02	6.21e+05	6.44e+02	9.6e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.23e+05	1.20e+03	1.8e+02	4.95e+05	6.44e+02	7.7e+02
27	13C-2,3,7,8-TCDD	2.66e+05	2.38e+03	1.1e+02	3.52e+05	1.03e+03	3.4e+02
28	13C-1,2,3,7,8-PeCDD	5.32e+05	6.56e+02	8.1e+02	3.50e+05	6.16e+02	5.7e+02
29	13C-1,2,3,4,7,8-HxCDD	5.16e+05	5.76e+02	9.0e+02	3.99e+05	5.12e+02	7.8e+02
30	13C-1,2,3,6,7,8-HxCDD	4.86e+05	5.76e+02	8.4e+02	3.84e+05	5.12e+02	7.5e+02
31	13C-1,2,3,4,6,7,8-HpCDD	4.29e+05	6.36e+02	6.7e+02	3.61e+05	5.56e+02	6.5e+02
32	13C-OCDD	3.97e+05	5.32e+02	7.5e+02	4.27e+05	8.28e+02	5.2e+02
33	13C-1,2,3,4-TCDD	5.74e+05	2.38e+03	2.4e+02	7.61e+05	1.03e+03	7.4e+02
34	13C-1,2,3,7,8,9-HxCDD	9.61e+05	5.76e+02	1.7e+03	7.64e+05	5.12e+02	1.5e+03
35	37Cl-2,3,7,8-TCDD	2.01e+05	7.08e+02	2.8e+02			

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XLSN

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 36      Totals Name: Total Tetra-Furans

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

Mass: 303.9020    305.8990      Tot Response: 5.66e+02    RRF: 1.057

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	27:00	2.52e+02	3.14e+02	0.80	yes	5.66e+02	2,3,7,8-TCDF	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 37      Totals Name: Total Tetra-Dioxins

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 1

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

Mass: 319.8970    321.8940      Tot Response: 3.74e+02    RRF: 0.9718

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:51	1.62e+02	2.12e+02	0.77	yes	3.74e+02	2,3,7,8-TCDD	n      n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 40      Totals Name: Total Penta-Dioxins

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 2

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

Mass: 355.8550    357.8520      Tot Response: 2.68e+03    RRF: 1.120

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:48	1.68e+03	1.00e+03	1.67	yes	2.68e+03	1,2,3,7,8-PeCDD	n    y

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 41      Totals Name: Total Hexa-Furans

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 3

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

Mass: 373.8210    375.8180      Tot Response: 1.55e+04    RRF: 1.177

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	35:17	2.10e+03	1.60e+03	1.31	yes	3.71e+03	1,2,3,4,7,8-HxCDF	n	n
2	35:23	2.53e+03	1.95e+03	1.30	yes	4.48e+03	1,2,3,6,7,8-HxCDF	n	n
3	35:55	2.15e+03	1.81e+03	1.19	yes	3.96e+03	2,3,4,6,7,8-HxCDF	n	n
4	36:41	1.86e+03	1.52e+03	1.22	yes	3.38e+03	1,2,3,7,8,9-HxCDF	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: U150520 Sample: 1 Injection: 1 Function: 3

Llim: - Ulim: -

Acquired: 23-AUG-14 14:29:57 Processed: 27-AUG-14 14:07:36

Mass: 389.8160 391.8130 Tot Response: 8.57e+03 RRF: 1.284

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	36:03	1.37e+03	1.11e+03	1.23	yes	2.49e+03	1,2,3,4,7,8-HxCDD	n	n
2	36:08	1.69e+03	1.34e+03	1.26	yes	3.02e+03	1,2,3,6,7,8-HxCDD	n	y
3	36:23	1.72e+03	1.33e+03	1.29	yes	3.05e+03	1,2,3,7,8,9-HxCDD	n	y

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.η

Entry: 43      Totals Name: Total Hepta-Furans

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

Mass: 407.7820    409.7790      Tot Response: 6.31e+03    RRF: 1.345

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:57	1.73e+03	1.69e+03	1.02	yes	3.41e+03	1,2,3,4,6,7,8-HpCDF	n    n
2	39:19	1.51e+03	1.39e+03	1.09	yes	2.90e+03	1,2,3,4,7,8,9-HpCDF	n    n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 44      Totals Name: Total Hepta-Dioxins

Run: 11      File: U150520      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 23-AUG-14    14:29:57      Processed: 27-AUG-14 14:07:36

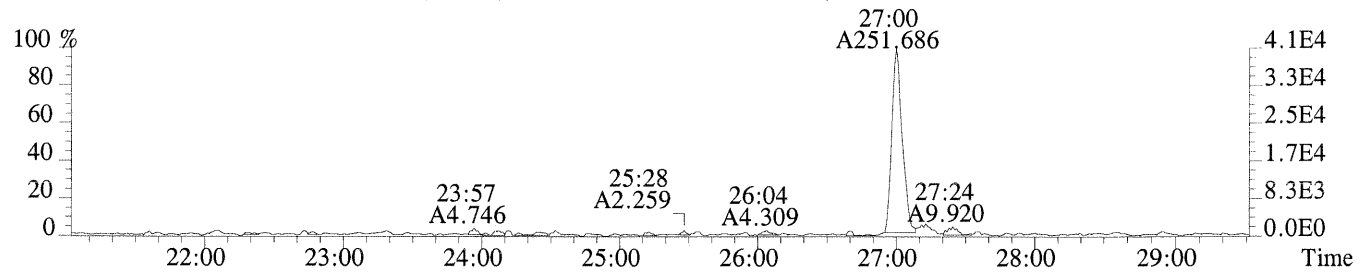
Mass: 423.7770    425.7740      Tot Response: 2.48e+03    RRF: 1.102

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:12	3.09e+01	3.45e+01	0.90	yes	6.54e+01	n	n
2	38:51	1.22e+03	1.19e+03	1.03	yes	2.41e+03	n	n

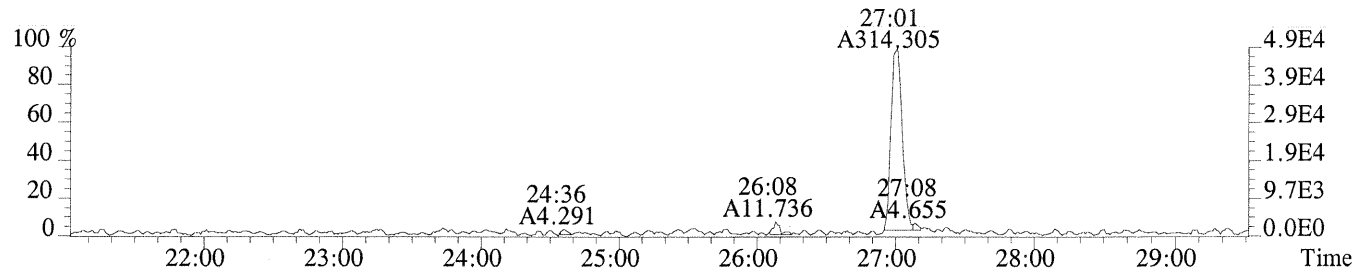
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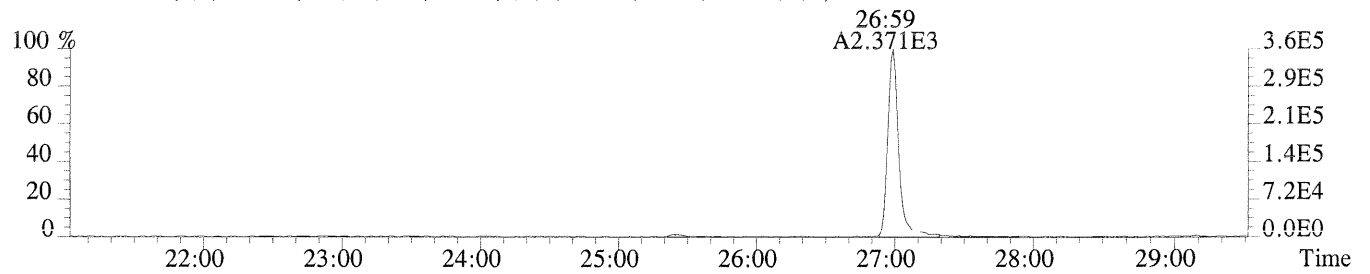
File:U150520 #1-608 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-03  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,T)



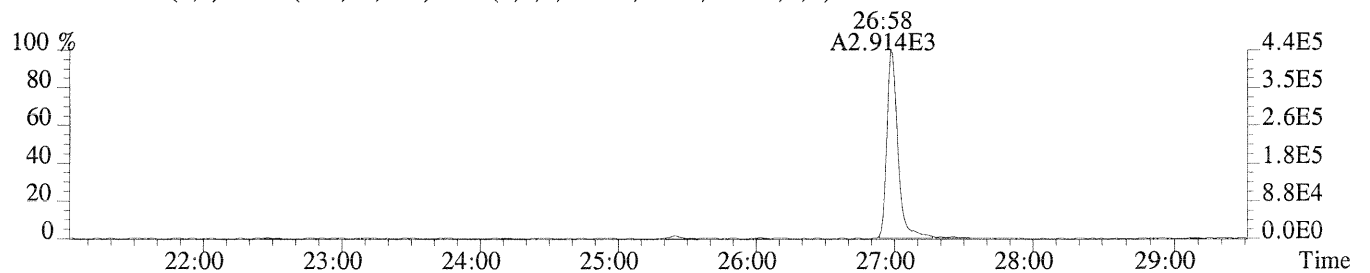
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1184.0,1.00%,F,T)



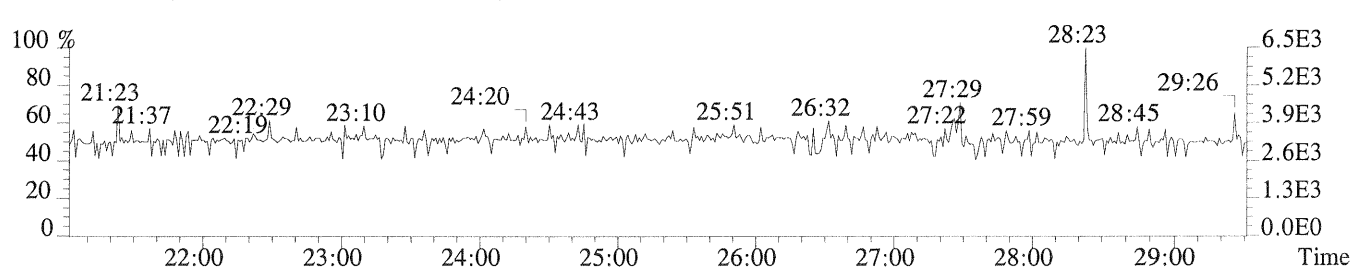
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)



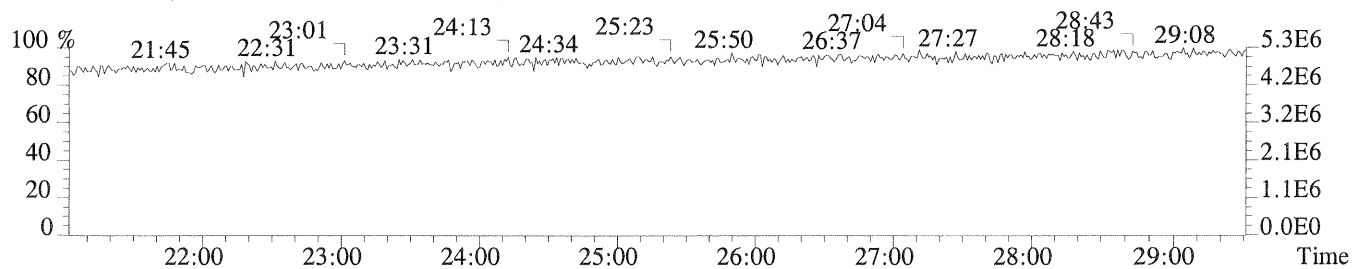
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)

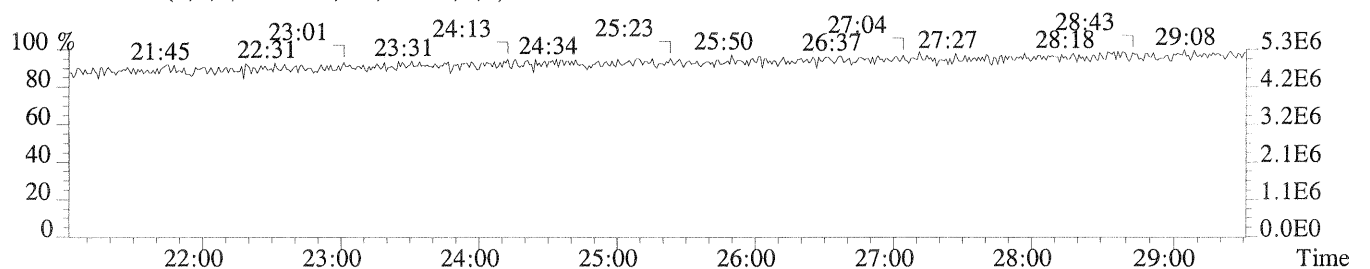
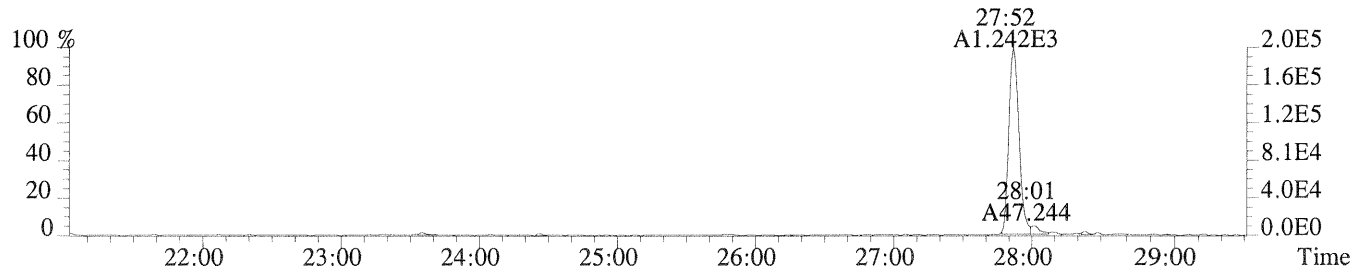
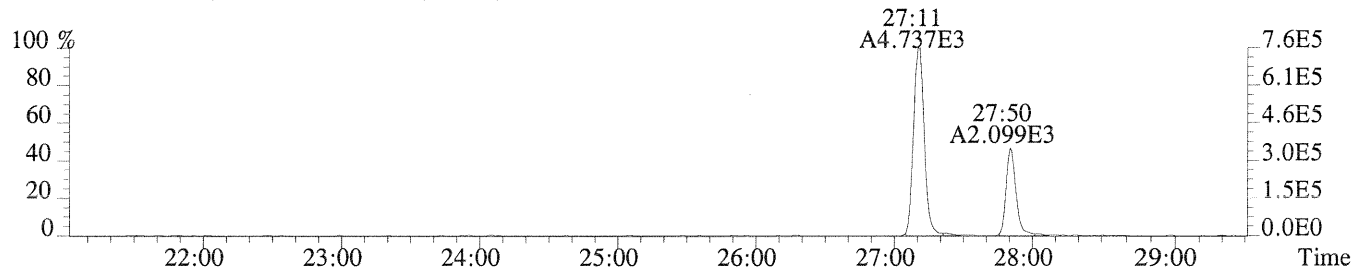
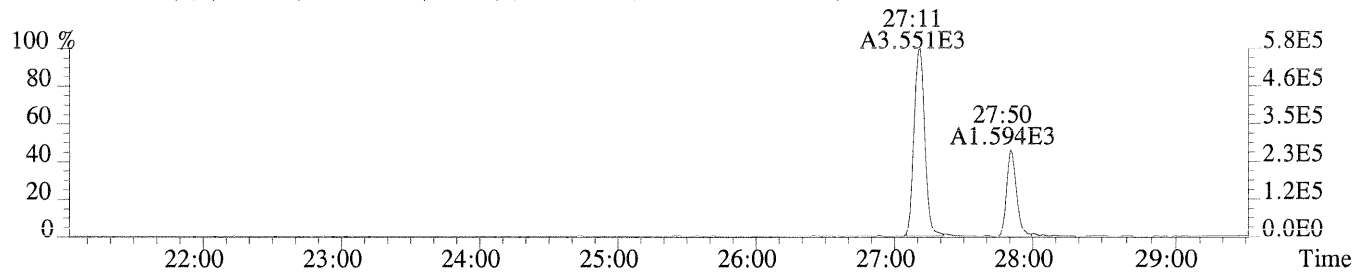
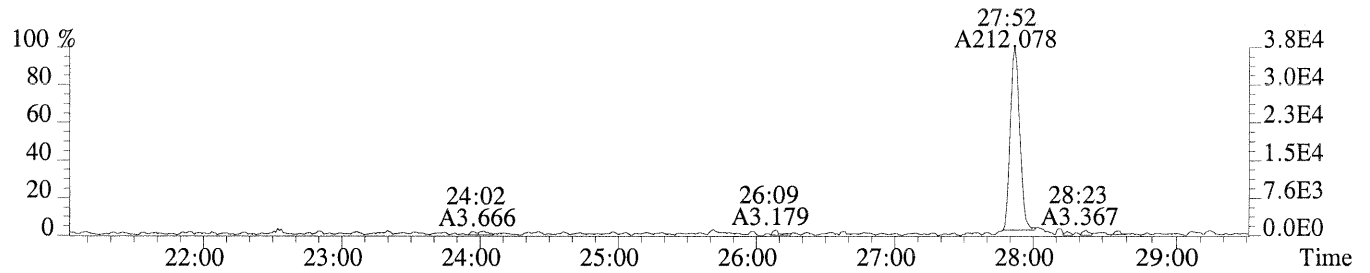
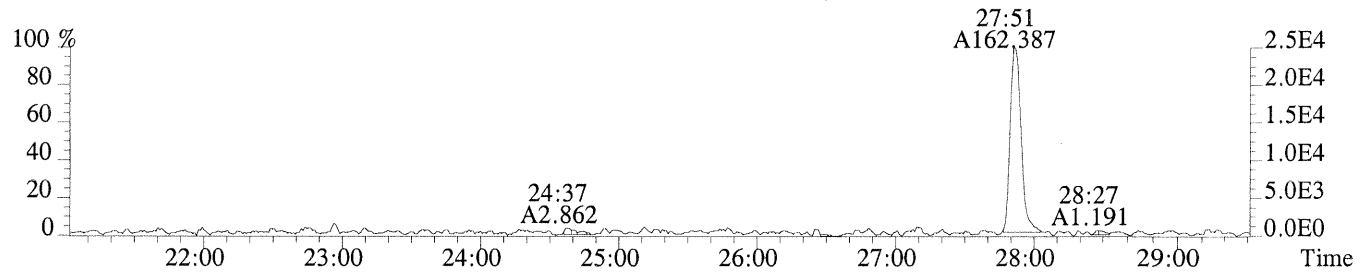


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



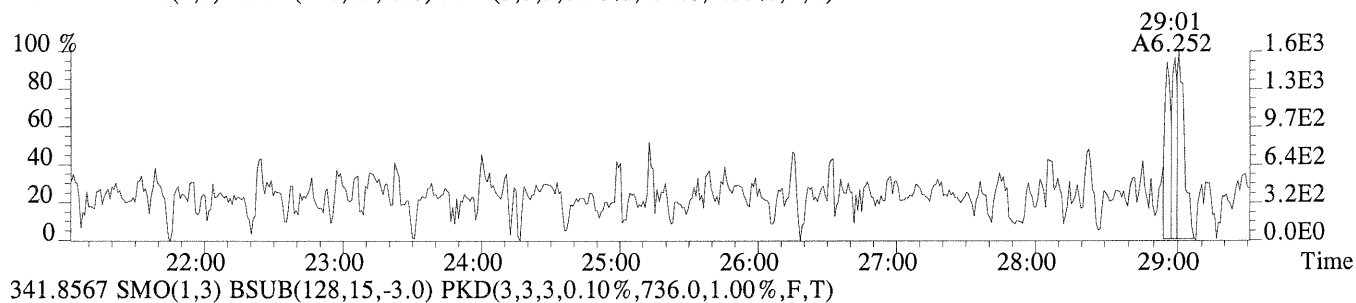
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



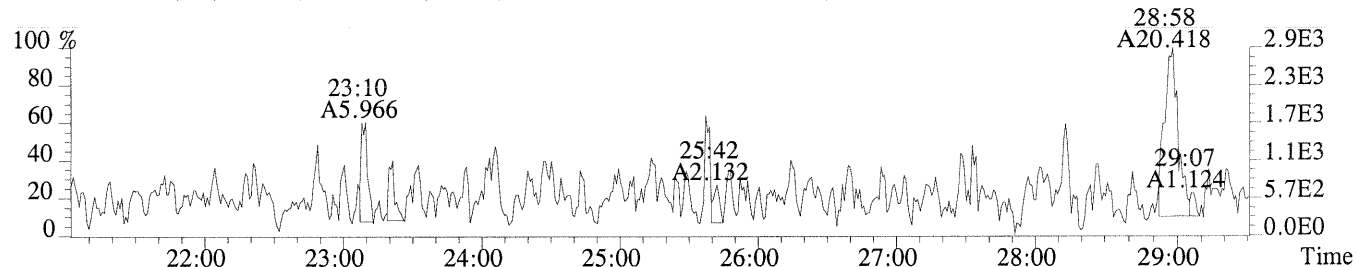




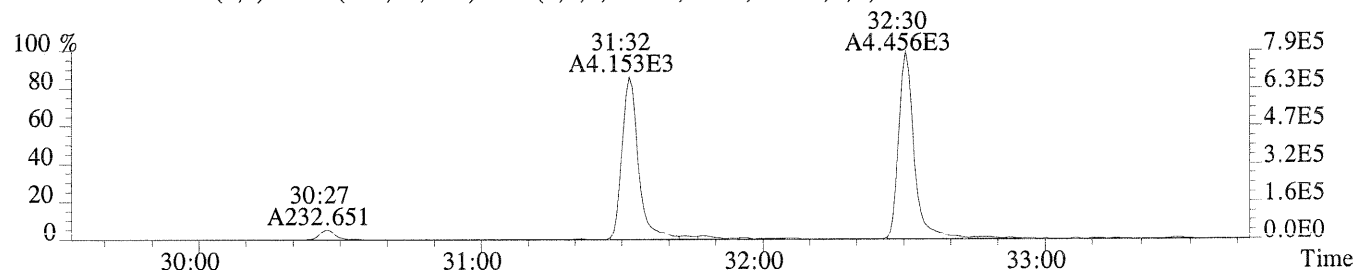
File:U150520 #1-608 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-03  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



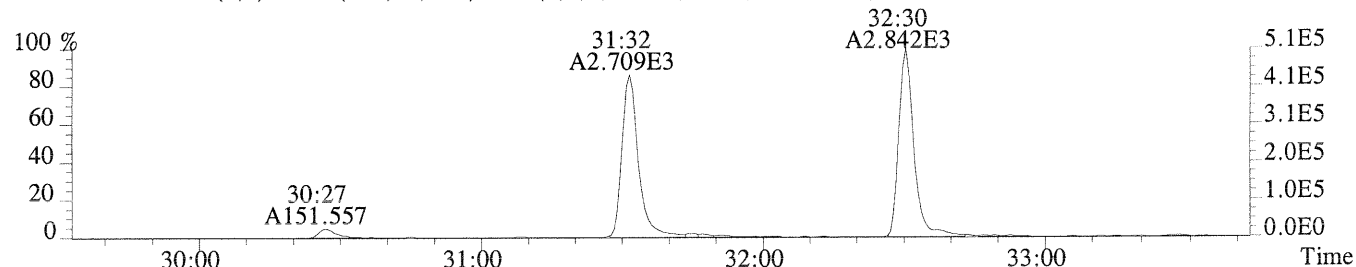
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



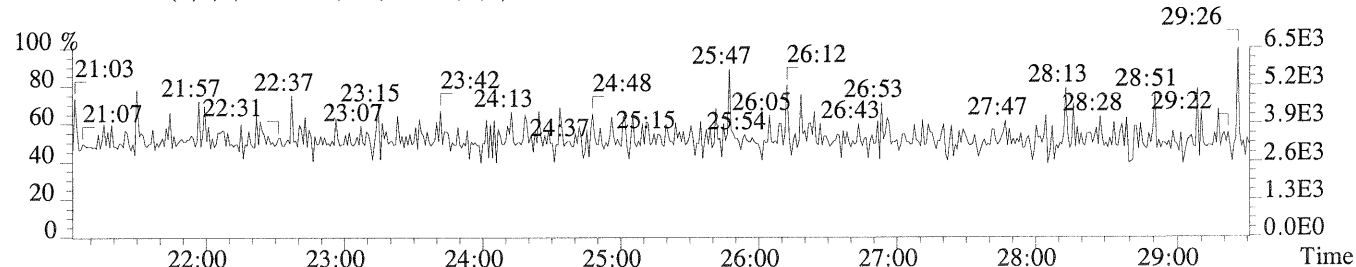
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,536.0,1.00%,F,T)



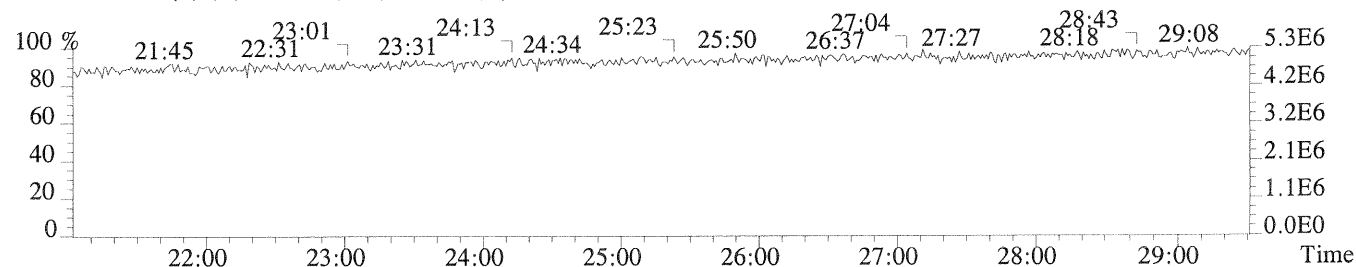
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



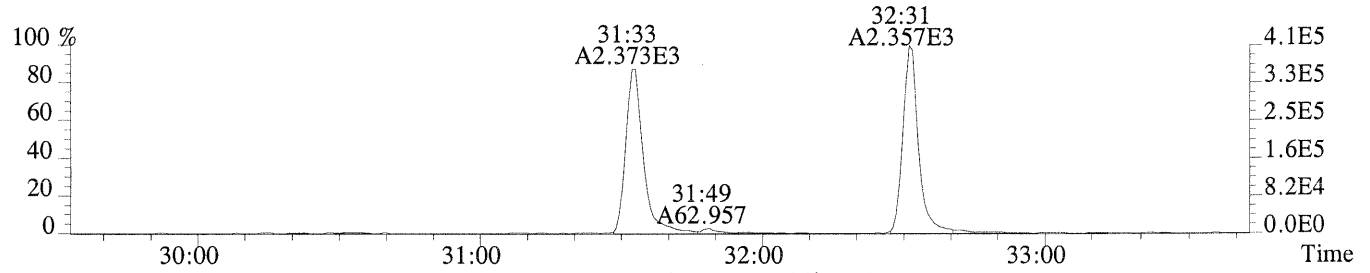
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



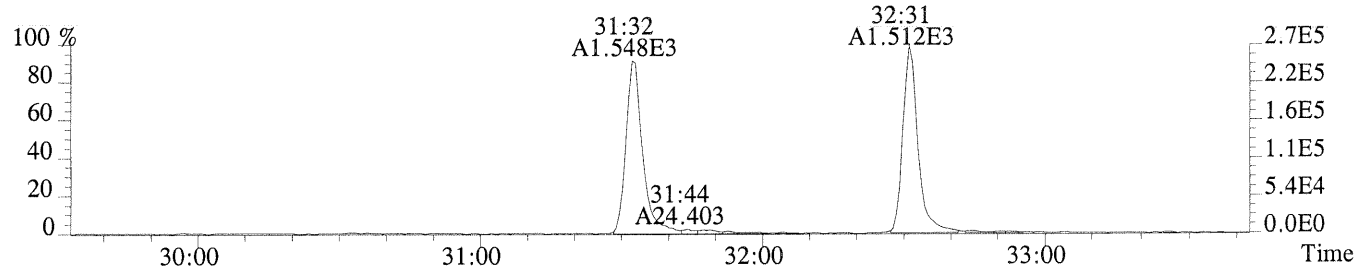
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



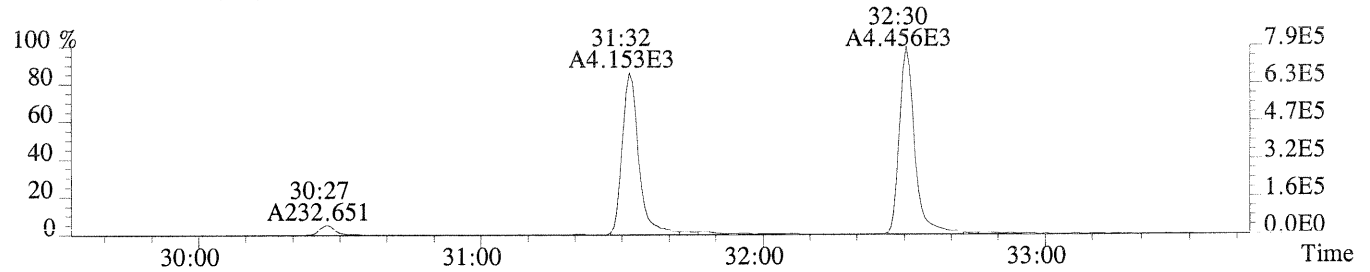
File:U150520 #1-378 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-03  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



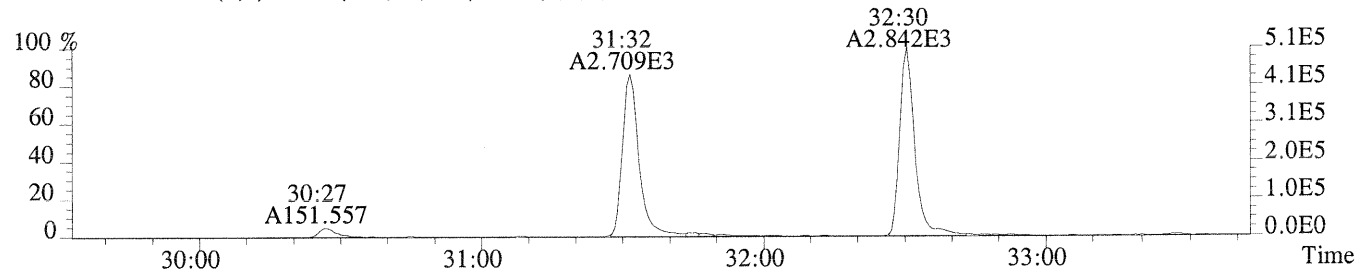
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



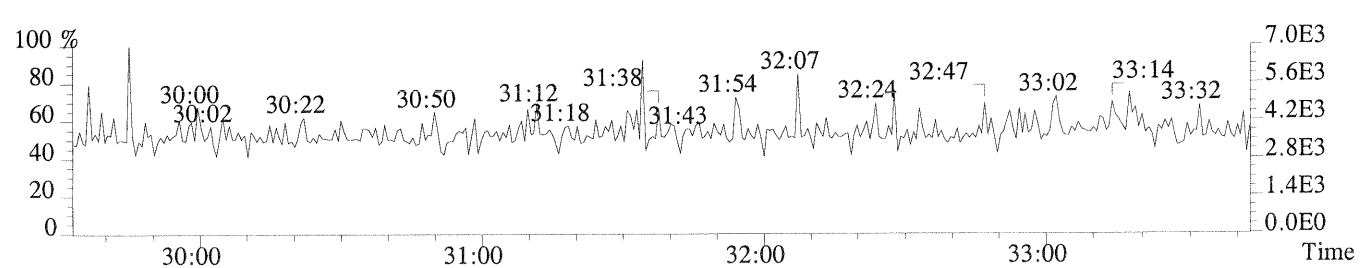
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,536.0,1.00%,F,T)



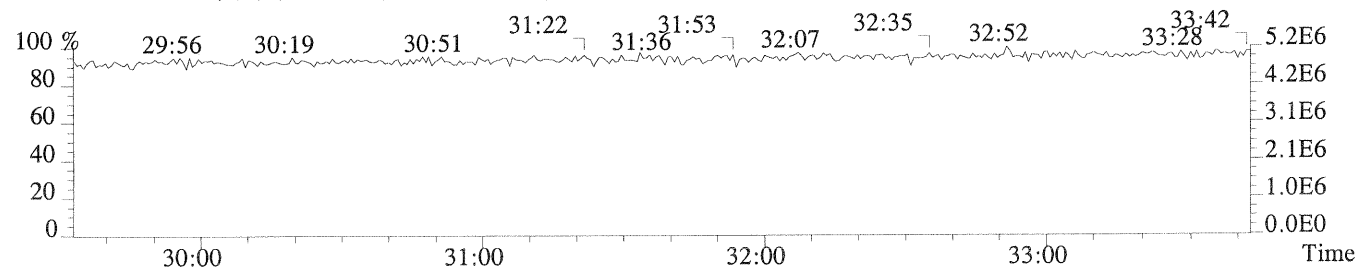
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)

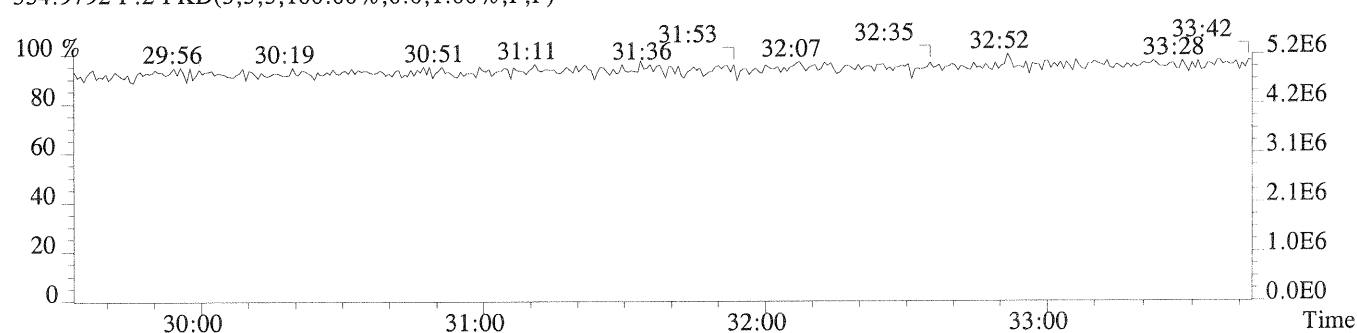
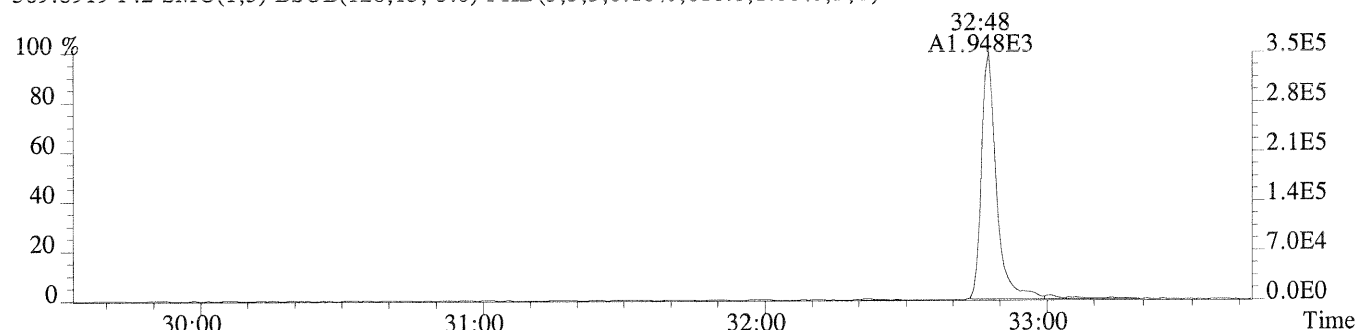
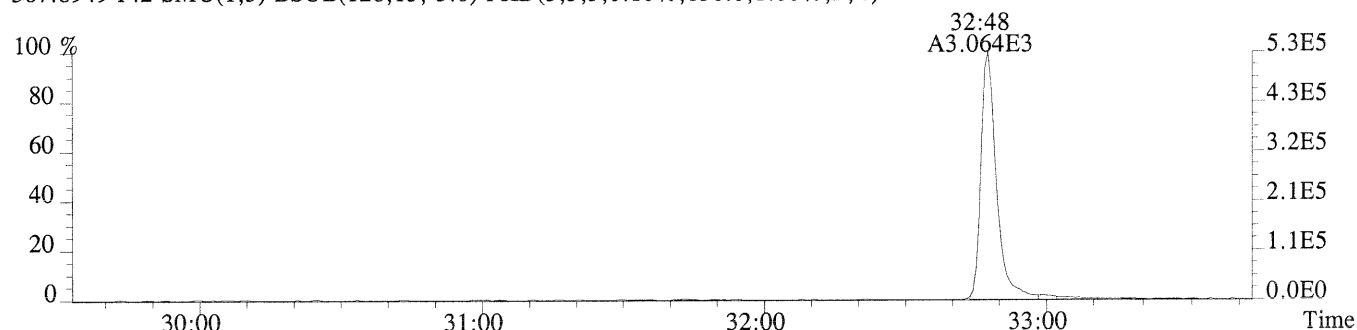
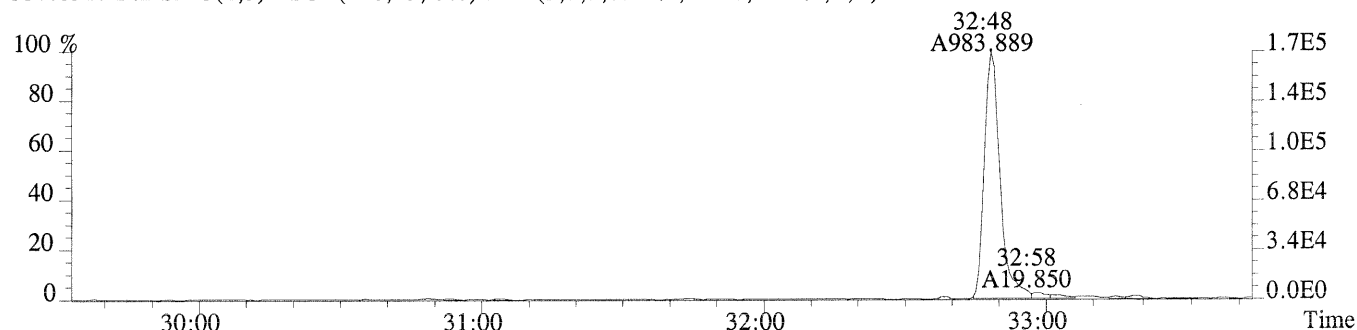
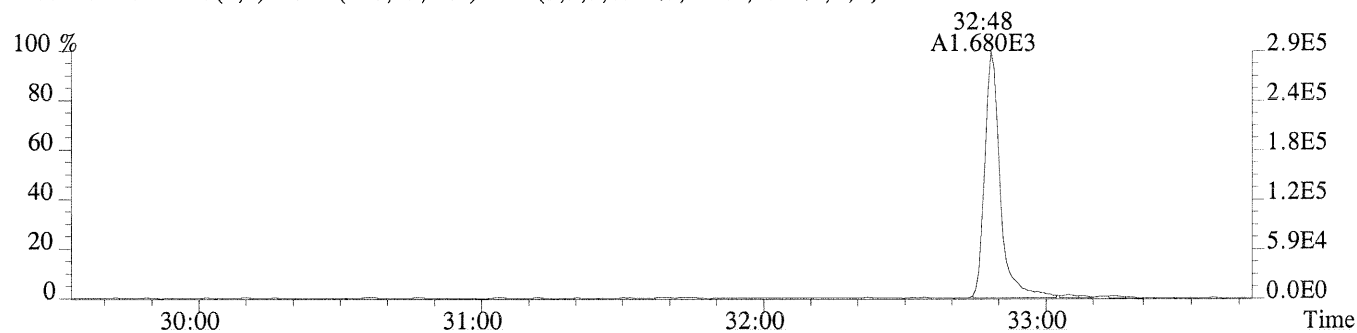


409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

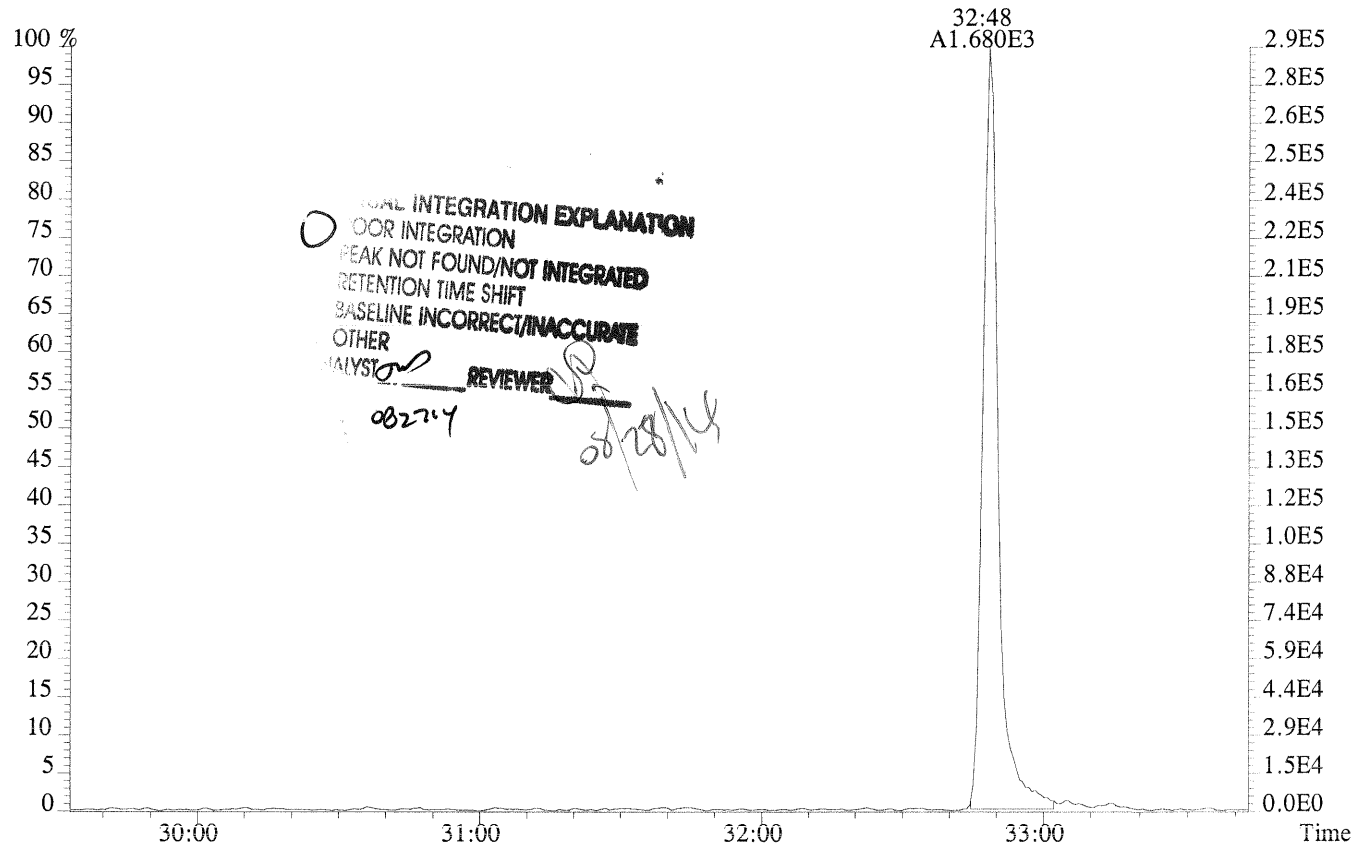


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

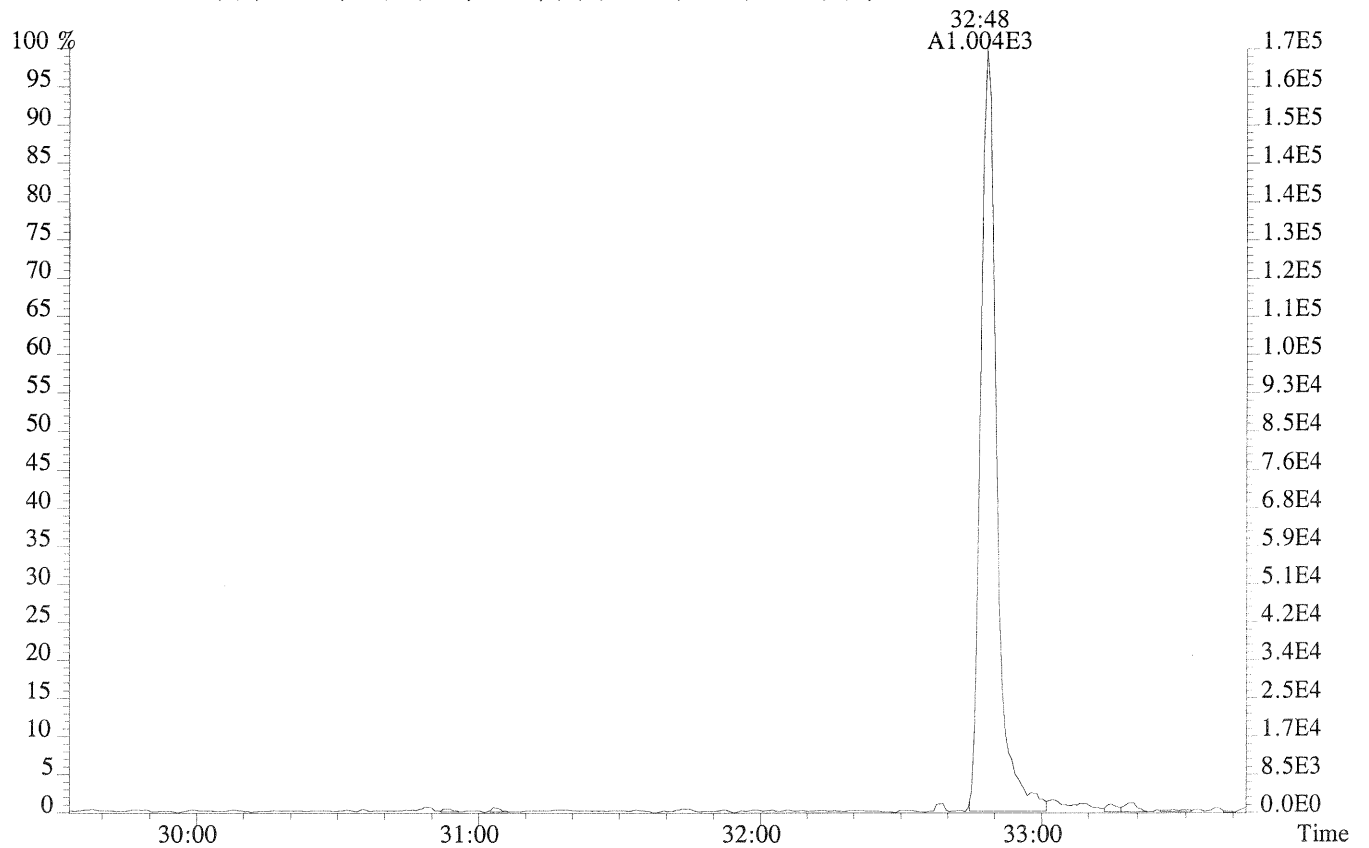


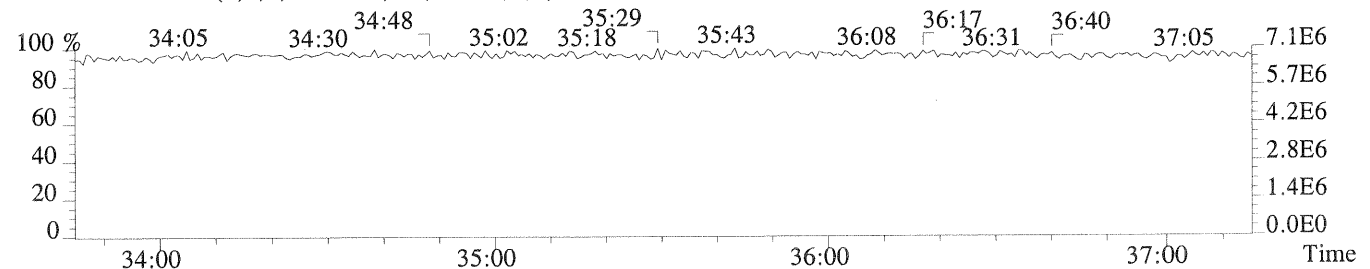
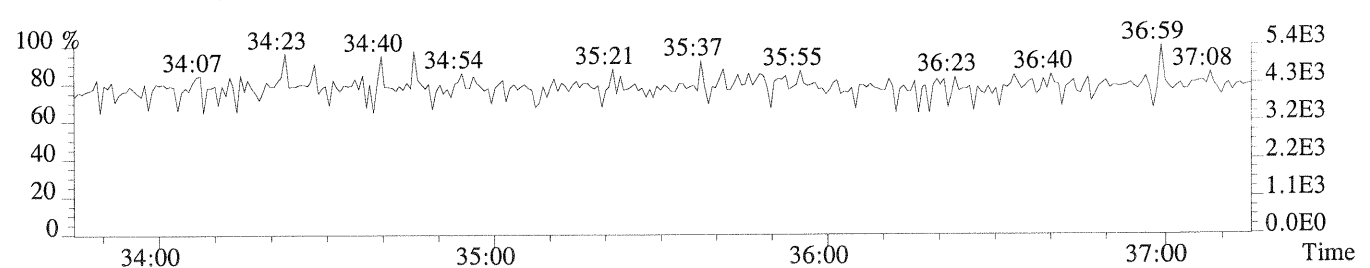
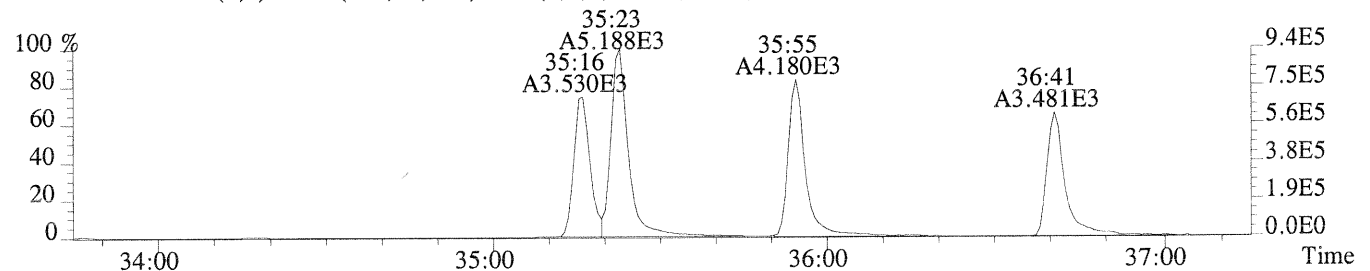
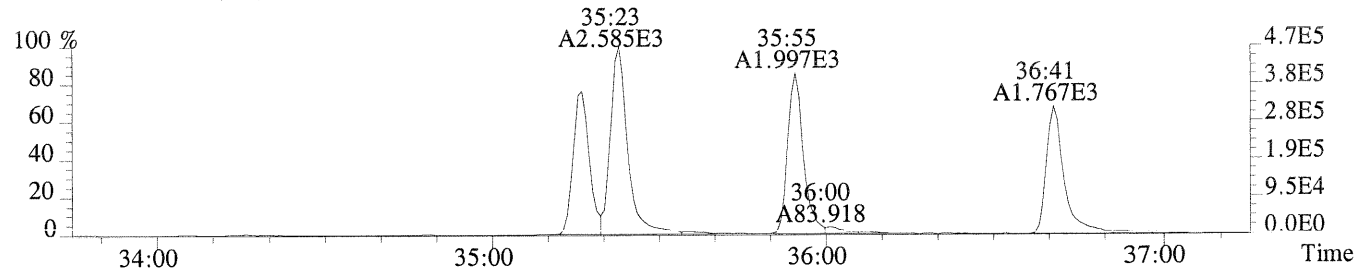
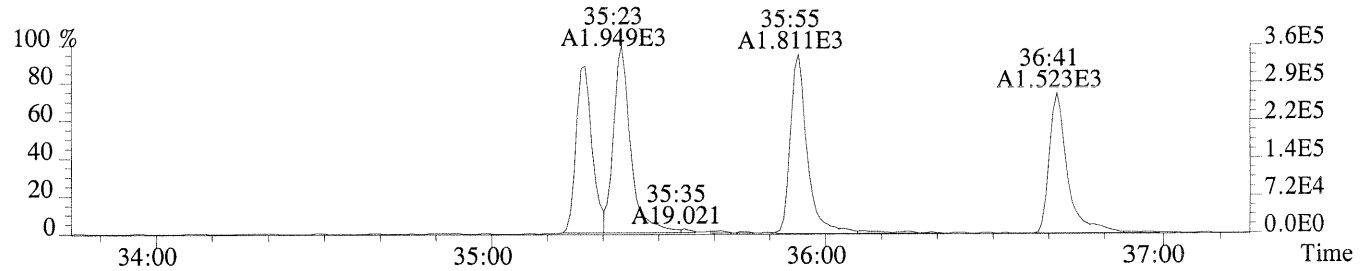
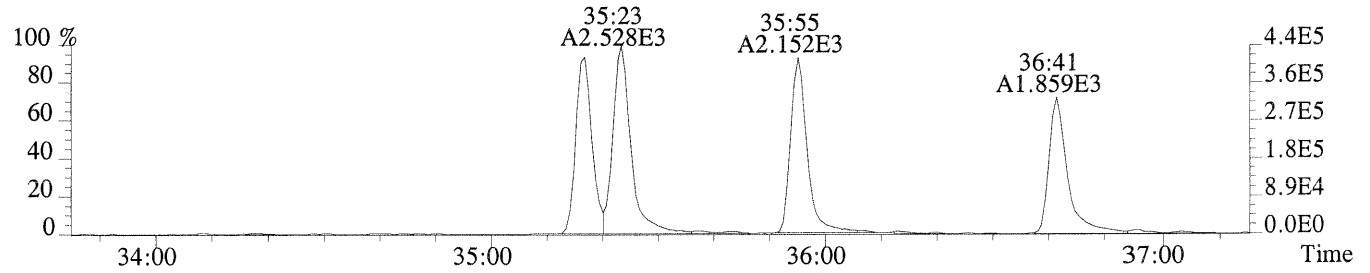


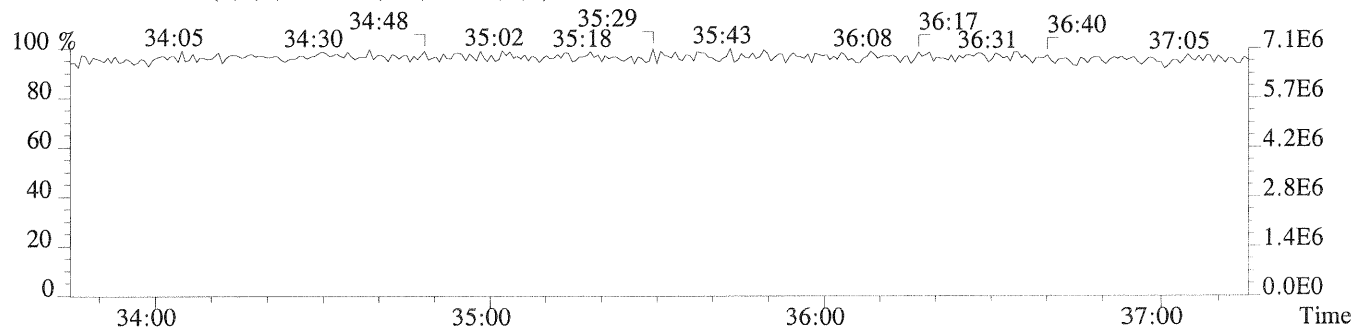
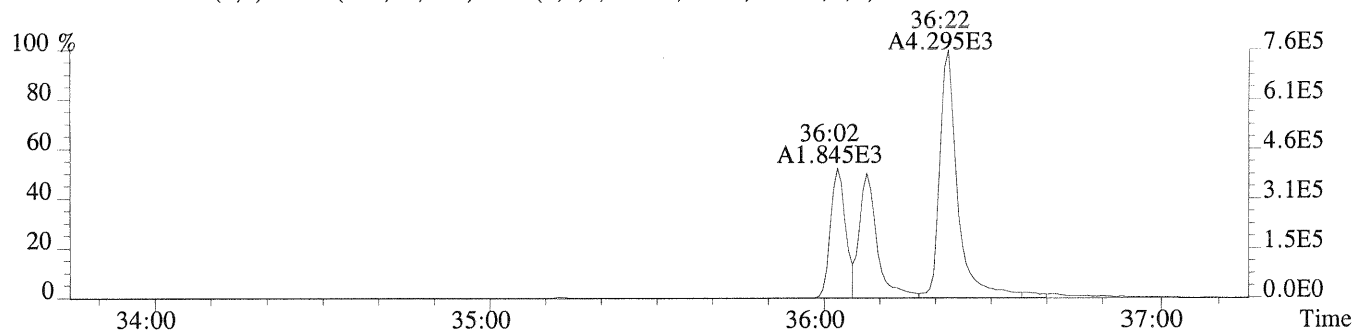
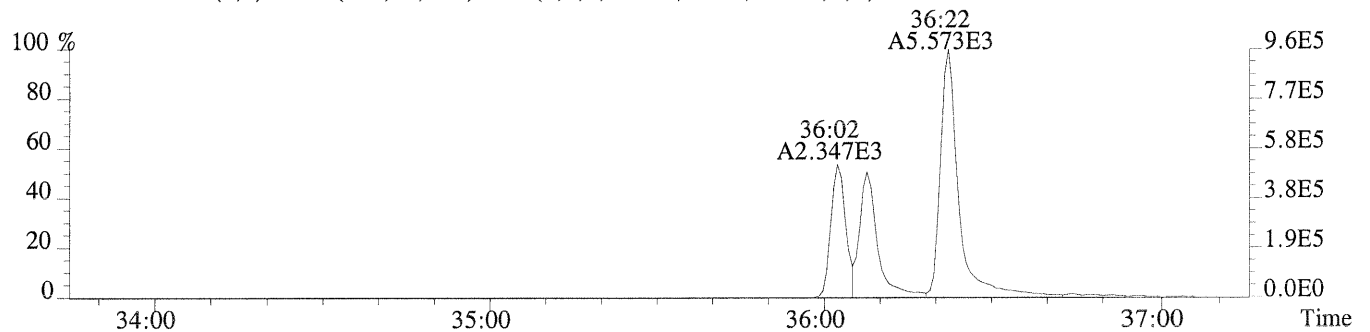
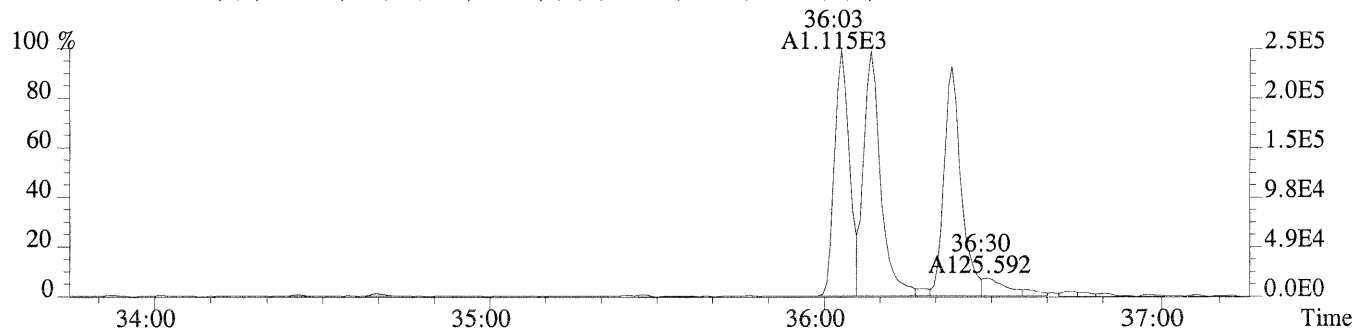
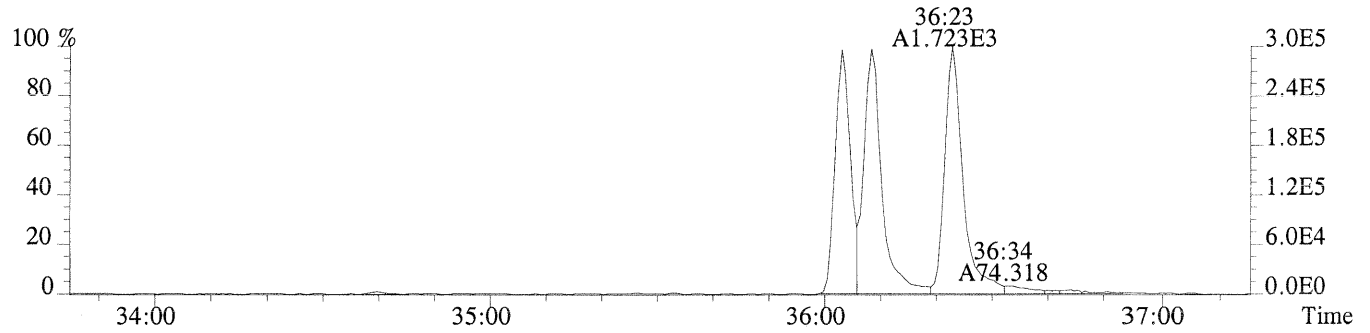
File:U150520 #1-378 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:EQ1400478-03  
 355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



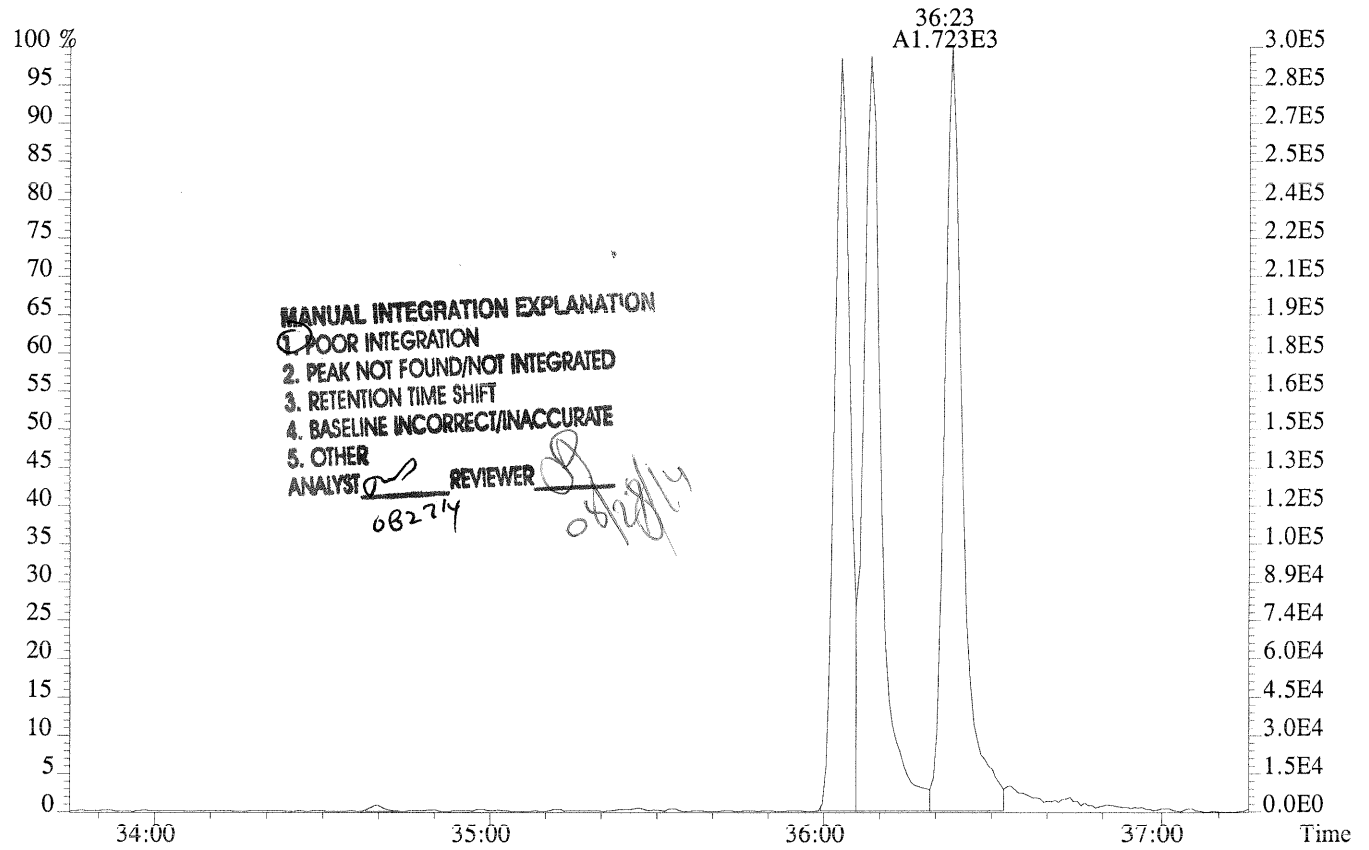
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



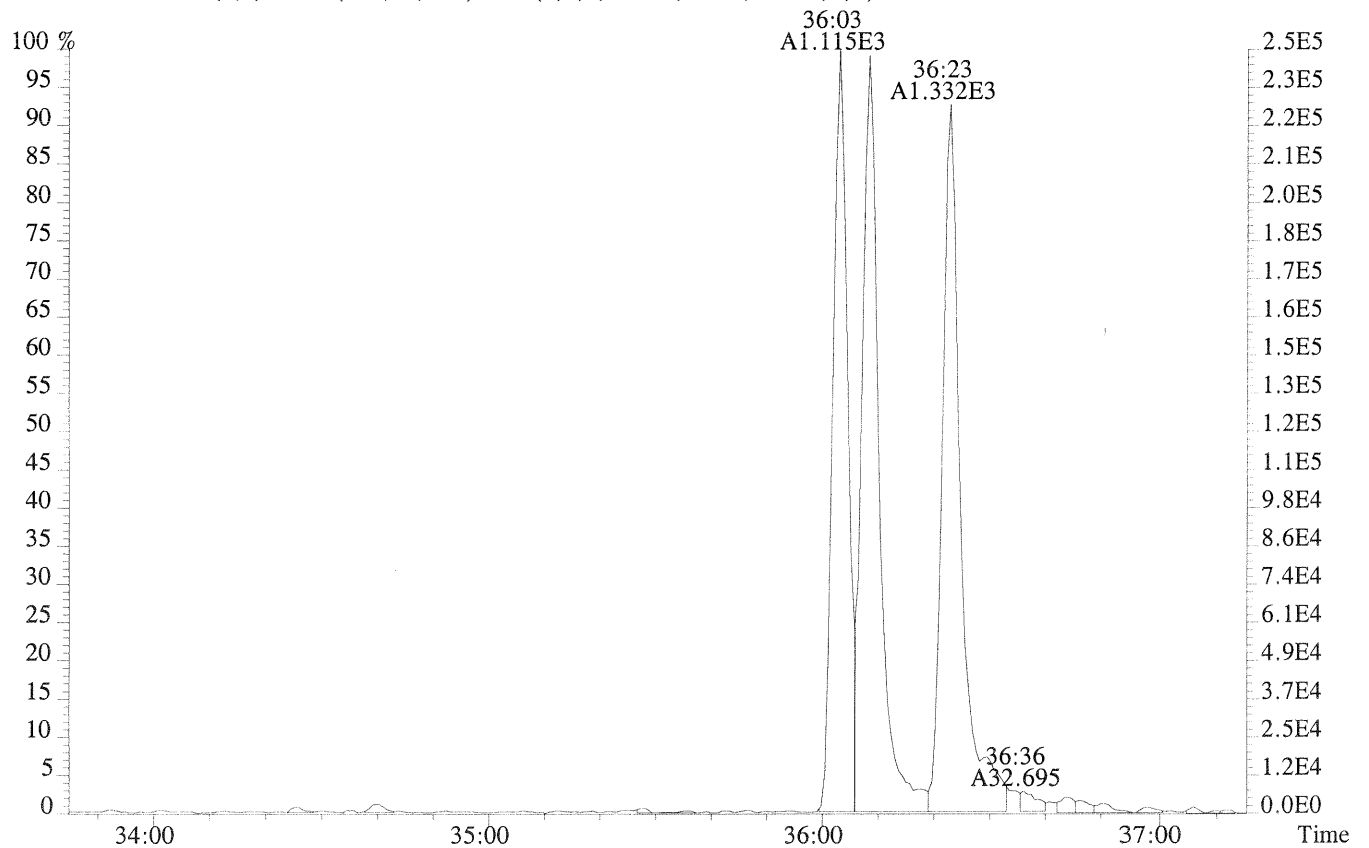




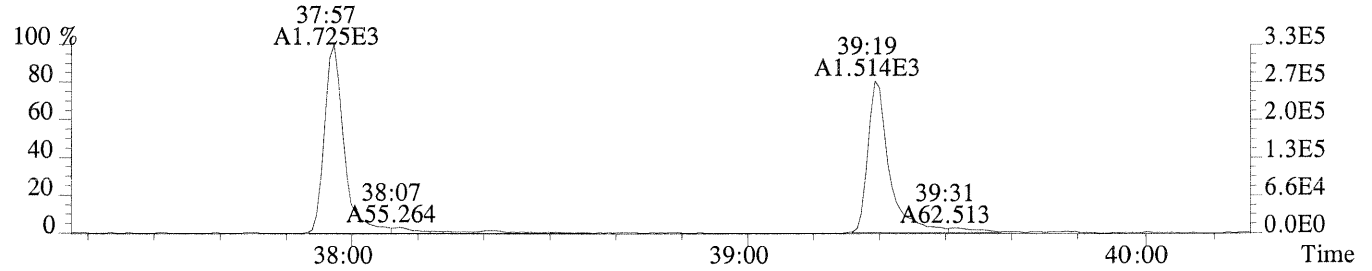
File:U150520 #1-319 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-03  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



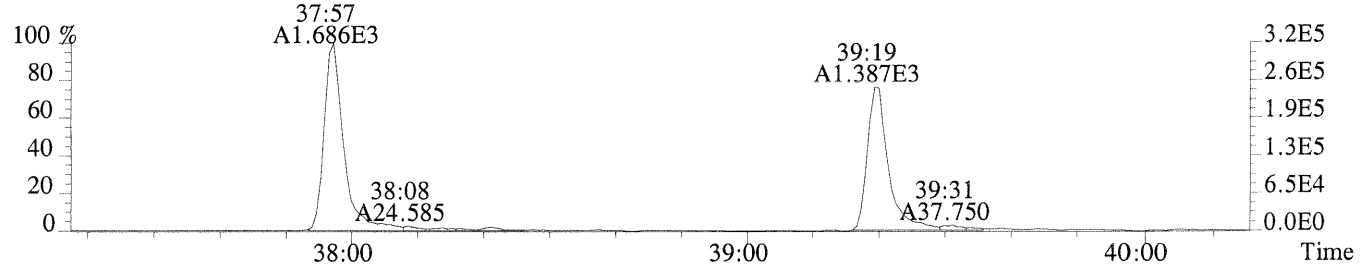
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



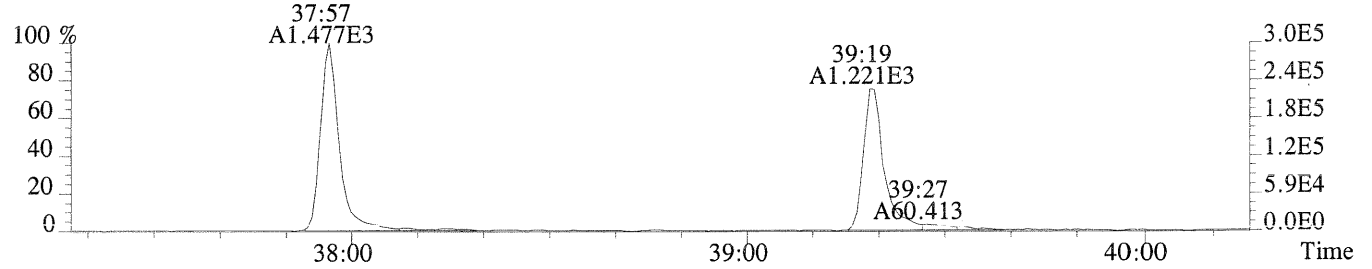
File:U150520 #1-270 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-03  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.50%,F,T)



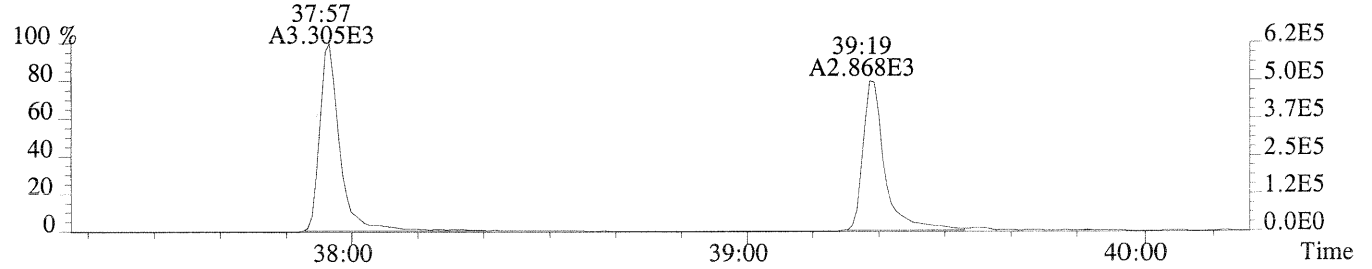
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.50%,F,T)



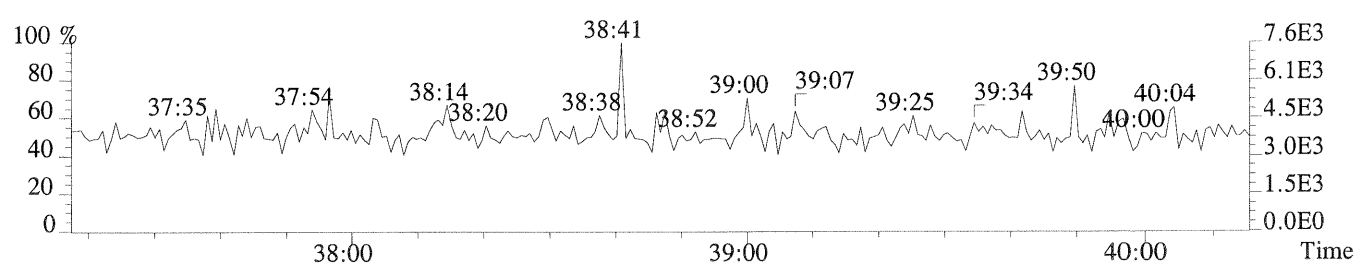
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1204.0,0.50%,F,T)



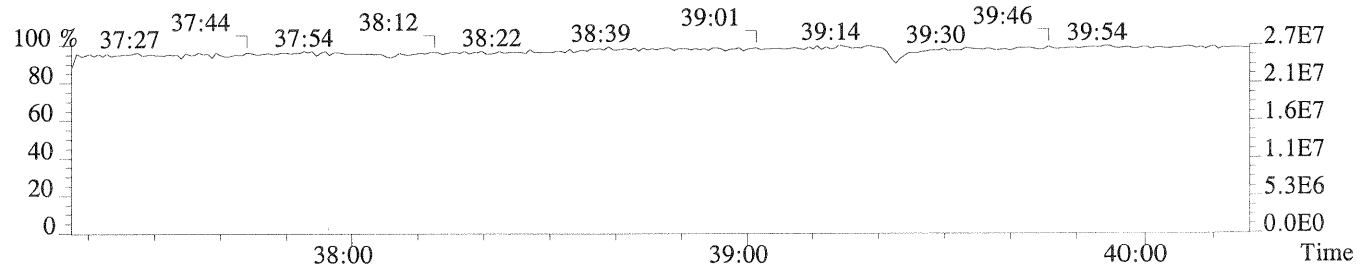
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,644.0,0.50%,F,T)



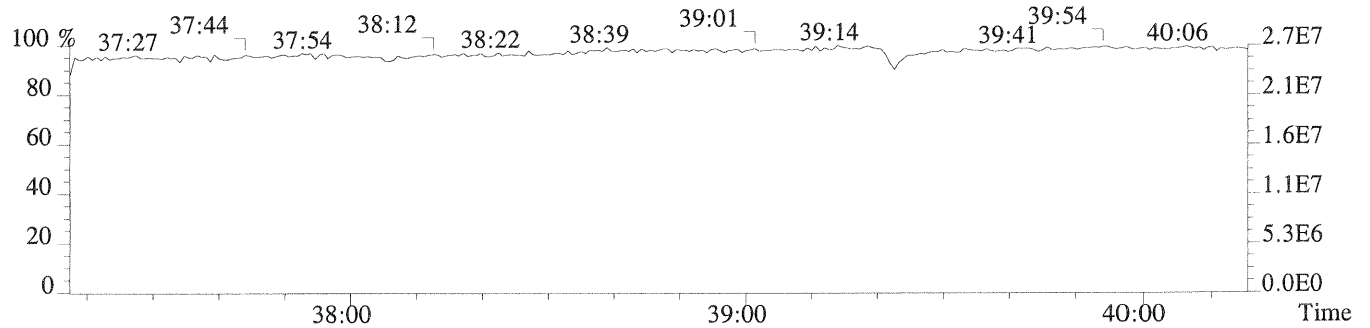
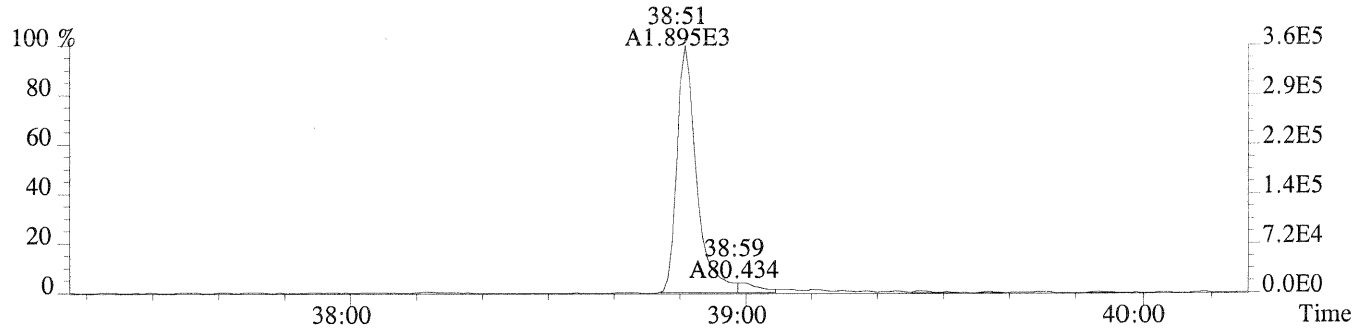
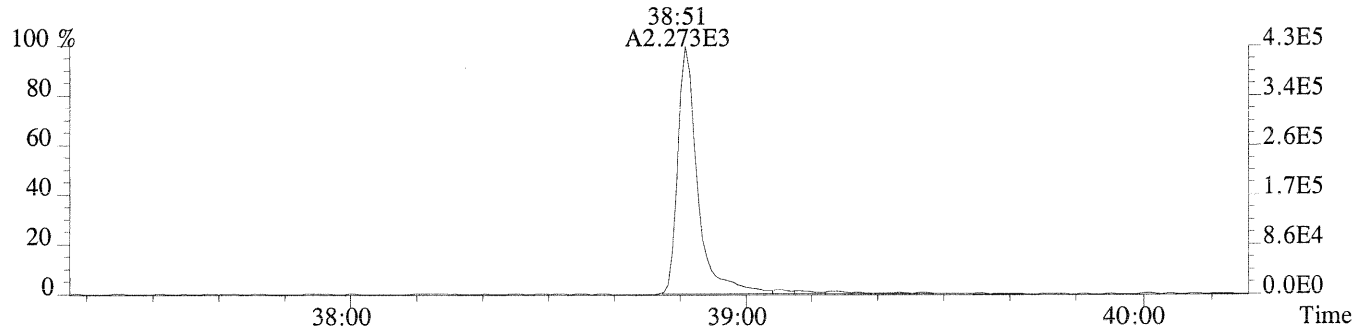
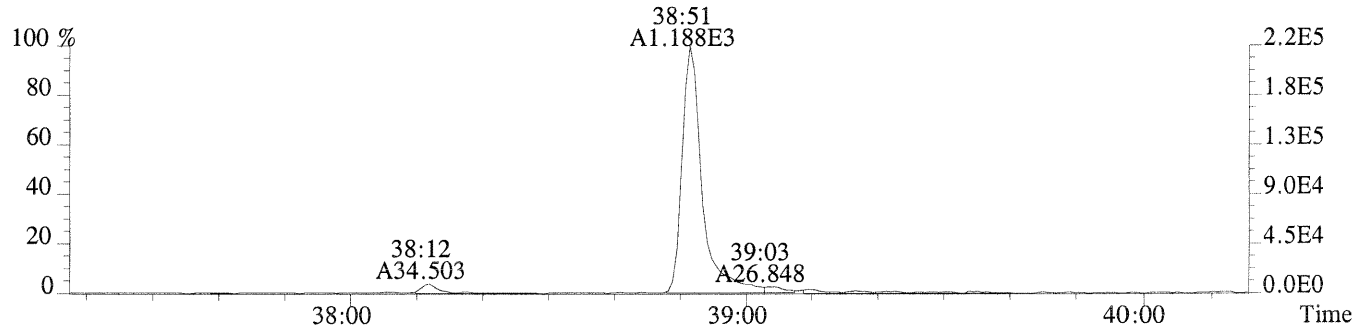
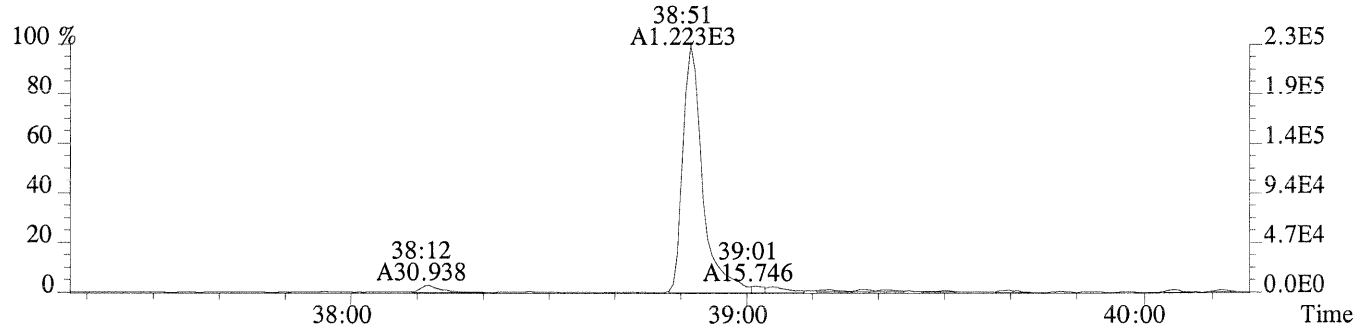
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



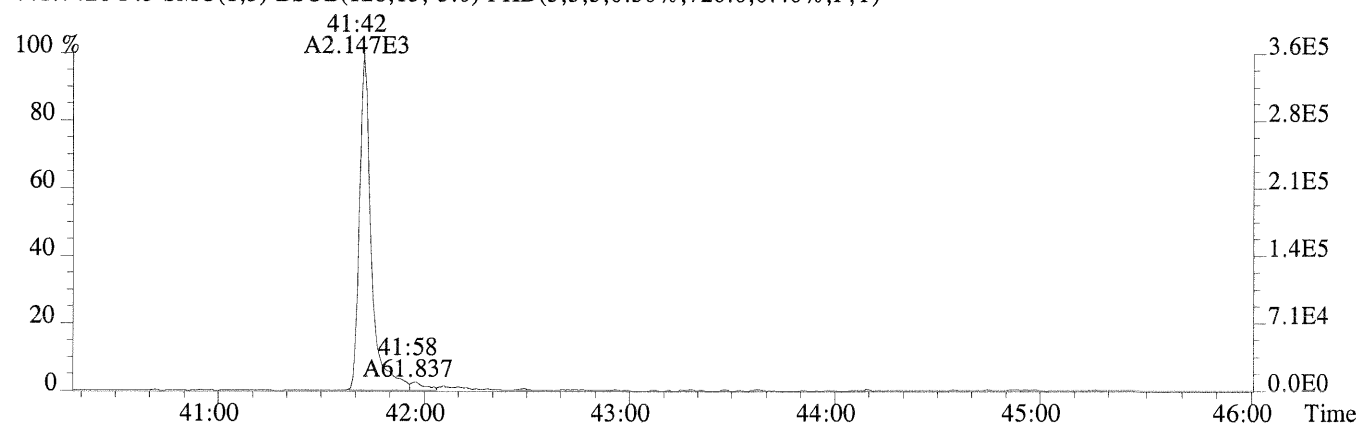




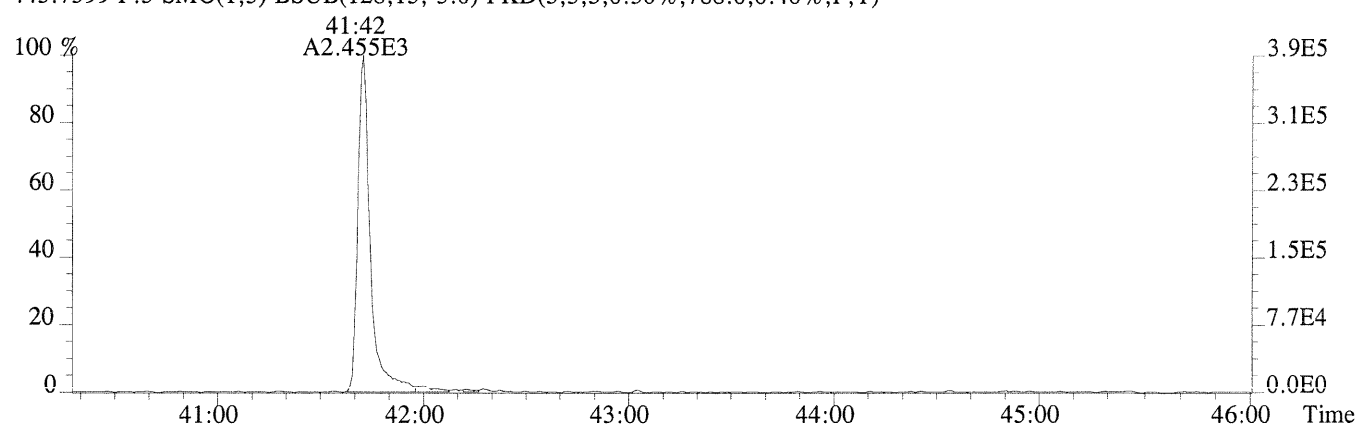
File:U150520 #1-519 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:EQ1400478-03

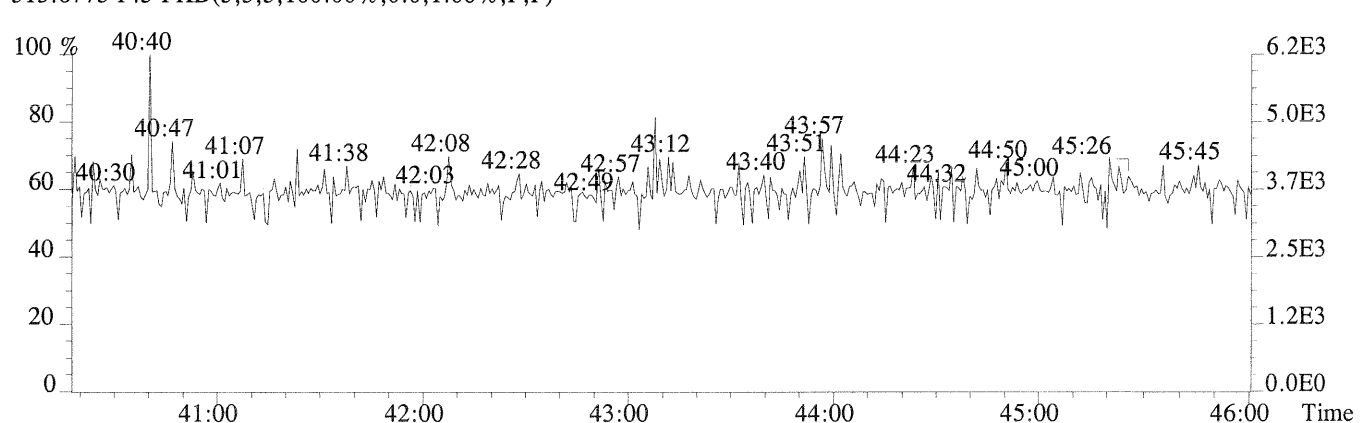
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,720.0,0.40%,F,T)



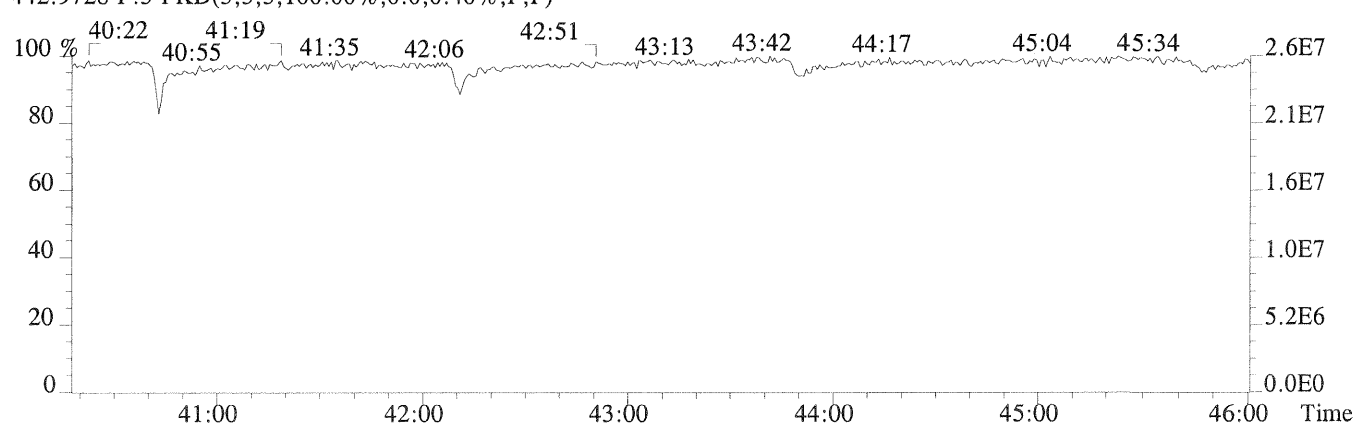
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,788.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



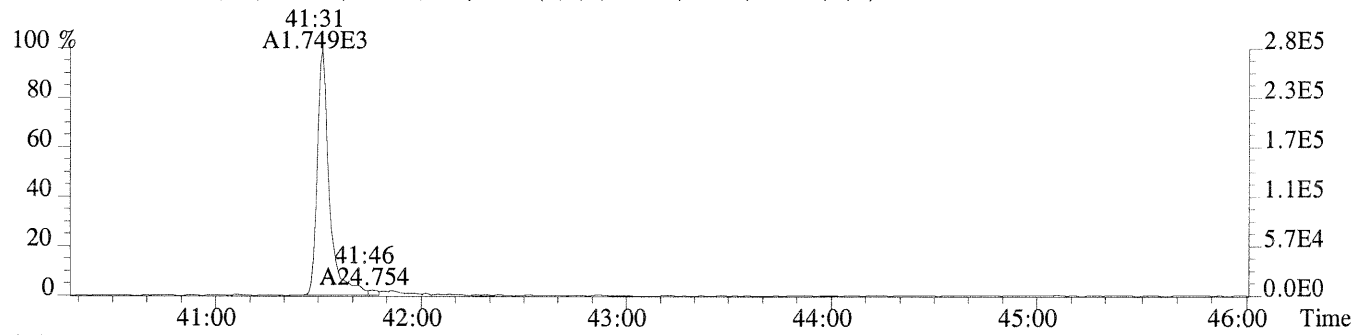
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



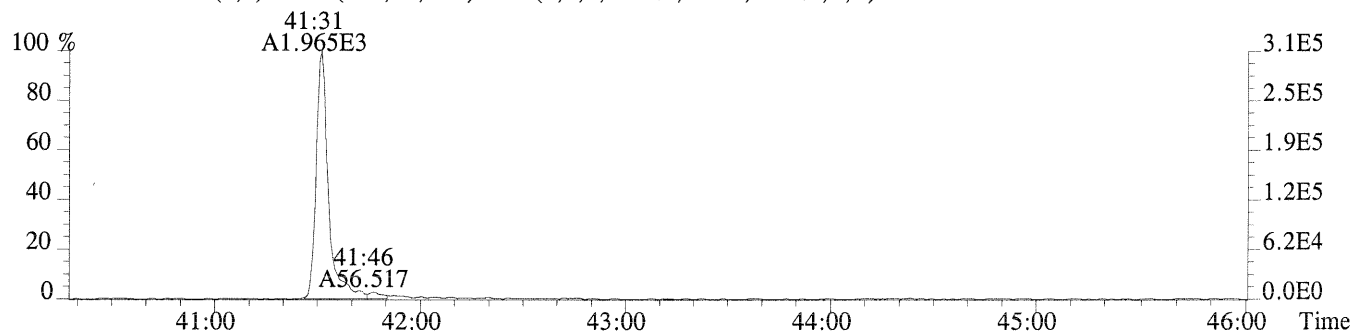
File:U150520 #1-519 Acq:23-AUG-2014 14:29:57 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:EQ1400478-03

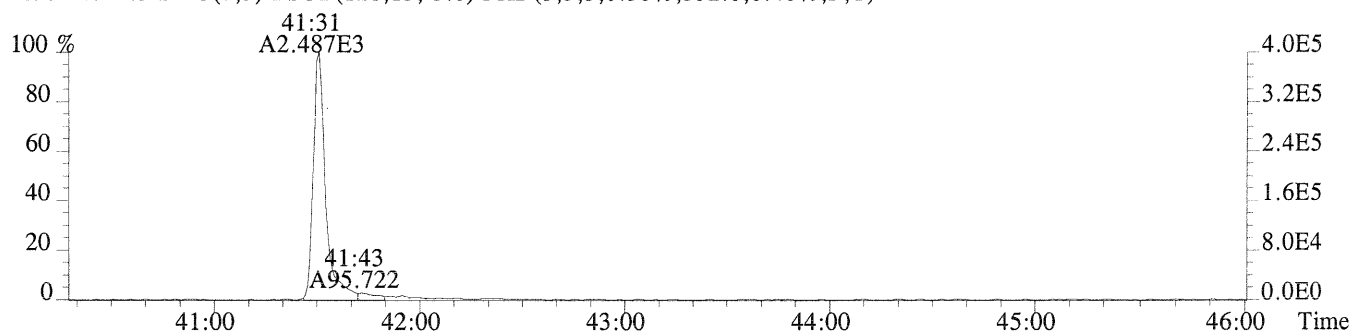
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,F,T)



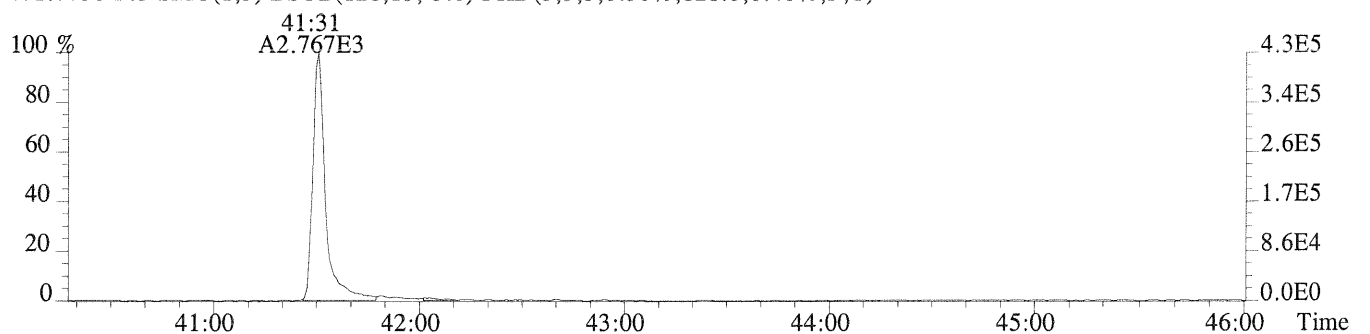
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,520.0,0.40%,F,T)



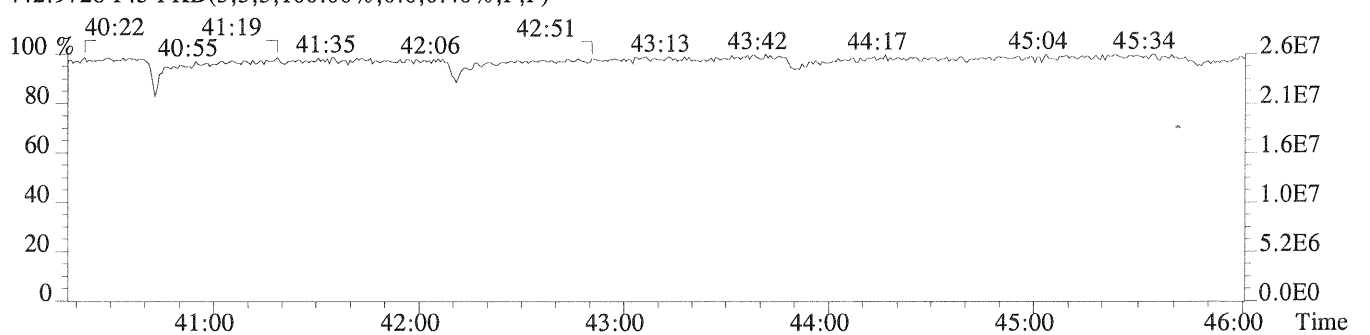
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,532.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,828.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 Sample Response Summary  
 Method 1613B/8290A

CLIENT ID.  
 Nv SYC14-AC R7

Run #12    Filename U150521    Samp: 1    Inj: 1    Acquired: 23-AUG-14 15:18:24  
 Processed: 27-AUG-14 14:13:09    Sample ID: EQ1400478-04

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:01	2.699e+02	3.498e+02	0.77	yes	no	1.057
2 Unk	1,2,3,7,8-PeCDF	31:33	2.581e+03	1.599e+03	1.61	yes	no	1.020
3 Unk	2,3,4,7,8-PeCDF	32:32	2.444e+03	1.542e+03	1.58	yes	no	0.979
4 Unk	1,2,3,4,7,8-HxCDF	35:17	2.138e+03	1.749e+03	1.22	yes	no	1.236
5 Unk	1,2,3,6,7,8-HxCDF	35:24	2.446e+03	2.021e+03	1.21	yes	no	1.149
6 Unk	2,3,4,6,7,8-HxCDF	35:56	2.212e+03	1.837e+03	1.20	yes	no	1.156
7 Unk	1,2,3,7,8,9-HxCDF	36:42	1.869e+03	1.630e+03	1.15	yes	no	1.180
8 Unk	1,2,3,4,6,7,8-HpCDF	37:57	1.802e+03	1.754e+03	1.03	yes	no	1.364
9 Unk	1,2,3,4,7,8,9-HpCDF	39:20	1.437e+03	1.327e+03	1.08	yes	no	1.317
10 Unk	OCDF	41:43	2.123e+03	2.296e+03	0.92	yes	no	1.466
11 Unk	2,3,7,8-TCDD	27:52	2.017e+02	2.326e+02	0.87	yes	no	0.972
12 Unk	1,2,3,7,8-PeCDD	32:49	1.743e+03	1.051e+03	1.66	yes	no	1.120
13 Unk	1,2,3,4,7,8-HxCDD	36:04	1.471e+03	1.189e+03	1.24	yes	no	1.330
14 Unk	1,2,3,6,7,8-HxCDD	36:09	1.715e+03	1.398e+03	1.23	yes	no	1.250
15 Unk	1,2,3,7,8,9-HxCDD	36:23	1.753e+03	1.402e+03	1.25	yes	no	1.395
16 Unk	1,2,3,4,6,7,8-HpCDD	38:52	1.293e+03	1.201e+03	1.08	yes	yes	1.102
17 Unk	OCDD	41:31	1.630e+03	1.929e+03	0.85	yes	no	1.329
18 IS	13C-2,3,7,8-TCDF	26:59	2.610e+03	3.186e+03	0.82	yes	no	1.406
19 IS	13C-1,2,3,7,8-PeCDF	31:32	4.549e+03	2.848e+03	1.60	yes	no	1.870
20 IS	13C-2,3,4,7,8-PeCDF	32:31	4.775e+03	2.992e+03	1.60	yes	no	1.888
21 IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.981e+03	3.736e+03	0.53	yes	no	1.181
22 IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.828e+03	5.466e+03	0.52	yes	no	1.511
23 IS	13C-2,3,4,6,7,8-HxCDF	35:55	2.375e+03	4.457e+03	0.53	yes	no	1.346
24 IS	13C-1,2,3,7,8,9-HxCDF	36:41	1.833e+03	3.616e+03	0.51	yes	no	1.041
25 IS	13C-1,2,3,4,6,7,8-HpCDF	37:56	1.587e+03	3.412e+03	0.47	yes	no	1.006
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:19	1.272e+03	2.991e+03	0.43	yes	no	0.732
27 IS	13C-2,3,7,8-TCDD	27:51	1.796e+03	2.331e+03	0.77	yes	no	0.980
28 IS	13C-1,2,3,7,8-PeCDD	32:48	3.259e+03	2.125e+03	1.53	yes	no	1.075
29 IS	13C-1,2,3,4,7,8-HxCDD	36:03	2.556e+03	1.991e+03	1.28	yes	no	0.773
30 IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.956e+03	2.203e+03	1.34	yes	no	0.975
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:51	2.304e+03	2.169e+03	1.06	yes	no	0.845
32 IS	13C-OCDD	41:30	2.436e+03	2.754e+03	0.88	yes	no	0.501
33 RS/RT	13C-1,2,3,4-TCDD	27:11	3.901e+03	5.173e+03	0.75	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	5.953e+03	4.536e+03	1.31	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	27:53	1.341e+03				no	0.955

OCDD =  $\frac{(1.630e+03 + 1.929e+03) \times 4000 \text{ pg} \times 1}{(2.436e+03 + 2.754e+03) \times 7.26 \text{ g} \times / 100 \times 1.329}$

*Handwritten signature and initials*

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1613RESPA

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 Nv SYC14-AC Rep.7

Run #12    Filename U150521    Samp: 1    Inj: 1    Acquired: 23-AUG-14 15:18:24  
 Processed: 27-AUG-14 14:13:091    LAB. ID: EQ1400478-04

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.73e+04	5.48e+02	8.6e+01	5.22e+04	1.36e+03	3.8e+01
2	1,2,3,7,8-PeCDF	4.00e+05	5.92e+02	6.8e+02	2.65e+05	6.92e+02	3.8e+02
3	2,3,4,7,8-PeCDF	4.14e+05	5.92e+02	7.0e+02	2.67e+05	6.92e+02	3.9e+02
4	1,2,3,4,7,8-HxCDF	4.24e+05	7.80e+02	5.4e+02	3.44e+05	7.08e+02	4.9e+02
5	1,2,3,6,7,8-HxCDF	4.22e+05	7.80e+02	5.4e+02	3.50e+05	7.08e+02	4.9e+02
6	2,3,4,6,7,8-HxCDF	4.07e+05	7.80e+02	5.2e+02	3.49e+05	7.08e+02	4.9e+02
7	1,2,3,7,8,9-HxCDF	3.38e+05	7.80e+02	4.3e+02	2.77e+05	7.08e+02	3.9e+02
8	1,2,3,4,6,7,8-HpCDF	3.42e+05	6.68e+02	5.1e+02	3.42e+05	1.06e+03	3.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.61e+05	6.68e+02	3.9e+02	2.38e+05	1.06e+03	2.2e+02
10	OCDF	3.04e+05	7.28e+02	4.2e+02	3.46e+05	1.06e+03	3.3e+02
11	2,3,7,8-TCDD	3.60e+04	6.32e+02	5.7e+01	4.05e+04	6.56e+02	6.2e+01
12	1,2,3,7,8-PeCDD	2.95e+05	8.40e+02	3.5e+02	1.82e+05	6.36e+02	2.9e+02
13	1,2,3,4,7,8-HxCDD	3.06e+05	5.40e+02	5.7e+02	2.51e+05	7.16e+02	3.5e+02
14	1,2,3,6,7,8-HxCDD	3.11e+05	5.40e+02	5.8e+02	2.53e+05	7.16e+02	3.5e+02
15	1,2,3,7,8,9-HxCDD	2.98e+05	5.40e+02	5.5e+02	2.28e+05	7.16e+02	3.2e+02
16	1,2,3,4,6,7,8-HpCDD	2.32e+05	5.36e+02	4.3e+02	2.17e+05	4.68e+02	4.6e+02
17	OCDD	2.65e+05	4.28e+02	6.2e+02	2.93e+05	4.56e+02	6.4e+02
18	13C-2,3,7,8-TCDF	3.92e+05	9.24e+02	4.2e+02	4.91e+05	7.76e+02	6.3e+02
19	13C-1,2,3,7,8-PeCDF	7.59e+05	6.16e+02	1.2e+03	4.65e+05	7.72e+02	6.0e+02
20	13C-2,3,4,7,8-PeCDF	8.34e+05	6.16e+02	1.4e+03	5.15e+05	7.72e+02	6.7e+02
21	13C-1,2,3,4,7,8-HxCDF	3.91e+05	5.56e+02	7.0e+02	7.69e+05	8.12e+02	9.5e+02
22	13C-1,2,3,6,7,8-HxCDF	4.84e+05	5.56e+02	8.7e+02	9.48e+05	8.12e+02	1.2e+03
23	13C-2,3,4,6,7,8-HxCDF	4.26e+05	5.56e+02	7.7e+02	8.27e+05	8.12e+02	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	3.20e+05	5.56e+02	5.8e+02	6.13e+05	8.12e+02	7.5e+02
25	13C-1,2,3,4,6,7,8-HpCDF	3.02e+05	1.23e+03	2.5e+02	6.43e+05	5.88e+02	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.24e+05	1.23e+03	1.8e+02	5.25e+05	5.88e+02	8.9e+02
27	13C-2,3,7,8-TCDD	3.03e+05	2.31e+03	1.3e+02	3.79e+05	1.34e+03	2.8e+02
28	13C-1,2,3,7,8-PeCDD	5.55e+05	5.76e+02	9.6e+02	3.55e+05	7.36e+02	4.8e+02
29	13C-1,2,3,4,7,8-HxCDD	5.47e+05	7.32e+02	7.5e+02	4.23e+05	6.32e+02	6.7e+02
30	13C-1,2,3,6,7,8-HxCDD	5.32e+05	7.32e+02	7.3e+02	4.03e+05	6.32e+02	6.4e+02
31	13C-1,2,3,4,6,7,8-HpCDD	4.18e+05	4.56e+02	9.2e+02	3.87e+05	4.60e+02	8.4e+02
32	13C-OCDD	3.91e+05	5.16e+02	7.6e+02	4.45e+05	5.48e+02	8.1e+02
33	13C-1,2,3,4-TCDD	6.52e+05	2.31e+03	2.8e+02	8.74e+05	1.34e+03	6.5e+02
34	13C-1,2,3,7,8,9-HxCDD	1.03e+06	7.32e+02	1.4e+03	8.00e+05	6.32e+02	1.3e+03
35	37Cl-2,3,7,8-TCDD	2.09e+05	1.12e+03	1.9e+02			

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XLSN





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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.η

Entry: 39      Totals Name: Total Penta-Furan2

Run: 12      File: U150521      Sample: 1    Injection: 1    Function: 2

Llim: -      Ulim: -

Acquired: 23-AUG-14    15:18:24      Processed: 27-AUG-14 14:13:09

Mass: 339.8600    341.8570      Tot Response: 8.17e+03    RRF: 0.9992

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	31:33	2.58e+03	1.60e+03	1.61	yes	4.18e+03	1,2,3,7,8-PeCDF	n	n
2	32:32	2.44e+03	1.54e+03	1.58	yes	3.99e+03	2,3,4,7,8-PeCDF	n	n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 40      Totals Name: Total Penta-Dioxins

Run: 12      File: U150521      Sample: 1    Injection: 1    Function: 2

Llim: -      Ulim: -

Acquired: 23-AUG-14    15:18:24      Processed: 27-AUG-14 14:13:09

Mass: 355.8550    357.8520      Tot Response: 2.79e+03    RRF: 1.120

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	32:49	1.74e+03	1.05e+03	1.66	yes	2.79e+03	1,2,3,7,8-PeCDD	n	n

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Peak List Summary

CLIENT ID.

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 Nv SYC14-AC Rep.¶
 

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Entry: 41 Totals Name: Total Hexa-Furans

Run: 12 File: U150521 Sample: 1 Injection: 1 Function: 3

Llim: - Ulim: -

Acquired: 23-AUG-14 15:18:24 Processed: 27-AUG-14 14:13:09

Mass: 373.8210 375.8180 Tot Response: 1.59e+04 RRF: 1.177

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:17	2.14e+03	1.75e+03	1.22	yes	3.89e+03	1,2,3,4,7,8-HxCDF	n n
2	35:24	2.45e+03	2.02e+03	1.21	yes	4.47e+03	1,2,3,6,7,8-HxCDF	n n
3	35:56	2.21e+03	1.84e+03	1.20	yes	4.05e+03	2,3,4,6,7,8-HxCDF	n n
4	36:42	1.87e+03	1.63e+03	1.15	yes	3.50e+03	1,2,3,7,8,9-HxCDF	n n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: U150521 Sample: 1 Injection: 1 Function: 3

Llim: - Ulim: -

Acquired: 23-AUG-14 15:18:24 Processed: 27-AUG-14 14:13:09

Mass: 389.8160 391.8130 Tot Response: 8.93e+03 RRF: 1.284

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:04	1.47e+03	1.19e+03	1.24	yes	2.66e+03	1,2,3,4,7,8-HxCDD	n n
2	36:09	1.71e+03	1.40e+03	1.23	yes	3.11e+03	1,2,3,6,7,8-HxCDD	n n
3	36:23	1.75e+03	1.40e+03	1.25	yes	3.15e+03	1,2,3,7,8,9-HxCDD	n n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 43      Totals Name: Total Hepta-Furans

Run: 12      File: U150521      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

Acquired: 23-AUG-14    15:18:24      Processed: 27-AUG-14 14:13:09

Mass: 407.7820    409.7790      Tot Response: 6.32e+03    RRF: 1.345

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:57	1.80e+03	1.75e+03	1.03	yes	3.56e+03	1,2,3,4,6,7,8-HpCDF	n    n
2	39:20	1.44e+03	1.33e+03	1.08	yes	2.76e+03	1,2,3,4,7,8,9-HpCDF	n    n

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Peak List Summary

CLIENT ID.

Nv SYC14-AC Rep.7

Entry: 44      Totals Name: Total Hepta-Dioxins

Run: 12      File: U150521      Sample: 1    Injection: 1    Function: 4

Llim: -      Ulim: -

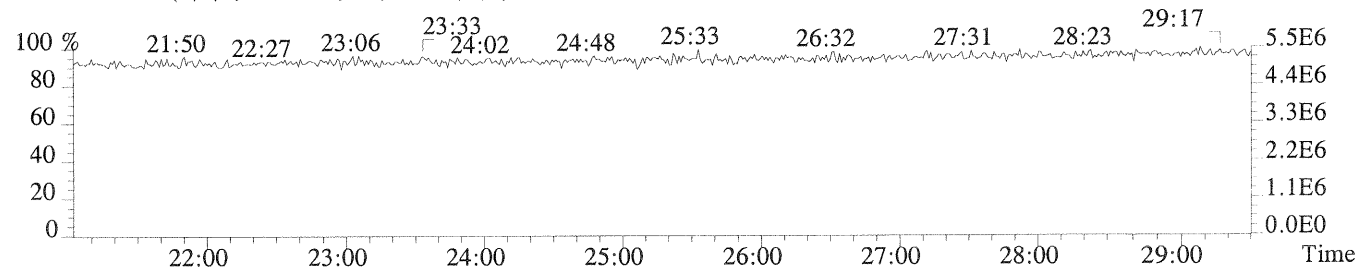
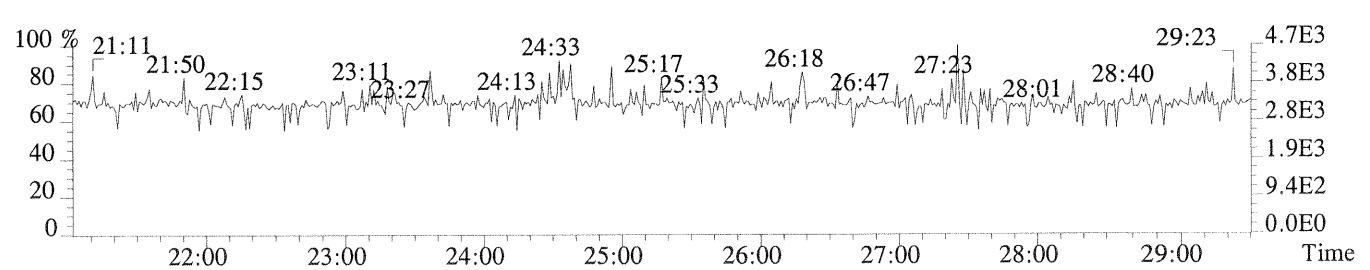
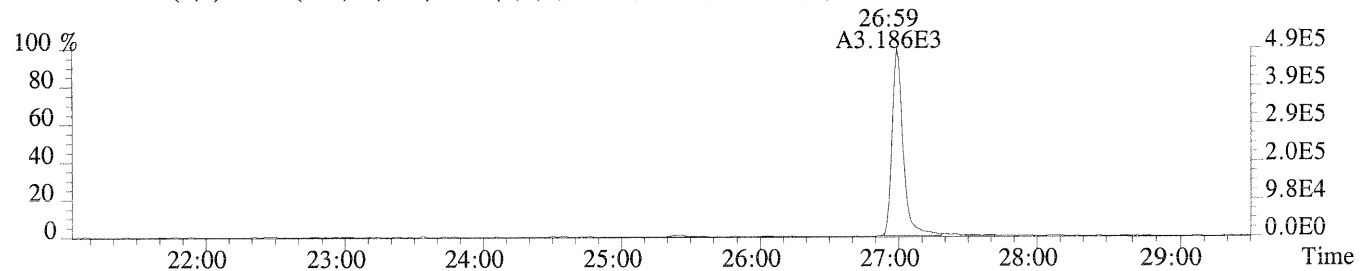
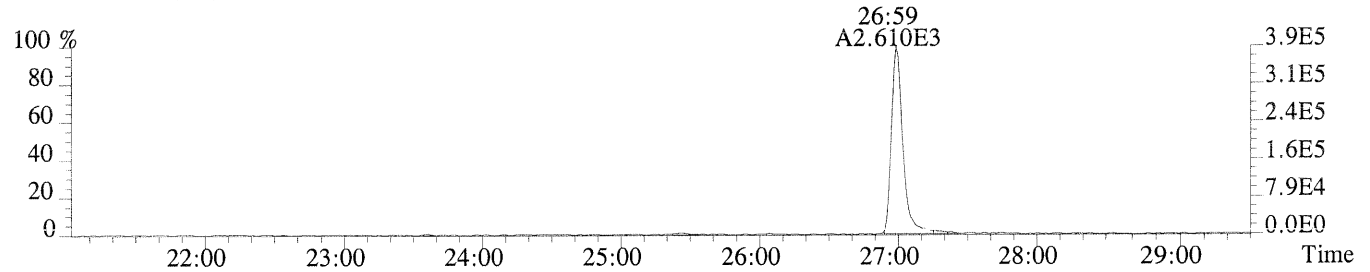
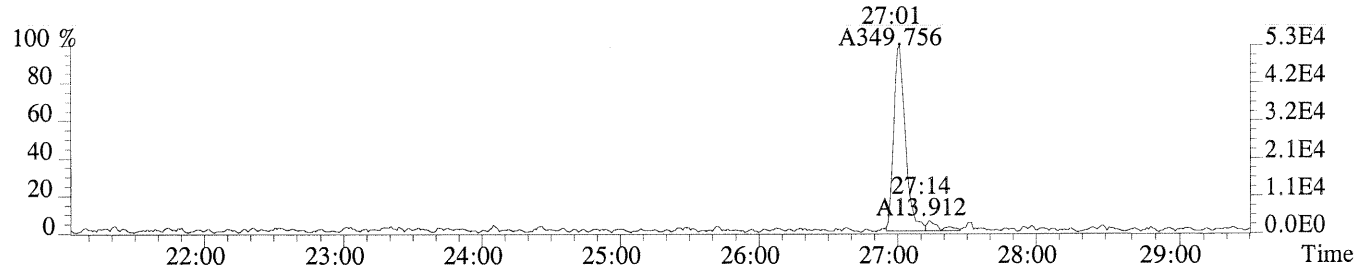
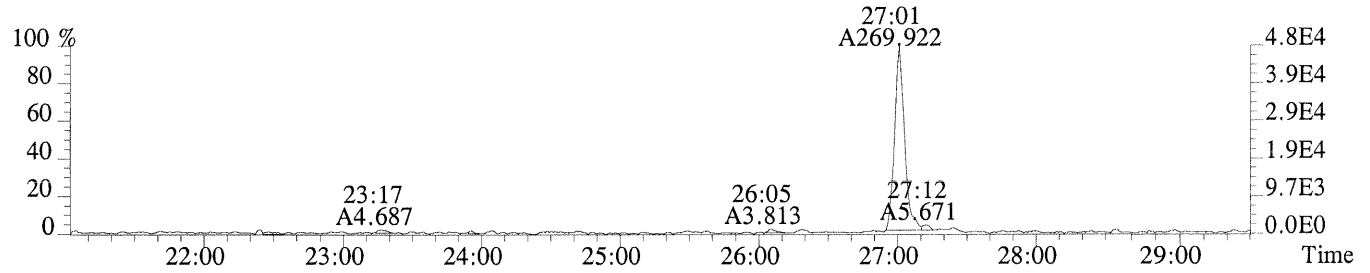
Acquired: 23-AUG-14    15:18:24      Processed: 27-AUG-14 14:13:09

Mass: 423.7770    425.7740      Tot Response: 2.49e+03    RRF: 1.102

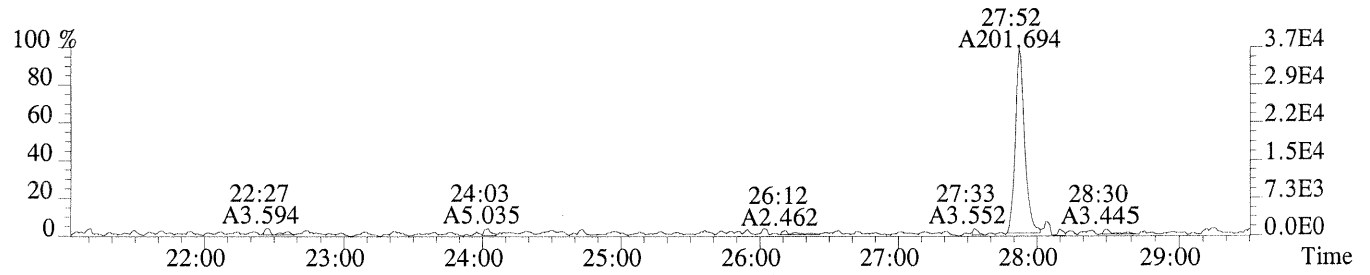
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2	
1	38:52	1.29e+03	1.20e+03	1.08	yes	2.49e+03	1,2,3,4,6,7,8-HpCDD	y	y

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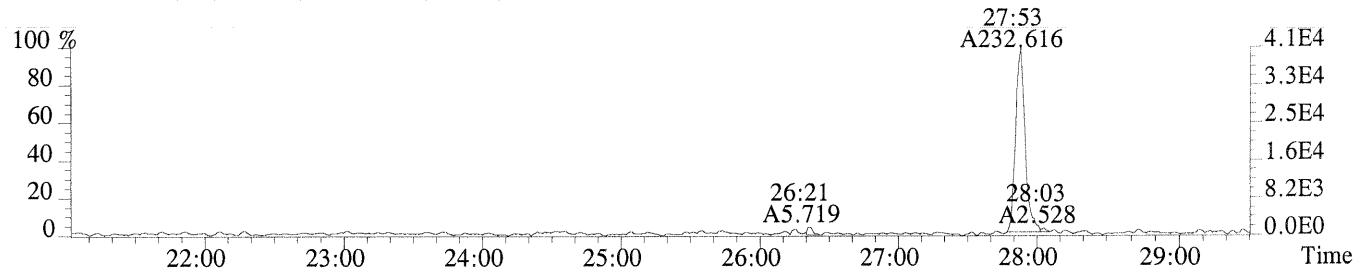
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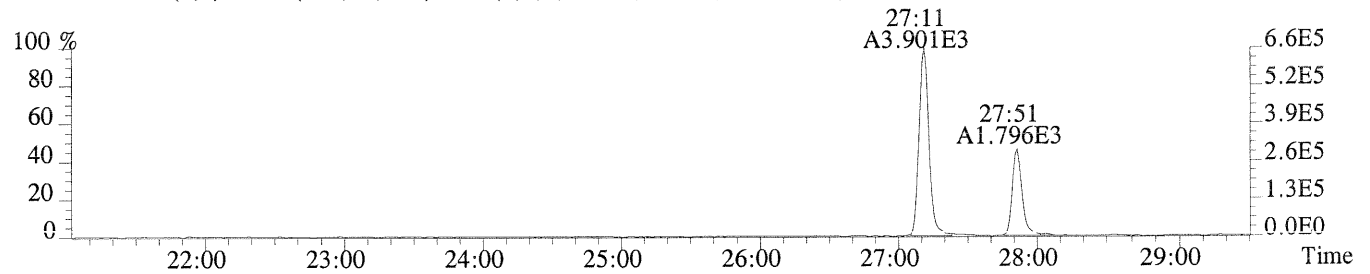
File:U150521 #1-607 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



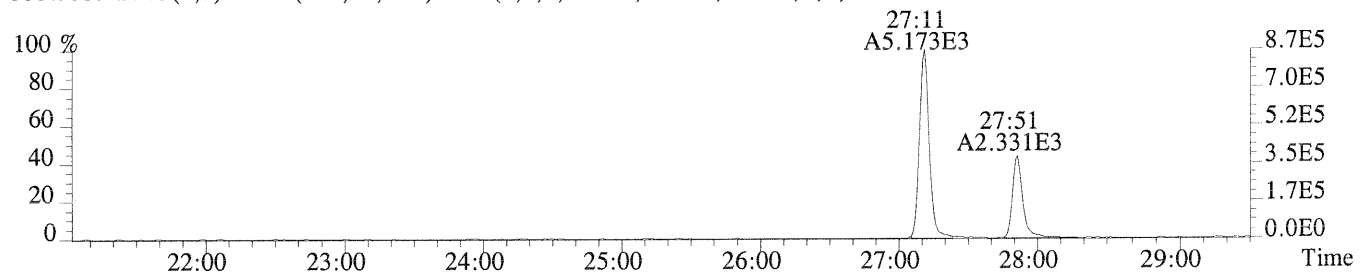
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



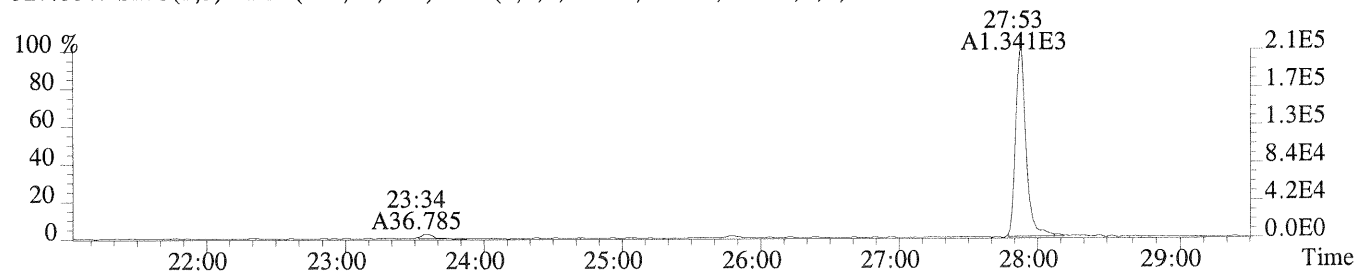
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



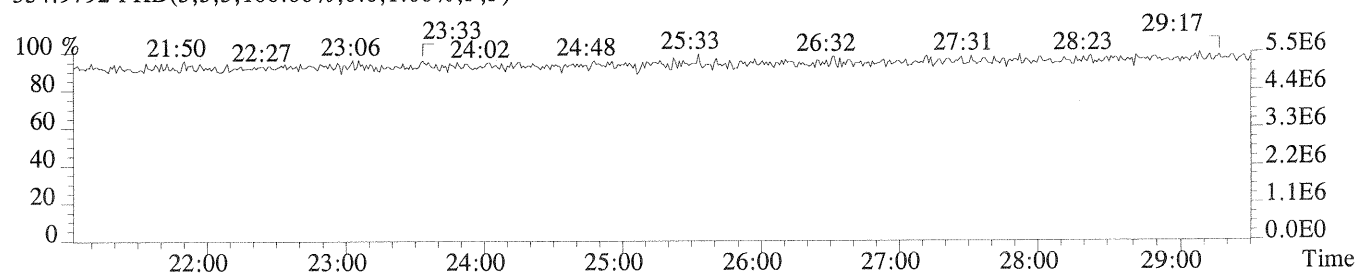
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



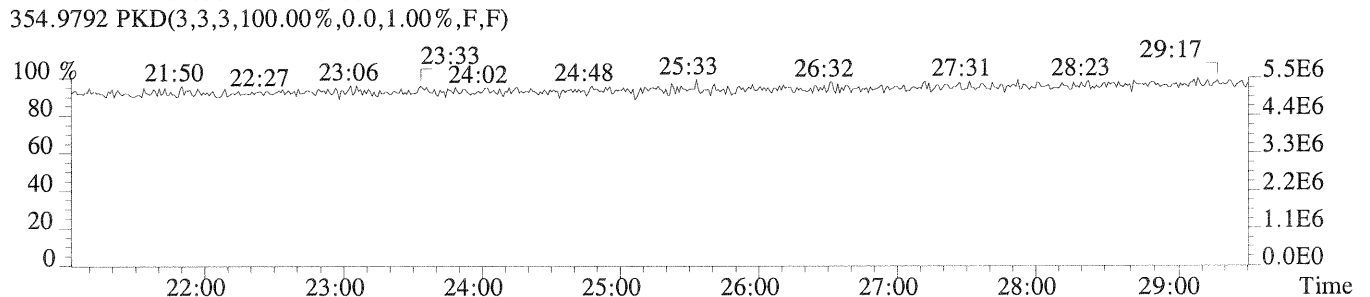
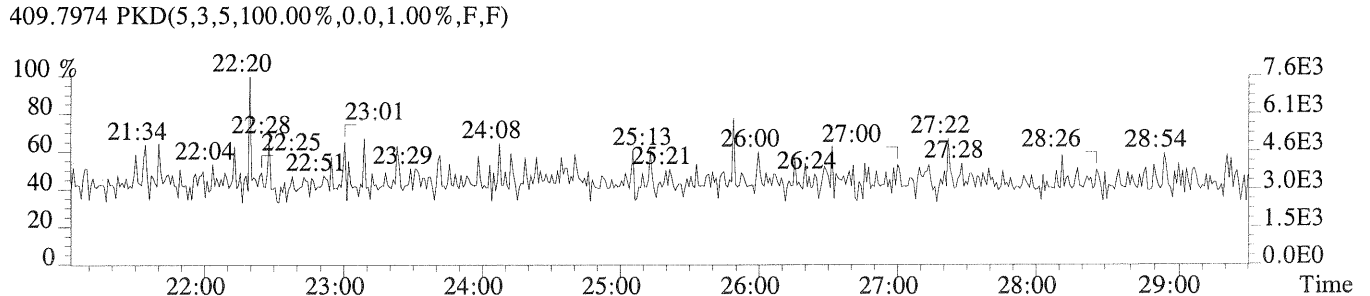
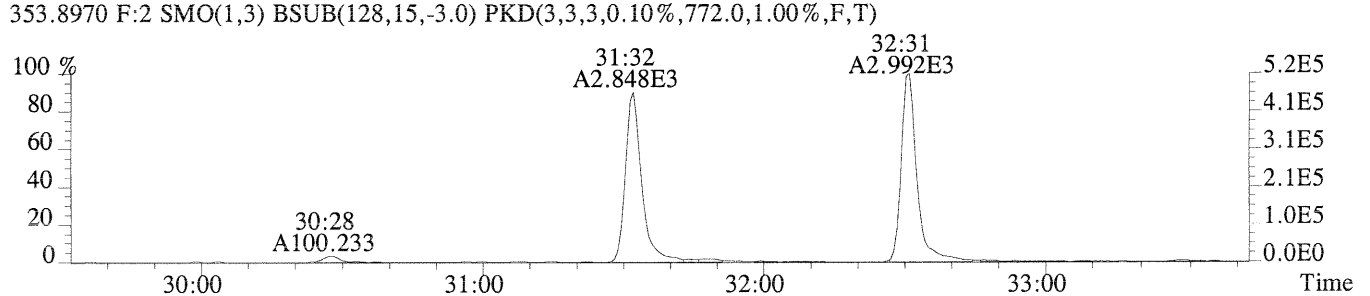
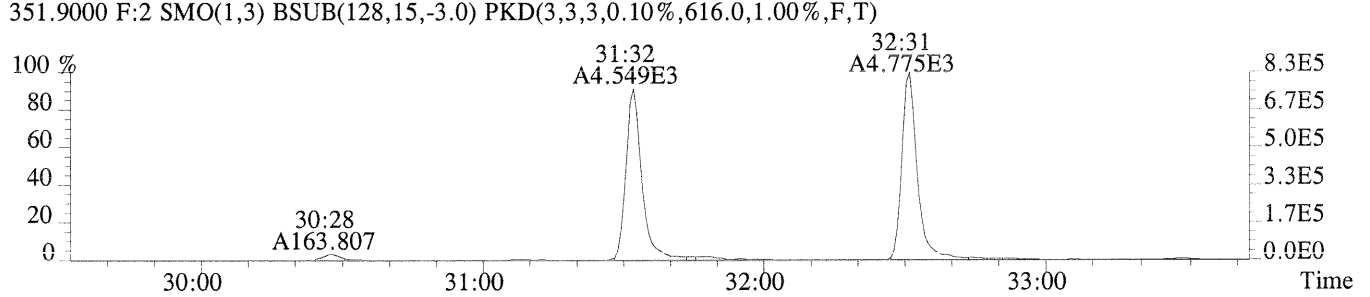
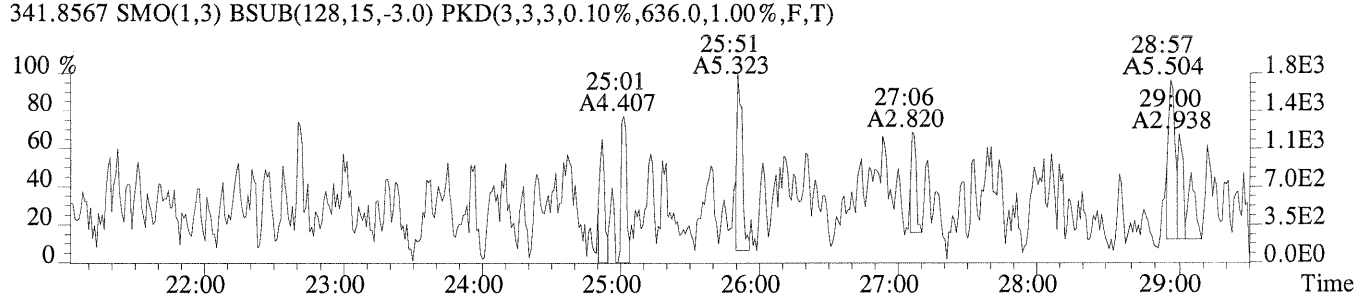
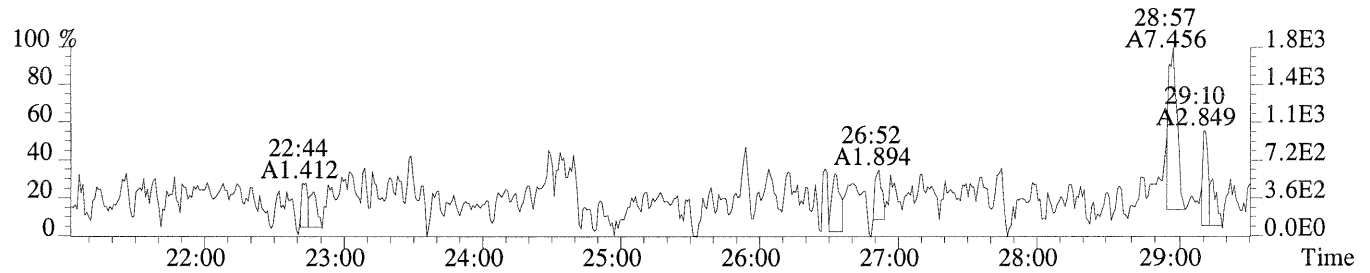
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1116.0,1.00%,F,T)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

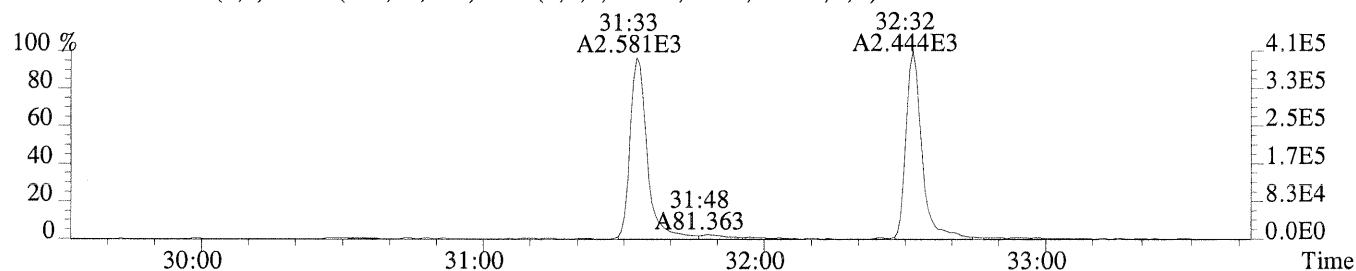


File:U150521 #1-607 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)

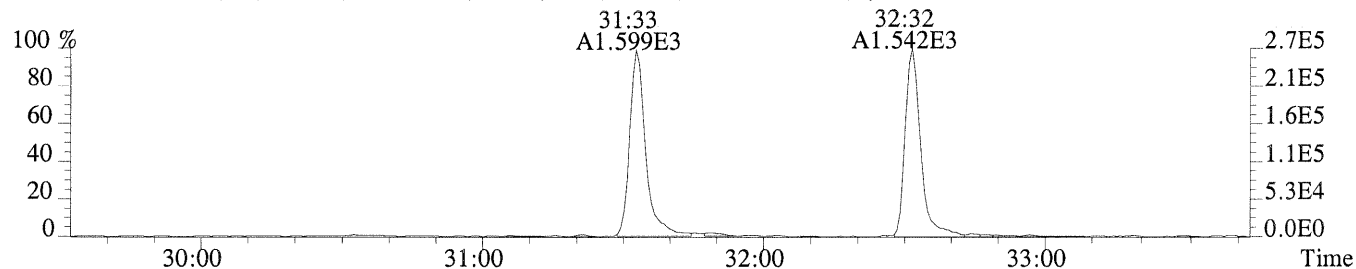




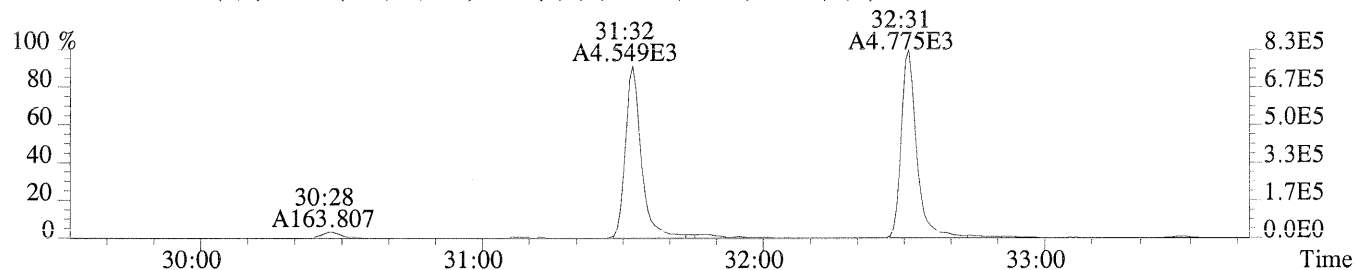
File:U150521 #1-379 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



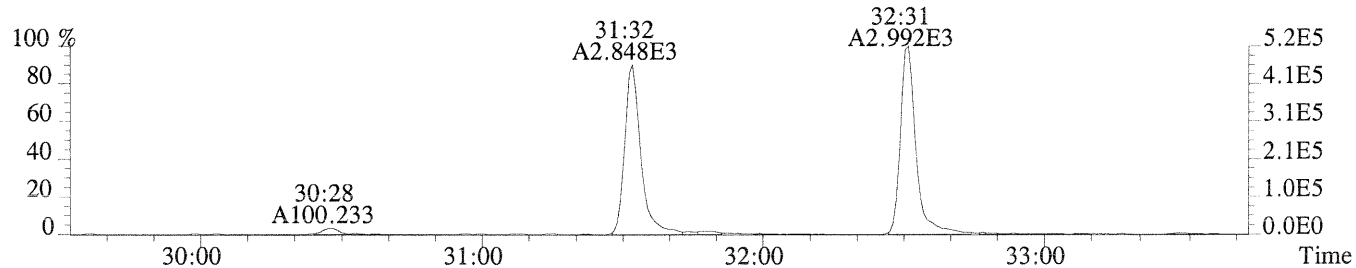
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



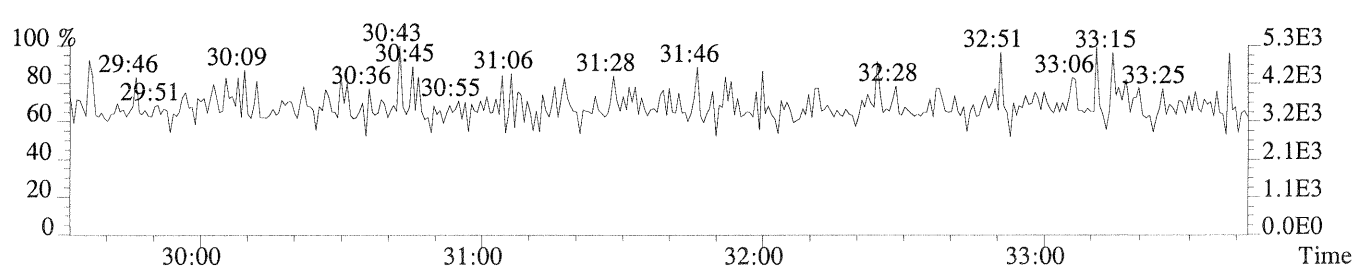
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



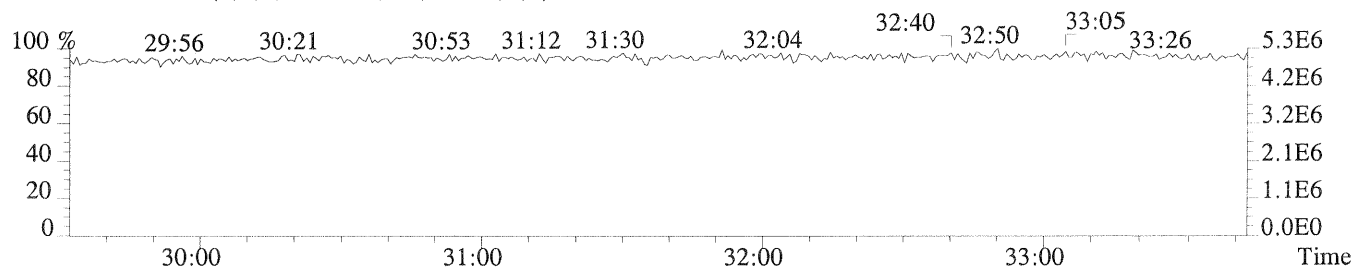
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



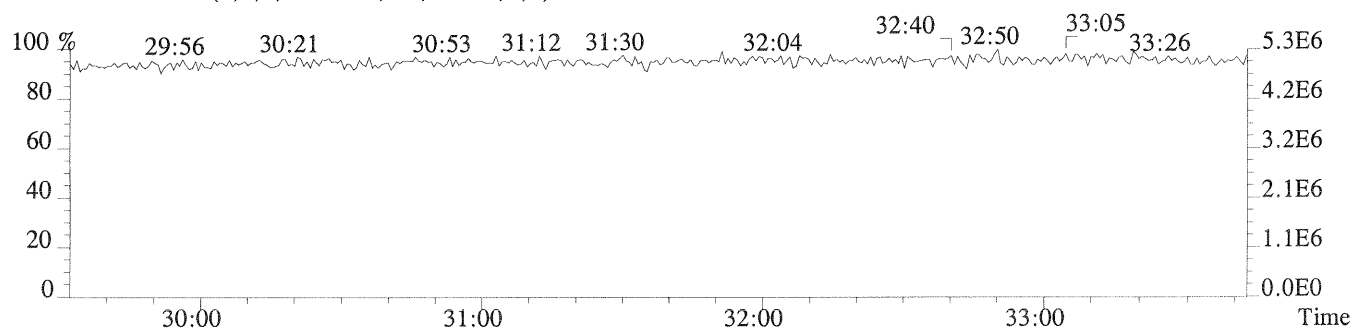
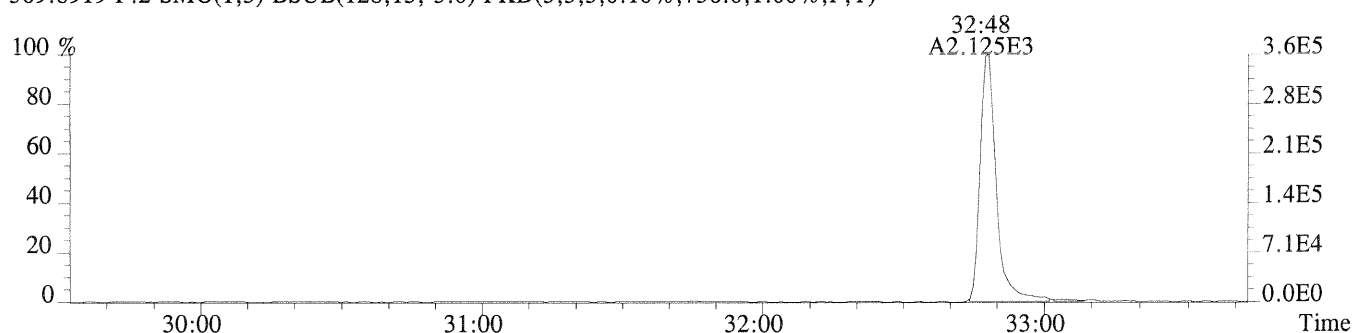
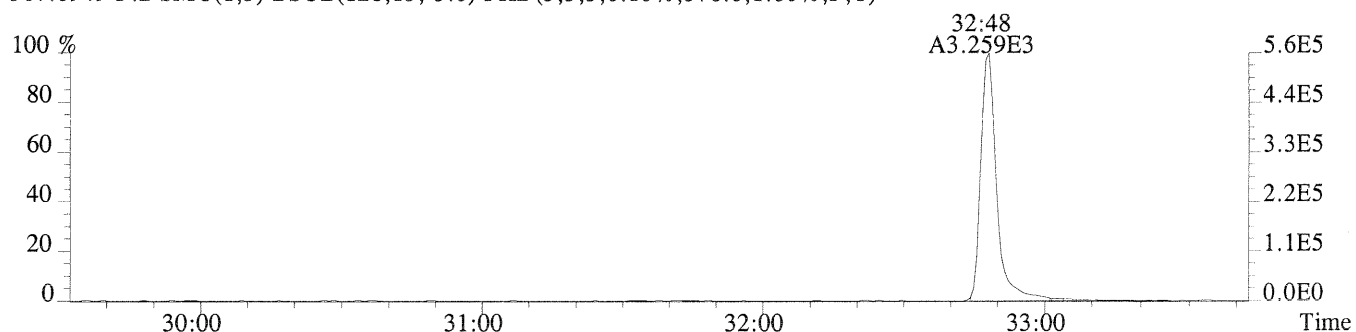
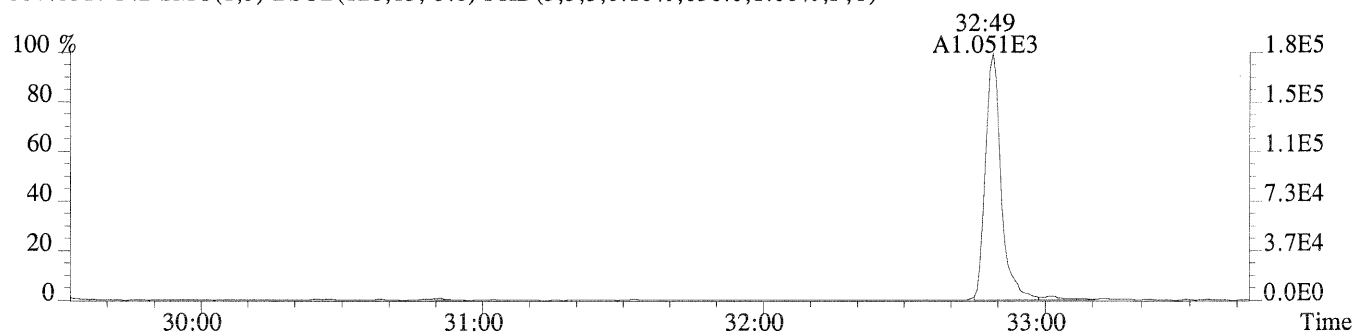
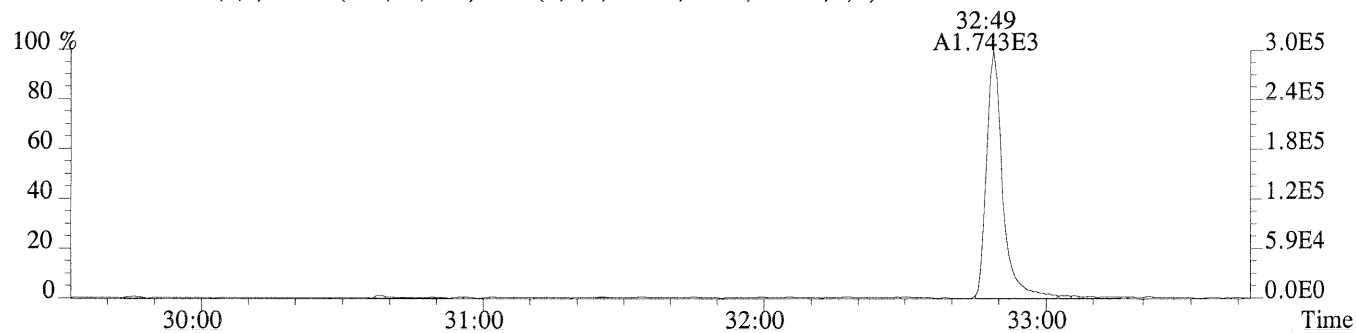
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

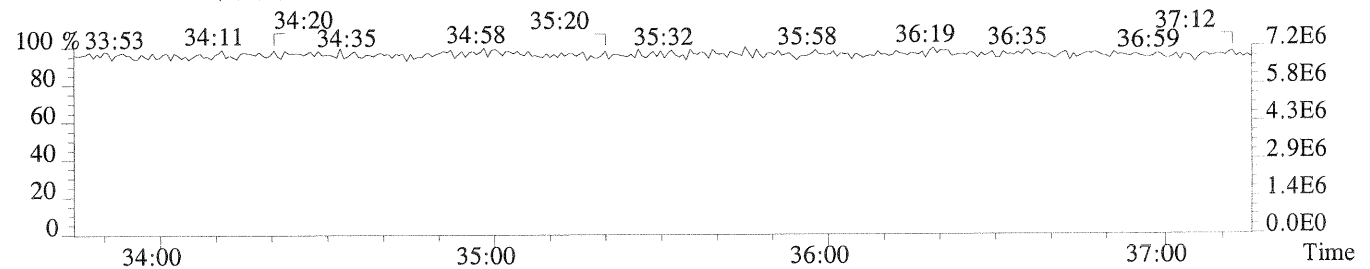
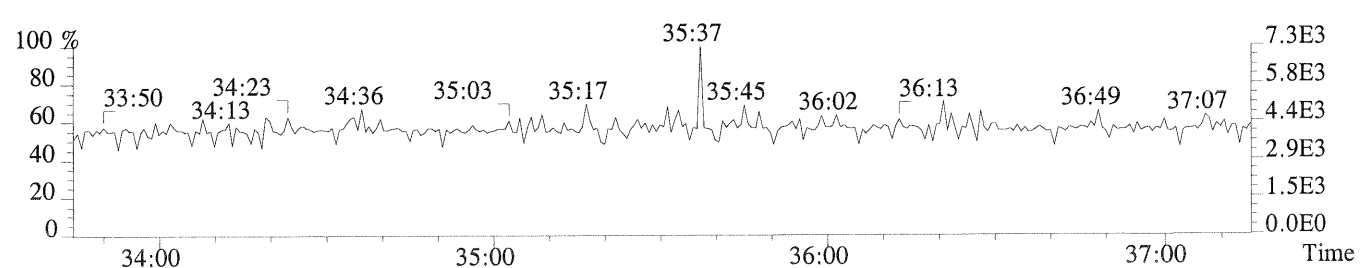
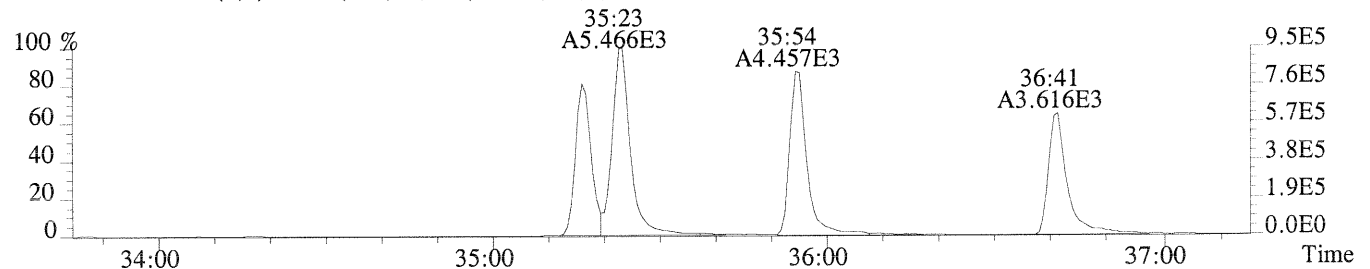
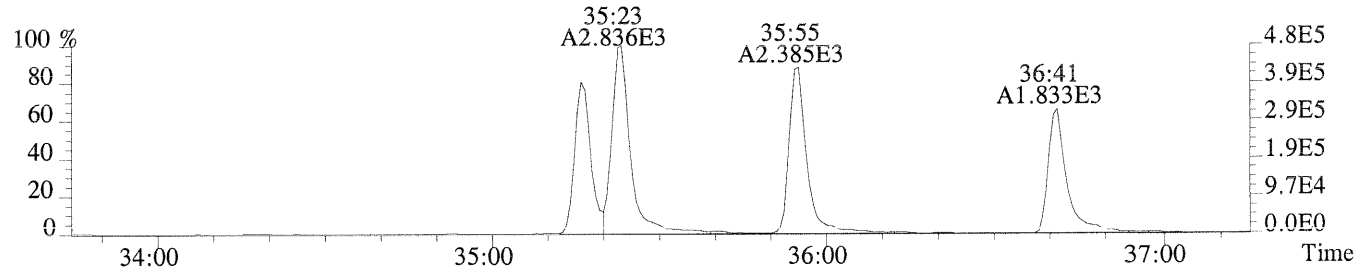
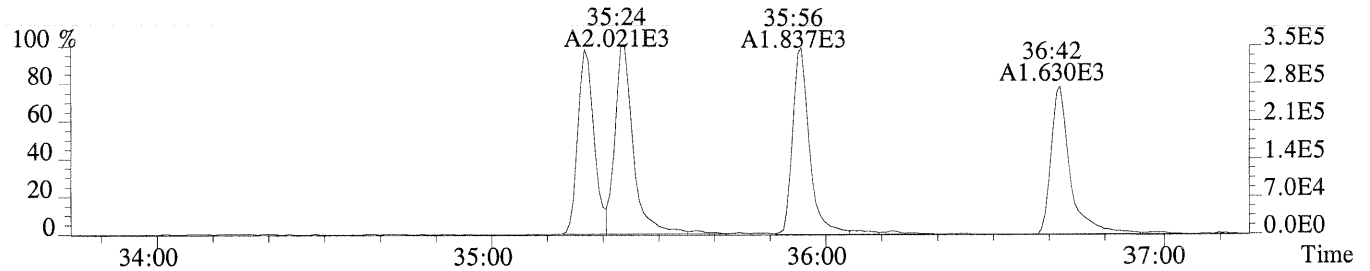
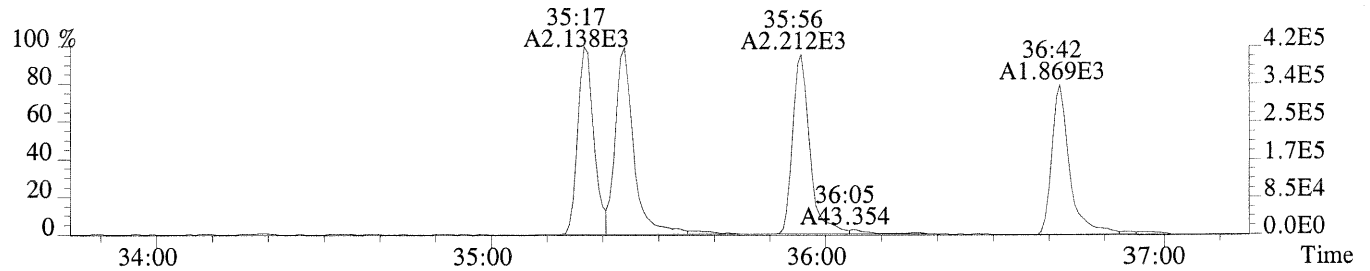


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

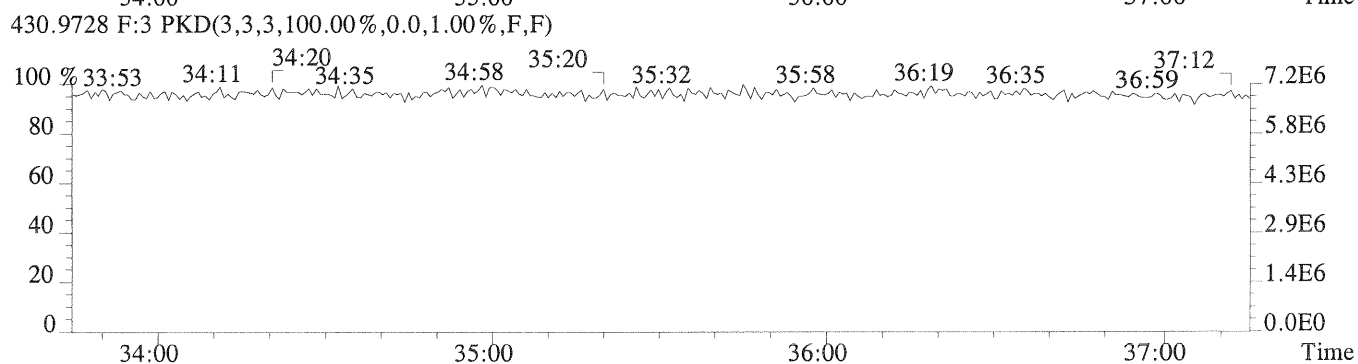
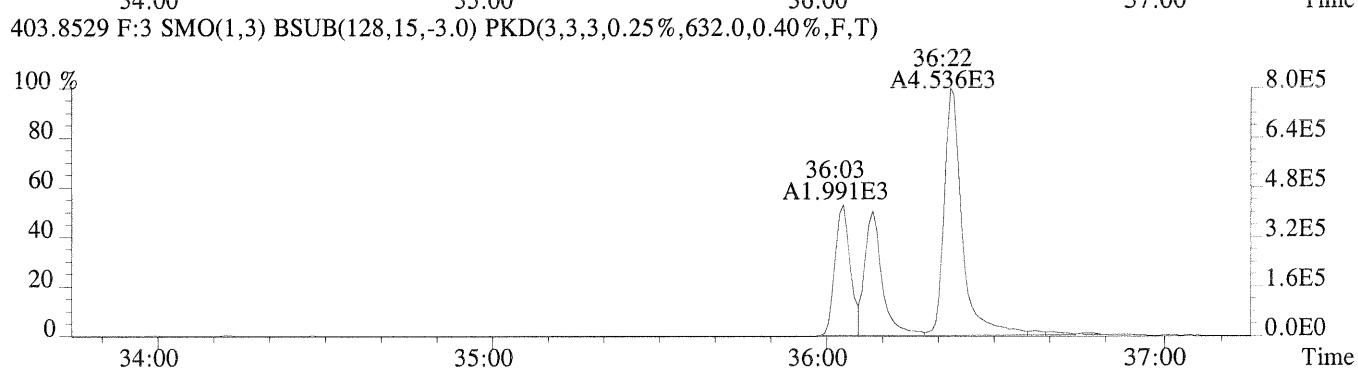
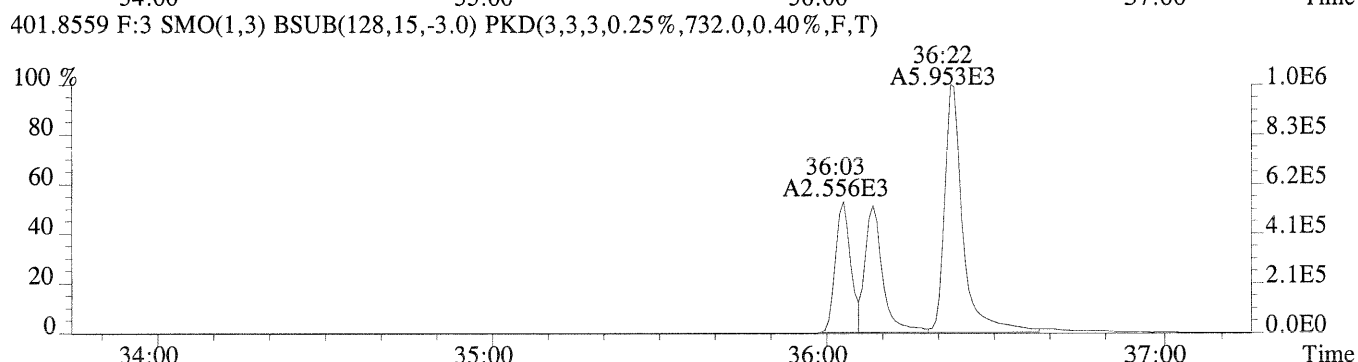
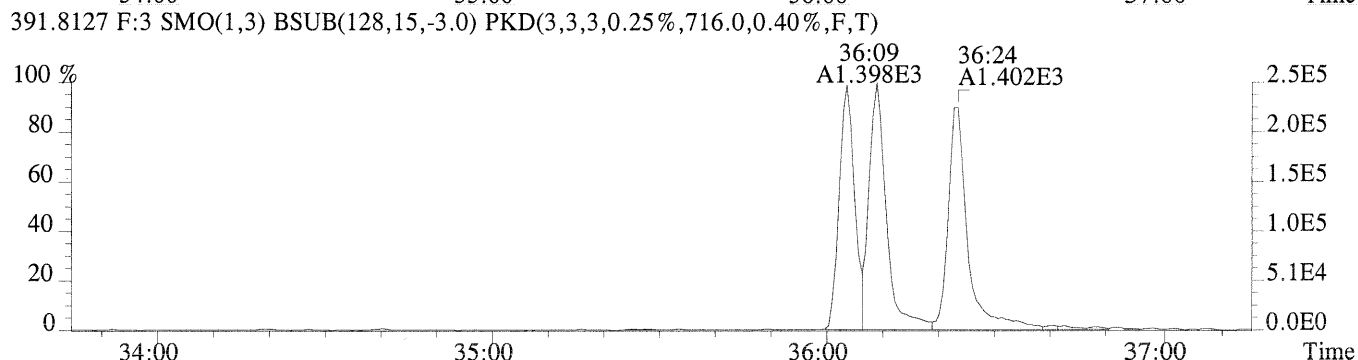
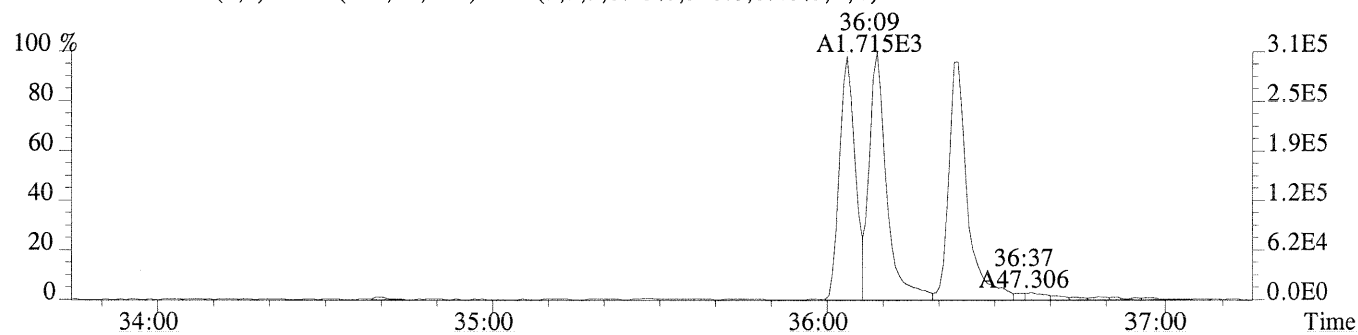


File:U150521 #1-379 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)

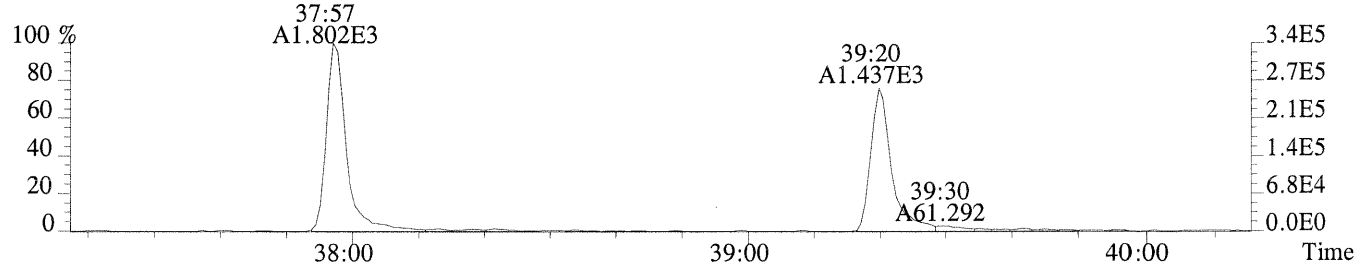




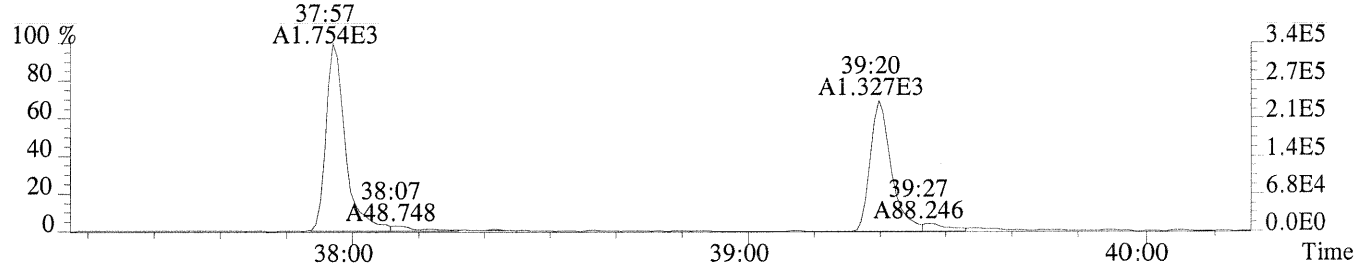
File:U150521 #1-319 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,540.0,0.40%,F,T)



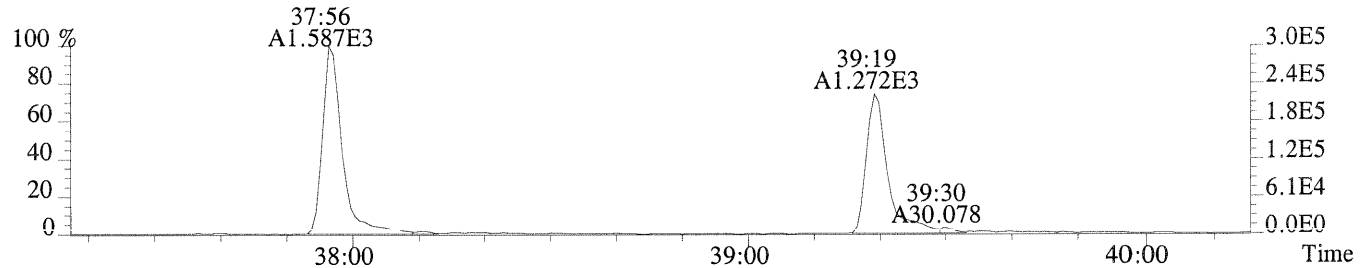
File:U150521 #1-270 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,668.0,0.50%,F,T)



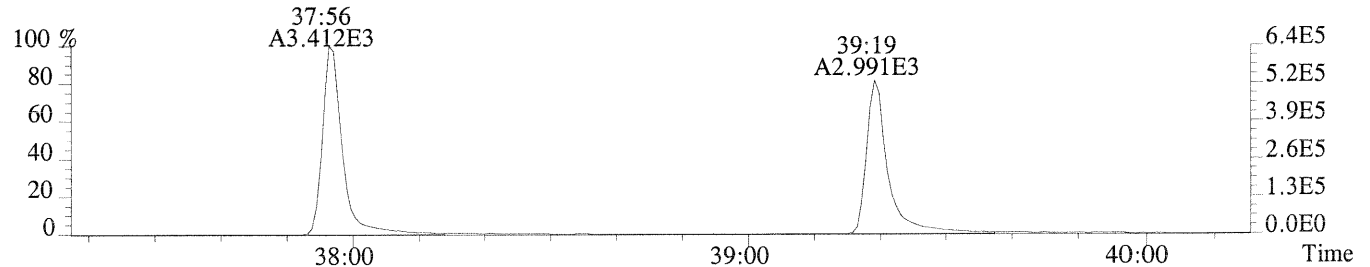
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.50%,F,T)



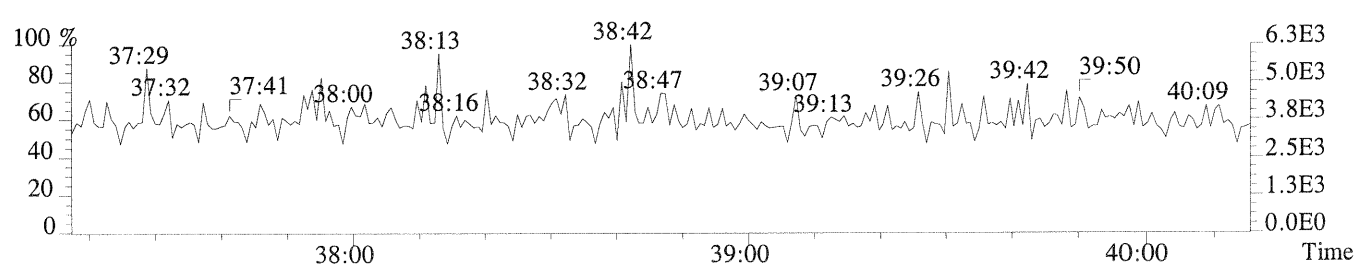
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.50%,F,T)



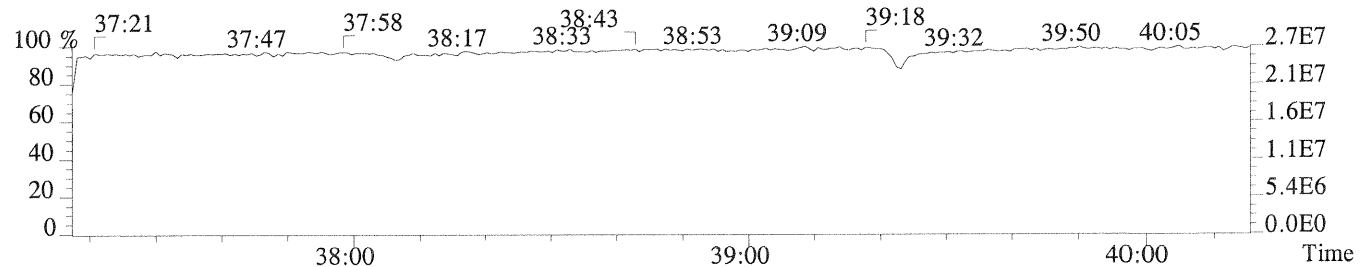
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.50%,F,T)



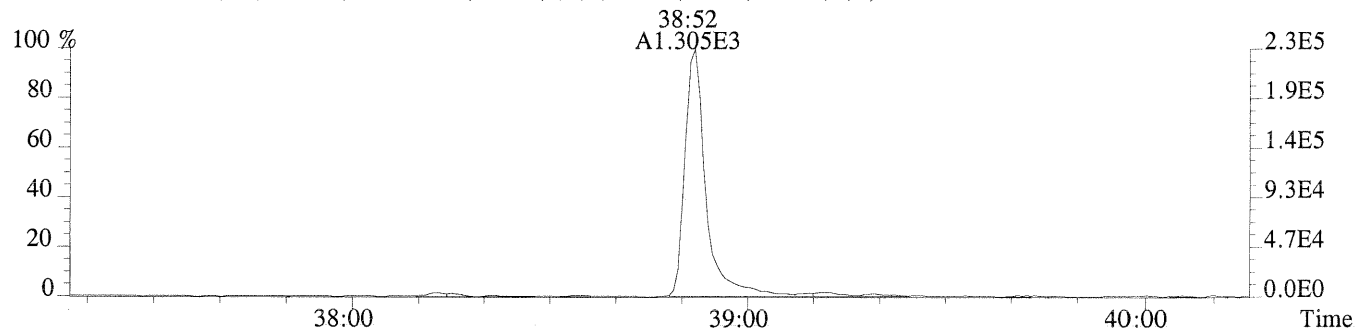
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



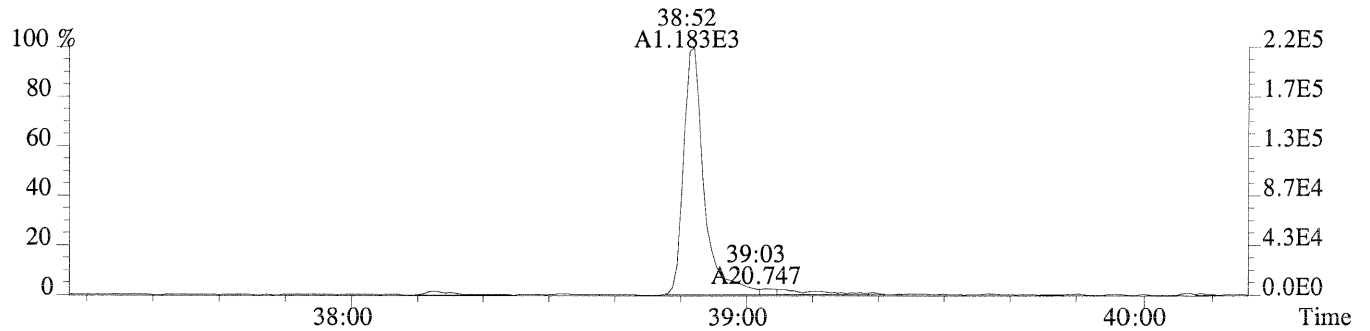
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



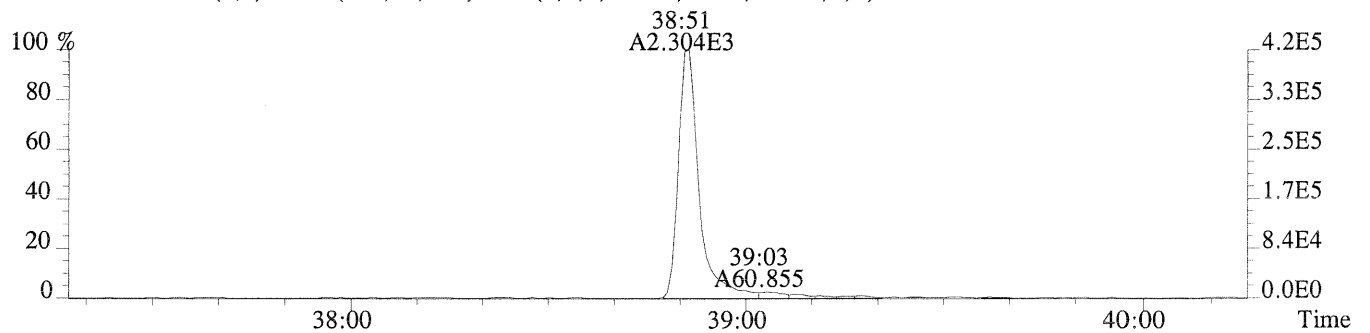
File:U150521 #1-270 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,536.0,0.40%,F,T)



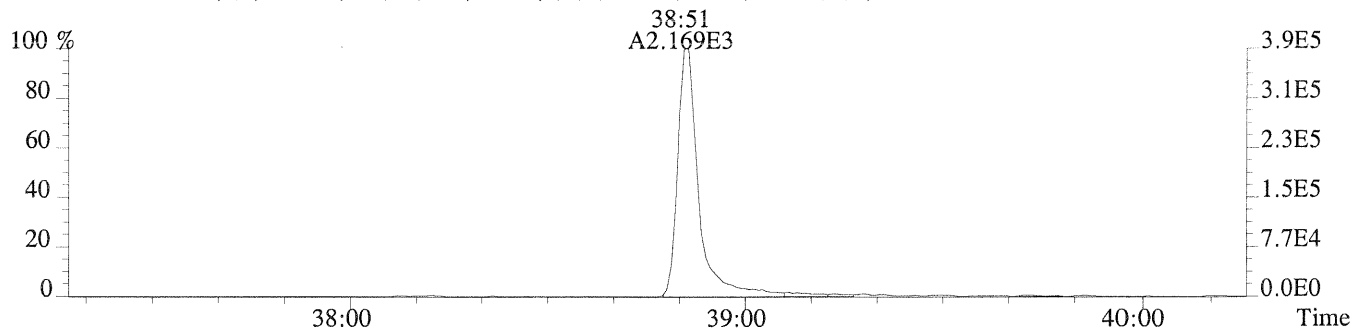
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,T)



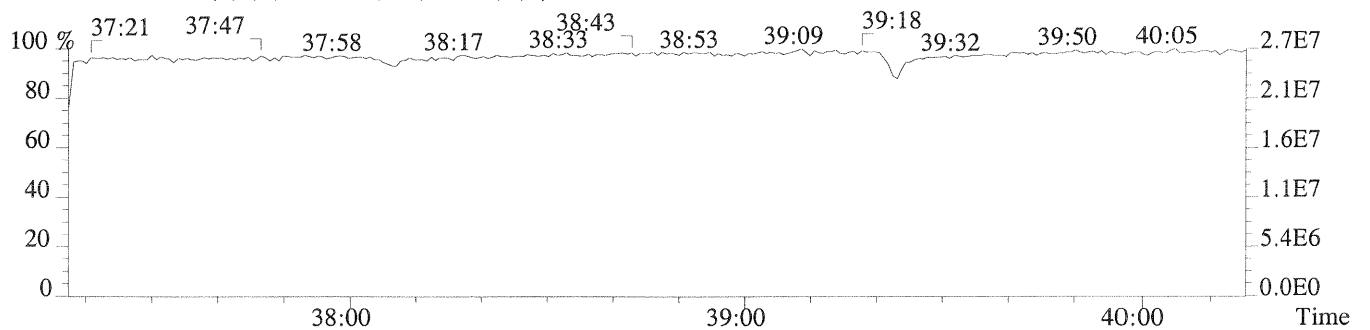
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,T)



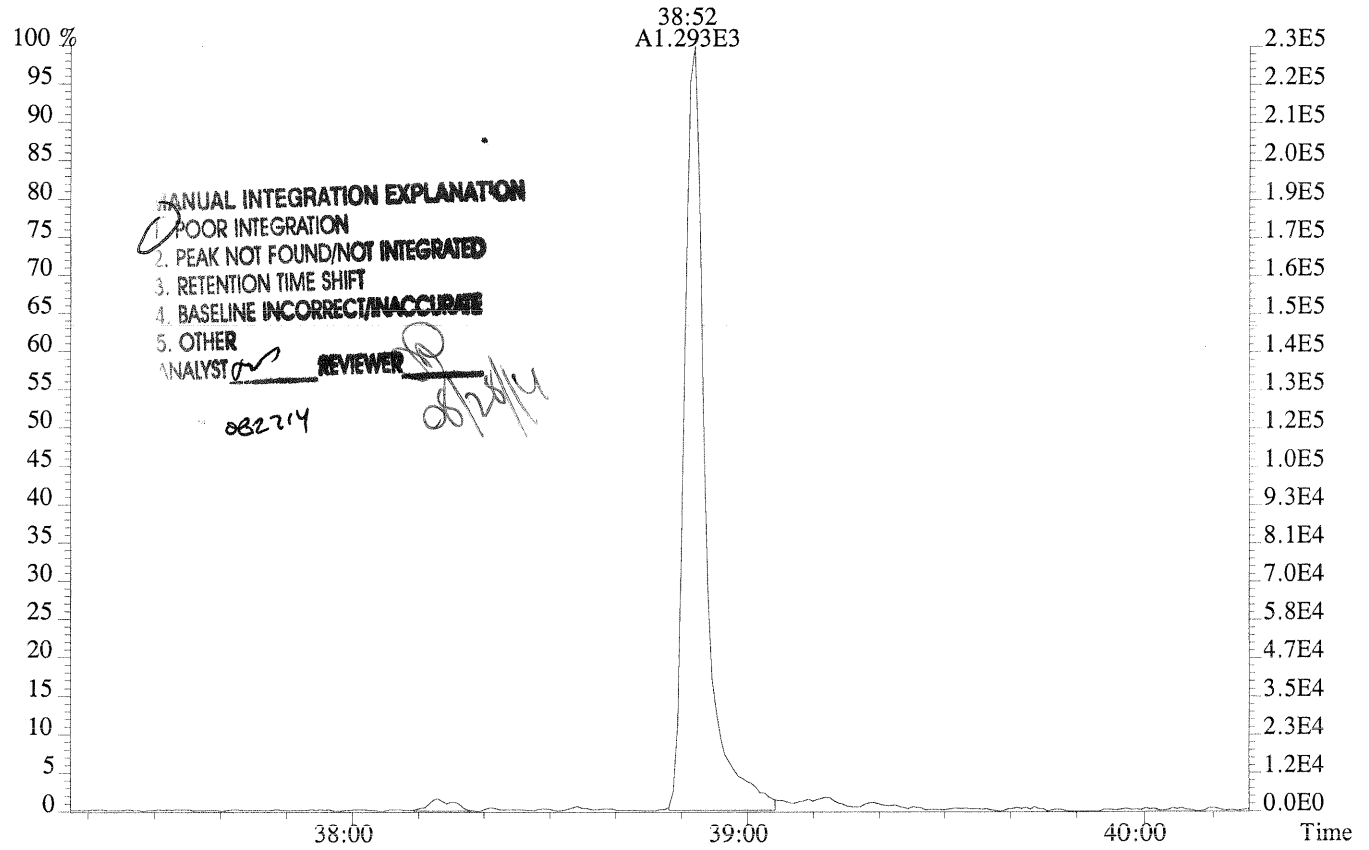
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,460.0,0.40%,F,T)



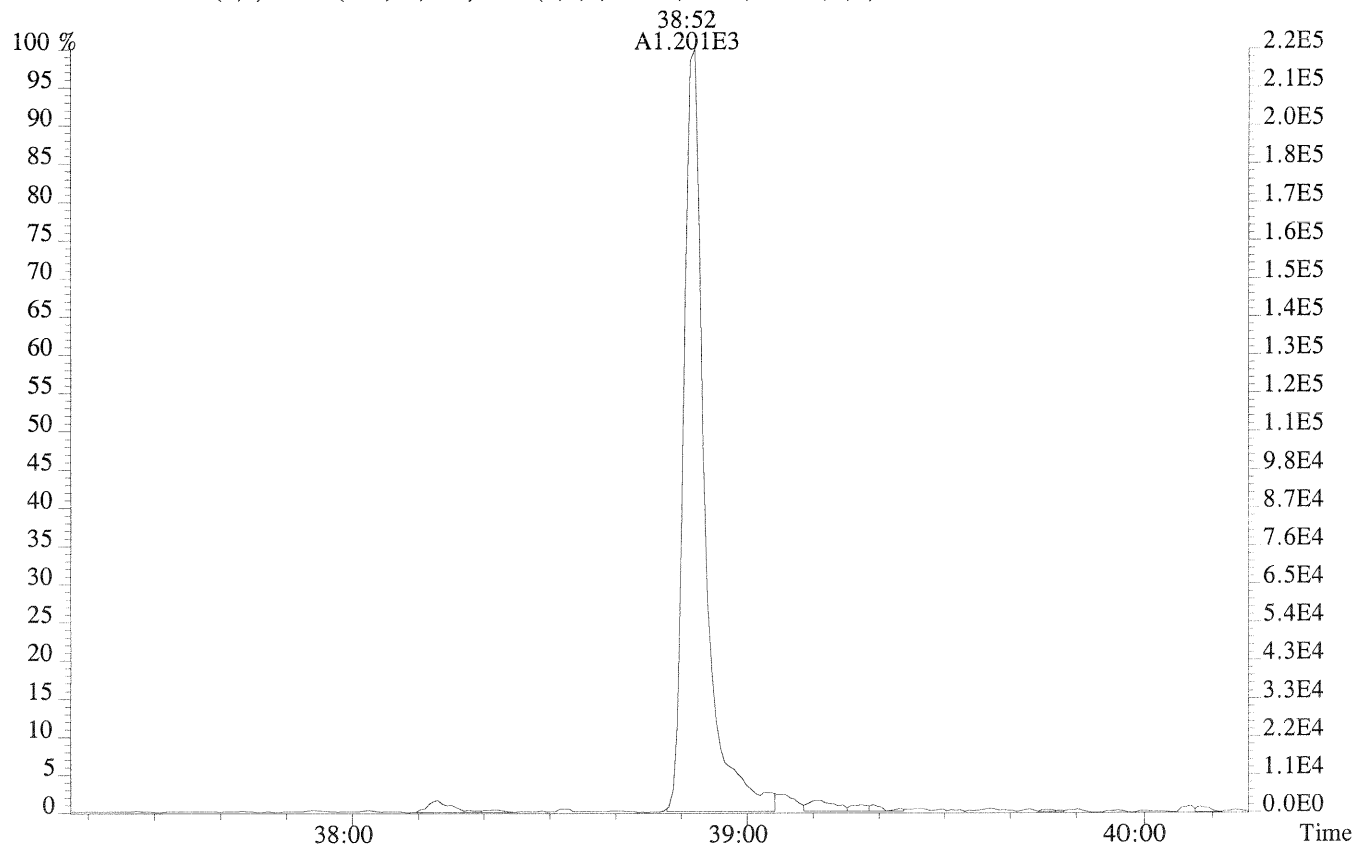
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U150521 #1-270 Acq:23-AUG-2014 15:18:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:EQ1400478-04  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,536.0,0.40%,F,T)



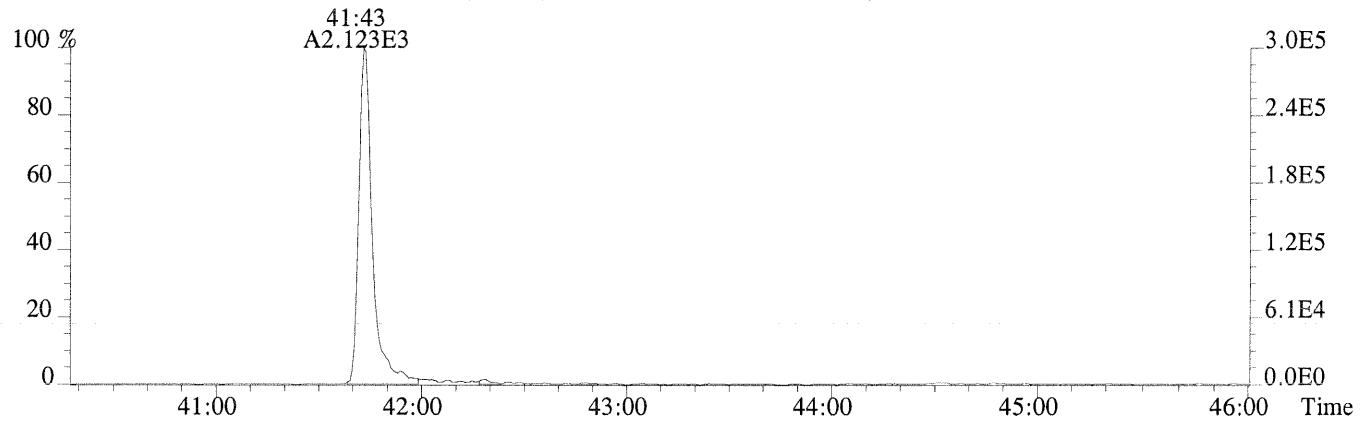
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,T)



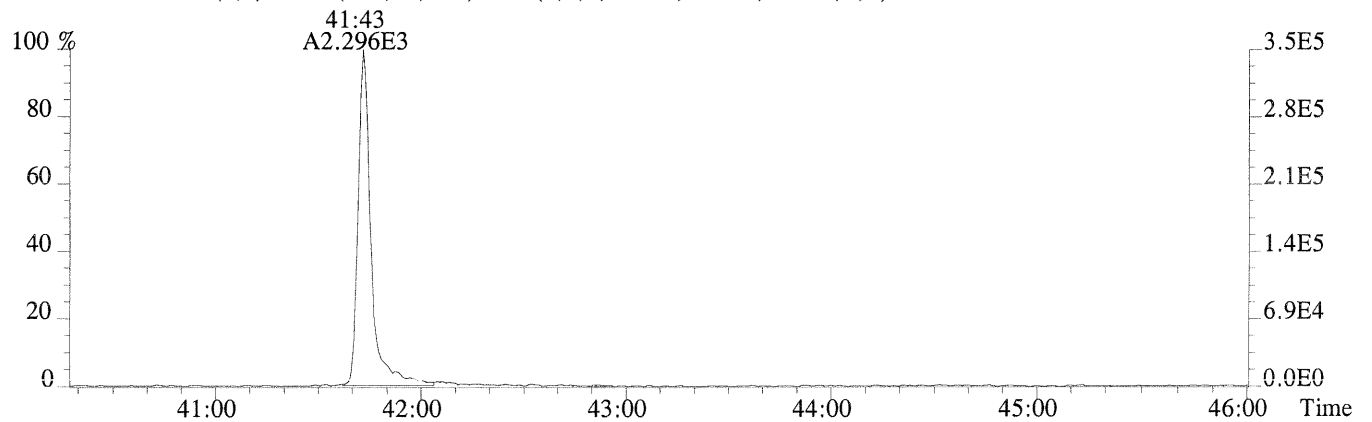
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Sample#1 Exp:EQ1400478-04

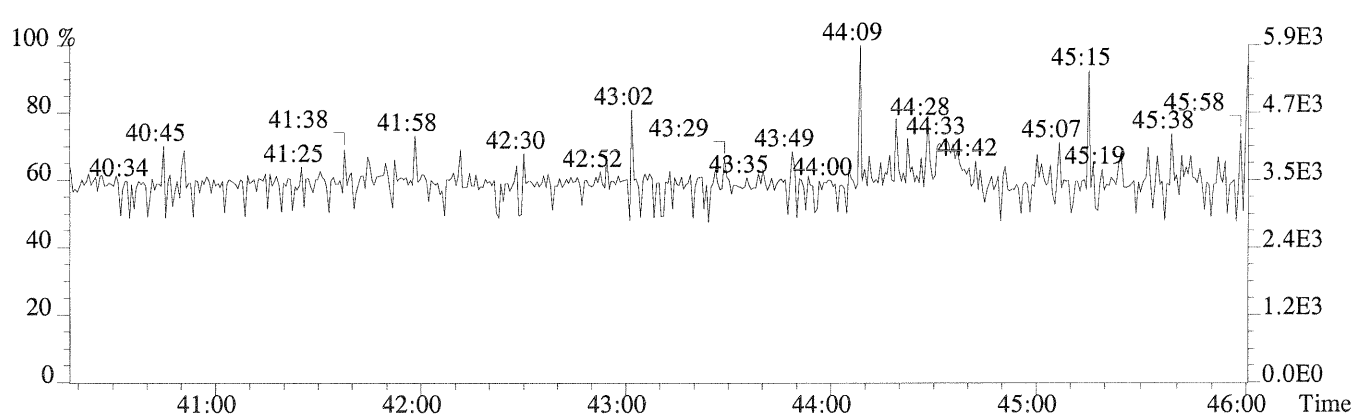
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



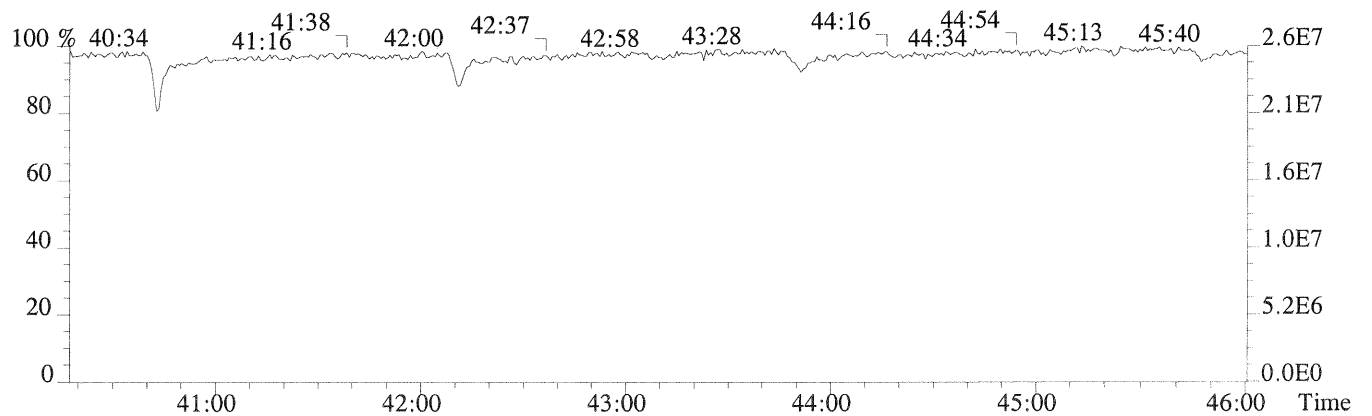
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



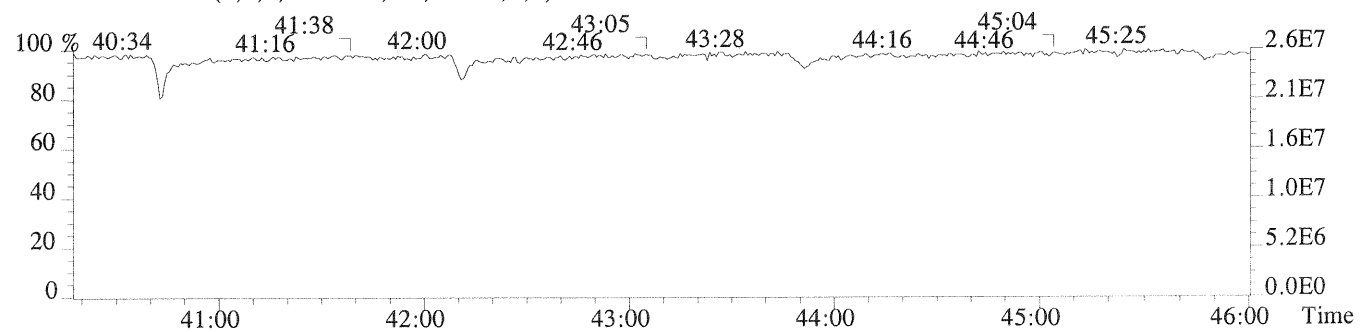
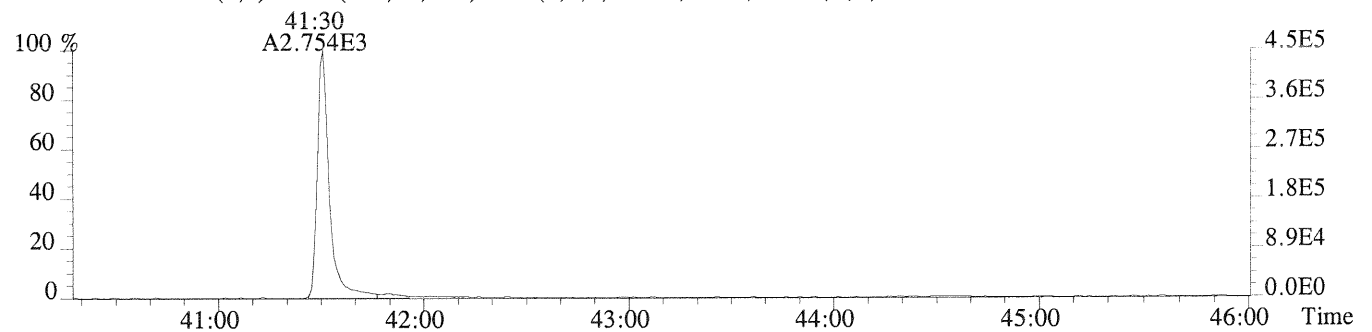
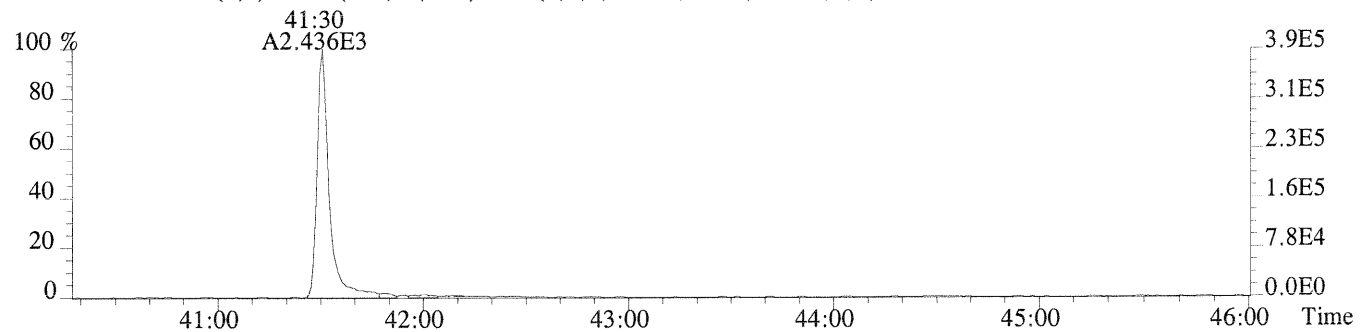
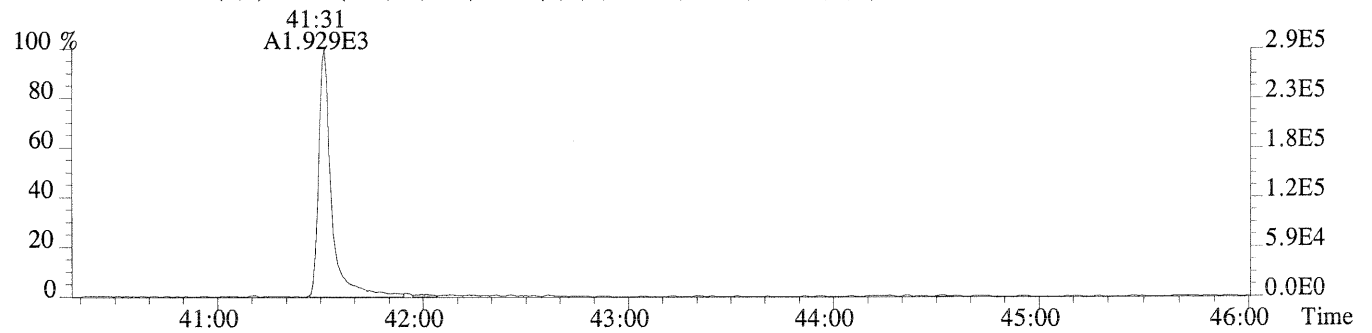
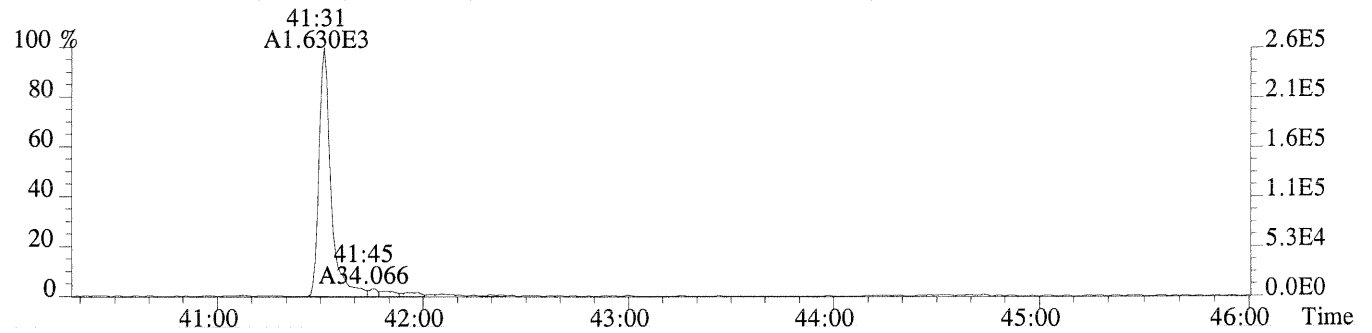
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)









# Continuing Calibration

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd., Suite 210, Houston, TX 77099  
Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS | RIGHT PARTNER

# CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P173101 - P173113

Circle one: Beginning / Ending

Date: 08/28/14

Method: 1613 / 1613E (8290) VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check: Analyst Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration Analyst Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: JC

Second QC: ML

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB-5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 03/25/14

Init. Calib. Times: 16:28

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSS) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
63680	WINDOW DEFINE	P173102	26-AUG-14	12:18:30
72675	CS3	P173101	26-AUG-14	11:30:53
72675	CS3	P173113	26-AUG-14	21:50:17
METHOD BLANK	EQ1400469-01	P173103	26-AUG-14	13:38:44
BM11LAA01C-SW-14	E1400918-015	P173104	26-AUG-14	14:25:37
BM11LAA01C-SW-15	E1400918-016	P173105	26-AUG-14	15:13:46
BM11LAA01C-SW-16	E1400918-017	P173106	26-AUG-14	16:01:54
BM11LAA01C-SW-17	E1400918-018	P173107	26-AUG-14	16:50:02
BM11LAA01C-SW-18	E1400918-019	P173108	26-AUG-14	17:50:52
NV PRETEST REP.1	K1407971-001	P173109	26-AUG-14	18:37:44
NV PRETEST REP.2	K1407971-002	P173110	26-AUG-14	19:25:52
NV PRETEST REP.3	K1407971-003	P173111	26-AUG-14	20:14:00

Sample List Report

MassLynx 4.1

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\IP1140826.SPL  
Last Modified: Wednesday, August 27, 2014 07:52:07 Central Daylight Time  
Printed: Wednesday, August 27, 2014 07:52:16 Central Daylight Time

D:\P173101REFS

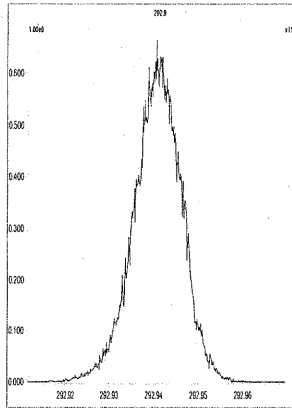
Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
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2	12:11P	P173102	WINDOW DEFINE	63680			8290cas
3	13:38	P173103	EQ1400469-01	MB			8290cas
4	14:25	P173104	E1400918-015	E1400918-015			8290cas
5	15:13	P173105	E1400918-016	E1400918-016			8290cas
6	16:01	P173106	E1400918-017	E1400918-017			8290cas
7	16:50	P173107	E1400918-018	E1400918-018			8290cas
8	17:50	P173108	E1400918-019	E1400918-019		HRMS Check 17:44	8290cas
9	18:37	P173109	K1407971-001	K1407971-001			8290cas
10	19:25	P173110	K1407971-002	K1407971-002			8290cas
11	20:14	P173111	K1407971-003	K1407971-003			8290cas
12	21:02	P173112	TEST	TEST			8290cas
13	21:50	P173113	CS3	72675		HRMS check 08:20	8290cas
14							8290cas
15							8290cas
16							8290cas
17							8290cas
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Reviewed By: JC  
08/27/14

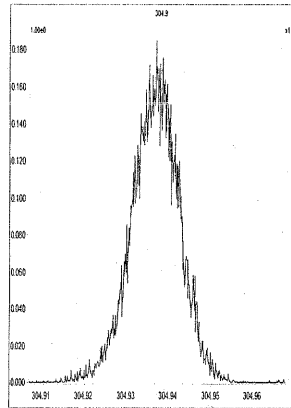
008

Printed: Tuesday, August 26, 2014 11:03:33 Central Daylight Time

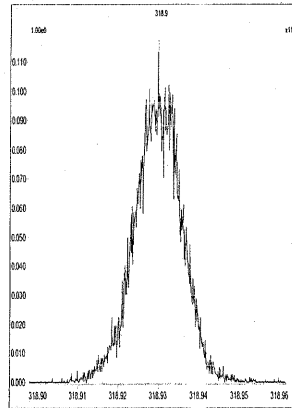
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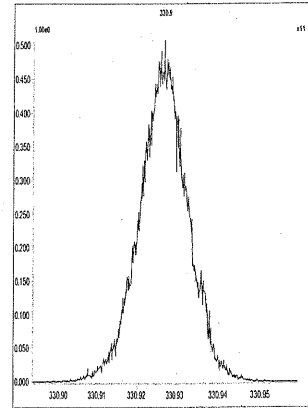
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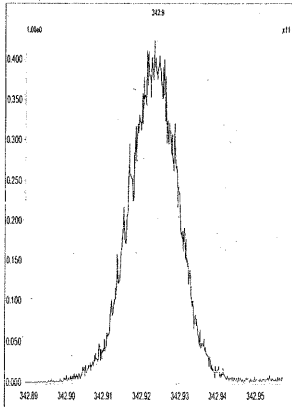
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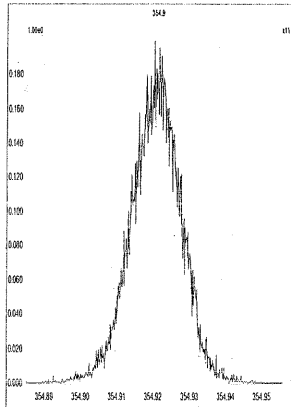
M 330.9792 R 11140



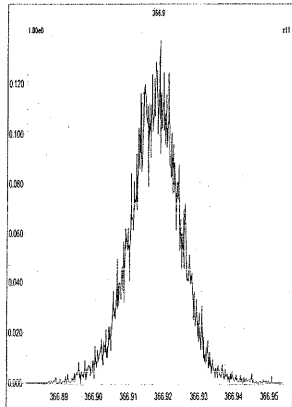
M 342.9792 R 11089



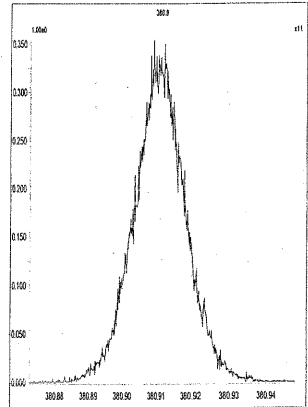
M 354.9792 R 12319



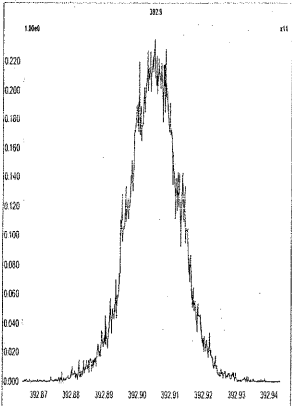
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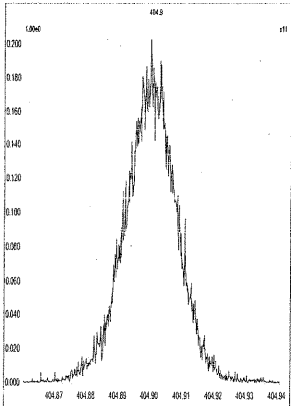
M 380.9760 R 11162



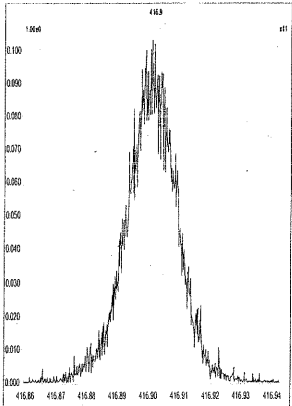
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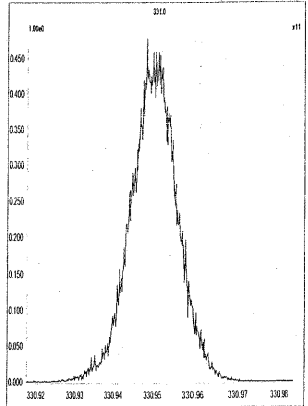
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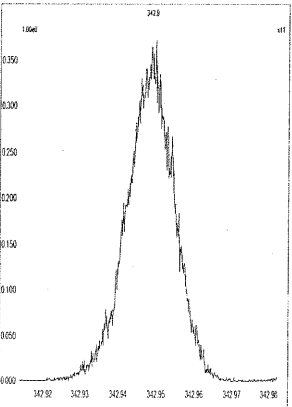
M 416.9760 R 11037



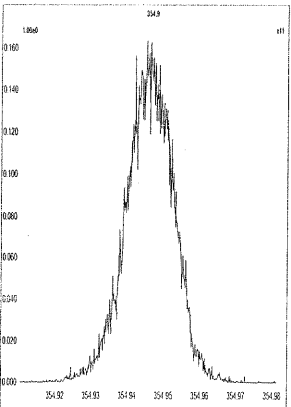
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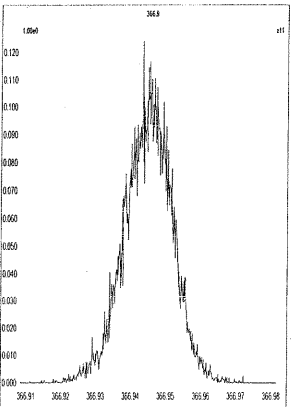
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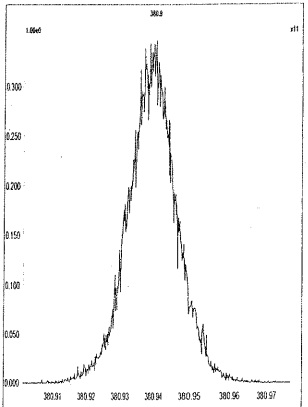
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M 366.9792 R 12395

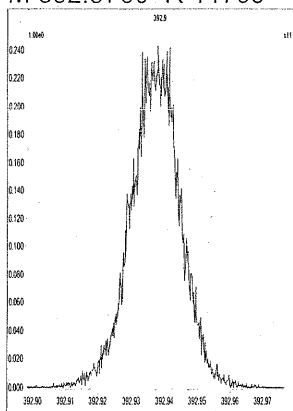


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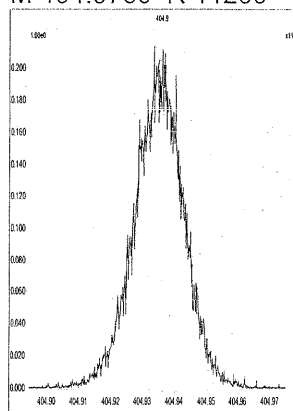


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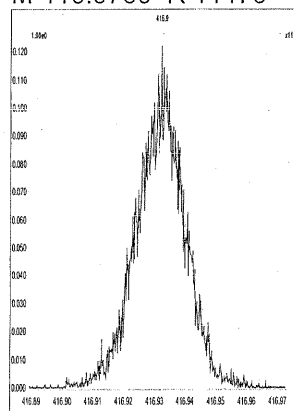
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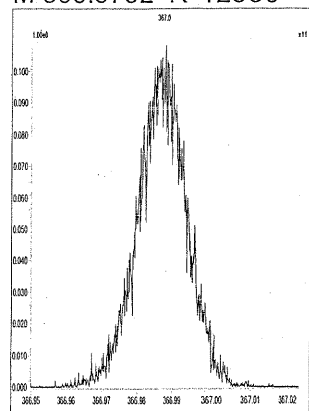
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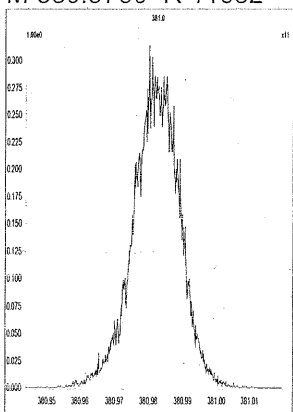
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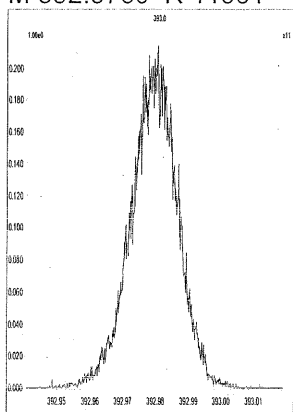
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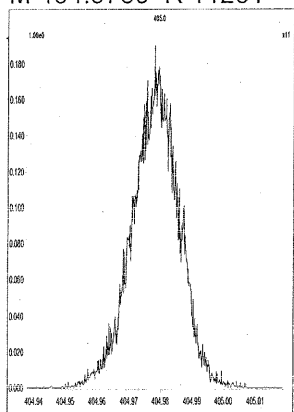
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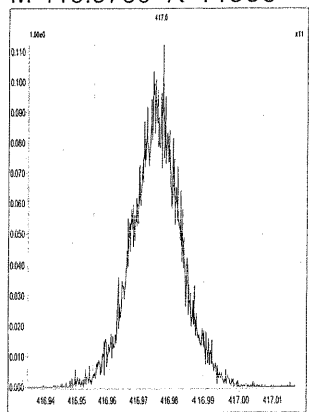
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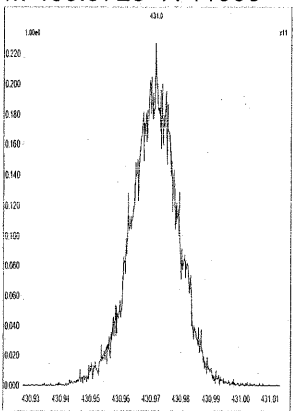
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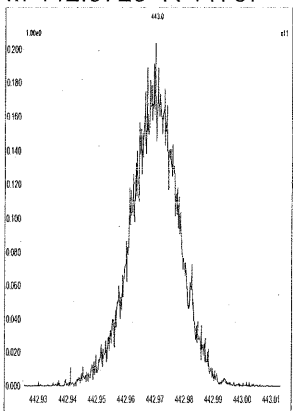
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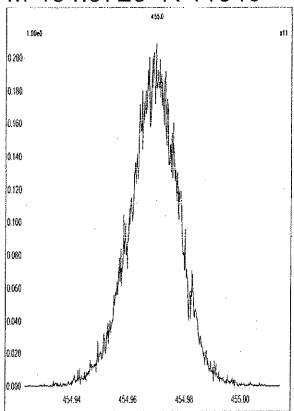
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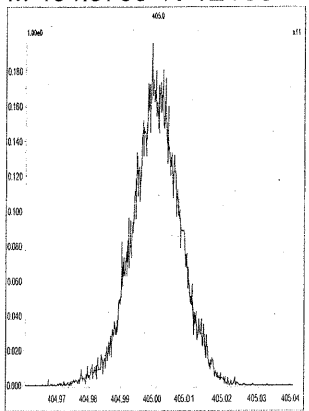
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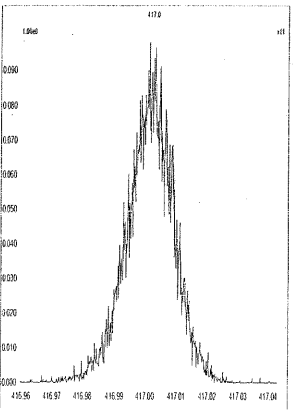
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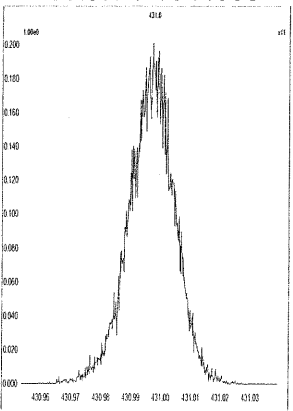
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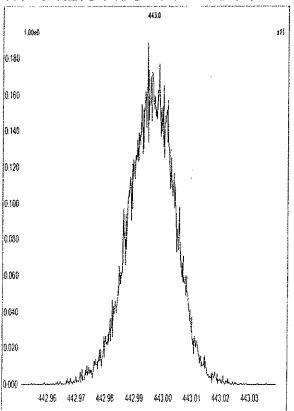
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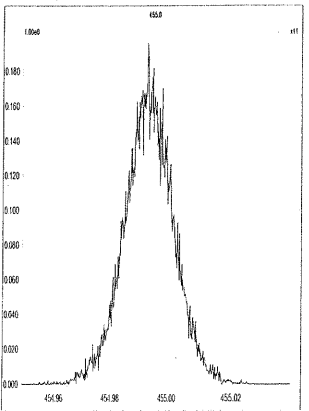
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M 442.9728 R 11363

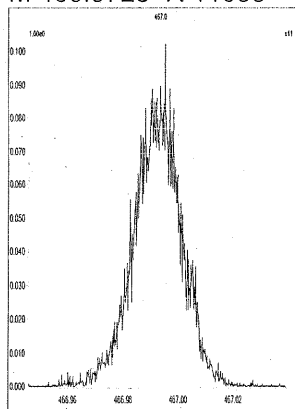


M 454.9728 R 11344

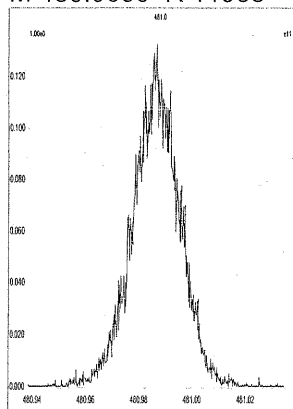


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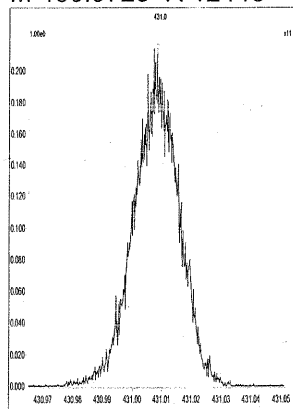
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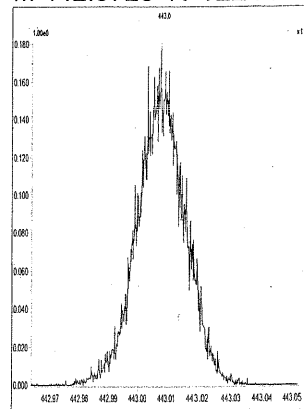
M 480.9696 R 11933



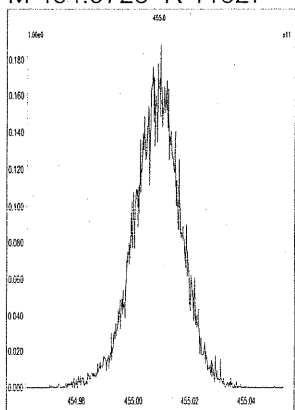
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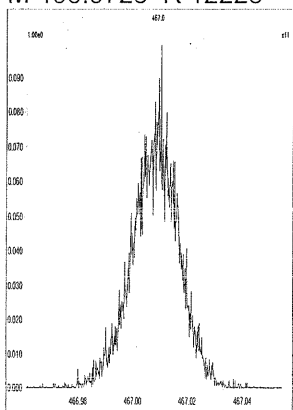
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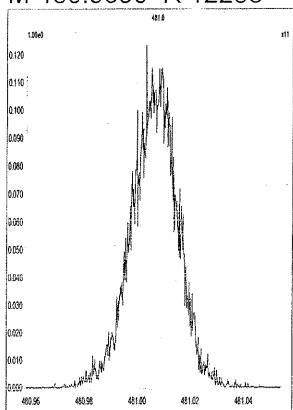
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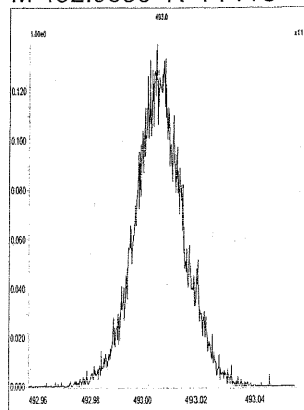
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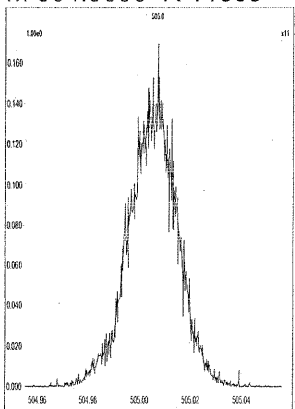
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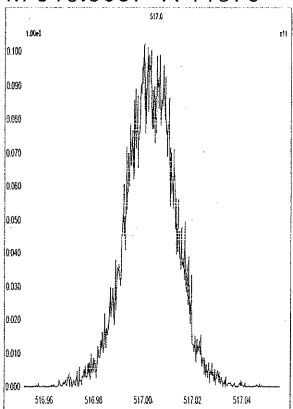
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M 504.9696 R 11369



M 516.9697 R 11876

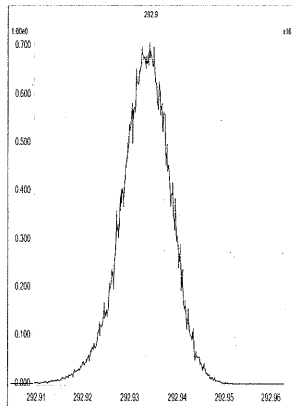




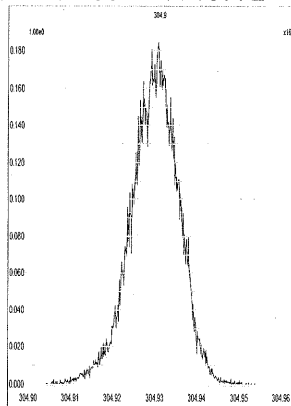
File: Experiment: 8290DB5MSUIF1.exp Reference: pkf.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:44:57 Central Daylight Time

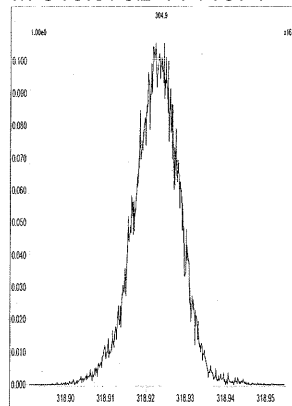
M 292.9824 R 11310



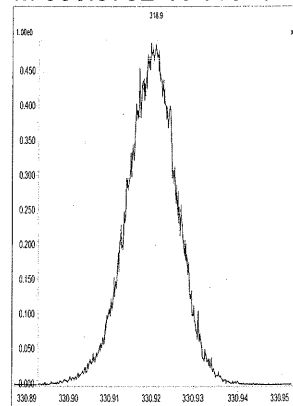
M 304.9824 R 10772



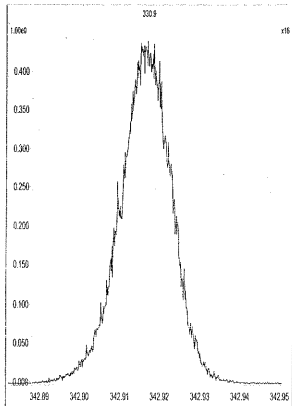
M 318.9792 R 11574



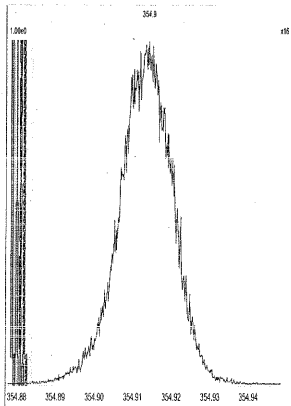
M 330.9792 R 11315



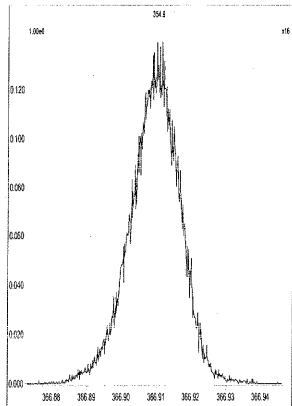
M 342.9792 R 10966



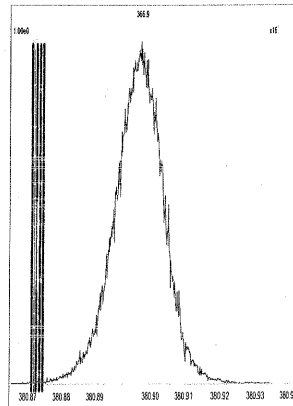
M 354.9792 R 11013



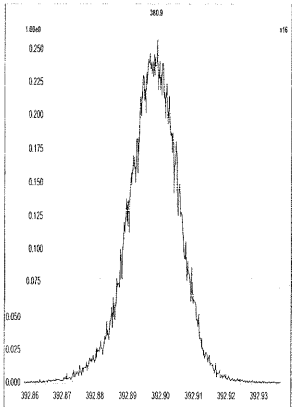
M 366.9792 R 10546



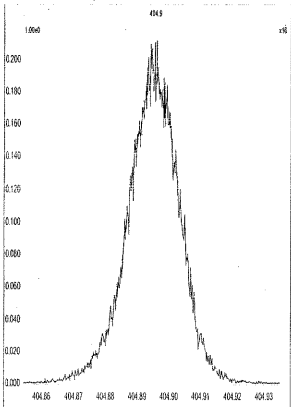
M 380.9760 R 10505



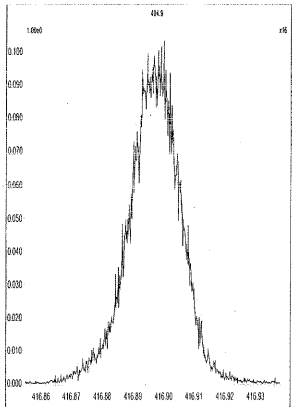
M 392.9760 R 10416



M 404.9760 R 10164



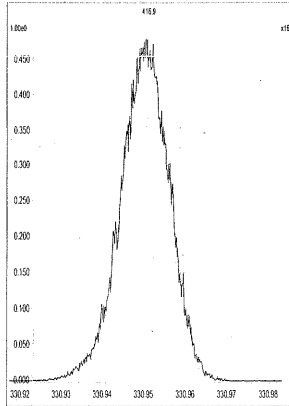
M 416.9760 R 10374



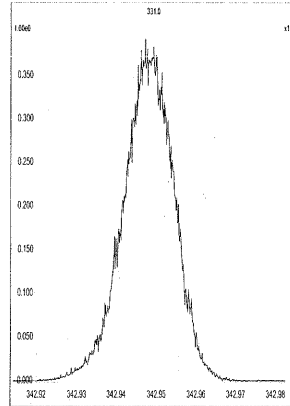
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:46:11 Central Daylight Time

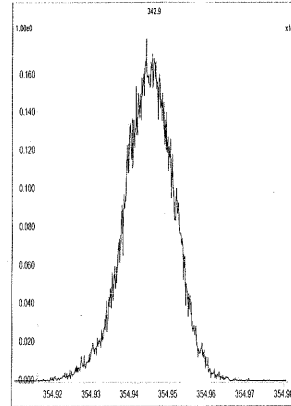
M 330.9792 R 11415



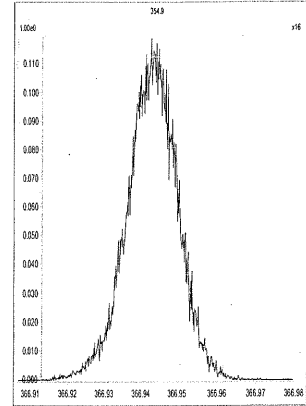
M 342.9792 R 11108



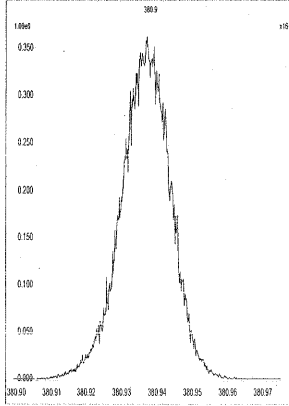
M 354.9792 R 11416



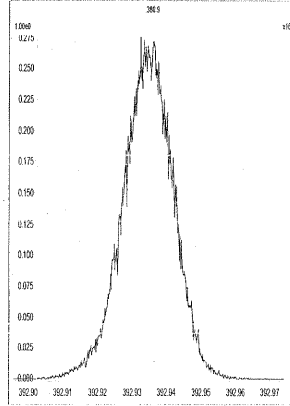
M 366.9792 R 11414



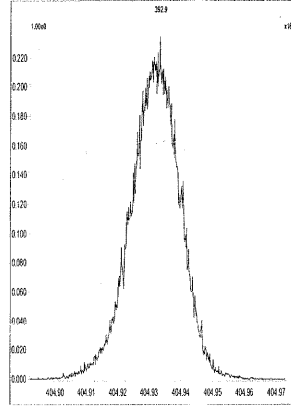
M 380.9760 R 11158



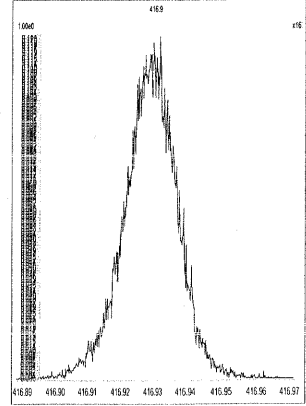
M 392.9760 R 11312



M 404.9760 R 10916



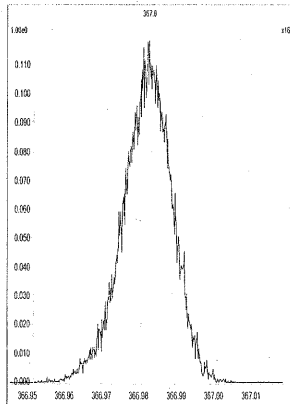
M 416.9760 R 11059



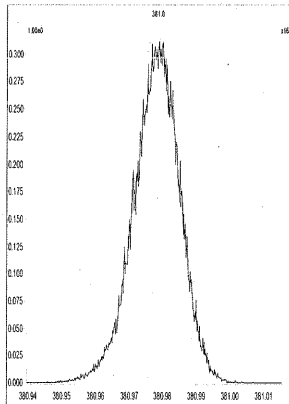
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:47:20 Central Daylight Time

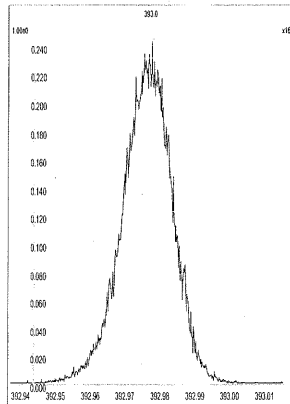
M 366.9792 R 11574



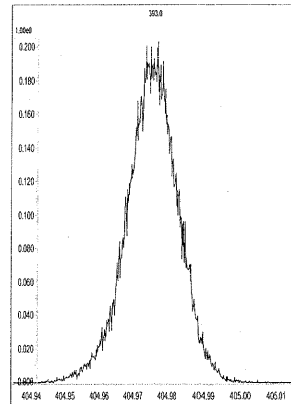
M 380.9760 R 11471



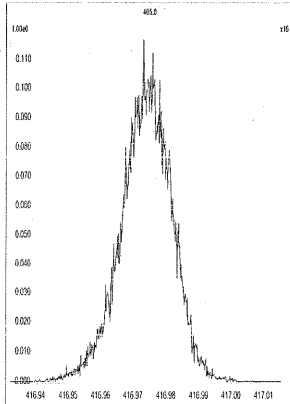
M 392.9760 R 11684



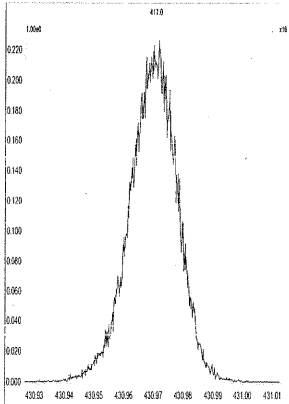
M 404.9760 R 11468



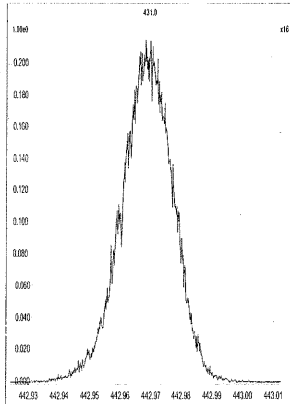
M 416.9760 R 11362



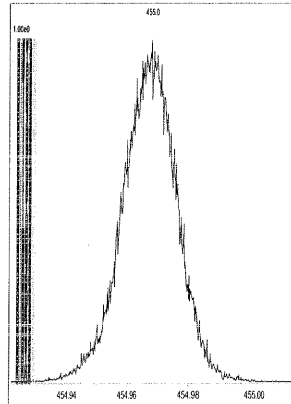
M 430.9728 R 11518



M 442.9728 R 11062



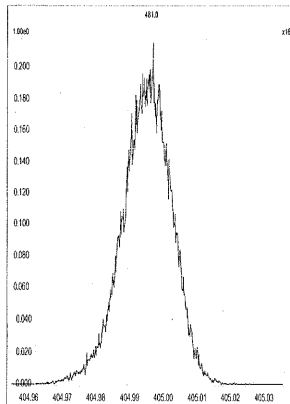
M 454.9728 R 10967



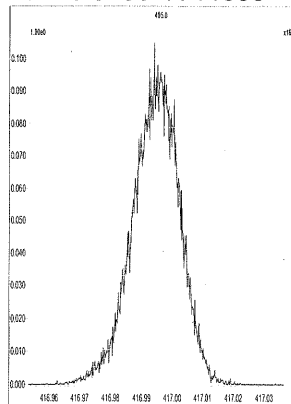
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:48:20 Central Daylight Time

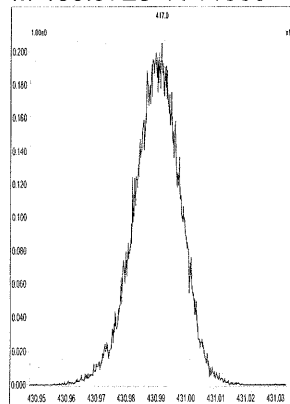
M 404.9760 R 11678



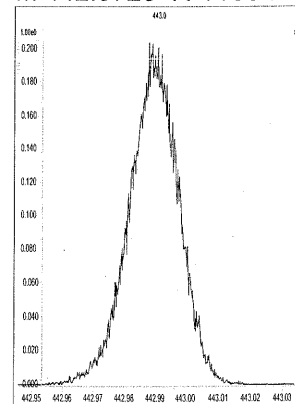
M 416.9760 R 11685



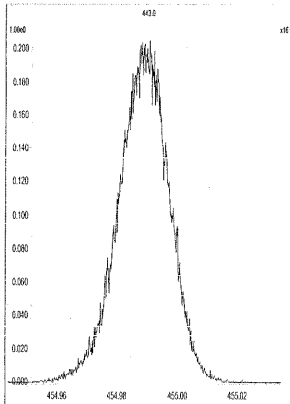
M 430.9728 R 11365



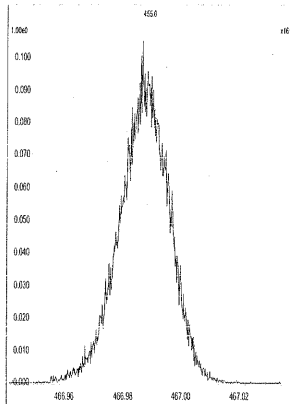
M 442.9728 R 11364



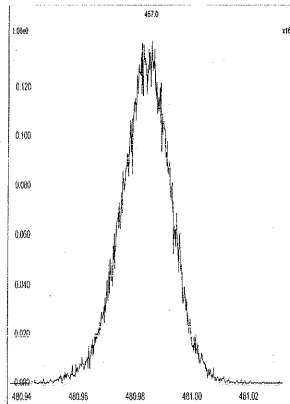
M 454.9728 R 11573



M 466.9728 R 11413



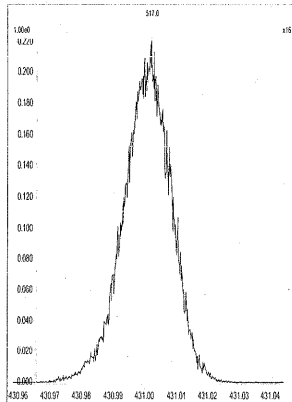
M 480.9696 R 11905



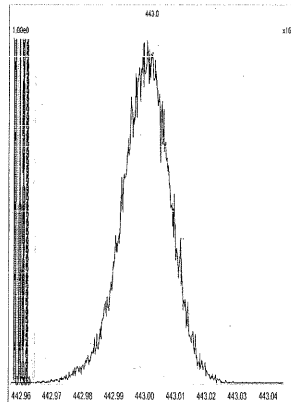
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:49:08 Central Daylight Time

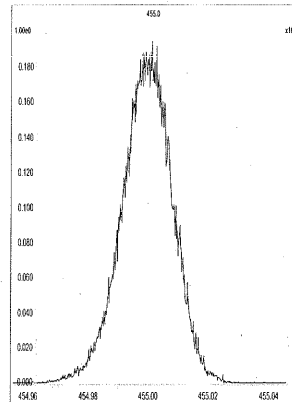
M 430.9728 R 11790



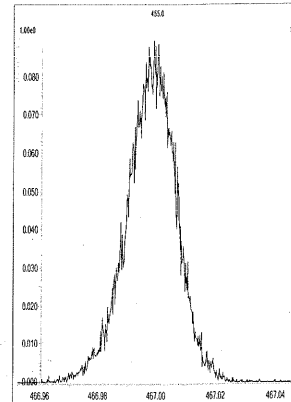
M 442.9728 R 11901



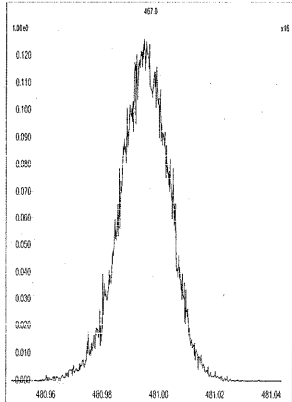
M 454.9728 R 11467



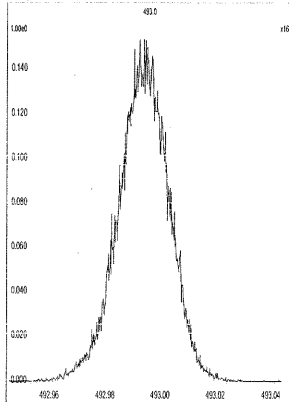
M 466.9728 R 11361



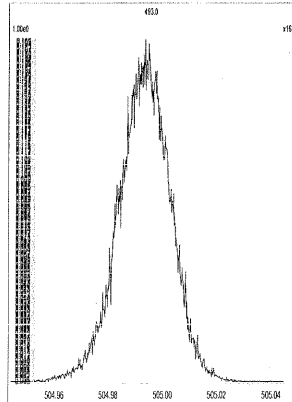
M 480.9696 R 11962



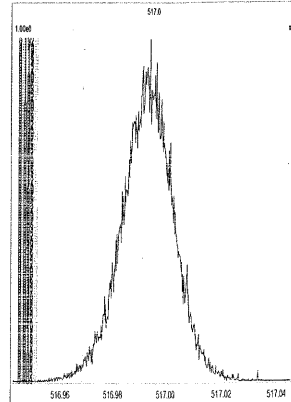
M 492.9696 R 11363



M 504.9696 R 11466



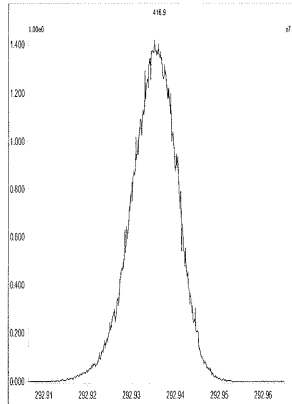
M 516.9697 R 11574



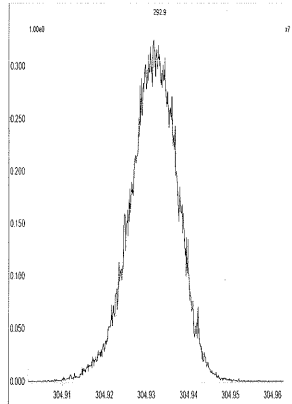
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:20:33 Central Daylight Time

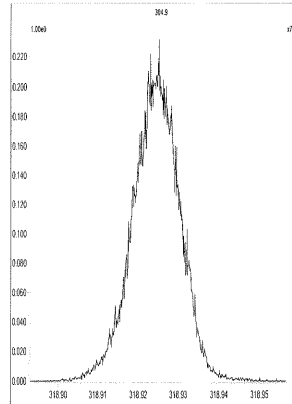
M 292.9824 R 11735



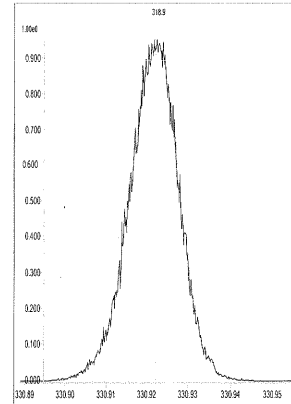
M 304.9824 R 11417



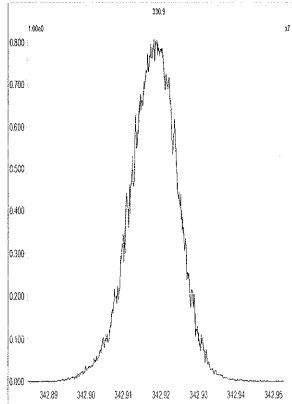
M 318.9792 R 11574



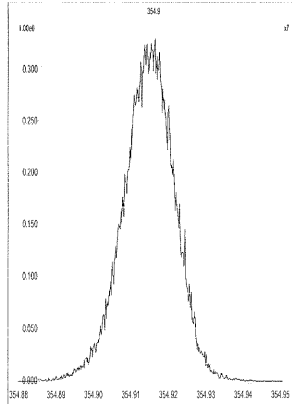
M 330.9792 R 11466



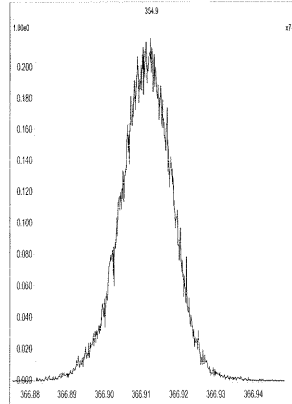
M 342.9792 R 11014



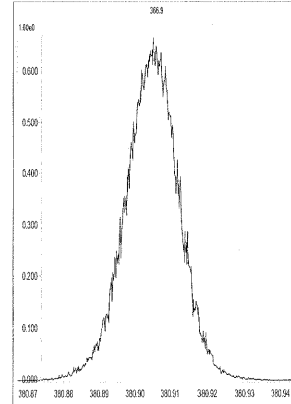
M 354.9792 R 10869



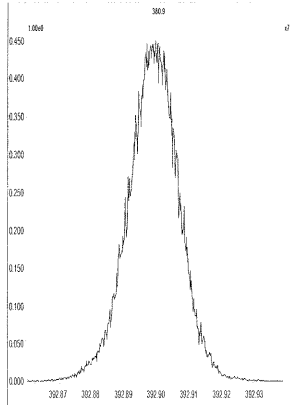
M 366.9792 R 10686



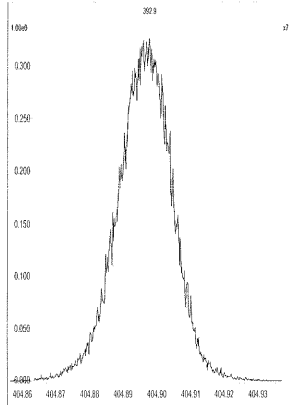
M 380.9760 R 10726



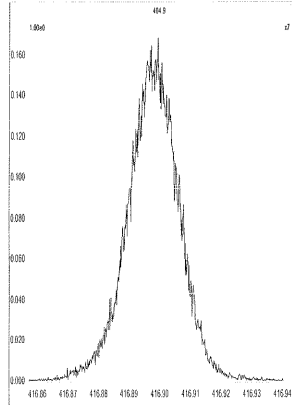
M 392.9760 R 10330



M 404.9760 R 10506



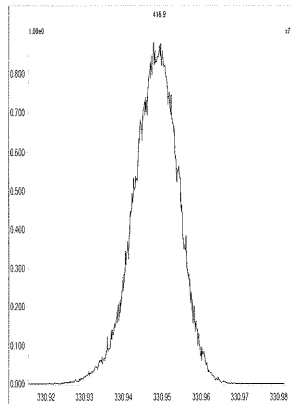
M 416.9760 R 10288



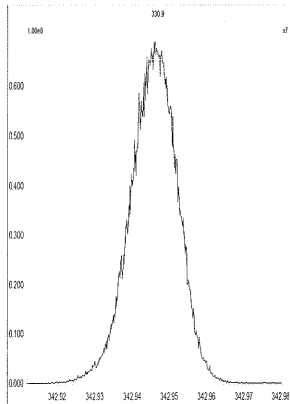
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:21:29 Central Daylight Time

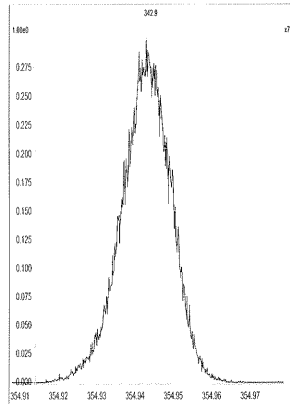
M 330.9792 R 11681



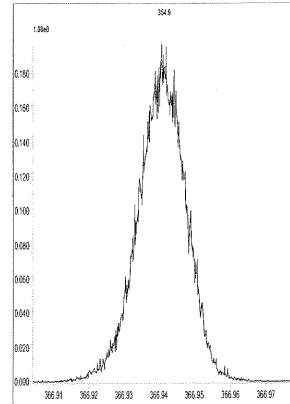
M 342.9792 R 11470



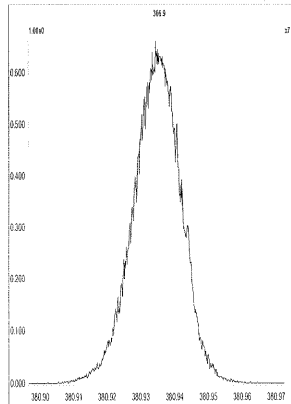
M 354.9792 R 11574



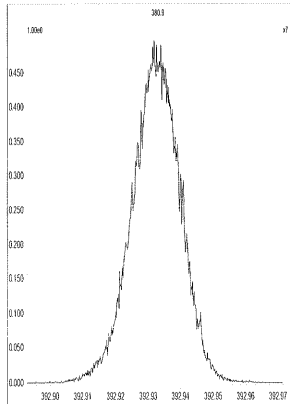
M 366.9792 R 11626



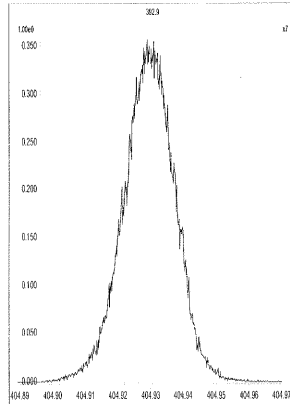
M 380.9760 R 11625



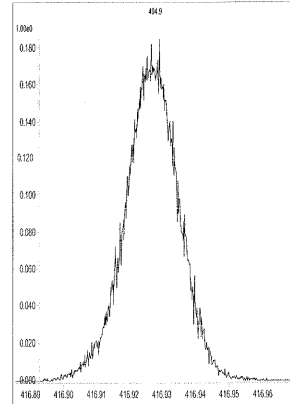
M 392.9760 R 11062



M 404.9760 R 11209



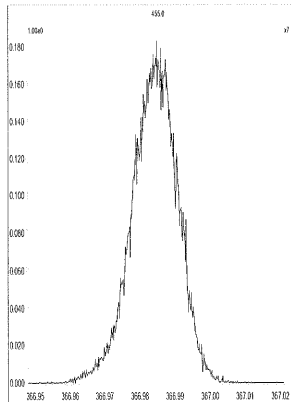
M 416.9760 R 10594



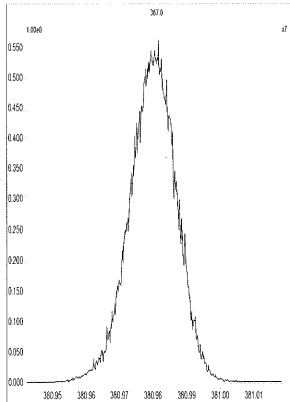
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:22:25 Central Daylight Time

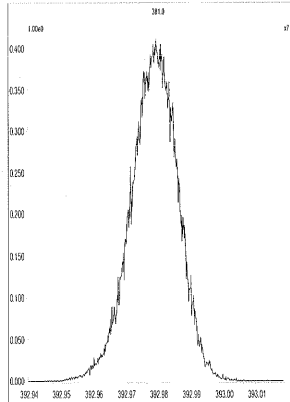
M 366.9792 R 12315



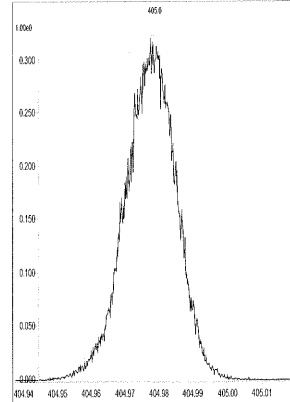
M 380.9760 R 11519



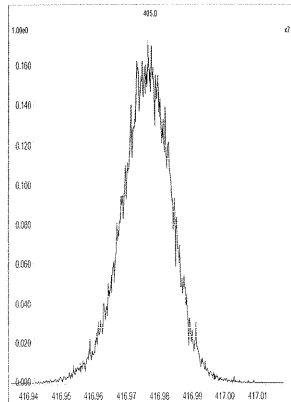
M 392.9760 R 11850



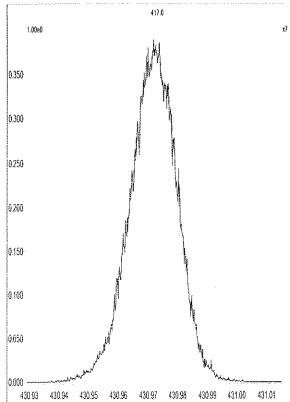
M 404.9760 R 11312



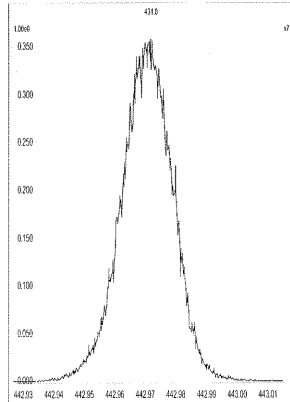
M 416.9760 R 11523



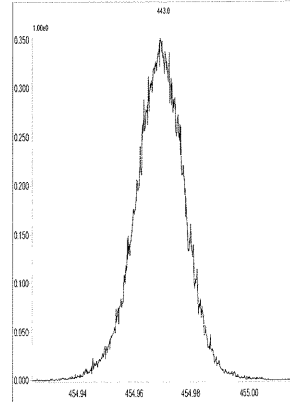
M 430.9728 R 11522



M 442.9728 R 11062



M 454.9728 R 10919

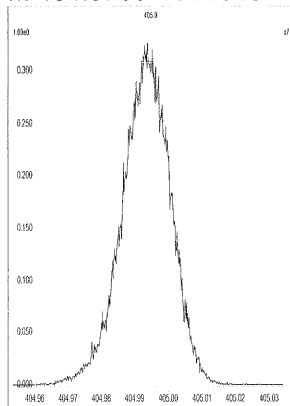




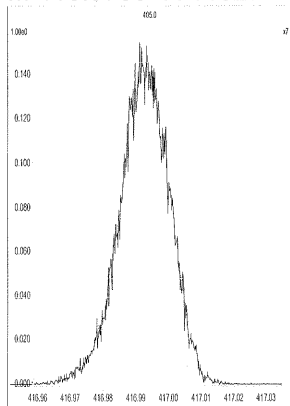
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:23:14 Central Daylight Time

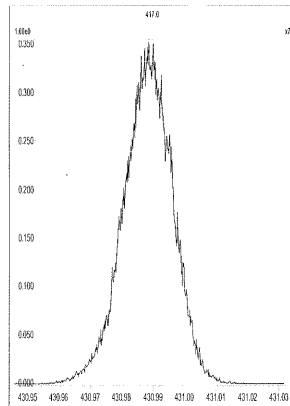
M 404.9760 R 11849



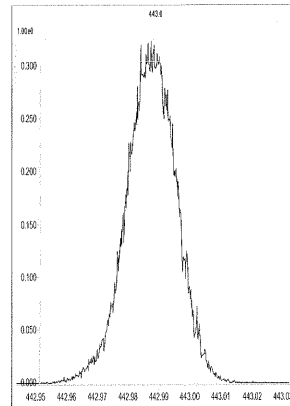
M 416.9760 R 11627



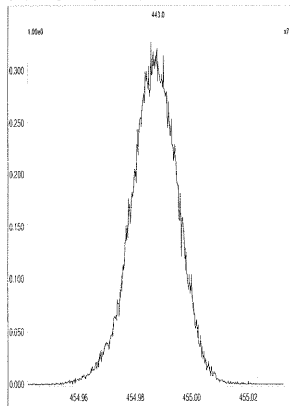
M 430.9728 R 11630



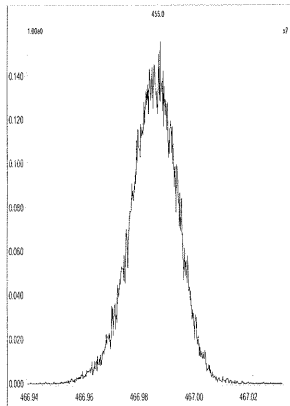
M 442.9728 R 11468



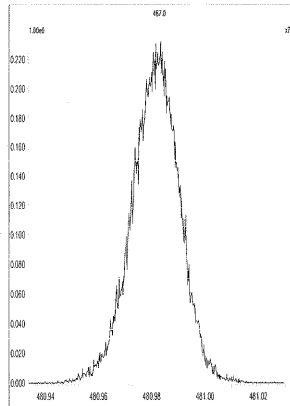
M 454.9728 R 11740



M 466.9728 R 11738



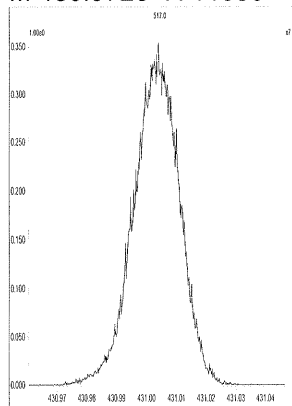
M 480.9696 R 11848



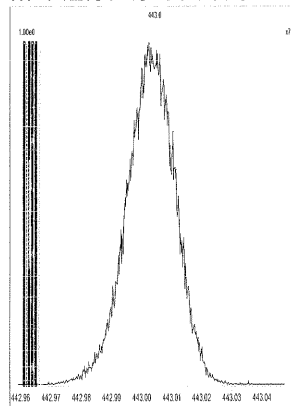
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:23:59 Central Daylight Time

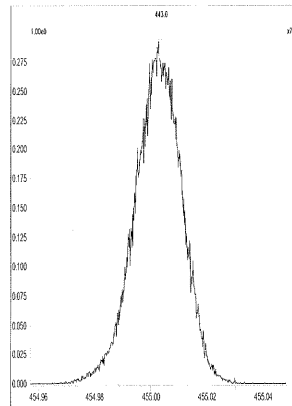
M 430.9728 R 11850



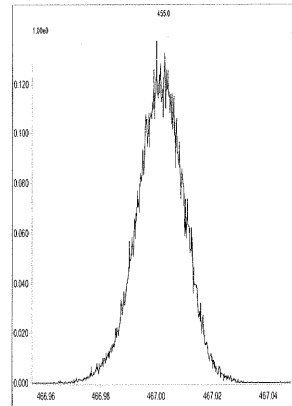
M 442.9728 R 11734



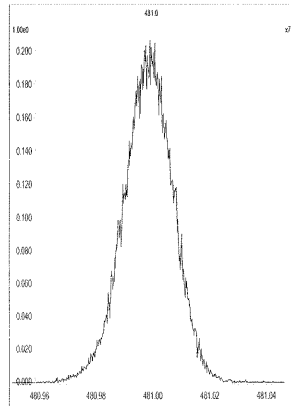
M 454.9728 R 11577



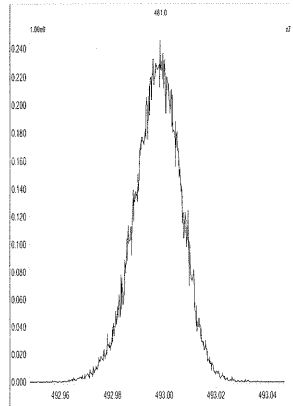
M 466.9728 R 11522



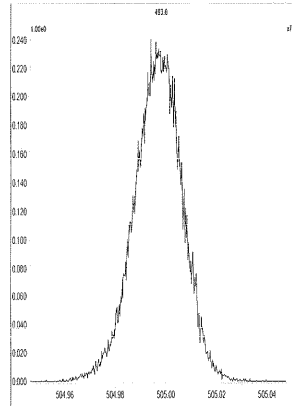
M 480.9696 R 11575



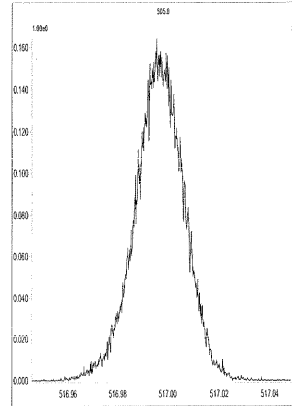
M 492.9696 R 11260



M 504.9696 R 11572



M 516.9697 R 11793



## 5DFA

## WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS ENVIRONMENTAL  
Lab Code: TX01411  
GC Column: DB-5msUI

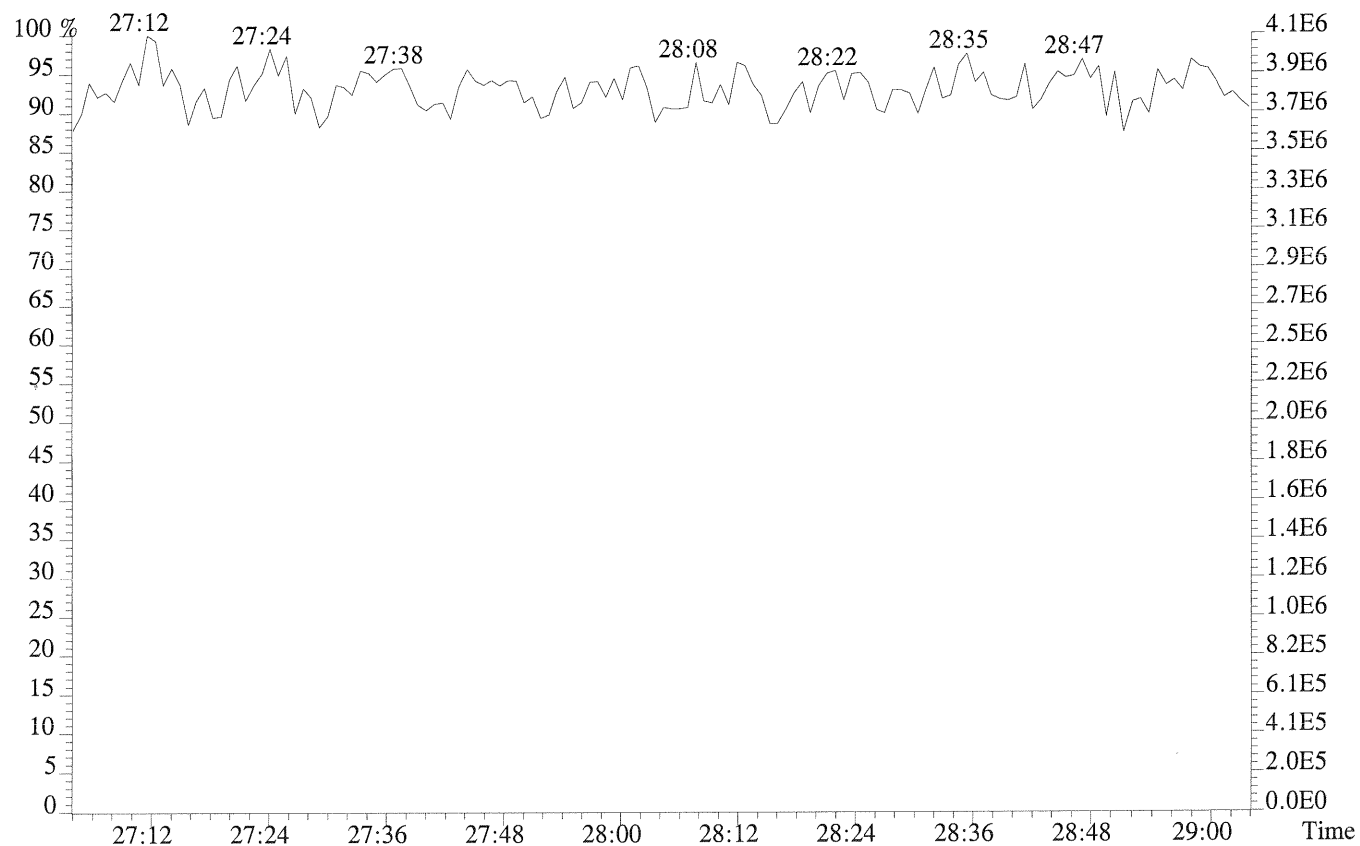
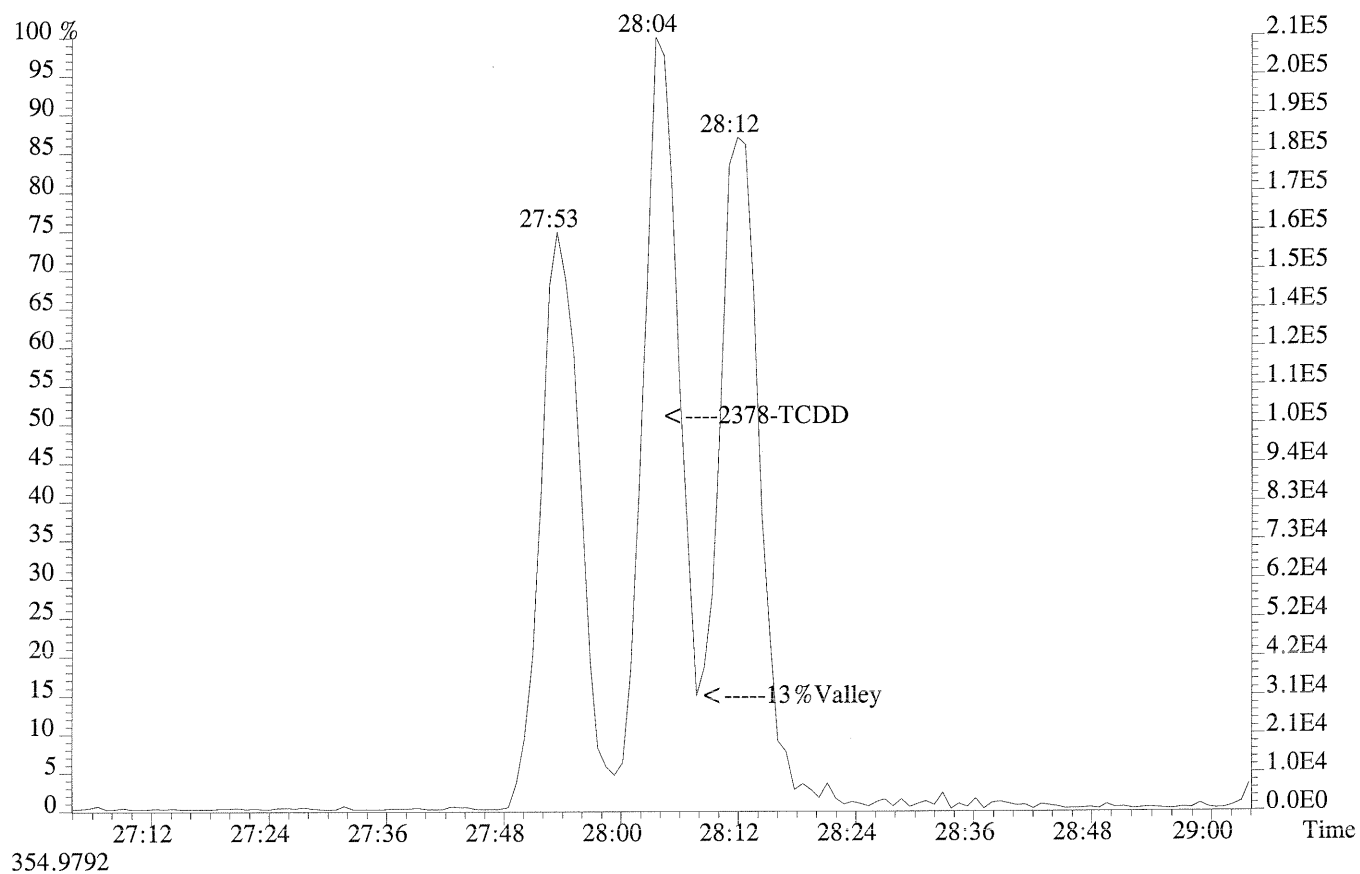
Case No.: \_\_\_\_\_ SDG No.:  
ID: 0.25 (mm) Lab File ID: P173102  
Date Analyzed: 26-AUG-2014  
Time Analyzed: 12:18:30

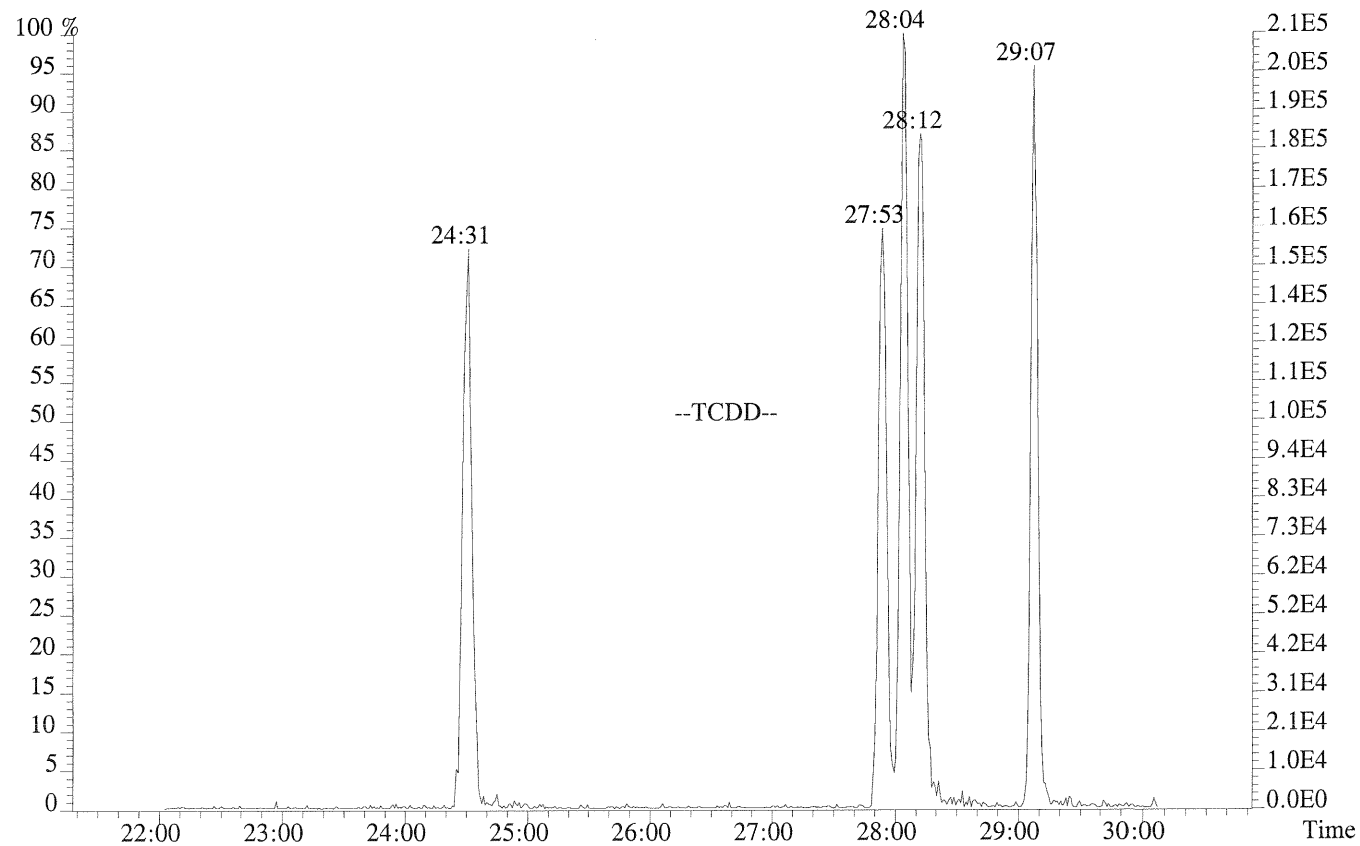
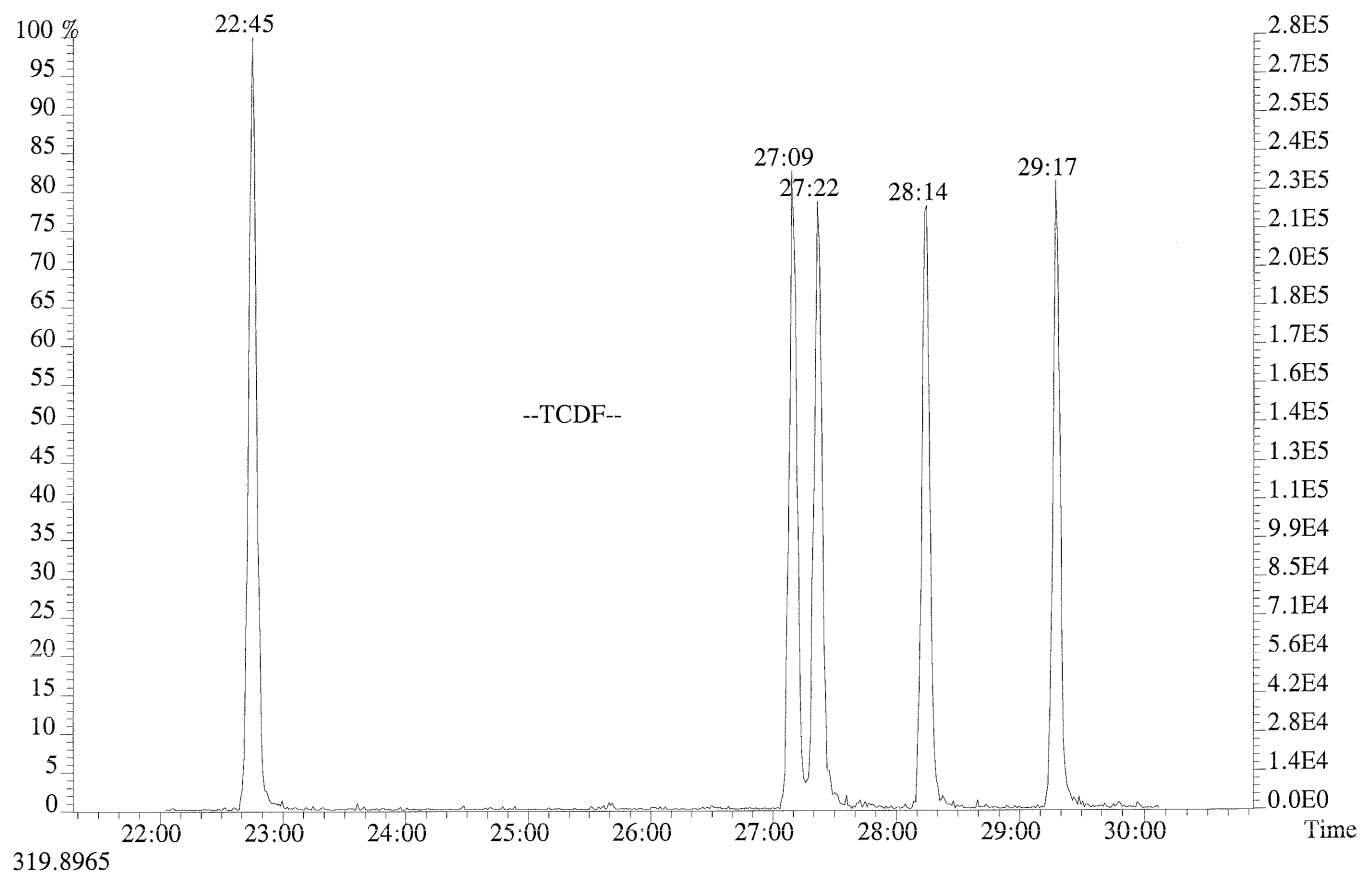
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	22:45	29:17
TCDD	24:31	29:07
PeCDF	29:15	33:39
PeCDD	30:51	33:23
HxCDF	34:19	36:51
HxCDD	34:51	36:26
HpCDF	38:05	39:25
HpCDD	38:19	38:58

% Valley 2378-TCDD:

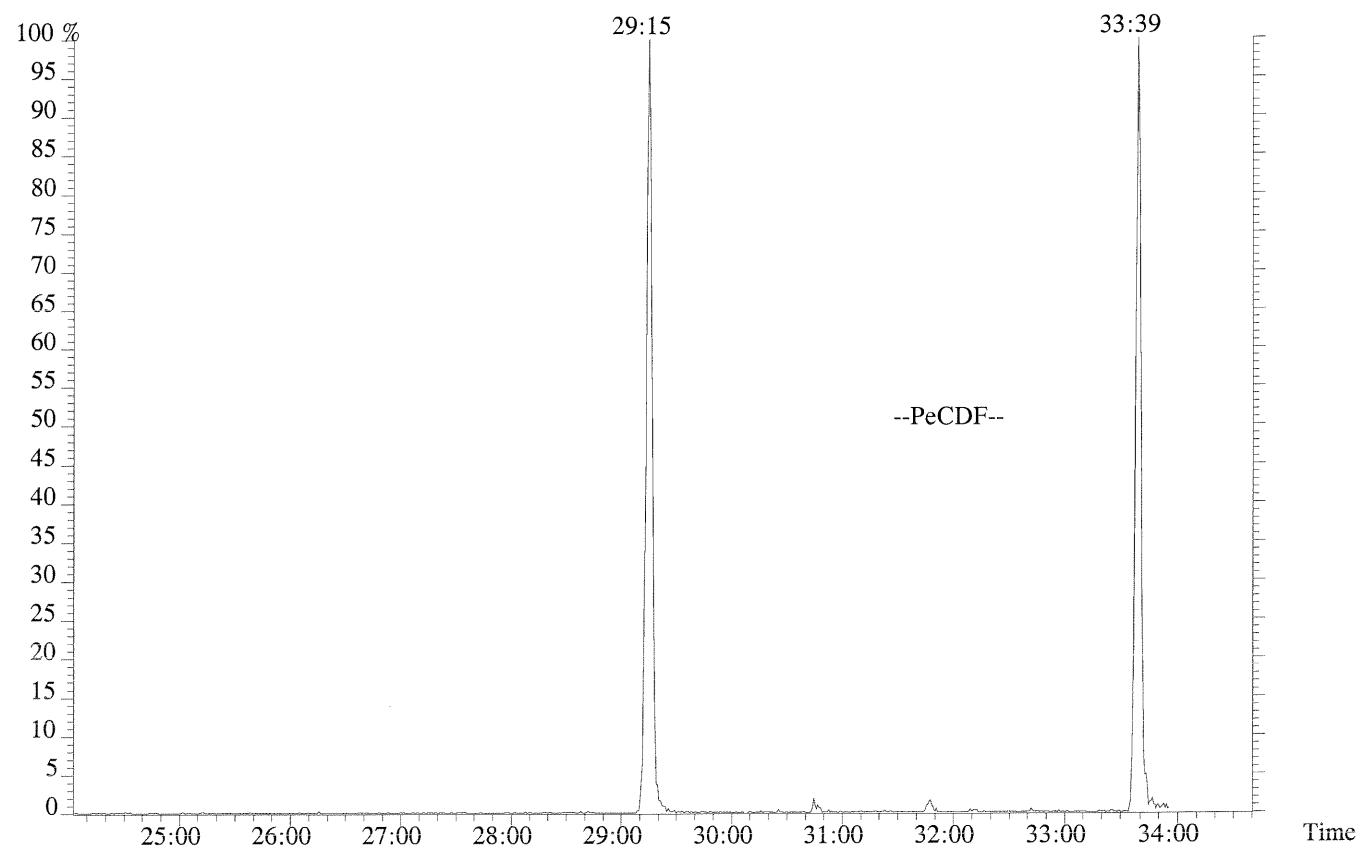
13 %

File:P173102 #1-579 Acq:26-AUG-2014 12:18:30 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965

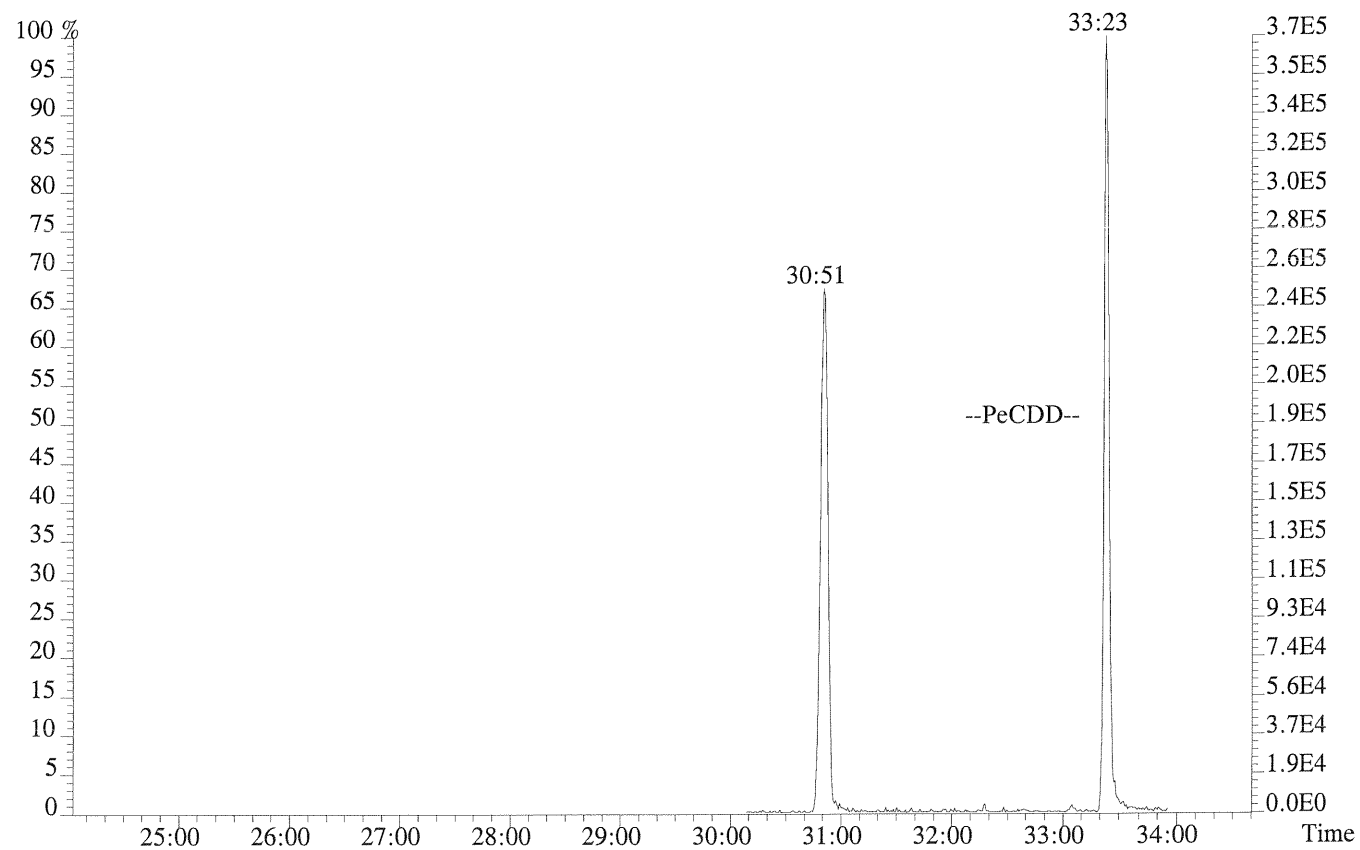




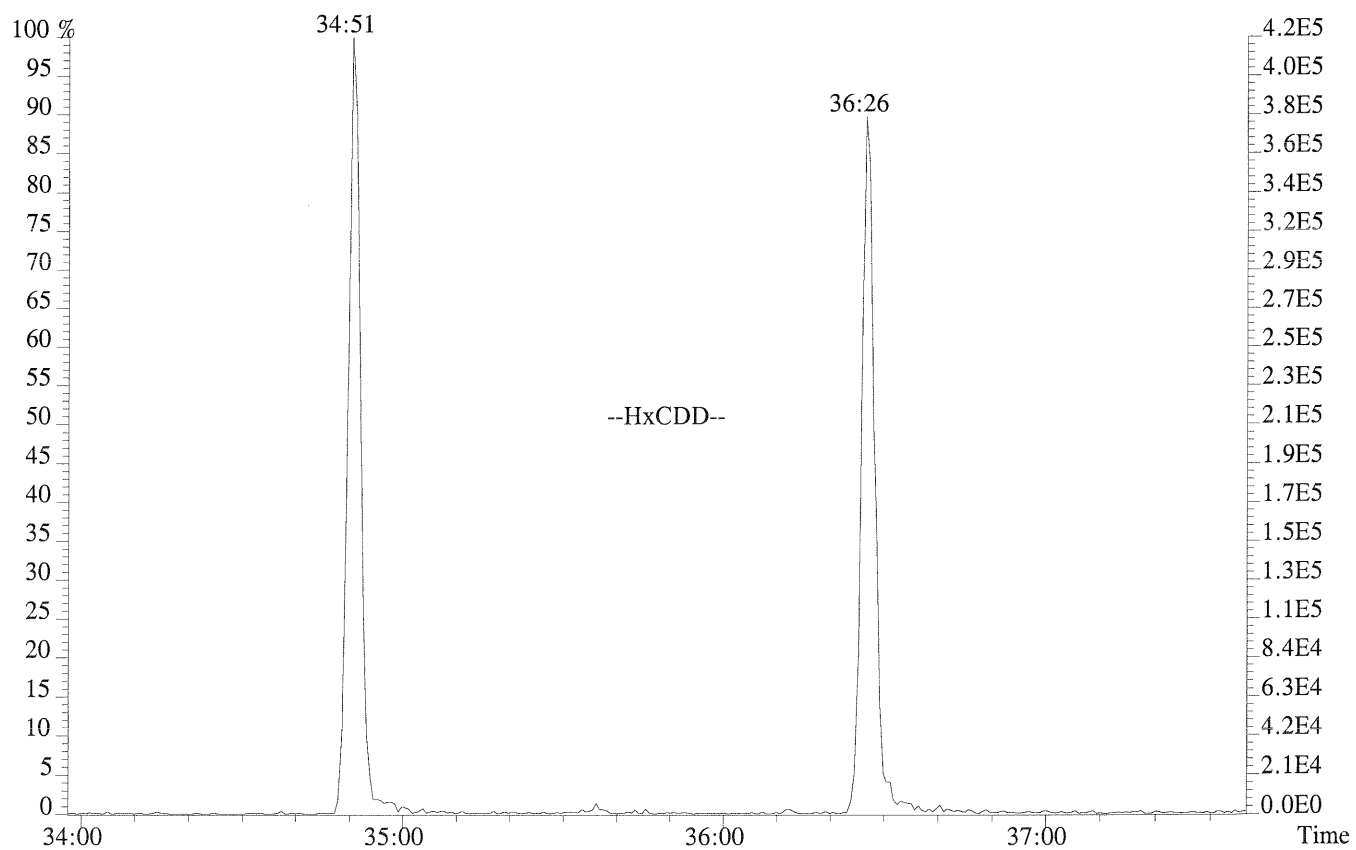
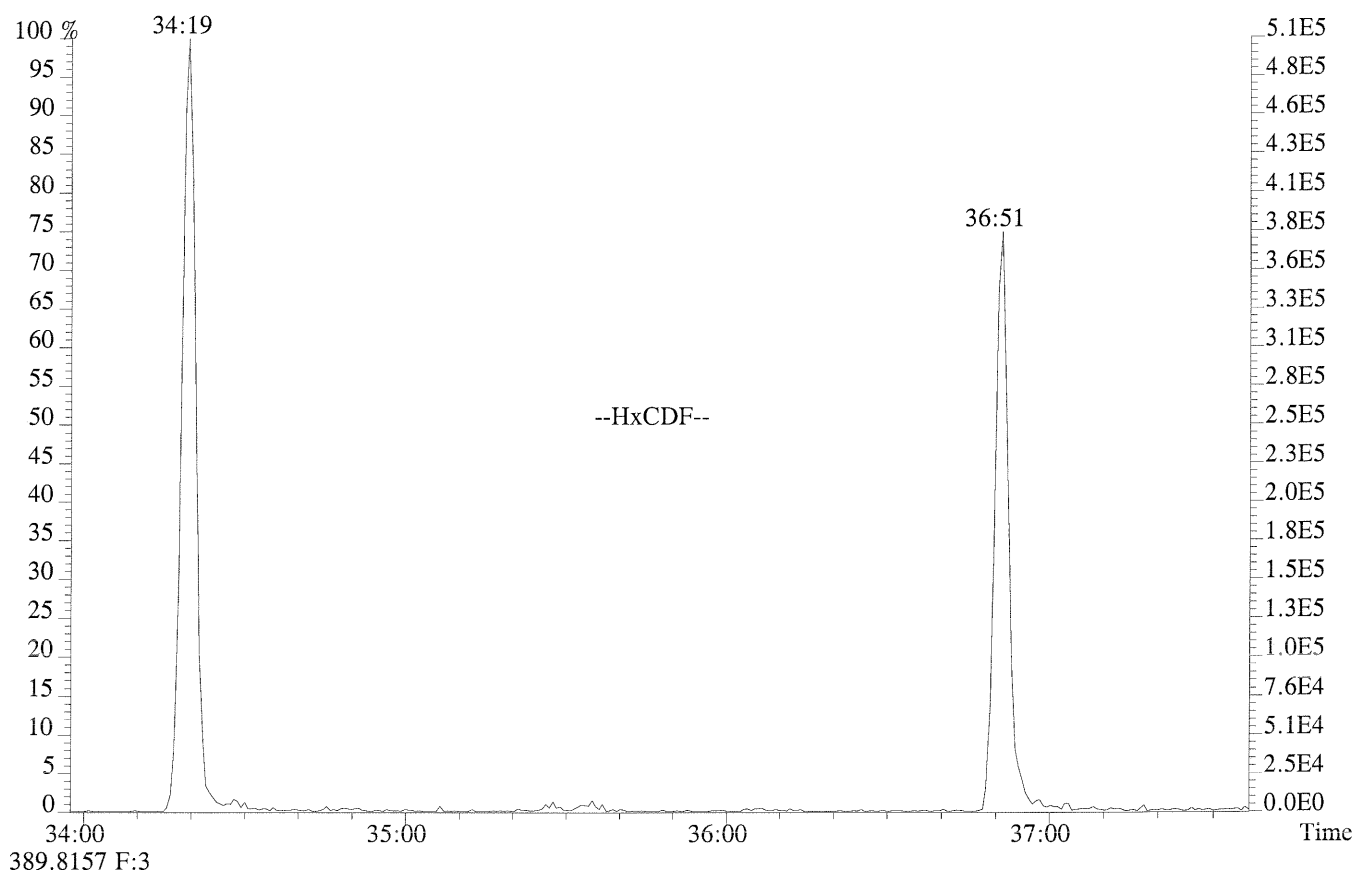
File:P173102 #1-579 Acq:26-AUG-2014 12:18:30 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



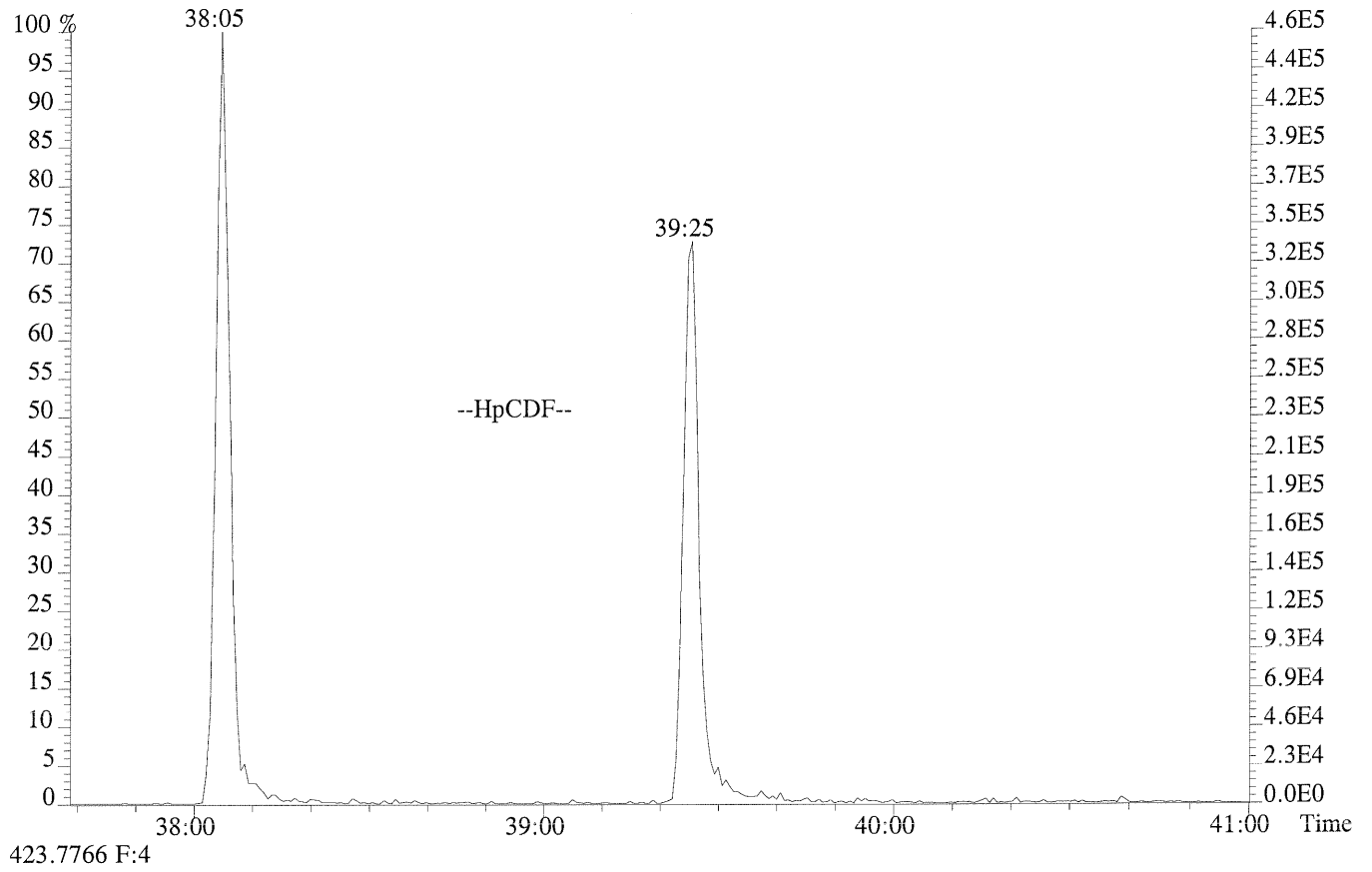
355.8546 F:2



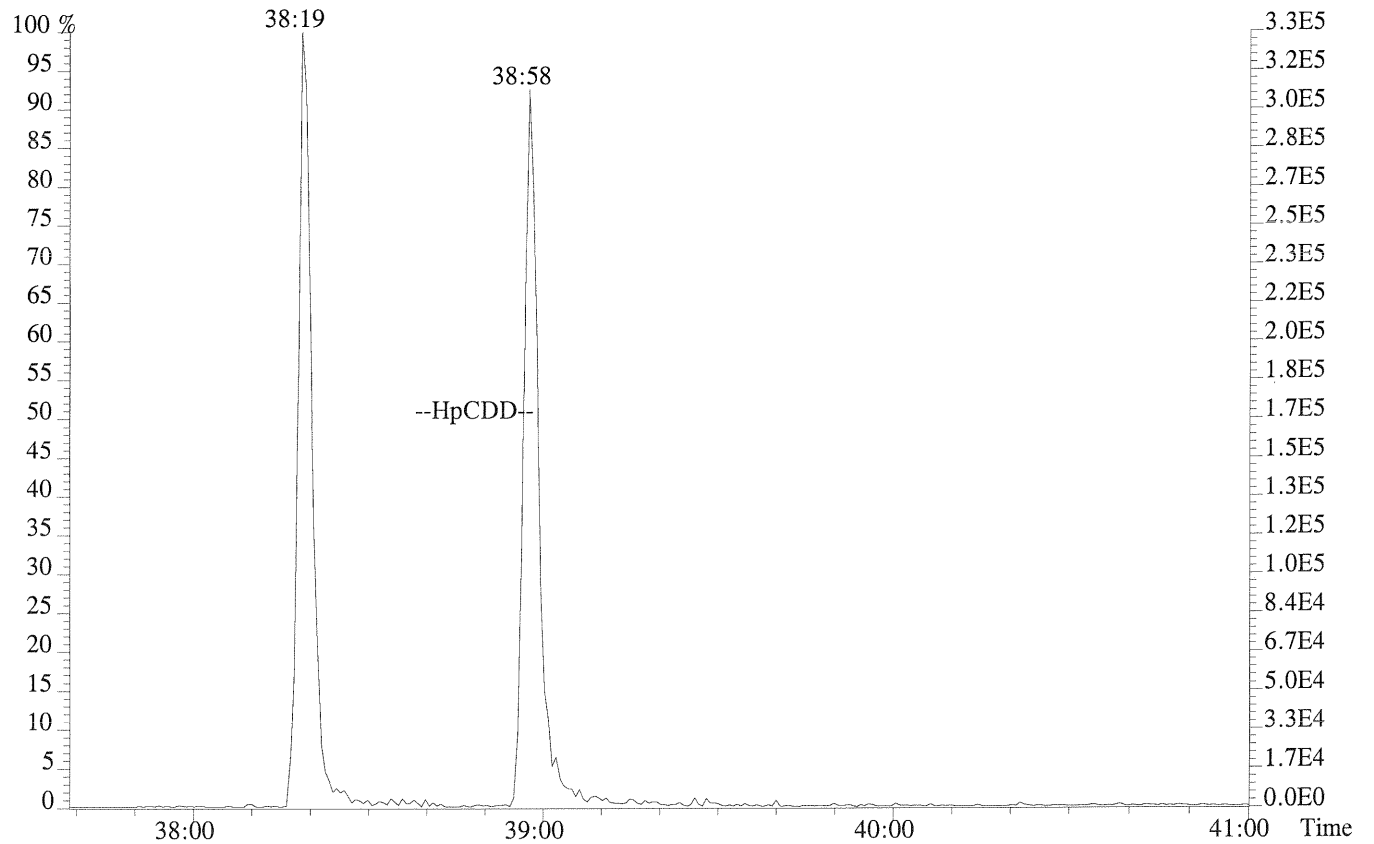
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Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:P173102 #1-305 Acq:26-AUG-2014 12:18:30 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



423.7766 F:4





## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173101

Analysis Date: 26-AUG-14 Time: 11:30:53

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	9.6	7.8 - 12.9	-4.5
1,2,3,7,8-PeCDD	M+2/M+4	1.51	1.32-1.78	47	39 - 65	-5.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	48	39 - 64	-3.2
1,2,3,6,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	47	39 - 64	-6.8
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	55	41 - 61	9.8
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	49	43 - 58	-1.2
OCDD	M+2/M+4	0.88	0.76-1.02	99	79 - 126	-0.5
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	9.3	8.4 - 12.0	-6.7
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	51	41 - 60	2.1
2,3,4,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	49	41 - 61	-1.7
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	51	45 - 56	2.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.05-1.43	49	44 - 57	-1.4
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	53	45 - 56	5.5
2,3,4,6,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	51	44 - 57	1.1
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	52	45 - 55	3.6
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	52	43 - 58	4.9
OCDF	M+2/M+4	0.90	0.76-1.02	90	63 - 159	-9.8

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173101

Analysis Date: 26-AUG-14 Time: 11:30:53

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	93	82 - 121	-7.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	81	62 - 160	-18.7
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	84	85 - 117	-15.8
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	88	85 - 118	-11.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	91	72 - 138	-9.3
13C-OCDD	M+2/M+4	0.89	0.76-1.02	167	96 - 415	-16.6
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	87	71 - 140	-12.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	75	76 - 130	-24.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	77	77 - 130	-23.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	79	76 - 131	-21.2
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	78	70 - 143	-22.4
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	79	74 - 135	-21.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	80	73 - 137	-19.7
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	85	78 - 129	-14.9
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	81	77 - 129	-18.7
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.0	7.8 - 12.7	-10.4

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 72675

Run #7 Filename P173101 #1 Samp: 1 Inj: 1 Acquired: 26-AUG-14 11:30:53  
 Processed: 27-AUG-14 09:16:39 LAB. ID: CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	27:22	6.305e+02	8.318e+02	0.76	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	31:48	5.803e+03	3.651e+03	1.59	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	32:44	5.378e+03	3.289e+03	1.64	yes	no	1.001
4	Unk	1,2,3,4,7,8-HxCDF	35:27	4.961e+03	4.008e+03	1.24	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	35:33	5.270e+03	4.036e+03	1.31	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:05	5.044e+03	3.955e+03	1.28	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	36:50	4.735e+03	3.764e+03	1.26	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:05	4.984e+03	4.677e+03	1.07	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	39:25	4.090e+03	3.816e+03	1.07	yes	no	1.000
10	Unk	OCDF	41:49	6.061e+03	6.745e+03	0.90	yes	no	1.005
11	Unk	2,3,7,8-TCDD	28:13	5.444e+02	7.148e+02	0.76	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:01	3.754e+03	2.482e+03	1.51	yes	no	1.001
13	Unk	1,2,3,4,7,8-HxCDD	36:13	3.475e+03	2.794e+03	1.24	yes	no	1.001
14	Unk	1,2,3,6,7,8-HxCDD	36:17	3.598e+03	3.023e+03	1.19	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	36:32	4.469e+03	3.576e+03	1.25	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	38:58	3.445e+03	3.304e+03	1.04	yes	no	1.000
17	Unk	OCDD	41:37	5.459e+03	6.205e+03	0.88	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	27:22	7.180e+03	9.399e+03	0.76	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	31:46	1.110e+04	7.110e+03	1.56	yes	no	1.152
20	IS	13C-2,3,4,7,8-PeCDF	32:42	1.113e+04	6.926e+03	1.61	yes	no	1.186
21	IS	13C-1,2,3,4,7,8-HxCDF	35:26	4.718e+03	9.435e+03	0.50	yes	no	0.970
22	IS	13C-1,2,3,6,7,8-HxCDF	35:33	5.465e+03	1.056e+04	0.52	yes	no	0.973
23	IS	13C-2,3,4,6,7,8-HxCDF	36:04	5.268e+03	1.020e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	36:49	4.772e+03	9.190e+03	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:05	4.046e+03	9.246e+03	0.44	yes	no	1.043
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	3.431e+03	7.949e+03	0.43	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	28:11	5.579e+03	7.131e+03	0.78	yes	no	1.022
28	IS	13C-1,2,3,7,8-PeCDD	32:60	8.469e+03	5.539e+03	1.53	yes	no	1.196
29	IS	13C-1,2,3,4,7,8-HxCDD	36:11	6.947e+03	5.495e+03	1.26	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:16	7.994e+03	6.363e+03	1.26	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:58	6.848e+03	6.604e+03	1.04	yes	no	1.067
32	IS	13C-OCDD	41:37	1.022e+04	1.151e+04	0.89	yes	no	1.140
33	RS/RT	13C-1,2,3,4-TCDD	27:35	5.667e+03	7.392e+03	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	9.500e+03	7.694e+03	1.23	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	28:13	1.316e+03				no	1.023

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office(713)266-1599. Fax(713)266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 72675

Run #7    Filename P173101    Samp: 1    Inj: 1    Acquired: 26-AUG-14 11:30:53  
 Processed: 27-AUG-14 09:16:39    LAB. ID: CS3

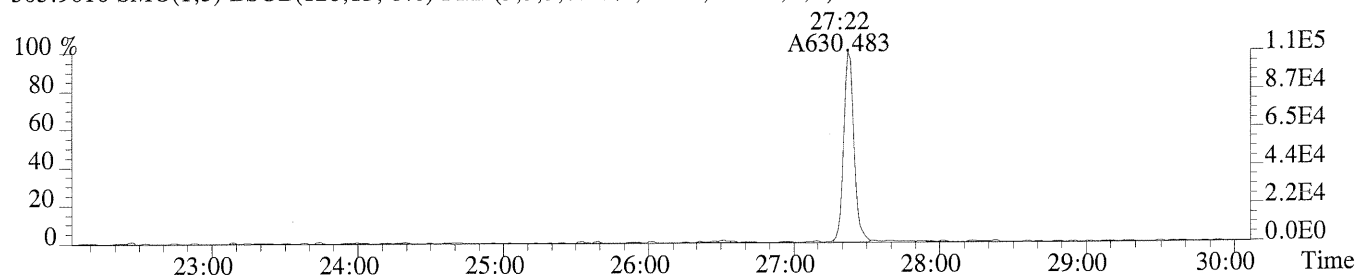
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.09e+05	1.00e+02	1.1e+03	1.37e+05	7.52e+02	1.8e+02
2	1,2,3,7,8-PeCDF	1.03e+06	9.20e+01	1.1e+04	6.50e+05	3.92e+02	1.7e+03
3	2,3,4,7,8-PeCDF	1.01e+06	9.20e+01	1.1e+04	6.21e+05	3.92e+02	1.6e+03
4	1,2,3,4,7,8-HxCDF	1.08e+06	1.56e+02	6.9e+03	8.67e+05	6.40e+01	1.4e+04
5	1,2,3,6,7,8-HxCDF	1.04e+06	1.56e+02	6.7e+03	7.99e+05	6.40e+01	1.2e+04
6	2,3,4,6,7,8-HxCDF	1.07e+06	1.56e+02	6.9e+03	8.16e+05	6.40e+01	1.3e+04
7	1,2,3,7,8,9-HxCDF	9.08e+05	1.56e+02	5.8e+03	7.18e+05	6.40e+01	1.1e+04
8	1,2,3,4,6,7,8-HpCDF	1.10e+06	1.66e+03	6.6e+02	1.02e+06	1.53e+03	6.7e+02
9	1,2,3,4,7,8,9-HpCDF	7.67e+05	1.66e+03	4.6e+02	7.08e+05	1.53e+03	4.6e+02
10	OCDF	9.87e+05	1.12e+03	8.8e+02	1.11e+06	2.05e+03	5.4e+02
11	2,3,7,8-TCDD	1.03e+05	2.64e+02	3.9e+02	1.28e+05	1.48e+02	8.6e+02
12	1,2,3,7,8-PeCDD	7.08e+05	2.96e+02	2.4e+03	4.54e+05	6.80e+01	6.7e+03
13	1,2,3,4,7,8-HxCDD	7.29e+05	6.40e+01	1.1e+04	6.13e+05	2.84e+02	2.2e+03
14	1,2,3,6,7,8-HxCDD	7.40e+05	6.40e+01	1.2e+04	5.99e+05	2.84e+02	2.1e+03
15	1,2,3,7,8,9-HxCDD	9.07e+05	6.40e+01	1.4e+04	7.34e+05	2.84e+02	2.6e+03
16	1,2,3,4,6,7,8-HpCDD	6.71e+05	1.08e+02	6.2e+03	6.40e+05	1.16e+02	5.5e+03
17	OCDD	9.20e+05	8.08e+02	1.1e+03	1.01e+06	9.64e+02	1.1e+03
18	13C-2,3,7,8-TCDF	1.23e+06	1.35e+03	9.1e+02	1.63e+06	4.80e+02	3.4e+03
19	13C-1,2,3,7,8-PeCDF	1.99e+06	6.40e+01	3.1e+04	1.26e+06	4.64e+02	2.7e+03
20	13C-2,3,4,7,8-PeCDF	2.12e+06	6.40e+01	3.3e+04	1.32e+06	4.64e+02	2.9e+03
21	13C-1,2,3,4,7,8-HxCDF	9.96e+05	1.40e+02	7.1e+03	2.02e+06	4.68e+02	4.3e+03
22	13C-1,2,3,6,7,8-HxCDF	1.14e+06	1.40e+02	8.1e+03	2.16e+06	4.68e+02	4.6e+03
23	13C-2,3,4,6,7,8-HxCDF	1.10e+06	1.40e+02	7.8e+03	2.10e+06	4.68e+02	4.5e+03
24	13C-1,2,3,7,8,9-HxCDF	8.72e+05	1.40e+02	6.2e+03	1.69e+06	4.68e+02	3.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.08e+05	3.44e+02	2.6e+03	2.06e+06	1.65e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.40e+05	3.44e+02	1.9e+03	1.46e+06	1.65e+03	8.9e+02
27	13C-2,3,7,8-TCDD	9.85e+05	2.10e+03	4.7e+02	1.30e+06	9.04e+02	1.4e+03
28	13C-1,2,3,7,8-PeCDD	1.59e+06	5.00e+02	3.2e+03	1.06e+06	2.20e+02	4.8e+03
29	13C-1,2,3,4,7,8-HxCDD	1.53e+06	5.68e+02	2.7e+03	1.22e+06	2.72e+02	4.5e+03
30	13C-1,2,3,6,7,8-HxCDD	1.57e+06	5.68e+02	2.8e+03	1.26e+06	2.72e+02	4.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.34e+06	5.00e+02	2.7e+03	1.26e+06	2.24e+02	5.6e+03
32	13C-OCDD	1.70e+06	1.17e+03	1.5e+03	1.93e+06	6.68e+02	2.9e+03
33	13C-1,2,3,4-TCDD	1.05e+06	2.10e+03	5.0e+02	1.34e+06	9.04e+02	1.5e+03
34	13C-1,2,3,7,8,9-HxCDD	1.88e+06	5.68e+02	3.3e+03	1.56e+06	2.72e+02	5.7e+03
35	37Cl-2,3,7,8-TCDD	2.46e+05	2.20e+02	1.1e+03			

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 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

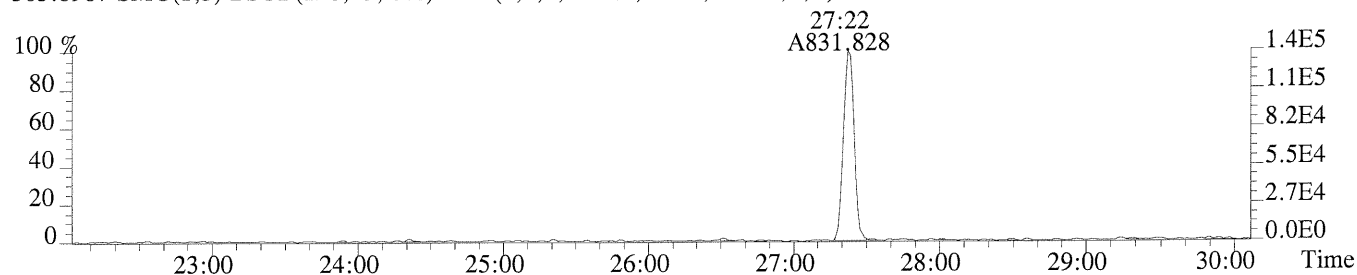
XLSN

Sample#1 Exp:CS3

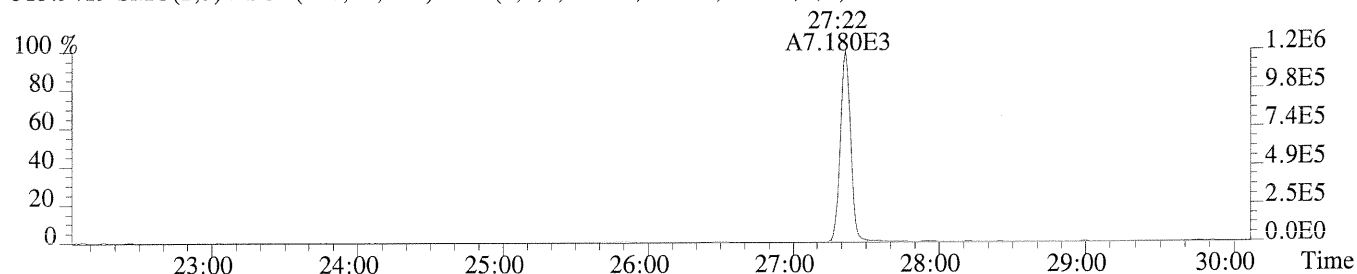
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,T)



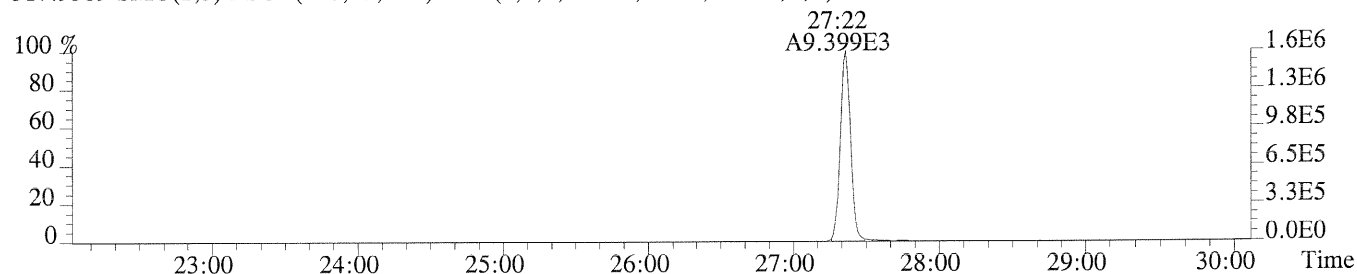
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)



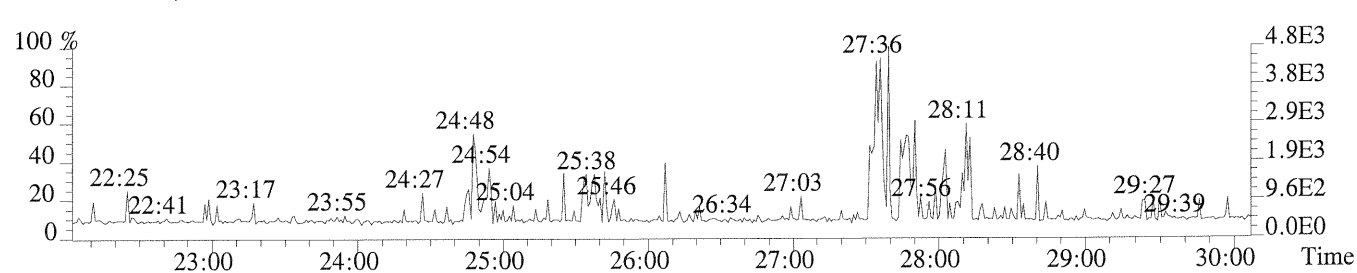
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,T)



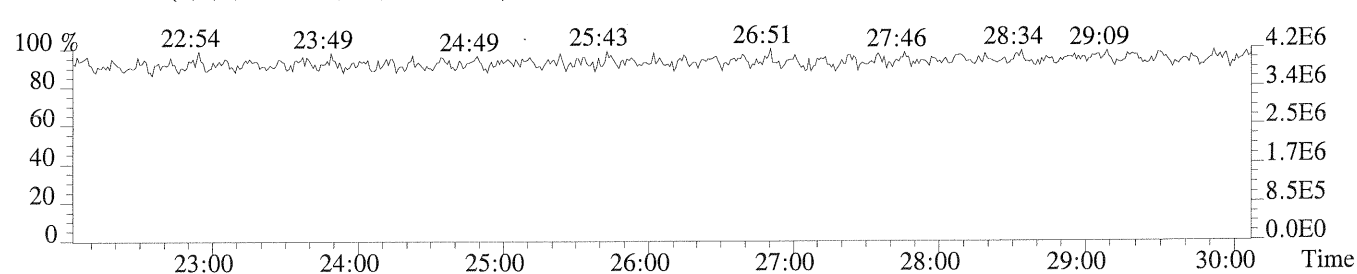
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



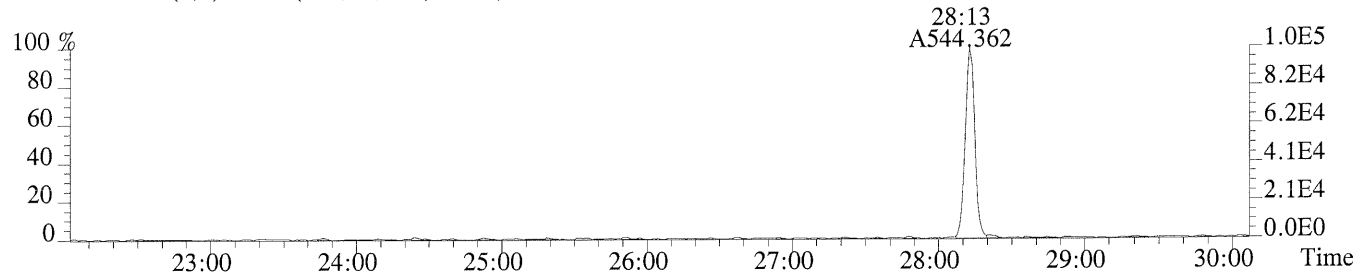
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



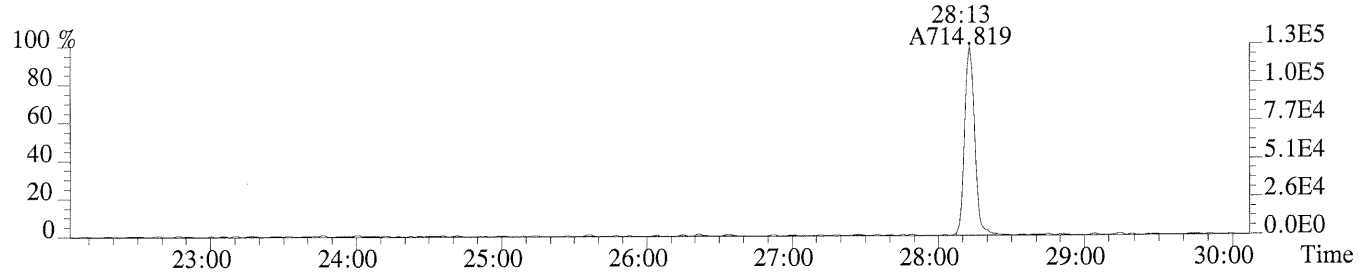
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



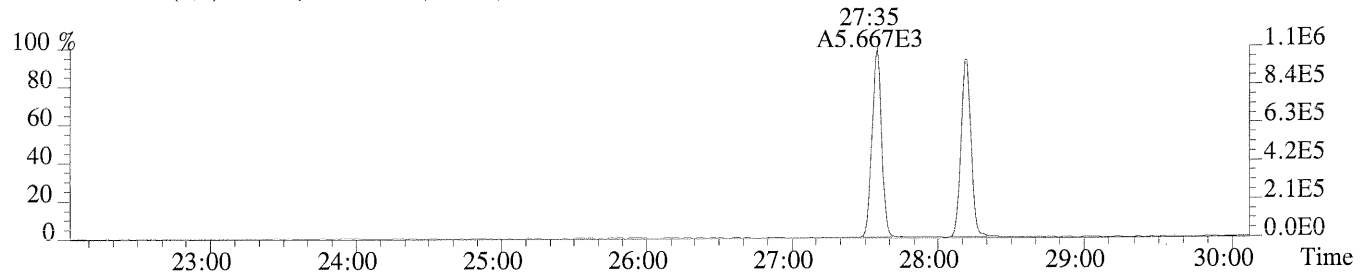
File:P173101 #1-579 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



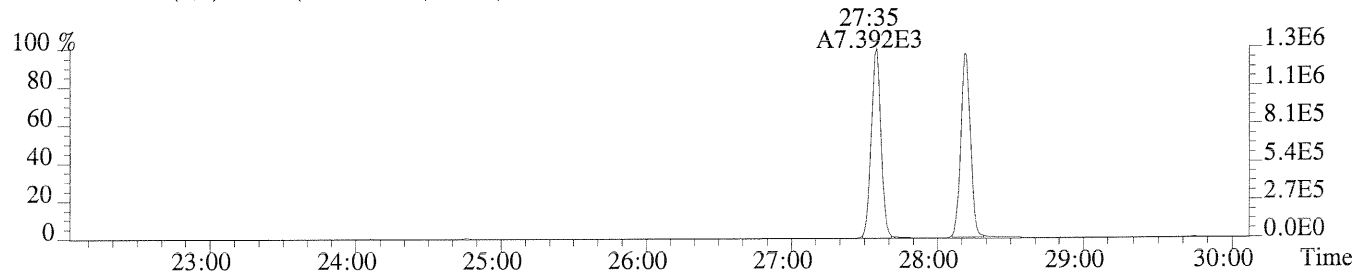
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



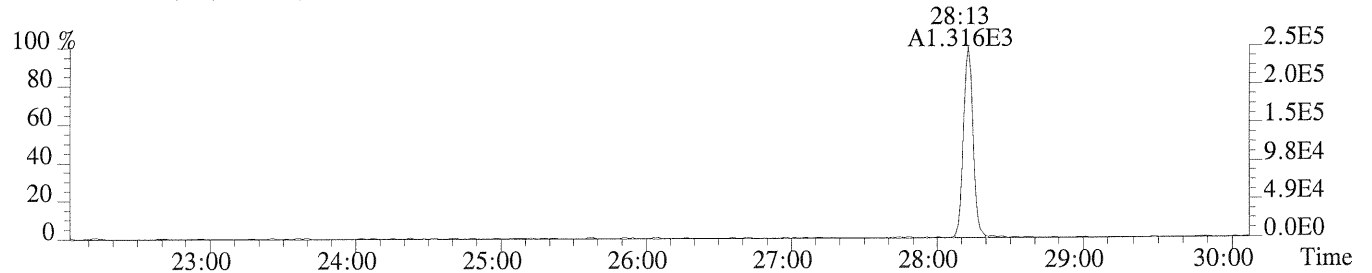
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2104.0,1.00%,F,T)



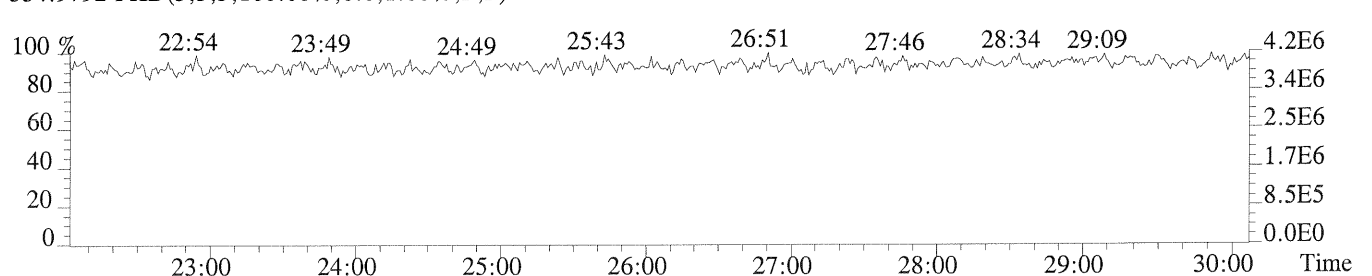
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



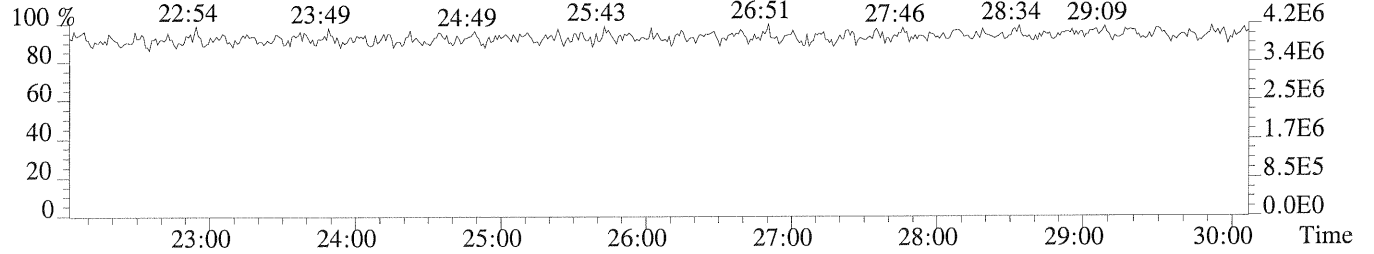
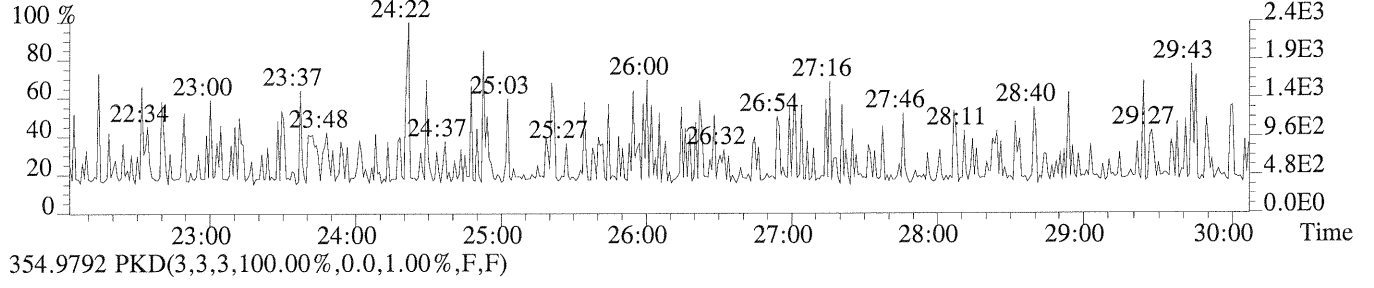
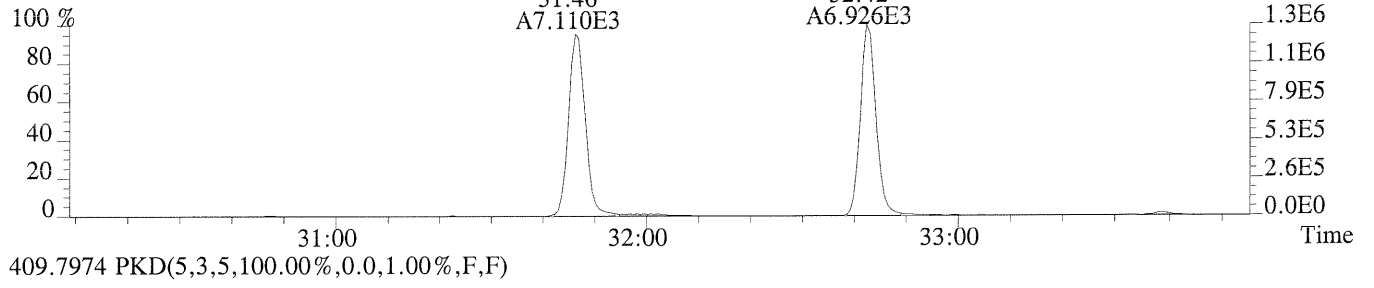
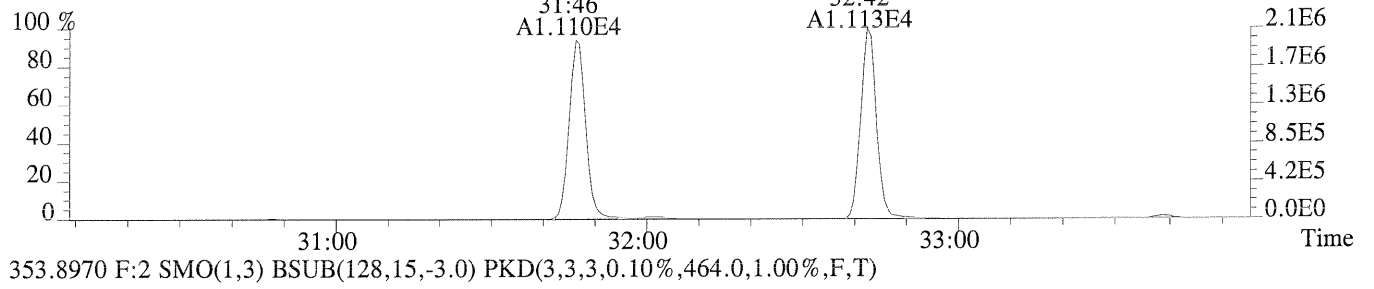
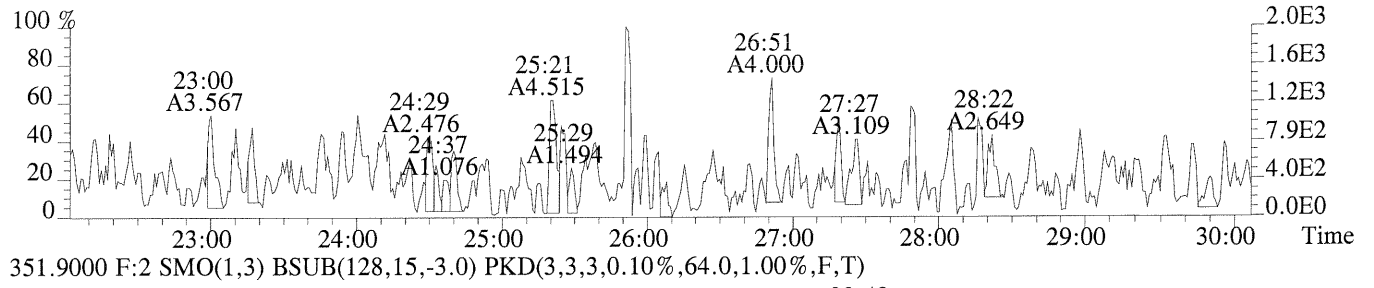
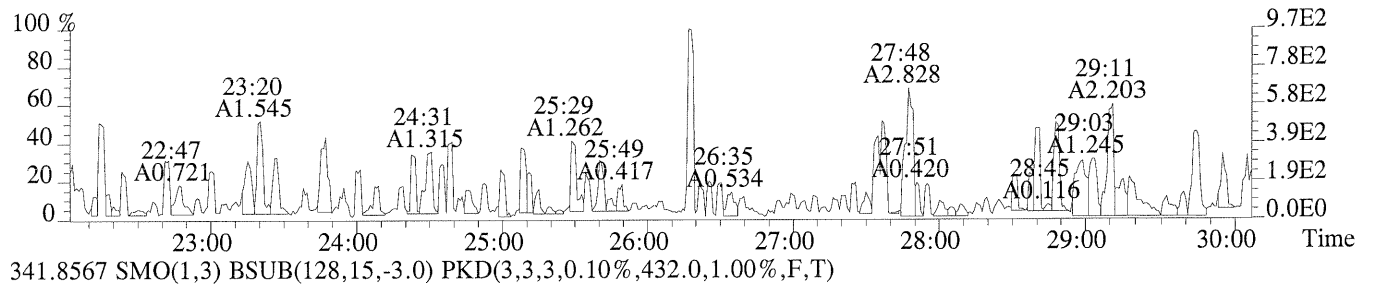
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



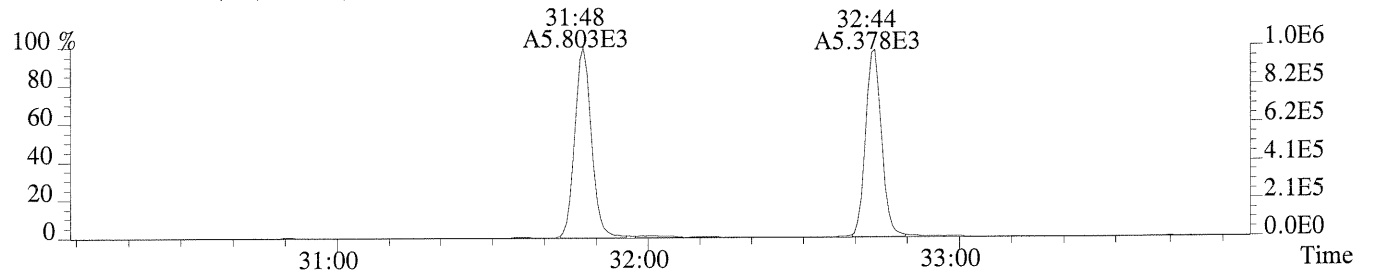
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



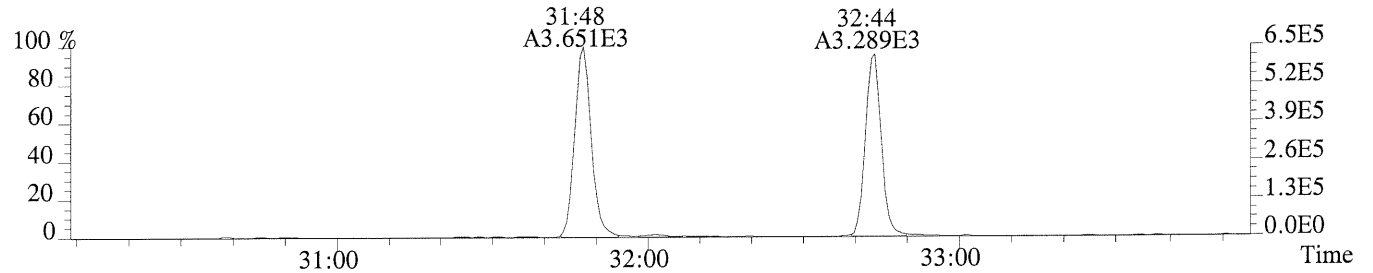
File:P173101 #1-579 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



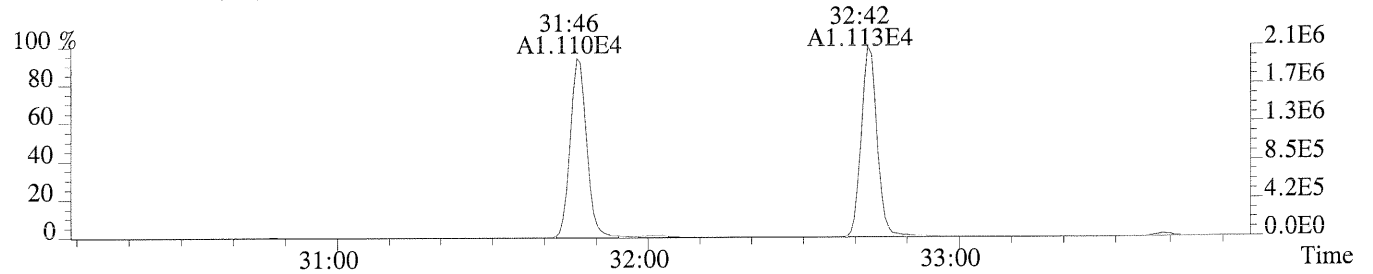
File:P173101 #1-343 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



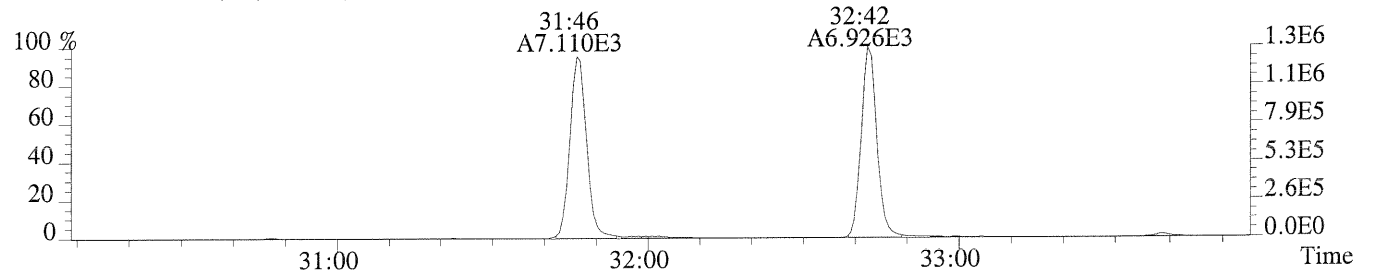
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,T)



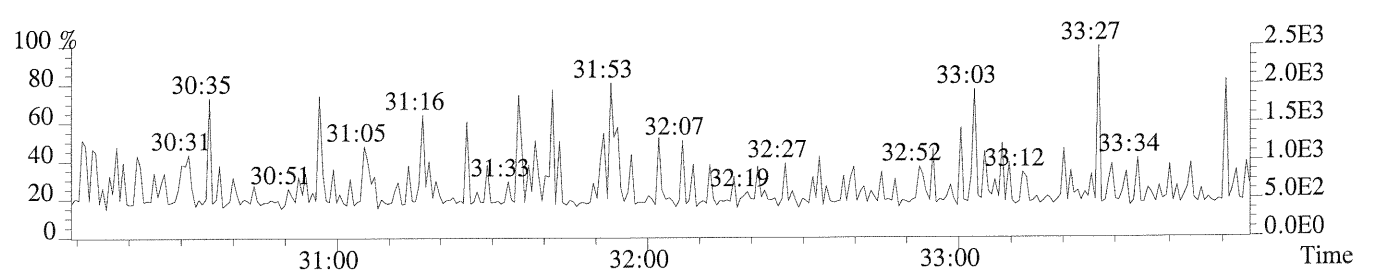
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



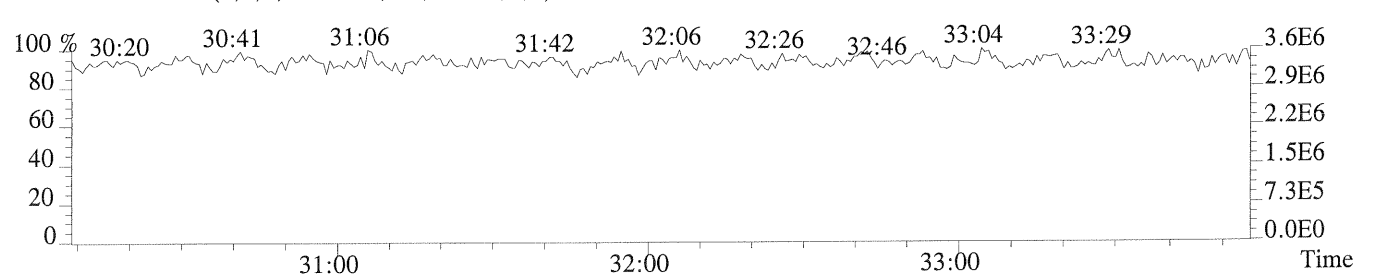
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



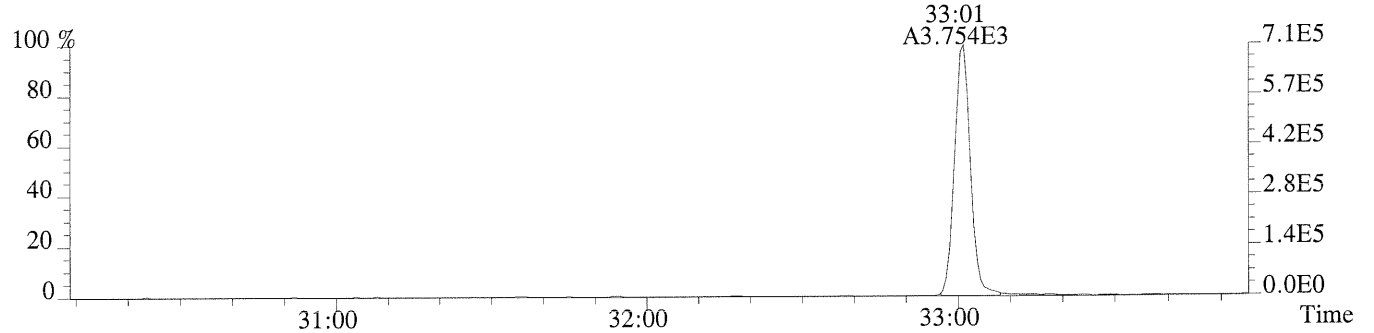
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



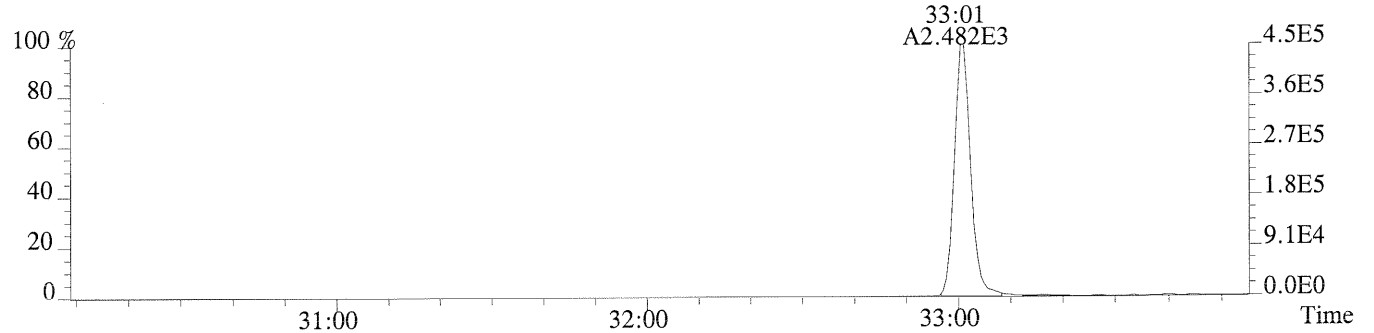


Sample#1 Exp:CS3

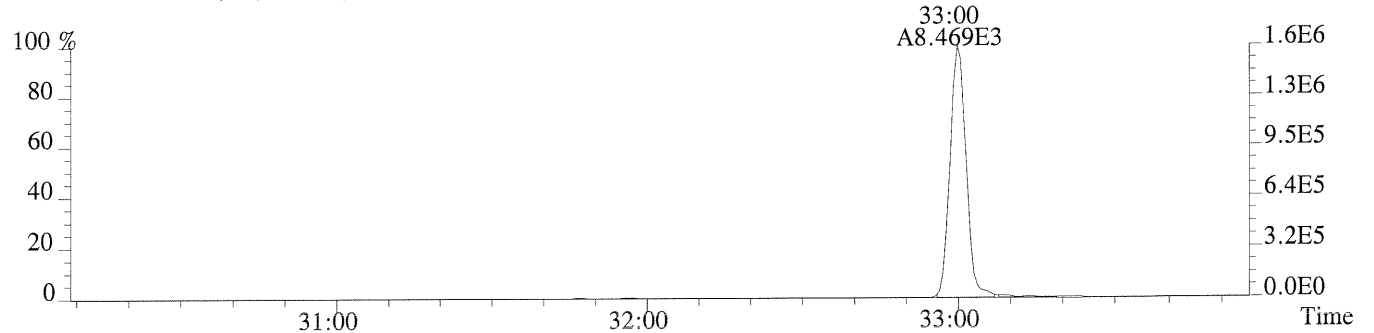
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,T)



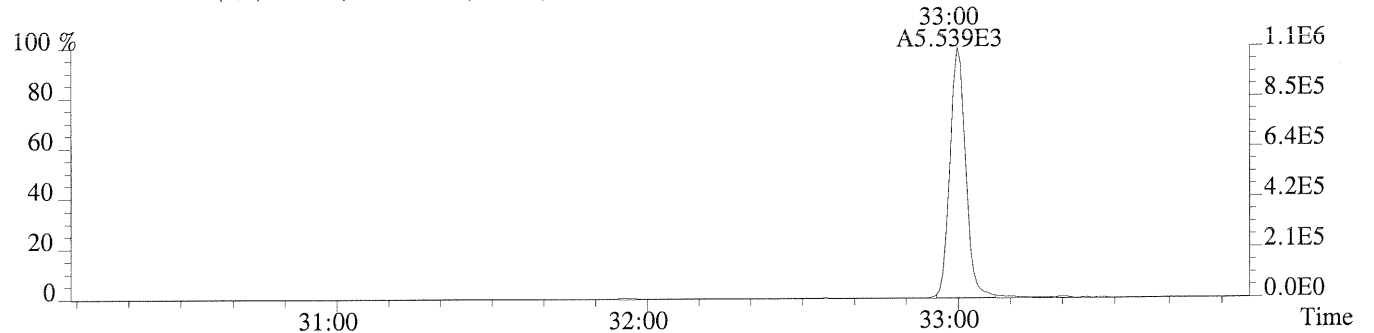
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



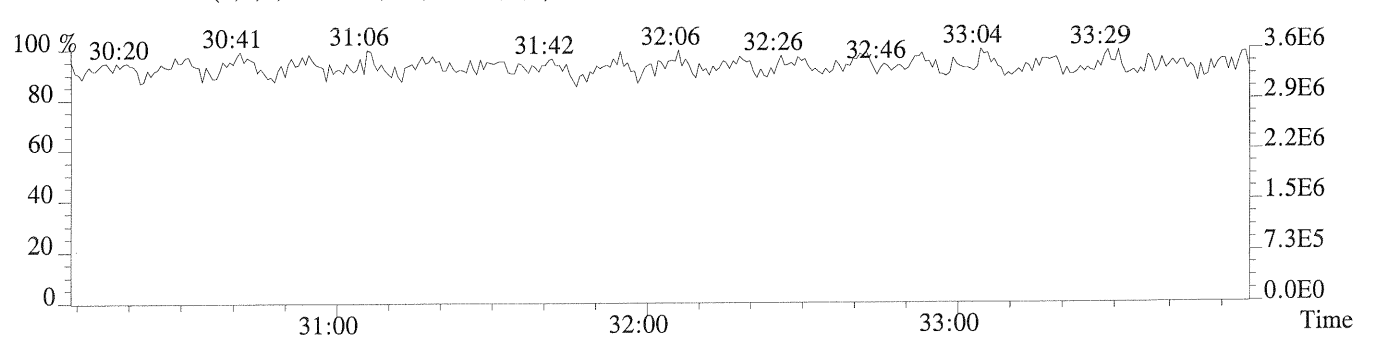
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



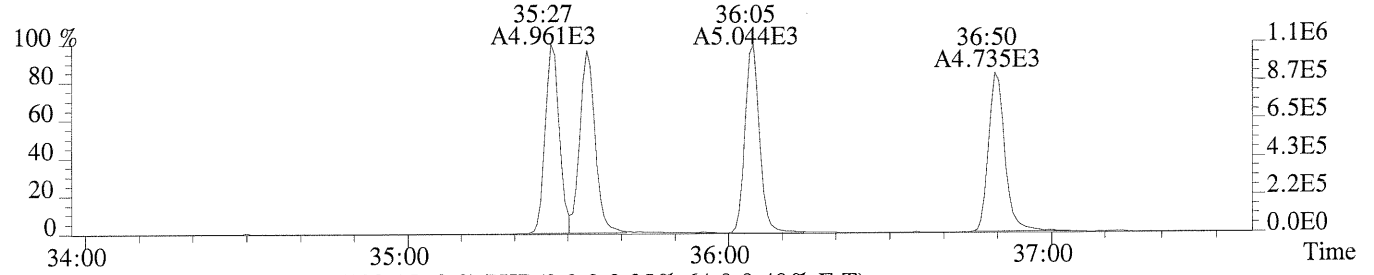
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



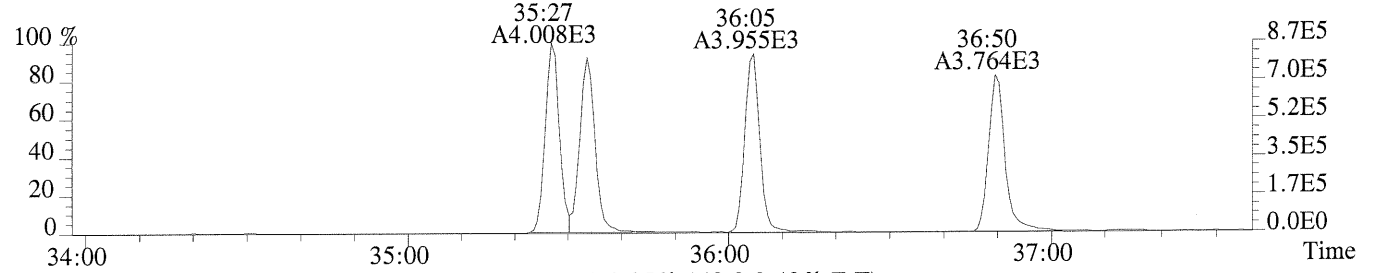
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



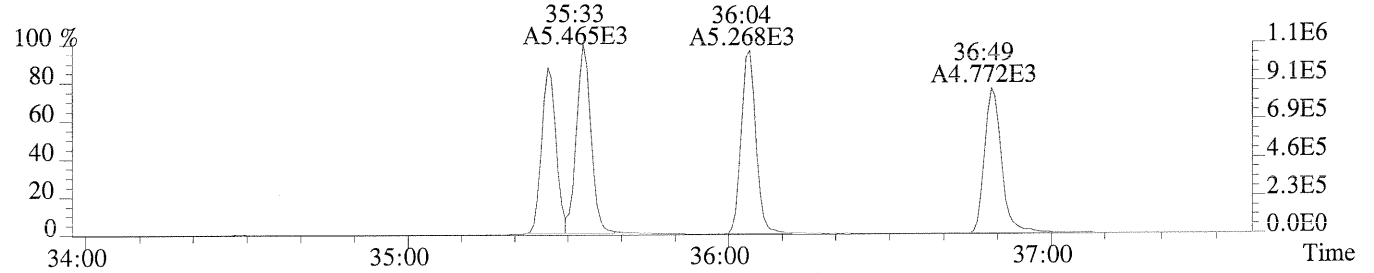
File:P173101 #1-332 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



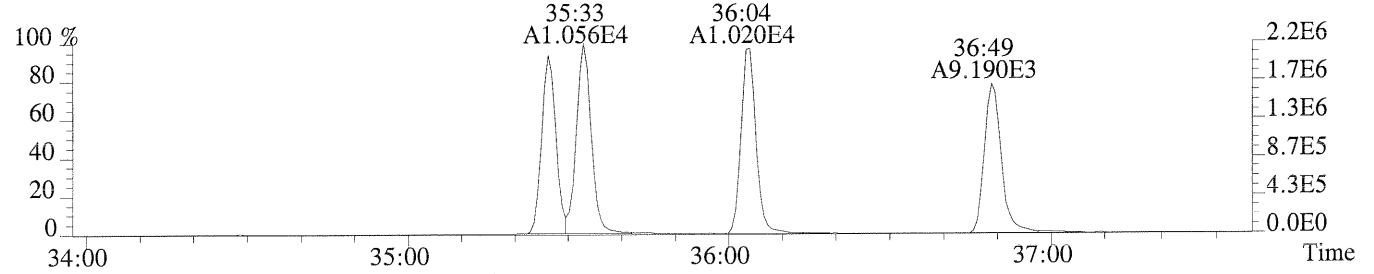
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



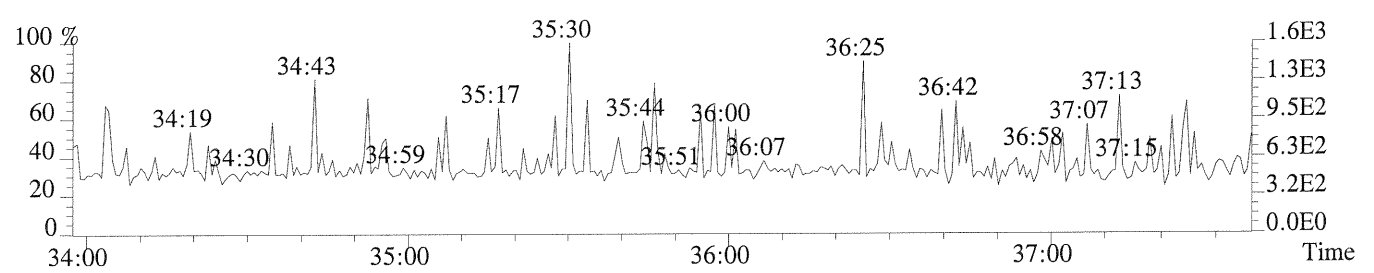
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.40%,F,T)



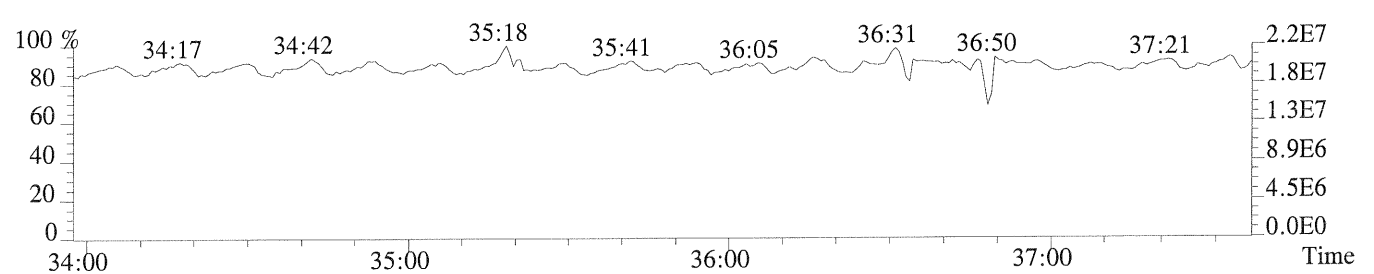
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,T)



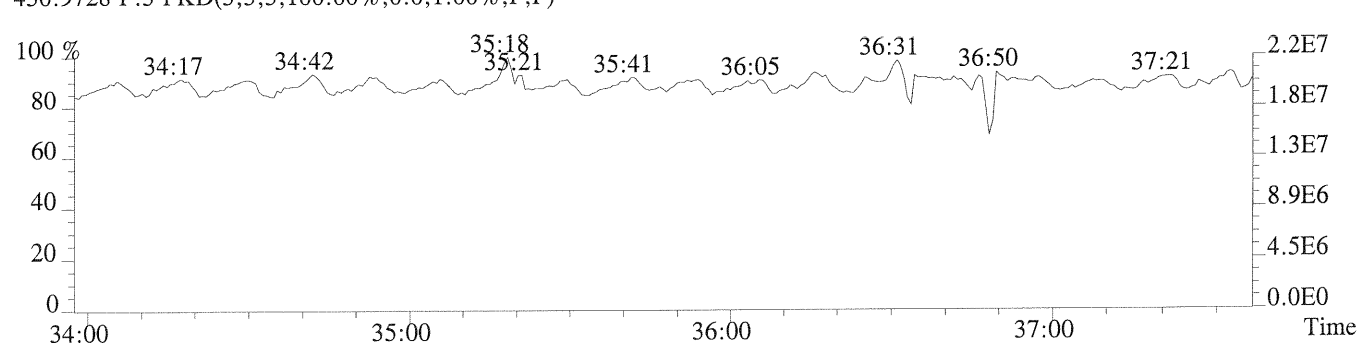
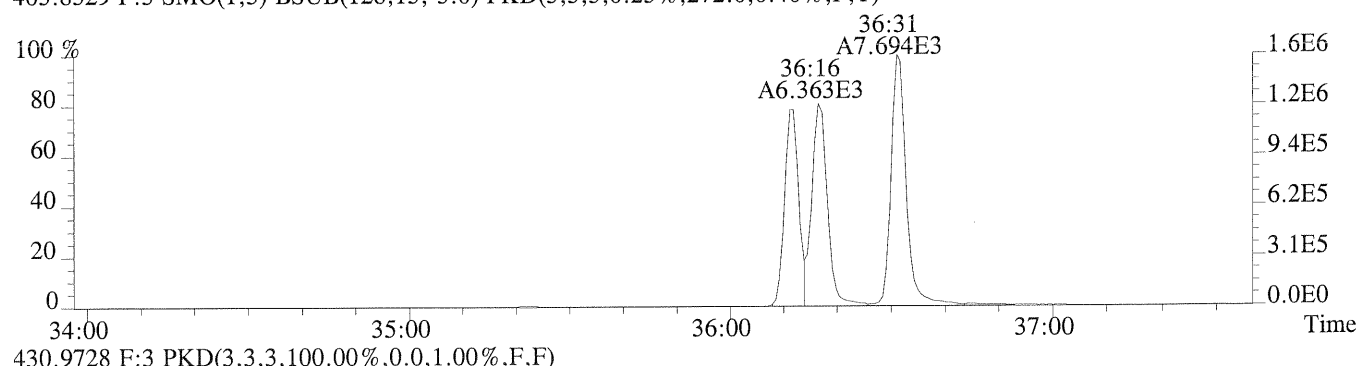
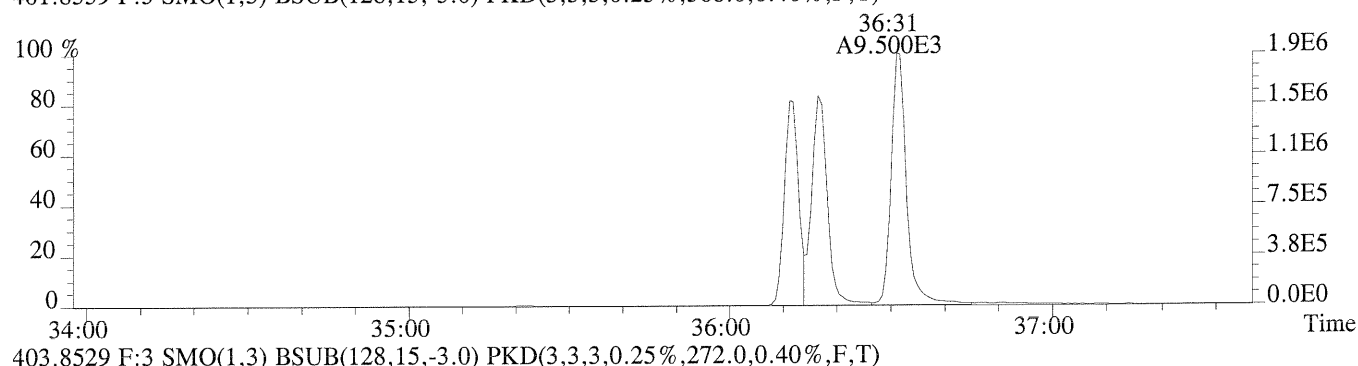
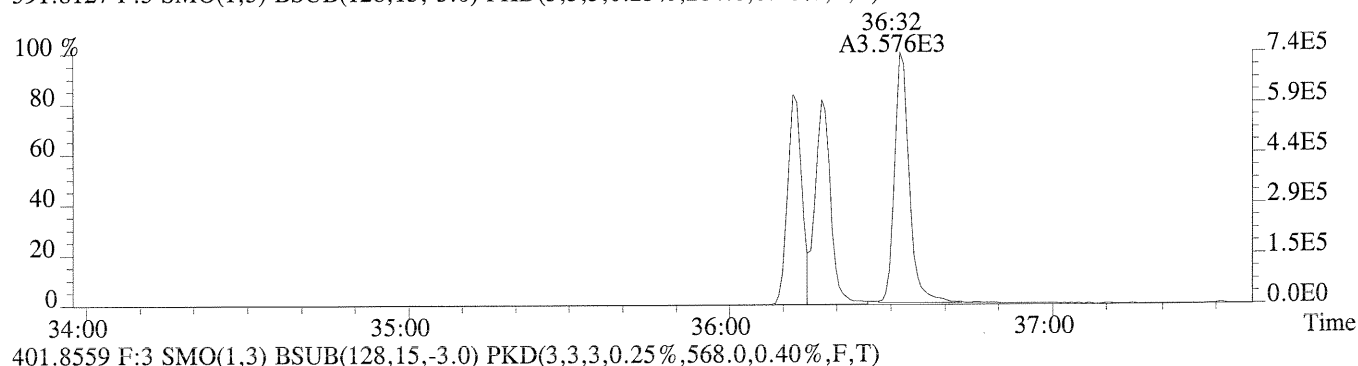
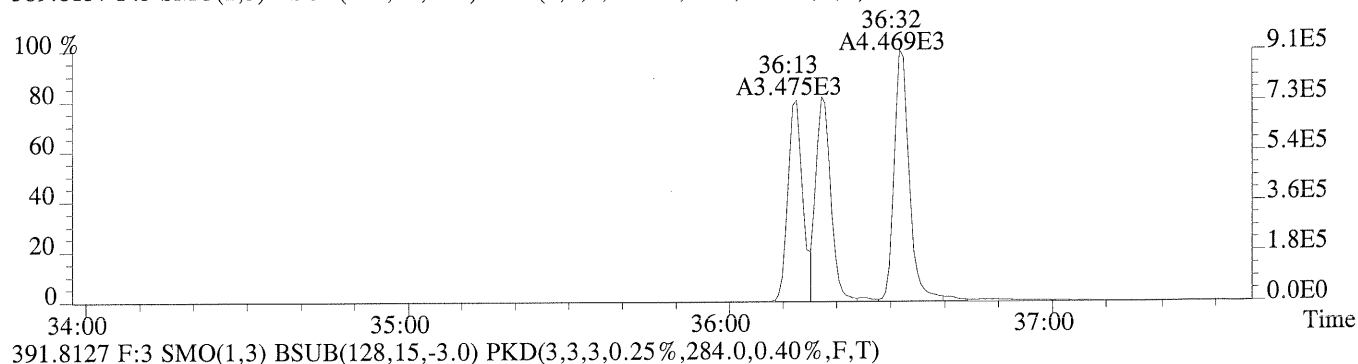
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



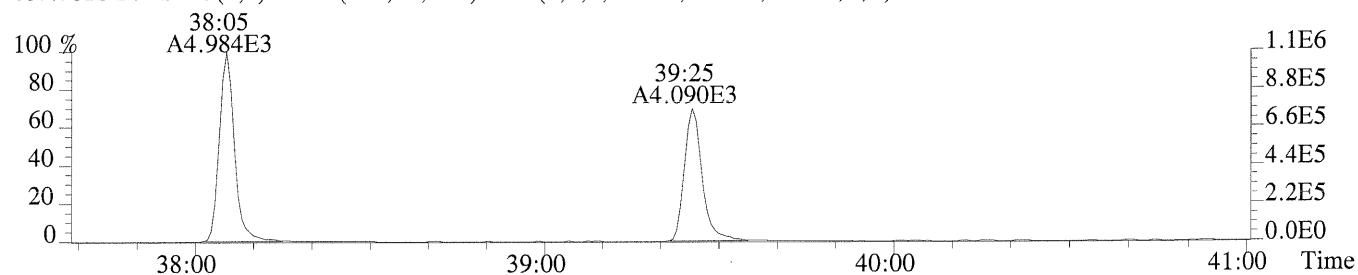
File:P173101 #1-332 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



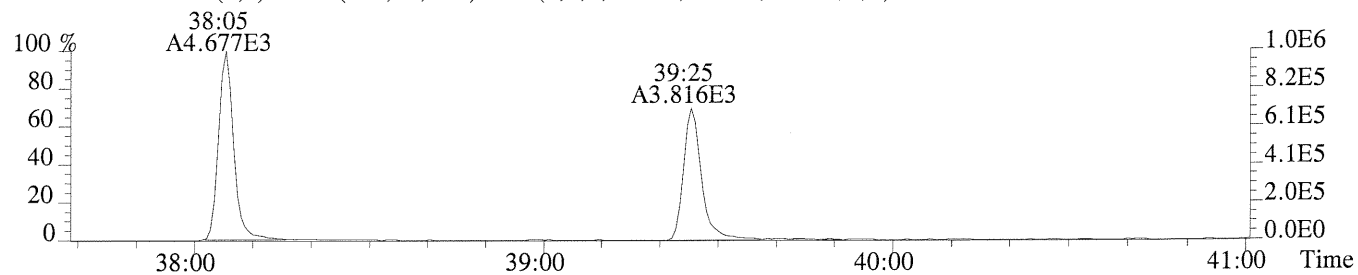
File:P173101 #1-306 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

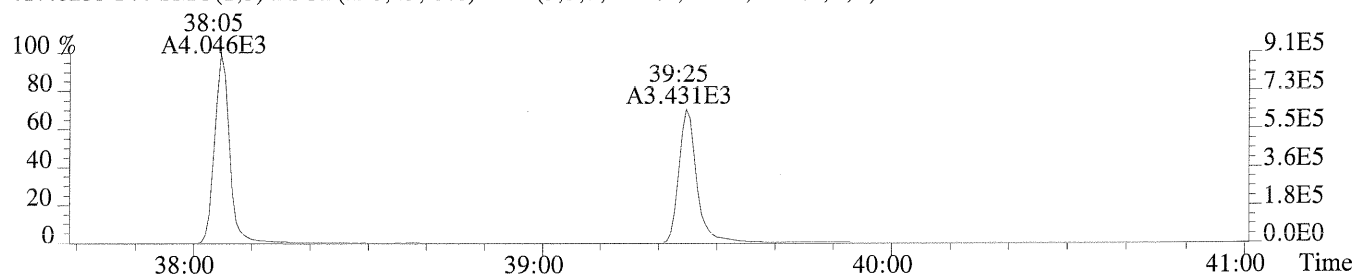
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.50%,F,T)



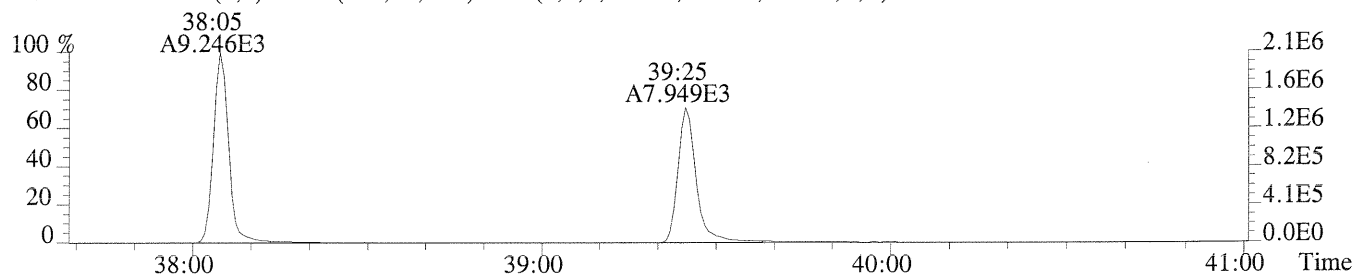
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1532.0,0.50%,F,T)



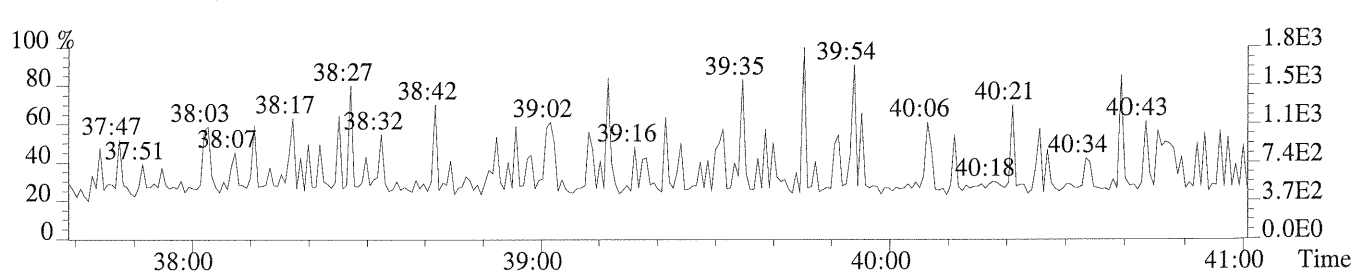
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.50%,F,T)



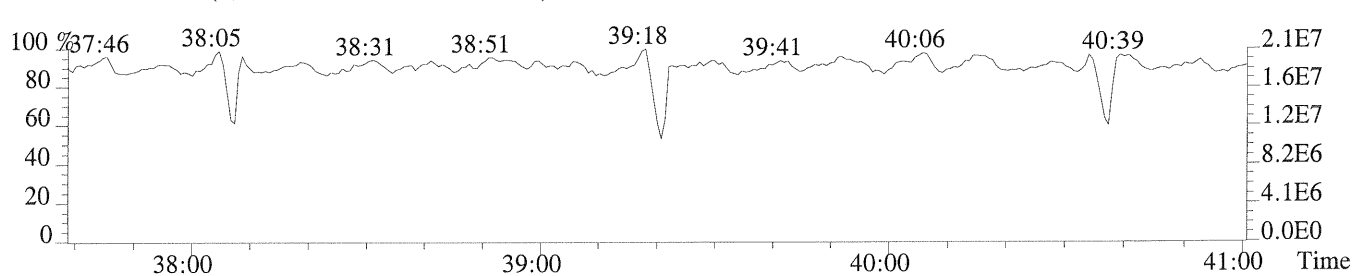
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1648.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

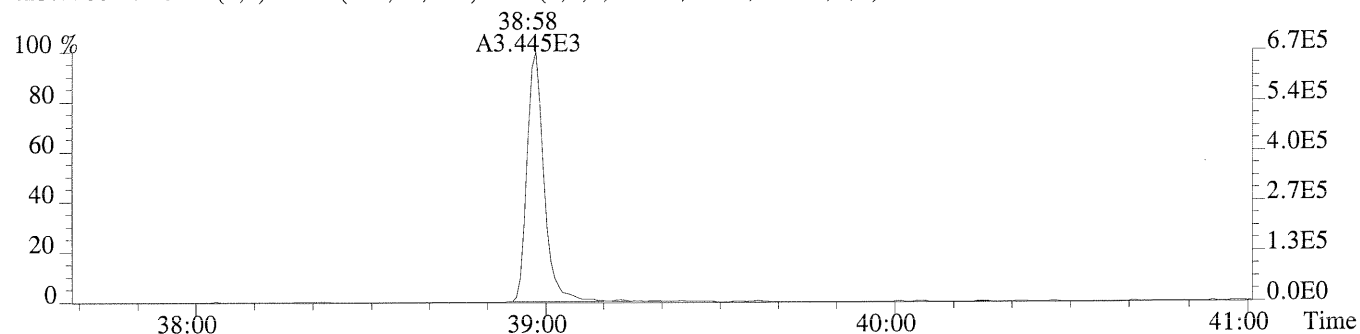


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

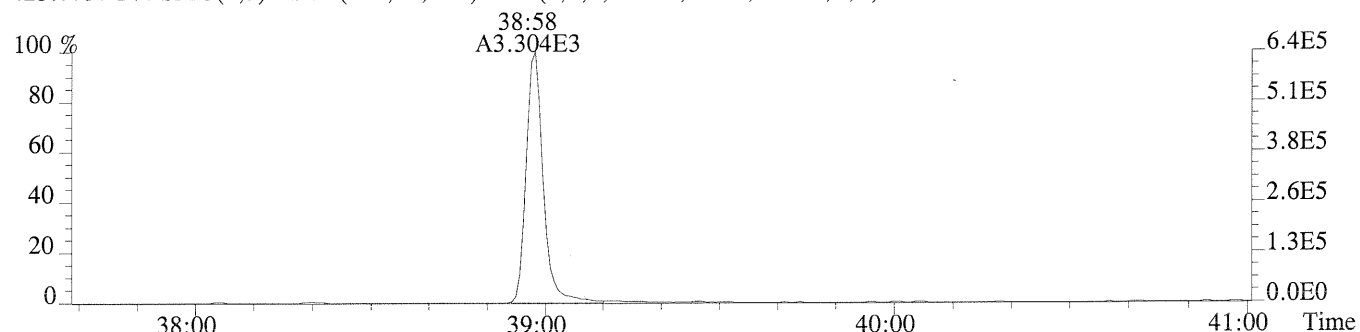


Sample#1 Exp:CS3

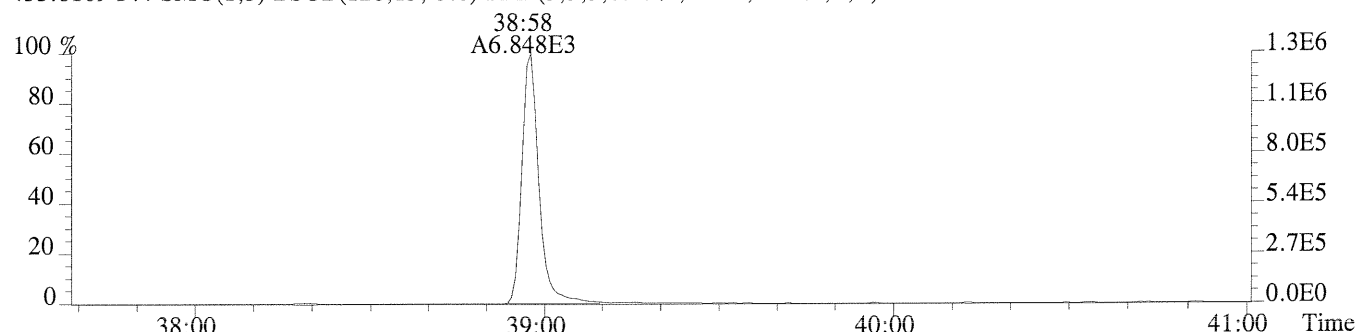
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,108.0,0.40%,F,T)



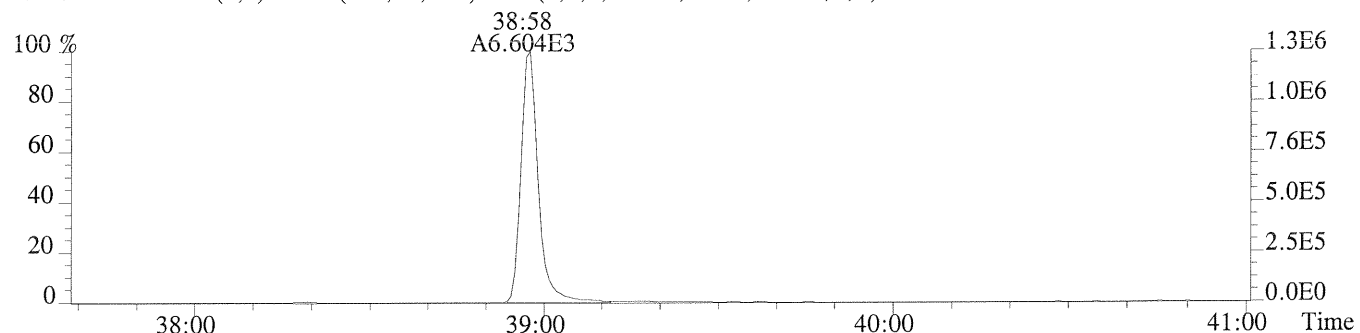
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,T)



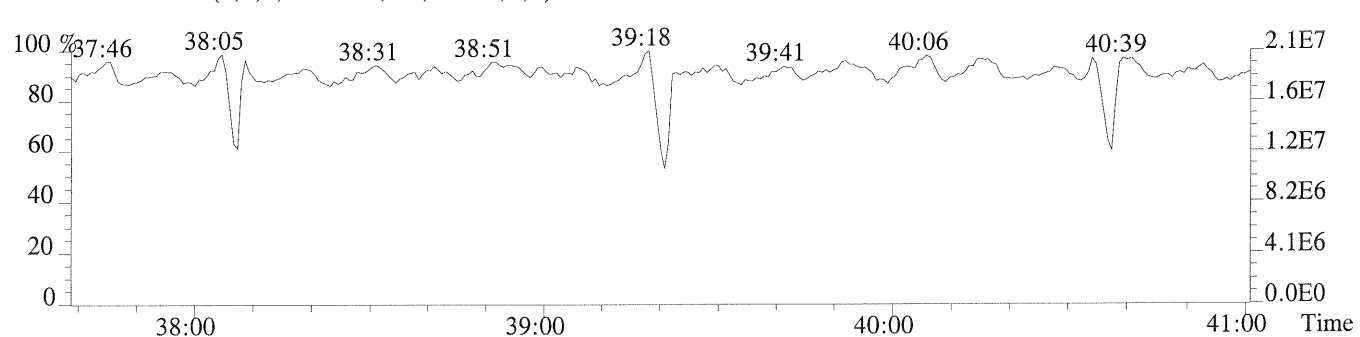
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,500.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



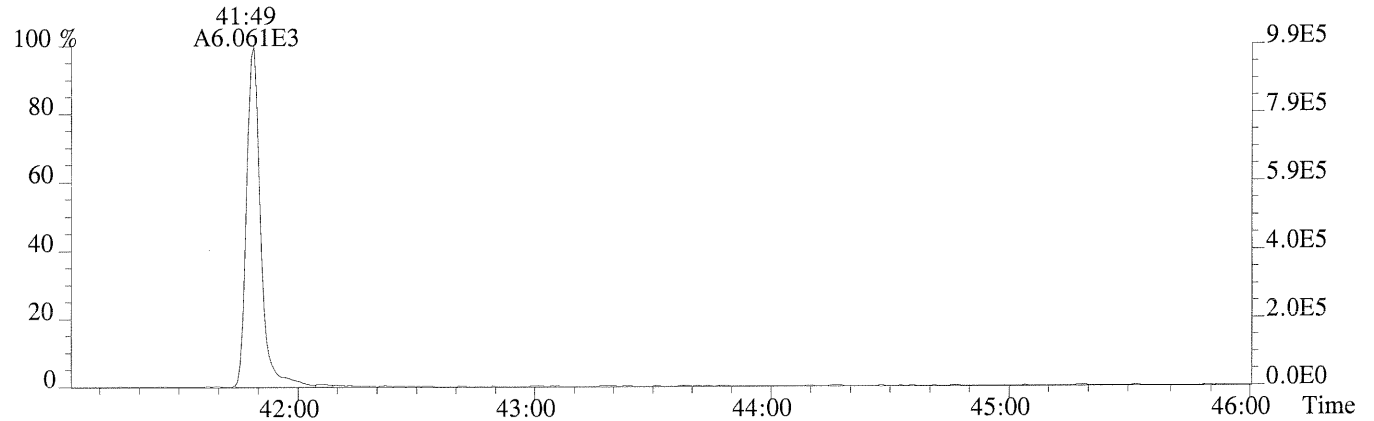
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



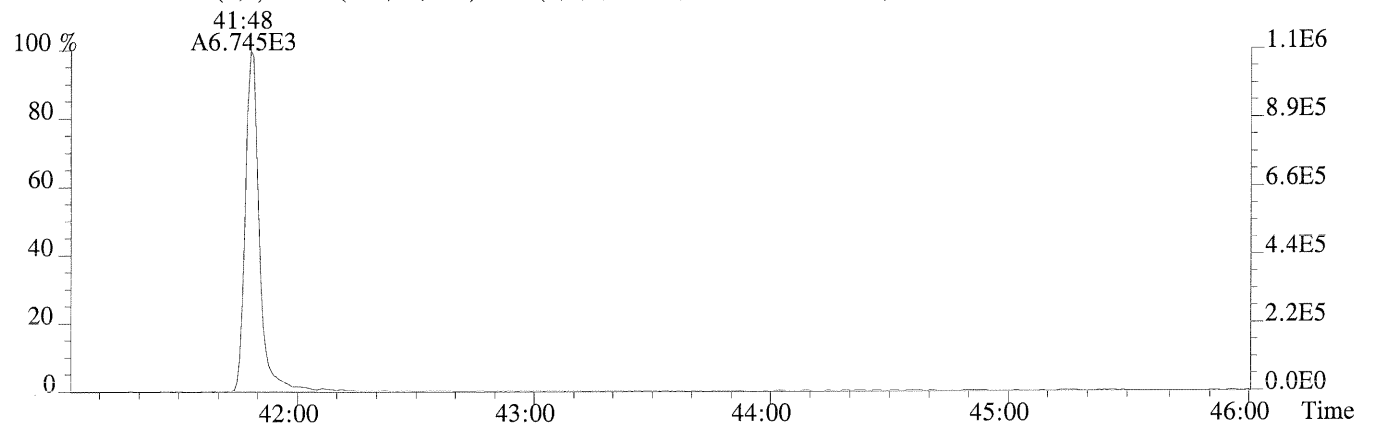
File:P173101 #1-456 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

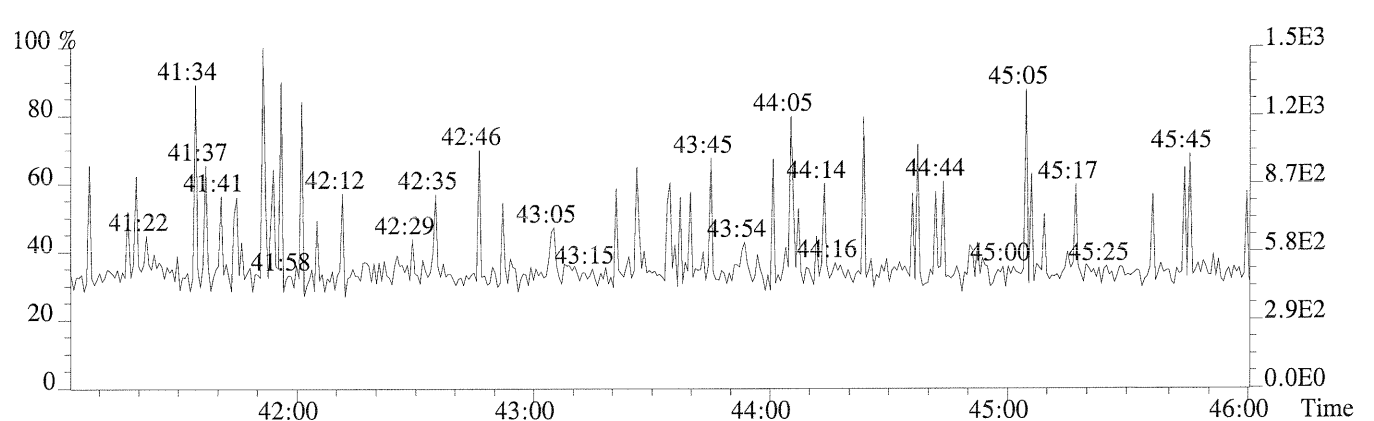
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1120.0,0.40%,F,T)



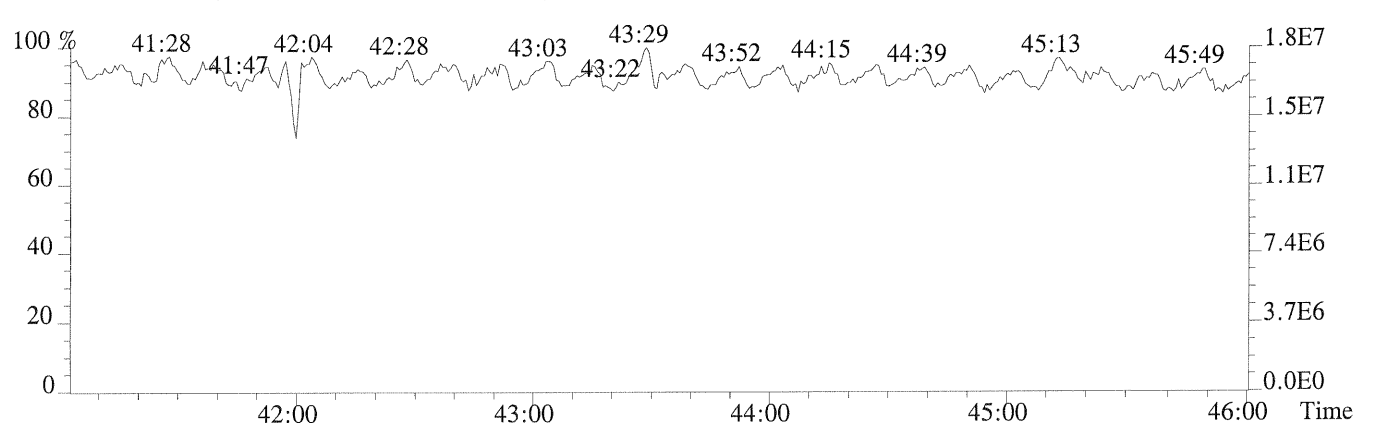
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2048.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



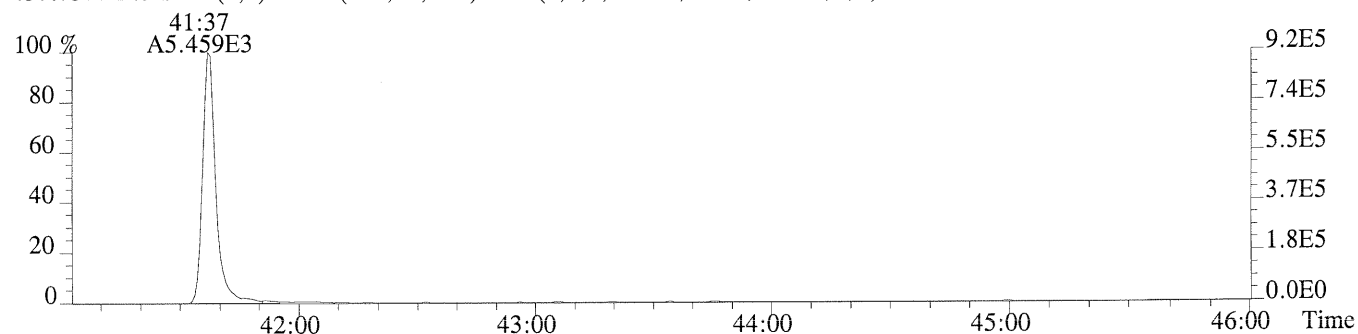
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



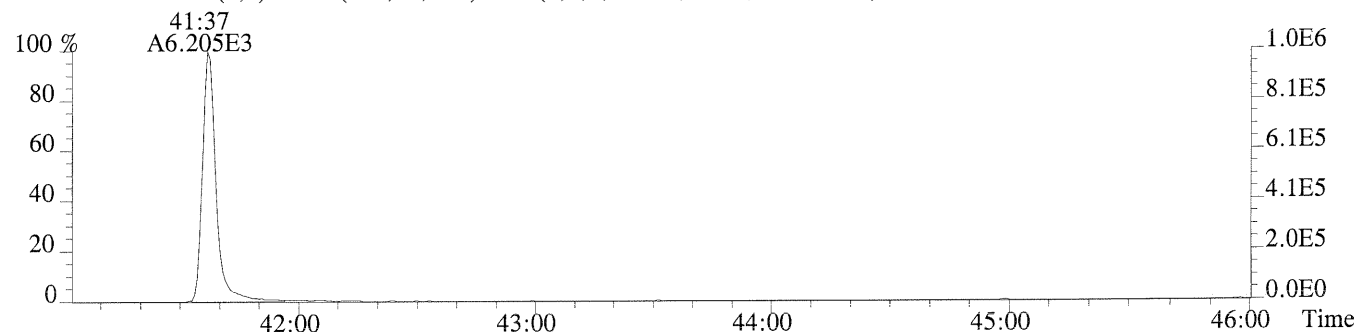
File:P173101 #1-456 Acq:26-AUG-2014 11:30:53 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

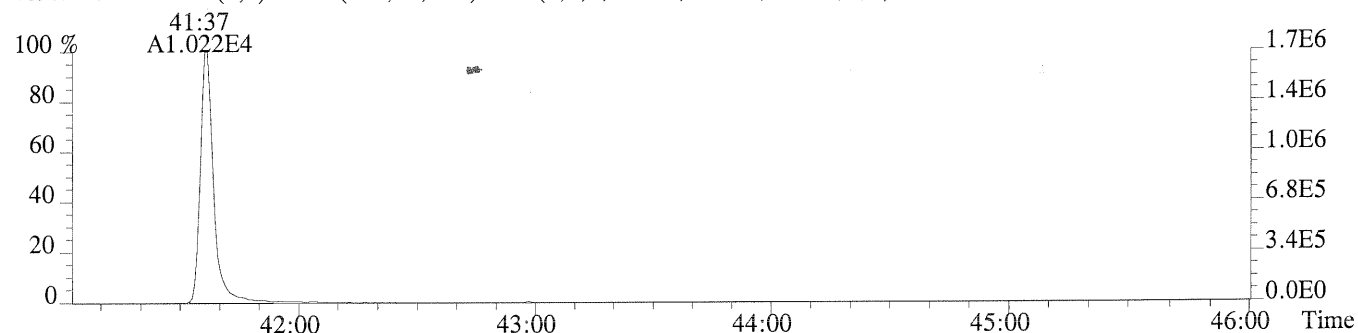
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,808.0,0.40%,F,T)



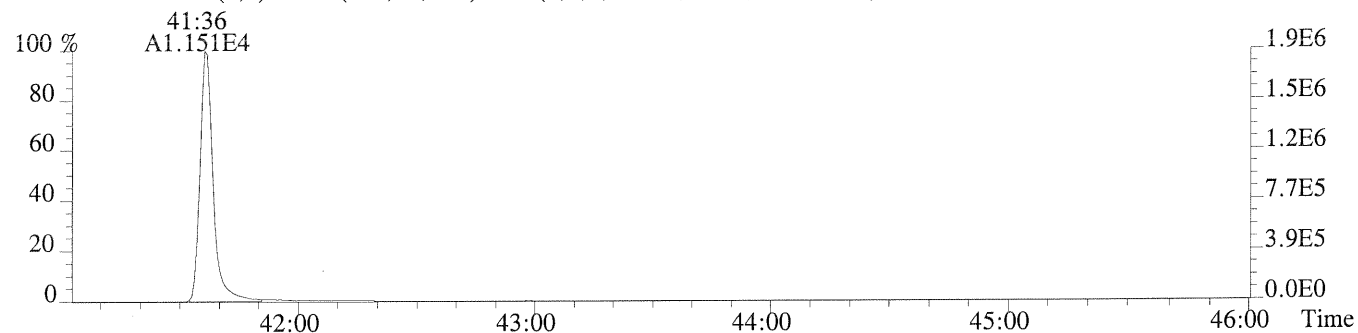
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,964.0,0.40%,F,T)



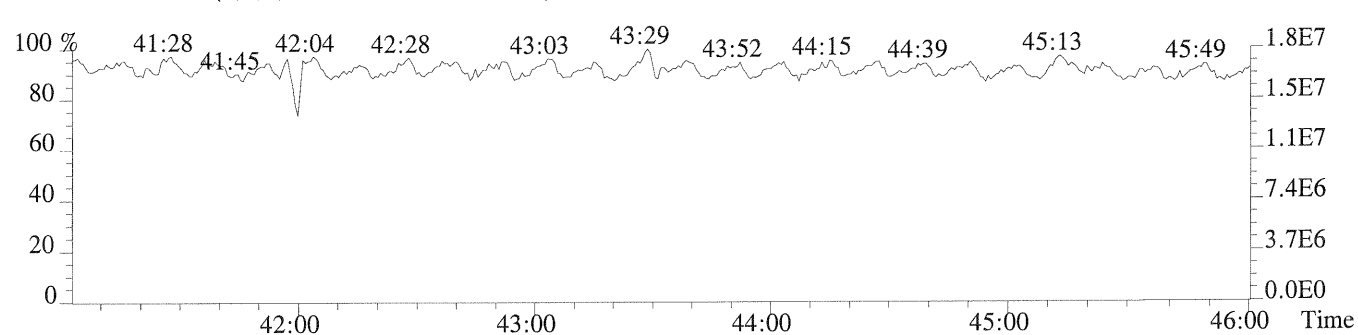
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1168.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173113

Analysis Date: 26-AUG-14 Time: 21:50:17

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	9.8	7.8 - 12.9	-1.7
1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32-1.78	48	39 - 65	-4.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	49	39 - 64	-1.7
1,2,3,6,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	49	39 - 64	-1.1
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	50	41 - 61	0.8
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	0.88-1.20	49	43 - 58	-2.9
OCDD	M+2/M+4	0.89	0.76-1.02	97	79 - 126	-3.0
2,3,7,8-TCDF	M/M+2	0.72	0.65-0.89	9.6	8.4 - 12.0	-4.2
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	50	41 - 60	-0.4
2,3,4,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	50	41 - 61	-0.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.33	1.05-1.43	51	45 - 56	1.7
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	50	44 - 57	0.8
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	53	45 - 56	6.2
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	50	44 - 57	0.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.11	0.88-1.20	52	45 - 55	4.7
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	51	43 - 58	2.3
OCDF	M+2/M+4	0.89	0.76-1.02	94	63 - 159	-5.8

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM



USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173113

Analysis Date: 26-AUG-14 Time: 21:50:17

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	90	82 - 121	-9.6
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	83	62 - 160	-16.8
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.38	1.05-1.43	99	85 - 117	-1.1
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	96	85 - 118	-3.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	116	72 - 138	15.8
13C-OCDD	M+2/M+4	0.90	0.76-1.02	242	96 - 415	21.2
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	89	71 - 140	-11.4
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	77	76 - 130	-23.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	80	77 - 130	-19.7
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	91	76 - 131	-9.3
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	95	70 - 143	-4.6
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	91	74 - 135	-8.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	97	73 - 137	-3.3
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37-0.51	102	78 - 129	1.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	107	77 - 129	7.3
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.1	7.8 - 12.7	-8.8

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
- (5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 72675

Run #8 Filename P173113 #1 Samp: 1 Inj: 1 Acquired: 26-AUG-14 21:50:17  
 Processed: 27-AUG-14 09:19:51 LAB. ID: CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	27:22	3.533e+02	4.884e+02	0.72	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	31:47	3.196e+03	2.010e+03	1.59	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	32:43	3.137e+03	1.918e+03	1.64	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	35:27	3.117e+03	2.352e+03	1.33	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	35:33	3.438e+03	2.791e+03	1.23	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:04	3.192e+03	2.538e+03	1.26	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	36:49	2.911e+03	2.350e+03	1.24	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:04	3.259e+03	2.935e+03	1.11	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	39:25	2.717e+03	2.693e+03	1.01	yes	no	1.000
10	Unk	OCDF	41:47	4.875e+03	5.465e+03	0.89	yes	no	1.005
11	Unk	2,3,7,8-TCDD	28:13	3.048e+02	3.935e+02	0.77	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:00	2.199e+03	1.358e+03	1.62	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:12	2.212e+03	1.761e+03	1.26	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:16	2.230e+03	1.850e+03	1.21	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	36:32	2.486e+03	1.952e+03	1.27	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	38:57	2.239e+03	2.265e+03	0.99	yes	no	1.000
17	Unk	OCDD	41:36	4.147e+03	4.646e+03	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	27:21	4.057e+03	5.236e+03	0.77	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	31:46	6.181e+03	4.098e+03	1.51	yes	no	1.152
20	IS	13C-2,3,4,7,8-PeCDF	32:42	6.458e+03	3.987e+03	1.62	yes	no	1.186
21	IS	13C-1,2,3,4,7,8-HxCDF	35:26	2.963e+03	5.702e+03	0.52	yes	no	0.970
22	IS	13C-1,2,3,6,7,8-HxCDF	35:33	3.470e+03	7.013e+03	0.49	yes	no	0.973
23	IS	13C-2,3,4,6,7,8-HxCDF	36:03	3.377e+03	6.531e+03	0.52	yes	no	0.987
24	IS	13C-1,2,3,7,8,9-HxCDF	36:49	2.849e+03	5.737e+03	0.50	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	2.503e+03	5.929e+03	0.42	yes	no	1.042
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:24	2.564e+03	5.426e+03	0.47	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	28:11	2.944e+03	3.909e+03	0.75	yes	no	1.022
28	IS	13C-1,2,3,7,8-PeCDD	32:60	4.832e+03	3.099e+03	1.56	yes	no	1.197
29	IS	13C-1,2,3,4,7,8-HxCDD	36:11	4.511e+03	3.259e+03	1.38	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:16	4.508e+03	3.823e+03	1.18	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	4.719e+03	4.410e+03	1.07	yes	no	1.067
32	IS	13C-OCDD	41:35	7.950e+03	8.852e+03	0.90	yes	no	1.139
33	RS/RT	13C-1,2,3,4-TCDD	27:34	3.162e+03	4.060e+03	0.78	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	5.121e+03	4.025e+03	1.27	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	28:13	7.406e+02				no	1.023

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XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 72675

Run #8    Filename P173113    Samp: 1    Inj: 1    Acquired: 26-AUG-14 21:50:17  
 Processed: 27-AUG-14 09:19:51    LAB. ID: CS3

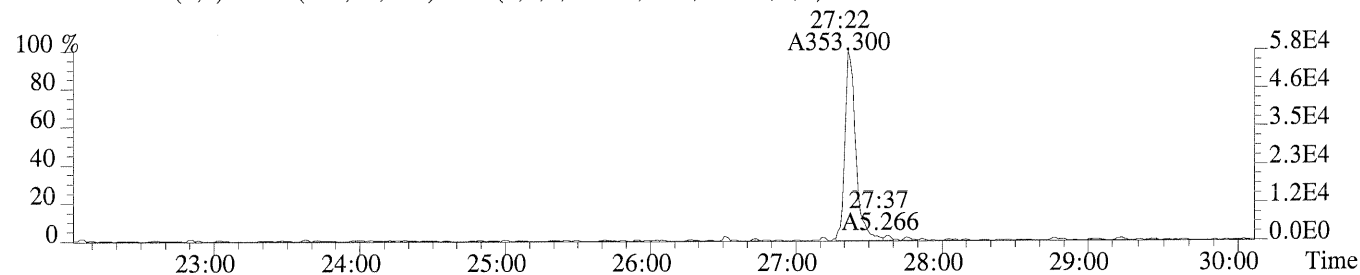
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.81e+04	8.80e+01	6.6e+02	7.46e+04	1.13e+03	6.6e+01
2	1,2,3,7,8-PeCDF	5.10e+05	7.60e+01	6.7e+03	3.36e+05	3.24e+02	1.0e+03
3	2,3,4,7,8-PeCDF	5.60e+05	7.60e+01	7.4e+03	3.39e+05	3.24e+02	1.0e+03
4	1,2,3,4,7,8-HxCDF	6.28e+05	6.00e+01	1.0e+04	4.72e+05	8.40e+01	5.6e+03
5	1,2,3,6,7,8-HxCDF	6.24e+05	6.00e+01	1.0e+04	4.98e+05	8.40e+01	5.9e+03
6	2,3,4,6,7,8-HxCDF	6.33e+05	6.00e+01	1.1e+04	5.20e+05	8.40e+01	6.2e+03
7	1,2,3,7,8,9-HxCDF	5.15e+05	6.00e+01	8.6e+03	4.00e+05	8.40e+01	4.8e+03
8	1,2,3,4,6,7,8-HpCDF	6.38e+05	8.00e+02	8.0e+02	5.84e+05	7.96e+02	7.3e+02
9	1,2,3,4,7,8,9-HpCDF	4.59e+05	8.00e+02	5.7e+02	4.60e+05	7.96e+02	5.8e+02
10	OCDF	7.88e+05	1.34e+03	5.9e+02	8.63e+05	1.36e+03	6.4e+02
11	2,3,7,8-TCDD	4.99e+04	2.92e+02	1.7e+02	6.07e+04	3.52e+02	1.7e+02
12	1,2,3,7,8-PeCDD	3.84e+05	2.68e+02	1.4e+03	2.36e+05	6.80e+01	3.5e+03
13	1,2,3,4,7,8-HxCDD	4.68e+05	7.60e+01	6.2e+03	3.60e+05	2.68e+02	1.3e+03
14	1,2,3,6,7,8-HxCDD	4.32e+05	7.60e+01	5.7e+03	3.57e+05	2.68e+02	1.3e+03
15	1,2,3,7,8,9-HxCDD	4.73e+05	7.60e+01	6.2e+03	3.66e+05	2.68e+02	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	4.47e+05	1.96e+02	2.3e+03	4.21e+05	6.40e+01	6.6e+03
17	OCDD	6.51e+05	9.92e+02	6.6e+02	7.51e+05	1.06e+03	7.1e+02
18	13C-2,3,7,8-TCDF	6.09e+05	4.52e+02	1.3e+03	7.73e+05	3.88e+02	2.0e+03
19	13C-1,2,3,7,8-PeCDF	9.84e+05	4.00e+01	2.5e+04	6.60e+05	1.04e+02	6.3e+03
20	13C-2,3,4,7,8-PeCDF	1.14e+06	4.00e+01	2.8e+04	7.14e+05	1.04e+02	6.9e+03
21	13C-1,2,3,4,7,8-HxCDF	6.00e+05	1.64e+02	3.7e+03	1.14e+06	2.60e+02	4.4e+03
22	13C-1,2,3,6,7,8-HxCDF	6.44e+05	1.64e+02	3.9e+03	1.30e+06	2.60e+02	5.0e+03
23	13C-2,3,4,6,7,8-HxCDF	6.74e+05	1.64e+02	4.1e+03	1.33e+06	2.60e+02	5.1e+03
24	13C-1,2,3,7,8,9-HxCDF	4.99e+05	1.64e+02	3.0e+03	1.00e+06	2.60e+02	3.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.00e+05	5.80e+02	8.6e+02	1.18e+06	1.21e+03	9.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	4.46e+05	5.80e+02	7.7e+02	9.17e+05	1.21e+03	7.6e+02
27	13C-2,3,7,8-TCDD	4.79e+05	1.75e+03	2.7e+02	6.30e+05	7.32e+02	8.6e+02
28	13C-1,2,3,7,8-PeCDD	8.49e+05	3.60e+01	2.4e+04	5.27e+05	5.60e+01	9.4e+03
29	13C-1,2,3,4,7,8-HxCDD	9.39e+05	2.88e+02	3.3e+03	7.05e+05	2.76e+02	2.6e+03
30	13C-1,2,3,6,7,8-HxCDD	9.11e+05	2.88e+02	3.2e+03	7.15e+05	2.76e+02	2.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	9.08e+05	2.00e+02	4.5e+03	8.55e+05	9.60e+01	8.9e+03
32	13C-OCDD	1.27e+06	9.24e+02	1.4e+03	1.43e+06	5.64e+02	2.5e+03
33	13C-1,2,3,4-TCDD	5.30e+05	1.75e+03	3.0e+02	6.59e+05	7.32e+02	9.0e+02
34	13C-1,2,3,7,8,9-HxCDD	9.51e+05	2.88e+02	3.3e+03	7.51e+05	2.76e+02	2.7e+03
35	37Cl-2,3,7,8-TCDD	1.11e+05	4.52e+02	2.5e+02			

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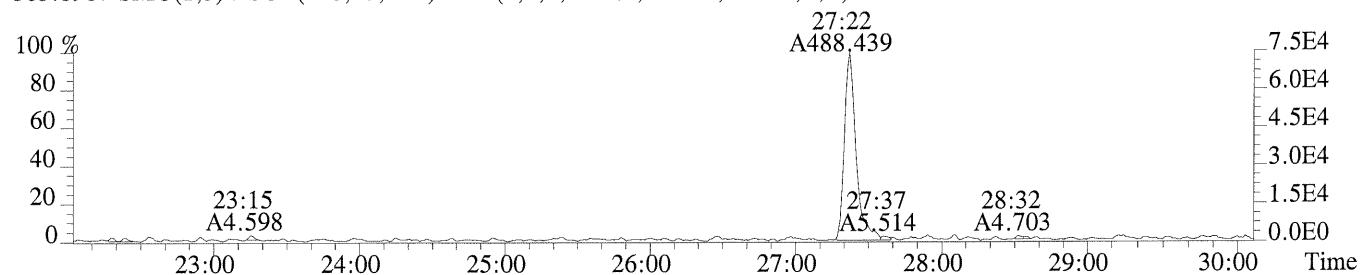
XLSN

Sample#1 Exp:CS3

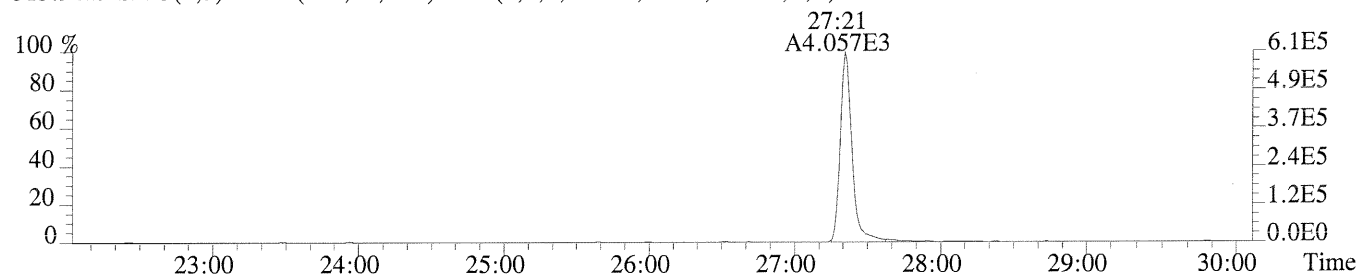
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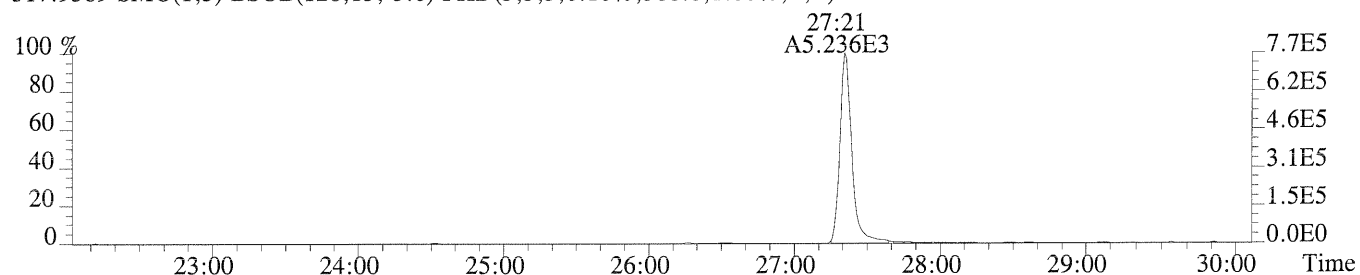
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



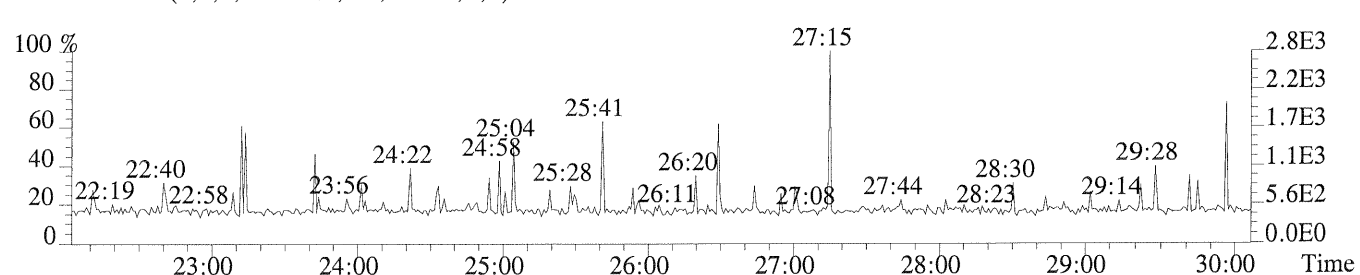
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



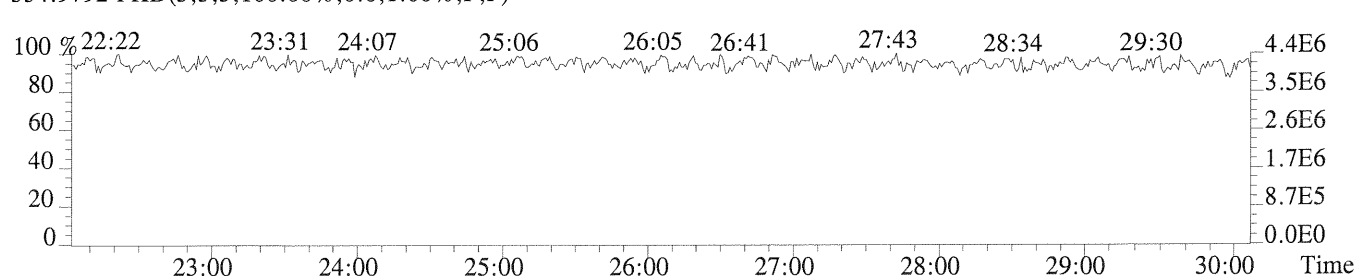
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

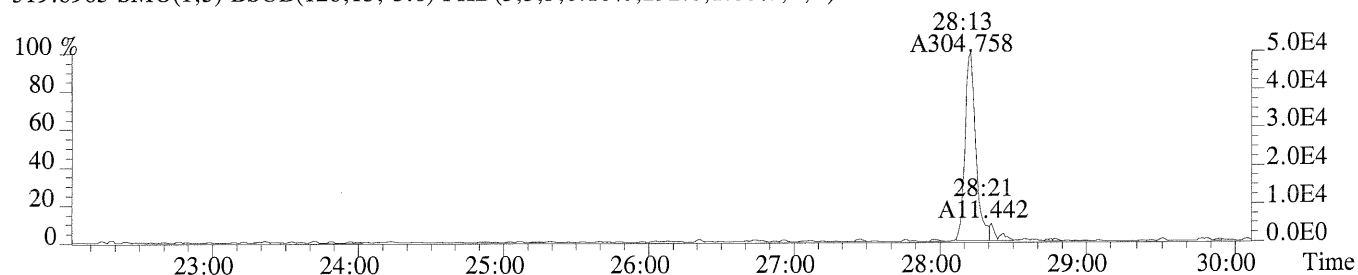


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

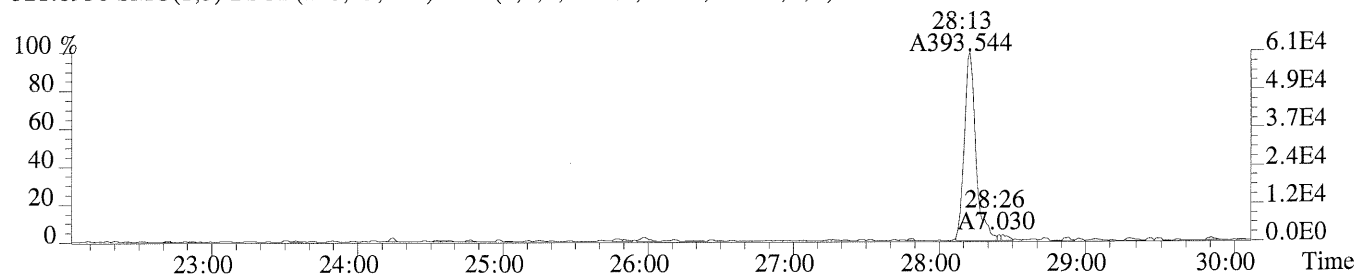


Sample#1 Exp:CS3

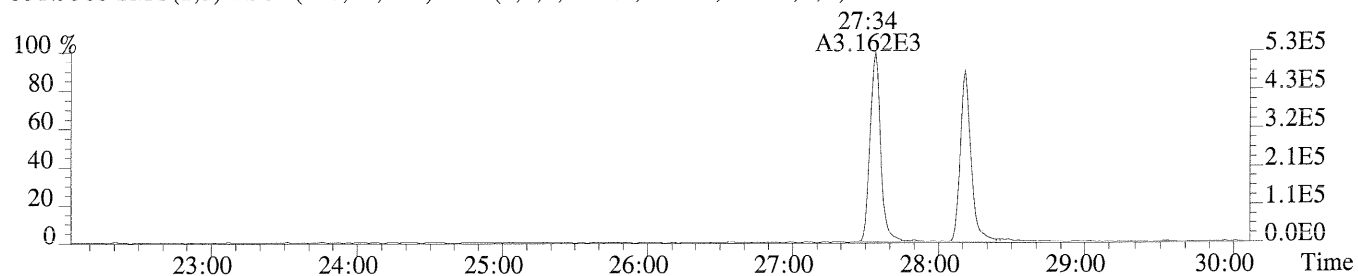
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,T)



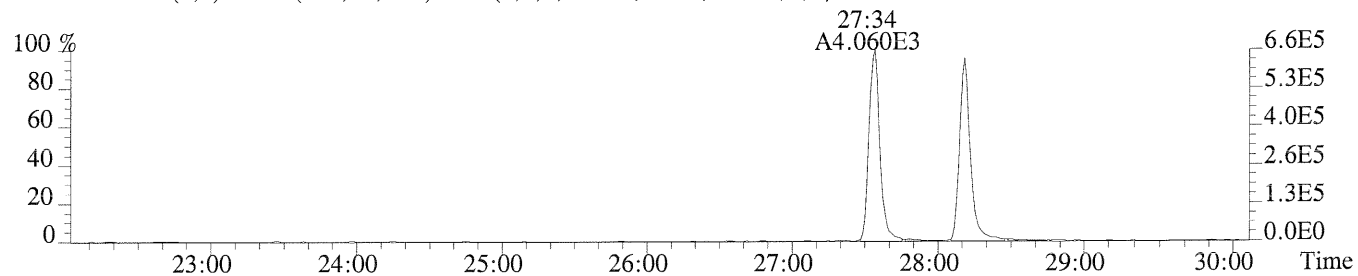
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



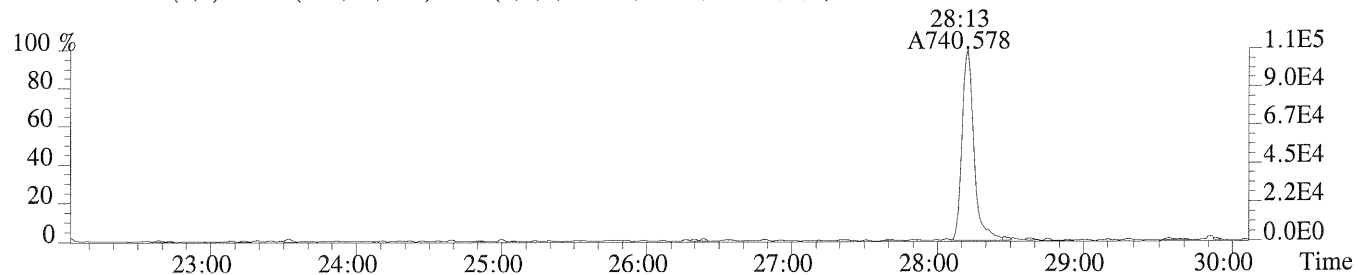
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



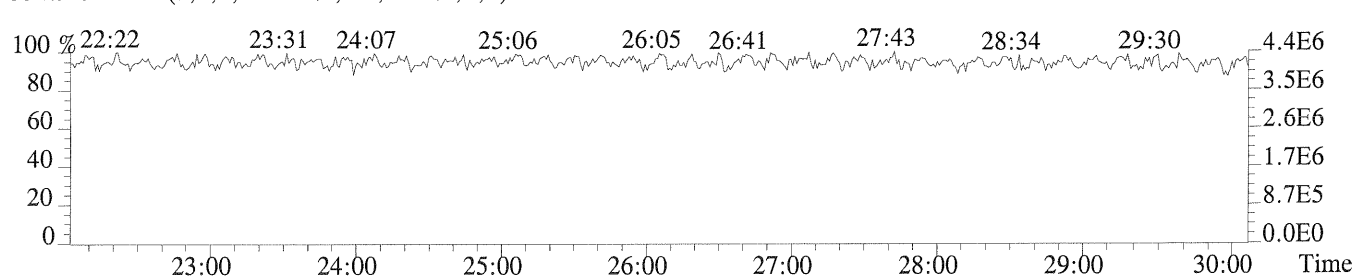
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



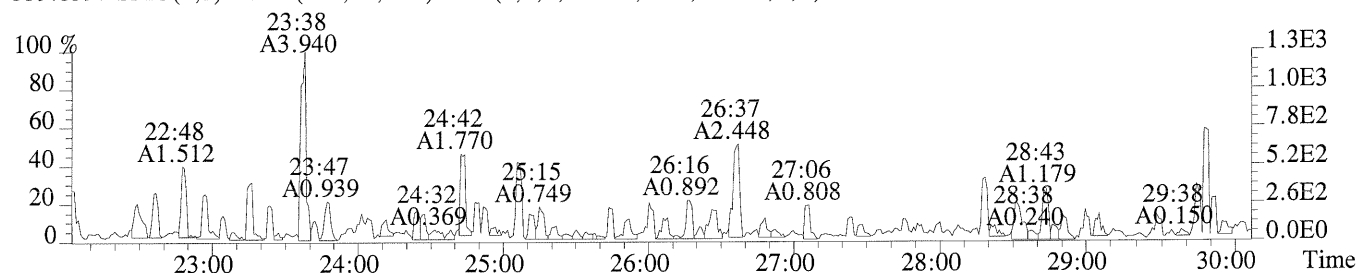
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



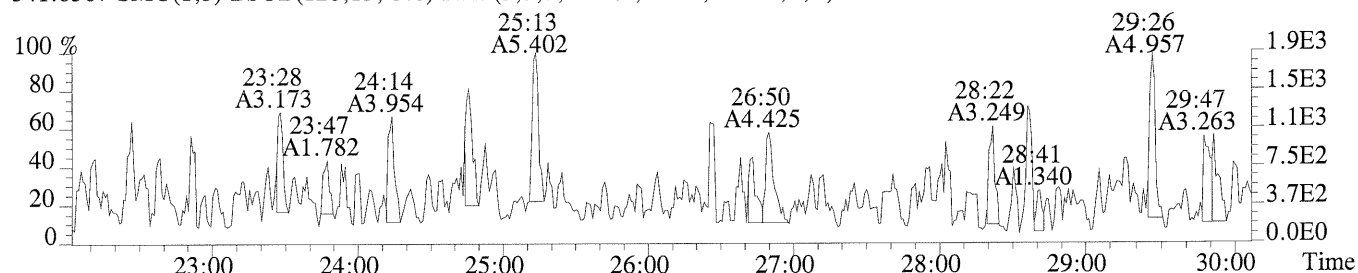
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Sample#1 Exp:CS3

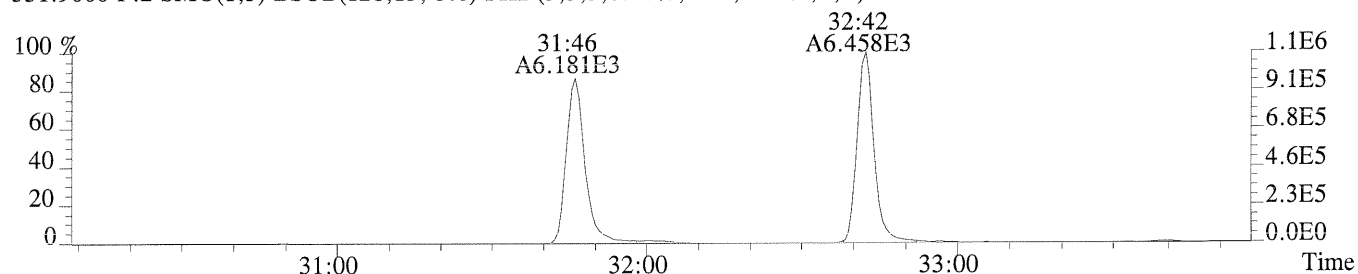
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



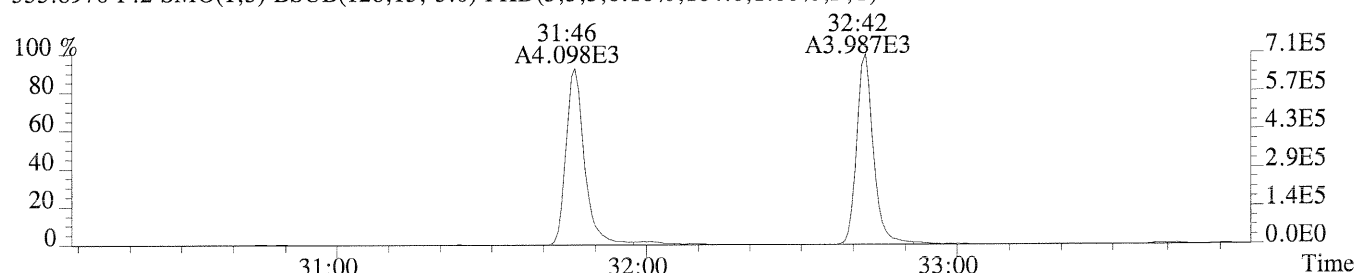
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



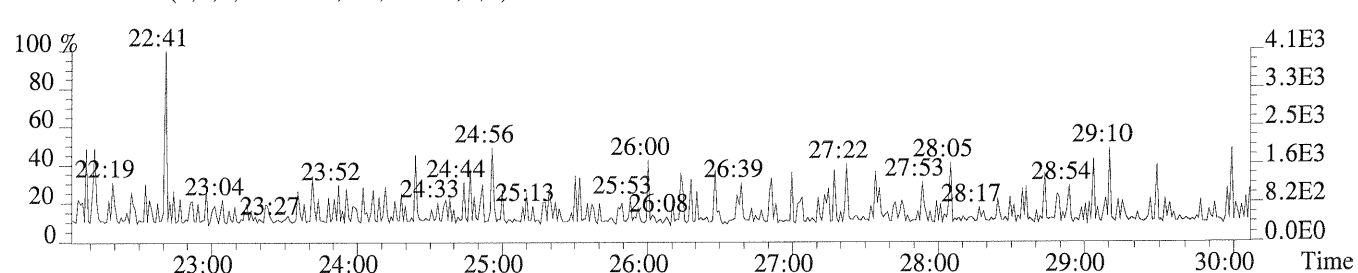
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



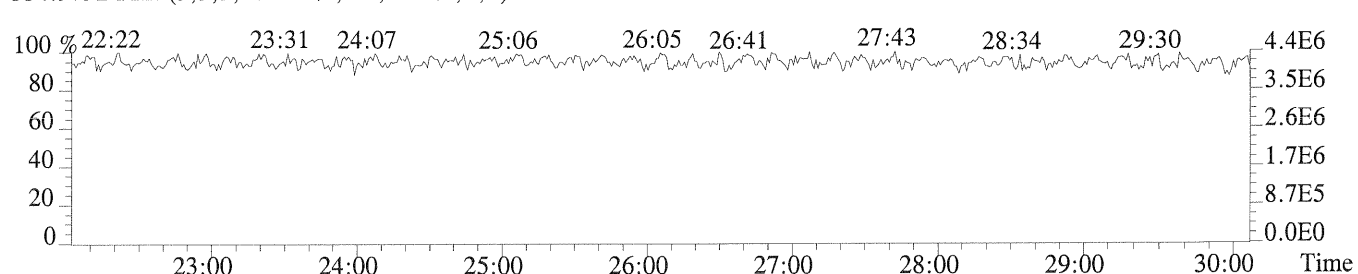
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,104.0,1.00%,F,T)



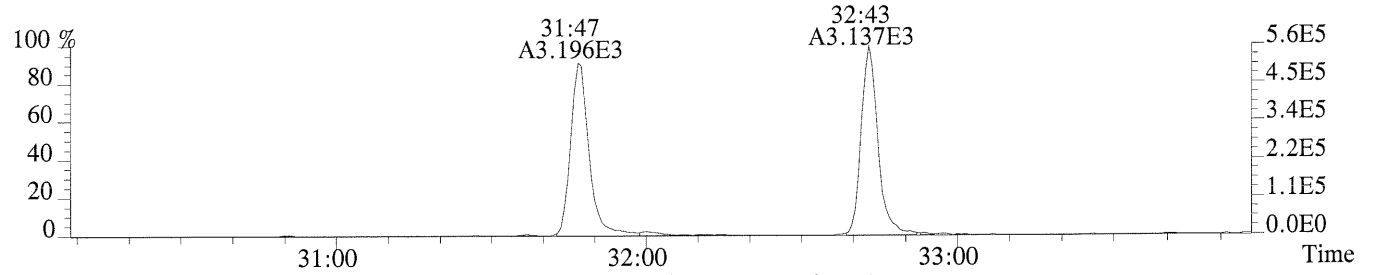
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



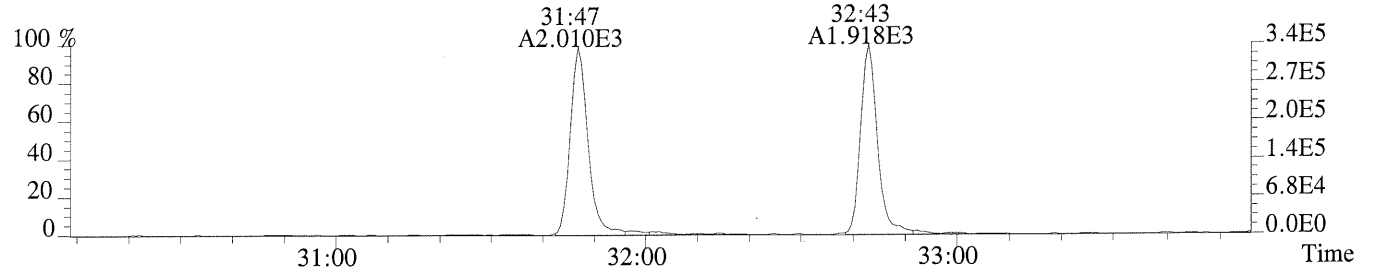
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



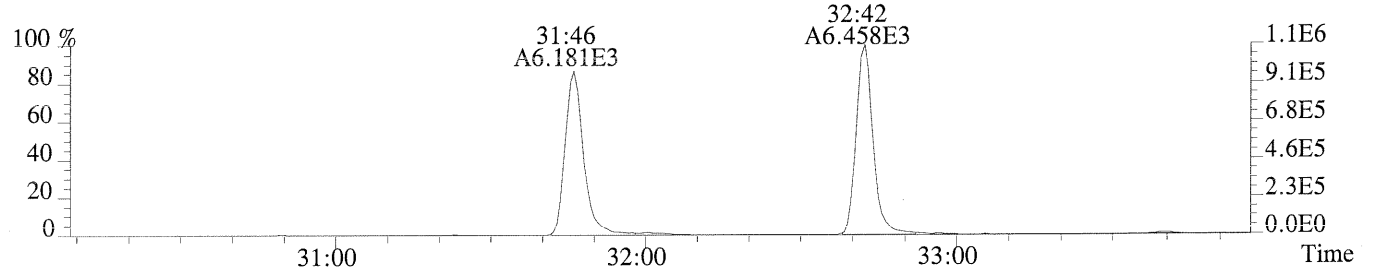
File:P173113 #1-344 Acq:26-AUG-2014 21:50:17 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



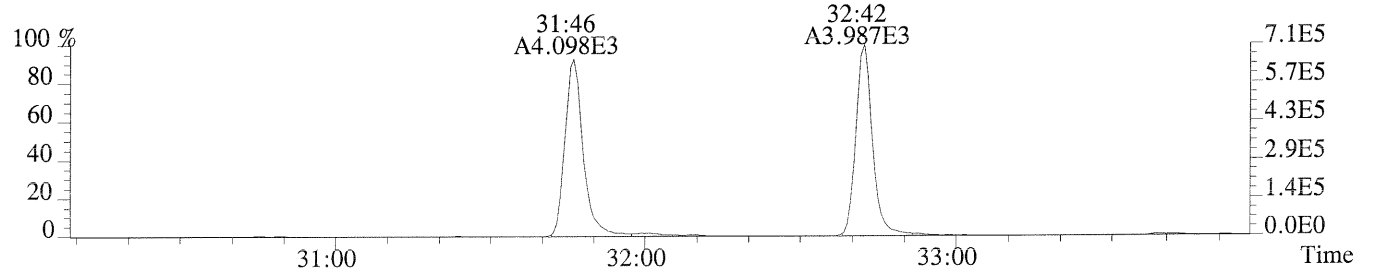
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,T)



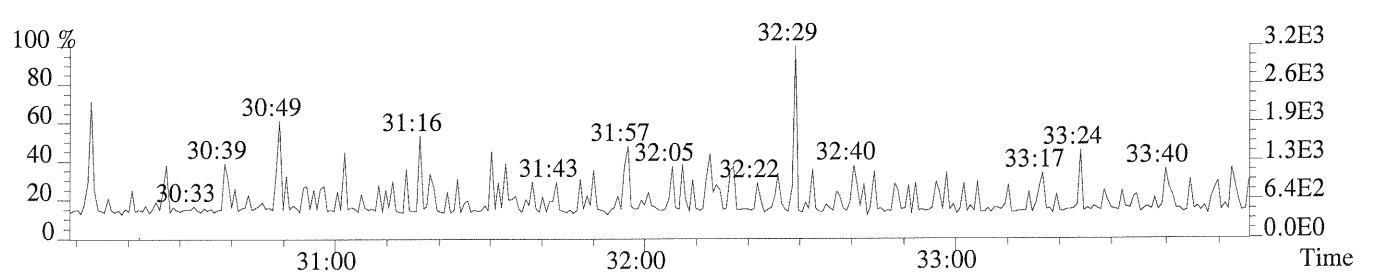
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



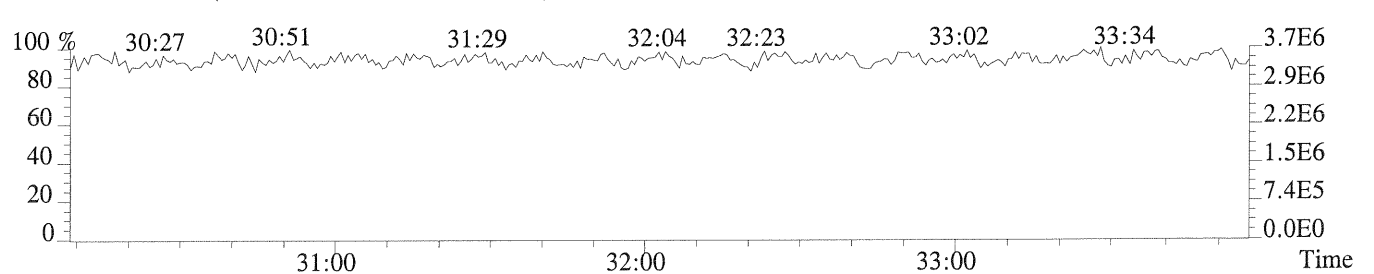
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,104.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

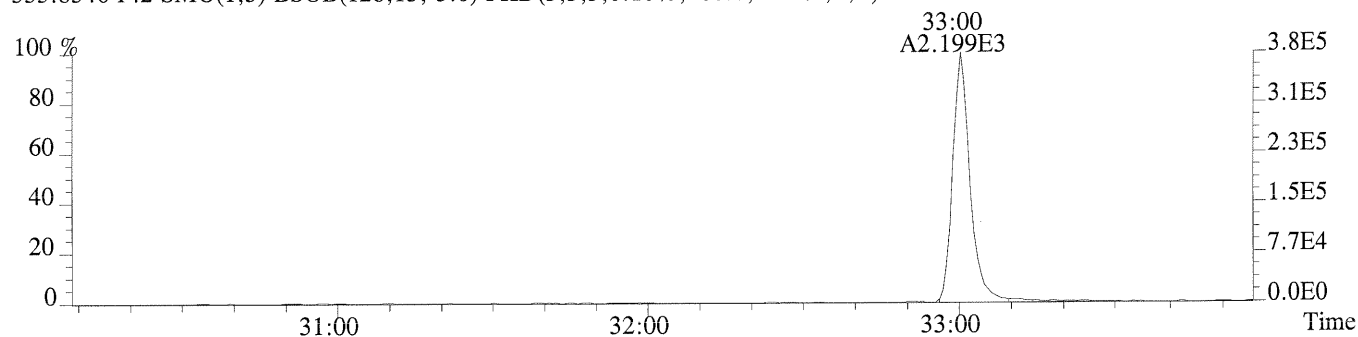


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

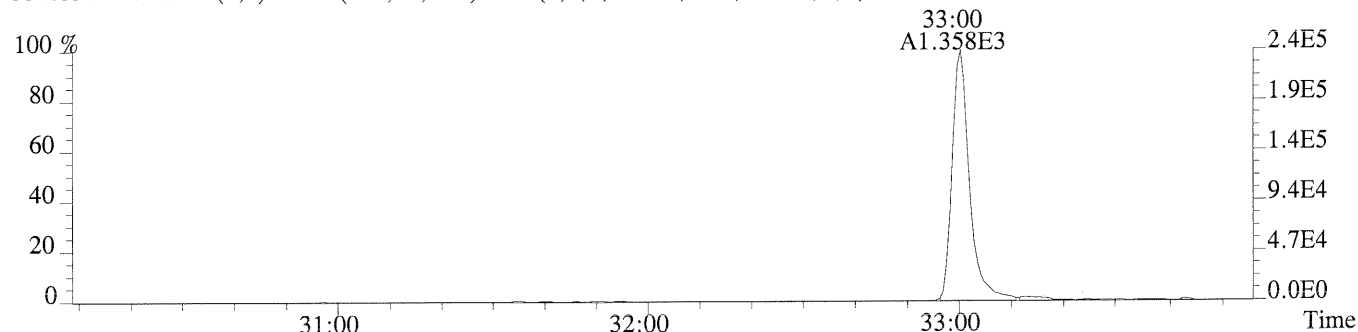


Sample#1 Exp:CS3

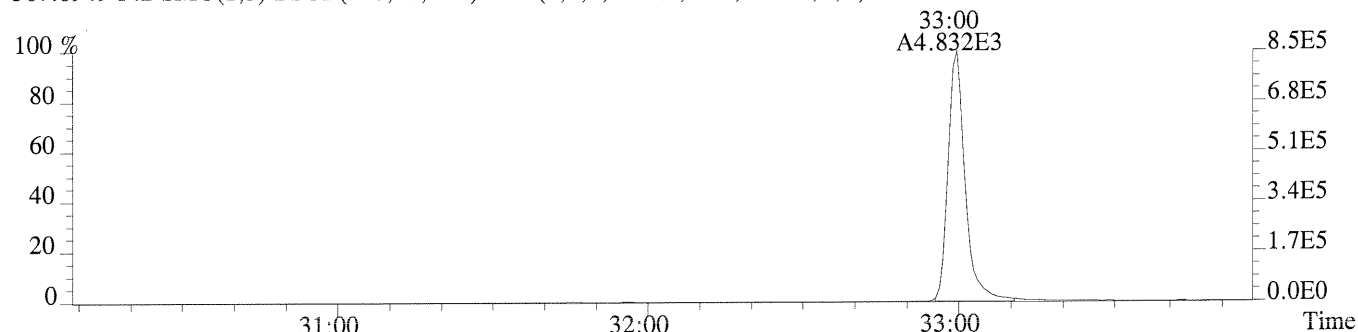
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



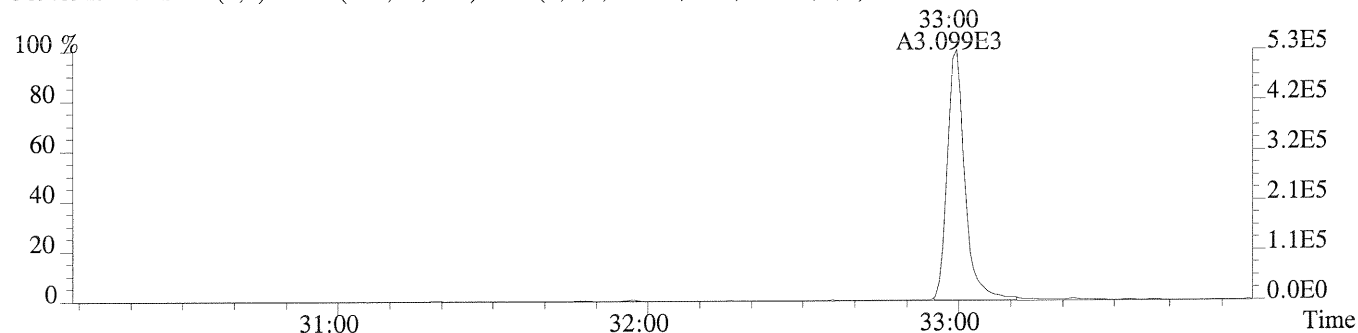
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



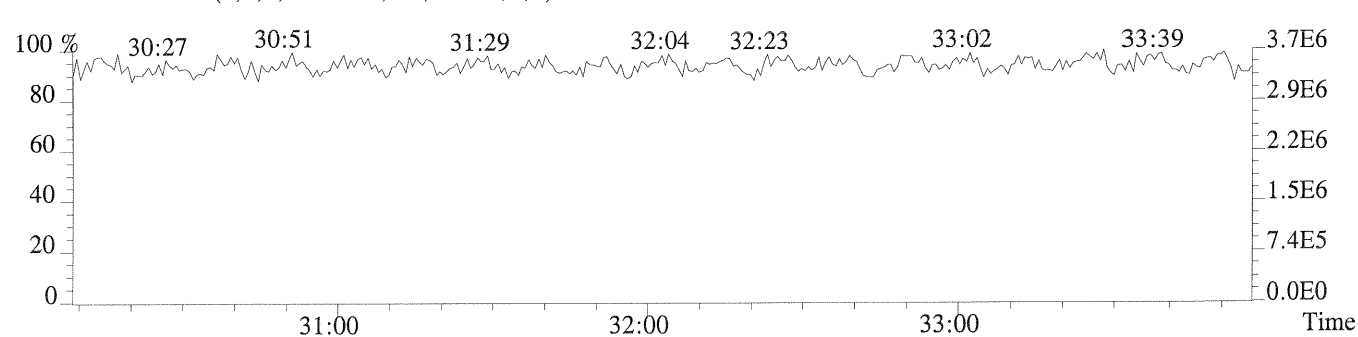
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,36.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,T)



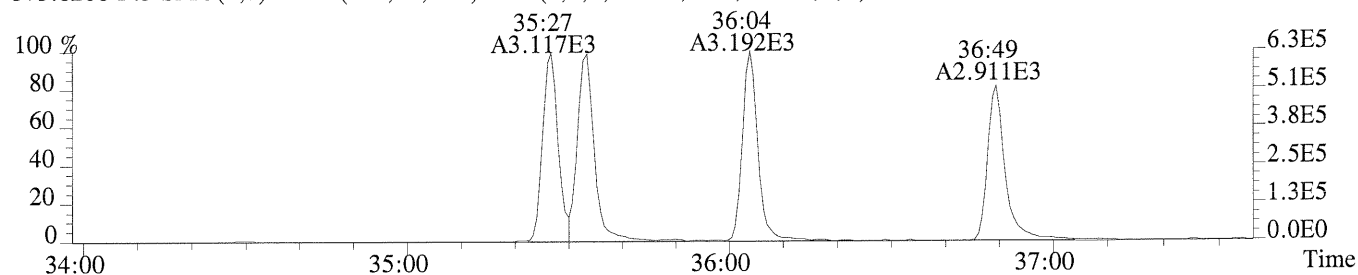
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



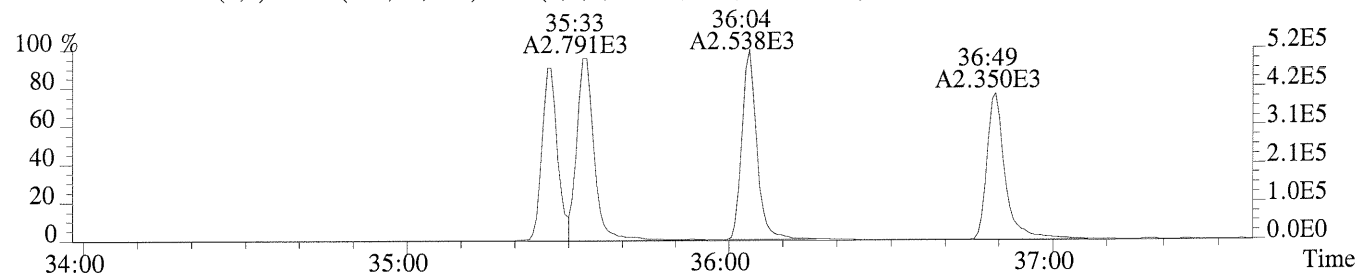


Sample#1 Exp:CS3

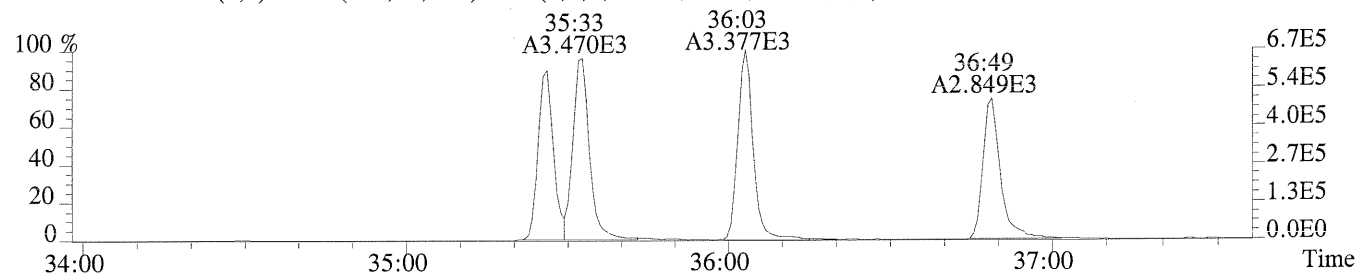
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.40%,F,T)



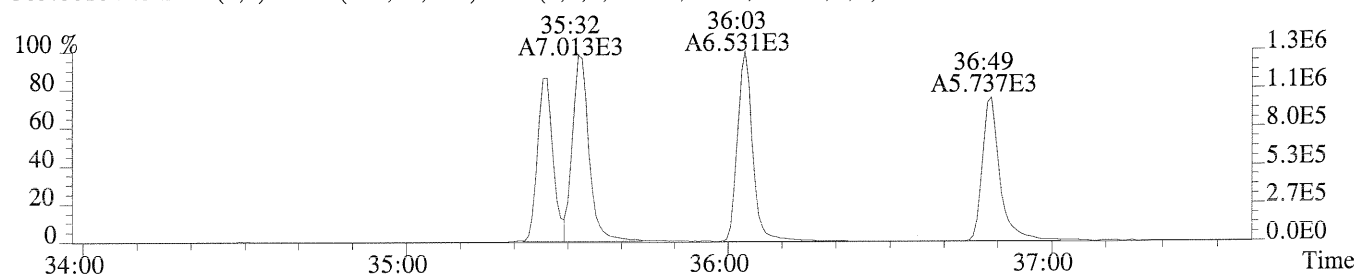
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,T)



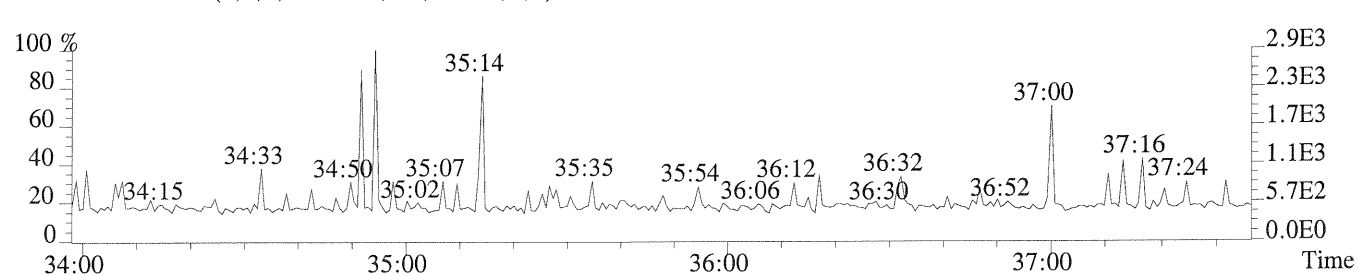
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,164.0,0.40%,F,T)



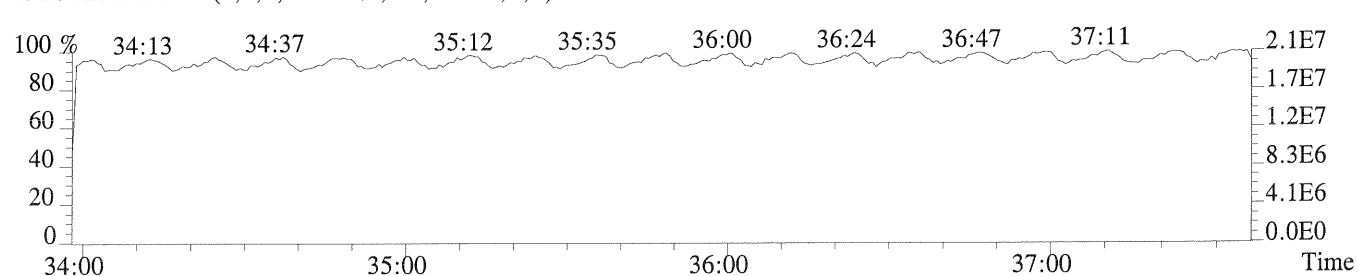
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,260.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

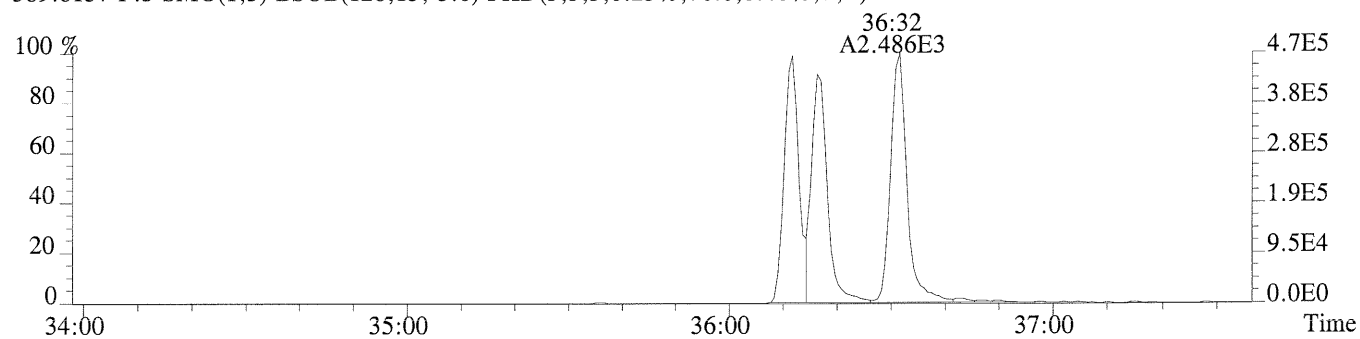


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

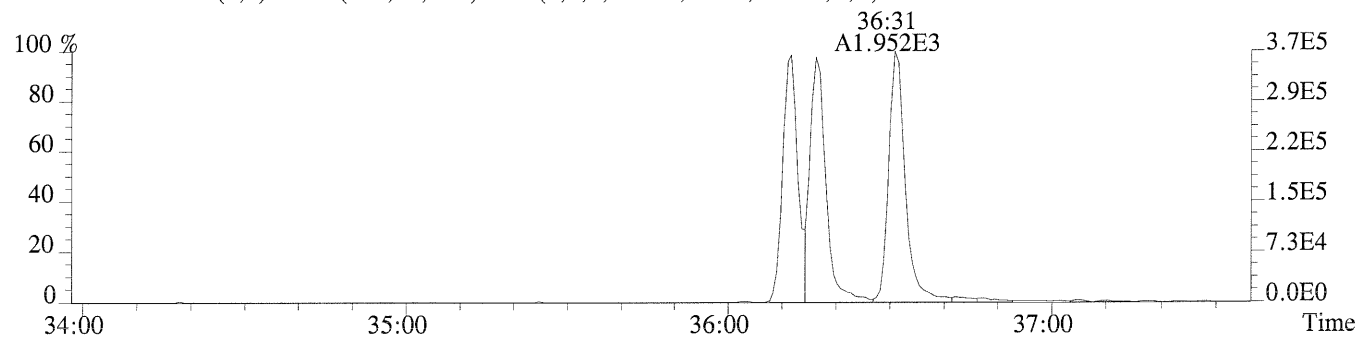


Sample#1 Exp:CS3

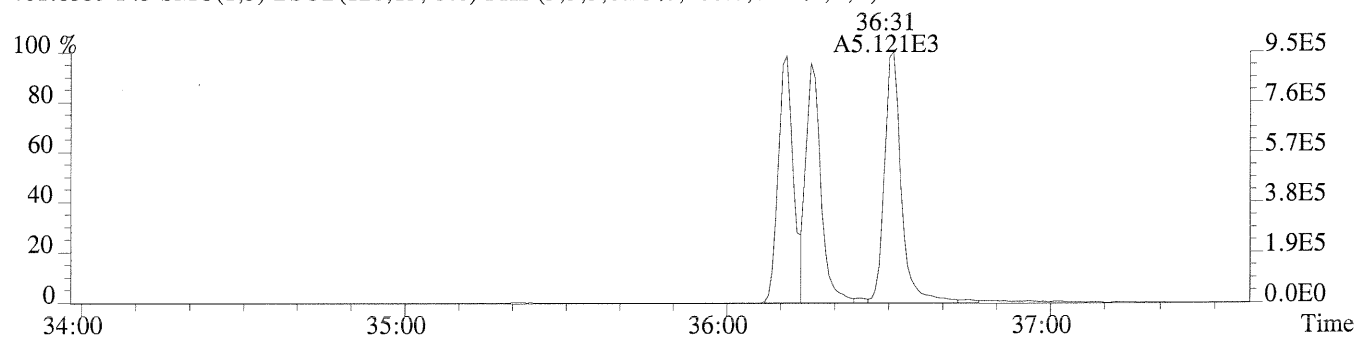
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,T)



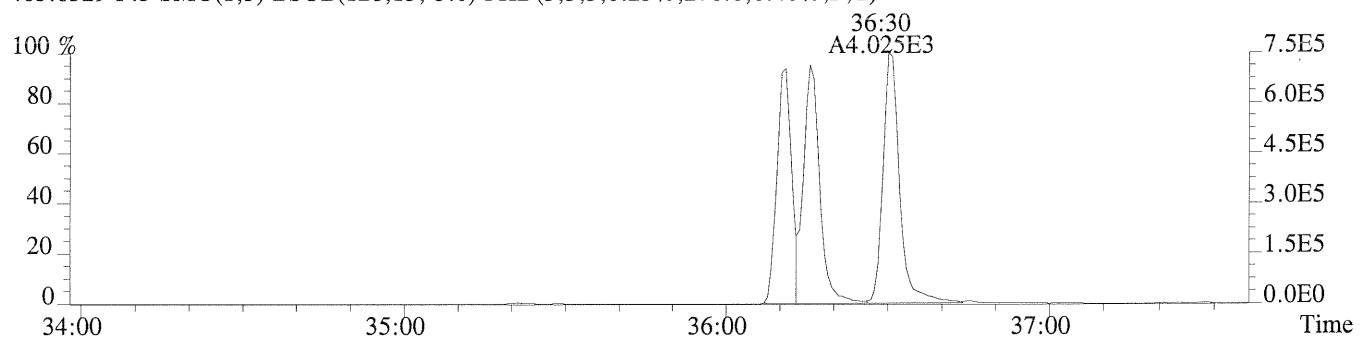
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,268.0,0.40%,F,T)



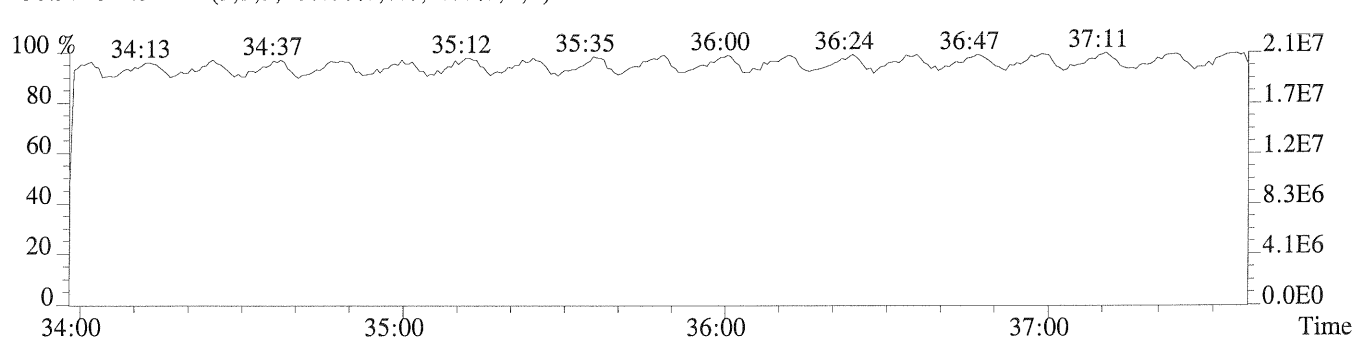
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)

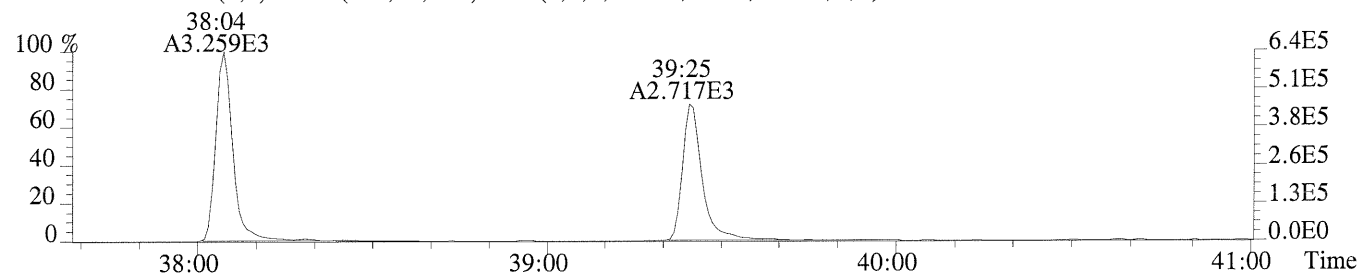


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

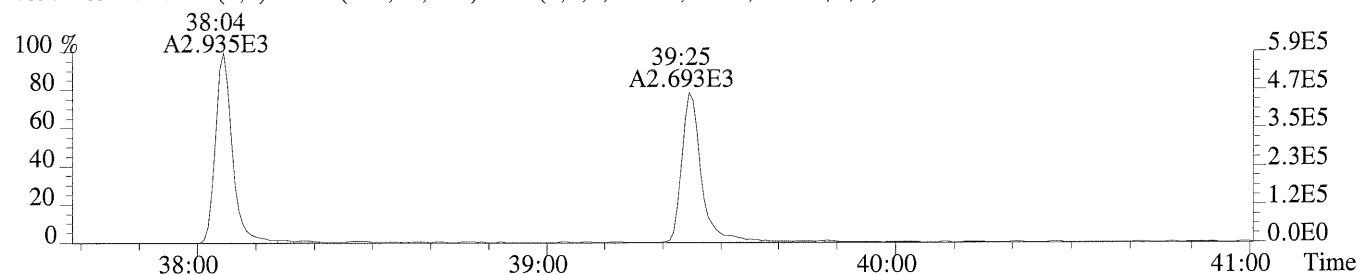


Sample#1 Exp:CS3

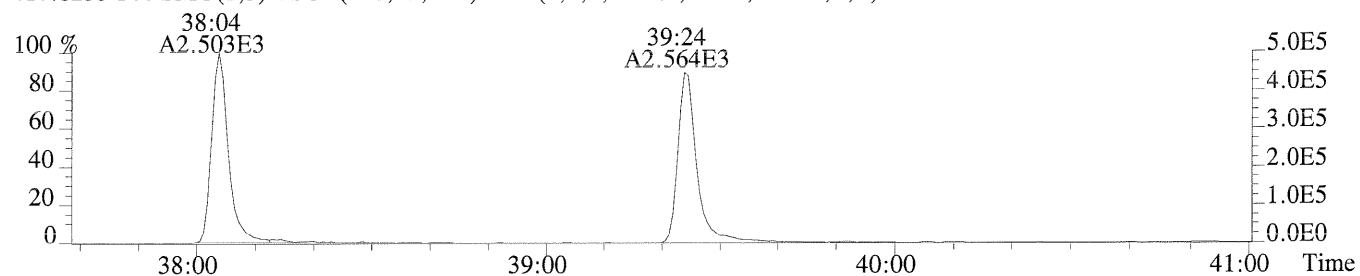
407.7818 F:4 BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.50%,F,T)



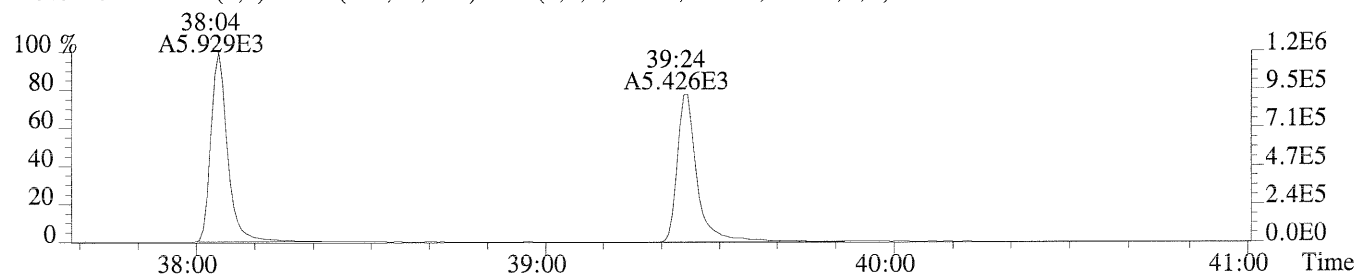
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,796.0,0.50%,F,T)



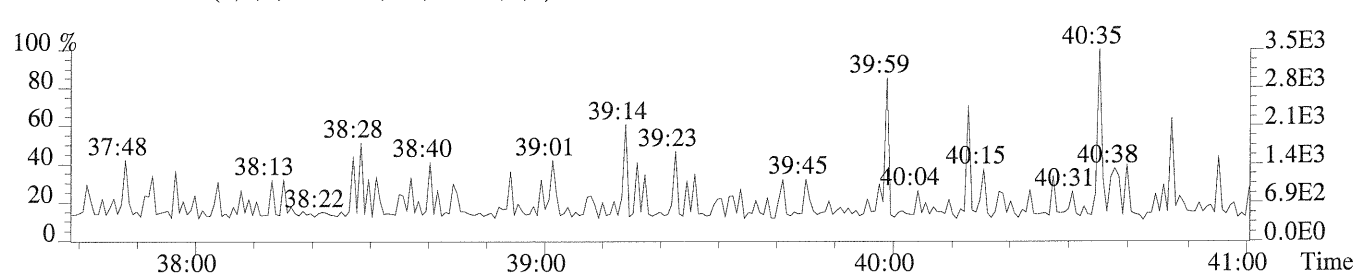
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.50%,F,T)



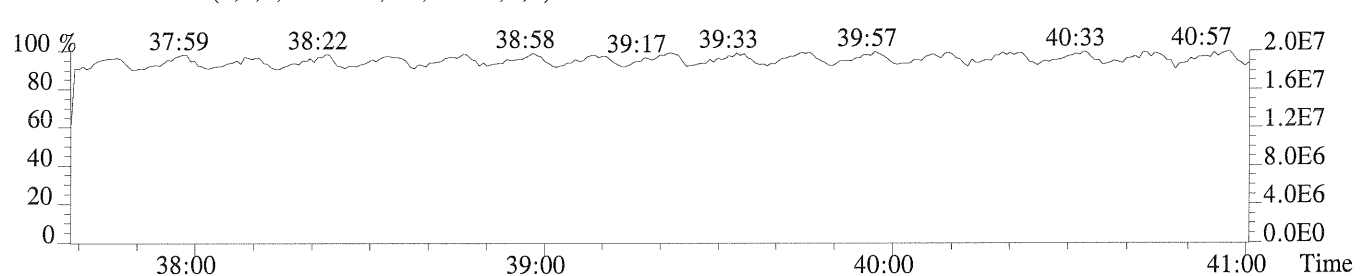
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

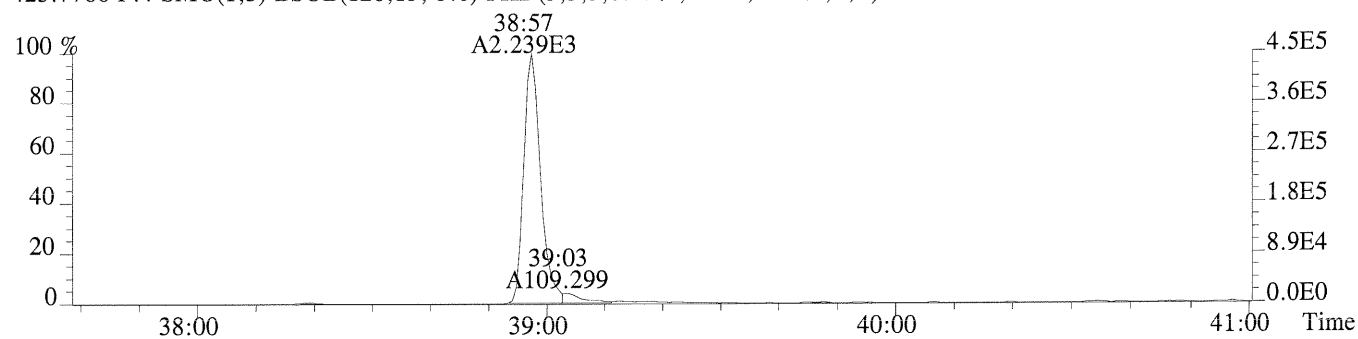


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

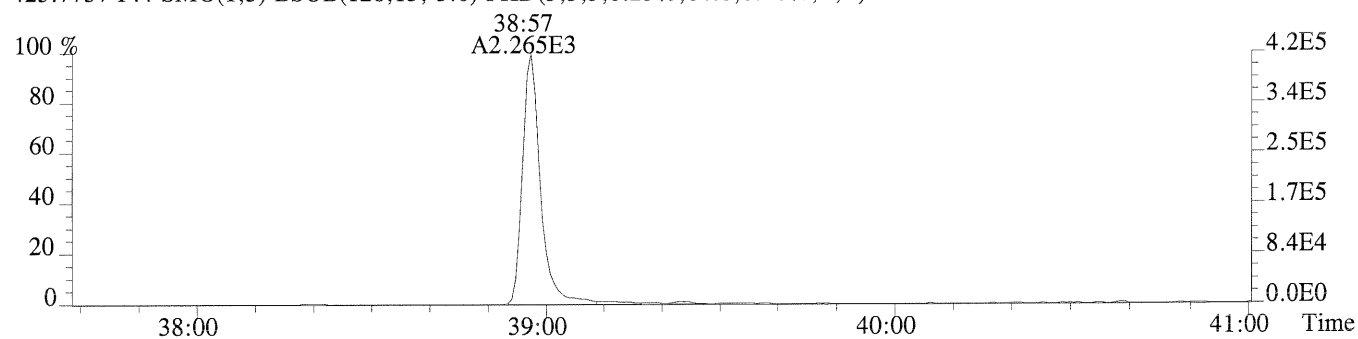


Sample#1 Exp:CS3

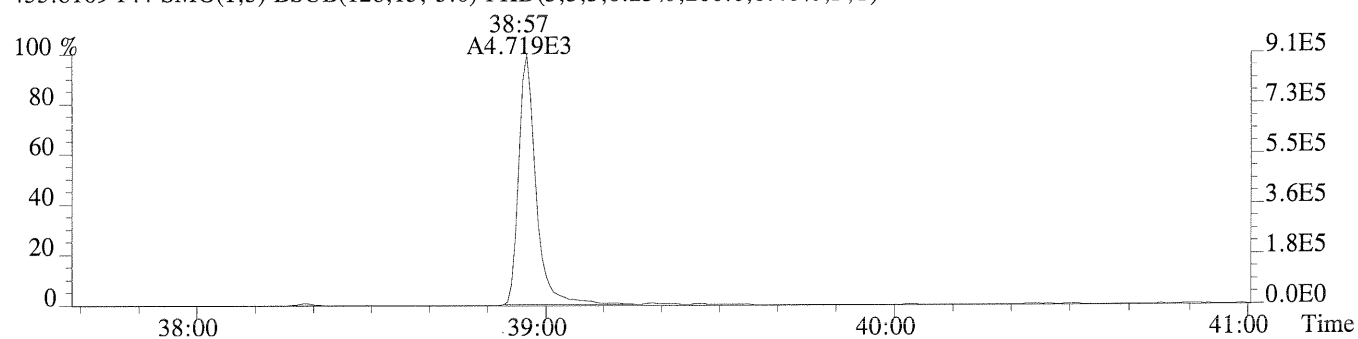
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,T)



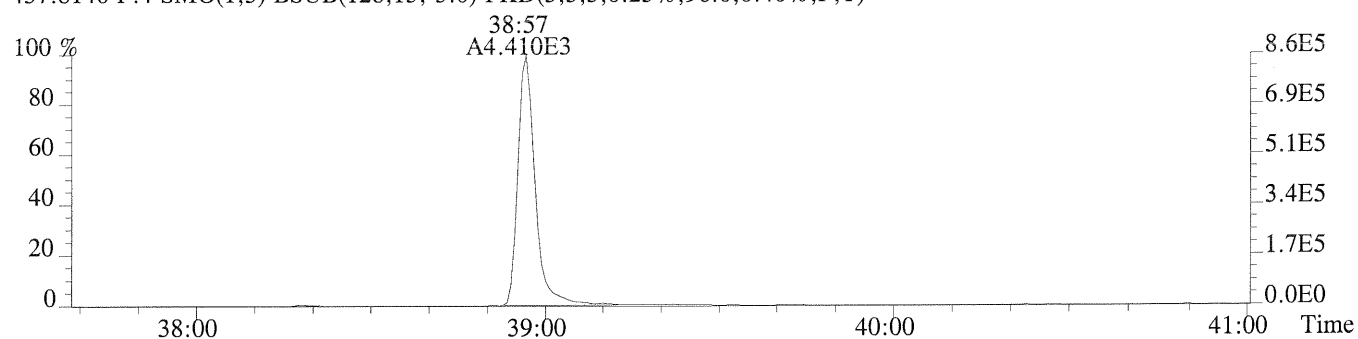
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



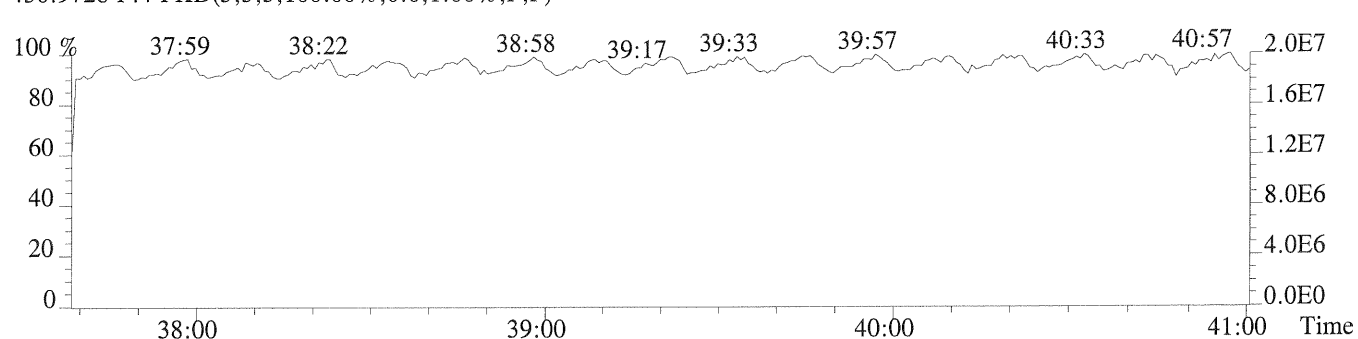
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,T)



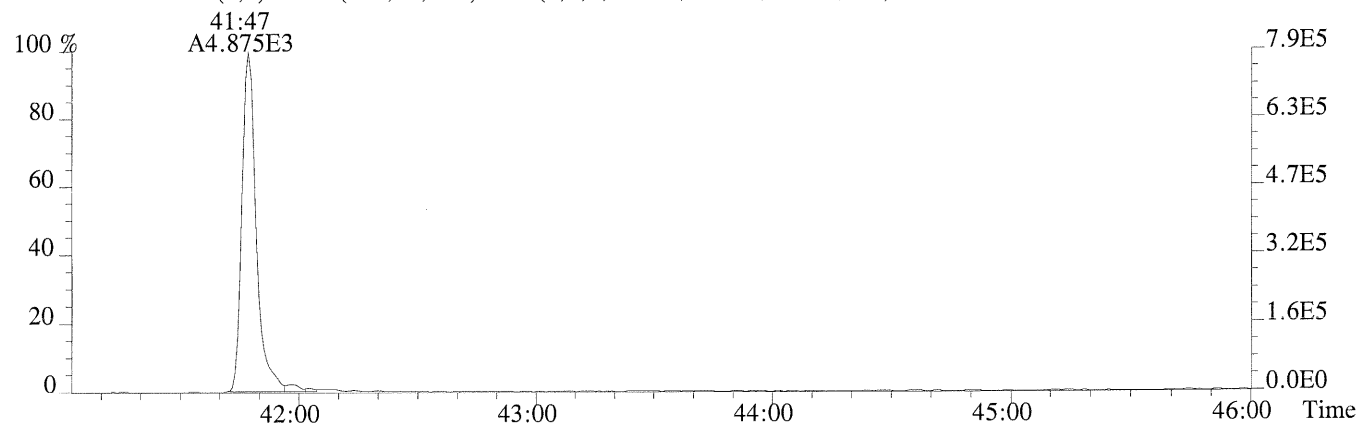
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



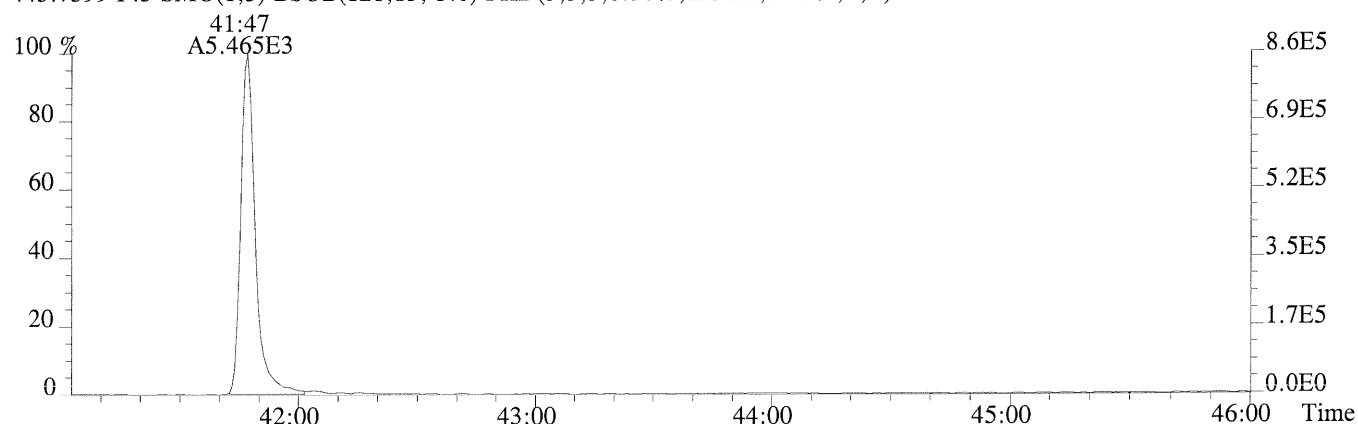
File:P173113 #1-456 Acq:26-AUG-2014 21:50:17 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:CS3

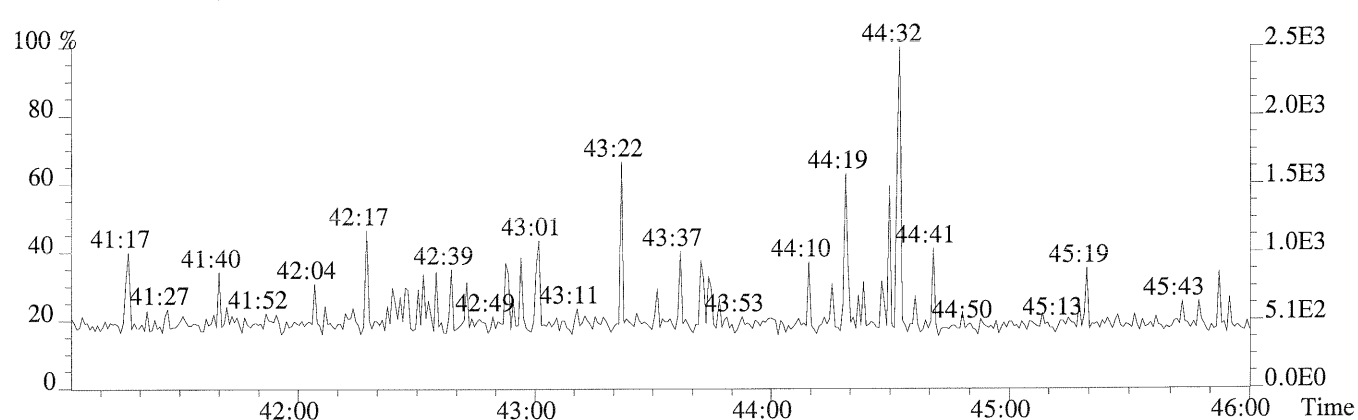
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1344.0,0.40%,F,T)



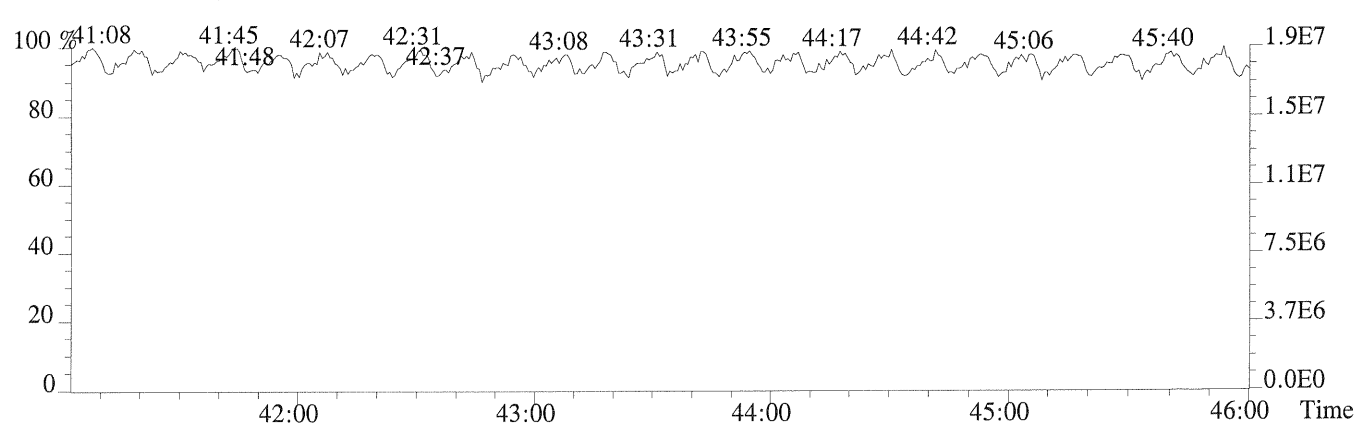
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1356.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

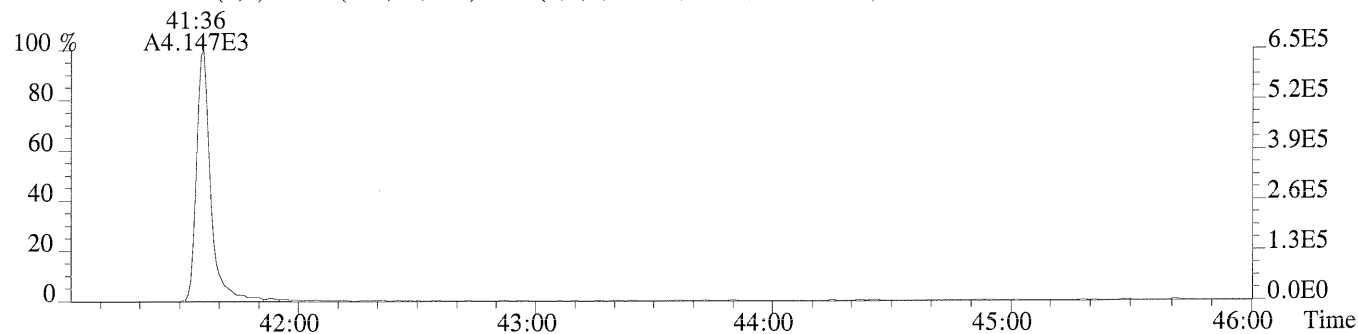


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

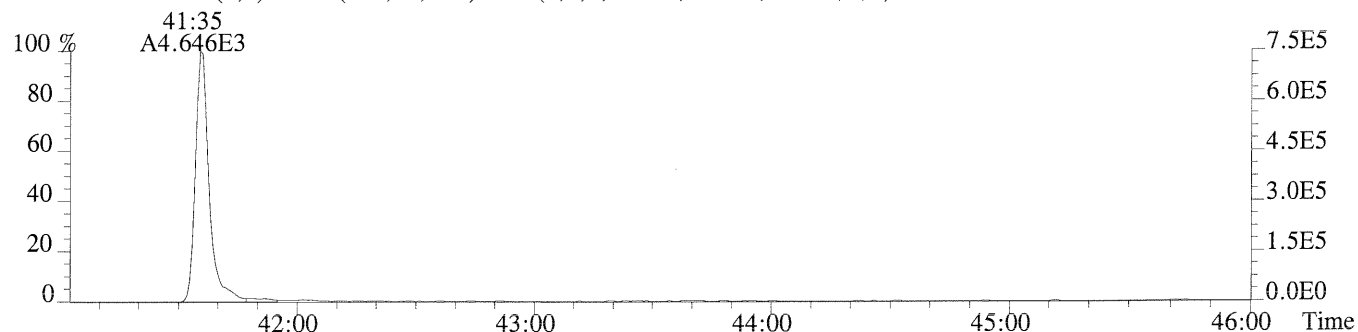


Sample#1 Exp:CS3

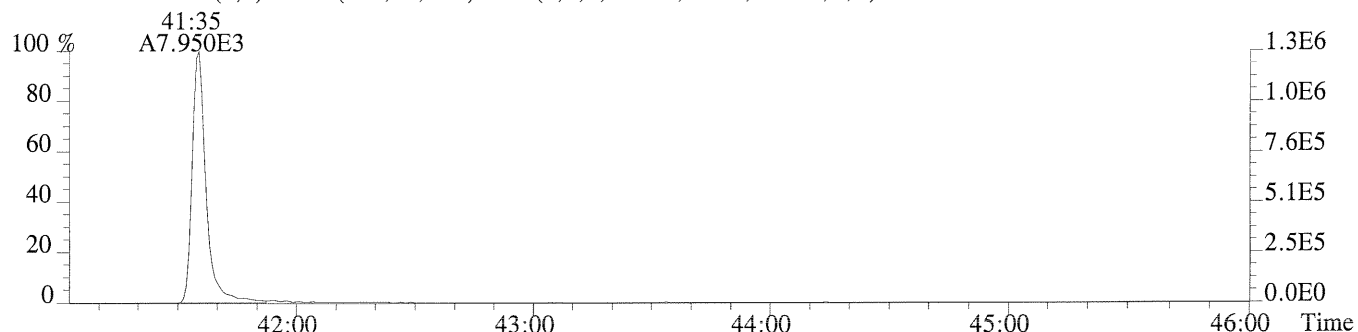
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,992.0,0.40%,F,T)



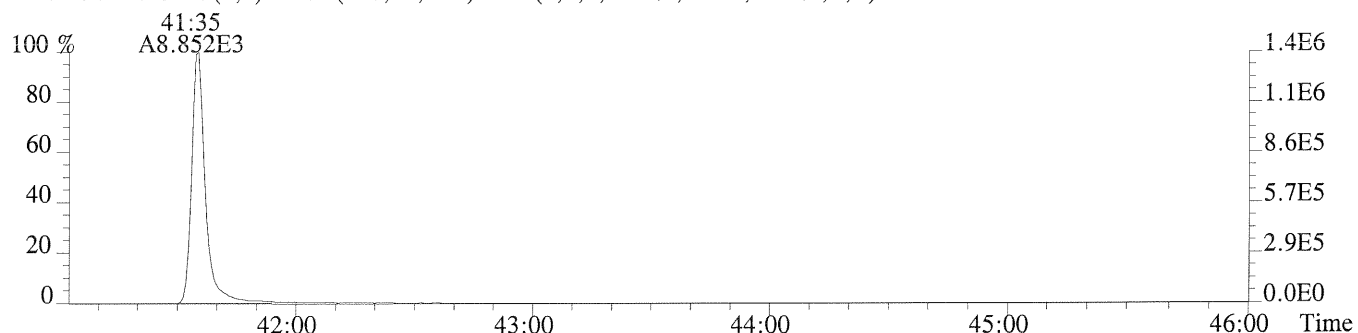
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



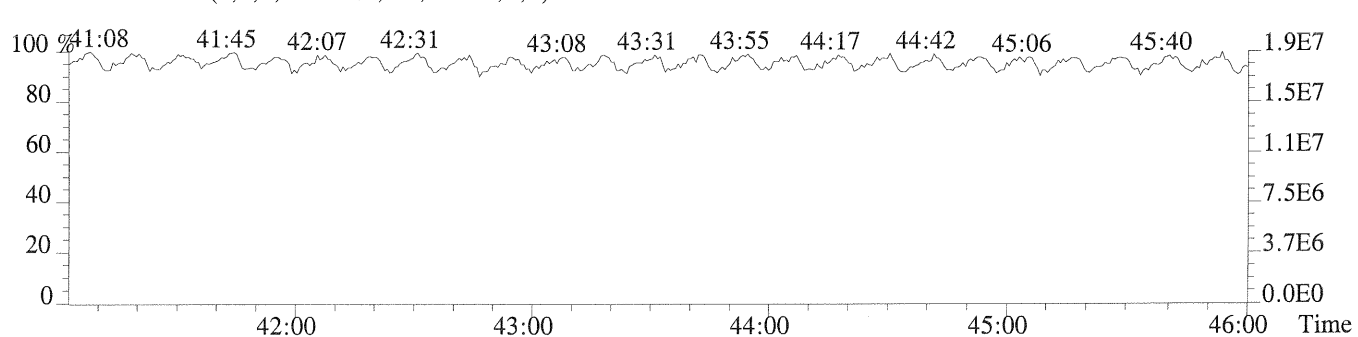
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,924.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,564.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



# CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P173114 - P173126

Circle one: Beginning / Ending

Date: 08/26/14 - 08/27/14


Method: 1613 / 1613E (8290) VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check: Analyst Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration Analyst Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst:   
ccalqc.xls 07/17/12

Second QC: LKL

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB-5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 03/25/14

Init. Calib. Times: 16:28

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
72675	WINDOW DEFINE	P173116	26-AUG-14	00:14:40
72675	CS3	P173114	26-AUG-14	22:38:25
METHOD BLANK	EQ1400483-01	P173117	27-AUG-14	01:02:48
NV SYC14-AC REP.1	K1407971-004	P173118	27-AUG-14	01:50:56
NV SYC14-AC REP.2	K1407971-005	P173119	27-AUG-14	02:39:05
NV SYC14-AC REP.3	K1407971-006	P173120	27-AUG-14	03:27:12
NV SYC14-AC REP.4	K1407971-007	P173121	27-AUG-14	04:15:20
NV SYC14-AC REP.5	K1407971-008	P173122	27-AUG-14	05:03:27
NV SYC14-TB REP.1	K1407971-009	P173123	27-AUG-14	05:51:35
NV SYC14-TB REP.2	K1407971-010	P173124	27-AUG-14	06:39:45
NV SYC14-TB REP.3	K1407971-011	P173125	27-AUG-14	07:27:53
72675	CS3	P173126	27-AUG-14	08:25:16



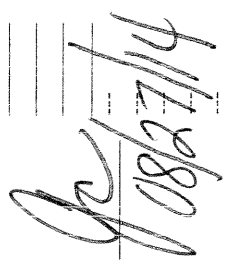
Sample List Report

MassLynx 4.1

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\P1140826B.SPL  
Last Modified: Wednesday, August 27, 2014 09:28:49 Central Daylight Time  
Printed: Wednesday, August 27, 2014 09:29:00 Central Daylight Time

e: P173114res

Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1 08/26/14	22:38	P173114	CS3	72675	ZZ	HRMS check 17:44	8290cas
2	23:26	P173115	WINDOW DEFINE	63680		PO NOT USE	8290cas
3 08/27/14	00:14	P173116	WINDOW DEFINE	63680			8290cas
4	01:02	P173117	EQ1400483-01	MB			8290cas
5	01:50	P173118	K1407971-004	K1407971-004			8290cas
6	02:39	P173119	K1407971-005	K1407971-005			8290cas
7	03:27	P173120	K1407971-006	K1407971-006			8290cas
8	04:15	P173121	K1407971-007	K1407971-007			8290cas
9	05:03	P173122	K1407971-008	K1407971-008			8290cas
10	05:51	P173123	K1407971-009	K1407971-009			8290cas
11	06:39	P173124	K1407971-010	K1407971-010		HRMS Check 08:30	8290cas
12	07:27	P173125	K1407971-011	K1407971-011		HRMS Check 09:30	8290cas
13	08:25	P173126	CS3	72675			8290cas
14							8290cas
15							8290cas
16							8290cas
17							8290cas
18							8290cas
19							8290cas
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39							8290cas

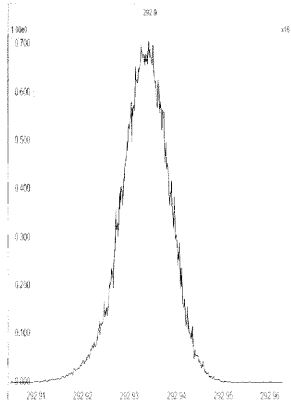
Reviewed By:  08/27/14



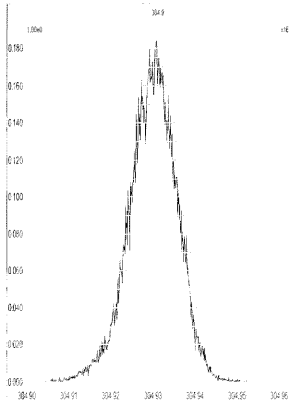
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:44:57 Central Daylight Time

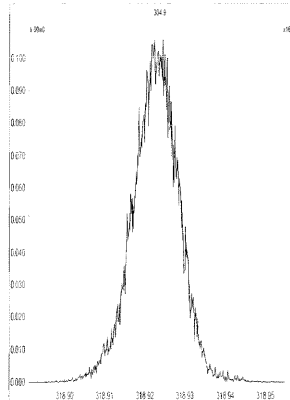
M 292.9824 R 11310



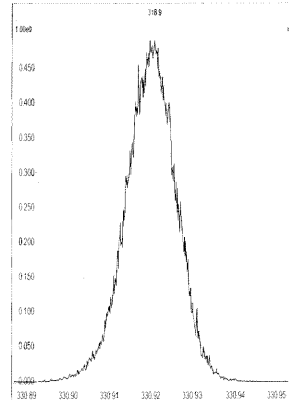
M 304.9824 R 10772



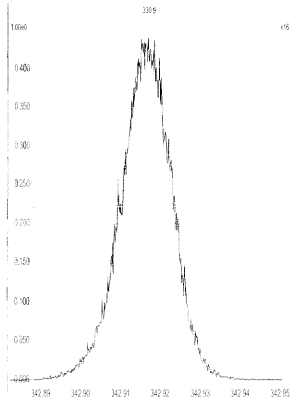
M 318.9792 R 11574



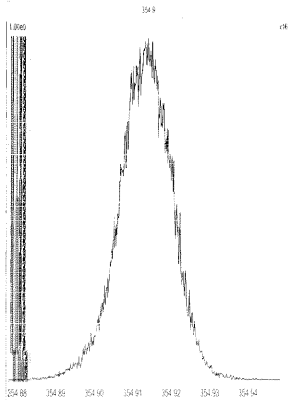
M 330.9792 R 11315



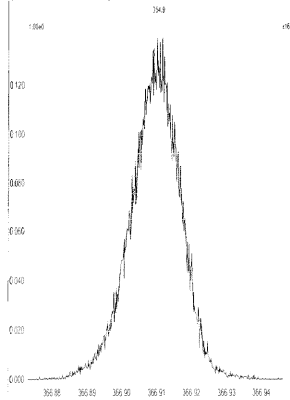
M 342.9792 R 10966



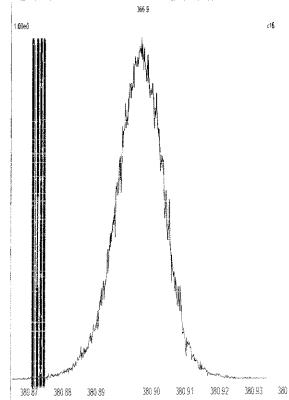
M 354.9792 R 11013



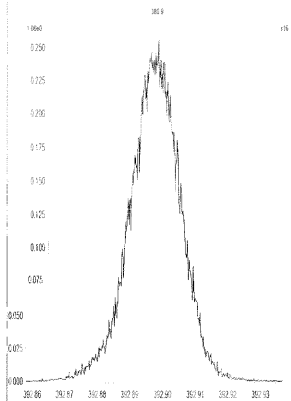
M 366.9792 R 10546



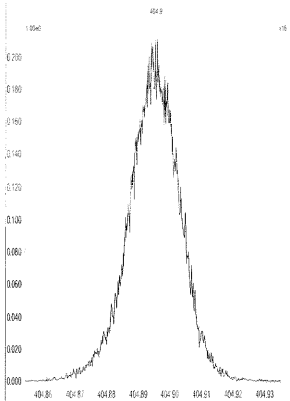
M 380.9760 R 10505



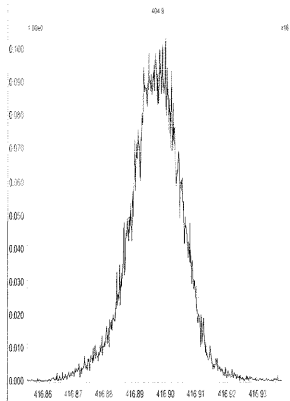
M 392.9760 R 10416



M 404.9760 R 10164



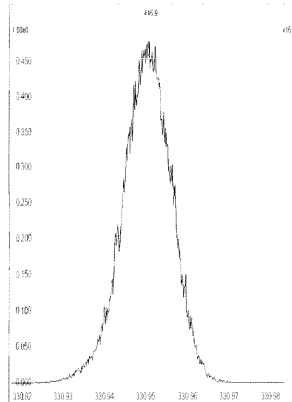
M 416.9760 R 10374



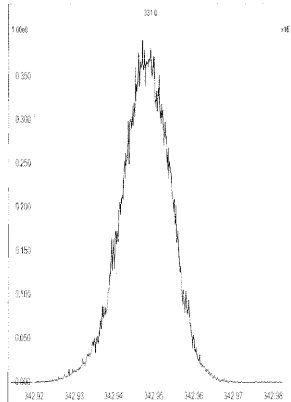
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:46:11 Central Daylight Time

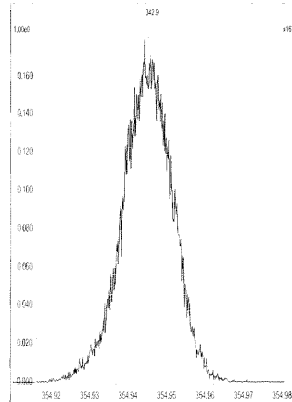
M 330.9792 R 11415



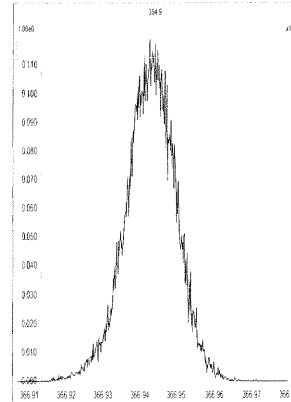
M 342.9792 R 11108



M 354.9792 R 11416



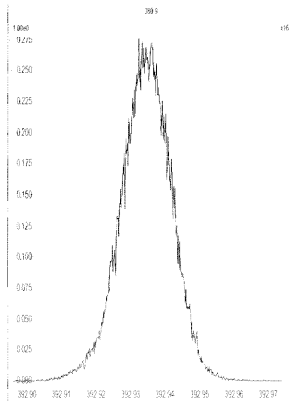
M 366.9792 R 11414



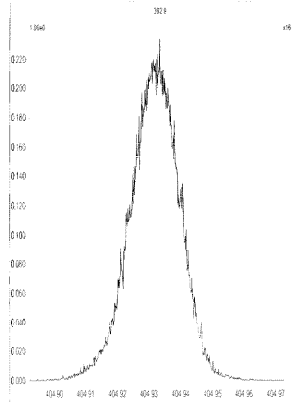
M 380.9760 R 11158



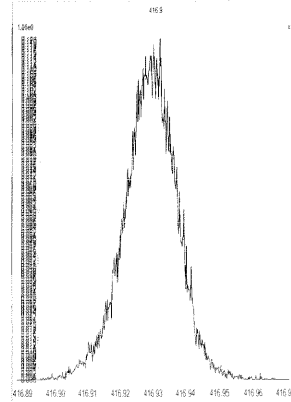
M 392.9760 R 11312



M 404.9760 R 10916



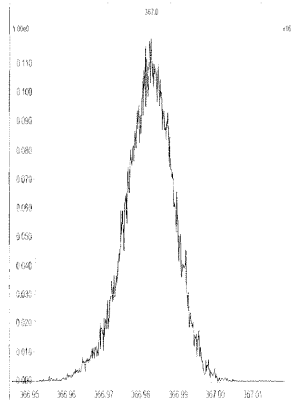
M 416.9760 R 11059



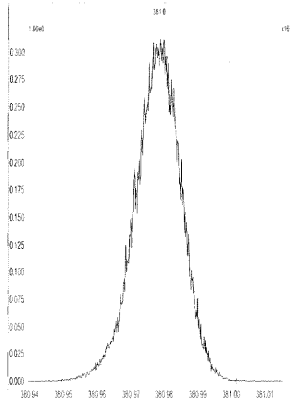
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:47:20 Central Daylight Time

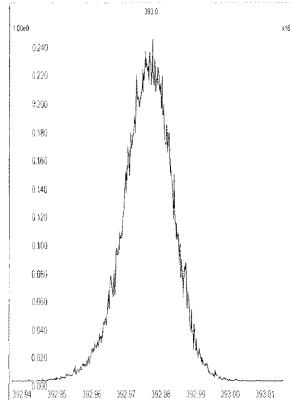
M 366.9792 R 11574



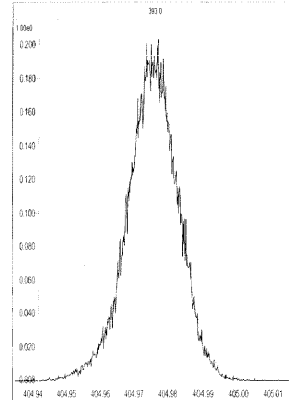
M 380.9760 R 11471



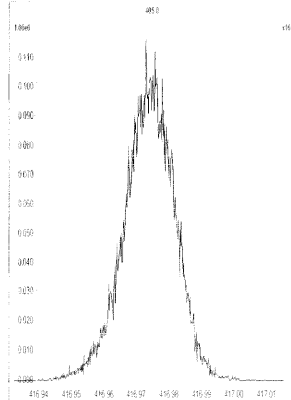
M 392.9760 R 11684



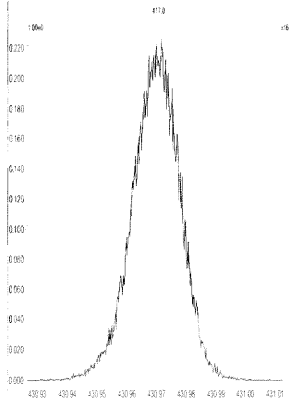
M 404.9760 R 11468



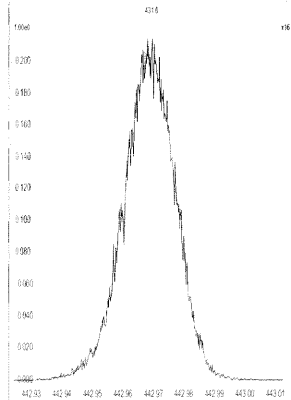
M 416.9760 R 11362



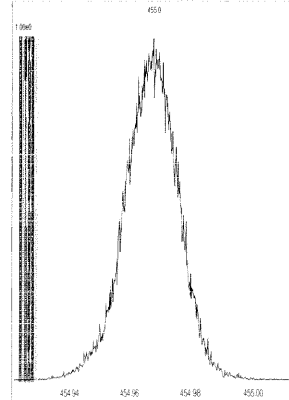
M 430.9728 R 11518



M 442.9728 R 11062



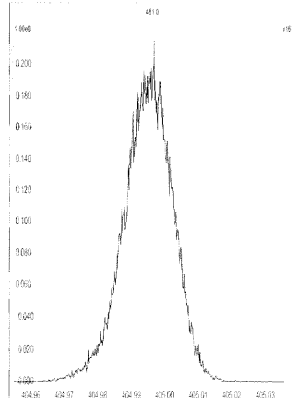
M 454.9728 R 10967



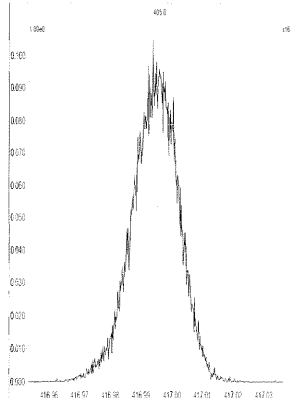
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:48:20 Central Daylight Time

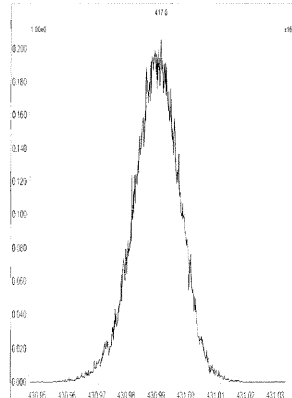
M 404.9760 R 11678



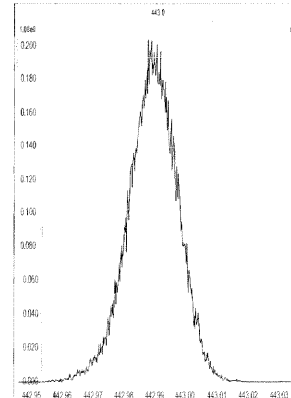
M 416.9760 R 11685



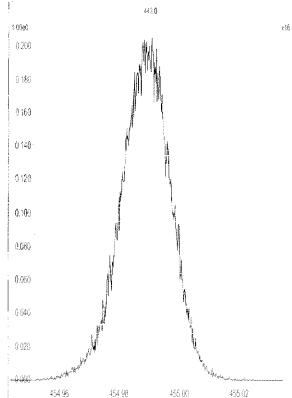
M 430.9728 R 11365



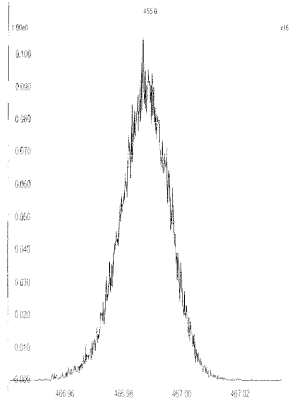
M 442.9728 R 11364



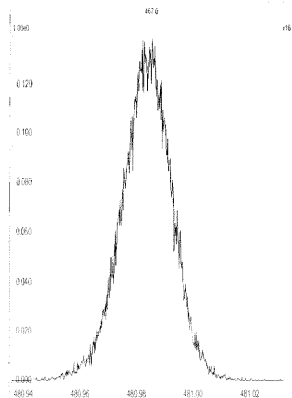
M 454.9728 R 11573



M 466.9728 R 11413



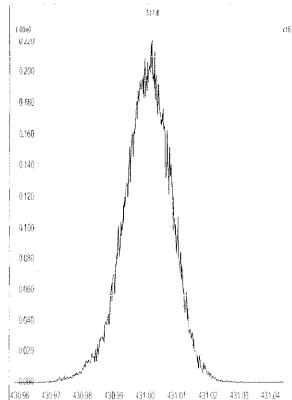
M 480.9696 R 11905



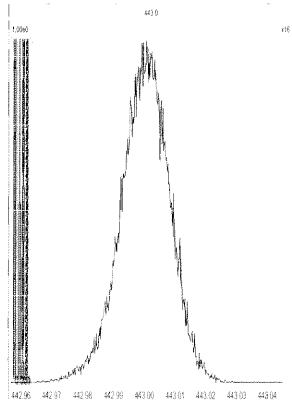
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:49:08 Central Daylight Time

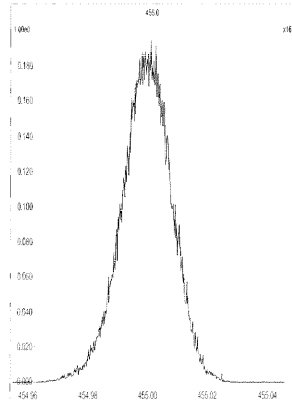
M 430.9728 R 11790



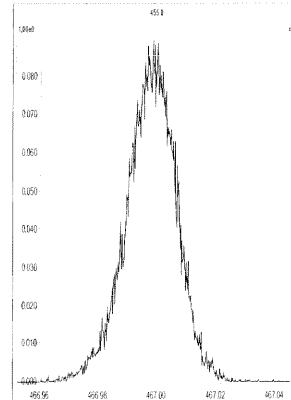
M 442.9728 R 11901



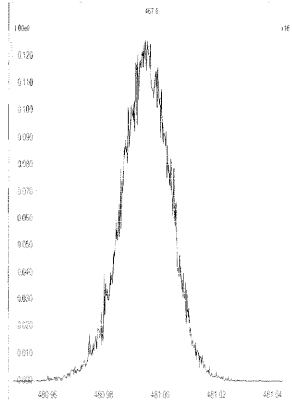
M 454.9728 R 11467



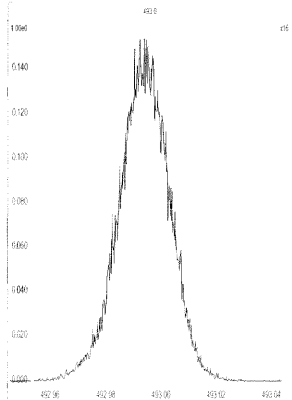
M 466.9728 R 11361



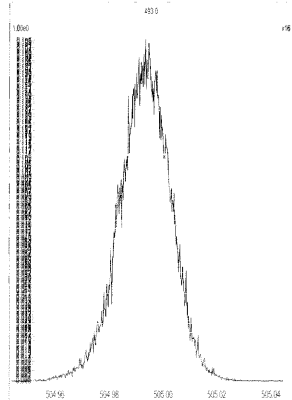
M 480.9696 R 11962



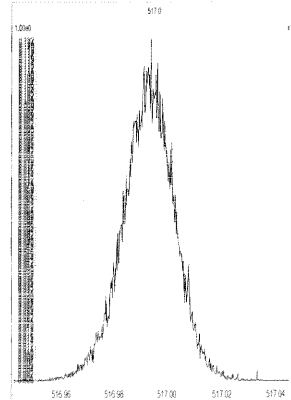
M 492.9696 R 11363



M 504.9696 R 11466



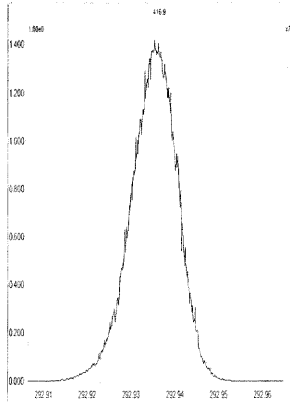
M 516.9697 R 11574



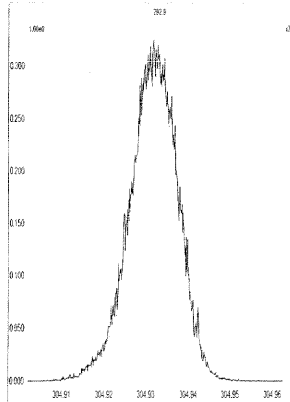
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:20:33 Central Daylight Time

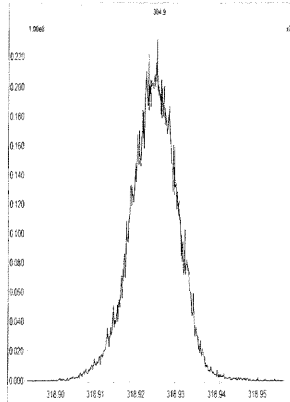
M 292.9824 R 11735



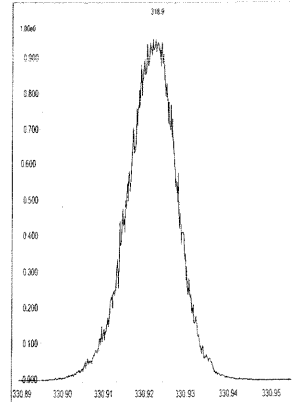
M 304.9824 R 11417



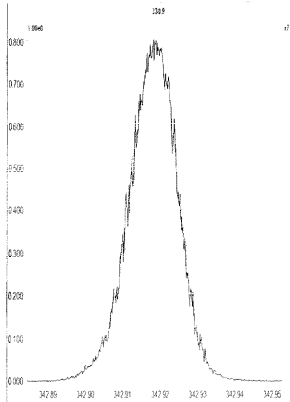
M 318.9792 R 11574



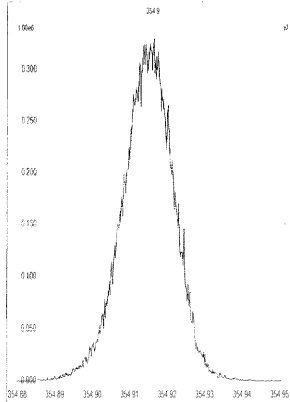
M 330.9792 R 11466



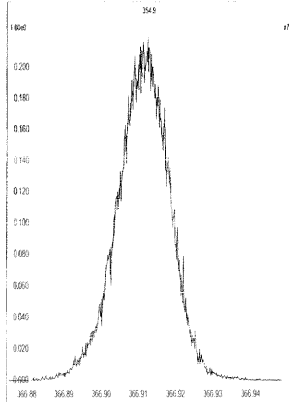
M 342.9792 R 11014



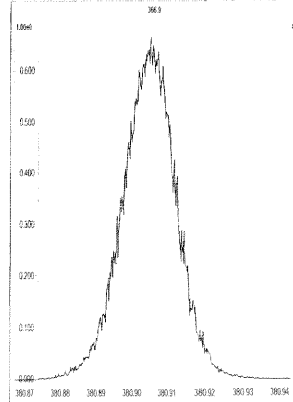
M 354.9792 R 10869



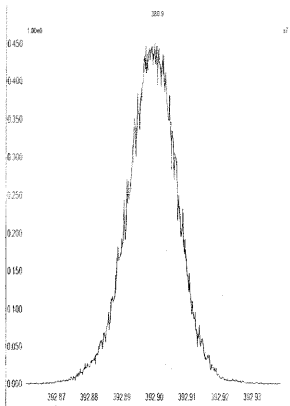
M 366.9792 R 10686



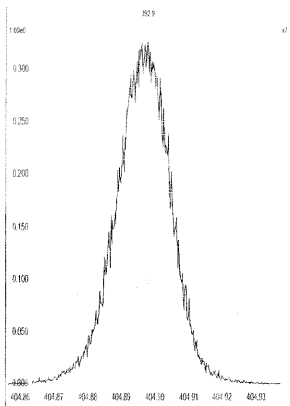
M 380.9760 R 10726



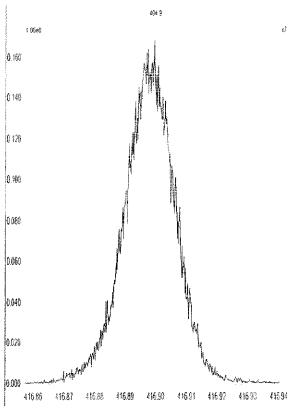
M 392.9760 R 10330



M 404.9760 R 10506



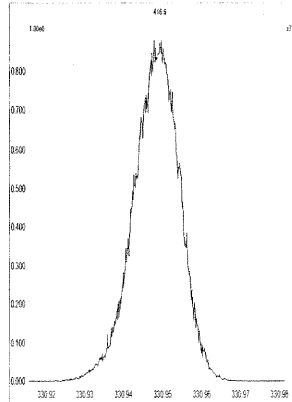
M 416.9760 R 10288



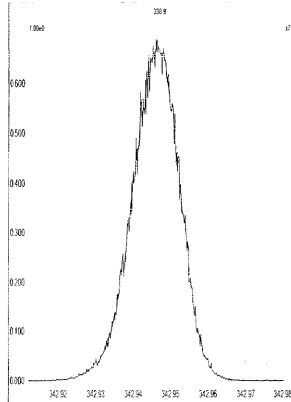
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:21:29 Central Daylight Time

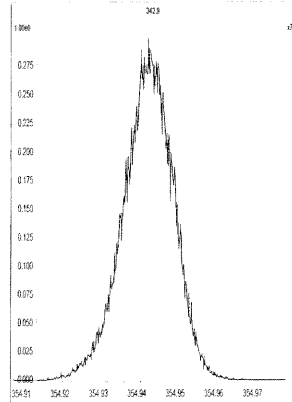
M 330.9792 R 11681



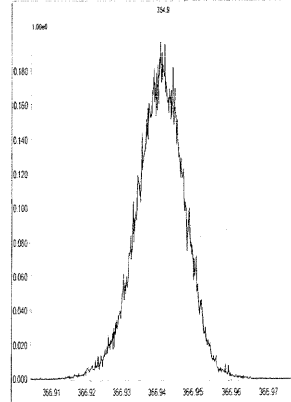
M 342.9792 R 11470



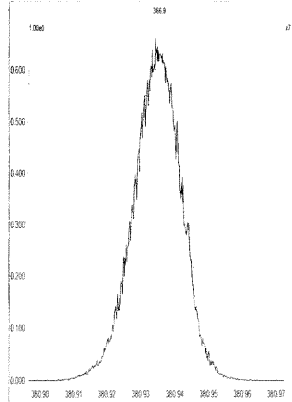
M 354.9792 R 11574



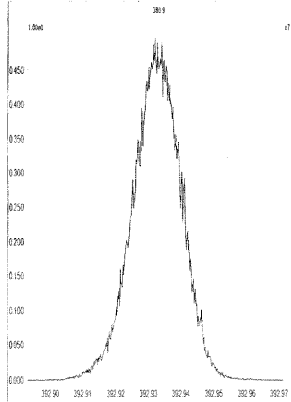
M 366.9792 R 11626



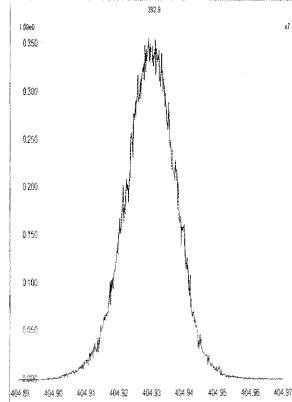
M 380.9760 R 11625



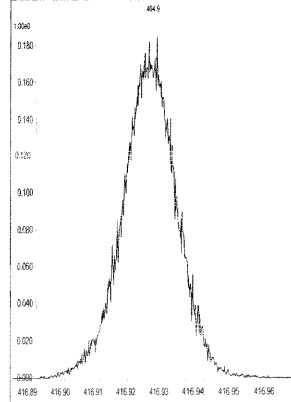
M 392.9760 R 11062



M 404.9760 R 11209



M 416.9760 R 10594

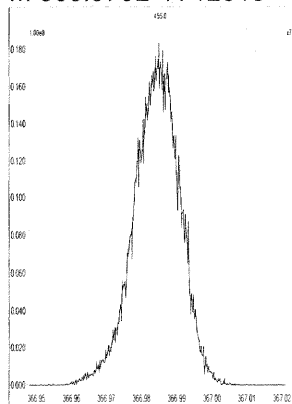




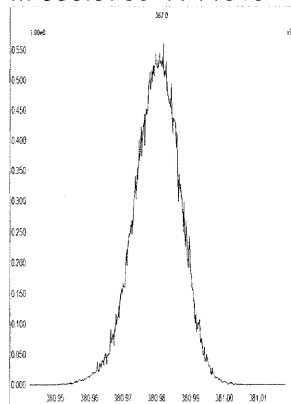
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:22:25 Central Daylight Time

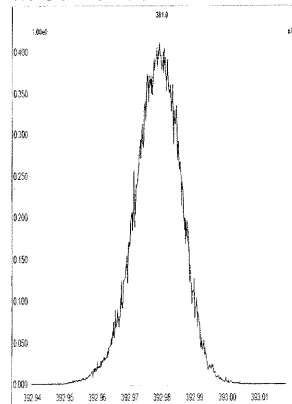
M 366.9792 R 12315



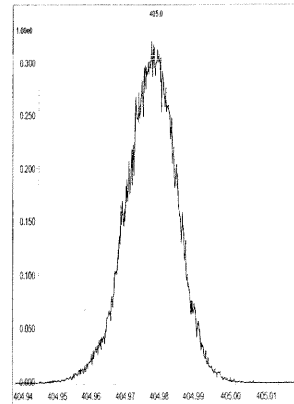
M 380.9760 R 11519



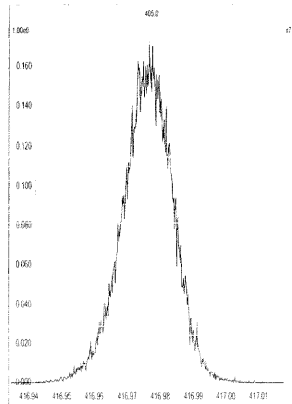
M 392.9760 R 11850



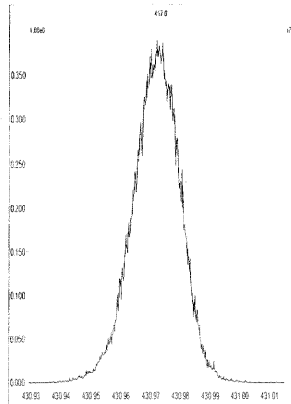
M 404.9760 R 11312



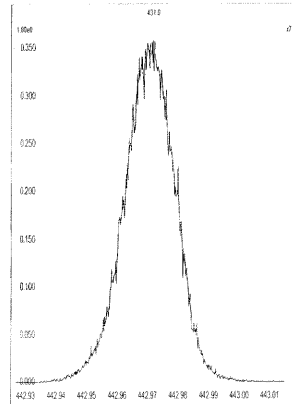
M 416.9760 R 11523



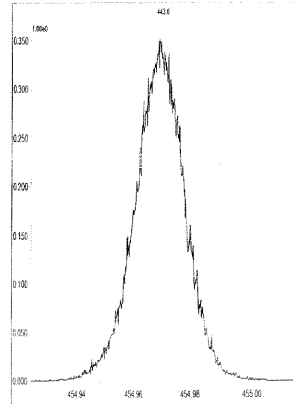
M 430.9728 R 11522



M 442.9728 R 11062



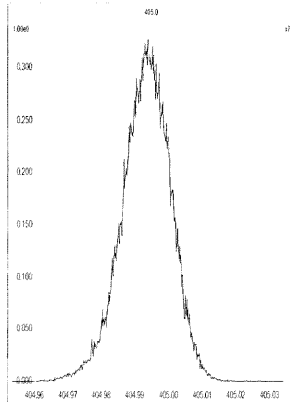
M 454.9728 R 10919



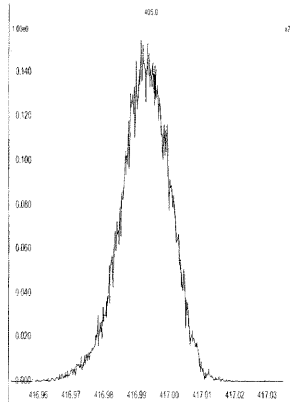
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:23:14 Central Daylight Time

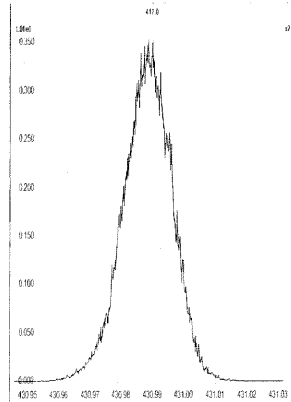
M 404.9760 R 11849



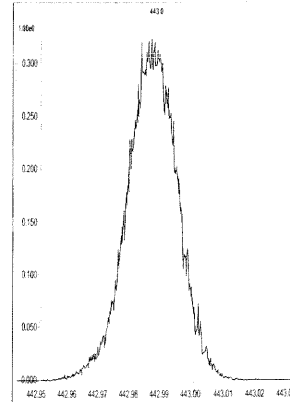
M 416.9760 R 11627



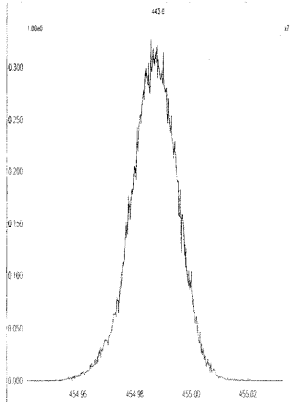
M 430.9728 R 11630



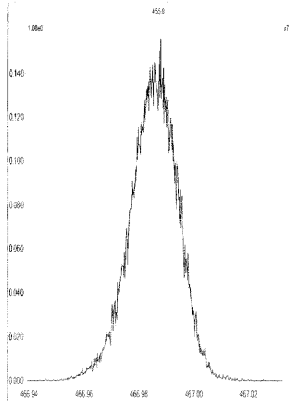
M 442.9728 R 11468



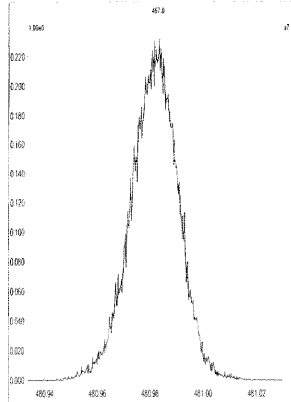
M 454.9728 R 11740



M 466.9728 R 11738



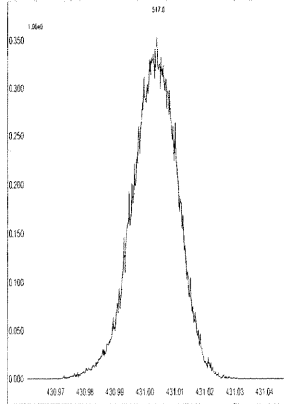
M 480.9696 R 11848



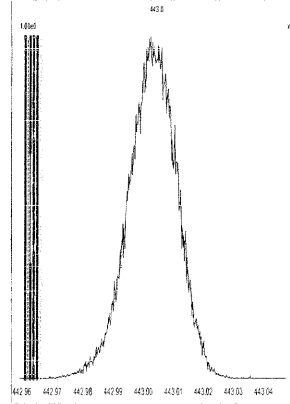
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 08:23:59 Central Daylight Time

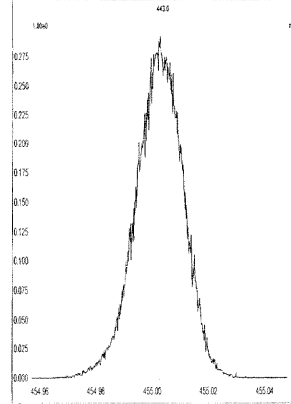
M 430.9728 R 11850



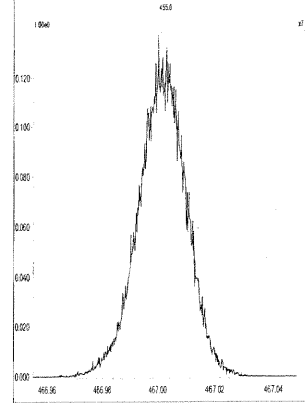
M 442.9728 R 11734



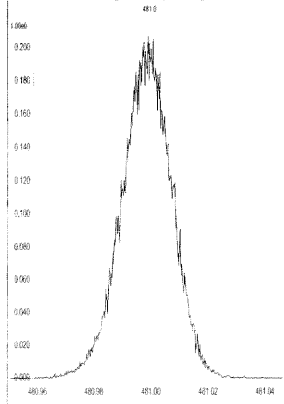
M 454.9728 R 11577



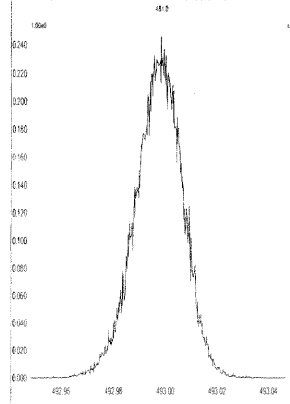
M 466.9728 R 11522



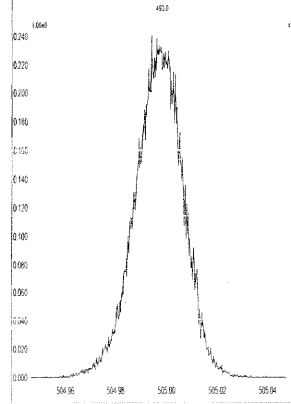
M 480.9696 R 11575



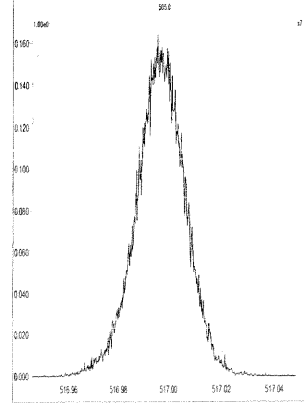
M 492.9696 R 11260



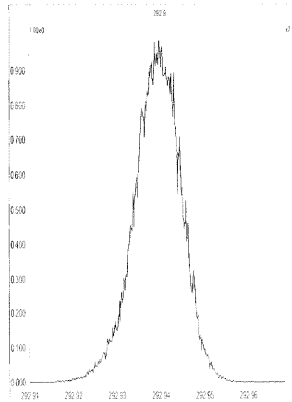
M 504.9696 R 11572



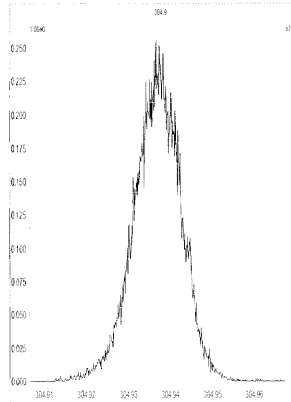
M 516.9697 R 11793



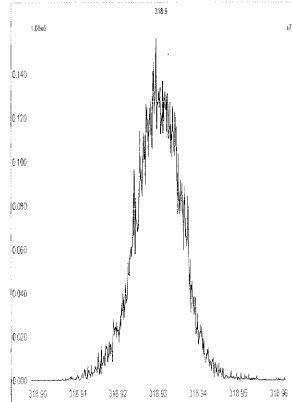
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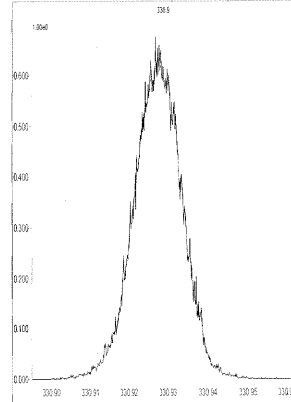
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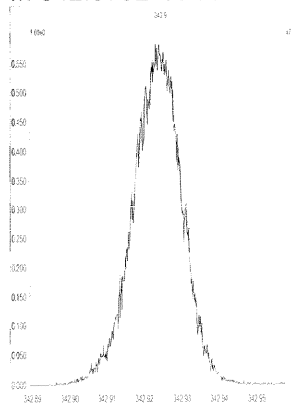
M 318.9792 R 11848



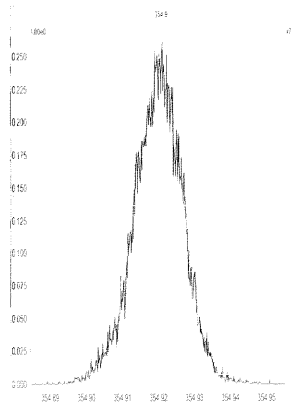
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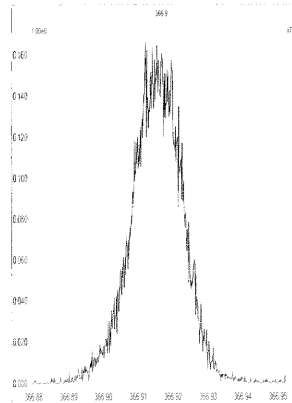
M 342.9792 R 11441



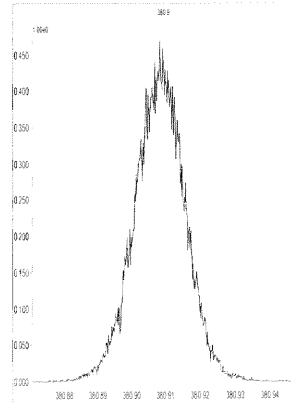
M 354.9792 R 11238



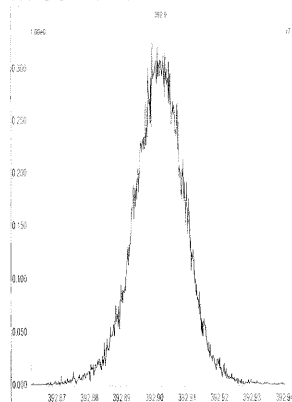
M 366.9792 R 11160



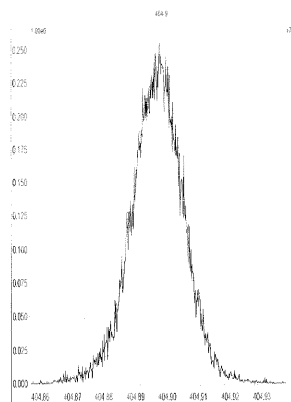
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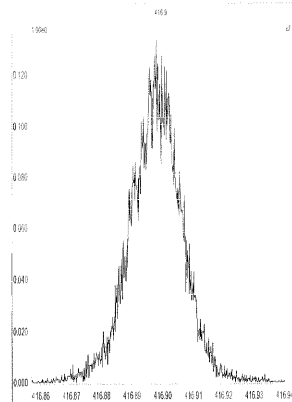
M 392.9760 R 10857



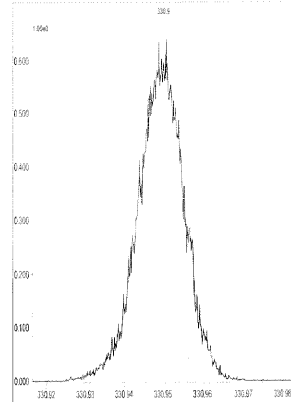
M 404.9760 R 10448



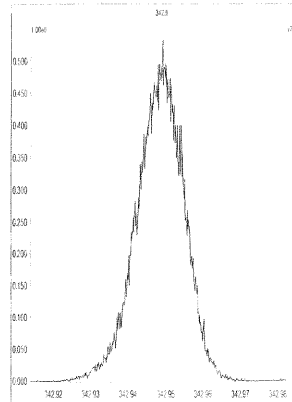
M 416.9760 R 10661



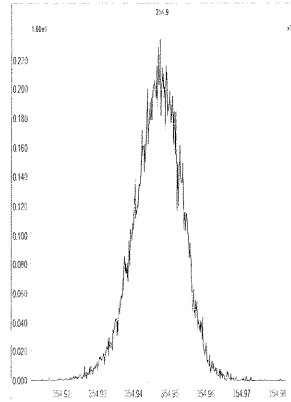
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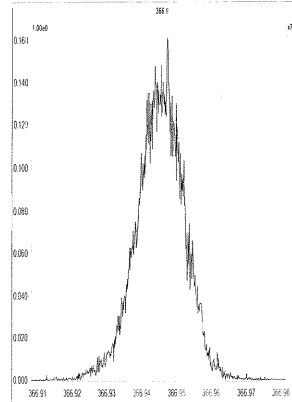
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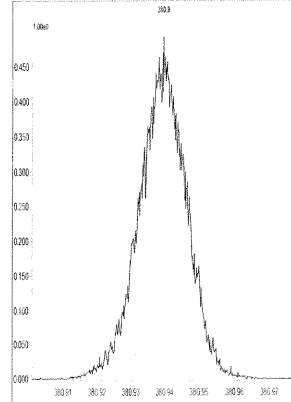
M 354.9792 R 11628



M 366.9792 R 11779

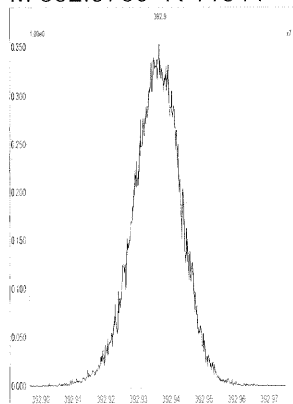


M 380.9760 R 11852

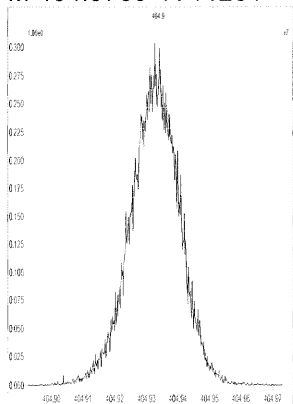


Printed: Wednesday, August 27, 2014 09:20:54 Central Daylight Time

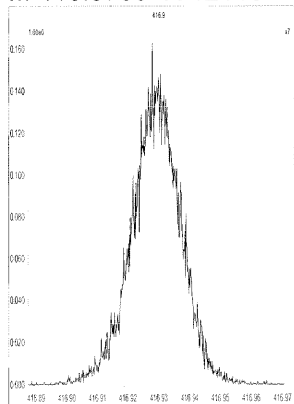
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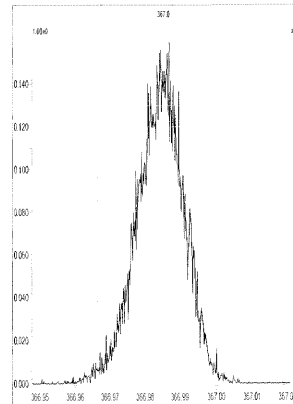
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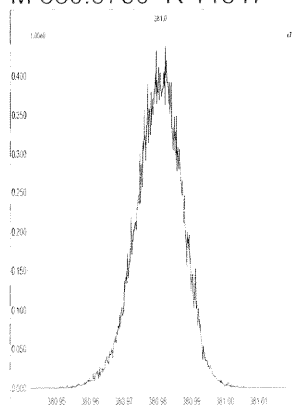
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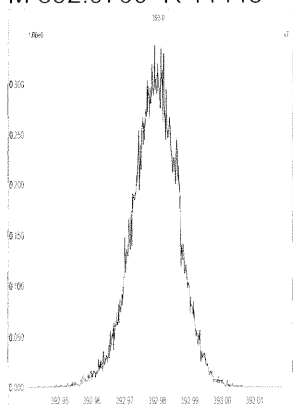
M 366.9792 R 12537



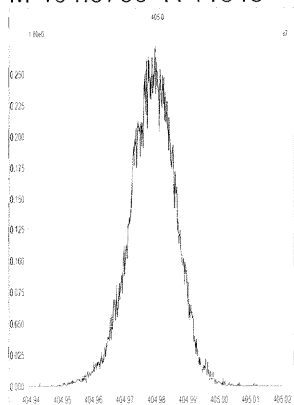
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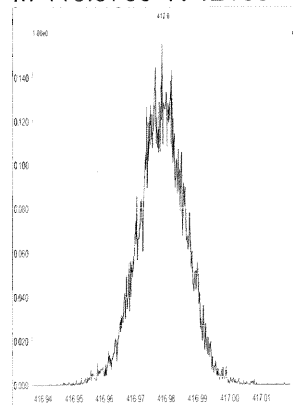
M 392.9760 R 11443



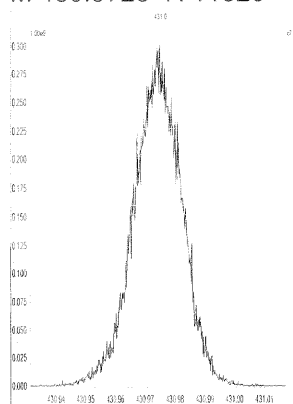
M 404.9760 R 11848



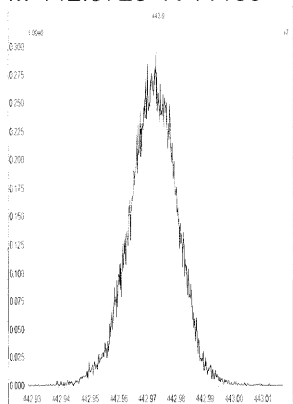
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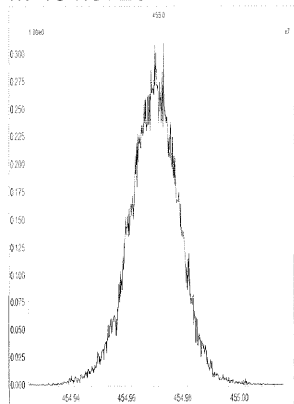
M 430.9728 R 11820



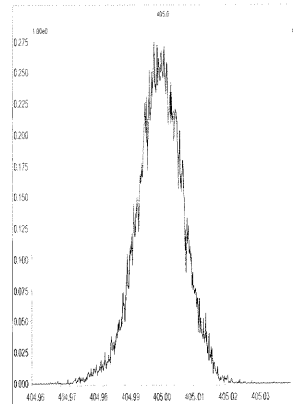
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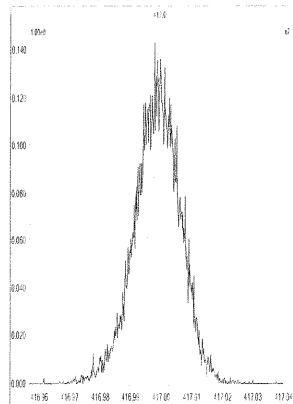
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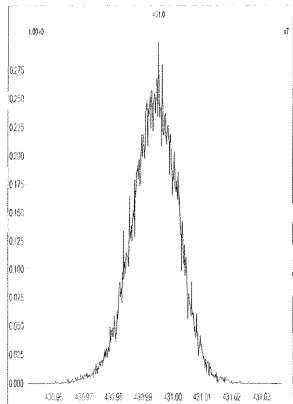
M 404.9760 R 12019



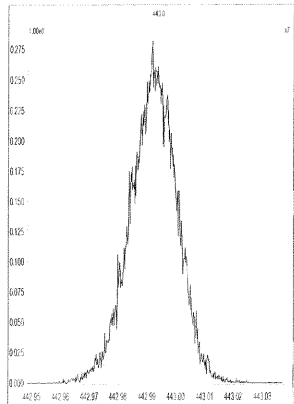
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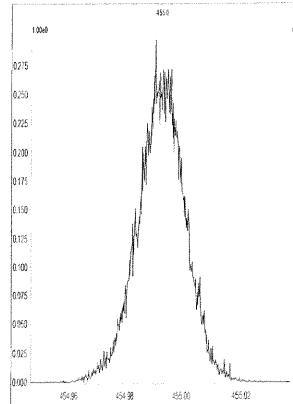
M 430.9728 R 11499



M 442.9728 R 11869

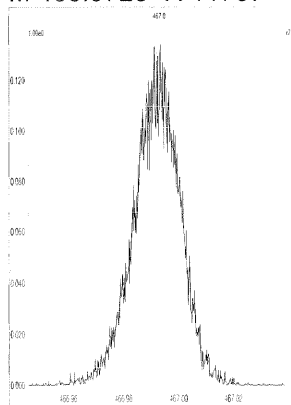


M 454.9728 R 11605

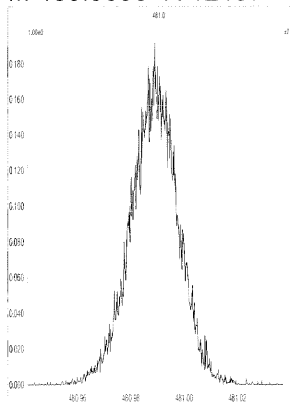


Printed: Wednesday, August 27, 2014 09:20:54 Central Daylight Time

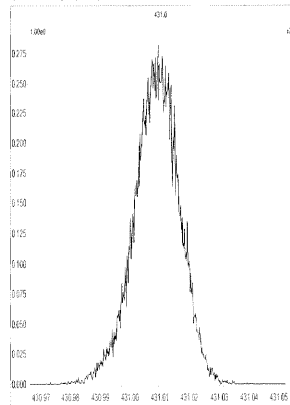
M 466.9728 R 11737



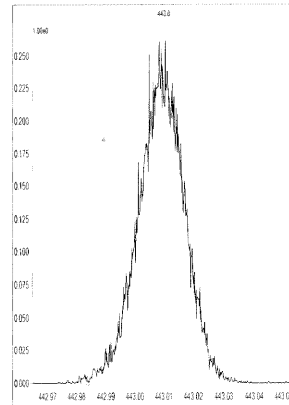
M 480.9696 R 12197



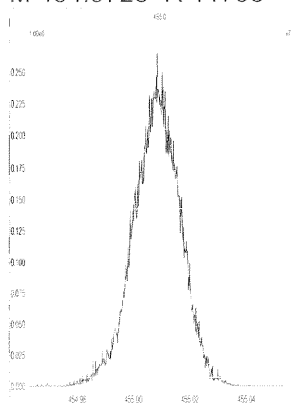
M 430.9728 R 11876



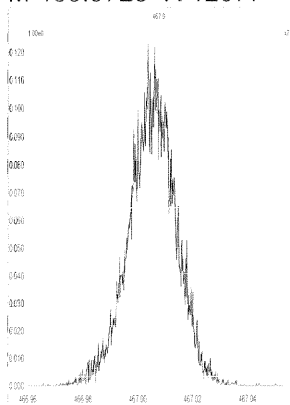
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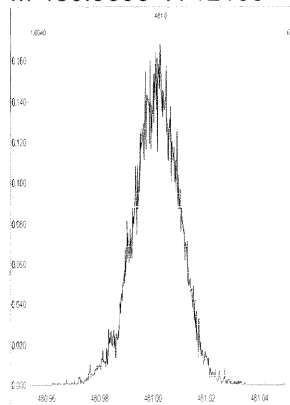
M 454.9728 R 11798



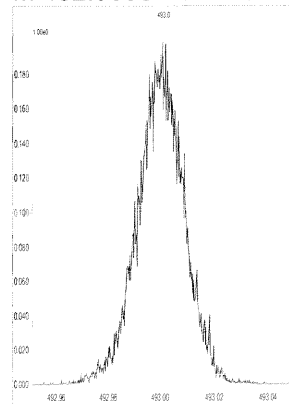
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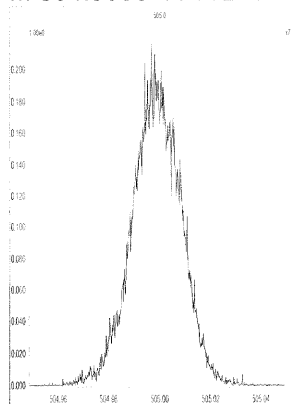
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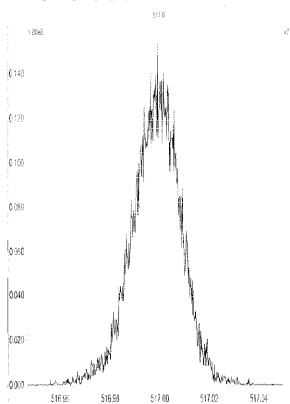
M 492.9696 R 11765



M 504.9696 R 11211



M 516.9697 R 12051



## 5DFA

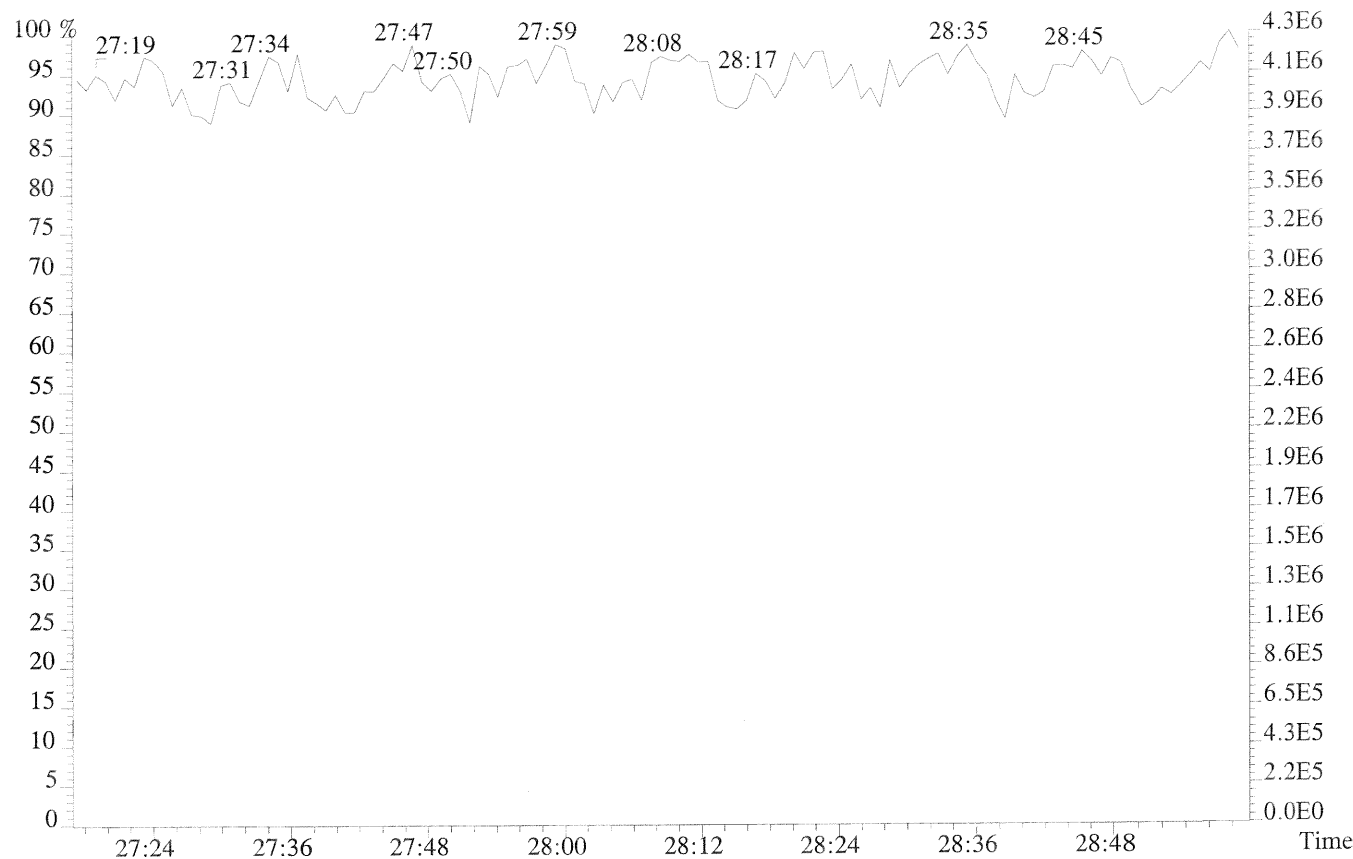
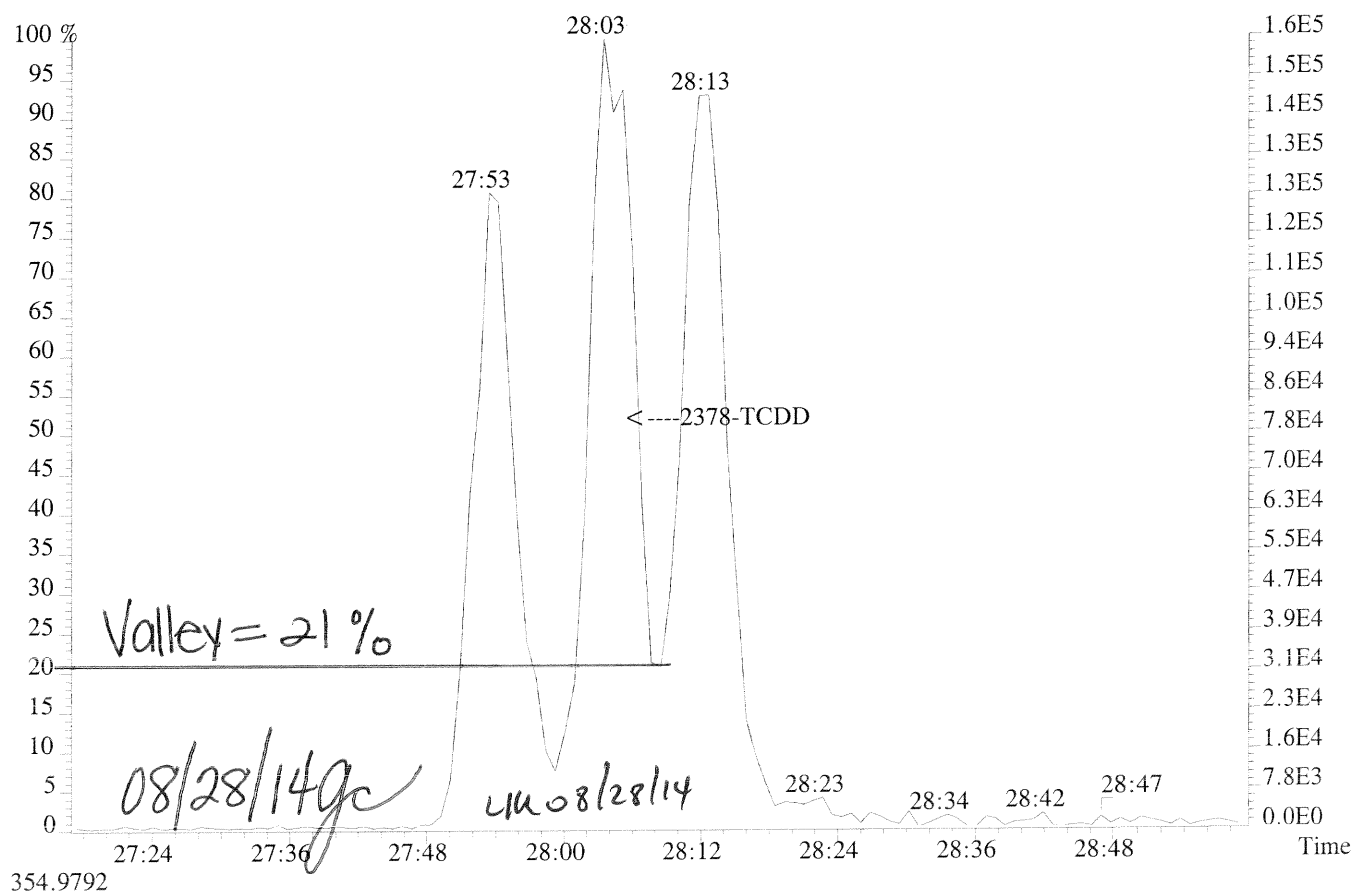
## WINDOW DEFINING MIX SUMMARY

CLIENT ID:  
\_\_\_\_\_  
WDM  
\_\_\_\_\_Lab Name: ALS ENVIRONMENTAL  
Lab Code: TX01411  
GC Column: DB-5msUICase No.: \_\_\_\_\_  
ID: 0.25 (mm)SDG No.: \_\_\_\_\_  
Lab File ID: P173116  
Date Analyzed: 27-AUG-2014  
Time Analyzed: 00:14:40

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	22:45	29:18
TCDD	24:30	29:08
PeCDF	29:15	33:39
PeCDD	30:51	33:23
HxCDF	34:20	36:51
HxCDD	34:51	36:27
HpCDF	38:05	39:26
HpCDD	38:19	38:58

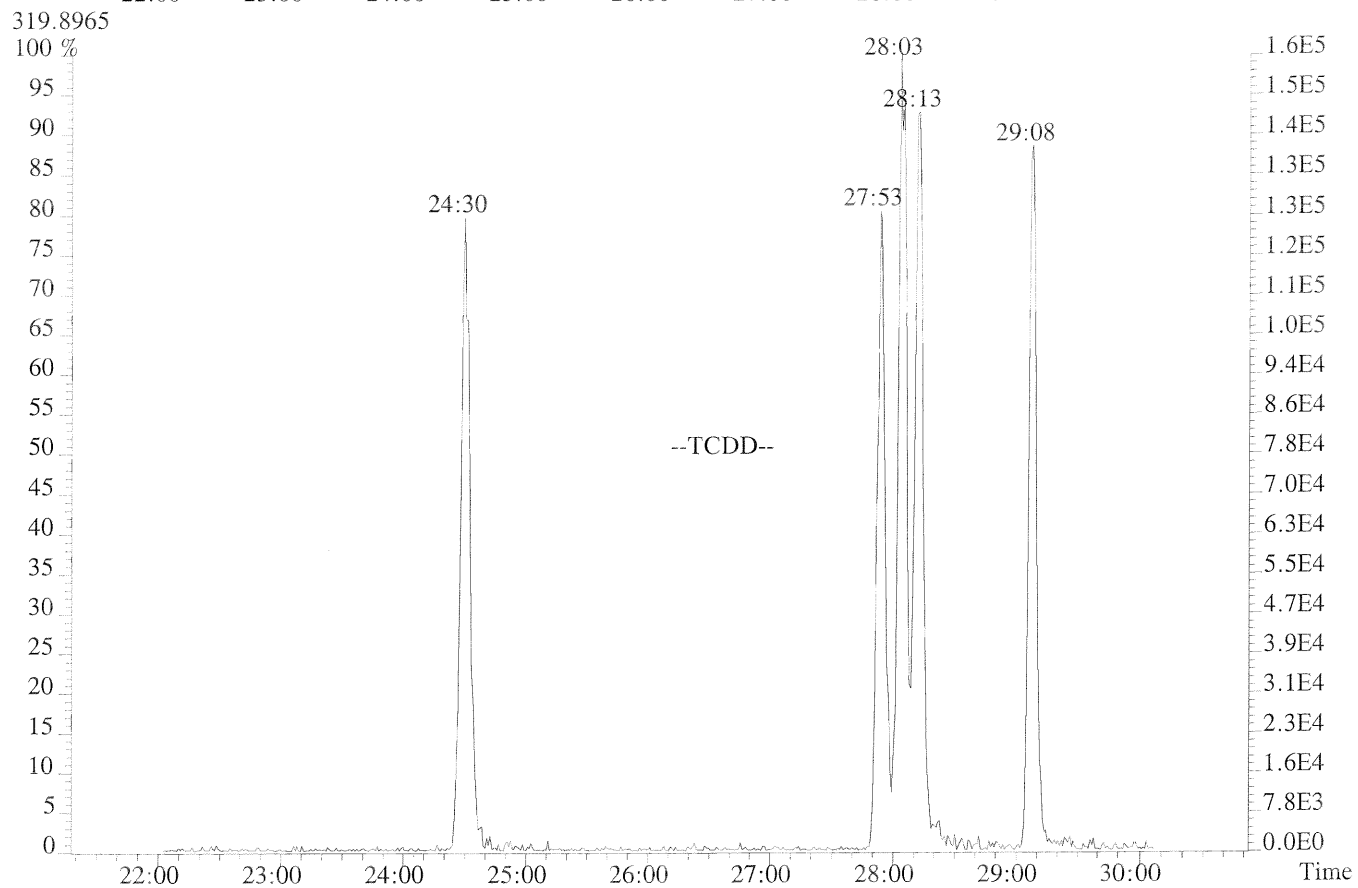
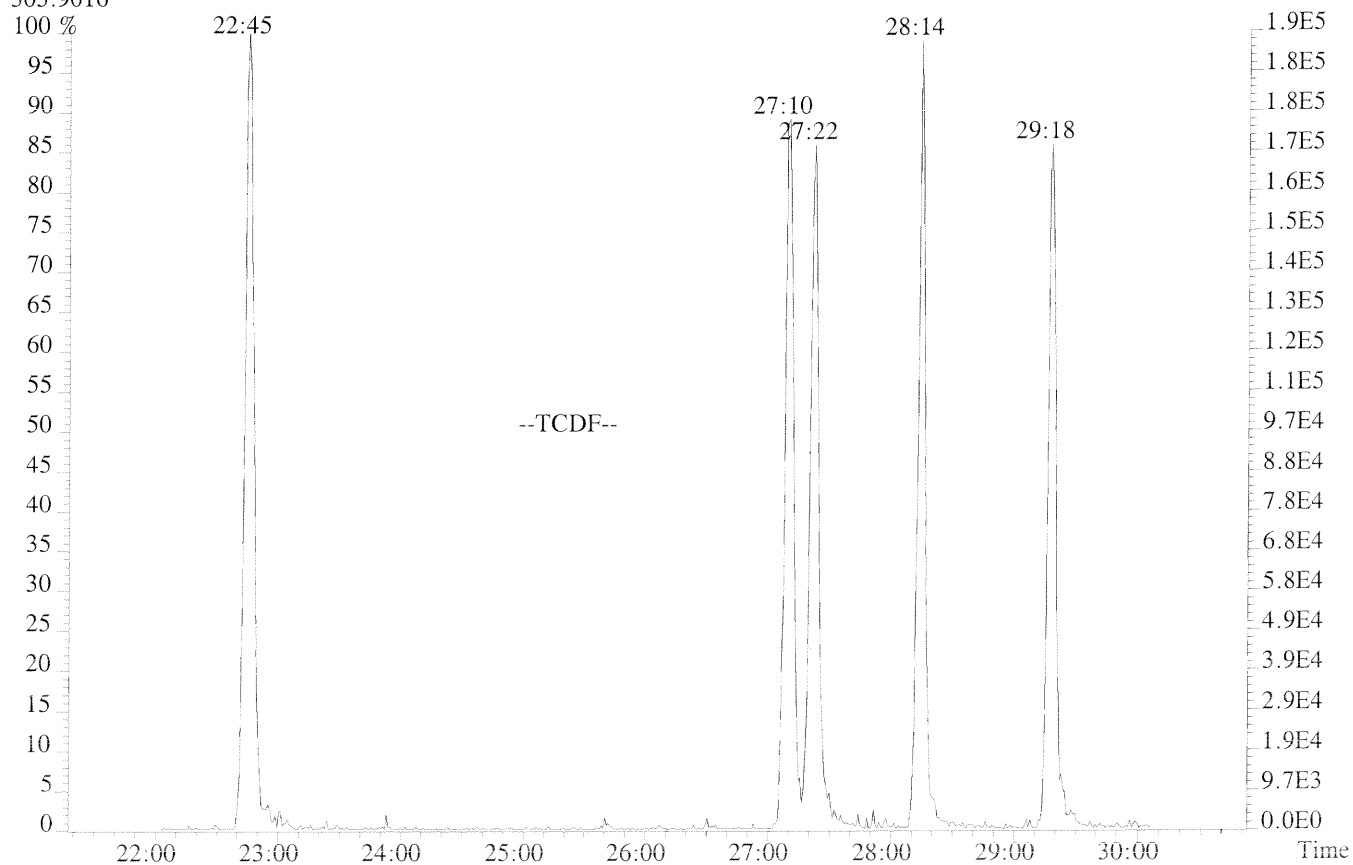
% Valley 2378-TCDD:

21 %

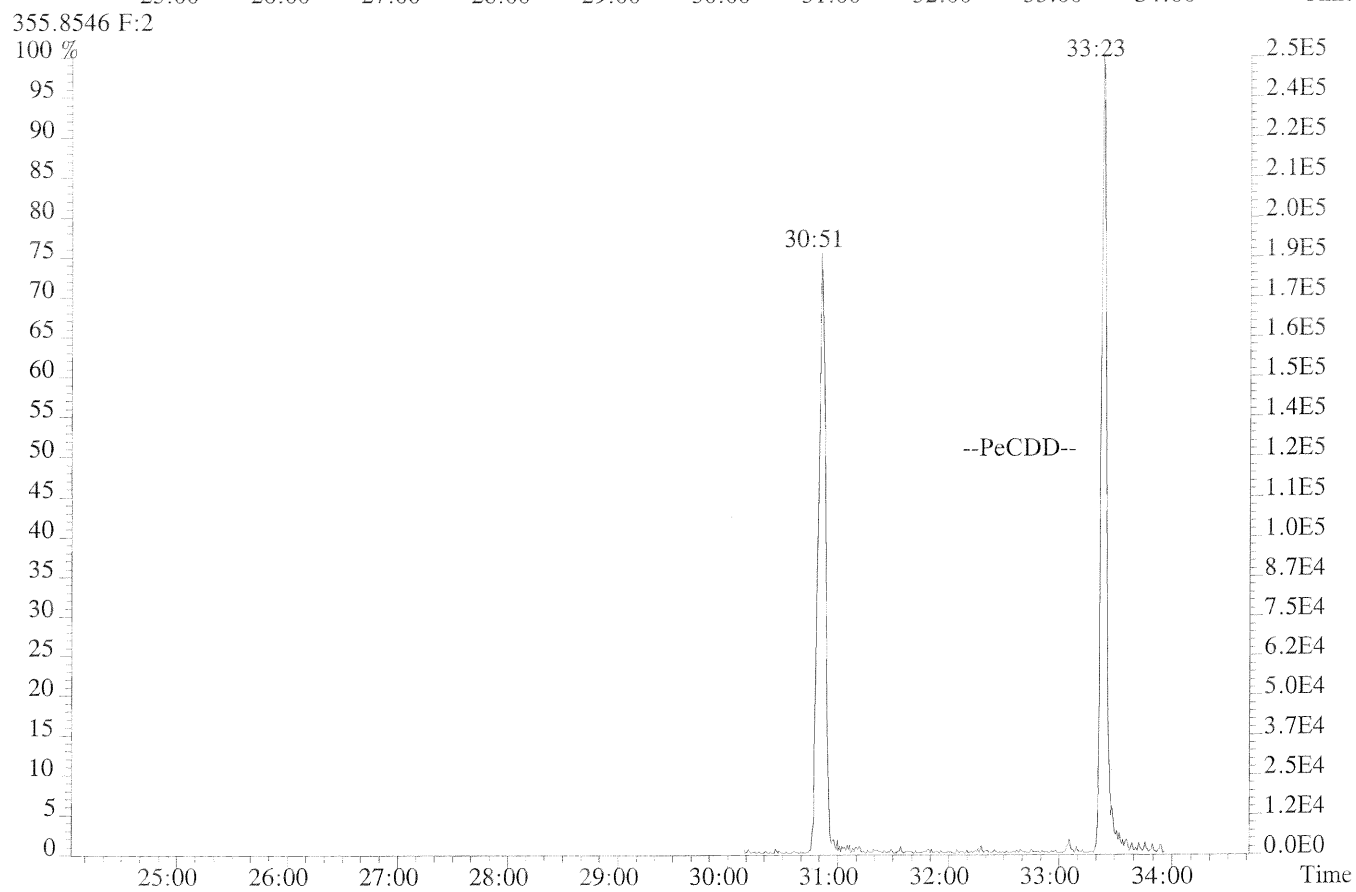
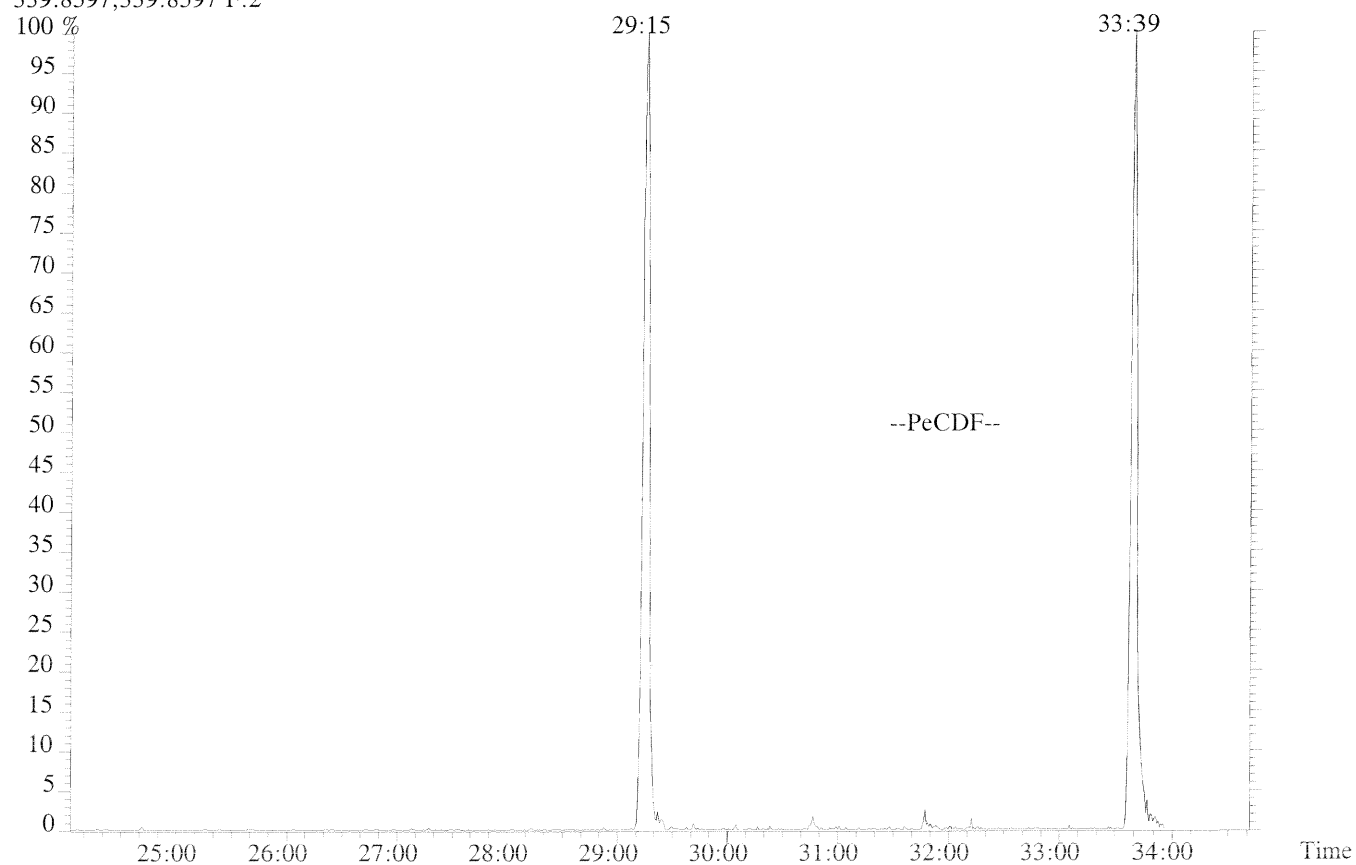




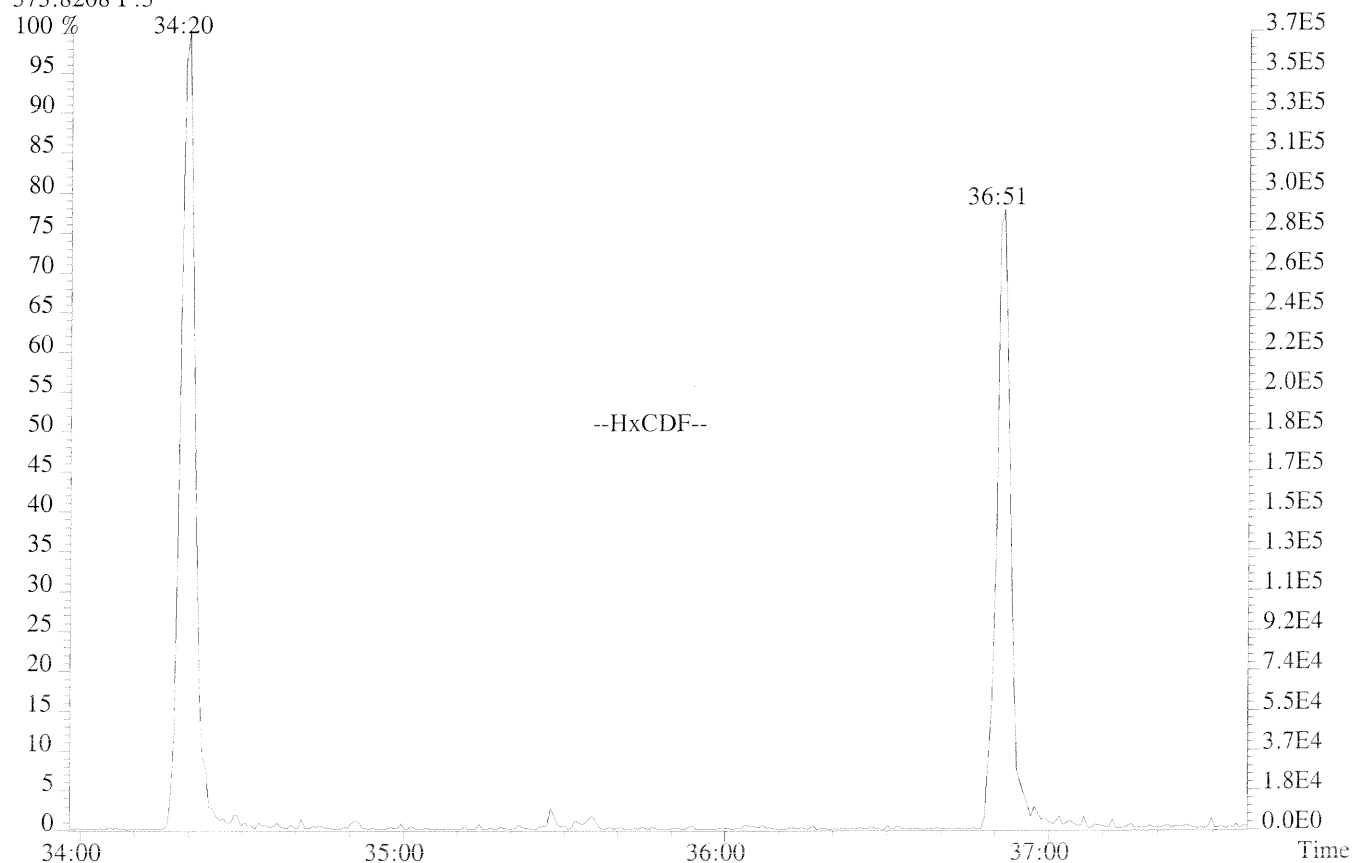
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Sample#1 Exp:WINDOW DEFINE  
303.9016



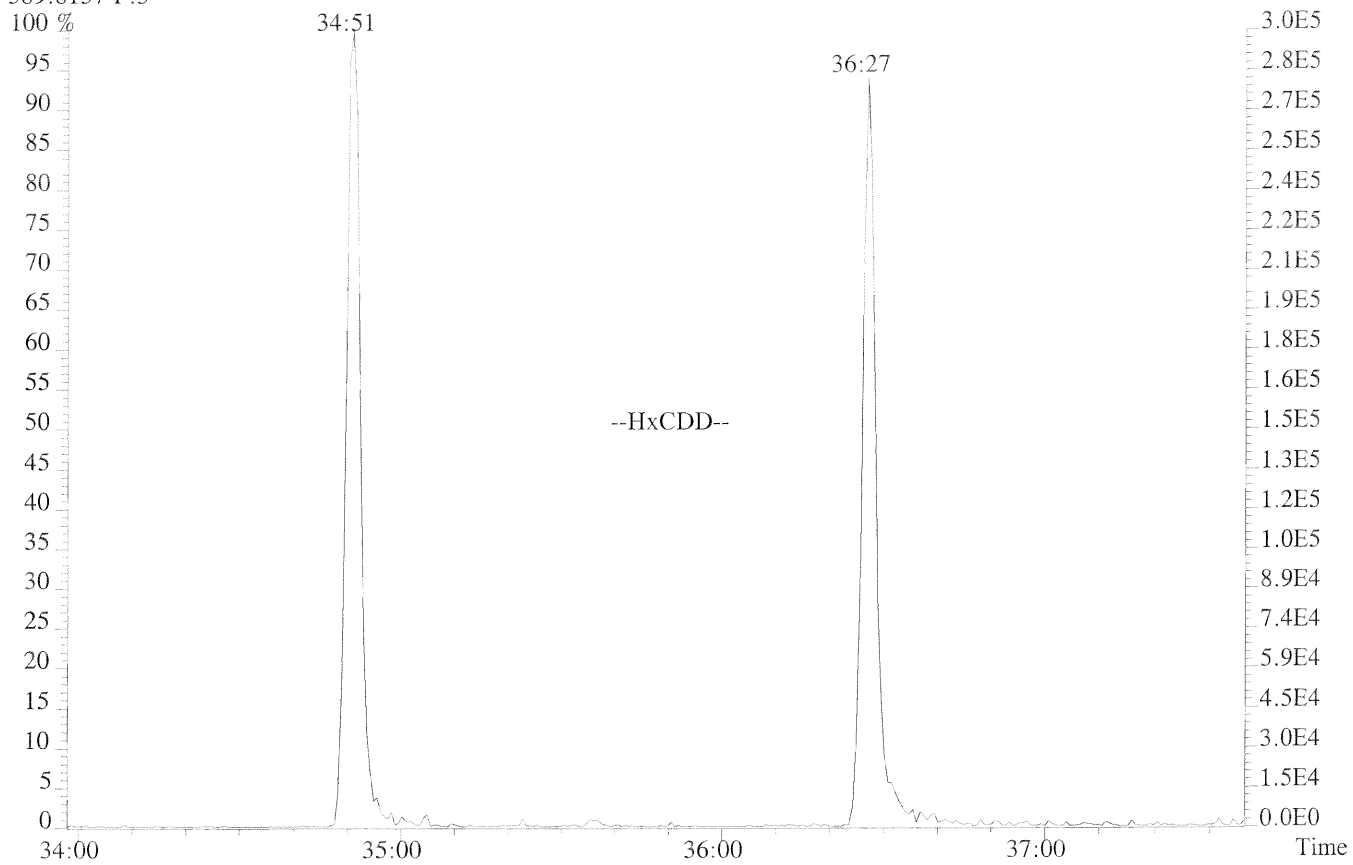
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Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



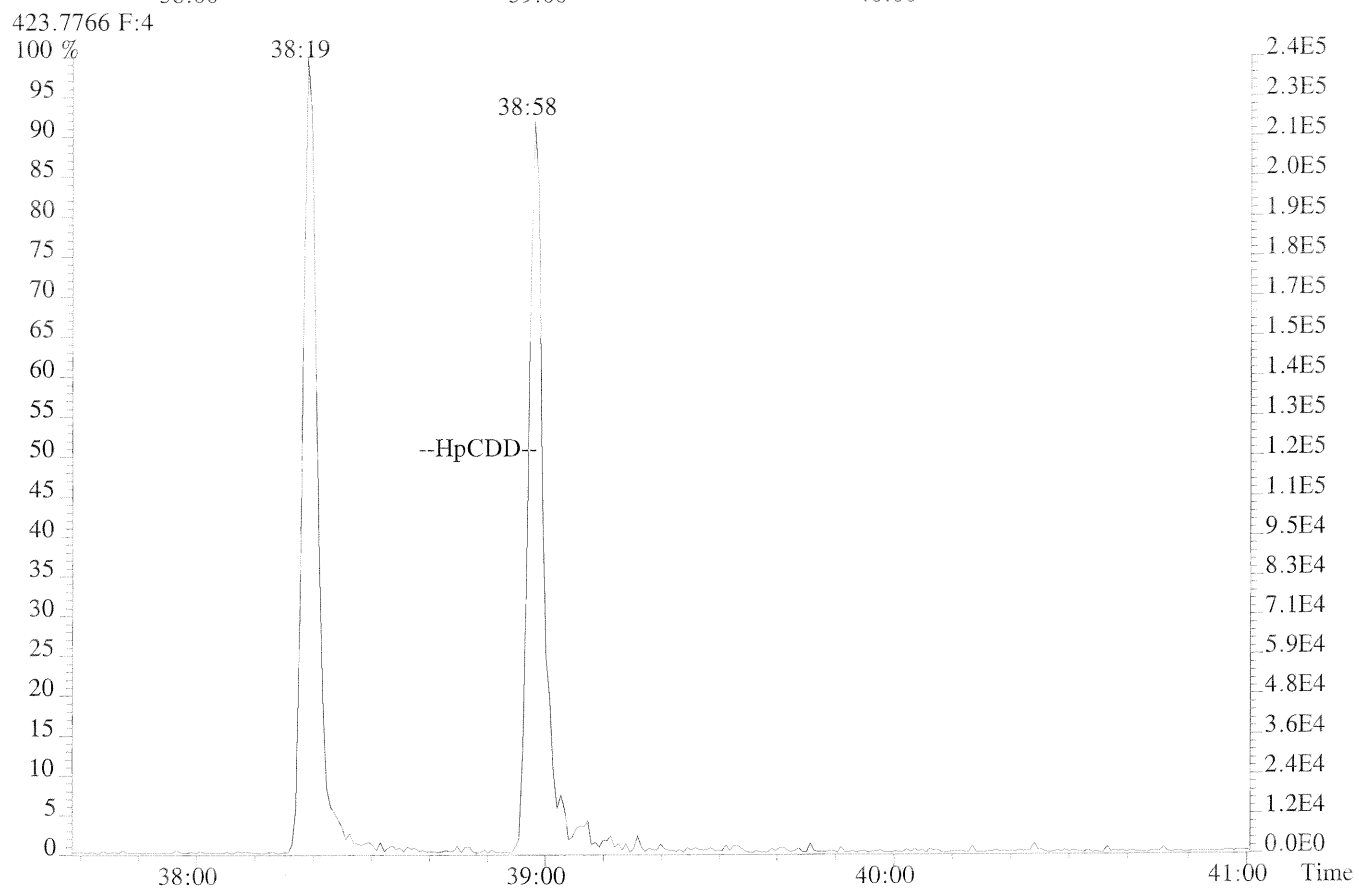
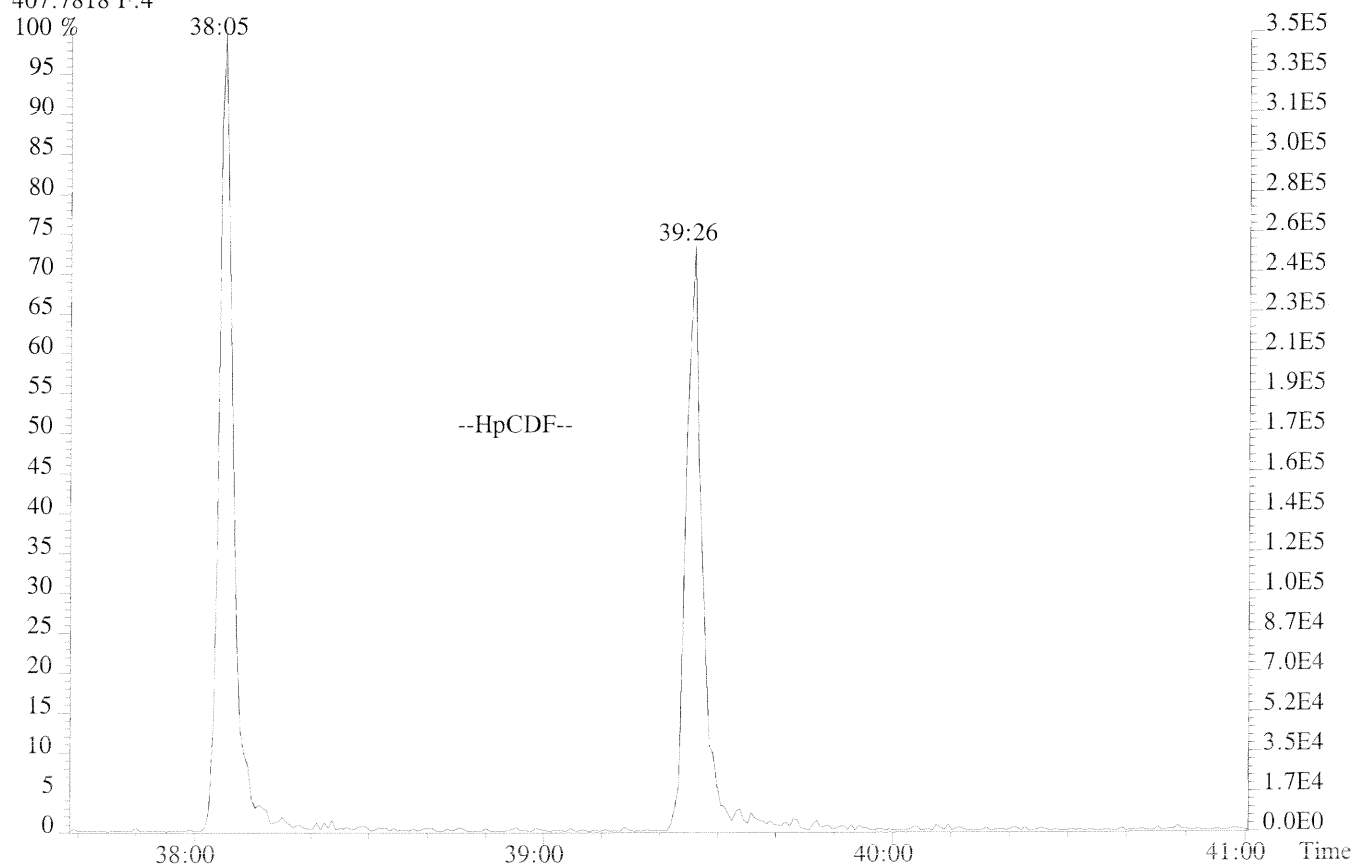
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Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



389.8157 F:3



File:P173116 #1-306 Acq:27-AUG-2014 00:14:40 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173114

Analysis Date: 26-AUG-14 Time: 22:38:25

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	9.5	7.8 - 12.9	-5.0
1,2,3,7,8-PeCDD	M+2/M+4	1.49	1.32-1.78	47	39 - 65	-6.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.32	1.05-1.43	48	39 - 64	-4.4
1,2,3,6,7,8-HxCDD	M+2/M+4	1.17	1.05-1.43	54	39 - 64	8.3
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	49	41 - 61	-1.2
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	49	43 - 58	-1.7
OCDD	M+2/M+4	0.88	0.76-1.02	99	79 - 126	-0.8
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	9.1	8.4 - 12.0	-8.7
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	50	41 - 60	0.2
2,3,4,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	48	41 - 61	-4.6
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	50	45 - 56	1.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	50	44 - 57	-0.8
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	52	45 - 56	3.2
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	51	44 - 57	1.7
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.10	0.88-1.20	52	45 - 55	3.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.11	0.88-1.20	51	43 - 58	2.8
OCDF	M+2/M+4	0.92	0.76-1.02	95	63 - 159	-5.5

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173114

Analysis Date: 26-AUG-14 Time: 22:38:25

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	93	82 - 121	-7.3
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	86	62 - 160	-14.4
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	102	85 - 117	2.2
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	95	85 - 118	-4.8
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	112	72 - 138	11.9
13C-OCDD	M+2/M+4	0.85	0.76-1.02	246	96 - 415	22.8
13C-2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	88	71 - 140	-11.9
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	79	76 - 130	-21.1
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	83	77 - 130	-16.7
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	93	76 - 131	-7.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	97	70 - 143	-3.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	93	74 - 135	-6.9
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	97	73 - 137	-2.7
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	106	78 - 129	5.6
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	107	77 - 129	7.1
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				8.9	7.8 - 12.7	-11.5

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
72675

Run #7      Filename P173114      Samp: 1      Inj: 1      Acquired: 26-AUG-14 22:38:25  
Processed: 27-AUG-14 10:43:24      Sample ID: CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:22	3.752e+02	4.933e+02	0.76	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	31:47	3.569e+03	2.284e+03	1.56	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	32:43	3.412e+03	2.082e+03	1.64	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	35:27	3.336e+03	2.702e+03	1.23	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	35:34	3.800e+03	2.976e+03	1.28	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	36:04	3.511e+03	2.839e+03	1.24	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	36:50	3.175e+03	2.495e+03	1.27	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:05	3.622e+03	3.301e+03	1.10	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	39:25	3.106e+03	2.803e+03	1.11	yes	no	1.324
10 Unk	OCDF	41:47	5.482e+03	5.959e+03	0.92	yes	no	1.307
11 Unk	2,3,7,8-TCDD	28:12	3.230e+02	4.306e+02	0.75	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	33:00	2.332e+03	1.566e+03	1.49	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	36:12	2.473e+03	1.872e+03	1.32	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	36:17	2.596e+03	2.213e+03	1.17	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	36:32	2.619e+03	2.162e+03	1.21	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	2.468e+03	2.331e+03	1.06	yes	no	1.016
17 Unk	OCDD	41:36	4.646e+03	5.268e+03	0.88	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:21	4.326e+03	5.739e+03	0.75	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:46	7.083e+03	4.403e+03	1.61	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	7.246e+03	4.551e+03	1.59	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	3.232e+03	6.406e+03	0.50	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	3.801e+03	7.798e+03	0.49	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:03	3.720e+03	7.132e+03	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	3.210e+03	6.315e+03	0.51	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	2.904e+03	6.645e+03	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:24	2.617e+03	6.062e+03	0.43	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:11	3.317e+03	4.337e+03	0.76	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	5.441e+03	3.446e+03	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	4.894e+03	3.844e+03	1.27	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	5.015e+03	3.955e+03	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	4.904e+03	4.702e+03	1.04	yes	no	0.862
32 IS	13C-OCDD	41:36	8.538e+03	9.987e+03	0.85	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	3.404e+03	4.467e+03	0.76	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	5.599e+03	4.357e+03	1.29	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:12	7.835e+02				no	1.125

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1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
72675

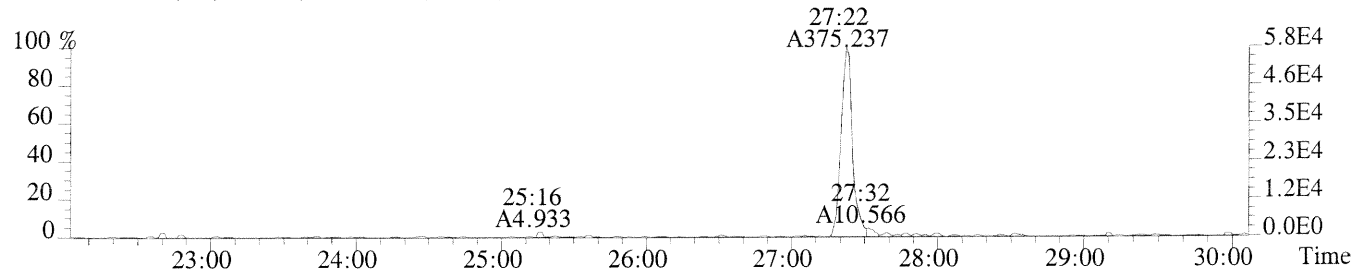
Run #7    Filename P173114    Samp: 1    Inj: 1    Acquired: 26-AUG-14 22:38:25  
Processed: 27-AUG-14 10:43:241    LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.81e+04	5.60e+01	1.0e+03	7.01e+04	9.72e+02	7.2e+01
2	1,2,3,7,8-PeCDF	5.79e+05	8.00e+01	7.2e+03	3.68e+05	5.00e+02	7.4e+02
3	2,3,4,7,8-PeCDF	6.14e+05	8.00e+01	7.7e+03	3.78e+05	5.00e+02	7.6e+02
4	1,2,3,4,7,8-HxCDF	6.94e+05	2.44e+02	2.8e+03	5.58e+05	6.80e+01	8.2e+03
5	1,2,3,6,7,8-HxCDF	6.74e+05	2.44e+02	2.8e+03	5.49e+05	6.80e+01	8.1e+03
6	2,3,4,6,7,8-HxCDF	7.12e+05	2.44e+02	2.9e+03	5.78e+05	6.80e+01	8.5e+03
7	1,2,3,7,8,9-HxCDF	5.58e+05	2.44e+02	2.3e+03	4.30e+05	6.80e+01	6.3e+03
8	1,2,3,4,6,7,8-HpCDF	7.15e+05	7.76e+02	9.2e+02	6.66e+05	1.70e+03	3.9e+02
9	1,2,3,4,7,8,9-HpCDF	5.25e+05	7.76e+02	6.8e+02	4.76e+05	1.70e+03	2.8e+02
10	OCDF	8.58e+05	7.84e+02	1.1e+03	9.10e+05	1.14e+03	8.0e+02
11	2,3,7,8-TCDD	4.65e+04	3.36e+02	1.4e+02	6.30e+04	4.80e+01	1.3e+03
12	1,2,3,7,8-PeCDD	3.80e+05	2.16e+02	1.8e+03	2.57e+05	7.20e+01	3.6e+03
13	1,2,3,4,7,8-HxCDD	5.35e+05	6.40e+01	8.4e+03	4.09e+05	1.28e+02	3.2e+03
14	1,2,3,6,7,8-HxCDD	4.97e+05	6.40e+01	7.8e+03	4.04e+05	1.28e+02	3.2e+03
15	1,2,3,7,8,9-HxCDD	4.82e+05	6.40e+01	7.5e+03	3.97e+05	1.28e+02	3.1e+03
16	1,2,3,4,6,7,8-HpCDD	4.73e+05	2.24e+02	2.1e+03	4.51e+05	6.40e+01	7.0e+03
17	OCDD	7.28e+05	5.72e+02	1.3e+03	8.38e+05	1.65e+03	5.1e+02
18	13C-2,3,7,8-TCDF	6.44e+05	5.44e+02	1.2e+03	8.43e+05	5.00e+02	1.7e+03
19	13C-1,2,3,7,8-PeCDF	1.15e+06	5.20e+01	2.2e+04	7.23e+05	9.60e+01	7.5e+03
20	13C-2,3,4,7,8-PeCDF	1.31e+06	5.20e+01	2.5e+04	8.07e+05	9.60e+01	8.4e+03
21	13C-1,2,3,4,7,8-HxCDF	6.69e+05	1.92e+02	3.5e+03	1.32e+06	8.56e+02	1.5e+03
22	13C-1,2,3,6,7,8-HxCDF	6.95e+05	1.92e+02	3.6e+03	1.41e+06	8.56e+02	1.7e+03
23	13C-2,3,4,6,7,8-HxCDF	7.49e+05	1.92e+02	3.9e+03	1.42e+06	8.56e+02	1.7e+03
24	13C-1,2,3,7,8,9-HxCDF	5.53e+05	1.92e+02	2.9e+03	1.11e+06	8.56e+02	1.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.79e+05	9.44e+02	6.1e+02	1.35e+06	7.48e+02	1.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.51e+05	9.44e+02	4.8e+02	1.06e+06	7.48e+02	1.4e+03
27	13C-2,3,7,8-TCDD	5.34e+05	1.85e+03	2.9e+02	6.81e+05	9.64e+02	7.1e+02
28	13C-1,2,3,7,8-PeCDD	9.25e+05	2.32e+02	4.0e+03	5.69e+05	9.20e+01	6.2e+03
29	13C-1,2,3,4,7,8-HxCDD	1.05e+06	1.52e+02	6.9e+03	8.19e+05	5.60e+01	1.5e+04
30	13C-1,2,3,6,7,8-HxCDD	9.85e+05	1.52e+02	6.5e+03	7.89e+05	5.60e+01	1.4e+04
31	13C-1,2,3,4,6,7,8-HpCDD	9.84e+05	5.04e+02	2.0e+03	8.94e+05	9.60e+01	9.3e+03
32	13C-OCDD	1.36e+06	1.22e+03	1.1e+03	1.58e+06	1.65e+03	9.6e+02
33	13C-1,2,3,4-TCDD	5.48e+05	1.85e+03	3.0e+02	7.17e+05	9.64e+02	7.4e+02
34	13C-1,2,3,7,8,9-HxCDD	1.04e+06	1.52e+02	6.8e+03	7.94e+05	5.60e+01	1.4e+04
35	37Cl-2,3,7,8-TCDD	1.25e+05	5.08e+02	2.5e+02			

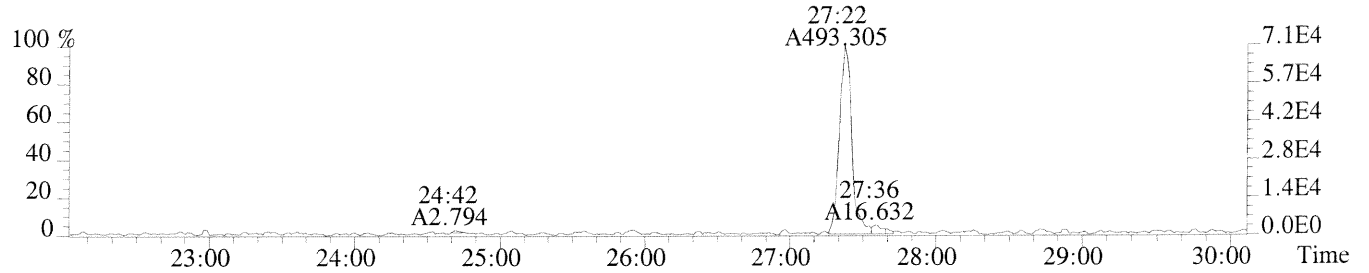
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Houston, TX 77099  
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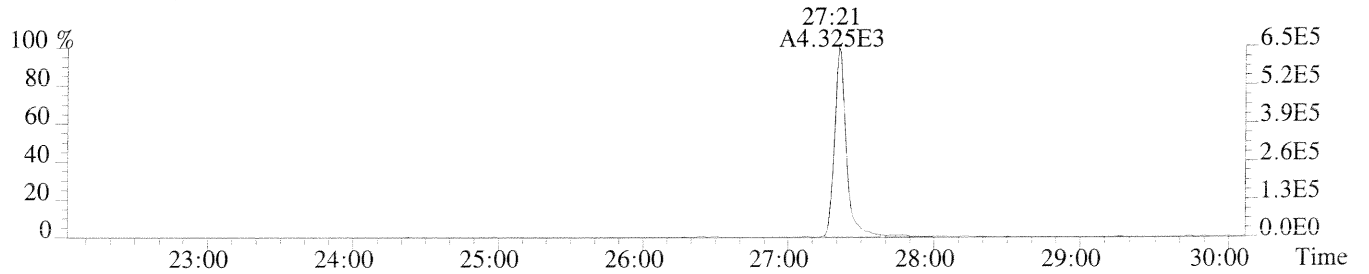
File:P173114 #1-579 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,T)



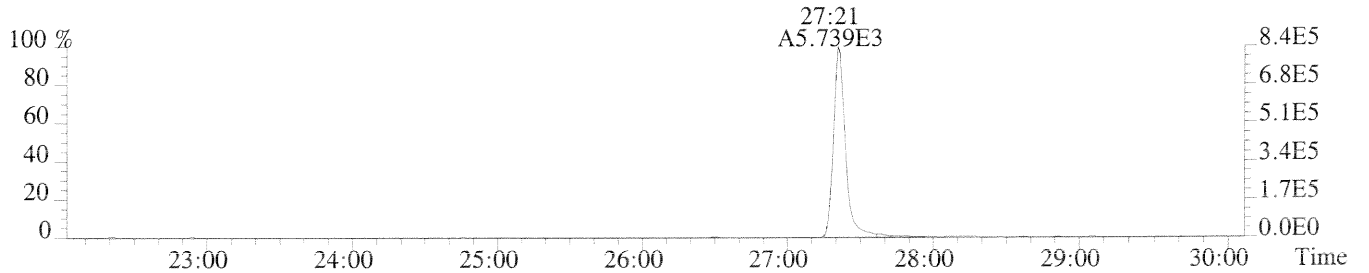
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,T)



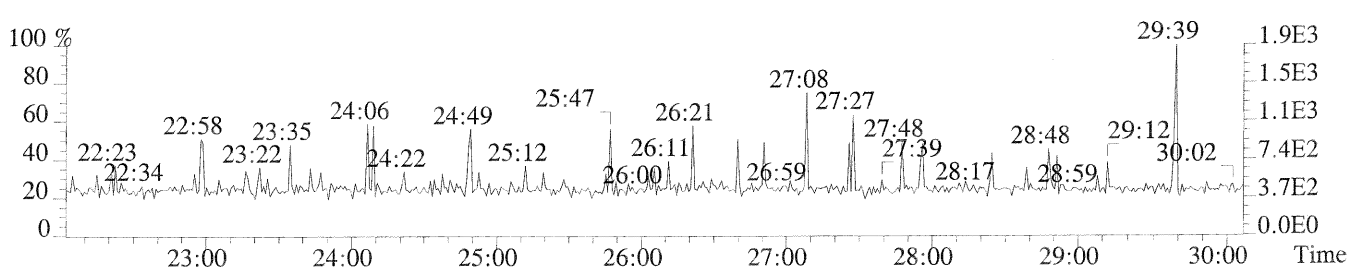
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



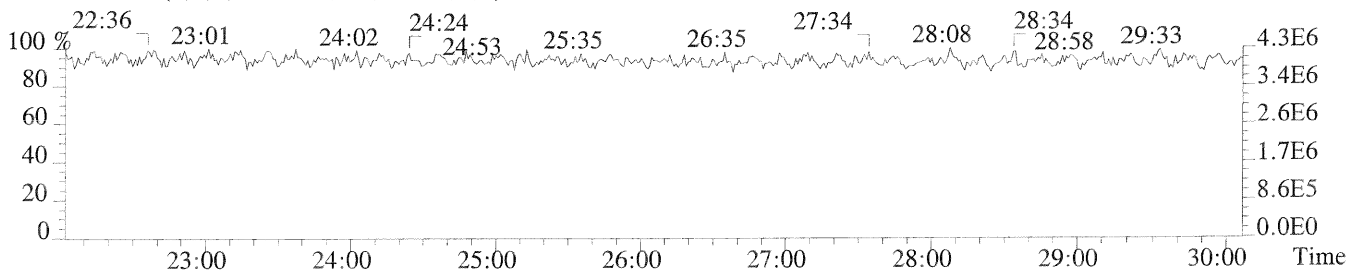
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

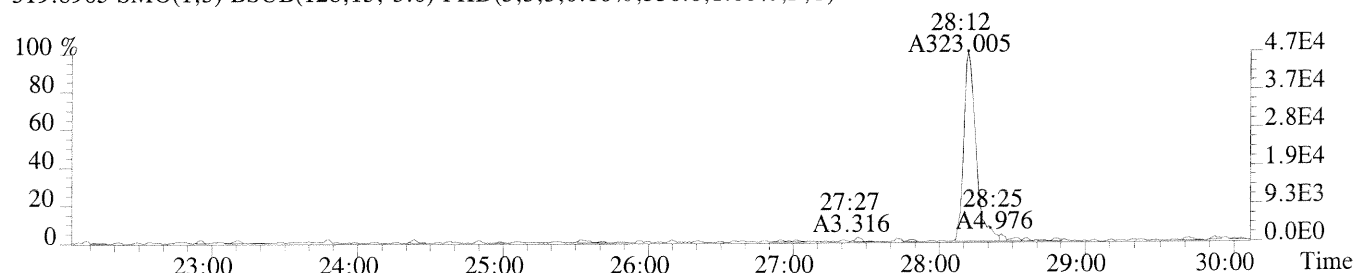


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

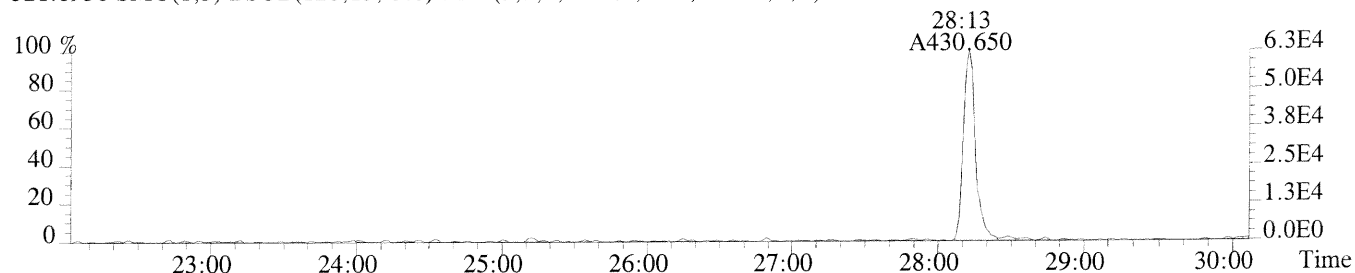


Sample#1 Exp:CS3

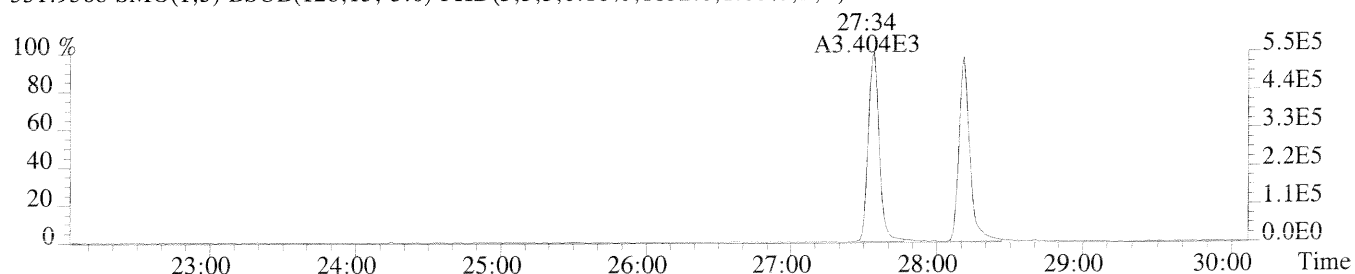
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,336.0,1.00%,F,T)



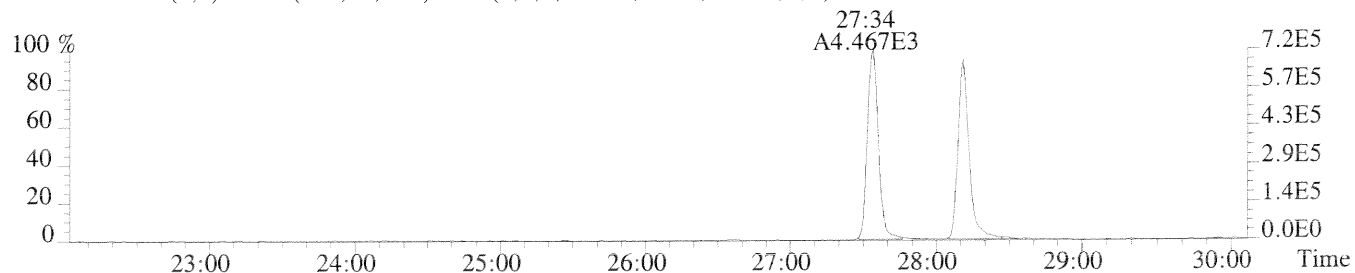
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,48.0,1.00%,F,T)



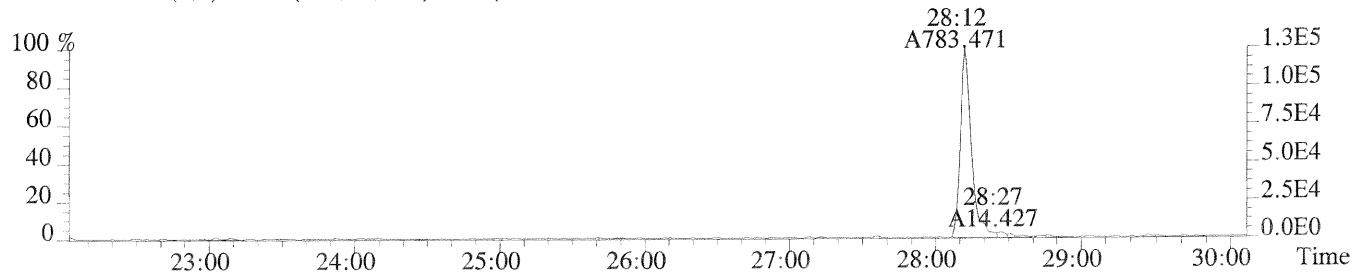
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1852.0,1.00%,F,T)



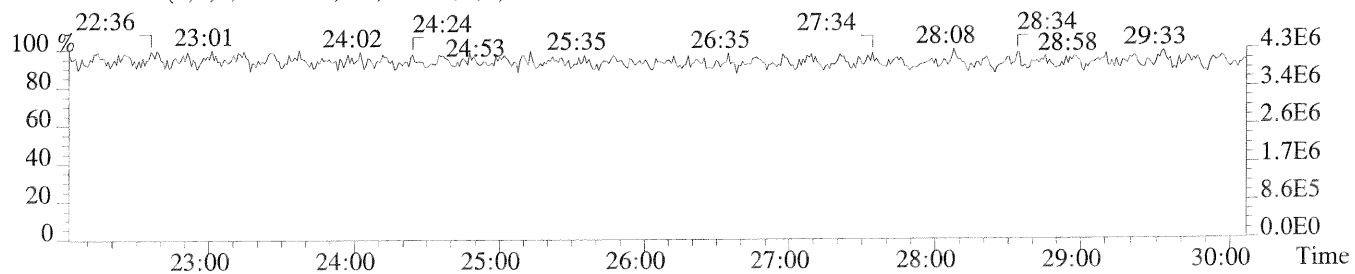
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



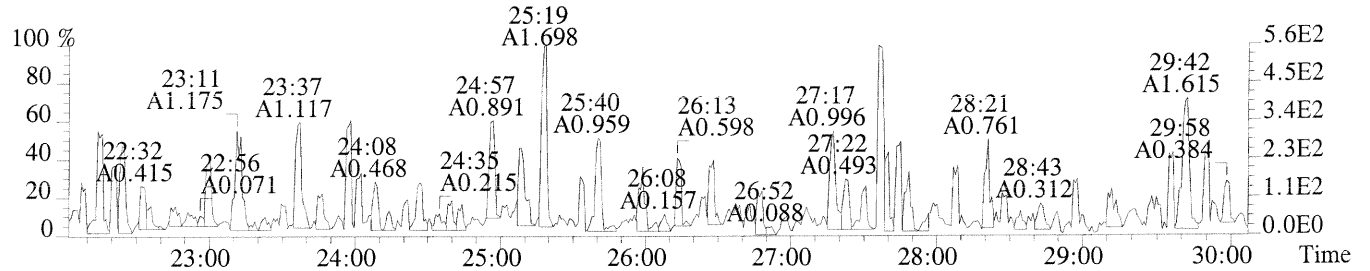
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,T)



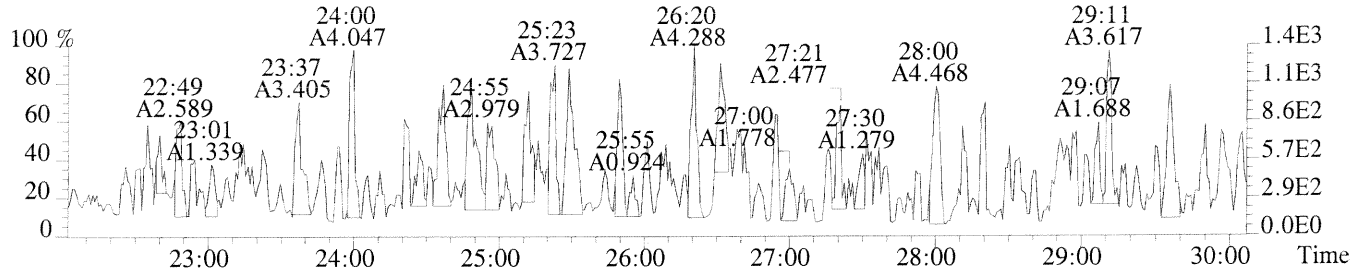
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



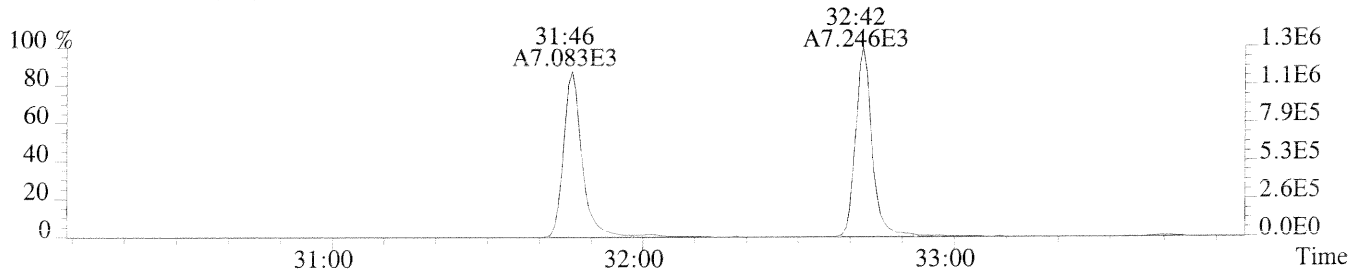
File:P173114 #1-579 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,52.0,1.00%,F,T)



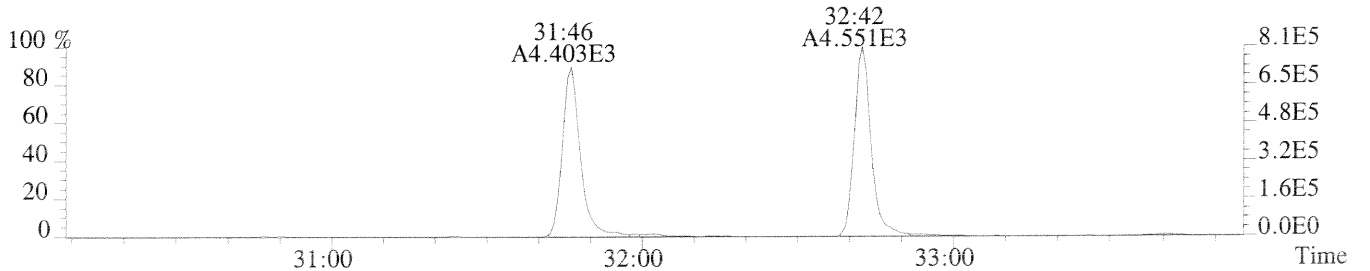
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



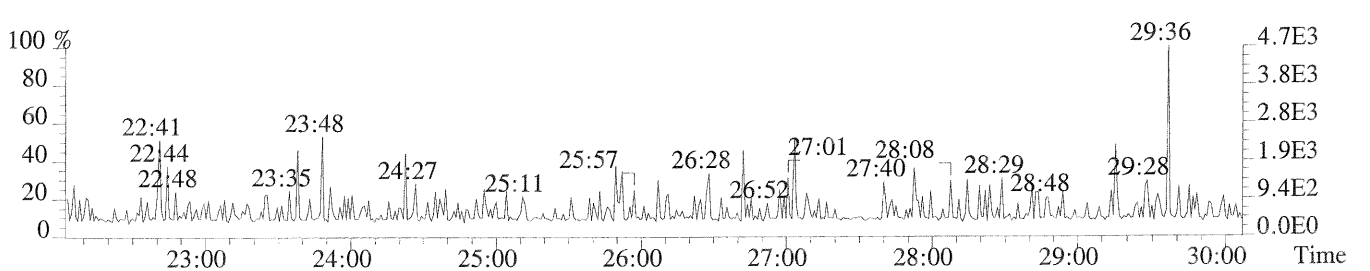
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,52.0,1.00%,F,T)



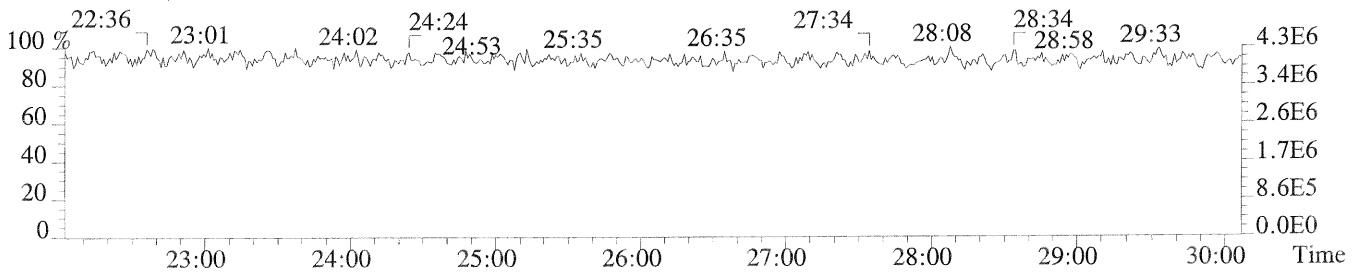
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

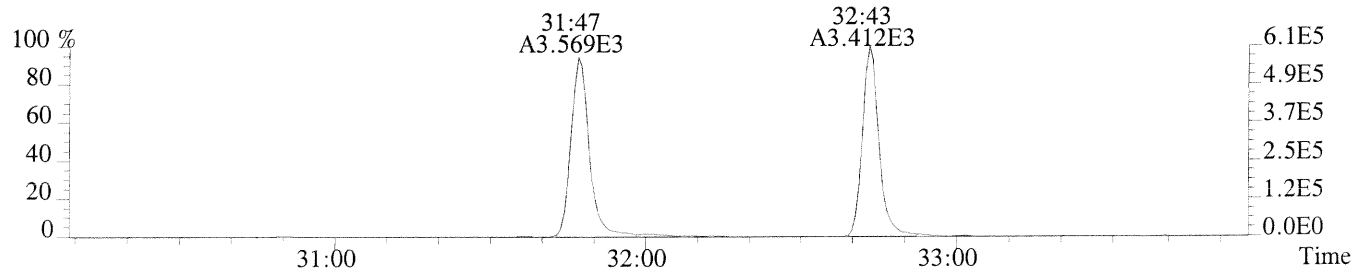


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

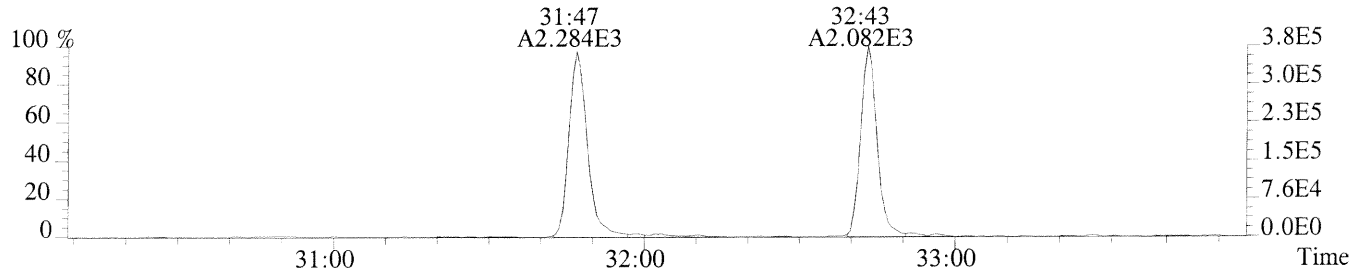


Sample#1 Exp:CS3

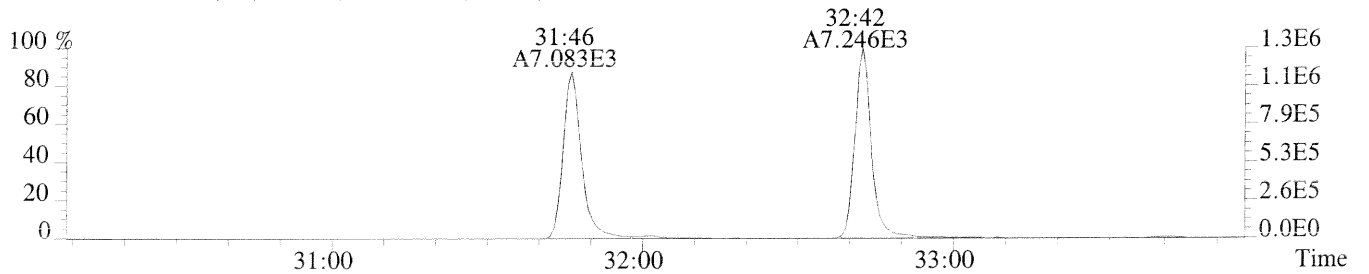
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



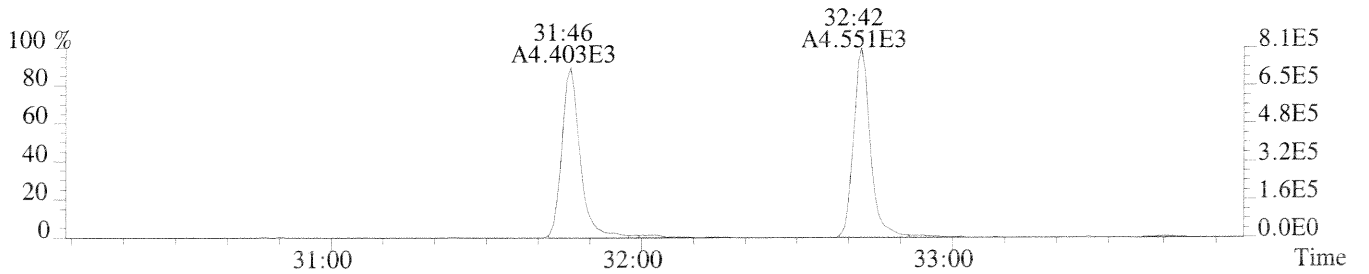
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



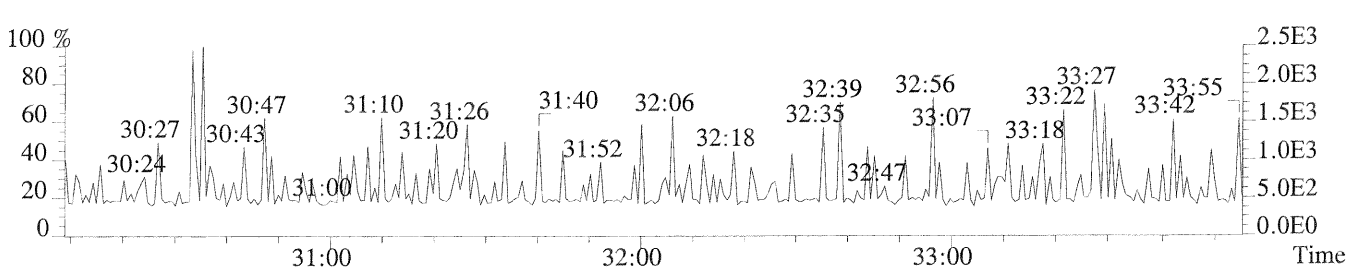
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,52.0,1.00%,F,T)



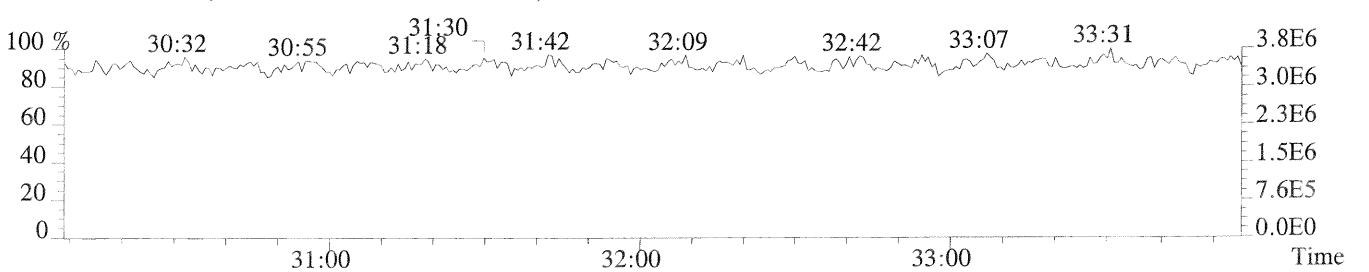
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



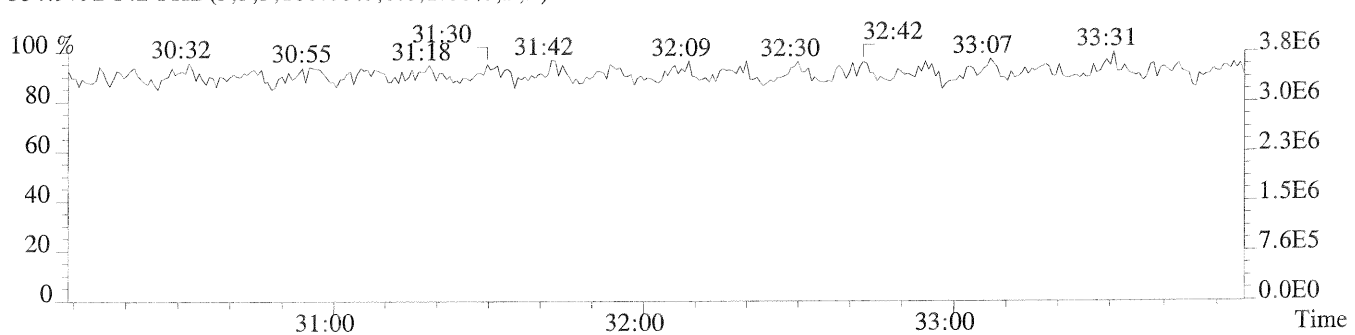
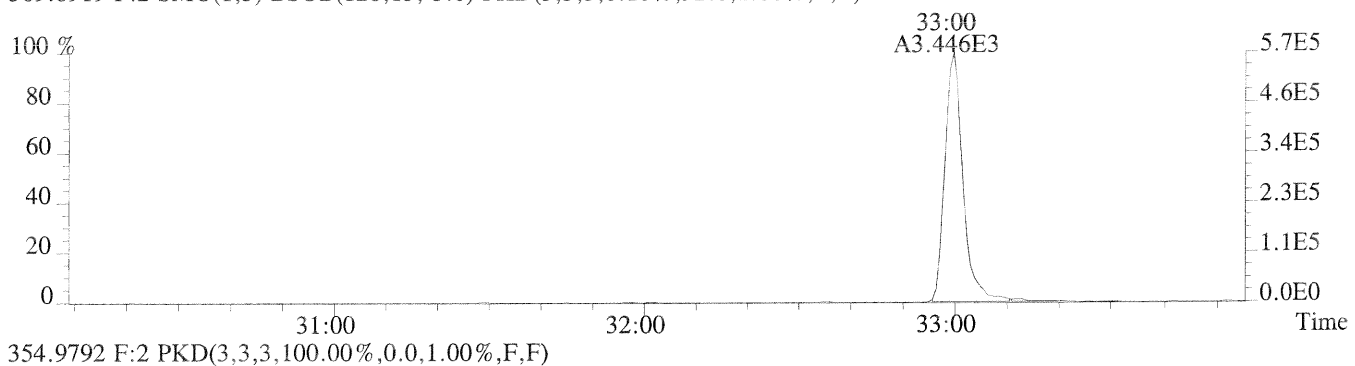
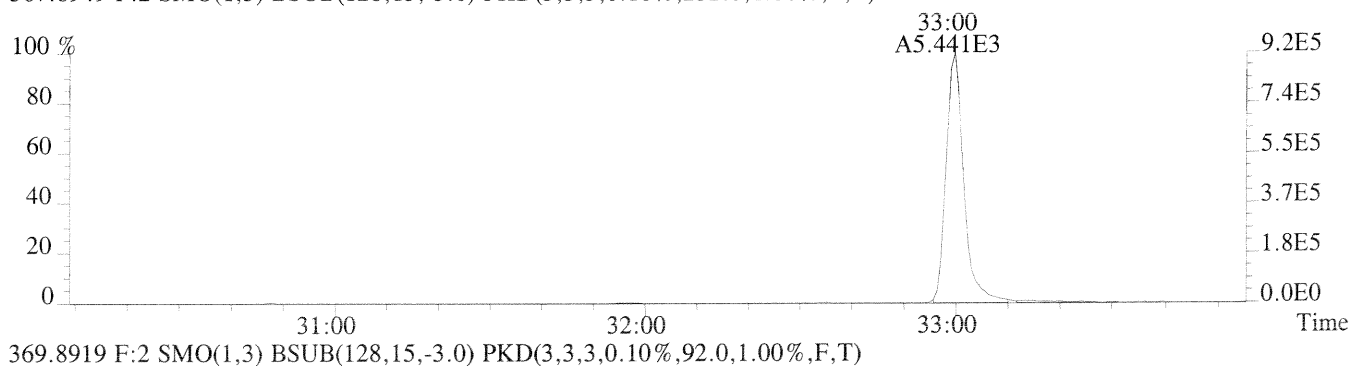
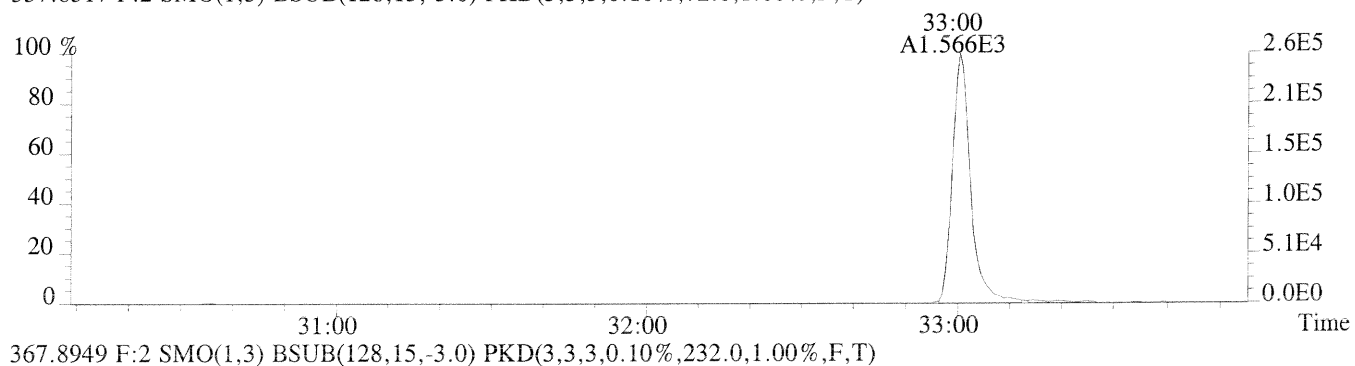
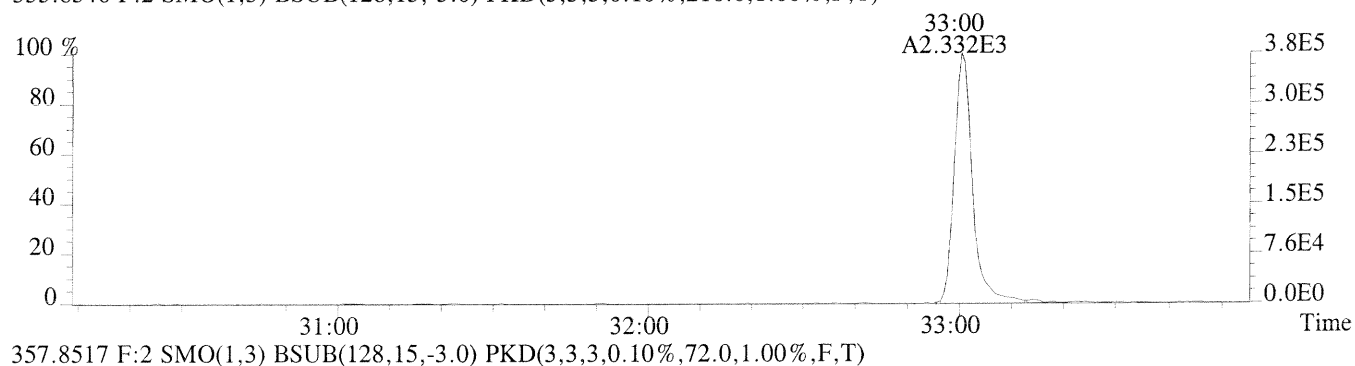
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



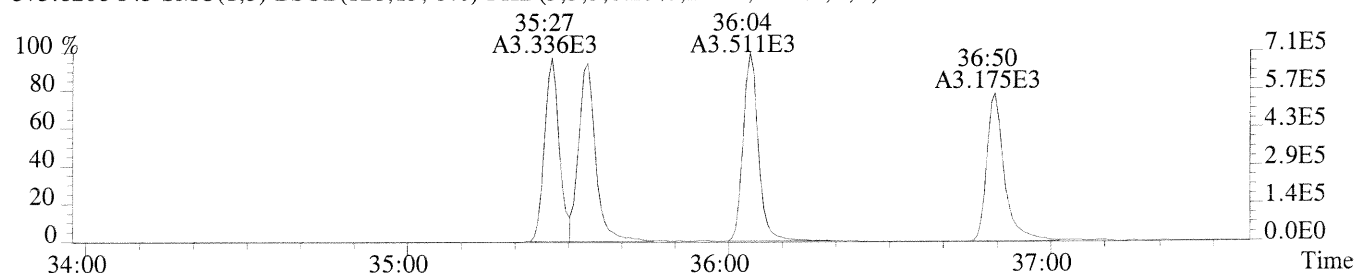
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



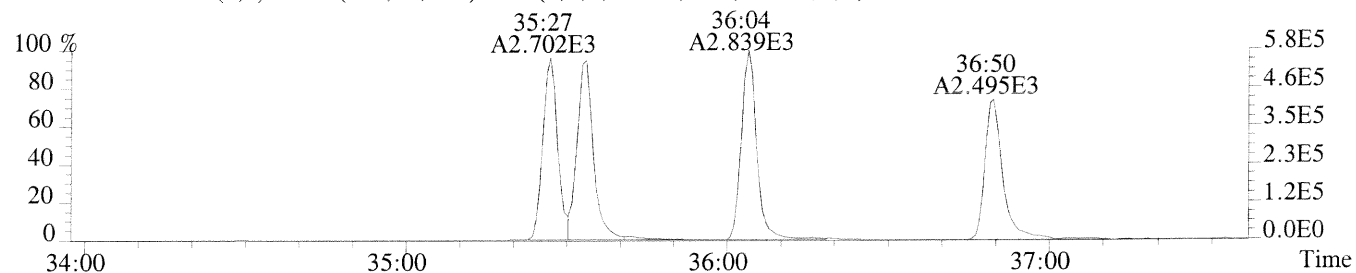
File:P173114 #1-343 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



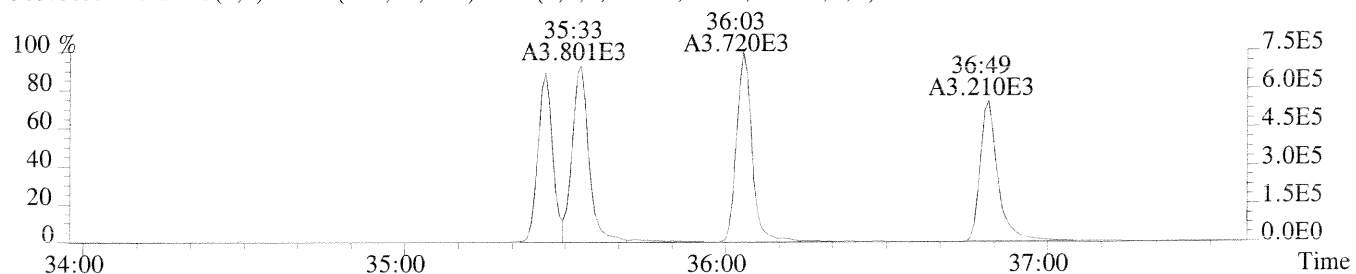
File:P173114 #1-332 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



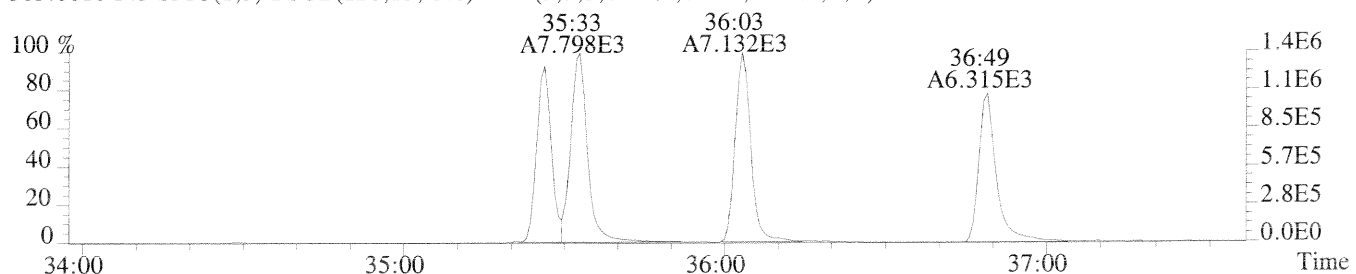
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



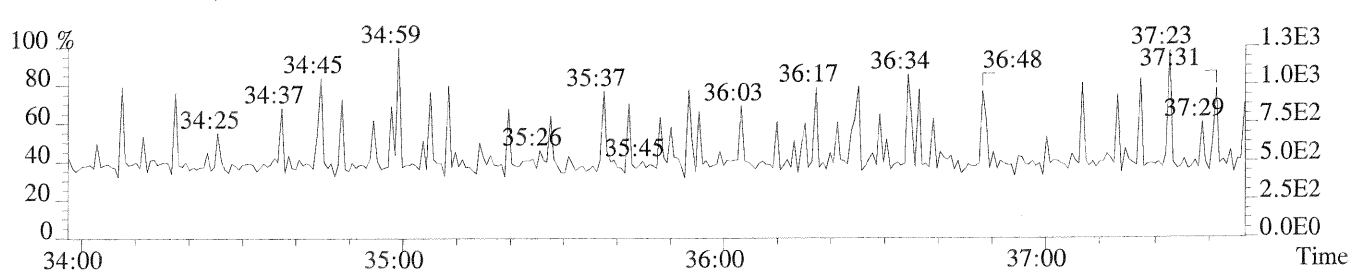
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



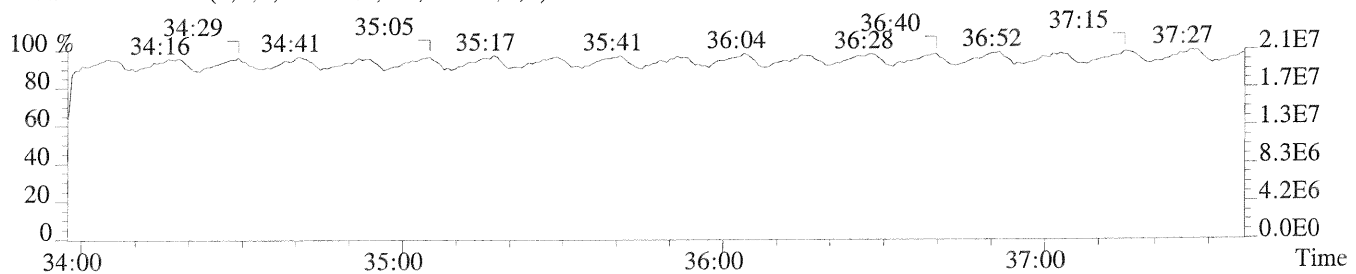
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

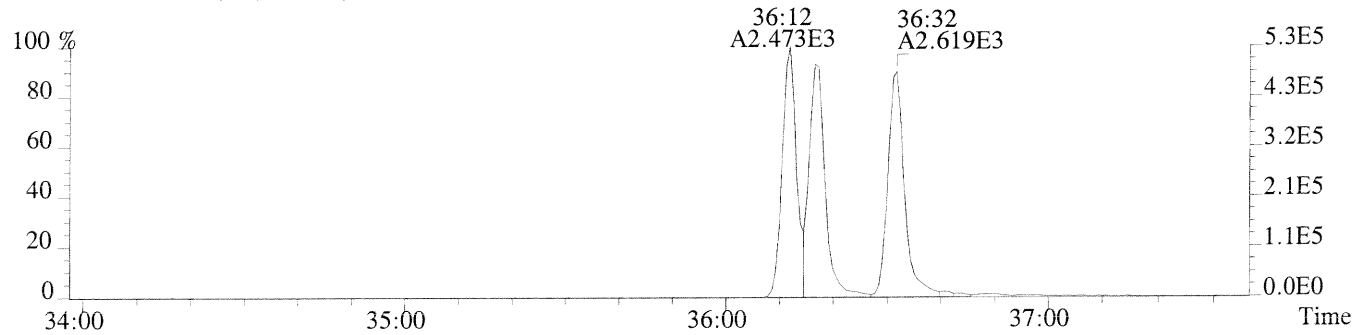


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

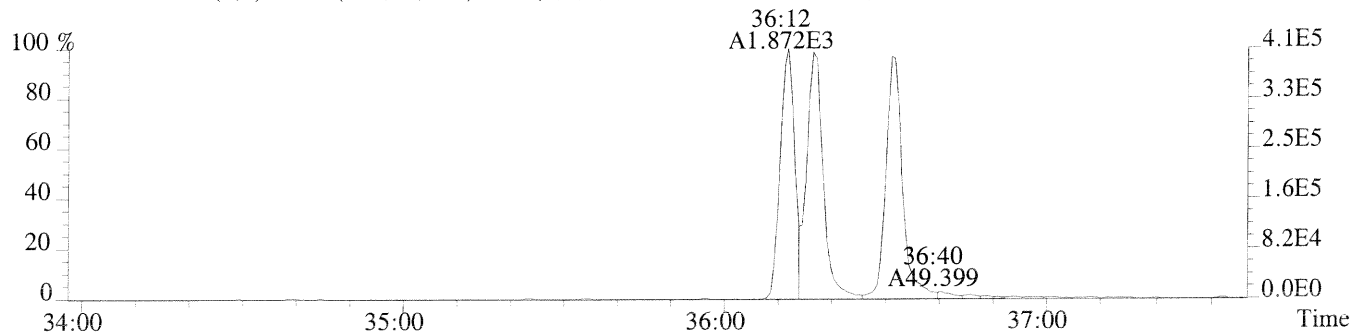


Sample#1 Exp:CS3

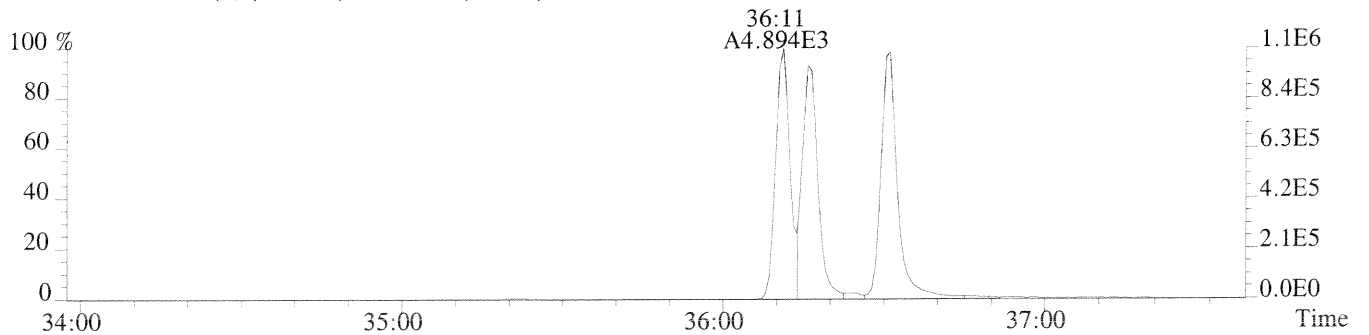
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



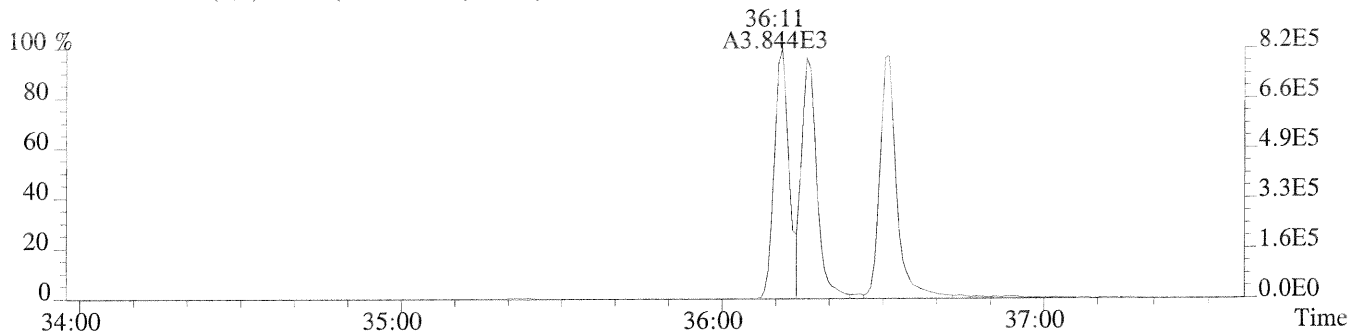
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,128.0,0.40%,F,T)



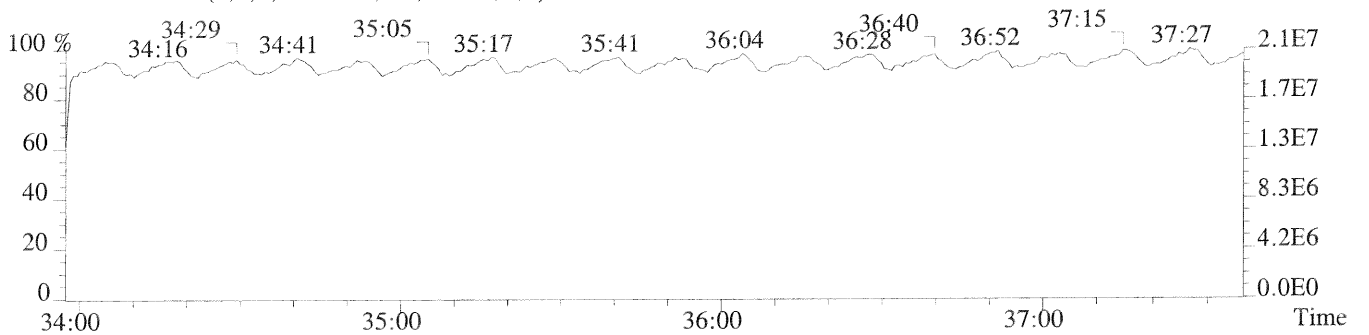
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,152.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.40%,F,T)

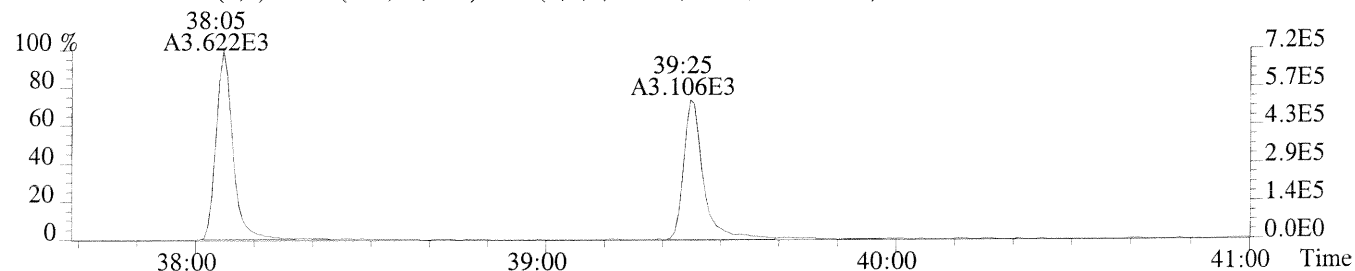


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

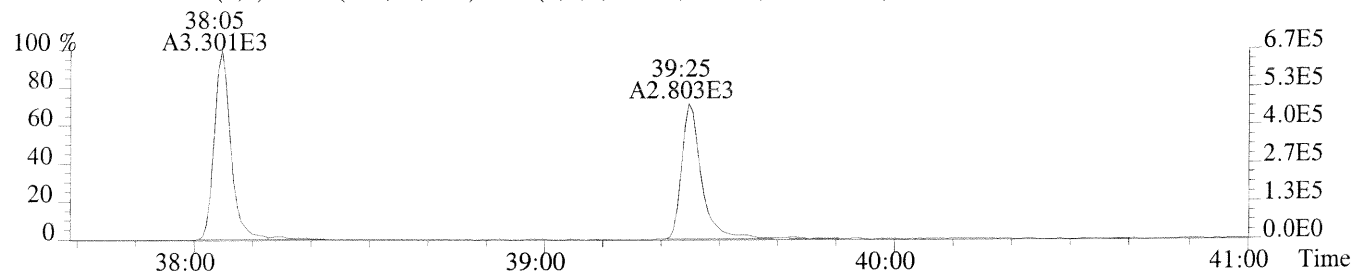


Sample#1 Exp:CS3

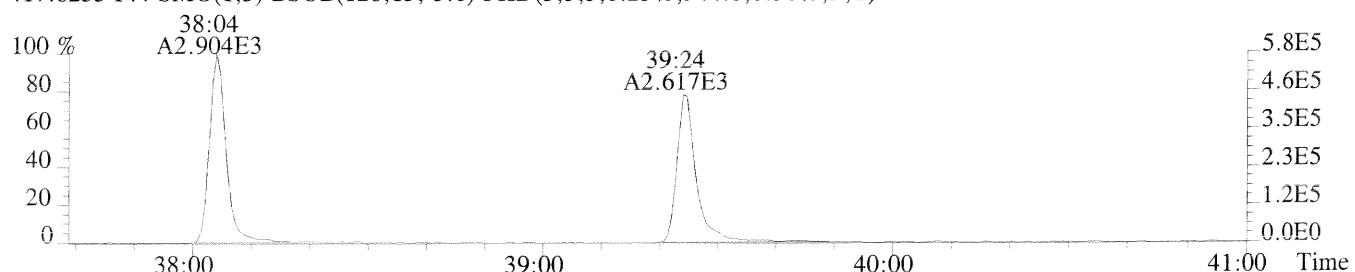
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.50%,F,T)



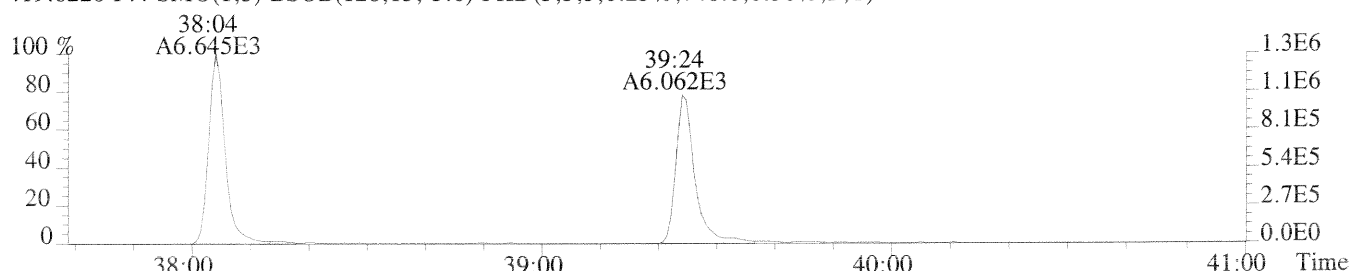
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.50%,F,T)



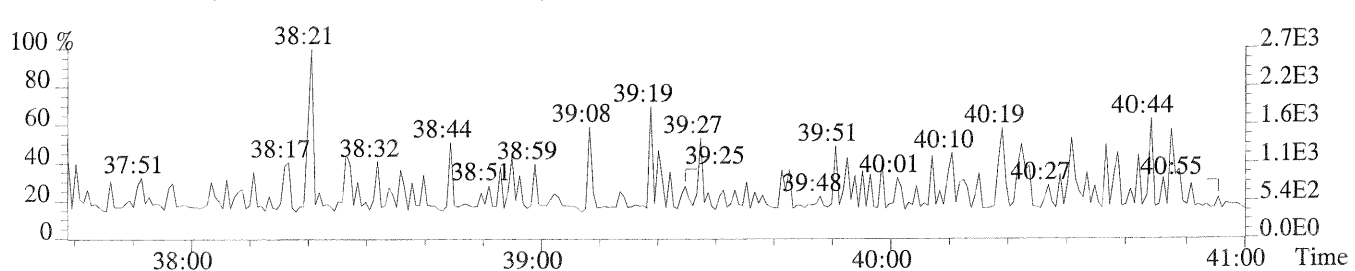
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.50%,F,T)



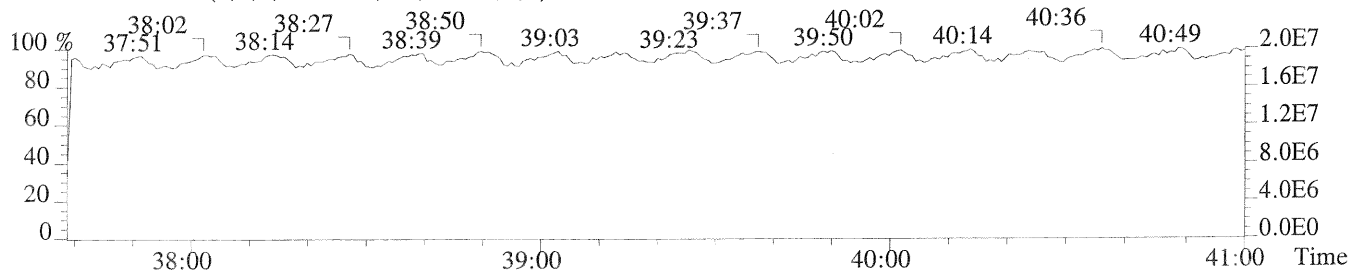
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,748.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

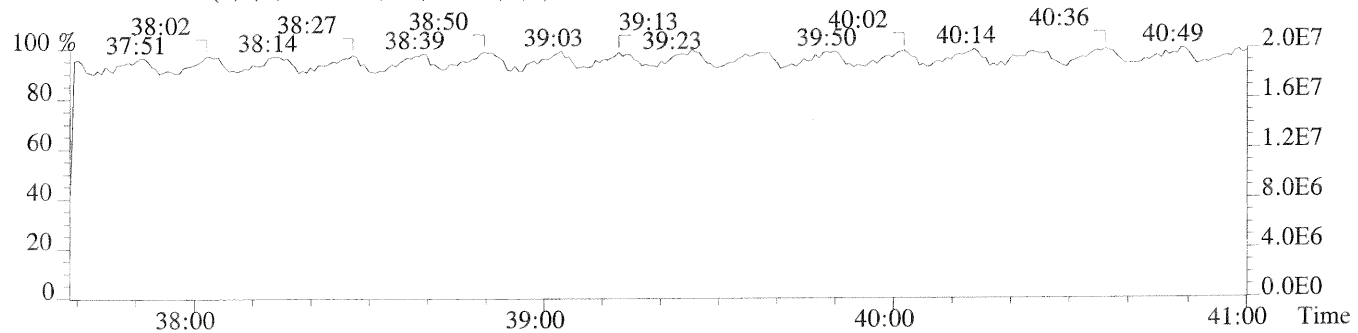
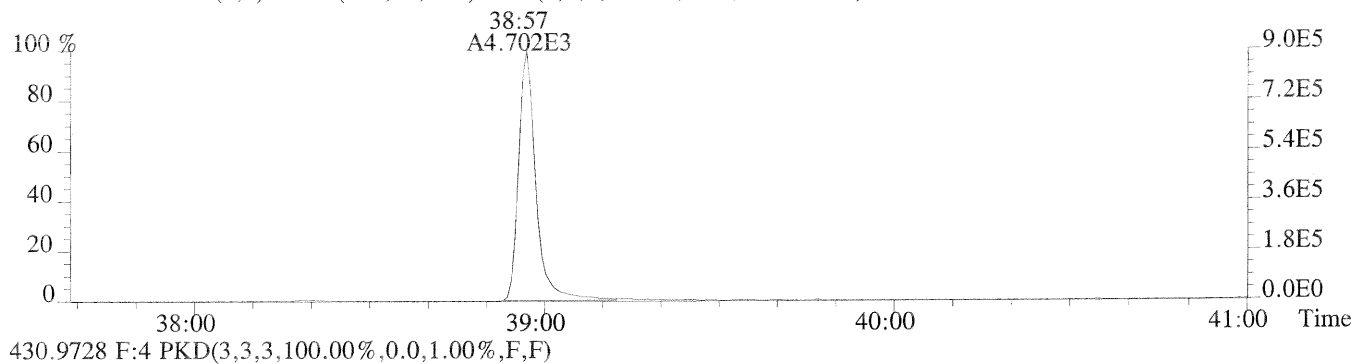
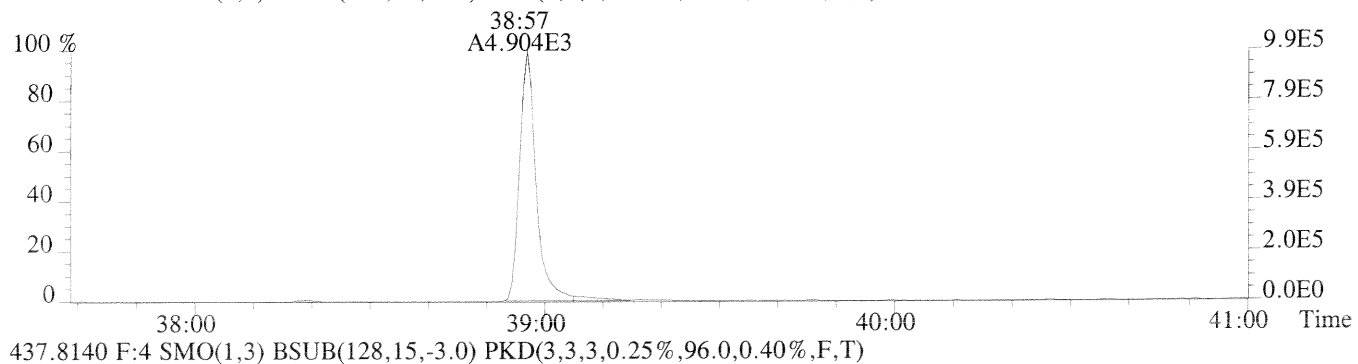
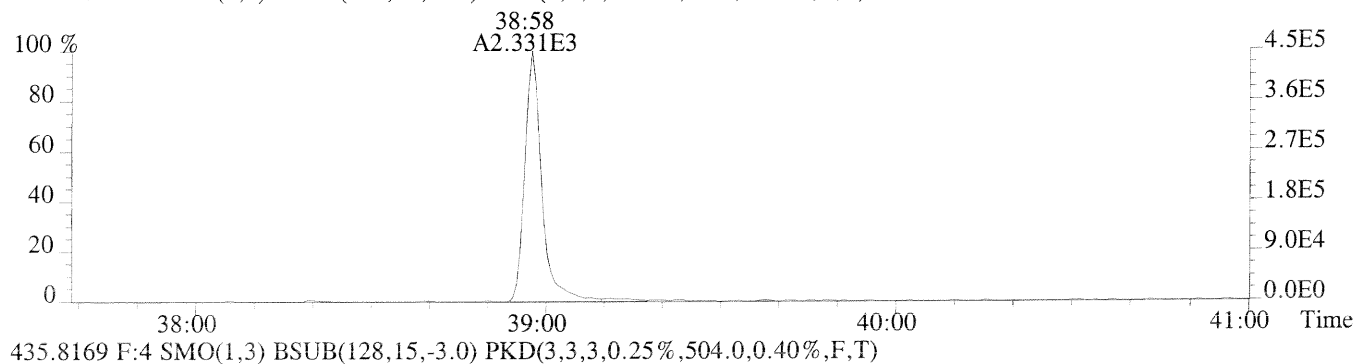
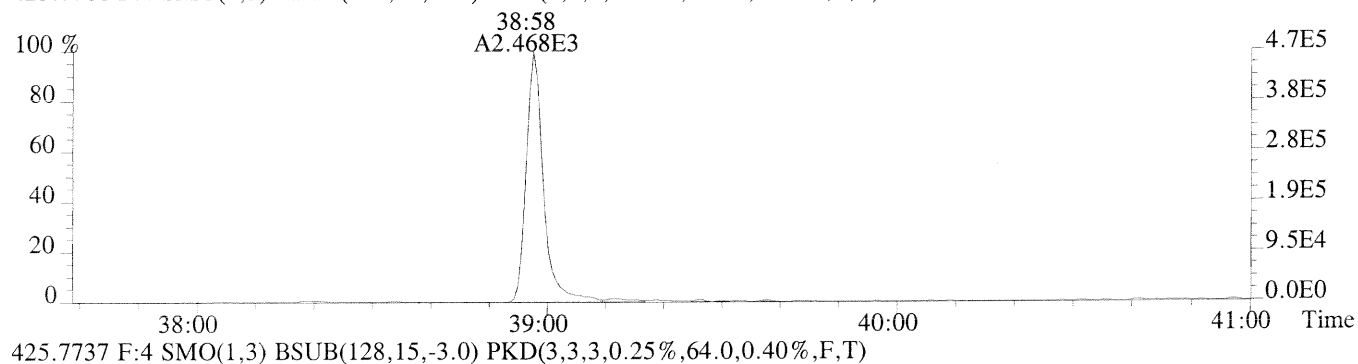


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)





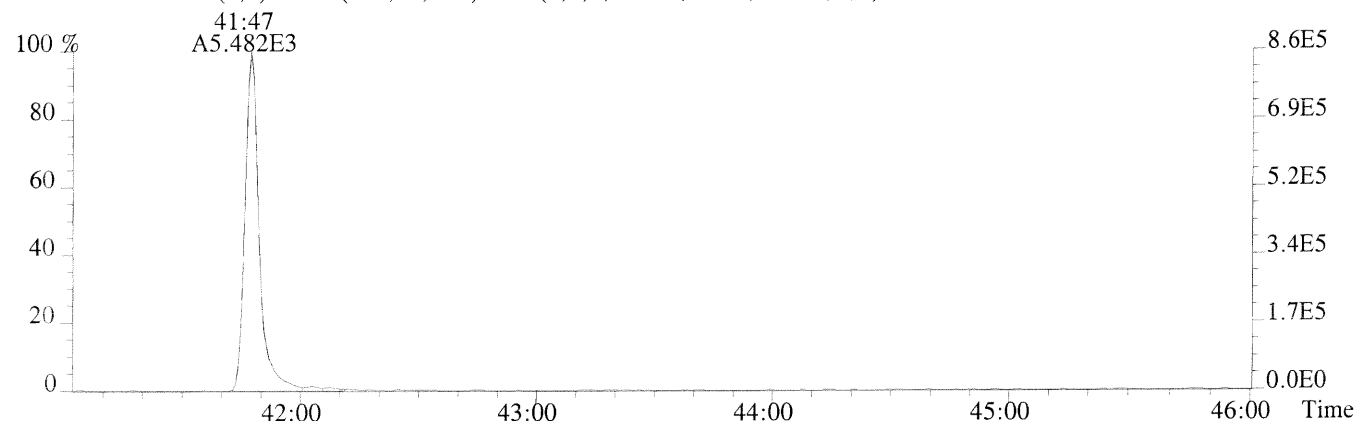
File:P173114 #1-305 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



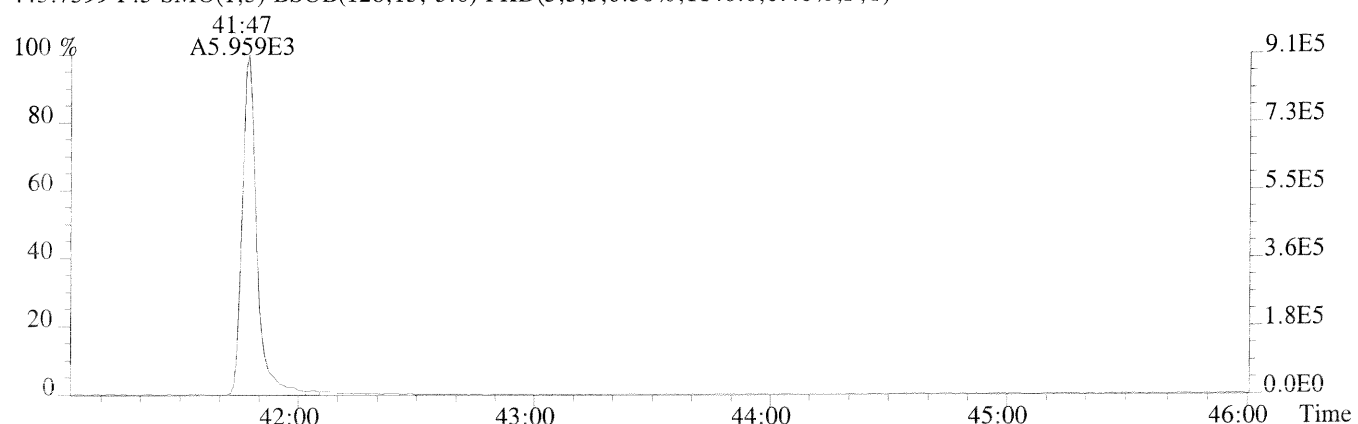
File:P173114 #1-457 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

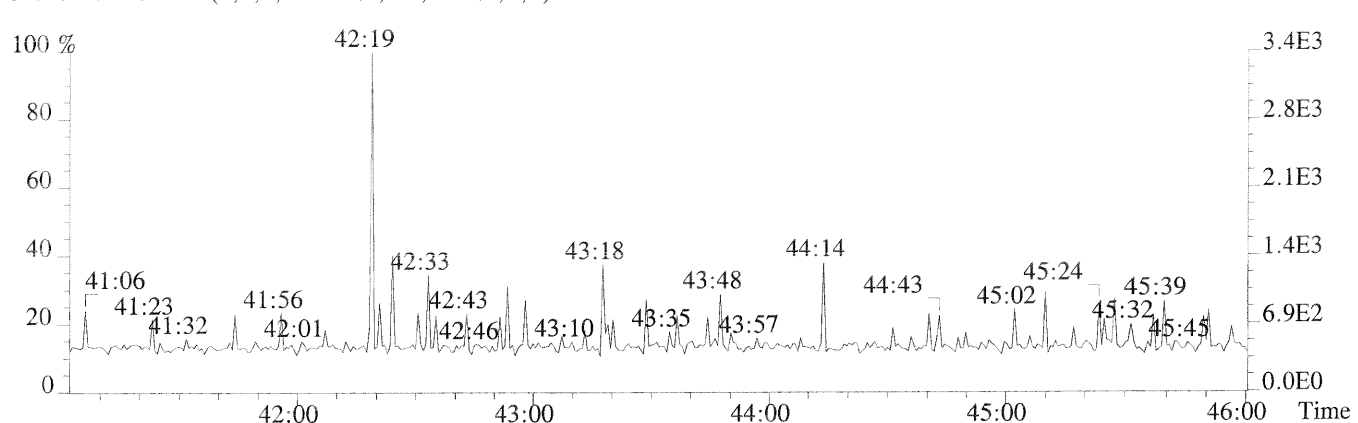
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,784.0,0.40%,F,T)



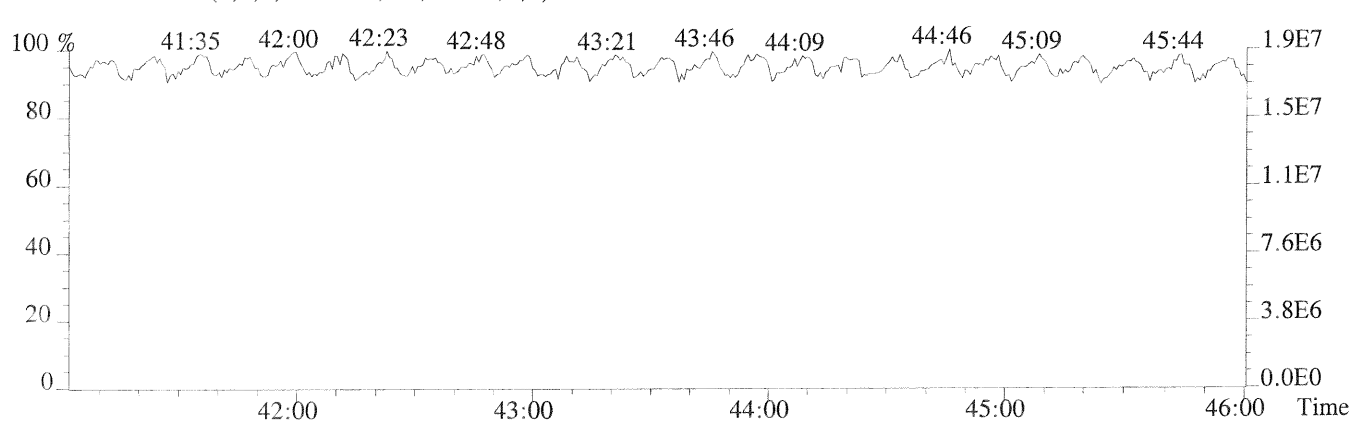
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1140.0,0.40%,F,T)



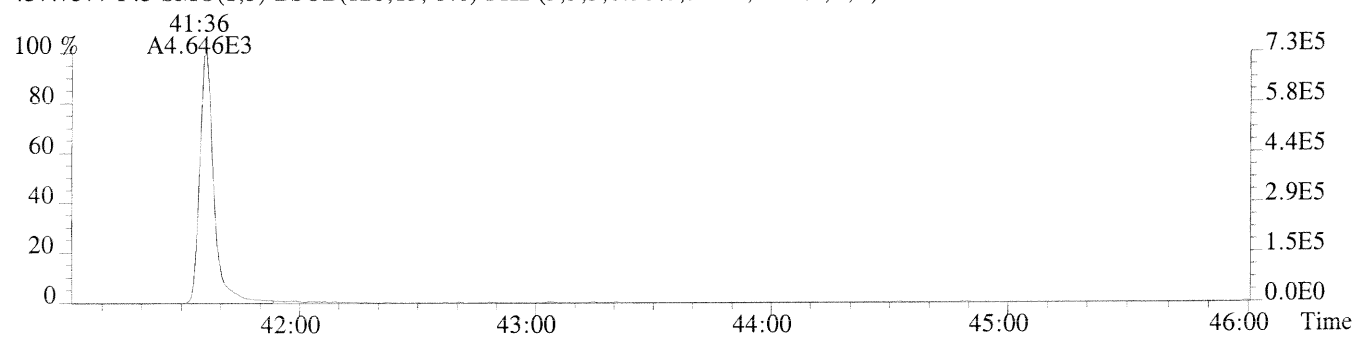
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



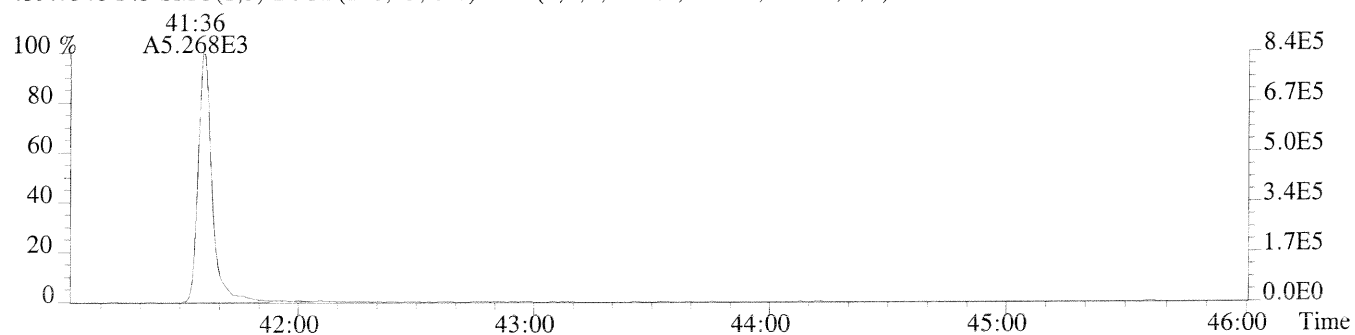
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



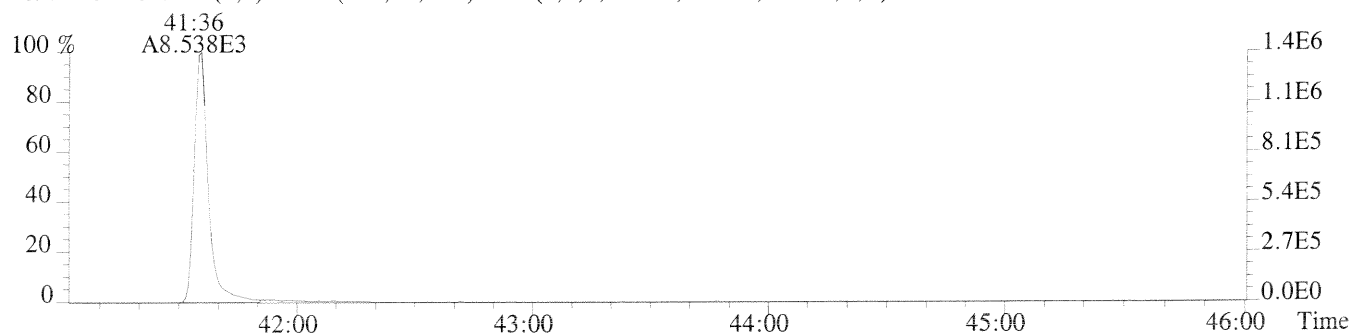
File:P173114 #1-457 Acq:26-AUG-2014 22:38:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
457.7377 F:5 BSUB(128,15,-3.0) PKD(5,3,5,0.30%,572.0,0.40%,F,T)



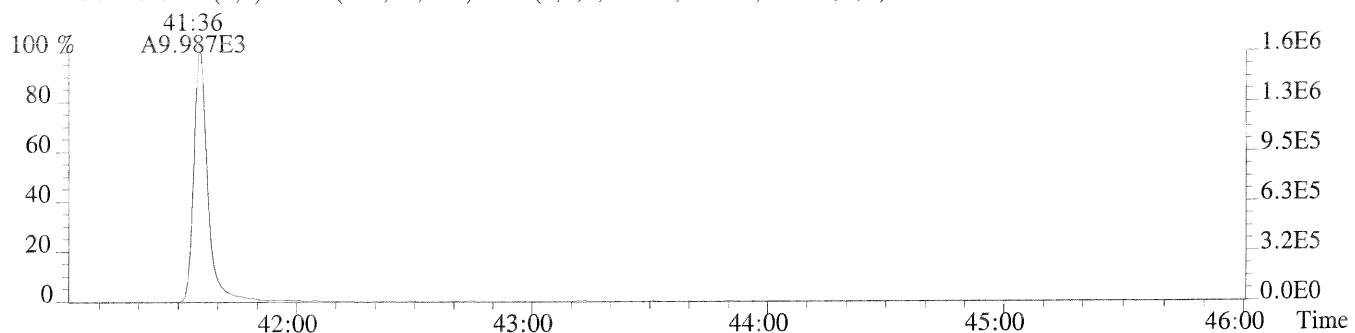
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1652.0,0.40%,F,T)



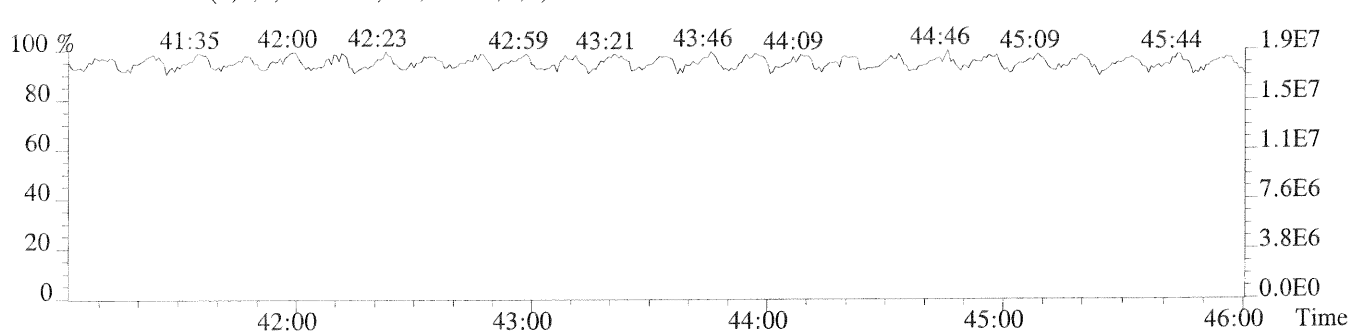
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1220.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1652.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173126

Analysis Date: 27-AUG-14 Time: 08:25:16

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.68	0.65-0.89	10.0	7.8 - 12.9	0.0
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	47	39 - 65	-5.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	48	39 - 64	-4.6
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	49	39 - 64	-2.5
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	49	41 - 61	-1.6
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	49	43 - 58	-2.2
OCDD	M+2/M+4	0.89	0.76-1.02	100	79 - 126	-0.4
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	9.2	8.4 - 12.0	-8.4
1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	49	41 - 60	-2.1
2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	50	41 - 61	-0.2
1,2,3,4,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	51	45 - 56	1.9
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	50	44 - 57	-0.2
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	50	45 - 56	0.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	50	44 - 57	-0.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	54	45 - 55	7.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88-1.20	53	43 - 58	5.3
OCDF	M+2/M+4	0.89	0.76-1.02	98	63 - 159	-2.1

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P173126

Analysis Date: 27-AUG-14 Time: 08:25:16

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	93	82 - 121	-6.6
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	101	62 - 160	1.5
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	97	85 - 117	-3.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	98	85 - 118	-2.3
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	111	72 - 138	10.9
13C-OCDD	M+2/M+4	0.87	0.76-1.02	232	96 - 415	16.0
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	92	71 - 140	-7.7
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	90	76 - 130	-10.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	92	77 - 130	-8.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	89	76 - 131	-11.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	95	70 - 143	-5.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	93	74 - 135	-7.2
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	95	73 - 137	-4.8
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37-0.51	102	78 - 129	2.3
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	103	77 - 129	3.1
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				8.7	7.8 - 12.7	-12.7

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
72675

Run #17 Filename P173126  
Processed: 27-AUG-14 10:45:02

Samp: 1 Inj: 1  
Sample ID: CS3

Acquired: 27-AUG-14 08:25:16

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:23	3.646e+02	4.813e+02	0.76	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	31:47	3.731e+03	2.280e+03	1.64	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	32:44	3.647e+03	2.232e+03	1.63	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	35:27	3.709e+03	2.908e+03	1.28	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	35:33	4.129e+03	3.398e+03	1.22	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	36:04	3.805e+03	3.066e+03	1.24	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	36:49	3.431e+03	2.770e+03	1.24	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	38:05	4.043e+03	3.797e+03	1.06	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	39:25	3.424e+03	3.156e+03	1.09	yes	no	1.324
10 Unk	OCDF	41:48	5.953e+03	6.692e+03	0.89	yes	no	1.307
11 Unk	2,3,7,8-TCDD	28:12	2.986e+02	4.418e+02	0.68	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	33:01	2.651e+03	1.688e+03	1.57	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	36:12	2.580e+03	2.065e+03	1.25	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	36:17	2.796e+03	2.223e+03	1.26	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	36:32	2.942e+03	2.371e+03	1.24	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	38:58	2.731e+03	2.610e+03	1.05	yes	no	1.016
17 Unk	OCDD	41:36	4.996e+03	5.619e+03	0.89	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	27:22	4.348e+03	5.423e+03	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	31:47	7.400e+03	4.670e+03	1.58	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	32:42	7.385e+03	4.680e+03	1.58	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	35:26	3.477e+03	6.983e+03	0.50	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	35:33	4.251e+03	8.550e+03	0.50	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	36:04	3.958e+03	8.024e+03	0.49	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	36:49	3.571e+03	7.144e+03	0.50	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:04	3.088e+03	7.350e+03	0.42	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:25	2.799e+03	6.637e+03	0.42	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	28:12	3.100e+03	4.042e+03	0.77	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	33:00	5.977e+03	3.784e+03	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	36:11	5.228e+03	4.135e+03	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	36:16	5.830e+03	4.565e+03	1.28	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:57	5.588e+03	5.162e+03	1.08	yes	no	0.862
32 IS	13C-OCDD	41:35	9.220e+03	1.054e+04	0.87	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	27:34	3.256e+03	4.032e+03	0.81	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:31	6.309e+03	4.933e+03	1.28	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	28:13	7.153e+02				no	1.125

ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office (713) 266-1599. Fax (713) 266-0130

1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
72675

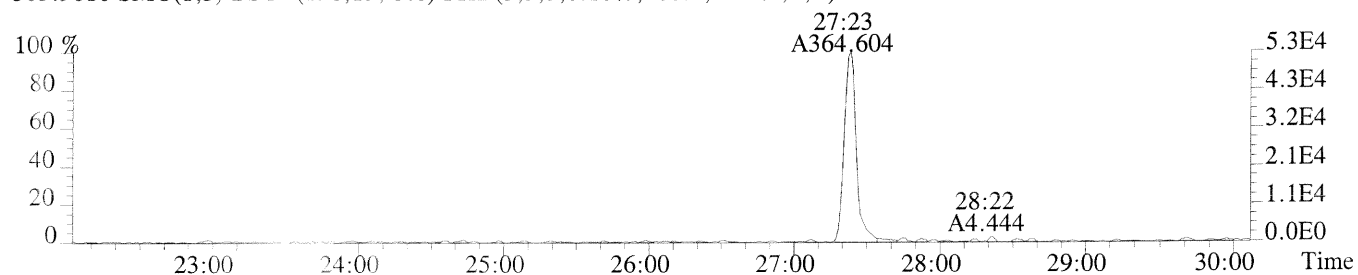
Run #17 Filename P173126 Samp: 1 Inj: 1 Acquired: 27-AUG-14 08:25:16  
Processed: 27-AUG-14 10:45:021 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.33e+04	1.08e+02	4.9e+02	7.13e+04	1.89e+03	3.8e+01
2	1,2,3,7,8-PeCDF	5.89e+05	1.16e+02	5.1e+03	3.57e+05	4.92e+02	7.3e+02
3	2,3,4,7,8-PeCDF	6.42e+05	1.16e+02	5.5e+03	3.90e+05	4.92e+02	7.9e+02
4	1,2,3,4,7,8-HxCDF	7.35e+05	1.16e+02	6.3e+03	5.96e+05	1.24e+02	4.8e+03
5	1,2,3,6,7,8-HxCDF	7.56e+05	1.16e+02	6.5e+03	6.11e+05	1.24e+02	4.9e+03
6	2,3,4,6,7,8-HxCDF	7.47e+05	1.16e+02	6.4e+03	6.04e+05	1.24e+02	4.9e+03
7	1,2,3,7,8,9-HxCDF	5.78e+05	1.16e+02	5.0e+03	4.74e+05	1.24e+02	3.8e+03
8	1,2,3,4,6,7,8-HpCDF	7.89e+05	9.48e+02	8.3e+02	7.46e+05	1.36e+03	5.5e+02
9	1,2,3,4,7,8,9-HpCDF	5.99e+05	9.48e+02	6.3e+02	5.69e+05	1.36e+03	4.2e+02
10	OCDF	8.91e+05	8.08e+02	1.1e+03	1.02e+06	1.11e+03	9.2e+02
11	2,3,7,8-TCDD	4.47e+04	4.04e+02	1.1e+02	7.14e+04	4.00e+02	1.8e+02
12	1,2,3,7,8-PeCDD	4.41e+05	5.96e+02	7.4e+02	2.87e+05	7.60e+01	3.8e+03
13	1,2,3,4,7,8-HxCDD	5.57e+05	6.80e+01	8.2e+03	4.51e+05	3.16e+02	1.4e+03
14	1,2,3,6,7,8-HxCDD	5.42e+05	6.80e+01	8.0e+03	4.20e+05	3.16e+02	1.3e+03
15	1,2,3,7,8,9-HxCDD	5.41e+05	6.80e+01	8.0e+03	4.46e+05	3.16e+02	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	5.16e+05	4.00e+02	1.3e+03	4.78e+05	1.48e+02	3.2e+03
17	OCDD	7.88e+05	1.15e+03	6.8e+02	8.94e+05	1.10e+03	8.1e+02
18	13C-2,3,7,8-TCDF	6.34e+05	5.24e+02	1.2e+03	8.05e+05	5.08e+02	1.6e+03
19	13C-1,2,3,7,8-PeCDF	1.21e+06	4.00e+01	3.0e+04	7.51e+05	2.36e+02	3.2e+03
20	13C-2,3,4,7,8-PeCDF	1.30e+06	4.00e+01	3.2e+04	8.12e+05	2.36e+02	3.4e+03
21	13C-1,2,3,4,7,8-HxCDF	7.32e+05	1.00e+02	7.3e+03	1.43e+06	6.52e+02	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	7.79e+05	1.00e+02	7.8e+03	1.55e+06	6.52e+02	2.4e+03
23	13C-2,3,4,6,7,8-HxCDF	7.93e+05	1.00e+02	7.9e+03	1.60e+06	6.52e+02	2.4e+03
24	13C-1,2,3,7,8,9-HxCDF	6.10e+05	1.00e+02	6.1e+03	1.27e+06	6.52e+02	1.9e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.13e+05	1.01e+03	6.1e+02	1.44e+06	8.16e+02	1.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.98e+05	1.01e+03	4.9e+02	1.17e+06	8.16e+02	1.4e+03
27	13C-2,3,7,8-TCDD	4.89e+05	2.76e+03	1.8e+02	6.34e+05	9.72e+02	6.5e+02
28	13C-1,2,3,7,8-PeCDD	1.01e+06	7.44e+02	1.4e+03	6.43e+05	6.80e+01	9.5e+03
29	13C-1,2,3,4,7,8-HxCDD	1.14e+06	5.32e+02	2.1e+03	9.09e+05	4.88e+02	1.9e+03
30	13C-1,2,3,6,7,8-HxCDD	1.11e+06	5.32e+02	2.1e+03	8.74e+05	4.88e+02	1.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.04e+06	4.88e+02	2.1e+03	9.53e+05	8.80e+01	1.1e+04
32	13C-OCDD	1.47e+06	1.91e+03	7.7e+02	1.66e+06	2.92e+03	5.7e+02
33	13C-1,2,3,4-TCDD	5.43e+05	2.76e+03	2.0e+02	6.56e+05	9.72e+02	6.8e+02
34	13C-1,2,3,7,8,9-HxCDD	1.19e+06	5.32e+02	2.2e+03	9.27e+05	4.88e+02	1.9e+03
35	37Cl-2,3,7,8-TCDD	1.11e+05	6.28e+02	1.8e+02			

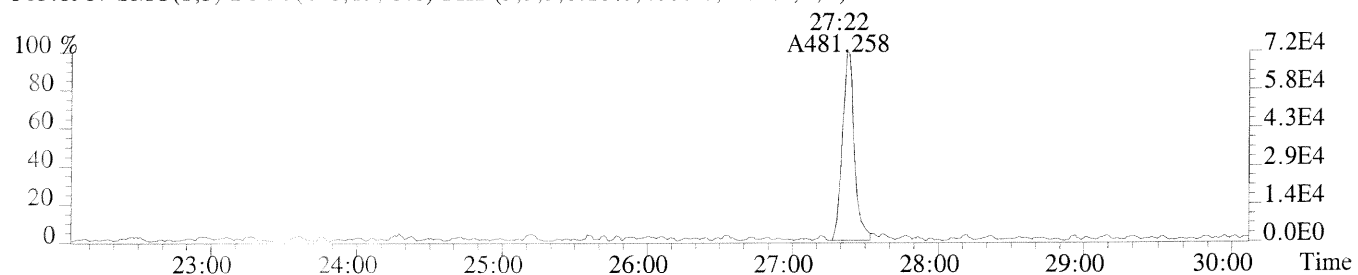
ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office: (713)266-1599. Fax: (713)266-0130

Sample#1 Exp:CS3

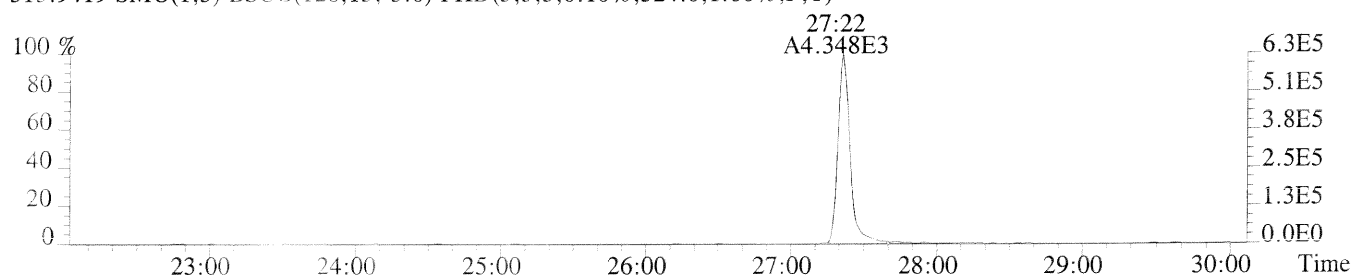
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,T)



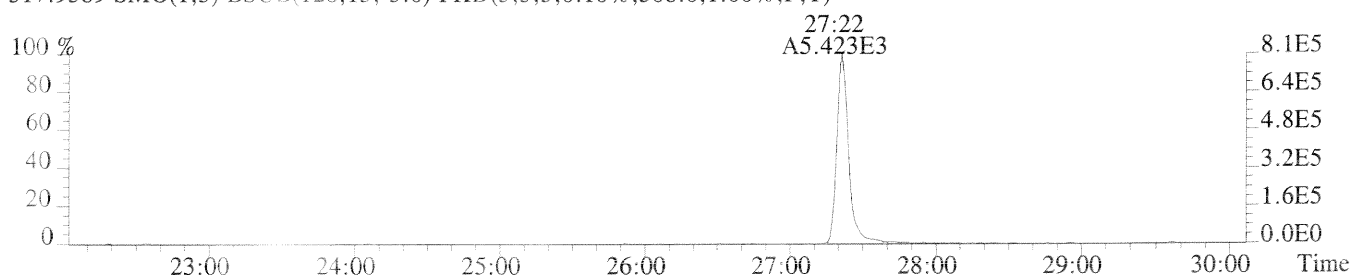
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1888.0,1.00%,F,T)



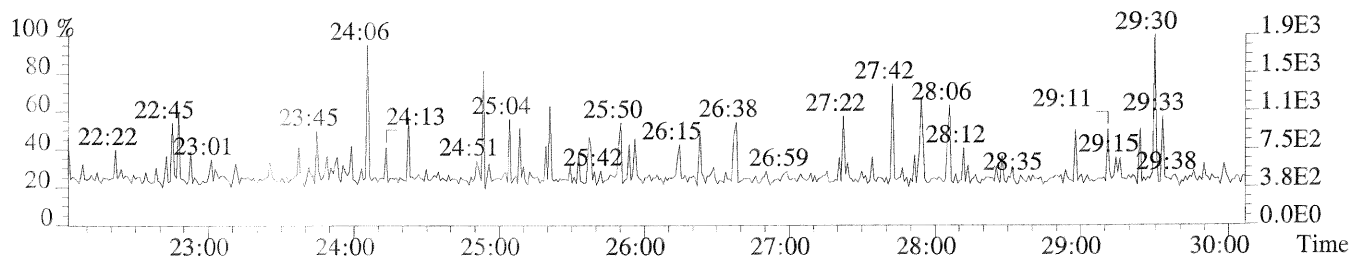
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



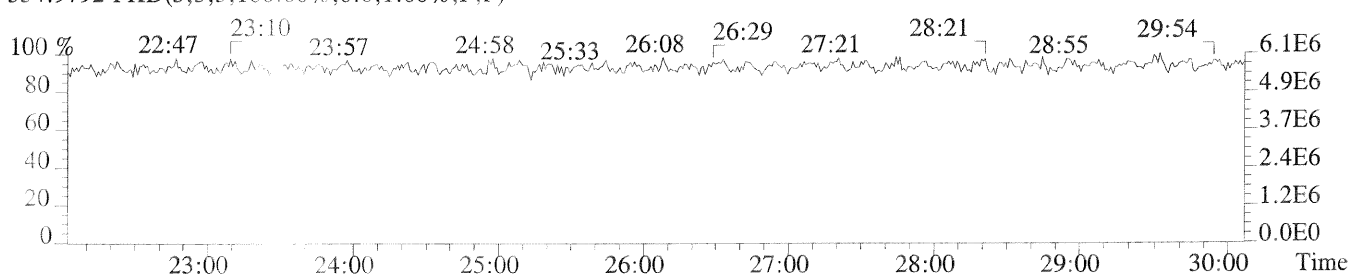
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



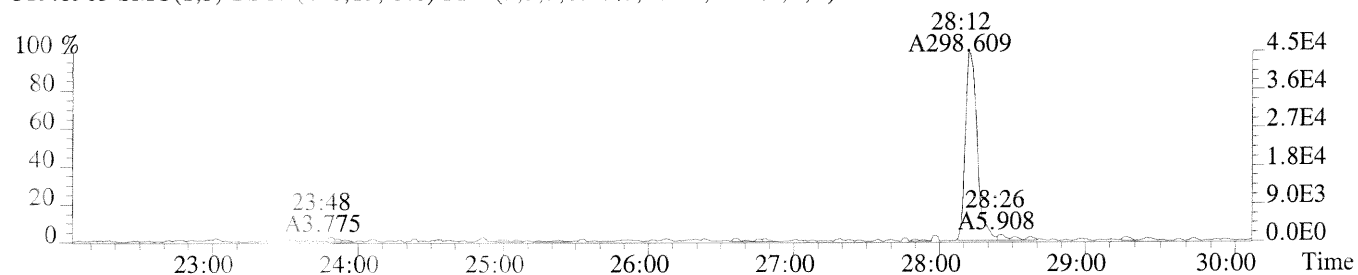
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



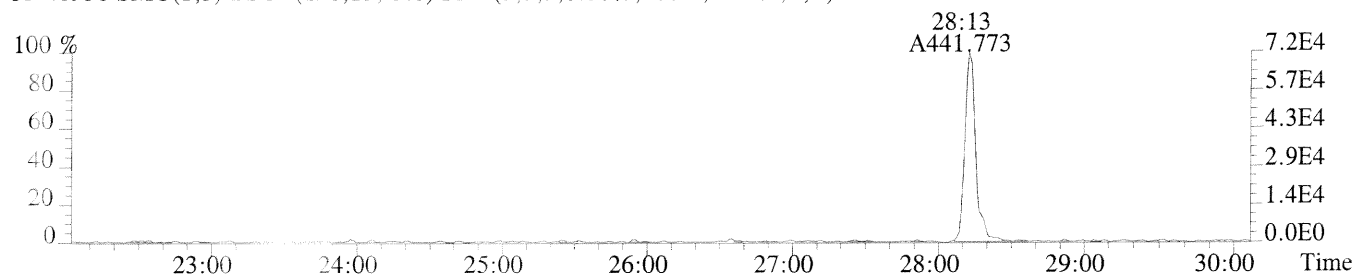


Sample#1 Exp:CS3

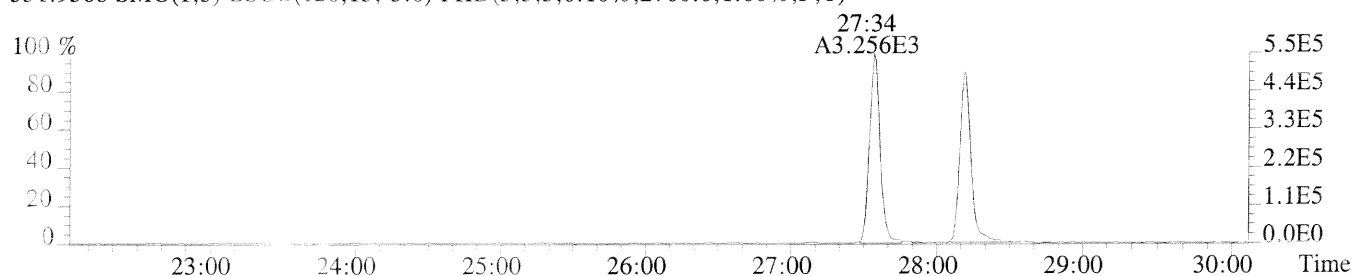
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,404.0,1.00%,F,T)



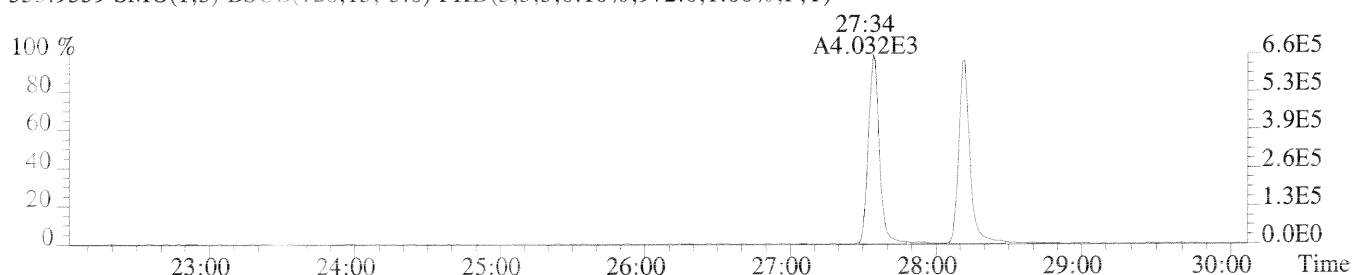
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,T)



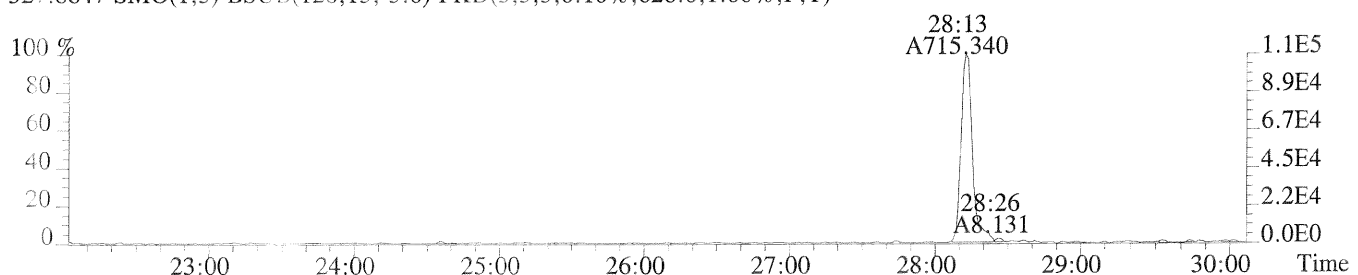
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2760.0,1.00%,F,T)



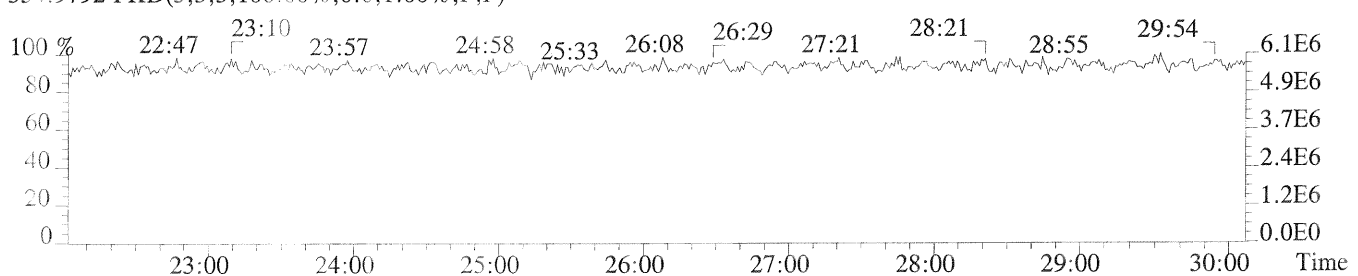
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,T)



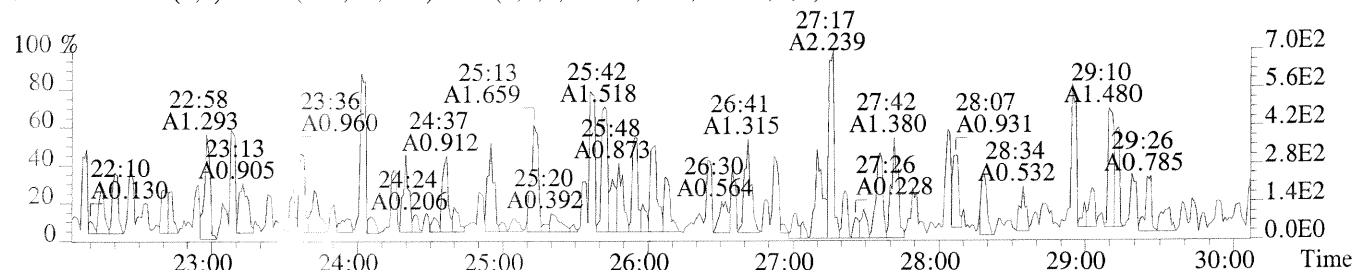
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



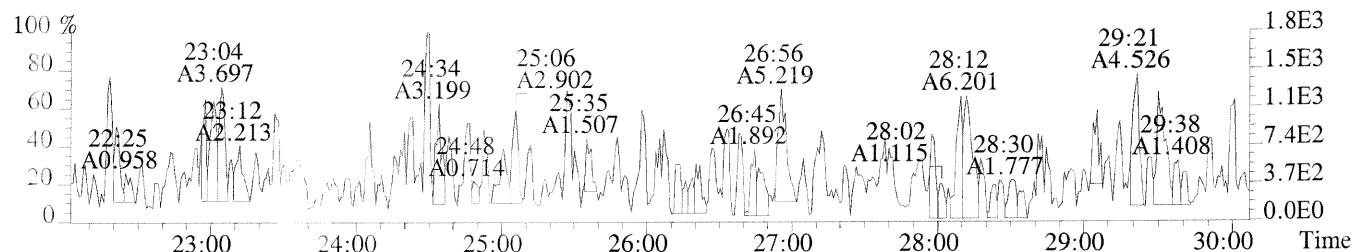
File:P173126 #1-579 Acq:27-AUG-2014 08:25:16 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

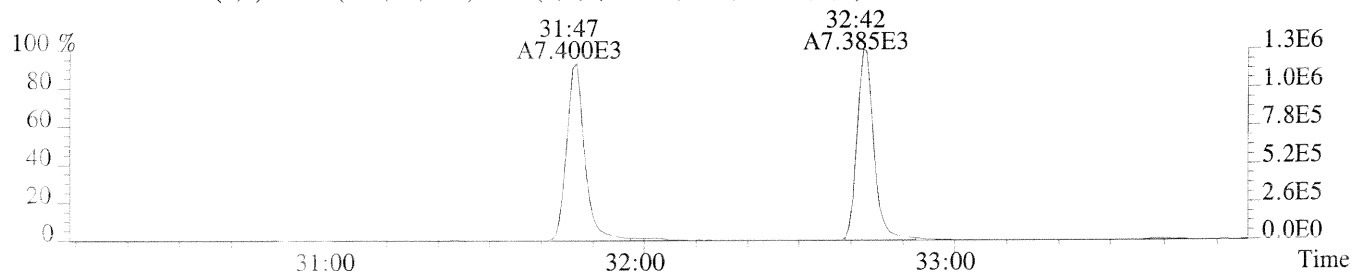
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



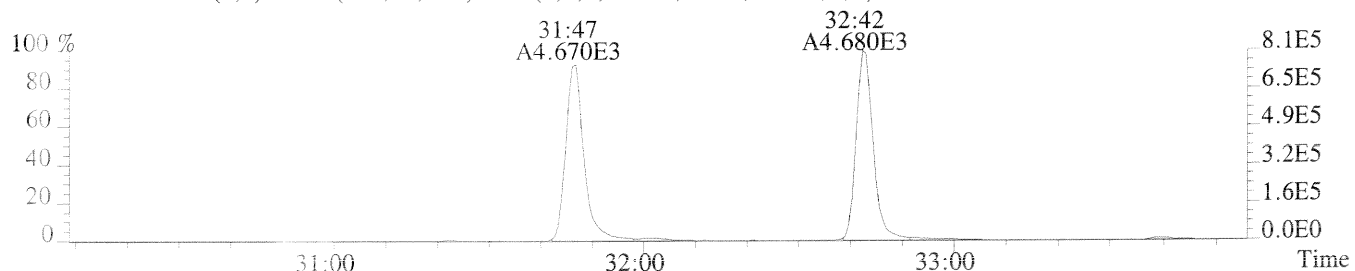
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



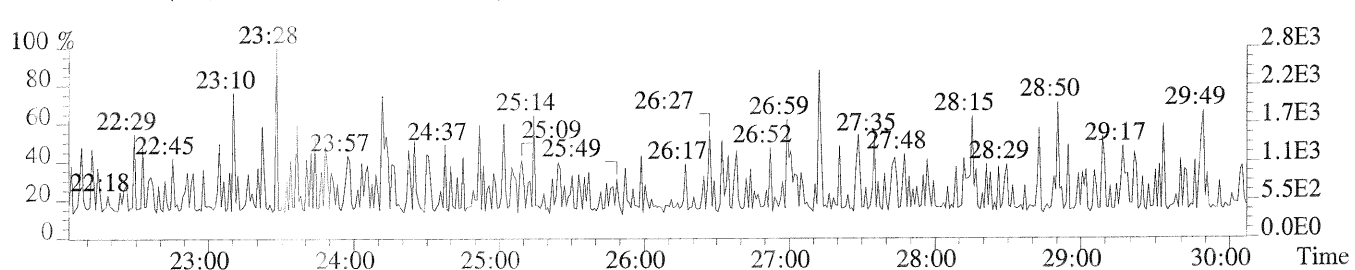
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



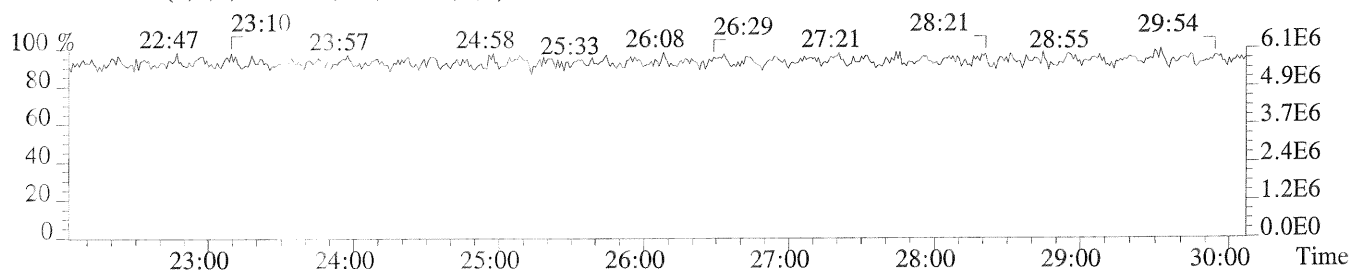
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



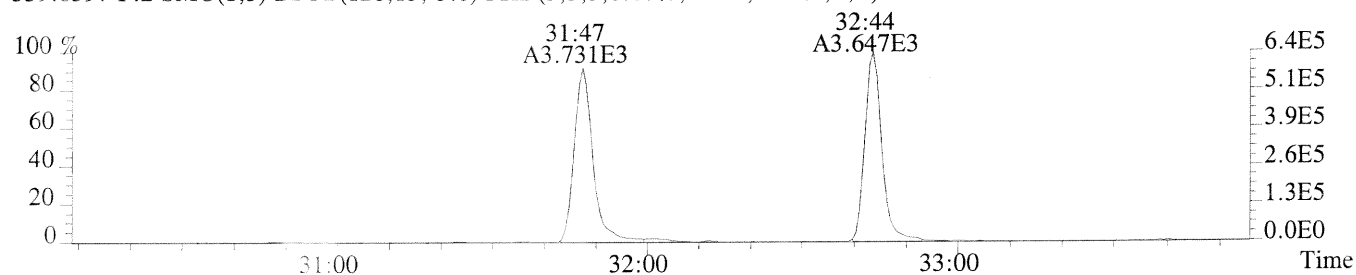
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



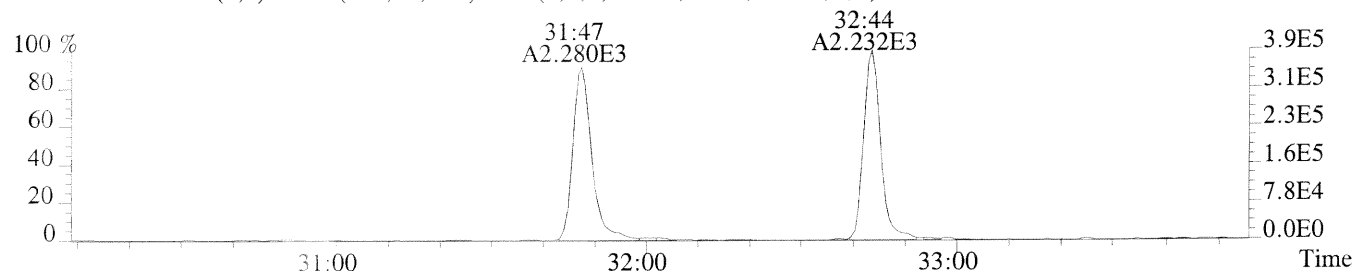
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



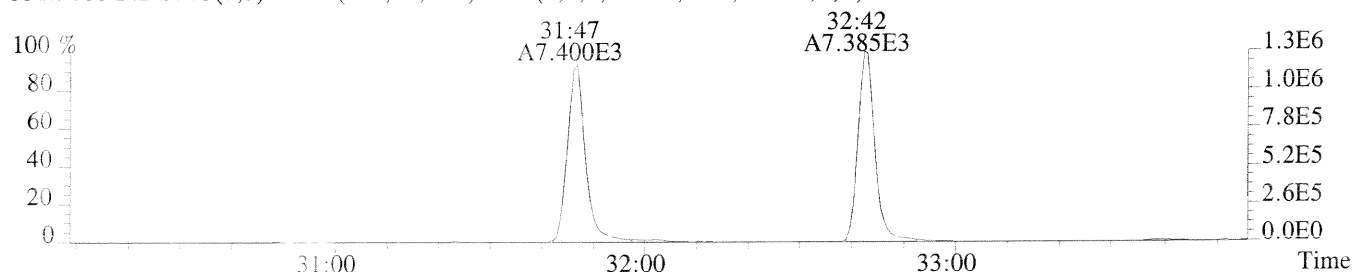
File: P173126 #1-344 Acq: 27-AUG-2014 08:25:16 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: CS3  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,116.0,1.00%,F,T)



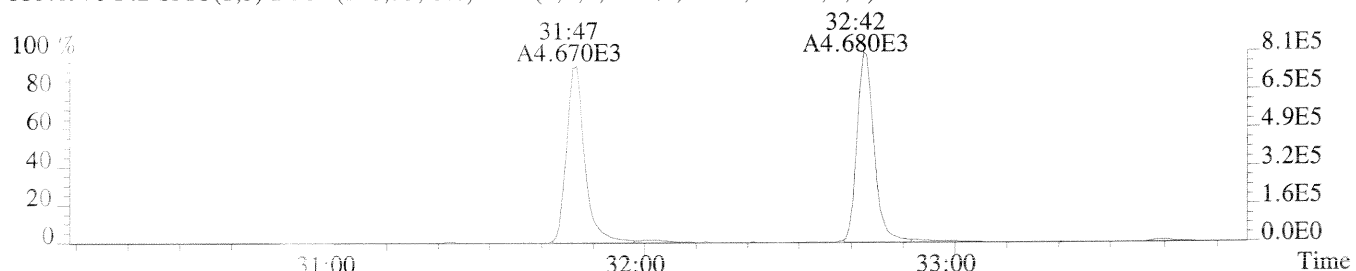
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



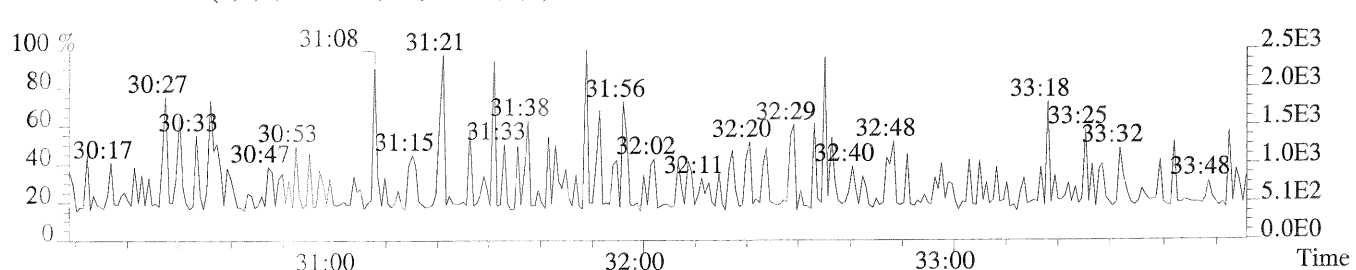
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



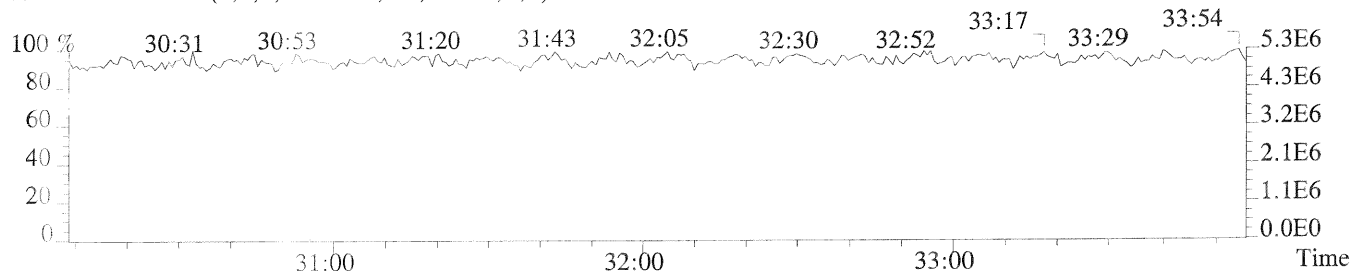
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

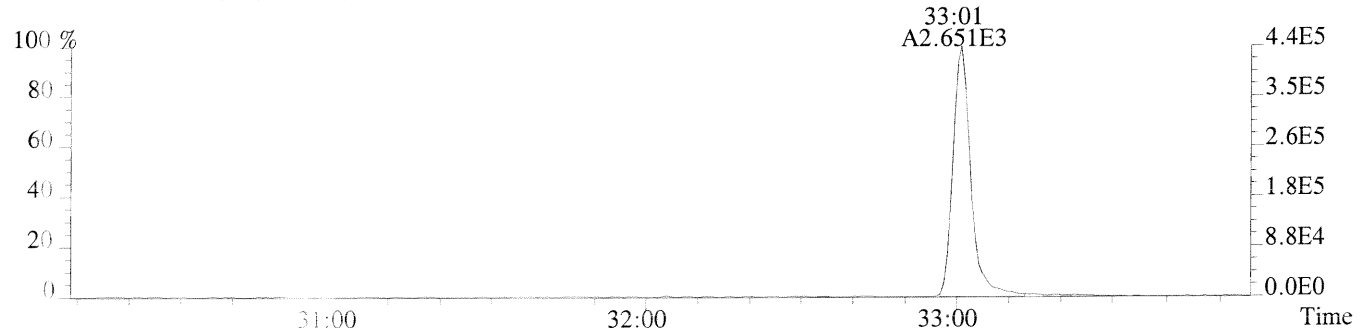


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

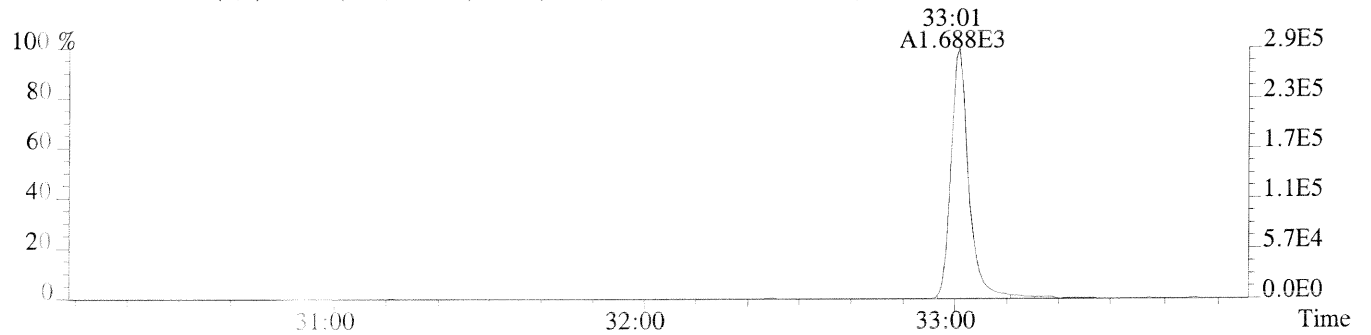


Sample#1 Exp:CS3

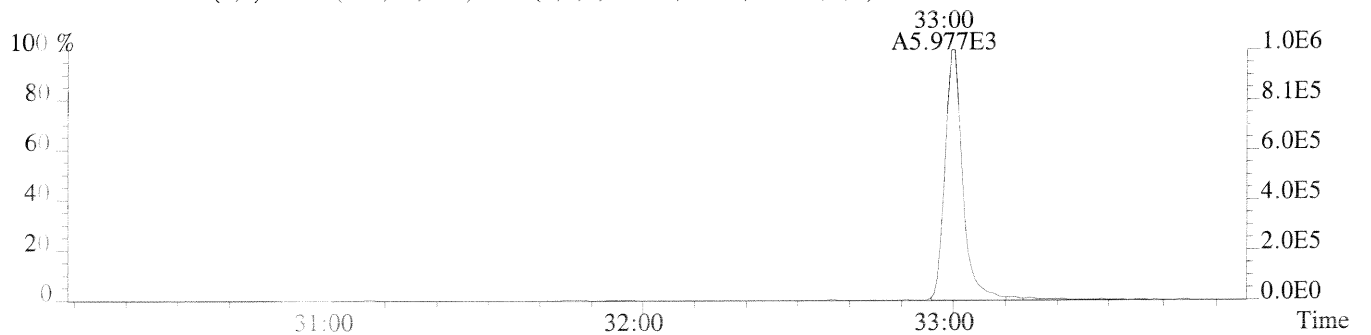
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



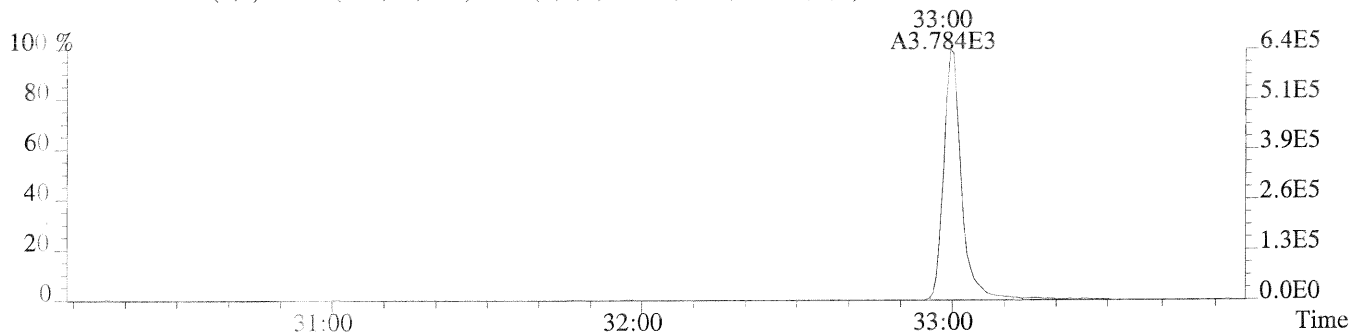
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)



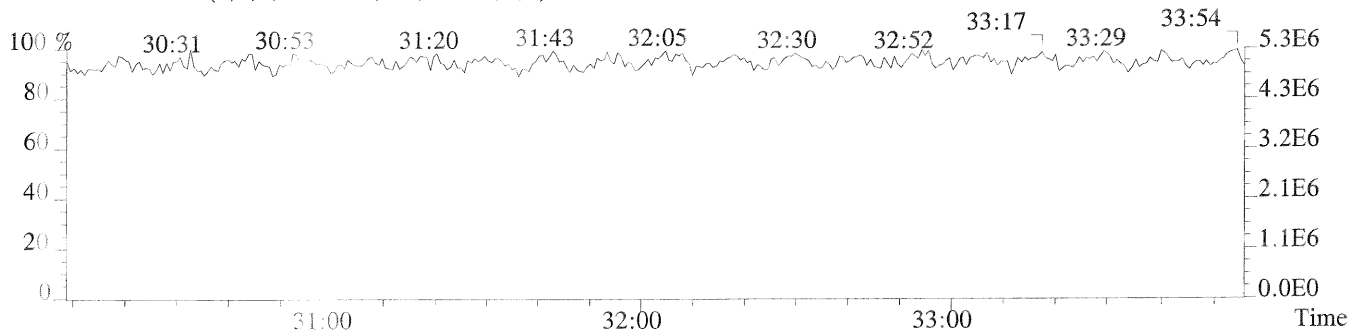
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



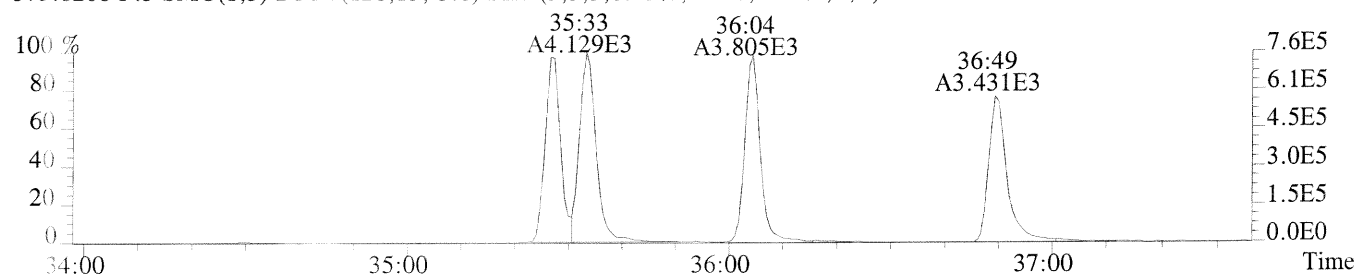
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,T)



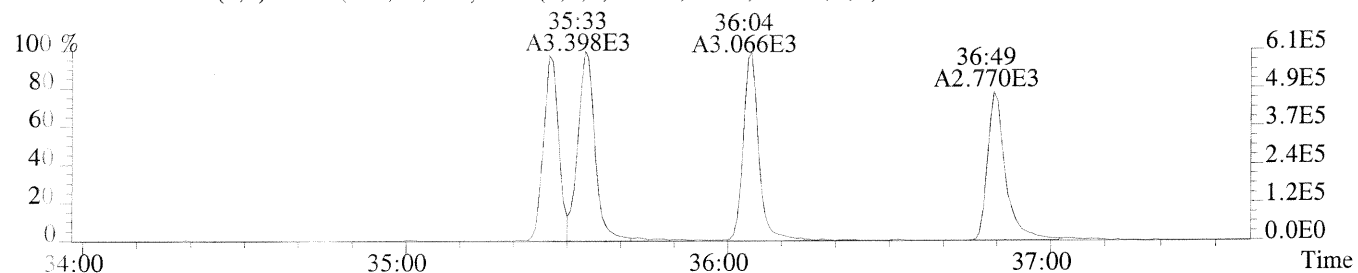
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



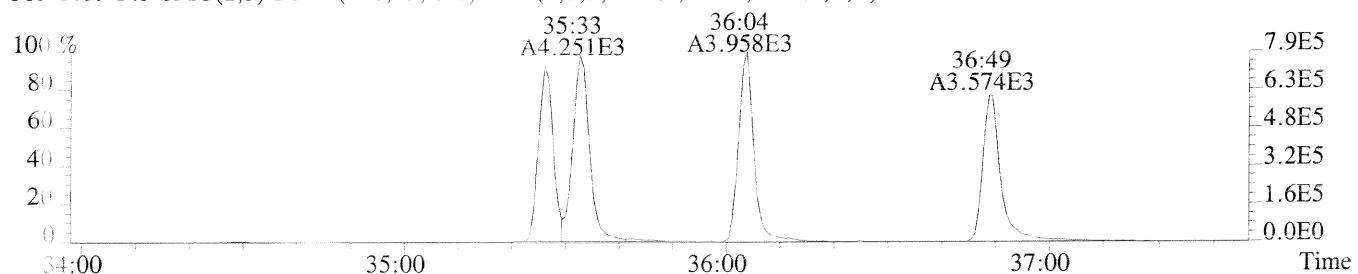
File:P173126 #1-331 Acq:27-AUG-2014 08:25:16 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,T)



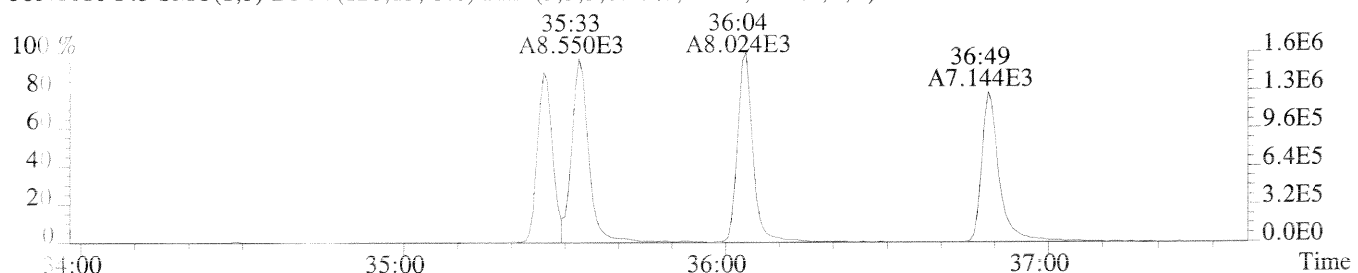
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,124.0,0.40%,F,T)



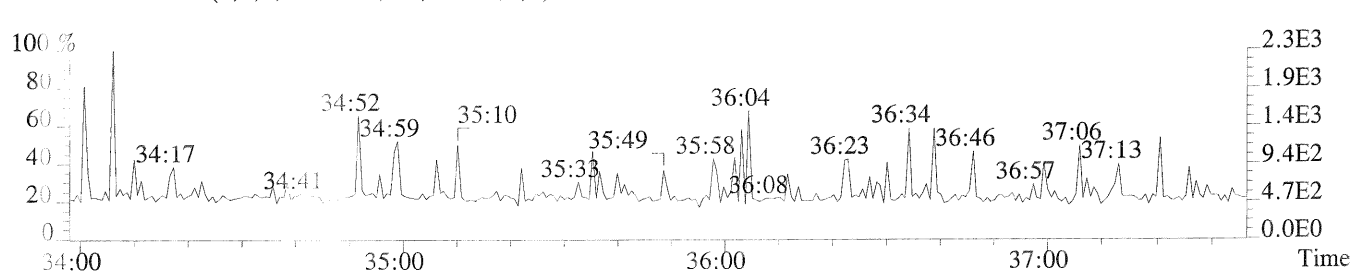
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,T)



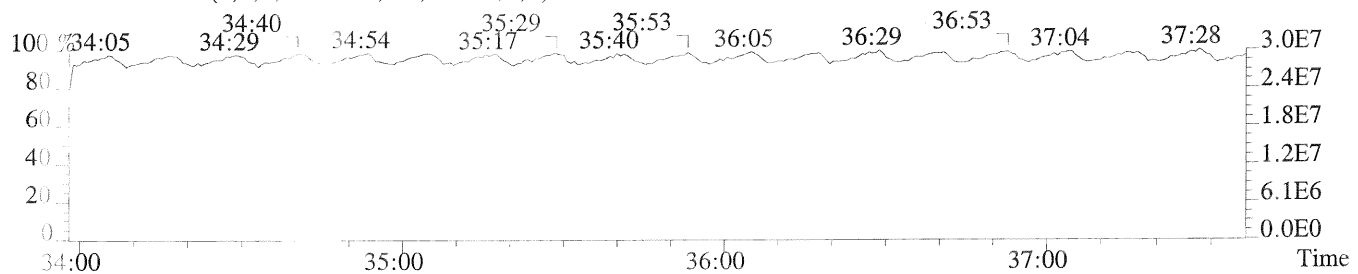
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,652.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

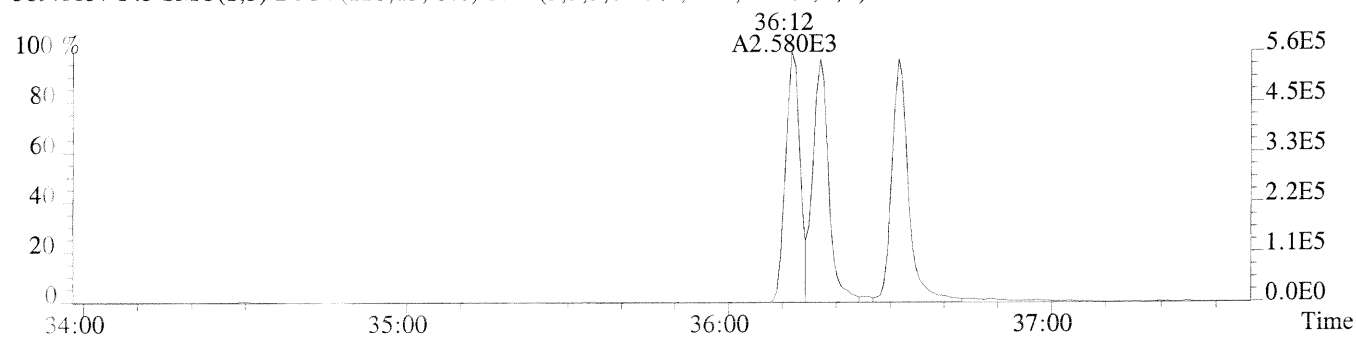


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

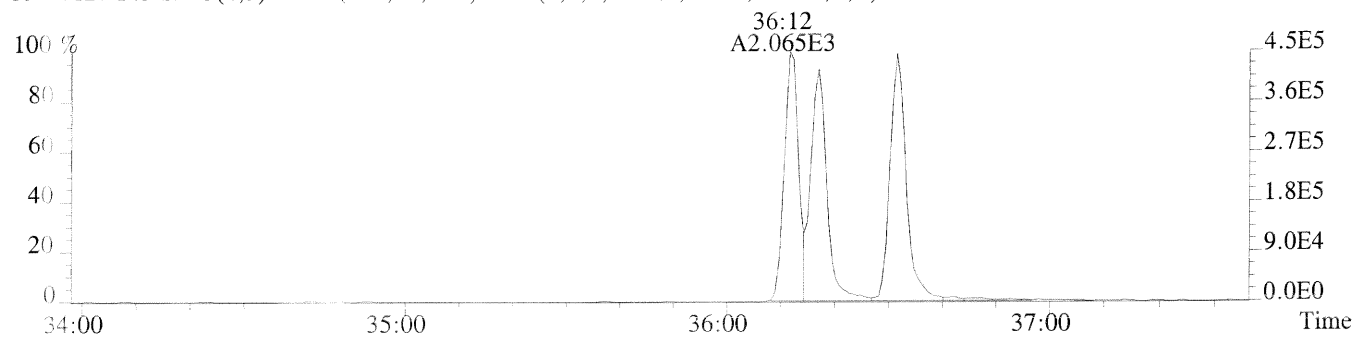


Sample#1 Exp:CS3

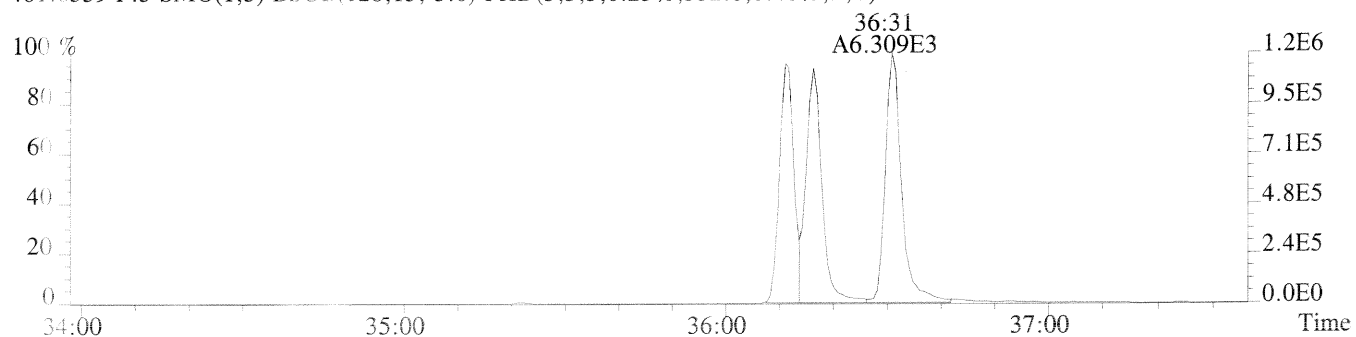
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



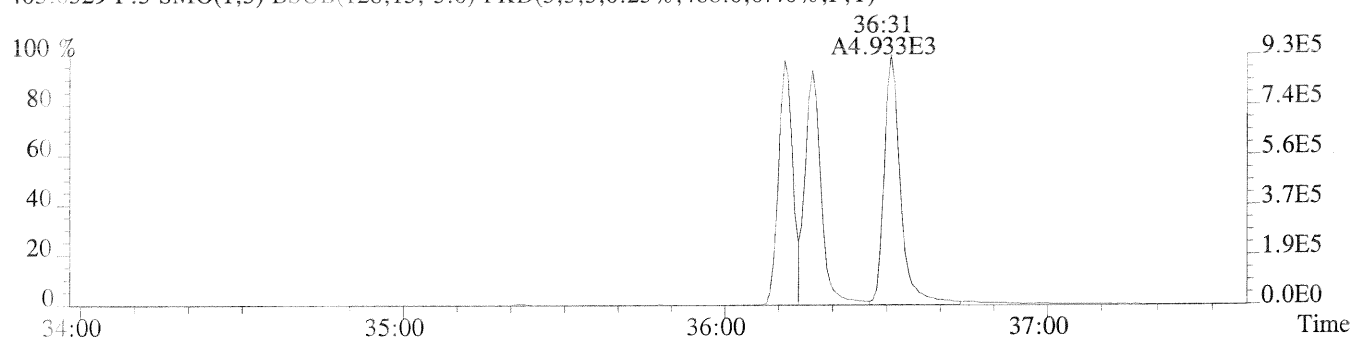
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



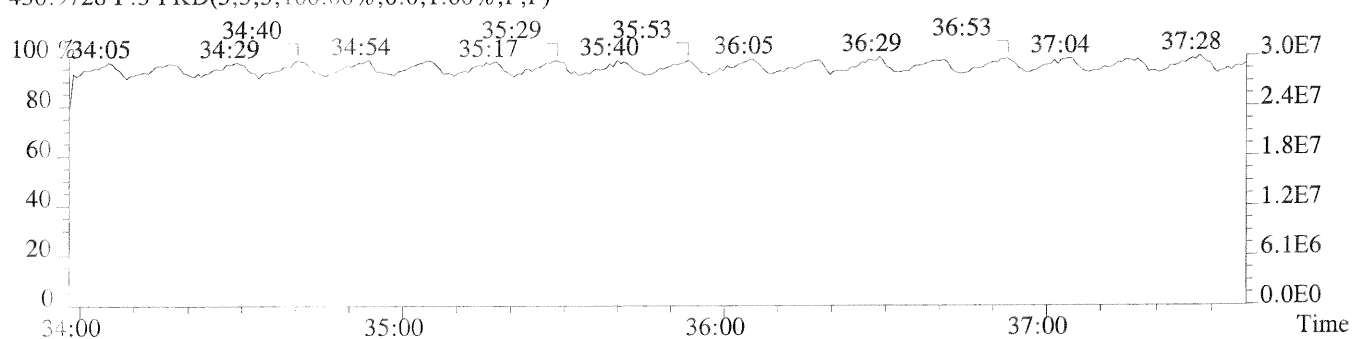
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



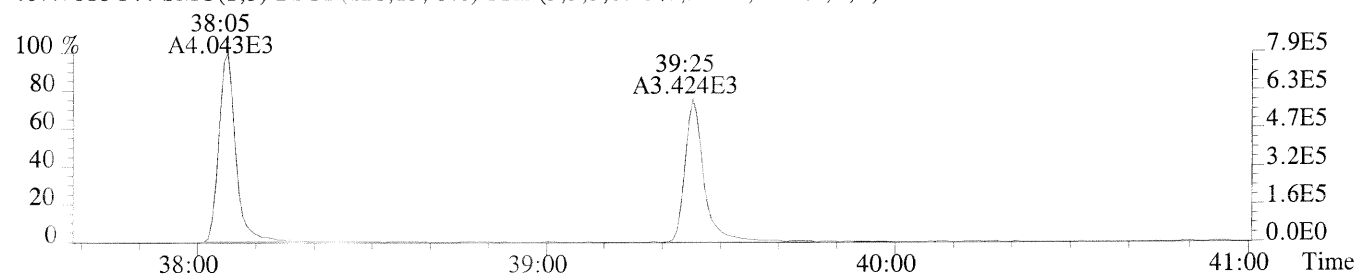
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



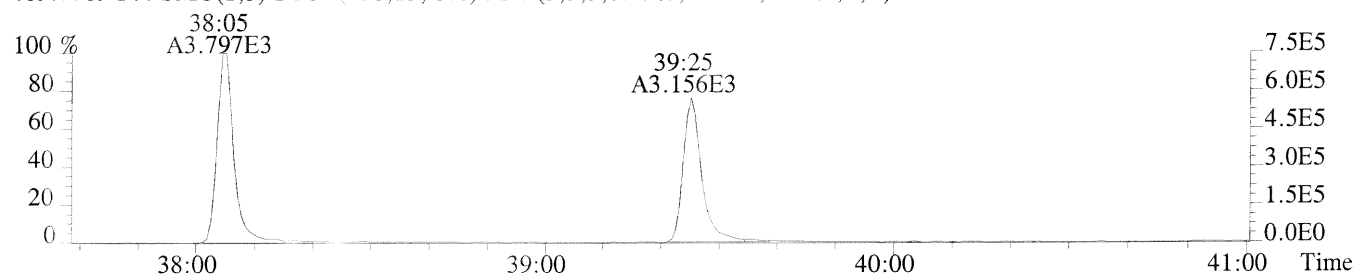
File: P173126 #1-306 Acq: 27-AUG-2014 08:25:16 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp: CS3

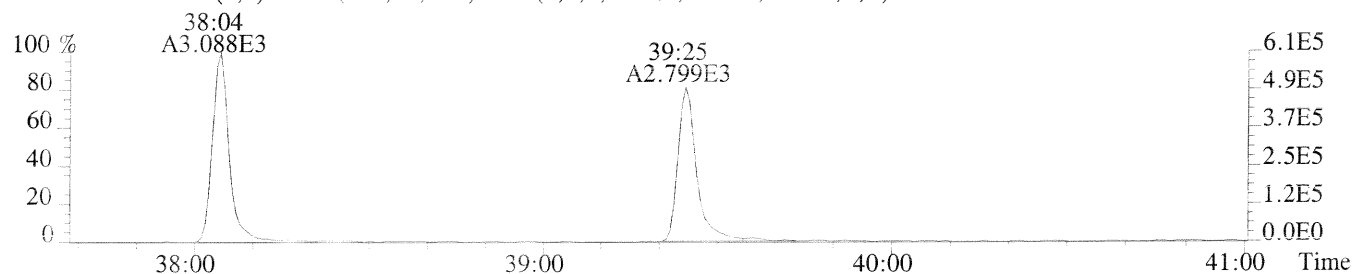
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.50%,F,T)



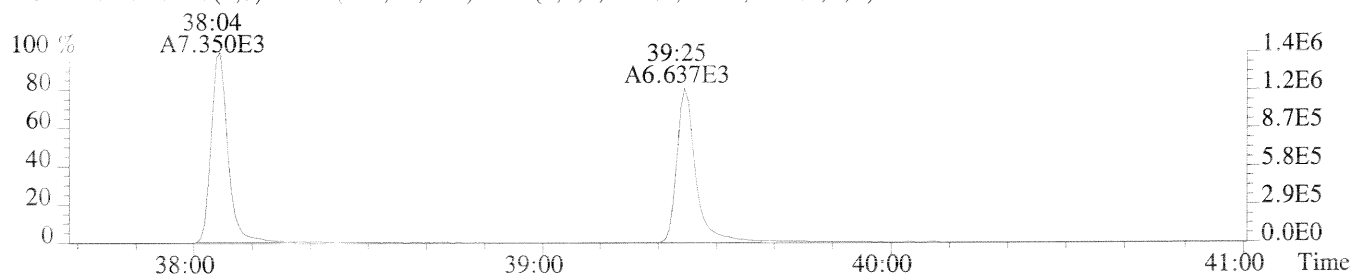
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1356.0,0.50%,F,T)



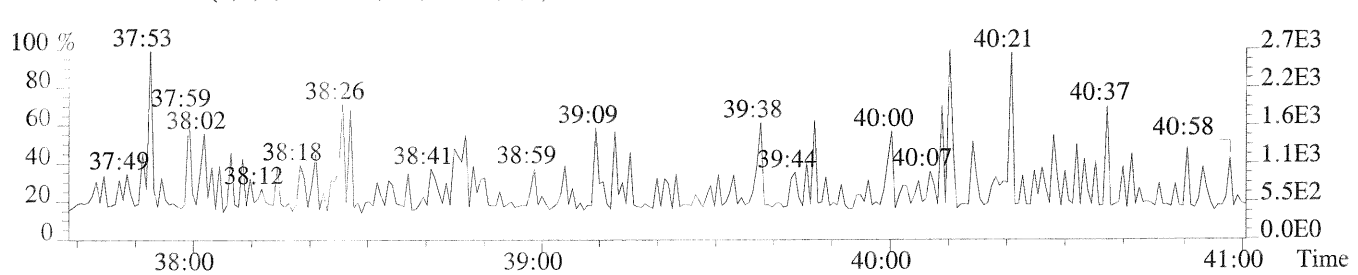
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.50%,F,T)



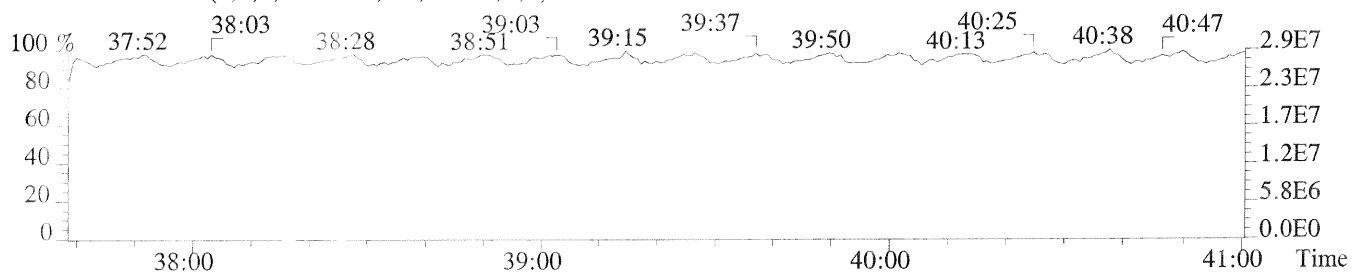
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

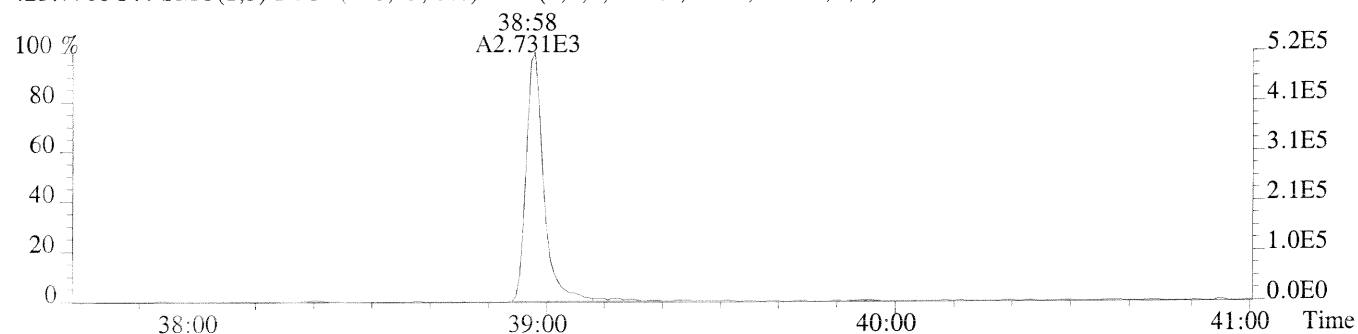


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

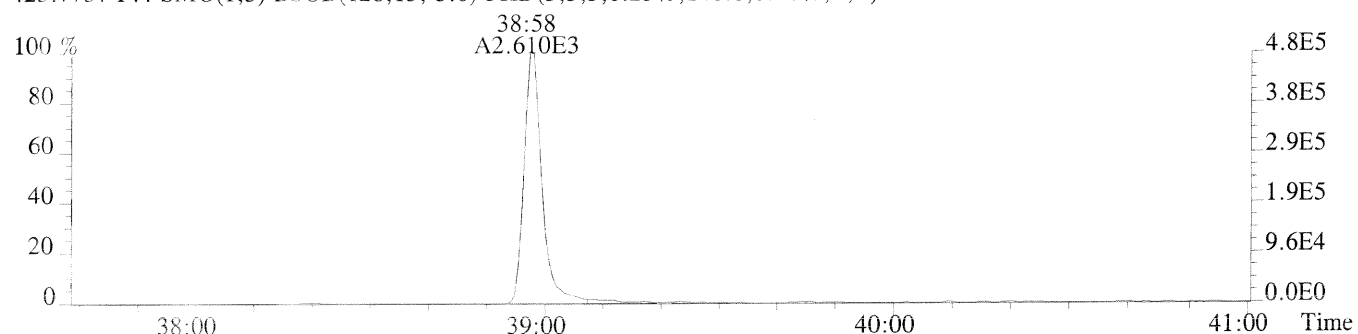


Sample#1 Exp:CS3

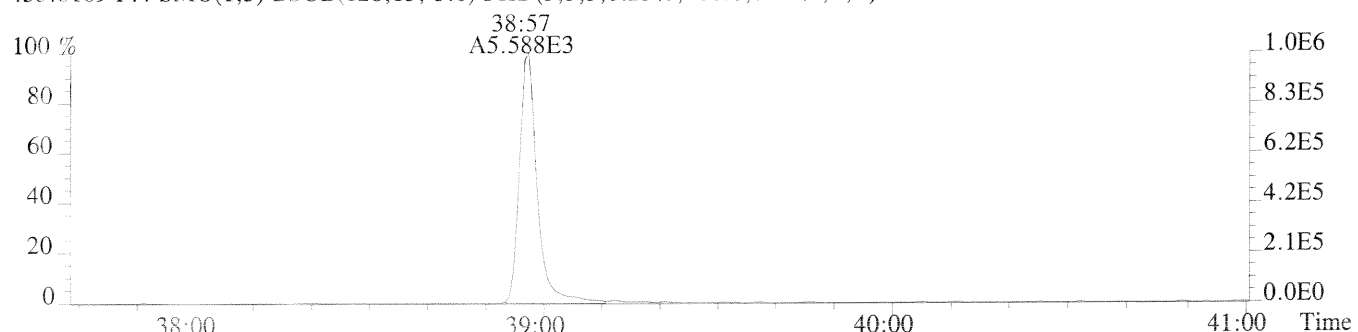
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,400.0,0.40%,F,T)



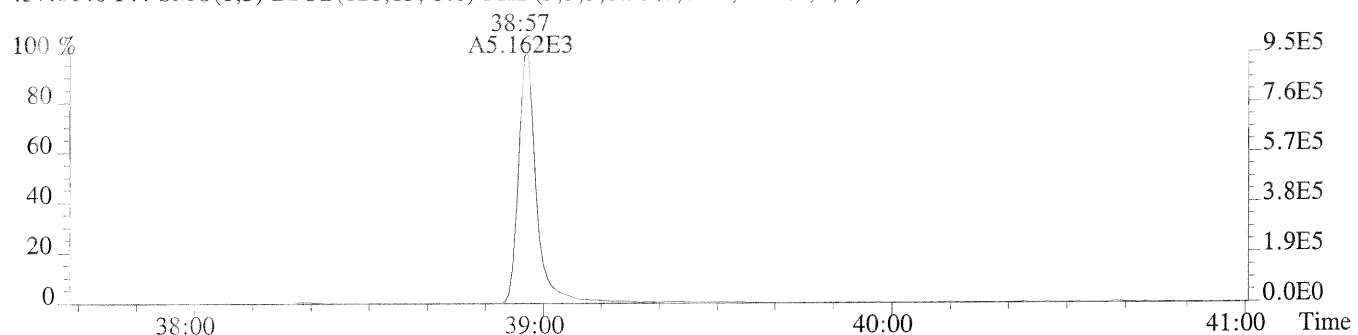
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,148.0,0.40%,F,T)



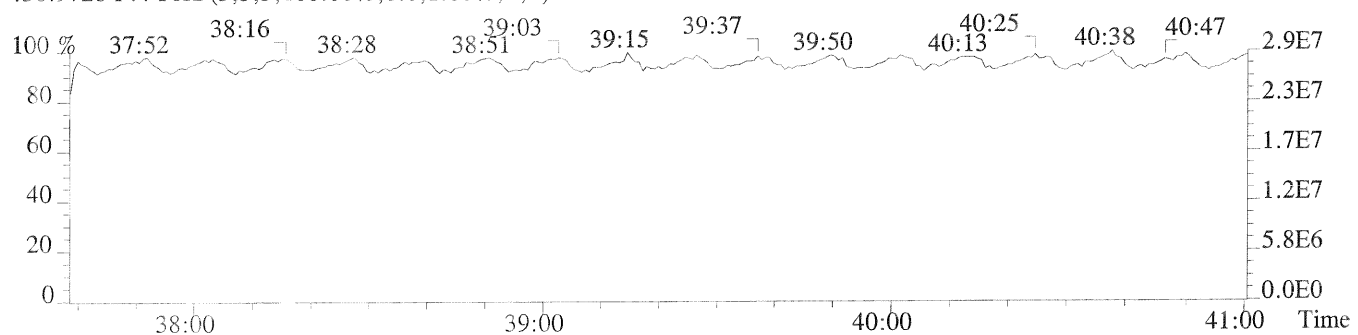
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,T)



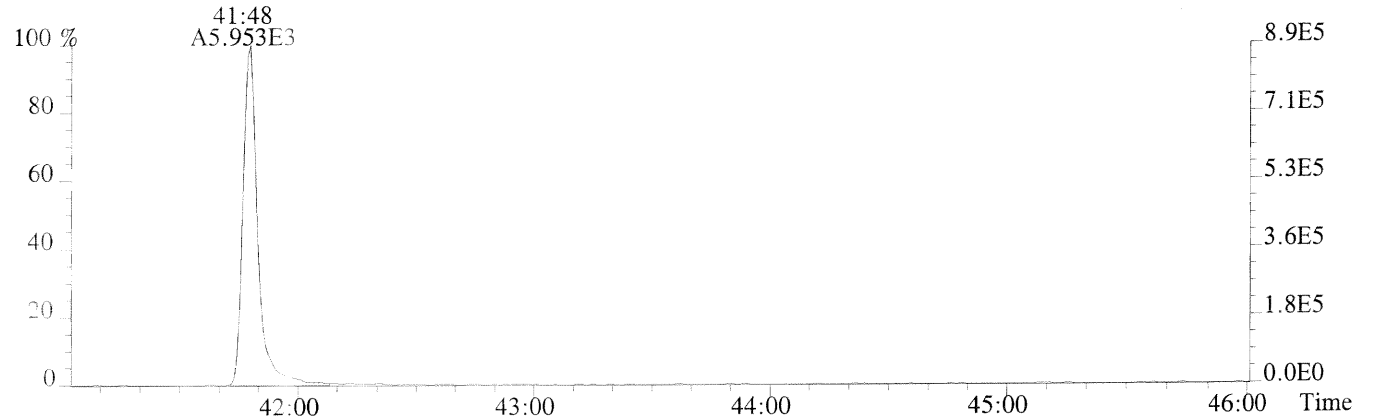
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



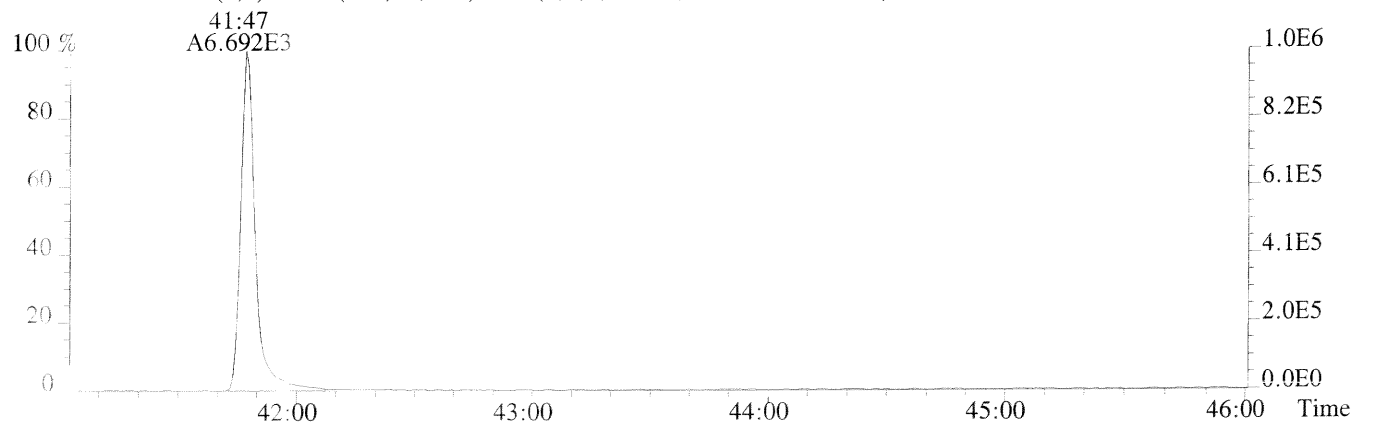


Sample#1 Exp:CS3

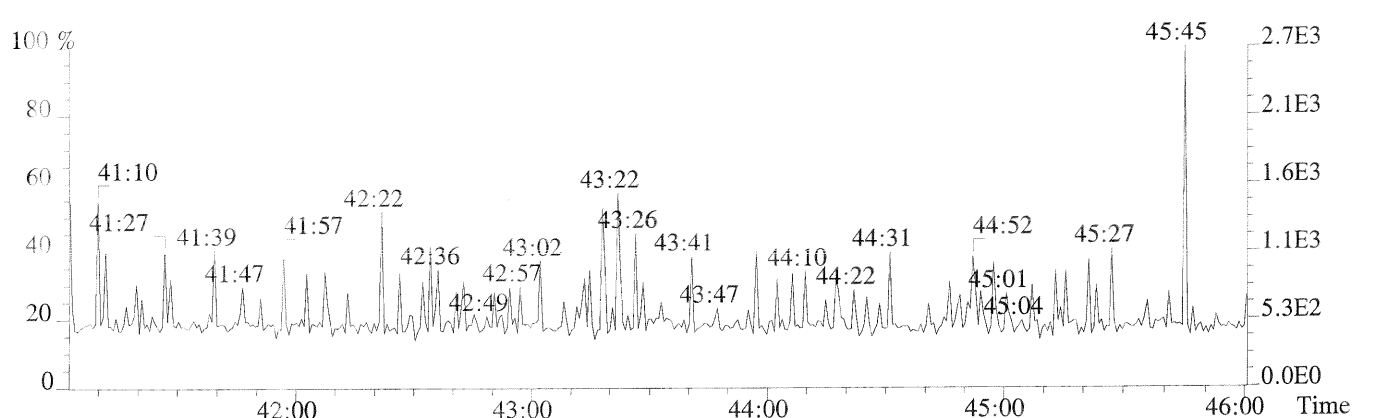
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,808.0,0.40%,F,T)



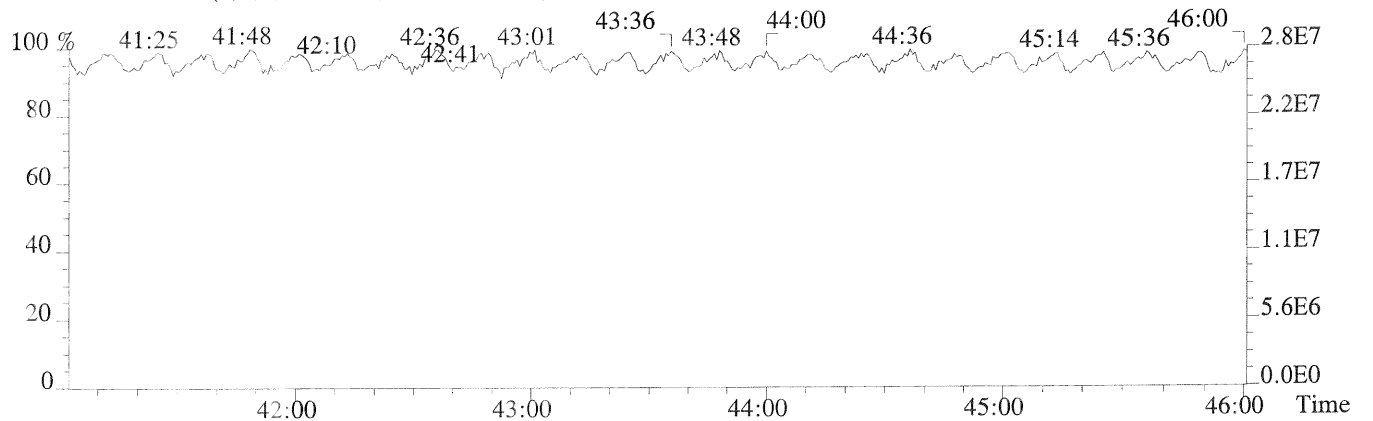
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1112.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

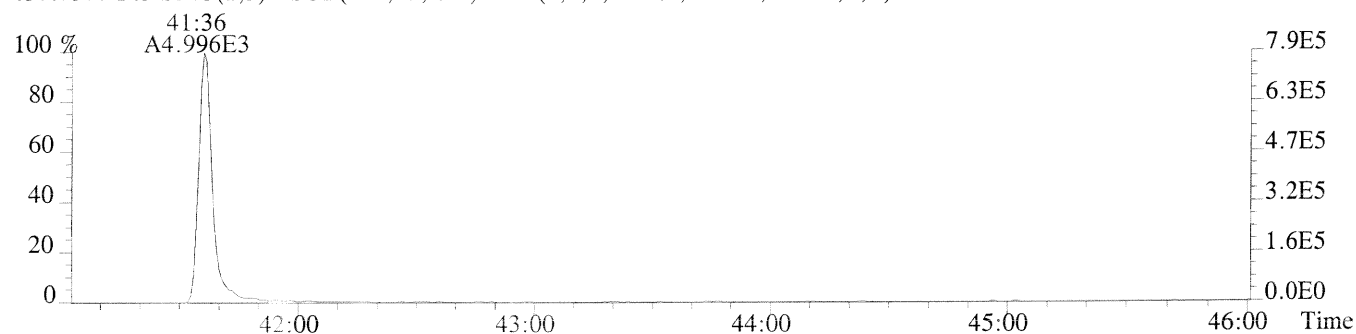


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

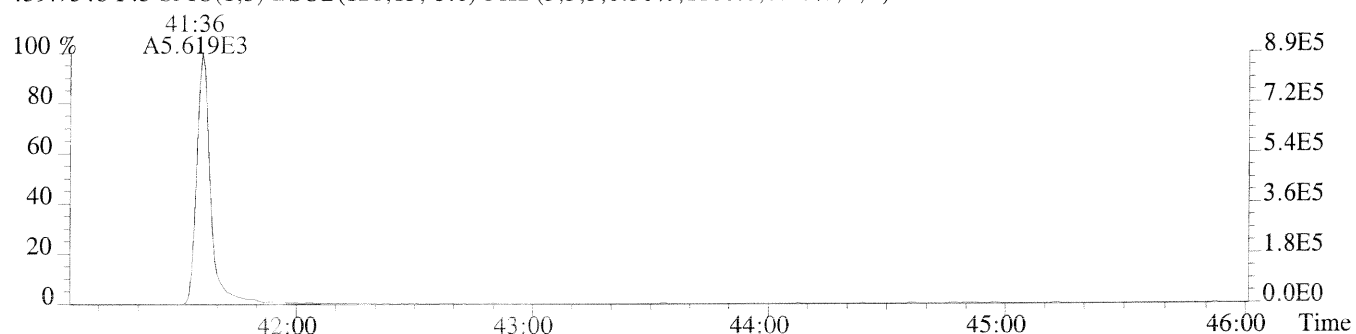


Sample#1 Exp:CS3

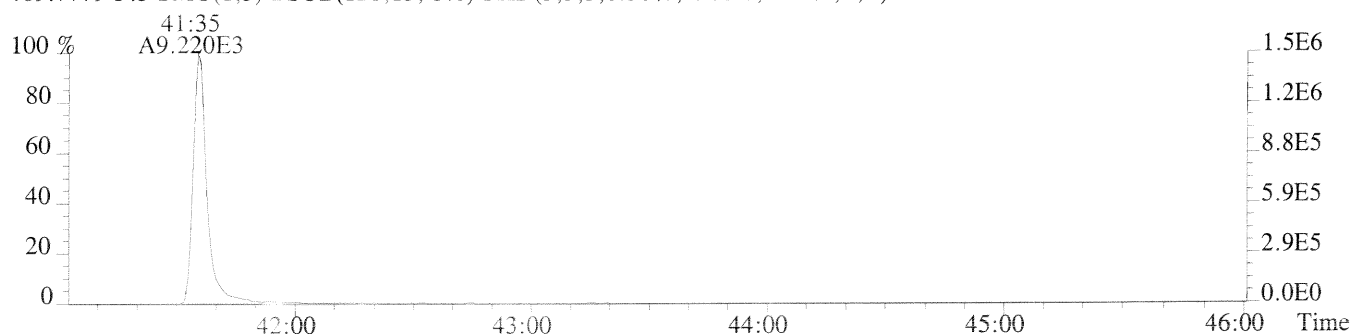
457.7377 F:5 BSMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,1152.0,0.40%,F,T)



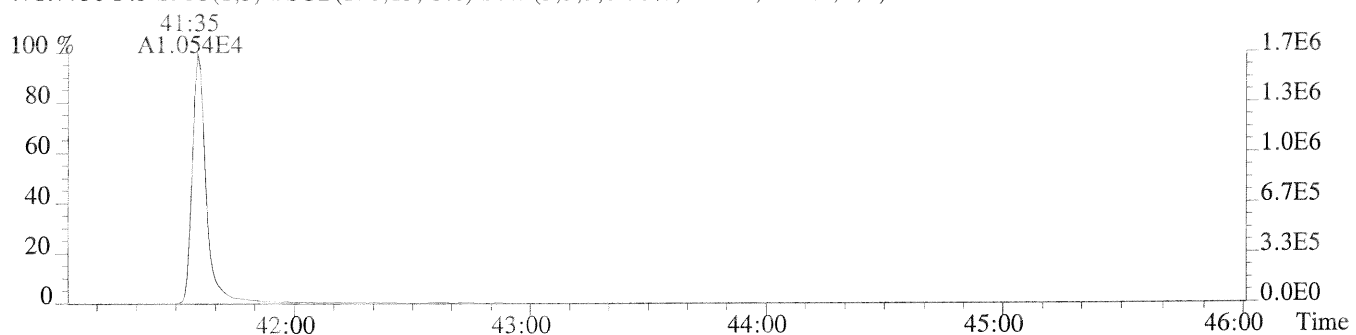
459.7348 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,1100.0,0.40%,F,T)



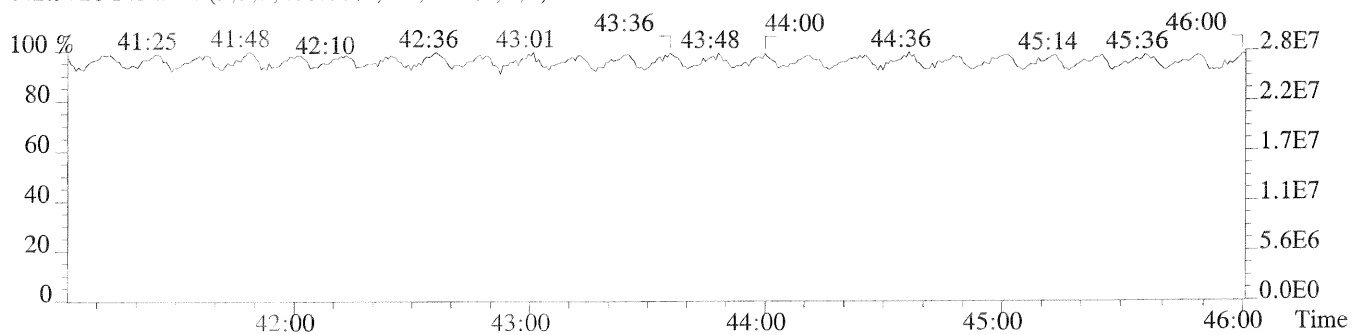
469.7779 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,1908.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSMO(128,15,-3.0) PKD(5,3,5,0.30%,2920.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



# CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P230751-P230764

Circle one: Beginning / Ending

Date: 25 Aug 14

Method: 1613 / 1613E / 8290 / VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check: Analyst Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration Analyst Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	NA	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: cee Second QC: ukc

5DFC  
PCDD/PCDF/PCB ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS Environmental

Contract:

Lab Code: TX01411

Case No.:

SDG No.:

GC Column: DB-5MSUI

ID: 0.25 (mm)

Instrument ID: E-HRMS-04

Init. Calib. Date: 08/24/14

Init. Calib. Times: 09:48:48

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

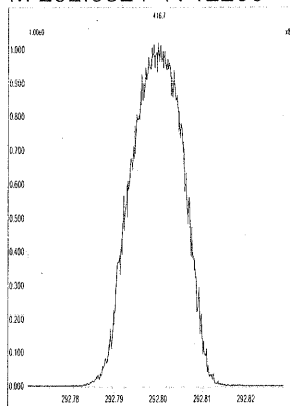
EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
WINDOW DEFINE	63680	P230752	25-AUG-14	04:54:47
CCAL HRCC3/CS3	72675	P230751	25-AUG-14	04:07:04
CCAL HRCC3/CS3	72675	P230764	25-AUG-14	14:35:02
METHOD BLANK	EQ1400478-01	P230753	25-AUG-14	05:42:33
SRP-SE020-0-140731	E1400910-005	P230754	25-AUG-14	06:30:18
SRP-DS004-0-140731	E1400910-006	P230755	25-AUG-14	07:18:04
SRP-SS231-0-140728	E1400911-001	P230756	25-AUG-14	08:05:57
SRP-SS232-0-140728	E1400911-002	P230757	25-AUG-14	08:53:42
SRP-SS233-0-140728	E1400911-003	P230758	25-AUG-14	09:41:34
SRP-SS244-0-140731	E1400911-004	P230759	25-AUG-14	10:29:27
SRP-SS237-0-140729	E1400912-001	P230760	25-AUG-14	11:17:19
SRP-SS238-0-140729	E1400912-002	P230761	25-AUG-14	12:05:10
SRP-SS227-0-140727	E1400913-001	P230762	25-AUG-14	12:52:57



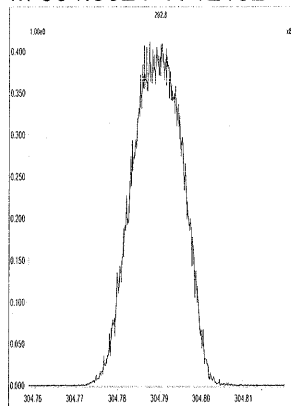
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:46:55 Central Daylight Time

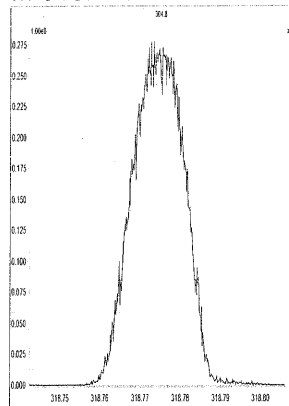
M 292.9824 R 12200



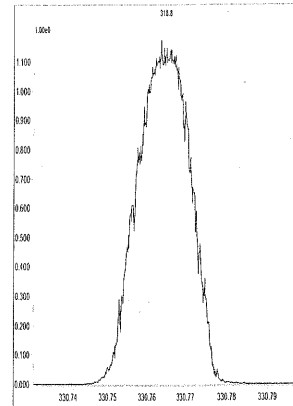
M 304.9824 R 12132



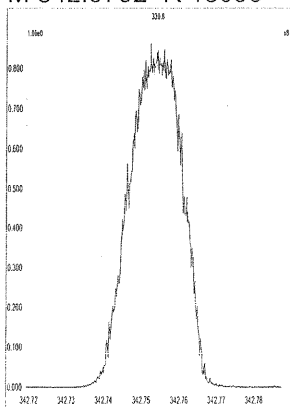
M 318.9792 R 12077



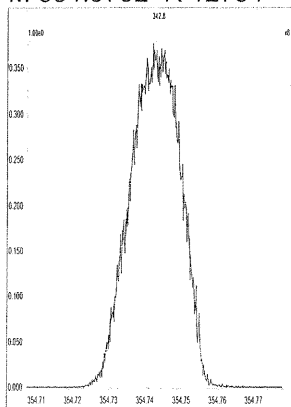
M 330.9792 R 12624



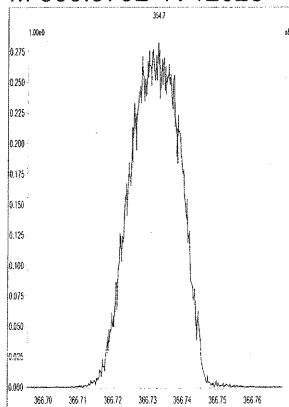
M 342.9792 R 13090



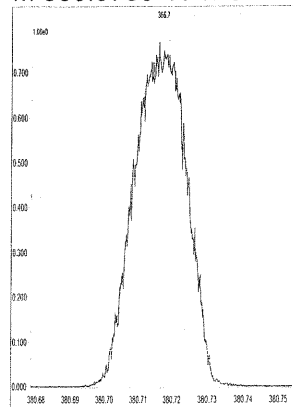
M 354.9792 R 12754



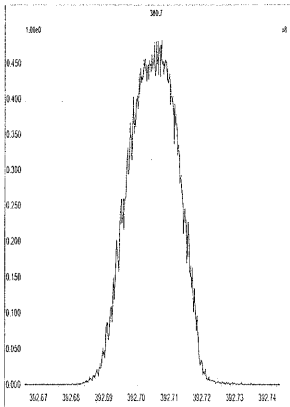
M 366.9792 R 12628



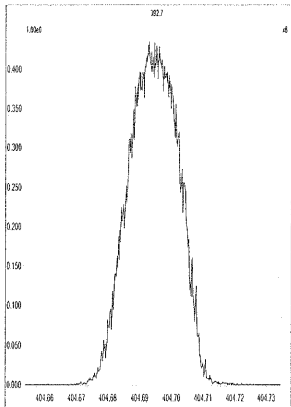
M 380.9760 R 12820



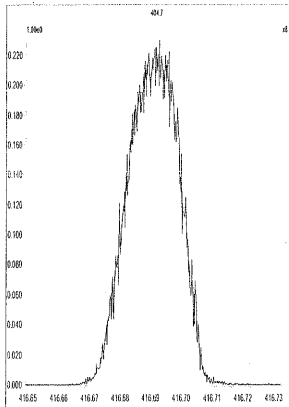
M 392.9760 R 12693



M 404.9760 R 12377



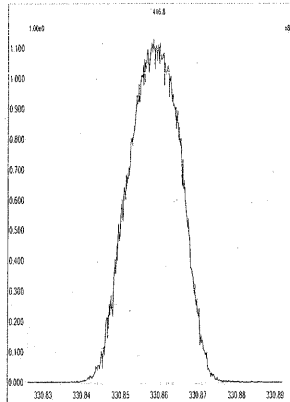
M 416.9760 R 12625



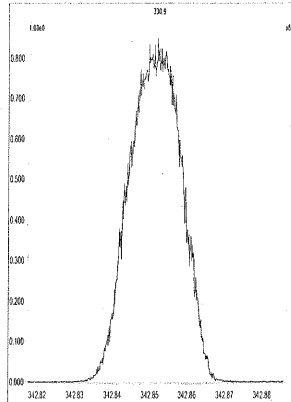
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:47:15 Central Daylight Time

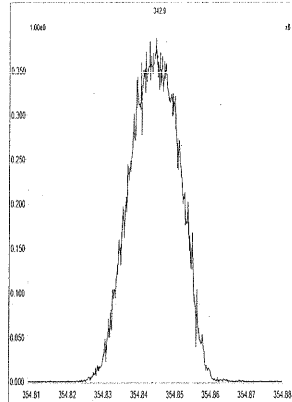
M 330.9792 R 12191



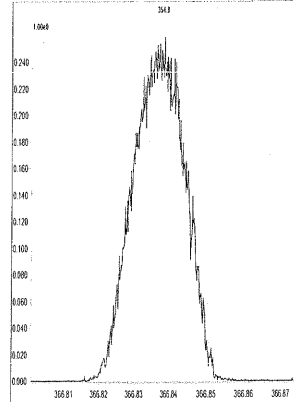
M 342.9792 R 11847



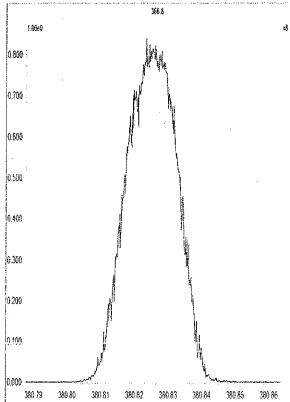
M 354.9792 R 12192



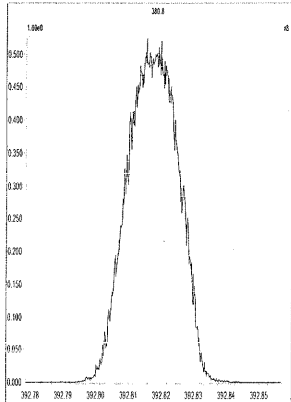
M 366.9792 R 12438



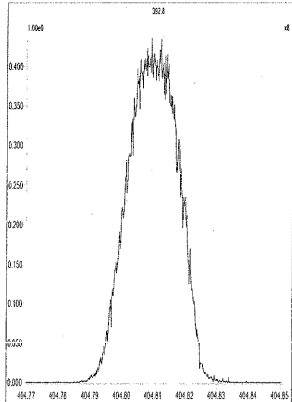
M 380.9760 R 12194



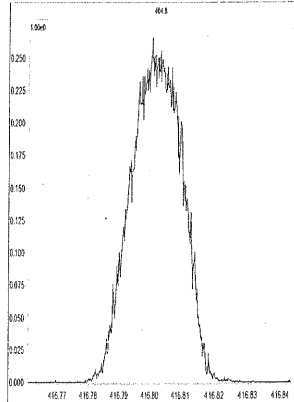
M 392.9760 R 12317



M 404.9760 R 12690



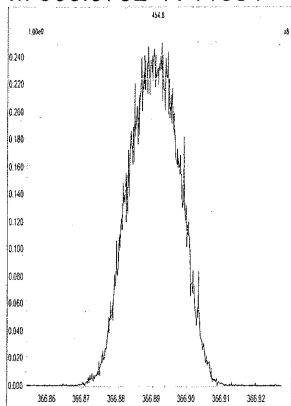
M 416.9760 R 12752



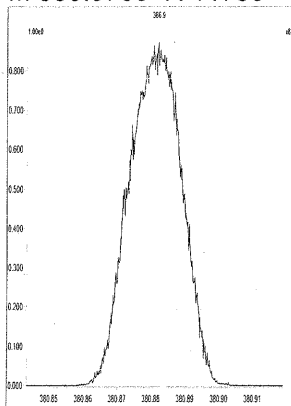
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:47:38 Central Daylight Time

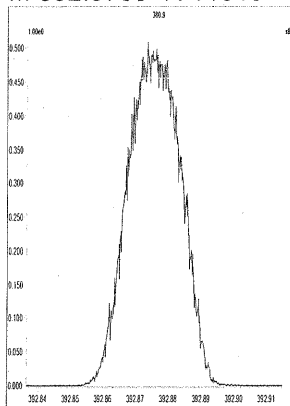
M 366.9792 R 11684



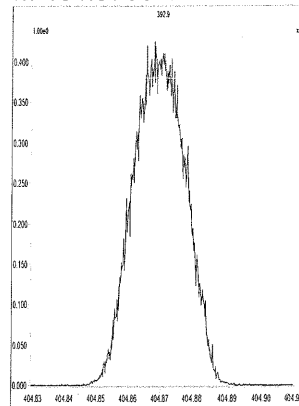
M 380.9760 R 11793



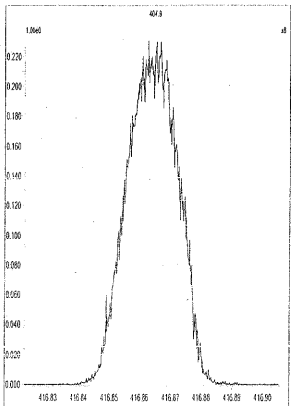
M 392.9760 R 11519



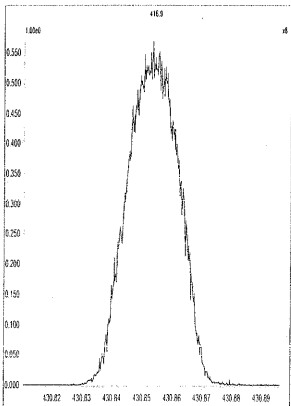
M 404.9760 R 12251



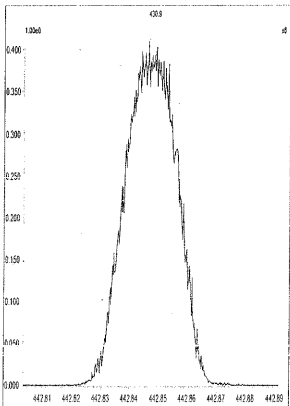
M 416.9760 R 12254



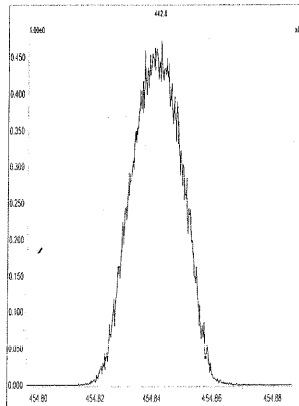
M 430.9728 R 12197



M 442.9728 R 12438



M 454.9728 R 12437

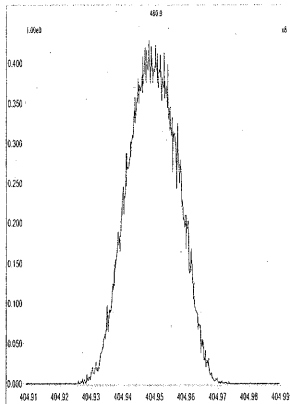




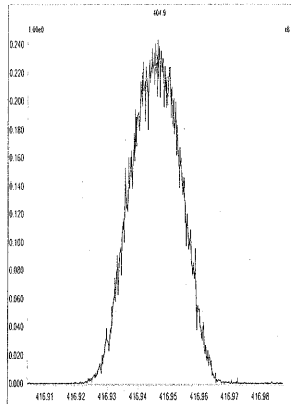
File: Experiment: 8290DB5MSUIF1.exp Reference: pk.ref Function: 4 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:48:02 Central Daylight Time

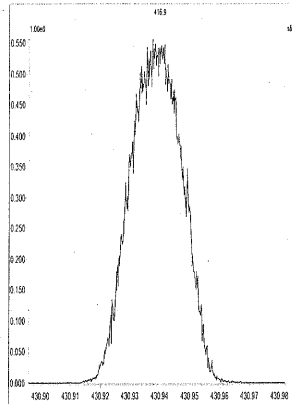
M 404.9760 R 11627



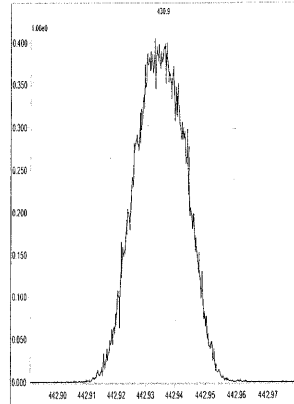
M 416.9760 R 11630



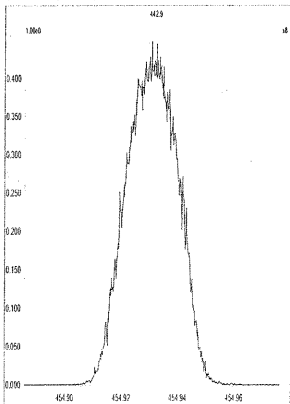
M 430.9728 R 11958



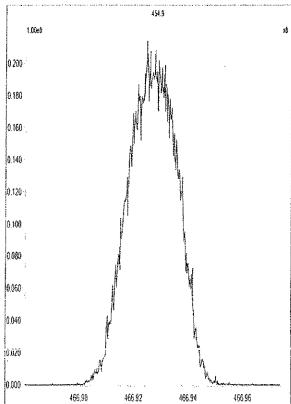
M 442.9728 R 11965



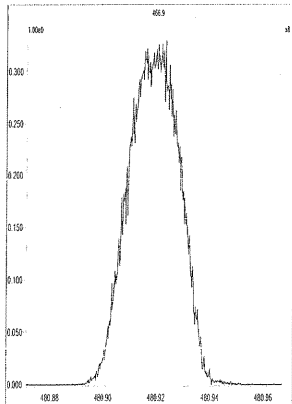
M 454.9728 R 12192



M 466.9728 R 12376



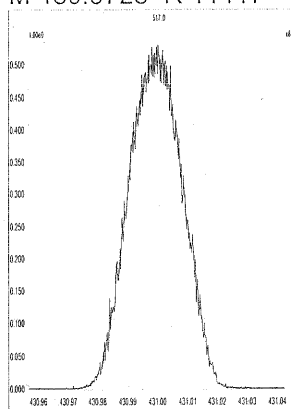
M 480.9696 R 12198



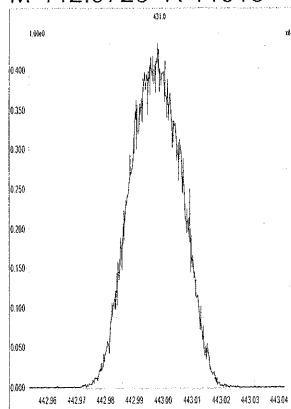
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:48:24 Central Daylight Time

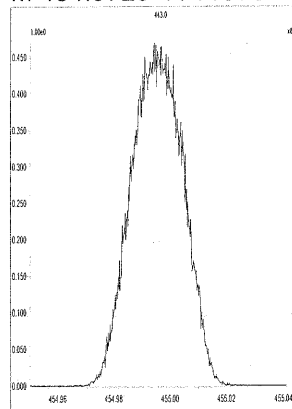
M 430.9728 R 11417



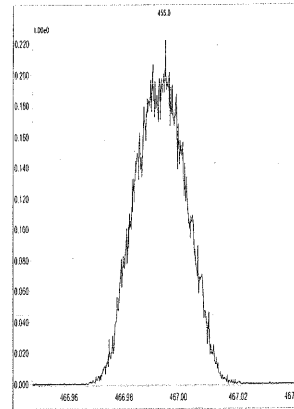
M 442.9728 R 11313



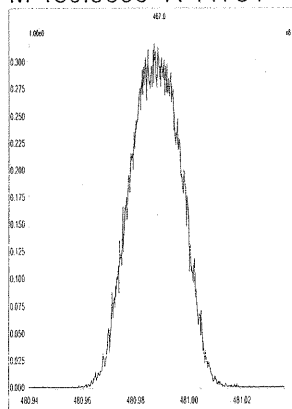
M 454.9728 R 11573



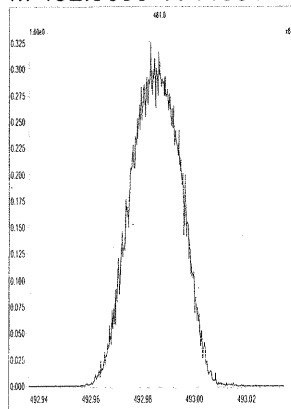
M 466.9728 R 11906



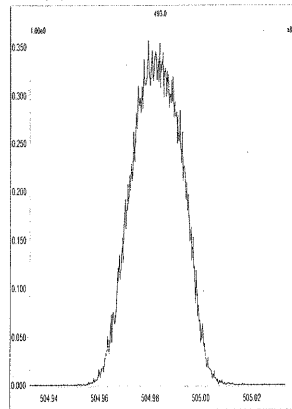
M 480.9696 R 11734



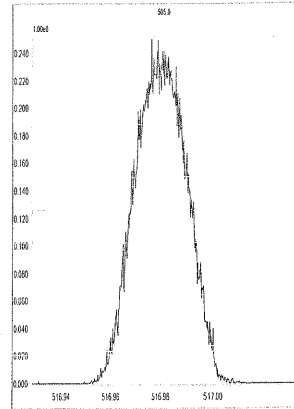
M 492.9696 R 11961



M 504.9696 R 12078



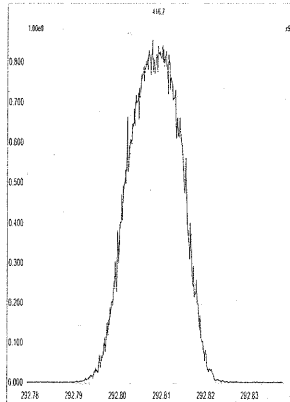
M 516.9697 R 11954



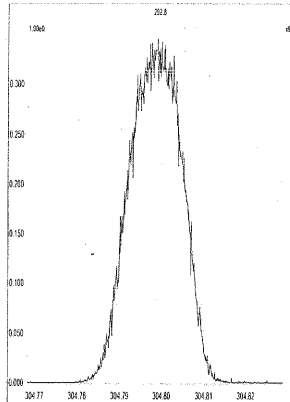
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:44:09 Central Daylight Time

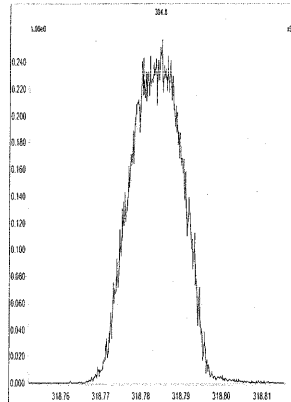
M 292.9824 R 12135



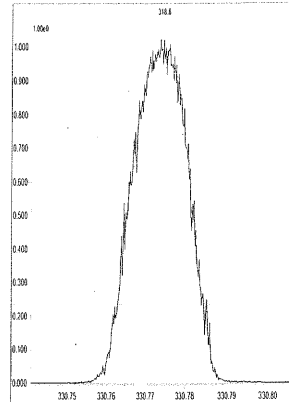
M 304.9824 R 12022



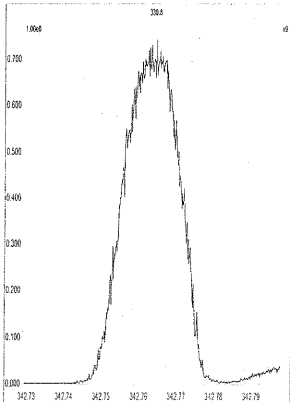
M 318.9792 R 12377



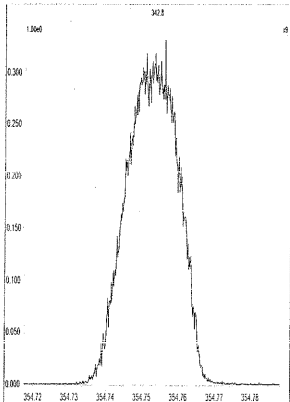
M 330.9792 R 12442



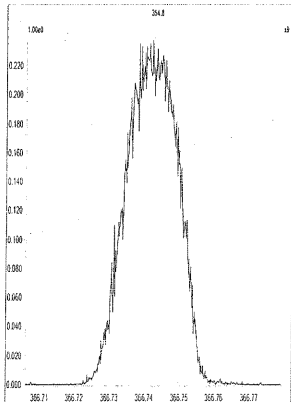
M 342.9792 R 12439



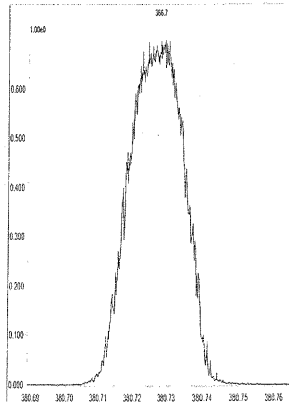
M 354.9792 R 12194



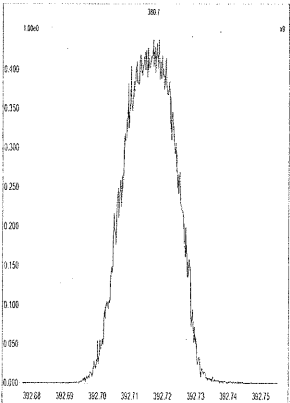
M 366.9792 R 12497



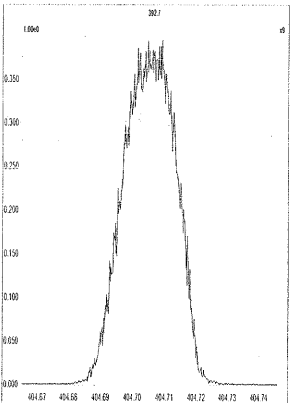
M 380.9760 R 12438



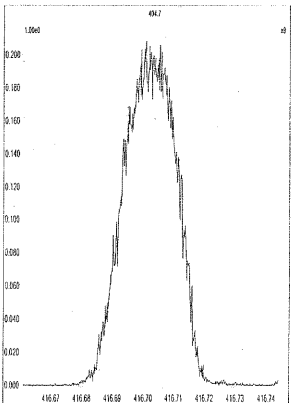
M 392.9760 R 12075



M 404.9760 R 12078



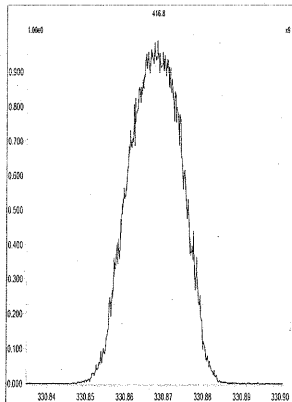
M 416.9760 R 12314



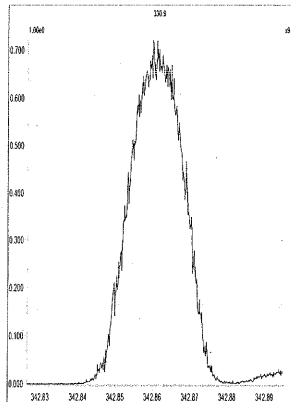
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:44:55 Central Daylight Time

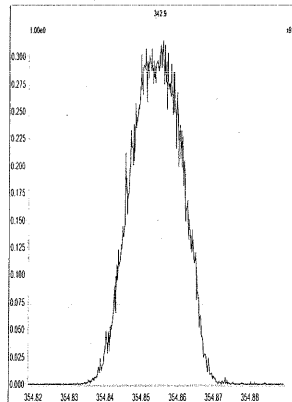
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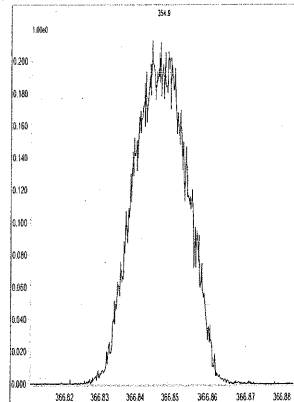
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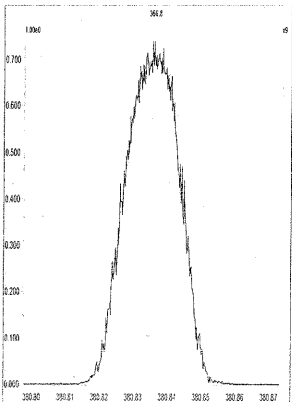
M 354.9792 R 12080



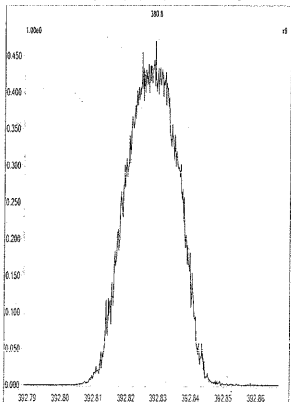
M 366.9792 R 12020



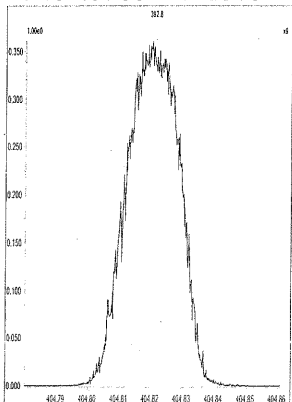
M 380.9760 R 12442



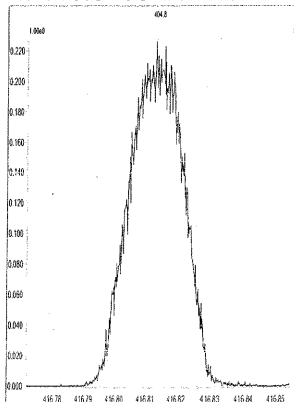
M 392.9760 R 12137



M 404.9760 R 12315



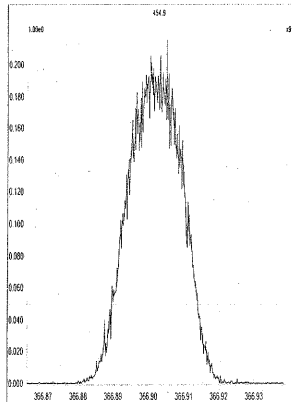
M 416.9760 R 12374



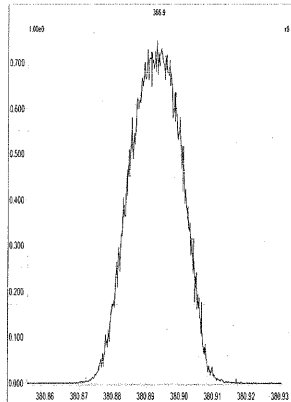
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:45:39 Central Daylight Time

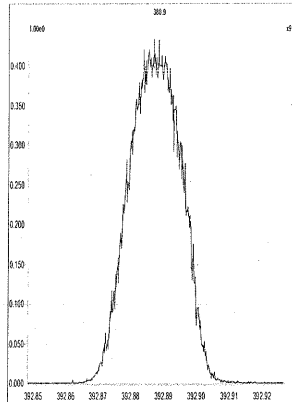
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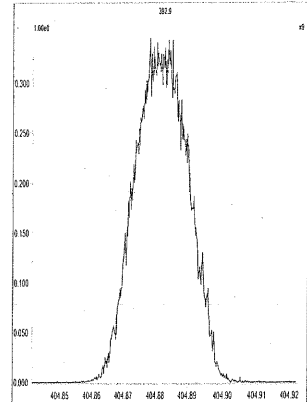
M 380.9760 R 11738



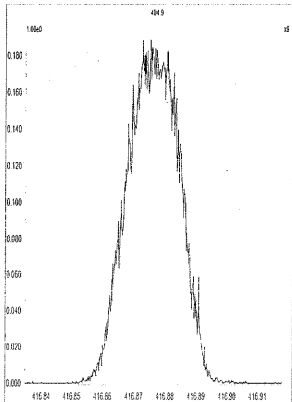
M 392.9760 R 11847



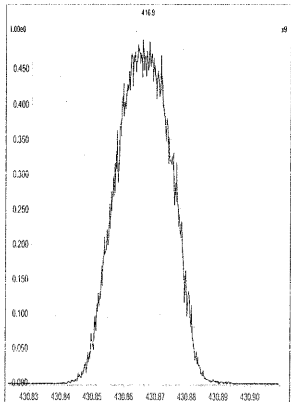
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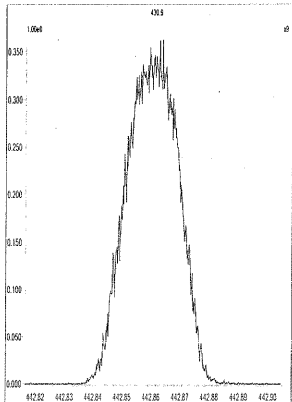
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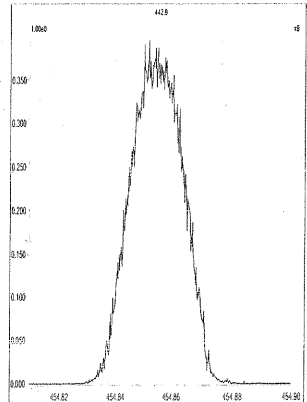
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M 442.9728 R 12377



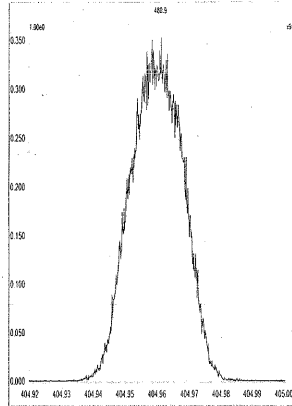
M 454.9728 R 12625



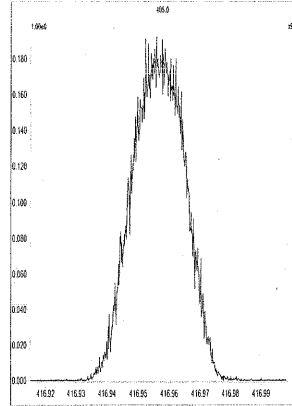
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Printed: Monday, August 25, 2014 13:46:27 Central Daylight Time

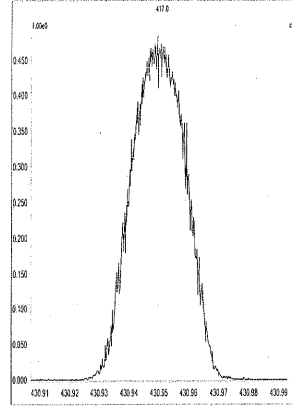
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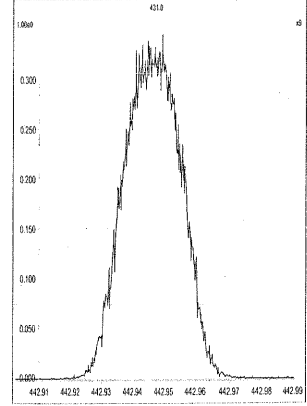
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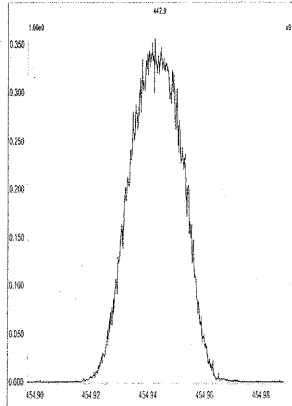
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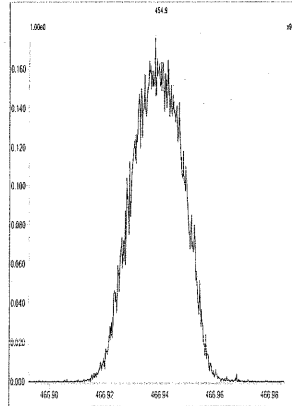
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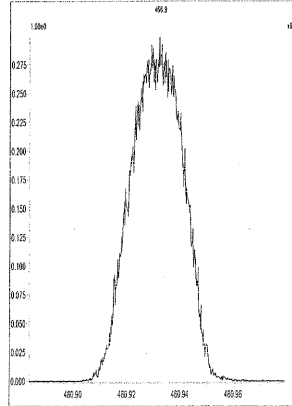
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M 466.9728 R 12376



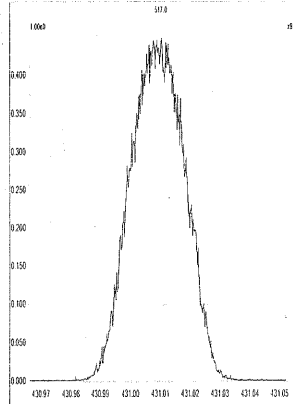
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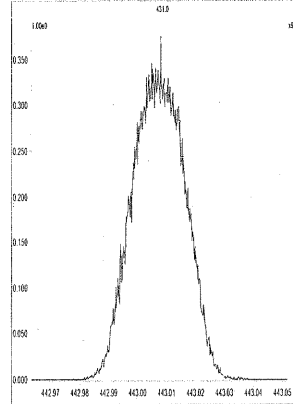
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Printed: Monday, August 25, 2014 13:47:16 Central Daylight Time

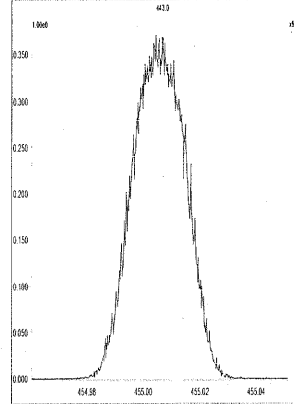
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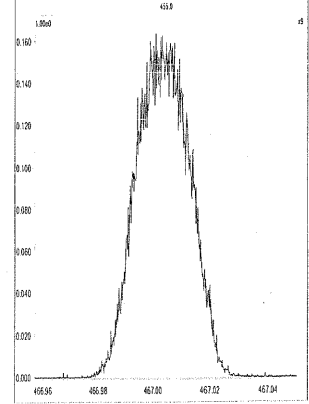
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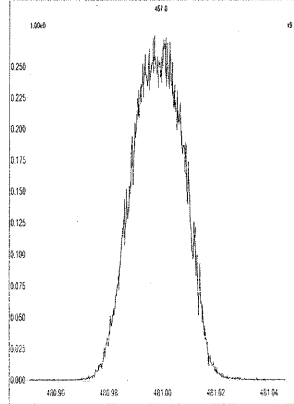
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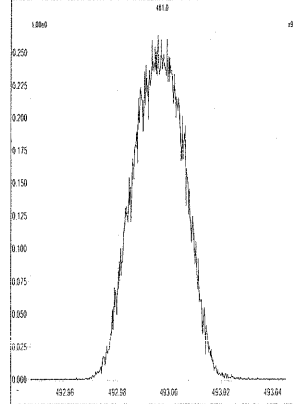
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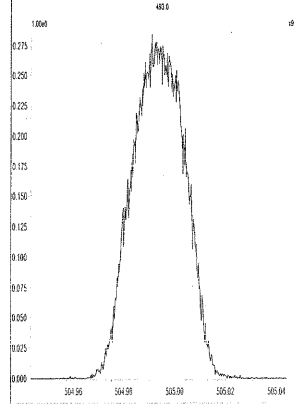
M 480.9696 R 11793



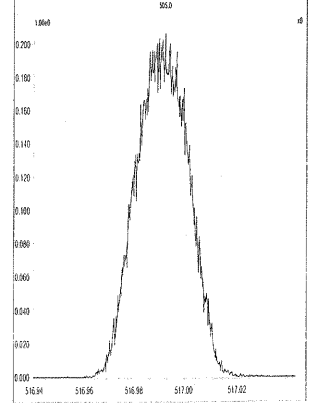
M 492.9696 R 11792



M 504.9696 R 11790

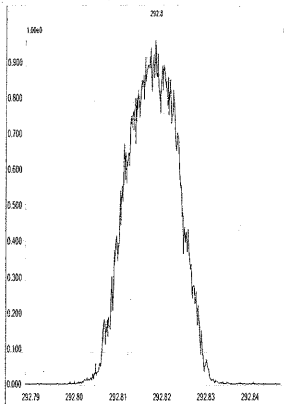


M 516.9697 R 12129

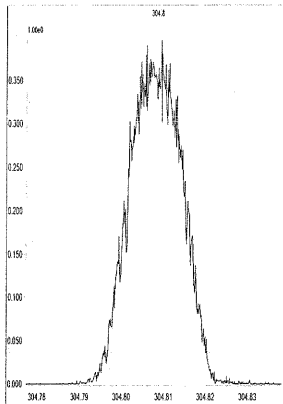


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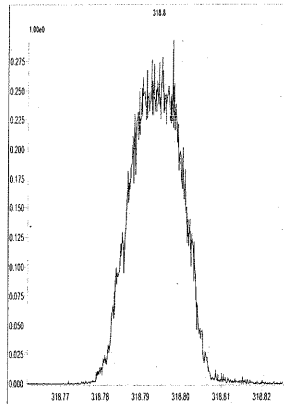
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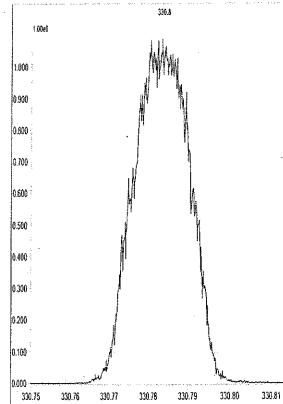
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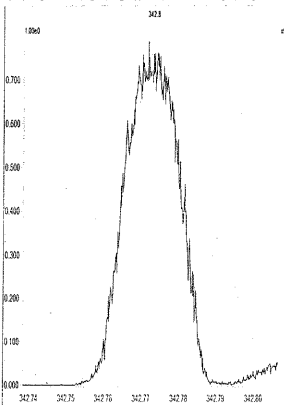
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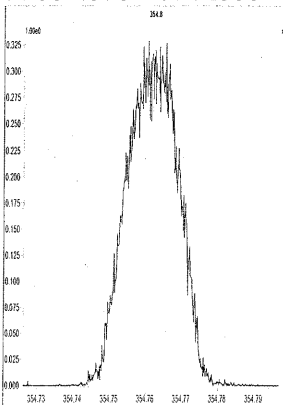
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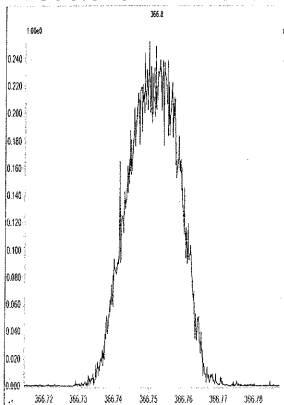
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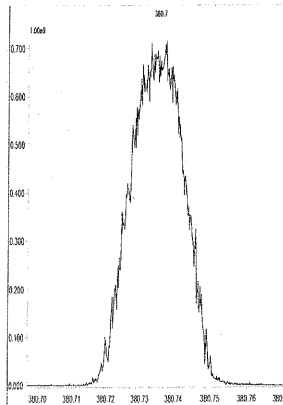
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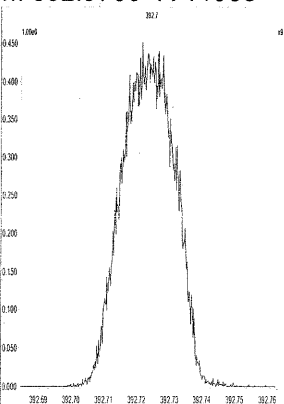
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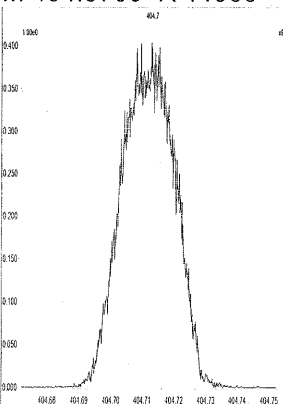
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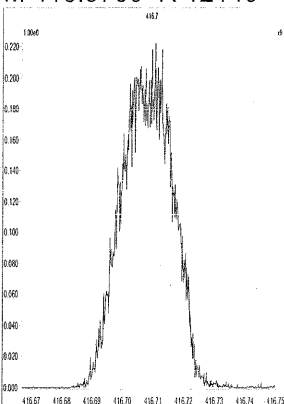
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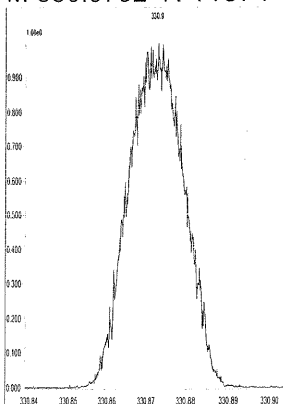
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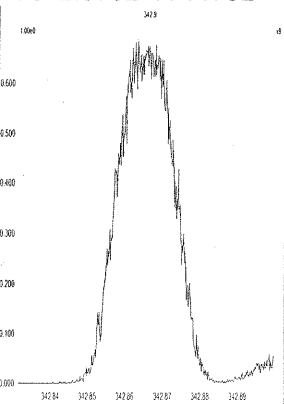
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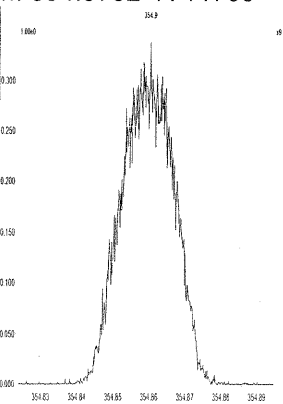
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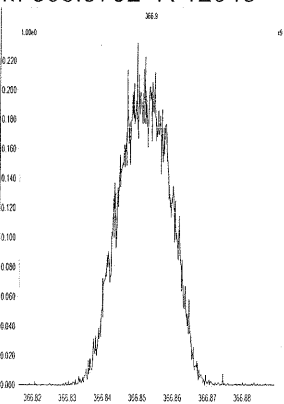
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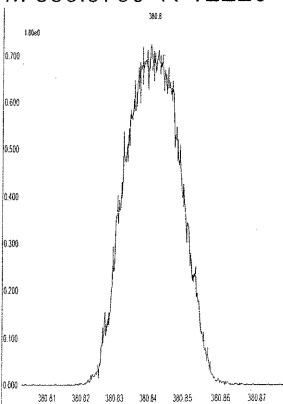
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M 366.9792 R 12048



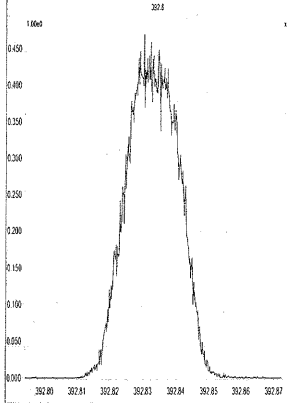
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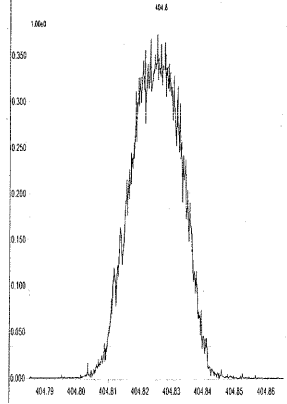


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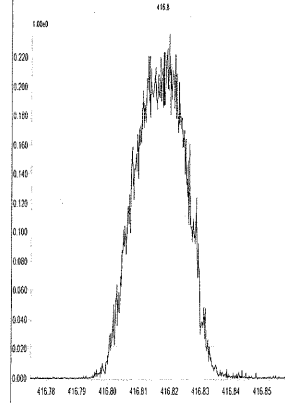
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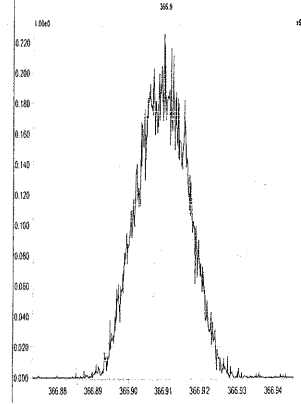
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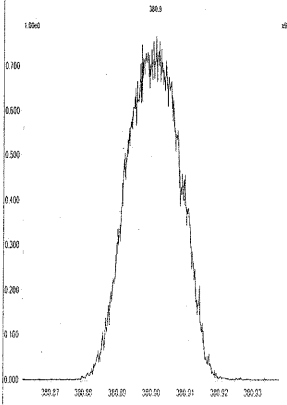
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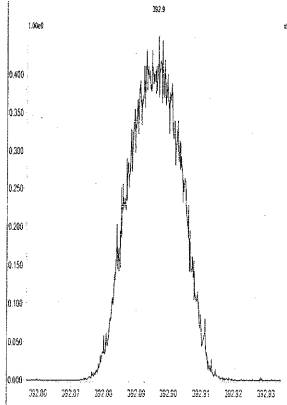
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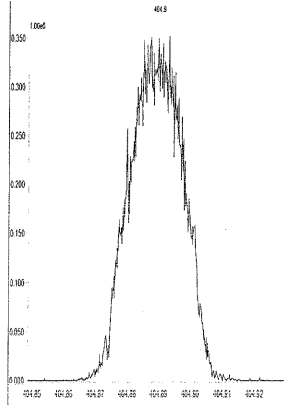
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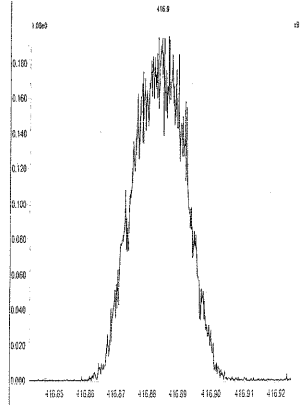
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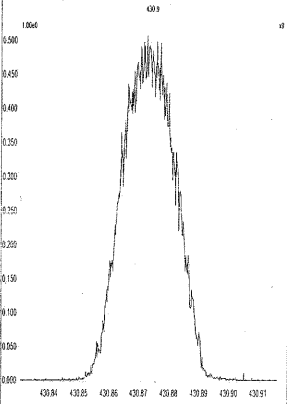
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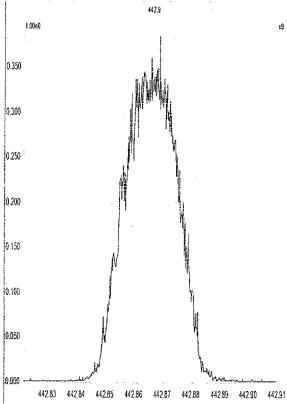
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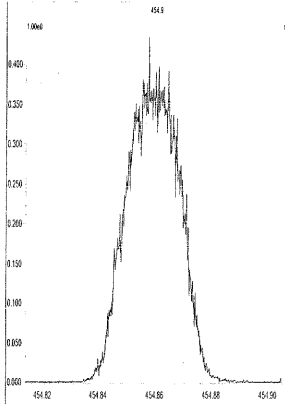
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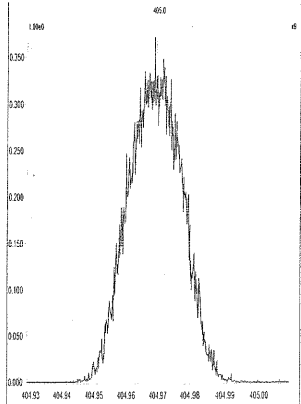
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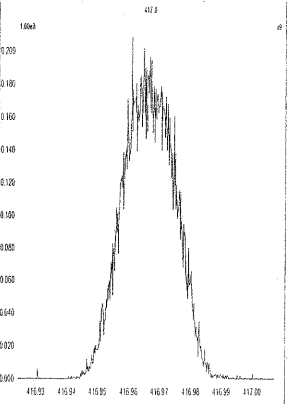
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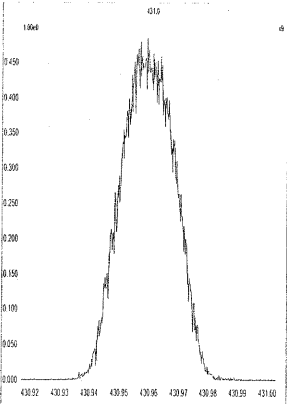
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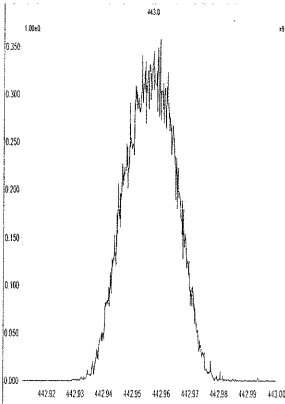
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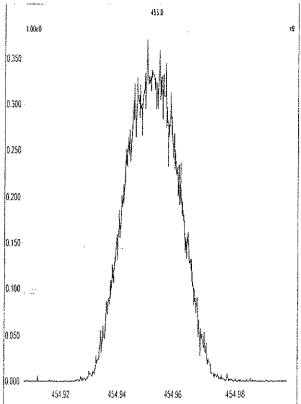
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M 442.9728 R 11520

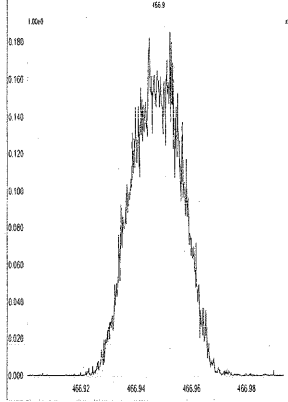


M 454.9728 R 11547

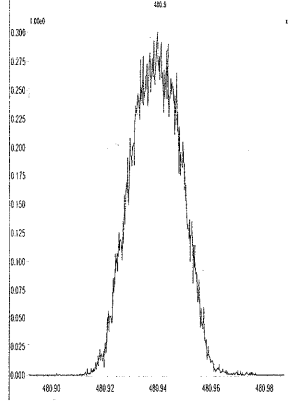


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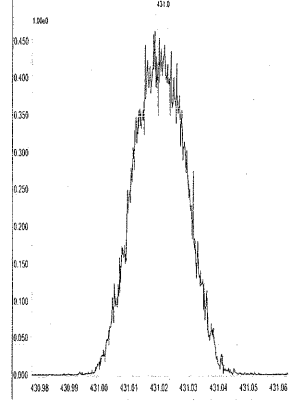
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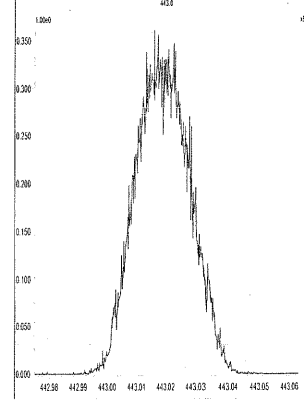
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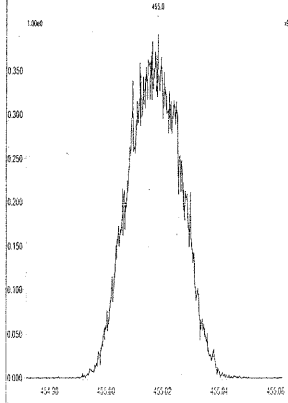
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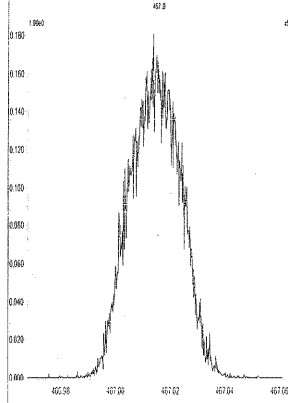
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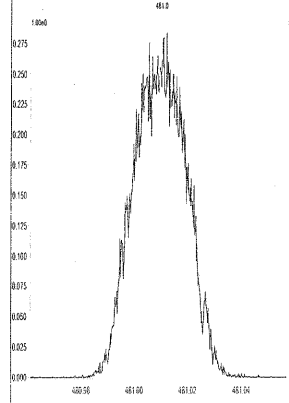
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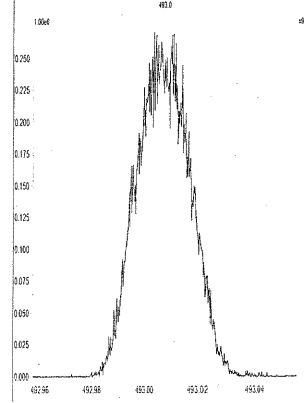
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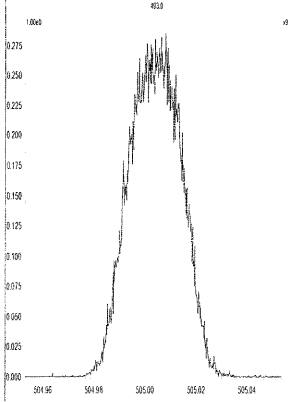
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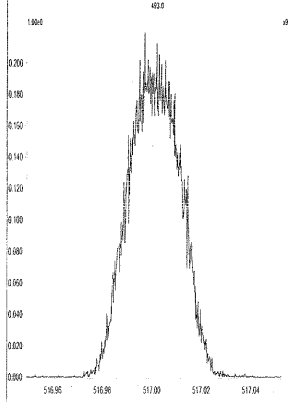
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M 504.9696 R 11857



M 516.9697 R 11765



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

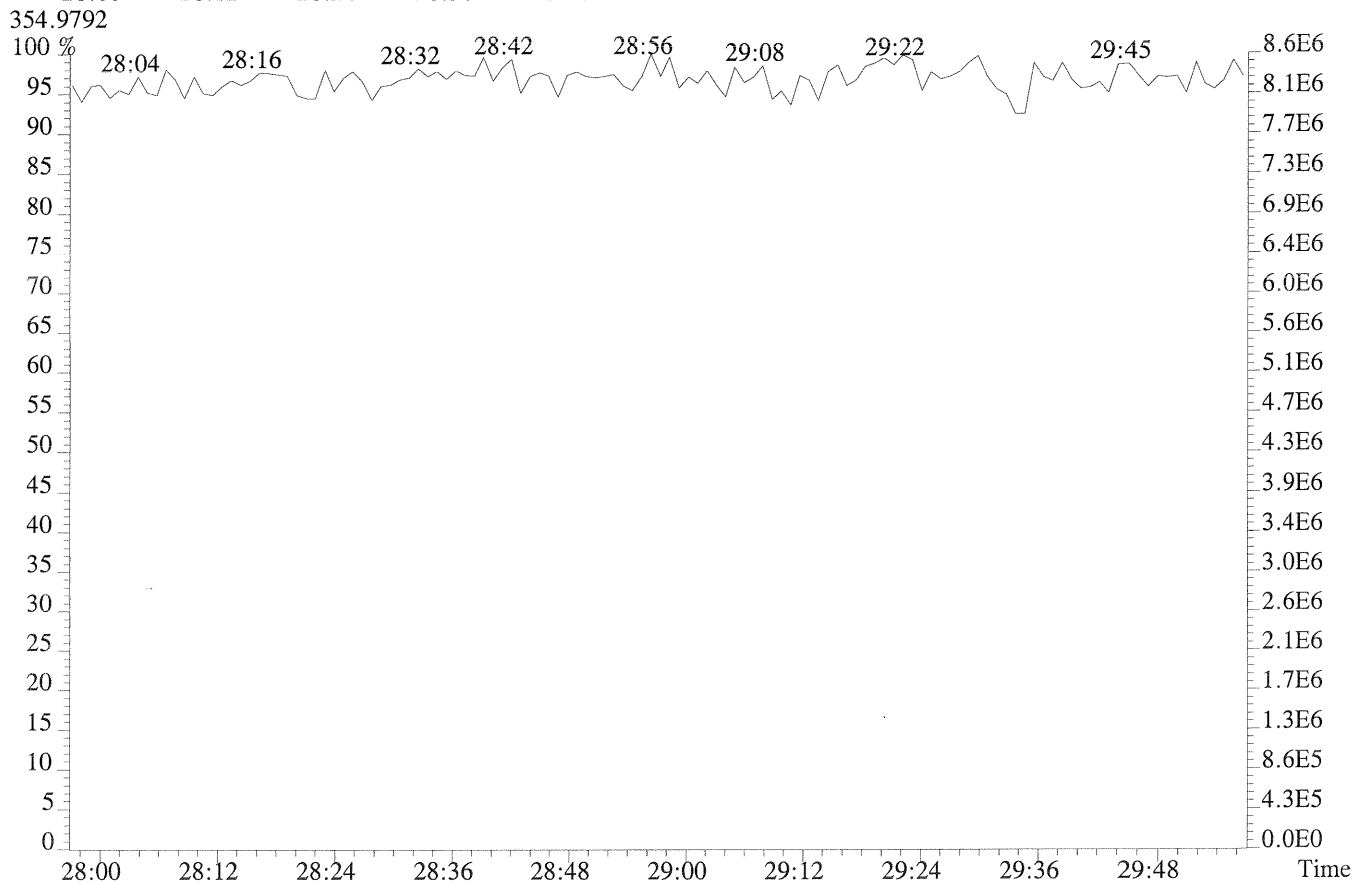
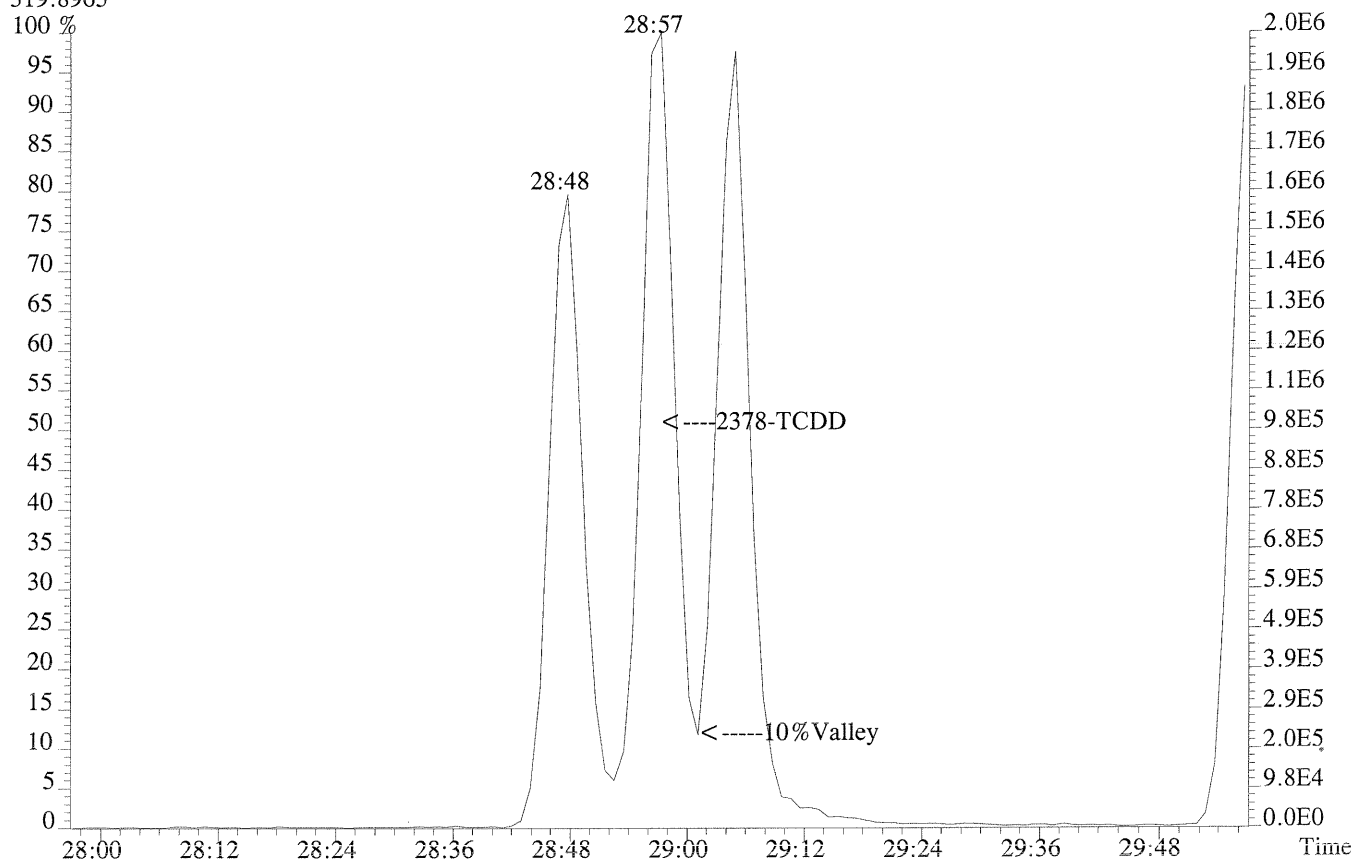
Lab Name: ALS ENVIRONMENTAL  
 Lab Code: TX01411  
 GC Column: DB-5msUI

Case No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_  
 ID: 0.25 (mm) Lab File ID: P230752  
 Date Analyzed: 25-AUG-2014  
 Time Analyzed: 04:54:47

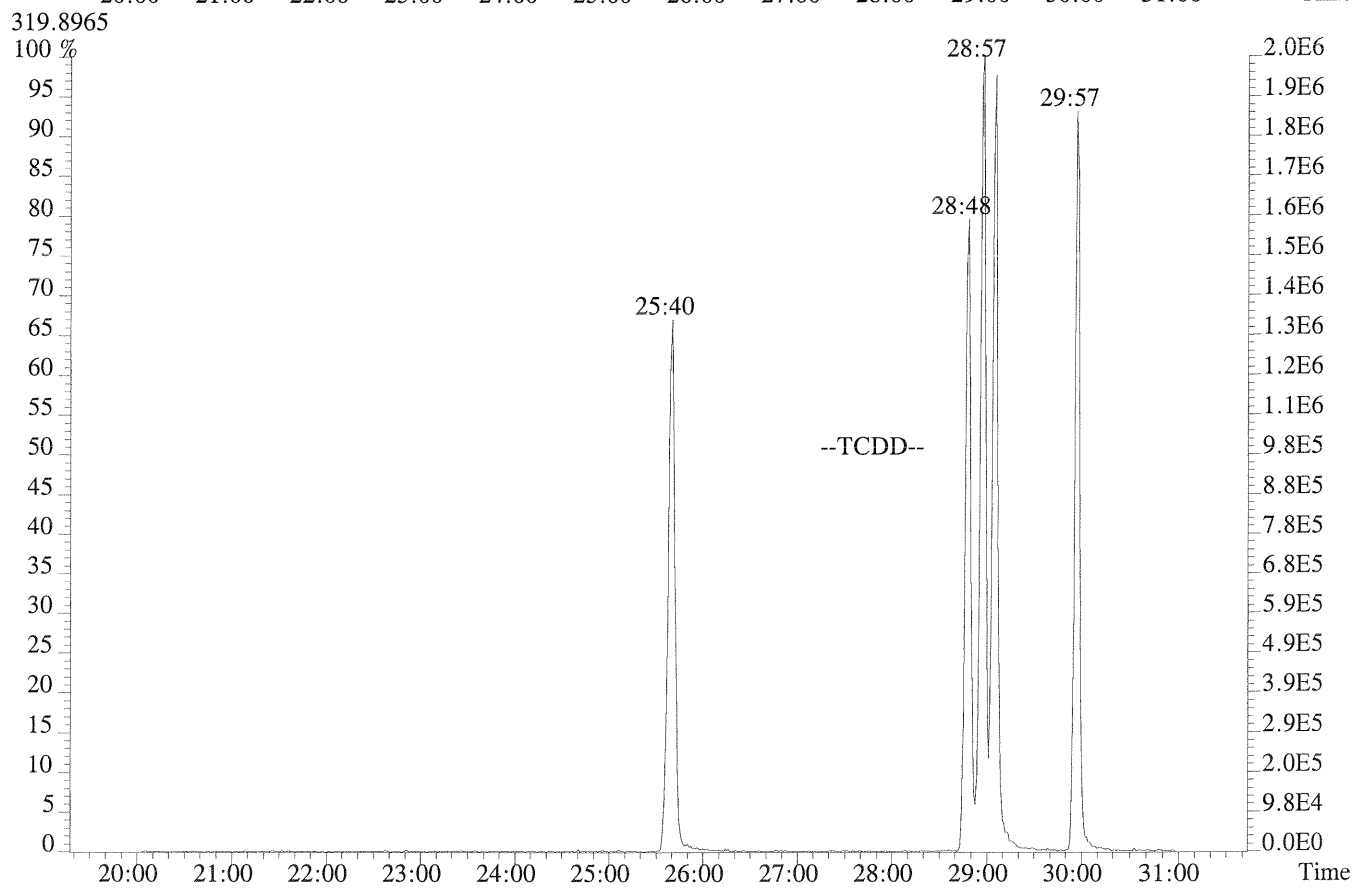
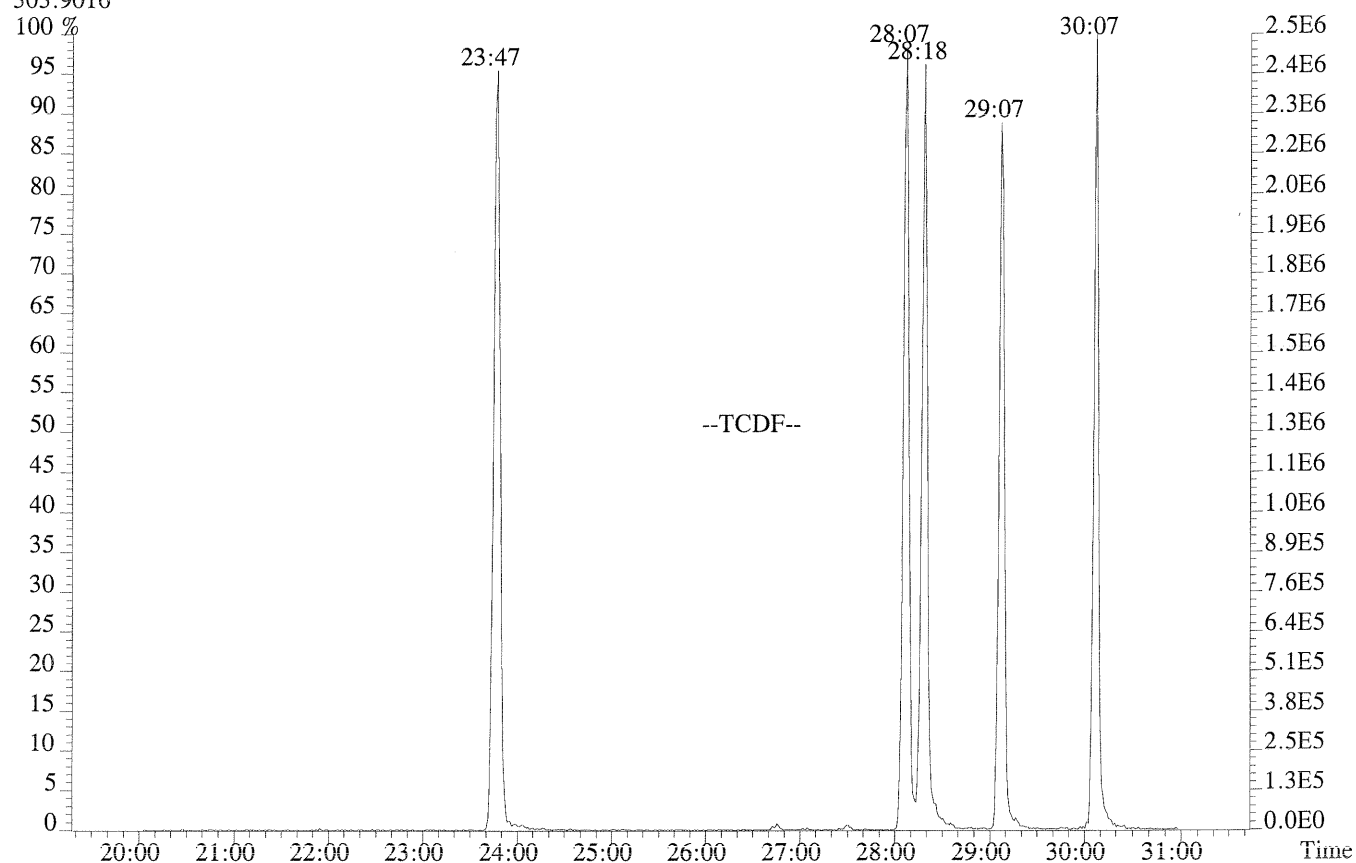
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:47	30:07
TCDD	25:40	29:57
PeCDF	30:02	34:16
PeCDD	31:33	34:01
HxCDF	34:54	37:24
HxCDD	35:24	36:59
HpCDF	38:36	40:00
HpCDD	38:50	39:31

% Valley 2378-TCDD: 10 %

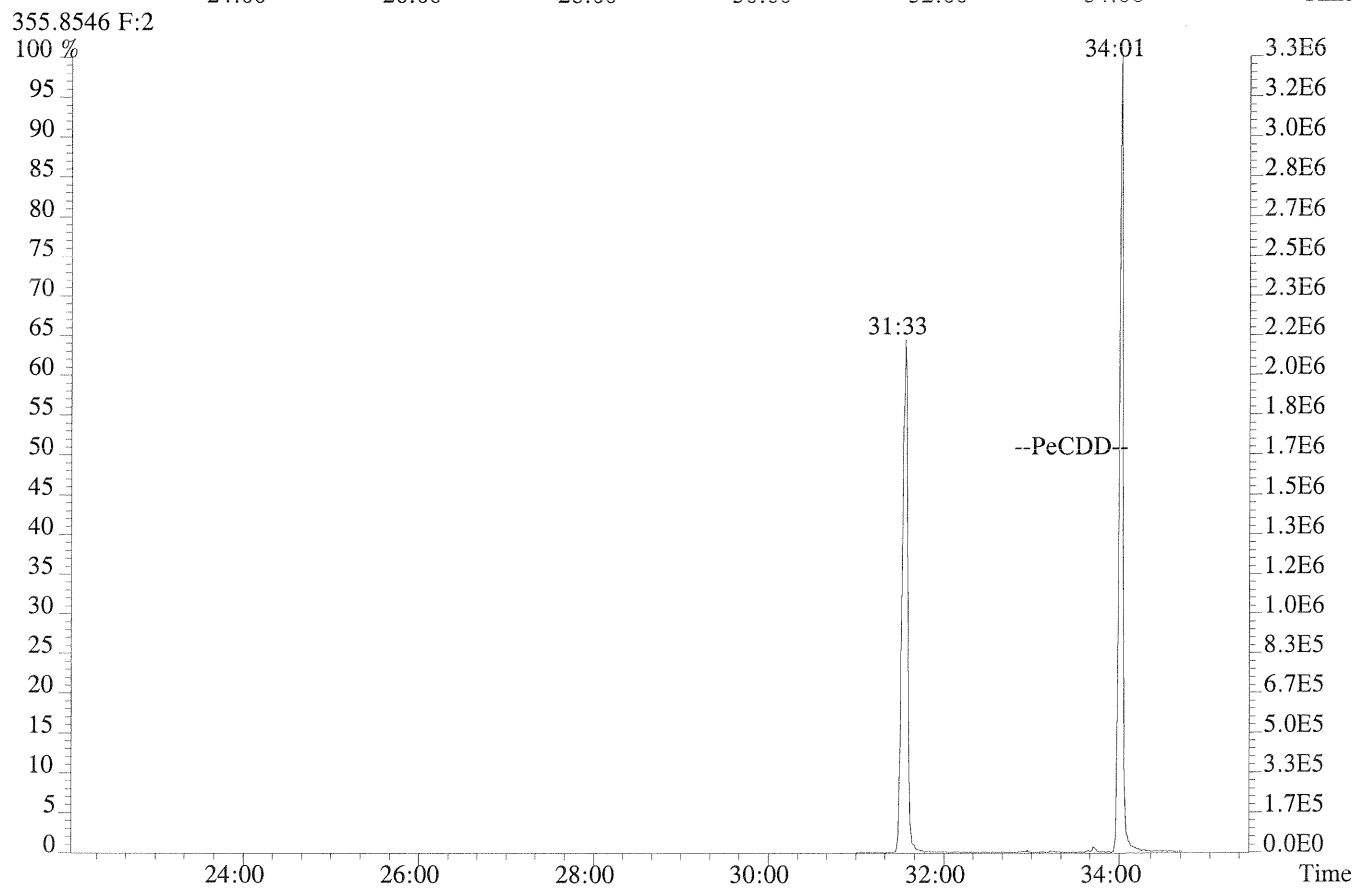
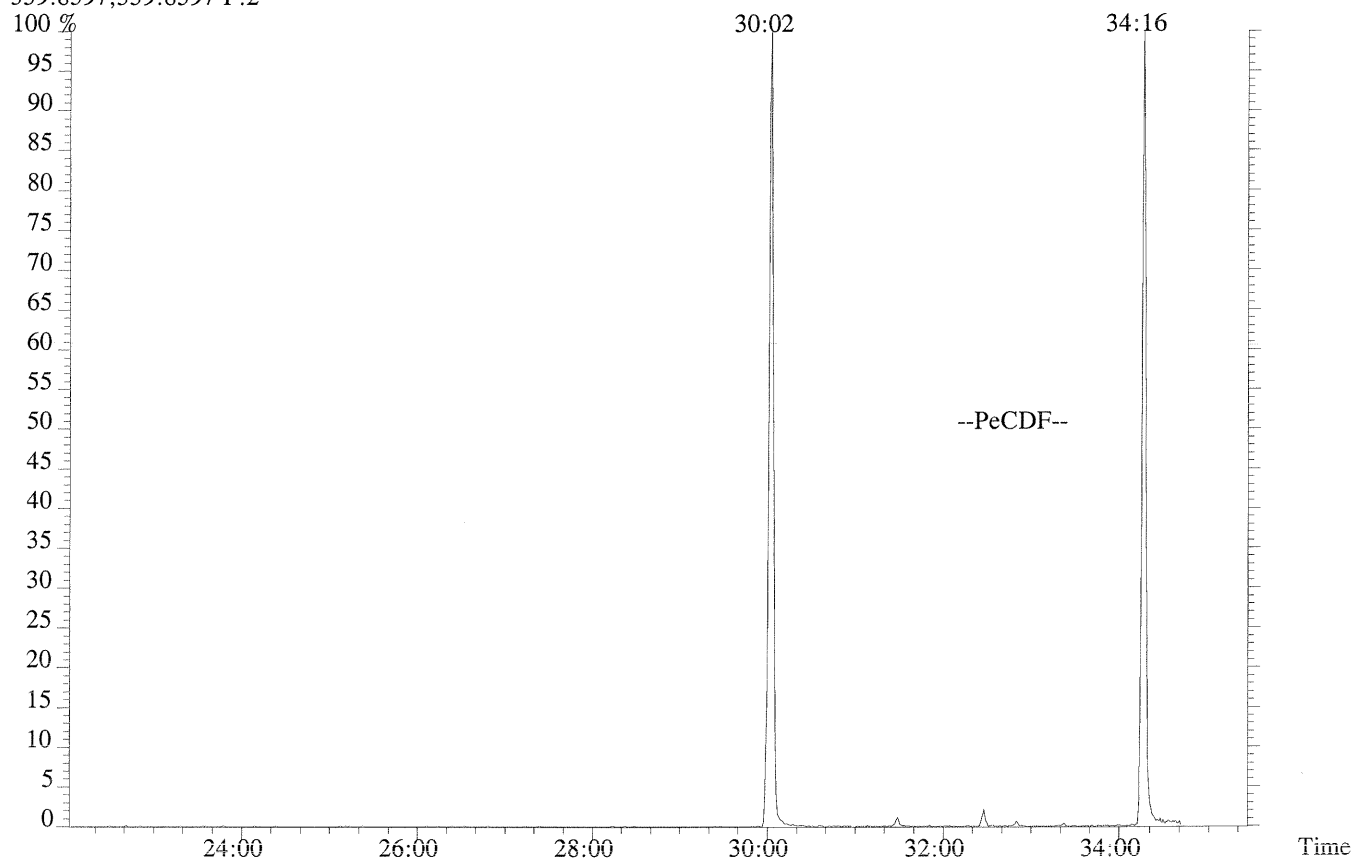
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Sample#1 Exp:WINDOW DEFINE  
319.8965



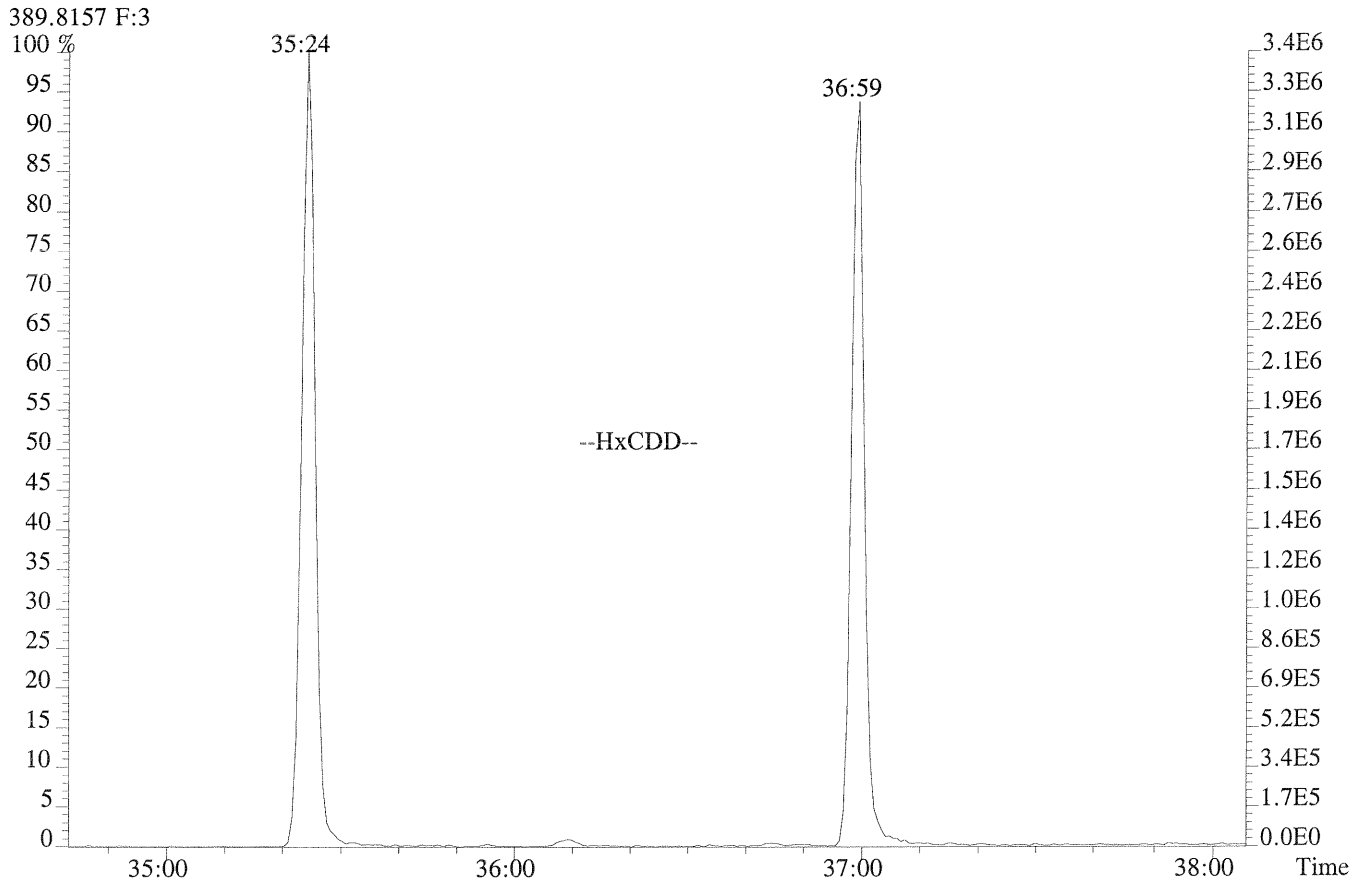
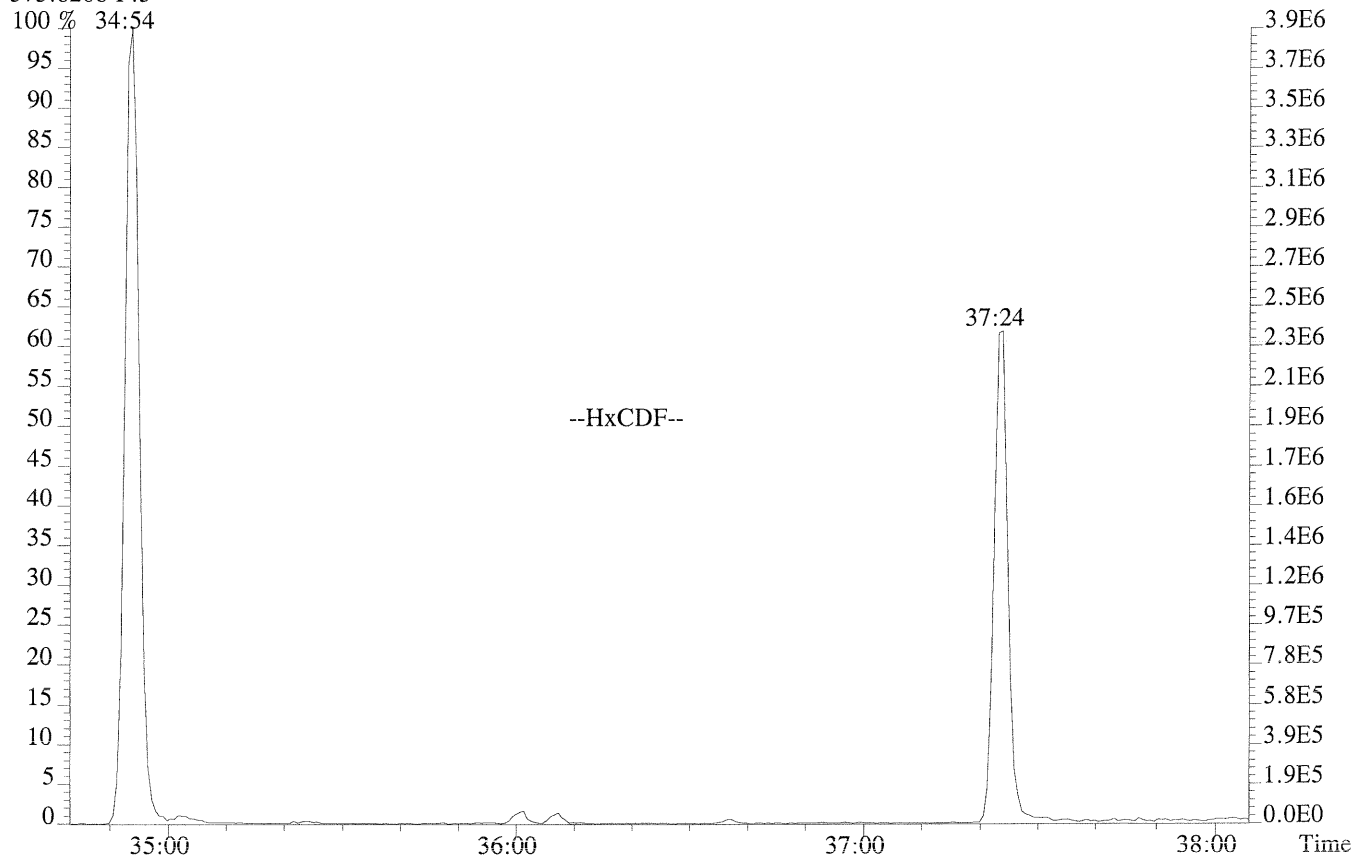
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Sample#1 Exp:WINDOW DEFINE  
303.9016



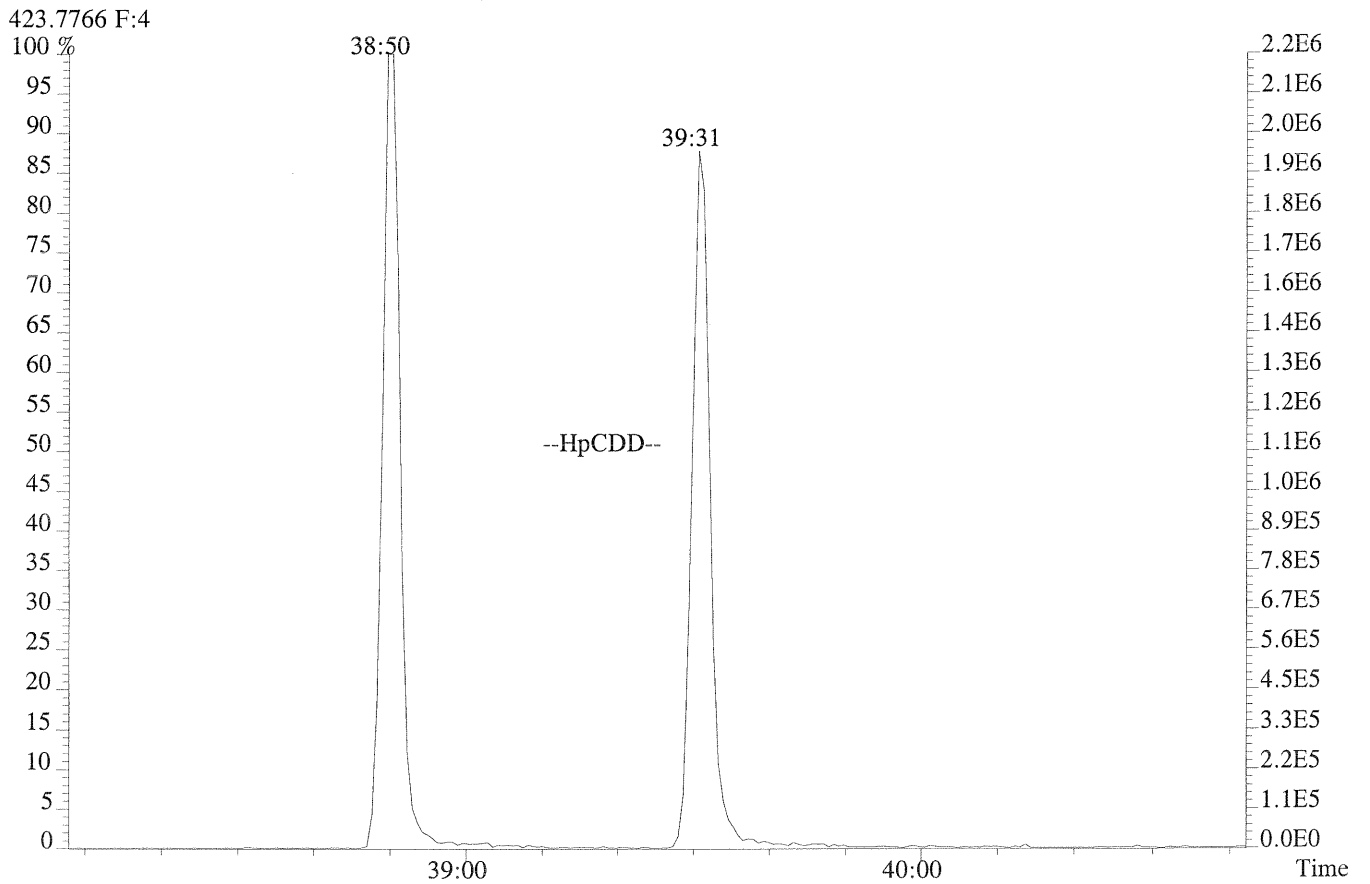
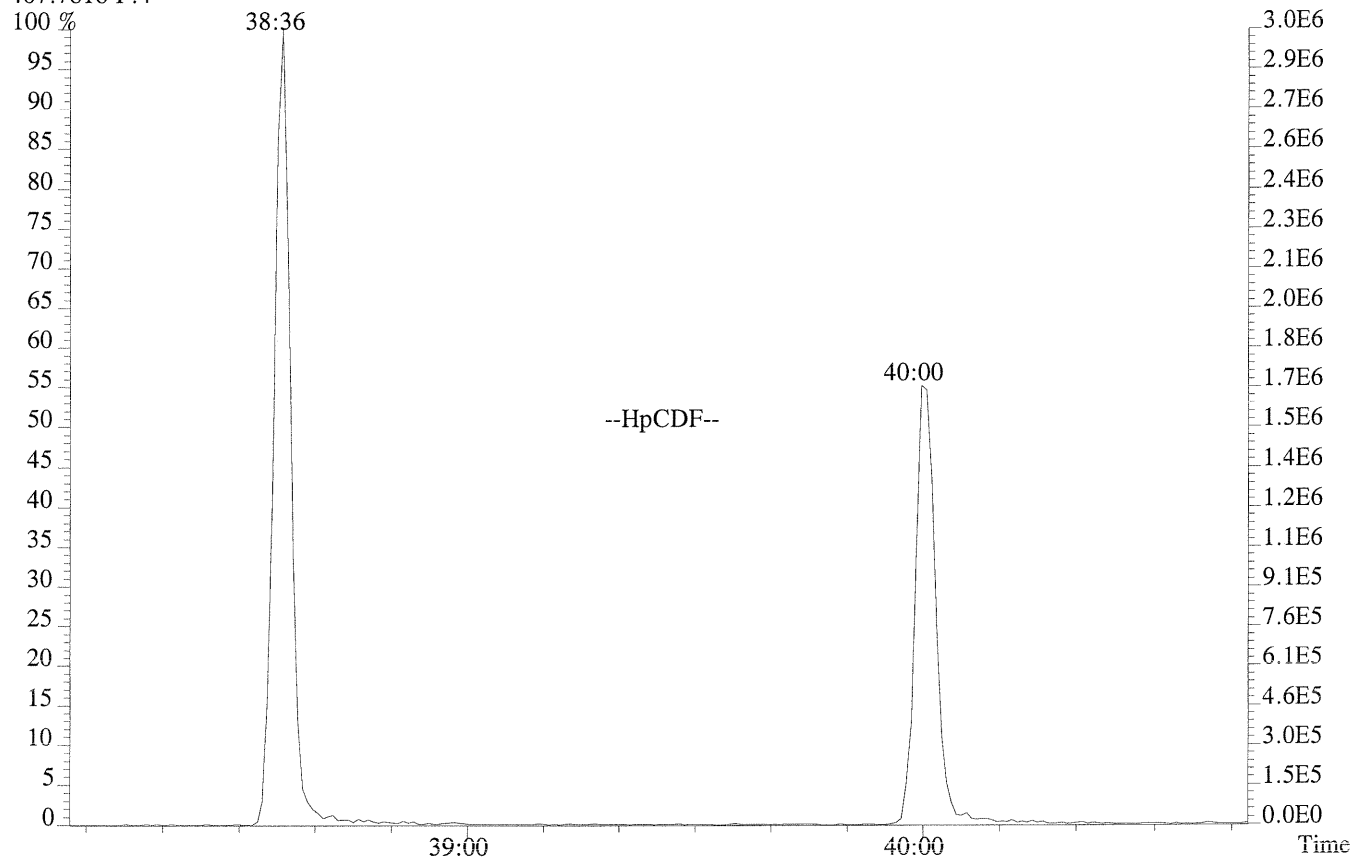
File:P230752 #1-687 Acq:25-AUG-2014 04:54:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:P230752 #1-307 Acq:25-AUG-2014 04:54:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:P230752 #1-234 Acq:25-AUG-2014 04:54:47 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4





## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230751

Analysis Date: 25-AUG-14 Time: 04:07:04

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	9.6	7.8 - 12.9	-4.3
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	50	39 - 65	-0.7
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	49	39 - 64	-1.9
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	51	39 - 64	1.8
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	48	41 - 61	-4.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	50	43 - 58	0.2
OCDD	M+2/M+4	0.91	0.76-1.02	100	79 - 126	0.2
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	10.1	8.4 - 12.0	1.1
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	51	41 - 60	1.4
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	49	41 - 61	-1.5
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	51	45 - 56	1.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	50	44 - 57	-0.8
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	50	45 - 56	-0.9
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	50	44 - 57	-0.8
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	51	45 - 55	2.3
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88-1.20	50	43 - 58	0.6
OCDF	M+2/M+4	0.88	0.76-1.02	94	63 - 159	-5.9

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

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Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230751

Analysis Date: 25-AUG-14 Time: 04:07:04

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	100	82 - 121	0.1
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	99	62 - 160	-1.5
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	99	85 - 117	-1.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	99	85 - 118	-1.3
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	96	72 - 138	-4.0
13C-OCDD	M+2/M+4	0.90	0.76-1.02	184	96 - 415	-8.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	98	71 - 140	-1.9
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	97	76 - 130	-3.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	98	77 - 130	-1.8
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	95	76 - 131	-5.3
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	98	70 - 143	-1.7
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	91	74 - 135	-8.5
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	98	73 - 137	-2.2
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	94	78 - 129	-6.2
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	89	77 - 129	-11.4
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.6	7.8 - 12.7	-4.2

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
CCAL HRCC3/CS3

Run #7      Filename P230751      Samp: 1      Inj: 1      Acquired: 25-AUG-14 04:07:04  
Processed: 25-AUG-14 17:03:59      Sample ID: 72675

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:18	3.378e+03	4.356e+03	0.78	yes	no	0.986
2 Unk	1,2,3,7,8-PeCDF	32:27	3.024e+04	2.020e+04	1.50	yes	no	1.000
3 Unk	2,3,4,7,8-PeCDF	33:22	2.902e+04	1.872e+04	1.55	yes	no	0.970
4 Unk	1,2,3,4,7,8-HxCDF	36:00	2.515e+04	1.991e+04	1.26	yes	no	1.191
5 Unk	1,2,3,6,7,8-HxCDF	36:07	2.699e+04	2.139e+04	1.26	yes	no	1.131
6 Unk	2,3,4,6,7,8-HxCDF	36:37	2.489e+04	2.005e+04	1.24	yes	no	1.109
7 Unk	1,2,3,7,8,9-HxCDF	37:22	1.838e+04	1.485e+04	1.24	yes	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:36	2.021e+04	1.927e+04	1.05	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	40:00	1.263e+04	1.196e+04	1.06	yes	no	1.274
10 Unk	OCDF	42:30	1.876e+04	2.143e+04	0.88	yes	no	1.195
11 Unk	2,3,7,8-TCDD	29:05	2.487e+03	3.060e+03	0.81	yes	no	1.061
12 Unk	1,2,3,7,8-PeCDD	33:38	2.100e+04	1.317e+04	1.59	yes	no	0.992
13 Unk	1,2,3,4,7,8-HxCDD	36:44	1.878e+04	1.479e+04	1.27	yes	no	1.118
14 Unk	1,2,3,6,7,8-HxCDD	36:50	1.901e+04	1.519e+04	1.25	yes	no	1.086
15 Unk	1,2,3,7,8,9-HxCDD	37:03	1.960e+04	1.546e+04	1.27	yes	no	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	1.465e+04	1.425e+04	1.03	yes	no	1.053
17 Unk	OCDD	42:18	1.989e+04	2.195e+04	0.91	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:17	3.432e+04	4.328e+04	0.79	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:27	6.115e+04	3.827e+04	1.60	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:21	6.135e+04	3.857e+04	1.59	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	2.557e+04	4.919e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	2.968e+04	5.655e+04	0.52	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	2.795e+04	5.370e+04	0.52	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	2.022e+04	3.903e+04	0.52	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:35	1.780e+04	3.945e+04	0.45	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	1.177e+04	2.662e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:03	2.407e+04	3.058e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	4.239e+04	2.696e+04	1.57	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	3.400e+04	2.724e+04	1.25	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:49	3.471e+04	2.718e+04	1.28	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	2.832e+04	2.644e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:17	3.393e+04	3.753e+04	0.90	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:29	2.414e+04	3.015e+04	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	3.779e+04	2.933e+04	1.29	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:05	5.711e+03				no	1.099

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1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

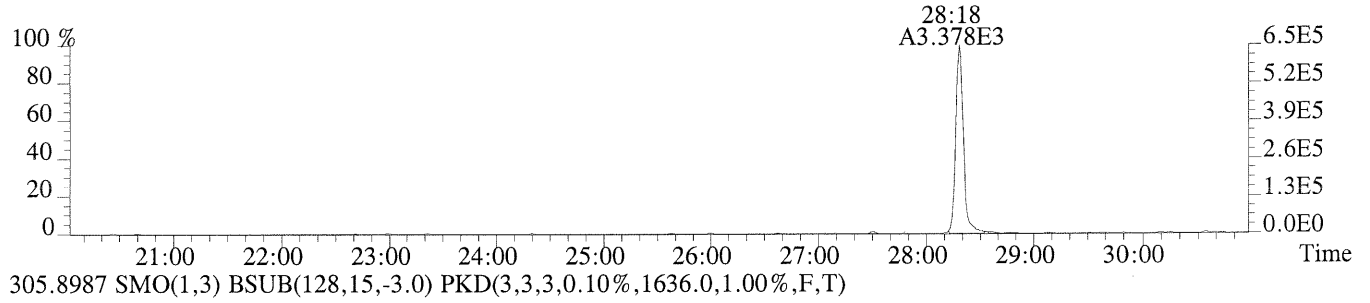
CLIENT ID.  
CCAL HRCC3/CS3

Run #7    Filename P230751    Samp: 1    Inj: 1    Acquired: 25-AUG-14 04:07:04  
Processed: 25-AUG-14 17:03:591    LAB. ID: 72675

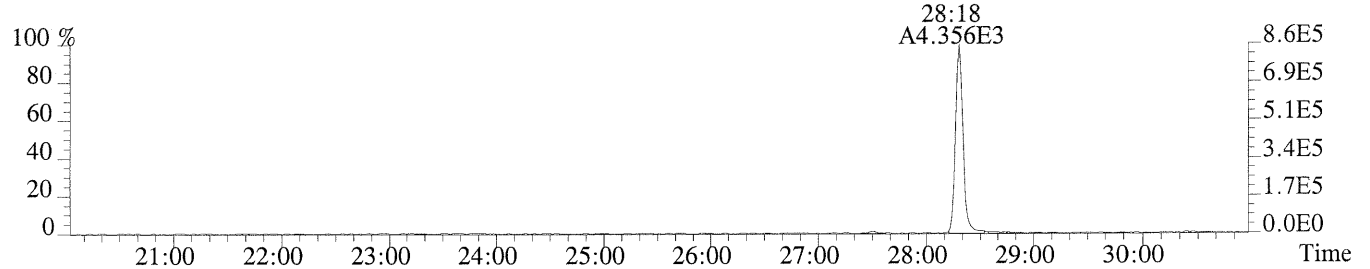
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.49e+05	1.80e+02	3.6e+03	8.56e+05	1.64e+03	5.2e+02
2	1,2,3,7,8-PeCDF	5.62e+06	2.04e+02	2.8e+04	3.77e+06	1.15e+03	3.3e+03
3	2,3,4,7,8-PeCDF	5.63e+06	2.04e+02	2.8e+04	3.68e+06	1.15e+03	3.2e+03
4	1,2,3,4,7,8-HxCDF	5.46e+06	8.36e+02	6.5e+03	4.37e+06	2.44e+02	1.8e+04
5	1,2,3,6,7,8-HxCDF	5.65e+06	8.36e+02	6.8e+03	4.49e+06	2.44e+02	1.8e+04
6	2,3,4,6,7,8-HxCDF	5.45e+06	8.36e+02	6.5e+03	4.35e+06	2.44e+02	1.8e+04
7	1,2,3,7,8,9-HxCDF	4.02e+06	8.36e+02	4.8e+03	3.26e+06	2.44e+02	1.3e+04
8	1,2,3,4,6,7,8-HpCDF	4.62e+06	3.73e+03	1.2e+03	4.31e+06	3.29e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	2.59e+06	3.73e+03	6.9e+02	2.39e+06	3.29e+03	7.3e+02
10	OCDF	3.33e+06	4.16e+02	8.0e+03	3.74e+06	1.02e+03	3.7e+03
11	2,3,7,8-TCDD	5.05e+05	7.64e+02	6.6e+02	6.41e+05	2.72e+02	2.4e+03
12	1,2,3,7,8-PeCDD	4.19e+06	7.84e+02	5.3e+03	2.66e+06	7.60e+01	3.5e+04
13	1,2,3,4,7,8-HxCDD	4.26e+06	1.84e+02	2.3e+04	3.38e+06	2.88e+02	1.2e+04
14	1,2,3,6,7,8-HxCDD	4.14e+06	1.84e+02	2.2e+04	3.34e+06	2.88e+02	1.2e+04
15	1,2,3,7,8,9-HxCDD	4.22e+06	1.84e+02	2.3e+04	3.39e+06	2.88e+02	1.2e+04
16	1,2,3,4,6,7,8-HpCDD	3.07e+06	6.32e+02	4.9e+03	3.03e+06	3.96e+02	7.7e+03
17	OCDD	3.49e+06	4.40e+01	7.9e+04	3.94e+06	7.76e+02	5.1e+03
18	13C-2,3,7,8-TCDF	6.88e+06	1.36e+03	5.1e+03	8.71e+06	1.25e+03	7.0e+03
19	13C-1,2,3,7,8-PeCDF	1.15e+07	5.92e+02	1.9e+04	7.13e+06	6.20e+02	1.2e+04
20	13C-2,3,4,7,8-PeCDF	1.22e+07	5.92e+02	2.1e+04	7.78e+06	6.20e+02	1.3e+04
21	13C-1,2,3,4,7,8-HxCDF	5.52e+06	4.92e+02	1.1e+04	1.08e+07	1.67e+03	6.5e+03
22	13C-1,2,3,6,7,8-HxCDF	6.28e+06	4.92e+02	1.3e+04	1.20e+07	1.67e+03	7.2e+03
23	13C-2,3,4,6,7,8-HxCDF	6.09e+06	4.92e+02	1.2e+04	1.16e+07	1.67e+03	6.9e+03
24	13C-1,2,3,7,8,9-HxCDF	4.37e+06	4.92e+02	8.9e+03	8.44e+06	1.67e+03	5.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	4.09e+06	1.94e+03	2.1e+03	8.99e+06	4.01e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.39e+06	1.94e+03	1.2e+03	5.44e+06	4.01e+03	1.4e+03
27	13C-2,3,7,8-TCDD	4.89e+06	4.65e+03	1.1e+03	6.23e+06	2.02e+03	3.1e+03
28	13C-1,2,3,7,8-PeCDD	8.46e+06	7.80e+02	1.1e+04	5.37e+06	2.24e+02	2.4e+04
29	13C-1,2,3,4,7,8-HxCDD	7.72e+06	5.56e+02	1.4e+04	6.22e+06	7.96e+02	7.8e+03
30	13C-1,2,3,6,7,8-HxCDD	7.47e+06	5.56e+02	1.3e+04	5.97e+06	7.96e+02	7.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.06e+06	1.03e+03	5.9e+03	5.69e+06	5.64e+02	1.0e+04
32	13C-OCDD	6.02e+06	4.28e+02	1.4e+04	6.69e+06	3.32e+02	2.0e+04
33	13C-1,2,3,4-TCDD	4.99e+06	4.65e+03	1.1e+03	6.21e+06	2.02e+03	3.1e+03
34	13C-1,2,3,7,8,9-HxCDD	7.98e+06	5.56e+02	1.4e+04	6.32e+06	7.96e+02	7.9e+03
35	37Cl-2,3,7,8-TCDD	1.19e+06	7.60e+02	1.6e+03			

ALS ENVIRONMENTAL  
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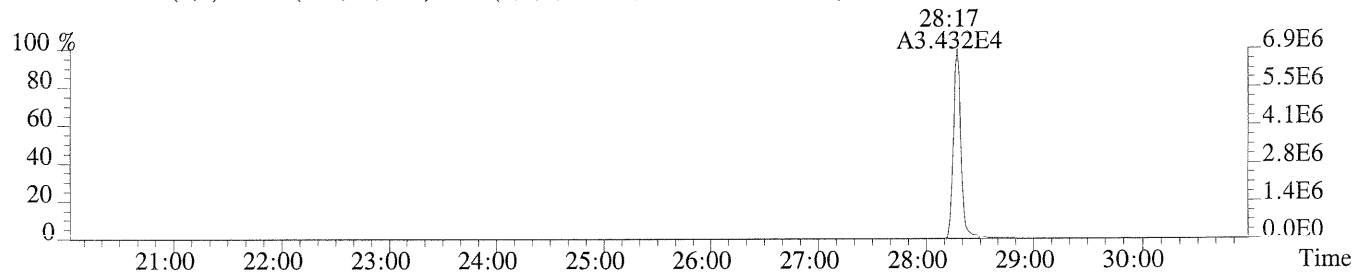
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Sample#1 Exp:CCAL HRCC3/CS3  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



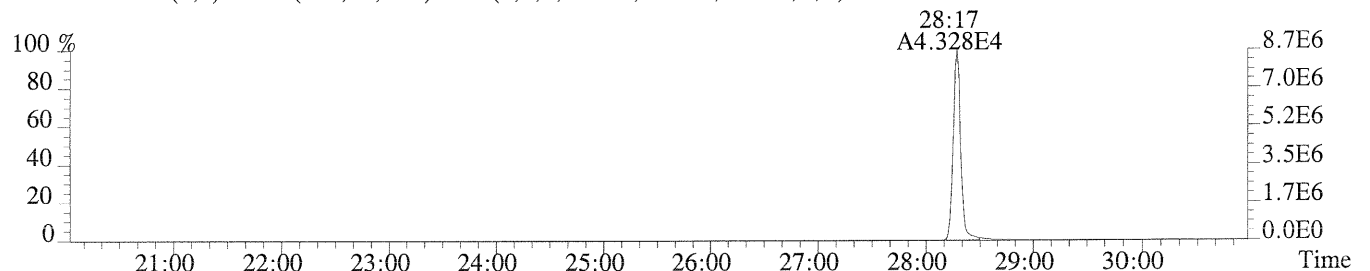
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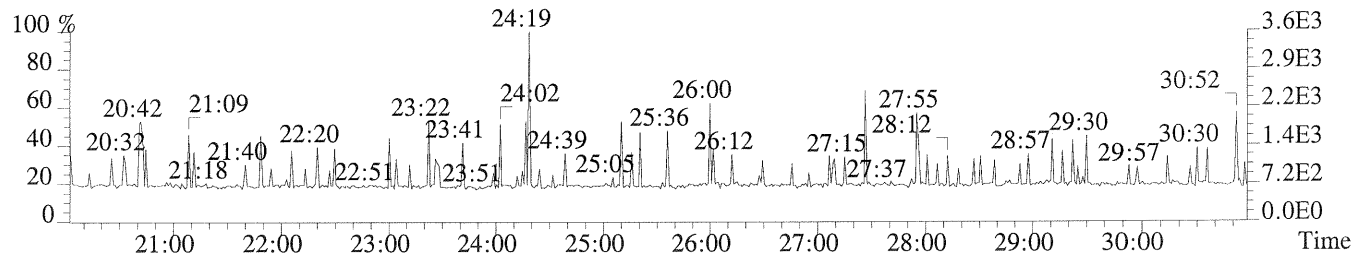
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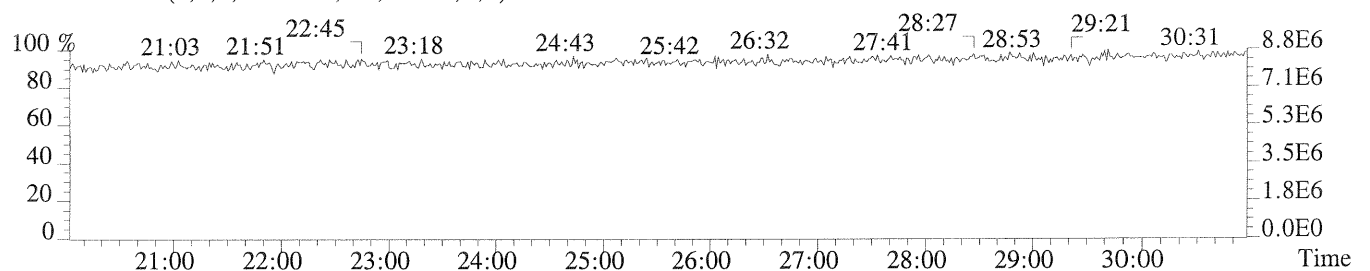
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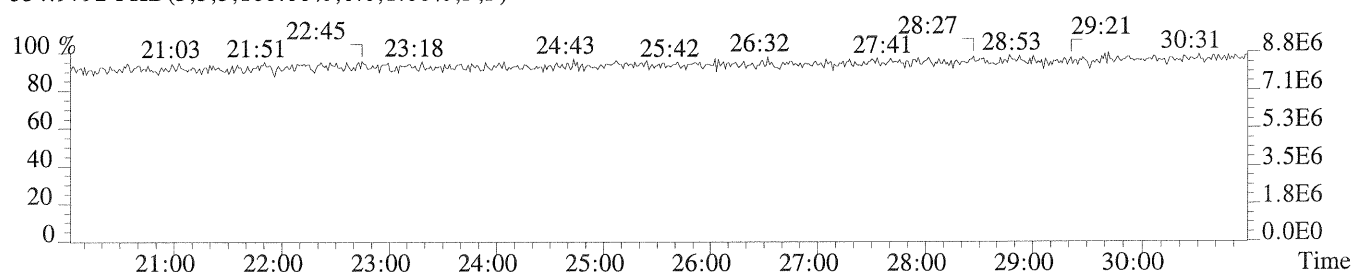
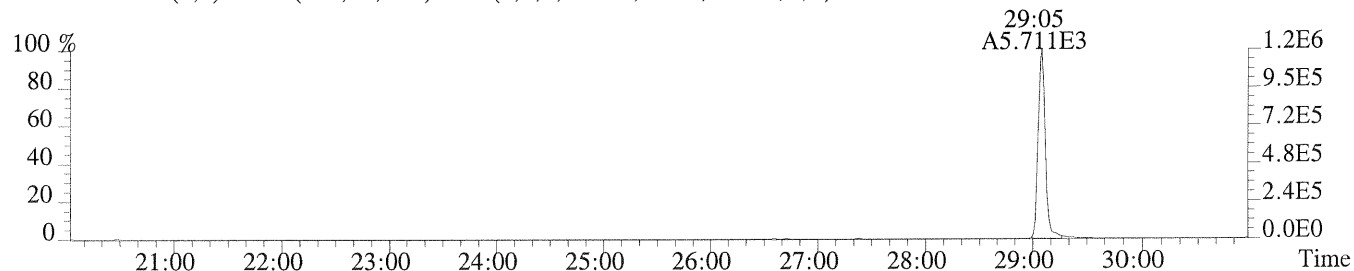
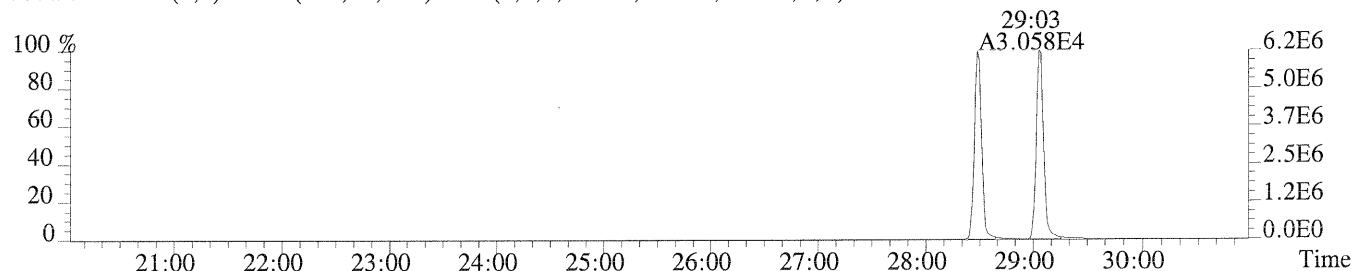
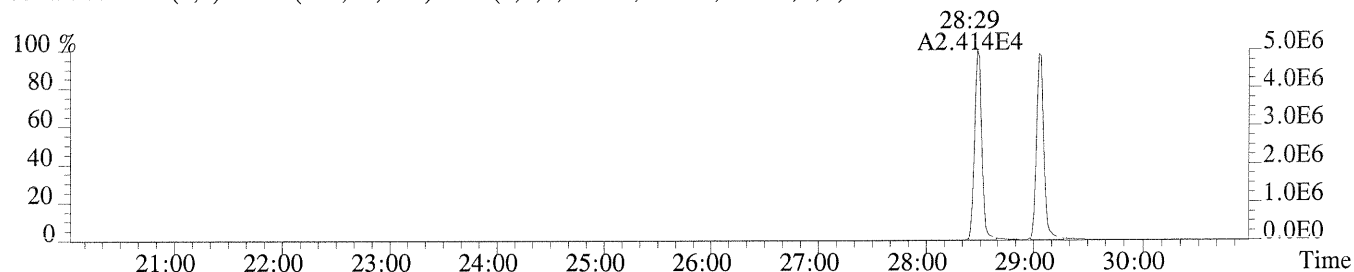
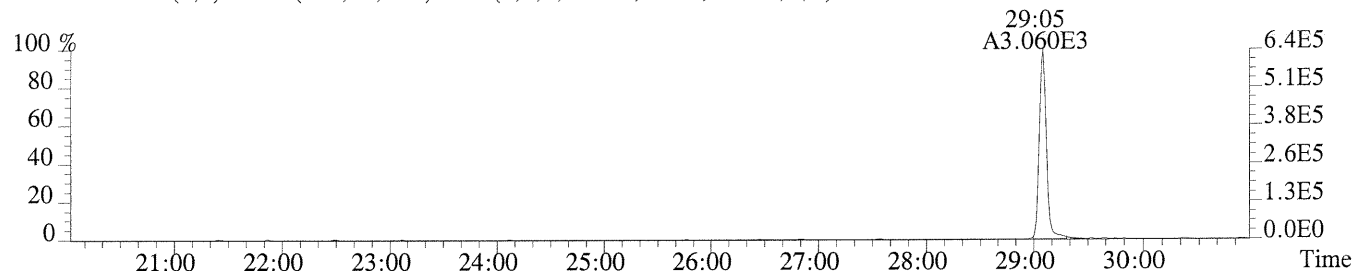
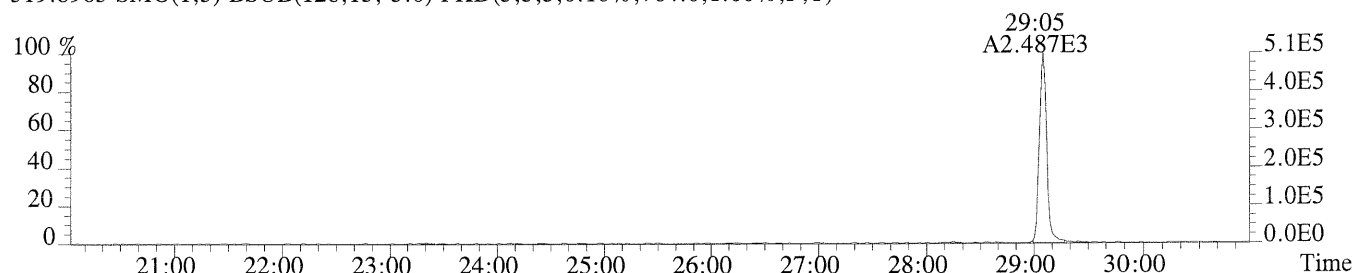


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



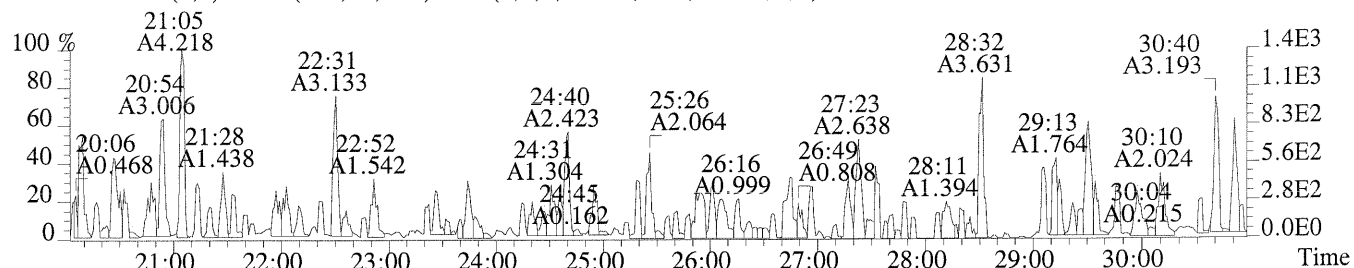
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



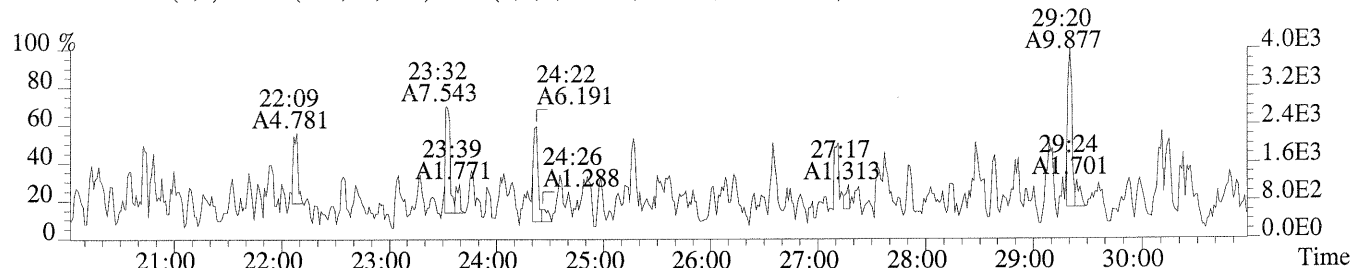


File:P230751 #1-687 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:CCAL HRCC3/CS3

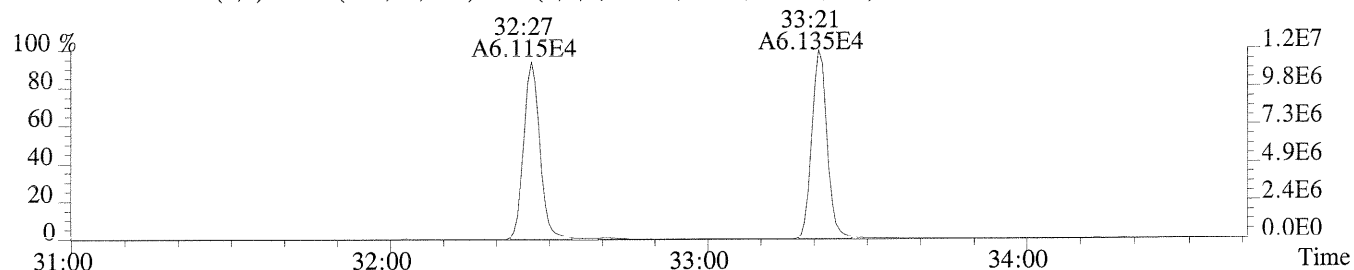
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



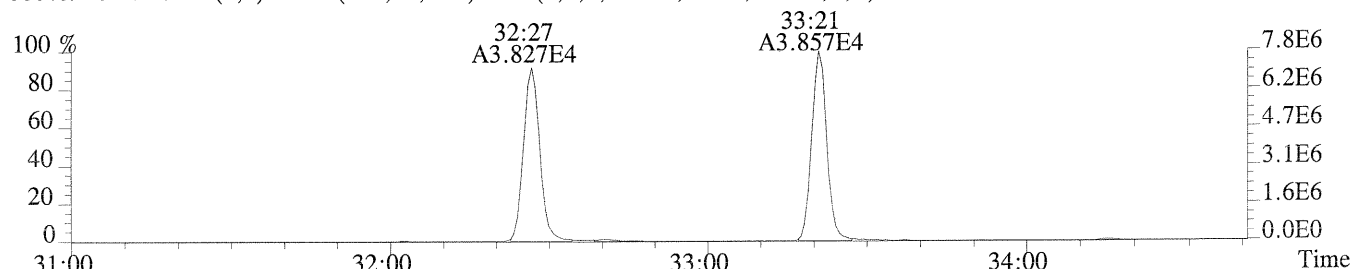
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



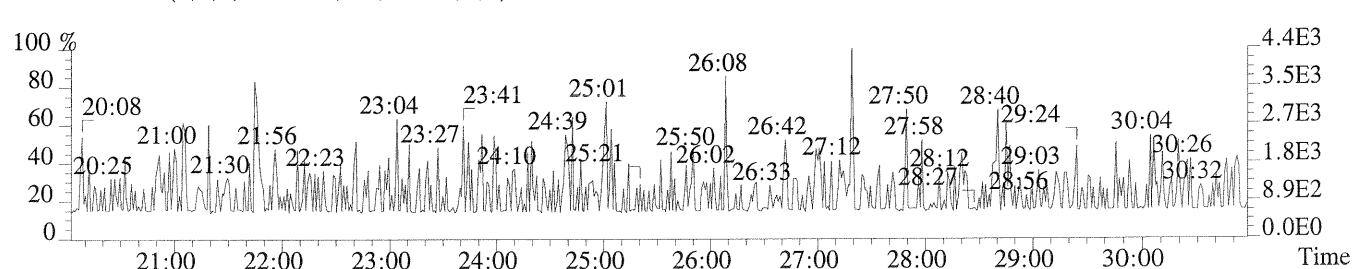
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



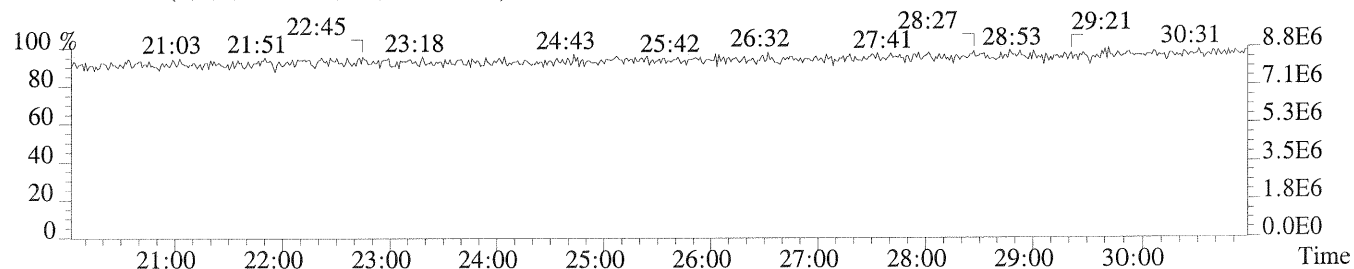
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



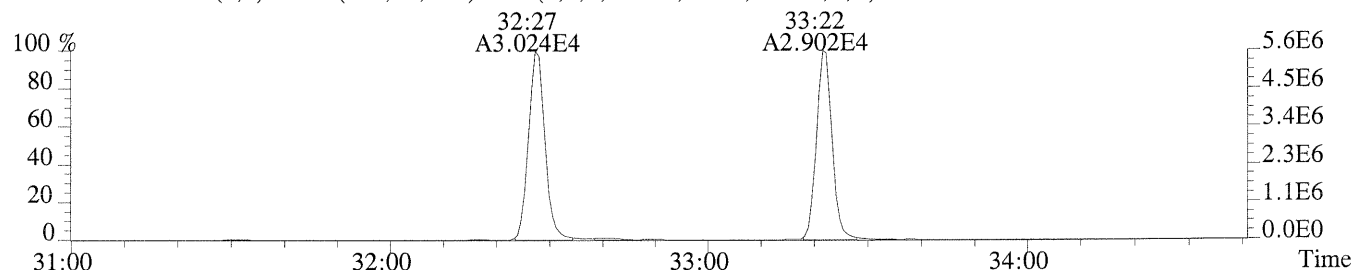
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



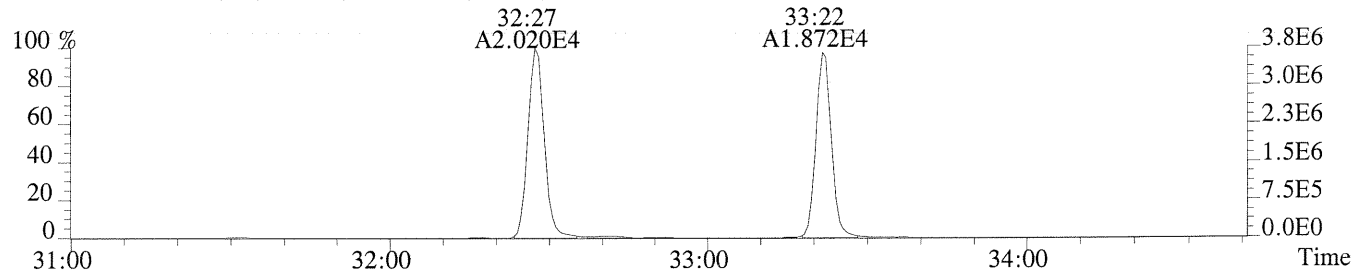
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



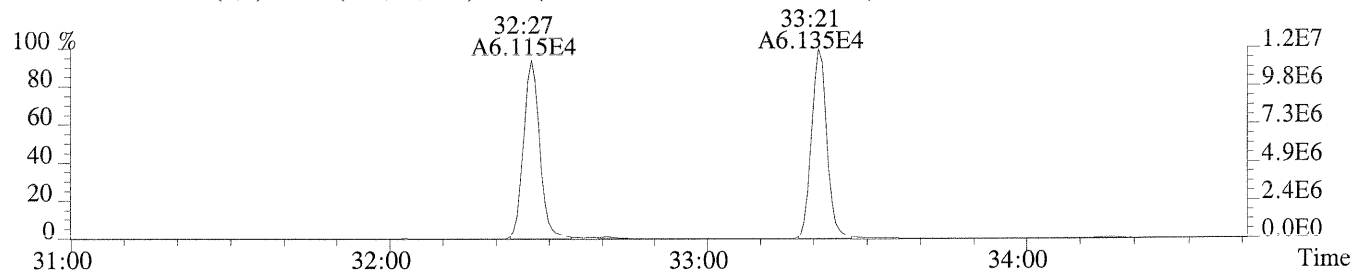
File:P230751 #1-335 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



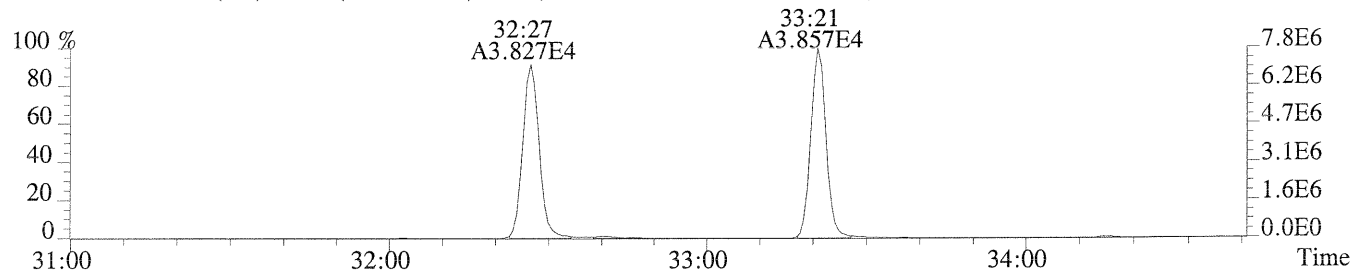
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1152.0,1.00%,F,T)



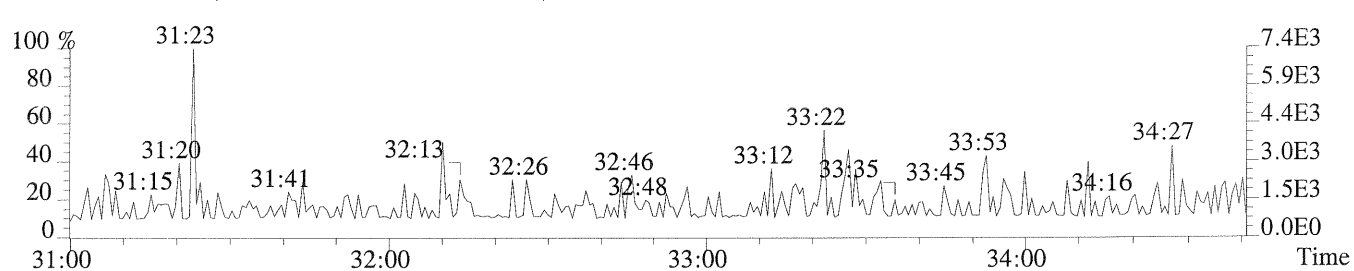
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



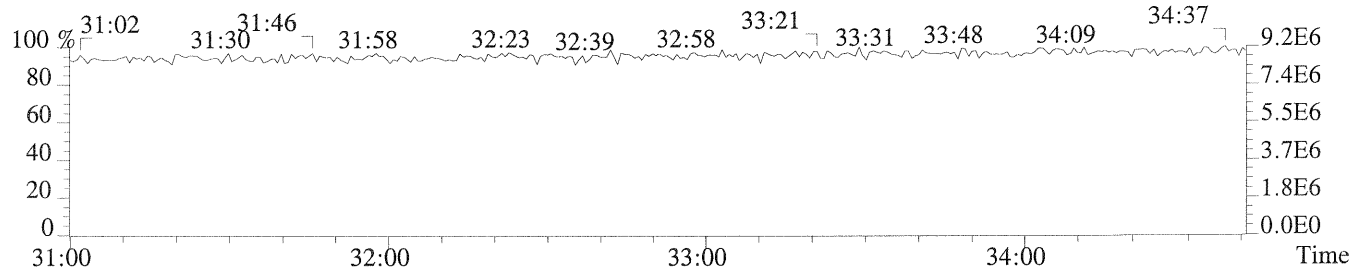
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

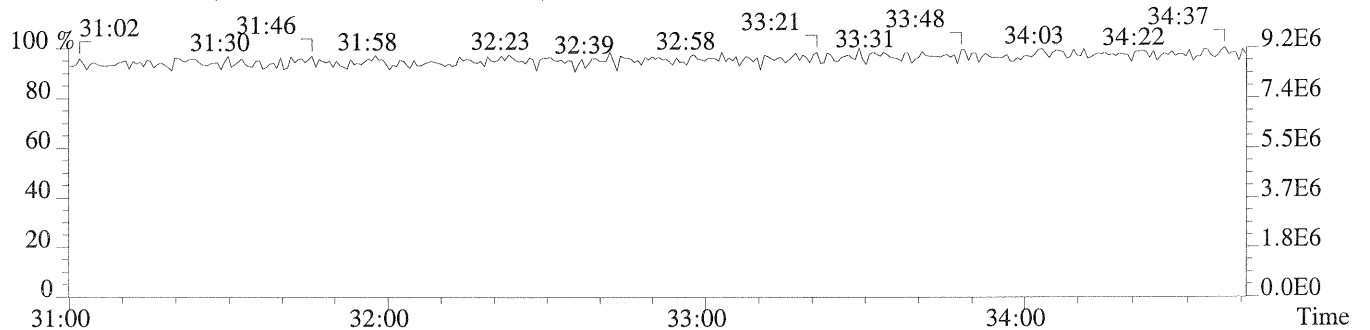
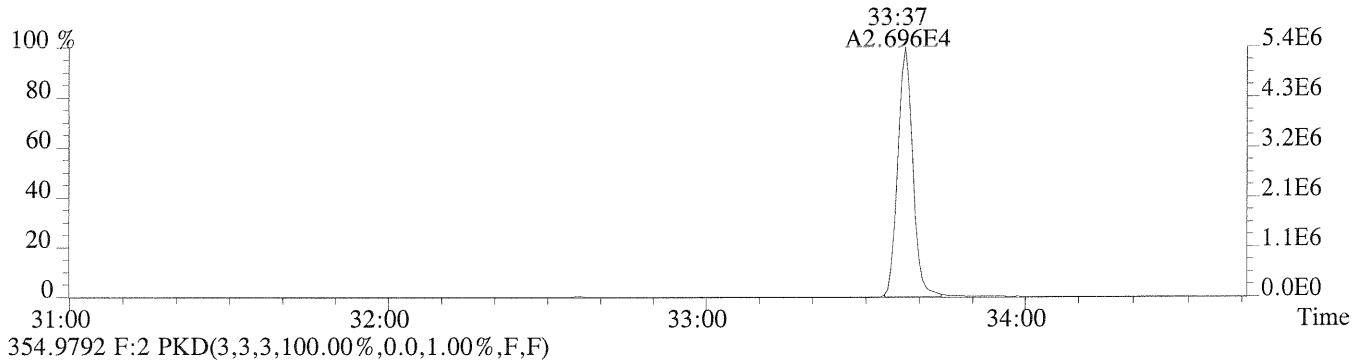
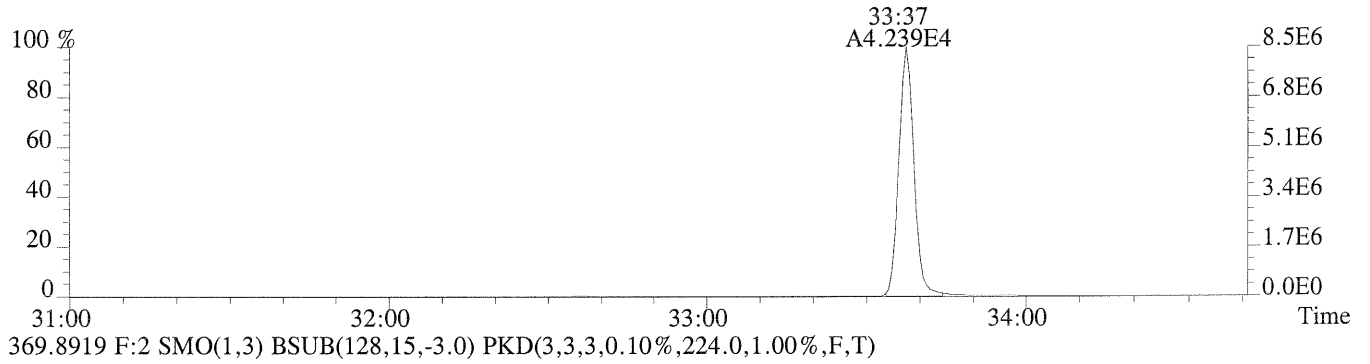
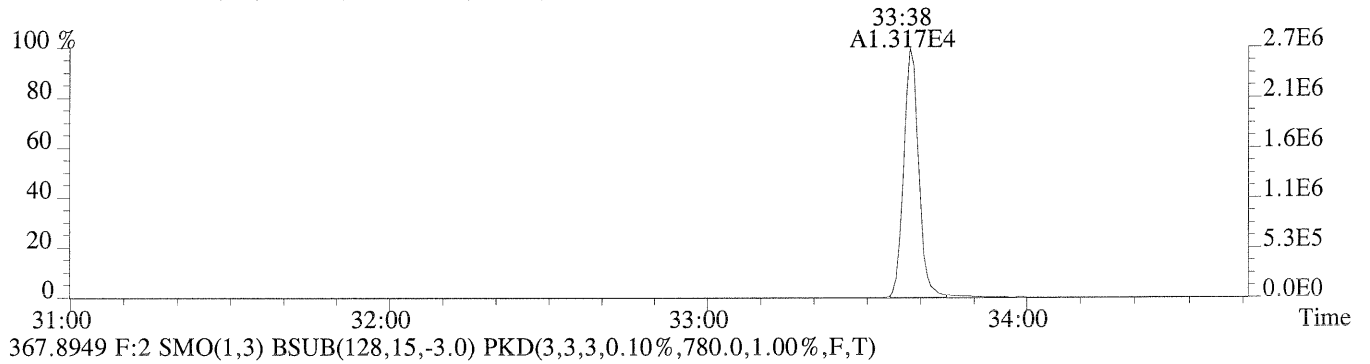
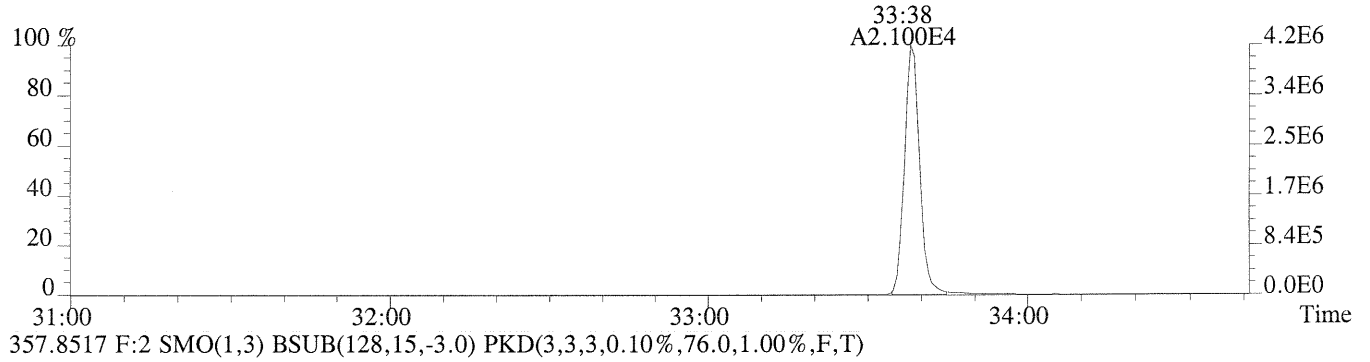


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

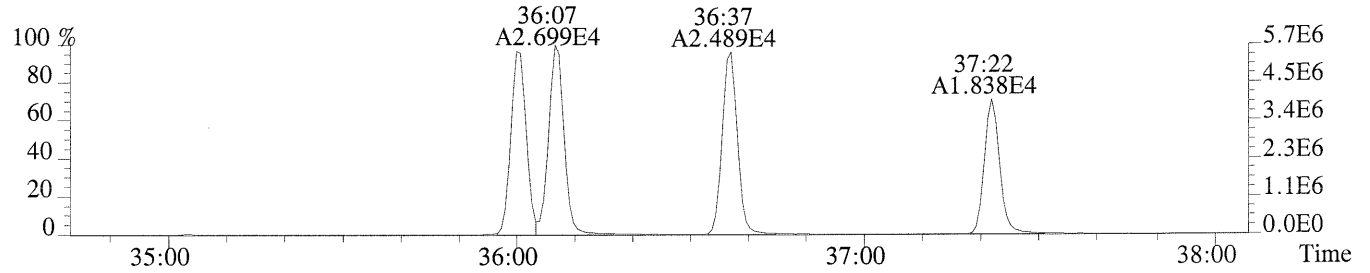




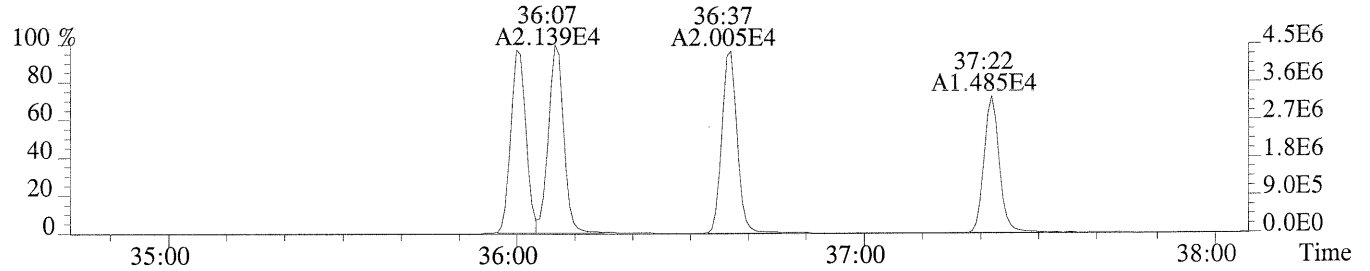
File:P230751 #1-335 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,T)



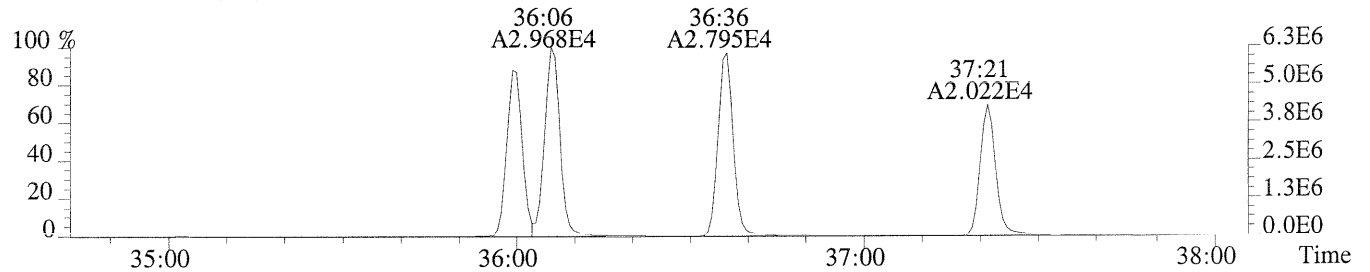
File:P230751 #1-307 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



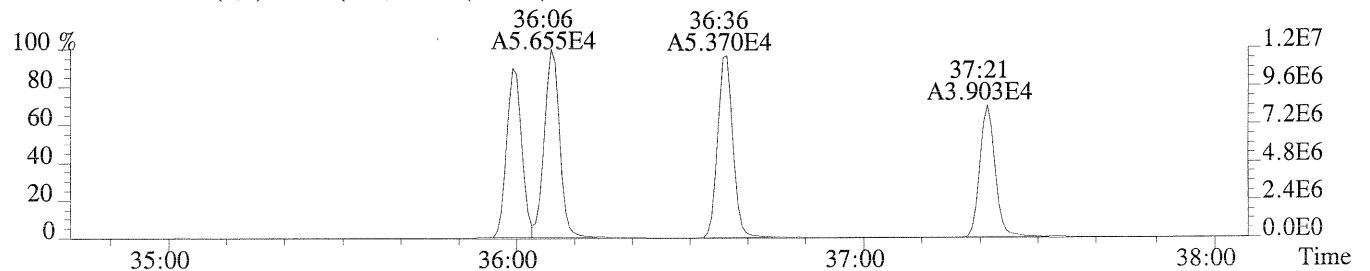
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



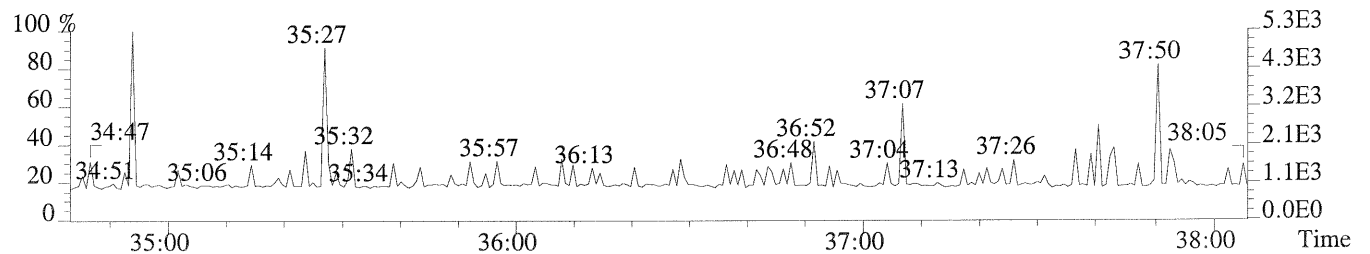
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,T)



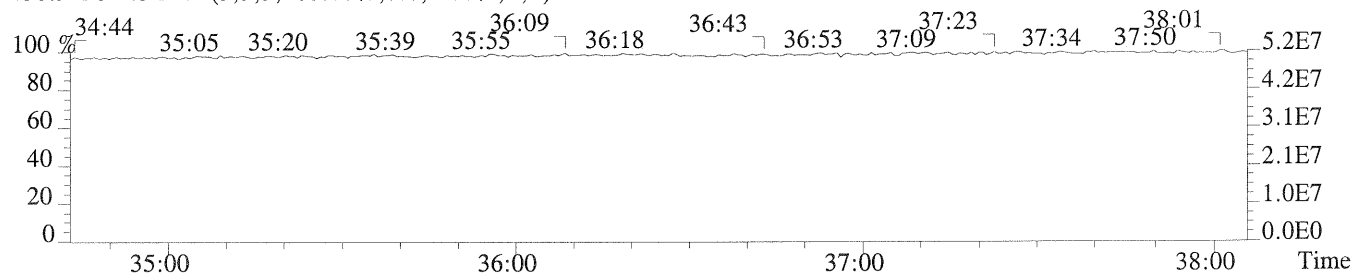
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1672.0,0.40%,F,T)



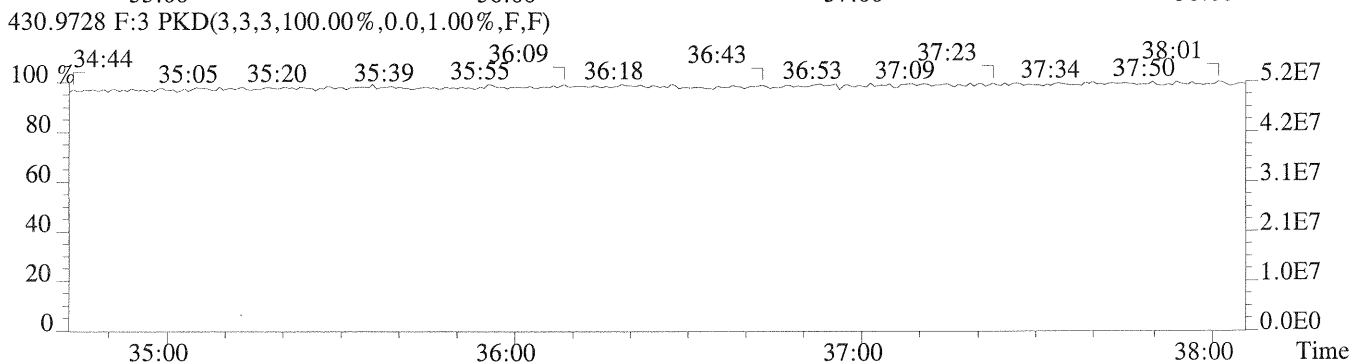
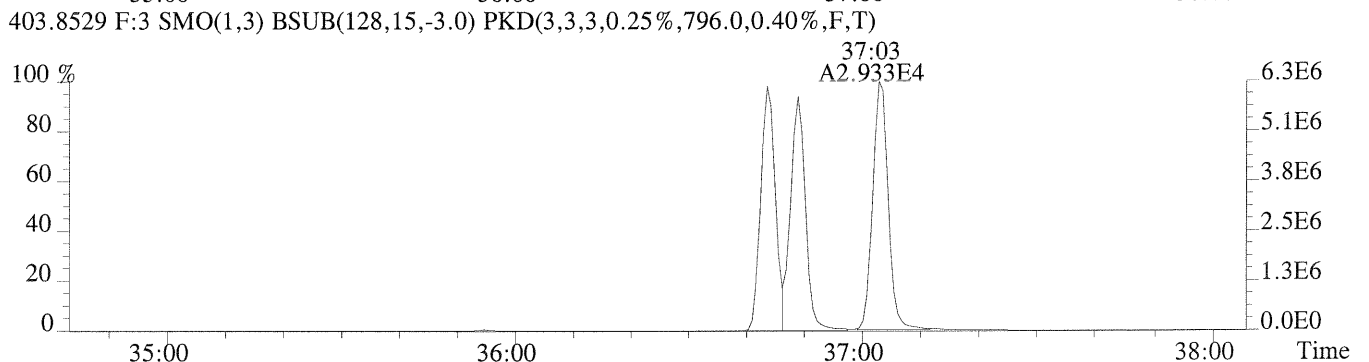
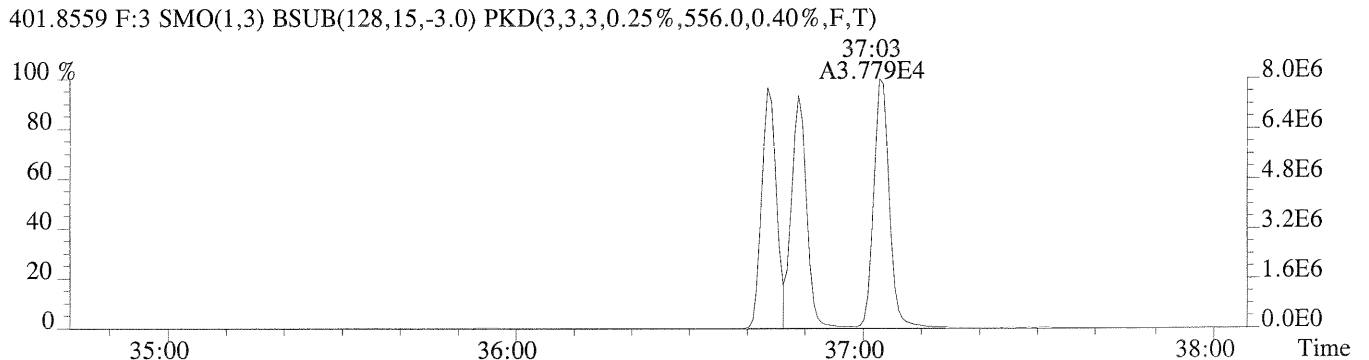
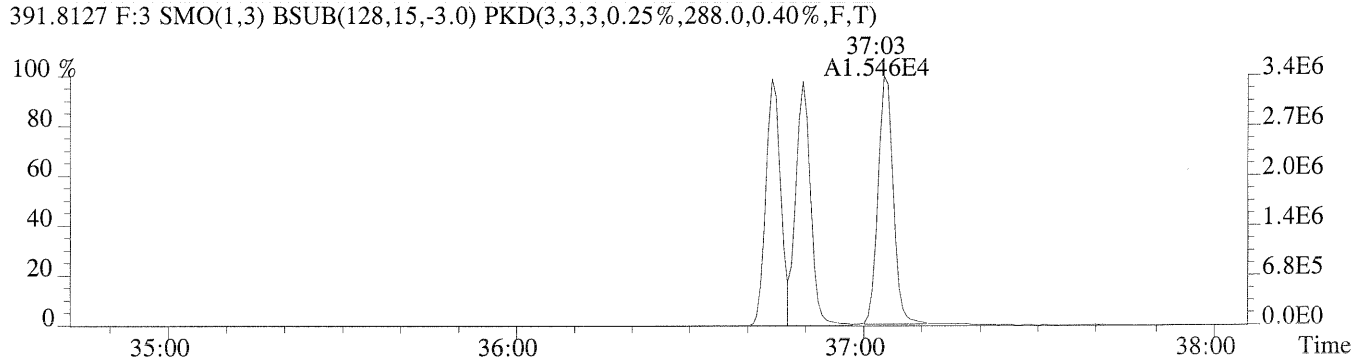
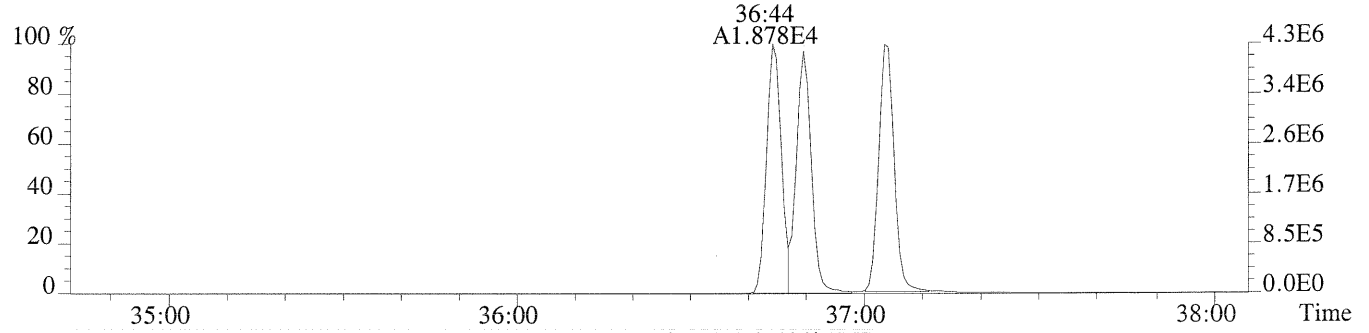
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



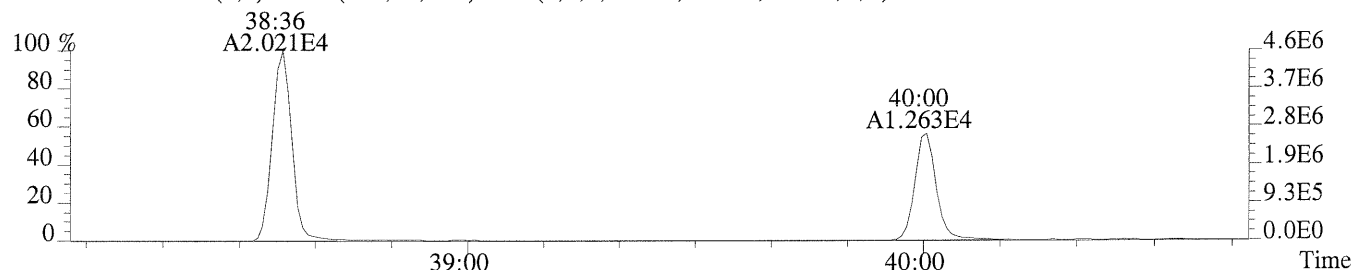
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



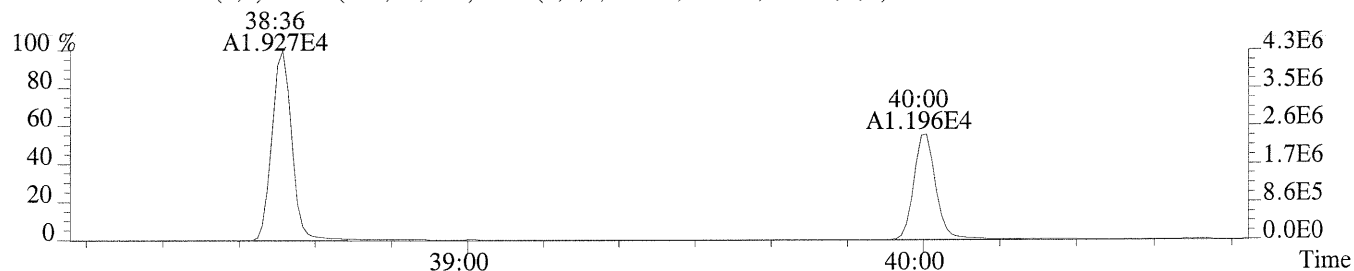
File:P230751 #1-307 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



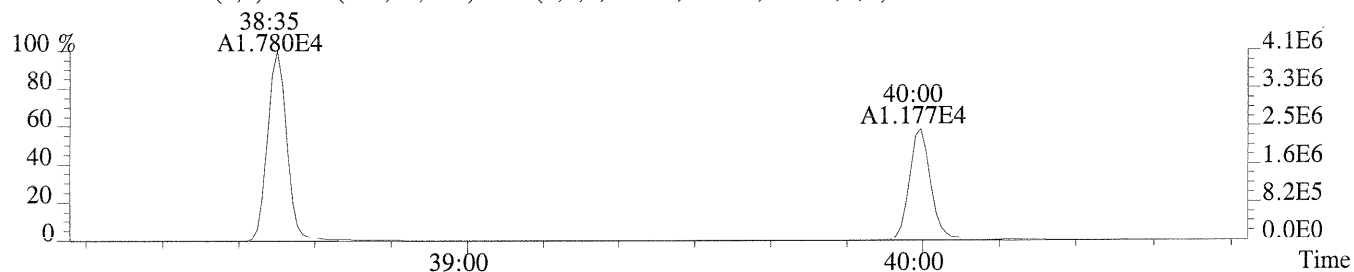
File:P230751 #1-234 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3728.0,0.50%,F,T)



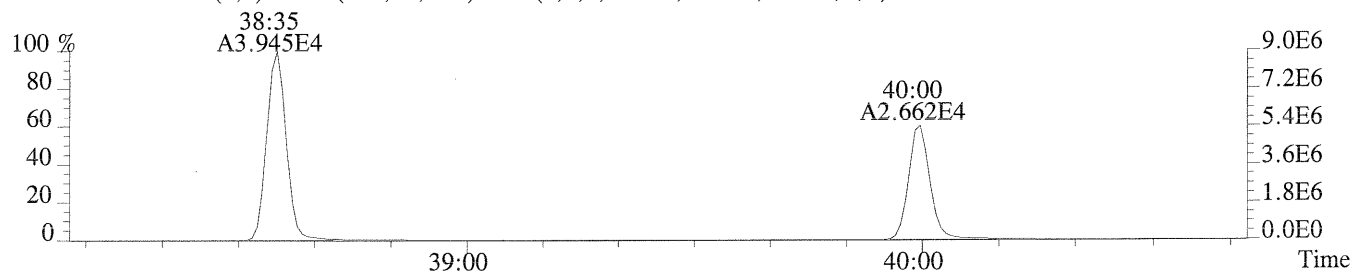
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3288.0,0.50%,F,T)



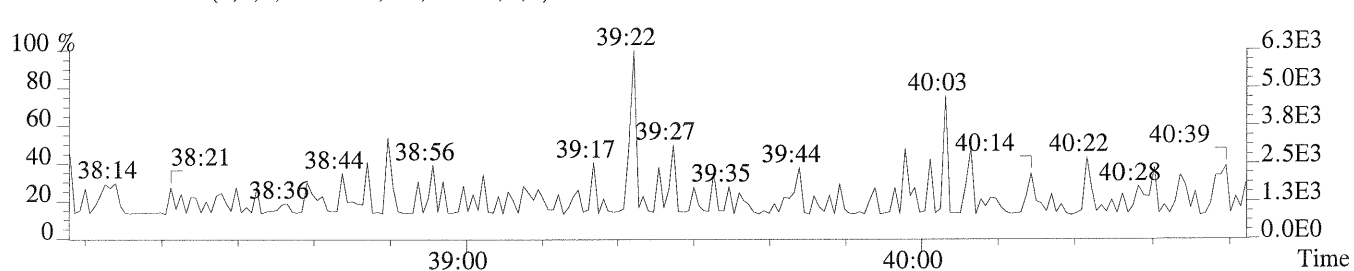
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1940.0,0.50%,F,T)



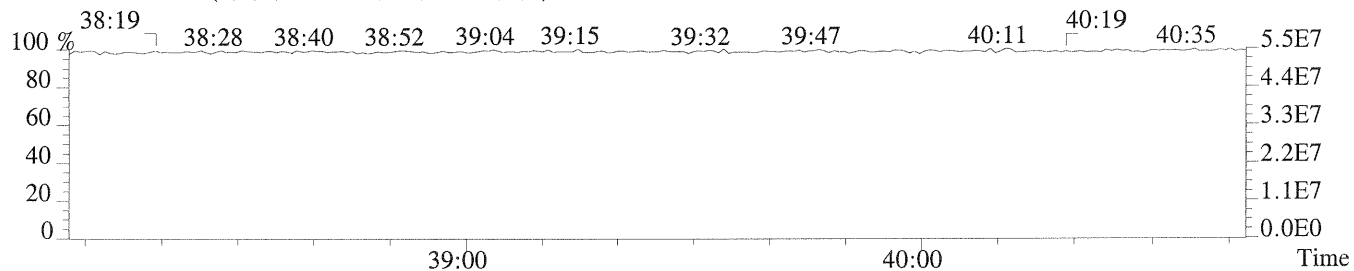
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4008.0,0.50%,F,T)



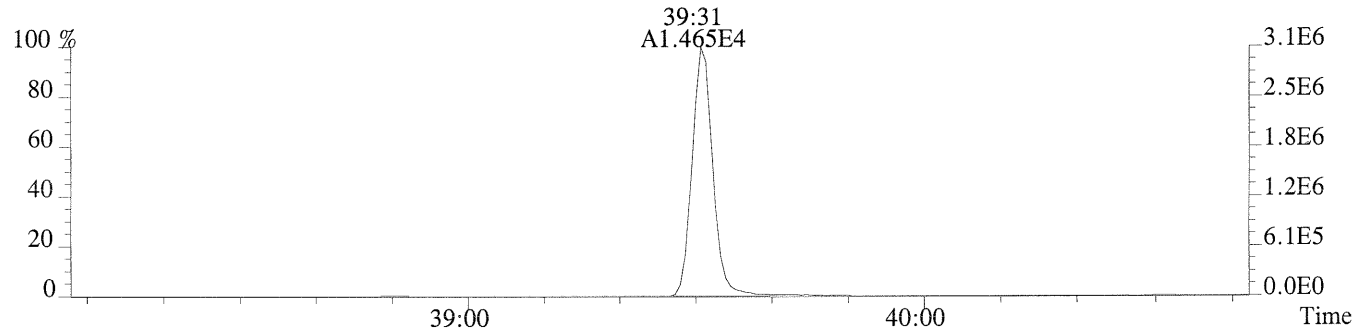
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



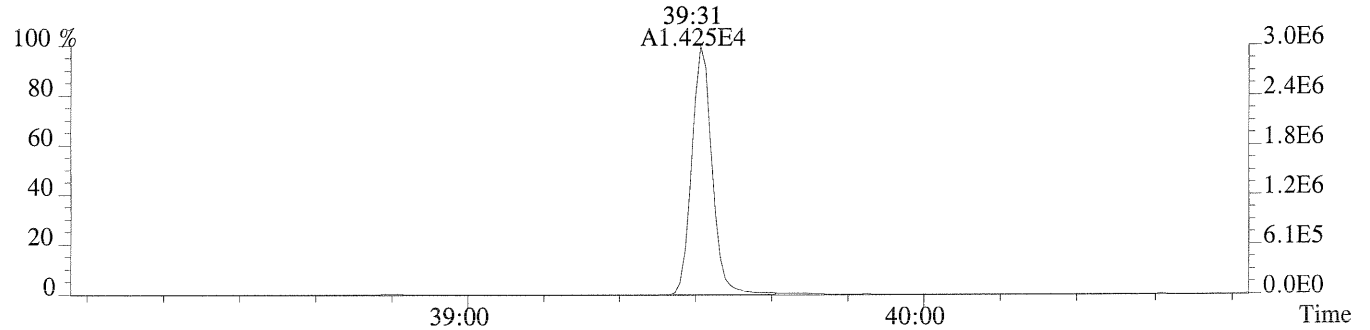
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



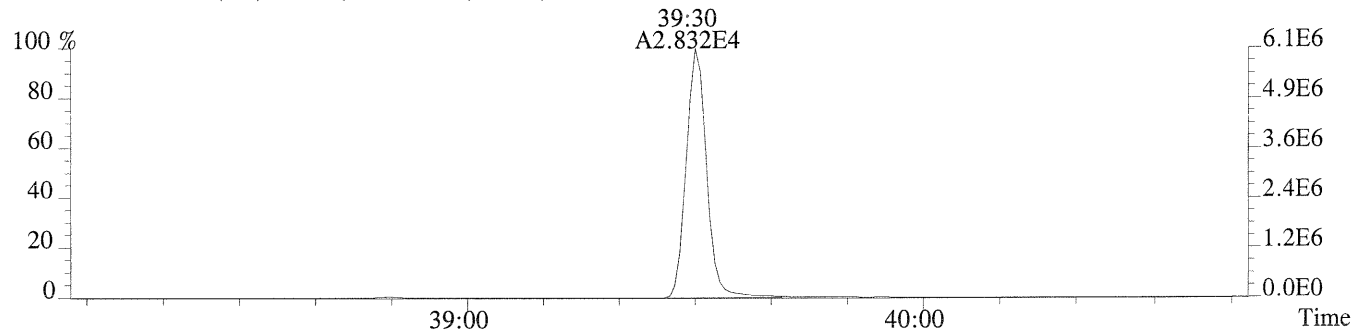
File:P230751 #1-234 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,632.0,0.40%,F,T)



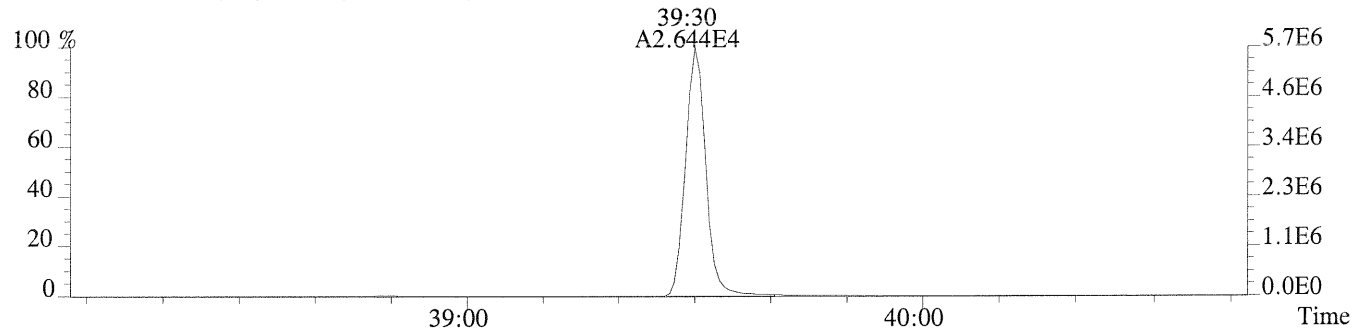
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,396.0,0.40%,F,T)



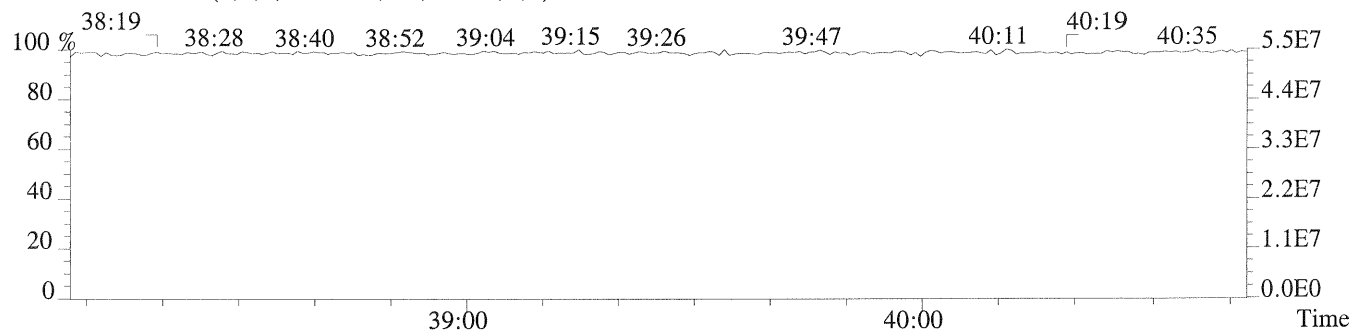
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



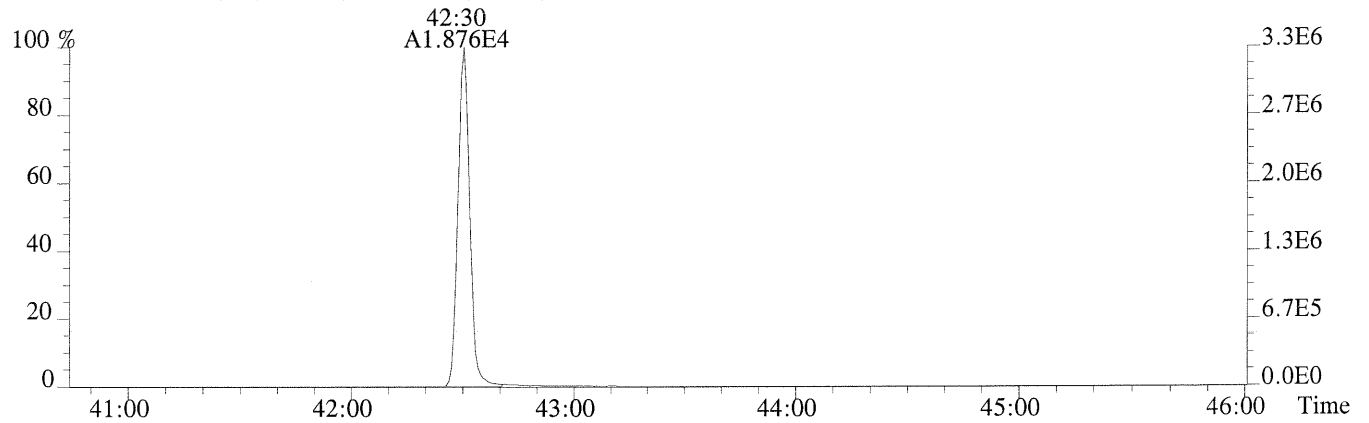
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



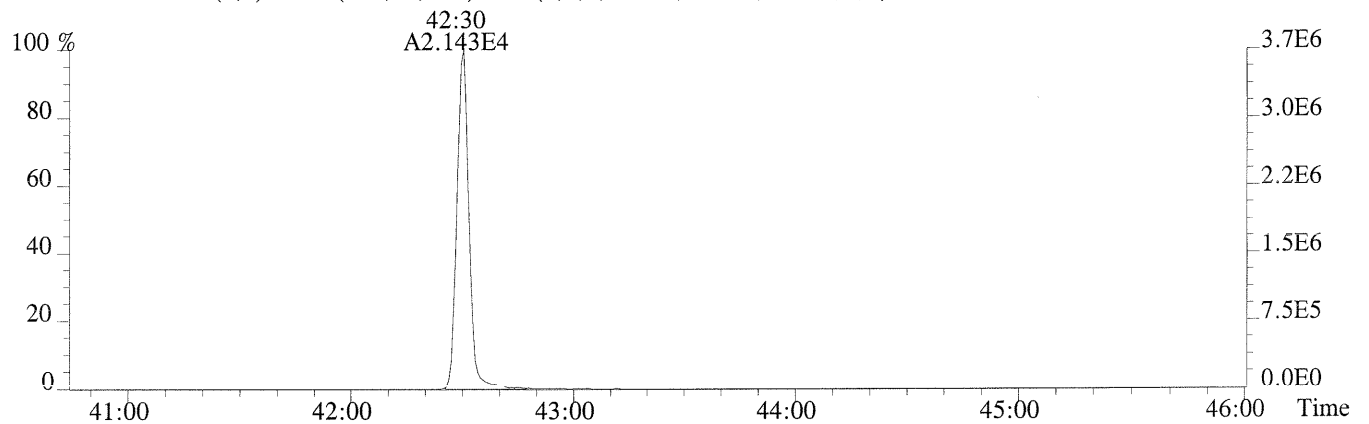
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



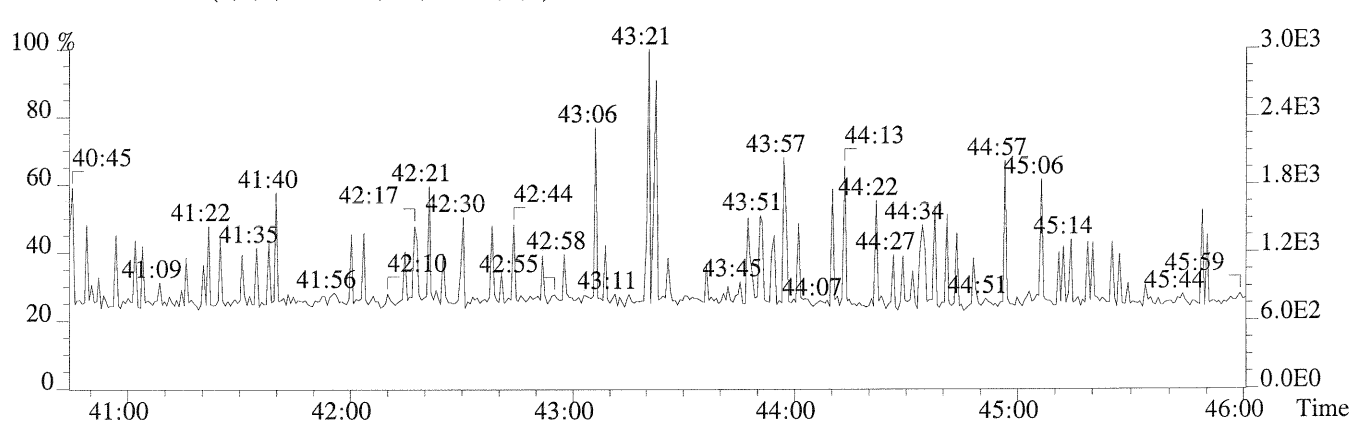
File:P230751 #1-485 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,416.0,0.40%,F,T)



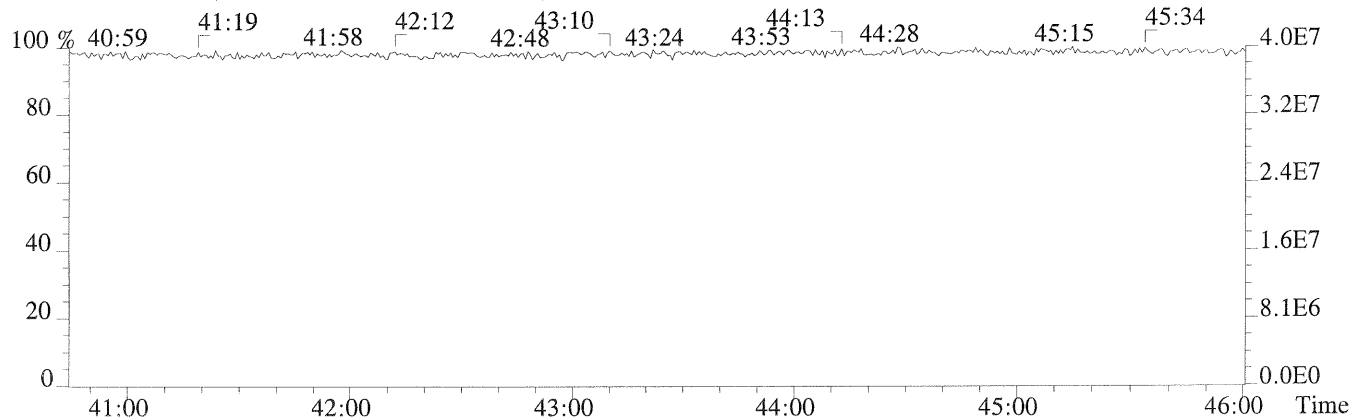
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

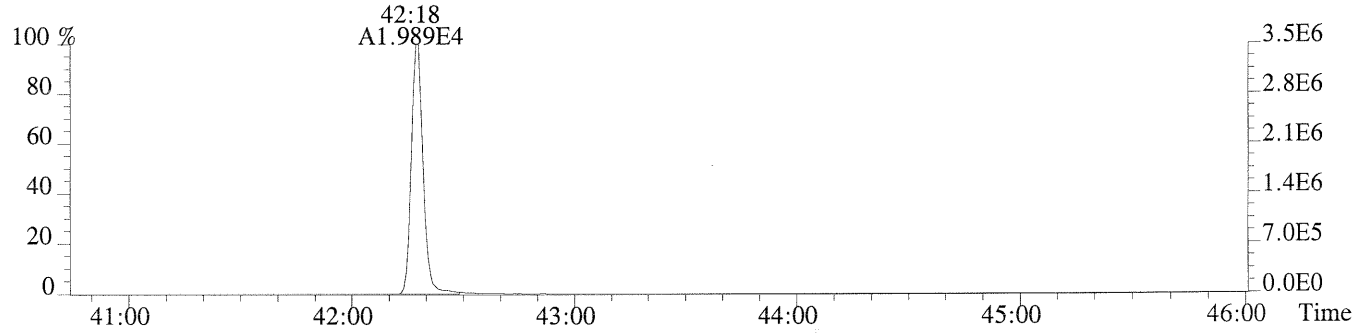


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

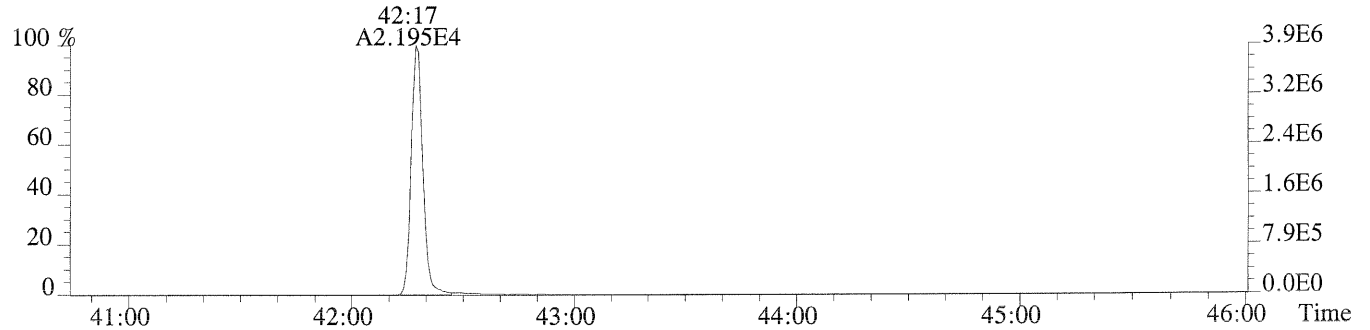


File:P230751 #1-485 Acq:25-AUG-2014 04:07:04 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3

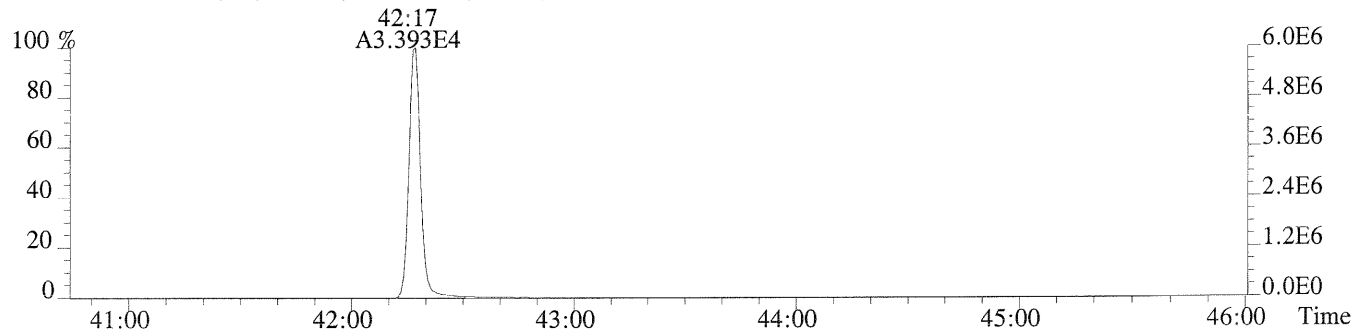
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,44.0,0.40%,F,T)



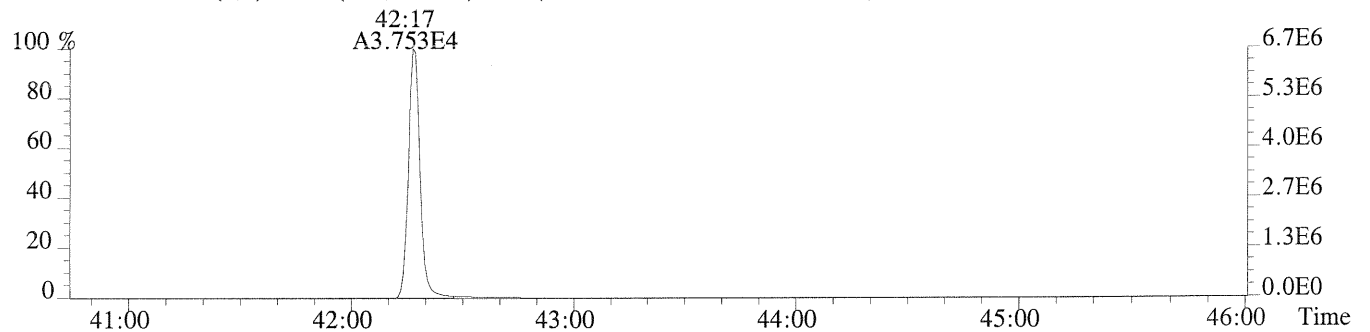
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,T)



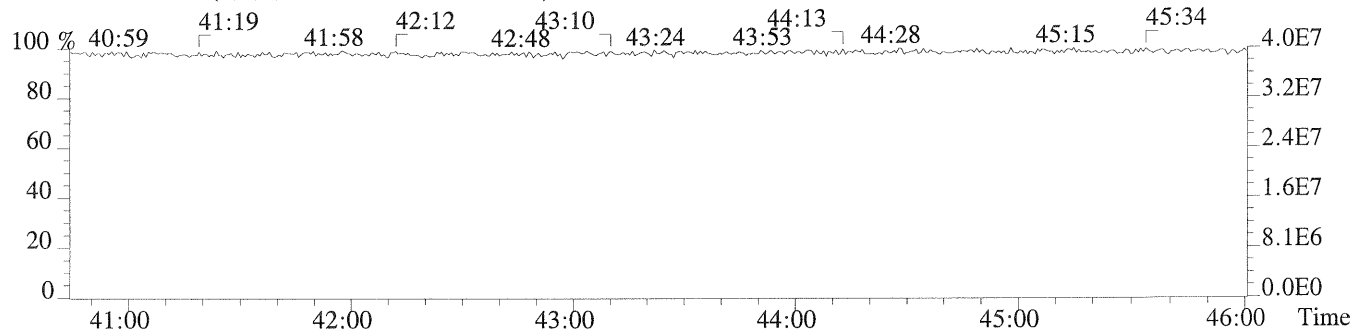
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,428.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230764

Analysis Date: 25-AUG-14 Time: 14:35:02

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	9.5	7.8 - 12.9	-5.2
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	50	39 - 65	0.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	50	39 - 64	-0.5
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	51	39 - 64	2.9
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	50	41 - 61	-0.8
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	0.1
OCDD	M+2/M+4	0.91	0.76-1.02	100	79 - 126	0.4
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	9.7	8.4 - 12.0	-2.6
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	51	41 - 60	1.0
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	49	41 - 61	-1.6
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	51	45 - 56	2.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	51	44 - 57	1.6
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	51	45 - 56	1.6
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	50	44 - 57	-0.1
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	49	45 - 55	-1.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	51	43 - 58	2.5
OCDF	M+2/M+4	0.89	0.76-1.02	107	63 - 159	6.6

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM



USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230764

Analysis Date: 25-AUG-14 Time: 14:35:02

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	99	82 - 121	-1.3
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	101	62 - 160	1.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	100	85 - 117	0.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	97	85 - 118	-2.8
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	104	72 - 138	4.1
13C-OCDD	M+2/M+4	0.91	0.76-1.02	209	96 - 415	4.6
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	98	71 - 140	-2.2
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	99	76 - 130	-1.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	101	77 - 130	1.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	98	76 - 131	-1.7
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	100	70 - 143	-0.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	107	74 - 135	7.5
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	99	73 - 137	-1.0
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	103	78 - 129	3.4
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	113	77 - 129	12.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.6	7.8 - 12.7	-4.3

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
CCAL HRCC3/CS3

Run #8      Filename P230764      Samp: 1      Inj: 1      Acquired: 25-AUG-14 14:35:02  
Processed: 25-AUG-14 17:05:56      Sample ID: 72675

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:18	3.188e+03	4.224e+03	0.75	yes	no	0.986
2 Unk	1,2,3,7,8-PeCDF	32:27	3.097e+04	2.022e+04	1.53	yes	no	1.000
3 Unk	2,3,4,7,8-PeCDF	33:22	2.973e+04	1.932e+04	1.54	yes	no	0.970
4 Unk	1,2,3,4,7,8-HxCDF	36:00	2.726e+04	2.149e+04	1.27	yes	no	1.191
5 Unk	1,2,3,6,7,8-HxCDF	36:07	2.871e+04	2.313e+04	1.24	yes	no	1.131
6 Unk	2,3,4,6,7,8-HxCDF	36:36	2.619e+04	2.101e+04	1.25	yes	no	1.109
7 Unk	1,2,3,7,8,9-HxCDF	37:22	2.301e+04	1.823e+04	1.26	yes	no	1.132
8 Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.204e+04	2.135e+04	1.03	yes	no	1.349
9 Unk	1,2,3,4,7,8,9-HpCDF	40:00	1.680e+04	1.610e+04	1.04	yes	no	1.274
10 Unk	OCDF	42:30	2.518e+04	2.820e+04	0.89	yes	no	1.195
11 Unk	2,3,7,8-TCDD	29:04	2.370e+03	3.039e+03	0.78	yes	yes	1.061
12 Unk	1,2,3,7,8-PeCDD	33:38	2.157e+04	1.377e+04	1.57	yes	no	0.992
13 Unk	1,2,3,4,7,8-HxCDD	36:44	1.974e+04	1.584e+04	1.25	yes	no	1.118
14 Unk	1,2,3,6,7,8-HxCDD	36:50	1.955e+04	1.554e+04	1.26	yes	no	1.086
15 Unk	1,2,3,7,8,9-HxCDD	37:03	2.071e+04	1.660e+04	1.25	yes	no	1.186
16 Unk	1,2,3,4,6,7,8-HpCDD	39:31	1.645e+04	1.581e+04	1.04	yes	no	1.053
17 Unk	OCDD	42:17	2.335e+04	2.580e+04	0.91	yes	no	1.169
18 IS	13C-2,3,7,8-TCDF	28:17	3.419e+04	4.297e+04	0.80	yes	no	1.457
19 IS	13C-1,2,3,7,8-PeCDF	32:27	6.224e+04	3.906e+04	1.59	yes	no	1.888
20 IS	13C-2,3,4,7,8-PeCDF	33:21	6.326e+04	3.952e+04	1.60	yes	no	1.875
21 IS	13C-1,2,3,4,7,8-HxCDF	35:59	2.727e+04	5.280e+04	0.52	yes	no	1.176
22 IS	13C-1,2,3,6,7,8-HxCDF	36:06	3.053e+04	5.971e+04	0.51	yes	no	1.307
23 IS	13C-2,3,4,6,7,8-HxCDF	36:36	2.895e+04	5.624e+04	0.51	yes	no	1.244
24 IS	13C-1,2,3,7,8,9-HxCDF	37:21	2.440e+04	4.738e+04	0.52	yes	no	0.965
25 IS	13C-1,2,3,4,6,7,8-HpCDF	38:34	1.998e+04	4.507e+04	0.44	yes	no	0.909
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	1.530e+04	3.507e+04	0.44	yes	no	0.645
27 IS	13C-2,3,7,8-TCDD	29:03	2.371e+04	3.004e+04	0.79	yes	no	1.006
28 IS	13C-1,2,3,7,8-PeCDD	33:37	4.337e+04	2.761e+04	1.57	yes	no	1.296
29 IS	13C-1,2,3,4,7,8-HxCDD	36:44	3.572e+04	2.827e+04	1.26	yes	no	0.924
30 IS	13C-1,2,3,6,7,8-HxCDD	36:49	3.531e+04	2.753e+04	1.28	yes	no	0.934
31 IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	3.169e+04	2.951e+04	1.07	yes	no	0.850
32 IS	13C-OCDD	42:16	3.988e+04	4.390e+04	0.91	yes	no	0.579
33 RS/RT	13C-1,2,3,4-TCDD	28:29	2.384e+04	3.035e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	3.852e+04	3.069e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:04	5.699e+03				no	1.099

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1613RESP

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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

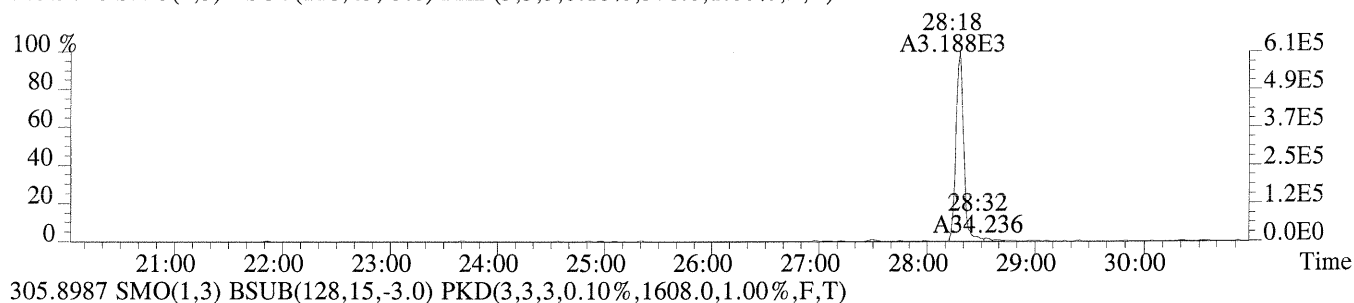
CLIENT ID.  
CCAL HRCC3/CS3

Run #8    Filename P230764    Samp: 1    Inj: 1    Acquired: 25-AUG-14 14:35:02  
Processed: 25-AUG-14 17:05:561    LAB. ID: 72675

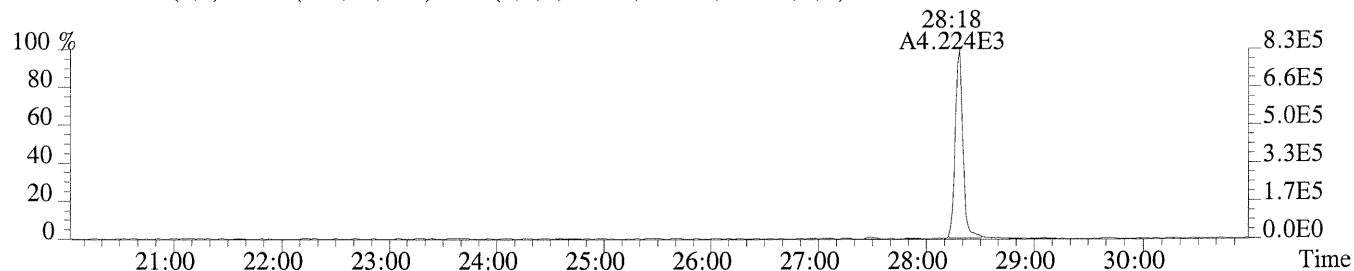
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.13e+05	3.76e+02	1.6e+03	8.26e+05	1.61e+03	5.1e+02
2	1,2,3,7,8-PeCDF	5.81e+06	2.36e+02	2.5e+04	3.75e+06	1.32e+03	2.8e+03
3	2,3,4,7,8-PeCDF	5.83e+06	2.36e+02	2.5e+04	3.81e+06	1.32e+03	2.9e+03
4	1,2,3,4,7,8-HxCDF	6.08e+06	3.36e+02	1.8e+04	4.79e+06	4.08e+02	1.2e+04
5	1,2,3,6,7,8-HxCDF	6.09e+06	3.36e+02	1.8e+04	4.93e+06	4.08e+02	1.2e+04
6	2,3,4,6,7,8-HxCDF	5.89e+06	3.36e+02	1.8e+04	4.76e+06	4.08e+02	1.2e+04
7	1,2,3,7,8,9-HxCDF	4.77e+06	3.36e+02	1.4e+04	3.86e+06	4.08e+02	9.5e+03
8	1,2,3,4,6,7,8-HpCDF	5.02e+06	3.04e+03	1.7e+03	4.89e+06	2.30e+03	2.1e+03
9	1,2,3,4,7,8,9-HpCDF	3.42e+06	3.04e+03	1.1e+03	3.24e+06	2.30e+03	1.4e+03
10	OCDF	4.51e+06	1.64e+02	2.7e+04	4.98e+06	8.36e+02	6.0e+03
11	2,3,7,8-TCDD	4.79e+05	5.48e+02	8.7e+02	6.10e+05	5.96e+02	1.0e+03
12	1,2,3,7,8-PeCDD	4.32e+06	9.36e+02	4.6e+03	2.72e+06	4.12e+02	6.6e+03
13	1,2,3,4,7,8-HxCDD	4.44e+06	4.80e+01	9.2e+04	3.56e+06	5.64e+02	6.3e+03
14	1,2,3,6,7,8-HxCDD	4.25e+06	4.80e+01	8.8e+04	3.37e+06	5.64e+02	6.0e+03
15	1,2,3,7,8,9-HxCDD	4.59e+06	4.80e+01	9.6e+04	3.63e+06	5.64e+02	6.4e+03
16	1,2,3,4,6,7,8-HpCDD	3.45e+06	5.68e+02	6.1e+03	3.30e+06	6.40e+01	5.2e+04
17	OCDD	4.11e+06	4.00e+01	1.0e+05	4.59e+06	3.20e+02	1.4e+04
18	13C-2,3,7,8-TCDF	6.53e+06	7.88e+02	8.3e+03	8.19e+06	1.46e+03	5.6e+03
19	13C-1,2,3,7,8-PeCDF	1.14e+07	2.20e+02	5.2e+04	7.10e+06	7.32e+02	9.7e+03
20	13C-2,3,4,7,8-PeCDF	1.23e+07	2.20e+02	5.6e+04	7.69e+06	7.32e+02	1.1e+04
21	13C-1,2,3,4,7,8-HxCDF	6.09e+06	2.44e+02	2.5e+04	1.18e+07	7.24e+02	1.6e+04
22	13C-1,2,3,6,7,8-HxCDF	6.60e+06	2.44e+02	2.7e+04	1.29e+07	7.24e+02	1.8e+04
23	13C-2,3,4,6,7,8-HxCDF	6.52e+06	2.44e+02	2.7e+04	1.26e+07	7.24e+02	1.7e+04
24	13C-1,2,3,7,8,9-HxCDF	5.09e+06	2.44e+02	2.1e+04	9.76e+06	7.24e+02	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	4.51e+06	2.25e+03	2.0e+03	1.03e+07	3.65e+03	2.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.14e+06	2.25e+03	1.4e+03	7.18e+06	3.65e+03	2.0e+03
27	13C-2,3,7,8-TCDD	4.92e+06	4.56e+03	1.1e+03	6.26e+06	1.71e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	8.44e+06	8.20e+02	1.0e+04	5.41e+06	5.00e+02	1.1e+04
29	13C-1,2,3,4,7,8-HxCDD	8.07e+06	1.07e+03	7.6e+03	6.35e+06	1.45e+03	4.4e+03
30	13C-1,2,3,6,7,8-HxCDD	7.64e+06	1.07e+03	7.2e+03	5.91e+06	1.45e+03	4.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.53e+06	1.15e+03	5.7e+03	6.18e+06	6.32e+02	9.8e+03
32	13C-OCDD	7.01e+06	3.32e+02	2.1e+04	7.73e+06	7.32e+02	1.1e+04
33	13C-1,2,3,4-TCDD	5.02e+06	4.56e+03	1.1e+03	6.33e+06	1.71e+03	3.7e+03
34	13C-1,2,3,7,8,9-HxCDD	8.51e+06	1.07e+03	8.0e+03	6.70e+06	1.45e+03	4.6e+03
35	37Cl-2,3,7,8-TCDD	1.20e+06	1.68e+03	7.1e+02			

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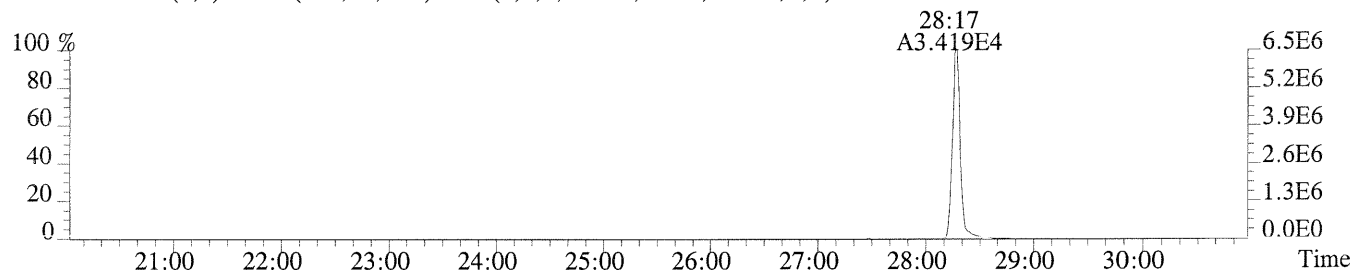
File:P230764 #1-687 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



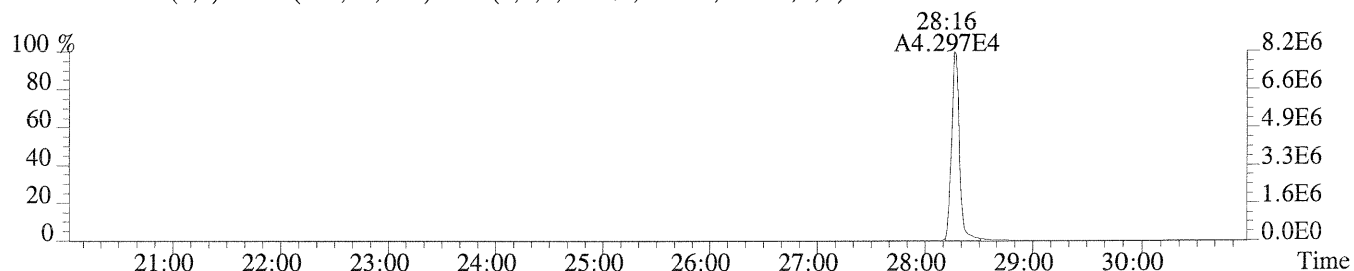
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



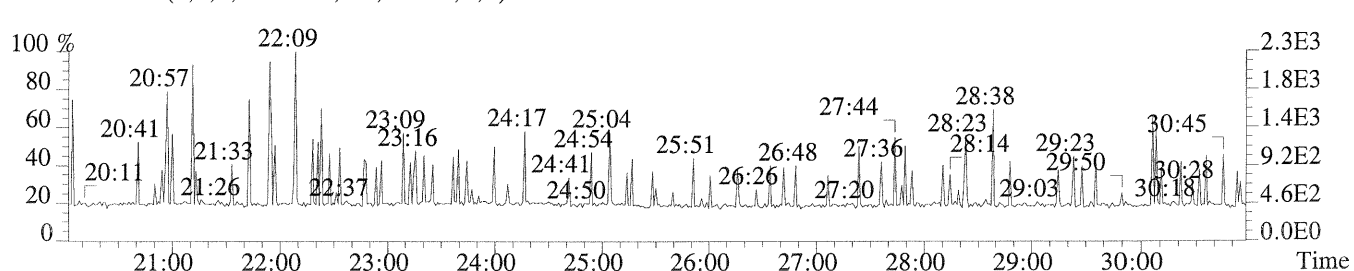
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



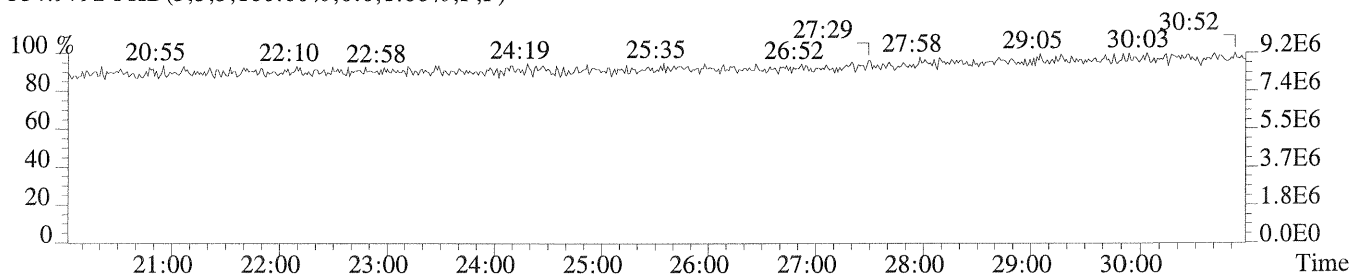
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



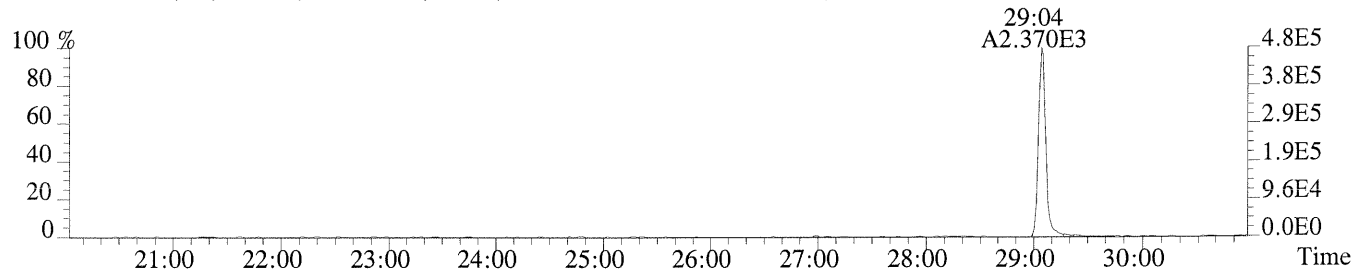
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



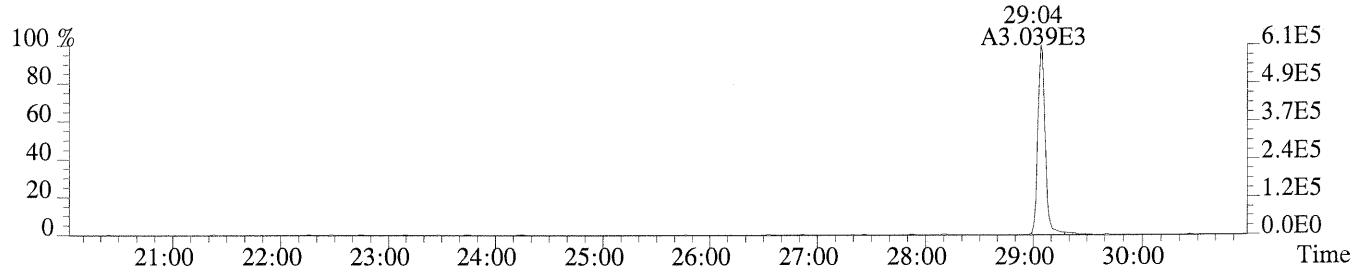
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



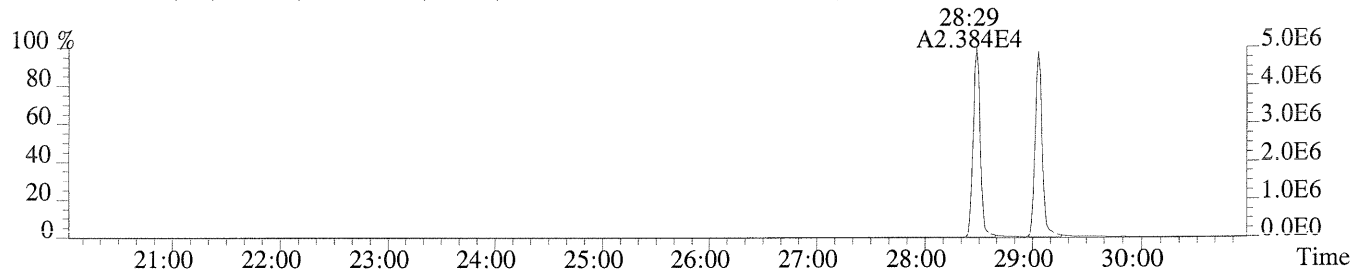
File:P230764 #1-687 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



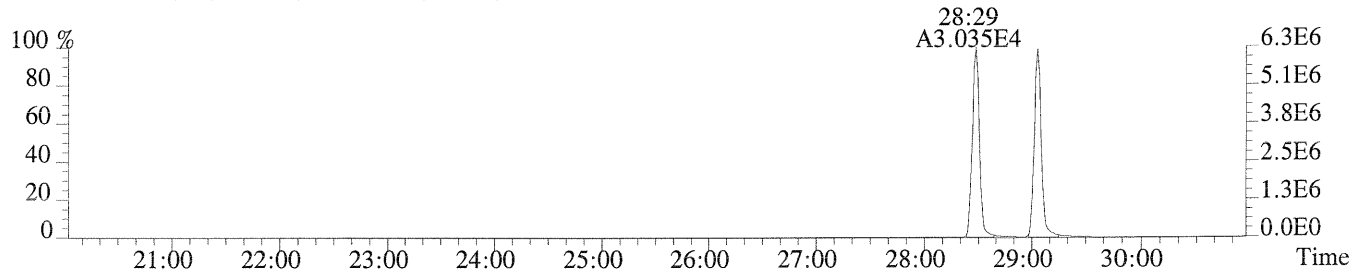
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



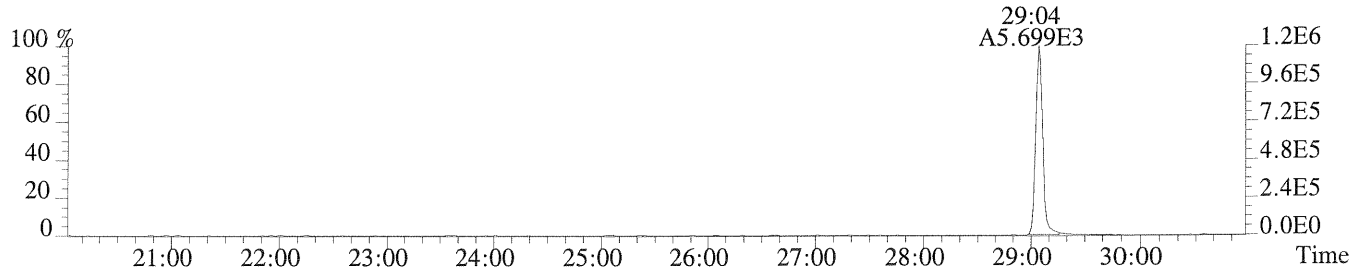
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4564.0,1.00%,F,T)



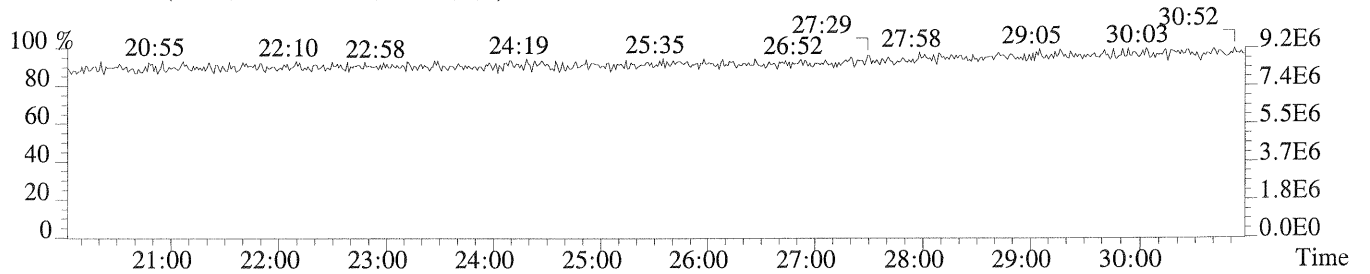
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,T)



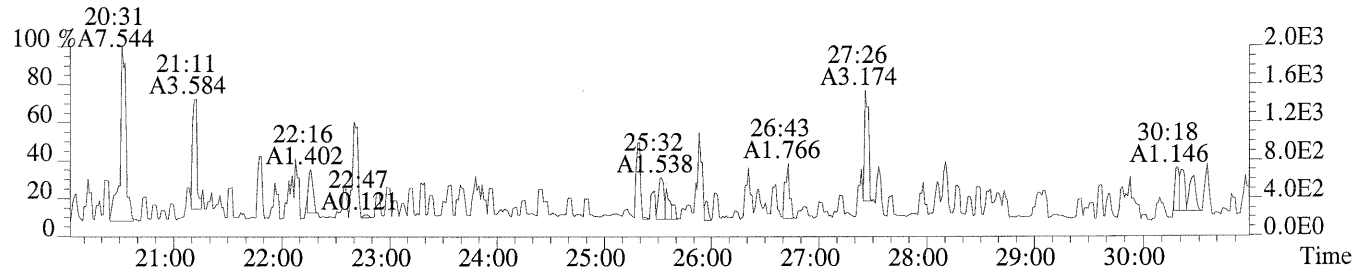
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1684.0,1.00%,F,T)



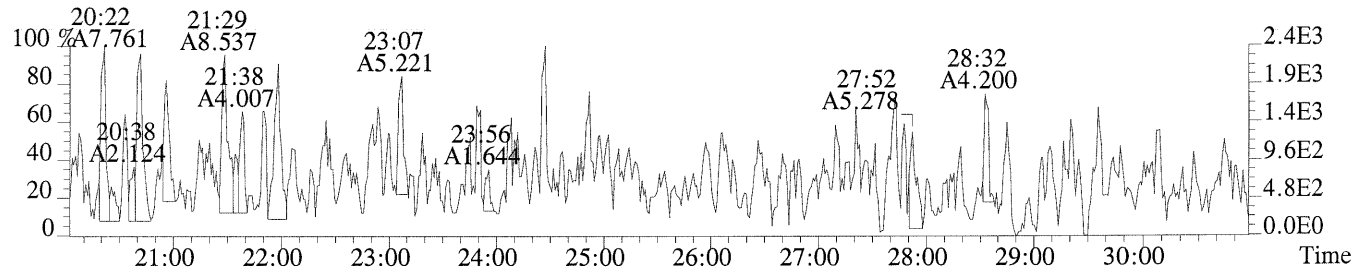
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



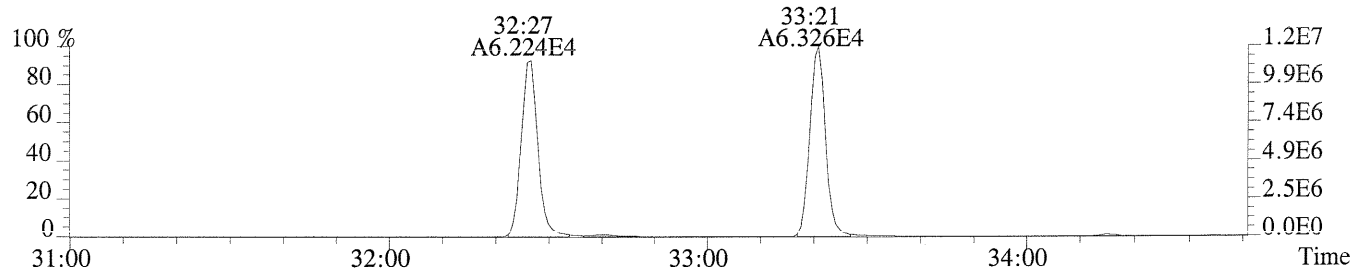
File:P230764 #1-687 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,T)



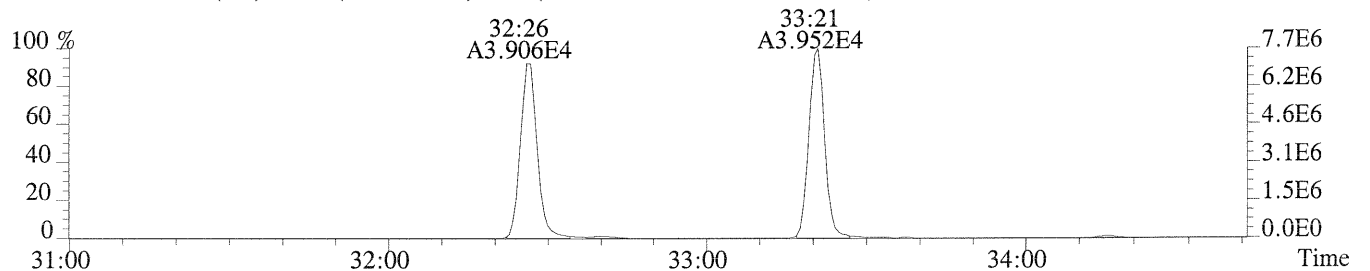
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



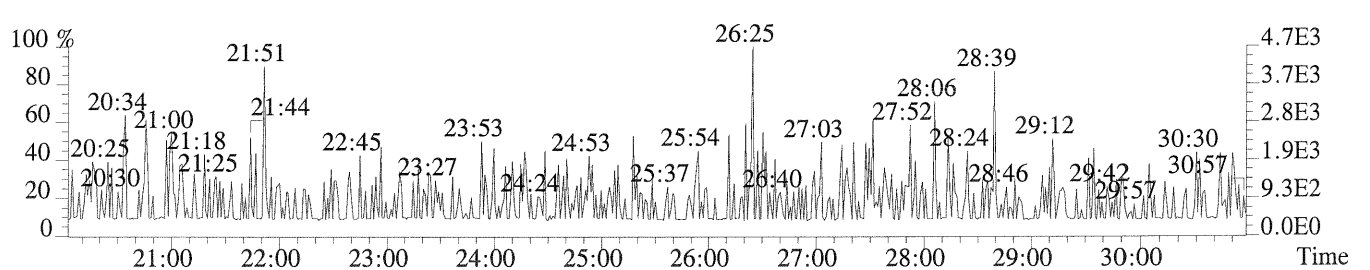
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



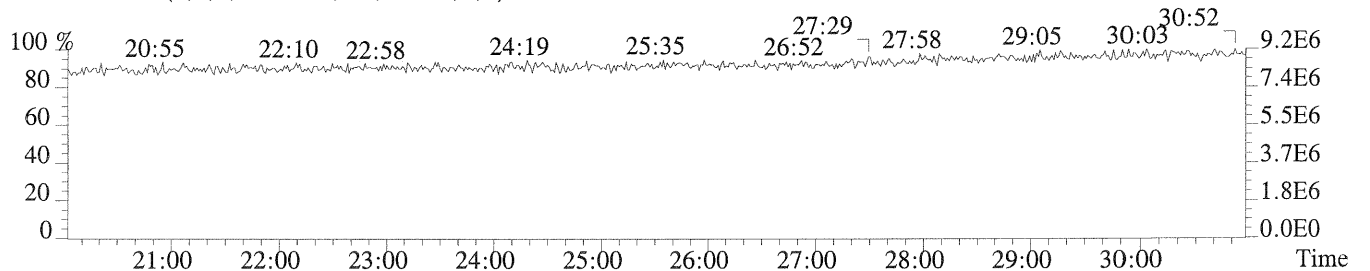
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



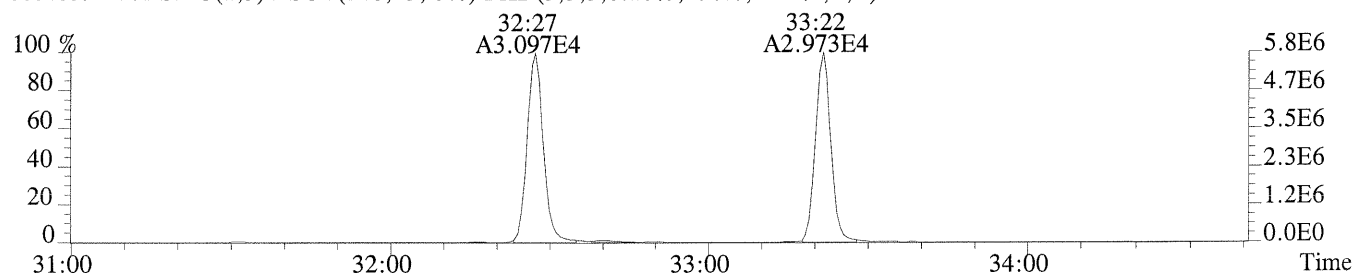
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



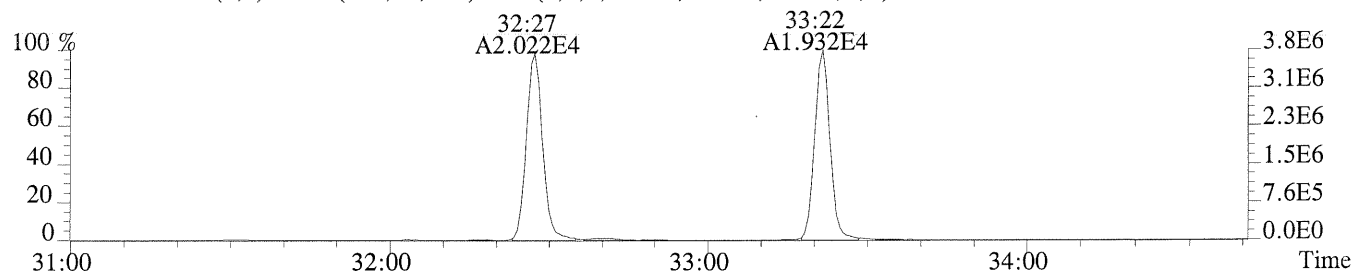
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



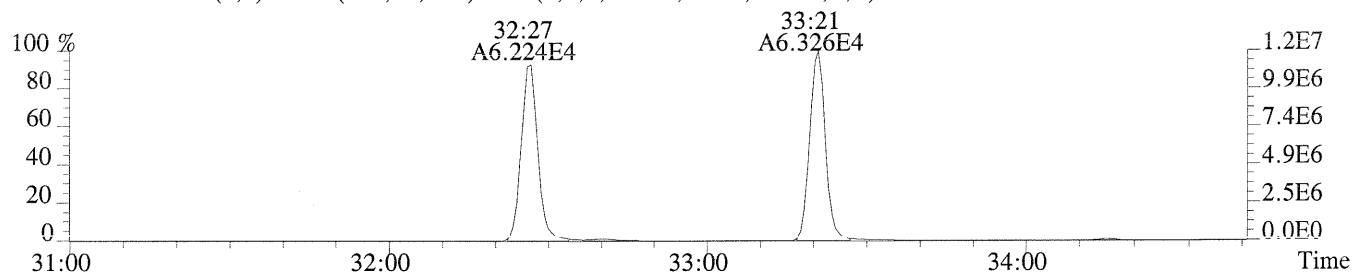
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



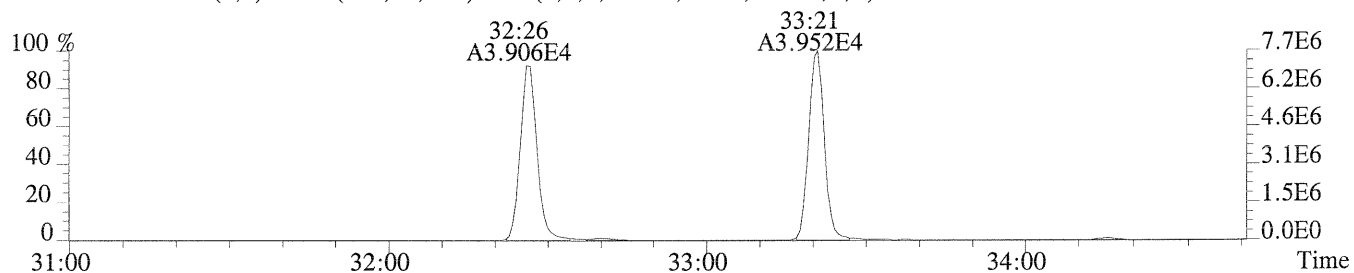
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



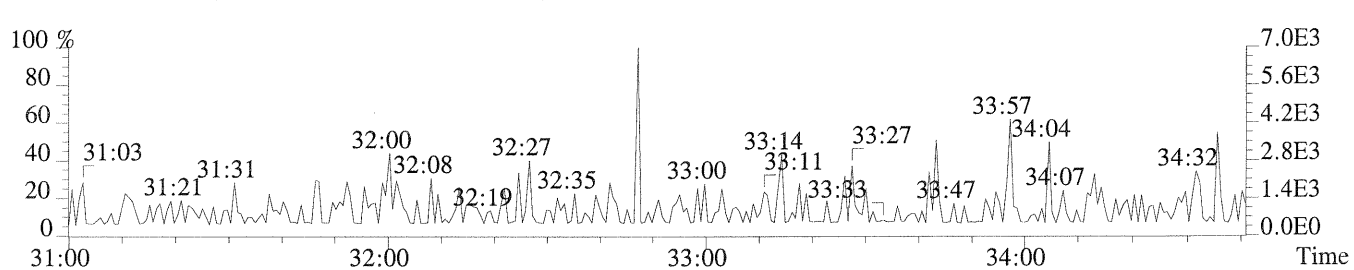
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



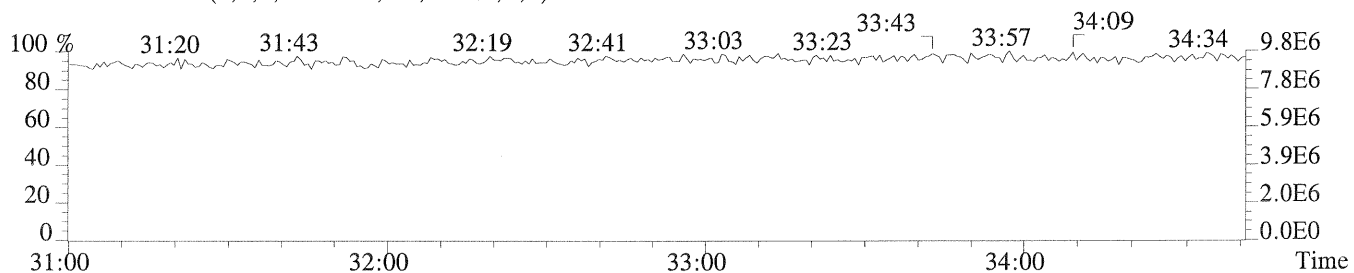
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



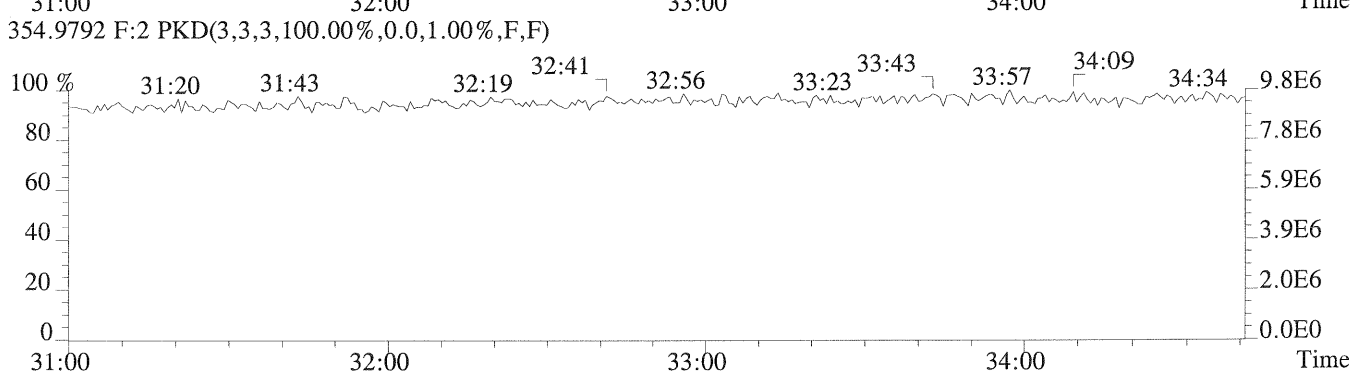
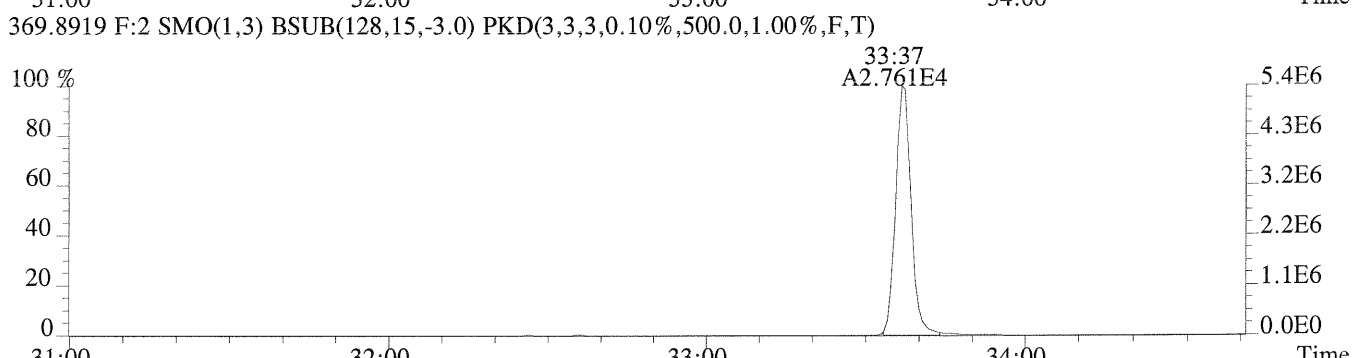
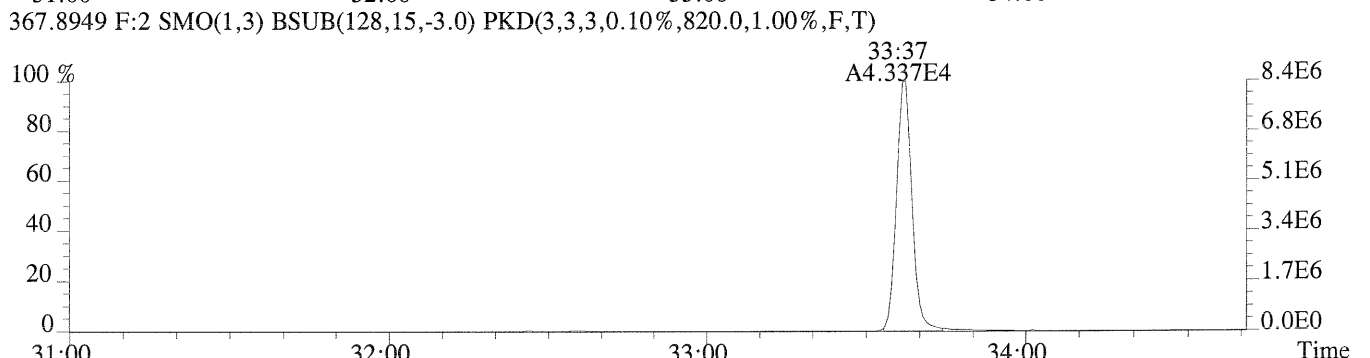
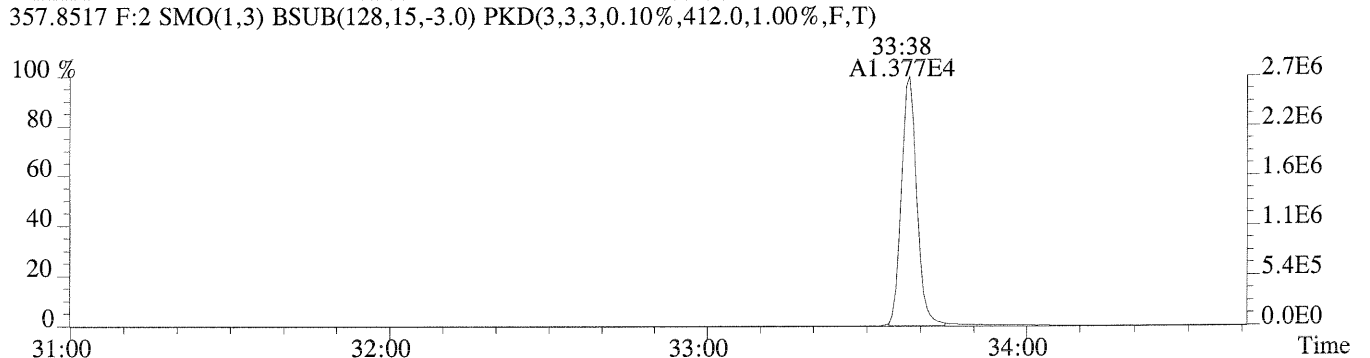
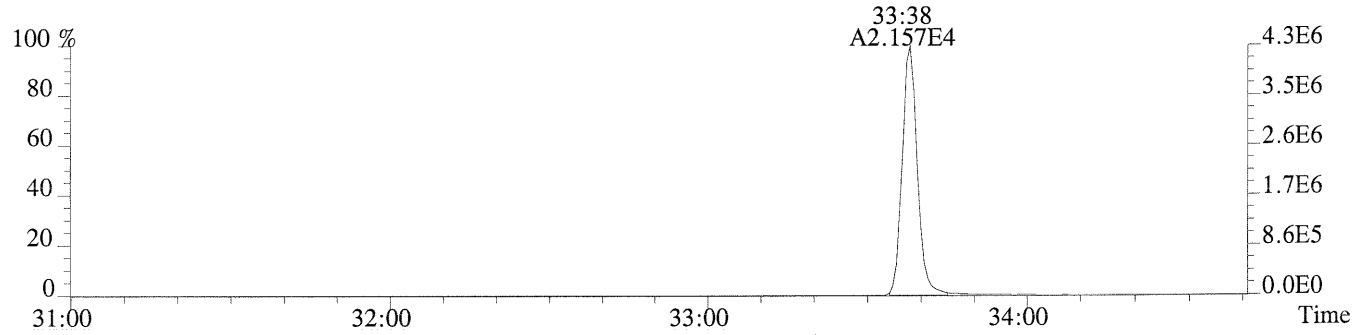
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

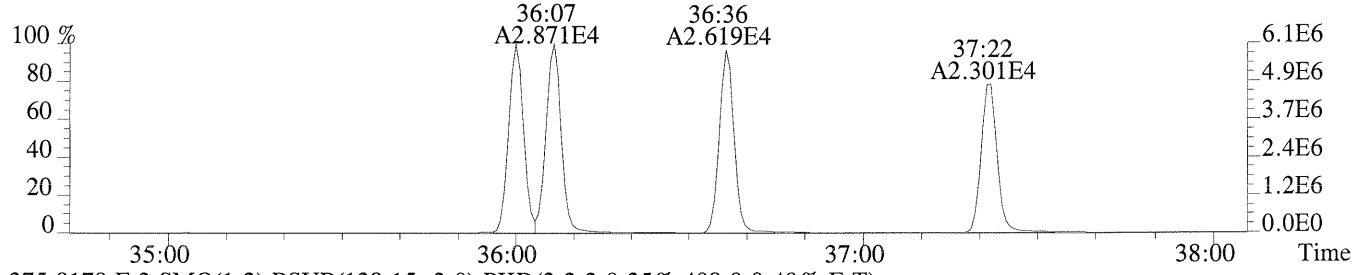


File:P230764 #1-335 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,T)

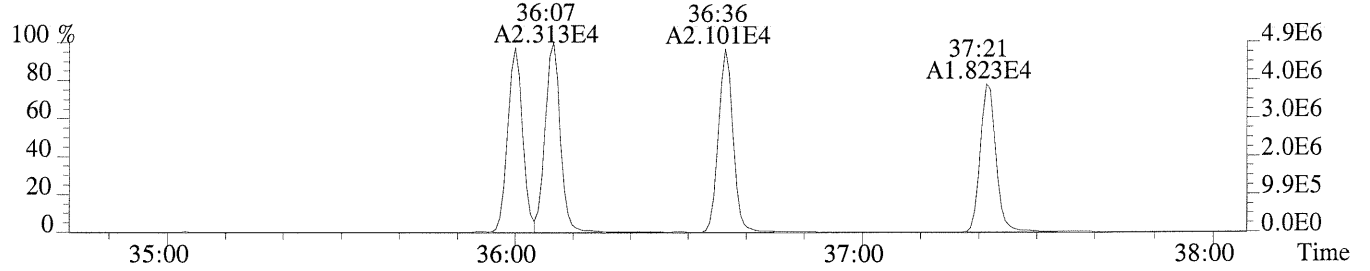




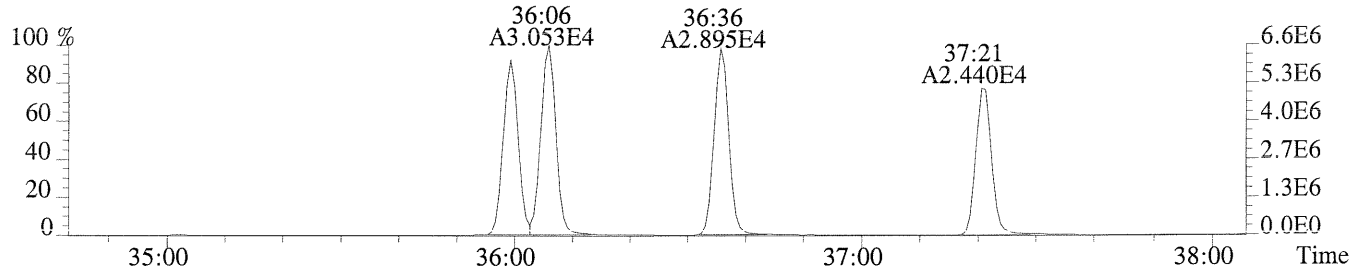
File:P230764 #1-307 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,336.0,0.40%,F,T)



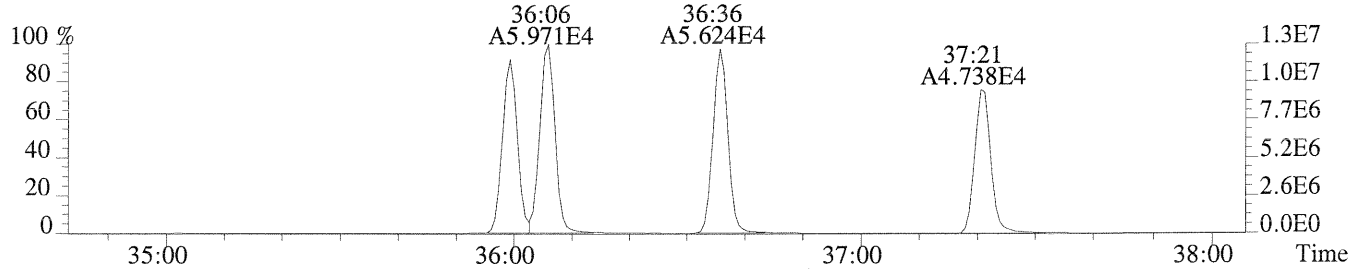
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,408.0,0.40%,F,T)



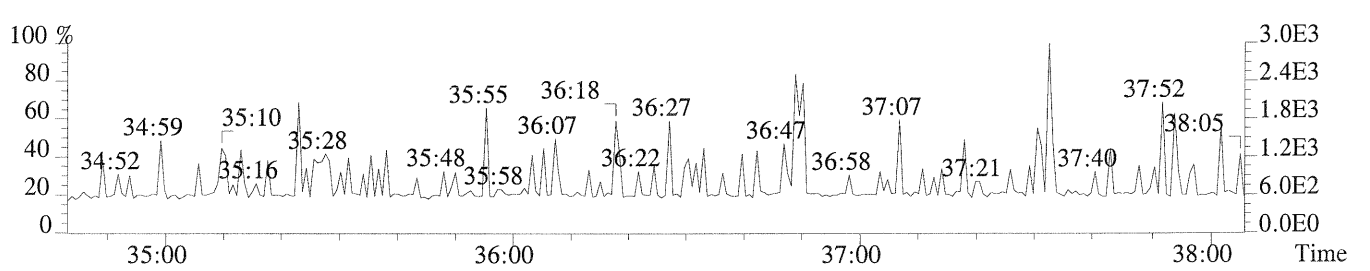
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



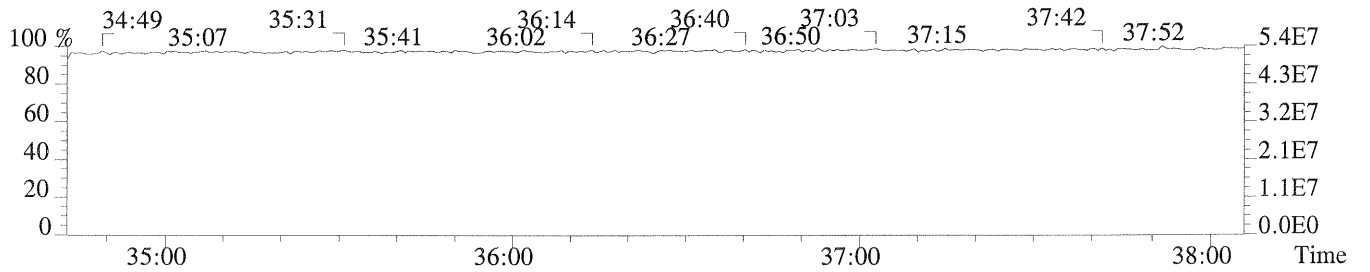
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

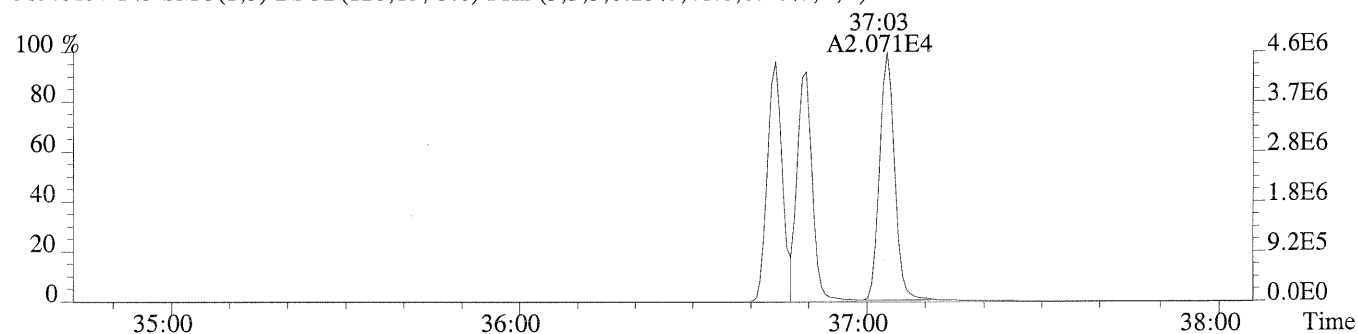


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

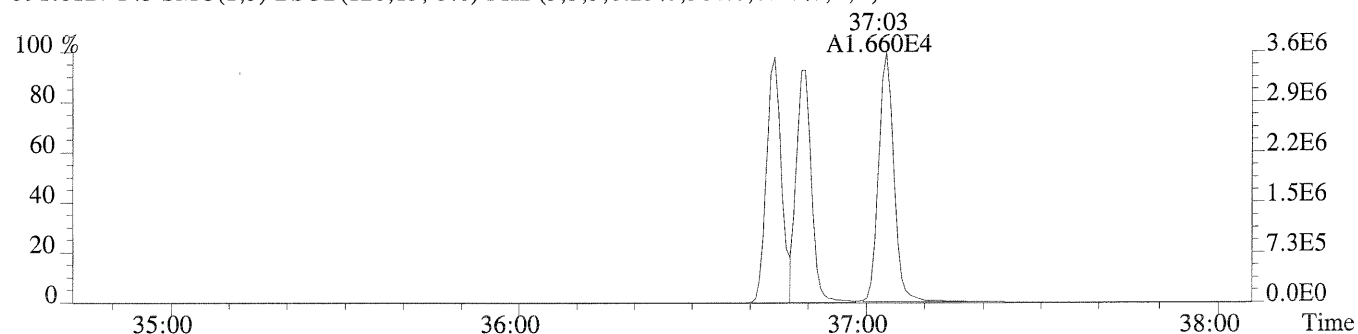


Sample#1 Exp:CCAL HRCC3/CS3

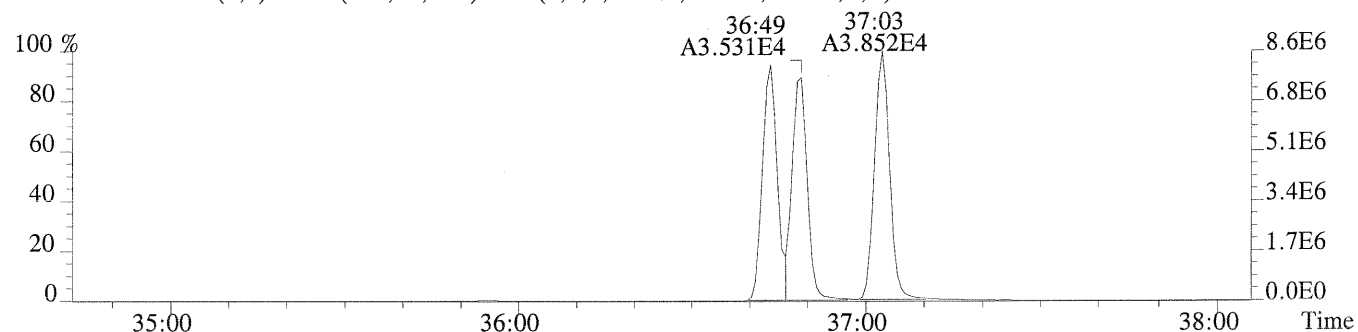
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,48.0,0.40%,F,T)



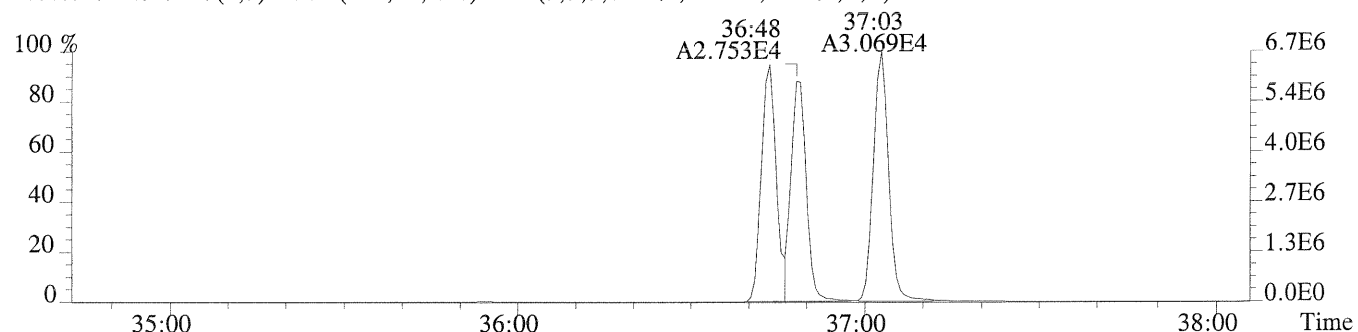
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



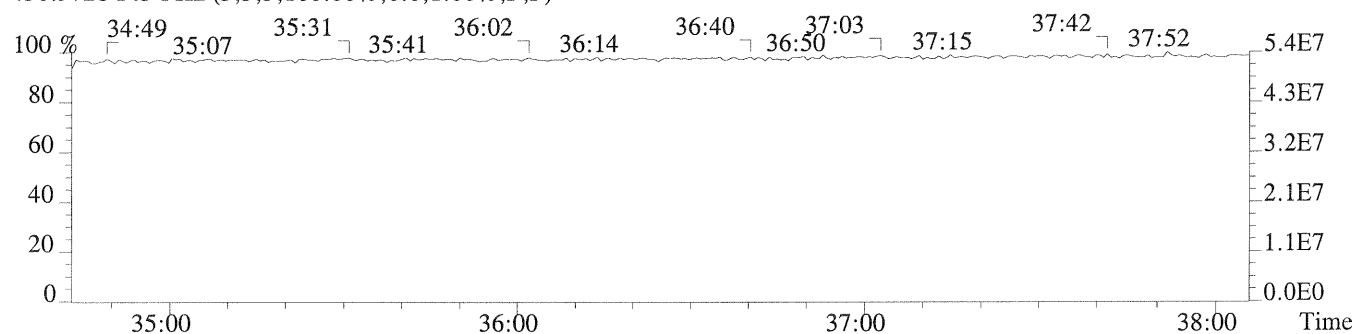
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,T)



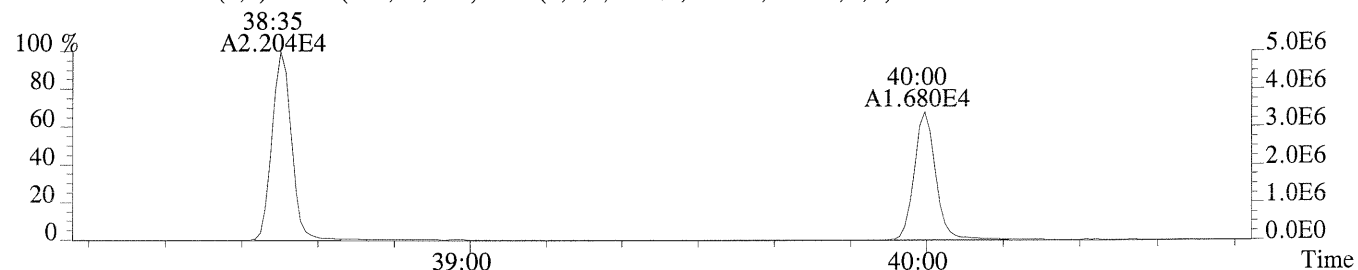
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.40%,F,T)



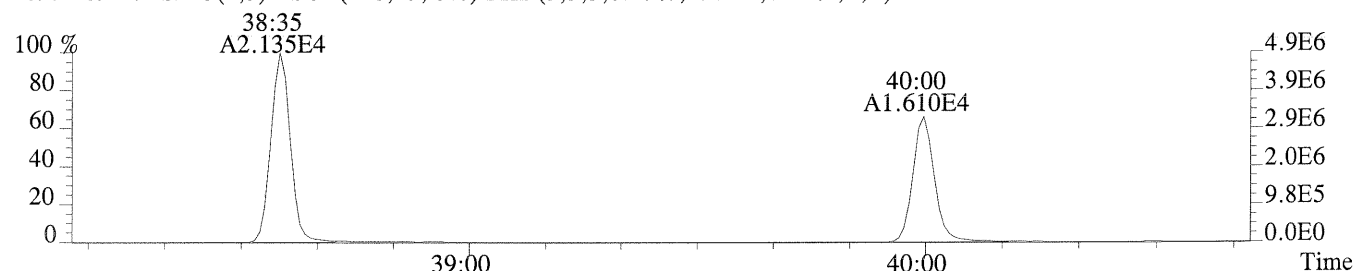
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



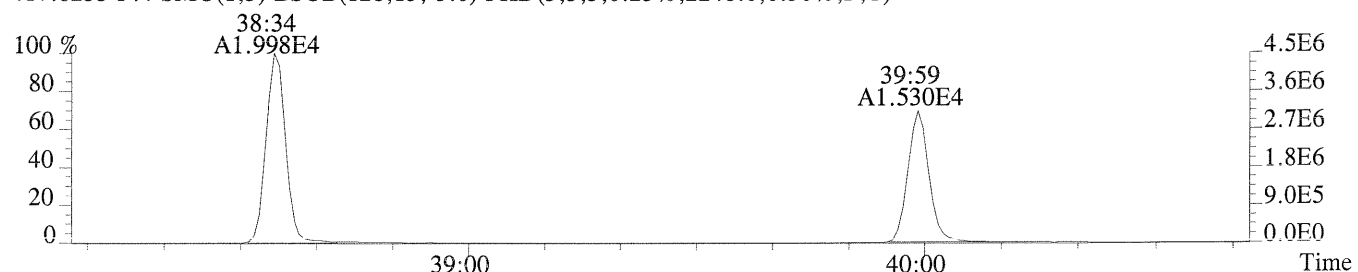
File:P230764 #1-234 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3036.0,0.50%,F,T)



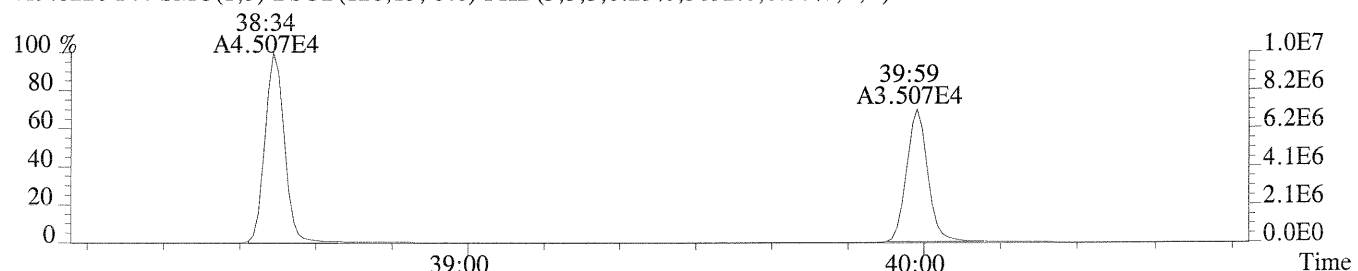
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2304.0,0.50%,F,T)



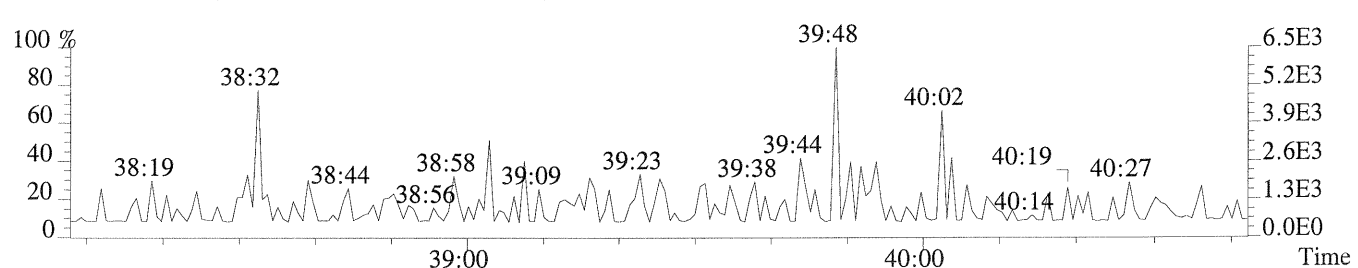
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.50%,F,T)



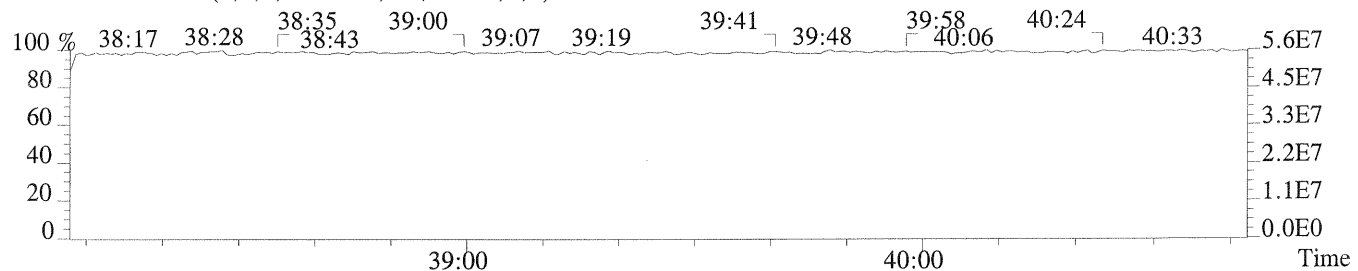
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3652.0,0.50%,F,T)



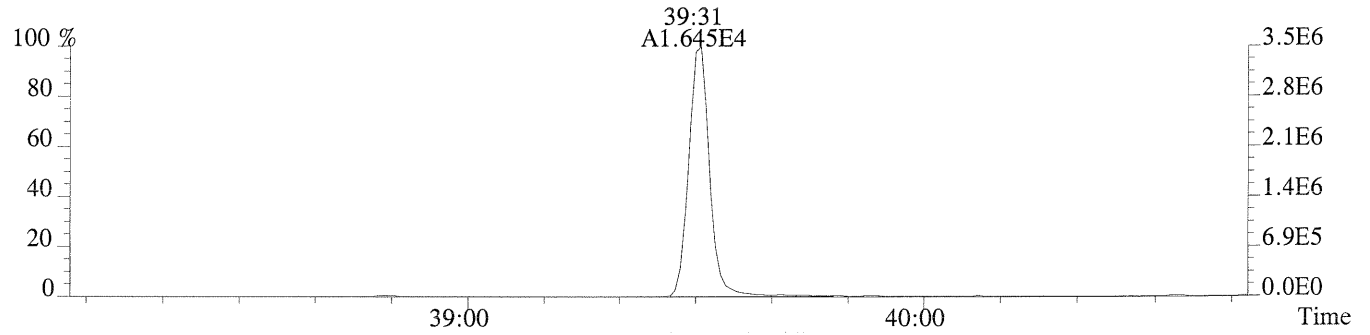
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



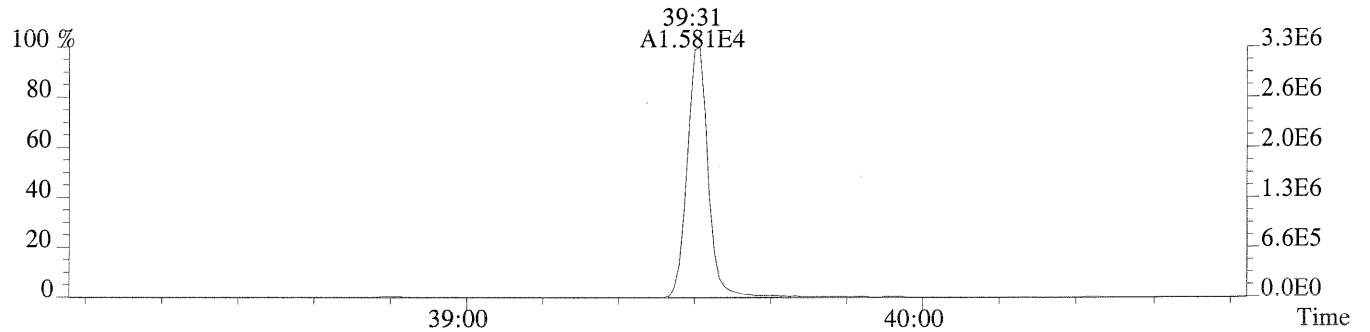
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



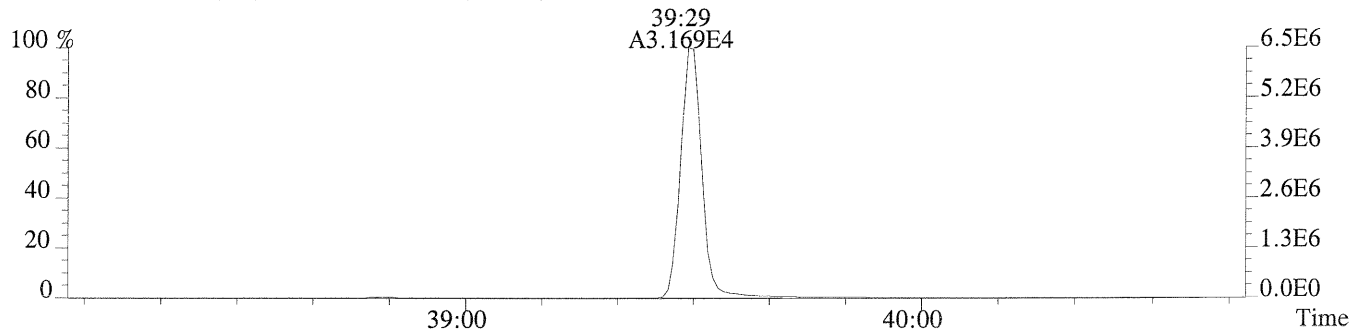
File:P230764 #1-234 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,568.0,0.40%,F,T)



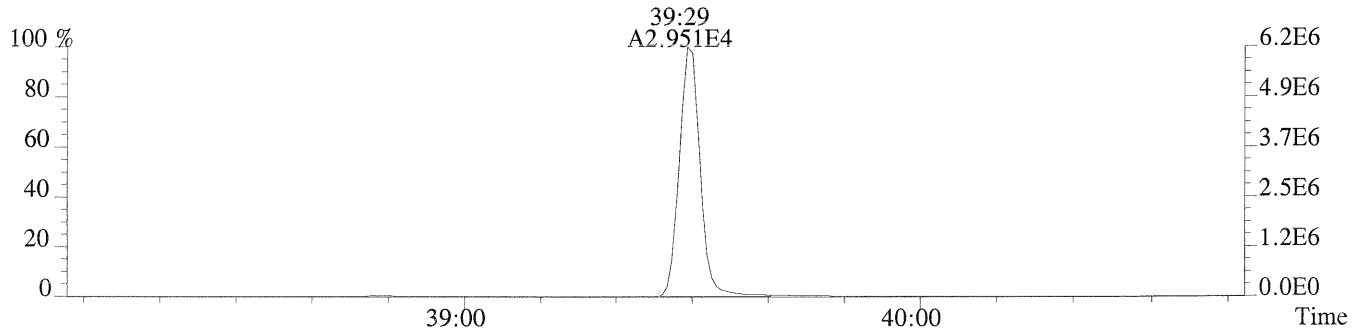
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



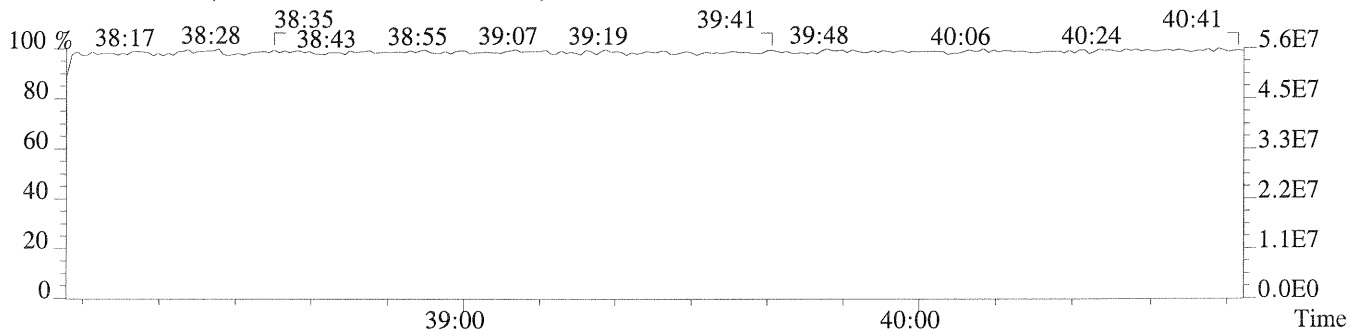
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1148.0,0.40%,F,T)



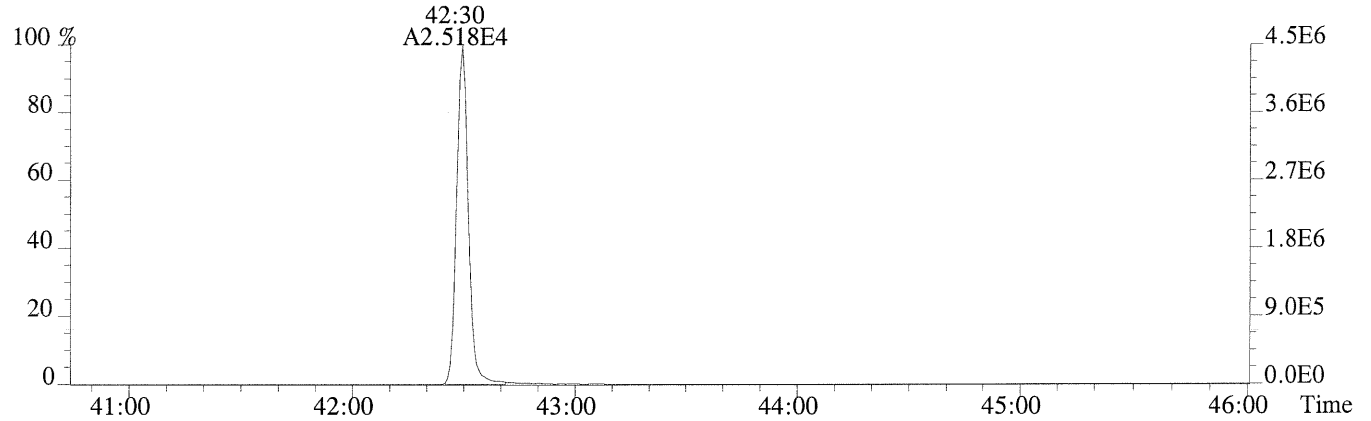
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,632.0,0.40%,F,T)



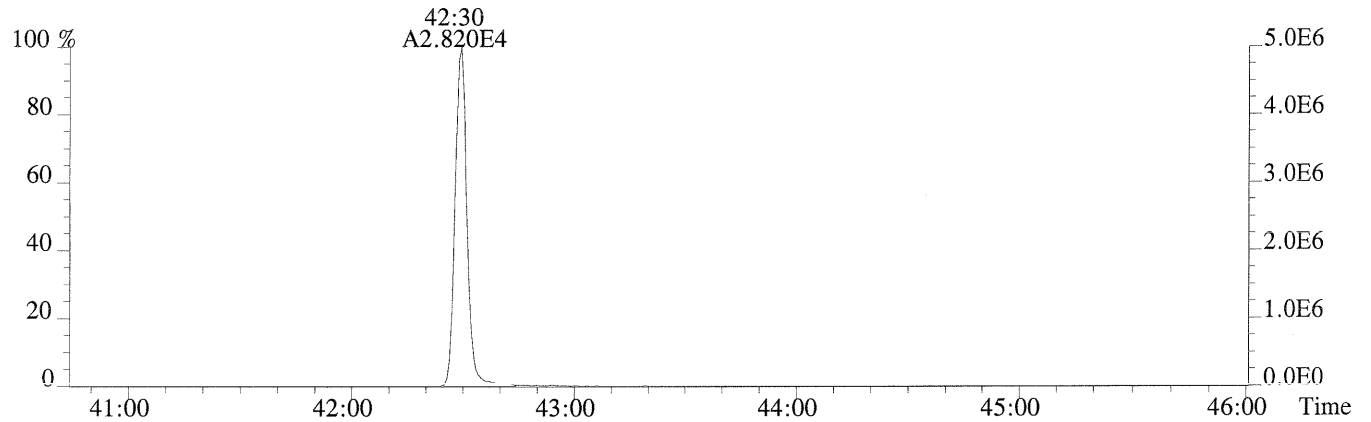
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



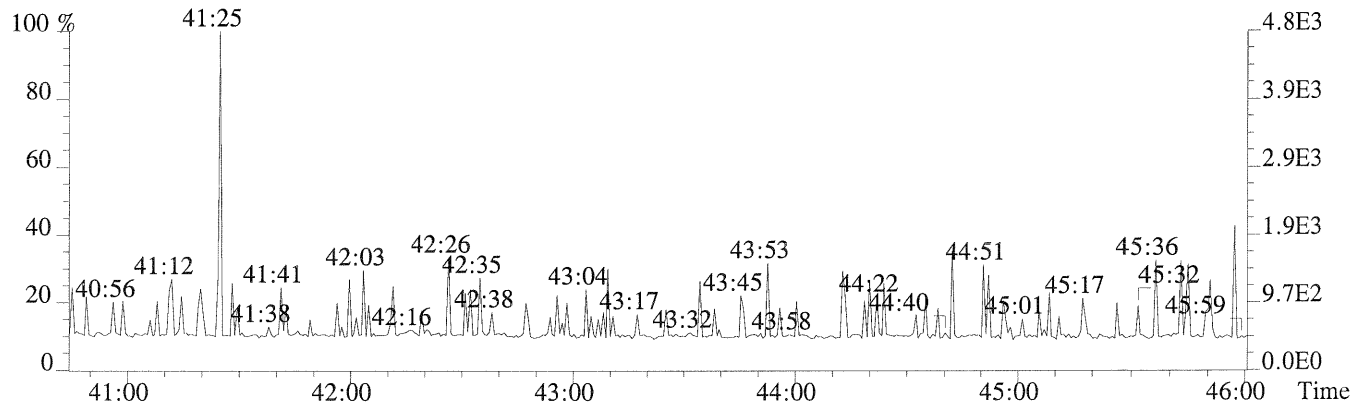
File:P230764 #1-485 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CCAL HRCC3/CS3  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,164.0,0.40%,F,T)



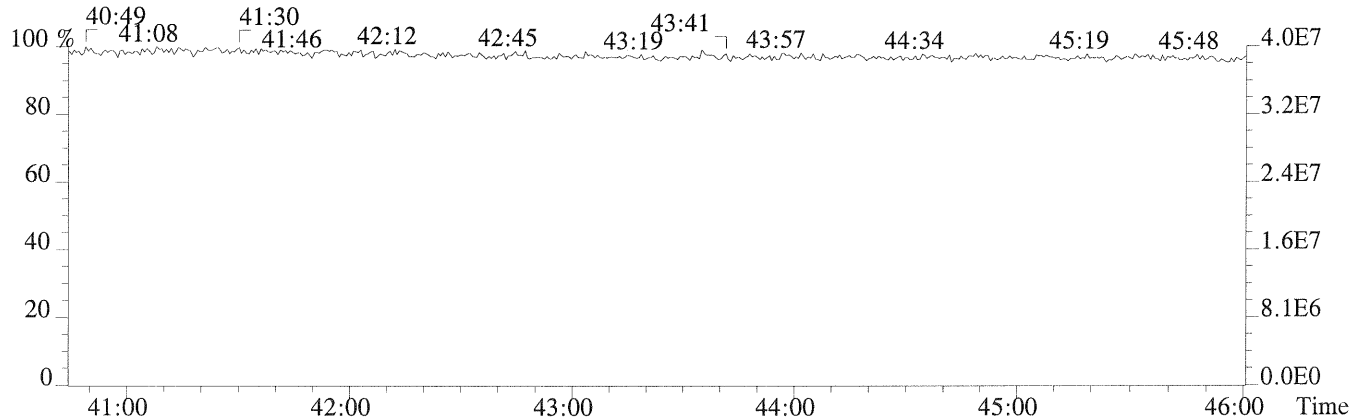
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



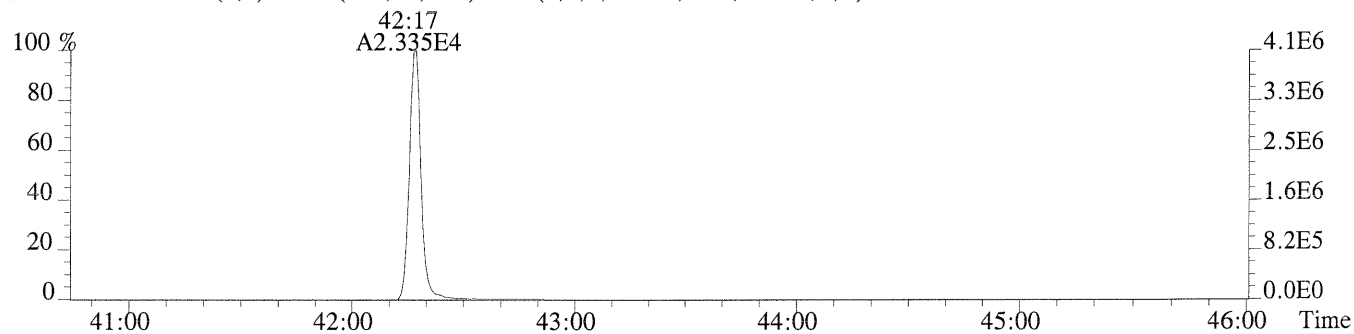
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



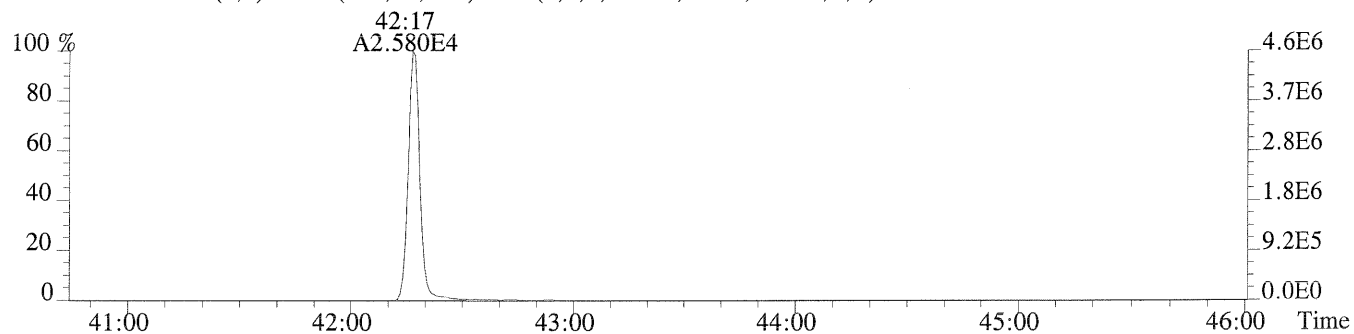
File:P230764 #1-485 Acq:25-AUG-2014 14:35:02 Probe EI+ Magnet SIR VG BioTech Mass spectr

Sample#1 Exp:CCAL HRCC3/CS3

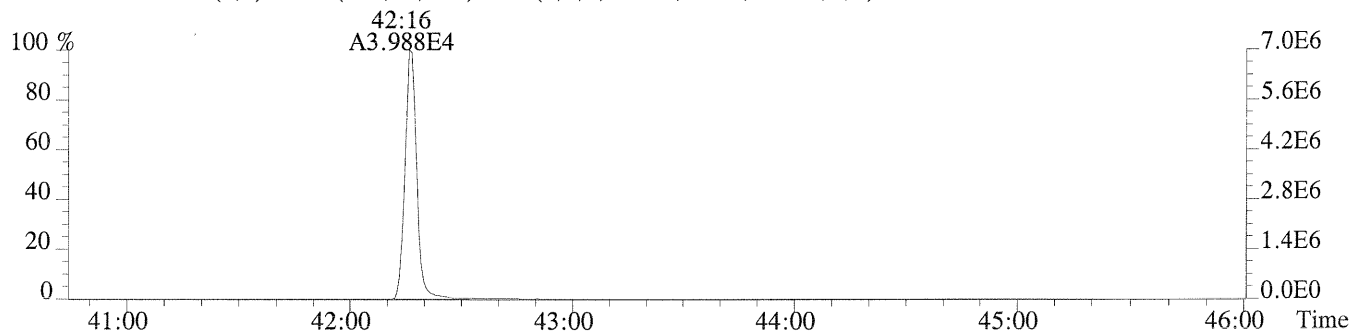
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,40.0,0.40%,F,T)



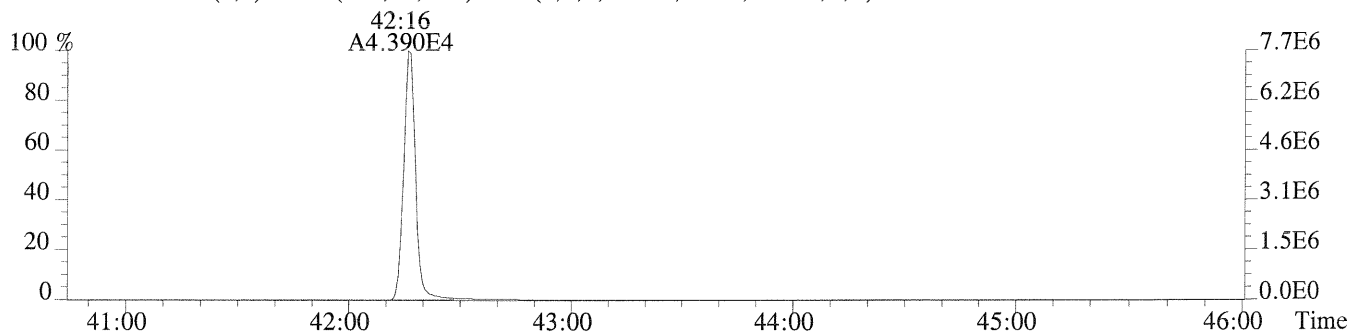
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,320.0,0.40%,F,T)



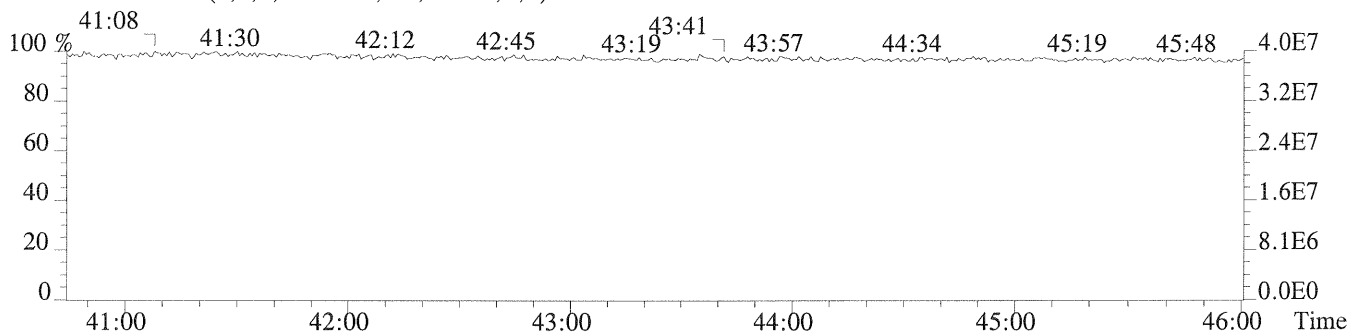
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,732.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



# CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P220806<sup>3</sup> / P220815 <sup>07/08/27/14</sup>

Circle one:

Beginning /

Ending

Date: 08/26 - 08/27/14

Method: 1613 / 1613E / 8290 VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:

Analyst

Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

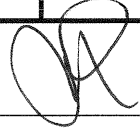
CS3 Continuing Calibration

Analyst

Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	NA	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: JB2714

Second QC: 

ccalqc.xls 07/17/12

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB-5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 08/24/14

Init. Calib. Times: 08:48:10

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
WINDOW DEFINE	WINDOW DEFINE	P230804	27-AUG-14	00:23:05
CCAL HRCC3/CS3	CCAL HRCC3/CS3	P230803	26-AUG-14	23:35:13
CCAL HRCC3/CS3	CCAL HRCC3/CS3	P230815	27-AUG-14	09:24:14
METHOD BLANK	EQ1400479-01	P230806	27-AUG-14	01:58:49
METHOD BLANK	EQ1400482-01	P230807	27-AUG-14	02:46:41
Nv SYC14-TB Rep.4	K1407971-012	P230808	27-AUG-14	03:34:33
Nv SYC14-TB Rep.5	K1407971-013	P230809	27-AUG-14	04:22:25
Nv SYC14-REF Rep.1	K1407971-014	P230810	27-AUG-14	05:10:11
Nv SYC14-REF Rep.2	K1407971-015	P230811	27-AUG-14	05:57:57
Nv SYC14-REF Rep.3	K1407971-016	P230812	27-AUG-14	06:45:50
Nv SYC14-REF Rep.4	K1407971-017	P230813	27-AUG-14	07:33:42
Nv SYC14-REF Rep.5	K1407971-018	P230814	27-AUG-14	08:21:28

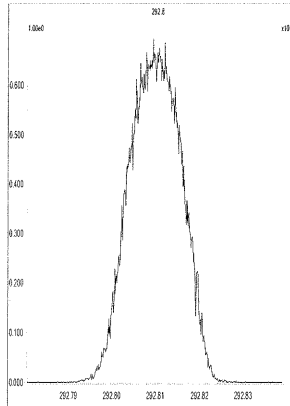




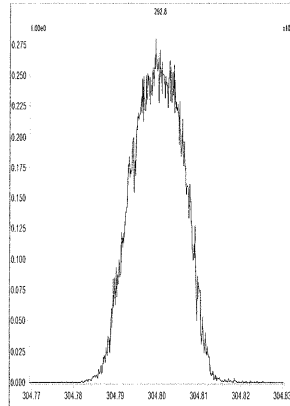
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:55:11 Central Daylight Time

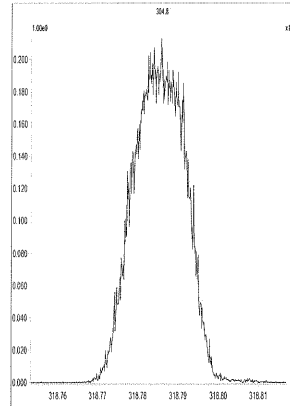
M 292.9824 R 11848



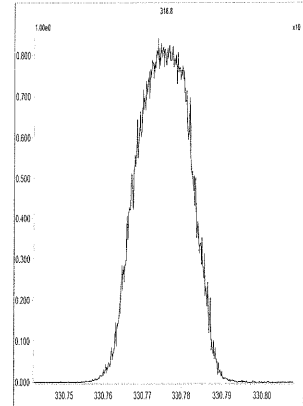
M 304.9824 R 11901



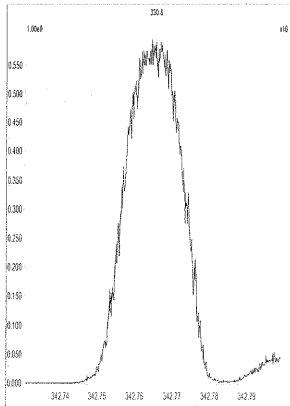
M 318.9792 R 11905



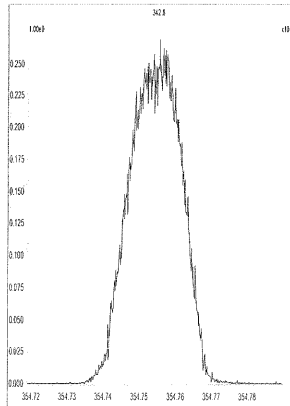
M 330.9792 R 11908



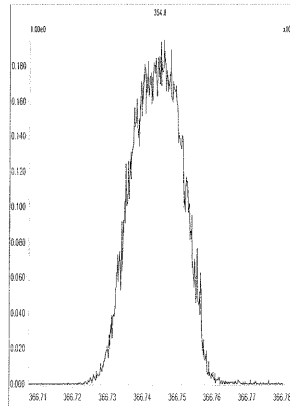
M 342.9792 R 12015



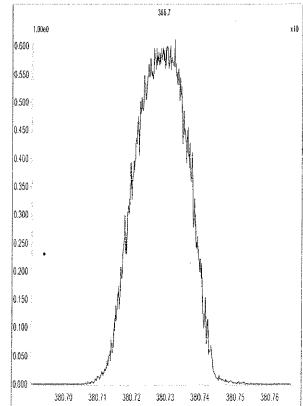
M 354.9792 R 12375



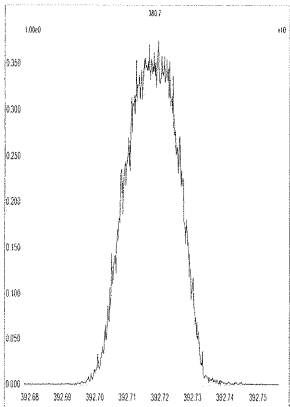
M 366.9792 R 12197



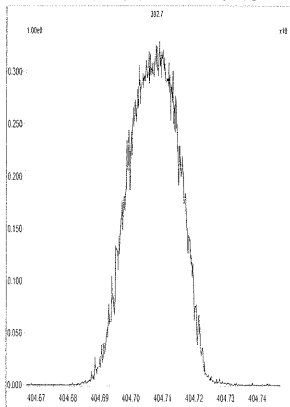
M 380.9760 R 12077



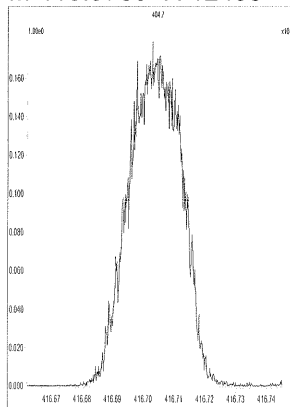
M 392.9760 R 12313



M 404.9760 R 12020



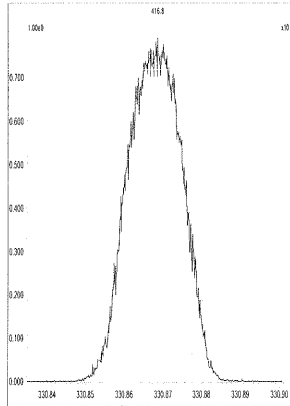
M 416.9760 R 12499



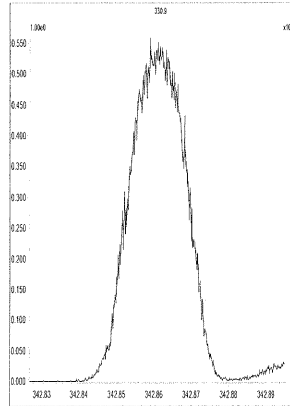
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:56:44 Central Daylight Time

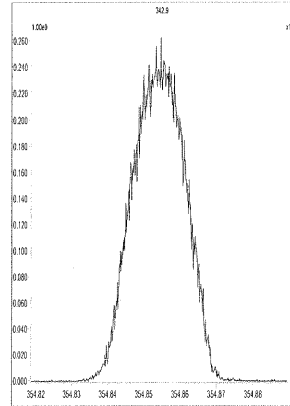
M 330.9792 R 11522



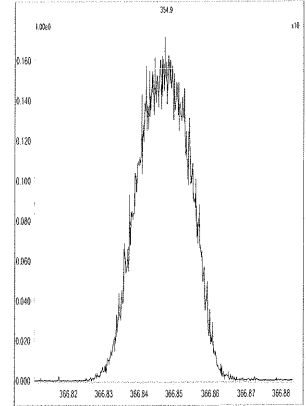
M 342.9792 R 11467



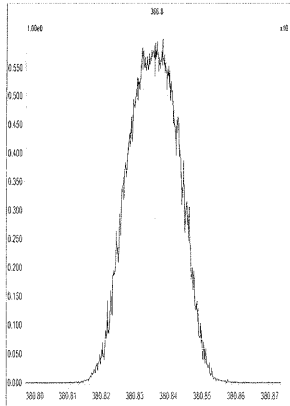
M 354.9792 R 11790



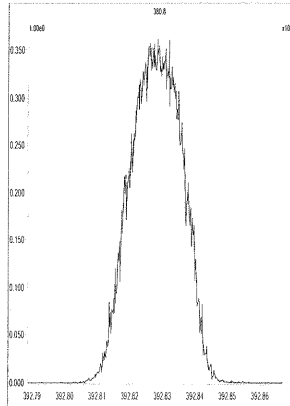
M 366.9792 R 11793



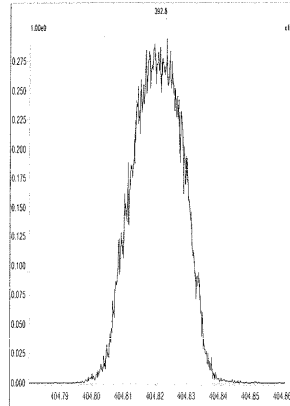
M 380.9760 R 11736



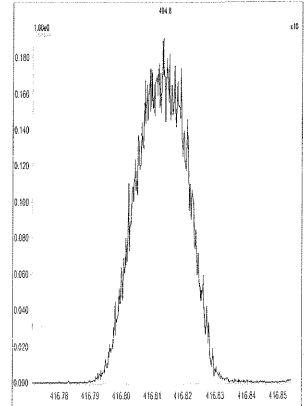
M 392.9760 R 12016



M 404.9760 R 12315



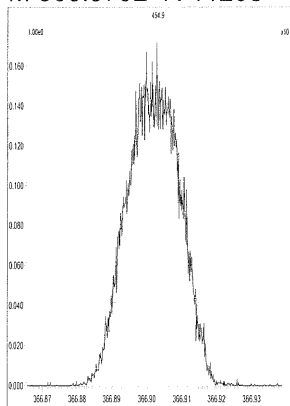
M 416.9760 R 12017



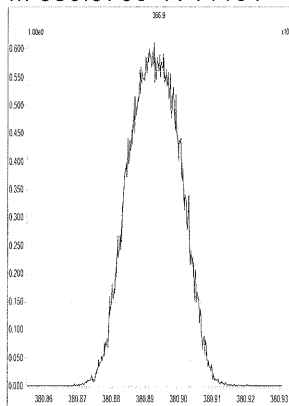
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:57:36 Central Daylight Time

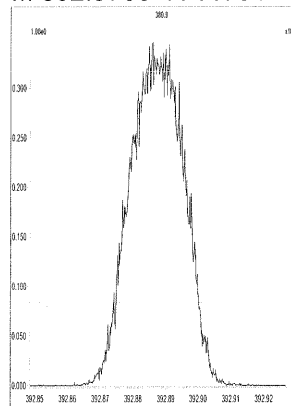
M 366.9792 R 11208



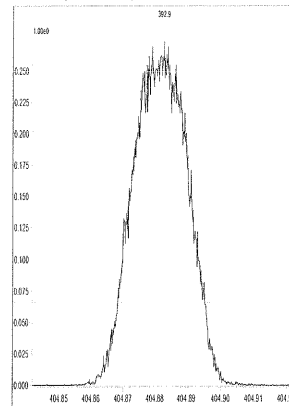
M 380.9760 R 11161



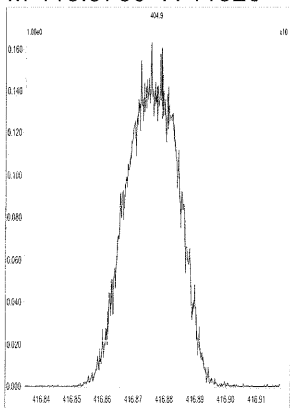
M 392.9760 R 11791



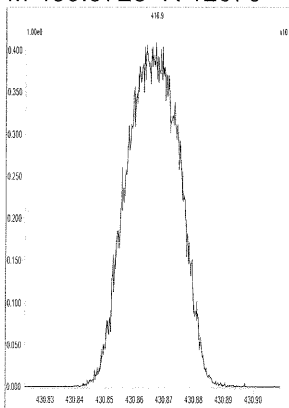
M 404.9760 R 11850



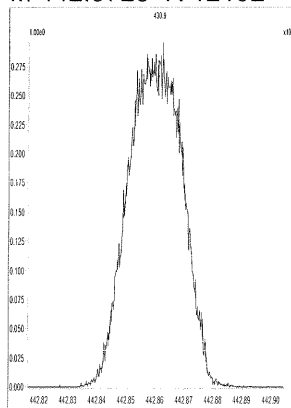
M 416.9760 R 11520



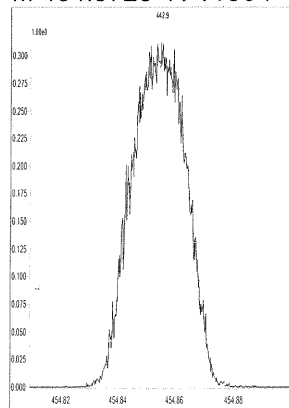
M 430.9728 R 12076



M 442.9728 R 12192



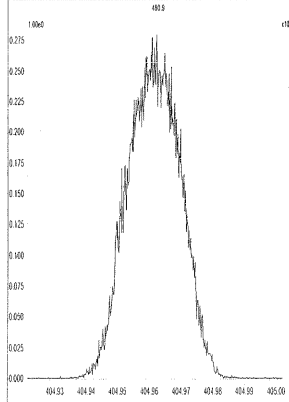
M 454.9728 R 11904



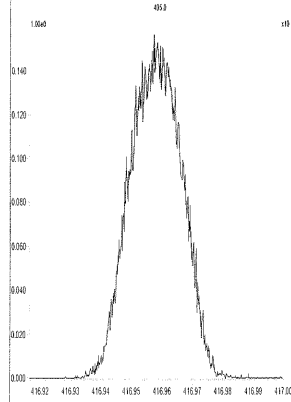
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 17:58:32 Central Daylight Time

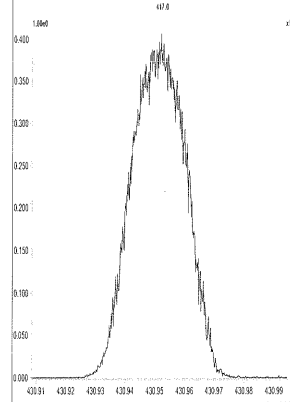
M 404.9760 R 11210



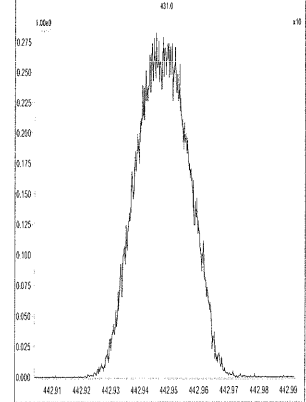
M 416.9760 R 11739



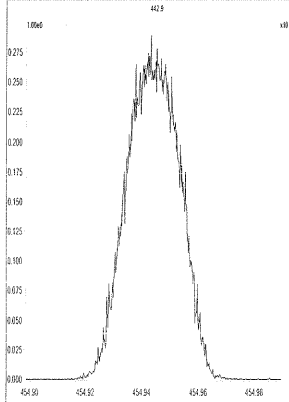
M 430.9728 R 11521



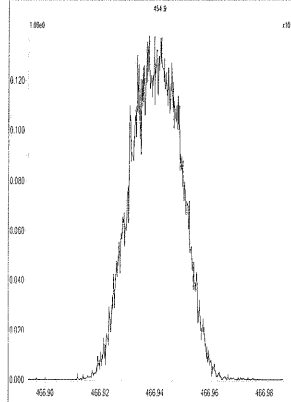
M 442.9728 R 11961



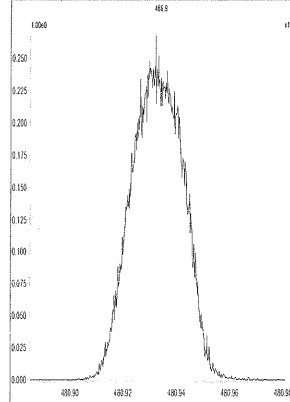
M 454.9728 R 11413



M 466.9728 R 11848



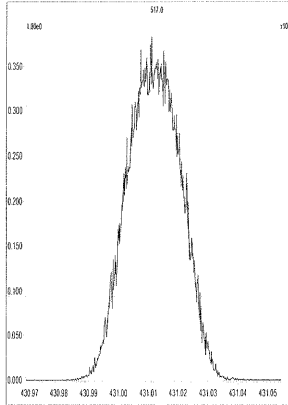
M 480.9696 R 11961



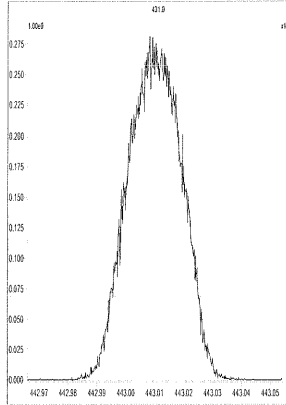
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, August 26, 2014 18:00:00 Central Daylight Time

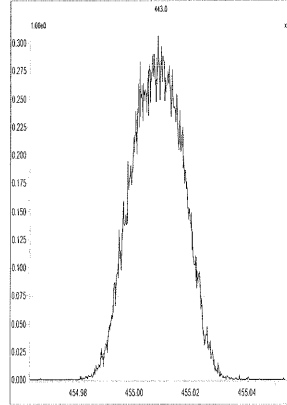
M 430.9728 R 11064



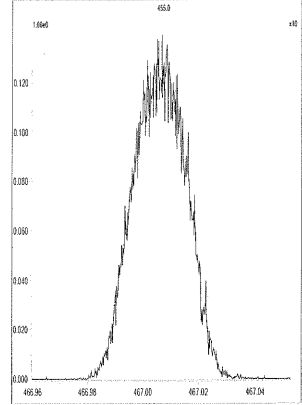
M 442.9728 R 11465



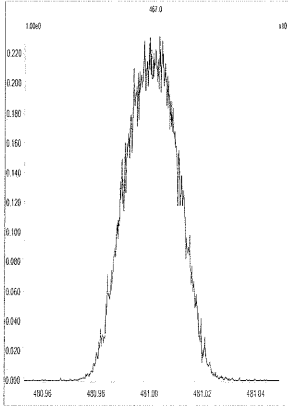
M 454.9728 R 11577



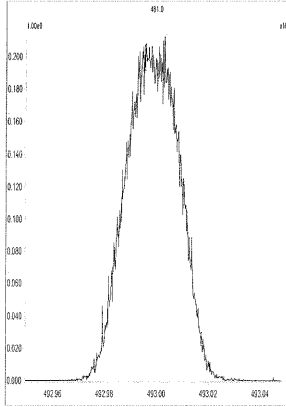
M 466.9728 R 11314



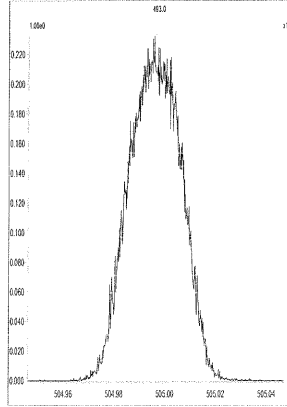
M 480.9696 R 11416



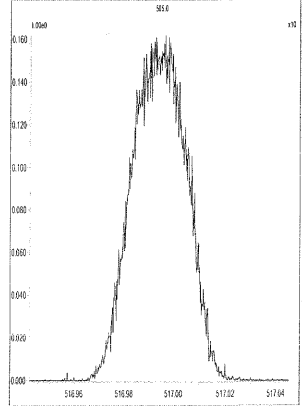
M 492.9696 R 11573



M 504.9696 R 11735



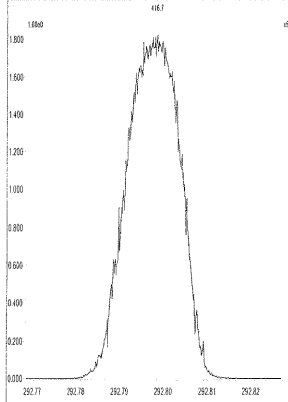
M 516.9697 R 11521



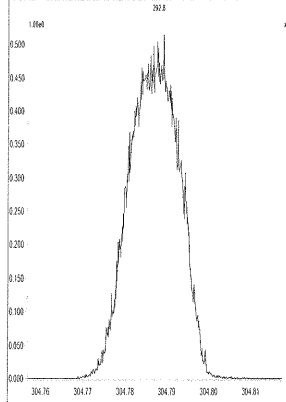
File: Experiment: 8290DB5MSUIF1.exp Reference: pkf.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 09:19:10 Central Daylight Time

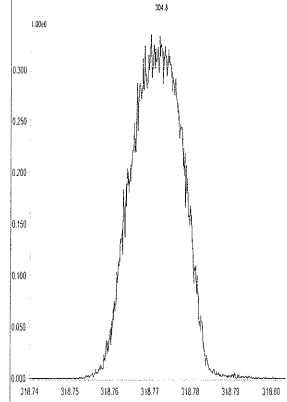
M 292.9824 R 12076



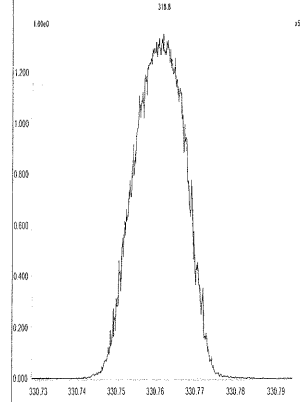
M 304.9824 R 12073



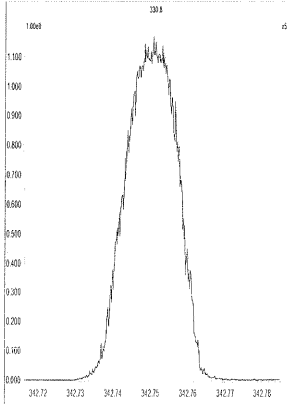
M 318.9792 R 12500



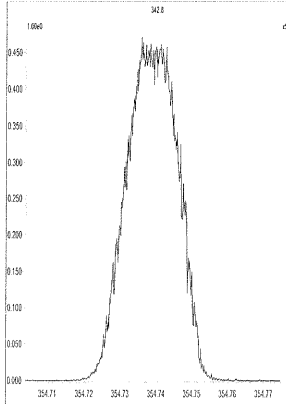
M 330.9792 R 12198



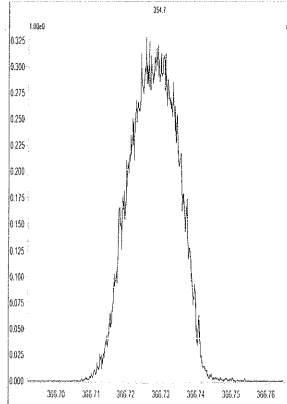
M 342.9792 R 12564



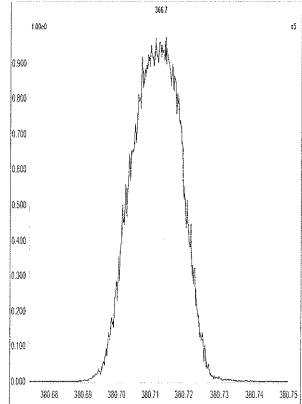
M 354.9792 R 12314



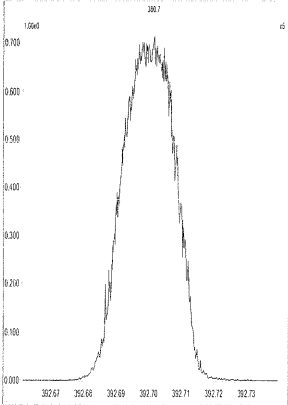
M 366.9792 R 12623



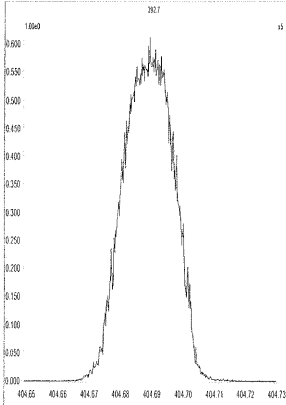
M 380.9760 R 12820



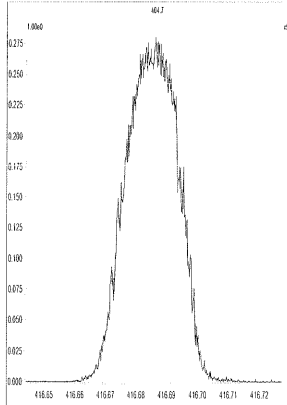
M 392.9760 R 12379



M 404.9760 R 12316



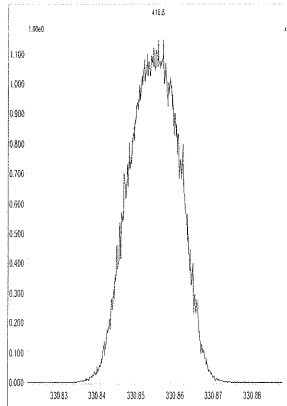
M 416.9760 R 12314



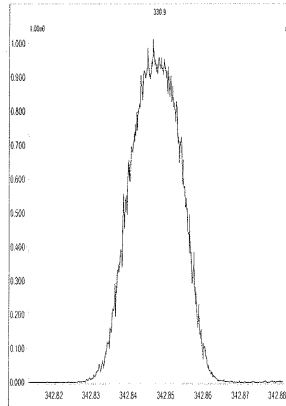
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 09:20:22 Central Daylight Time

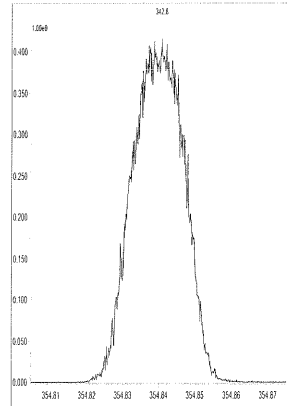
M 330.9792 R 11906



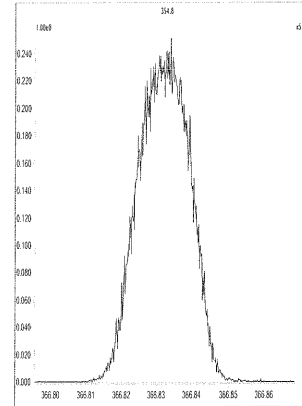
M 342.9792 R 12254



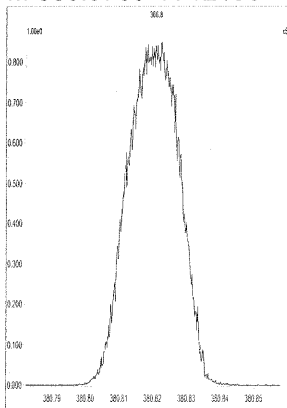
M 354.9792 R 12197



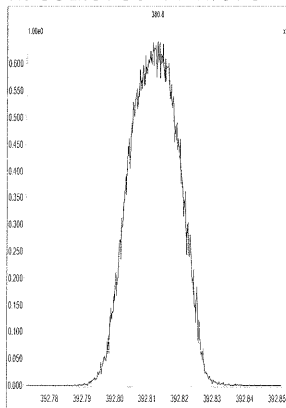
M 366.9792 R 12255



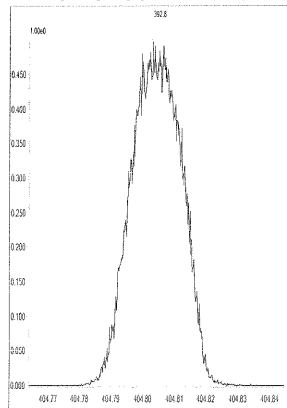
M 380.9760 R 12193



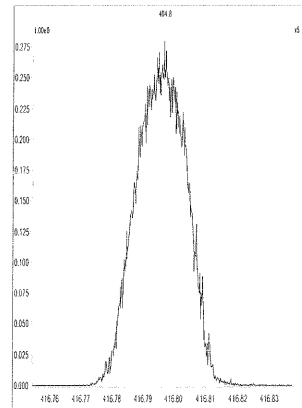
M 392.9760 R 12373



M 404.9760 R 12254



M 416.9760 R 12688

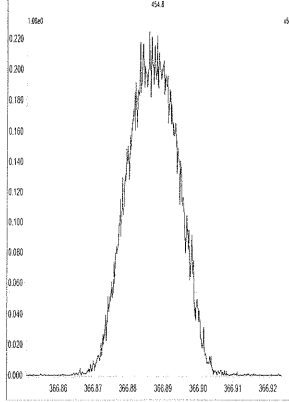




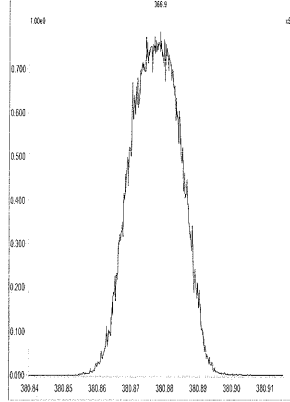
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 09:21:27 Central Daylight Time

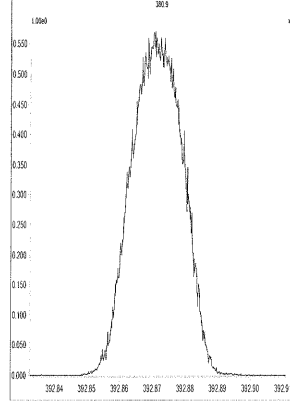
M 366.9792 R 12016



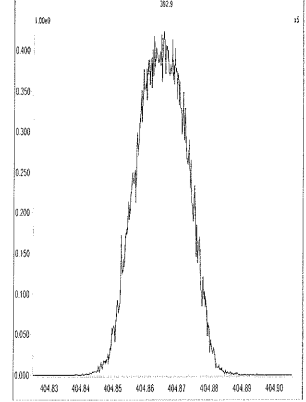
M 380.9760 R 11844



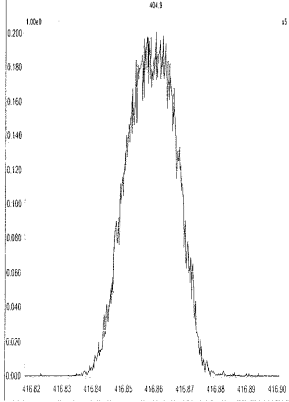
M 392.9760 R 12624



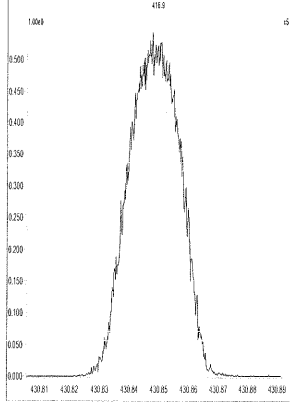
M 404.9760 R 12196



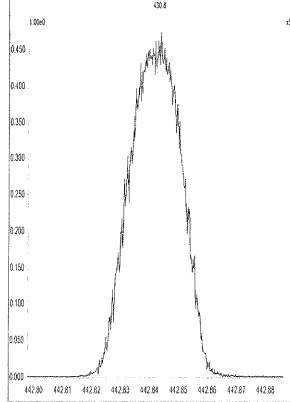
M 416.9760 R 11961



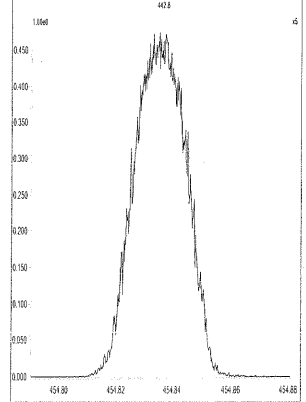
M 430.9728 R 12253



M 442.9728 R 12316



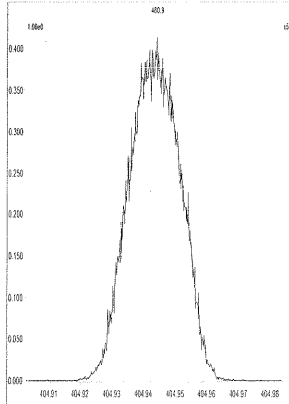
M 454.9728 R 12375



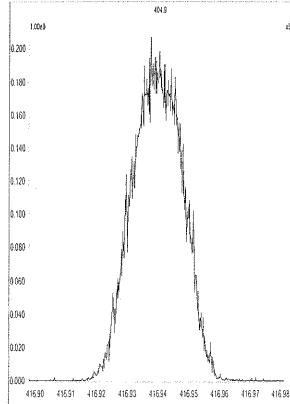
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Printed: Wednesday, August 27, 2014 09:22:12 Central Daylight Time

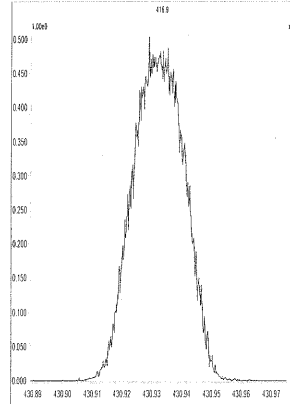
M 404.9760 R 11685



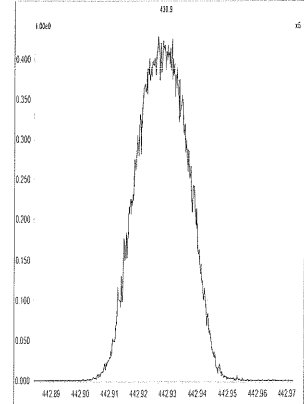
M 416.9760 R 11906



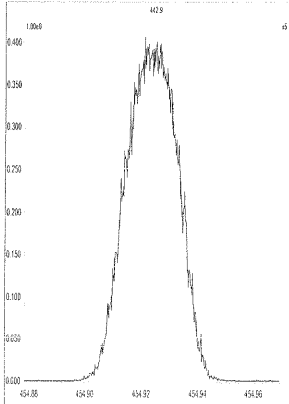
M 430.9728 R 12691



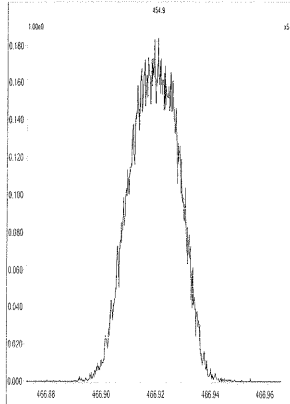
M 442.9728 R 12018



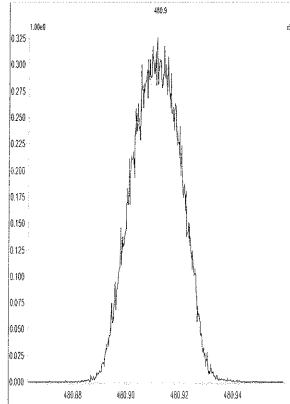
M 454.9728 R 12078



M 466.9728 R 12135



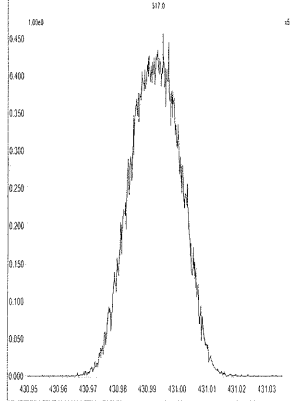
M 480.9696 R 12018



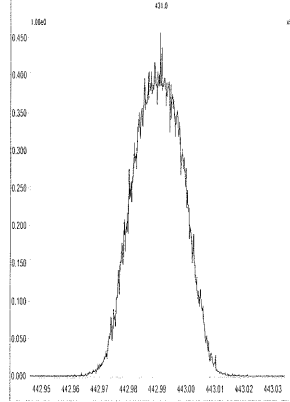
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 09:23:01 Central Daylight Time

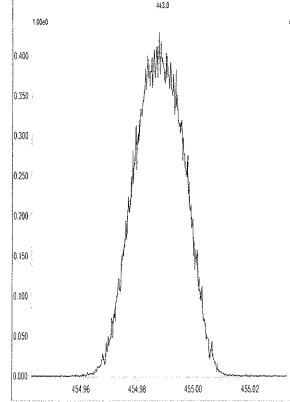
M 430.9728 R 11684



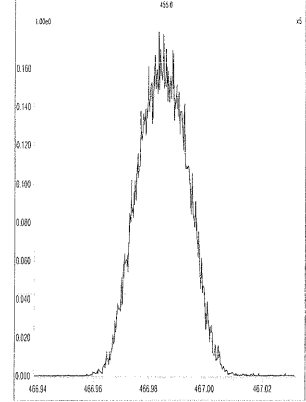
M 442.9728 R 11682



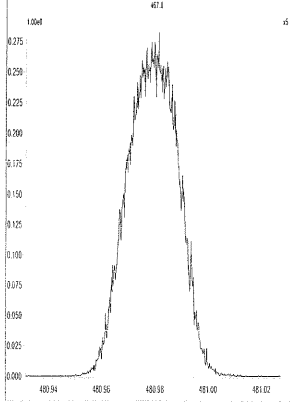
M 454.9728 R 11736



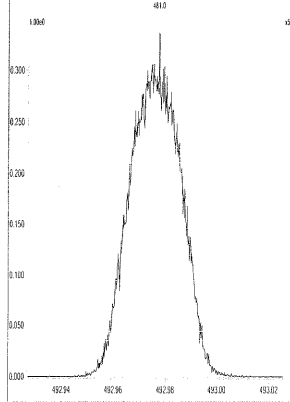
M 466.9728 R 12252



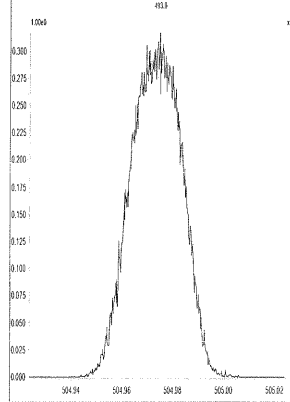
M 480.9696 R 11845



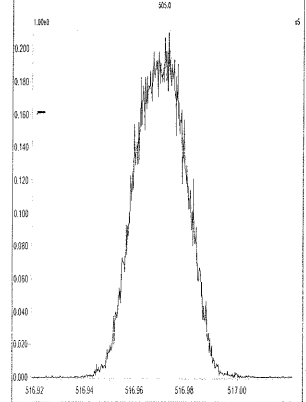
M 492.9696 R 12138



M 504.9696 R 11906



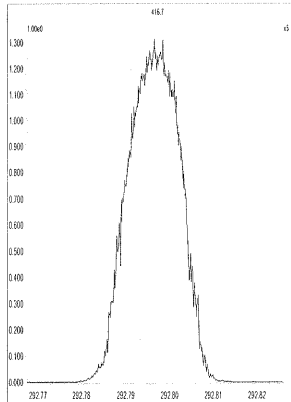
M 516.9697 R 12254



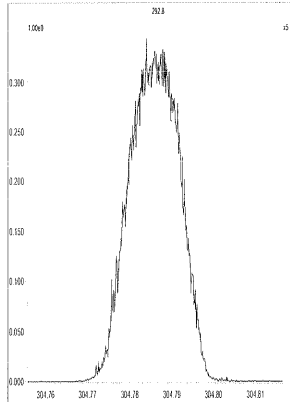
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 10:31:53 Central Daylight Time

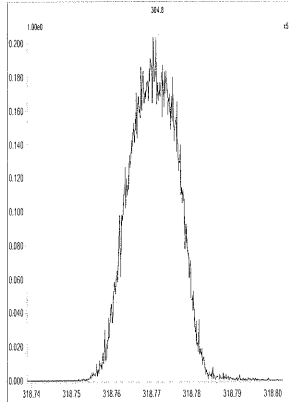
M 292.9824 R 12314



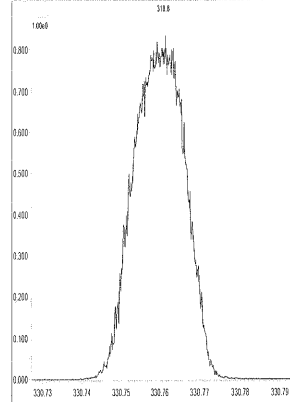
M 304.9824 R 12440



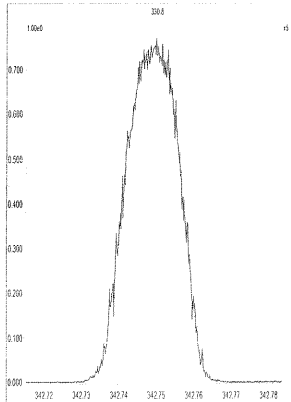
M 318.9792 R 12438



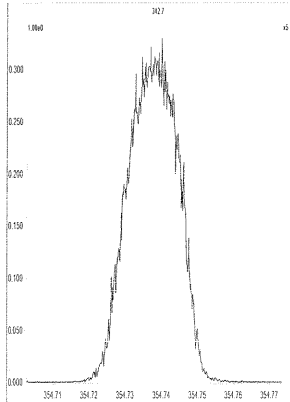
M 330.9792 R 12694



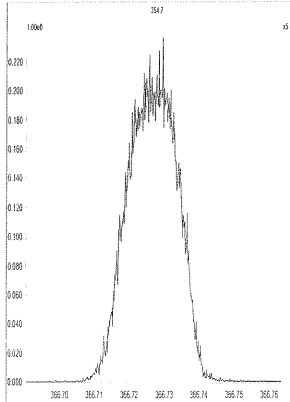
M 342.9792 R 12558



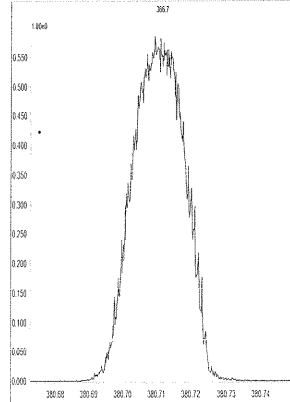
M 354.9792 R 12380



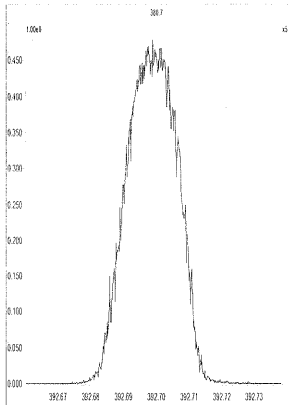
M 366.9792 R 12373



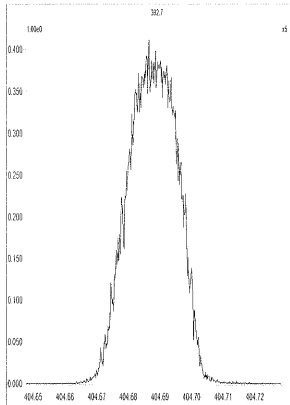
M 380.9760 R 12500



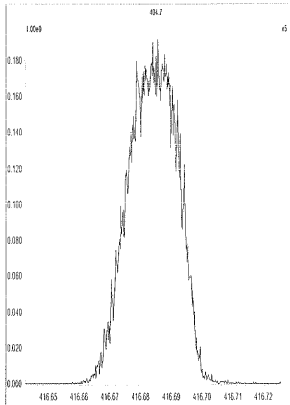
M 392.9760 R 13091



M 404.9760 R 12376



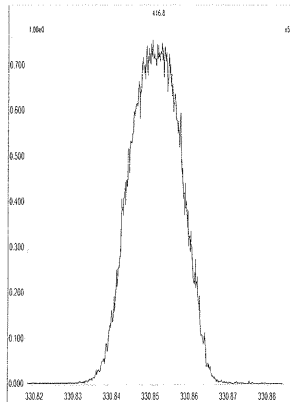
M 416.9760 R 12561



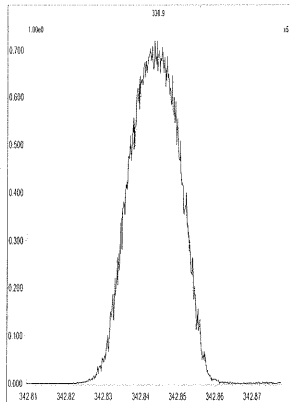
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 10:32:57 Central Daylight Time

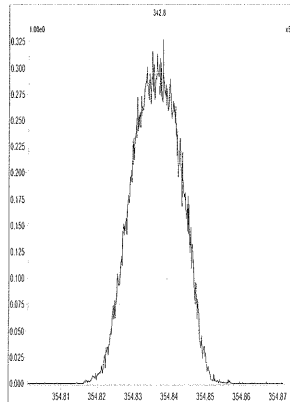
M 330.9792 R 11906



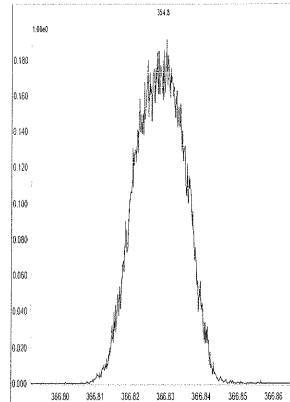
M 342.9792 R 12140



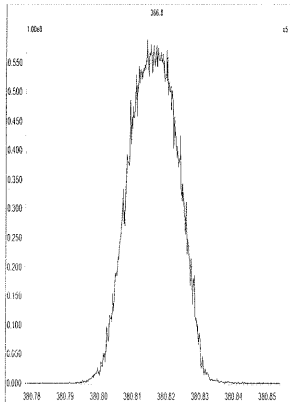
M 354.9792 R 12317



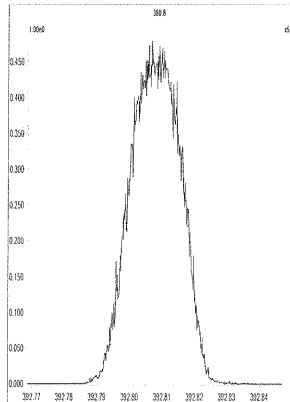
M 366.9792 R 12136



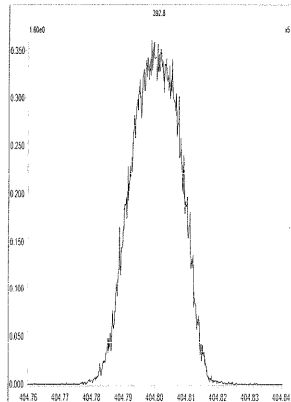
M 380.9760 R 12753



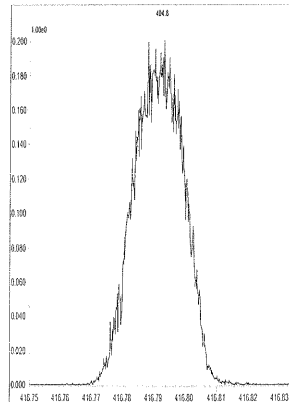
M 392.9760 R 12439



M 404.9760 R 12194



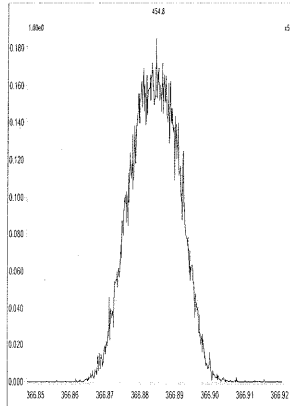
M 416.9760 R 12439



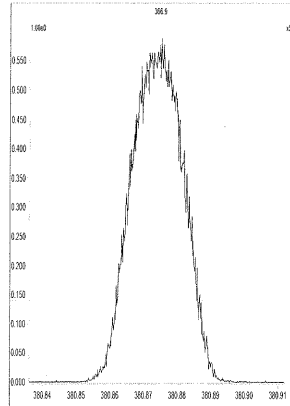
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 10:33:45 Central Daylight Time

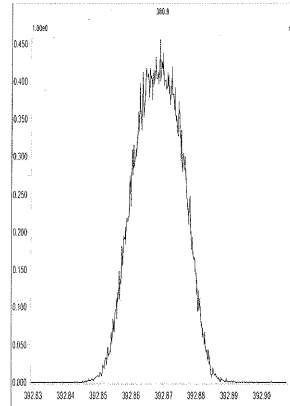
M 366.9792 R 11958



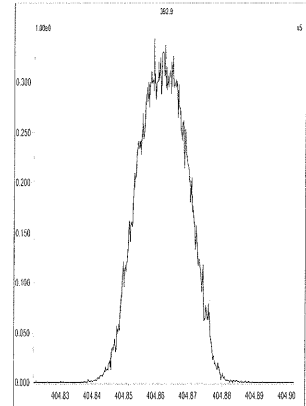
M 380.9760 R 12563



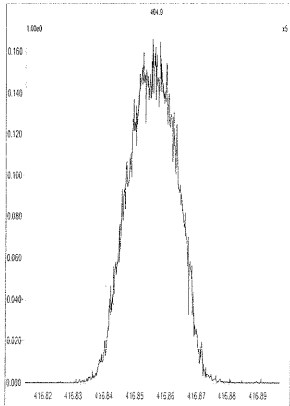
M 392.9760 R 12017



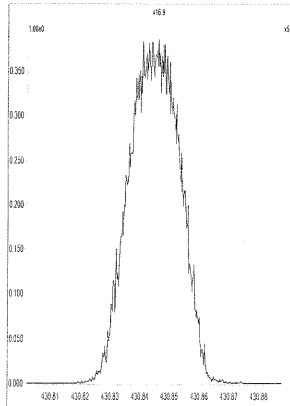
M 404.9760 R 12439



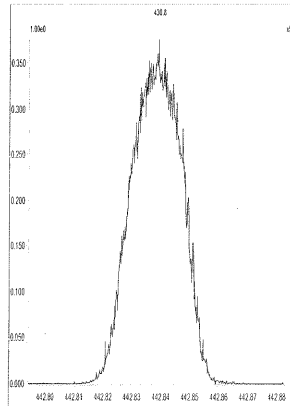
M 416.9760 R 12314



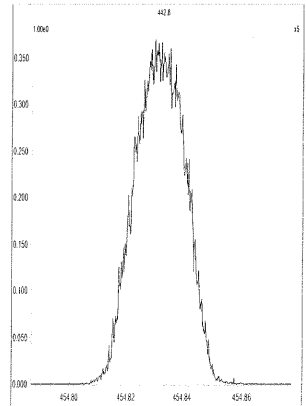
M 430.9728 R 12138



M 442.9728 R 12500



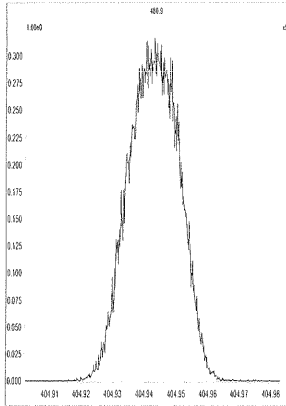
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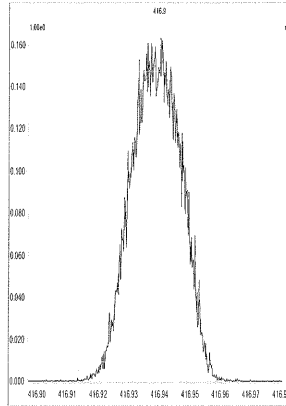
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, August 27, 2014 10:35:06 Central Daylight Time

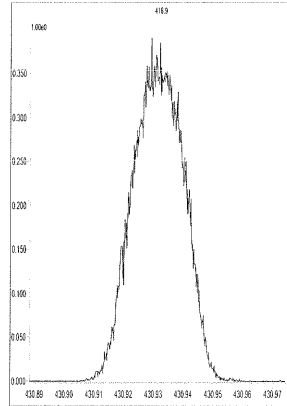
M 404.9760 R 11847



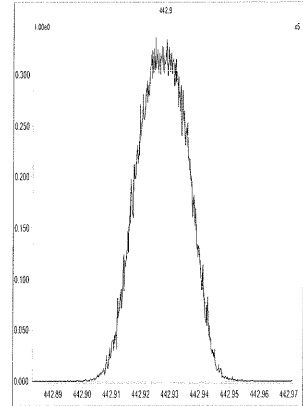
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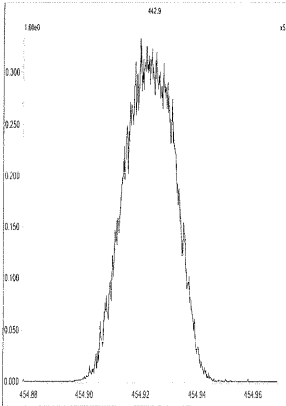
M 430.9728 R 12019



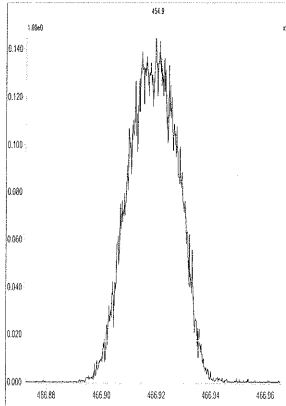
M 442.9728 R 12076



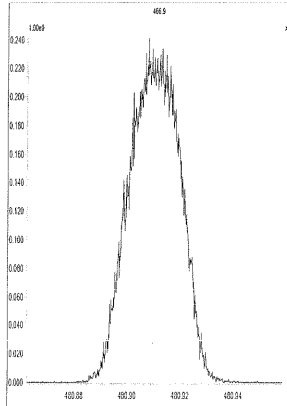
M 454.9728 R 12377



M 466.9728 R 12019



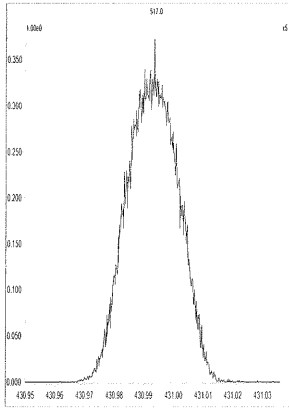
M 480.9696 R 12629



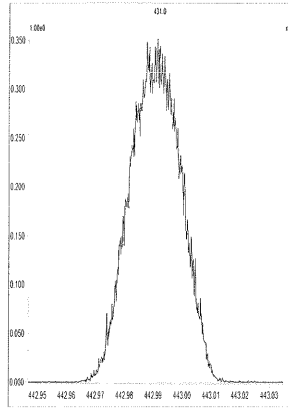
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Printed: Wednesday, August 27, 2014 10:35:55 Central Daylight Time

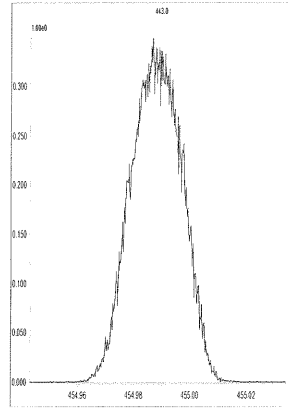
M 430.9728 R 11518



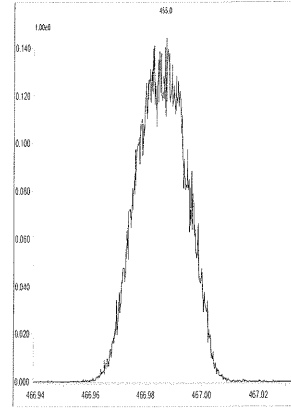
M 442.9728 R 11682



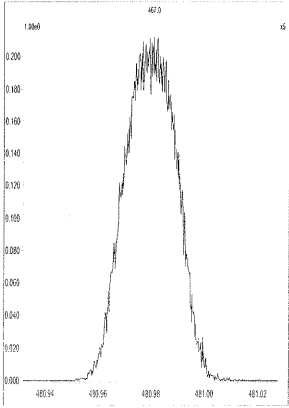
M 454.9728 R 11627



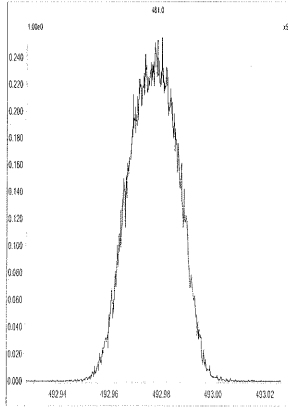
M 466.9728 R 12317



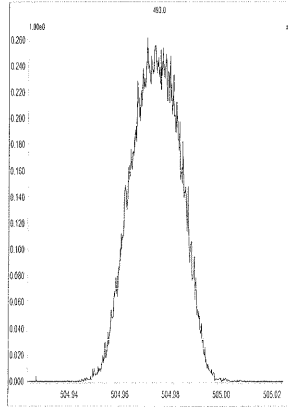
M 480.9696 R 12195



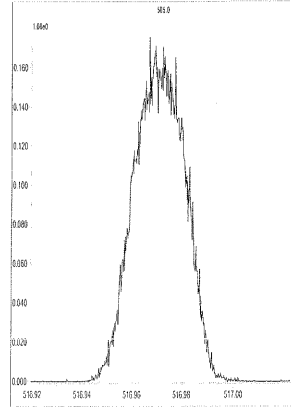
M 492.9696 R 12080



M 504.9696 R 12078



M 516.9697 R 12886





5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

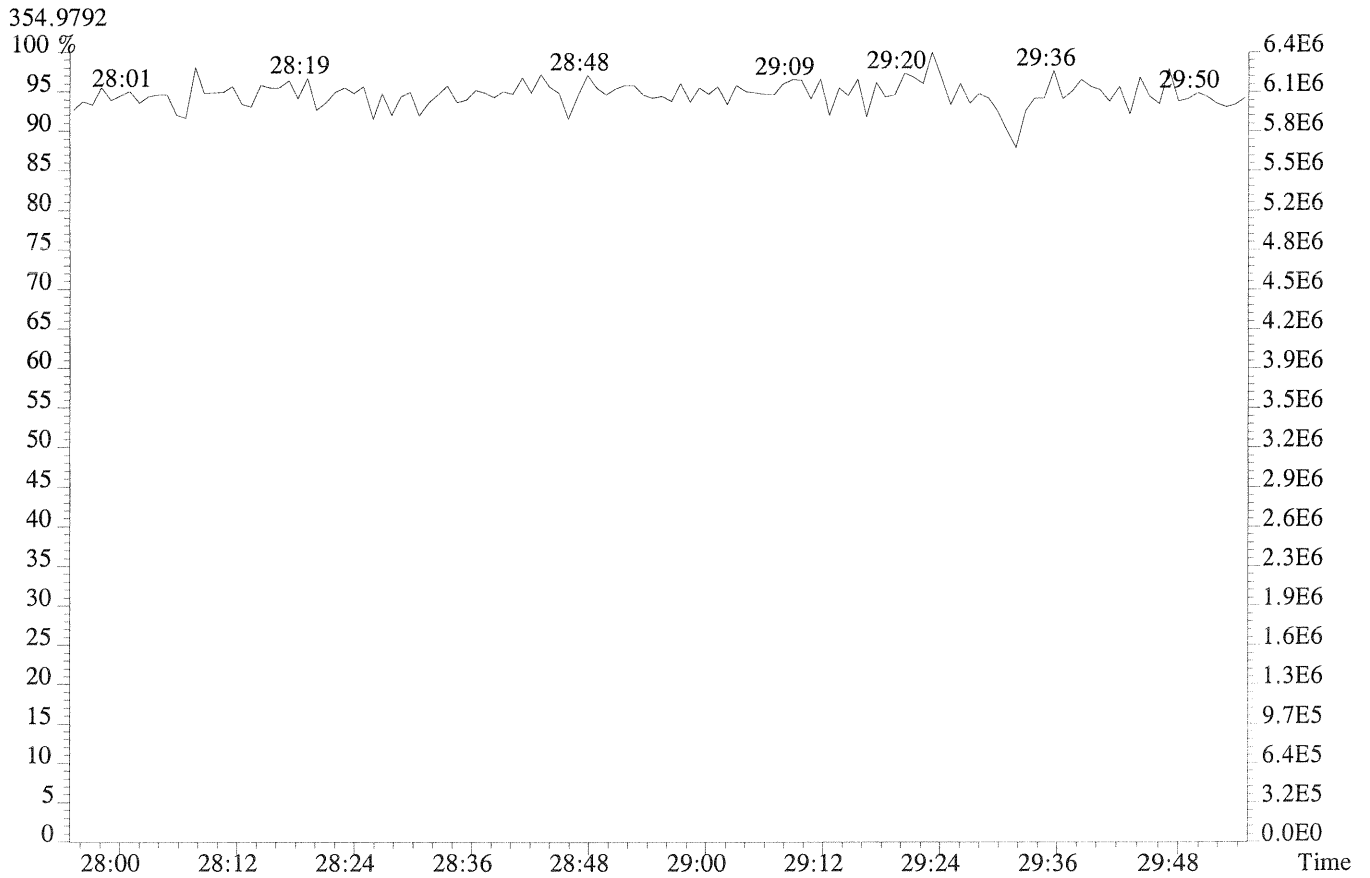
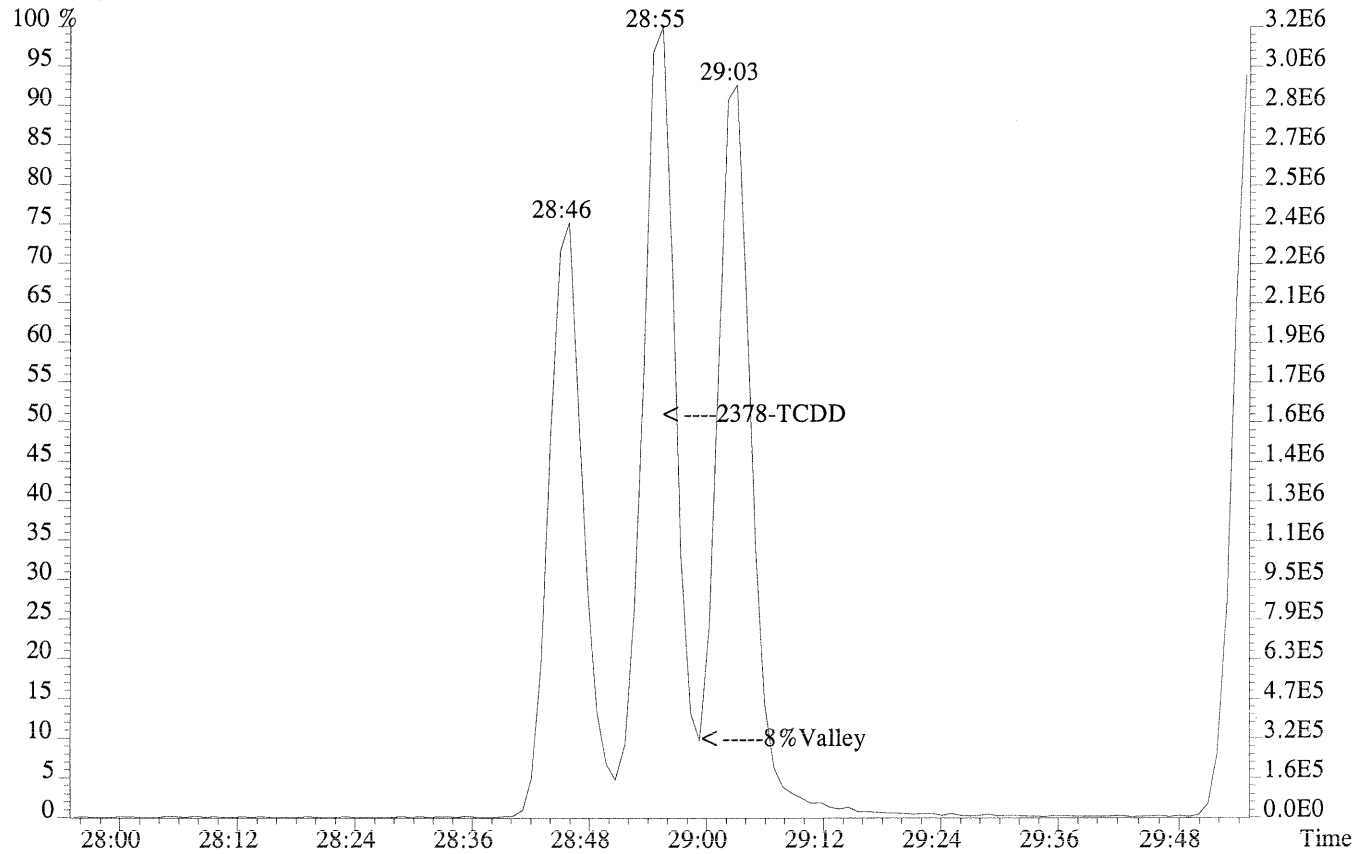
Lab Name: ALS ENVIRONMENTAL  
 Lab Code: TX01411  
 GC Column: DB-5msUI

Case No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_  
 ID: 0.25 (mm) Lab File ID: P230804  
 Date Analyzed: 27-AUG-2014  
 Time Analyzed: 00:23:05

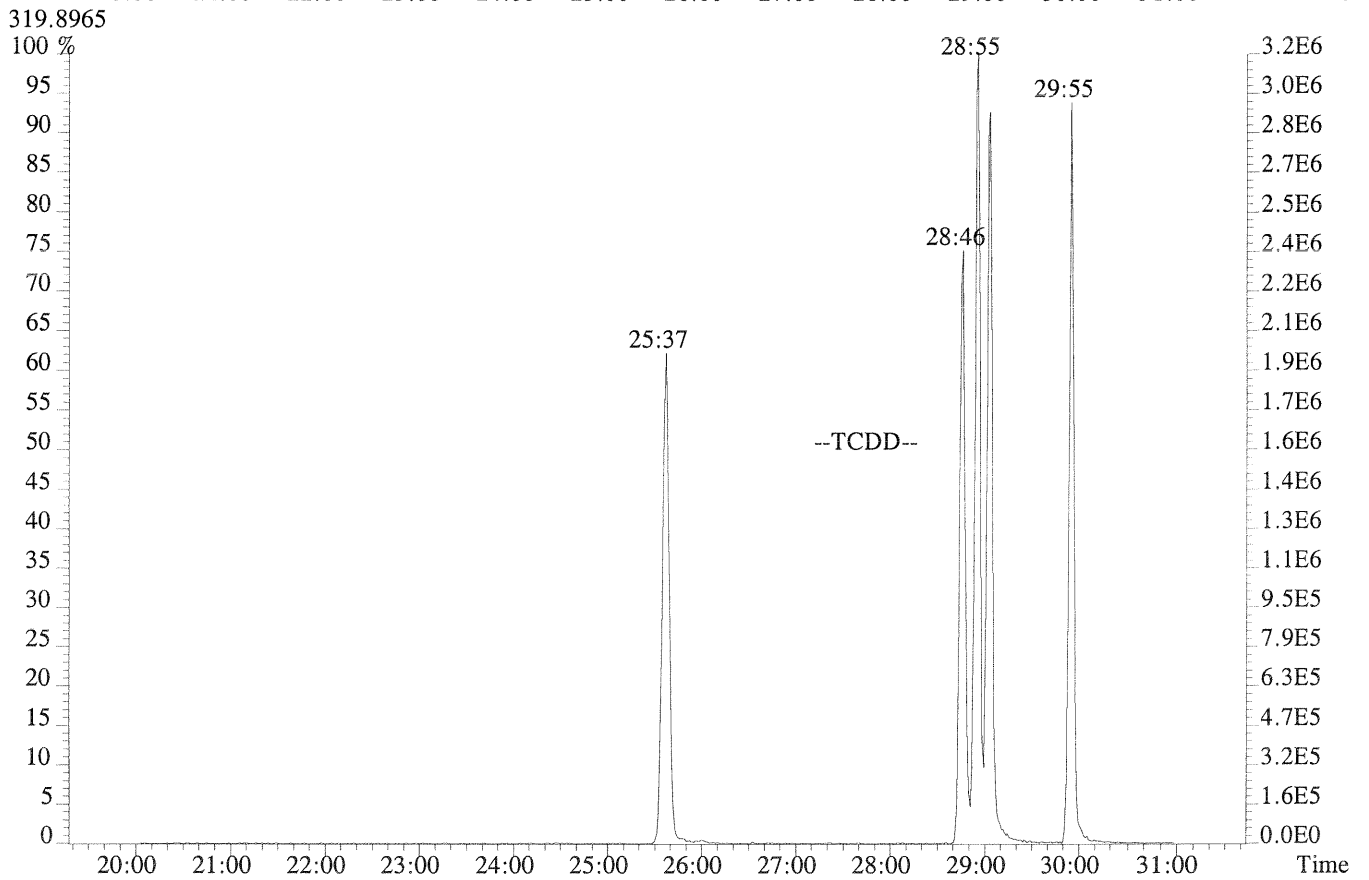
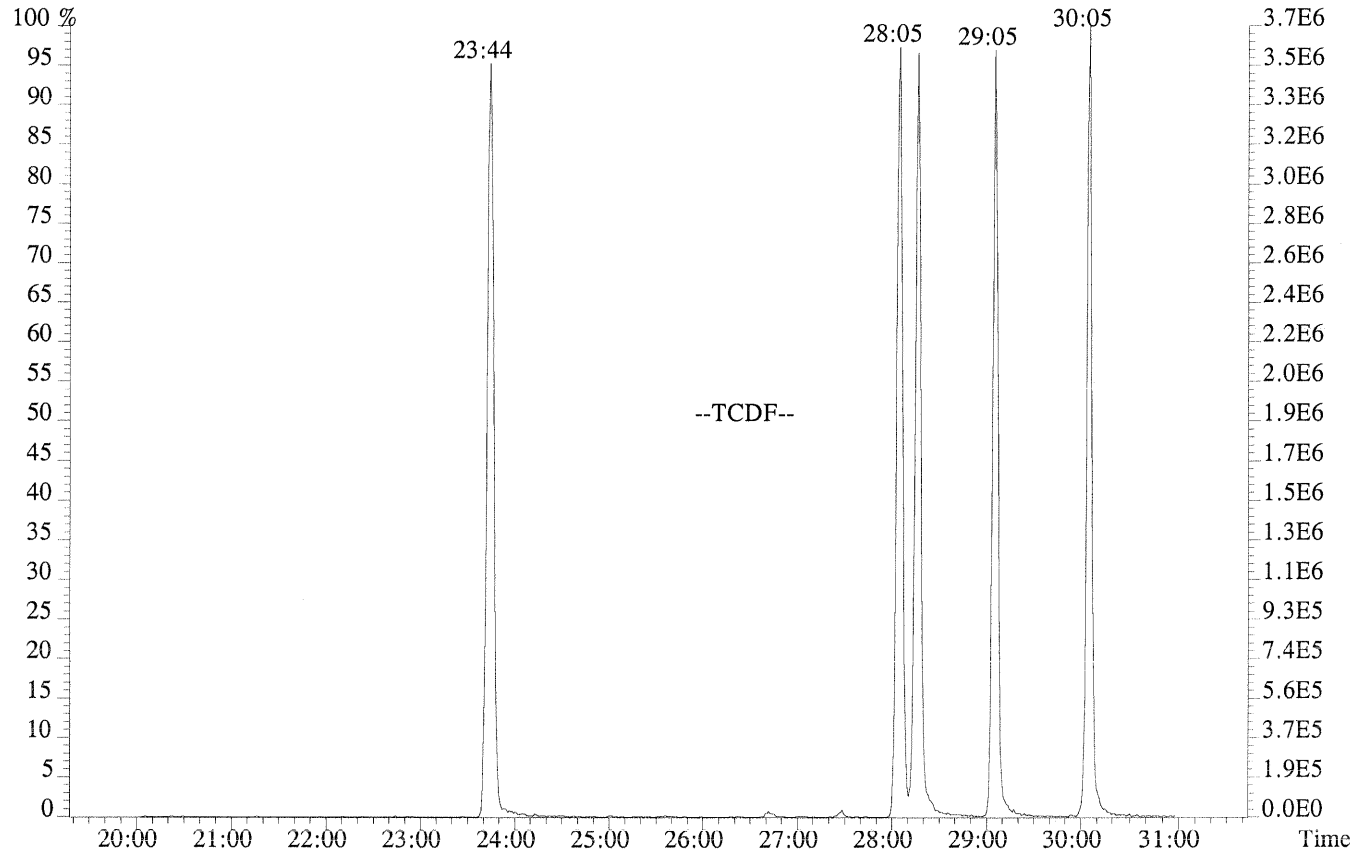
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:44	30:05
TCDD	25:37	29:55
PeCDF	30:00	34:15
PeCDD	31:32	33:59
HxCDF	34:53	37:23
HxCDD	35:23	36:58
HpCDF	38:35	39:59
HpCDD	38:49	39:30

% Valley 2378-TCDD: 8 %

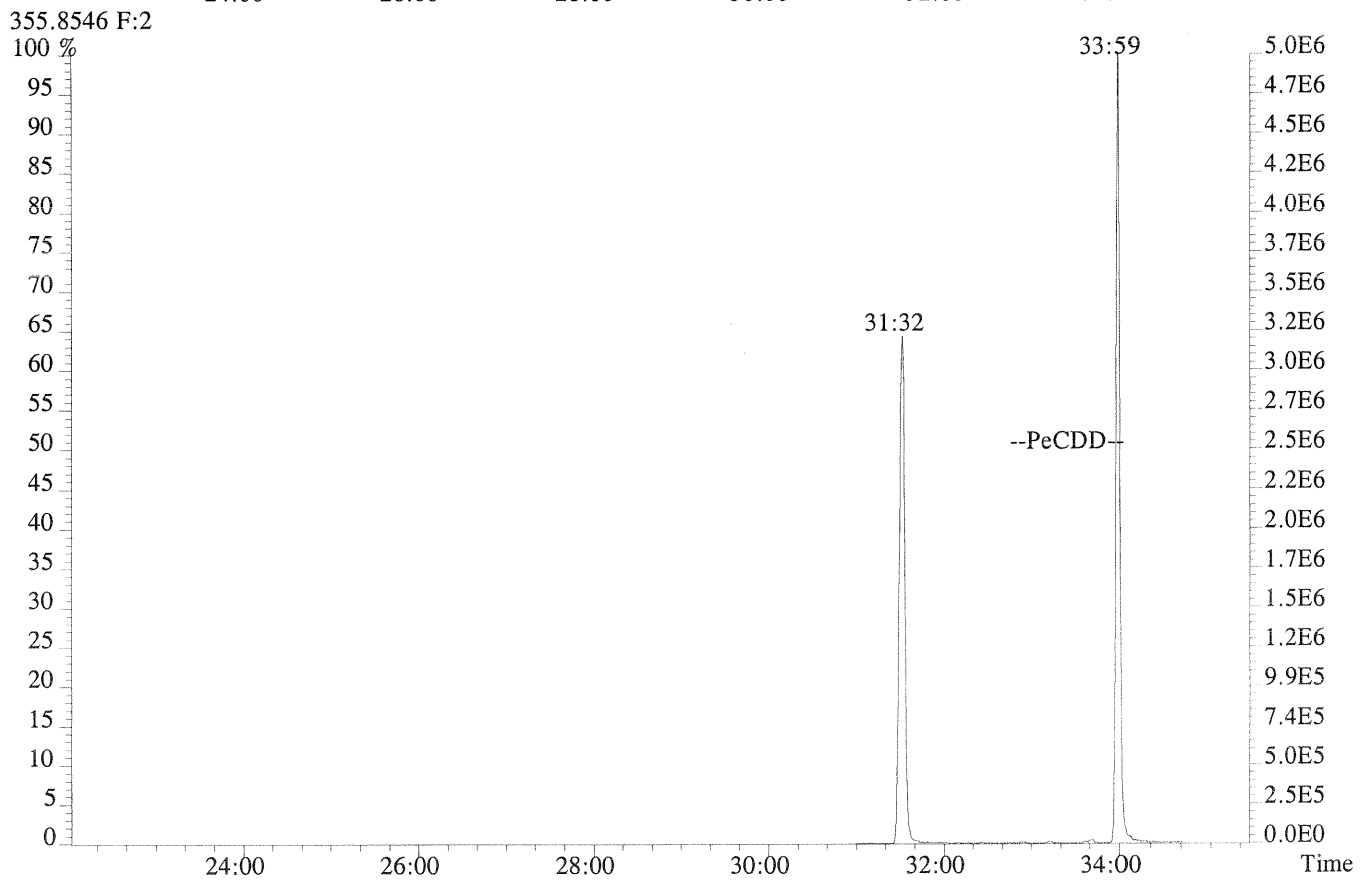
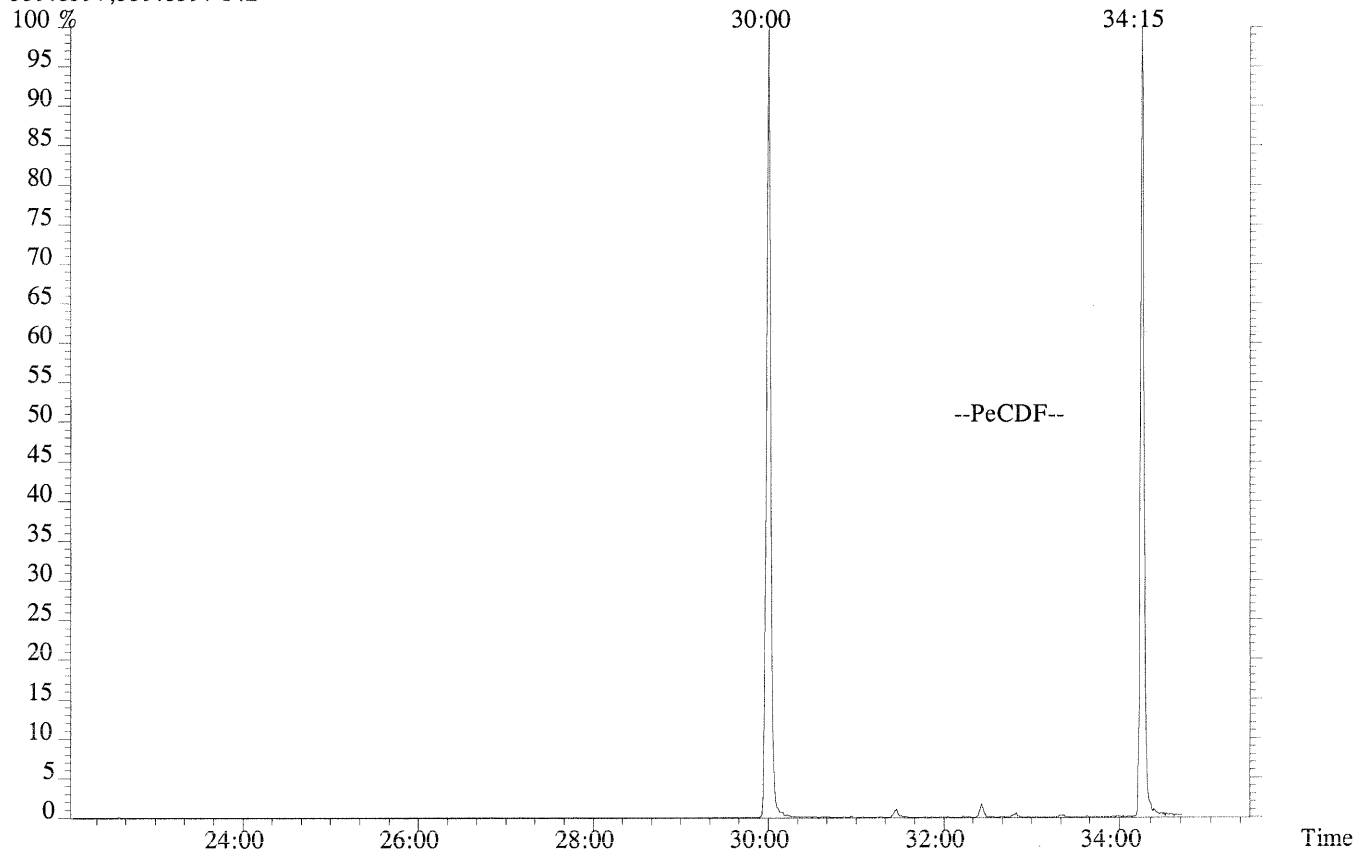
File:P230804 #1-687 Acq:27-AUG-2014 00:23:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965



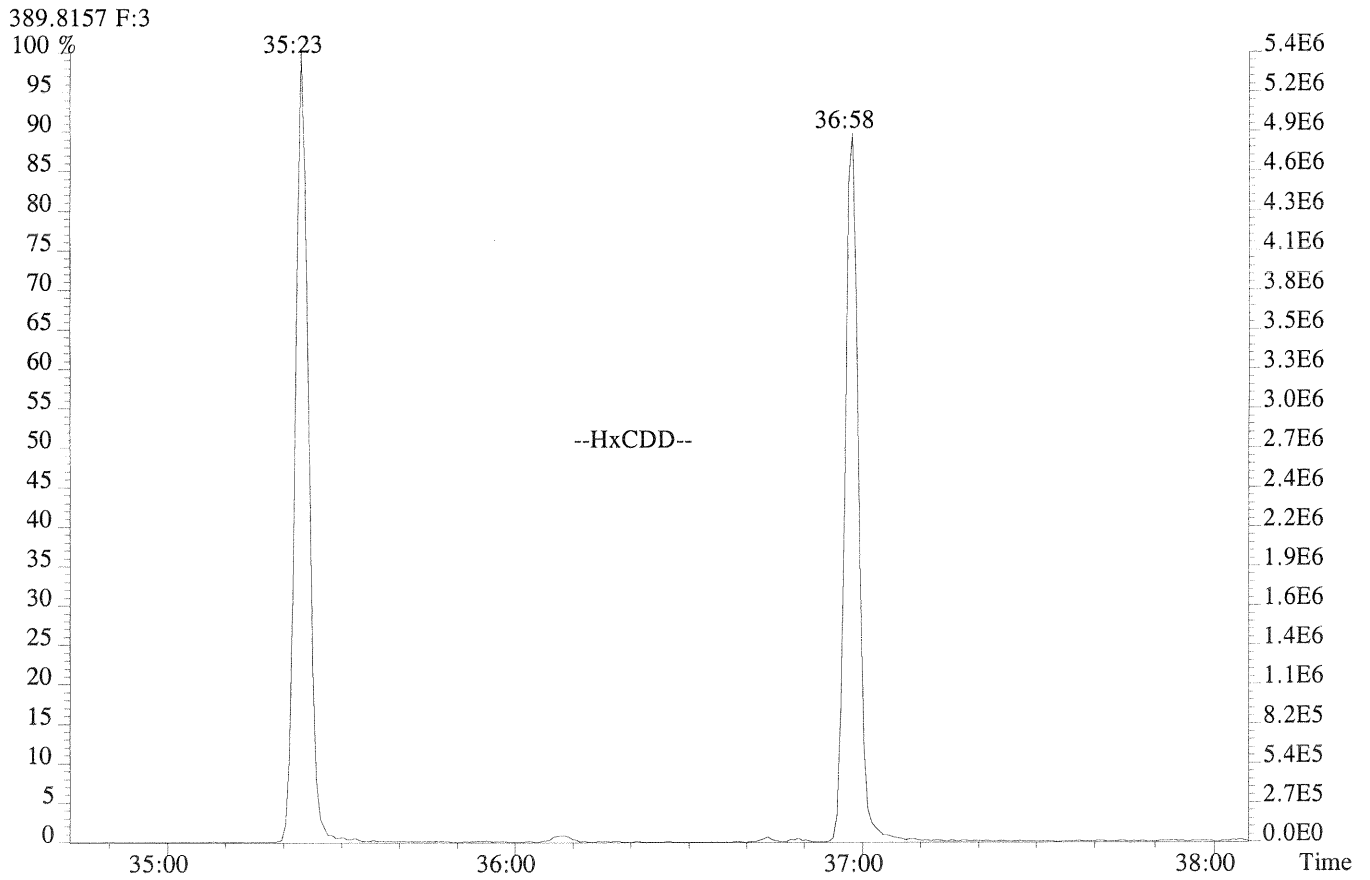
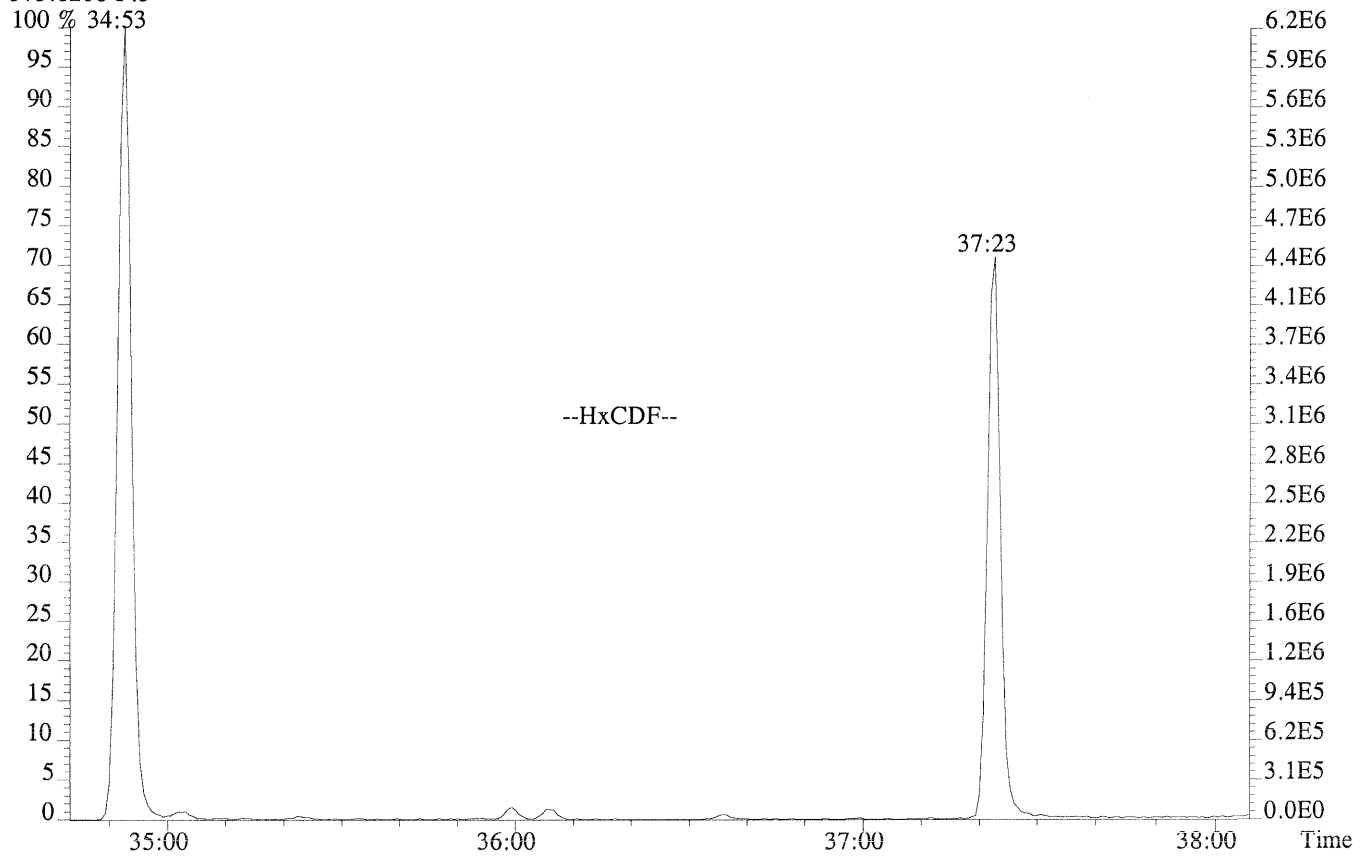
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Sample#1 Exp:WINDOW DEFINE  
303.9016



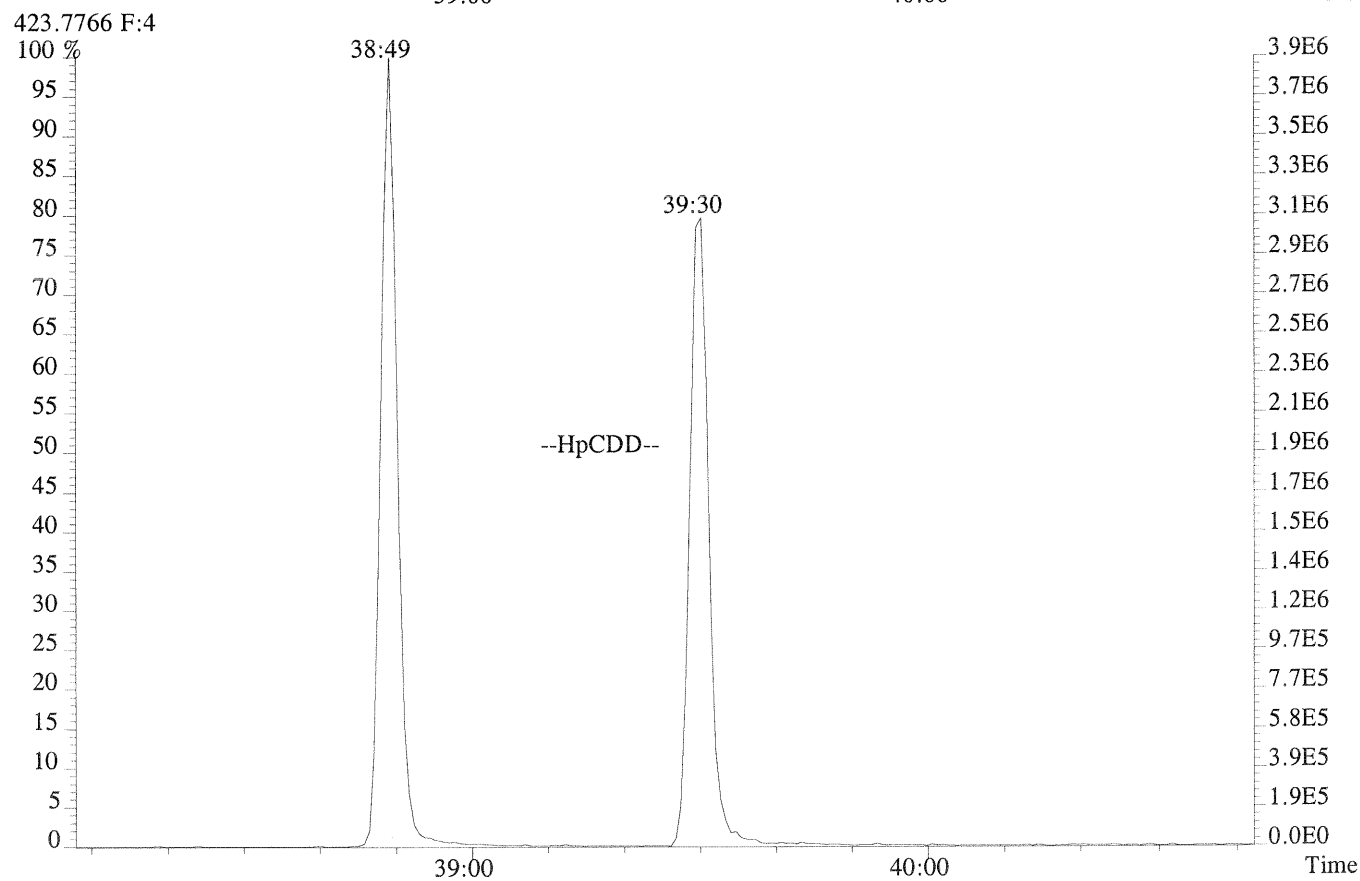
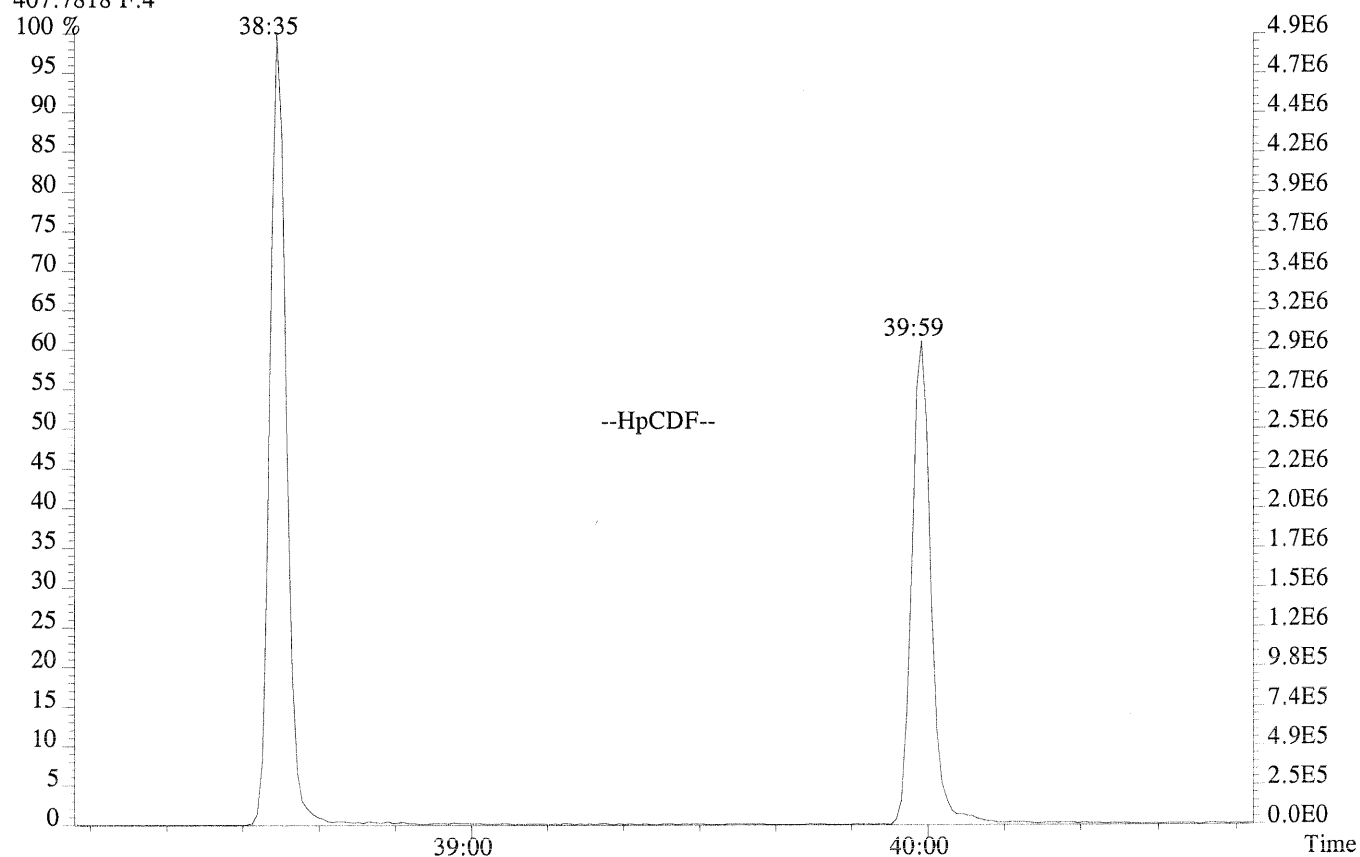
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Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:P230804 #1-307 Acq:27-AUG-2014 00:23:05 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:P230804 #1-234 Acq:27-AUG-2014 00:23:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230803

Analysis Date: 26-AUG-14 Time: 23:35:13

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	9.5	7.8 - 12.9	-4.9
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	49	39 - 65	-2.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	49	39 - 64	-1.5
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	51	39 - 64	1.1
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	49	41 - 61	-1.6
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	50	43 - 58	0.8
OCDD	M+2/M+4	0.89	0.76-1.02	99	79 - 126	-0.8
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	9.8	8.4 - 12.0	-1.5
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	51	41 - 60	1.2
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	48	41 - 61	-3.3
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	50	45 - 56	-0.3
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	50	44 - 57	-0.8
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	50	45 - 56	-0.6
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	50	44 - 57	-0.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	49	45 - 55	-2.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	50	43 - 58	-0.2
OCDF	M+2/M+4	0.88	0.76-1.02	102	63 - 159	2.0

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230803

Analysis Date: 26-AUG-14 Time: 23:35:13

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	99	82 - 121	-0.8
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	99	62 - 160	-0.8
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	99	85 - 117	-0.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	94	85 - 118	-5.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	106	72 - 138	6.3
13C-OCDD	M+2/M+4	0.90	0.76-1.02	192	96 - 415	-4.2
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	96	71 - 140	-4.5
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	95	76 - 130	-4.9
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	98	77 - 130	-2.5
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	96	76 - 131	-4.2
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	95	70 - 143	-4.8
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	100	74 - 135	-0.2
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	96	73 - 137	-4.3
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	98	78 - 129	-2.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	105	77 - 129	5.1
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.6	7.8 - 12.7	-3.9

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Sample Response Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #7 Filename P230803 #1 Samp: 1 Inj: 1 Acquired: 26-AUG-14 23:35:13  
 Processed: 27-AUG-14 16:01:15 LAB. ID: CCAL HRCC3/CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:16	4.424e+03	5.611e+03	0.79	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:26	4.089e+04	2.655e+04	1.54	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	33:20	3.855e+04	2.510e+04	1.54	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	35:59	3.370e+04	2.699e+04	1.25	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:06	3.532e+04	2.801e+04	1.26	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:36	3.315e+04	2.642e+04	1.25	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:21	2.723e+04	2.194e+04	1.24	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.714e+04	2.624e+04	1.03	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	39:59	1.978e+04	1.933e+04	1.02	yes	no	1.000
10	Unk	OCDF	42:29	2.877e+04	3.253e+04	0.88	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:03	3.202e+03	4.266e+03	0.75	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:37	2.812e+04	1.813e+04	1.55	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:44	2.555e+04	2.029e+04	1.26	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:48	2.438e+04	1.945e+04	1.25	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:03	2.626e+04	2.135e+04	1.23	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:30	2.226e+04	2.119e+04	1.05	yes	no	1.000
17	Unk	OCDD	42:17	2.739e+04	3.090e+04	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:15	4.574e+04	5.758e+04	0.79	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	32:25	8.120e+04	5.211e+04	1.56	yes	no	1.140
20	IS	13C-2,3,4,7,8-PeCDF	33:20	8.306e+04	5.272e+04	1.58	yes	no	1.172
21	IS	13C-1,2,3,4,7,8-HxCDF	35:59	3.488e+04	6.732e+04	0.52	yes	no	0.971
22	IS	13C-1,2,3,6,7,8-HxCDF	36:05	3.857e+04	7.427e+04	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:35	3.667e+04	7.132e+04	0.51	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:20	2.974e+04	5.766e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:34	2.467e+04	5.618e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	1.888e+04	4.262e+04	0.44	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:02	3.283e+04	4.122e+04	0.80	yes	no	1.021
28	IS	13C-1,2,3,7,8-PeCDD	33:36	5.845e+04	3.698e+04	1.58	yes	no	1.181
29	IS	13C-1,2,3,4,7,8-HxCDD	36:43	4.649e+04	3.681e+04	1.26	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:48	4.468e+04	3.522e+04	1.27	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	4.223e+04	3.968e+04	1.06	yes	no	1.066
32	IS	13C-OCDD	42:16	4.776e+04	5.279e+04	0.90	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:27	3.294e+04	4.130e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:02	5.031e+04	4.039e+04	1.25	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:03	7.836e+03				no	1.021

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CCAL HRCC3/CS3

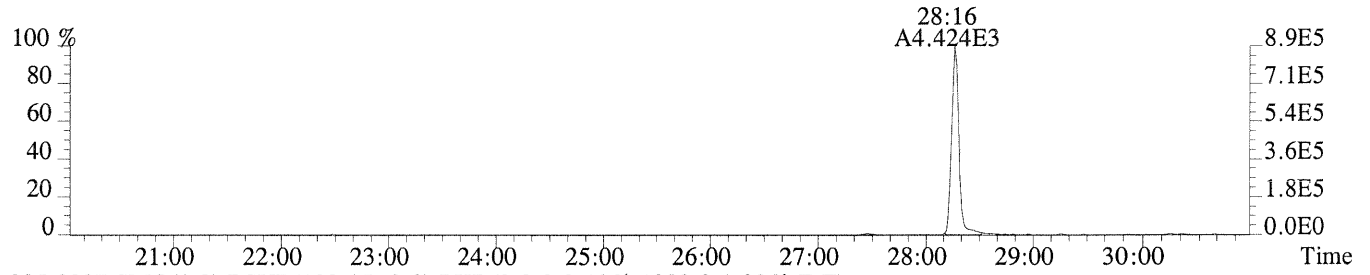
Run #7    Filename P230803    Samp: 1    Inj: 1    Acquired: 26-AUG-14 23:35:13  
 Processed: 27-AUG-14 16:01:151    LAB. ID: CCAL HRCC3/CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	8.92e+05	2.12e+02	4.2e+03	1.14e+06	1.08e+03	1.1e+03
2	1,2,3,7,8-PeCDF	7.75e+06	5.20e+02	1.5e+04	5.09e+06	1.65e+03	3.1e+03
3	2,3,4,7,8-PeCDF	7.64e+06	5.20e+02	1.5e+04	5.03e+06	1.65e+03	3.0e+03
4	1,2,3,4,7,8-HxCDF	7.51e+06	4.48e+02	1.7e+04	5.97e+06	3.92e+02	1.5e+04
5	1,2,3,6,7,8-HxCDF	7.61e+06	4.48e+02	1.7e+04	5.97e+06	3.92e+02	1.5e+04
6	2,3,4,6,7,8-HxCDF	7.47e+06	4.48e+02	1.7e+04	5.92e+06	3.92e+02	1.5e+04
7	1,2,3,7,8,9-HxCDF	5.80e+06	4.48e+02	1.3e+04	4.74e+06	3.92e+02	1.2e+04
8	1,2,3,4,6,7,8-HpCDF	6.10e+06	4.29e+03	1.4e+03	5.87e+06	2.14e+03	2.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.10e+06	4.29e+03	9.6e+02	3.97e+06	2.14e+03	1.9e+03
10	OCDF	5.15e+06	2.72e+02	1.9e+04	5.83e+06	9.68e+02	6.0e+03
11	2,3,7,8-TCDD	6.68e+05	5.40e+02	1.2e+03	8.87e+05	2.32e+02	3.8e+03
12	1,2,3,7,8-PeCDD	5.58e+06	7.28e+02	7.7e+03	3.64e+06	8.00e+01	4.6e+04
13	1,2,3,4,7,8-HxCDD	5.72e+06	1.04e+02	5.5e+04	4.48e+06	3.88e+02	1.2e+04
14	1,2,3,6,7,8-HxCDD	5.40e+06	1.04e+02	5.2e+04	4.35e+06	3.88e+02	1.1e+04
15	1,2,3,7,8,9-HxCDD	5.91e+06	1.04e+02	5.7e+04	4.79e+06	3.88e+02	1.2e+04
16	1,2,3,4,6,7,8-HpCDD	4.83e+06	2.92e+02	1.7e+04	4.54e+06	3.68e+02	1.2e+04
17	OCDD	5.03e+06	6.40e+01	7.9e+04	5.65e+06	4.84e+02	1.2e+04
18	13C-2,3,7,8-TCDF	9.17e+06	1.00e+03	9.2e+03	1.14e+07	8.28e+02	1.4e+04
19	13C-1,2,3,7,8-PeCDF	1.52e+07	2.32e+02	6.6e+04	9.83e+06	3.24e+02	3.0e+04
20	13C-2,3,4,7,8-PeCDF	1.66e+07	2.32e+02	7.2e+04	1.06e+07	3.24e+02	3.3e+04
21	13C-1,2,3,4,7,8-HxCDF	7.75e+06	8.36e+02	9.3e+03	1.48e+07	1.30e+03	1.1e+04
22	13C-1,2,3,6,7,8-HxCDF	8.31e+06	8.36e+02	9.9e+03	1.58e+07	1.30e+03	1.2e+04
23	13C-2,3,4,6,7,8-HxCDF	8.24e+06	8.36e+02	9.9e+03	1.61e+07	1.30e+03	1.2e+04
24	13C-1,2,3,7,8,9-HxCDF	6.31e+06	8.36e+02	7.5e+03	1.22e+07	1.30e+03	9.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.40e+06	3.16e+03	1.7e+03	1.25e+07	3.28e+03	3.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.91e+06	3.16e+03	1.2e+03	8.91e+06	3.28e+03	2.7e+03
27	13C-2,3,7,8-TCDD	6.66e+06	2.62e+03	2.5e+03	8.35e+06	1.66e+03	5.0e+03
28	13C-1,2,3,7,8-PeCDD	1.16e+07	6.56e+02	1.8e+04	7.35e+06	4.08e+02	1.8e+04
29	13C-1,2,3,4,7,8-HxCDD	1.04e+07	1.04e+03	1.0e+04	8.14e+06	4.60e+02	1.8e+04
30	13C-1,2,3,6,7,8-HxCDD	9.84e+06	1.04e+03	9.5e+03	7.90e+06	4.60e+02	1.7e+04
31	13C-1,2,3,4,6,7,8-HpCDD	8.94e+06	8.88e+02	1.0e+04	8.33e+06	2.80e+02	3.0e+04
32	13C-OCDD	8.81e+06	2.96e+02	3.0e+04	9.66e+06	4.56e+02	2.1e+04
33	13C-1,2,3,4-TCDD	6.79e+06	2.62e+03	2.6e+03	8.50e+06	1.66e+03	5.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.12e+07	1.04e+03	1.1e+04	8.87e+06	4.60e+02	1.9e+04
35	37Cl-2,3,7,8-TCDD	1.63e+06	1.43e+03	1.1e+03			

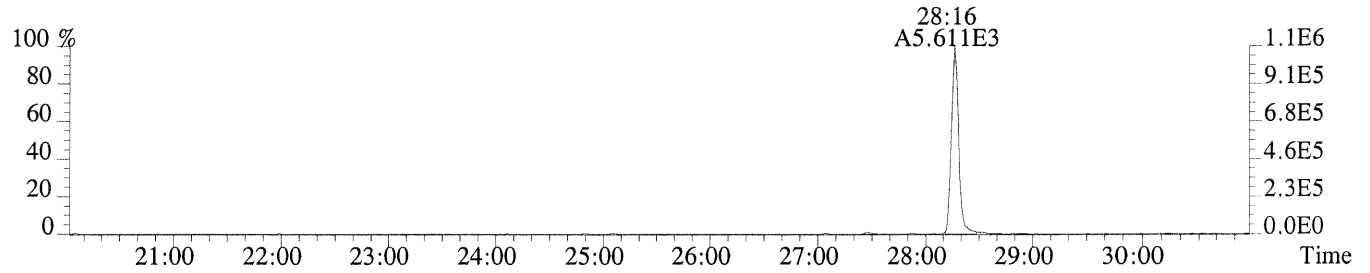
ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

XLSN

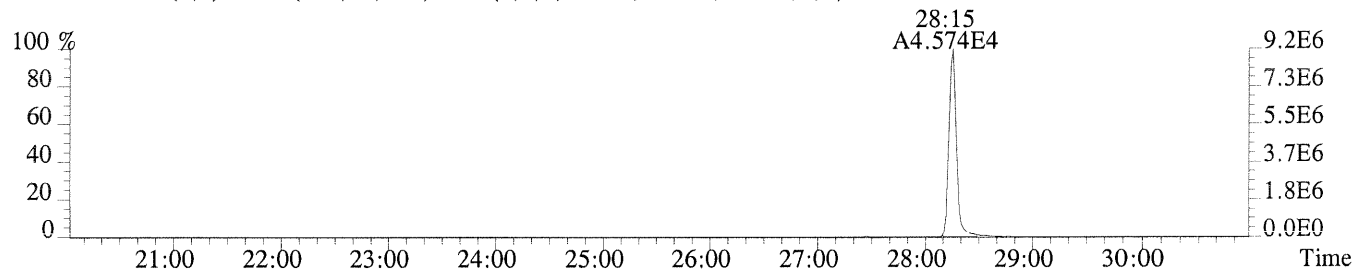
File:P230803 #1-687 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



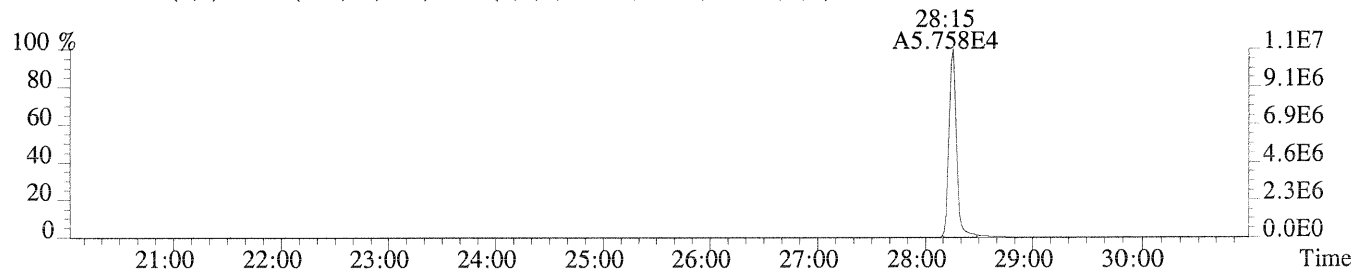
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1080.0,1.00%,F,T)



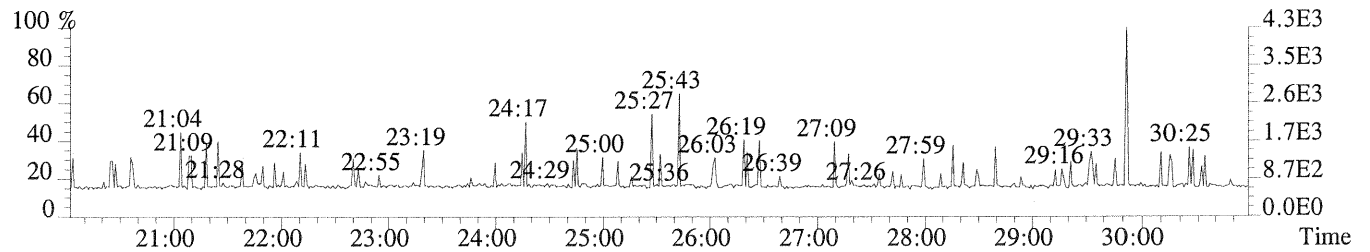
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,T)



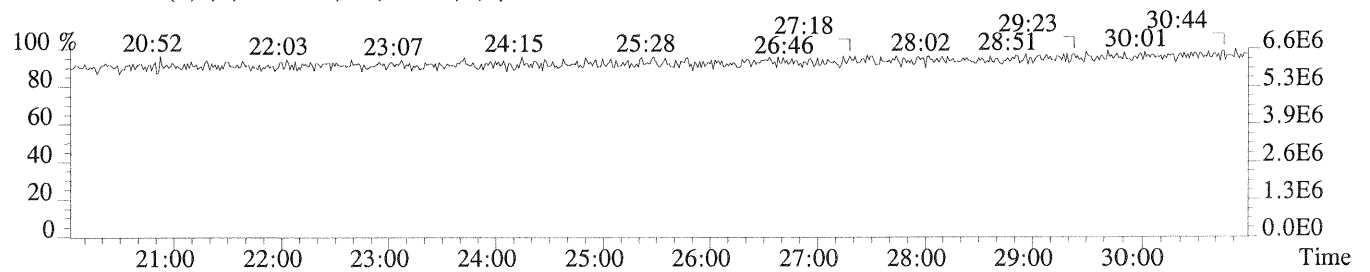
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



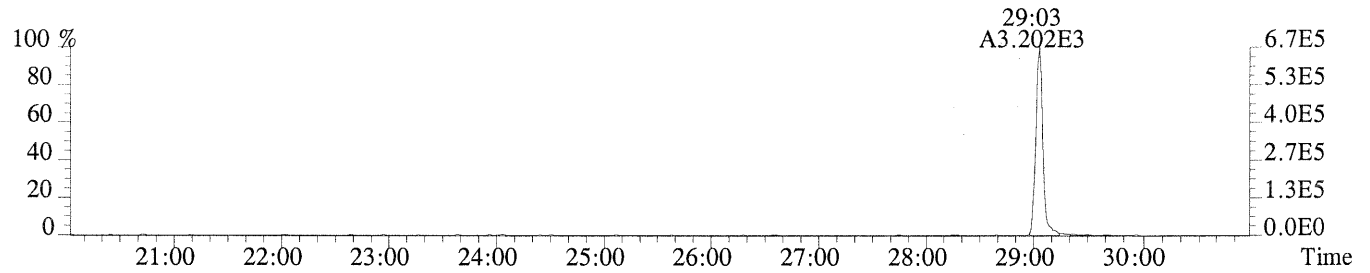
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



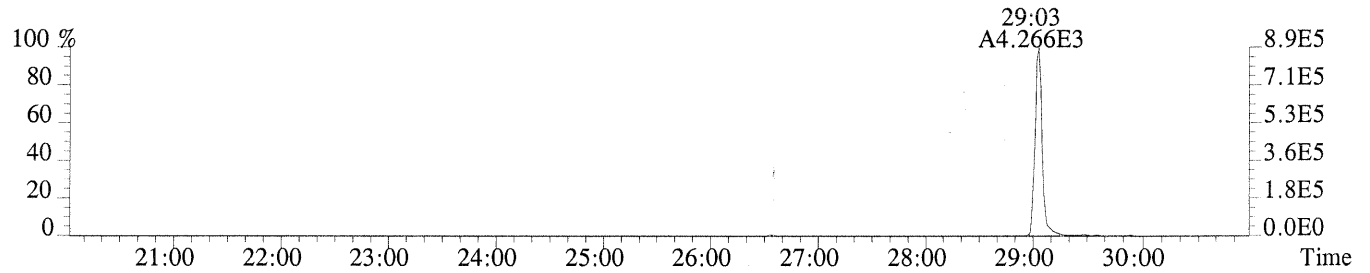
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



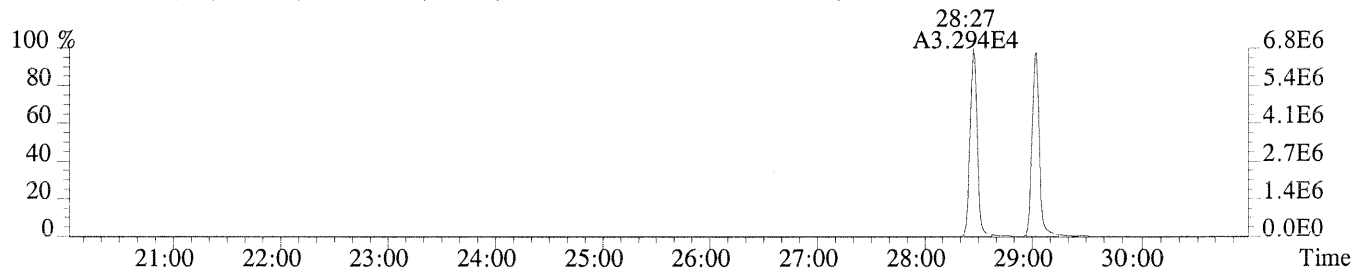
File:P230803 #1-687 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)



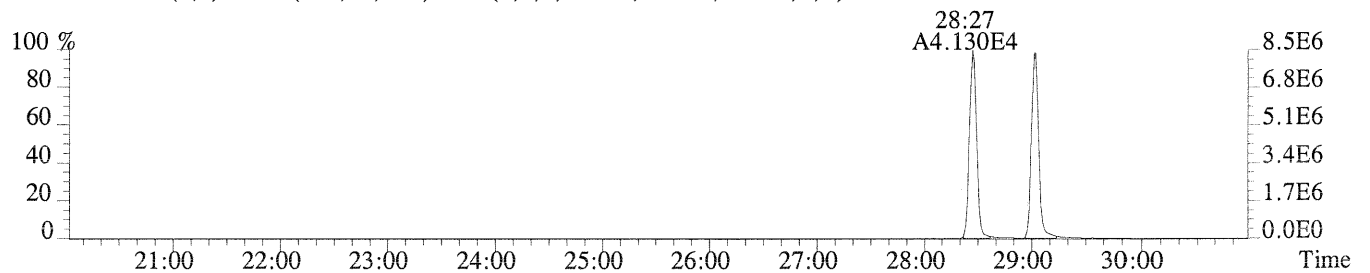
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



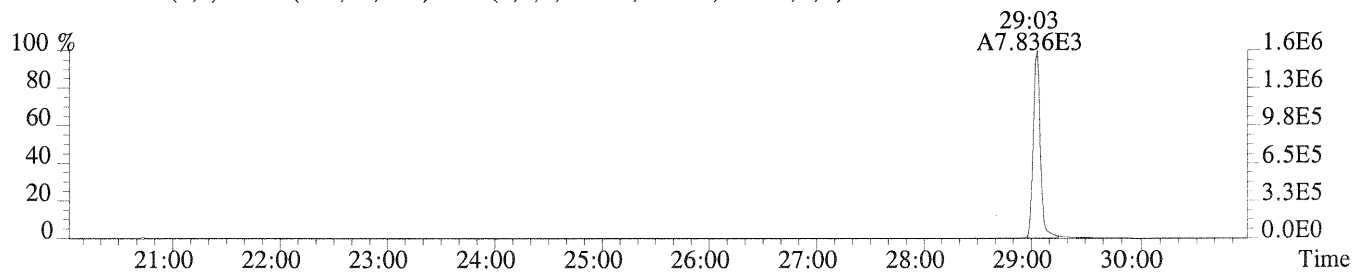
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2616.0,1.00%,F,T)



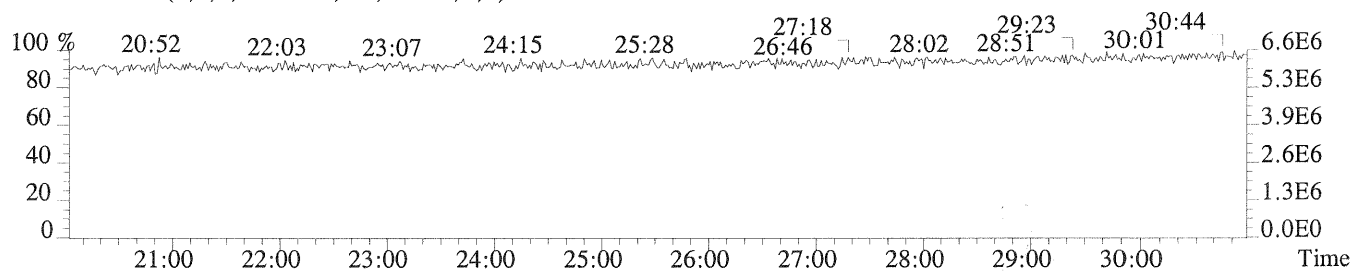
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1664.0,1.00%,F,T)



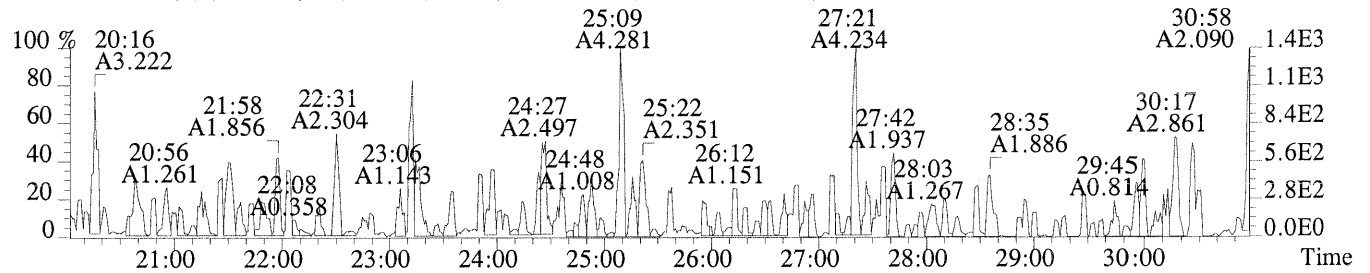
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1428.0,1.00%,F,T)



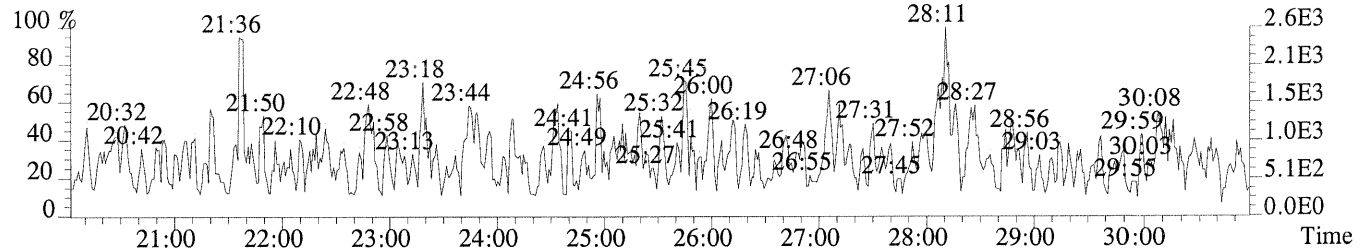
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



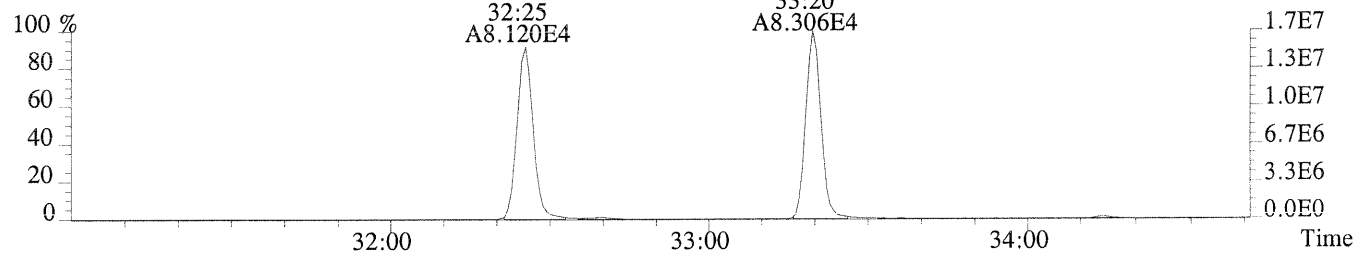
File:P230803 #1-687 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,48.0,1.00%,F,T)



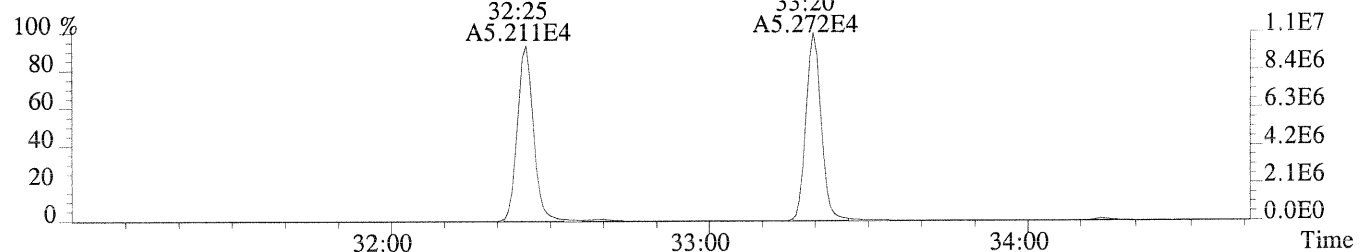
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



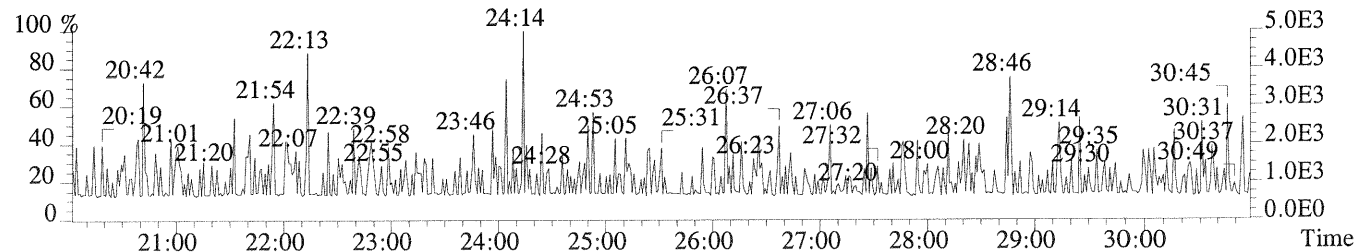
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



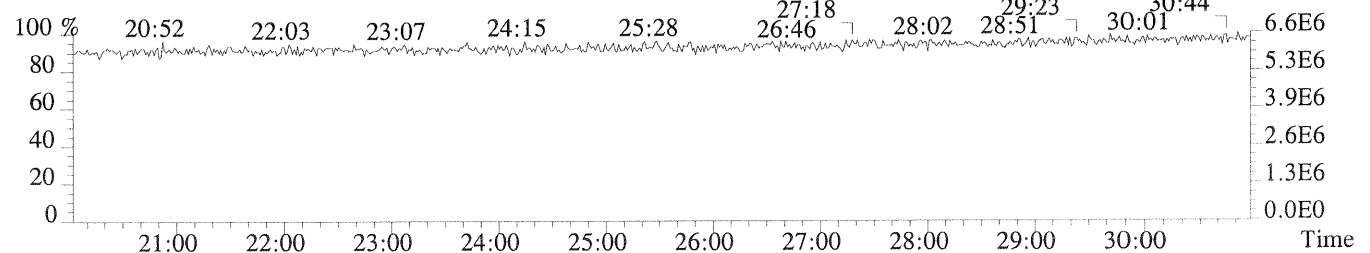
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

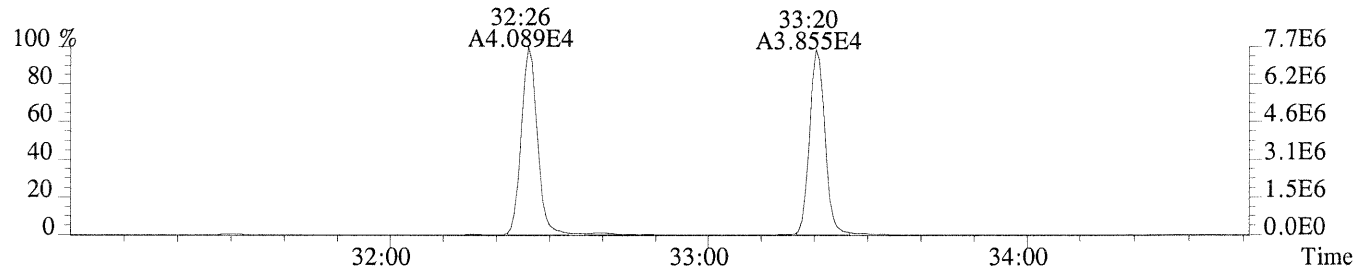


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

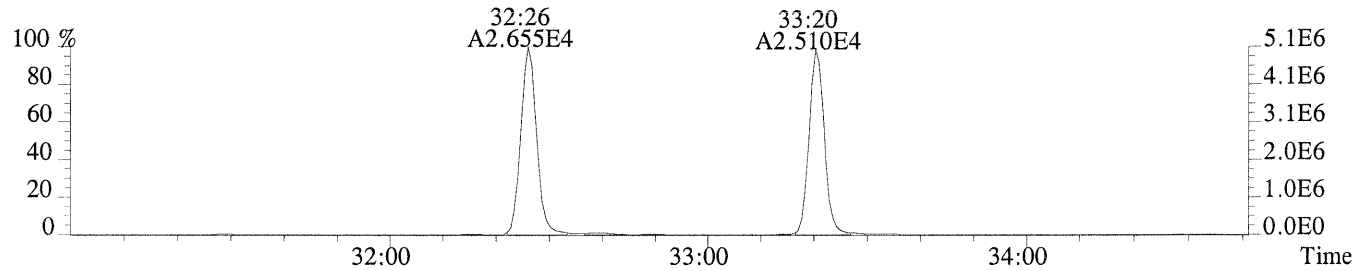


Sample#1 Exp:CS3

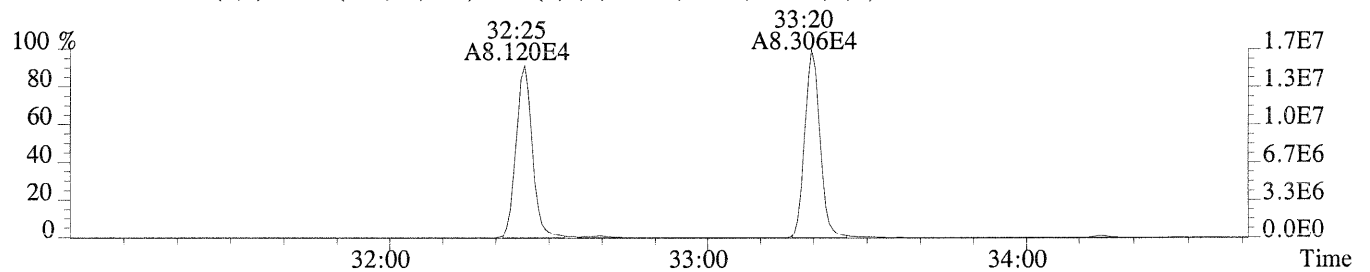
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



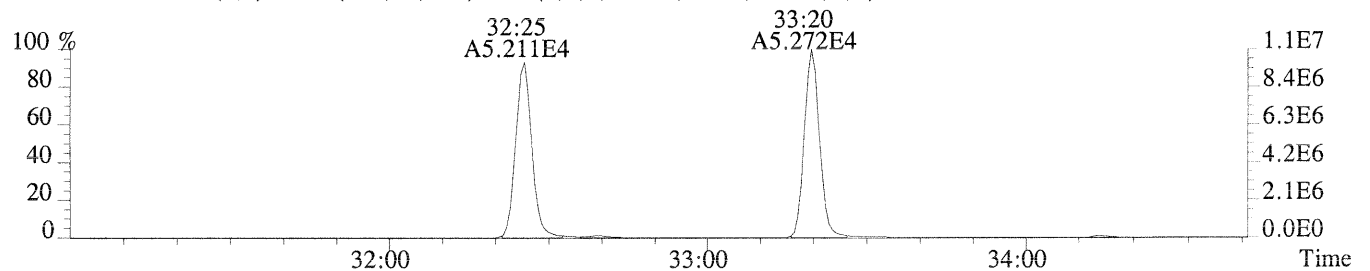
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1652.0,1.00%,F,T)



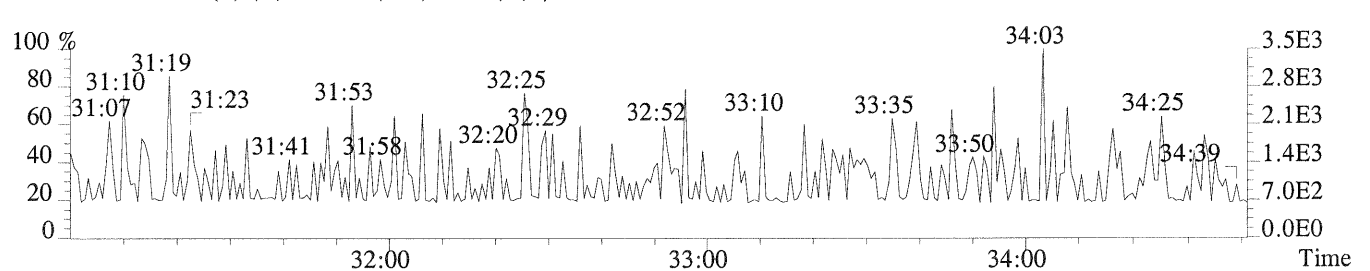
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



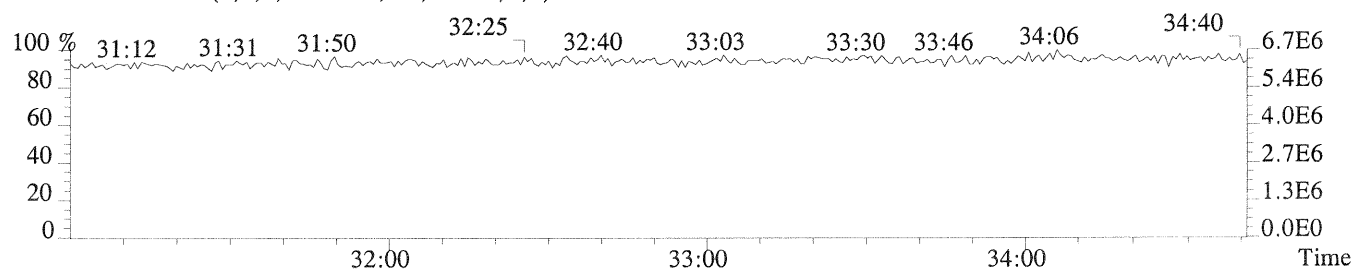
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

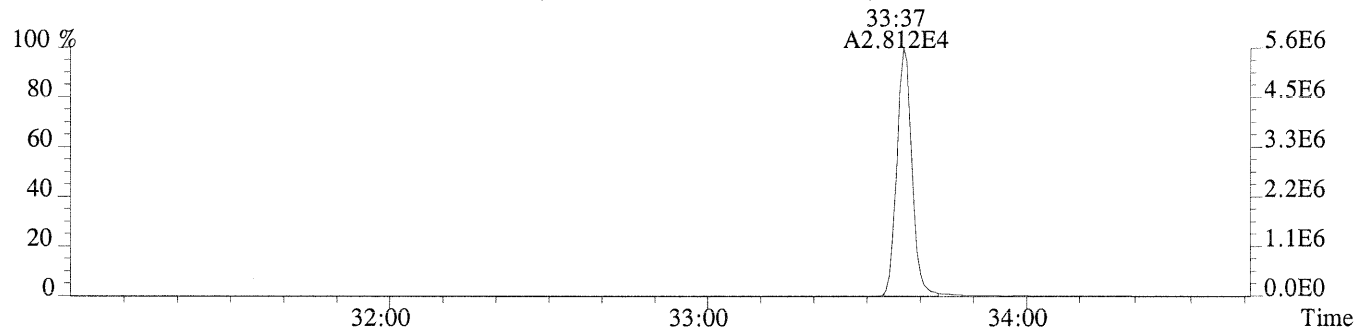


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

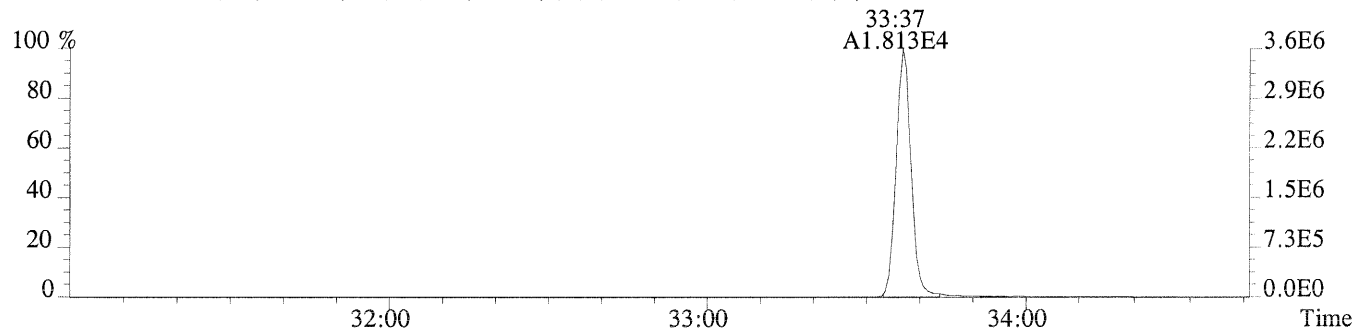


Sample#1 Exp:CS3

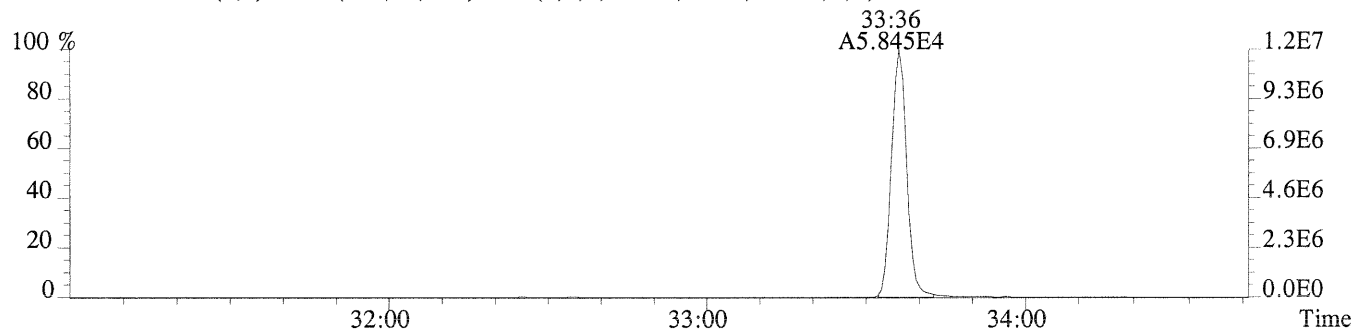
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



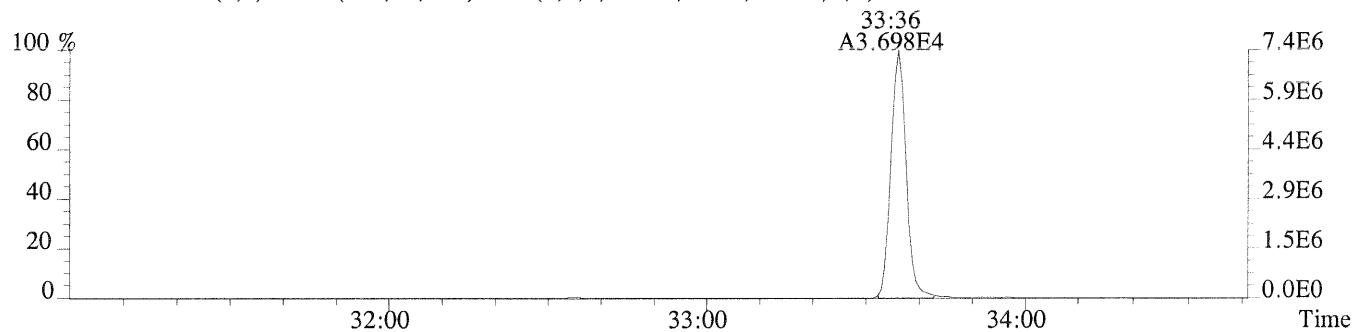
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



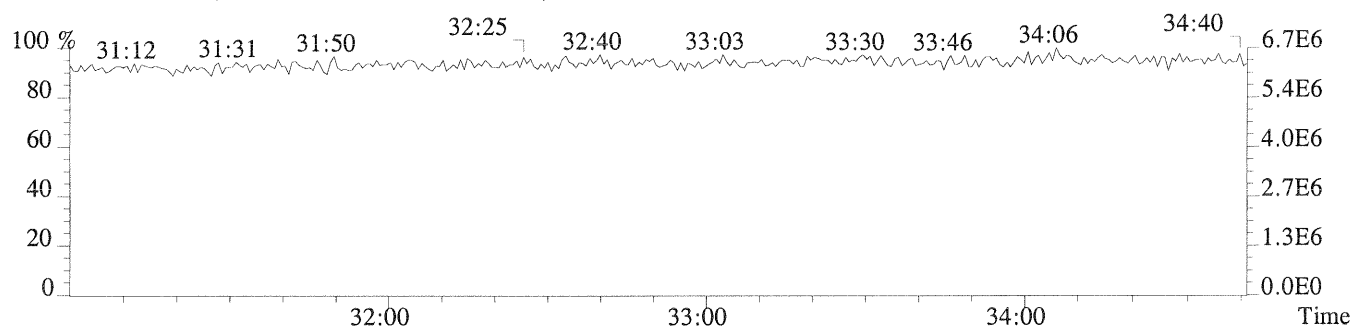
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



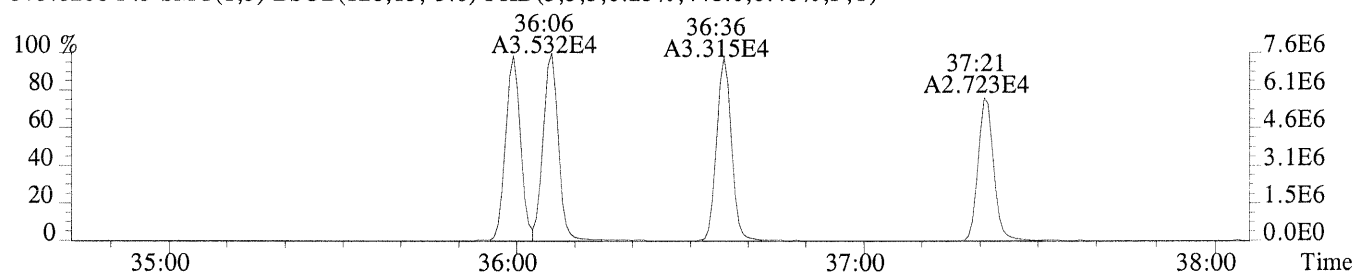
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



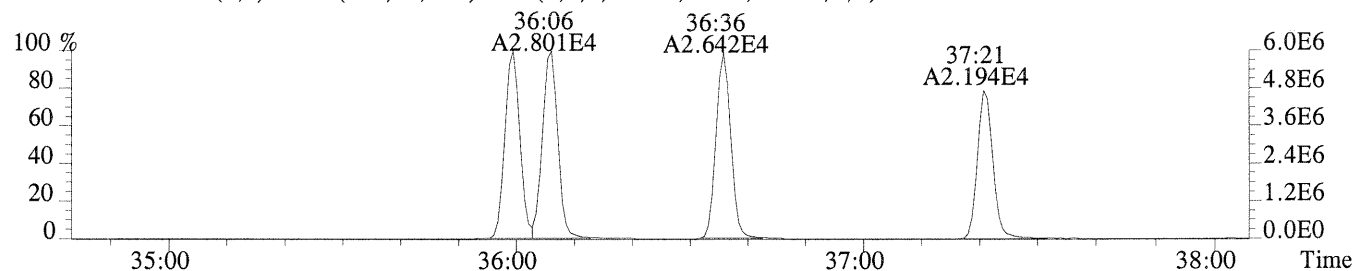
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



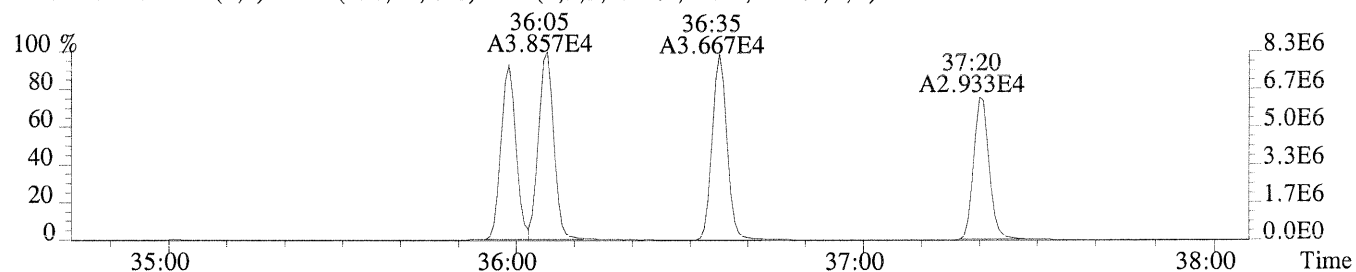
File:P230803 #1-307 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,448.0,0.40%,F,T)



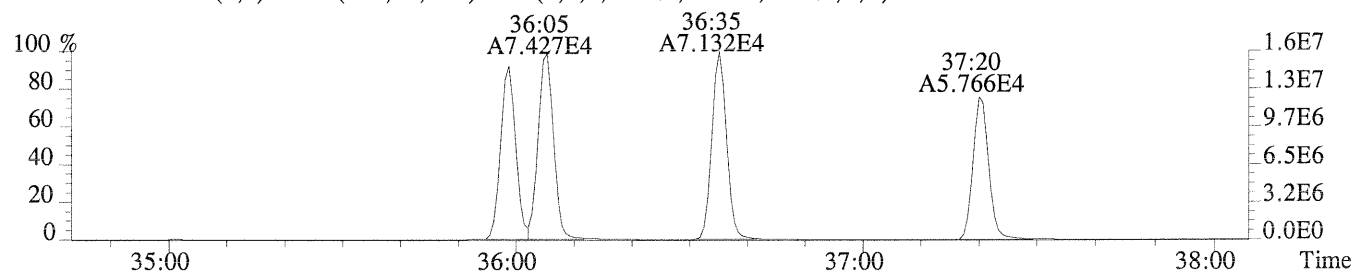
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,392.0,0.40%,F,T)



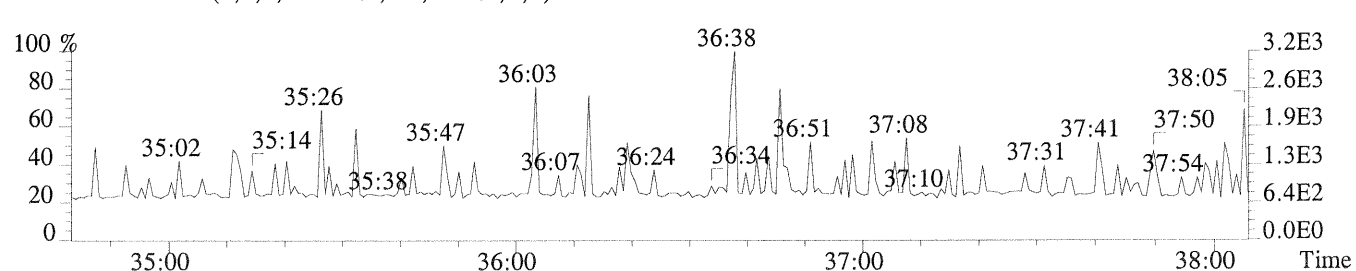
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



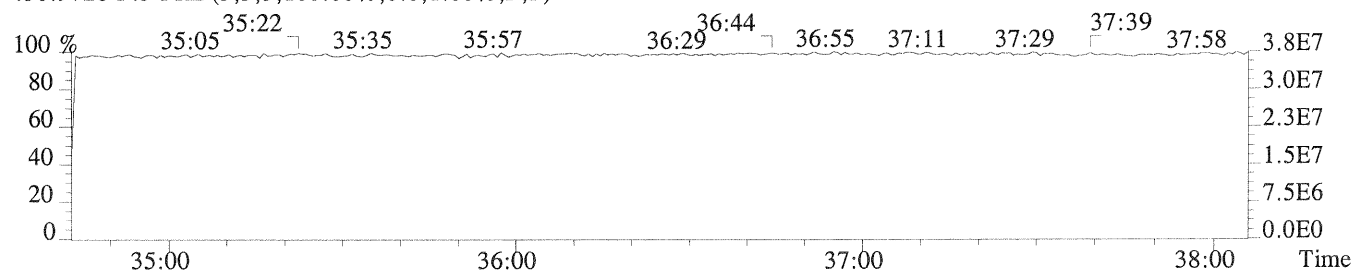
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



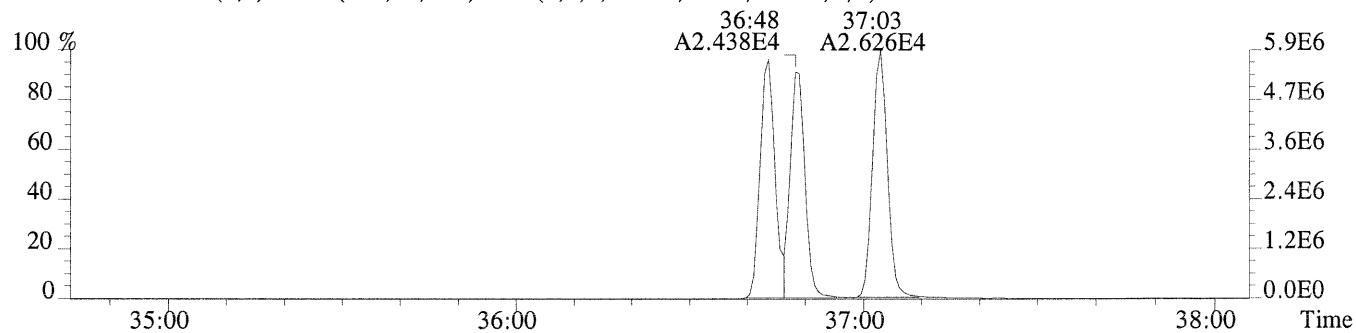
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



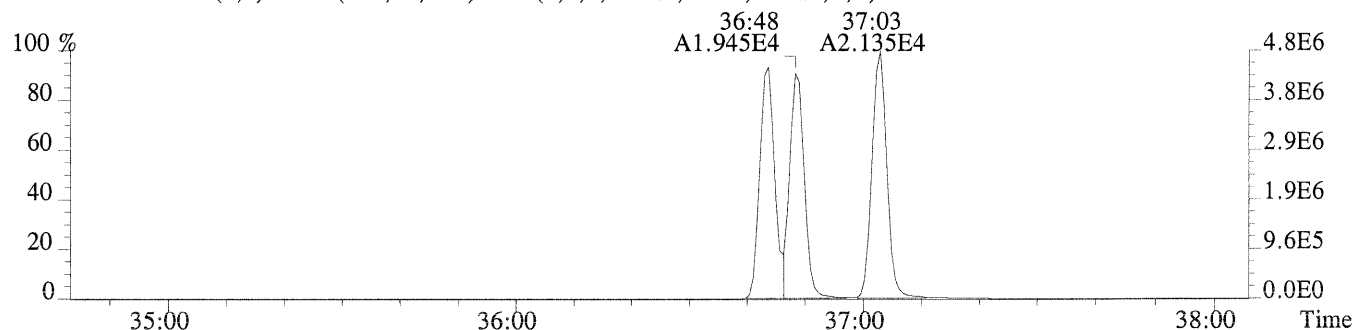


Sample#1 Exp:CS3

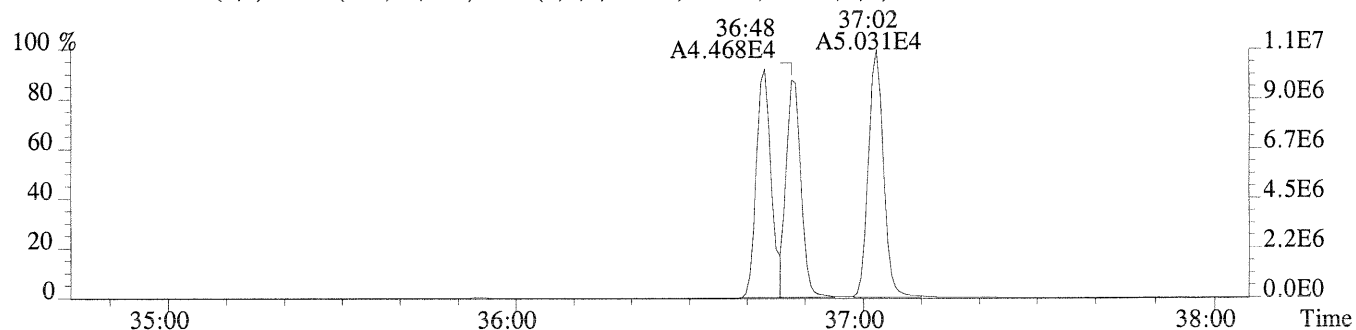
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,104.0,0.40%,F,T)



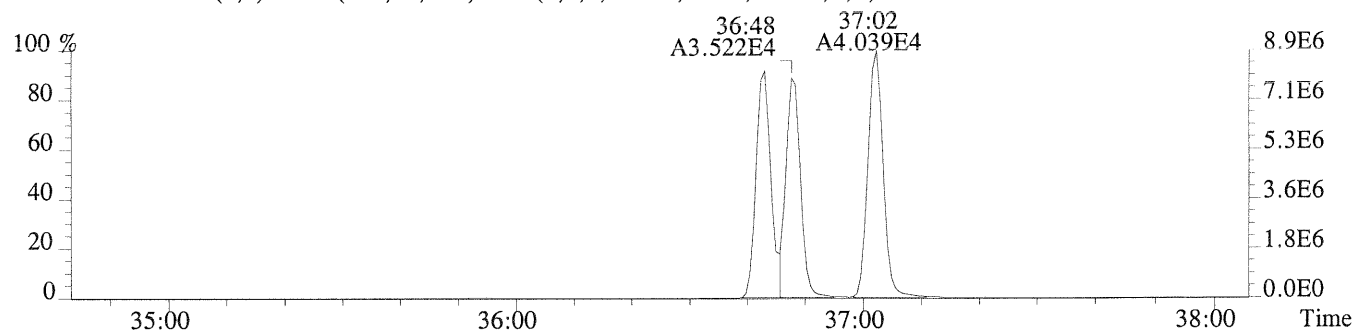
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,388.0,0.40%,F,T)



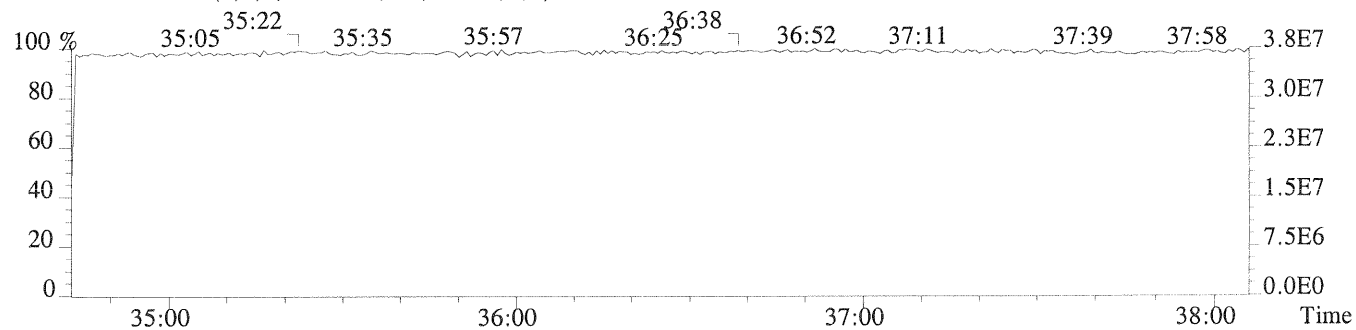
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1036.0,0.40%,F,T)



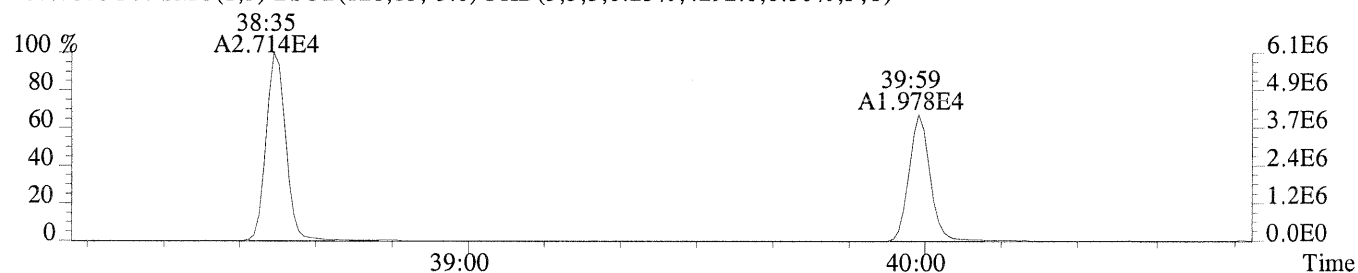
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,460.0,0.40%,F,T)



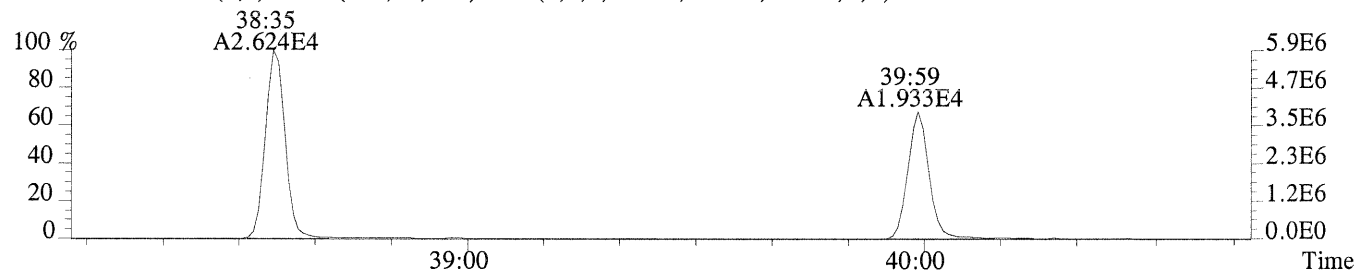
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



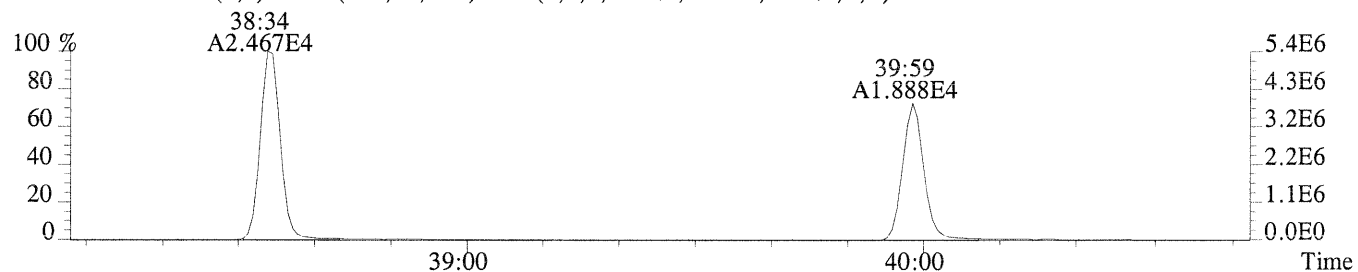
File:P230803 #1-234 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4292.0,0.50%,F,T)



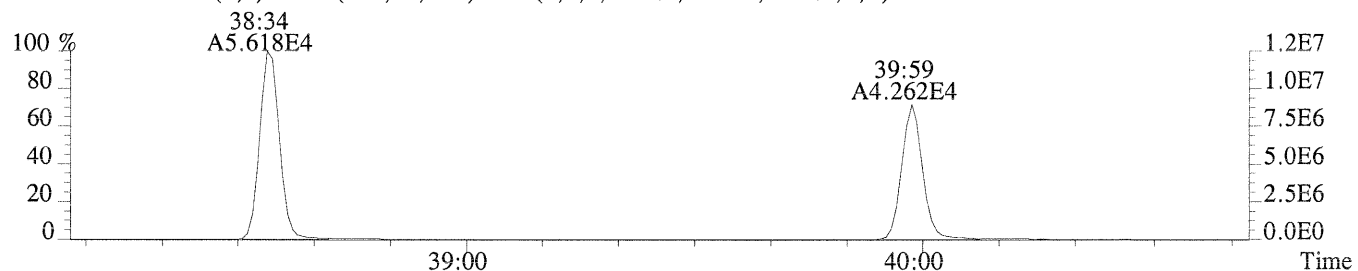
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2140.0,0.50%,F,T)



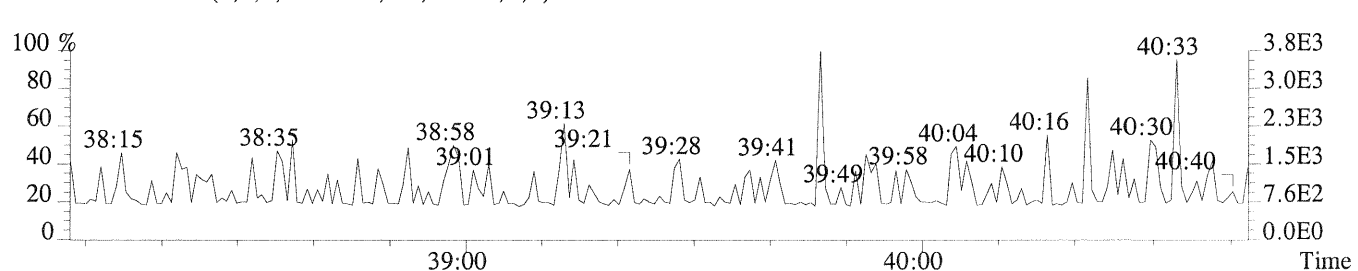
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3156.0,0.50%,F,T)



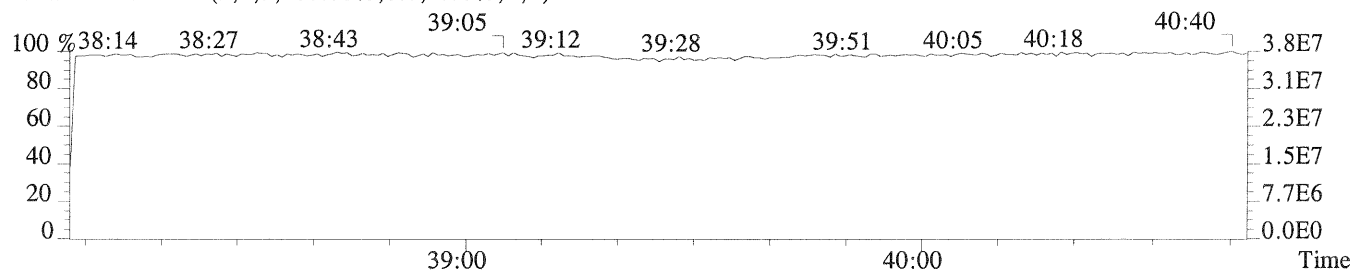
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3280.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

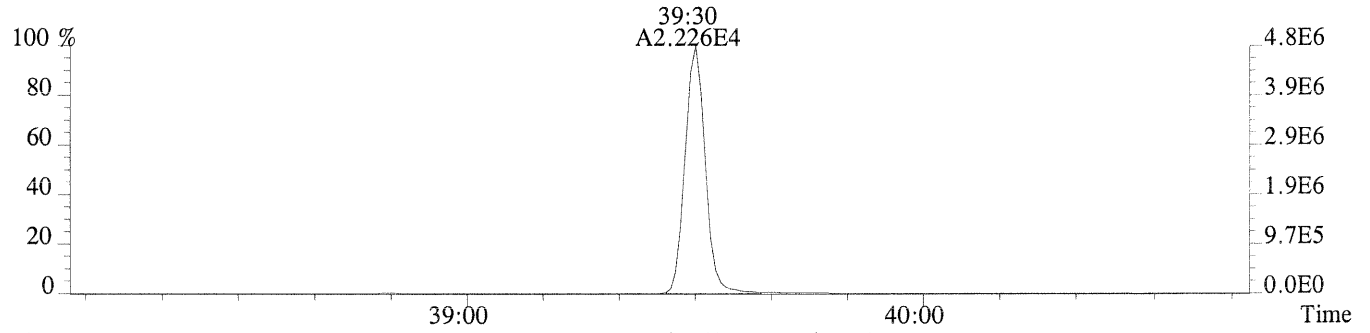


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

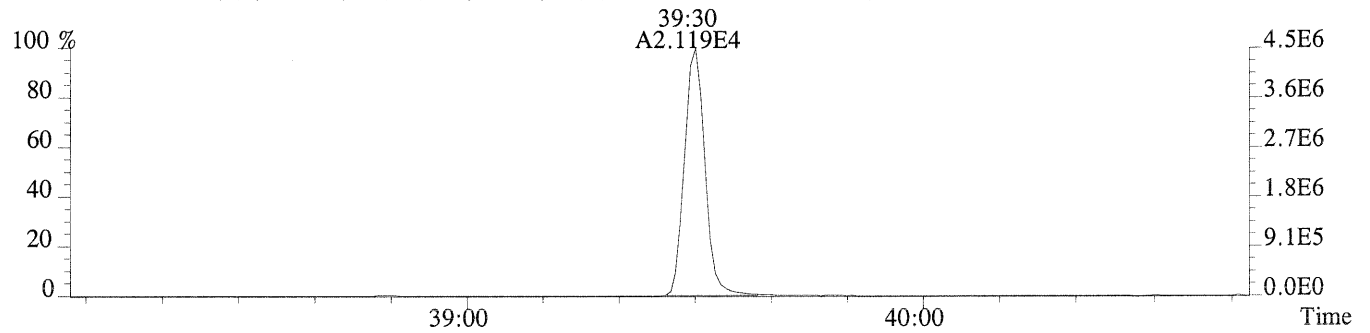


Sample#1 Exp:CS3

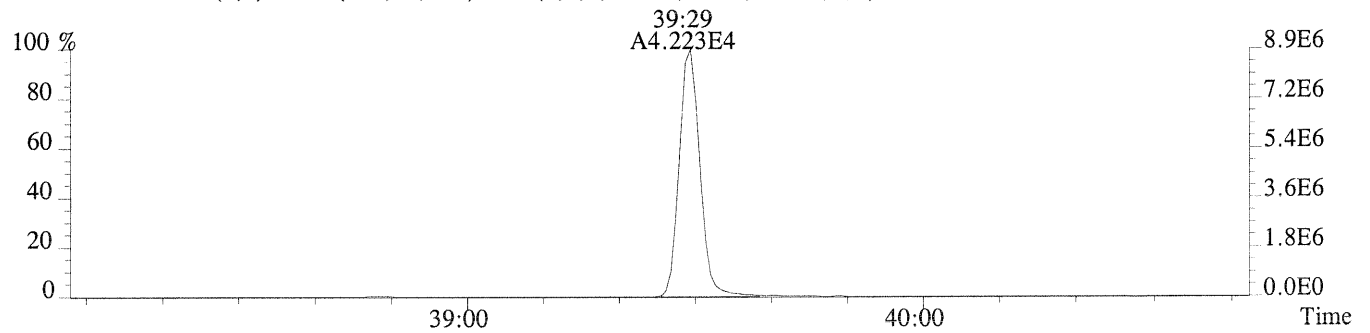
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,292.0,0.40%,F,T)



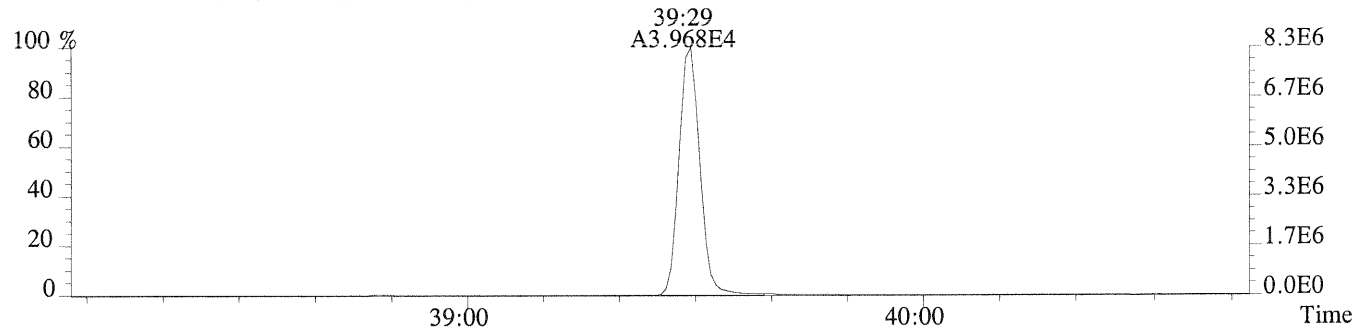
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,368.0,0.40%,F,T)



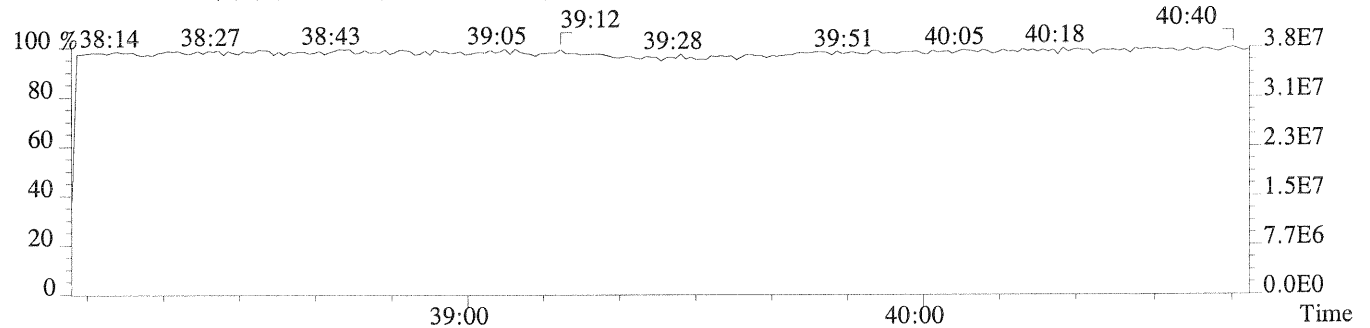
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,T)

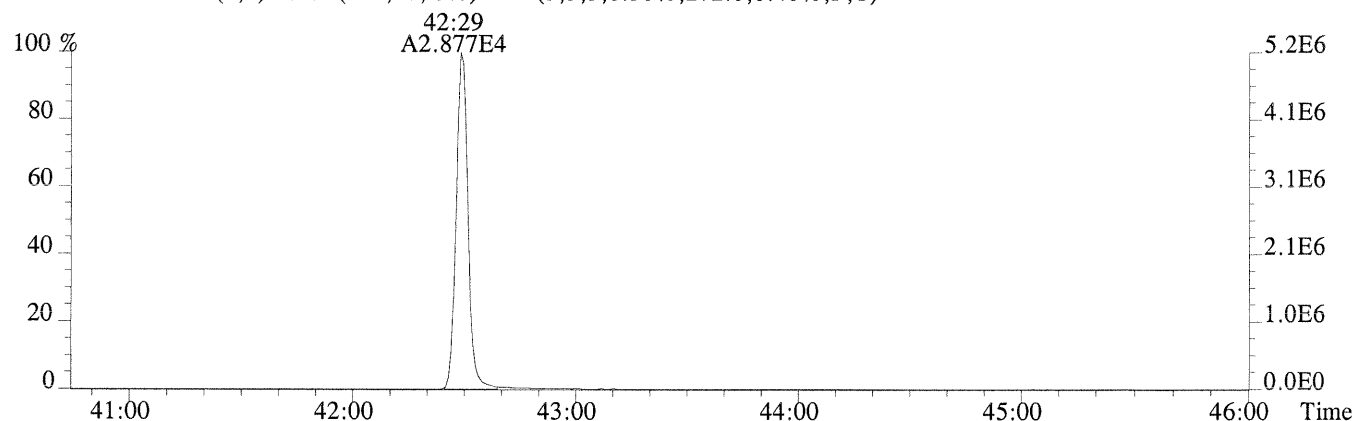


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

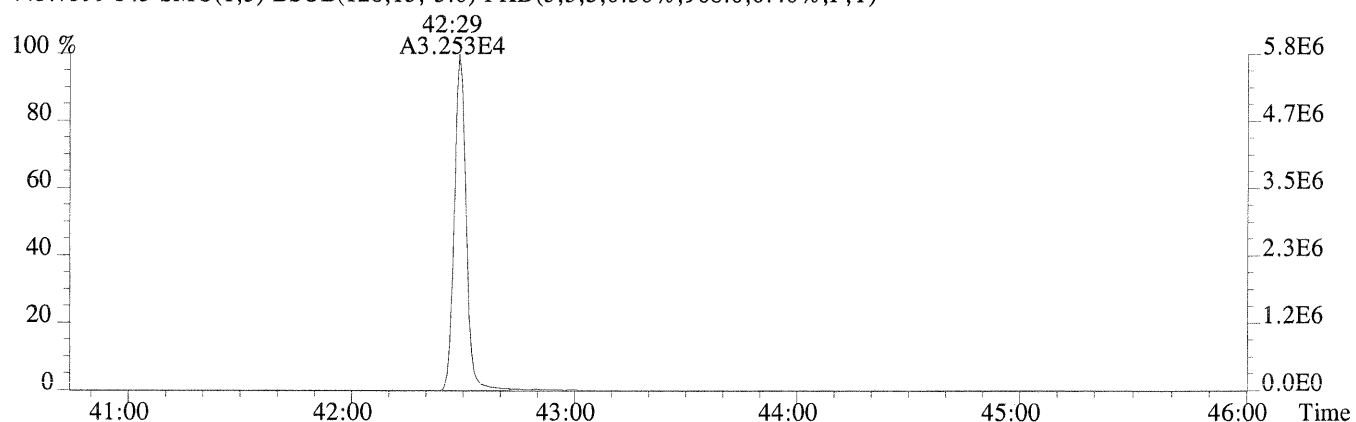


File:P230803 #1-484 Acq:26-AUG-2014 23:35:13 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3

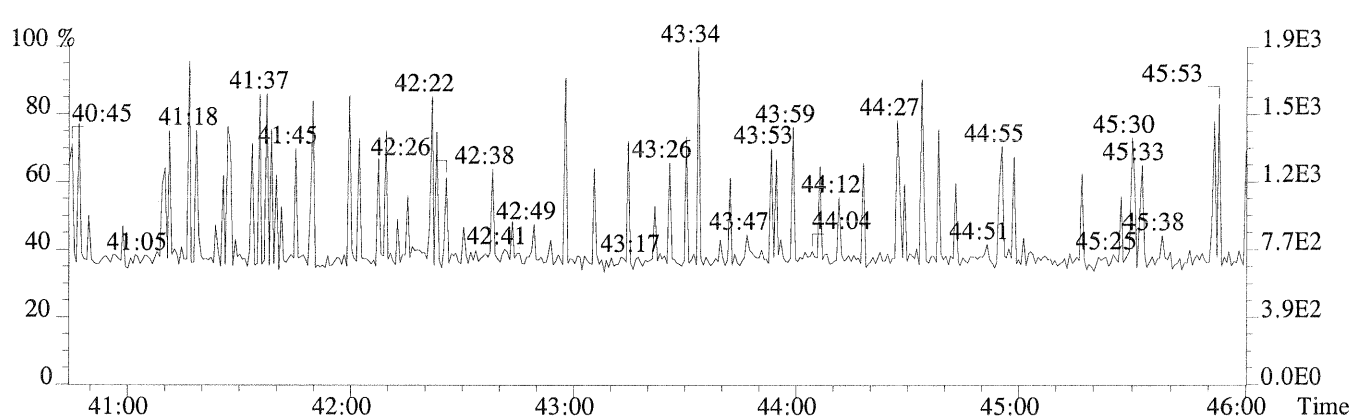
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,272.0,0.40%,F,T)



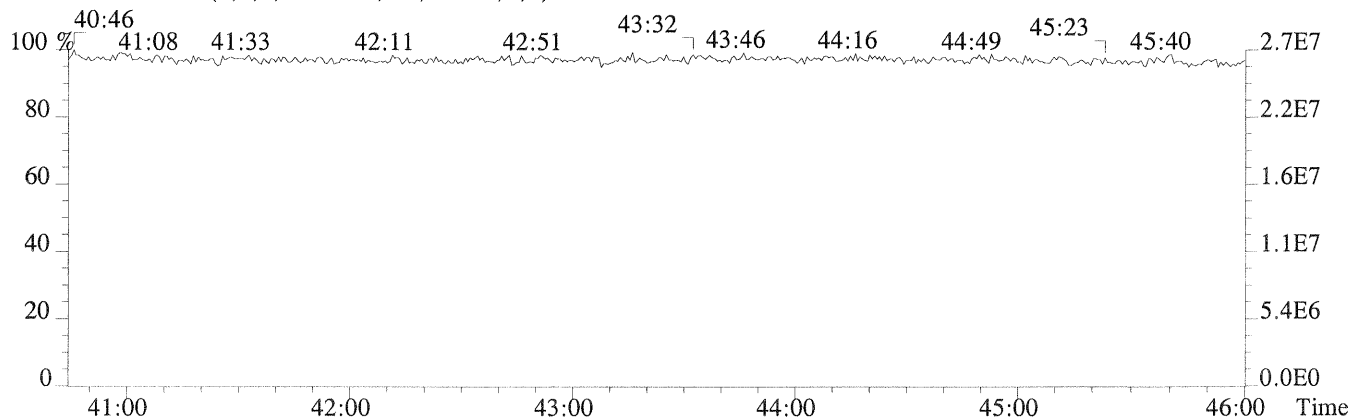
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,968.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

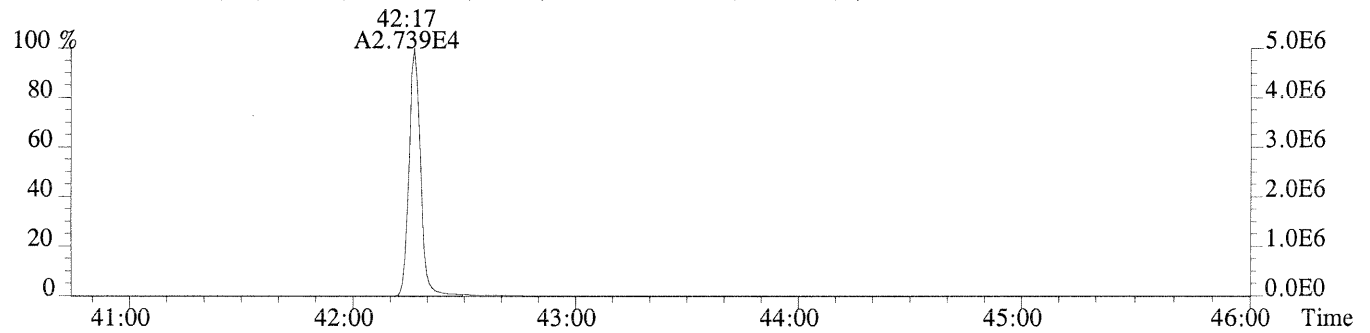


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

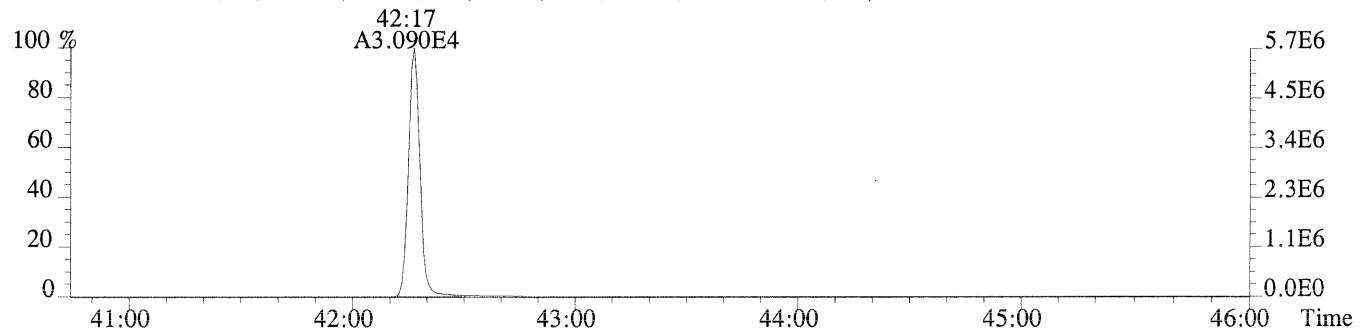


Sample#1 Exp:CS3

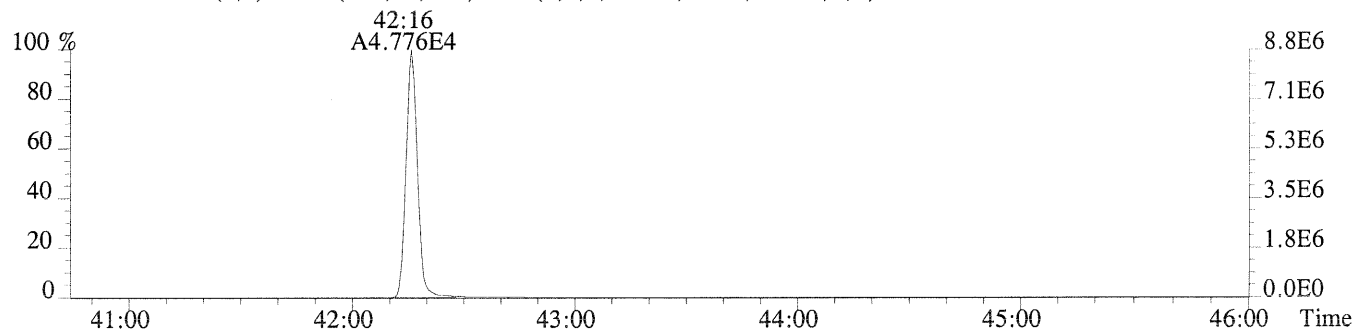
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,64.0,0.40%,F,T)



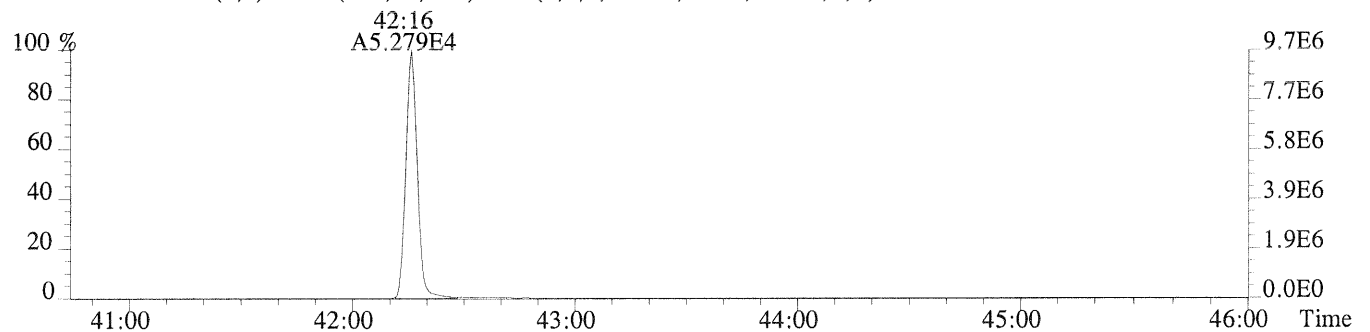
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,484.0,0.40%,F,T)



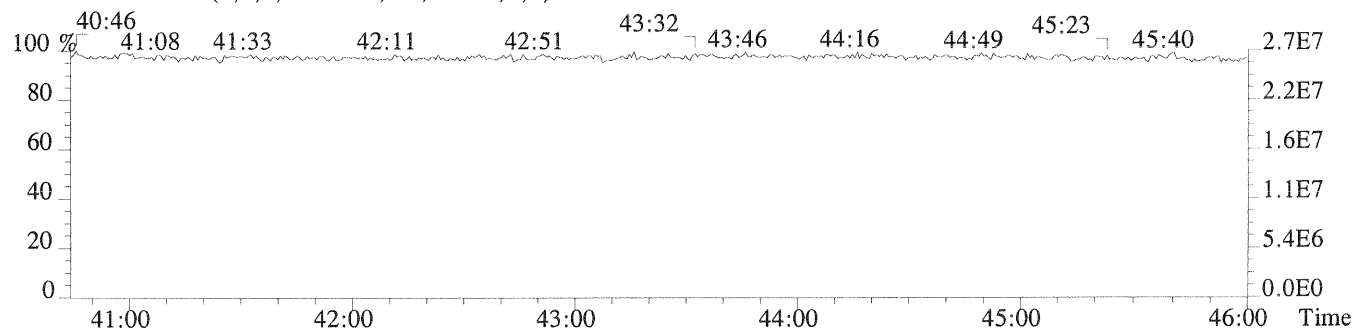
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,456.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230815

Analysis Date: 27-AUG-14 Time: 09:24:14

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	9.6	7.8 - 12.9	-4.0
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	49	39 - 65	-1.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	49	39 - 64	-1.1
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	51	39 - 64	1.3
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	49	41 - 61	-1.7
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	0.9
OCDD	M+2/M+4	0.89	0.76-1.02	100	79 - 126	-0.2
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	9.6	8.4 - 12.0	-4.0
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	51	41 - 60	1.1
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	49	41 - 61	-1.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	50	45 - 56	0.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	49	44 - 57	-1.3
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	50	45 - 56	0.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	50	44 - 57	0.1
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	50	45 - 55	-0.8
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	50	43 - 58	0.3
OCDF	M+2/M+4	0.88	0.76-1.02	109	63 - 159	9.3

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230815

Analysis Date: 27-AUG-14 Time: 09:24:14

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	101	82 - 121	1.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	103	62 - 160	3.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	98	85 - 117	-2.2
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	98	85 - 118	-1.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	101	72 - 138	1.0
13C-OCDD	M+2/M+4	0.90	0.76-1.02	205	96 - 415	2.5
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	98	71 - 140	-2.2
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	100	76 - 130	0.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	101	77 - 130	1.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	98	76 - 131	-1.9
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	99	70 - 143	-1.3
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	114	74 - 135	13.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	98	73 - 137	-2.0
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	99	78 - 129	-0.7
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	121	77 - 129	20.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-1.9

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Sample Response Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #8 Filename P230815 #1 Samp: 1 Inj: 1 Acquired: 27-AUG-14 09:24:14  
 Processed: 27-AUG-14 16:04:19 LAB. ID: CCAL HRCC3/CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:16	3.505e+03	4.491e+03	0.78	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:26	3.442e+04	2.235e+04	1.54	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	33:20	3.236e+04	2.111e+04	1.53	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	35:59	2.930e+04	2.327e+04	1.26	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:06	3.051e+04	2.444e+04	1.25	yes	no	1.001
6	Unk	2,3,4,6,7,8-HxCDF	36:36	2.848e+04	2.319e+04	1.23	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:21	2.622e+04	2.126e+04	1.23	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:35	2.340e+04	2.269e+04	1.03	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	39:59	1.937e+04	1.861e+04	1.04	yes	no	1.000
10	Unk	OCDF	42:29	2.772e+04	3.147e+04	0.88	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:03	2.681e+03	3.463e+03	0.77	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:37	2.374e+04	1.502e+04	1.58	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:43	2.109e+04	1.704e+04	1.24	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:48	2.169e+04	1.691e+04	1.28	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:03	2.247e+04	1.808e+04	1.24	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:29	1.773e+04	1.707e+04	1.04	yes	no	1.000
17	Unk	OCDD	42:17	2.485e+04	2.801e+04	0.89	yes	no	1.001
18	IS	13C-2,3,7,8-TCDF	28:15	3.746e+04	4.702e+04	0.80	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	32:25	6.891e+04	4.340e+04	1.59	yes	no	1.140
20	IS	13C-2,3,4,7,8-PeCDF	33:20	6.895e+04	4.343e+04	1.59	yes	no	1.172
21	IS	13C-1,2,3,4,7,8-HxCDF	35:59	2.975e+04	5.831e+04	0.51	yes	no	0.971
22	IS	13C-1,2,3,6,7,8-HxCDF	36:05	3.365e+04	6.480e+04	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:35	3.185e+04	6.116e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:20	2.857e+04	5.513e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:34	2.095e+04	4.793e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	1.816e+04	4.130e+04	0.44	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:01	2.642e+04	3.389e+04	0.78	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:36	4.844e+04	3.074e+04	1.58	yes	no	1.181
29	IS	13C-1,2,3,4,7,8-HxCDD	36:42	3.859e+04	3.038e+04	1.27	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:48	3.936e+04	3.085e+04	1.28	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	3.378e+04	3.172e+04	1.07	yes	no	1.066
32	IS	13C-OCDD	42:15	4.296e+04	4.766e+04	0.90	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:27	2.634e+04	3.296e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:02	4.219e+04	3.414e+04	1.24	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:03	6.387e+03				no	1.021

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

XLRESP



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #8    Filename P230815    Samp: 1    Inj: 1    Acquired: 27-AUG-14 09:24:14  
 Processed: 27-AUG-14 16:04:191    LAB. ID: CCAL HRCC3/CS3

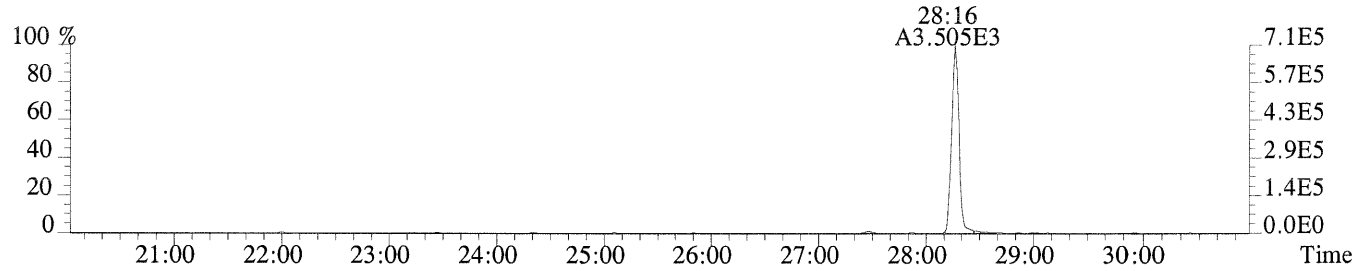
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.12e+05	3.00e+02	2.4e+03	9.09e+05	1.55e+03	5.9e+02
2	1,2,3,7,8-PeCDF	6.62e+06	7.20e+01	9.2e+04	4.30e+06	1.12e+03	3.8e+03
3	2,3,4,7,8-PeCDF	6.50e+06	7.20e+01	9.0e+04	4.28e+06	1.12e+03	3.8e+03
4	1,2,3,4,7,8-HxCDF	6.46e+06	5.76e+02	1.1e+04	5.07e+06	1.92e+02	2.6e+04
5	1,2,3,6,7,8-HxCDF	6.46e+06	5.76e+02	1.1e+04	5.32e+06	1.92e+02	2.8e+04
6	2,3,4,6,7,8-HxCDF	6.39e+06	5.76e+02	1.1e+04	5.17e+06	1.92e+02	2.7e+04
7	1,2,3,7,8,9-HxCDF	5.86e+06	5.76e+02	1.0e+04	4.74e+06	1.92e+02	2.5e+04
8	1,2,3,4,6,7,8-HpCDF	5.49e+06	1.44e+03	3.8e+03	5.25e+06	2.44e+03	2.2e+03
9	1,2,3,4,7,8,9-HpCDF	3.98e+06	1.44e+03	2.8e+03	3.81e+06	2.44e+03	1.6e+03
10	OCDF	4.95e+06	3.16e+02	1.6e+04	5.54e+06	1.13e+03	4.9e+03
11	2,3,7,8-TCDD	5.71e+05	4.20e+02	1.4e+03	7.36e+05	8.76e+02	8.4e+02
12	1,2,3,7,8-PeCDD	4.86e+06	9.64e+02	5.0e+03	3.07e+06	1.52e+02	2.0e+04
13	1,2,3,4,7,8-HxCDD	4.80e+06	6.80e+01	7.1e+04	3.94e+06	3.44e+02	1.1e+04
14	1,2,3,6,7,8-HxCDD	4.71e+06	6.80e+01	6.9e+04	3.71e+06	3.44e+02	1.1e+04
15	1,2,3,7,8,9-HxCDD	5.01e+06	6.80e+01	7.4e+04	3.96e+06	3.44e+02	1.2e+04
16	1,2,3,4,6,7,8-HpCDD	3.80e+06	1.11e+03	3.4e+03	3.70e+06	8.20e+02	4.5e+03
17	OCDD	4.49e+06	2.44e+02	1.8e+04	5.10e+06	3.04e+02	1.7e+04
18	13C-2,3,7,8-TCDF	7.66e+06	1.55e+03	4.9e+03	9.50e+06	9.48e+02	1.0e+04
19	13C-1,2,3,7,8-PeCDF	1.29e+07	4.72e+02	2.7e+04	8.15e+06	6.08e+02	1.3e+04
20	13C-2,3,4,7,8-PeCDF	1.40e+07	4.72e+02	3.0e+04	8.75e+06	6.08e+02	1.4e+04
21	13C-1,2,3,4,7,8-HxCDF	6.45e+06	2.08e+02	3.1e+04	1.25e+07	9.68e+02	1.3e+04
22	13C-1,2,3,6,7,8-HxCDF	7.22e+06	2.08e+02	3.5e+04	1.39e+07	9.68e+02	1.4e+04
23	13C-2,3,4,6,7,8-HxCDF	7.13e+06	2.08e+02	3.4e+04	1.35e+07	9.68e+02	1.4e+04
24	13C-1,2,3,7,8,9-HxCDF	6.32e+06	2.08e+02	3.0e+04	1.22e+07	9.68e+02	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	4.93e+06	1.59e+03	3.1e+03	1.12e+07	1.88e+03	6.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.80e+06	1.59e+03	2.4e+03	8.51e+06	1.88e+03	4.5e+03
27	13C-2,3,7,8-TCDD	5.57e+06	3.16e+03	1.8e+03	7.12e+06	1.50e+03	4.8e+03
28	13C-1,2,3,7,8-PeCDD	9.77e+06	8.32e+02	1.2e+04	6.18e+06	5.44e+02	1.1e+04
29	13C-1,2,3,4,7,8-HxCDD	8.76e+06	7.76e+02	1.1e+04	6.93e+06	6.12e+02	1.1e+04
30	13C-1,2,3,6,7,8-HxCDD	8.57e+06	7.76e+02	1.1e+04	6.74e+06	6.12e+02	1.1e+04
31	13C-1,2,3,4,6,7,8-HpCDD	7.33e+06	1.33e+03	5.5e+03	6.92e+06	3.96e+02	1.7e+04
32	13C-OCDD	7.77e+06	4.08e+02	1.9e+04	8.67e+06	8.40e+01	1.0e+05
33	13C-1,2,3,4-TCDD	5.58e+06	3.16e+03	1.8e+03	7.00e+06	1.50e+03	4.7e+03
34	13C-1,2,3,7,8,9-HxCDD	9.28e+06	7.76e+02	1.2e+04	7.34e+06	6.12e+02	1.2e+04
35	37Cl-2,3,7,8-TCDD	1.37e+06	7.00e+02	2.0e+03			

ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

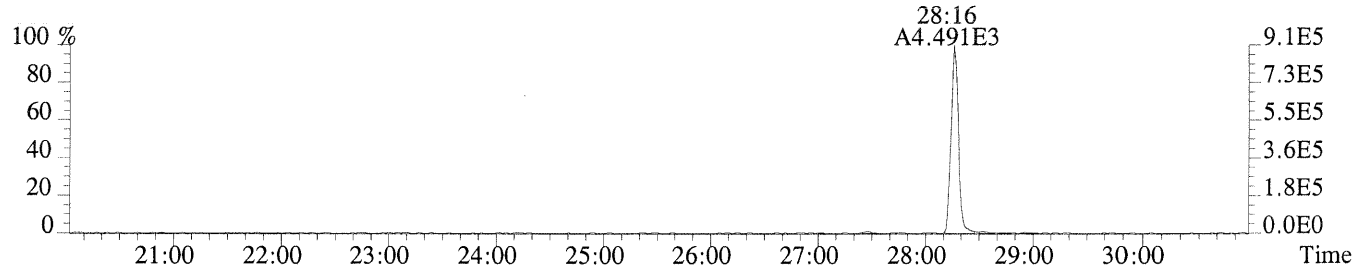
XLSN

Sample#1 Exp:CS3

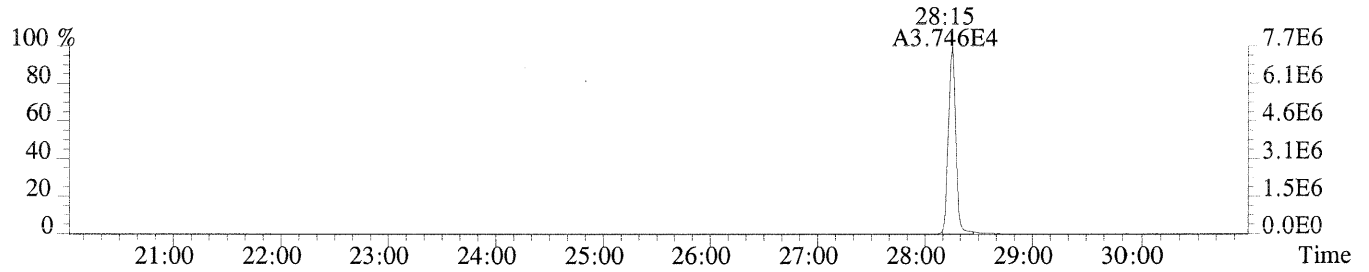
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,T)



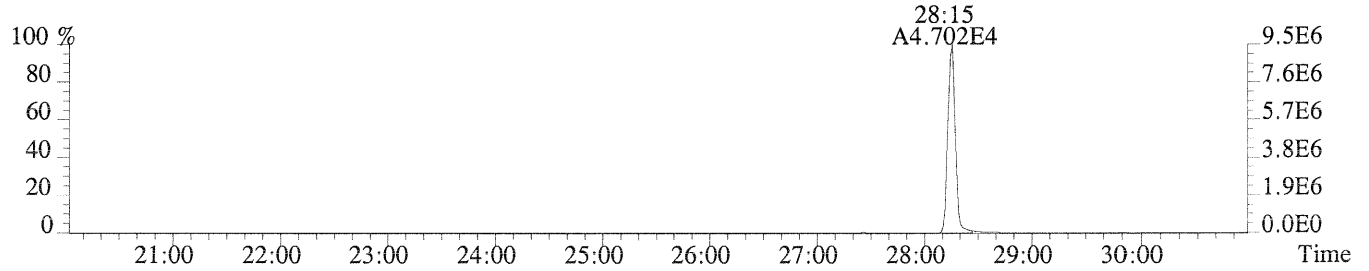
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1552.0,1.00%,F,T)



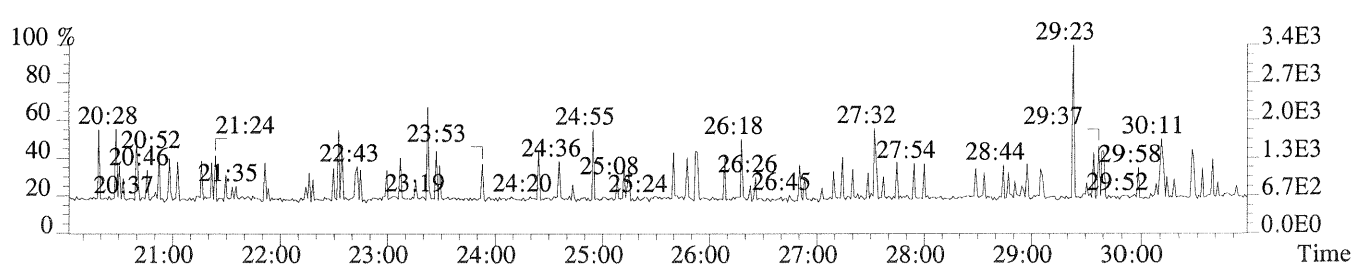
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1552.0,1.00%,F,T)



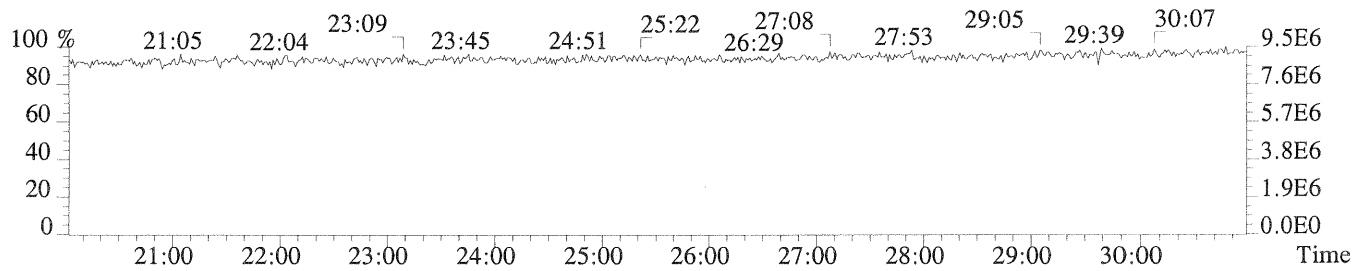
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,948.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

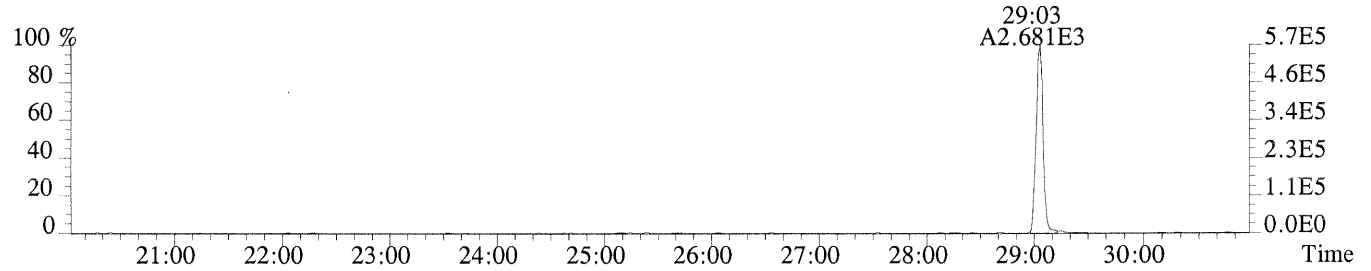


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

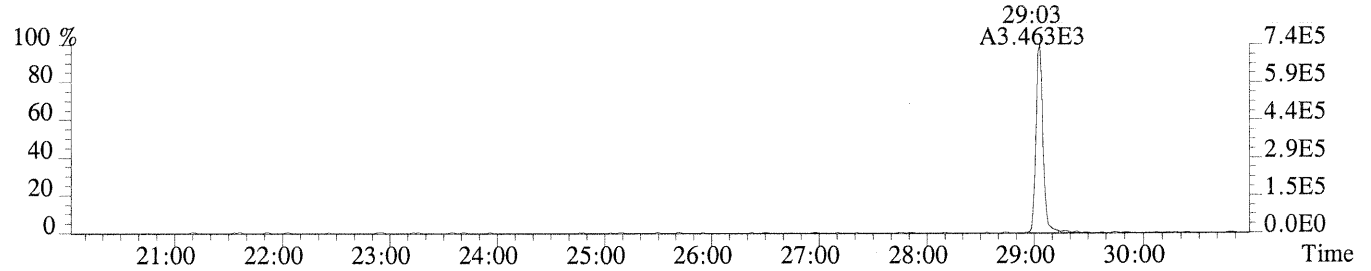


Sample#1 Exp:CS3

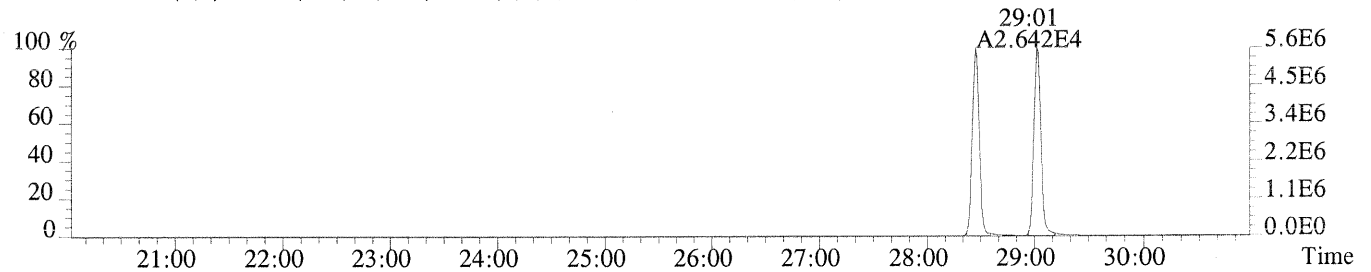
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)



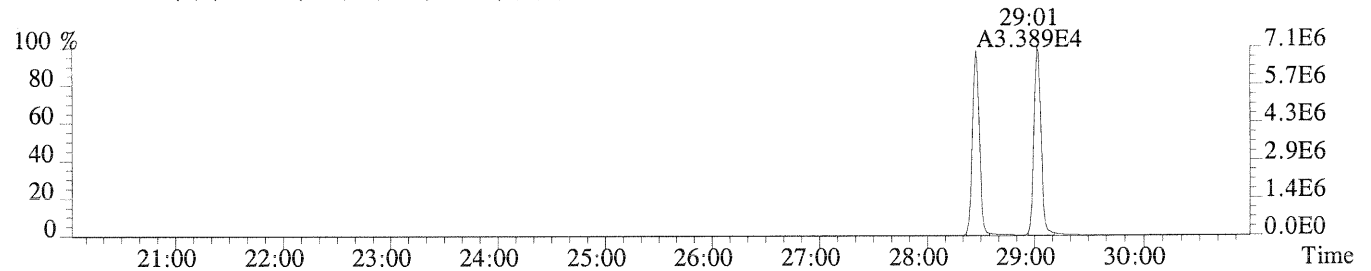
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



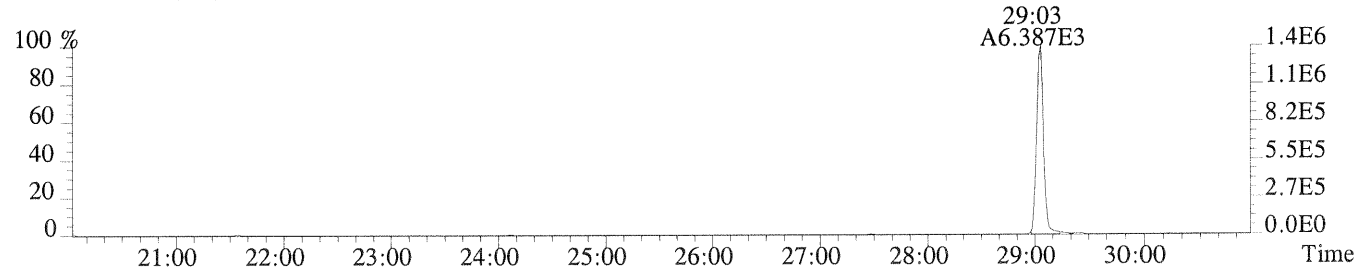
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3160.0,1.00%,F,T)



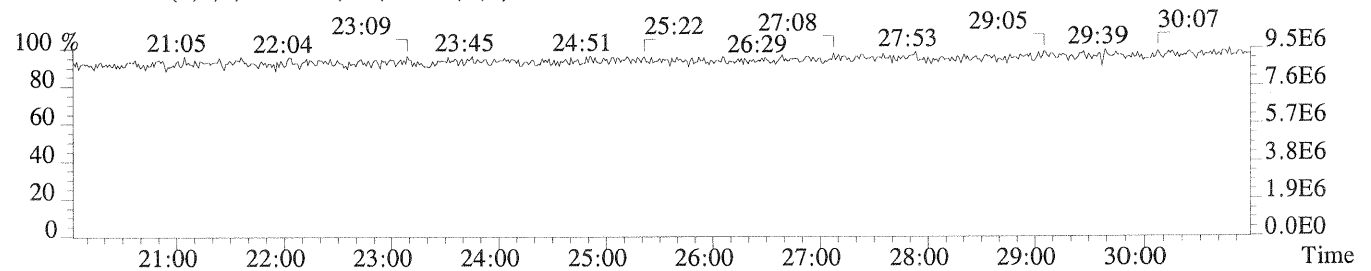
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1496.0,1.00%,F,T)



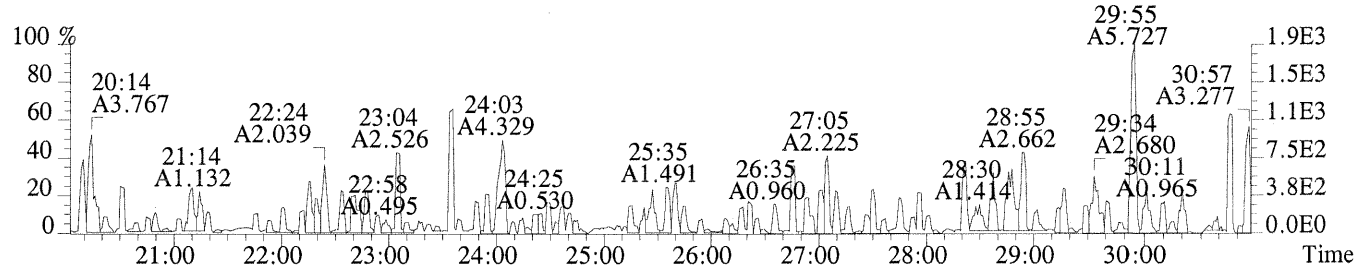
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



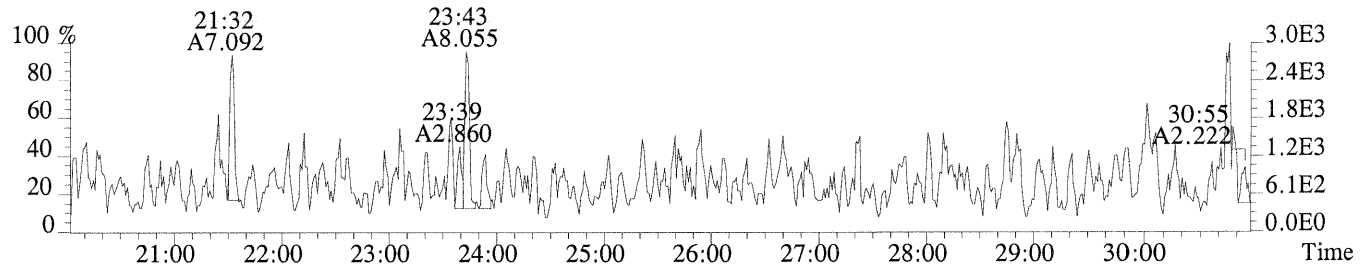
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



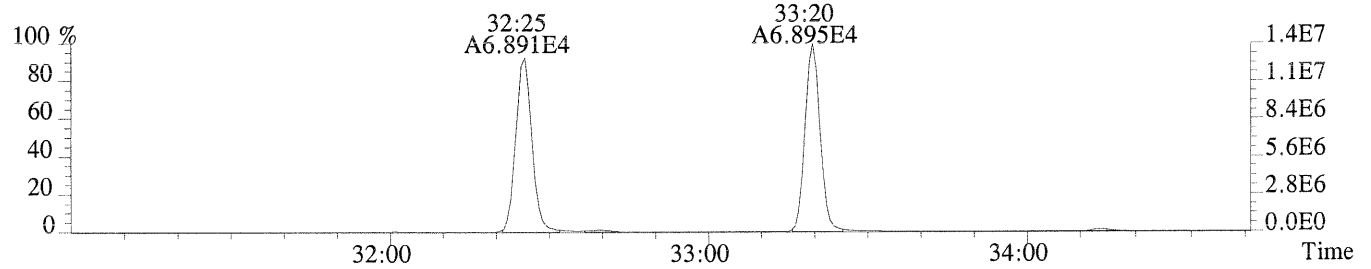
File:P230815 #1-687 Acq:27-AUG-2014 09:24:14 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40.0,1.00%,F,T)



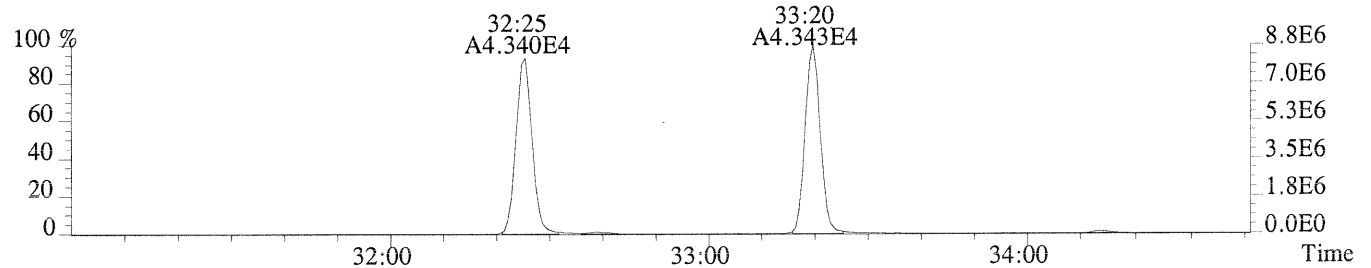
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,T)



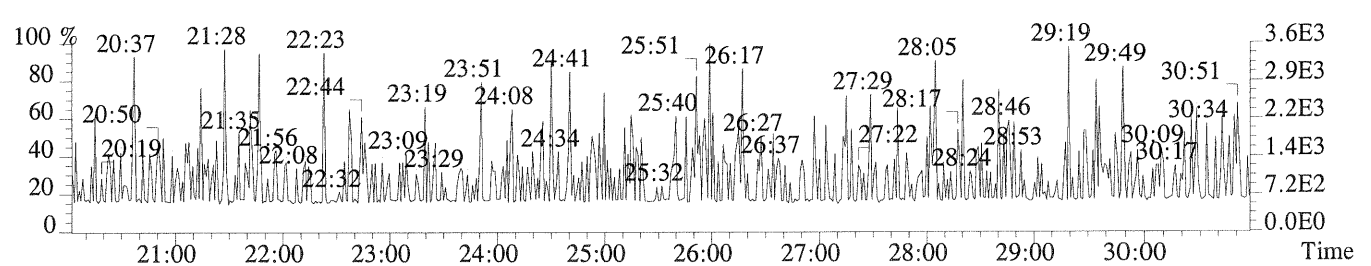
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



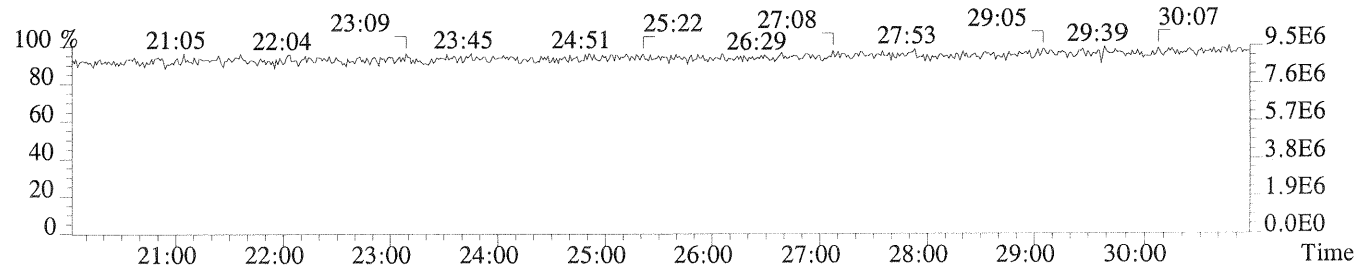
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

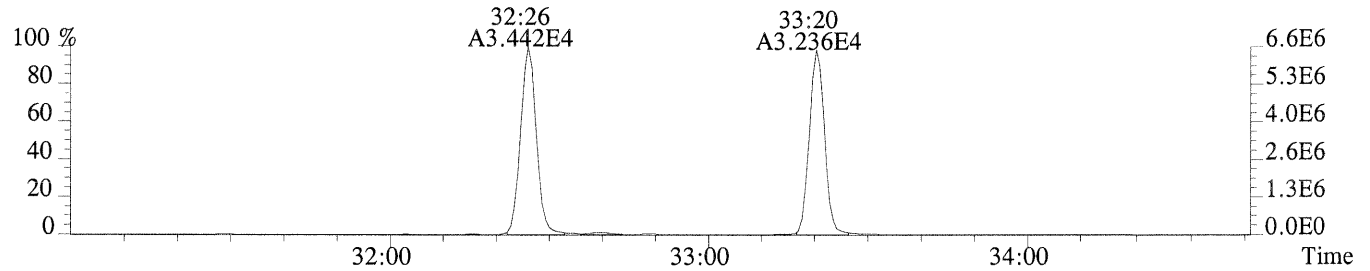


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

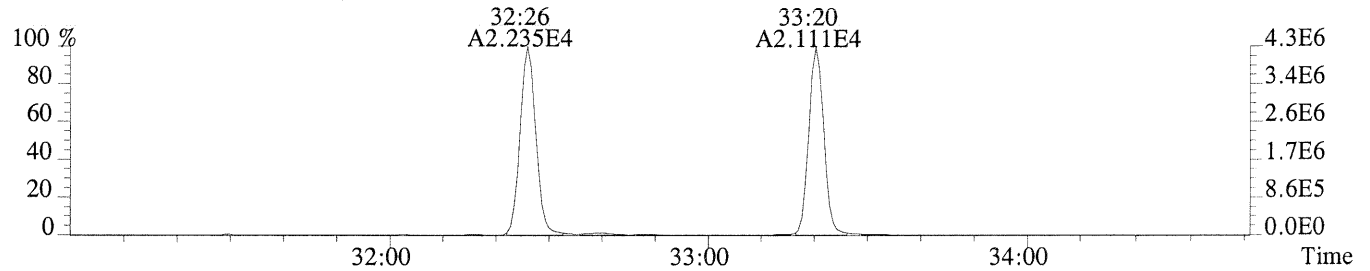


Sample#1 Exp:CS3

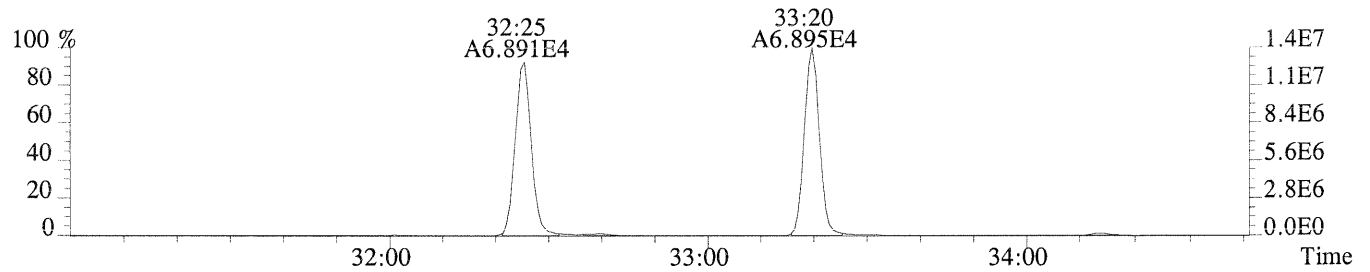
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



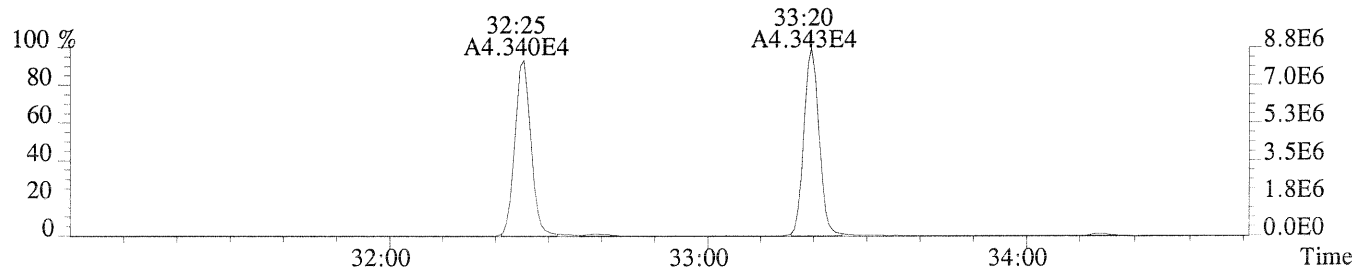
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,T)



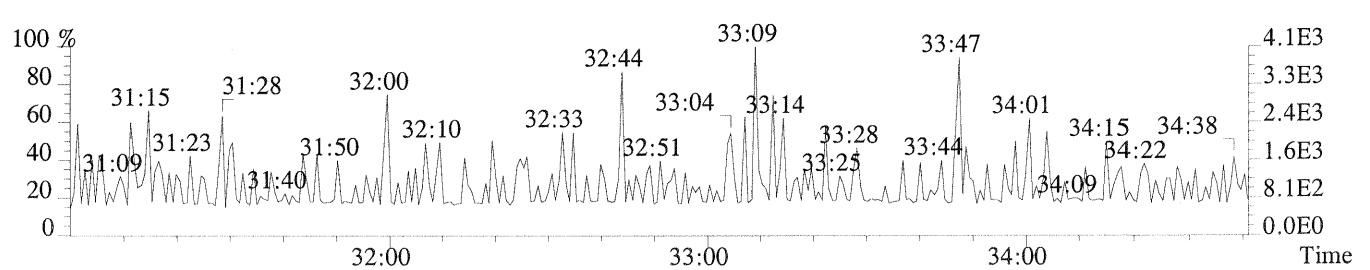
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



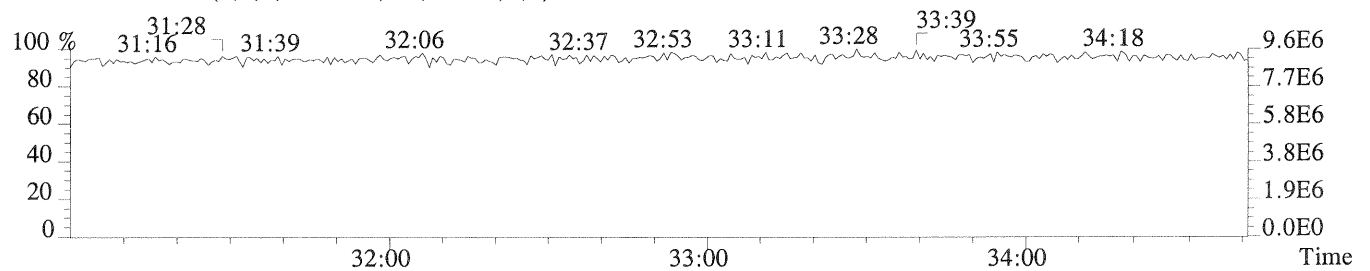
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

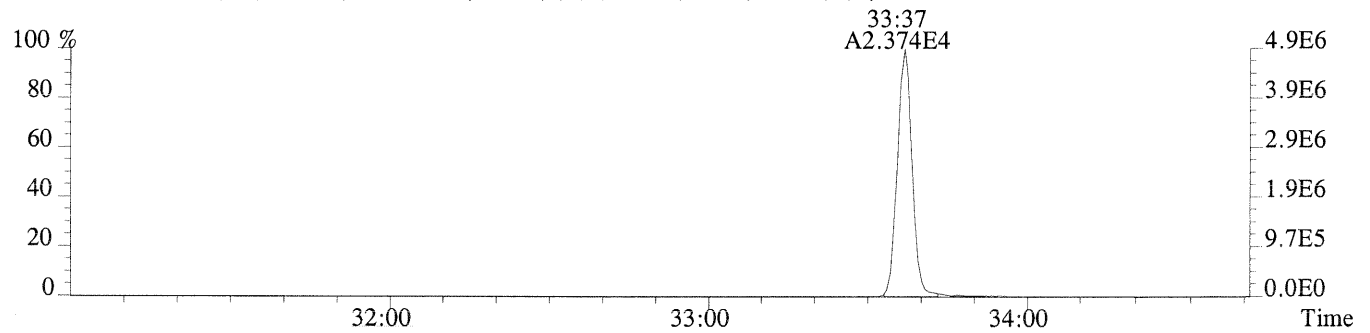


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

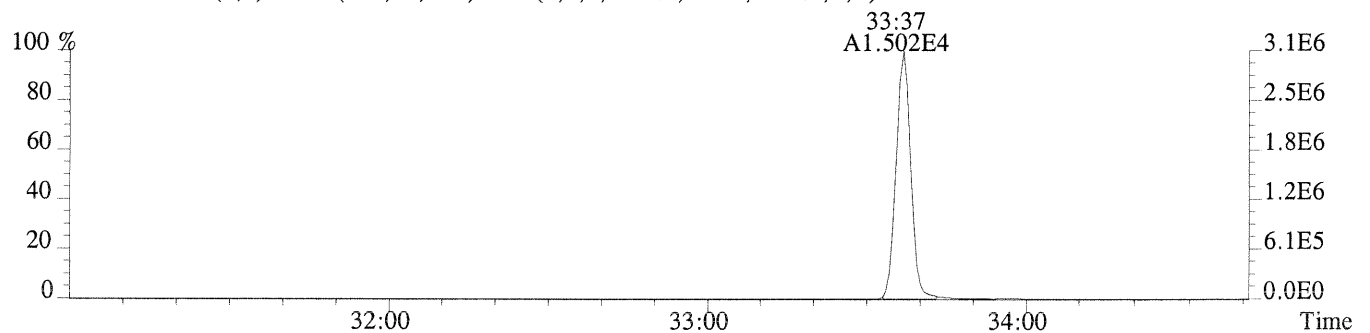


Sample#1 Exp:CS3

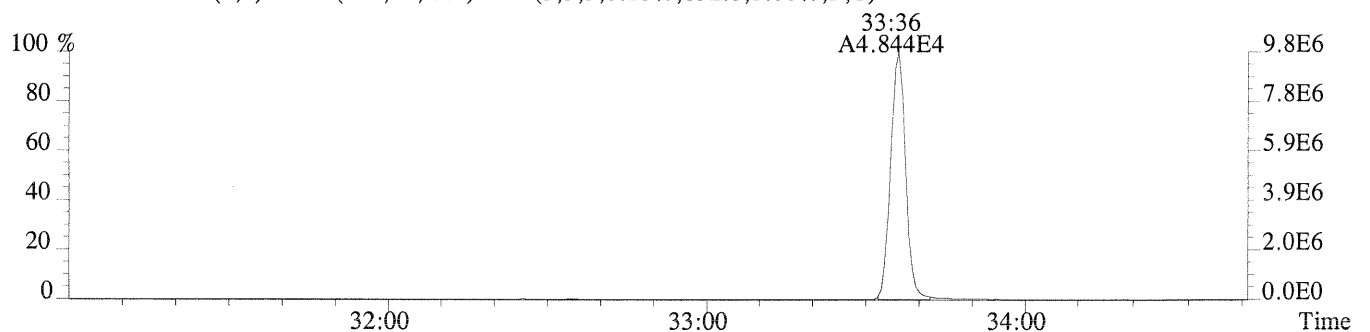
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



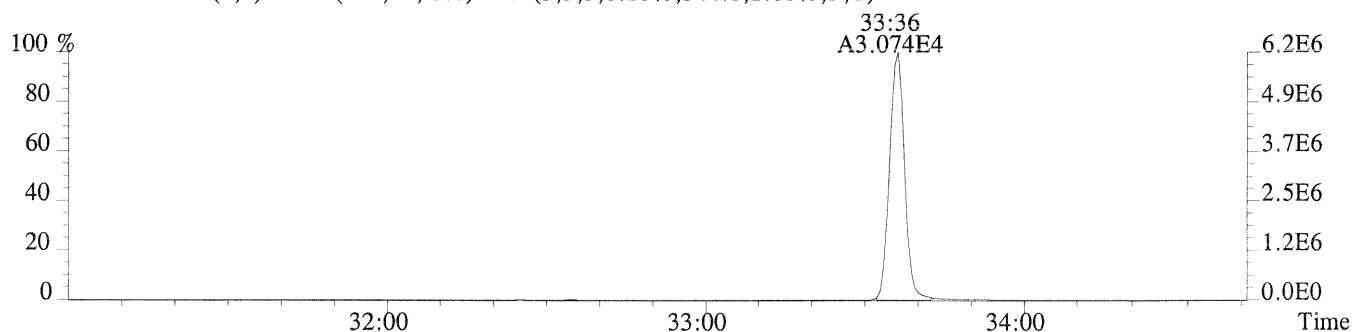
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



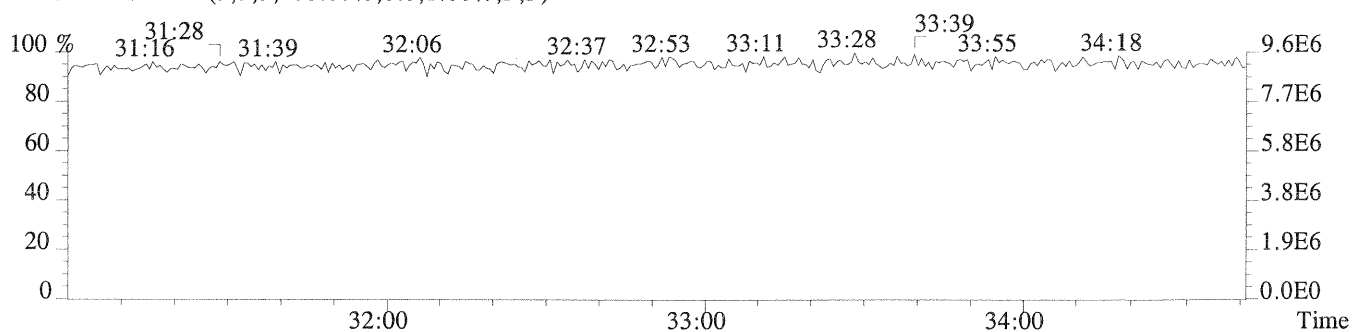
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



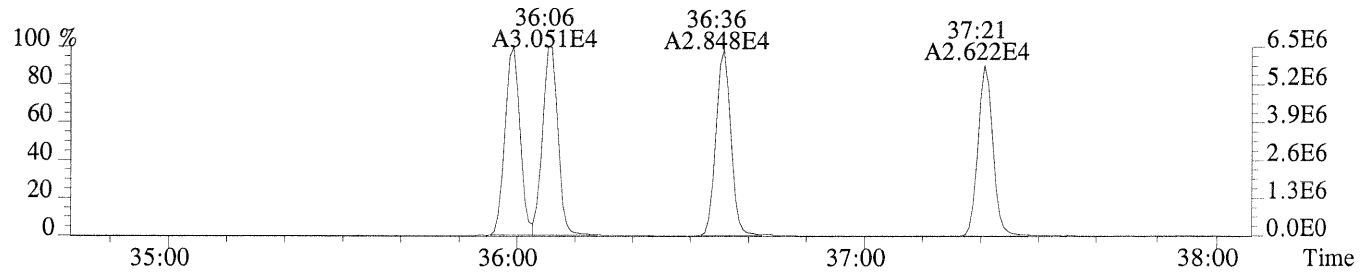
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



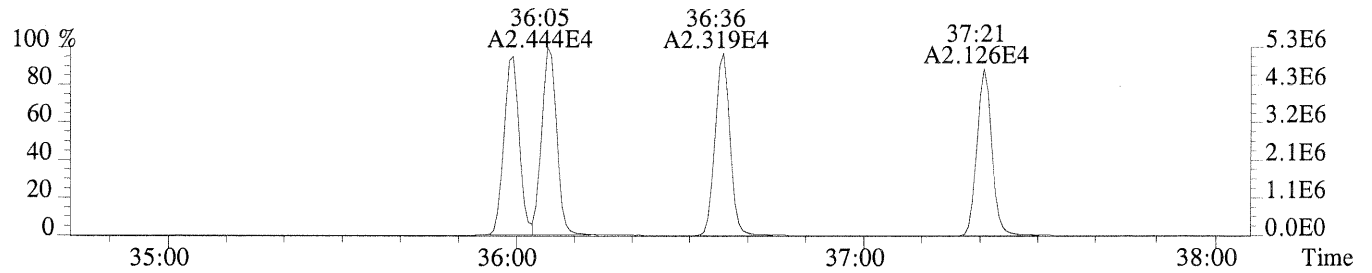
File:P230815 #1-307 Acq:27-AUG-2014 09:24:14 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

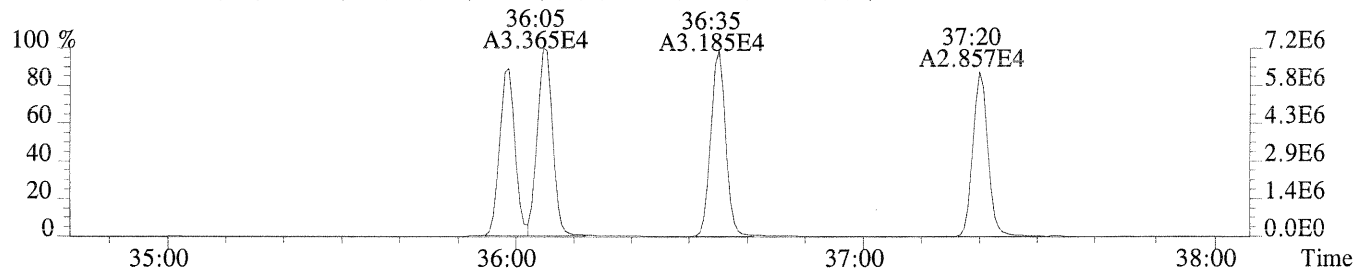
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,T)



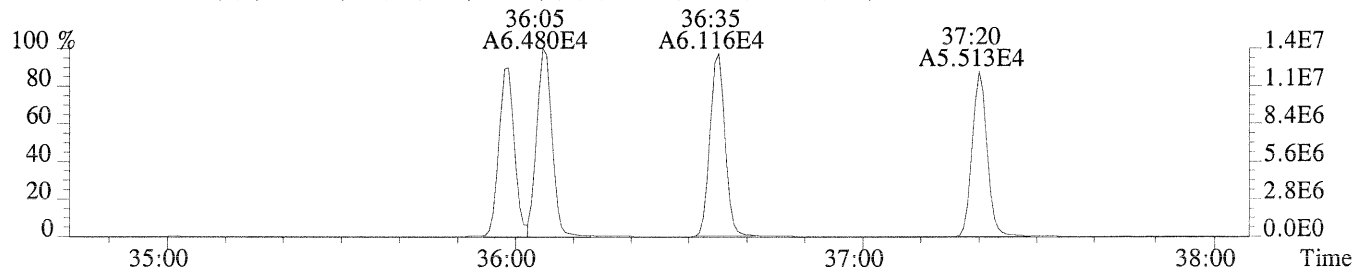
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



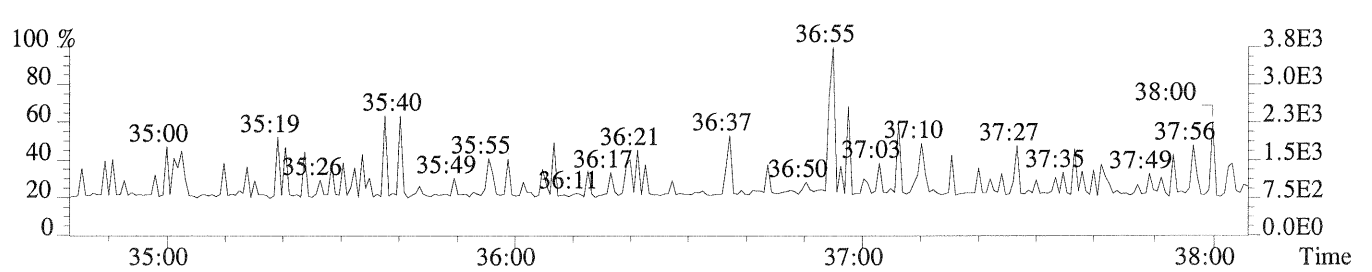
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,T)



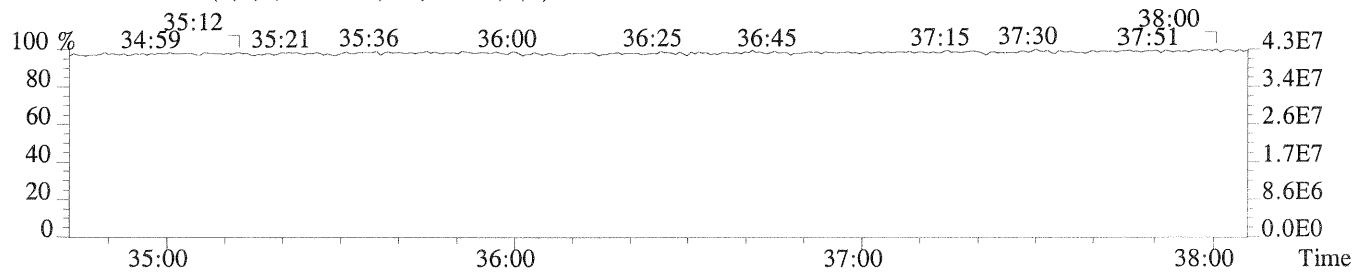
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,968.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

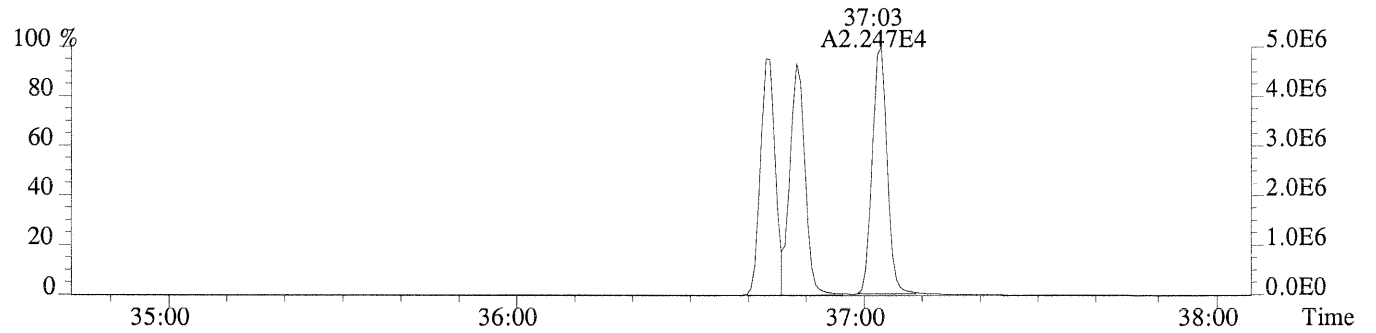


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

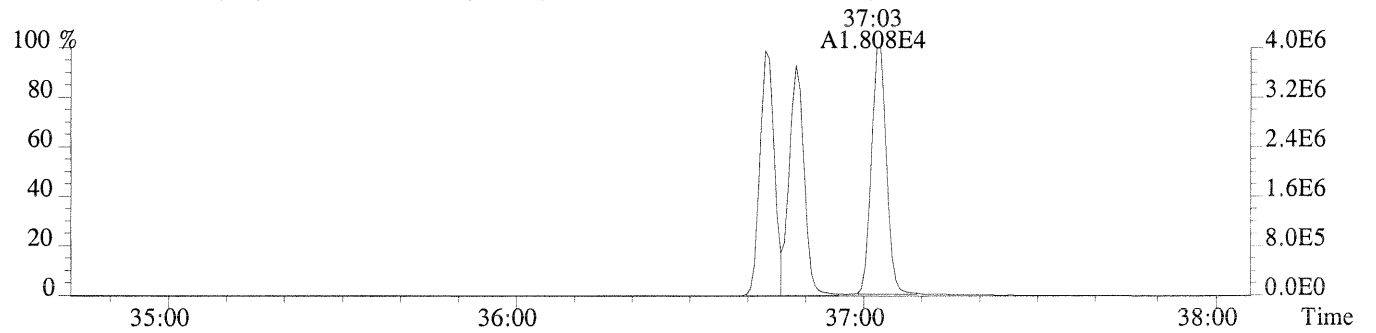


Sample#1 Exp:CS3

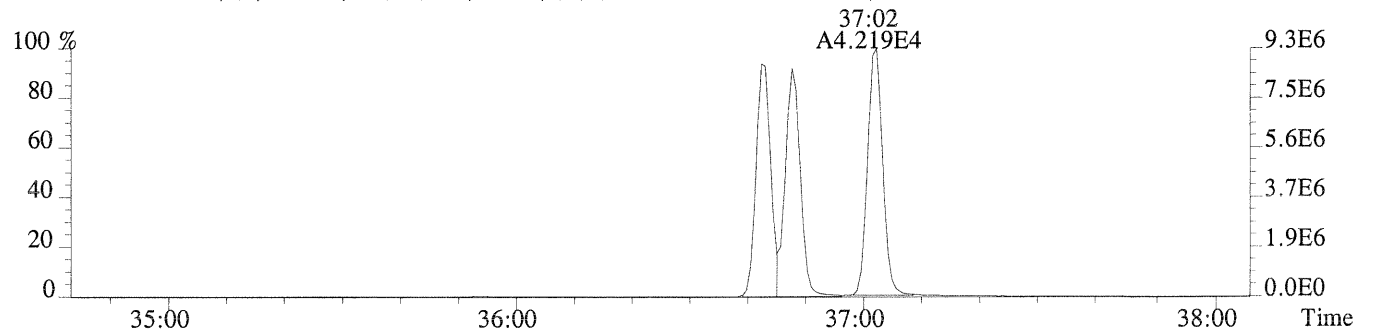
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



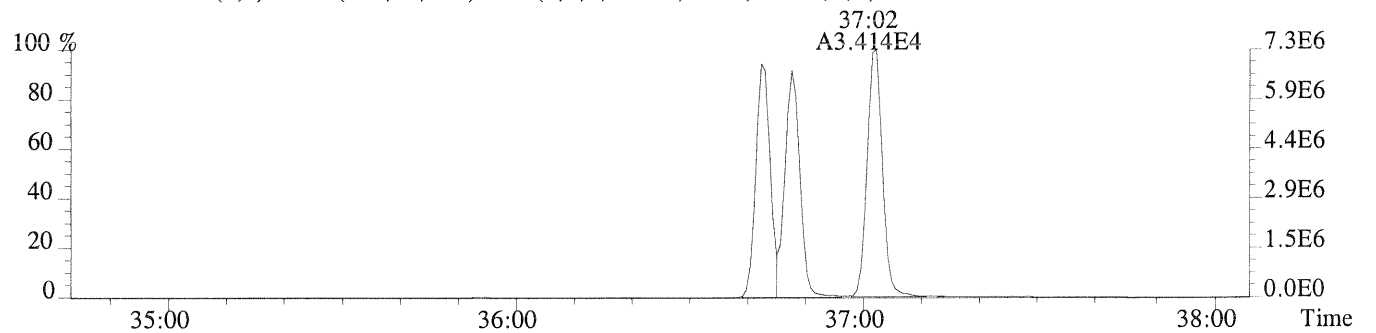
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,T)



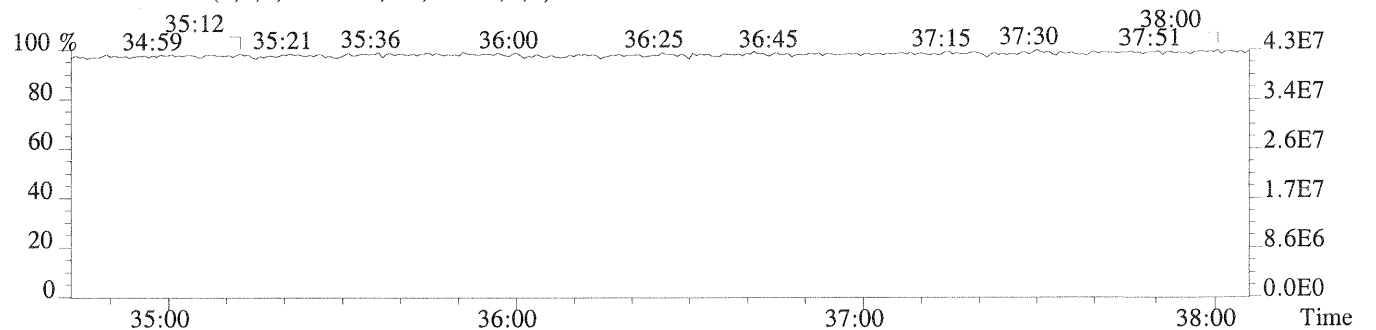
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,612.0,0.40%,F,T)

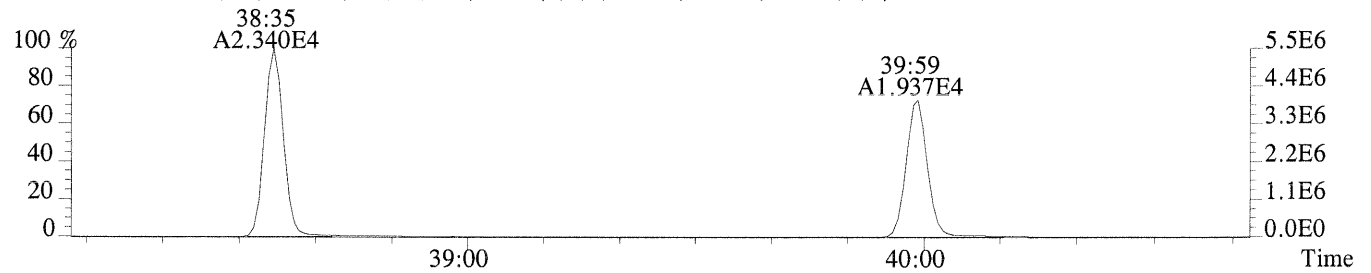


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

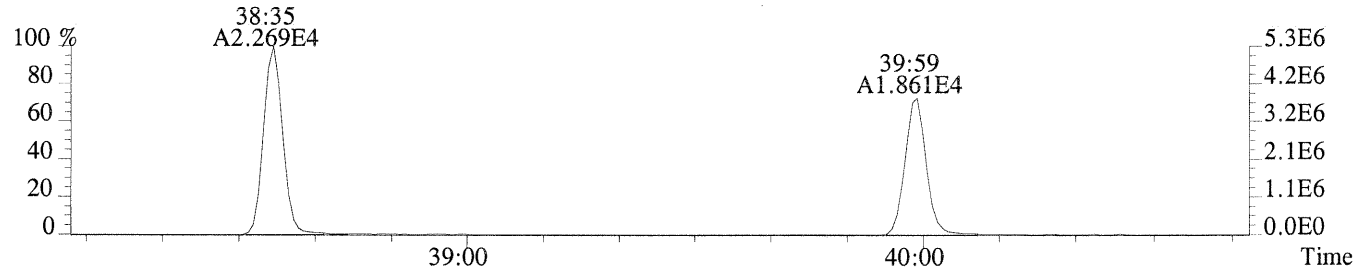




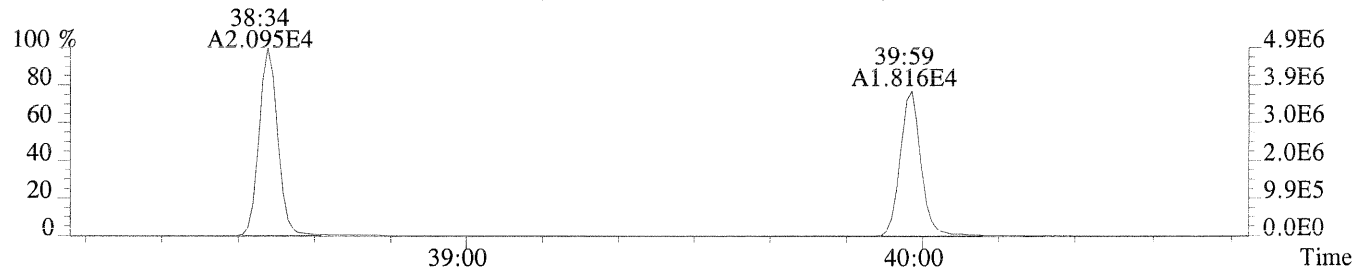
File:P230815 #1-234 Acq:27-AUG-2014 09:24:14 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1436.0,0.50%,F,T)



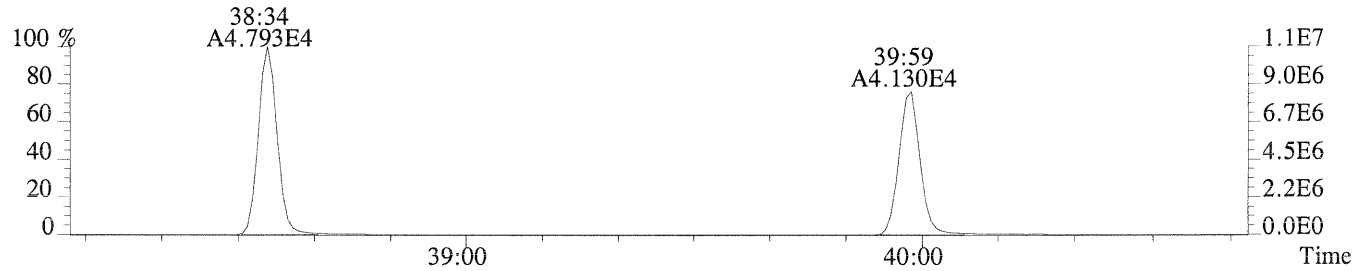
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2440.0,0.50%,F,T)



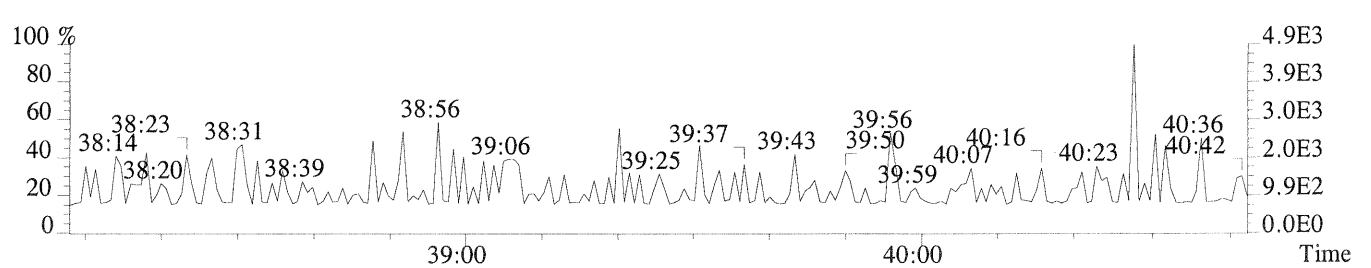
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1588.0,0.50%,F,T)



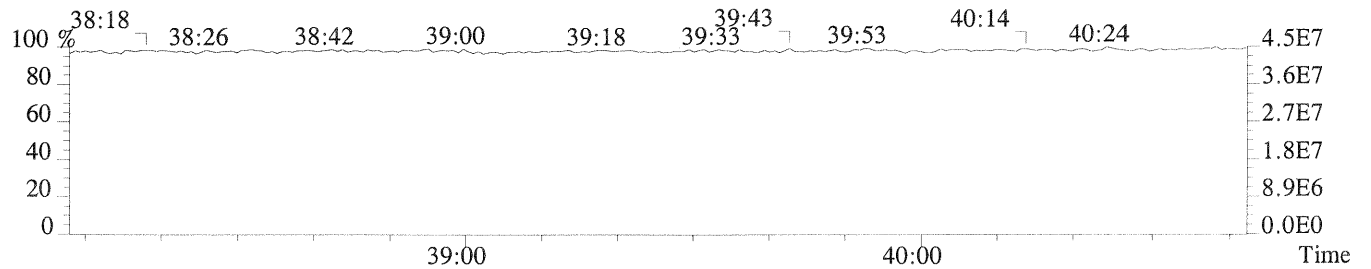
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1876.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

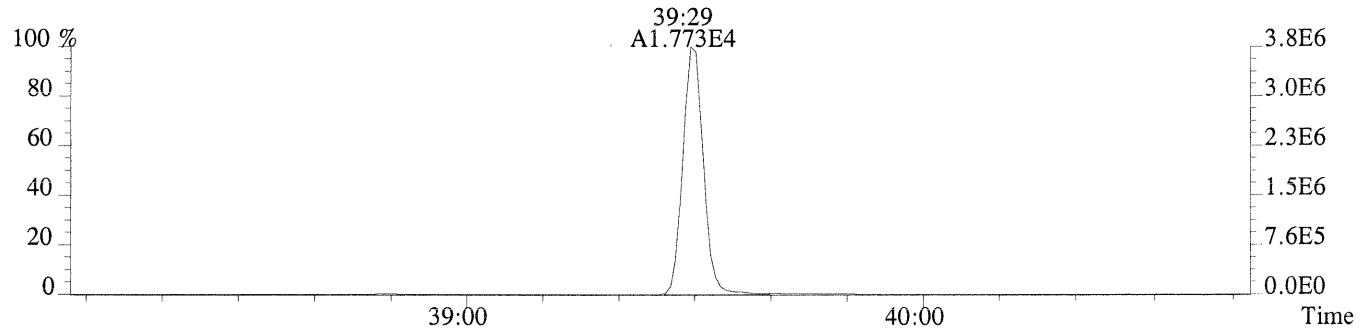


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

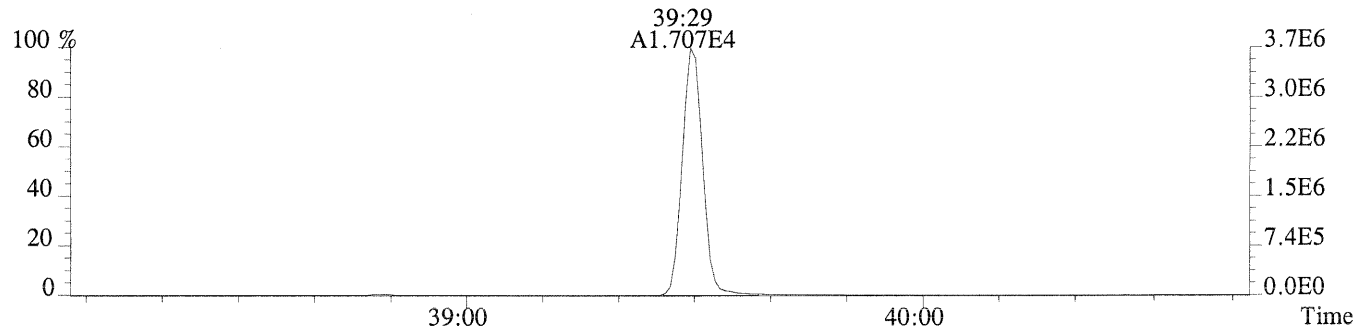


Sample#1 Exp:CS3

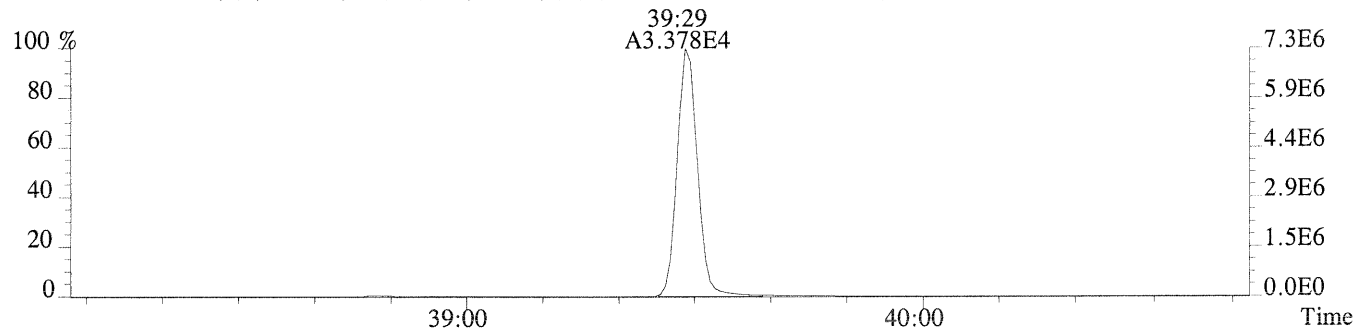
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,T)



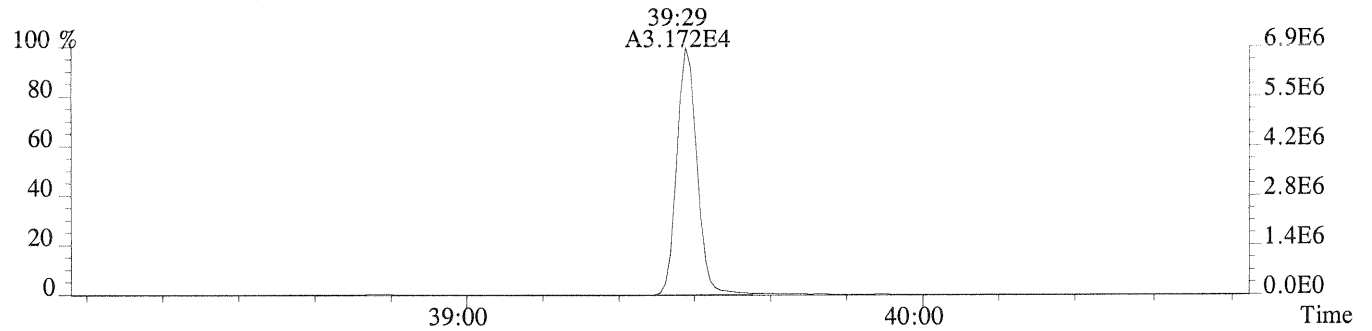
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)



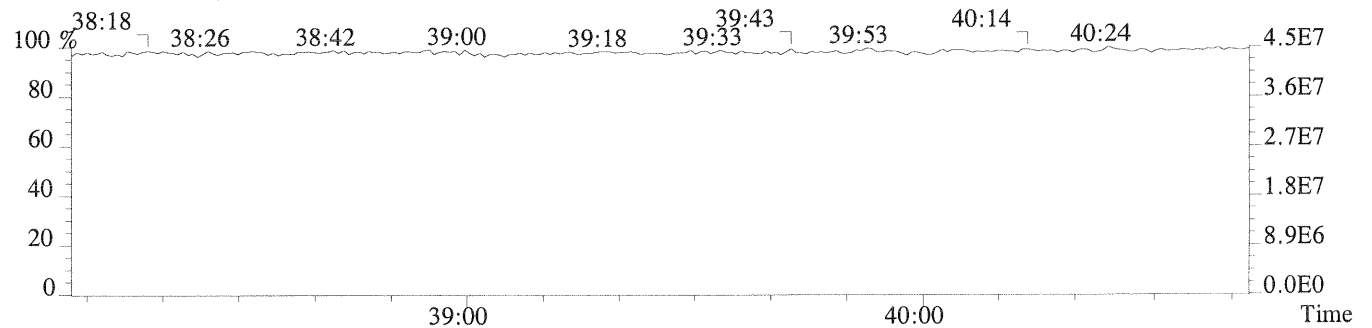
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,396.0,0.40%,F,T)



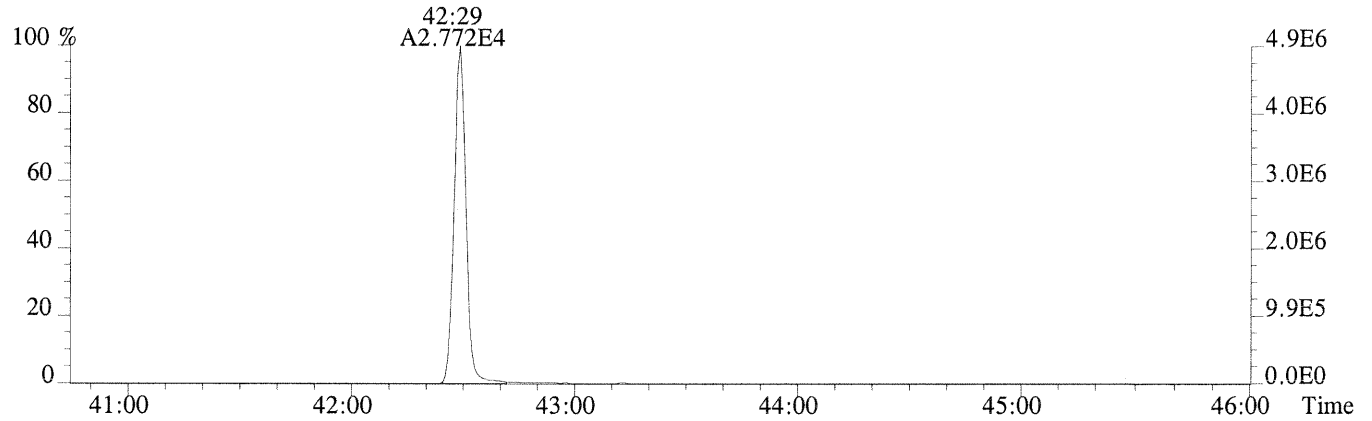
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



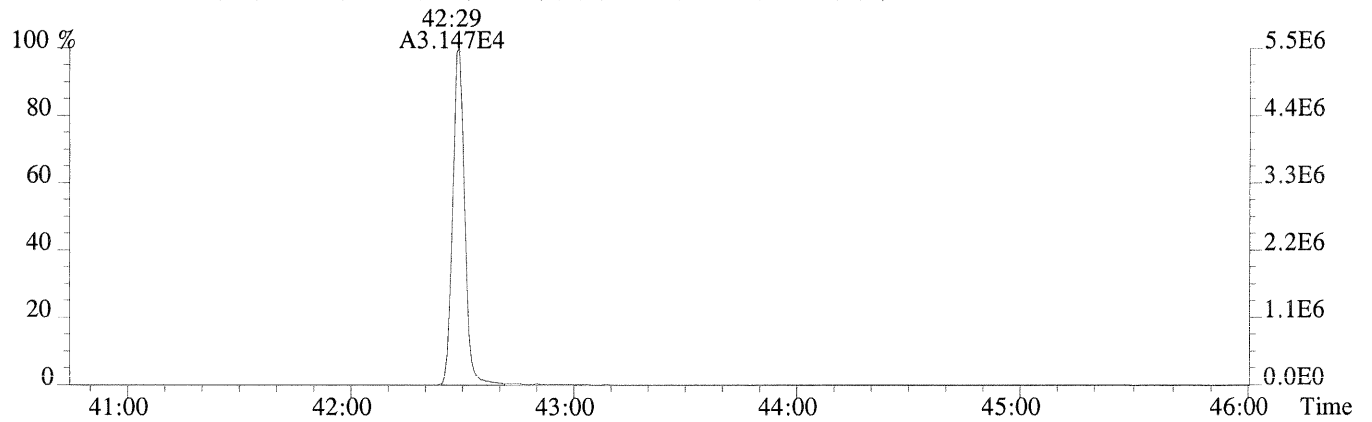
File:P230815 #1-484 Acq:27-AUG-2014 09:24:14 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

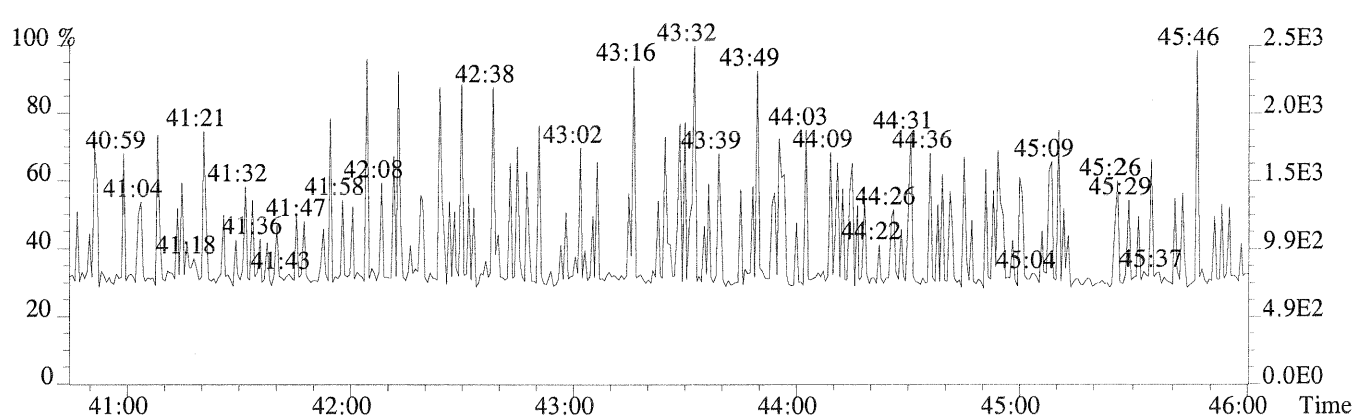
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,316.0,0.40%,F,T)



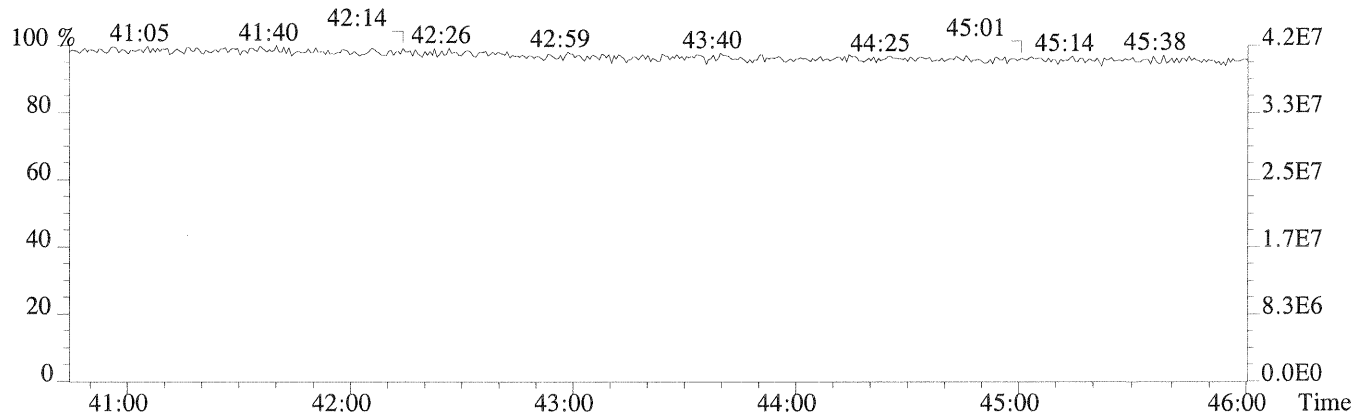
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

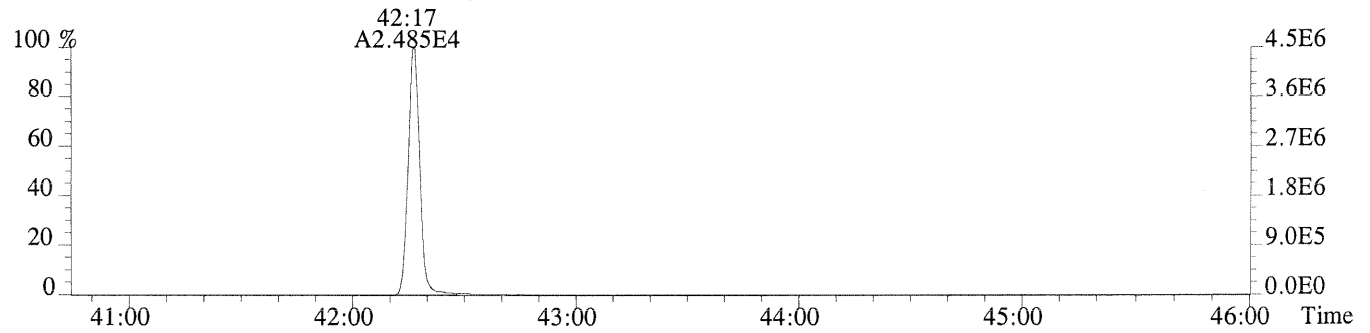


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

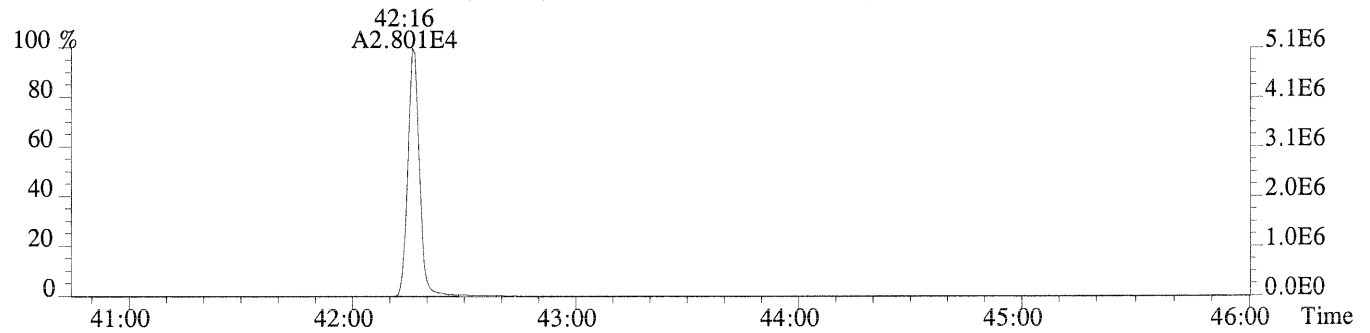


Sample#1 Exp:CS3

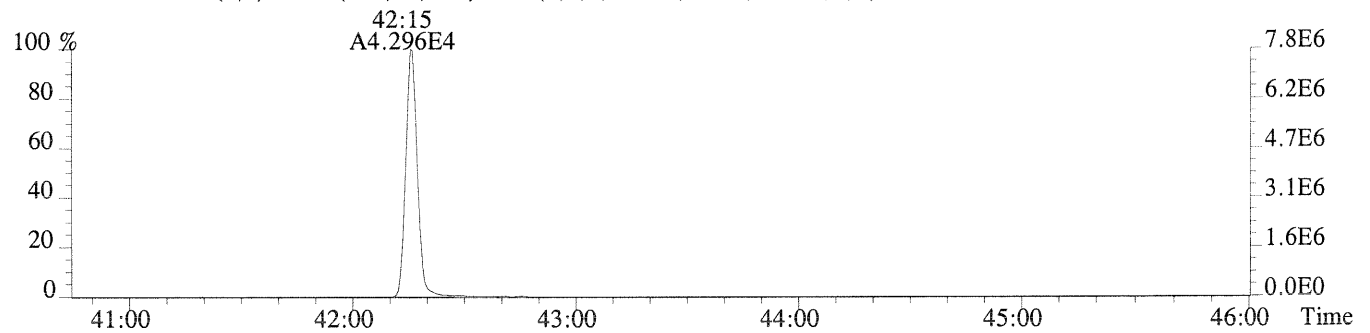
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,244.0,0.40%,F,T)



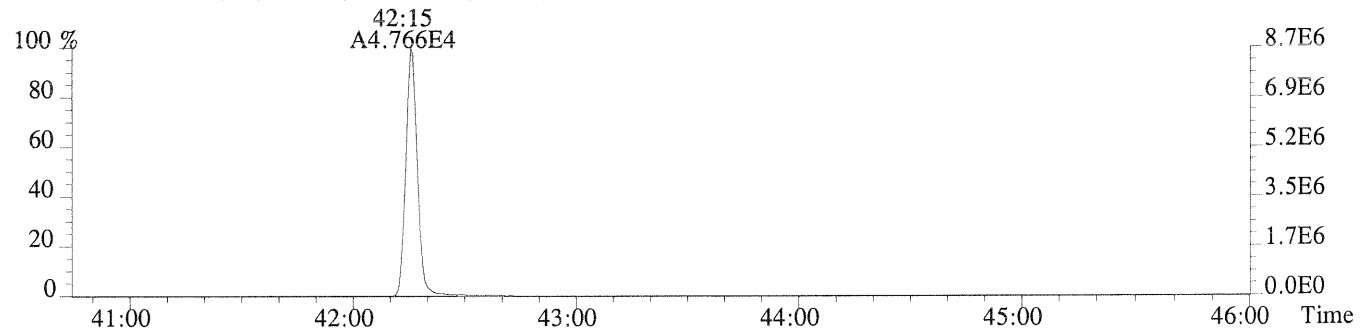
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



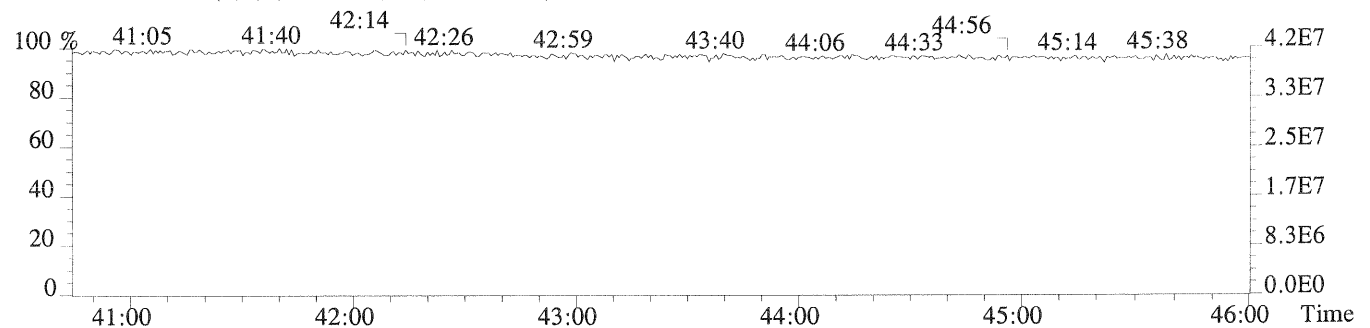
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,408.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,84.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



# CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: V150516/V150530

Circle one:

Beginning /

Ending

Date: 082714

Method: 1613 / 1613E / 8290 VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:

Analyst

Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration

Analyst

Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	NA	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: OB2714

Second QC: [Signature]

ccalqc.xls 07/17/12

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 07/31/14

Init. Calib. Times: 12:13:20

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

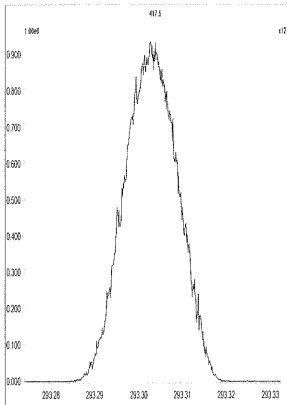
EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
WINDOW DEFINE	WINDOW DEFINE	U150517	23-AUG-14	11:51:40
CCAL HRCC3/CS3	CCAL HRCC3/CS3	U150516	23-AUG-14	11:01:54
CCAL HRCC3/CS3	CCAL HRCC3/CS3	U150530	23-AUG-14	22:34:33
METHOD BLANK	EQ1400474-01	U150518	23-AUG-14	12:54:20
LCS	EQ1400478-02	U150519	23-AUG-14	13:41:29
Nv SYC14-AC Rep.2 7	EQ1400478-03	U150520	23-AUG-14	14:29:57
Nv SYC14-AC Rep.2 7	EQ1400478-04	U150521	23-AUG-14	15:18:24
LCS	EQ1400472-02	U150522	23-AUG-14	16:06:52
BM11LAA01C-SW-19 MS	EQ1400472-03	U150523	23-AUG-14	16:55:20
BM11LAA01C-SW-19 D7	EQ1400472-04	U150524	23-AUG-14	17:43:49
LCS	EQ1400481-02	U150525	23-AUG-14	18:32:16
1408040820 200-SB-7	EQ1400481-03	U150526	23-AUG-14	19:20:43
1408040820 200-SB-7	EQ1400481-04	U150527	23-AUG-14	20:09:14
73615	73615 1613 Lab7	U150531	23-AUG-14	23:23:01



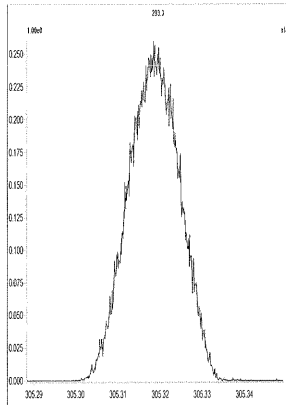
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Saturday, August 23, 2014 10:56:12 Central Daylight Time

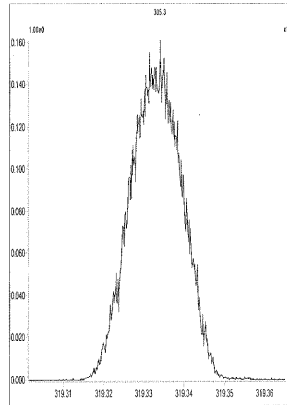
M 292.9824 R 11112



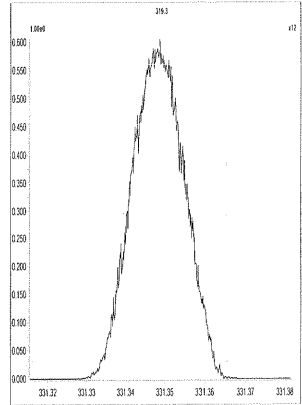
M 304.9824 R 11160



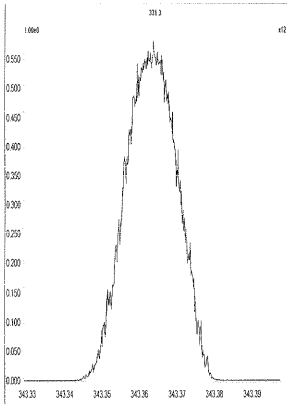
M 318.9792 R 11066



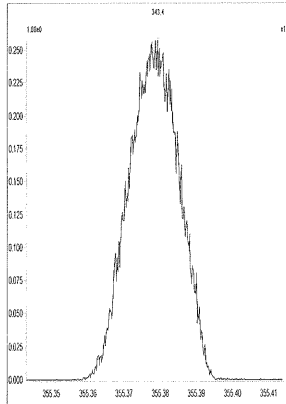
M 330.9792 R 11470



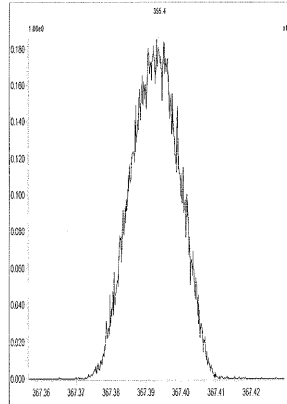
M 342.9792 R 11738



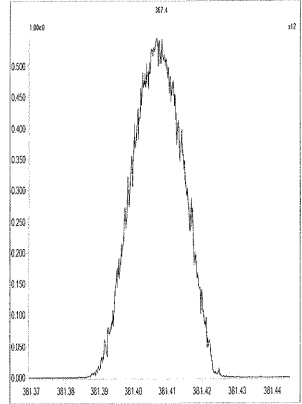
M 354.9792 R 11904



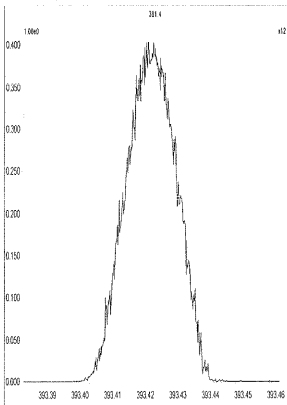
M 366.9792 R 12258



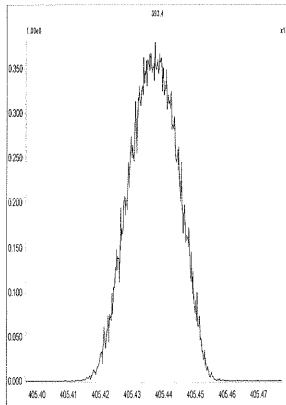
M 380.9760 R 11902



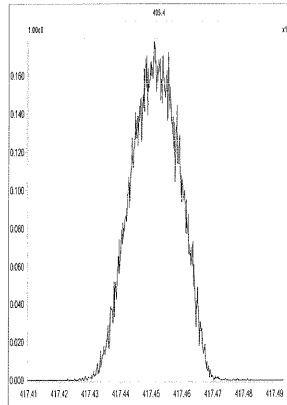
M 392.9760 R 12256



M 404.9760 R 11848



M 416.9760 R 12194

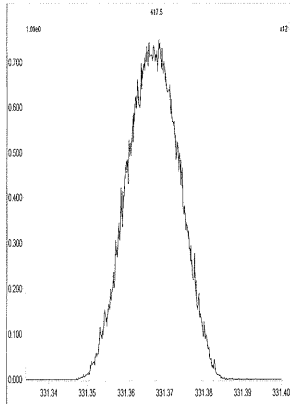




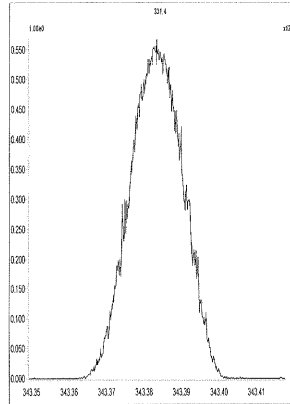
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Saturday, August 23, 2014 10:57:18 Central Daylight Time

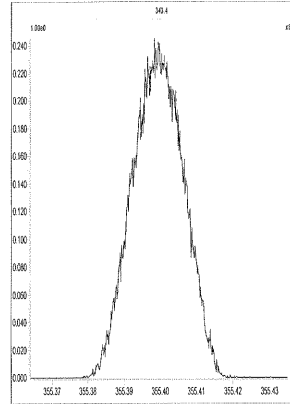
M 330.9792 R 11060



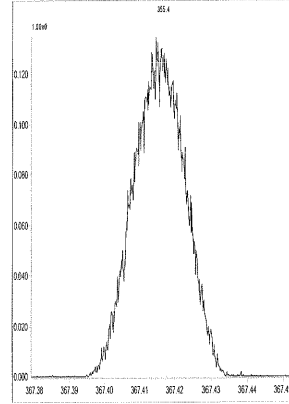
M 342.9792 R 11063



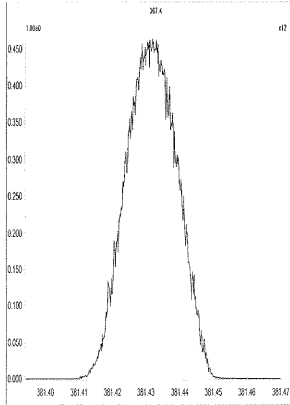
M 354.9792 R 11364



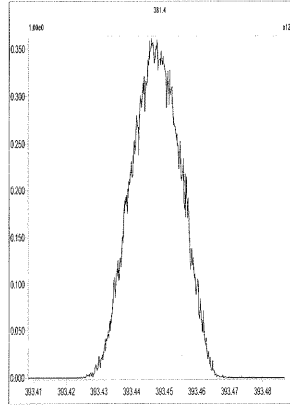
M 366.9792 R 11260



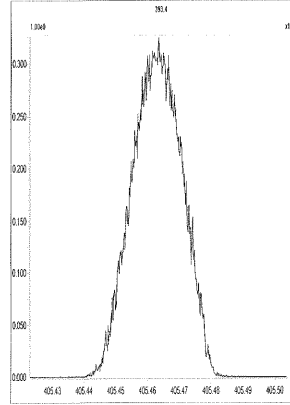
M 380.9760 R 11519



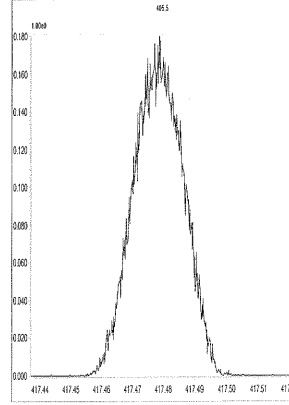
M 392.9760 R 11790



M 404.9760 R 11962



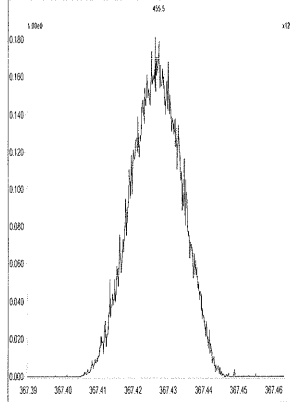
M 416.9760 R 12254



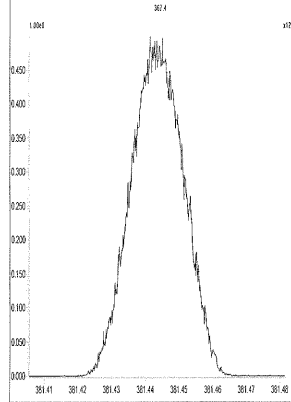
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

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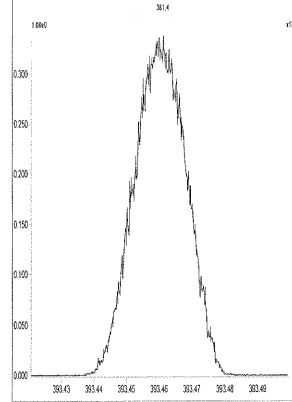
M 366.9792 R 11316



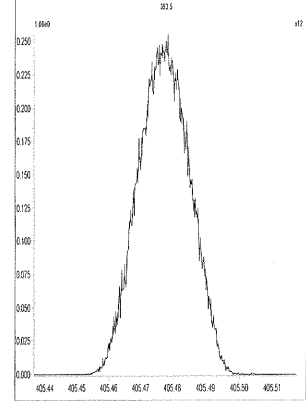
M 380.9760 R 10916



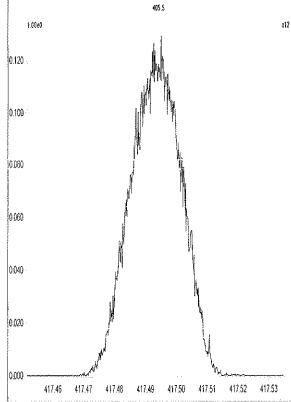
M 392.9760 R 11418



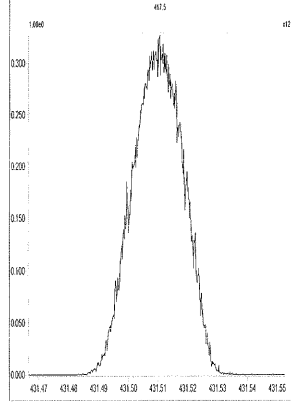
M 404.9760 R 11571



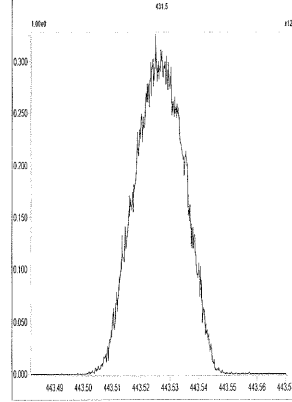
M 416.9760 R 11415



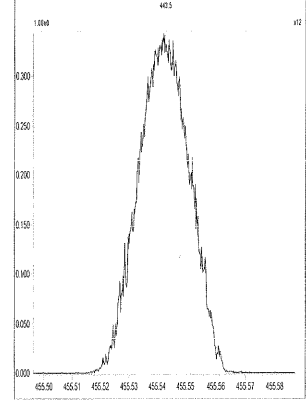
M 430.9728 R 11848



M 442.9728 R 12379



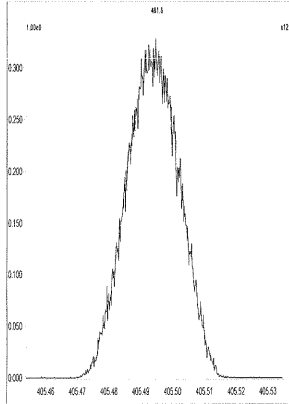
M 454.9728 R 12192



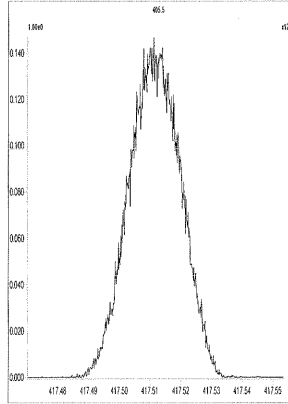
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Saturday, August 23, 2014 11:00:07 Central Daylight Time

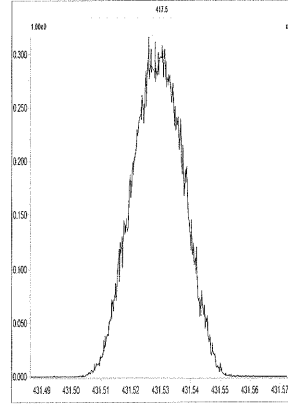
M 404.9760 R 10966



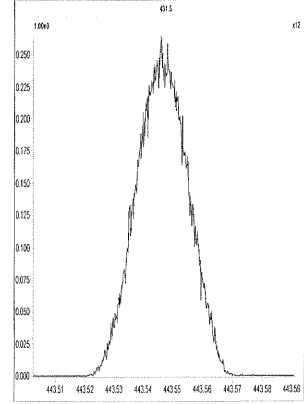
M 416.9760 R 11062



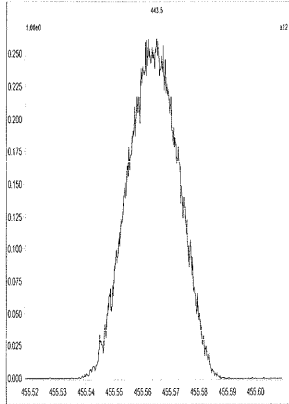
M 430.9728 R 11062



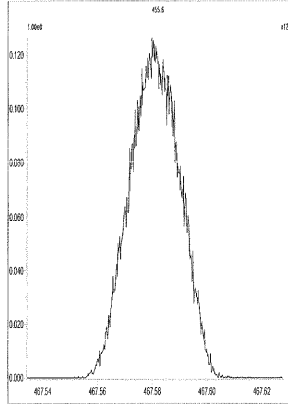
M 442.9728 R 11061



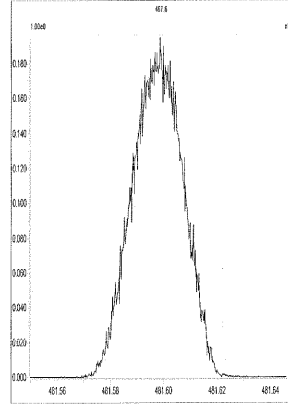
M 454.9728 R 11413



M 466.9728 R 11849



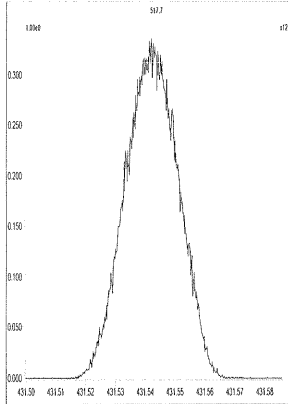
M 480.9696 R 11679



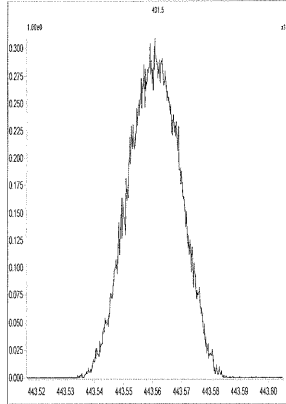
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Saturday, August 23, 2014 11:01:08 Central Daylight Time

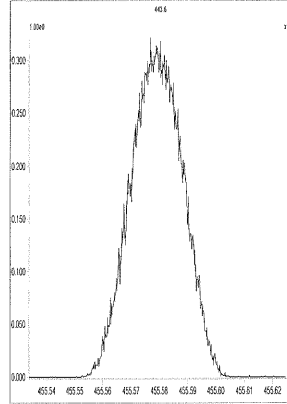
M 430.9728 R 10917



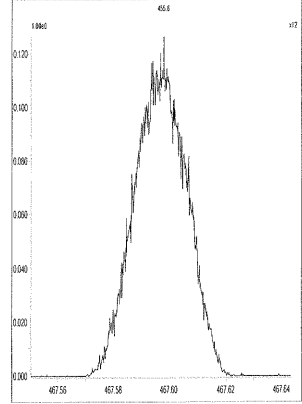
M 442.9728 R 10637



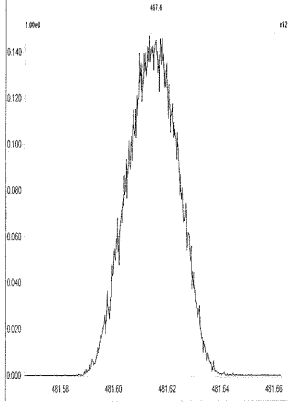
M 454.9728 R 11263



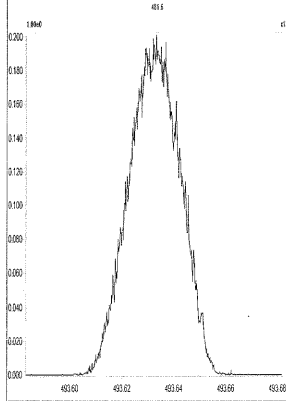
M 466.9728 R 11575



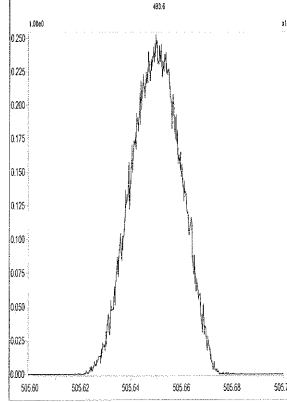
M 480.9696 R 11625



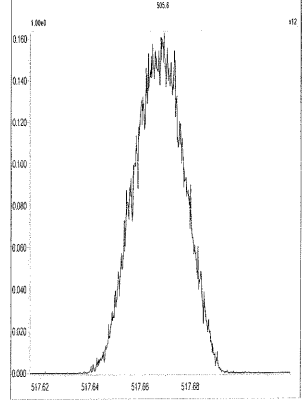
M 492.9696 R 11520



M 504.9696 R 11681



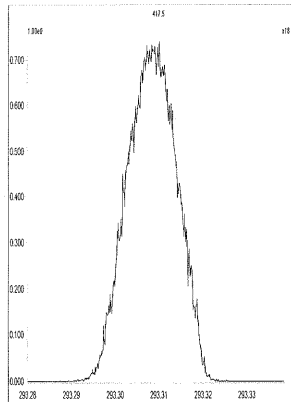
M 516.9697 R 11899



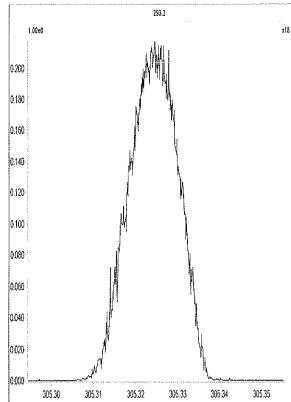
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Sunday, August 24, 2014 07:33:55 Central Daylight Time

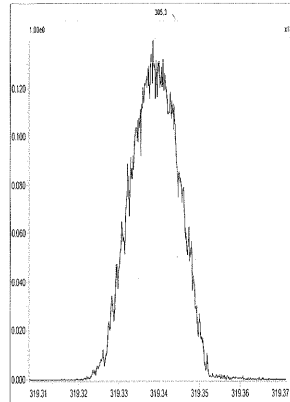
M 292.9824 R 12377



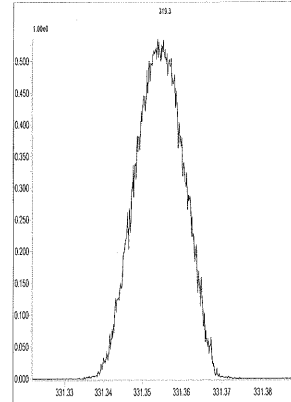
M 304.9824 R 12562



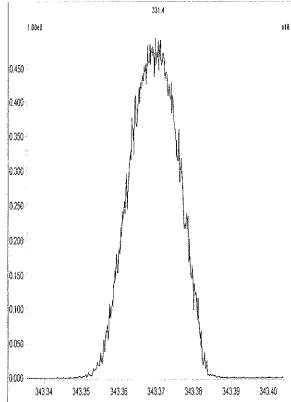
M 318.9792 R 12885



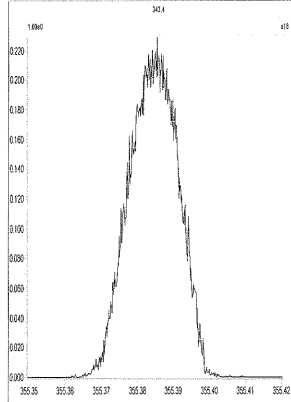
M 330.9792 R 12252



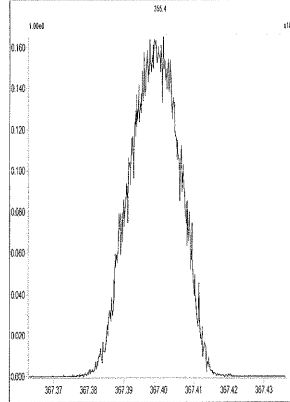
M 342.9792 R 12751



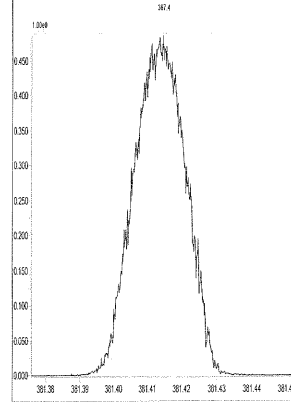
M 354.9792 R 12376



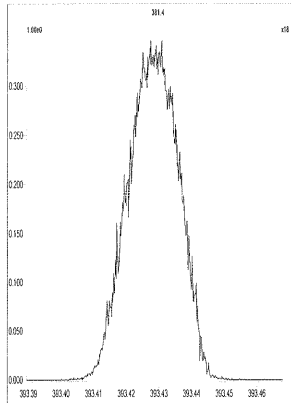
M 366.9792 R 12436



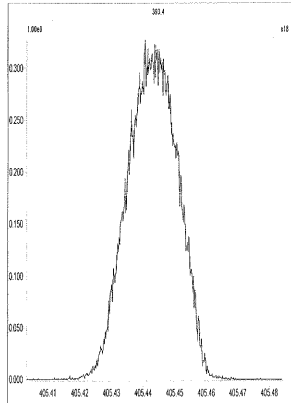
M 380.9760 R 12075



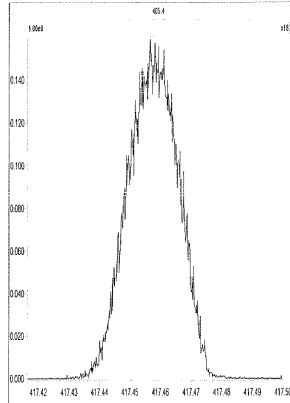
M 392.9760 R 11789



M 404.9760 R 12255



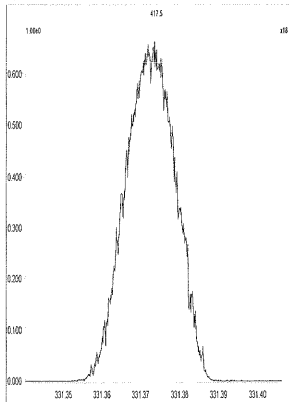
M 416.9760 R 11852



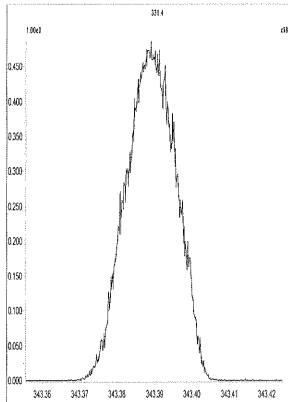
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Sunday, August 24, 2014 07:34:15 Central Daylight Time

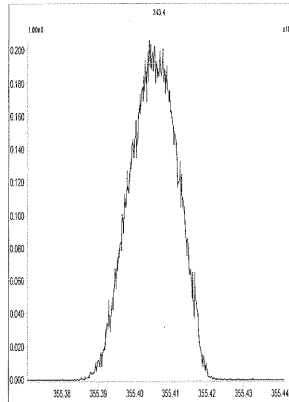
M 330.9792 R 11908



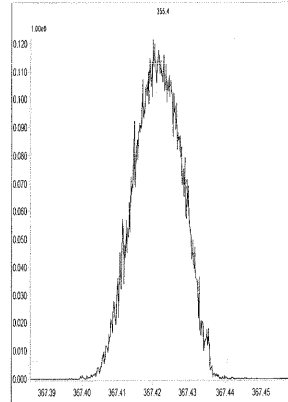
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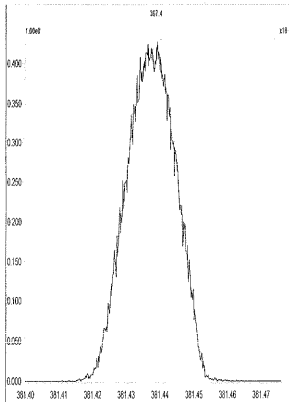
M 354.9792 R 12756



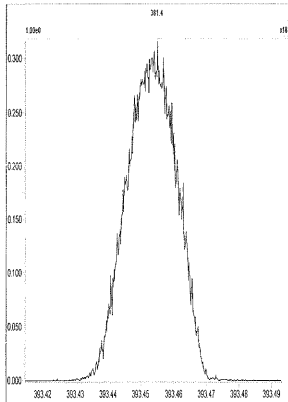
M 366.9792 R 12194



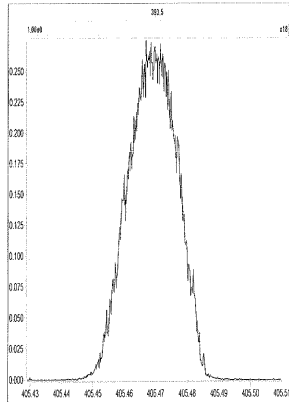
M 380.9760 R 12375



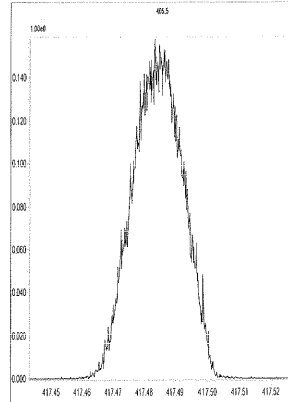
M 392.9760 R 12197



M 404.9760 R 12434



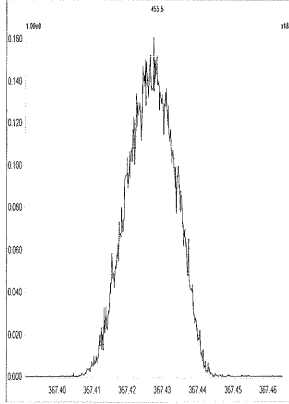
M 416.9760 R 12315



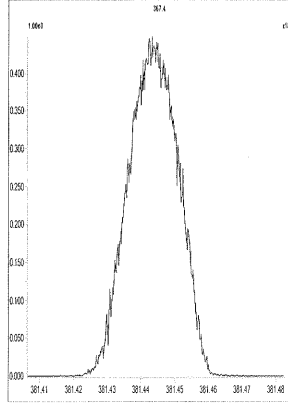
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Sunday, August 24, 2014 07:34:34 Central Daylight Time

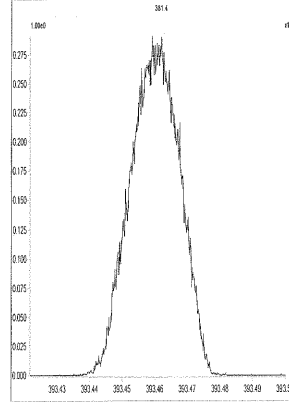
M 366.9792 R 12077



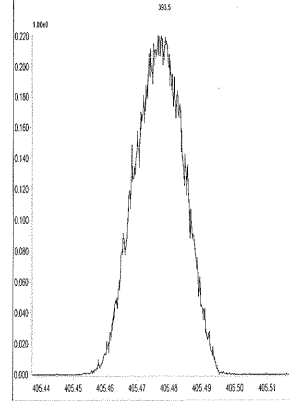
M 380.9760 R 12076



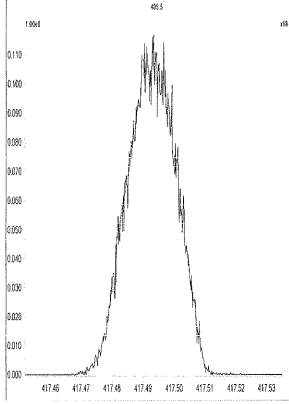
M 392.9760 R 12374



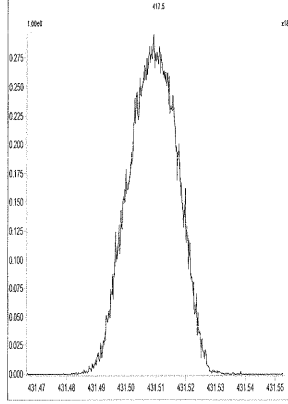
M 404.9760 R 11845



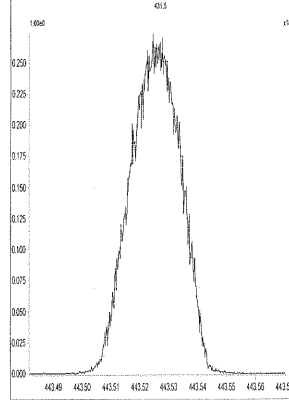
M 416.9760 R 12311



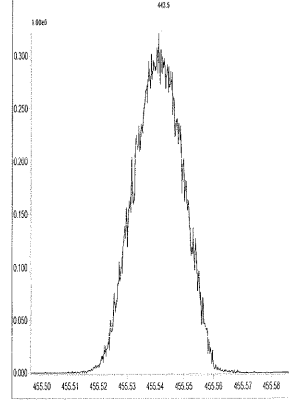
M 430.9728 R 12625



M 442.9728 R 12193



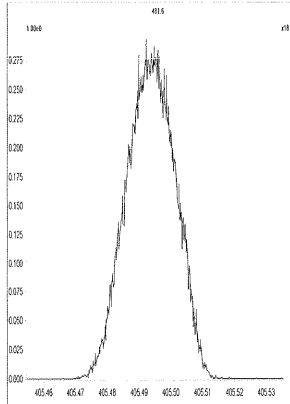
M 454.9728 R 12501



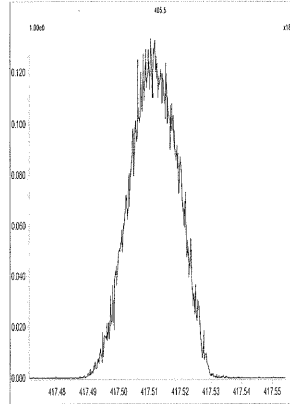
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Sunday, August 24, 2014 07:34:51 Central Daylight Time

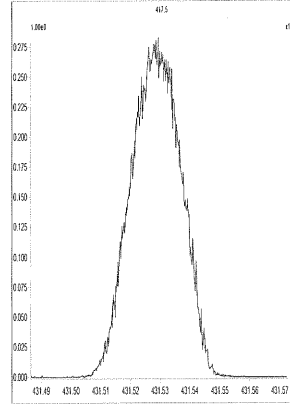
M 404.9760 R 12079



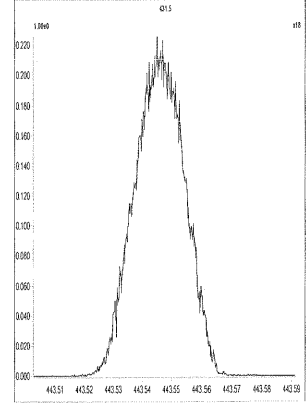
M 416.9760 R 11901



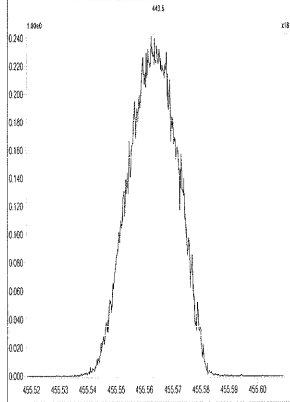
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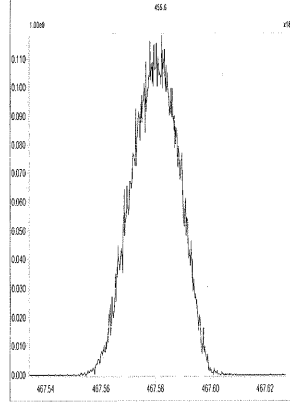
M 442.9728 R 12375



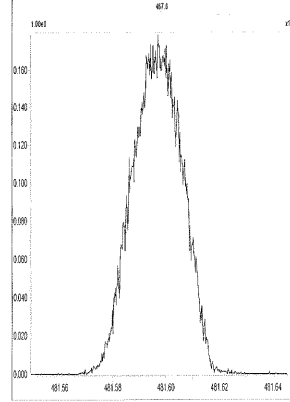
M 454.9728 R 12317



M 466.9728 R 12078



M 480.9696 R 12136

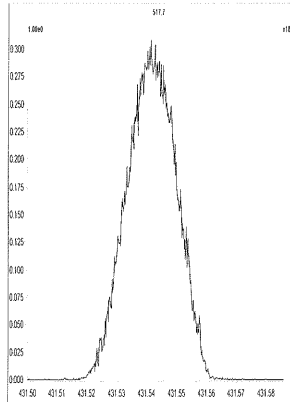




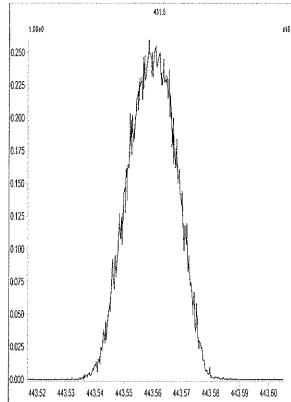
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Sunday, August 24, 2014 07:35:09 Central Daylight Time

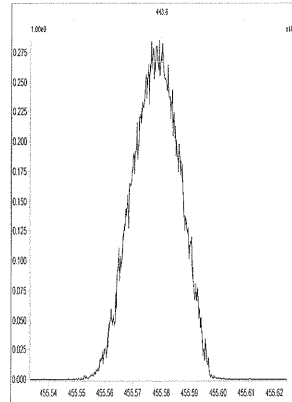
M 430.9728 R 12019



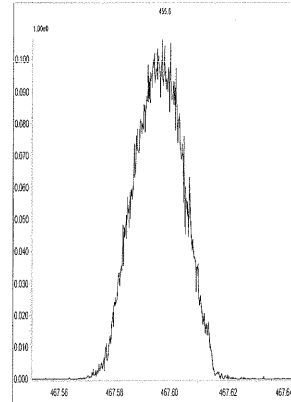
M 442.9728 R 12018



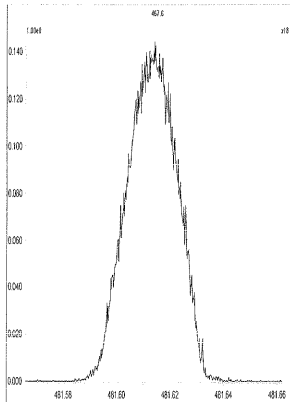
M 454.9728 R 12436



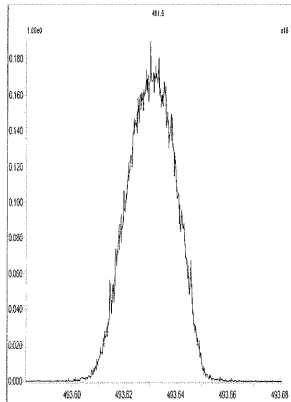
M 466.9728 R 12312



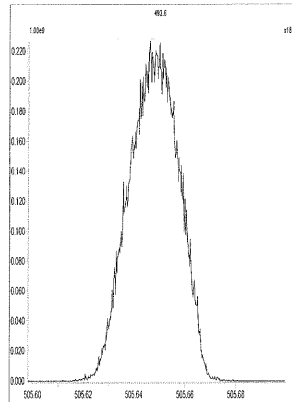
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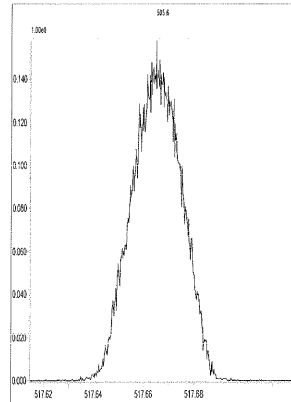
M 492.9696 R 12136



M 504.9696 R 11961



M 516.9697 R 12249



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

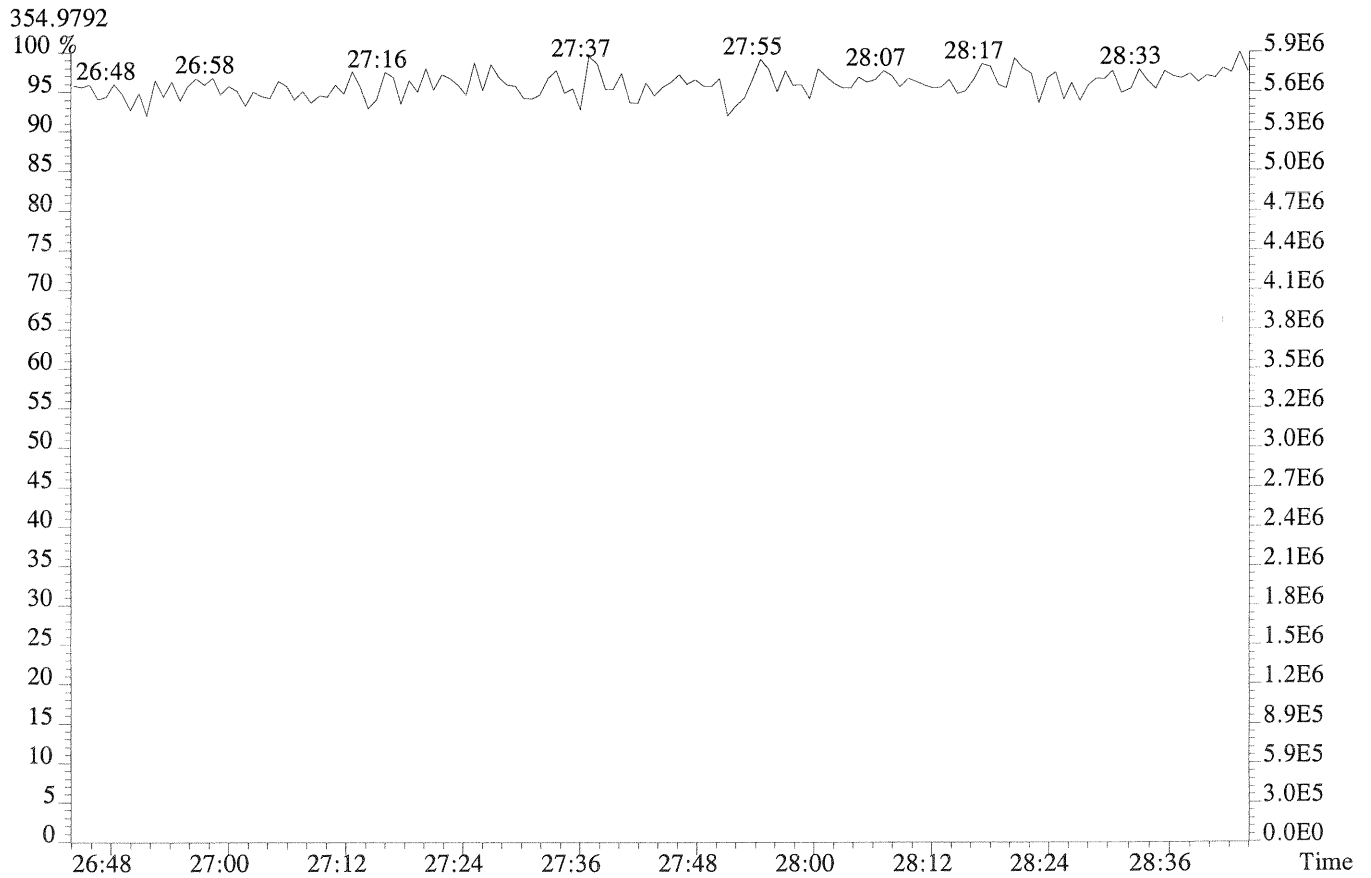
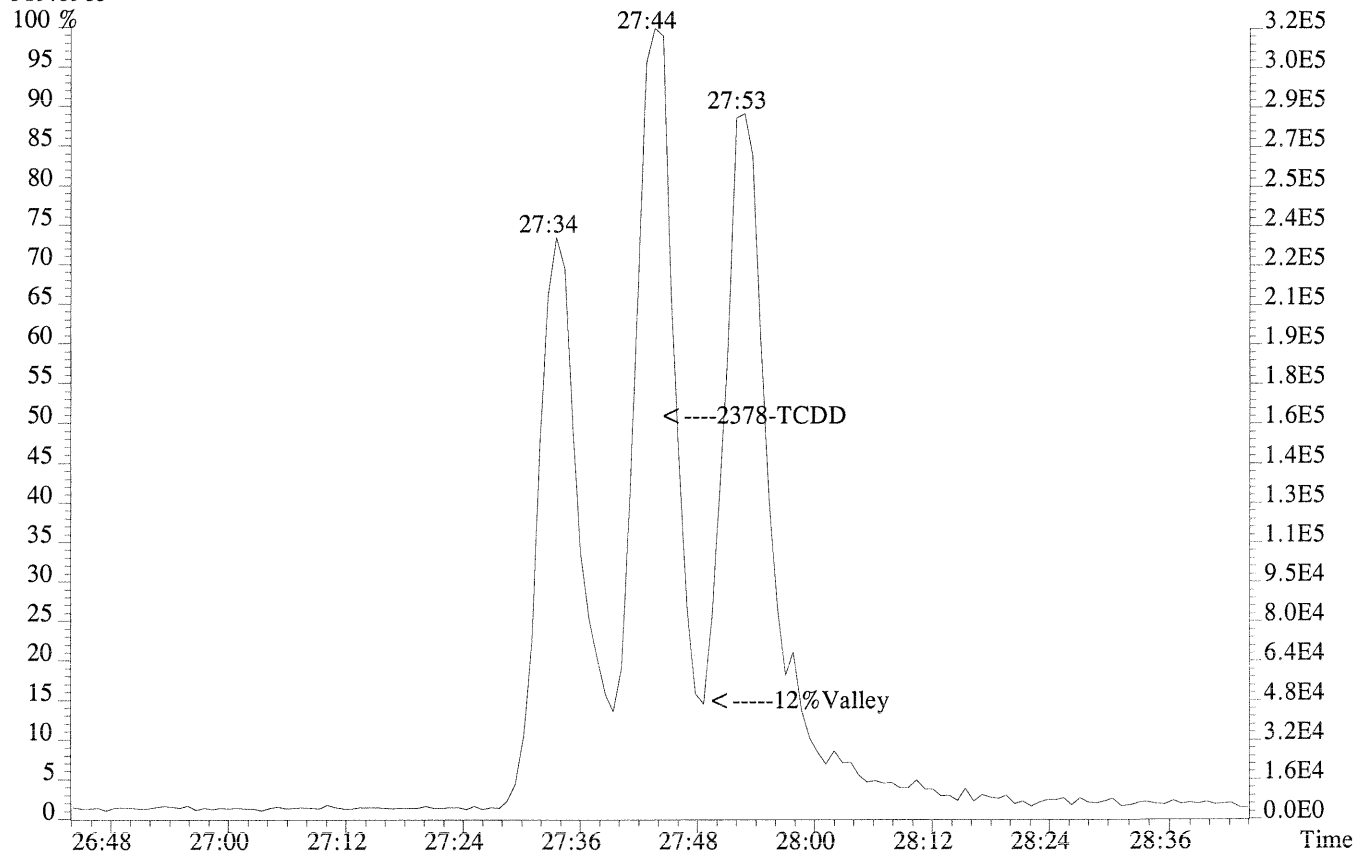
Lab Name: ALS ENVIRONMENTAL  
 Lab Code: TX01411  
 GC Column: DB-5msUI

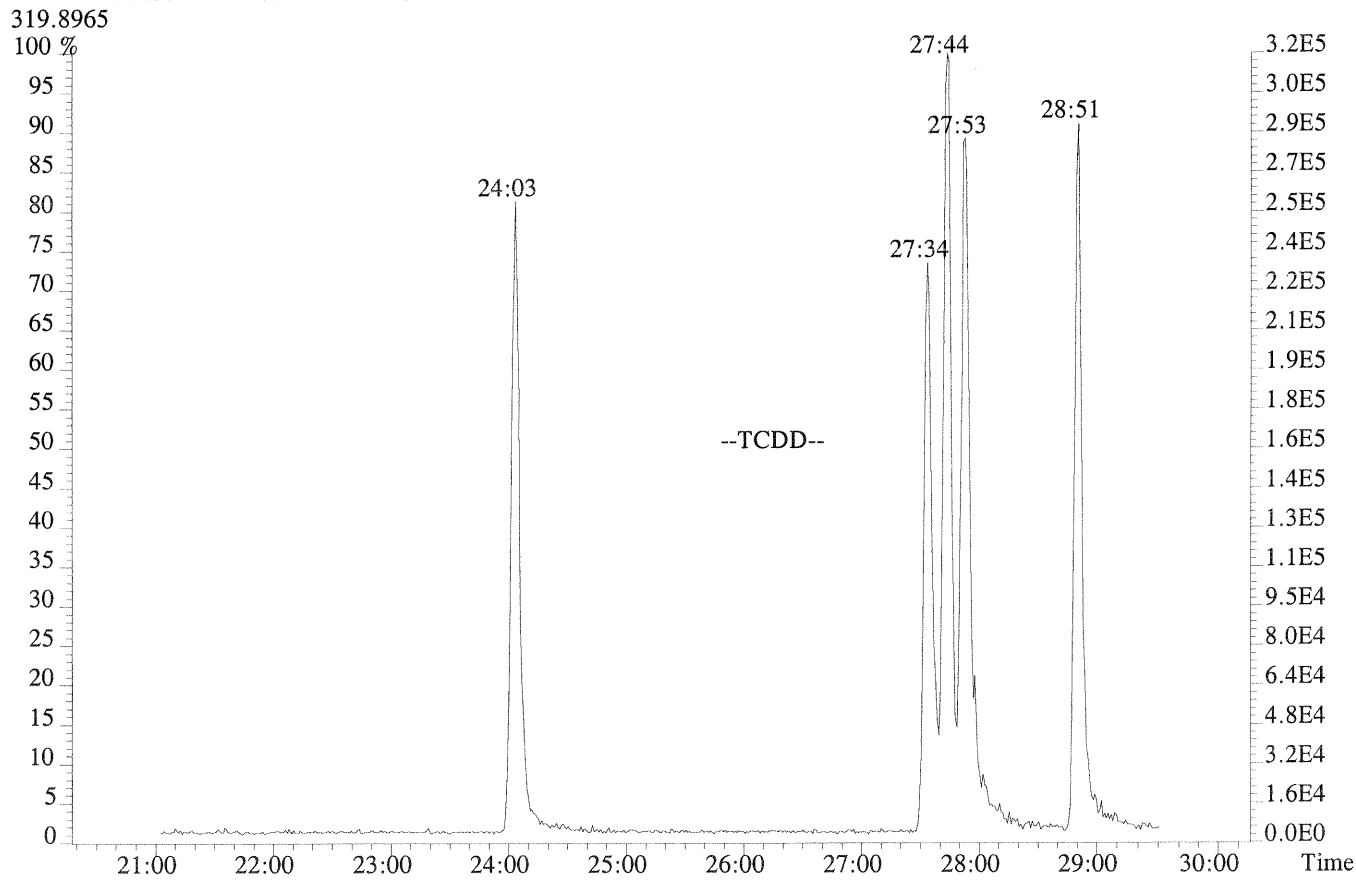
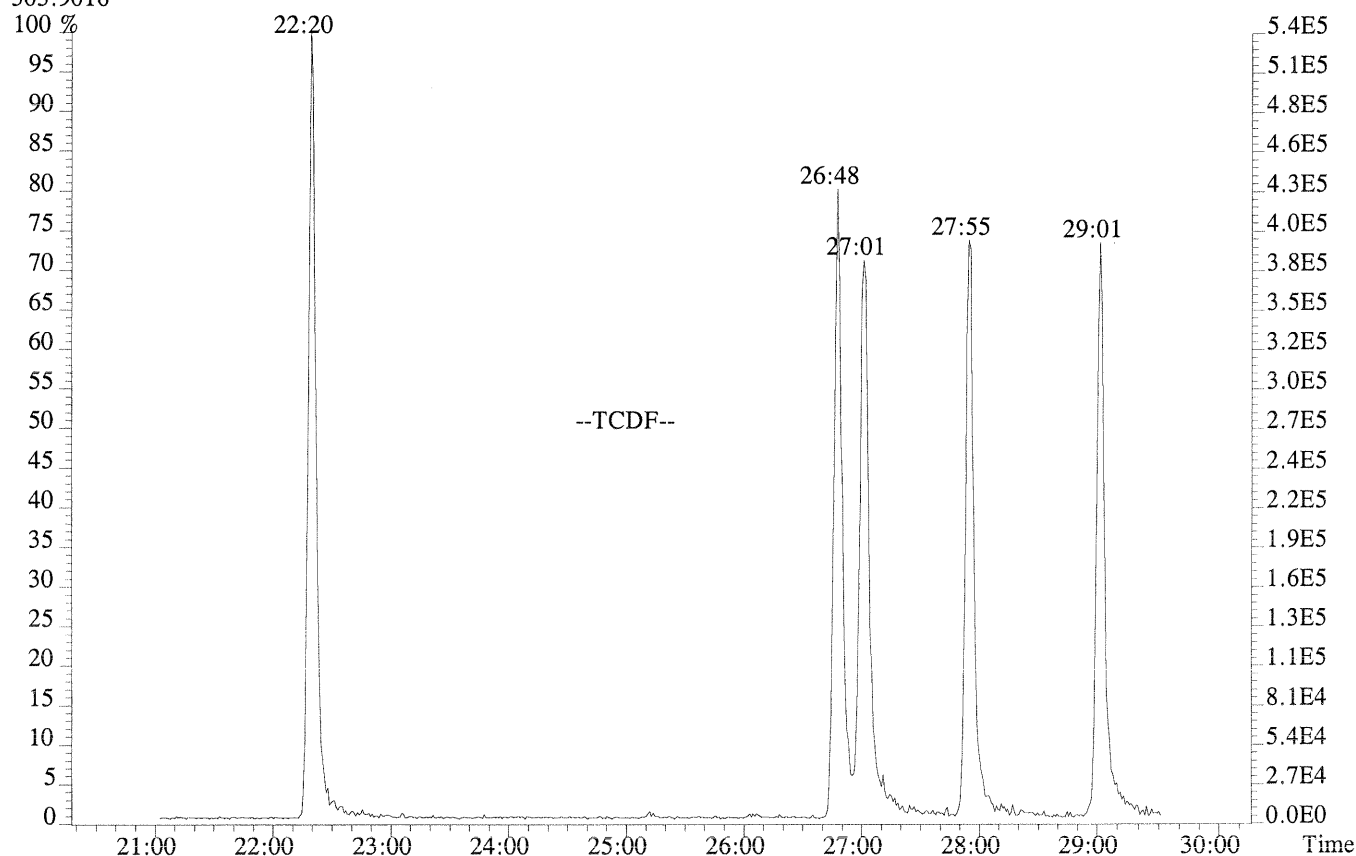
Case No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_  
 ID: 0.25 (mm) Lab File ID: U150517  
 Date Analyzed: 23-AUG-2014  
 Time Analyzed: 11:51:40

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	22:20	29:01
TCDD	24:03	28:51
PeCDF	28:56	33:29
PeCDD	30:36	33:12
HxCDF	34:08	36:43
HxCDD	34:40	36:18
HpCDF	37:57	39:20
HpCDD	38:12	38:52

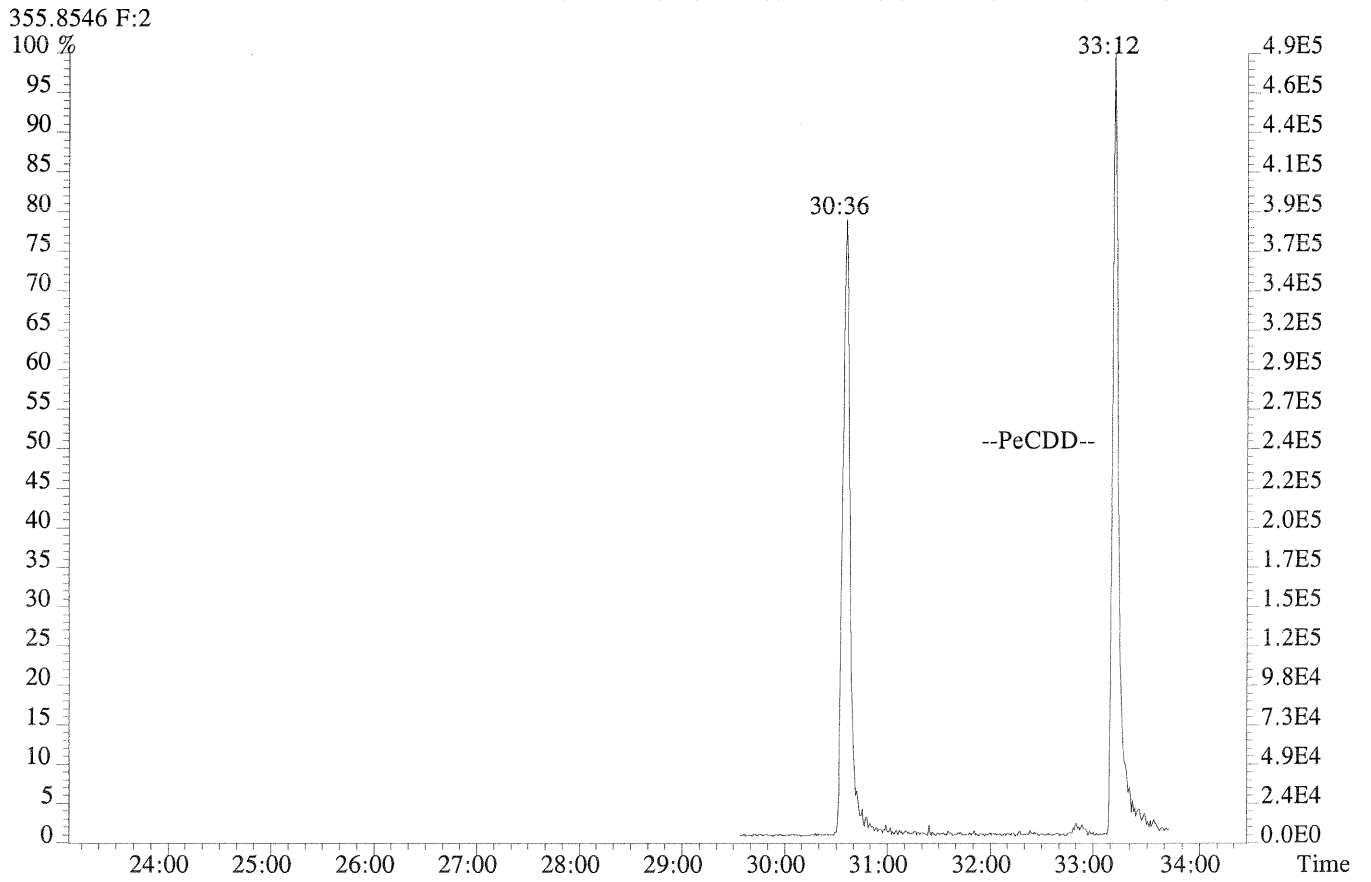
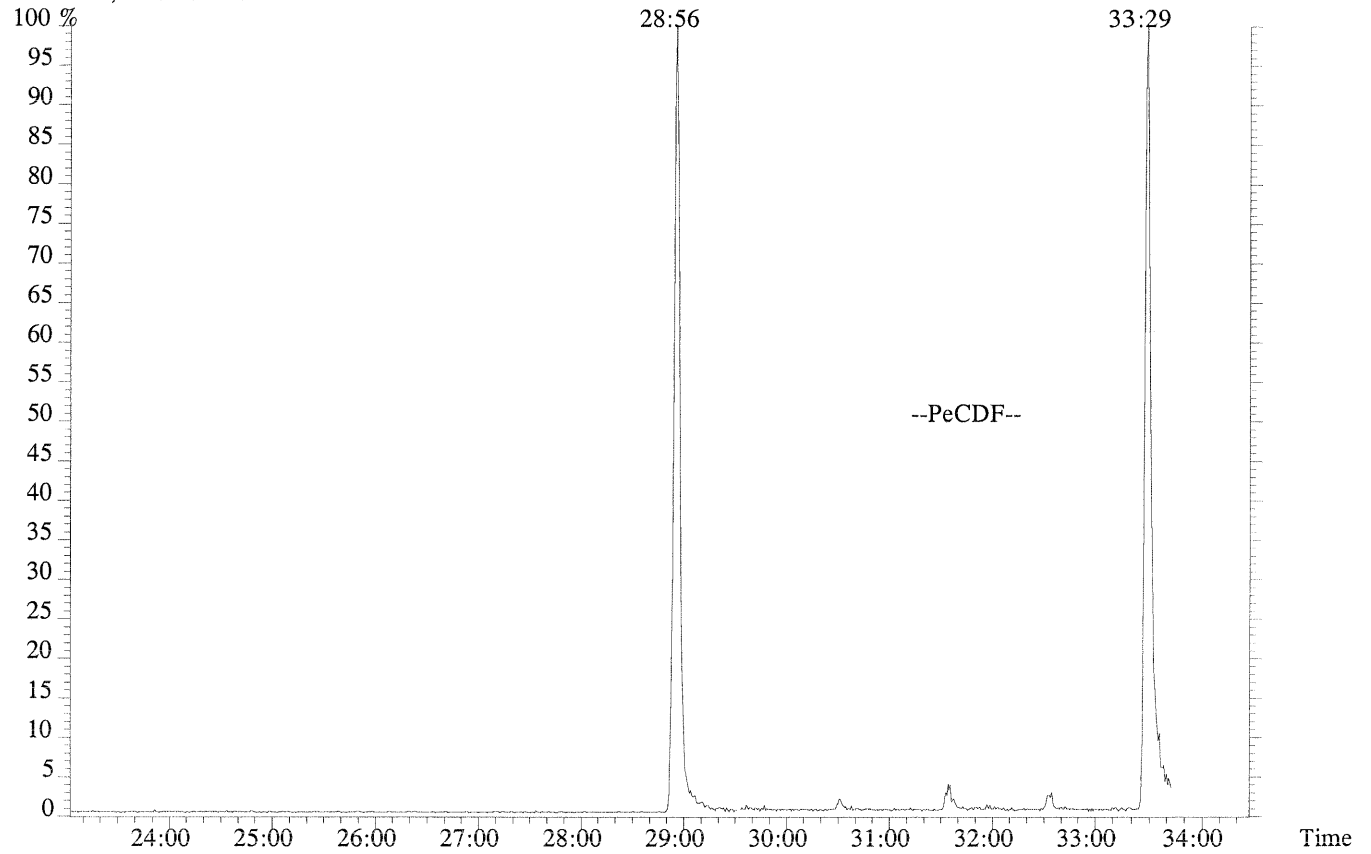
% Valley 2378-TCDD: 12 %

File:U150517 #1-608 Acq:23-AUG-2014 11:51:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965

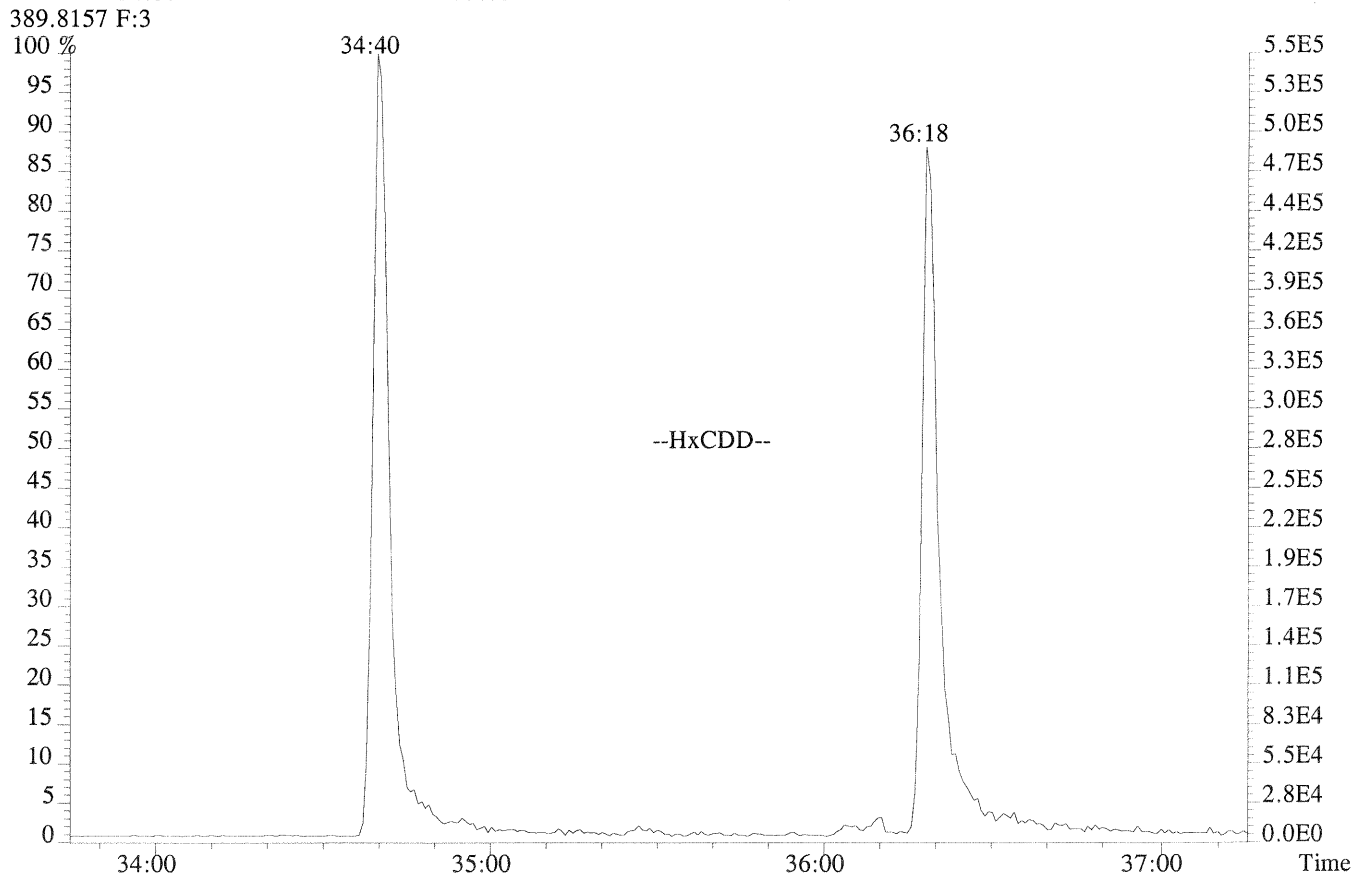
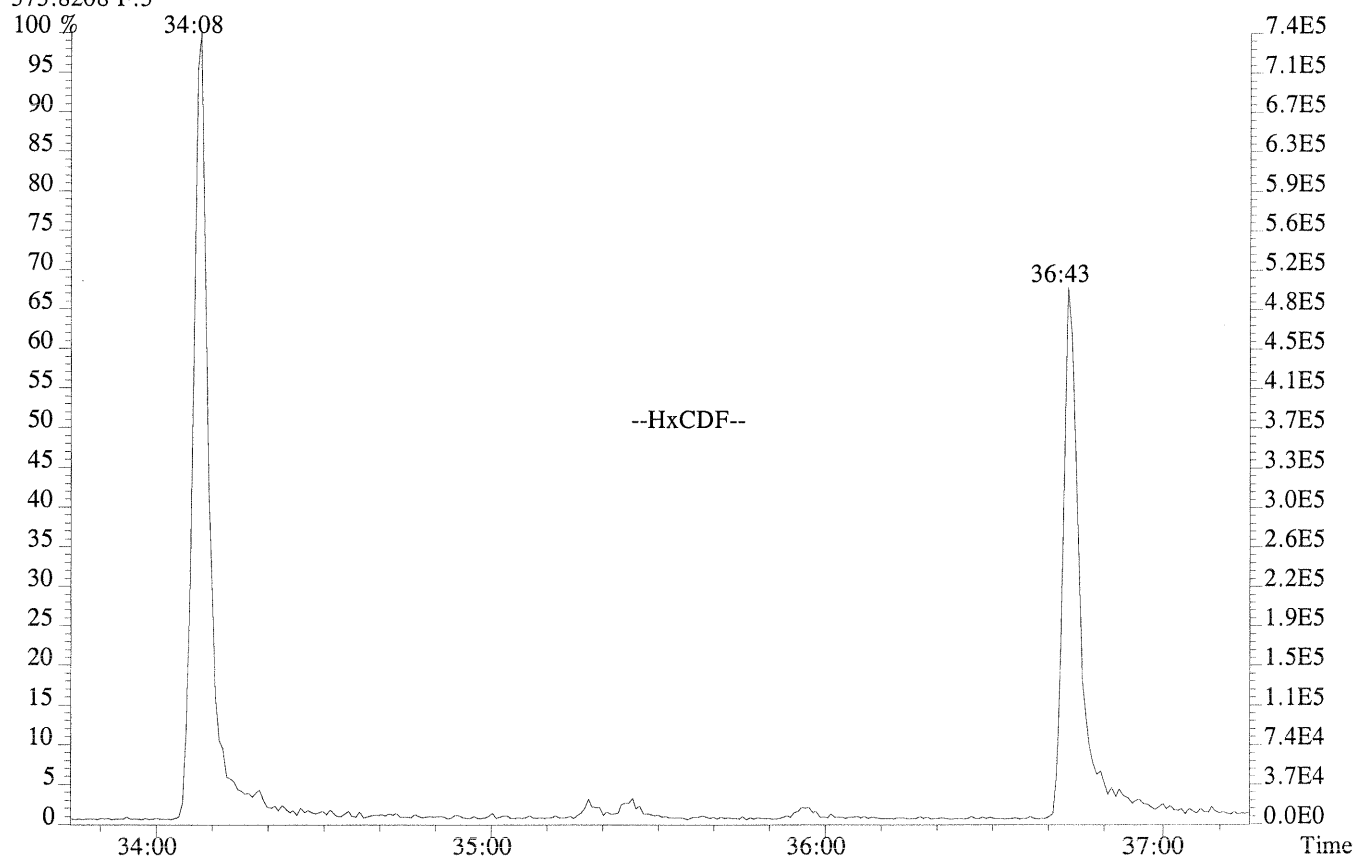




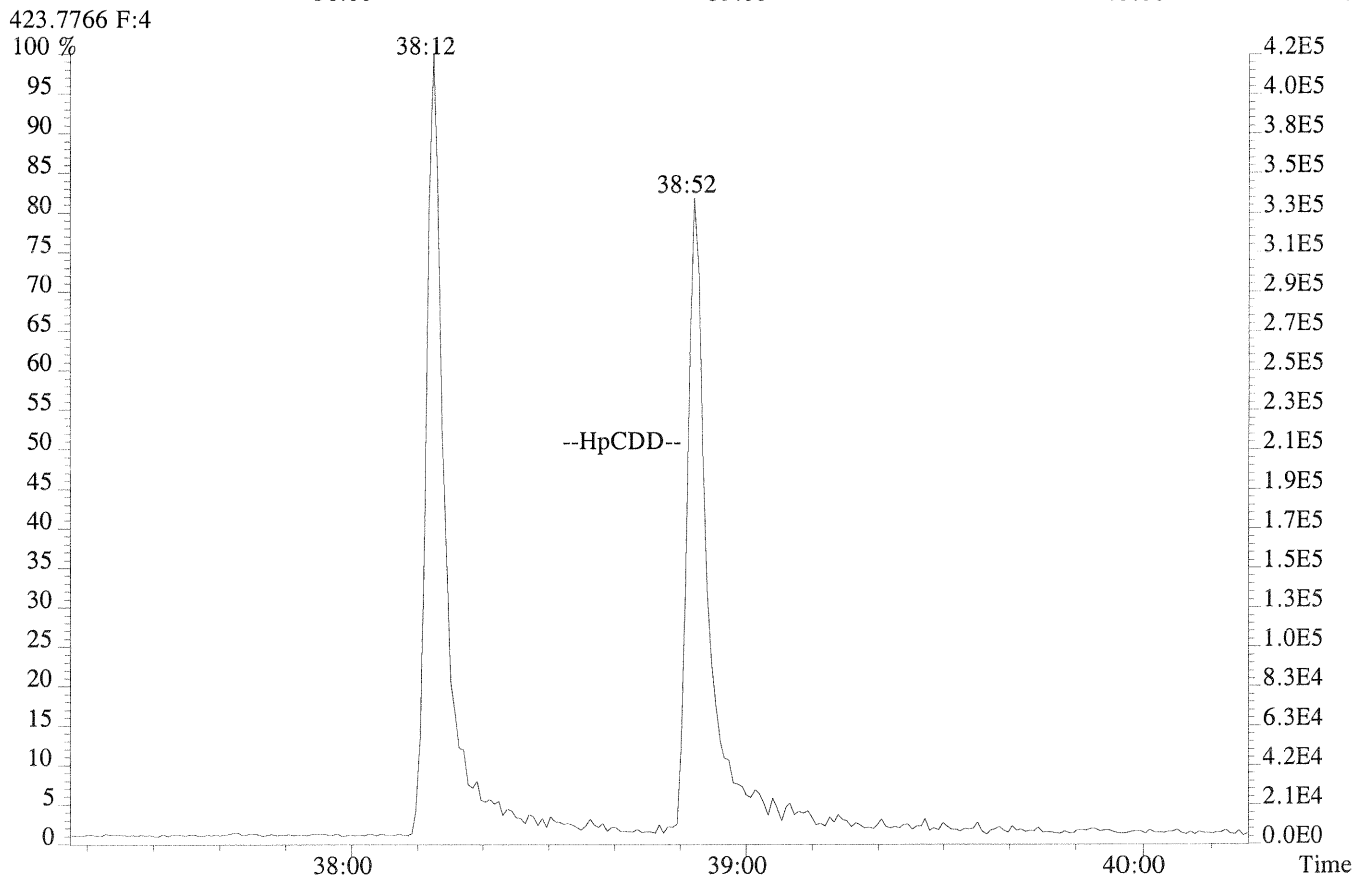
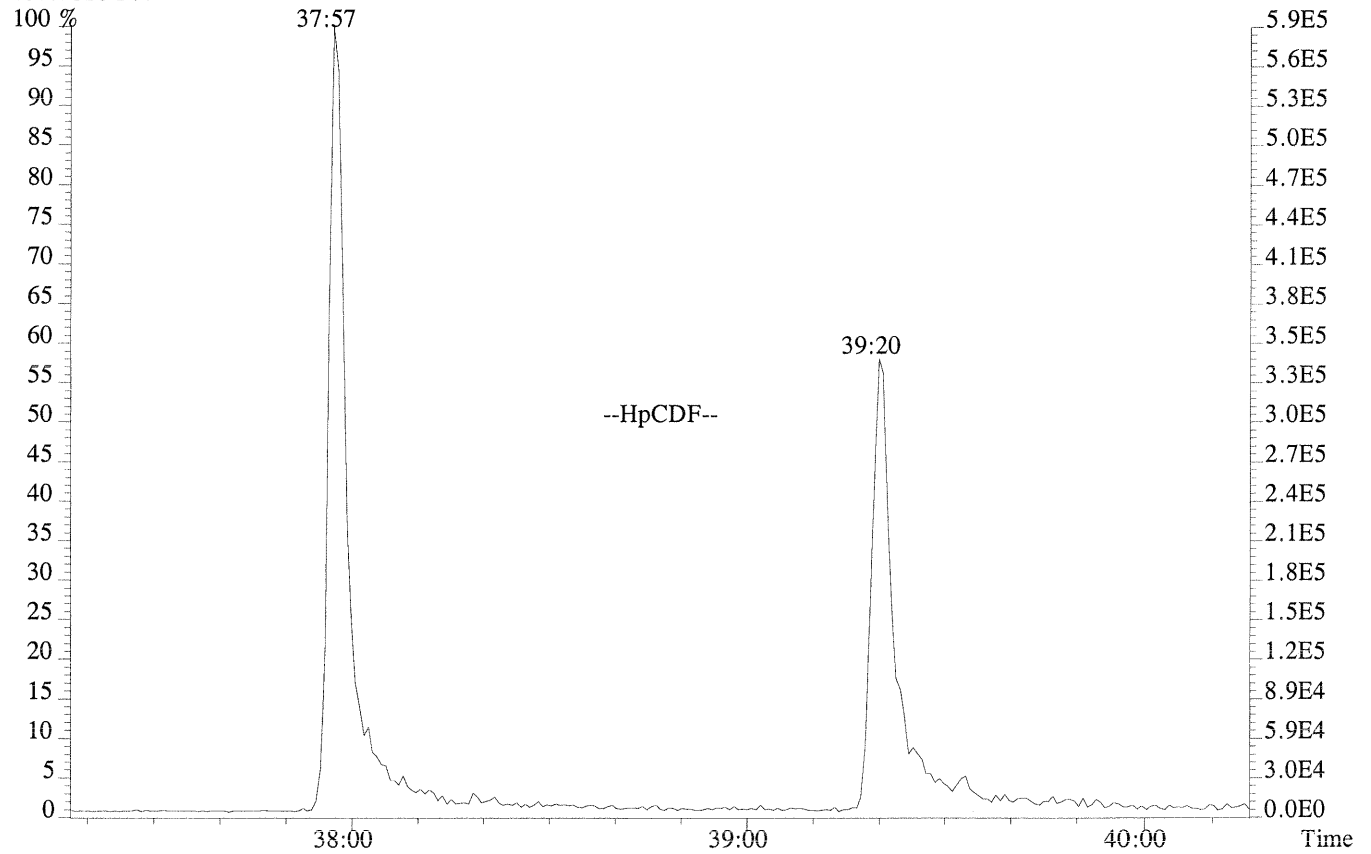
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Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:U150517 #1-319 Acq:23-AUG-2014 11:51:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:U150517 #1-270 Acq:23-AUG-2014 11:51:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150516

Analysis Date: 23-AUG-14 Time: 11:01:54

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	9.6	7.8 - 12.9	-4.5
1,2,3,7,8-PeCDD	M+2/M+4	1.76	1.32-1.78	46	39 - 65	-7.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	47	39 - 64	-6.3
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	48	39 - 64	-4.1
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	51	41 - 61	2.4
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	48	43 - 58	-4.6
OCDD	M+2/M+4	0.99	0.76-1.02	100	79 - 126	-0.3
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	9.1	8.4 - 12.0	-9.5
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	53	41 - 60	5.2
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	52	41 - 61	3.8
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	53	45 - 56	5.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	51	44 - 57	2.8
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	52	45 - 56	3.9
2,3,4,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	52	44 - 57	4.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.09	0.88-1.20	54	45 - 55	7.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	53	43 - 58	6.2
OCDF	M+2/M+4	0.87	0.76-1.02	108	63 - 159	7.5

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM



USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150516

Analysis Date: 23-AUG-14 Time: 11:01:54

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.74	0.65-0.89	99	82 - 121	-1.1
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	91	62 - 160	-8.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	81	85 - 117	-18.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	102	85 - 118	1.9
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.11	0.88-1.20	92	72 - 138	-7.7
13C-OCDD	M+2/M+4	0.91	0.76-1.02	234	96 - 415	16.8
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65-0.89	101	71 - 140	1.1
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	86	76 - 130	-14.4
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	87	77 - 130	-13.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	78	76 - 131	-21.9
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	103	70 - 143	2.5
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.49	0.43-0.59	92	74 - 135	-7.7
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	92	73 - 137	-8.3
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	96	78 - 129	-3.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	105	77 - 129	5.5
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				8.7	7.8 - 12.7	-12.8

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
- (5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Sample Response Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #7 Filename U150516 #1 Samp: 1 Inj: 1 Acquired: 23-AUG-14 11:01:54  
 Processed: 27-AUG-14 13:36:13 LAB. ID: CCAL HRCC3/CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	27:01	8.537e+02	1.089e+03	0.78	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	31:33	7.355e+03	4.918e+03	1.50	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	32:32	7.323e+03	4.600e+03	1.59	yes	no	1.001
4	Unk	1,2,3,4,7,8-HxCDF	35:17	5.066e+03	4.120e+03	1.23	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	35:23	7.780e+03	6.246e+03	1.25	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	35:55	6.452e+03	4.985e+03	1.29	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	36:41	5.052e+03	3.975e+03	1.27	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	37:57	5.663e+03	5.193e+03	1.09	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	39:19	4.200e+03	4.076e+03	1.03	yes	no	1.000
10	Unk	OCDF	41:42	6.567e+03	7.562e+03	0.87	yes	no	1.005
11	Unk	2,3,7,8-TCDD	27:52	5.530e+02	7.328e+02	0.75	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	32:48	4.639e+03	2.639e+03	1.76	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:03	3.337e+03	2.666e+03	1.25	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:08	5.098e+03	4.024e+03	1.27	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	36:23	4.946e+03	3.928e+03	1.26	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	38:51	3.102e+03	3.175e+03	0.98	yes	no	1.000
17	Unk	OCDD	41:30	5.919e+03	5.959e+03	0.99	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	26:59	9.158e+03	1.115e+04	0.82	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	31:32	1.406e+04	8.810e+03	1.60	yes	no	1.160
20	IS	13C-2,3,4,7,8-PeCDF	32:30	1.430e+04	9.174e+03	1.56	yes	no	1.196
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	4.822e+03	9.313e+03	0.52	yes	no	0.970
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	8.115e+03	1.562e+04	0.52	yes	no	0.973
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	6.575e+03	1.234e+04	0.53	yes	no	0.987
24	IS	13C-1,2,3,7,8,9-HxCDF	36:41	4.868e+03	9.852e+03	0.49	yes	no	1.008
25	IS13C-1,2,3,4,6,7,8-HpCDF	37:56	4.511e+03	1.035e+04	0.44	yes	no	1.043	
26	IS13C-1,2,3,4,7,8,9-HpCDF	39:18	3.570e+03	8.262e+03	0.43	yes	no	1.081	
27	IS	13C-2,3,7,8-TCDD	27:51	5.901e+03	7.949e+03	0.74	yes	no	1.025
28	IS	13C-1,2,3,7,8-PeCDD	32:48	8.602e+03	5.440e+03	1.58	yes	no	1.206
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	5.447e+03	4.193e+03	1.30	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	8.599e+03	6.613e+03	1.30	yes	no	0.993
31	IS13C-1,2,3,4,6,7,8-HpCDD	38:51	6.296e+03	5.651e+03	1.11	yes	no	1.068	
32	IS	13C-OCDD	41:30	8.561e+03	9.368e+03	0.91	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	27:11	6.225e+03	8.066e+03	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	8.760e+03	6.557e+03	1.34	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	27:52	1.191e+03				no	1.025

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #7    Filename U150516    Samp: 1    Inj: 1    Acquired: 23-AUG-14 11:01:54  
 Processed: 27-AUG-14 13:36:131    LAB. ID: CCAL HRCC3/CS3

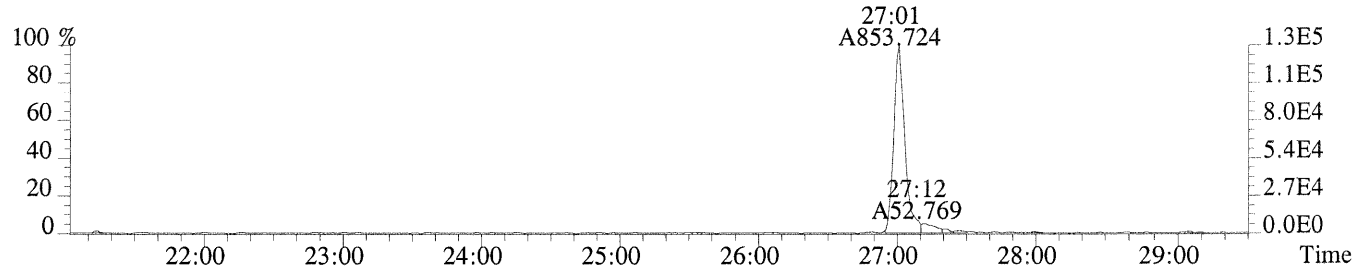
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.33e+05	6.56e+02	2.0e+02	1.48e+05	1.60e+03	9.3e+01
2	1,2,3,7,8-PeCDF	1.01e+06	8.56e+02	1.2e+03	6.62e+05	8.92e+02	7.4e+02
3	2,3,4,7,8-PeCDF	1.04e+06	8.56e+02	1.2e+03	6.57e+05	8.92e+02	7.4e+02
4	1,2,3,4,7,8-HxCDF	9.52e+05	1.43e+03	6.7e+02	7.67e+05	1.34e+03	5.7e+02
5	1,2,3,6,7,8-HxCDF	1.09e+06	1.43e+03	7.6e+02	8.75e+05	1.34e+03	6.5e+02
6	2,3,4,6,7,8-HxCDF	9.58e+05	1.43e+03	6.7e+02	7.56e+05	1.34e+03	5.7e+02
7	1,2,3,7,8,9-HxCDF	7.13e+05	1.43e+03	5.0e+02	5.83e+05	1.34e+03	4.4e+02
8	1,2,3,4,6,7,8-HpCDF	8.77e+05	3.70e+03	2.4e+02	8.16e+05	5.08e+03	1.6e+02
9	1,2,3,4,7,8,9-HpCDF	5.71e+05	3.70e+03	1.5e+02	5.30e+05	5.08e+03	1.0e+02
10	OCDF	8.41e+05	5.16e+02	1.6e+03	9.55e+05	1.14e+03	8.4e+02
11	2,3,7,8-TCDD	8.01e+04	8.04e+02	1.0e+02	1.01e+05	8.16e+02	1.2e+02
12	1,2,3,7,8-PeCDD	6.35e+05	1.10e+03	5.8e+02	3.69e+05	7.08e+02	5.2e+02
13	1,2,3,4,7,8-HxCDD	6.79e+05	1.72e+03	3.9e+02	5.39e+05	1.38e+03	3.9e+02
14	1,2,3,6,7,8-HxCDD	7.28e+05	1.72e+03	4.2e+02	5.68e+05	1.38e+03	4.1e+02
15	1,2,3,7,8,9-HxCDD	6.39e+05	1.72e+03	3.7e+02	5.02e+05	1.38e+03	3.7e+02
16	1,2,3,4,6,7,8-HpCDD	4.63e+05	3.66e+03	1.3e+02	4.37e+05	4.02e+03	1.1e+02
17	OCDD	7.05e+05	6.44e+02	1.1e+03	8.22e+05	9.56e+02	8.6e+02
18	13C-2,3,7,8-TCDF	1.26e+06	7.56e+02	1.7e+03	1.52e+06	9.40e+02	1.6e+03
19	13C-1,2,3,7,8-PeCDF	1.92e+06	7.04e+02	2.7e+03	1.21e+06	9.04e+02	1.3e+03
20	13C-2,3,4,7,8-PeCDF	2.13e+06	7.04e+02	3.0e+03	1.33e+06	9.04e+02	1.5e+03
21	13C-1,2,3,4,7,8-HxCDF	9.15e+05	1.02e+03	8.9e+02	1.73e+06	1.70e+03	1.0e+03
22	13C-1,2,3,6,7,8-HxCDF	1.11e+06	1.02e+03	1.1e+03	2.18e+06	1.70e+03	1.3e+03
23	13C-2,3,4,6,7,8-HxCDF	9.90e+05	1.02e+03	9.7e+02	1.96e+06	1.70e+03	1.2e+03
24	13C-1,2,3,7,8,9-HxCDF	6.98e+05	1.02e+03	6.8e+02	1.40e+06	1.70e+03	8.2e+02
25	13C-1,2,3,4,6,7,8-HpCDF	7.13e+05	1.24e+03	5.7e+02	1.61e+06	5.12e+03	3.1e+02
26	13C-1,2,3,4,7,8,9-HpCDF	4.96e+05	1.24e+03	4.0e+02	1.13e+06	5.12e+03	2.2e+02
27	13C-2,3,7,8-TCDD	8.44e+05	2.06e+03	4.1e+02	1.10e+06	7.20e+02	1.5e+03
28	13C-1,2,3,7,8-PeCDD	1.17e+06	7.60e+02	1.5e+03	7.24e+05	6.80e+02	1.1e+03
29	13C-1,2,3,4,7,8-HxCDD	1.10e+06	7.08e+02	1.6e+03	8.45e+05	1.12e+03	7.6e+02
30	13C-1,2,3,6,7,8-HxCDD	1.23e+06	7.08e+02	1.7e+03	9.43e+05	1.12e+03	8.5e+02
31	13C-1,2,3,4,6,7,8-HpCDD	8.76e+05	1.04e+03	8.4e+02	8.17e+05	9.48e+02	8.6e+02
32	13C-OCDD	1.08e+06	6.80e+02	1.6e+03	1.22e+06	1.06e+03	1.1e+03
33	13C-1,2,3,4-TCDD	9.66e+05	2.06e+03	4.7e+02	1.26e+06	7.20e+02	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.08e+06	7.08e+02	1.5e+03	8.41e+05	1.12e+03	7.5e+02
35	37Cl-2,3,7,8-TCDD	1.79e+05	7.60e+02	2.4e+02			

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 10450 Stancliff Rd., Suite 115  
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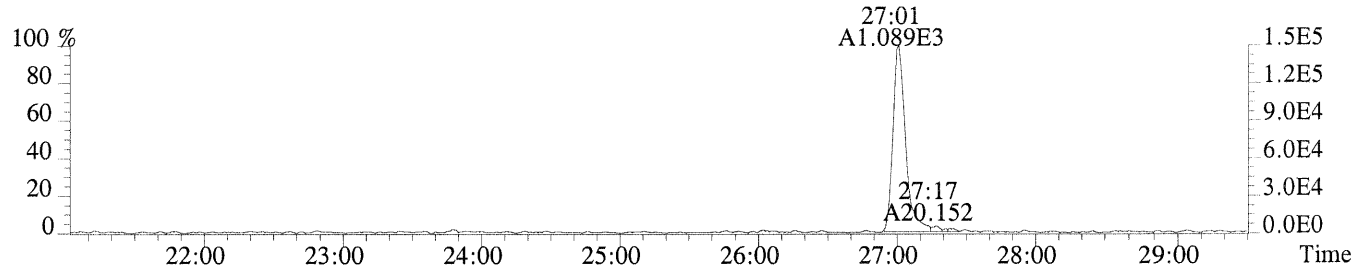
XLSN

Sample#1 Exp:CS3

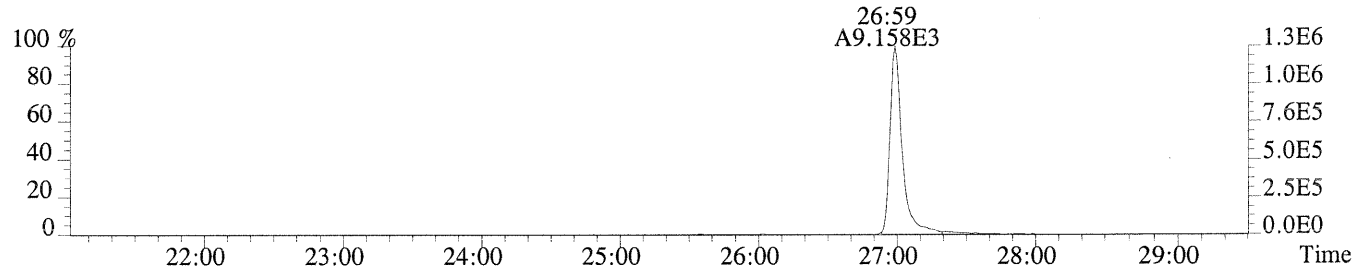
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



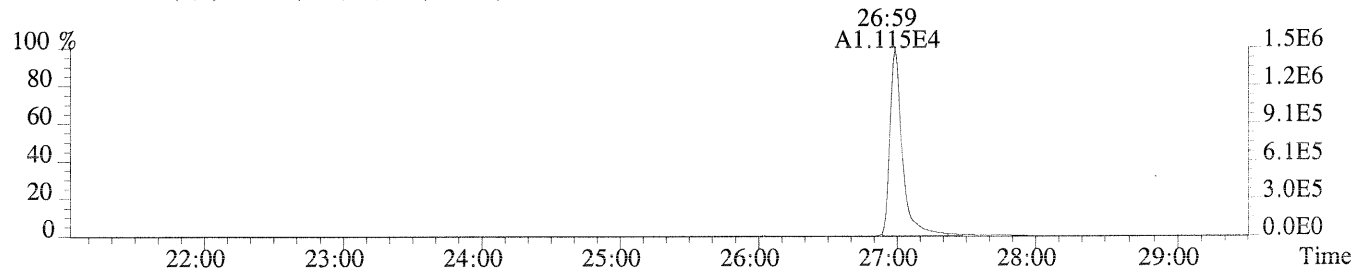
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)



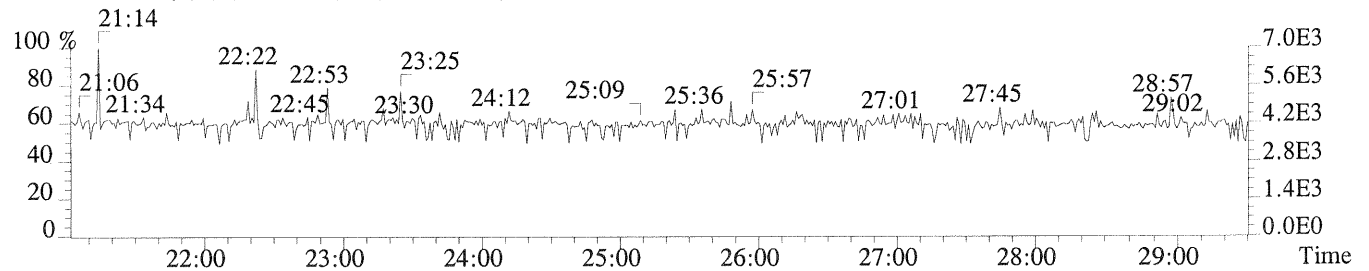
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



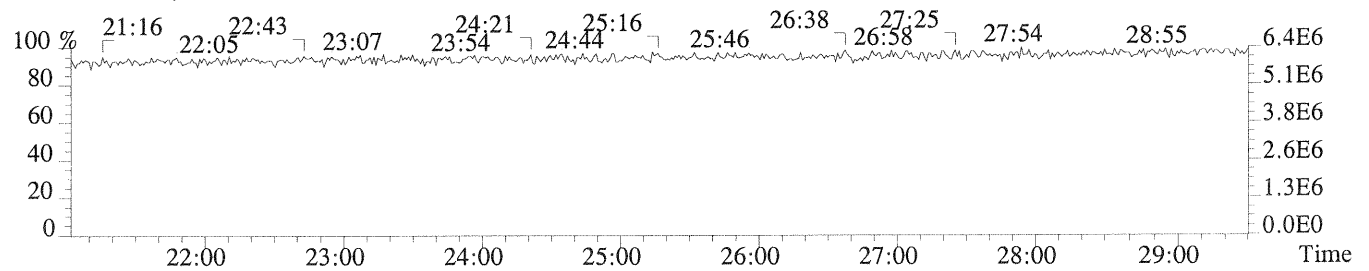
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



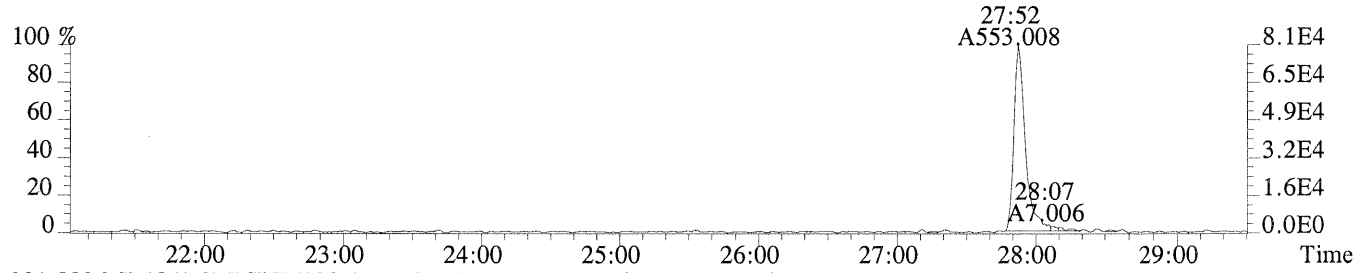
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



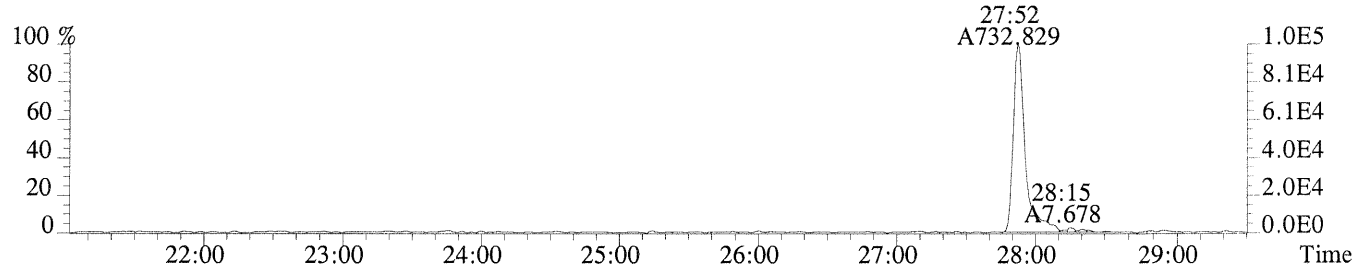
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



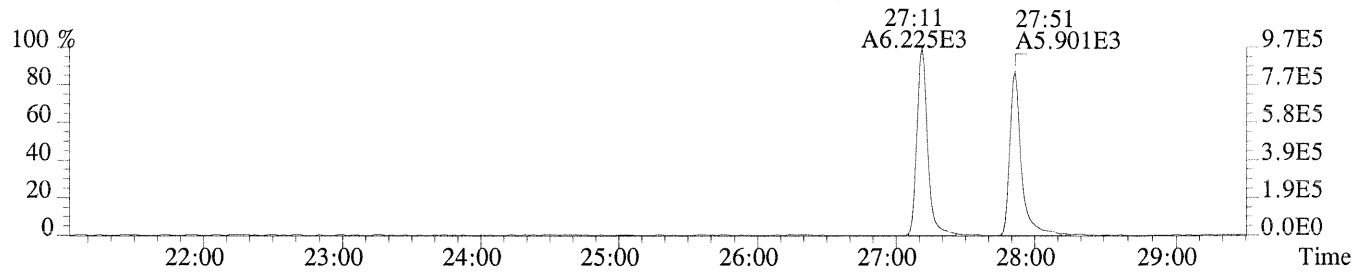
File:U150516 #1-607 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



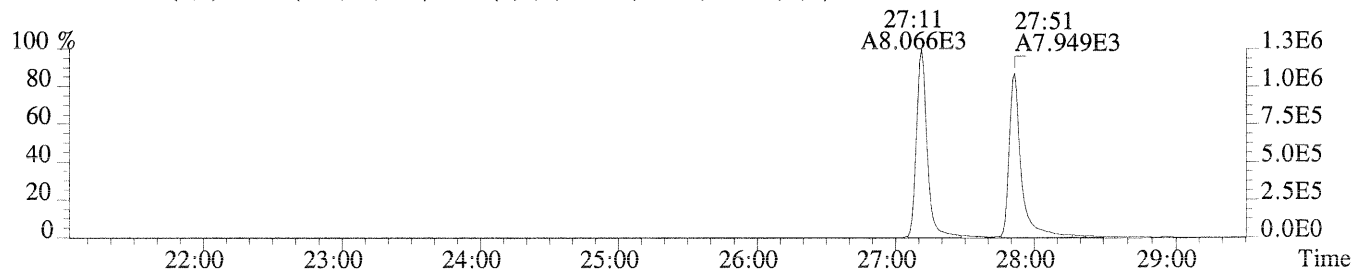
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



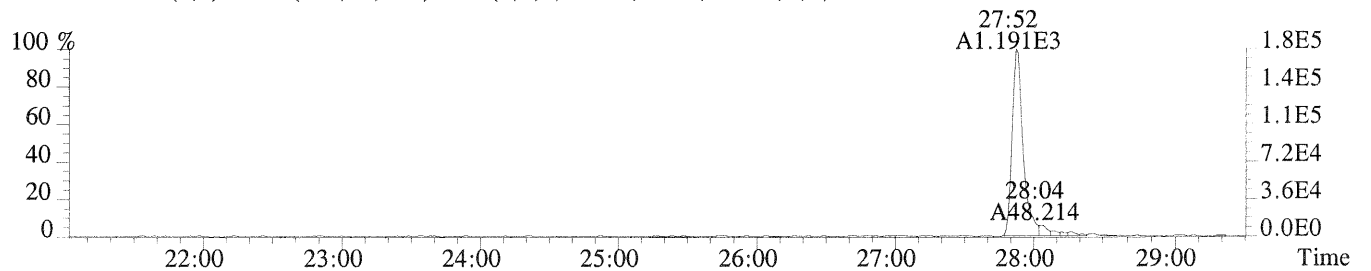
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2056.0,1.00%,F,T)



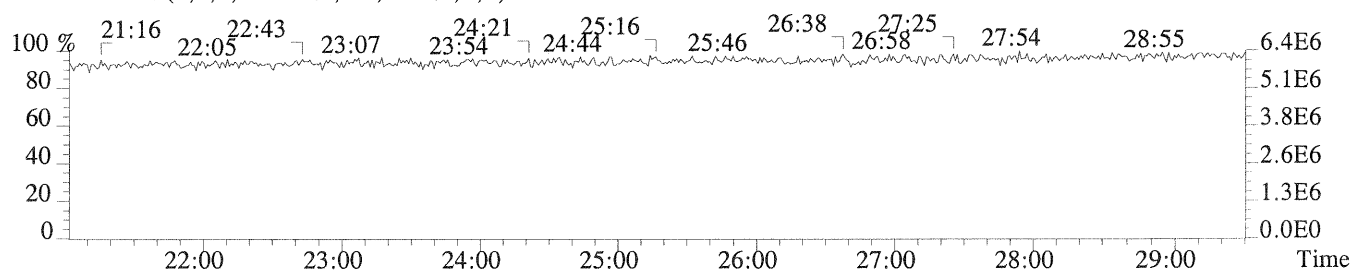
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)

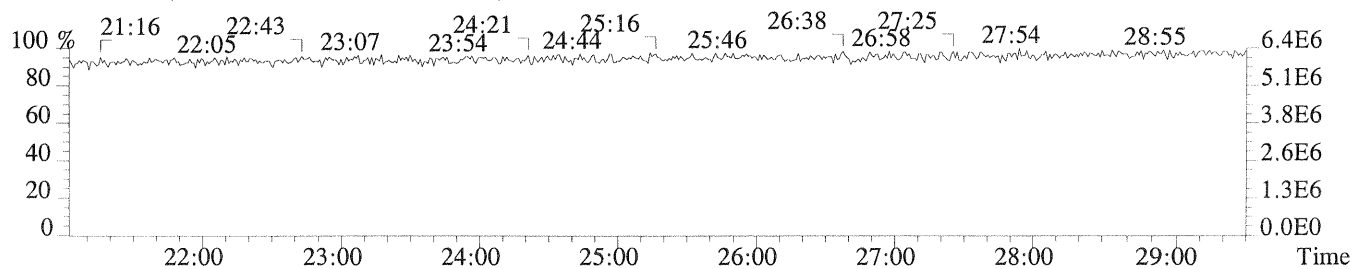
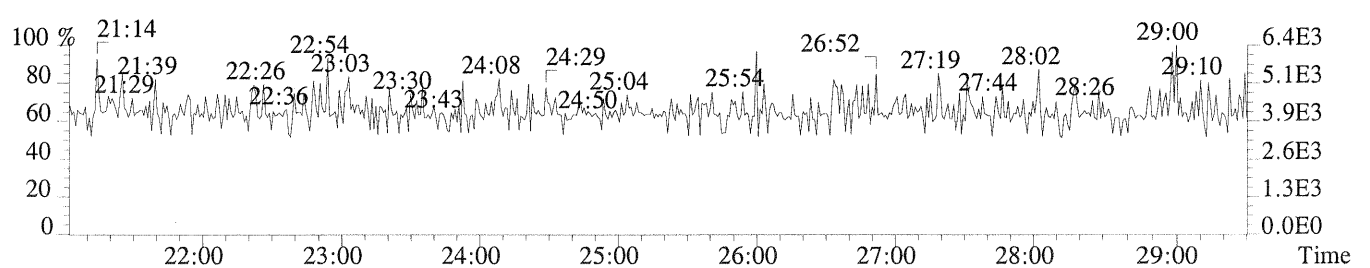
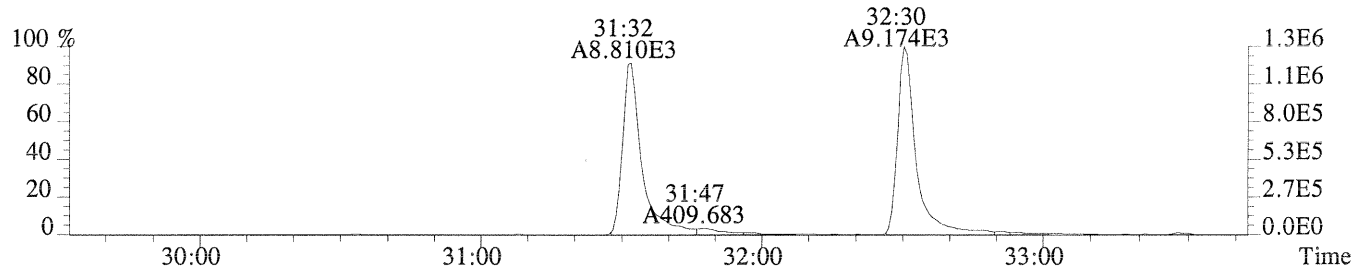
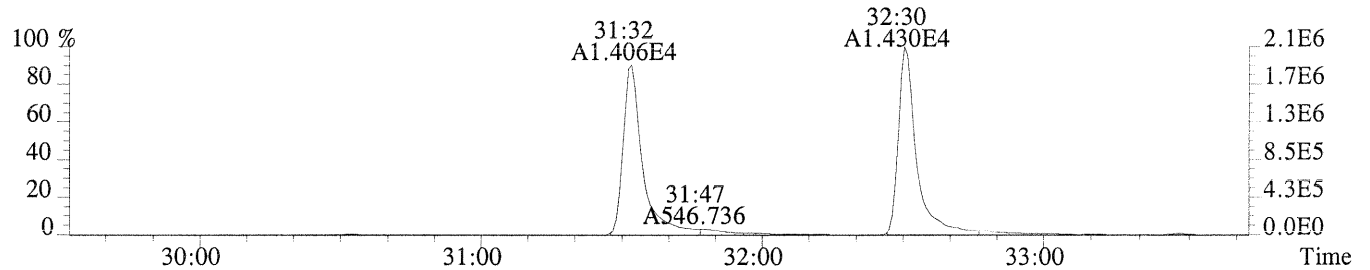
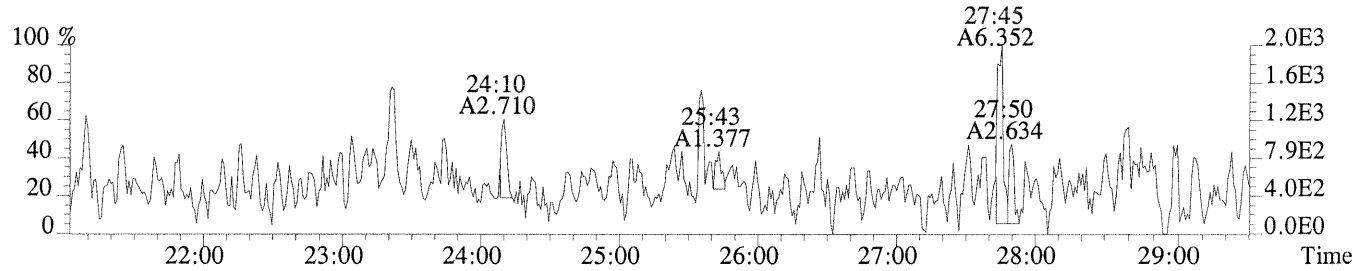
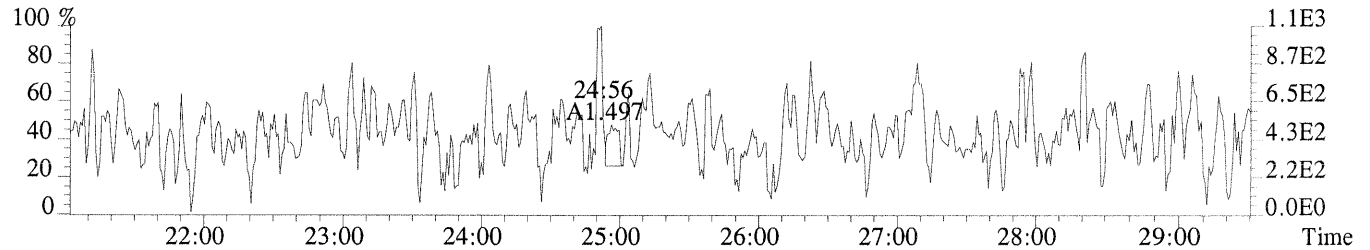


327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,760.0,1.00%,F,T)



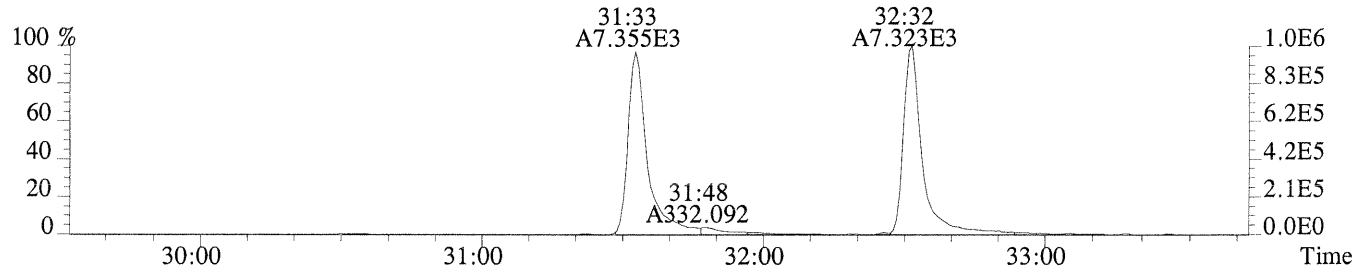
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



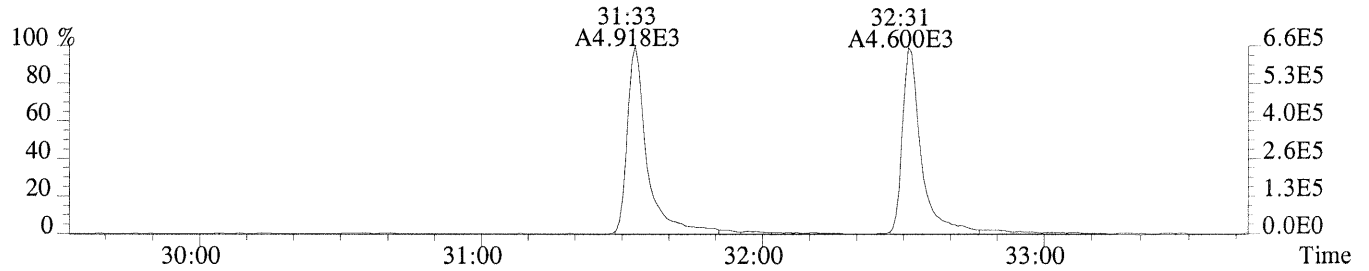


Sample#1 Exp:CS3

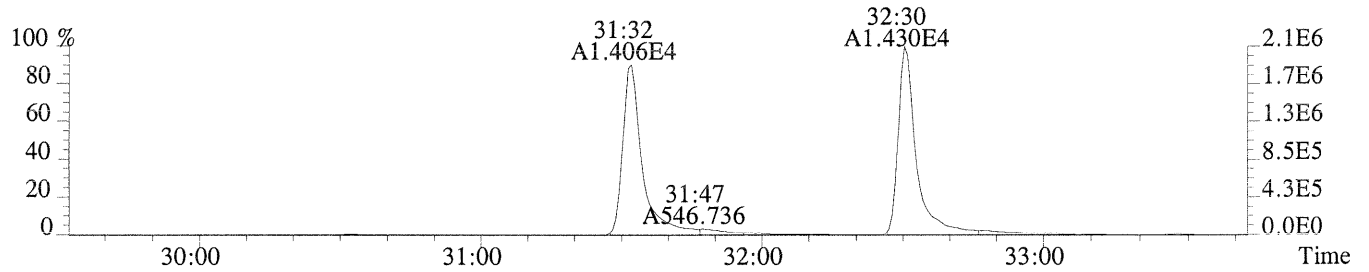
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



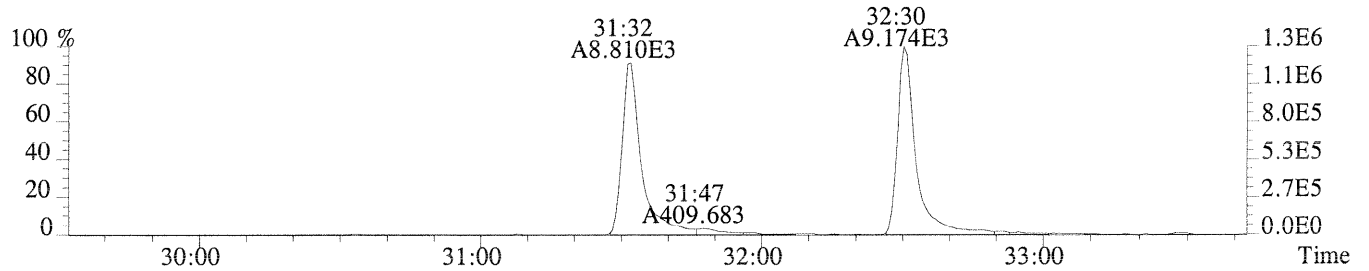
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



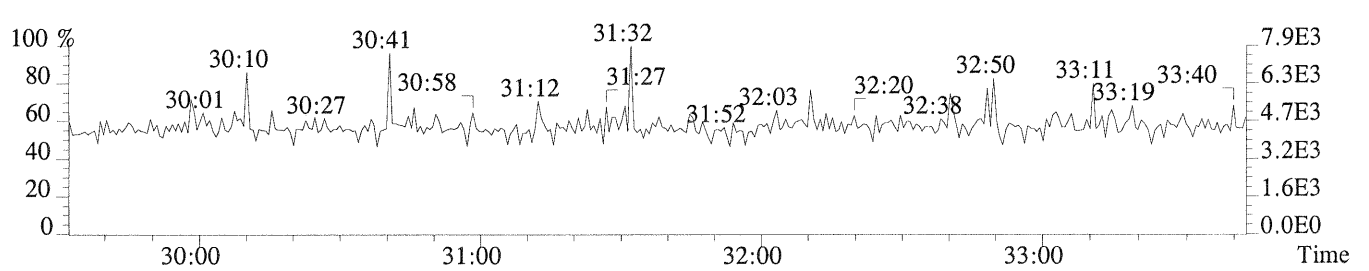
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



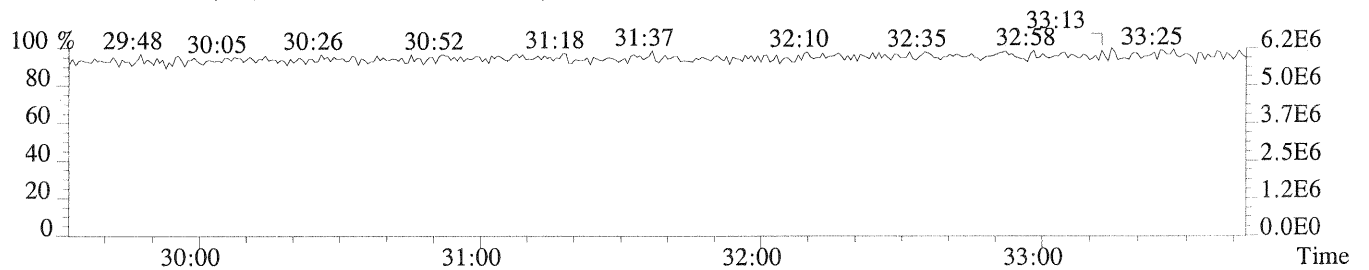
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

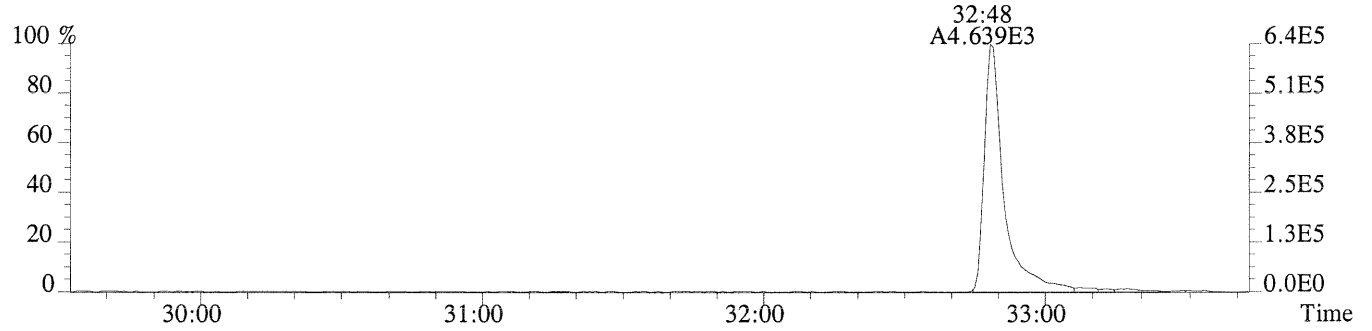


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

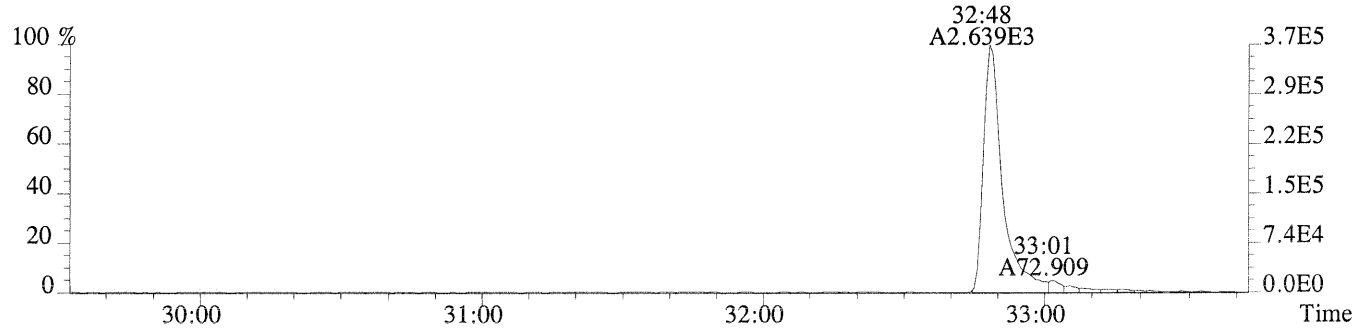


Sample#1 Exp:CS3

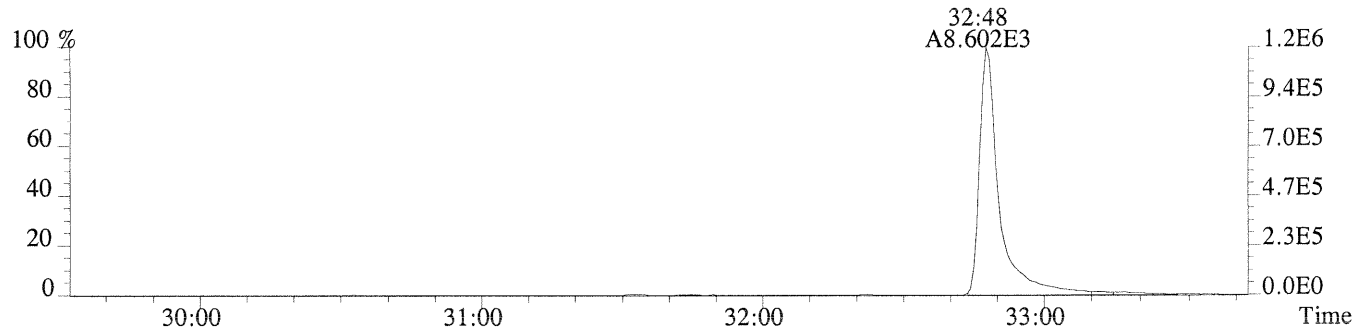
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,T)



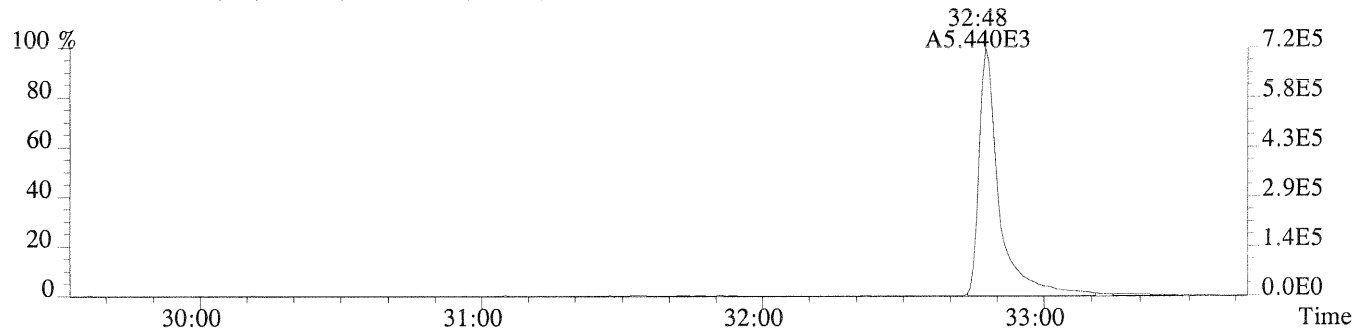
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



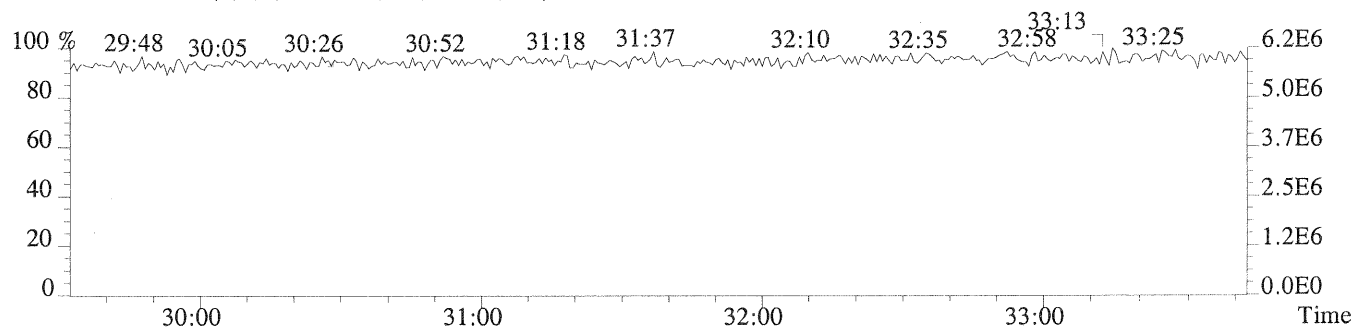
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,760.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)

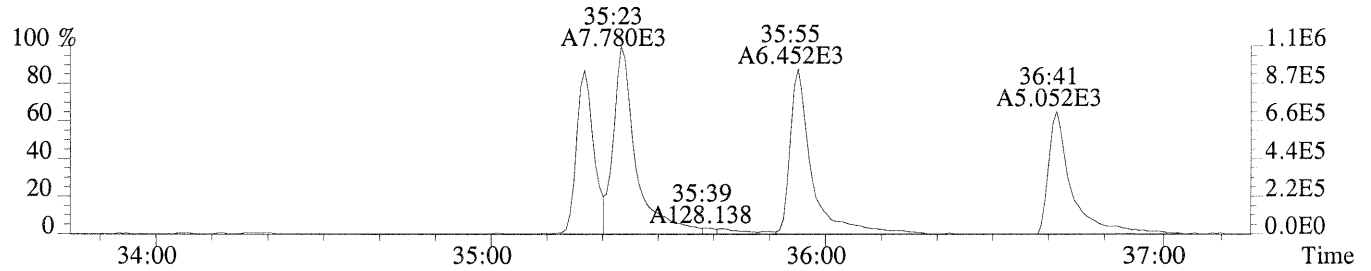


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

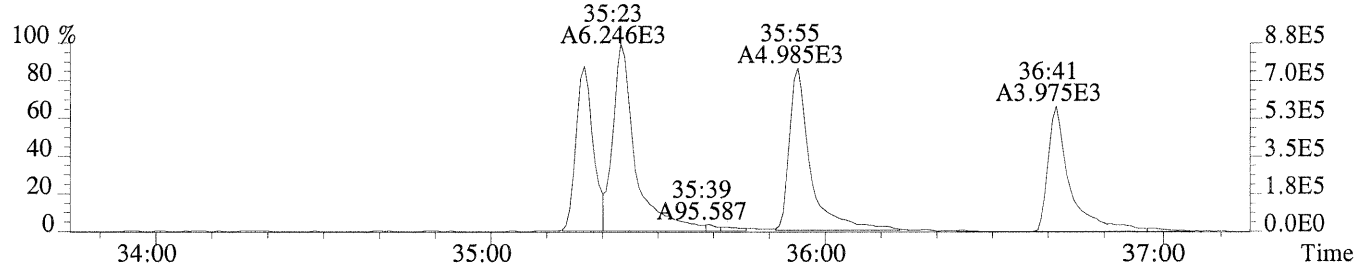




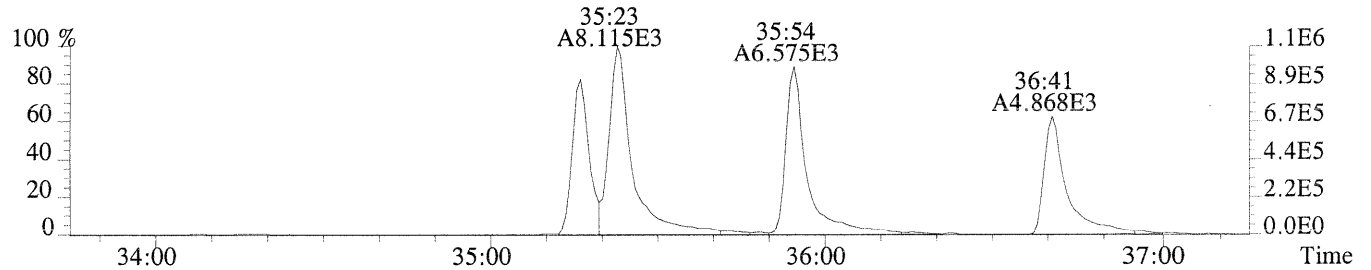
File:U150516 #1-319 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)



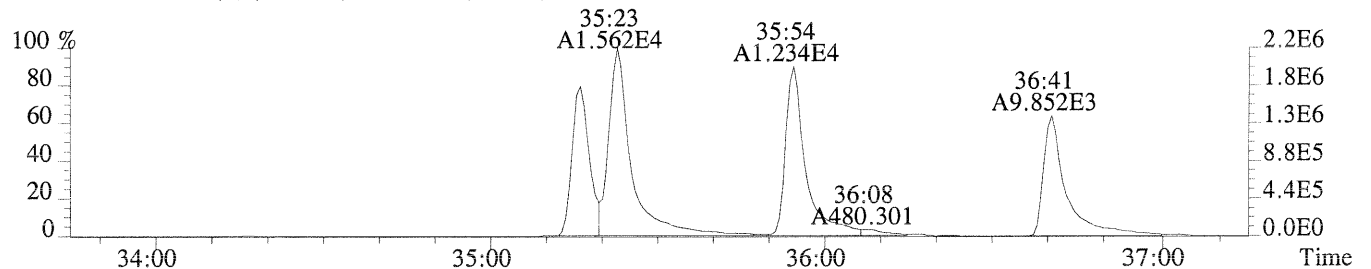
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



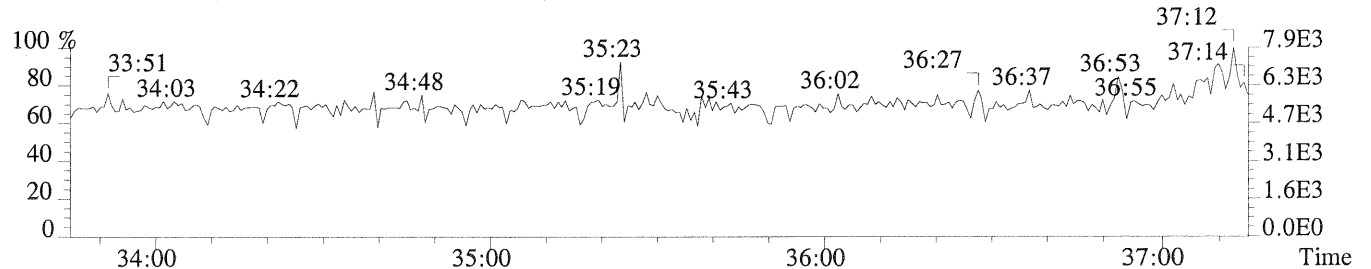
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1024.0,0.40%,F,T)



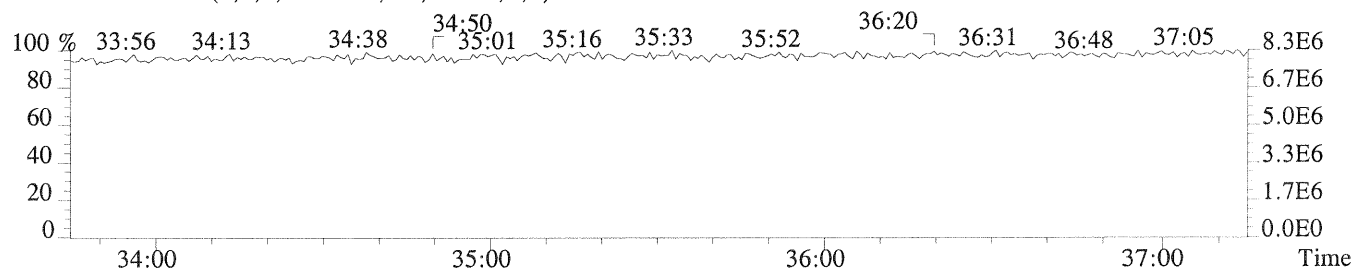
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.40%,F,T)



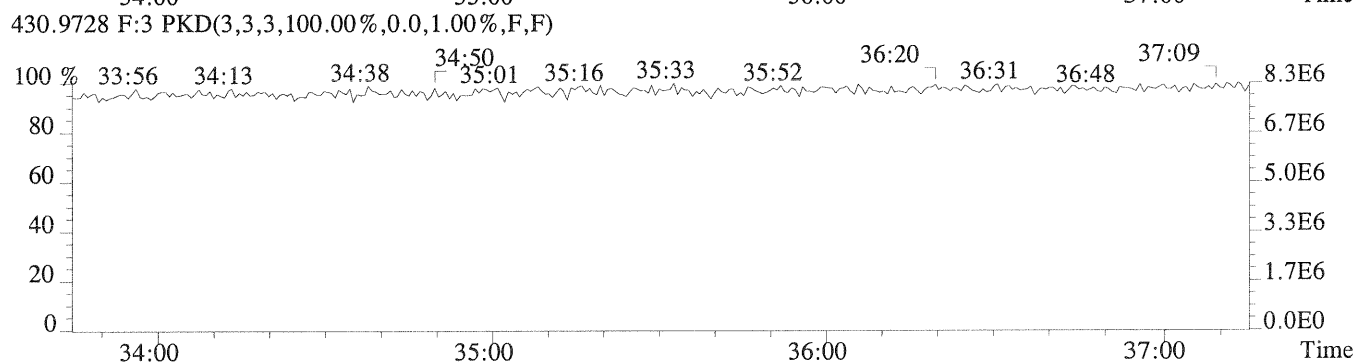
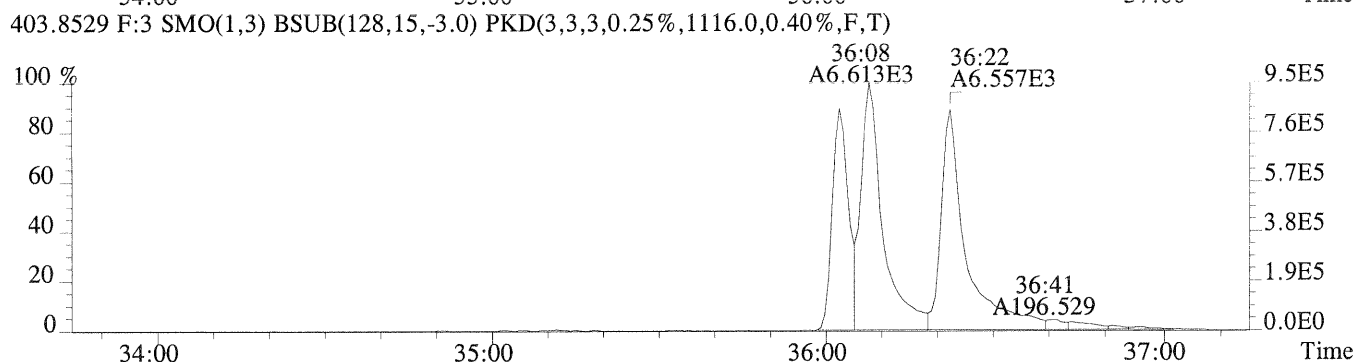
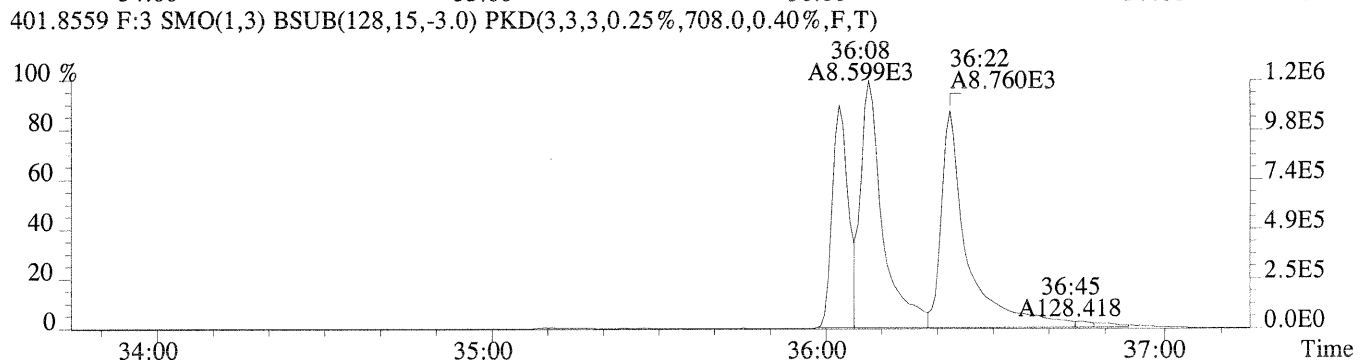
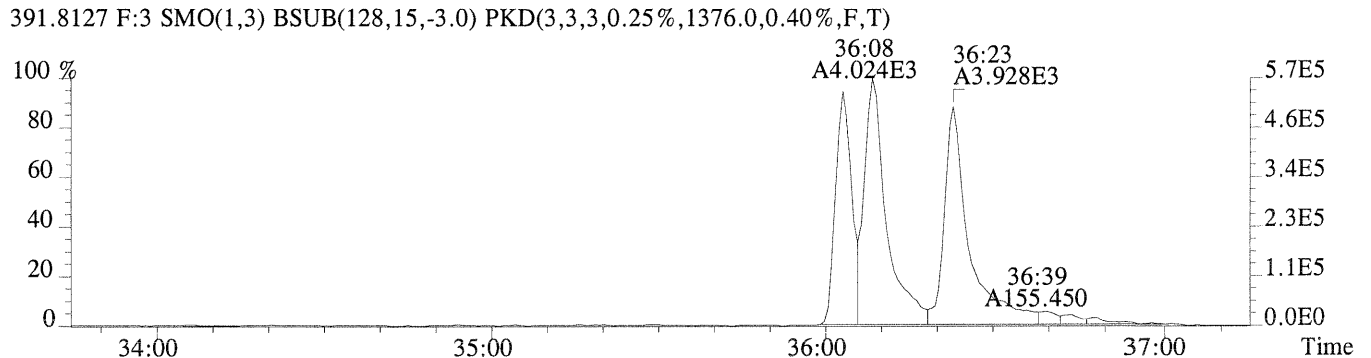
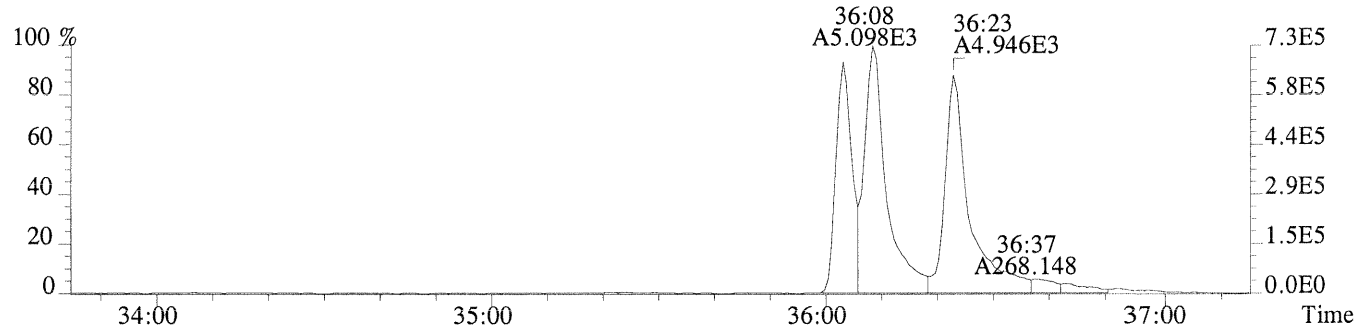
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

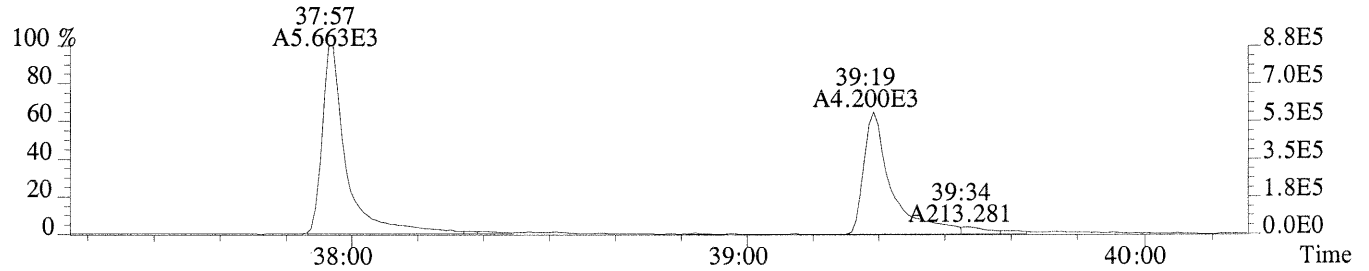


File:U150516 #1-319 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1724.0,0.40%,F,T)

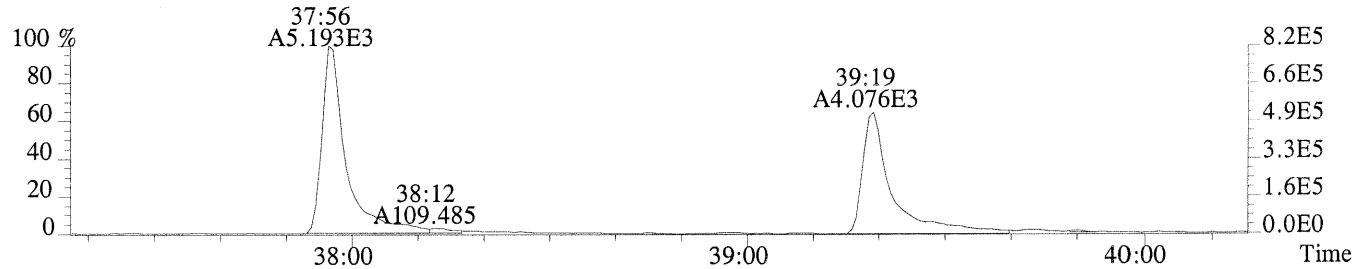


Sample#1 Exp:CS3

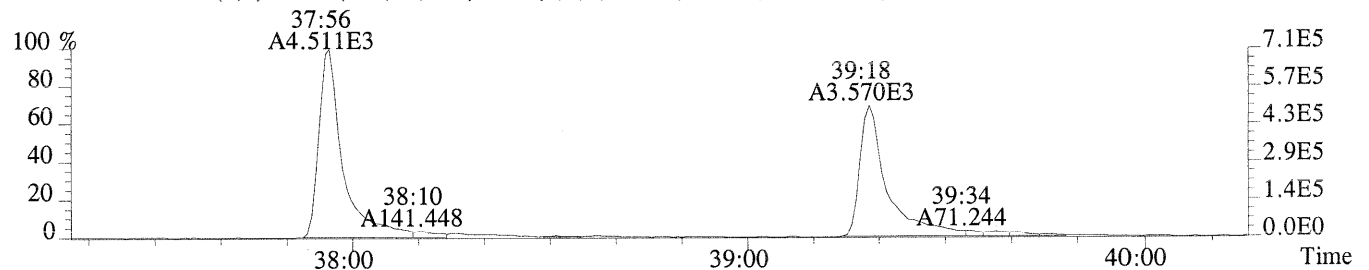
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3704.0,0.50%,F,T)



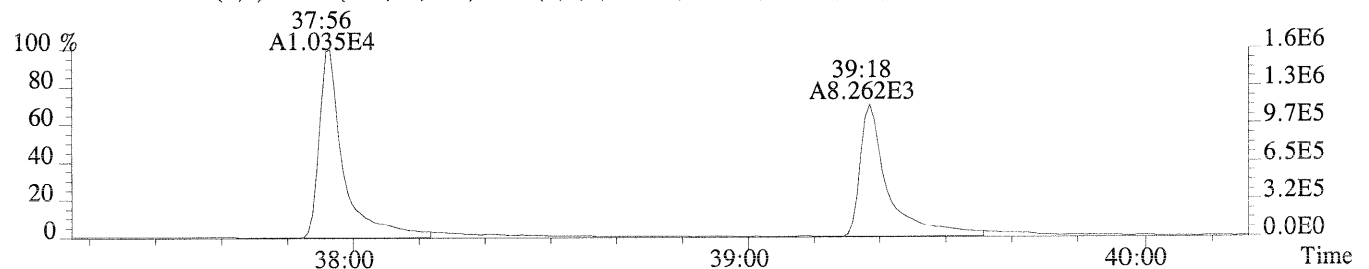
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5076.0,0.50%,F,T)



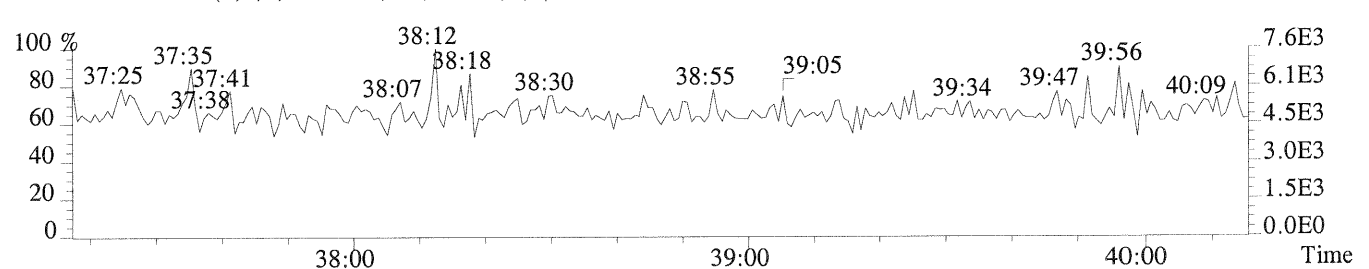
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1244.0,0.50%,F,T)



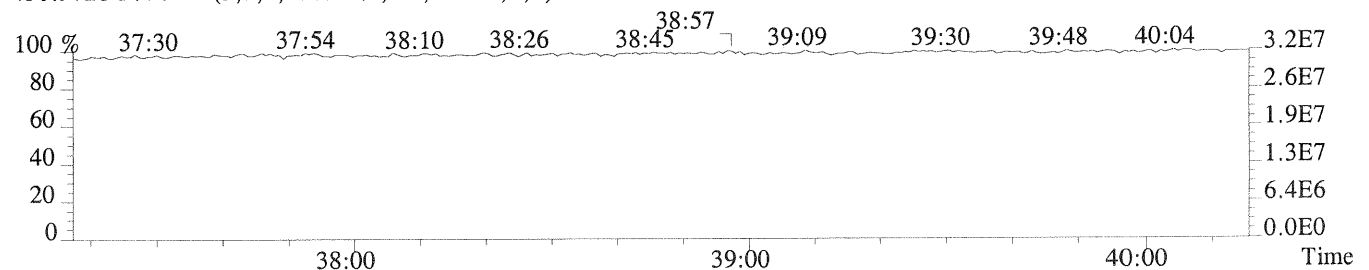
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5120.0,0.50%,F,T)



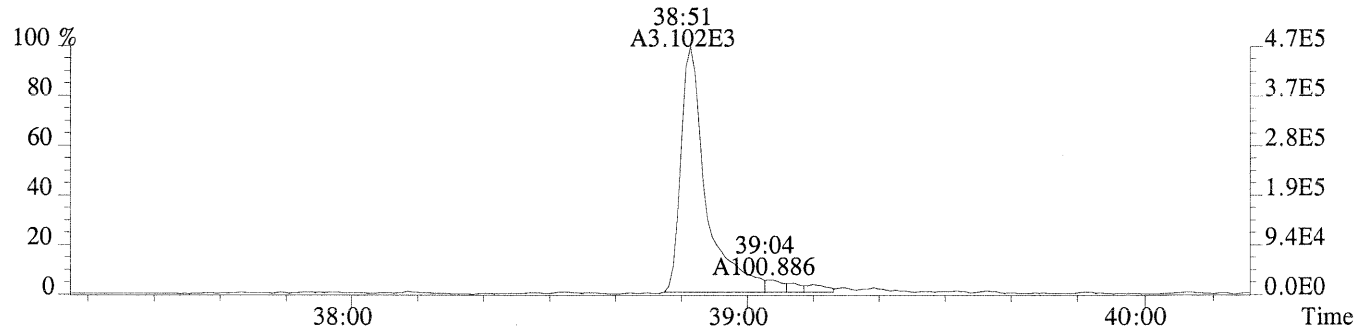
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



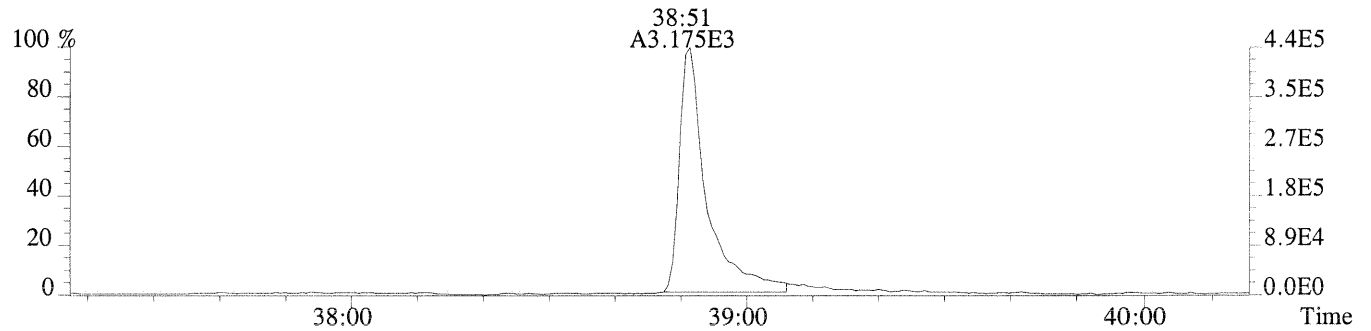
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



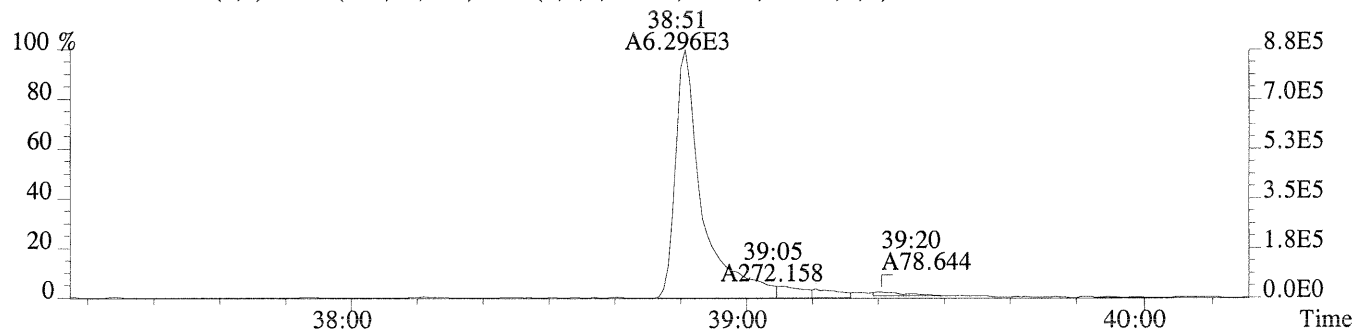
File:U150516 #1-270 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3664.0,0.40%,F,T)



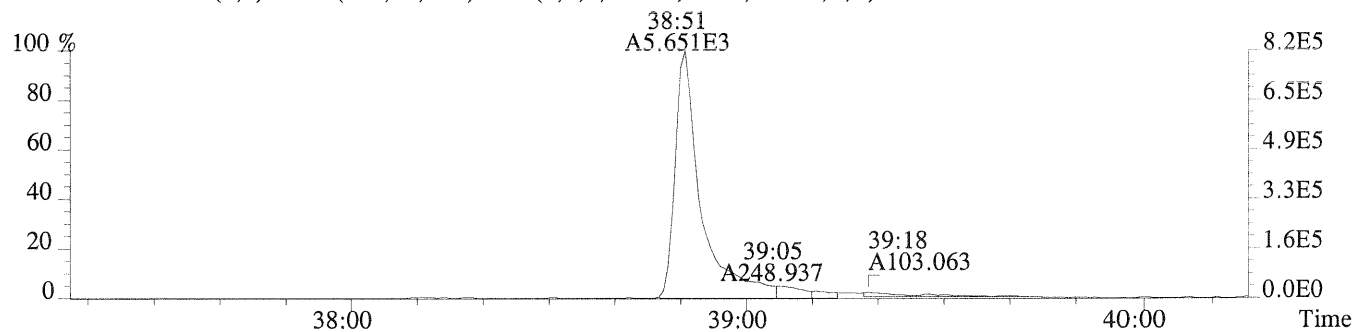
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4016.0,0.40%,F,T)



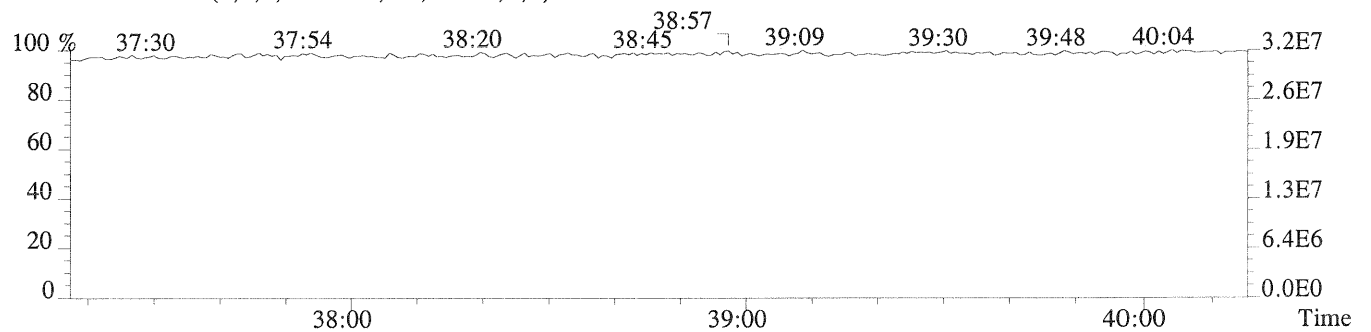
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)



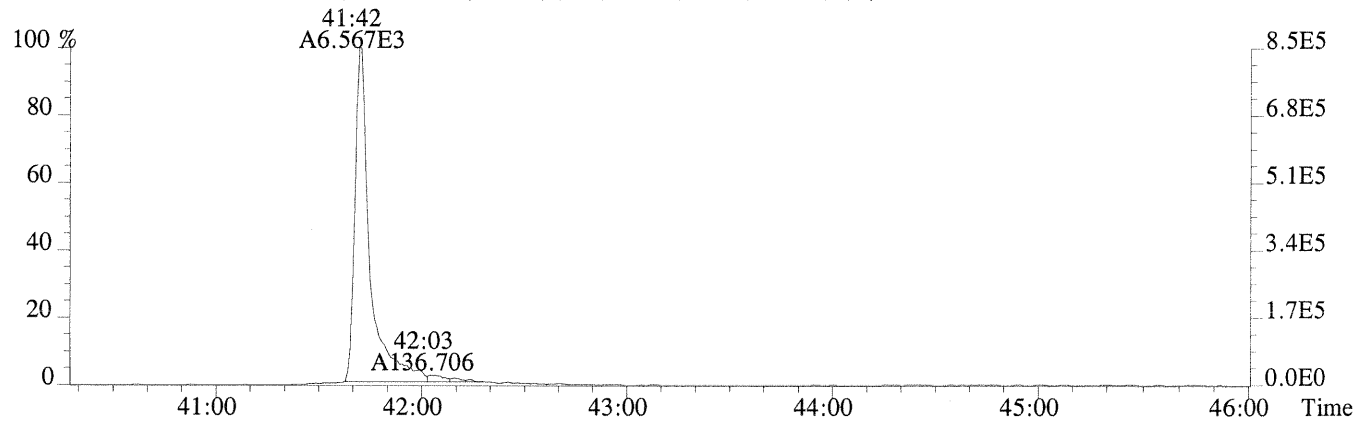
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



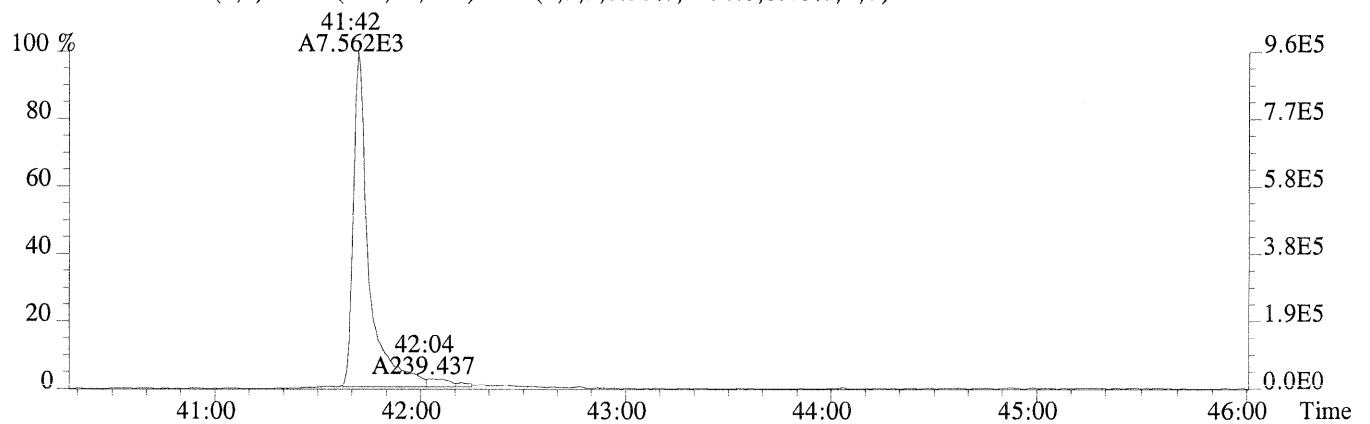
File:U150516 #1-519 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

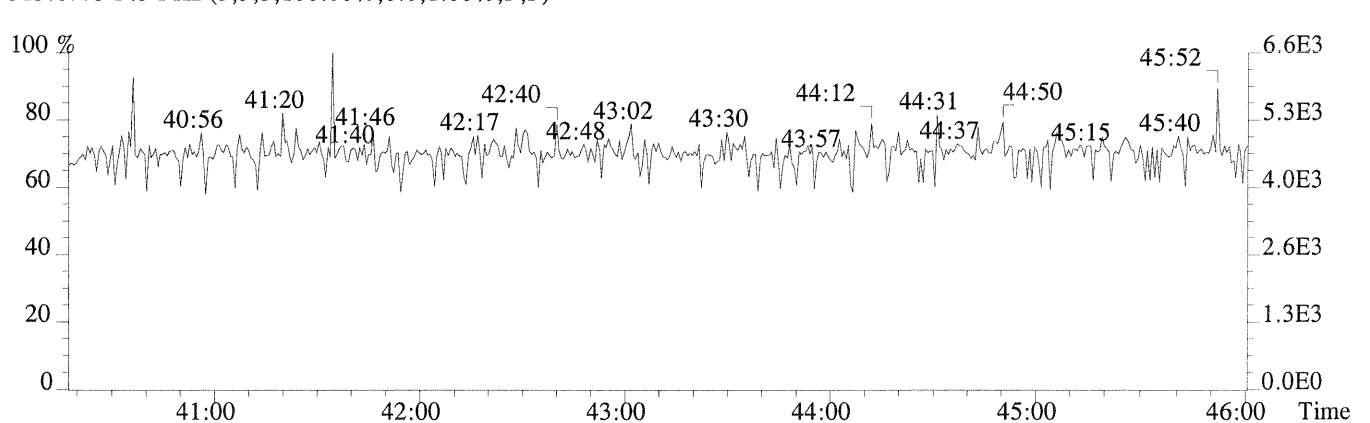
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



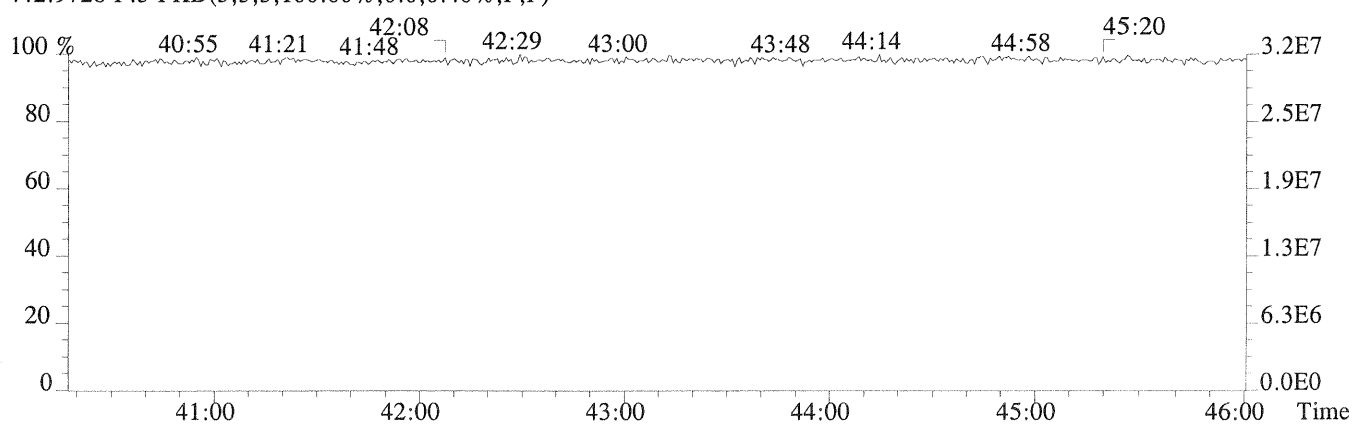
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1136.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



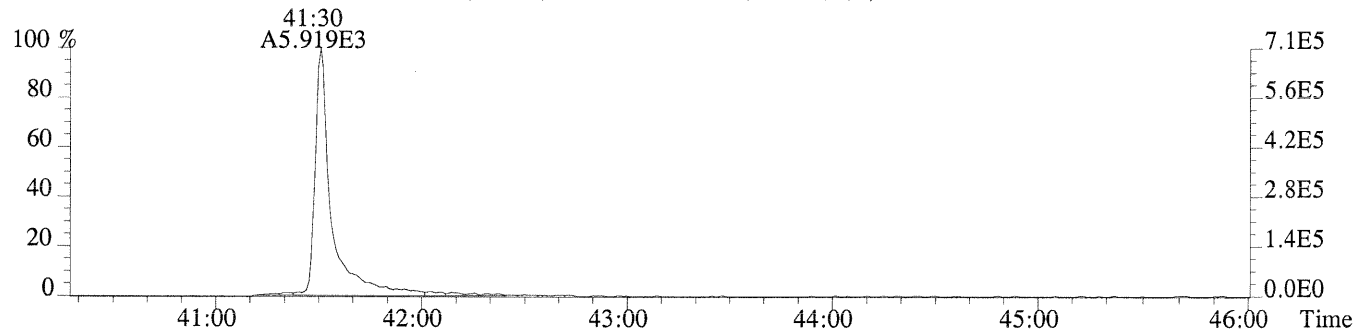
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



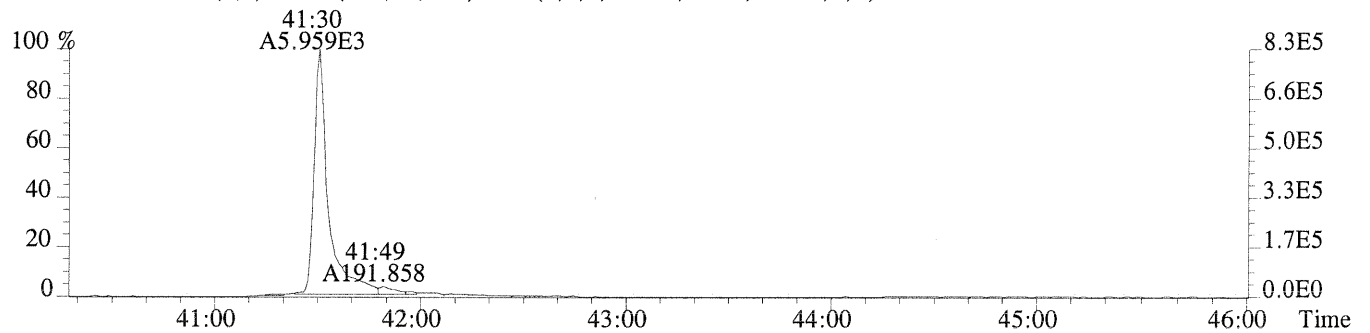
File:U150516 #1-519 Acq:23-AUG-2014 11:01:54 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

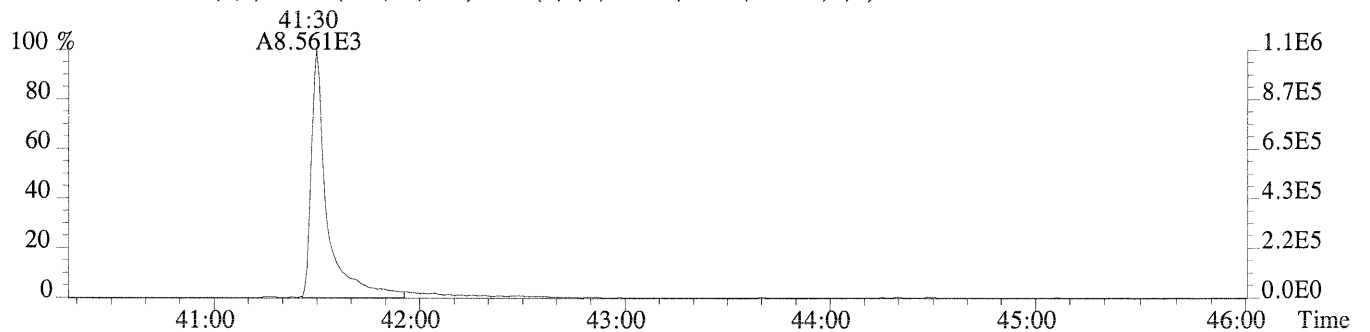
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,644.0,0.40%,F,T)



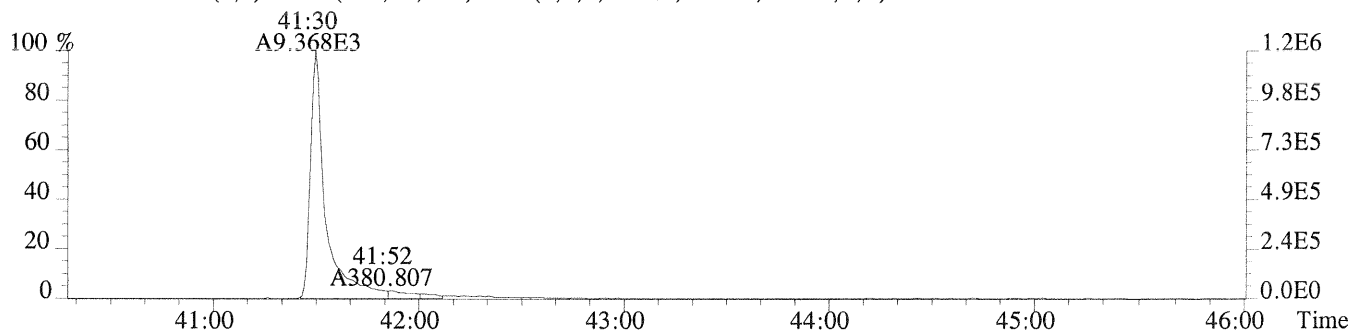
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,F,T)



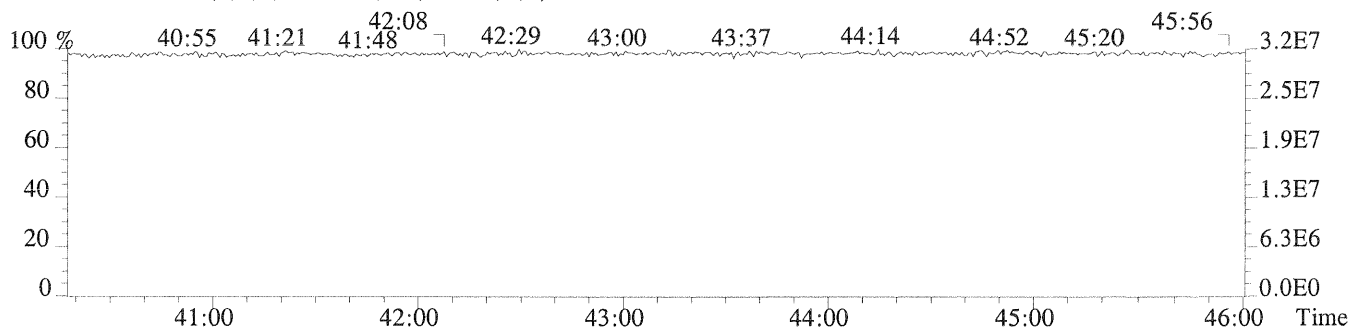
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1064.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.0%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150530

Analysis Date: 23-AUG-14 Time: 22:34:33

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	9.5	7.8 - 12.9	-4.9
1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32-1.78	45	39 - 65	-9.6
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	45	39 - 64	-10.1
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	48	39 - 64	-3.6
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	47	41 - 61	-5.2
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	48	43 - 58	-3.3
OCDD	M+2/M+4	0.89	0.76-1.02	95	79 - 126	-5.3
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	9.1	8.4 - 12.0	-8.9
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	51	41 - 60	1.8
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	51	41 - 61	2.3
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	53	45 - 56	5.6
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	53	44 - 57	6.2
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	53	45 - 56	5.2
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	52	44 - 57	4.9
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	54	45 - 55	8.3
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	51	43 - 58	1.8
OCDF	M+2/M+4	0.91	0.76-1.02	101	63 - 159	1.3

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150530

Analysis Date: 23-AUG-14 Time: 22:34:33

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	102	82 - 121	1.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	99	62 - 160	-0.7
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	105	85 - 117	5.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	95	85 - 118	-5.1
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88-1.20	104	72 - 138	4.4
13C-OCDD	M+2/M+4	0.91	0.76-1.02	254	96 - 415	26.8
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65-0.89	99	71 - 140	-1.4
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	88	76 - 130	-12.1
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	87	77 - 130	-13.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	94	76 - 131	-6.2
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	92	70 - 143	-8.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	102	74 - 135	2.2
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	92	73 - 137	-8.4
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	97	78 - 129	-3.1
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	115	77 - 129	15.1
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.5	7.8 - 12.7	4.8

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
CCAL HRCC3/CS3

Run #8      Filename U150530      Samp: 1      Inj: 1      Acquired: 23-AUG-14 22:34:33  
Processed: 27-AUG-14 13:38:38      Sample ID: CCAL HRCC3/CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	27:00	1.198e+03	1.606e+03	0.75	yes	no	1.057
2 Unk	1,2,3,7,8-PeCDF	31:32	1.106e+04	6.890e+03	1.61	yes	no	1.020
3 Unk	2,3,4,7,8-PeCDF	32:31	1.061e+04	6.689e+03	1.59	yes	no	0.979
4 Unk	1,2,3,4,7,8-HxCDF	35:17	9.035e+03	7.232e+03	1.25	yes	no	1.236
5 Unk	1,2,3,6,7,8-HxCDF	35:23	1.064e+04	8.459e+03	1.26	yes	no	1.149
6 Unk	2,3,4,6,7,8-HxCDF	35:55	9.352e+03	7.481e+03	1.25	yes	no	1.156
7 Unk	1,2,3,7,8,9-HxCDF	36:41	8.247e+03	6.619e+03	1.25	yes	no	1.180
8 Unk	1,2,3,4,6,7,8-HpCDF	37:57	8.367e+03	7.835e+03	1.07	yes	no	1.364
9 Unk	1,2,3,4,7,8,9-HpCDF	39:19	6.500e+03	6.223e+03	1.04	yes	no	1.317
10 Unk	OCDF	41:42	1.010e+04	1.115e+04	0.91	yes	no	1.466
11 Unk	2,3,7,8-TCDD	27:52	8.342e+02	1.103e+03	0.76	yes	no	0.972
12 Unk	1,2,3,7,8-PeCDD	32:48	7.079e+03	4.292e+03	1.65	yes	no	1.120
13 Unk	1,2,3,4,7,8-HxCDD	36:03	6.088e+03	4.872e+03	1.25	yes	no	1.330
14 Unk	1,2,3,6,7,8-HxCDD	36:08	6.993e+03	5.559e+03	1.26	yes	no	1.250
15 Unk	1,2,3,7,8,9-HxCDD	36:23	7.175e+03	5.772e+03	1.24	yes	no	1.395
16 Unk	1,2,3,4,6,7,8-HpCDD	38:51	5.328e+03	5.246e+03	1.02	yes	no	1.102
17 Unk	OCDD	41:31	8.476e+03	9.543e+03	0.89	yes	no	1.329
18 IS	13C-2,3,7,8-TCDF	26:58	1.312e+04	1.602e+04	0.82	yes	no	1.406
19 IS	13C-1,2,3,7,8-PeCDF	31:32	2.113e+04	1.344e+04	1.57	yes	no	1.870
20 IS	13C-2,3,4,7,8-PeCDF	32:30	2.111e+04	1.344e+04	1.57	yes	no	1.888
21 IS	13C-1,2,3,4,7,8-HxCDF	35:16	8.515e+03	1.641e+04	0.52	yes	no	1.181
22 IS	13C-1,2,3,6,7,8-HxCDF	35:23	1.066e+04	2.062e+04	0.52	yes	no	1.511
23 IS	13C-2,3,4,6,7,8-HxCDF	35:54	9.482e+03	1.829e+04	0.52	yes	no	1.346
24 IS	13C-1,2,3,7,8,9-HxCDF	36:41	8.253e+03	1.569e+04	0.53	yes	no	1.041
25 IS	13C-1,2,3,4,6,7,8-HpCDF	37:57	6.721e+03	1.522e+04	0.44	yes	no	1.006
26 IS	13C-1,2,3,4,7,8,9-HpCDF	39:19	5.631e+03	1.335e+04	0.42	yes	no	0.732
27 IS	13C-2,3,7,8-TCDD	27:50	9.155e+03	1.179e+04	0.78	yes	no	0.980
28 IS	13C-1,2,3,7,8-PeCDD	32:48	1.383e+04	8.629e+03	1.60	yes	no	1.075
29 IS	13C-1,2,3,4,7,8-HxCDD	36:02	1.028e+04	8.059e+03	1.28	yes	no	0.773
30 IS	13C-1,2,3,6,7,8-HxCDD	36:08	1.173e+04	9.103e+03	1.29	yes	no	0.975
31 IS	13C-1,2,3,4,6,7,8-HpCDD	38:51	1.034e+04	9.525e+03	1.09	yes	no	0.845
32 IS	13C-OCDD	41:30	1.366e+04	1.497e+04	0.91	yes	no	0.501
33 RS/RT	13C-1,2,3,4-TCDD	27:10	9.188e+03	1.185e+04	0.78	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	1.285e+04	9.663e+03	1.33	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	27:52	2.105e+03				no	0.955

$$\text{OCDD} = \frac{(8.476e+03 + 9.543e+03) \times 200 \text{ pg} \times}{(1.366e+04 + 1.497e+04) \times \text{g} \times / 100 \times 1.329} =$$

ALS ENVIRONMENTAL  
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1613RESPA

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A/8280  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CCAL HRCC3/CS3

Run #8    Filename U150530    Samp: 1    Inj: 1    Acquired: 23-AUG-14 22:34:33  
 Processed: 27-AUG-14 13:38:381    LAB. ID: CCAL HRCC3/CS3

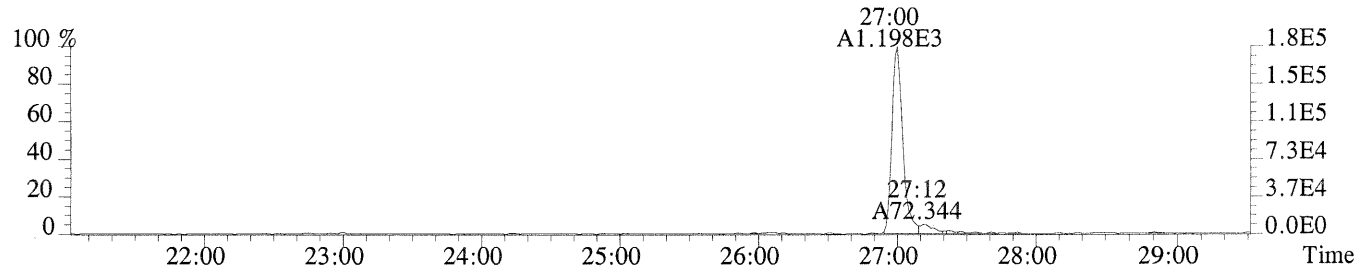
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.83e+05	6.88e+02	2.7e+02	2.38e+05	9.92e+02	2.4e+02
2	1,2,3,7,8-PeCDF	1.81e+06	3.88e+02	4.7e+03	1.11e+06	1.04e+03	1.1e+03
3	2,3,4,7,8-PeCDF	1.87e+06	3.88e+02	4.8e+03	1.15e+06	1.04e+03	1.1e+03
4	1,2,3,4,7,8-HxCDF	1.83e+06	8.12e+02	2.2e+03	1.44e+06	6.84e+02	2.1e+03
5	1,2,3,6,7,8-HxCDF	1.93e+06	8.12e+02	2.4e+03	1.52e+06	6.84e+02	2.2e+03
6	2,3,4,6,7,8-HxCDF	1.82e+06	8.12e+02	2.2e+03	1.46e+06	6.84e+02	2.1e+03
7	1,2,3,7,8,9-HxCDF	1.46e+06	8.12e+02	1.8e+03	1.13e+06	6.84e+02	1.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.60e+06	1.30e+03	1.2e+03	1.53e+06	1.48e+03	1.0e+03
9	1,2,3,4,7,8,9-HpCDF	1.16e+06	1.30e+03	8.9e+02	1.10e+06	1.48e+03	7.4e+02
10	OCDF	1.58e+06	6.48e+02	2.4e+03	1.74e+06	9.56e+02	1.8e+03
11	2,3,7,8-TCDD	1.38e+05	6.36e+02	2.2e+02	1.71e+05	7.24e+02	2.4e+02
12	1,2,3,7,8-PeCDD	1.22e+06	7.04e+02	1.7e+03	7.37e+05	4.92e+02	1.5e+03
13	1,2,3,4,7,8-HxCDD	1.32e+06	5.20e+02	2.5e+03	1.07e+06	7.00e+02	1.5e+03
14	1,2,3,6,7,8-HxCDD	1.30e+06	5.20e+02	2.5e+03	1.02e+06	7.00e+02	1.5e+03
15	1,2,3,7,8,9-HxCDD	1.32e+06	5.20e+02	2.5e+03	1.03e+06	7.00e+02	1.5e+03
16	1,2,3,4,6,7,8-HpCDD	1.05e+06	6.16e+02	1.7e+03	1.01e+06	6.24e+02	1.6e+03
17	OCDD	1.37e+06	6.24e+02	2.2e+03	1.55e+06	4.72e+02	3.3e+03
18	13C-2,3,7,8-TCDF	1.98e+06	7.56e+02	2.6e+03	2.40e+06	8.72e+02	2.8e+03
19	13C-1,2,3,7,8-PeCDF	3.50e+06	7.32e+02	4.8e+03	2.21e+06	7.64e+02	2.9e+03
20	13C-2,3,4,7,8-PeCDF	3.72e+06	7.32e+02	5.1e+03	2.37e+06	7.64e+02	3.1e+03
21	13C-1,2,3,4,7,8-HxCDF	1.73e+06	7.92e+02	2.2e+03	3.36e+06	8.56e+02	3.9e+03
22	13C-1,2,3,6,7,8-HxCDF	1.89e+06	7.92e+02	2.4e+03	3.76e+06	8.56e+02	4.4e+03
23	13C-2,3,4,6,7,8-HxCDF	1.83e+06	7.92e+02	2.3e+03	3.58e+06	8.56e+02	4.2e+03
24	13C-1,2,3,7,8,9-HxCDF	1.48e+06	7.92e+02	1.9e+03	2.84e+06	8.56e+02	3.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.32e+06	8.44e+02	1.6e+03	2.94e+06	1.47e+03	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.01e+06	8.44e+02	1.2e+03	2.32e+06	1.47e+03	1.6e+03
27	13C-2,3,7,8-TCDD	1.45e+06	2.17e+03	6.7e+02	1.92e+06	1.06e+03	1.8e+03
28	13C-1,2,3,7,8-PeCDD	2.38e+06	6.68e+02	3.6e+03	1.48e+06	6.48e+02	2.3e+03
29	13C-1,2,3,4,7,8-HxCDD	2.28e+06	5.32e+02	4.3e+03	1.78e+06	5.56e+02	3.2e+03
30	13C-1,2,3,6,7,8-HxCDD	2.20e+06	5.32e+02	4.1e+03	1.70e+06	5.56e+02	3.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.98e+06	1.08e+03	1.8e+03	1.82e+06	6.08e+02	3.0e+03
32	13C-OCDD	2.20e+06	7.16e+02	3.1e+03	2.44e+06	5.84e+02	4.2e+03
33	13C-1,2,3,4-TCDD	1.46e+06	2.17e+03	6.7e+02	1.92e+06	1.06e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	2.32e+06	5.32e+02	4.4e+03	1.79e+06	5.56e+02	3.2e+03
35	37Cl-2,3,7,8-TCDD	3.10e+05	6.92e+02	4.5e+02			

ALS ENVIRONMENTAL  
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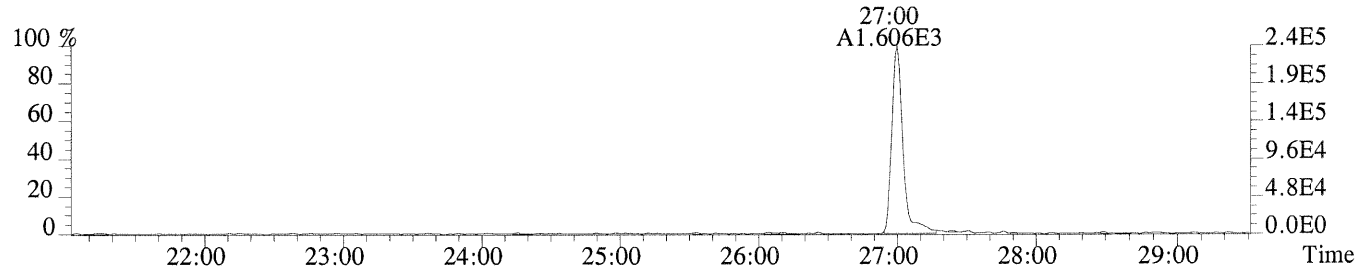
XLSN

Sample#1 Exp:CS3

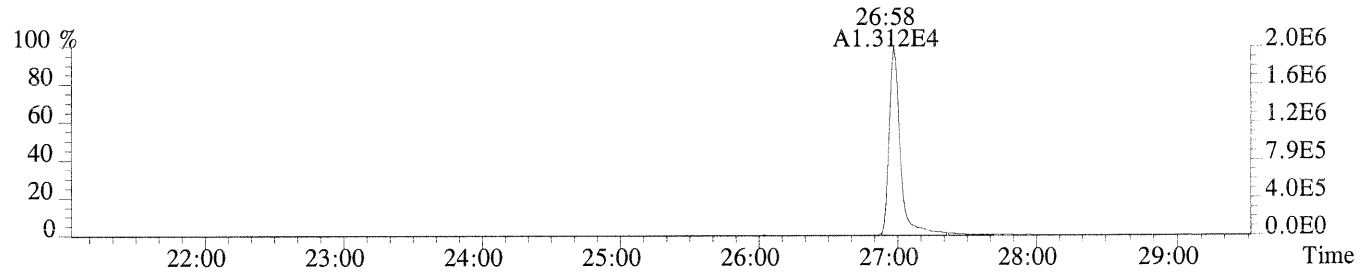
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



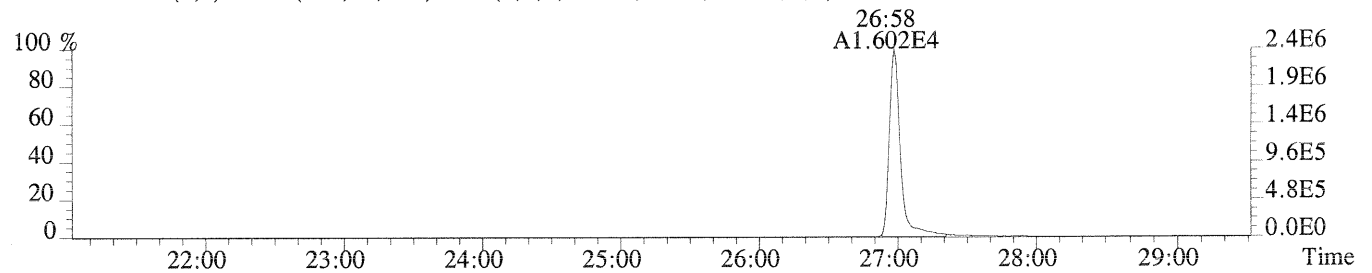
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



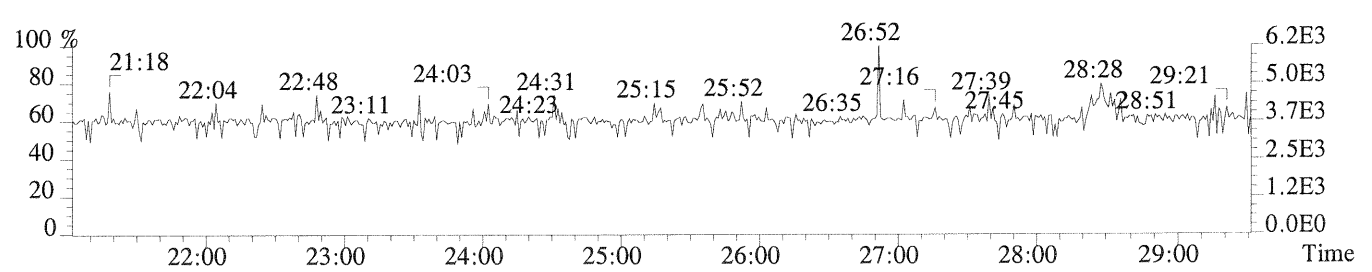
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



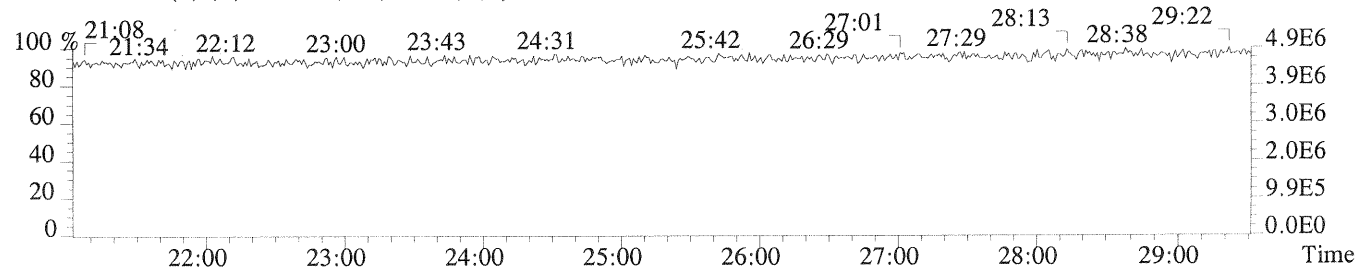
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



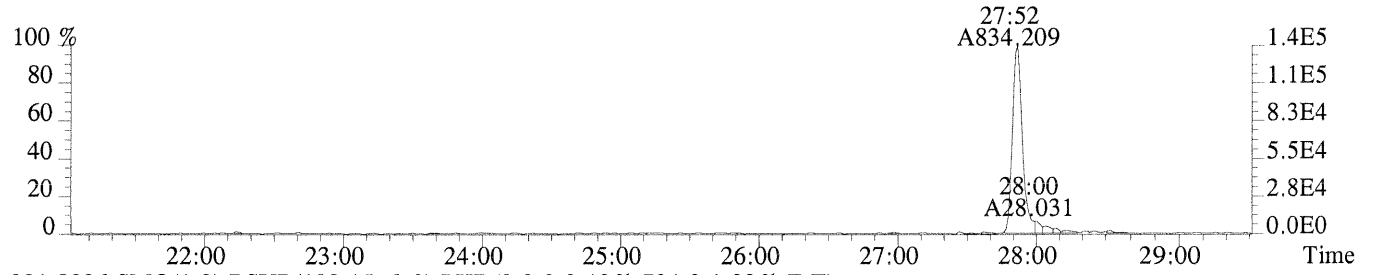
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



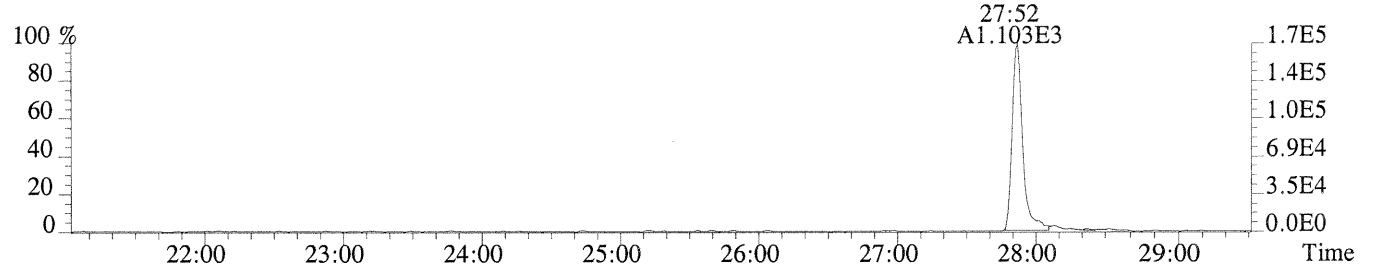
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



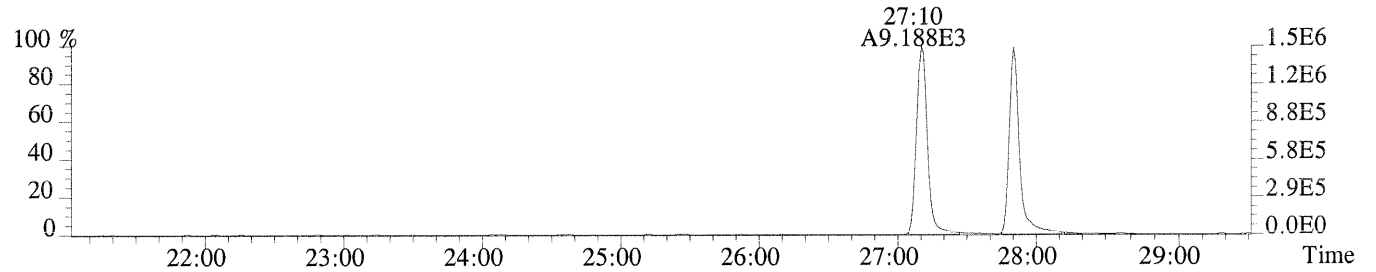
File:U150530 #1-608 Acq:23-AUG-2014 22:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



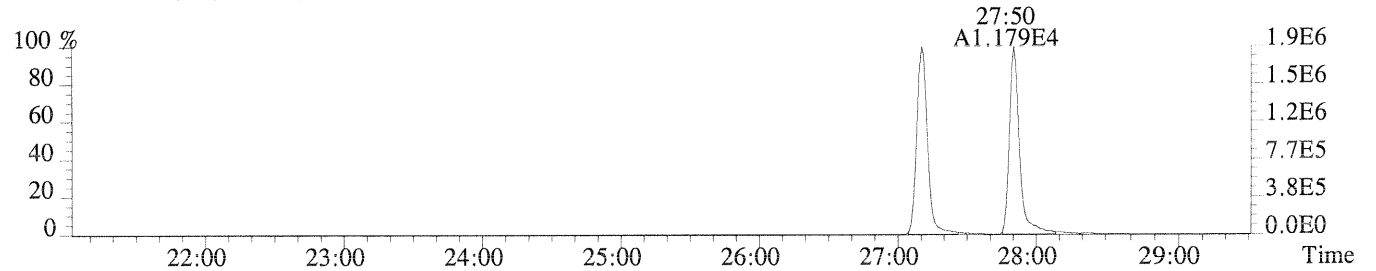
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



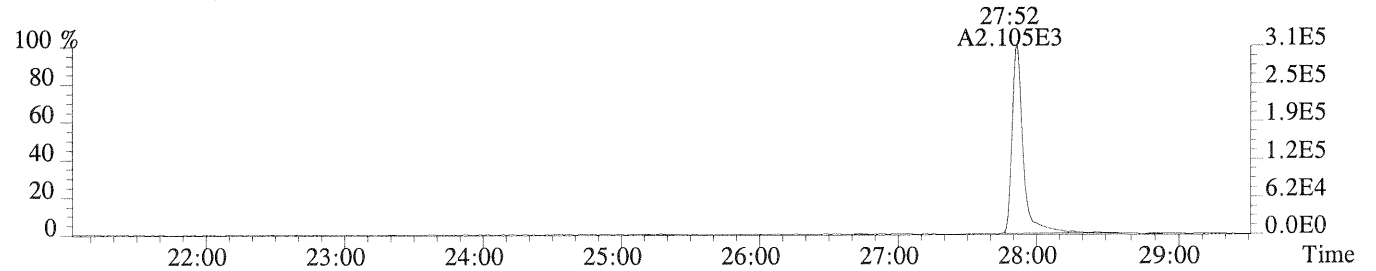
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2172.0,1.00%,F,T)



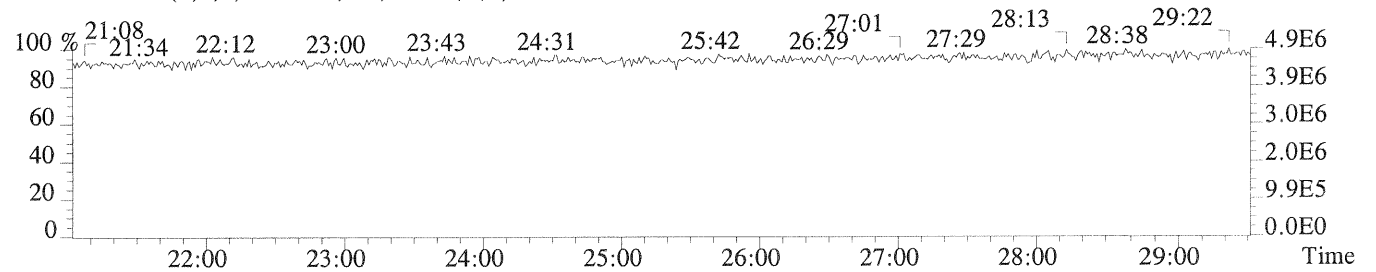
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



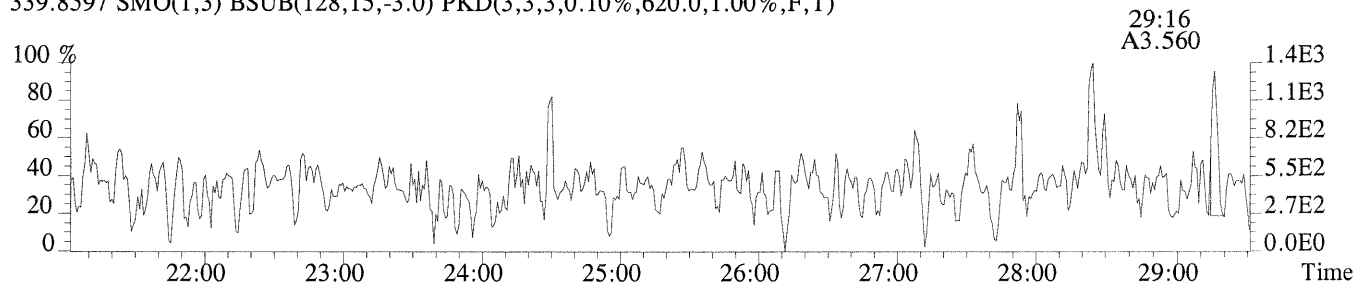
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



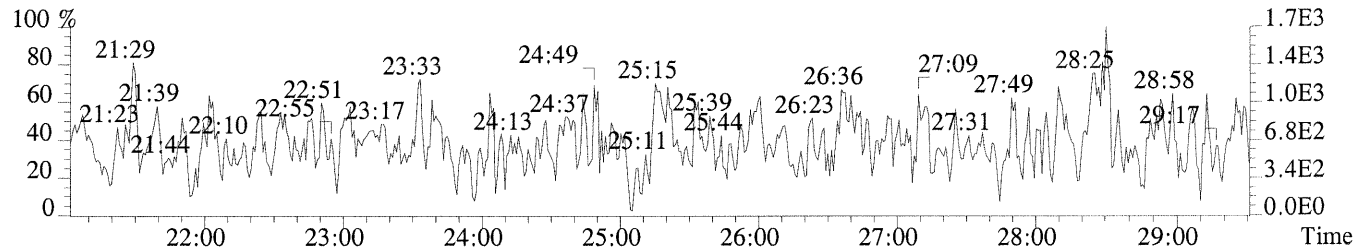
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



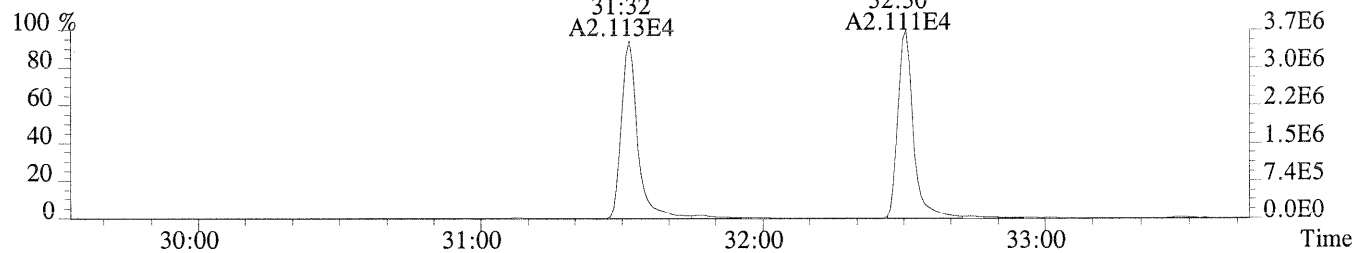
File:U150530 #1-608 Acq:23-AUG-2014 22:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



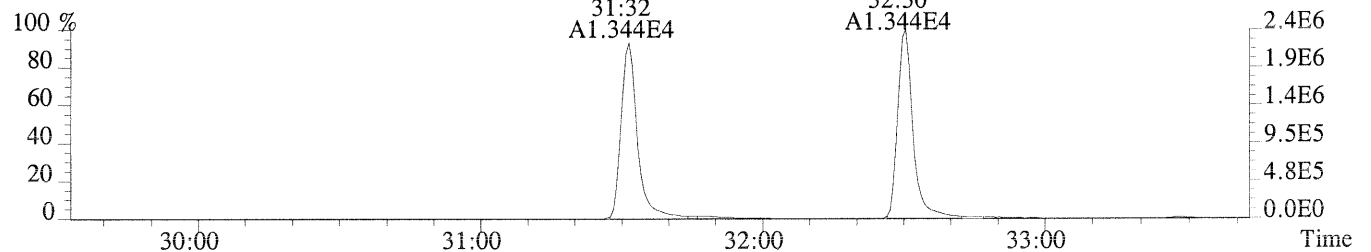
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



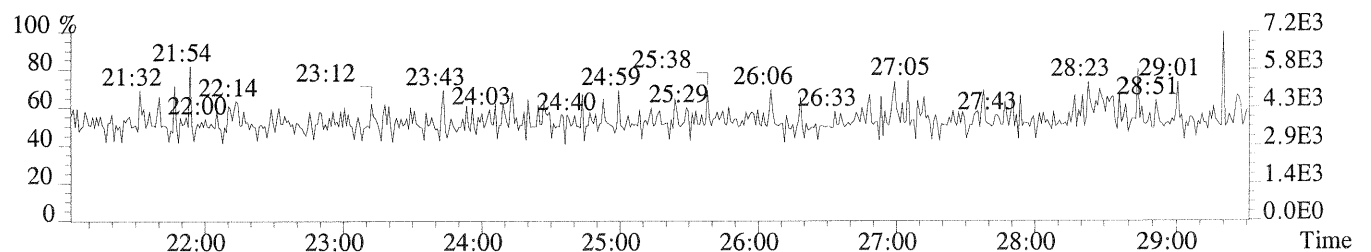
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



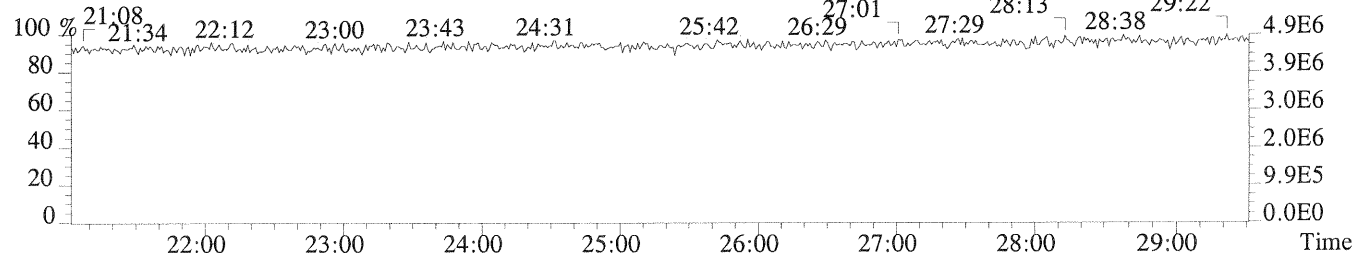
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

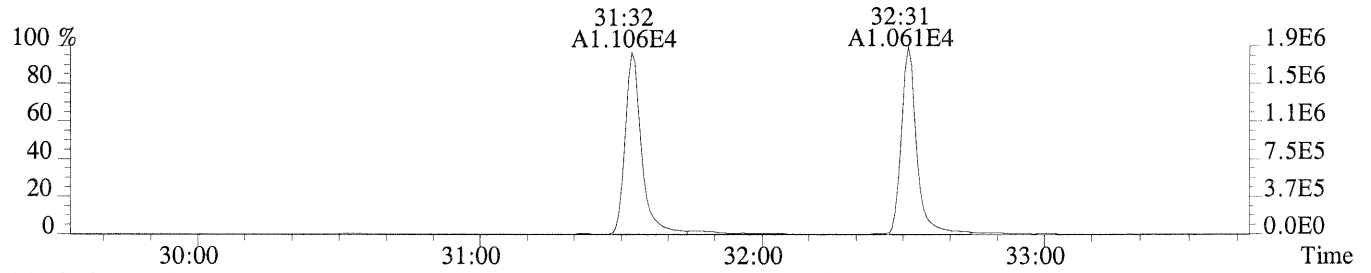


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

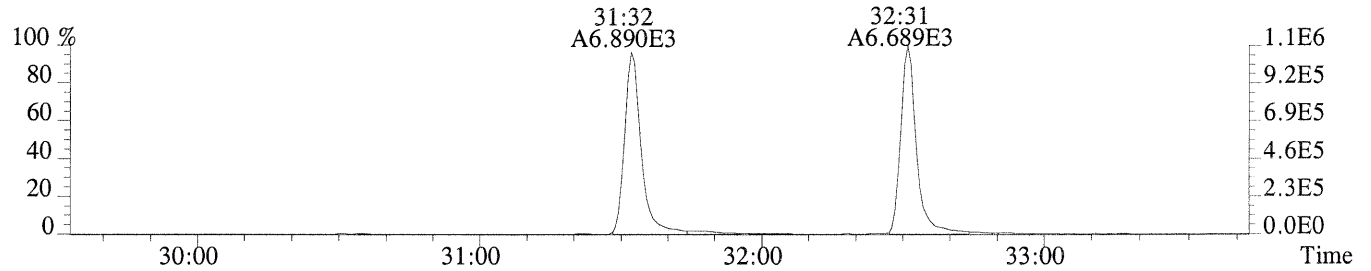


Sample#1 Exp:CS3

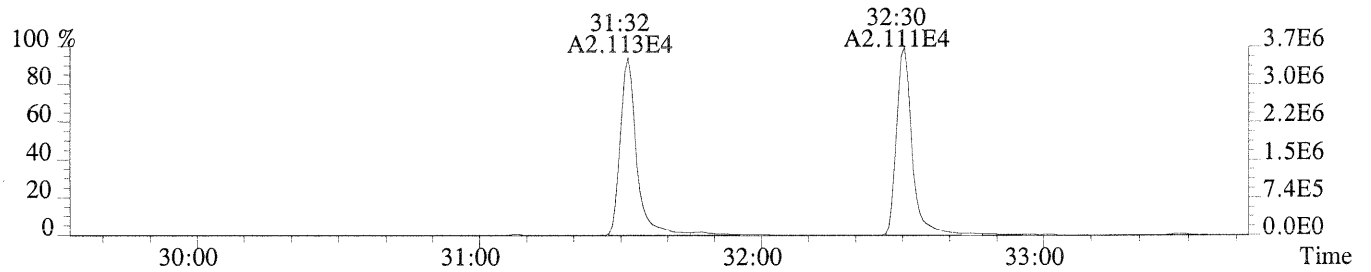
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



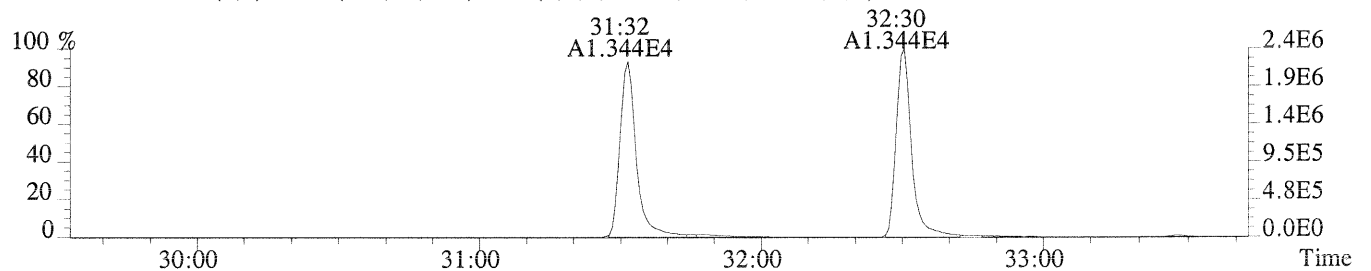
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



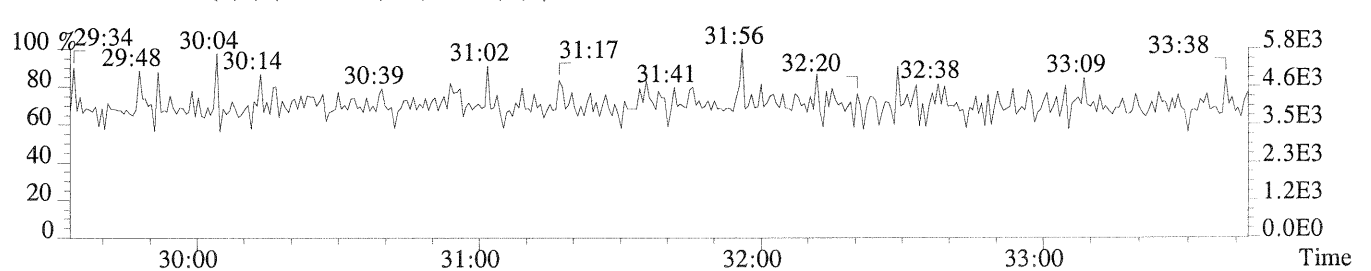
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



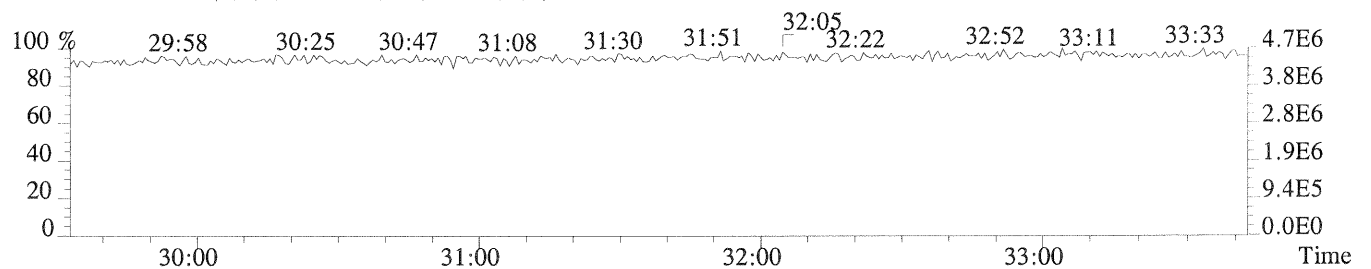
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

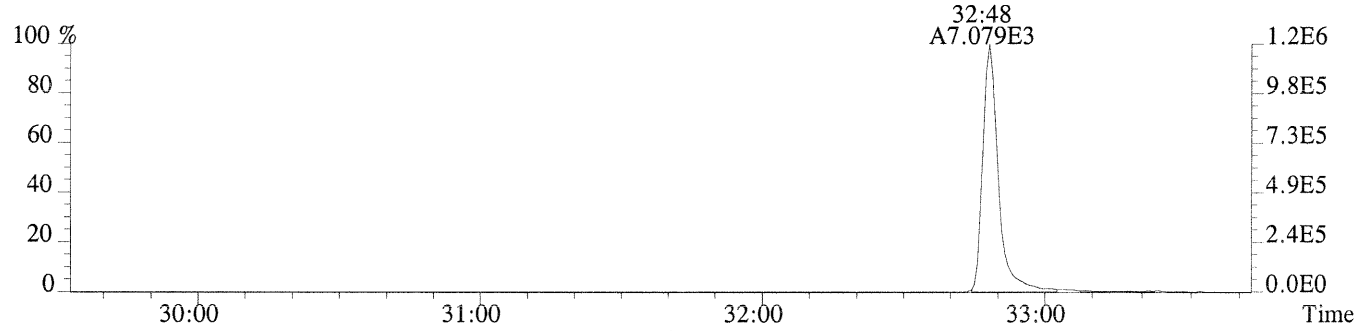


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

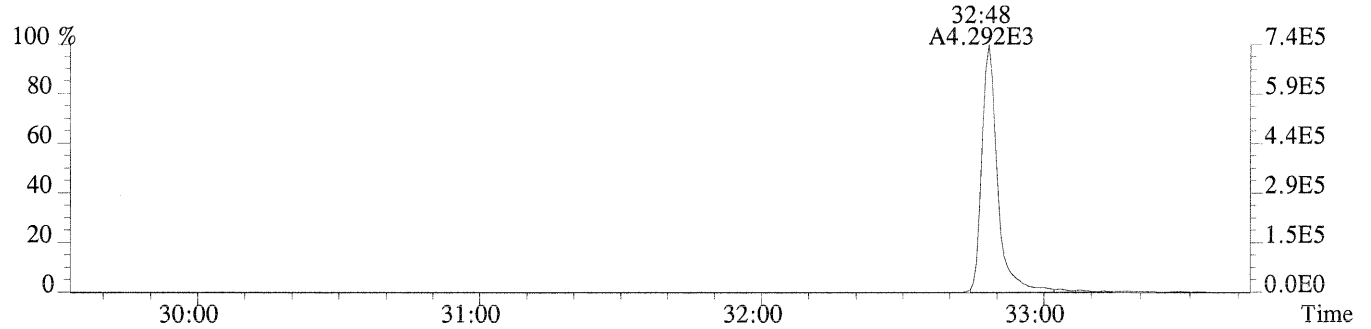


Sample#1 Exp:CS3

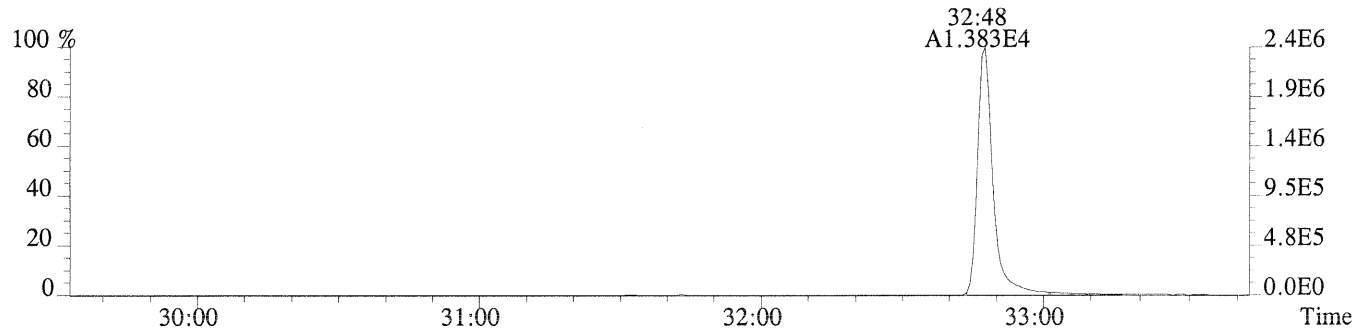
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



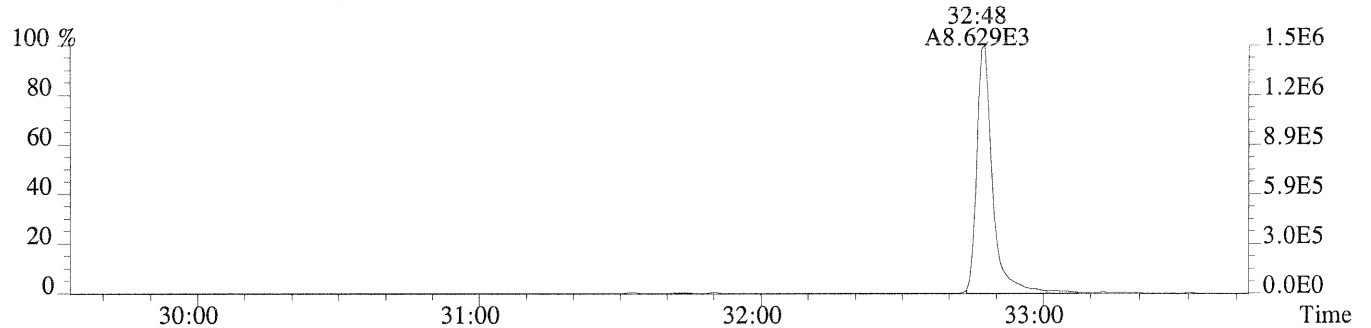
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



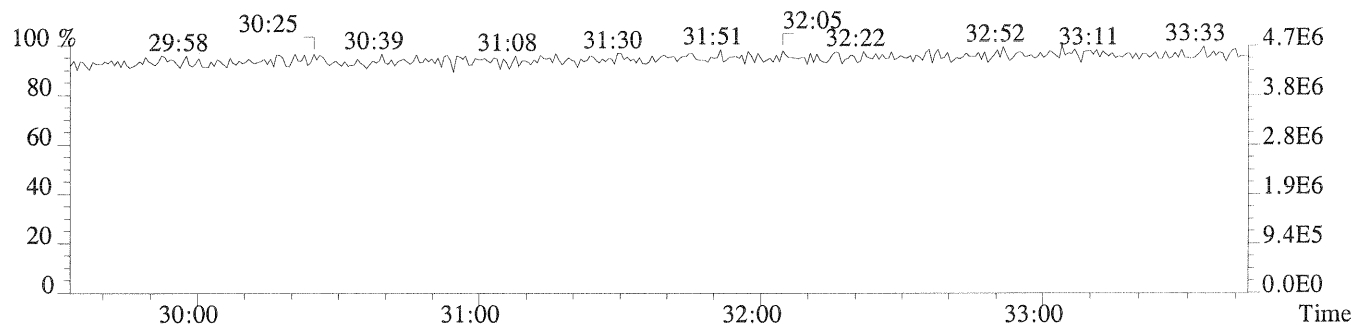
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,T)



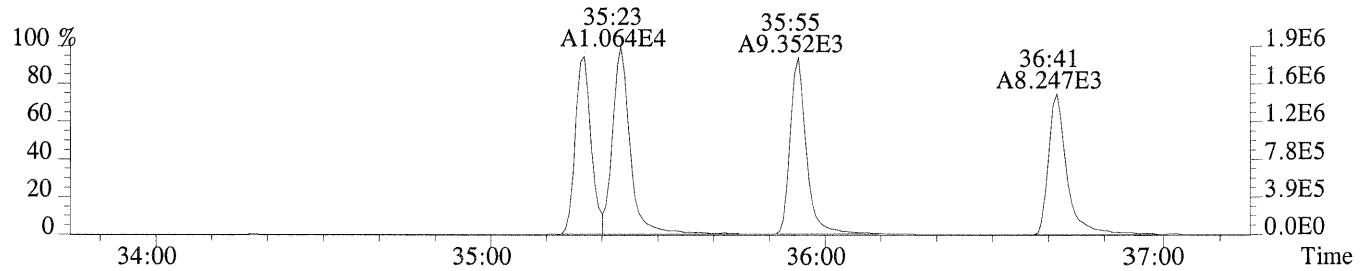
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



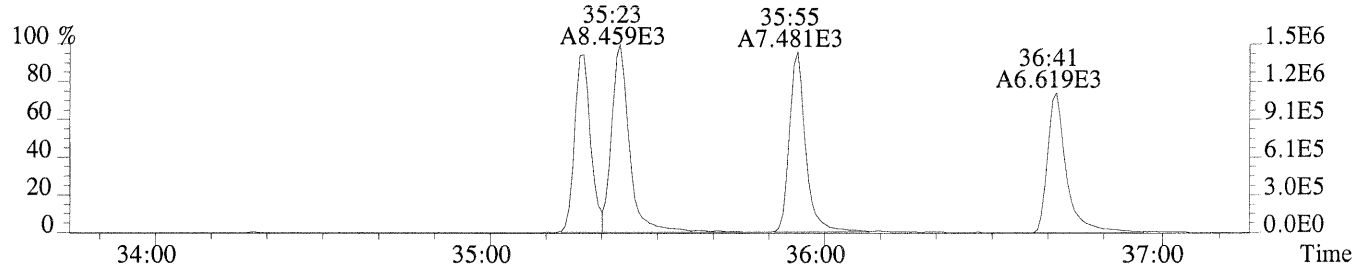
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



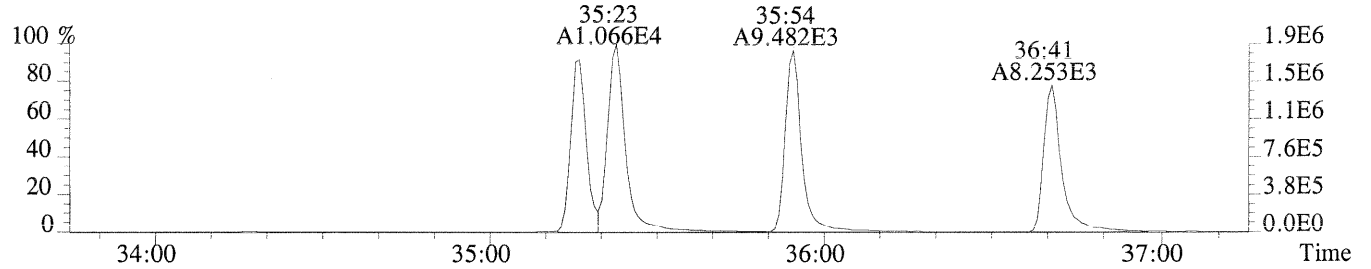
File:U150530 #1-319 Acq:23-AUG-2014 22:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



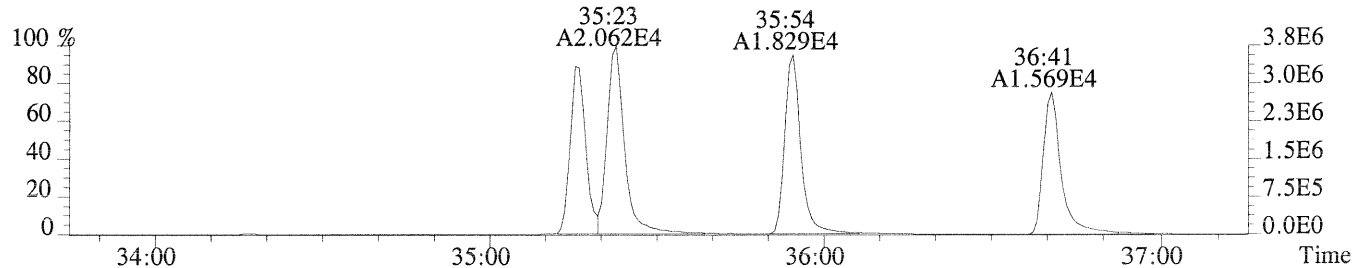
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



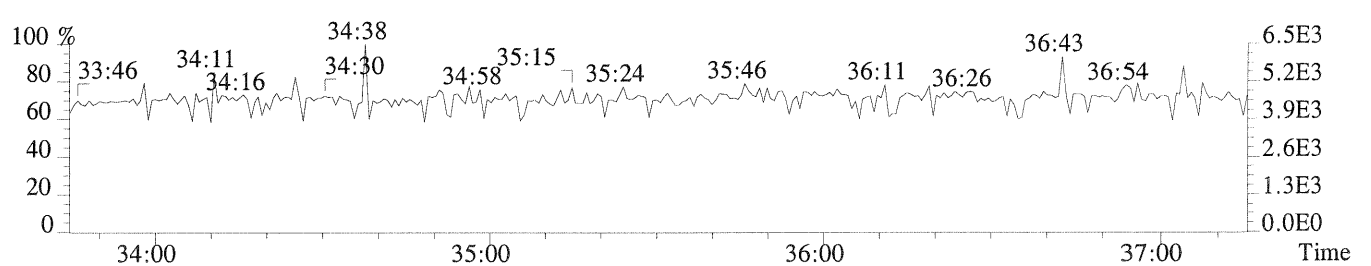
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,T)



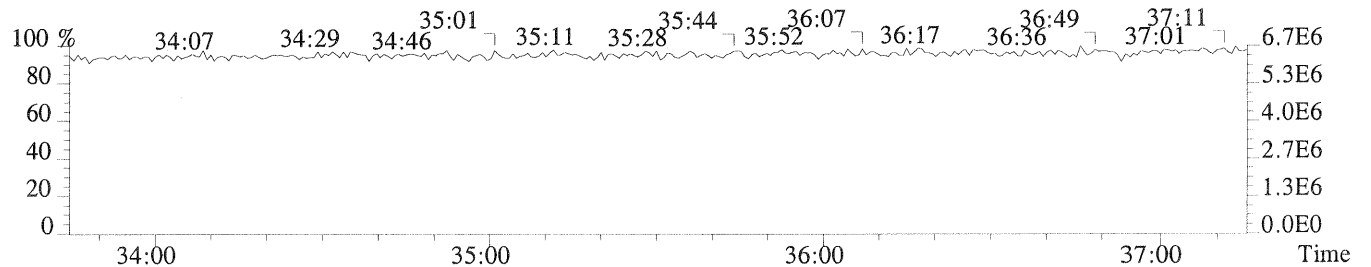
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



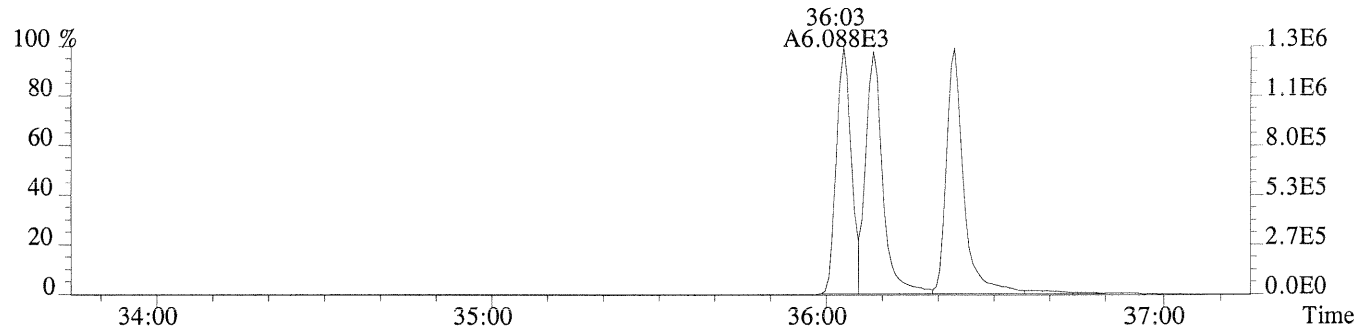
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



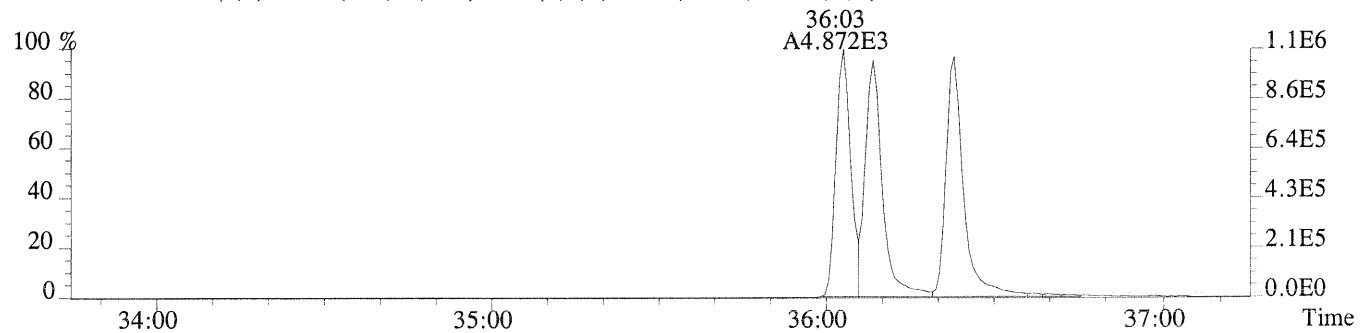


Sample#1 Exp:CS3

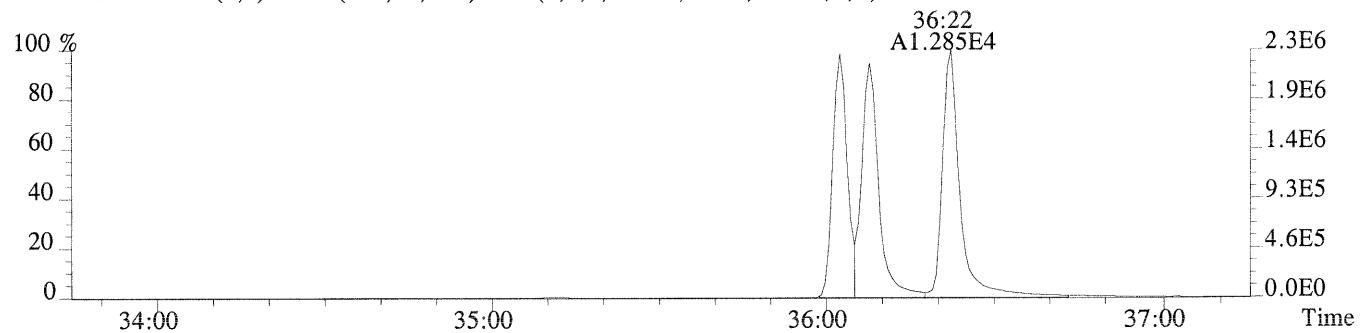
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,T)



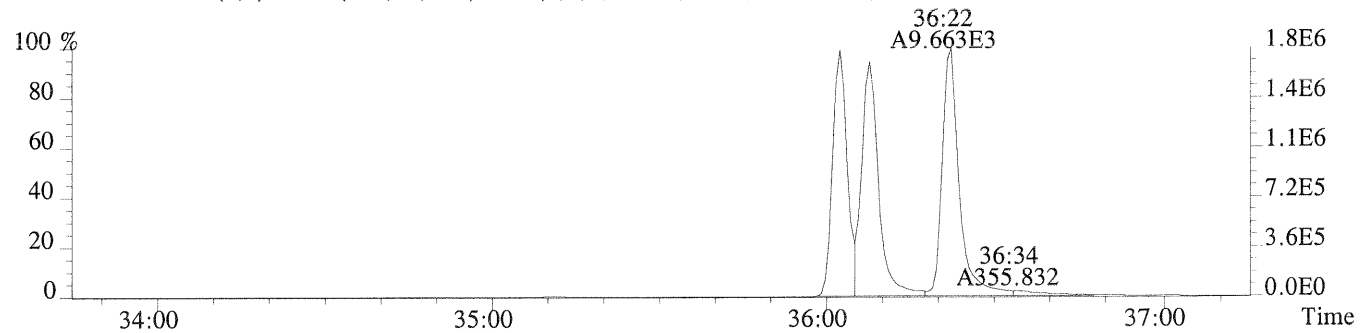
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



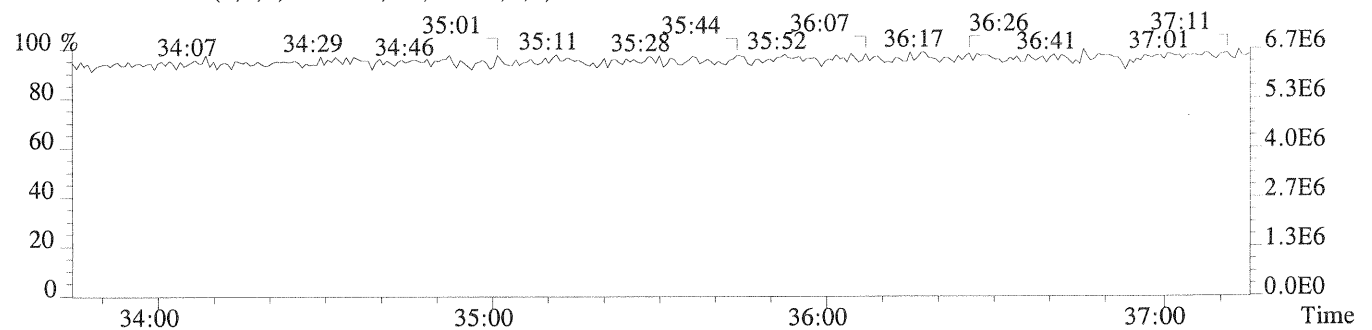
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,556.0,0.40%,F,T)

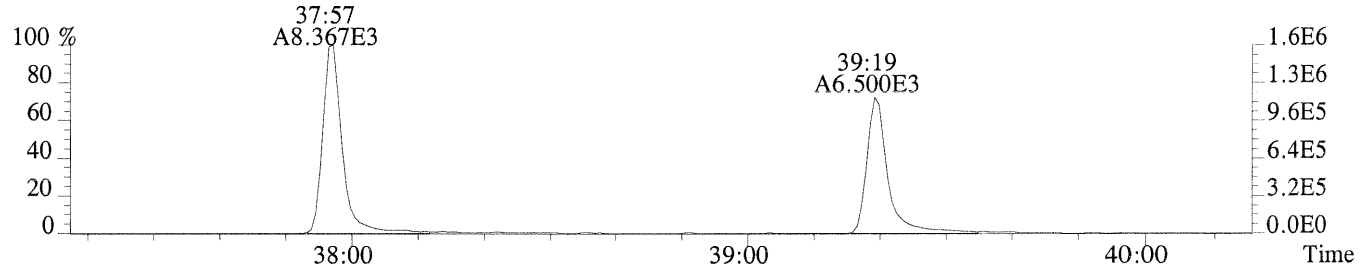


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

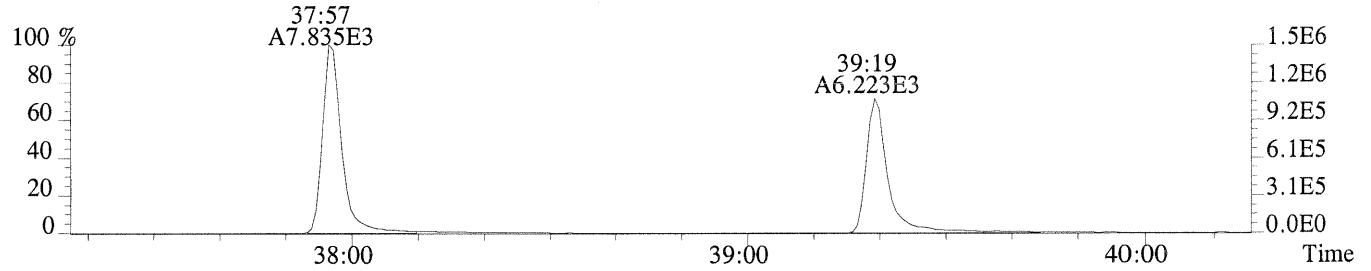


Sample#1 Exp:CS3

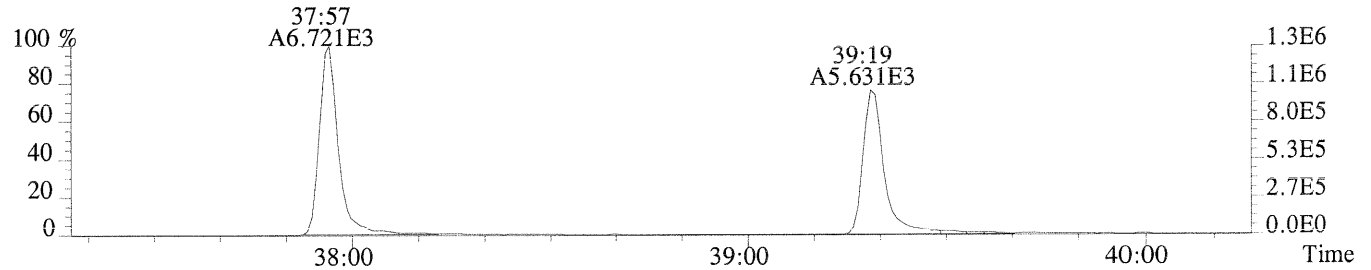
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1300.0,0.50%,F,T)



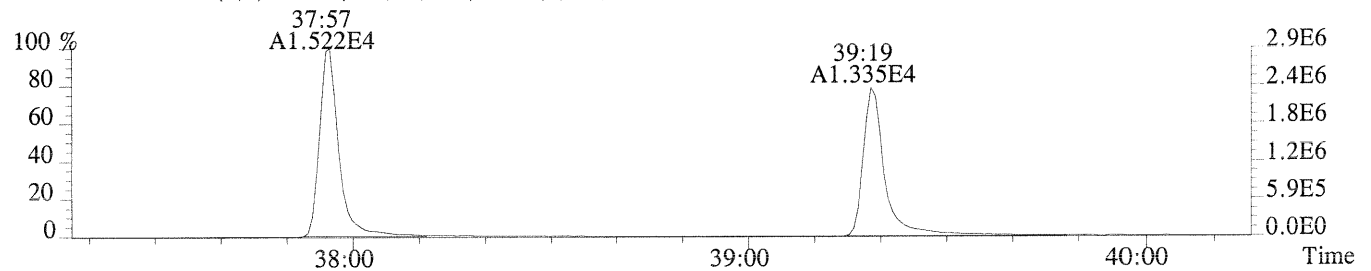
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1480.0,0.50%,F,T)



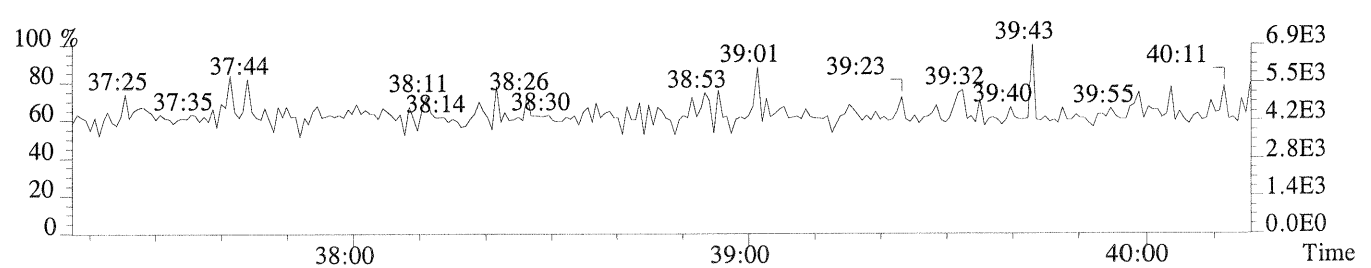
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,844.0,0.50%,F,T)



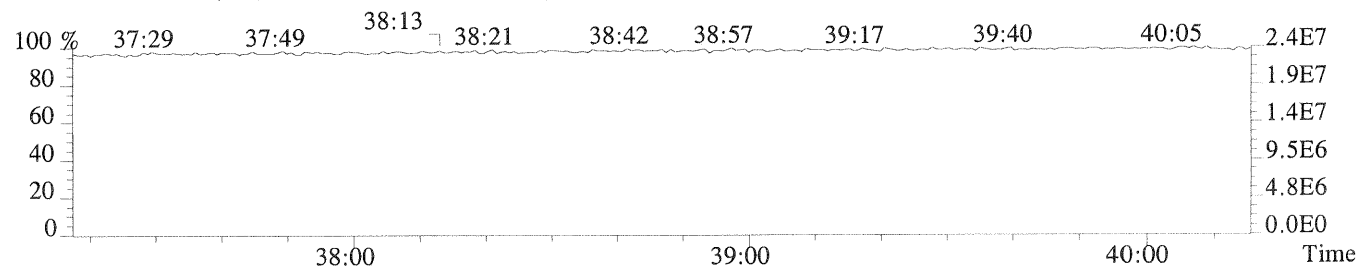
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

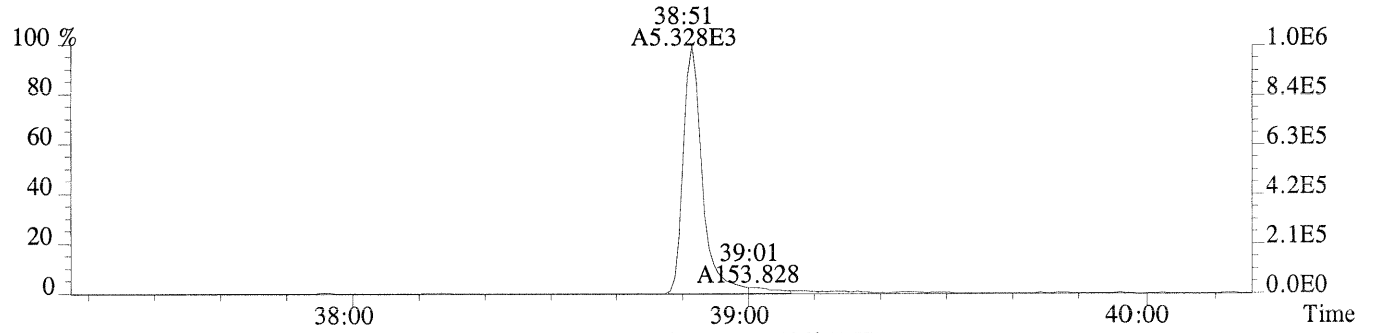


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

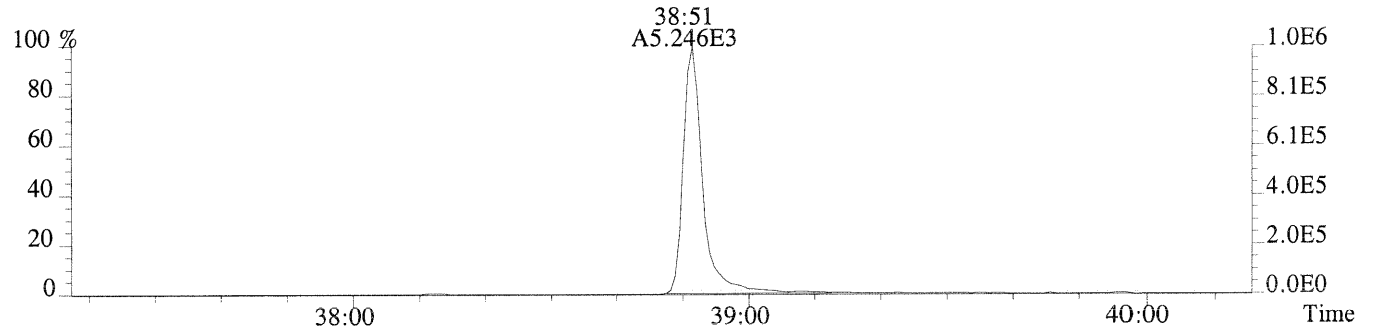


Sample#1 Exp:CS3

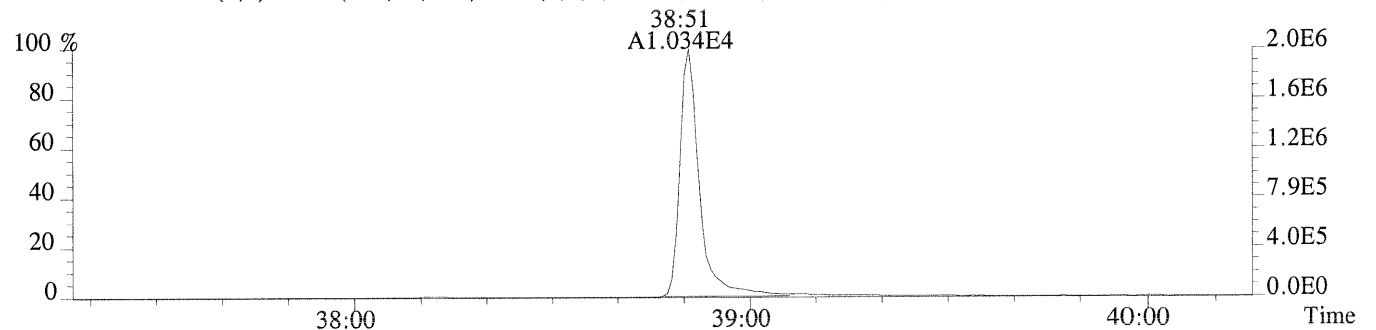
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,616.0,0.40%,F,T)



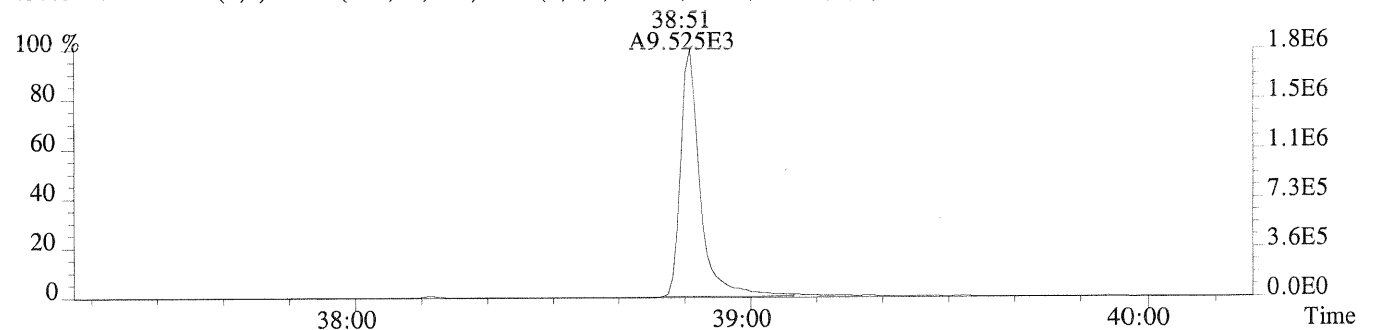
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



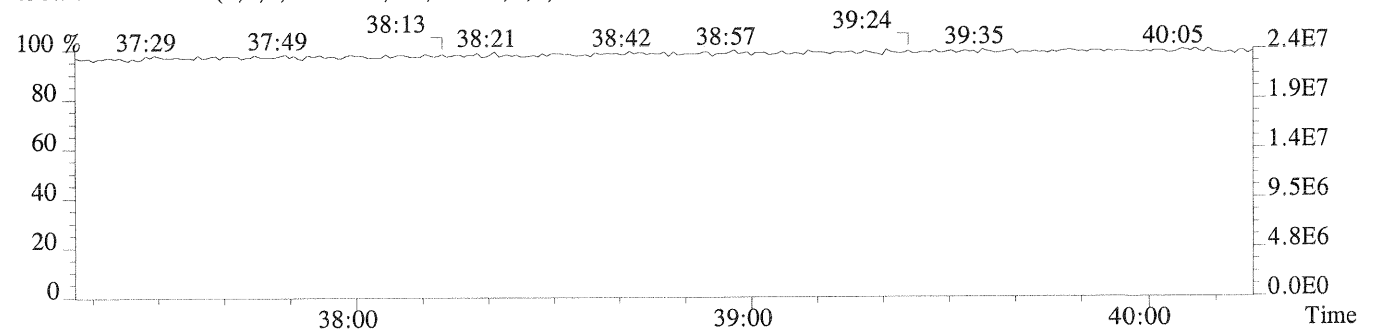
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1080.0,0.40%,F,T)



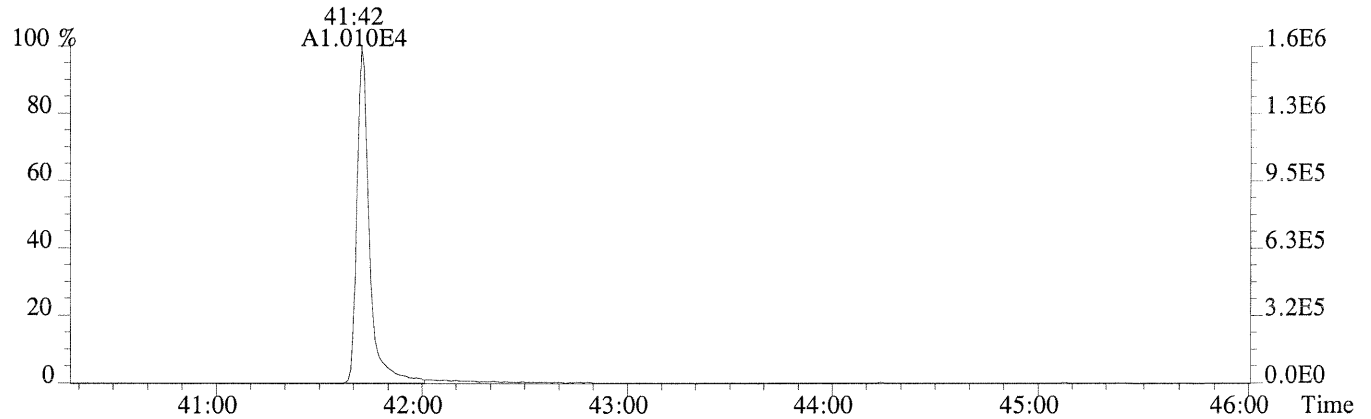
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,608.0,0.40%,F,T)



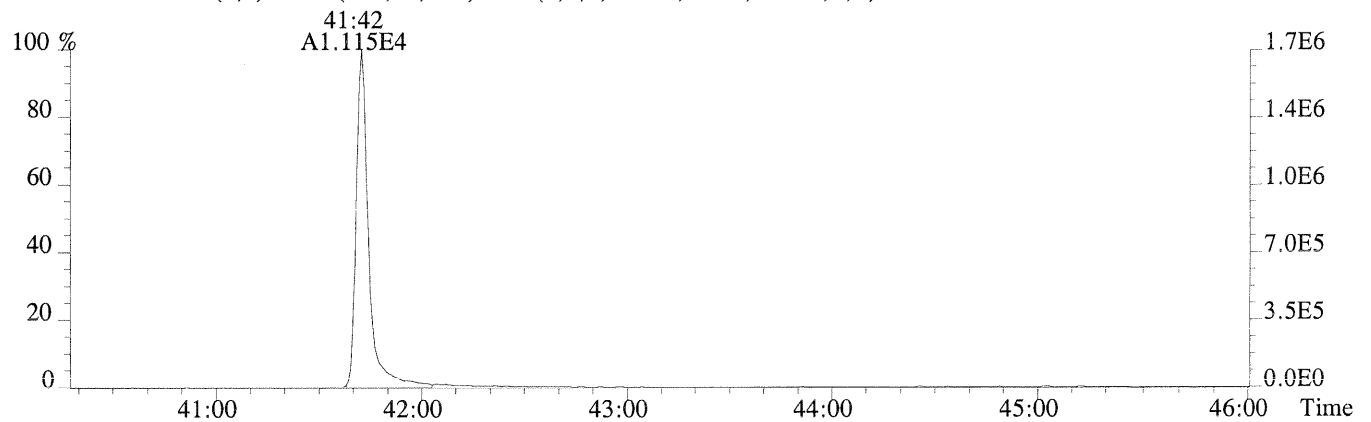
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



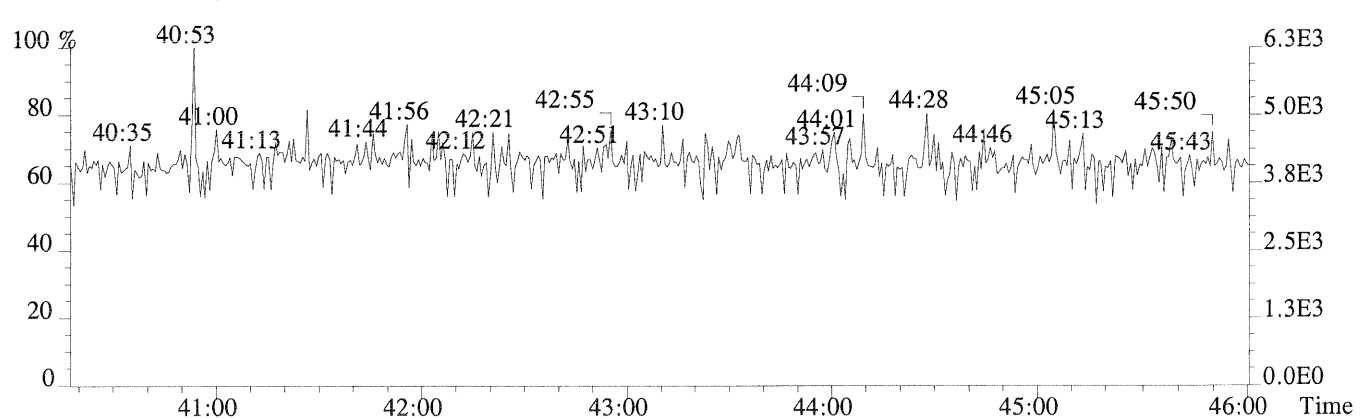
File:U150530 #1-519 Acq:23-AUG-2014 22:34:33 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



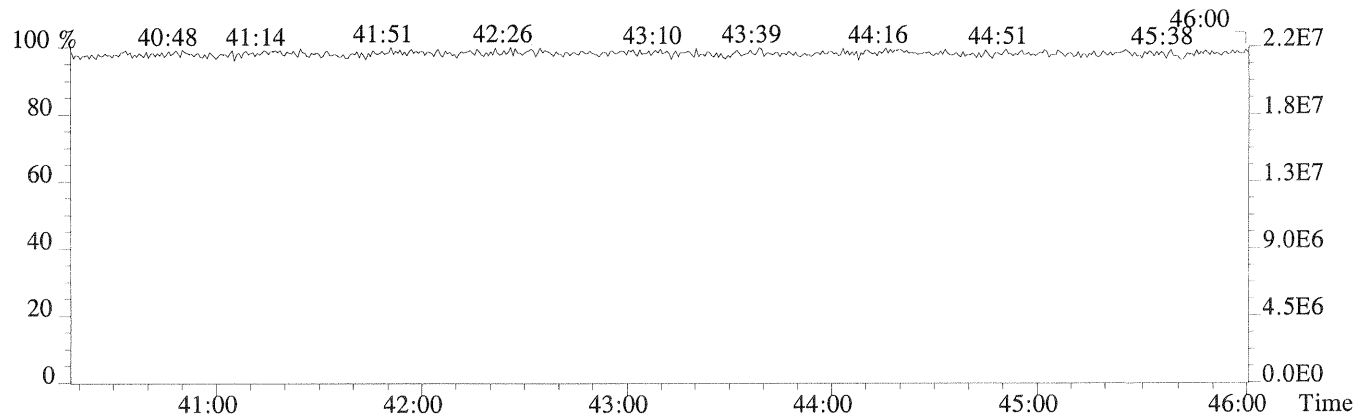
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

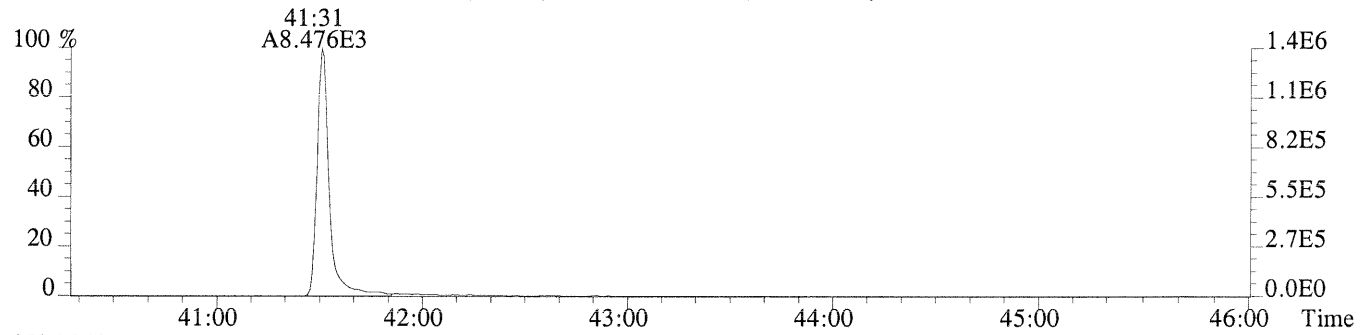


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

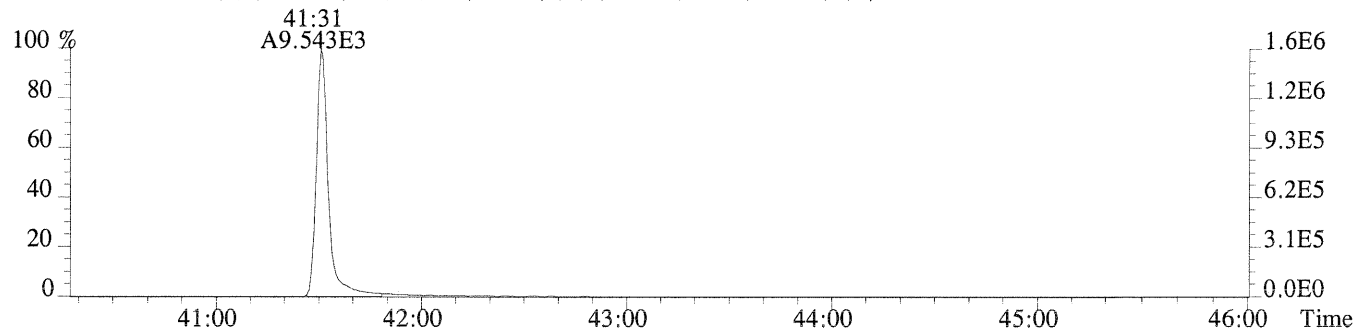


Sample#1 Exp:CS3

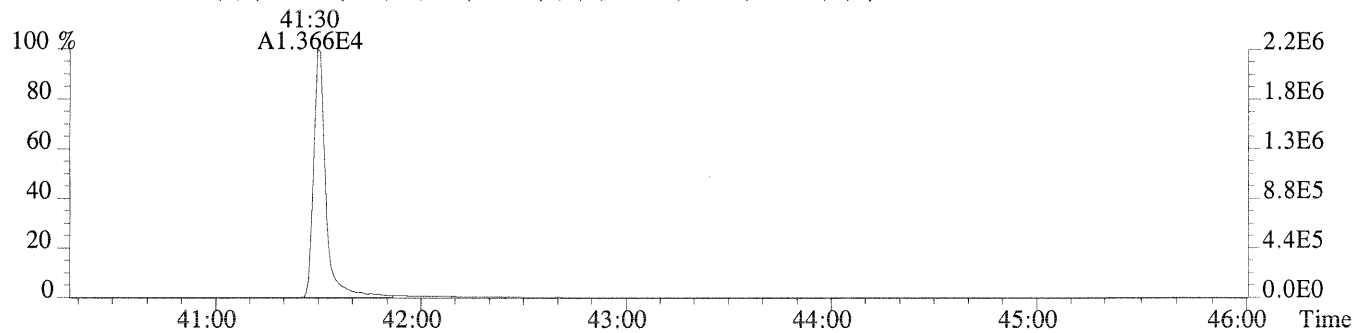
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,T)



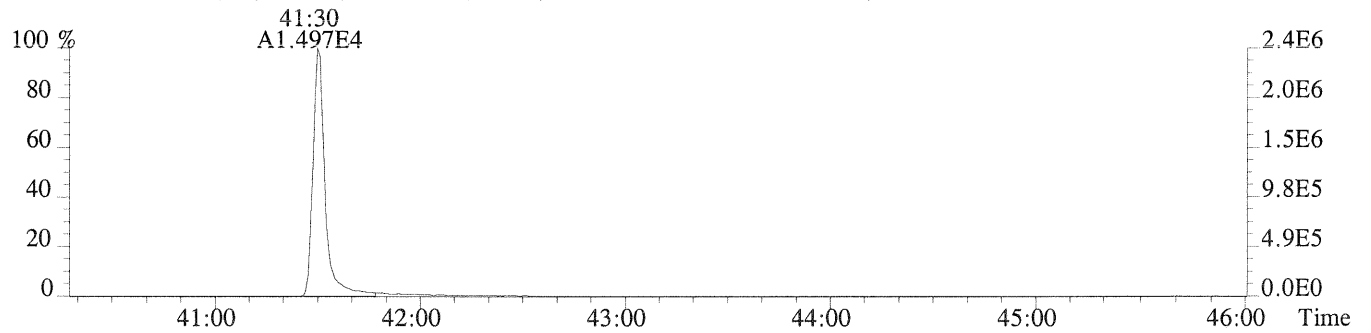
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,T)



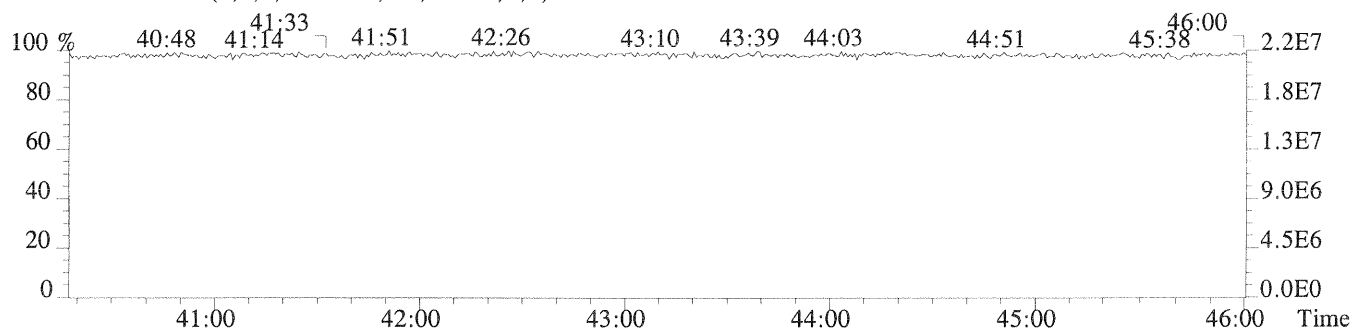
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,716.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,584.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





# Initial Calibration

**ALS Environmental - Houston HRMS**  
10450 Stancliff Rd., Suite 210, Houston, TX 77099  
Phone (713)266-1599 Fax (713)266-0130  
[www.alsglobal.com](http://www.alsglobal.com)

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## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 03/26/2014				
Instrument Name: E-HRMS-03	Calibration File Name: P1403251613I				
Processor Name: Chris Elhardt	Reviewer Name: Loan Luong				
Description	Yes	No	NA	NR	ER#
<b>Analytical Sequence</b>					
Does the analytical sequence summary accurately reflect the instrument run log, including ICV?	x				
Was a Mass Resolution Check performed at the beginning and end of the 12-hour sequence?	x				
Were all calibration standards and the ICV analyzed within the same 12-hour sequence?	x				
Were all calibration standards analyzed only once?	x				
Was the ICV analyzed after the ICAL, before analyzing samples?	x				
<b>Mass Resolution Check</b>					
Are beginning and ending resolution checks provided and legible?	x				
Were all target masses >10,000 resolving power at the beginning of the sequence?	x				
Were all target masses >10,000 resolving power at the end of the sequence?	x				
For PCB analysis, were masses at the low and high end of each function mass range >8,000?			x		
Where automatic printout of the mass resolution were not >10,000, was the resolution inspected by a trained analyst, including manual calculation of the resolution, if warranted?			x		
<b>Window Define/209</b>					
Is the window defining mix summary present, and accompanied by SICPs/Chromatograms for the WDM?	x				
Was the WDM/Column Performance/209 solution analyzed prior to the analysis of the calibration standards?	x				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?	x				
Were all first and last eluters adequately resolved in each function?	x				
If first and last eluters were not resolved, was corrective action performed and documented, followed by a reanalysis of the WDM?			x		
Was the retention time of PCB 209 >55 min?			x		
Were the following congeners uniquely resolved (valley height <40% of the shortest peak)? PCB-34 and PCB-23 PCB-187 and PCB-182			x		
Did PCB 156/157 co-elute within 2 seconds at peak maximum?					
<b>Calibration Standards</b>					
Were there at least 5 calibration standards analyzed?	x				
If not all calibration standards were used, were the omitted standards either the lowest or highest calibration standard?			x		
Are all sample response summaries, S/N height summaries, and SICPs included (and legible) for the entire sequence?	x				
Did each calibration point meet method criteria for Ion Abundance Ratio for all analytes and labeled standards?	x				

## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290		Process Date: 03/26/2014			
Instrument Name: E-HRMS-03		Calibration File Name: P1403251613I			
Processor Name: Chris Elhardt		Reviewer Name: Loan Luong			
Description	Yes	No	NA	NR	ER#
Did each calibration point meet method criteria for signal-to-noise ratios (S/N)?	x				
Were area counts for the highest calibration standard below levels of saturation?	x				
Were manual integrations technically justified to correct for poor software integration?	x				1
<b>Response Factors</b>					
Is the ICAL Response Factor Summary present, including RR/RF values for each native/labeled analyte at each level of calibration?	x				
Were all calibration standards used in determining response factors?	x				
Were relative response factors (RR) for each native analyte calculated at each calibration point?	x				
Did the RSD for RRFs for each native analyte meet method criteria?	x				
Were response factors (RF) for each native analyte not having a corresponding labeled compound calculated at each calibration point?	x				
Were RFs for each labeled compound calculated for each calibration point?	x				
Did the RSD for RF for each labeled compound meet method criteria?	x				
<b>Initial Calibration Verification</b>					
Is the calibration verification present, including form 4A/B reflecting results for the ICV (Conc. or %D)	x				
Did all analytes meet method criteria for the ICV.	x				

Laboratory Review Checklist: Initial Calibration	
Method: 1613/8290	
Process Date: 03/26/2014	
Instrument Name: E-HRMS-03	
Calibration File Name: P1403251613I	
Processor Name: Chris Elhardt	
Reviewer Name: Loan Luong	
ER# <sup>5</sup>	Description
1	Manual Integration on CS0.5 in order to correct inconsistent baseline determinations between primary and secondary ions.
NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	



# Initial Calibration QC Checklist

ICAL Name: P1403251613I

Date: 03/25/14

Method: (1613) / (8290) / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23 / TO-9

Retention Window/Column Performance Check

Analyst

Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration

Analyst

Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column <u>DB-SMSVI</u>	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of lcal summary included	✓	✓

Analyst: cel

Second QC: ukl

icalqc.xls 02-23-00

5DBC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS Environmental

Contract:

Lab Code: ALS-TX

Case No.:

SDG No.:

GC Column: DB-5msui

ID: 0.25 (mm)

Instrument ID: E-HRMS-03

Init. Calib. Date: 03/25/14

Init. Calib. Times: 16:28:21

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

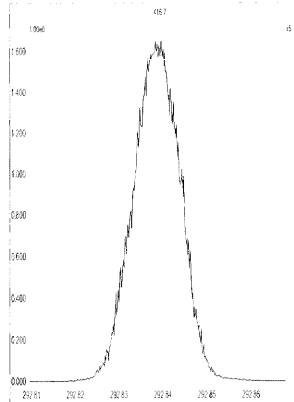
EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
WINDOW DEFINE	63680	P169969	25-MAR-14	16:28:21
66807	ICAL HRCC0.5/C <sub>7</sub>	P169970	25-MAR-14	17:22:36
66798	ICAL HRCC1/CS1	P169971	25-MAR-14	18:10:10
D12-90-3B	ICAL HRCC2/CS2	P169972	25-MAR-14	18:58:18
63383	ICAL HRCC3/CS3	P169973	25-MAR-14	19:46:25
D12-90-3D	ICAL HRCC4/CS4	P169974	25-MAR-14	20:34:32
66799	ICAL HRCC5/CS5	P169975	25-MAR-14	21:22:40
60287	ICV 2ND SOURCE	P169976	25-MAR-14	22:10:47
D12-5-1B	STD	P169977	25-MAR-14	22:58:54



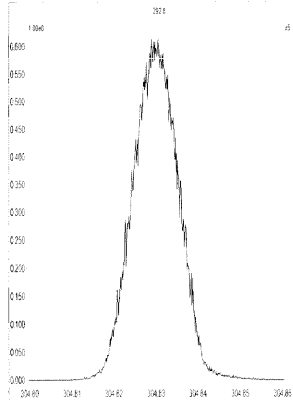
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:18:56 Central Daylight Time

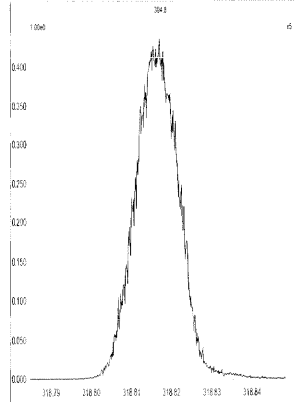
M 292.9824 R 12370



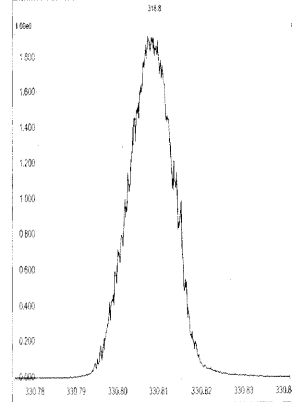
M 304.9824 R 12891



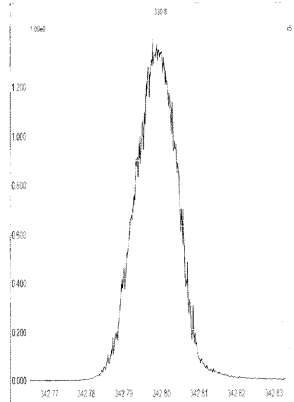
M 318.9792 R 13663



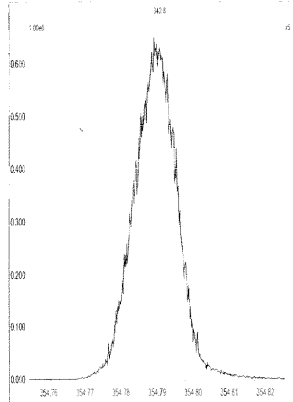
M 330.9792 R 13736



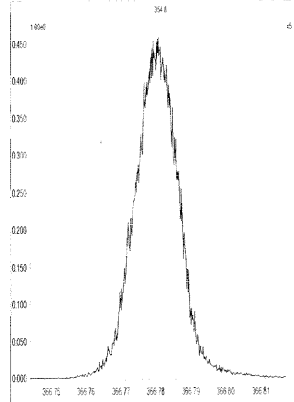
M 342.9792 R 13092



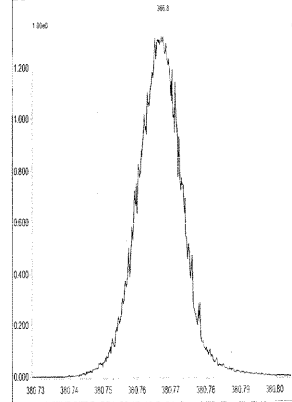
M 354.9792 R 13228



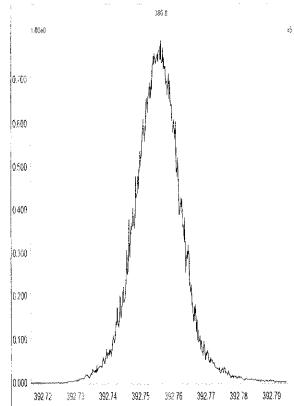
M 366.9792 R 12441



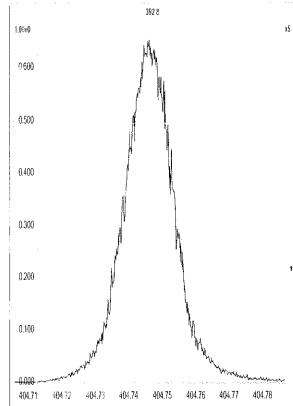
M 380.9760 R 12192



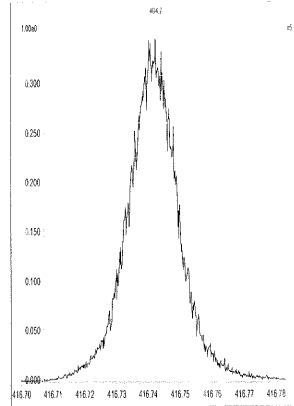
M 392.9760 R 11363



M 404.9760 R 10462



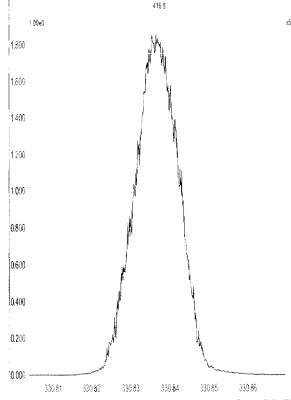
M 416.9760 R 10204



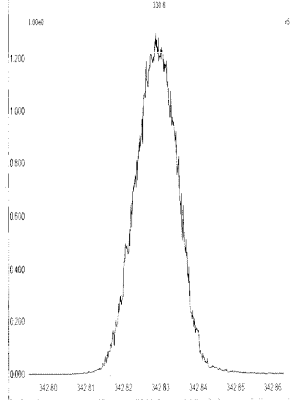
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:20:42 Central Daylight Time

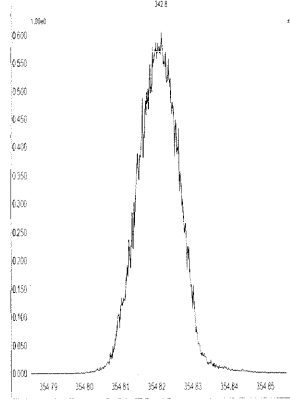
M 330.9792 R 13090



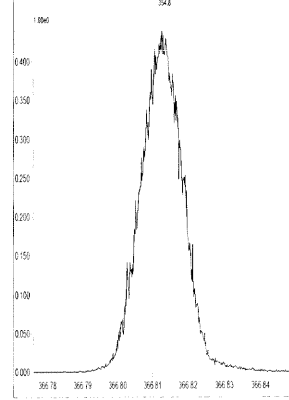
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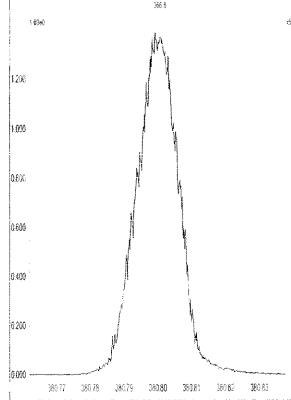
M 354.9792 R 13663



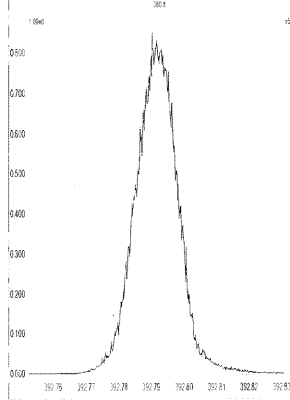
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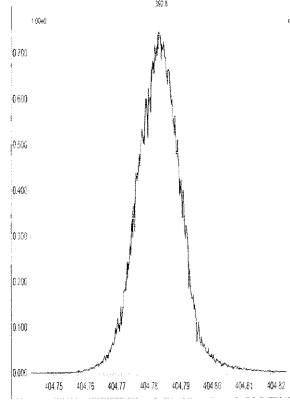
M 380.9760 R 14122



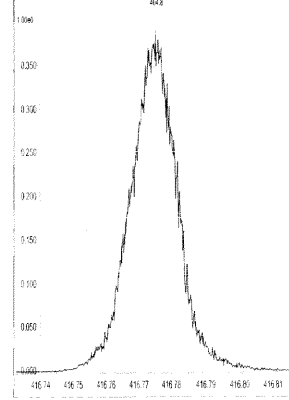
M 392.9760 R 13370



M 404.9760 R 12630



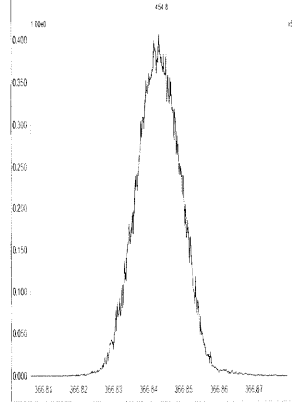
M 416.9760 R 11906



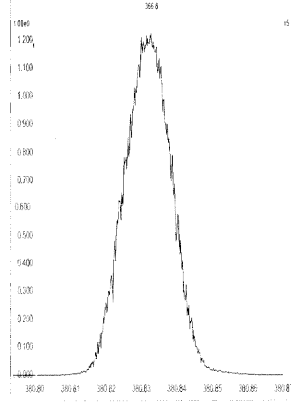
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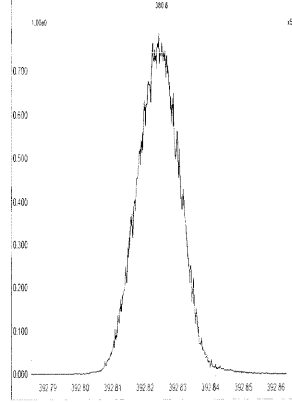
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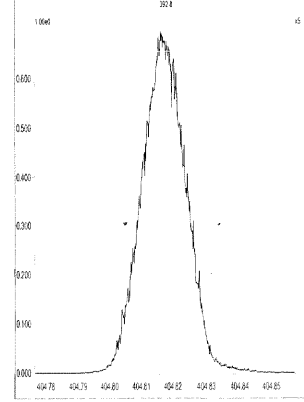
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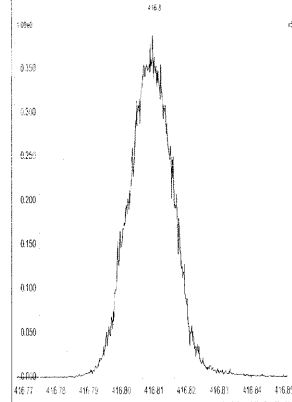
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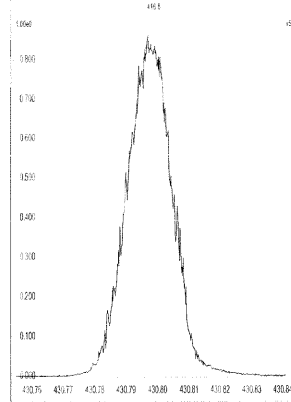
M 404.9760 R 13297



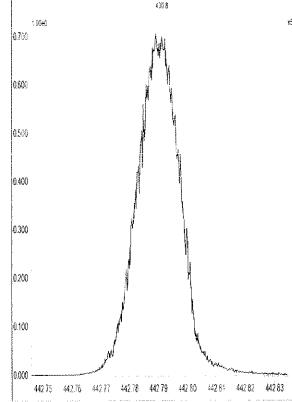
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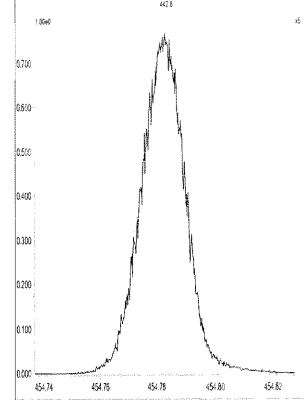
M 430.9728 R 13370



M 442.9728 R 12819



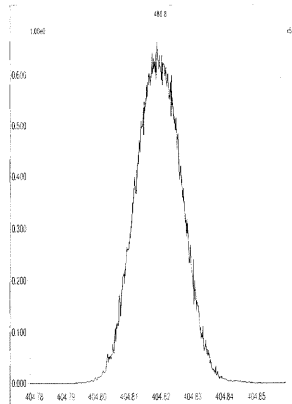
M 454.9728 R 13018



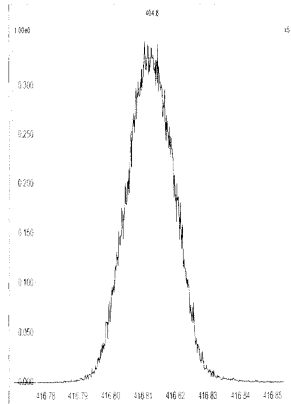
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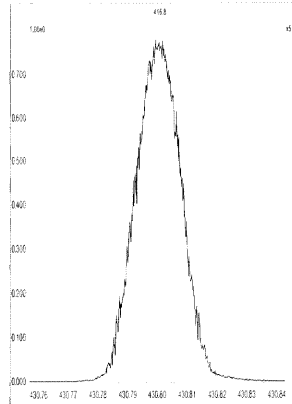
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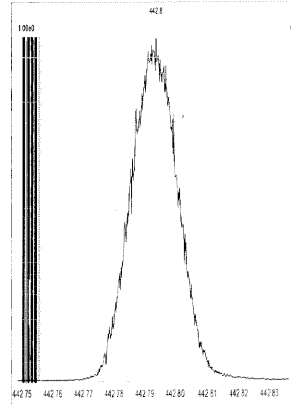
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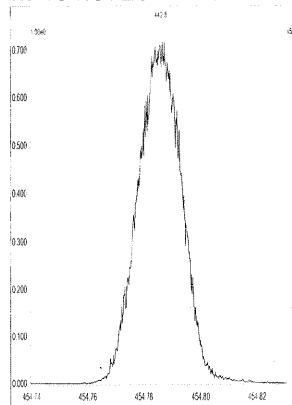
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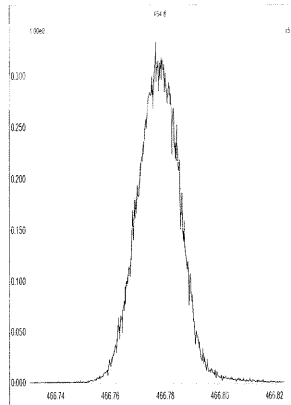
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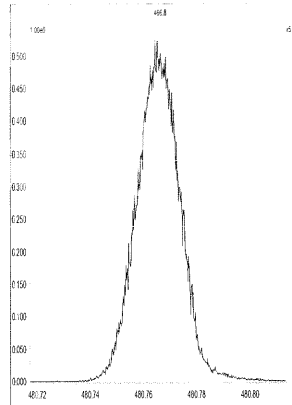
M 454.9728 R 13018



M 466.9728 R 13089



M 480.9696 R 13092



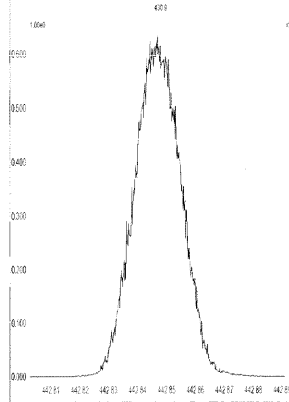
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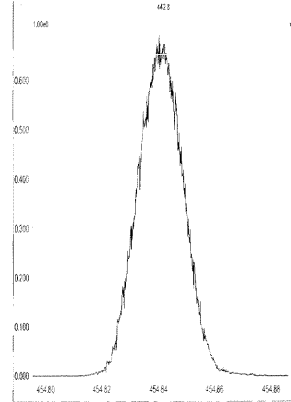
M 430.9728 R 12021



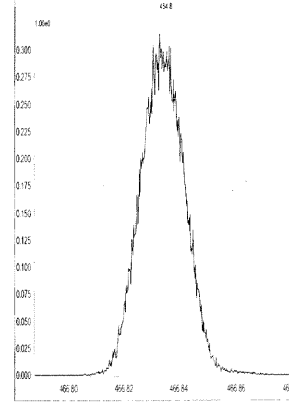
M 442.9728 R 12627



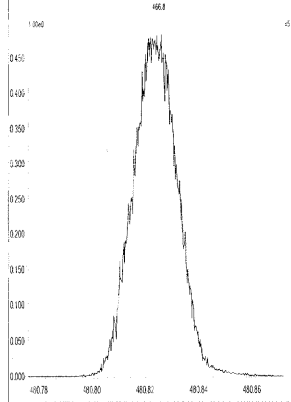
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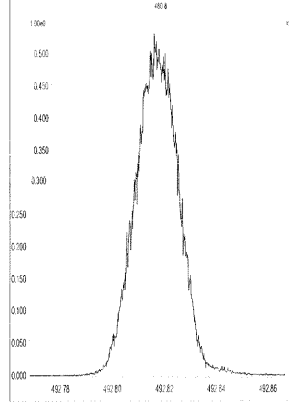
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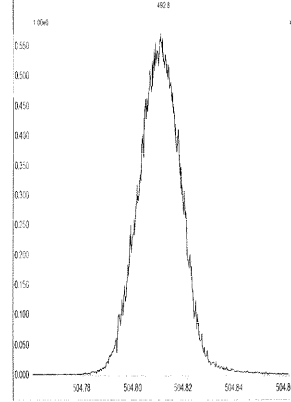
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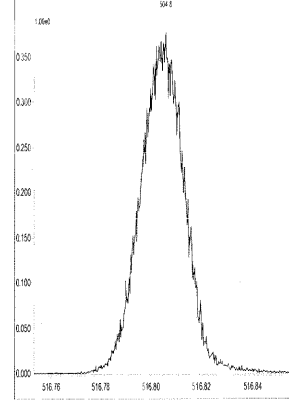
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M 504.9696 R 12950



M 516.9697 R 13161

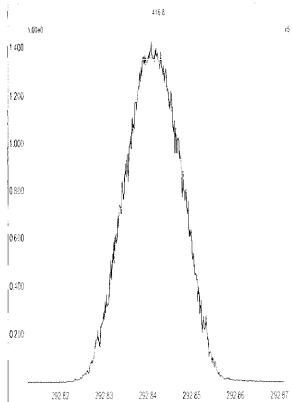




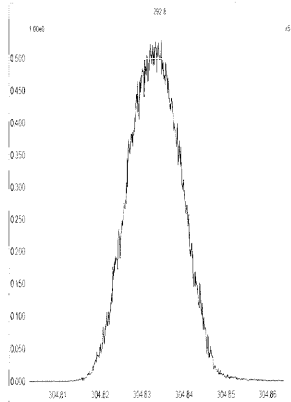
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Printed: Wednesday, March 26, 2014 07:35:40 Central Daylight Time

M 292.9824 R 10368



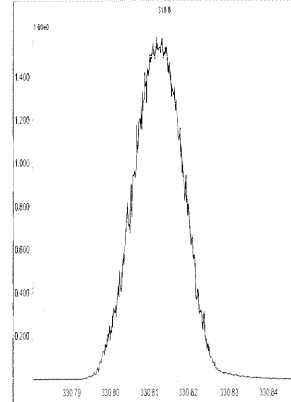
M 304.9824 R 10682



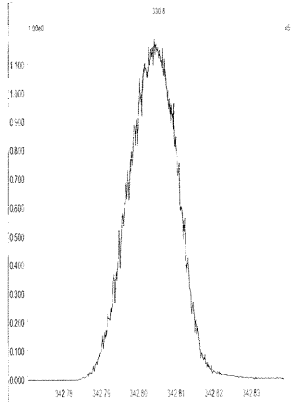
M 318.9792 R 11314



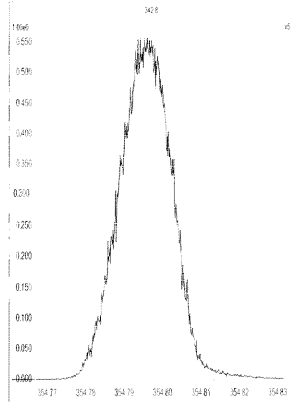
M 330.9792 R 11520



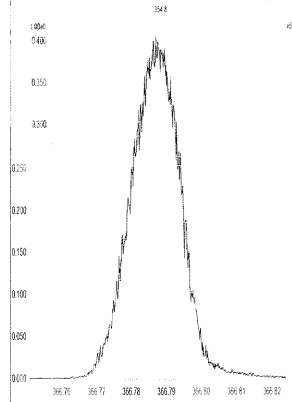
M 342.9792 R 11740



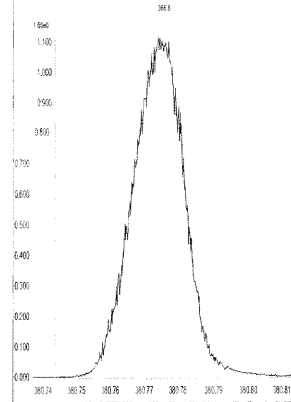
M 354.9792 R 11628



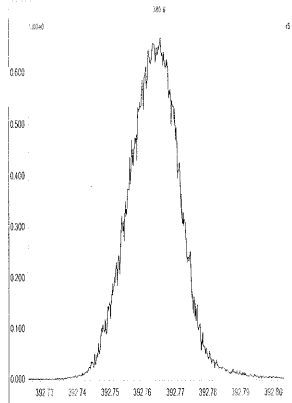
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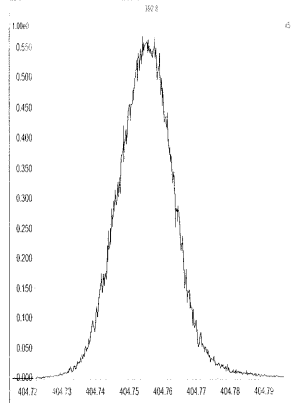
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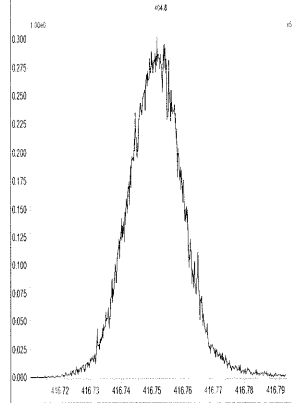
M 392.9760 R 11111



M 404.9760 R 10546



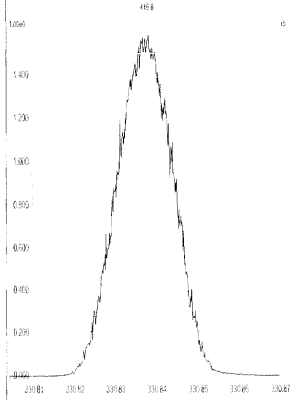
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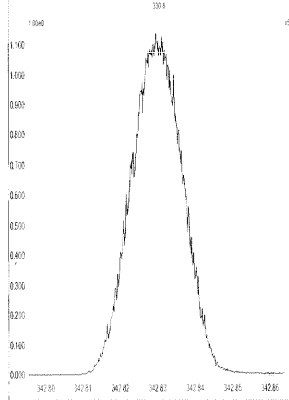
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Printed: Wednesday, March 26, 2014 07:36:50 Central Daylight Time

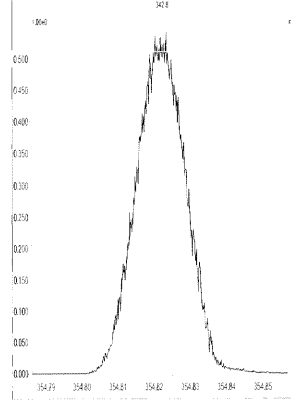
M 330.9792 R 10965



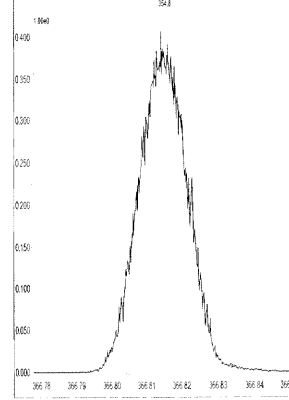
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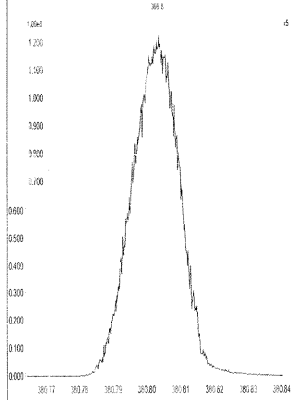
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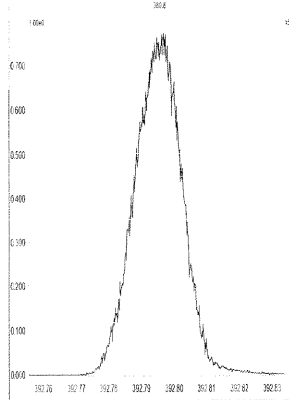
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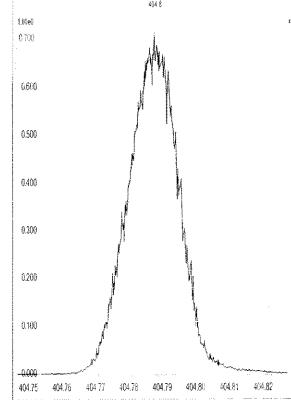
M 380.9760 R 12313



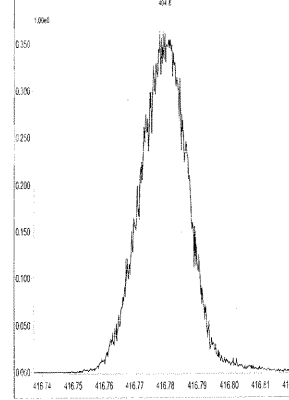
M 392.9760 R 12438



M 404.9760 R 12018



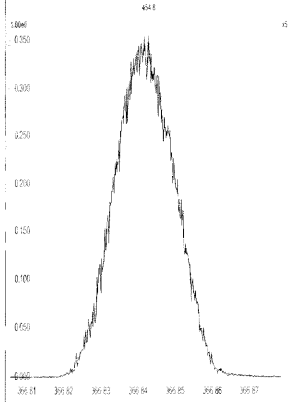
M 416.9760 R 11906



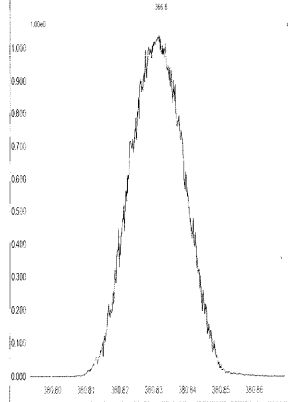
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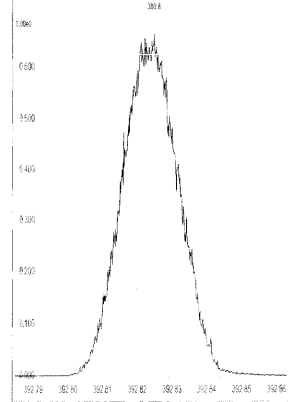
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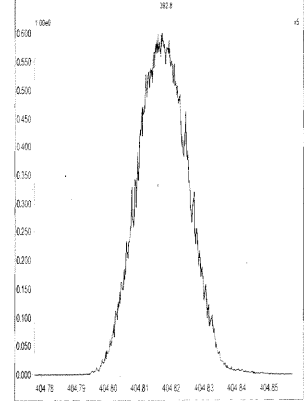
M 380.9760 R 10728



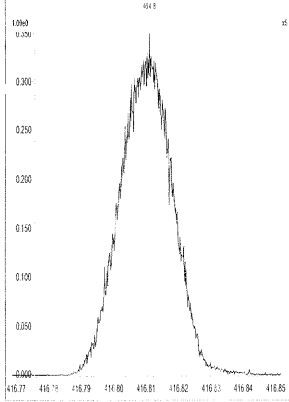
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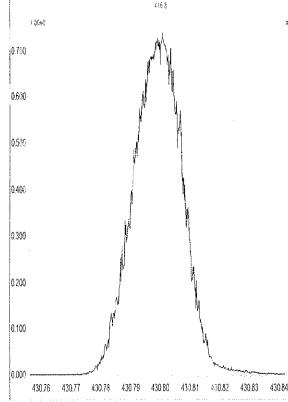
M 404.9760 R 11415



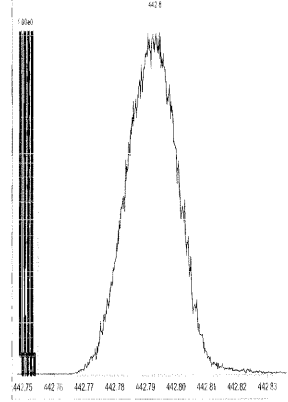
M 416.9760 R 11680



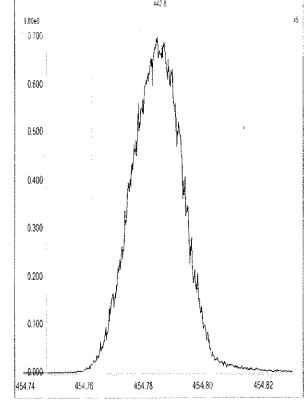
M 430.9728 R 11849



M 442.9728 R 12194



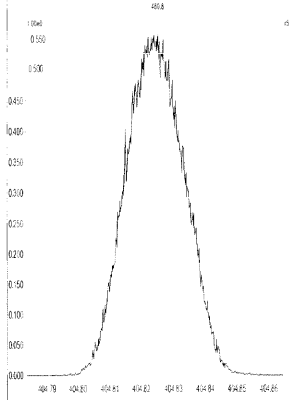
M 454.9728 R 12079



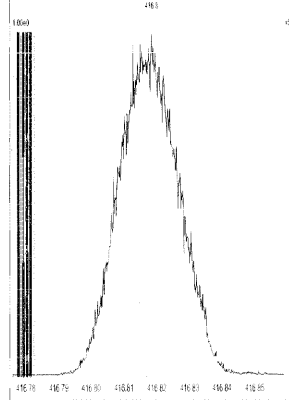
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:38:59 Central Daylight Time

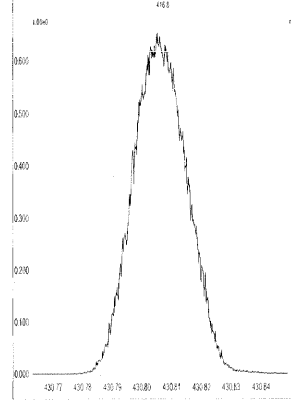
M 404.9760 R 10040



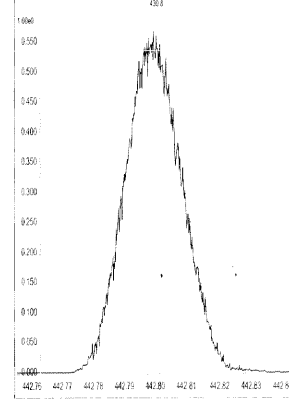
M 416.9760 R 10286



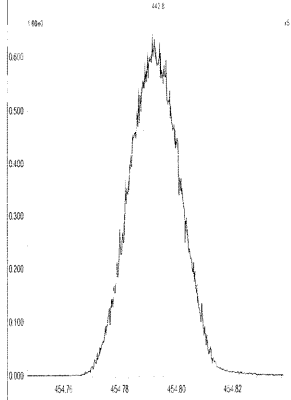
M 430.9728 R 10962



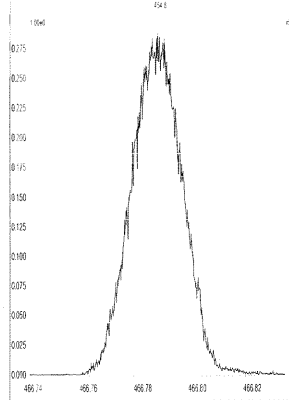
M 442.9728 R 10916



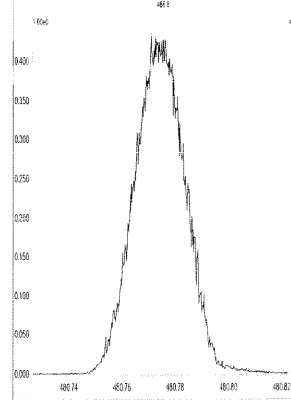
M 454.9728 R 11259



M 466.9728 R 11312



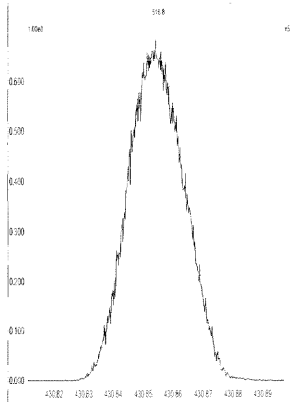
M 480.9696 R 11520



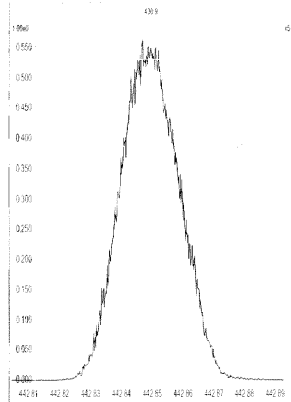
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:43:00 Central Daylight Time

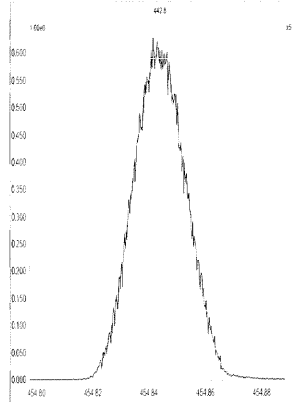
M 430.9728 R 10415



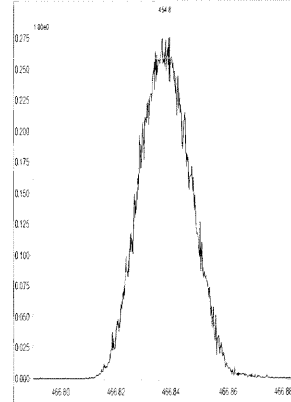
M 442.9728 R 10414



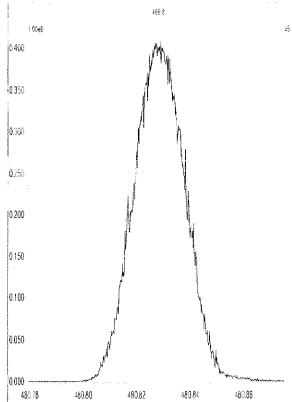
M 454.9728 R 10822



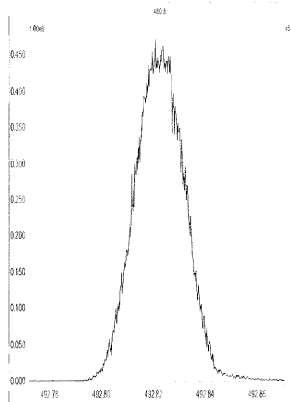
M 466.9728 R 11262



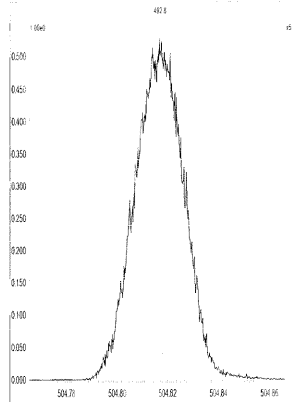
M 480.9696 R 11468



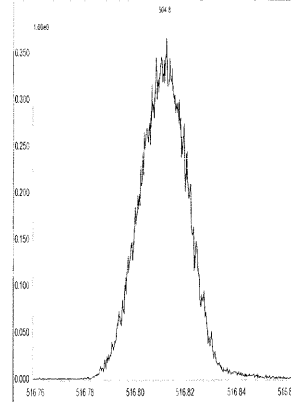
M 492.9696 R 11630



M 504.9696 R 11734



M 516.9697 R 11740



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

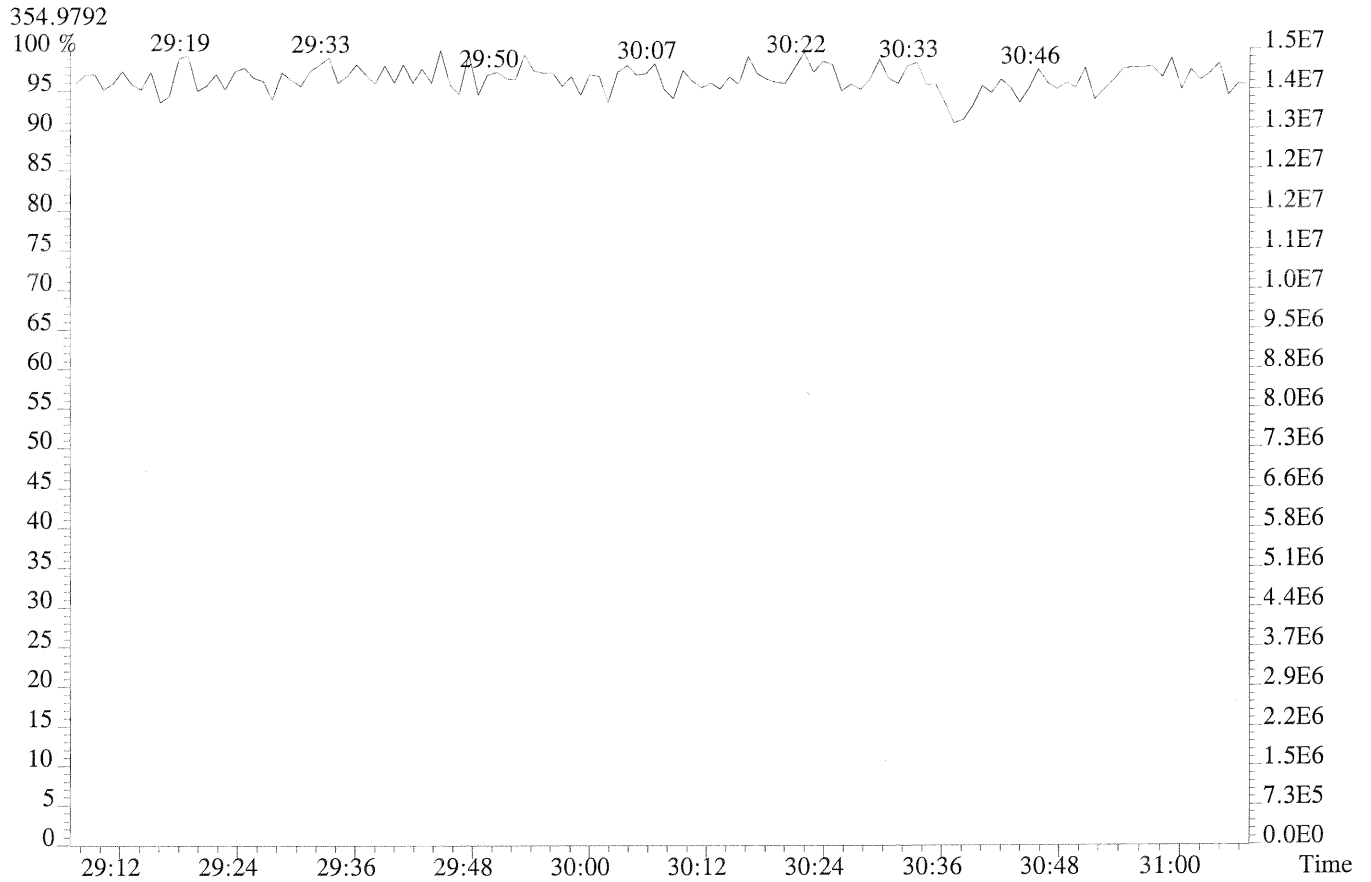
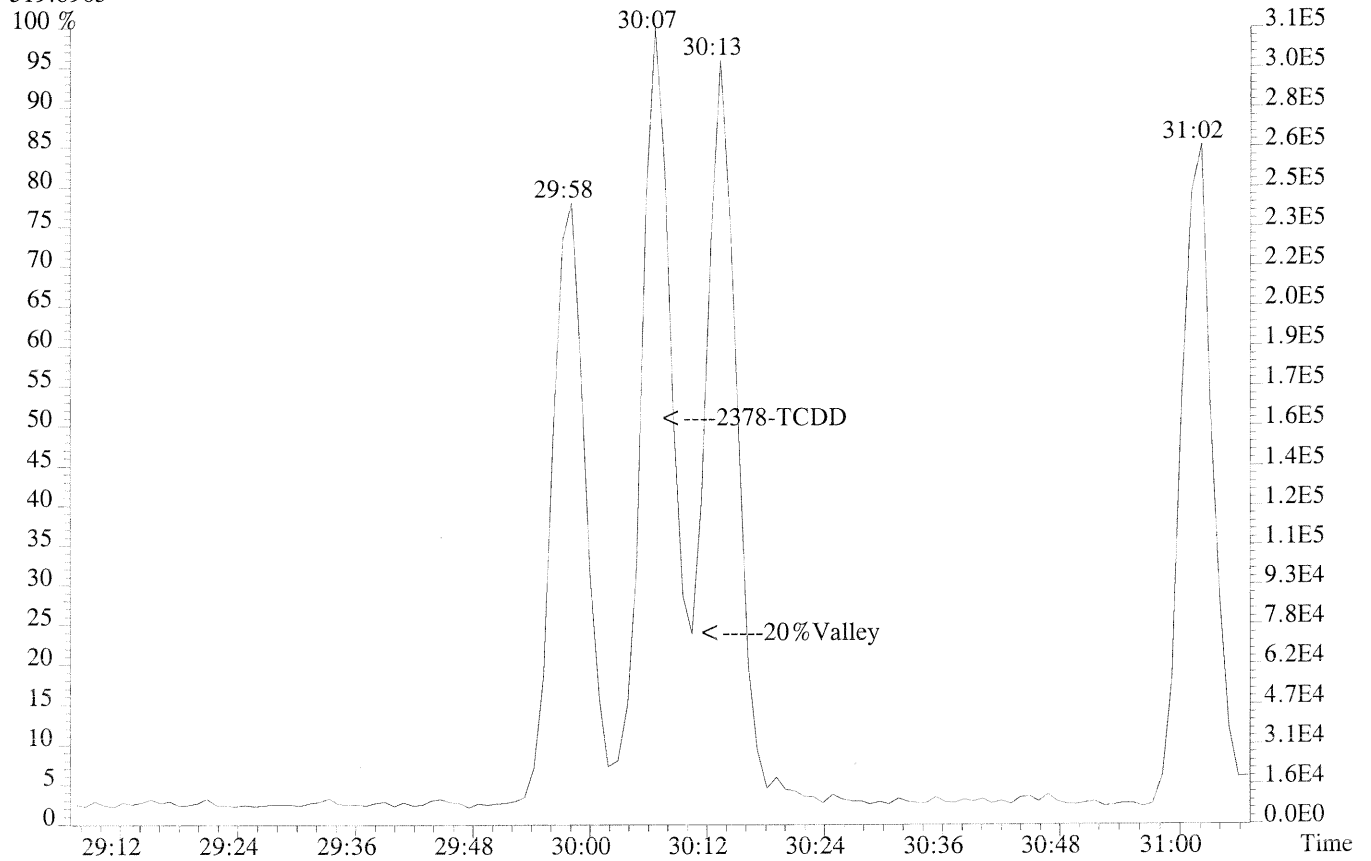
Lab Name: ALS ENVIRONMENTAL  
 Lab Code: TX01411  
 GC Column: DB-5msUI

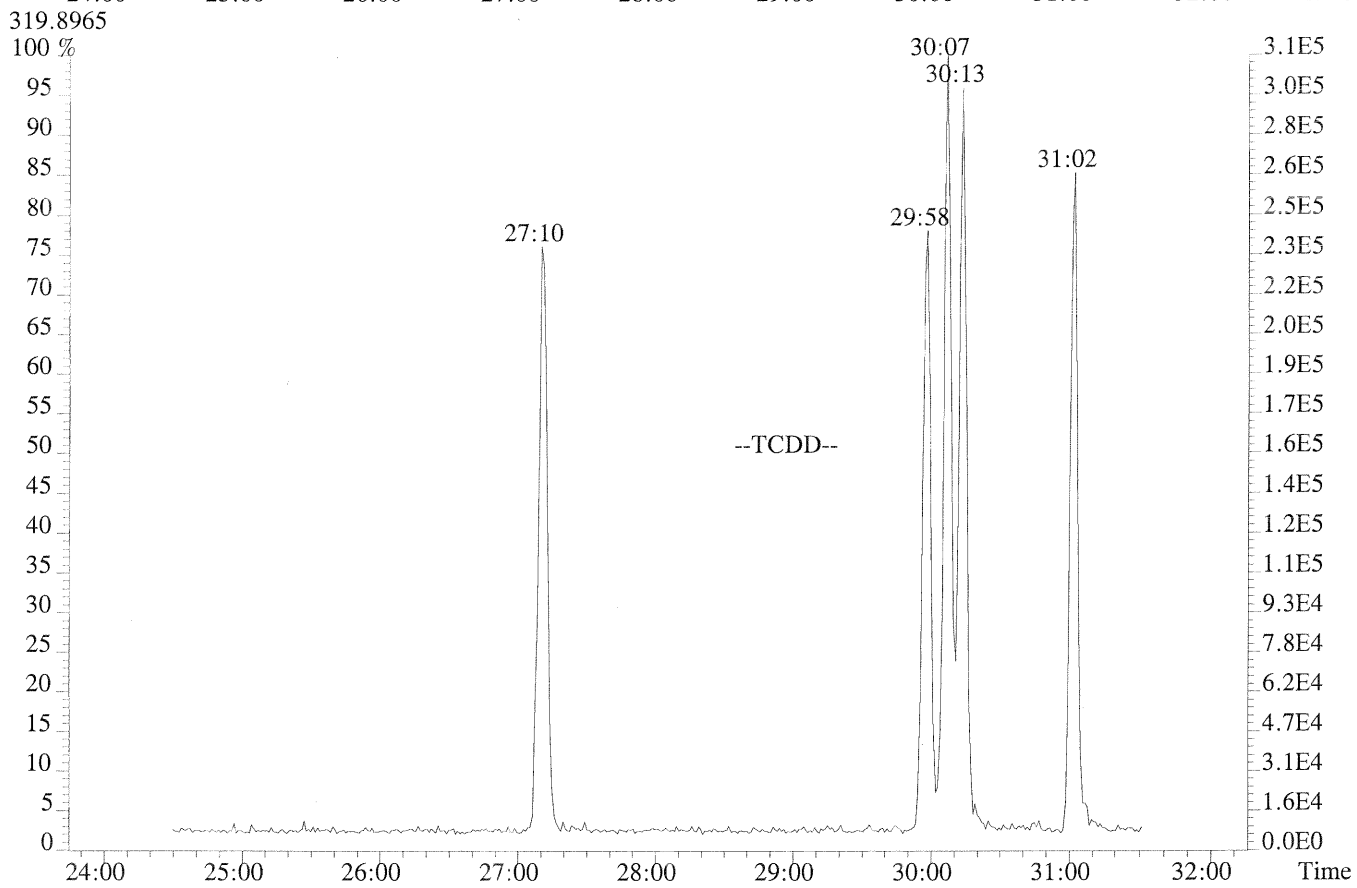
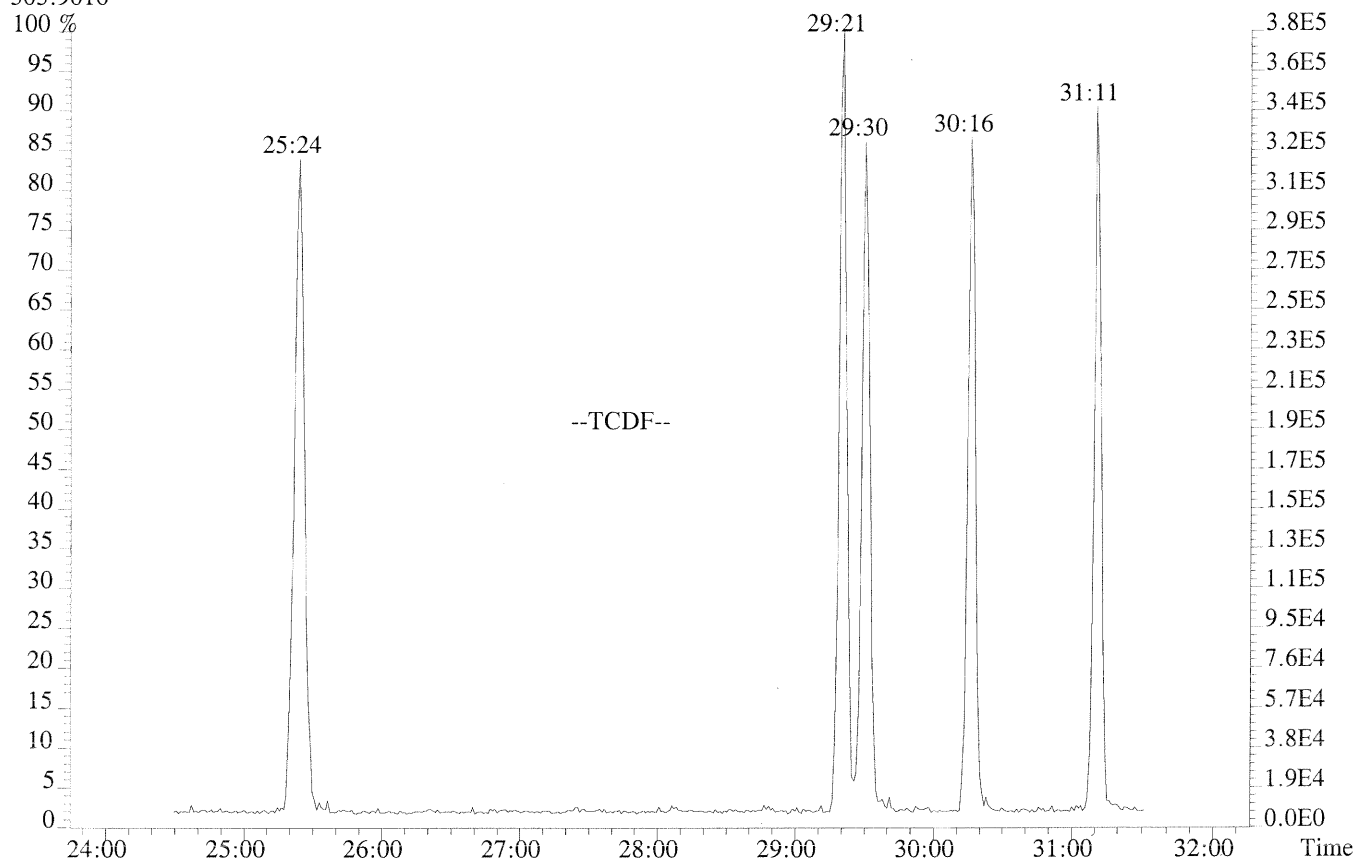
Case No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_  
 ID: 0.25 (mm) Lab File ID: P169969  
 Date Analyzed: 25-MAR-2014  
 Time Analyzed: 16:28:21

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	25:24	31:11
TCDD	27:10	31:02
PeCDF	31:07	35:07
PeCDD	32:32	34:51
HxCDF	35:43	38:08
HxCDD	36:13	37:44
HpCDF	39:20	40:47
HpCDD	39:35	40:17

% Valley 2378-TCDD: 20 %

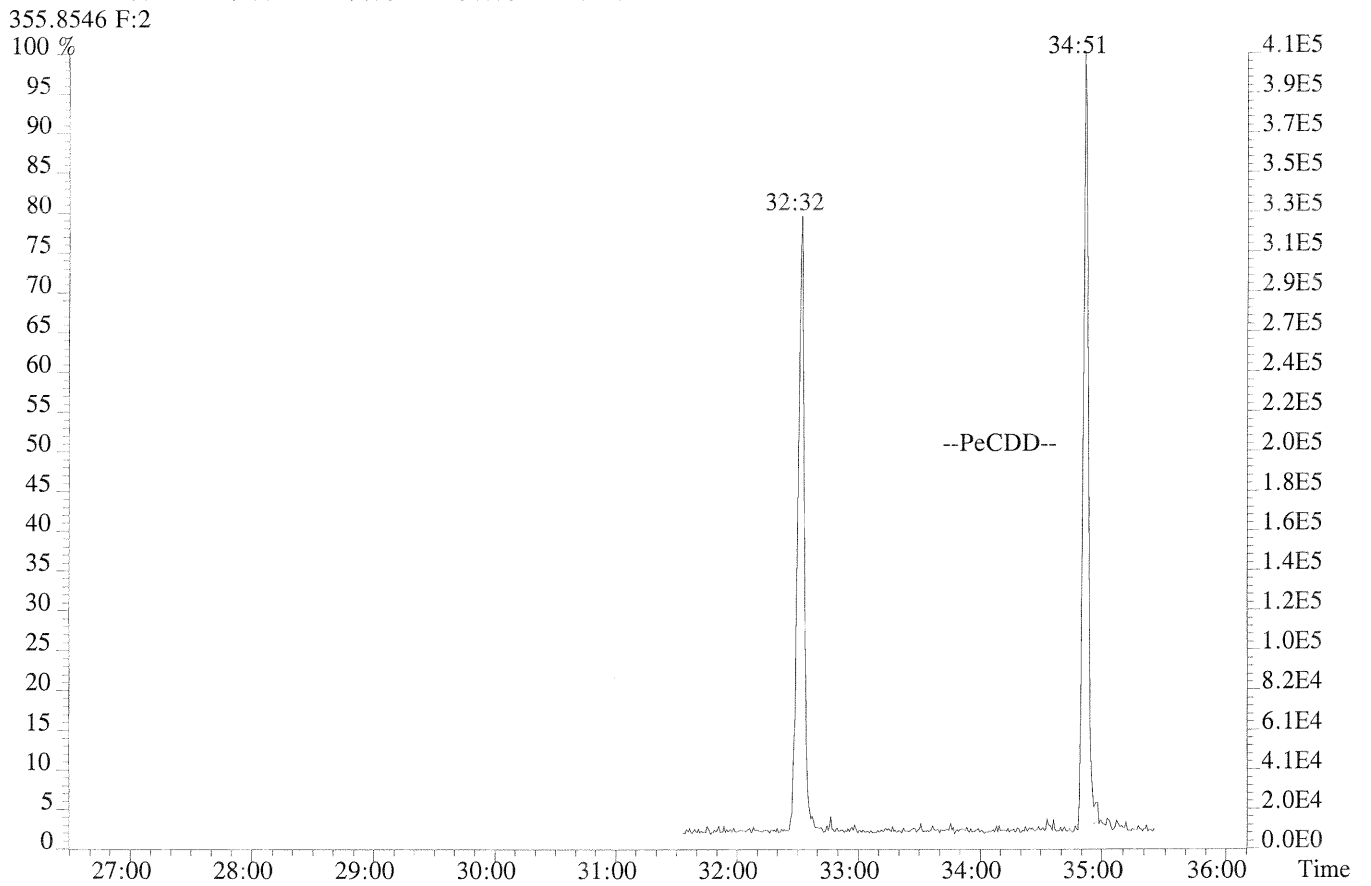
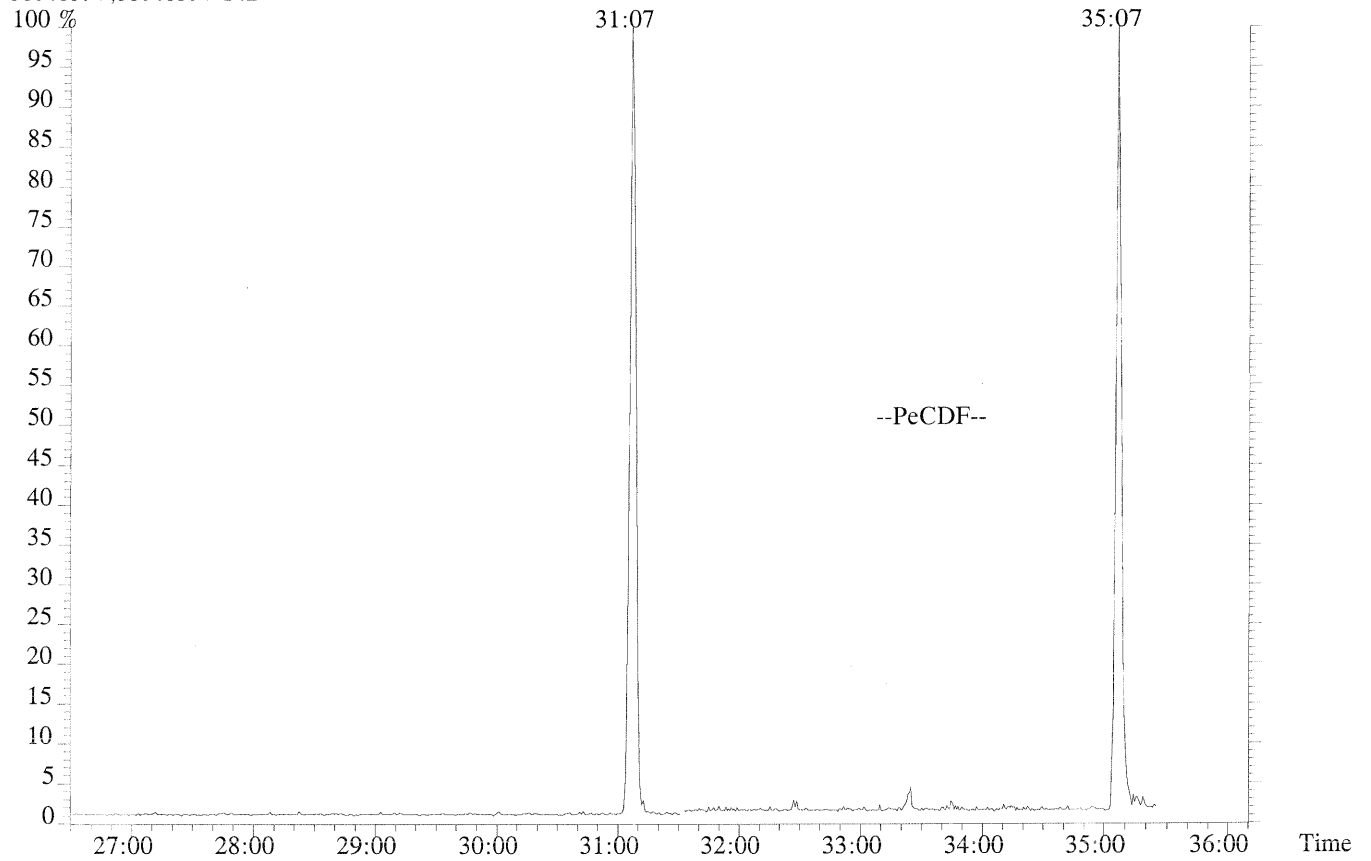
File:P169969 #1-442 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965



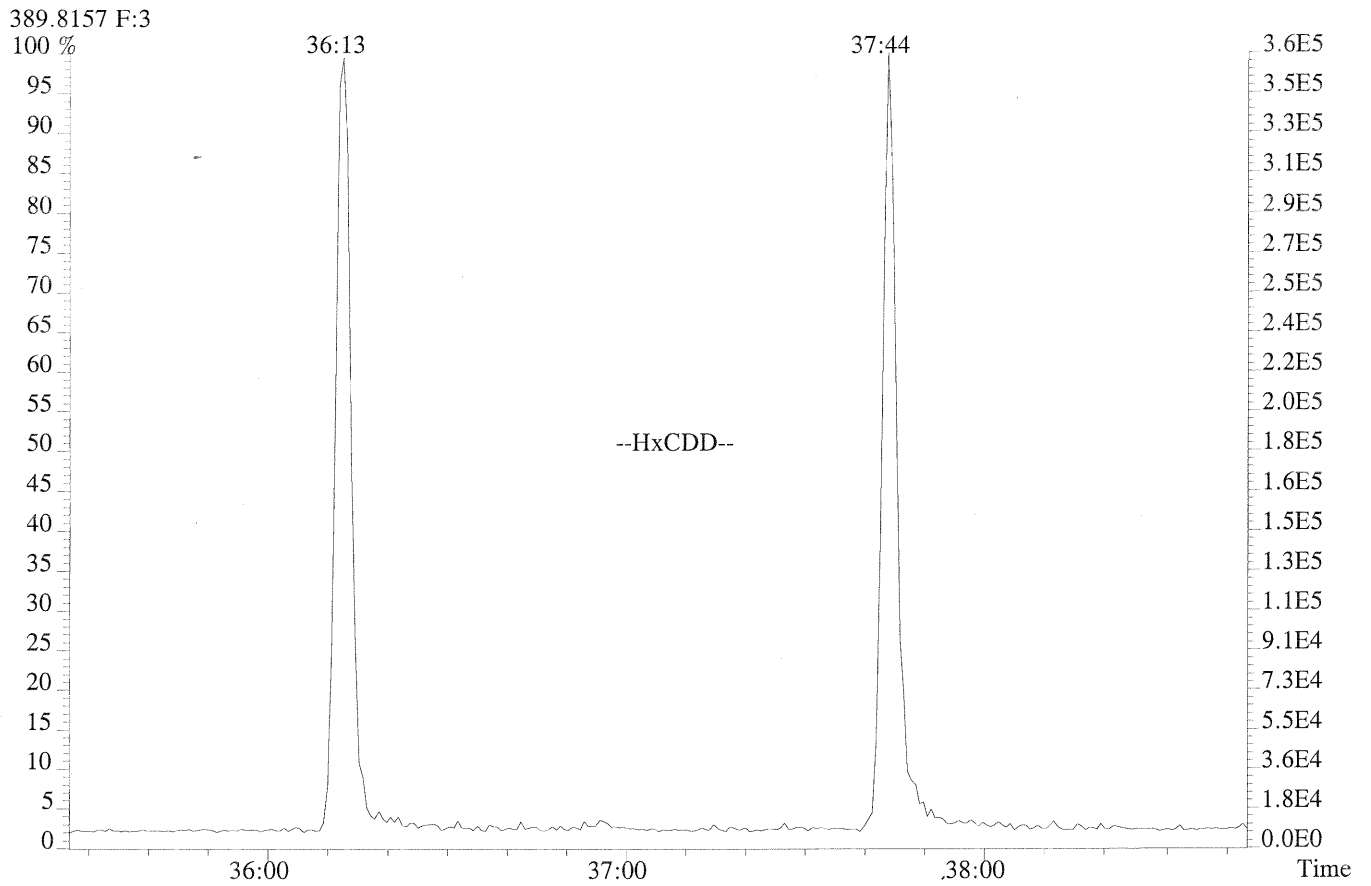
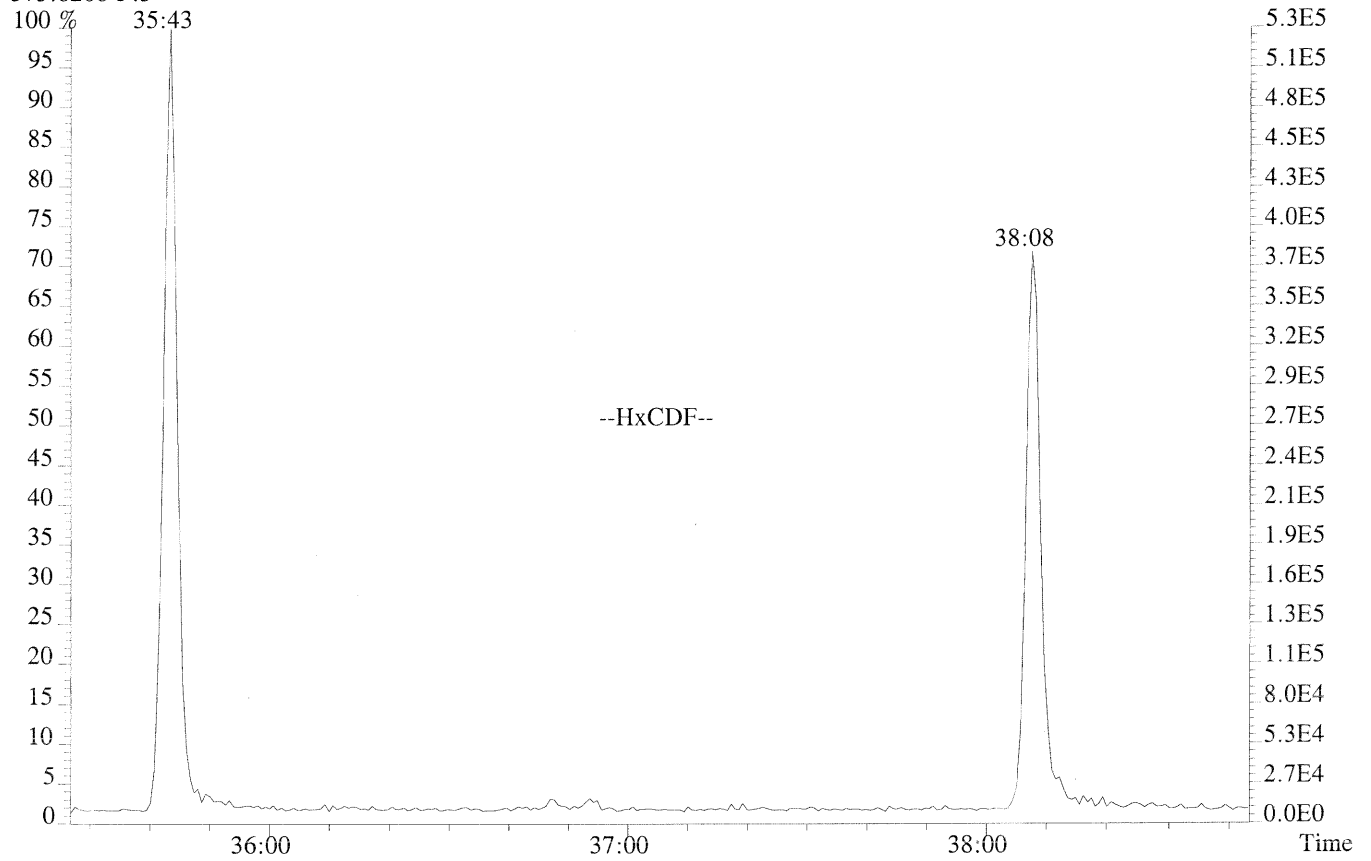




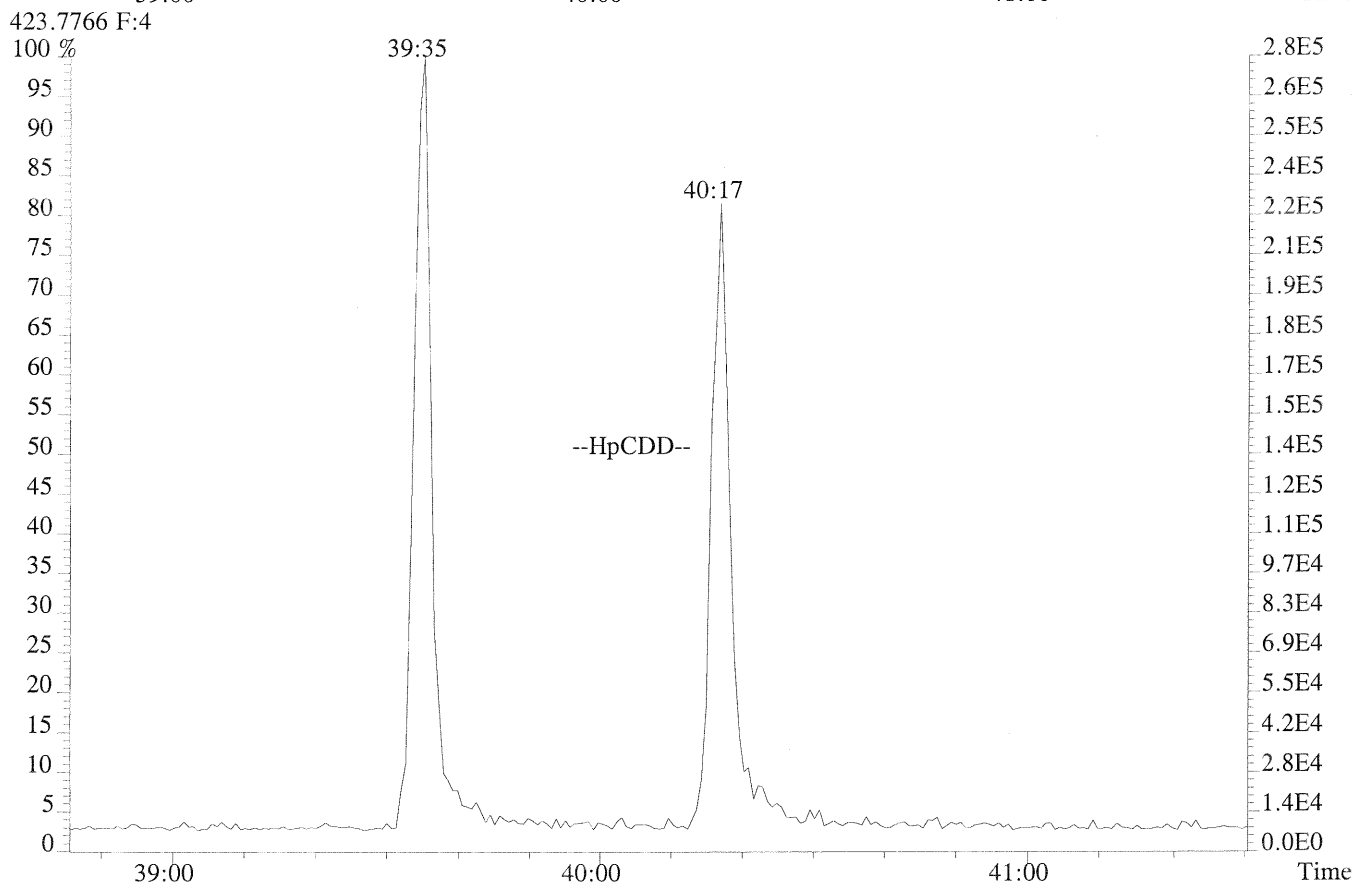
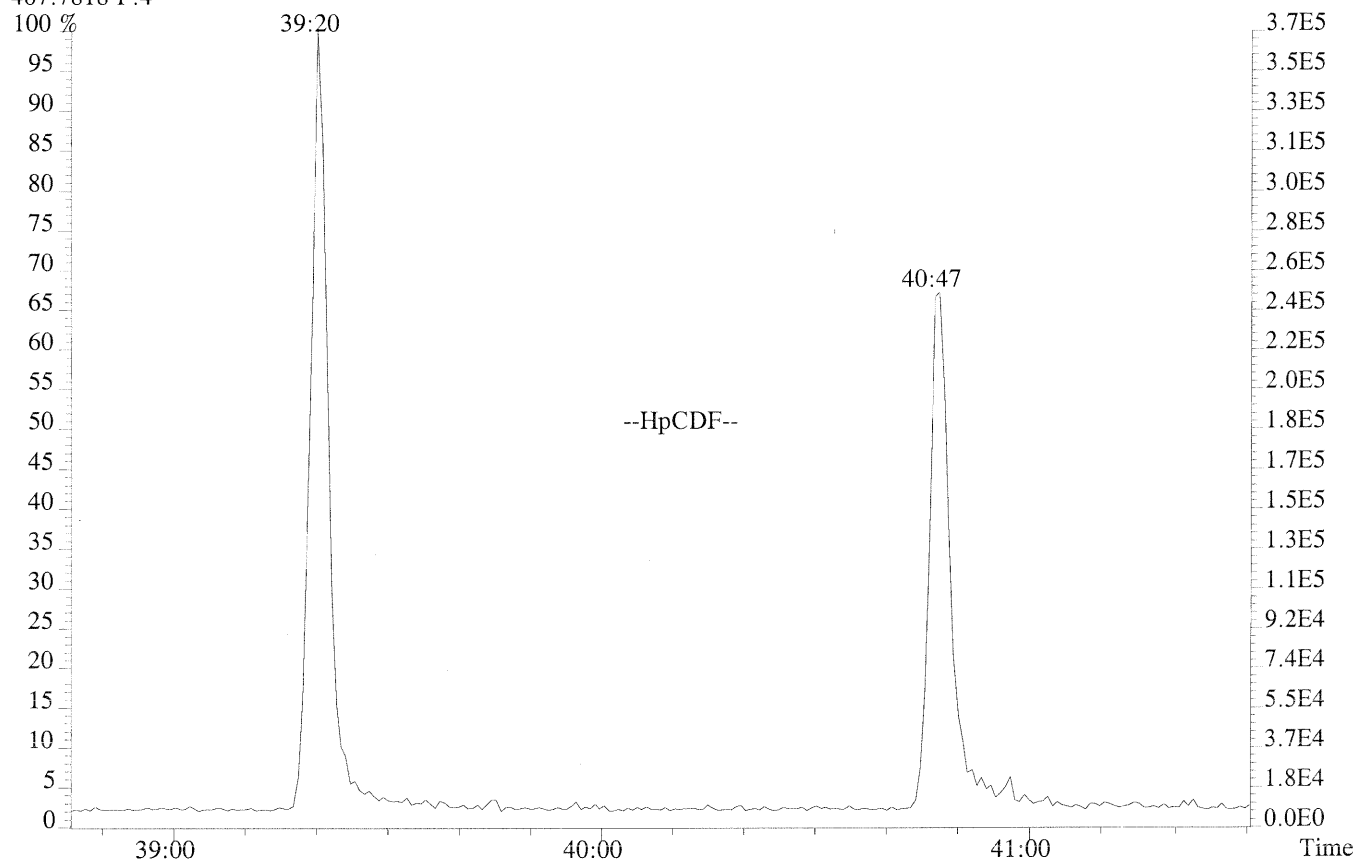
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Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:P169969 #1-298 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:P169969 #1-250 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



USEPA - CLP  
6DFA6  
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY  
HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

Lab Code: ALSTX

Case No.:

TO No.:

SDG No.:

GC Column: DB-5msui ID: 0.25(mm)

Instrument ID: E-HRMS-03

Init. Calib. Date(s): 03/25/14

Analyte Table: 1613P

Init. Calib. Time.: 16:28:21

RR/RRF

Target Analytes	RR/RRF						MEAN		QC LIMITS
	CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	
2,3,7,8-TCDF	0.95	1.00	0.87	0.91	0.96	0.98	0.95	4.91	+/-20%
1,2,3,7,8-PeCDF	1.01	1.01	1.02	1.03	1.04	0.99	1.02	1.64	+/-20%
2,3,4,7,8-PeCDF	0.91	0.97	0.96	0.97	0.99	1.06	0.98	5.08	+/-20%
1,2,3,4,7,8-HxCDF	1.16	1.27	1.25	1.26	1.26	1.24	1.24	3.16	+/-20%
1,2,3,6,7,8-HxCDF	1.17	1.17	1.17	1.16	1.18	1.21	1.18	1.60	+/-20%
2,3,4,6,7,8-HxCDF	1.11	1.17	1.12	1.15	1.18	1.17	1.15	2.25	+/-20%
1,2,3,7,8,9-HxCDF	1.06	1.16	1.14	1.17	1.20	1.19	1.15	4.31	+/-20%
1,2,3,4,6,7,8-HpCDF	1.39	1.41	1.37	1.42	1.43	1.39	1.40	1.56	+/-20%
1,2,3,4,7,8,9-HpCDF	1.21	1.33	1.32	1.33	1.34	1.42	1.32	5.16	+/-20%
OCDF	1.29	1.29	1.31	1.32	1.37	1.26	1.31	2.73	+/-20%
2,3,7,8-TCDD	1.06	1.04	1.00	1.02	1.05	1.07	1.04	2.55	+/-20%
1,2,3,7,8-PeCDD	0.95	0.91	0.91	0.93	0.95	0.99	0.94	3.15	+/-20%
1,2,3,4,7,8-HxCDD	1.03	1.02	1.00	1.02	1.04	1.14	1.04	4.72	+/-20%
1,2,3,6,7,8-HxCDD	0.97	1.01	1.00	1.00	1.03	0.93	0.99	3.43	+/-20%
1,2,3,7,8,9-HxCDD	1.07	1.14	1.07	1.09	1.12	1.06	1.09	2.98	+/-20%
1,2,3,4,6,7,8-HpCDD	0.98	1.03	1.01	1.03	1.03	1.01	1.02	2.05	+/-20%
OCDD	1.05	1.14	1.08	1.08	1.11	1.01	1.08	4.34	+/-20%
13C-2,3,7,8-TCDF	1.39	1.40	1.42	1.40	1.69	1.42	1.45	7.91	+/-35%
13C-1,2,3,7,8-PeCDF	1.61	1.64	1.66	1.73	2.55	1.91	1.85	19.37	+/-35%
13C-2,3,4,7,8-PeCDF	1.60	1.62	1.63	1.69	2.45	1.82	1.80	18.08	+/-35%
13C-1,2,3,4,7,8-HxCDF	1.03	1.03	1.03	1.02	1.02	1.13	1.05	4.17	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.19	1.20	1.18	1.21	1.20	1.23	1.20	1.38	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.12	1.11	1.12	1.12	1.09	1.17	1.12	2.15	+/-35%
13C-1,2,3,7,8,9-HxCDF	1.02	1.02	1.01	1.02	1.01	1.08	1.03	2.61	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	0.87	0.89	0.89	0.91	0.91	0.98	0.91	4.22	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.78	0.80	0.81	0.82	0.83	0.85	0.81	2.99	+/-35%
13C-2,3,7,8-TCDD	0.99	0.95	0.98	0.98	1.40	1.01	1.05	16.37	+/-35%
13C-1,2,3,7,8-PeCDD	1.17	1.17	1.18	1.23	1.83	1.33	1.32	19.72	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.88	0.87	0.85	0.85	0.83	0.89	0.86	2.47	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.89	0.91	0.93	0.94	0.94	1.06	0.95	6.27	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.83	0.84	0.85	0.85	0.86	0.94	0.86	4.39	+/-35%
13C-OCDD	0.69	0.72	0.74	0.75	0.76	0.89	0.76	8.98	+/-35%
13C-1,2,3,4-TCDD	-	-	-	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	-	-	-	-	-	-	-
37Cl-2,3,7,8-TCDD	0.98	1.10	1.01	1.04	1.52	1.10	1.12	17.58	+/-35%

1. 123789-HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.

2. OCDF RR is calculated based on the labeled analog of OCDD



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
66807

Run #1      Filename P169970      Samp: 1      Inj: 1      Acquired: 25-MAR-14 17:22:36  
Processed: 26-MAR-14 10:00:38      Sample ID: ICAL HRCC0.5/CS0.5

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	7.182e+01	9.880e+01	0.73	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:23	6.200e+02	4.274e+02	1.45	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:14	5.588e+02	3.809e+02	1.47	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	5.002e+02	3.763e+02	1.33	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:53	5.547e+02	4.624e+02	1.20	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	4.880e+02	4.206e+02	1.16	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:06	4.525e+02	3.374e+02	1.34	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	4.579e+02	4.253e+02	1.08	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:47	3.684e+02	3.176e+02	1.16	yes	no	1.324
10 Unk	OCDF	43:24	5.998e+02	7.078e+02	0.85	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:12	6.047e+01	7.399e+01	0.82	yes	yes	1.037
12 Unk	1,2,3,7,8-PeCDD	34:30	4.303e+02	2.825e+02	1.52	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	3.557e+02	3.030e+02	1.17	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:34	3.382e+02	2.927e+02	1.16	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:48	3.807e+02	3.104e+02	1.23	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	2.942e+02	3.004e+02	0.98	yes	no	1.016
17 Unk	OCDD	43:11	4.945e+02	5.743e+02	0.86	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	3.190e+04	3.976e+04	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	5.047e+04	3.247e+04	1.55	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:12	5.043e+04	3.212e+04	1.57	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	2.063e+04	3.961e+04	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	2.385e+04	4.588e+04	0.52	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:21	2.230e+04	4.304e+04	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:05	2.035e+04	3.912e+04	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	1.555e+04	3.539e+04	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:46	1.394e+04	3.151e+04	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	2.234e+04	2.847e+04	0.78	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	3.687e+04	2.346e+04	1.57	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:28	2.863e+04	2.265e+04	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	2.903e+04	2.291e+04	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:15	2.485e+04	2.369e+04	1.05	yes	no	0.862
32 IS	13C-OCDD	43:10	3.823e+04	4.282e+04	0.89	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	2.289e+04	2.865e+04	0.80	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	3.259e+04	2.579e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:12	1.268e+02				no	1.125

ALS ENVIRONMENTAL  
10450 Stancliff Road, Suite 115  
Houston, TX 77099  
Office (713) 266-1599. Fax (713) 266-0130

1613RESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 66807

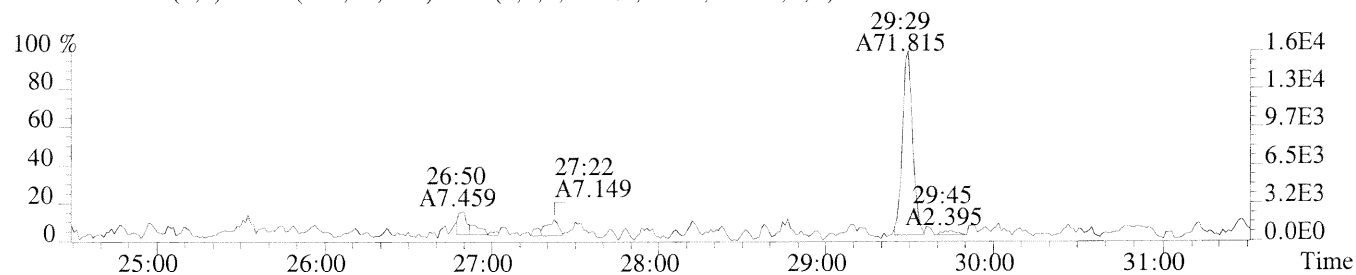
Run #1    Filename P169970    Samp: 1    Inj: 1    Acquired: 25-MAR-14 17:22:36  
 Processed: 26-MAR-14 10:00:381    LAB. ID: ICAL HRCC0.5/CS0.5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.57e+04	9.57e+02	1.6e+01	1.98e+04	1.56e+03	1.3e+01
2	1,2,3,7,8-PeCDF	1.21e+05	7.36e+02	1.6e+02	8.24e+04	1.31e+03	6.3e+01
3	2,3,4,7,8-PeCDF	1.06e+05	7.36e+02	1.4e+02	7.29e+04	1.31e+03	5.6e+01
4	1,2,3,4,7,8-HxCDF	1.14e+05	1.66e+03	6.9e+01	7.87e+04	1.25e+03	6.3e+01
5	1,2,3,6,7,8-HxCDF	1.05e+05	1.66e+03	6.3e+01	9.39e+04	1.25e+03	7.5e+01
6	2,3,4,6,7,8-HxCDF	1.07e+05	1.66e+03	6.5e+01	8.65e+04	1.25e+03	6.9e+01
7	1,2,3,7,8,9-HxCDF	9.38e+04	1.66e+03	5.7e+01	7.24e+04	1.25e+03	5.8e+01
8	1,2,3,4,6,7,8-HpCDF	9.01e+04	9.12e+02	9.9e+01	8.98e+04	1.59e+03	5.6e+01
9	1,2,3,4,7,8,9-HpCDF	6.66e+04	9.12e+02	7.3e+01	5.77e+04	1.59e+03	3.6e+01
10	OCDF	1.01e+05	1.29e+03	7.9e+01	1.03e+05	1.52e+03	6.8e+01
11	2,3,7,8-TCDD	1.37e+04	1.15e+03	1.2e+01	1.69e+04	1.26e+03	1.3e+01
12	1,2,3,7,8-PeCDD	8.11e+04	1.42e+03	5.7e+01	5.57e+04	9.88e+02	5.6e+01
13	1,2,3,4,7,8-HxCDD	7.98e+04	1.12e+03	7.1e+01	6.82e+04	1.10e+03	6.2e+01
14	1,2,3,6,7,8-HxCDD	6.99e+04	1.12e+03	6.2e+01	6.35e+04	1.10e+03	5.8e+01
15	1,2,3,7,8,9-HxCDD	8.12e+04	1.12e+03	7.2e+01	6.37e+04	1.10e+03	5.8e+01
16	1,2,3,4,6,7,8-HpCDD	5.92e+04	8.92e+02	6.6e+01	5.31e+04	7.72e+02	6.9e+01
17	OCDD	8.01e+04	7.84e+02	1.0e+02	8.83e+04	1.02e+03	8.6e+01
18	13C-2,3,7,8-TCDF	6.98e+06	1.91e+03	3.7e+03	8.69e+06	1.89e+03	4.6e+03
19	13C-1,2,3,7,8-PeCDF	9.61e+06	7.96e+02	1.2e+04	6.23e+06	1.13e+03	5.5e+03
20	13C-2,3,4,7,8-PeCDF	1.02e+07	7.96e+02	1.3e+04	6.48e+06	1.13e+03	5.7e+03
21	13C-1,2,3,4,7,8-HxCDF	4.46e+06	1.45e+03	3.1e+03	8.59e+06	2.18e+03	3.9e+03
22	13C-1,2,3,6,7,8-HxCDF	4.82e+06	1.45e+03	3.3e+03	9.31e+06	2.18e+03	4.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.72e+06	1.45e+03	3.3e+03	9.00e+06	2.18e+03	4.1e+03
24	13C-1,2,3,7,8,9-HxCDF	4.06e+06	1.45e+03	2.8e+03	7.75e+06	2.18e+03	3.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.19e+06	2.01e+03	1.6e+03	7.20e+06	3.46e+03	2.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.53e+06	2.01e+03	1.3e+03	5.70e+06	3.46e+03	1.6e+03
27	13C-2,3,7,8-TCDD	4.97e+06	5.04e+03	9.9e+02	6.29e+06	1.67e+03	3.8e+03
28	13C-1,2,3,7,8-PeCDD	7.33e+06	1.40e+03	5.3e+03	4.71e+06	8.16e+02	5.8e+03
29	13C-1,2,3,4,7,8-HxCDD	6.37e+06	1.36e+03	4.7e+03	5.05e+06	1.49e+03	3.4e+03
30	13C-1,2,3,6,7,8-HxCDD	5.90e+06	1.36e+03	4.3e+03	4.73e+06	1.49e+03	3.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.72e+06	1.49e+03	3.2e+03	4.52e+06	7.08e+02	6.4e+03
32	13C-OCDD	6.11e+06	6.76e+02	9.0e+03	6.60e+06	1.12e+03	5.9e+03
33	13C-1,2,3,4-TCDD	5.02e+06	5.04e+03	1.0e+03	6.31e+06	1.67e+03	3.8e+03
34	13C-1,2,3,7,8,9-HxCDD	6.49e+06	1.36e+03	4.8e+03	5.09e+06	1.49e+03	3.4e+03
35	37Cl-2,3,7,8-TCDD	2.83e+04	1.46e+03	1.9e+01			

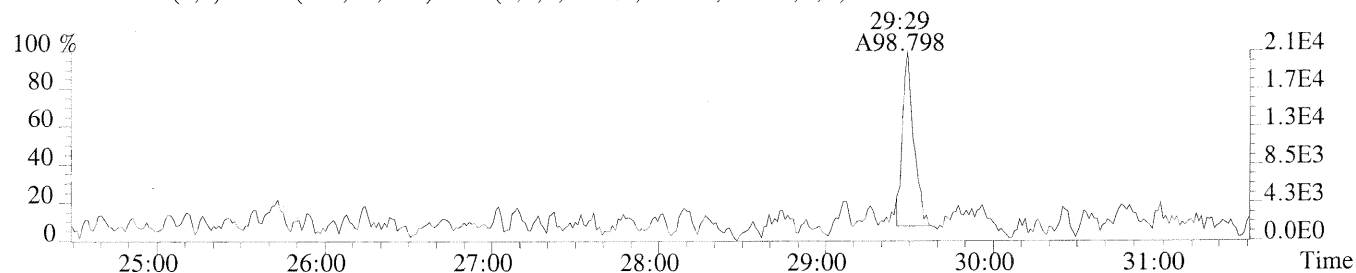
ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

XLSN

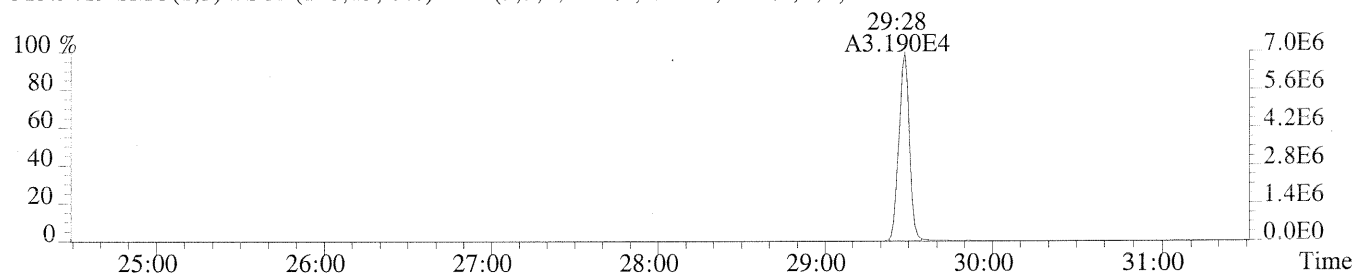
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



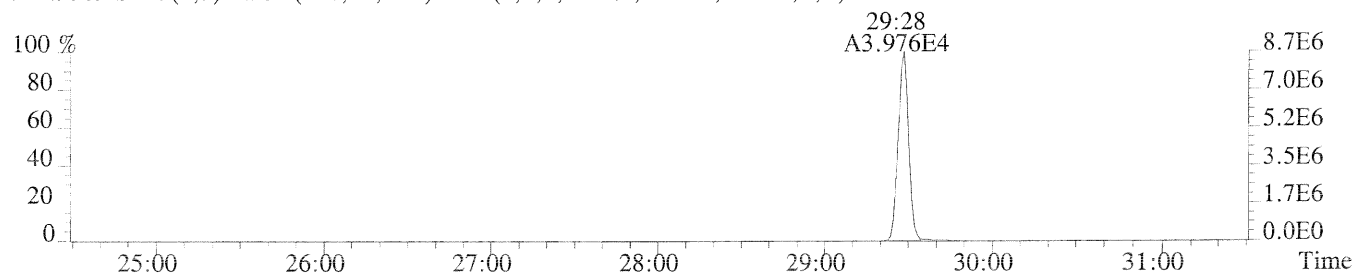
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2428.0,1.00%,F,T)



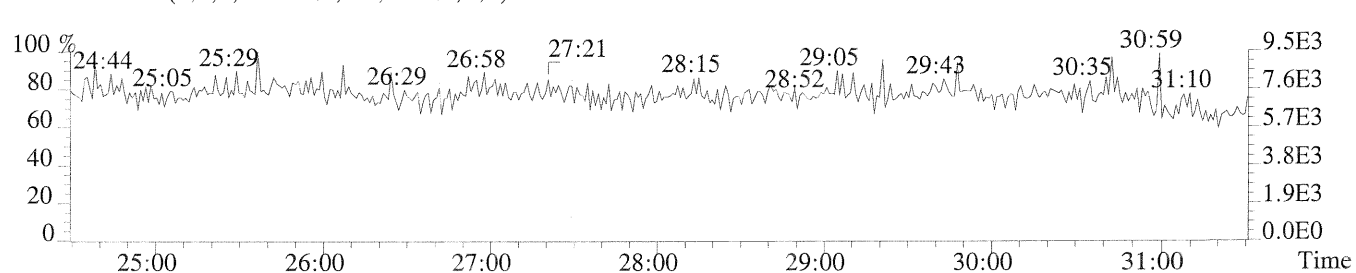
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1908.0,1.00%,F,T)



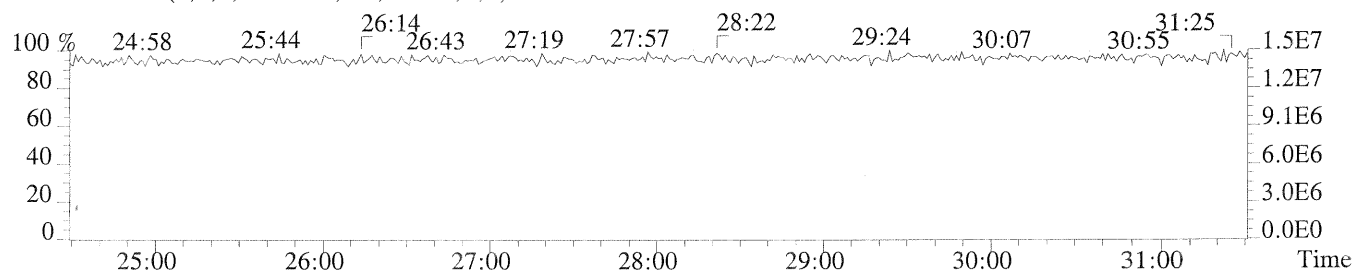
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1892.0,1.00%,F,T)



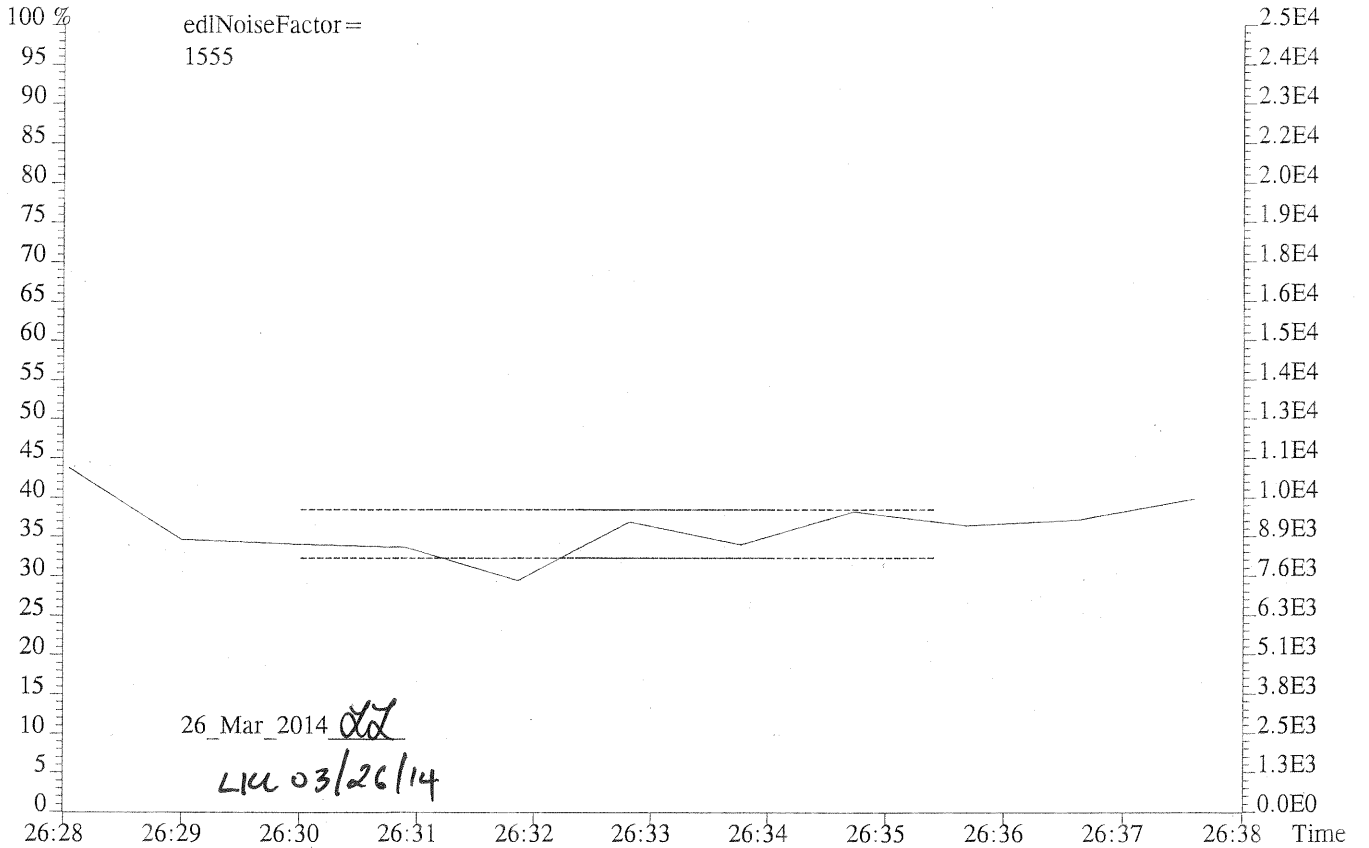
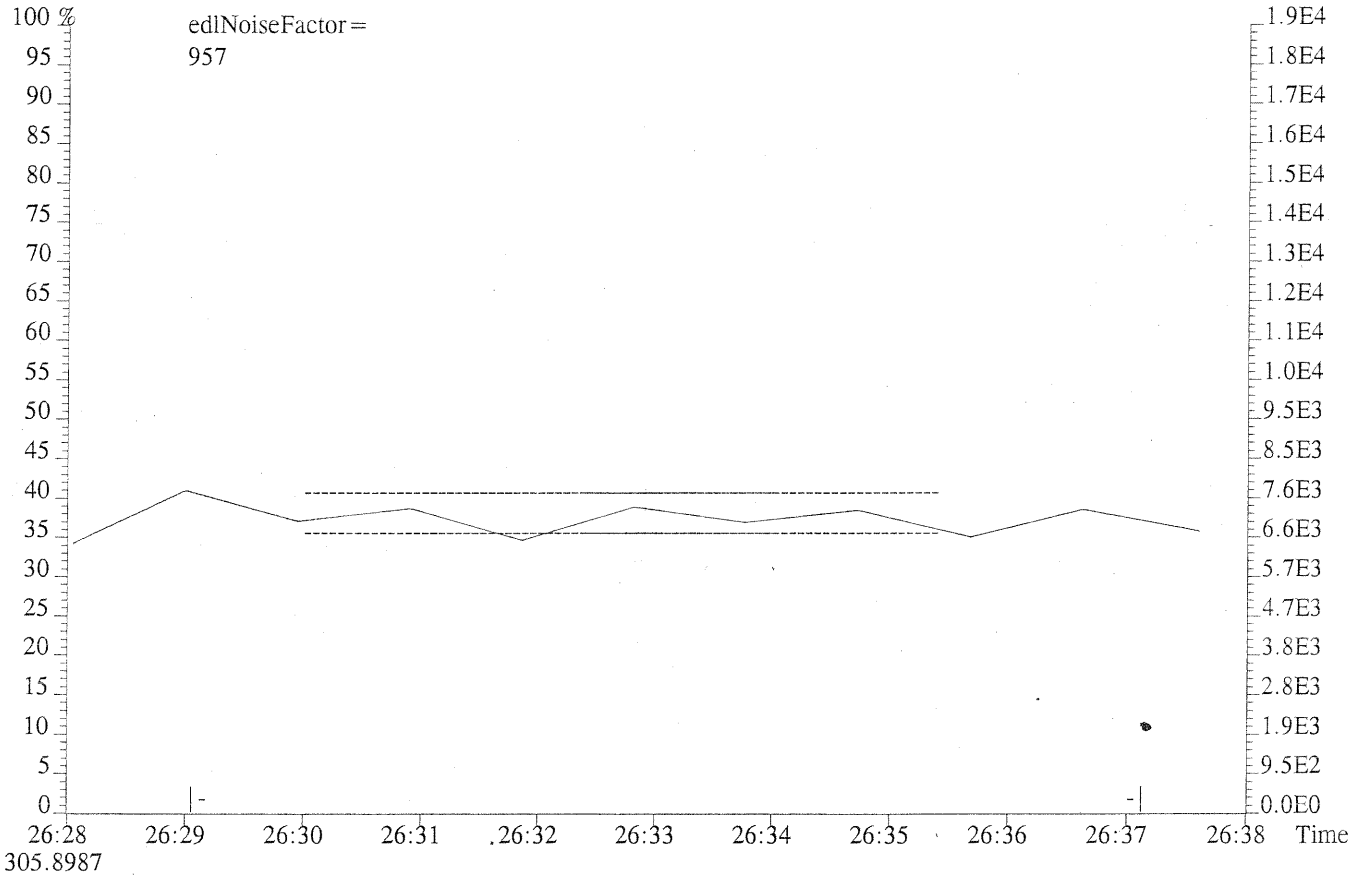
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



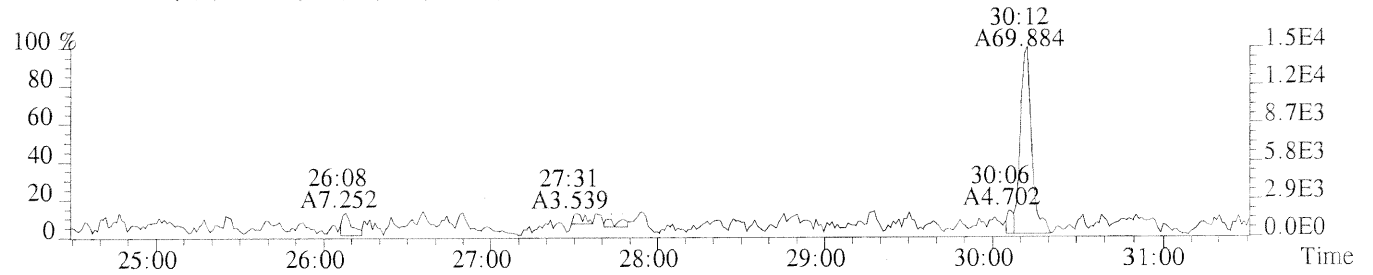
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



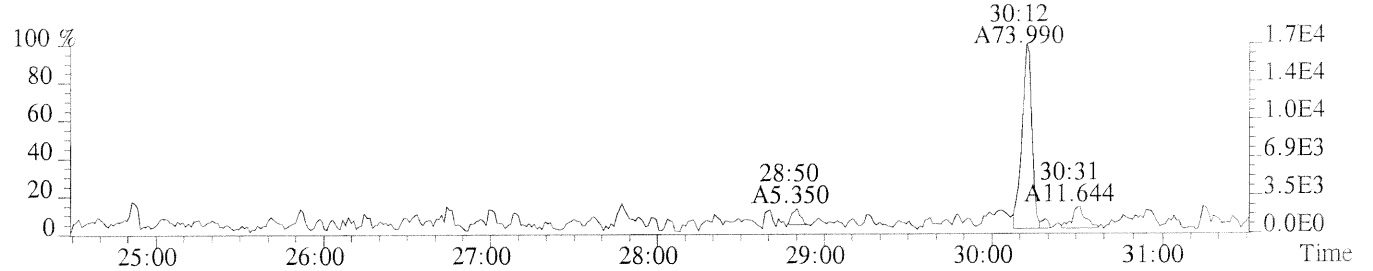




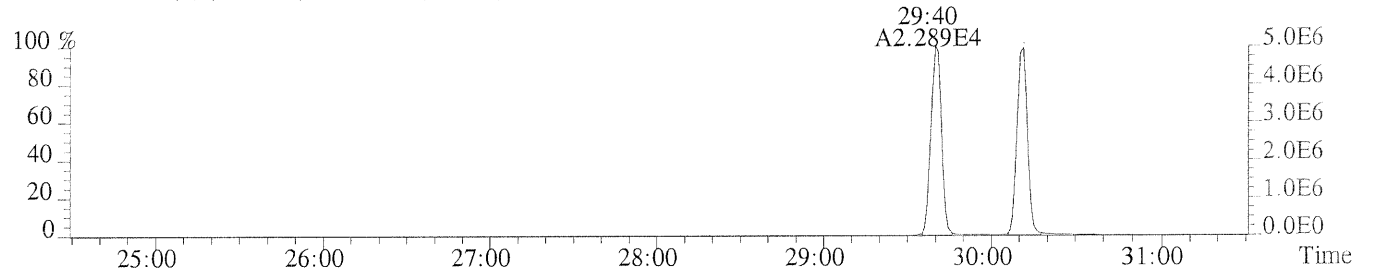
File: P169970 #1-442 Acq: 25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp: ICAL HRCC0.5/CS0.5  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



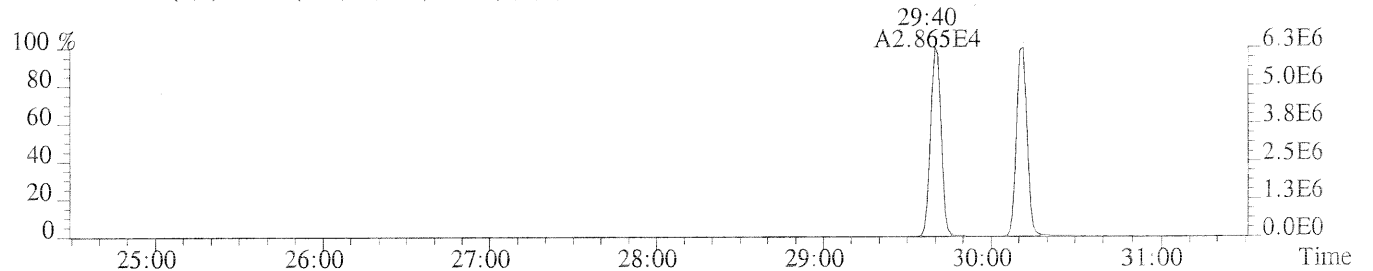
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



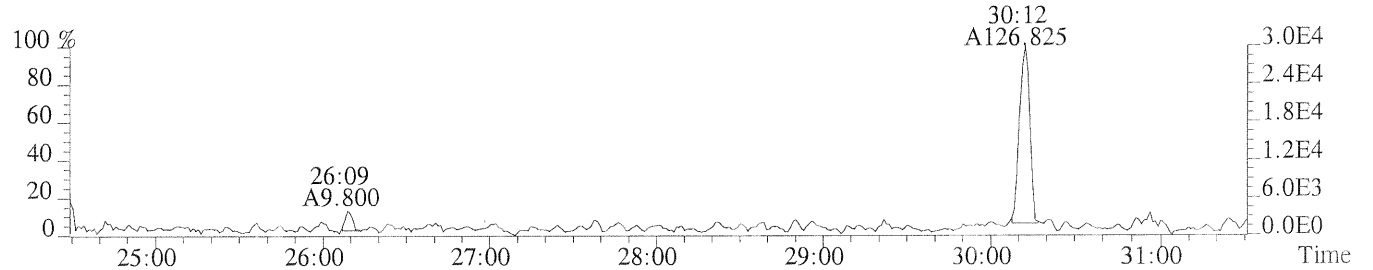
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5040.0,1.00%,F,T)



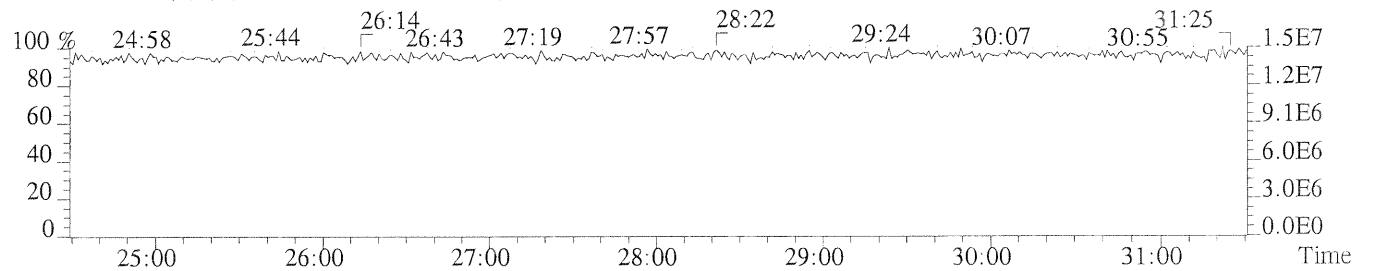
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1668.0,1.00%,F,T)



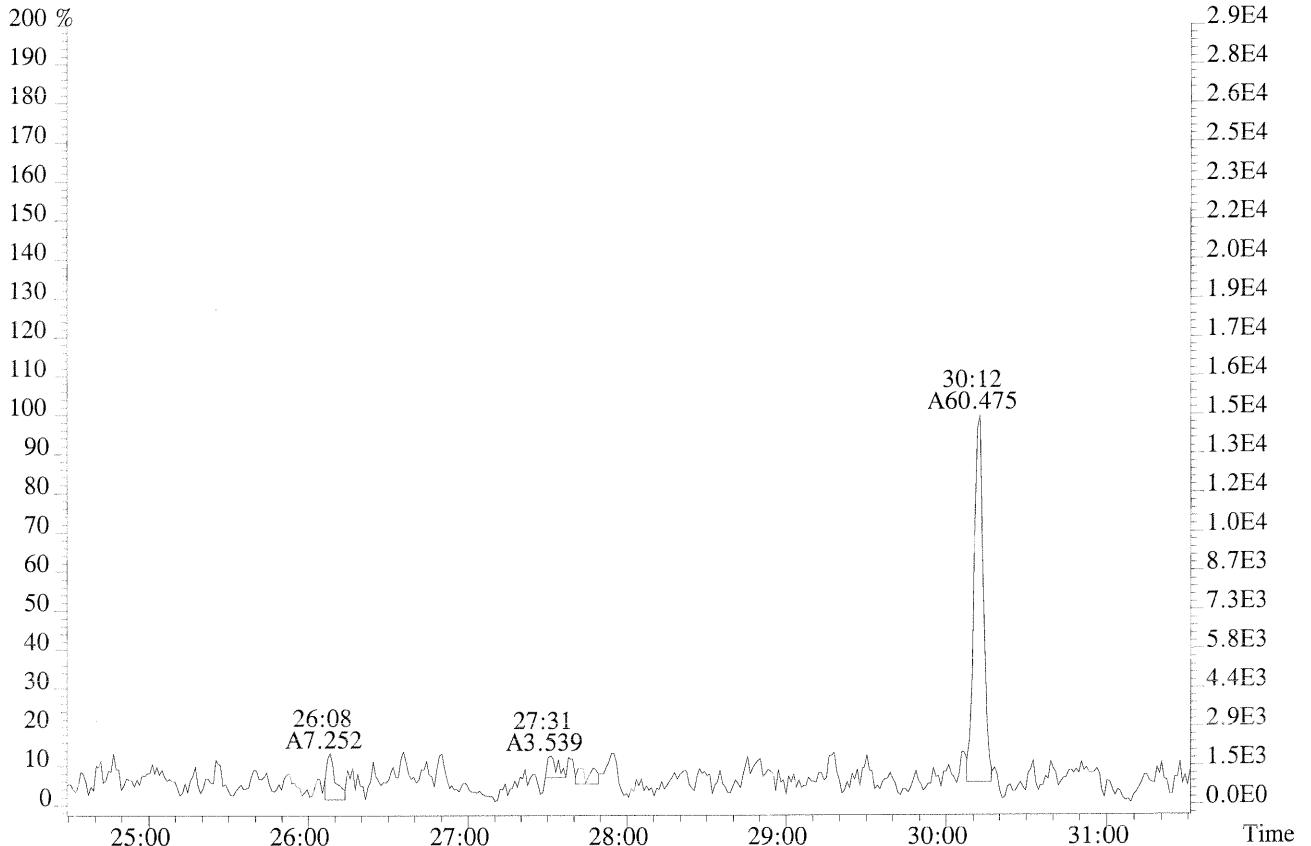
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



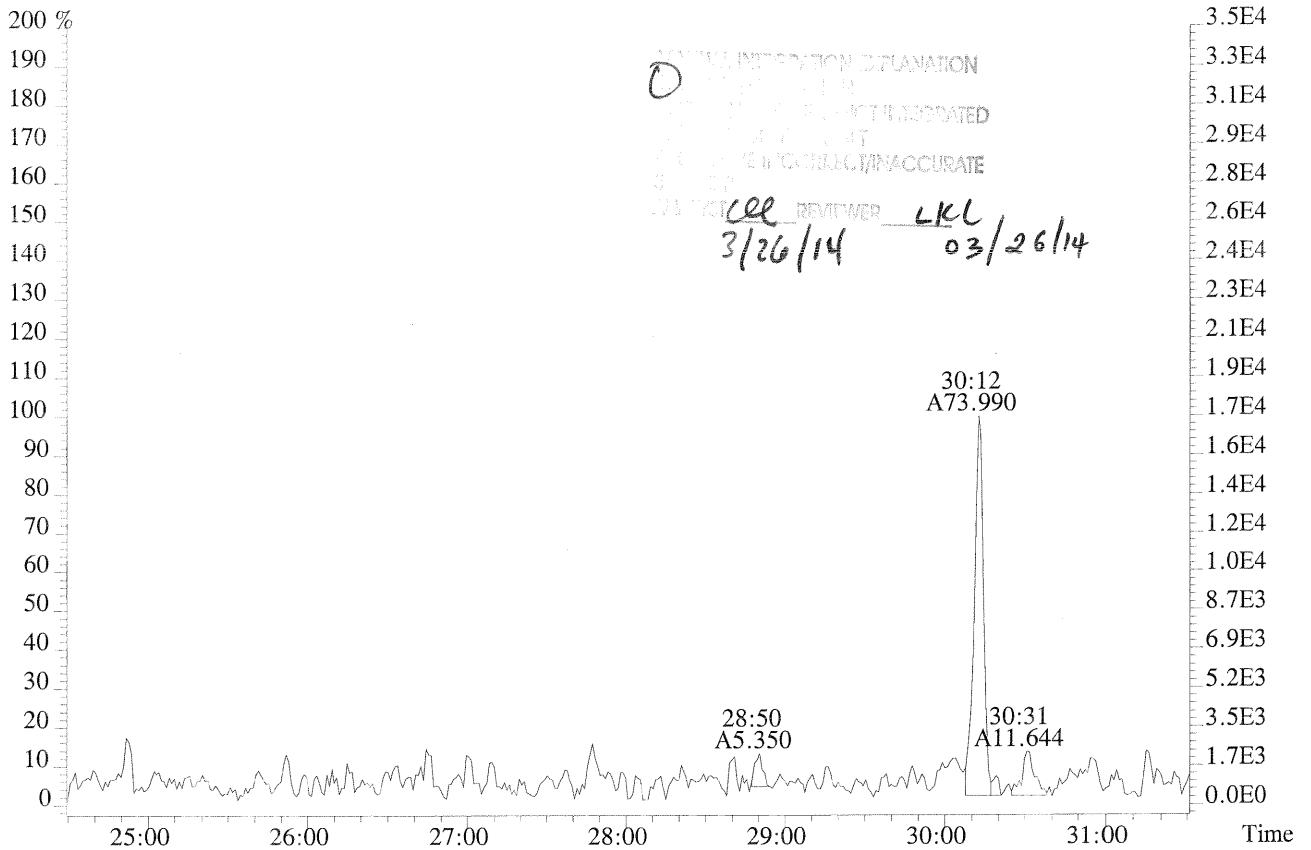
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



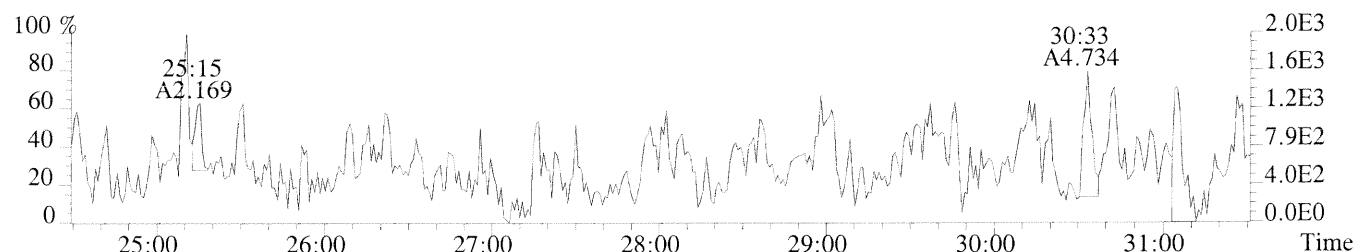
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass sf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



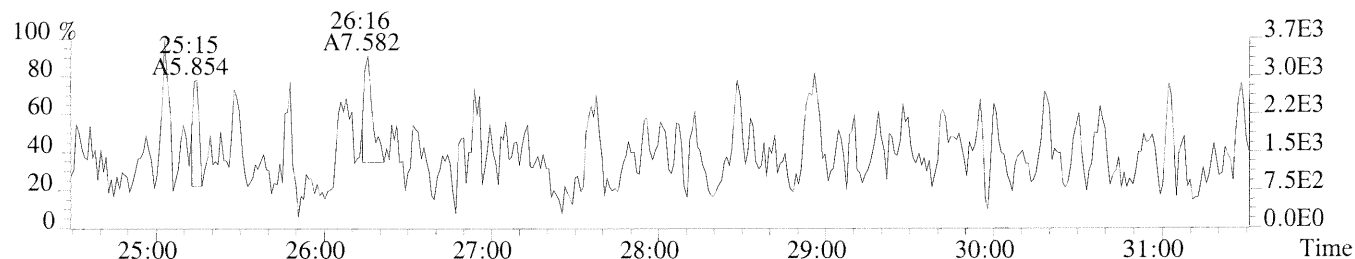
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



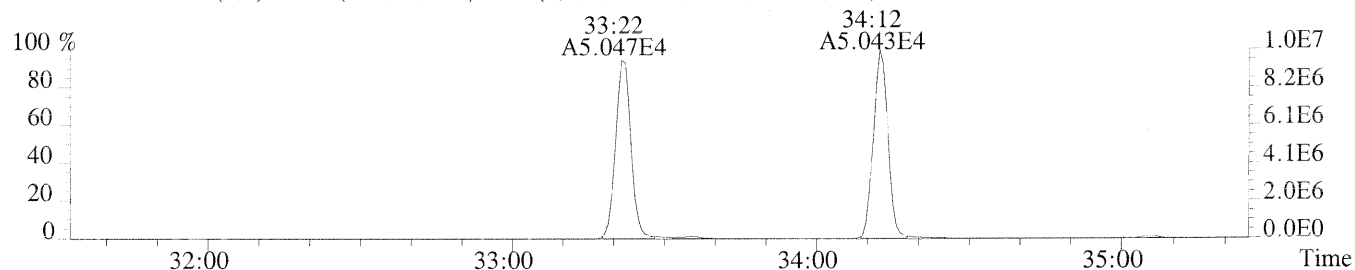
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



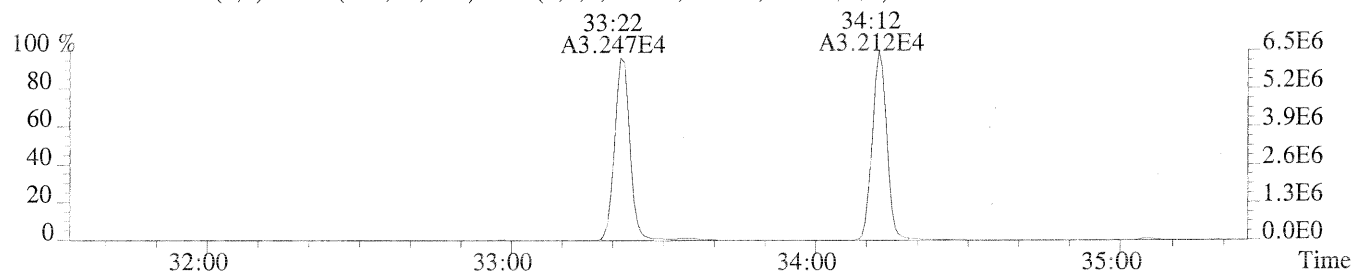
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1664.0,1.00%,F,T)



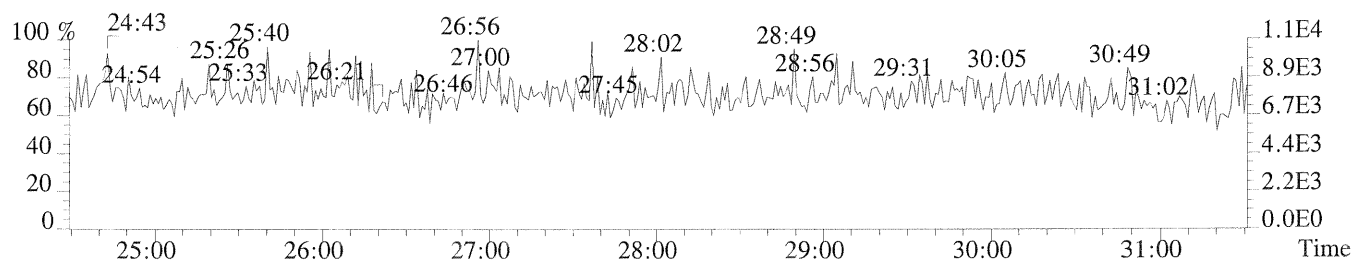
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



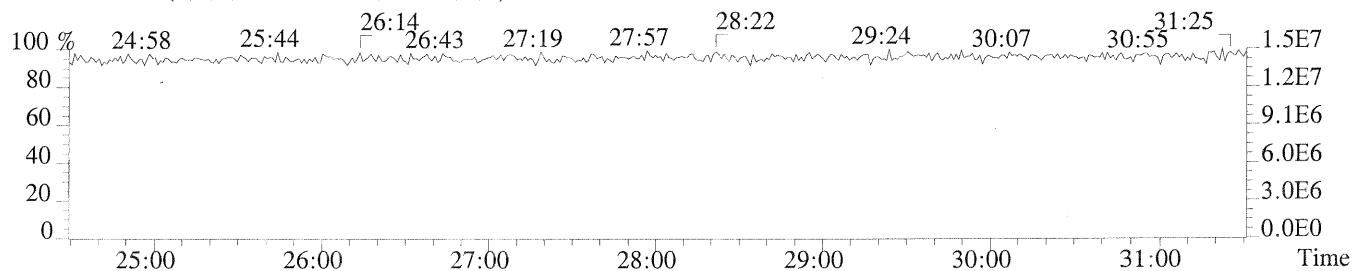
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



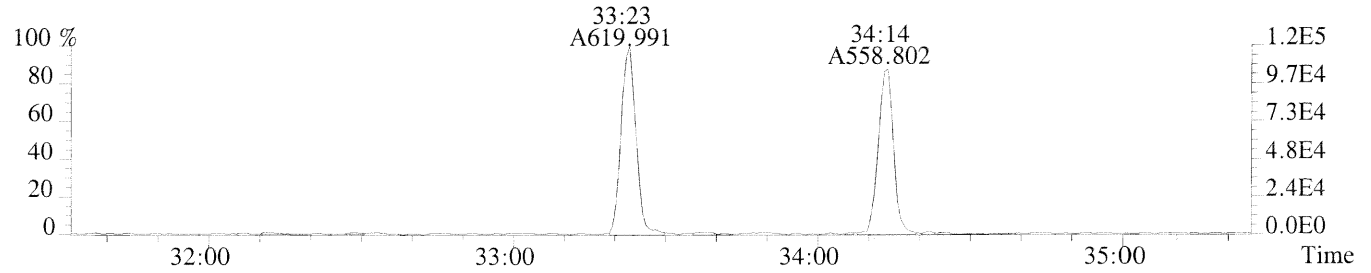
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



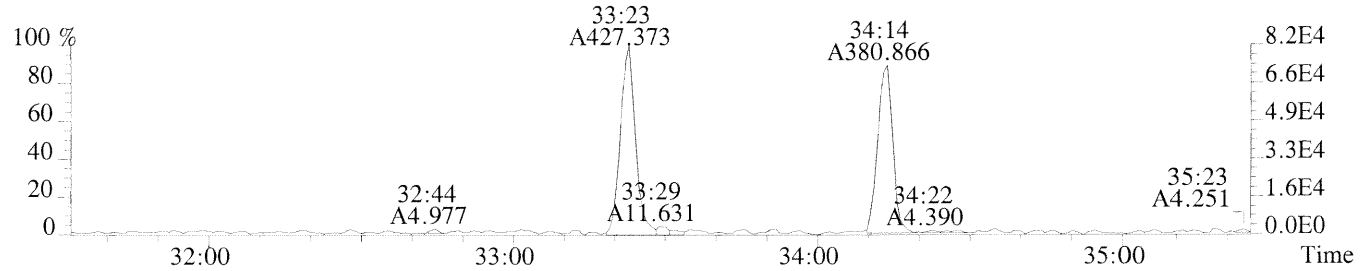
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



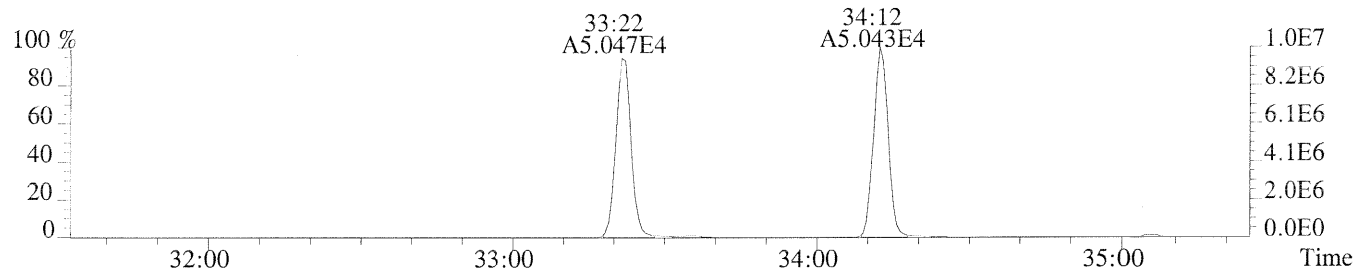
File:P169970 #1-351 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



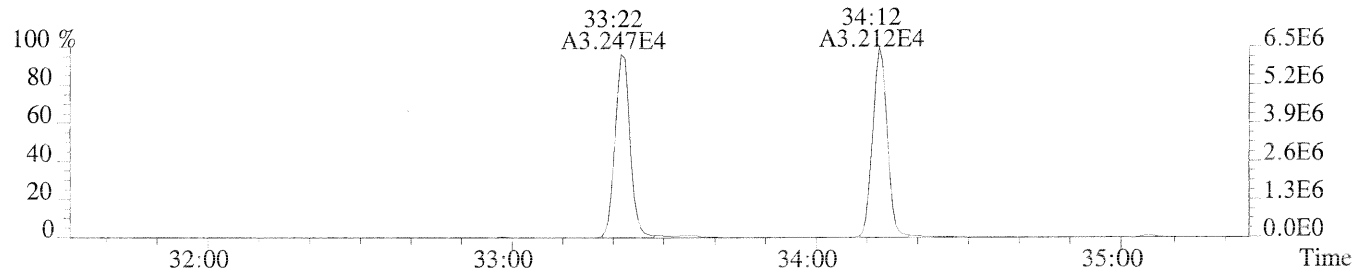
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



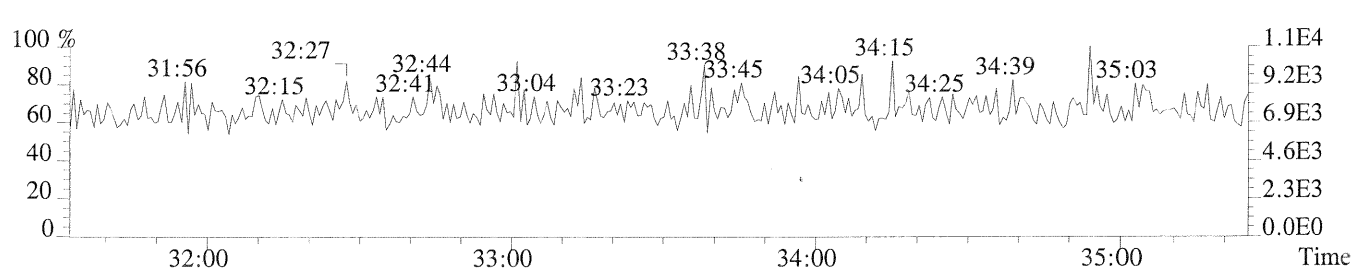
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



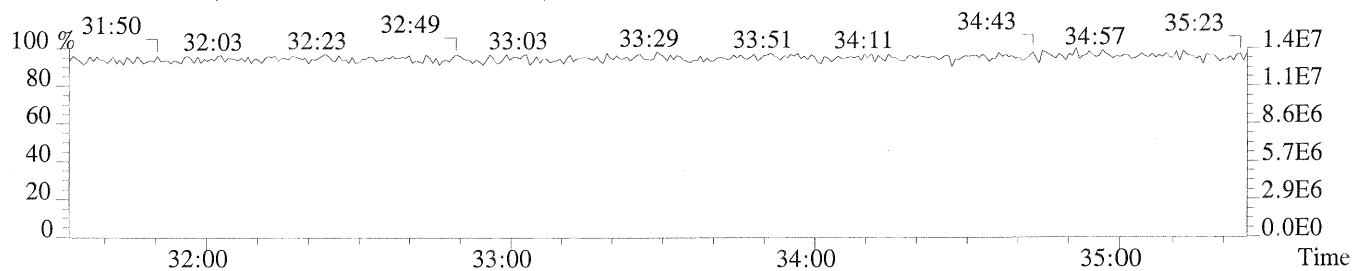
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



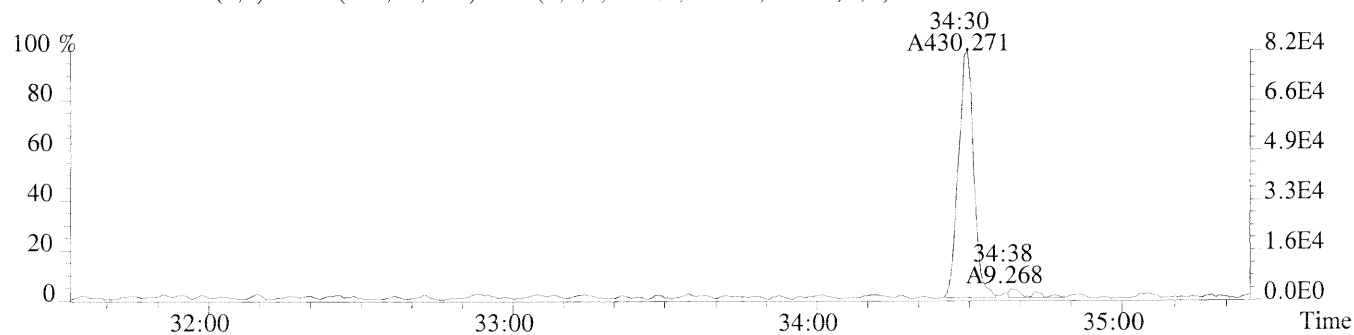
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



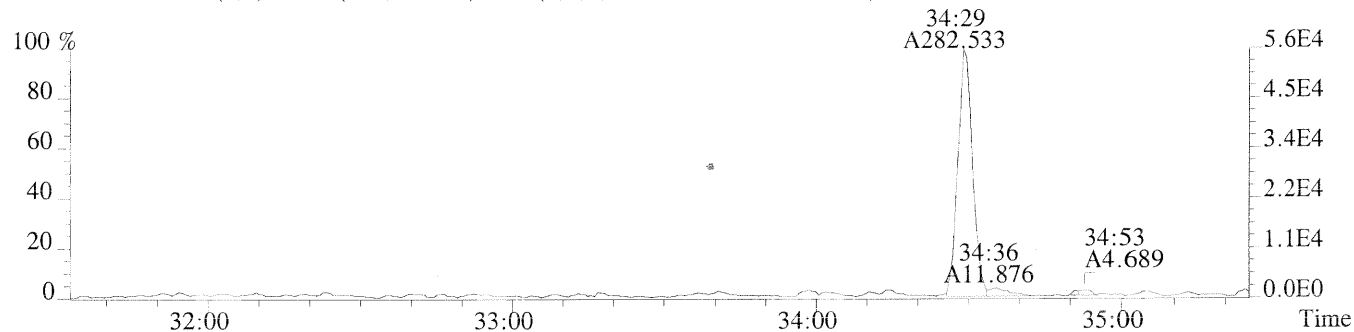
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



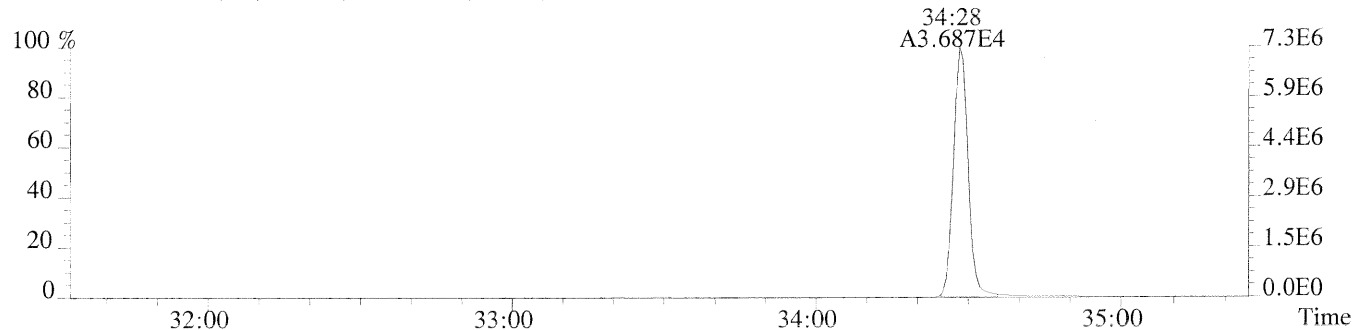
File:P169970 #1-351 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



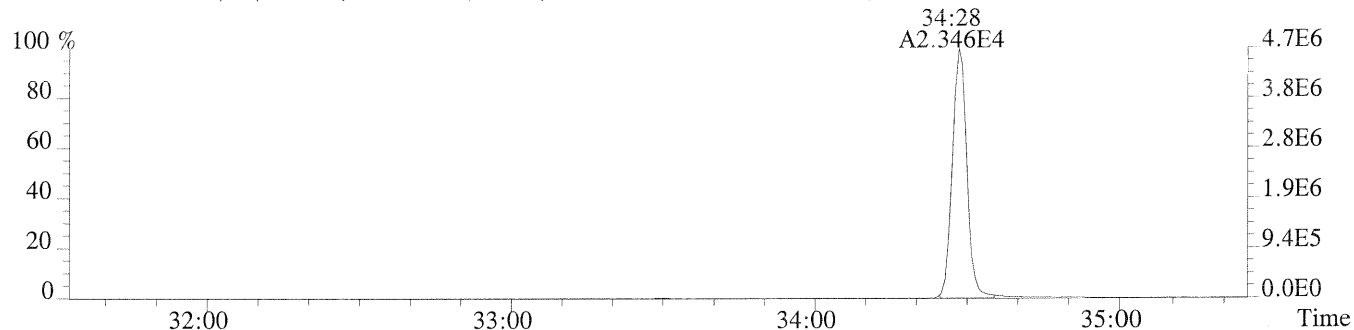
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



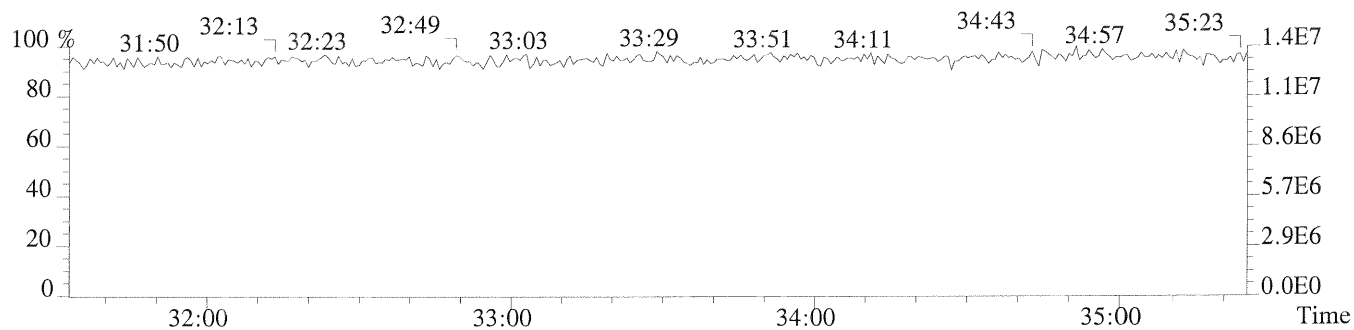
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



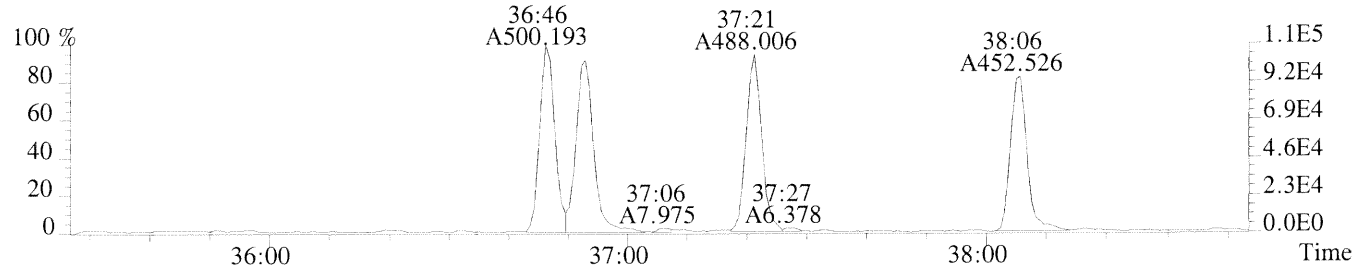
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



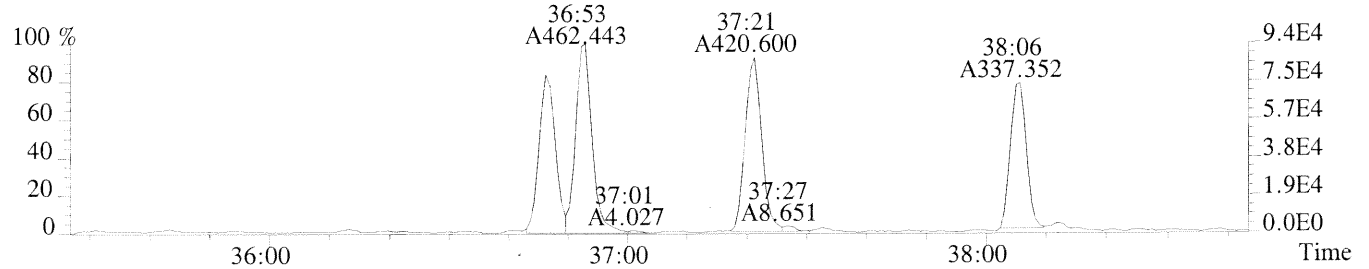
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



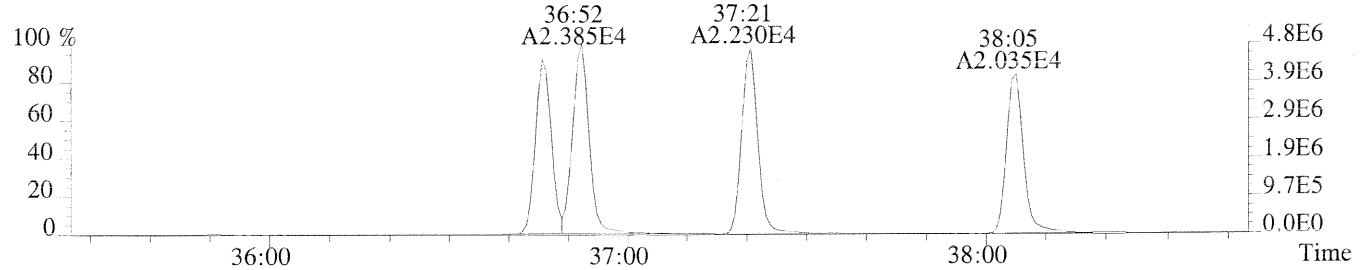
File:P169970 #1-298 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1656.0,0.40%,F,T)



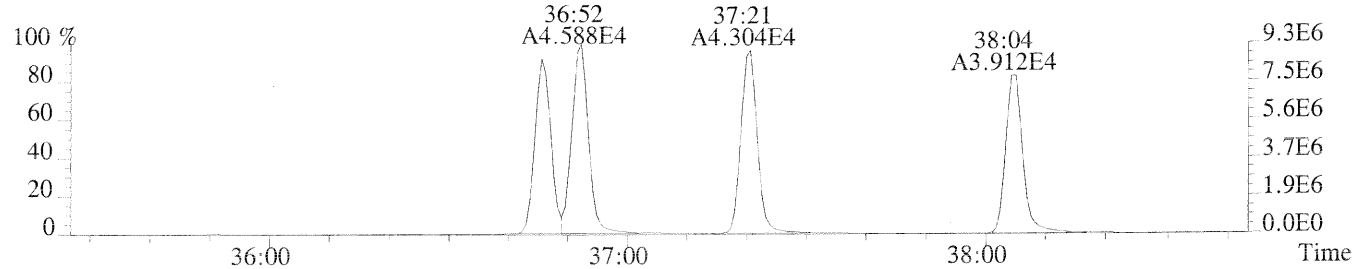
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



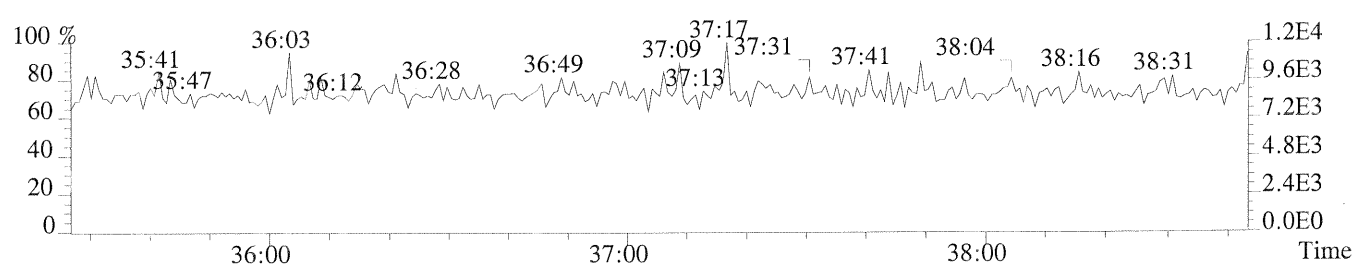
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.40%,F,T)



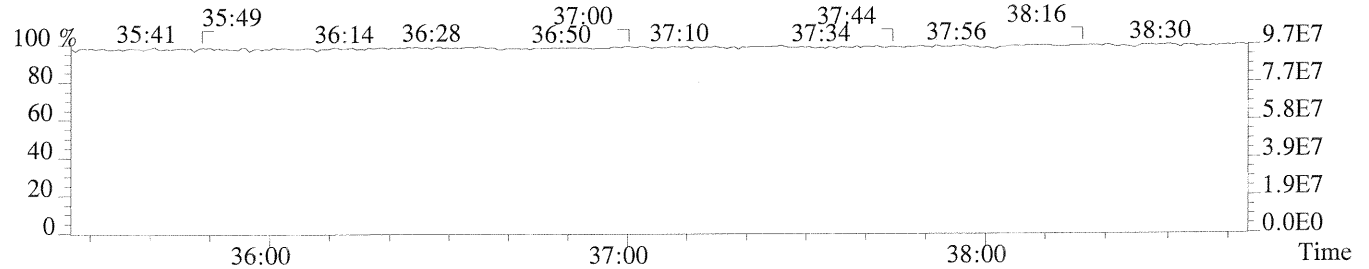
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2184.0,0.40%,F,T)



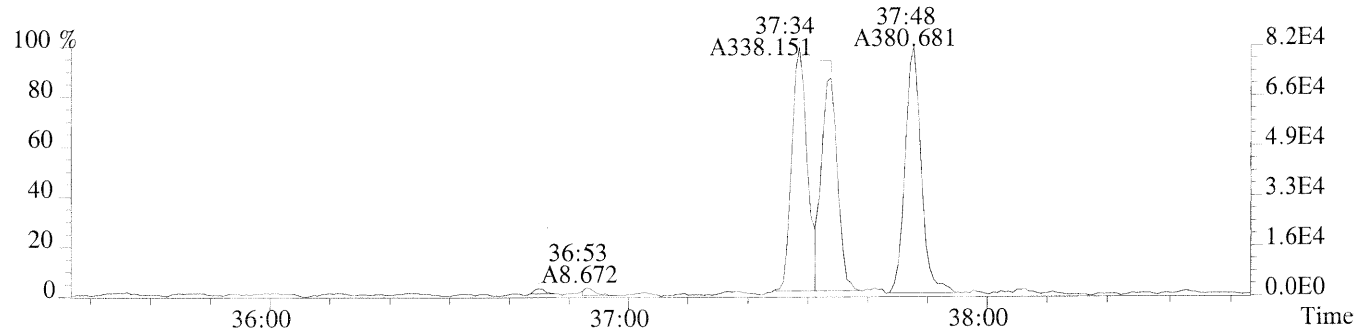
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



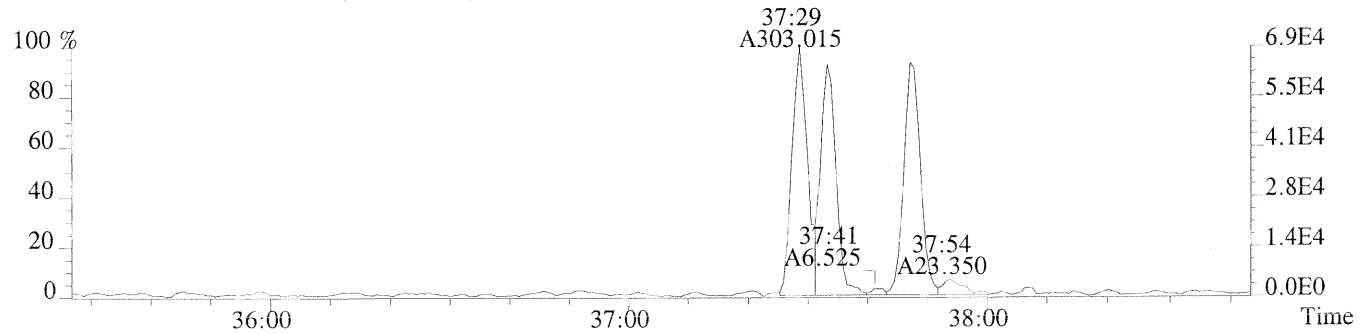
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



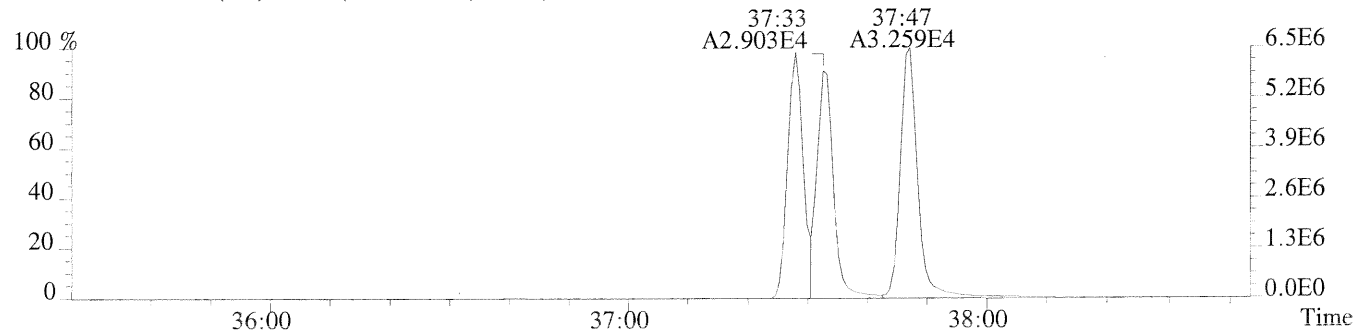
File:P169970 #1-298 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



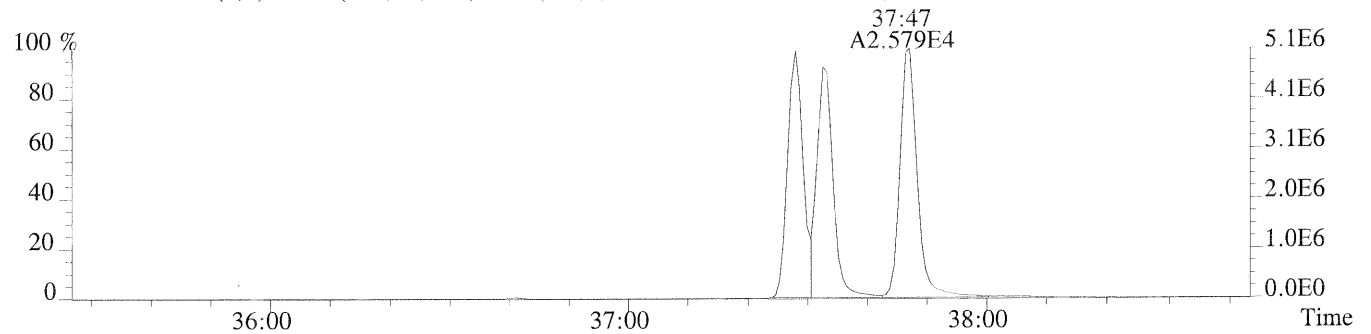
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,T)



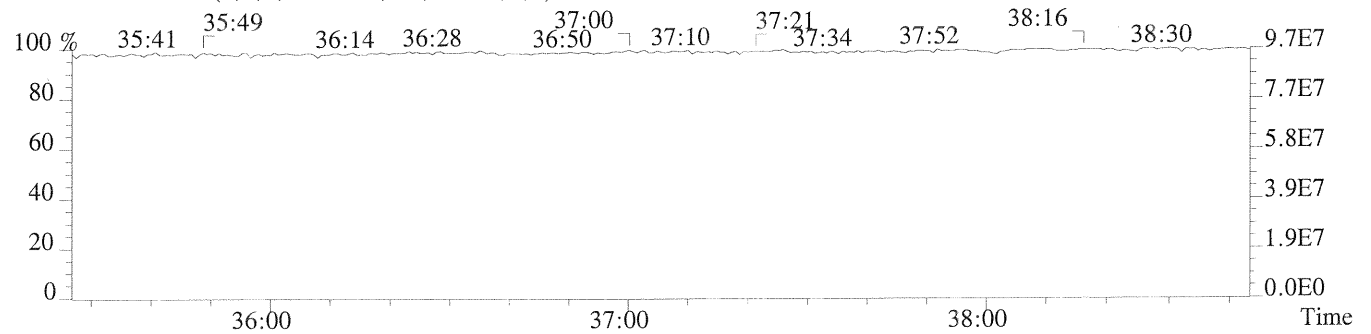
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1488.0,0.40%,F,T)

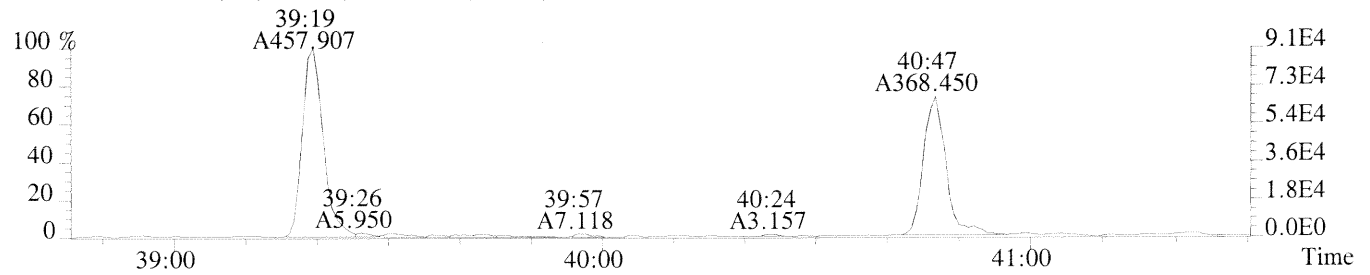


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

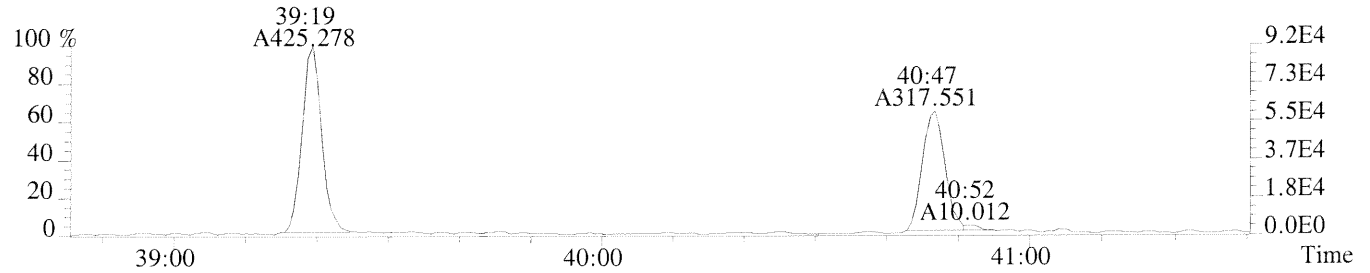




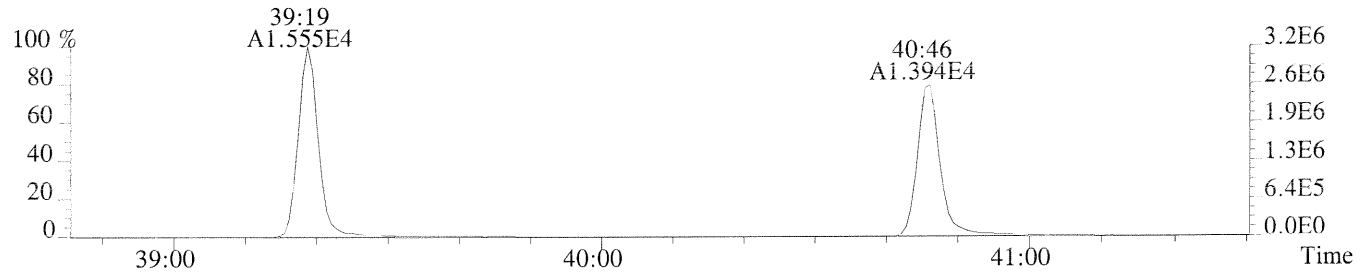
File:P169970 #1-250 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.50%,F,T)



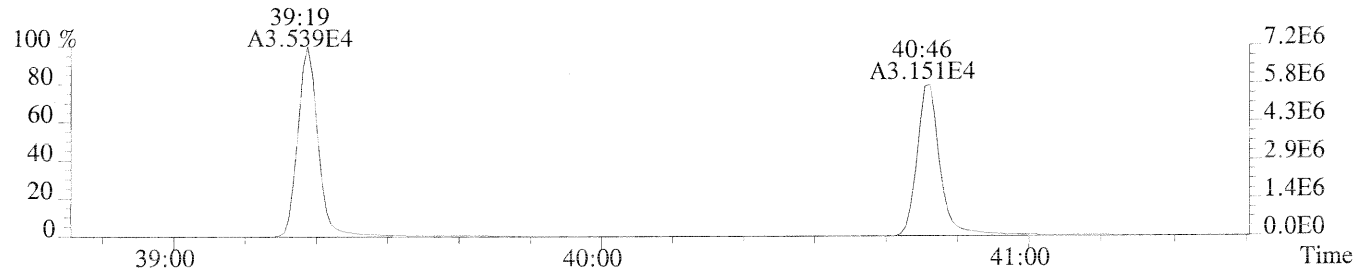
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.50%,F,T)



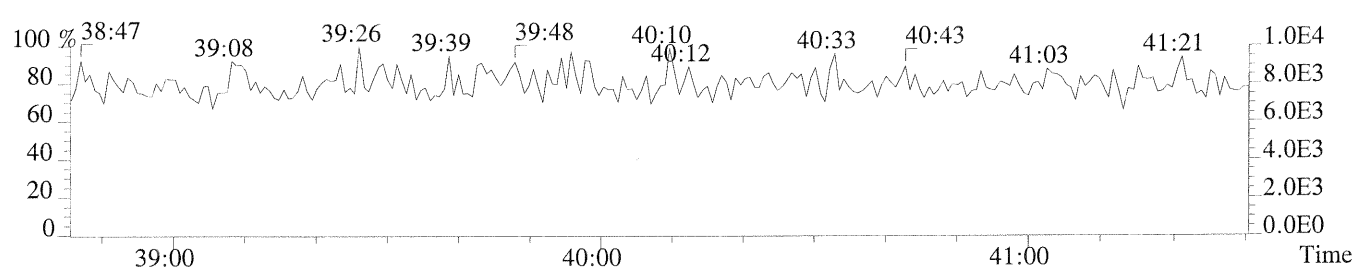
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.50%,F,T)



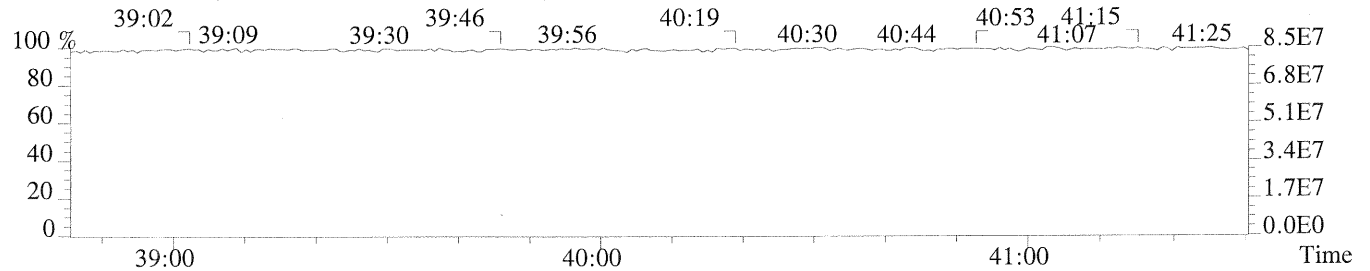
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3464.0,0.50%,F,T)



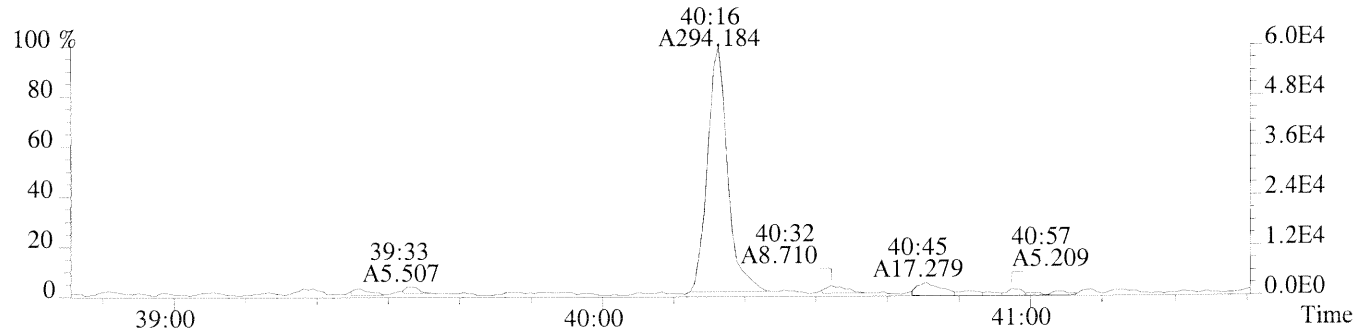
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



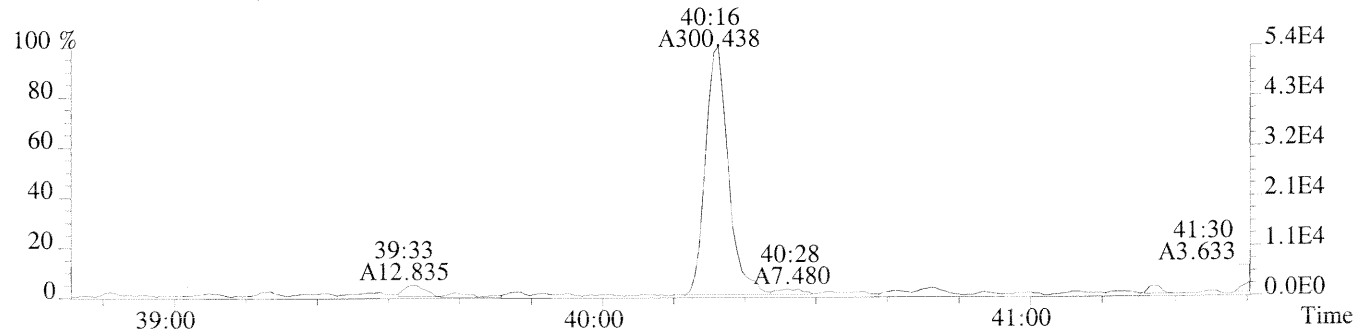
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



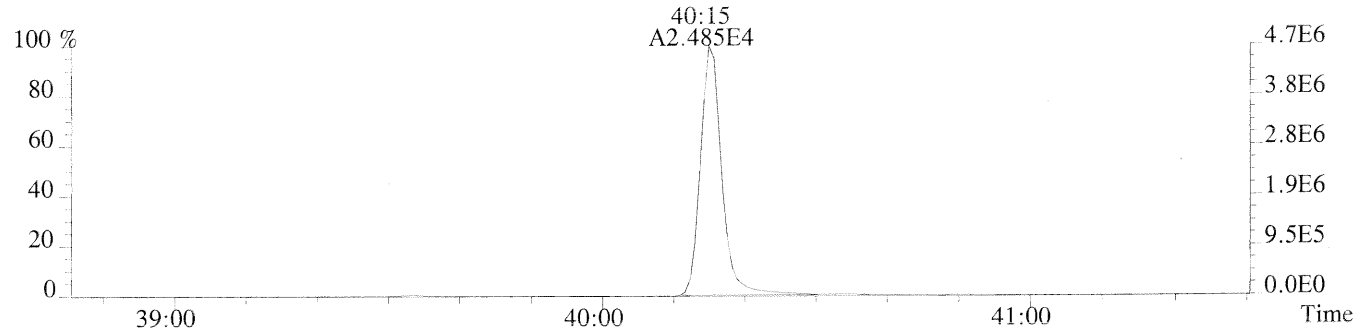
File:P169970 #1-250 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



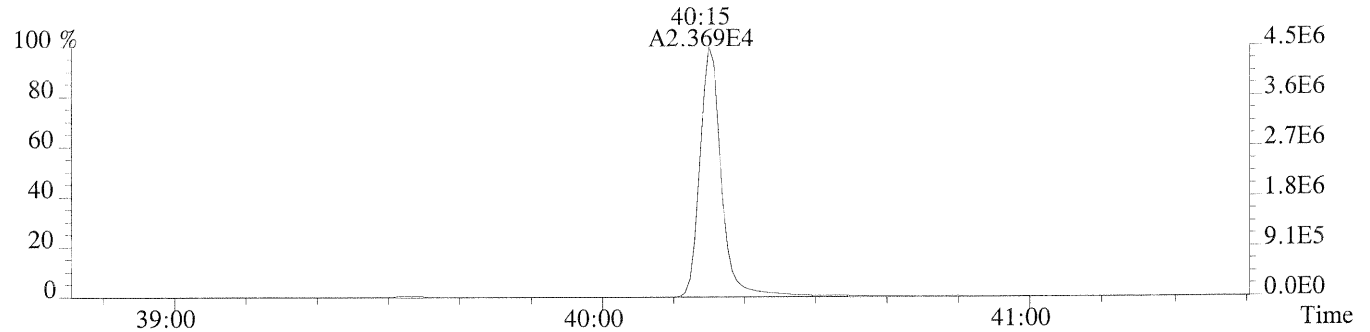
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



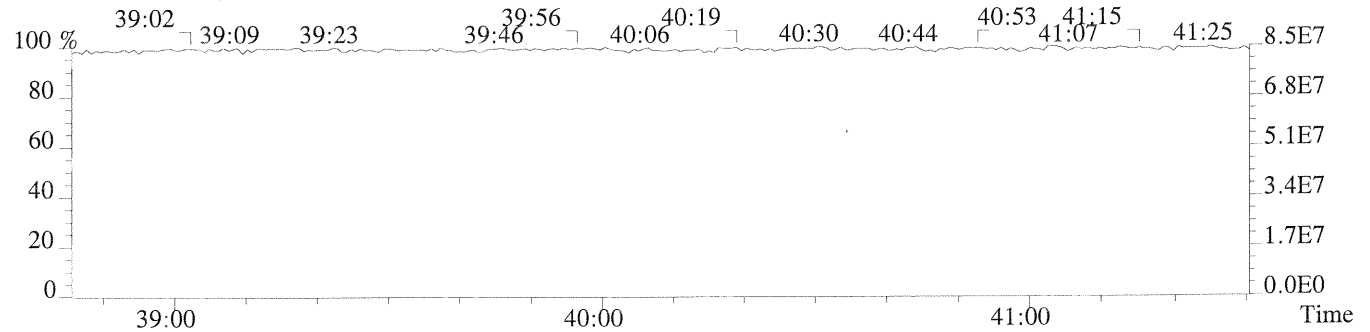
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1492.0,0.40%,F,T)



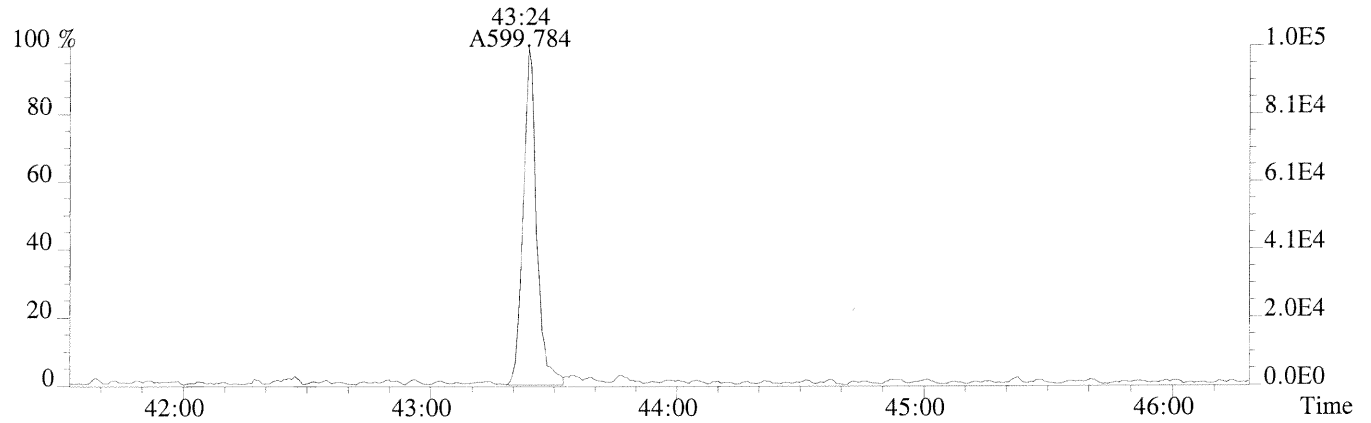
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



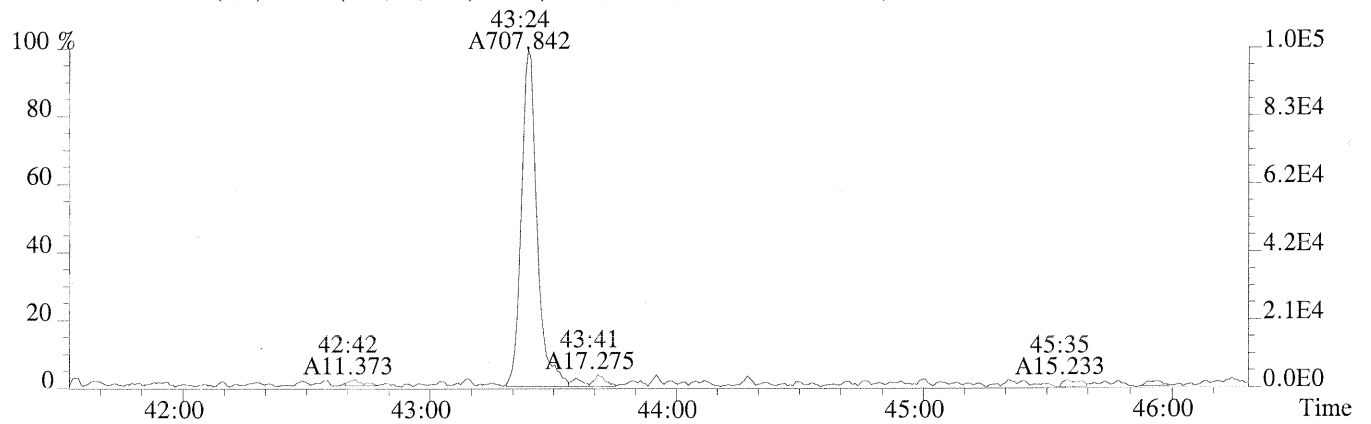
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



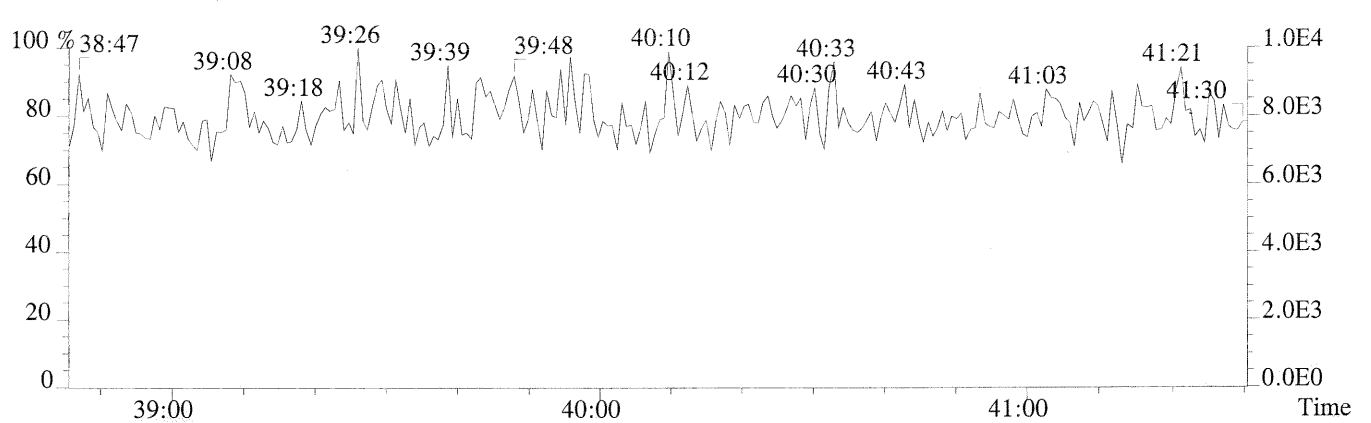
File:P169970 #1-438 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1288.0,0.40%,F,T)



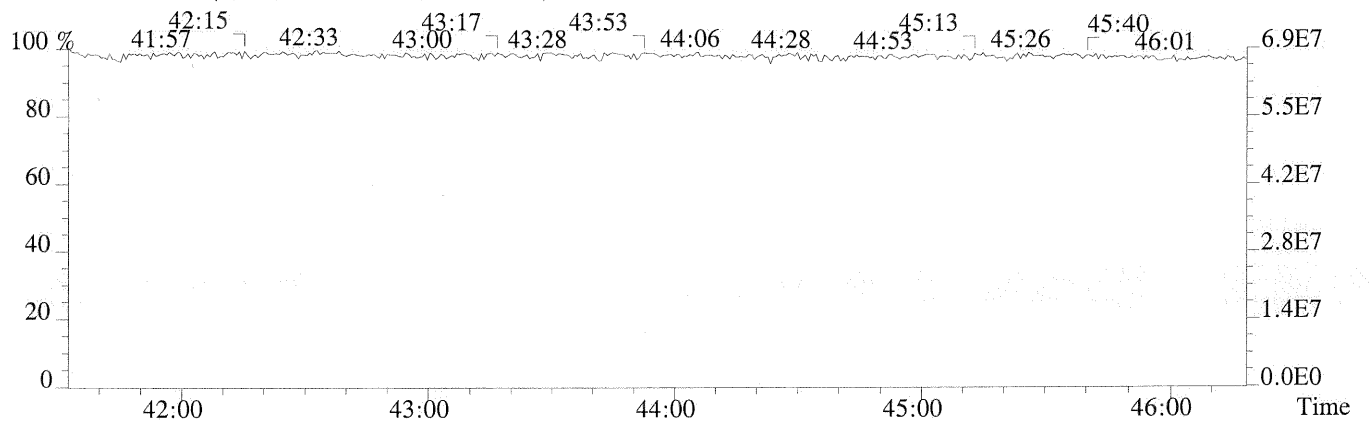
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

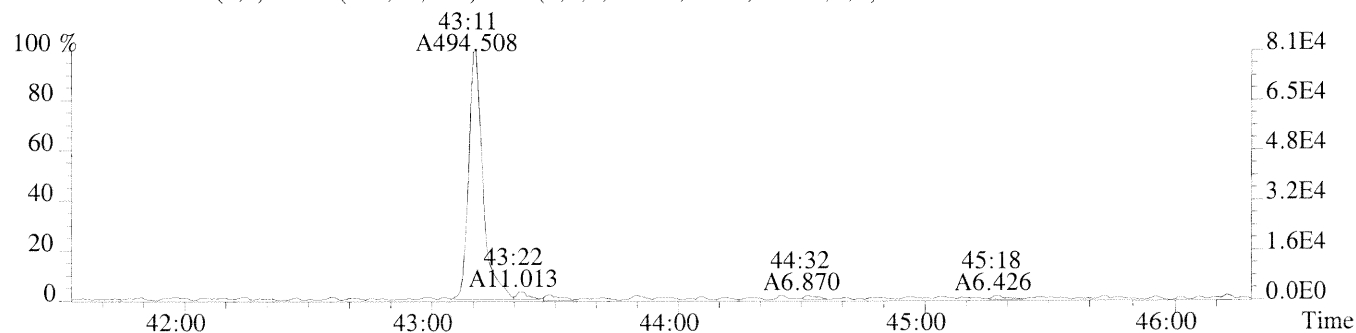


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

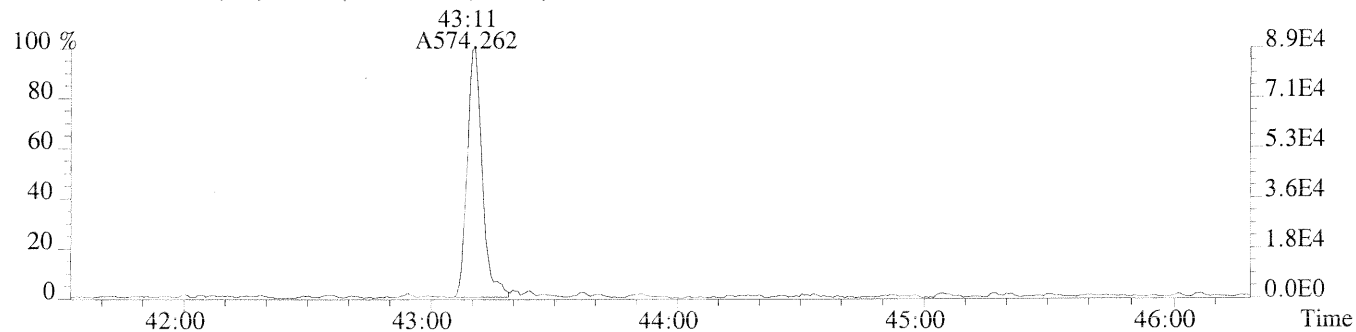


File:P169970 #1-438 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC0.5/CS0.5

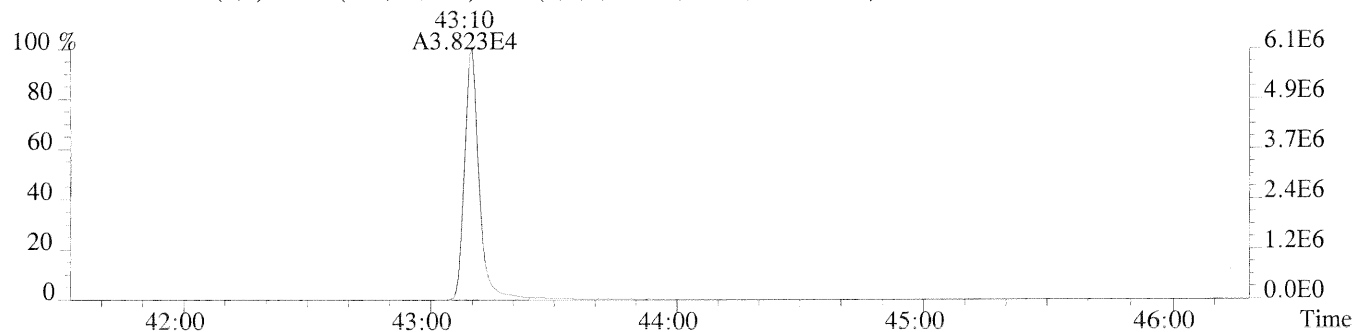
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,784.0,0.40%,F,T)



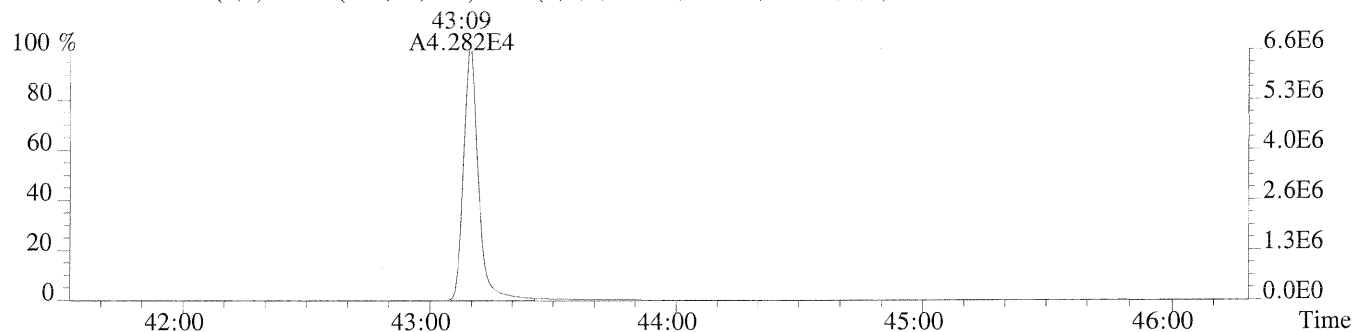
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



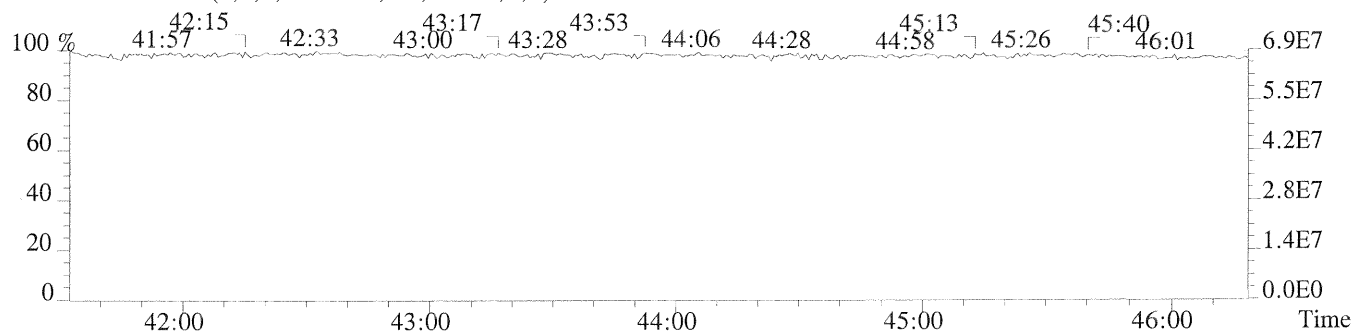
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,676.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1124.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
66798

Run #2      Filename P169971      Samp: 1      Inj: 1      Acquired: 25-MAR-14 18:10:10  
Processed: 26-MAR-14 10:00:48      Sample ID: ICAL HRCC1/CS1

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	1.825e+02	2.294e+02	0.80	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:22	1.484e+03	9.711e+02	1.53	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:13	1.454e+03	8.707e+02	1.67	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	1.263e+03	9.849e+02	1.28	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:52	1.289e+03	1.113e+03	1.16	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	1.244e+03	9.781e+02	1.27	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:05	1.126e+03	9.103e+02	1.24	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	1.118e+03	1.025e+03	1.09	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:46	9.244e+02	9.085e+02	1.02	yes	no	1.324
10 Unk	OCDF	43:24	1.489e+03	1.685e+03	0.88	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:12	1.289e+02	1.615e+02	0.80	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:29	9.193e+02	6.461e+02	1.42	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:28	8.870e+02	6.322e+02	1.40	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:33	8.767e+02	7.018e+02	1.25	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:47	9.630e+02	7.762e+02	1.24	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	7.927e+02	6.981e+02	1.14	yes	no	1.016
17 Unk	OCDD	43:10	1.362e+03	1.444e+03	0.94	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	3.634e+04	4.618e+04	0.79	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	5.929e+04	3.768e+04	1.57	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:13	5.857e+04	3.706e+04	1.58	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	2.398e+04	4.685e+04	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	2.834e+04	5.372e+04	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:20	2.607e+04	4.999e+04	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:04	2.409e+04	4.594e+04	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:18	1.857e+04	4.219e+04	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:46	1.669e+04	3.841e+04	0.43	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	2.425e+04	3.162e+04	0.77	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	4.209e+04	2.680e+04	1.57	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:27	3.323e+04	2.614e+04	1.27	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	3.503e+04	2.746e+04	1.28	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:15	2.952e+04	2.817e+04	1.05	yes	no	0.862
32 IS	13C-OCDD	43:10	4.618e+04	5.200e+04	0.89	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	2.612e+04	3.298e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	3.818e+04	3.034e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:12	3.240e+02				no	1.125

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1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
66798

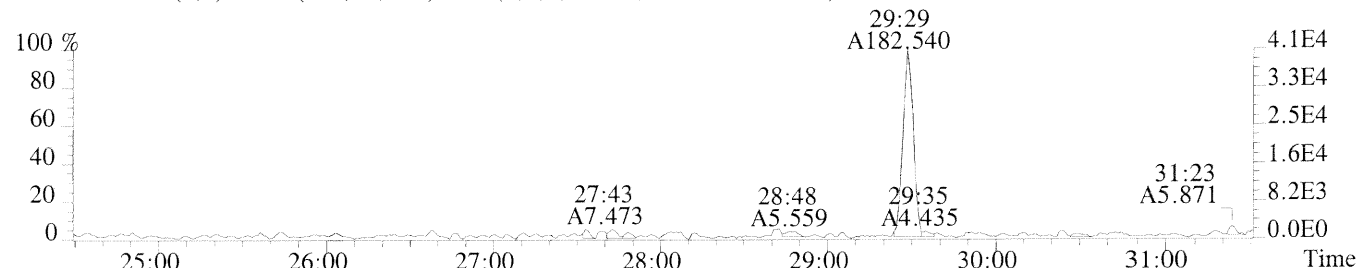
Run #2    Filename P169971    Samp: 1    Inj: 1    Acquired: 25-MAR-14 18:10:10  
Processed: 26-MAR-14 08:19:501    LAB. ID: ICAL HRCC1/CS1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.05e+04	9.84e+02	4.1e+01	4.87e+04	2.56e+03	1.9e+01
2	1,2,3,7,8-PeCDF	2.92e+05	8.60e+02	3.4e+02	1.92e+05	1.26e+03	1.5e+02
3	2,3,4,7,8-PeCDF	2.94e+05	8.60e+02	3.4e+02	1.77e+05	1.26e+03	1.4e+02
4	1,2,3,4,7,8-HxCDF	2.66e+05	1.16e+03	2.3e+02	2.07e+05	7.68e+02	2.7e+02
5	1,2,3,6,7,8-HxCDF	2.72e+05	1.16e+03	2.4e+02	2.24e+05	7.68e+02	2.9e+02
6	2,3,4,6,7,8-HxCDF	2.77e+05	1.16e+03	2.4e+02	2.16e+05	7.68e+02	2.8e+02
7	1,2,3,7,8,9-HxCDF	2.38e+05	1.16e+03	2.1e+02	1.90e+05	7.68e+02	2.5e+02
8	1,2,3,4,6,7,8-HpCDF	2.37e+05	8.32e+02	2.9e+02	2.11e+05	8.16e+02	2.6e+02
9	1,2,3,4,7,8,9-HpCDF	1.72e+05	8.32e+02	2.1e+02	1.70e+05	8.16e+02	2.1e+02
10	OCDF	2.38e+05	1.24e+03	1.9e+02	2.77e+05	1.90e+03	1.5e+02
11	2,3,7,8-TCDD	3.20e+04	1.28e+03	2.5e+01	3.66e+04	1.50e+03	2.4e+01
12	1,2,3,7,8-PeCDD	1.96e+05	1.47e+03	1.3e+02	1.31e+05	7.76e+02	1.7e+02
13	1,2,3,4,7,8-HxCDD	1.89e+05	6.40e+02	3.0e+02	1.41e+05	1.12e+03	1.3e+02
14	1,2,3,6,7,8-HxCDD	1.84e+05	6.40e+02	2.9e+02	1.45e+05	1.12e+03	1.3e+02
15	1,2,3,7,8,9-HxCDD	2.02e+05	6.40e+02	3.2e+02	1.65e+05	1.12e+03	1.5e+02
16	1,2,3,4,6,7,8-HpCDD	1.64e+05	1.02e+03	1.6e+02	1.41e+05	8.28e+02	1.7e+02
17	OCDD	2.16e+05	6.80e+02	3.2e+02	2.35e+05	7.12e+02	3.3e+02
18	13C-2,3,7,8-TCDF	8.01e+06	1.09e+03	7.3e+03	1.02e+07	1.95e+03	5.2e+03
19	13C-1,2,3,7,8-PeCDF	1.14e+07	9.76e+02	1.2e+04	7.25e+06	9.68e+02	7.5e+03
20	13C-2,3,4,7,8-PeCDF	1.19e+07	9.76e+02	1.2e+04	7.41e+06	9.68e+02	7.7e+03
21	13C-1,2,3,4,7,8-HxCDF	5.24e+06	8.24e+02	6.4e+03	1.01e+07	1.60e+03	6.3e+03
22	13C-1,2,3,6,7,8-HxCDF	5.94e+06	8.24e+02	7.2e+03	1.12e+07	1.60e+03	7.0e+03
23	13C-2,3,4,6,7,8-HxCDF	5.71e+06	8.24e+02	6.9e+03	1.10e+07	1.60e+03	6.9e+03
24	13C-1,2,3,7,8,9-HxCDF	5.05e+06	8.24e+02	6.1e+03	9.55e+06	1.60e+03	6.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.82e+06	3.04e+03	1.3e+03	8.67e+06	5.60e+03	1.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.17e+06	3.04e+03	1.0e+03	7.29e+06	5.60e+03	1.3e+03
27	13C-2,3,7,8-TCDD	5.59e+06	4.31e+03	1.3e+03	7.28e+06	1.98e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	8.50e+06	1.25e+03	6.8e+03	5.36e+06	9.44e+02	5.7e+03
29	13C-1,2,3,4,7,8-HxCDD	7.41e+06	1.42e+03	5.2e+03	5.85e+06	1.40e+03	4.2e+03
30	13C-1,2,3,6,7,8-HxCDD	7.36e+06	1.42e+03	5.2e+03	5.74e+06	1.40e+03	4.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.64e+06	1.88e+03	3.0e+03	5.36e+06	1.14e+03	4.7e+03
32	13C-OCDD	7.52e+06	8.92e+02	8.4e+03	8.40e+06	1.00e+03	8.4e+03
33	13C-1,2,3,4-TCDD	6.01e+06	4.31e+03	1.4e+03	7.54e+06	1.98e+03	3.8e+03
34	13C-1,2,3,7,8,9-HxCDD	7.86e+06	1.42e+03	5.5e+03	6.28e+06	1.40e+03	4.5e+03
35	37Cl-2,3,7,8-TCDD	7.10e+04	1.99e+03	3.6e+01			

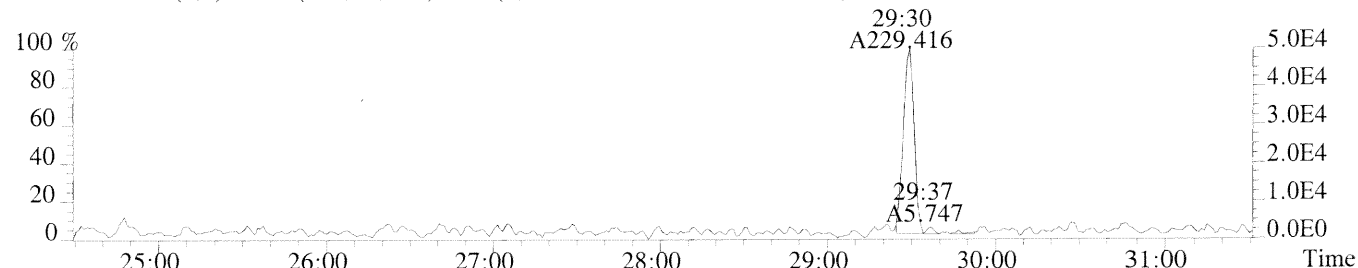
ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
Office: (713) 266-1599. Fax: (713) 266-0130

File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1

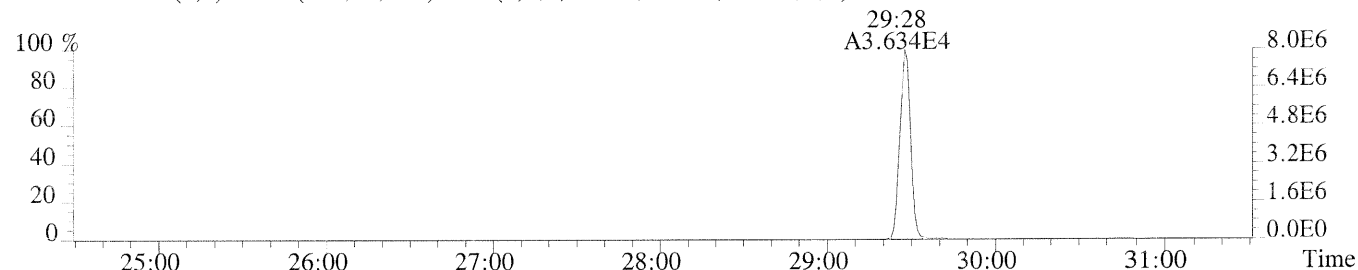
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,T)



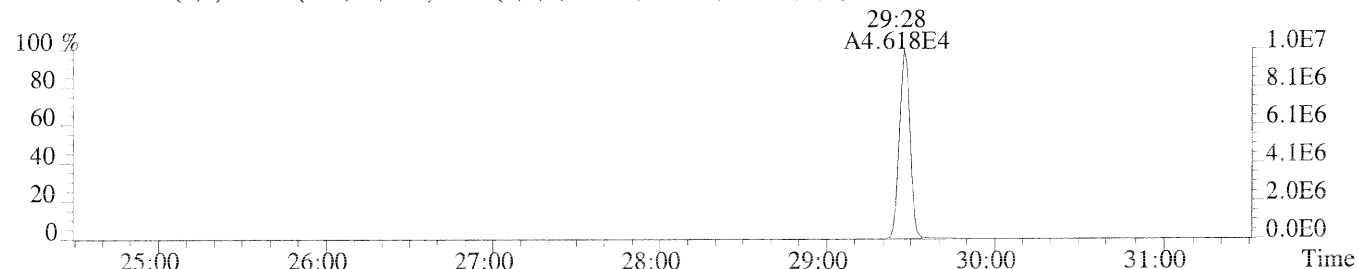
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2560.0,1.00%,F,T)



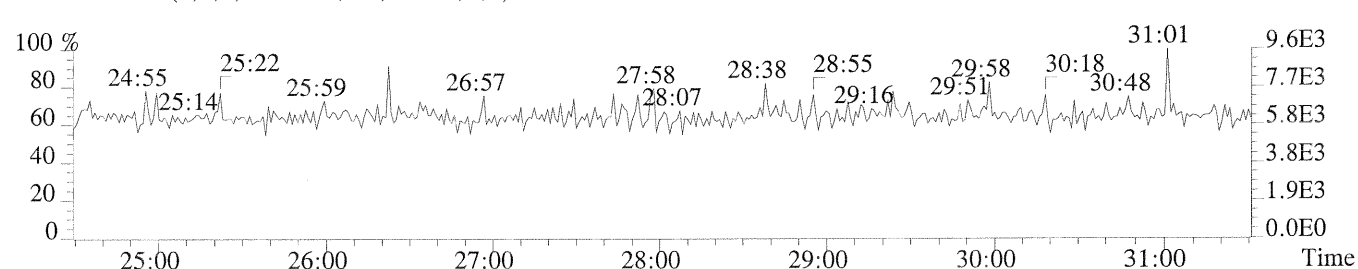
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



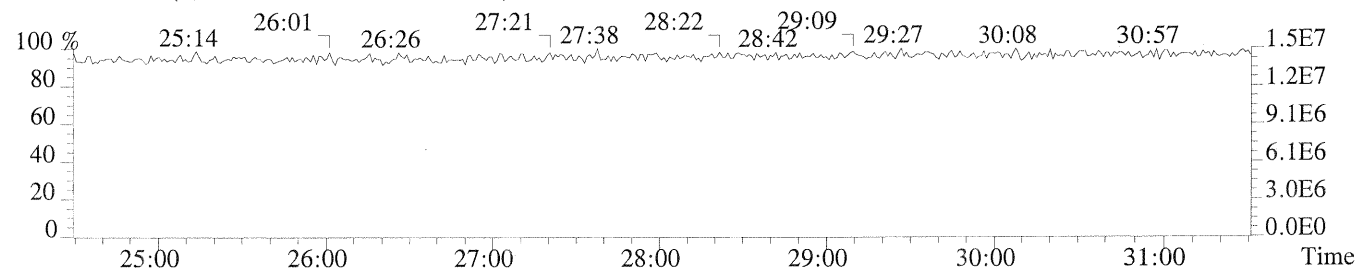
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



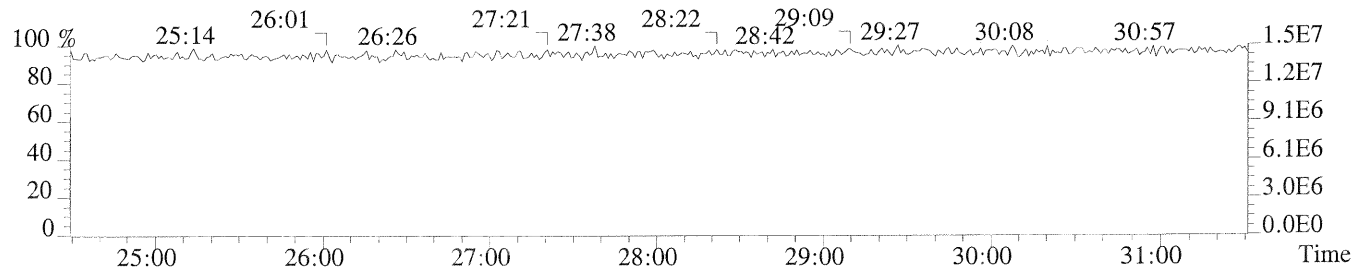
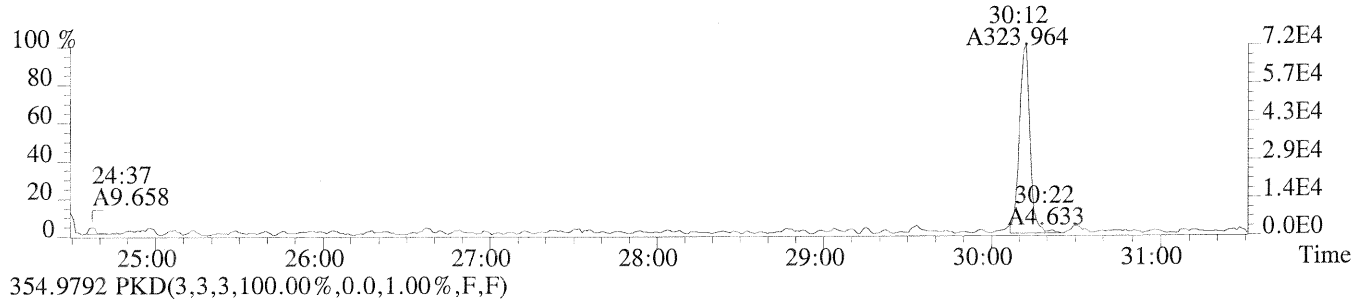
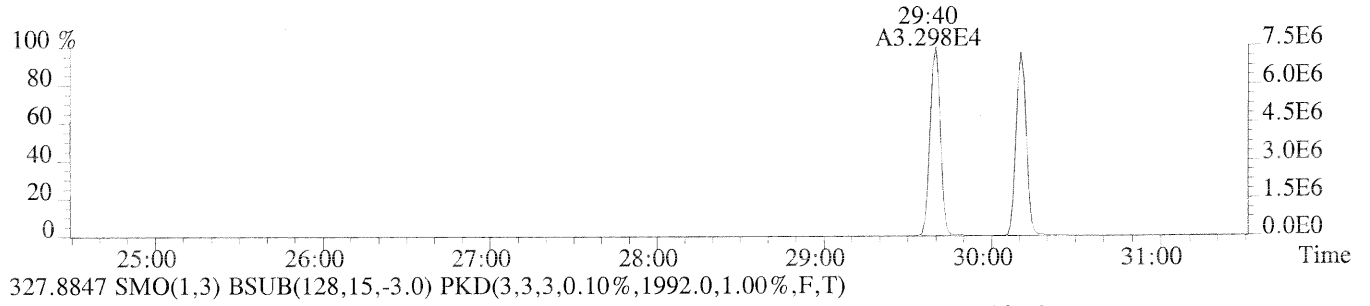
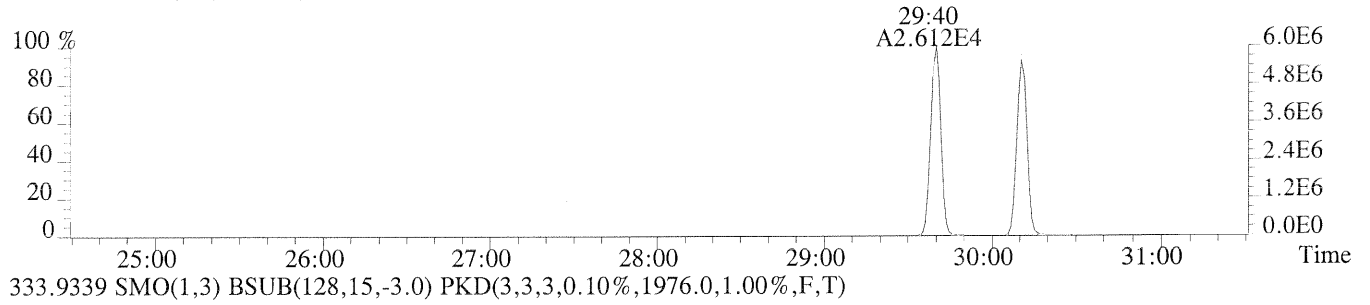
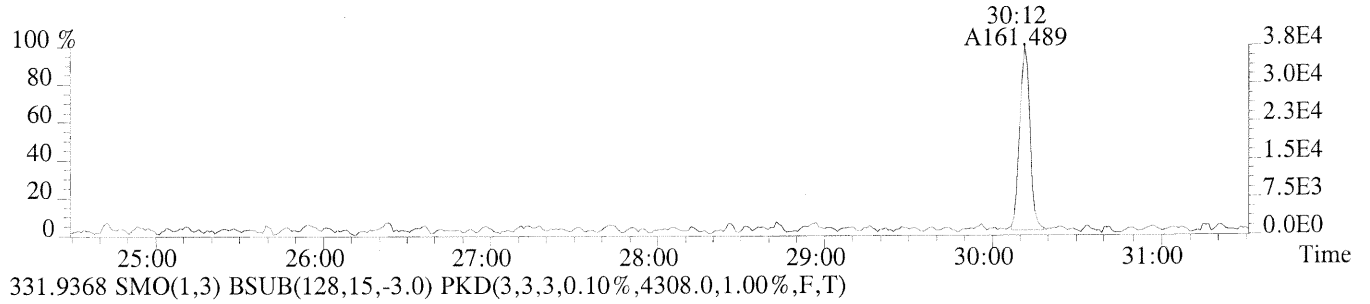
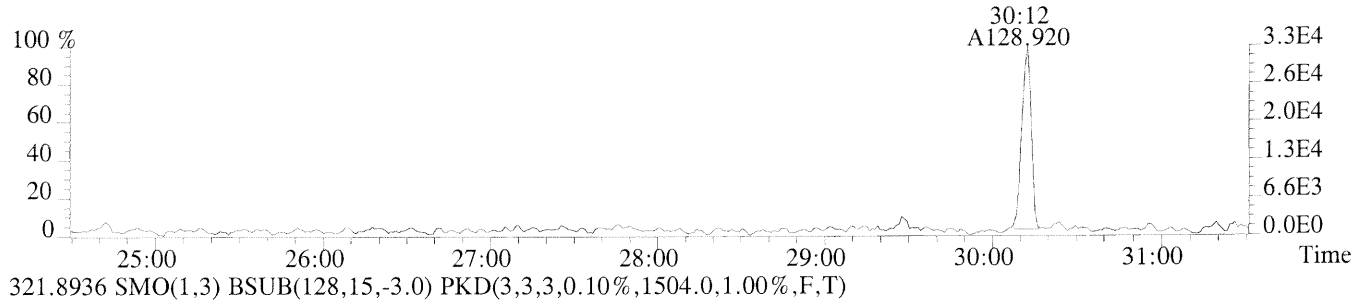
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

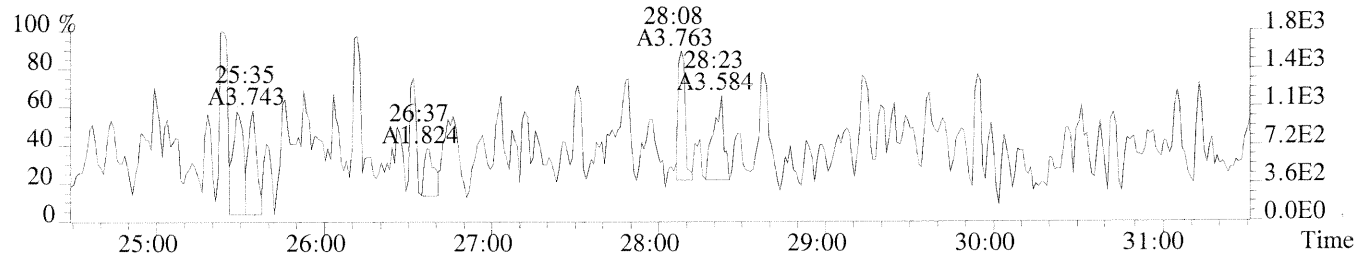


File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)

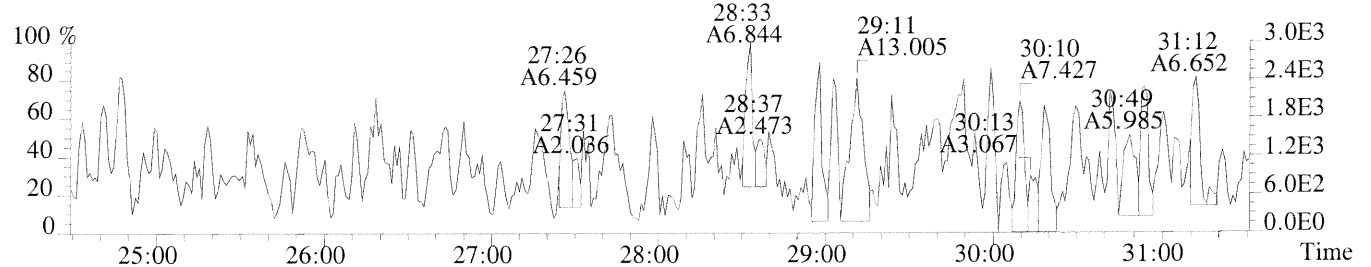




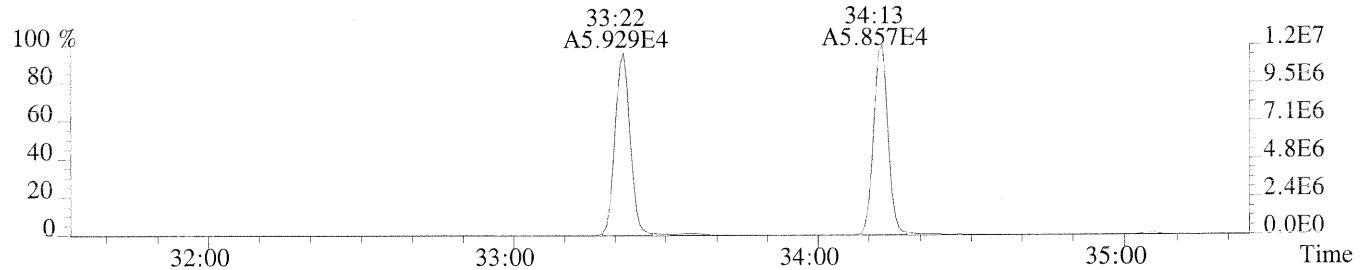
File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



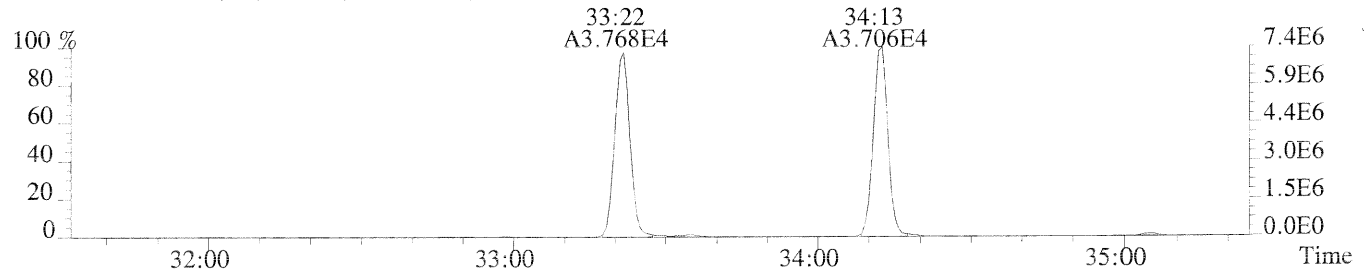
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1176.0,1.00%,F,T)



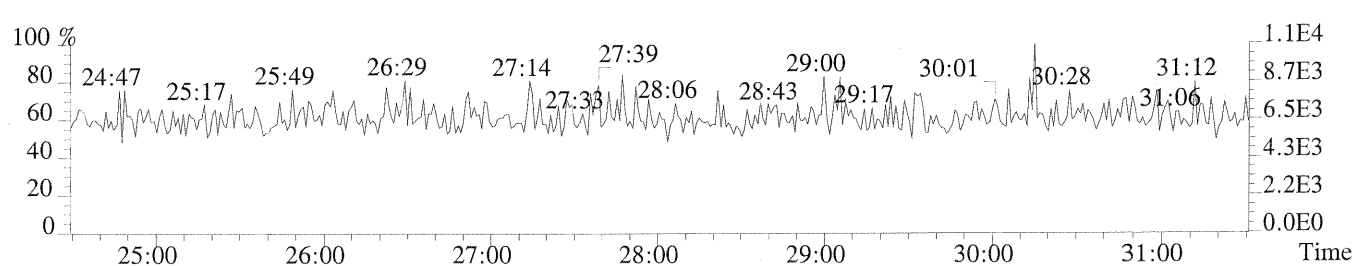
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



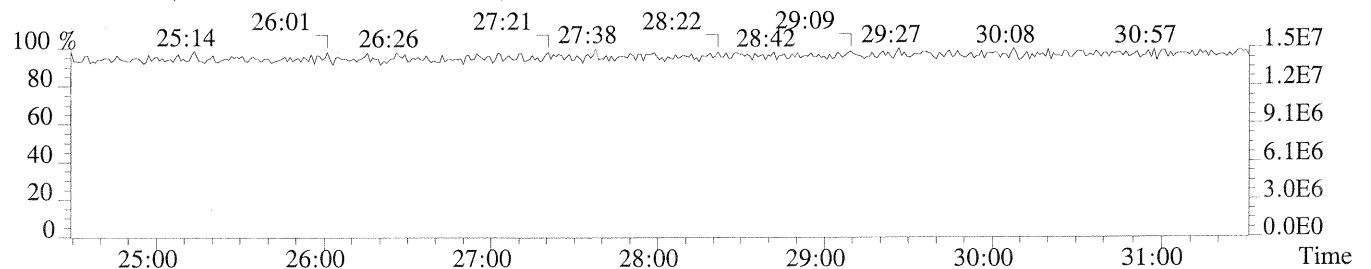
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



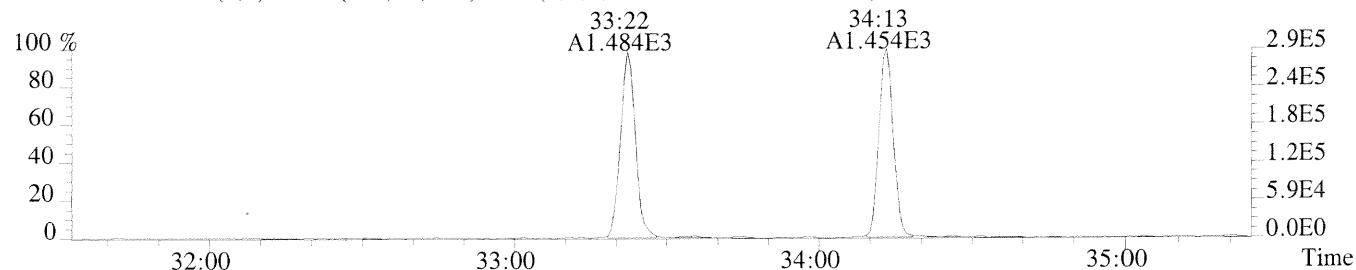
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



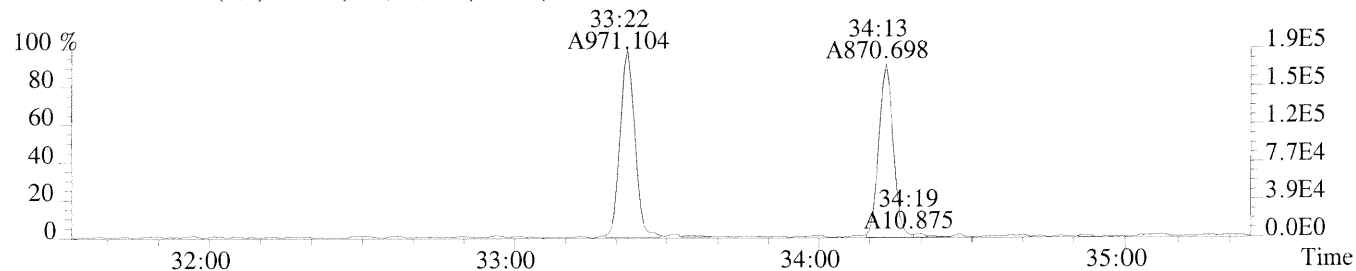
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



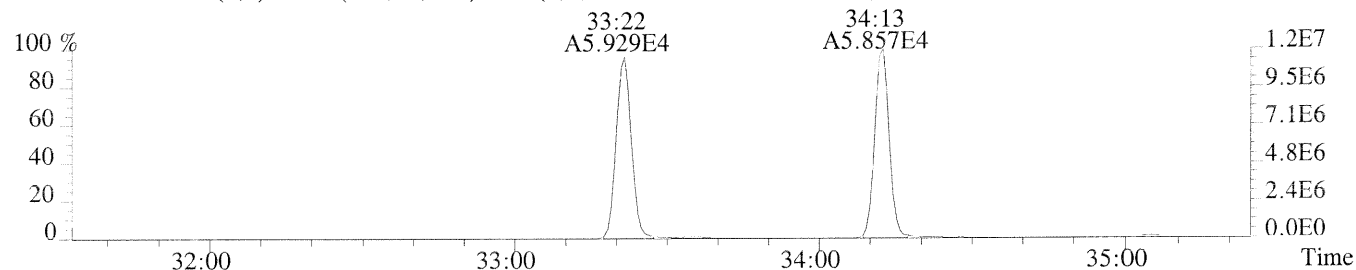
File:P169971 #1-350 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



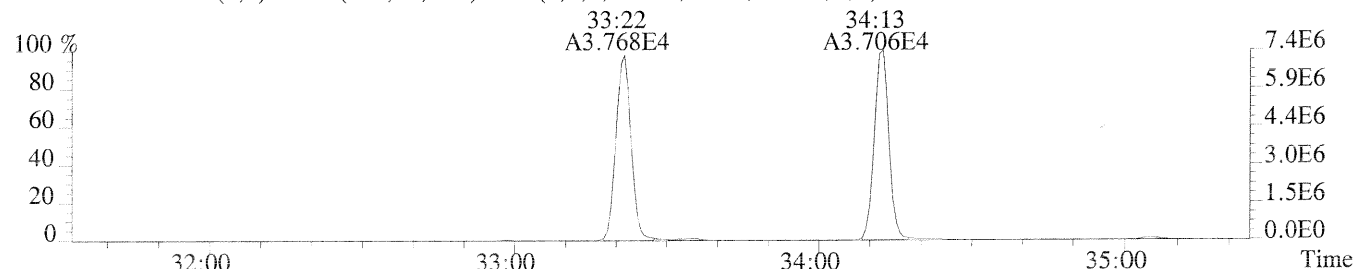
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



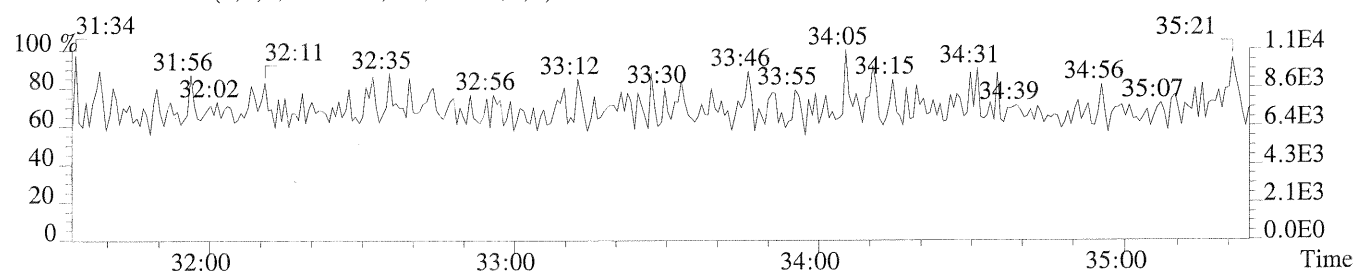
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



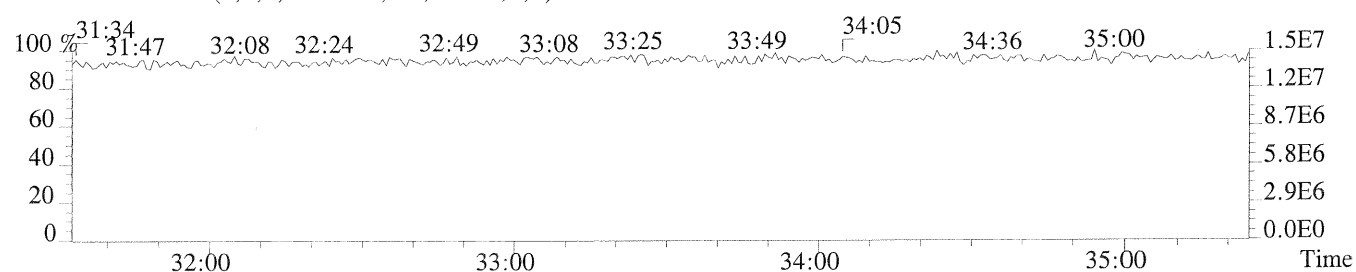
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

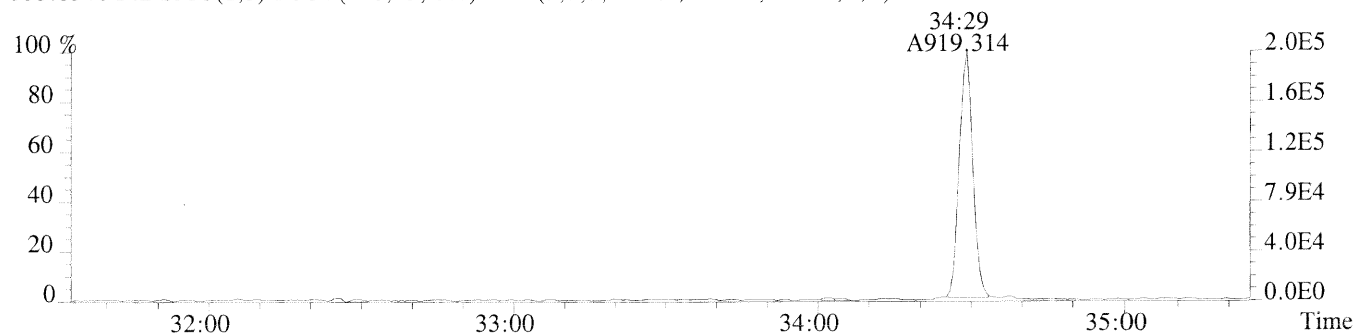


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

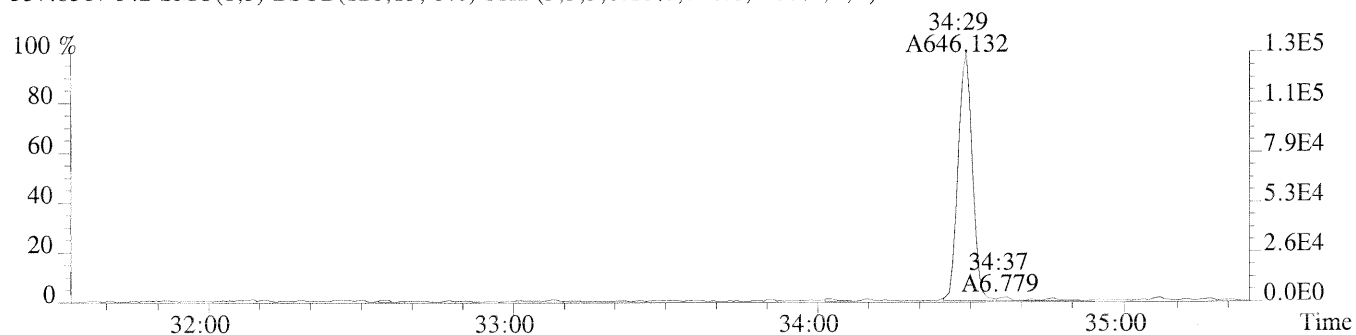


File:P169971 #1-350 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1

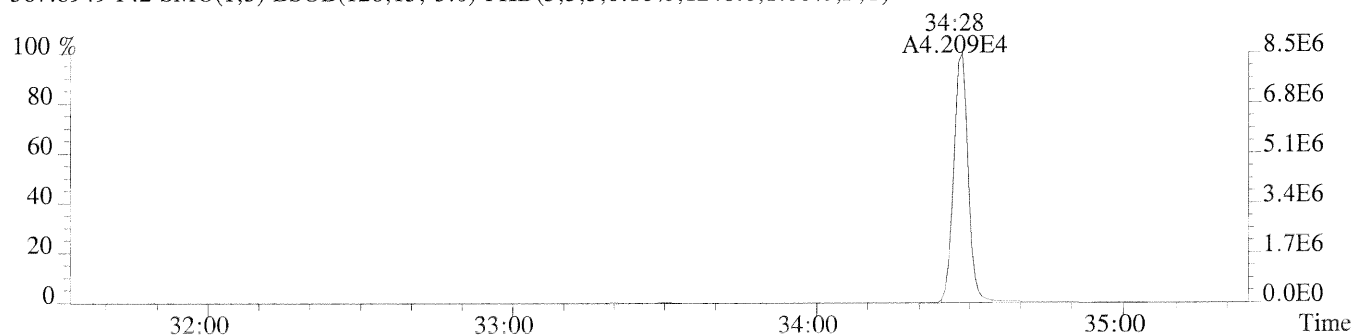
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



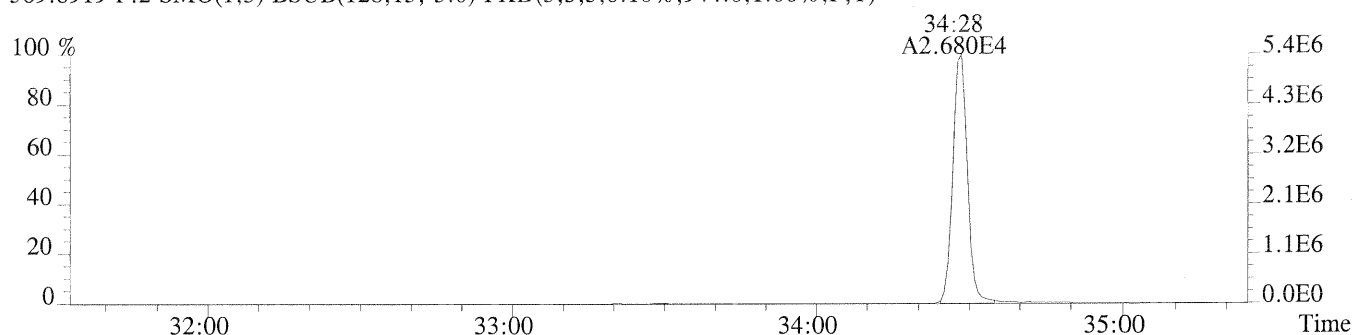
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



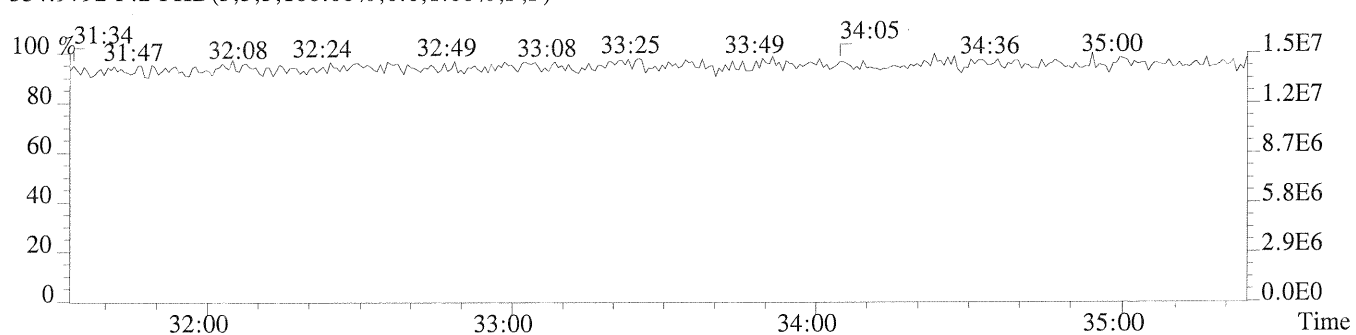
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



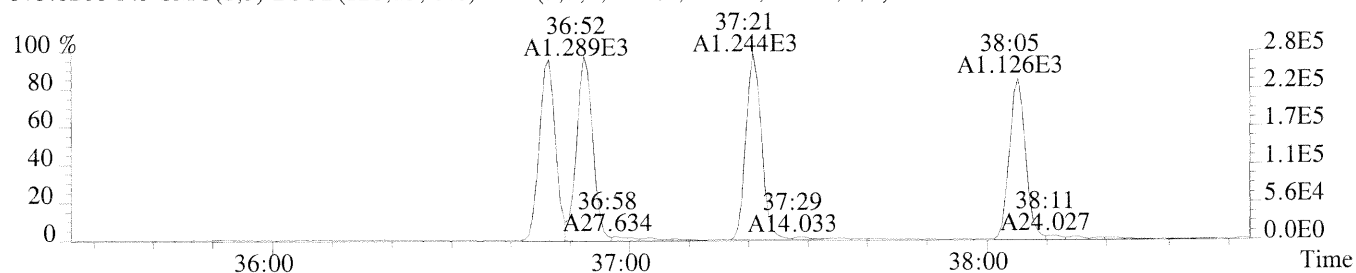
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



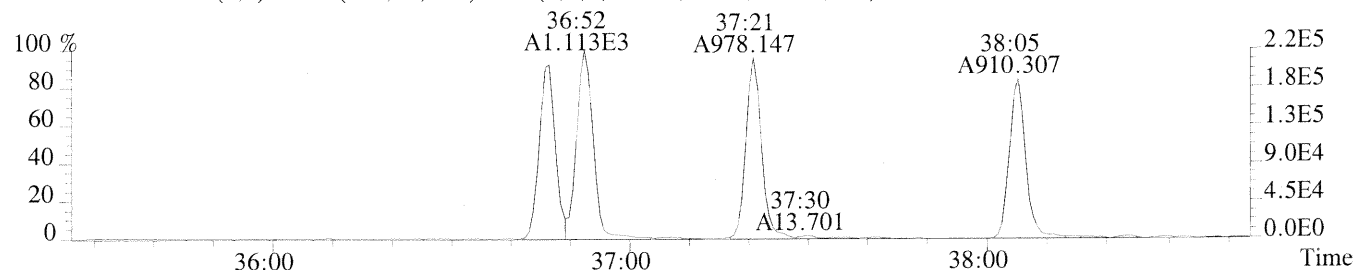
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



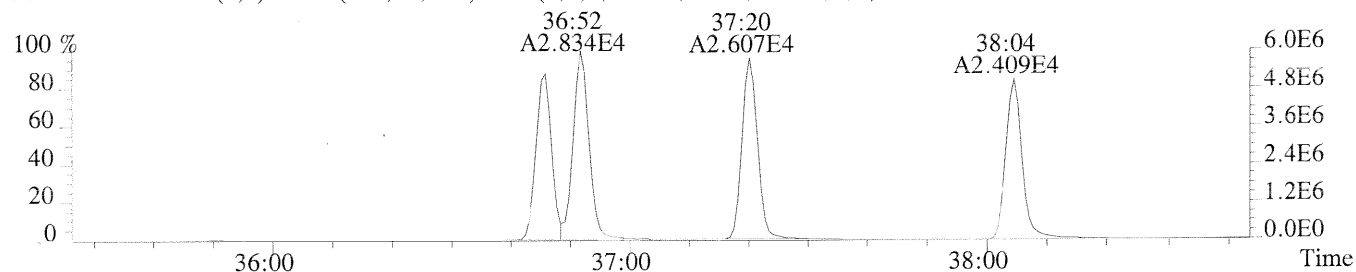
File:P169971 #1-299 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



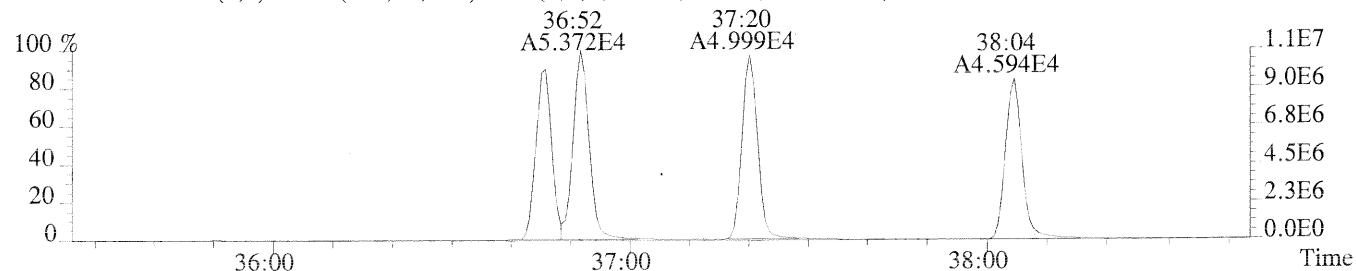
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



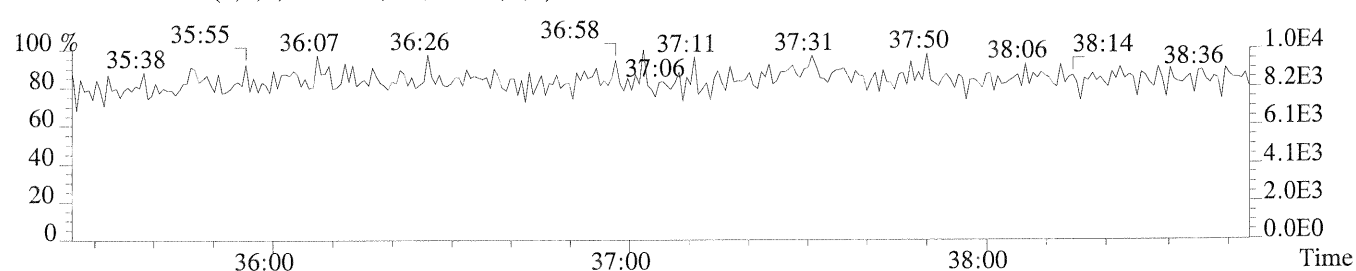
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



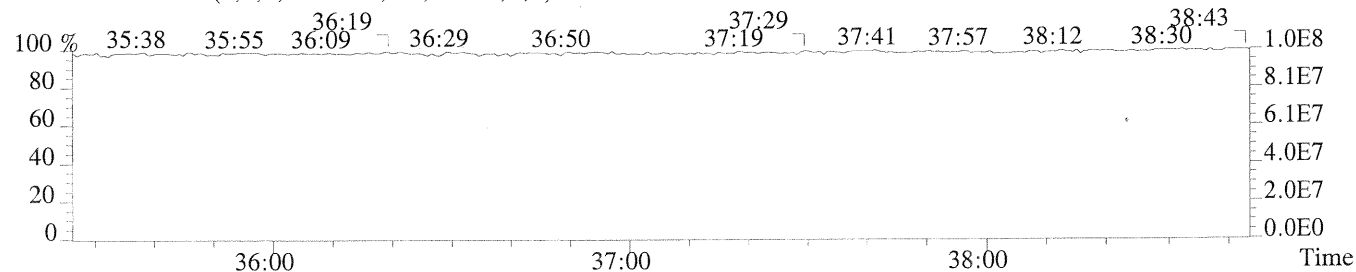
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,T)



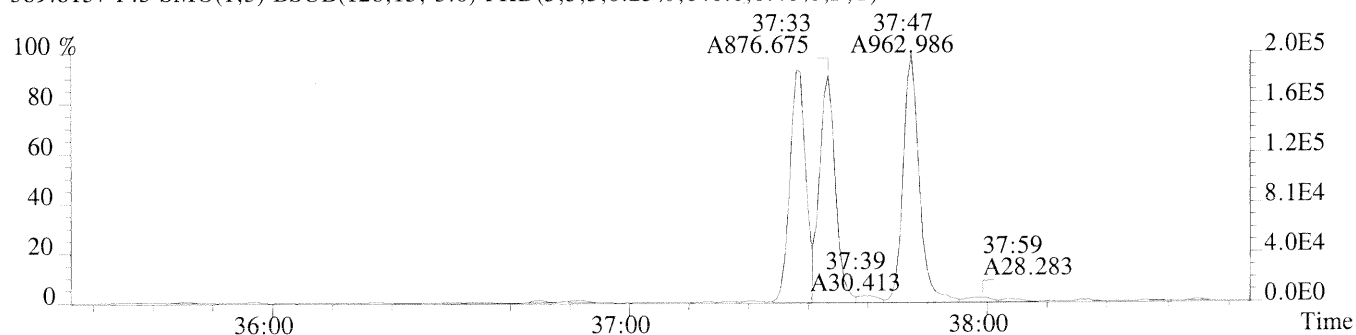
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



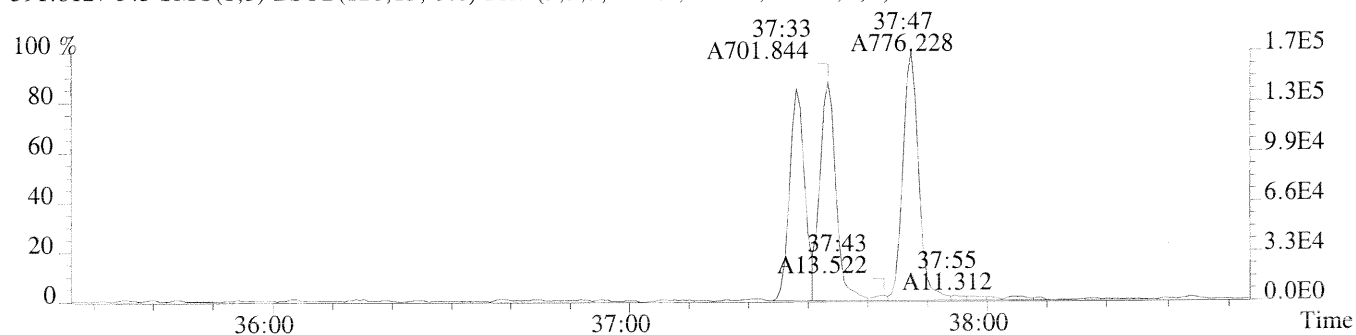
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



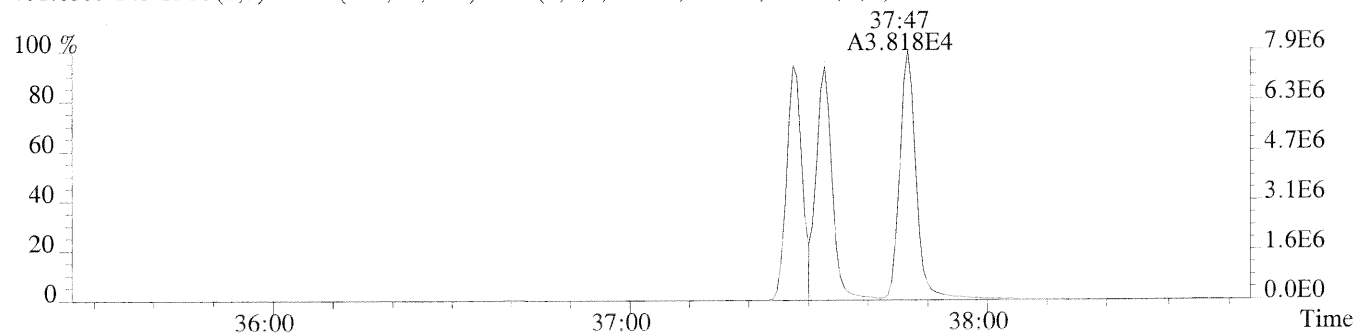
File:P169971 #1-299 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



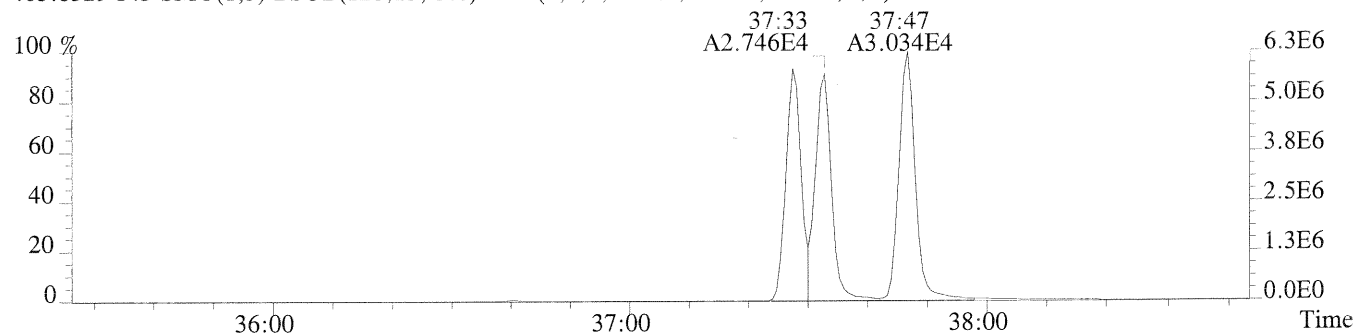
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,T)



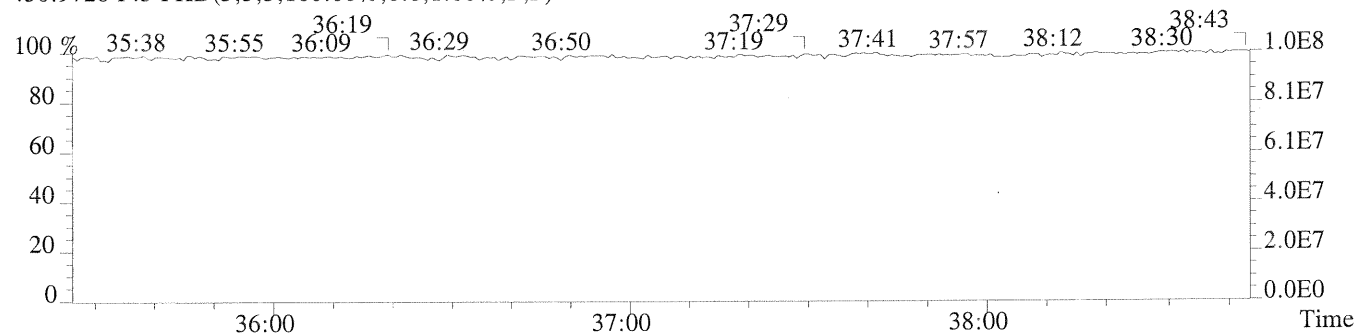
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1424.0,0.40%,F,T)



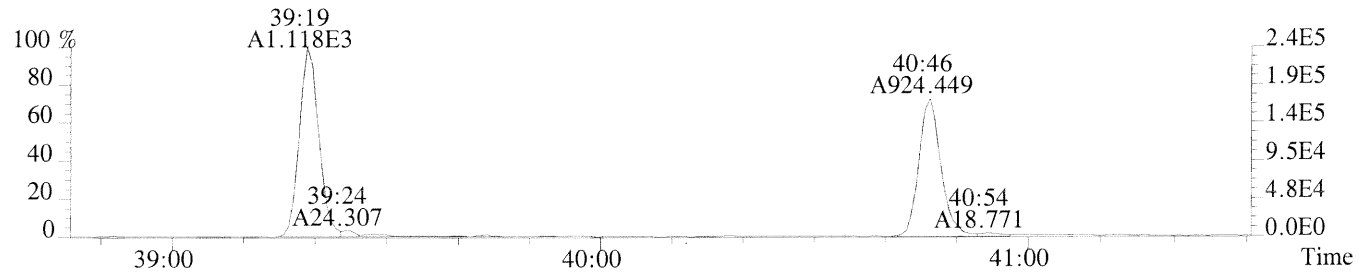
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1400.0,0.40%,F,T)



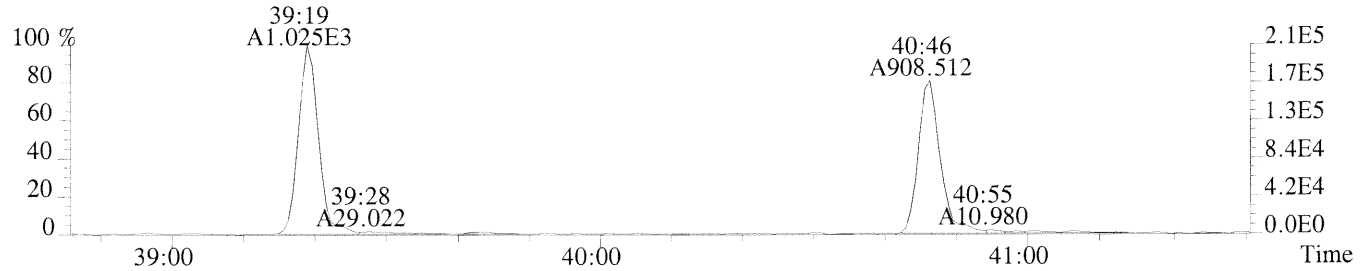
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



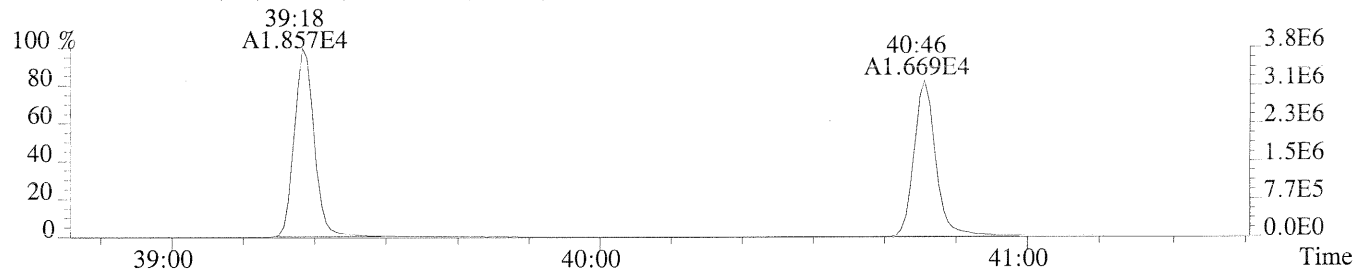
File:P169971 #1-250 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.50%,F,T)



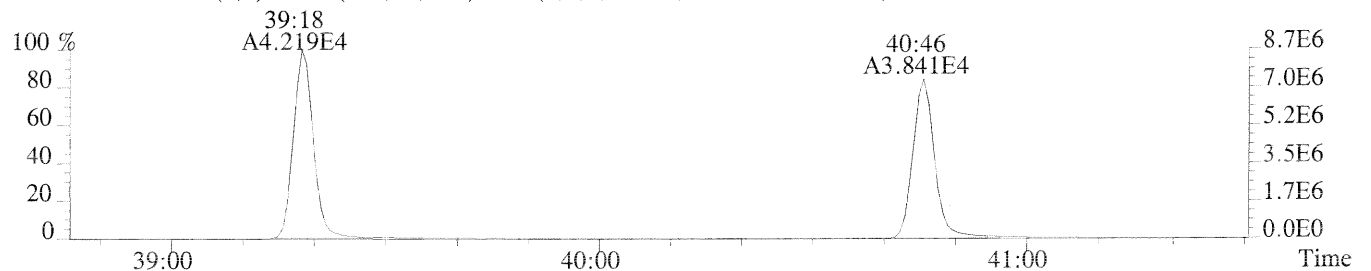
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.50%,F,T)



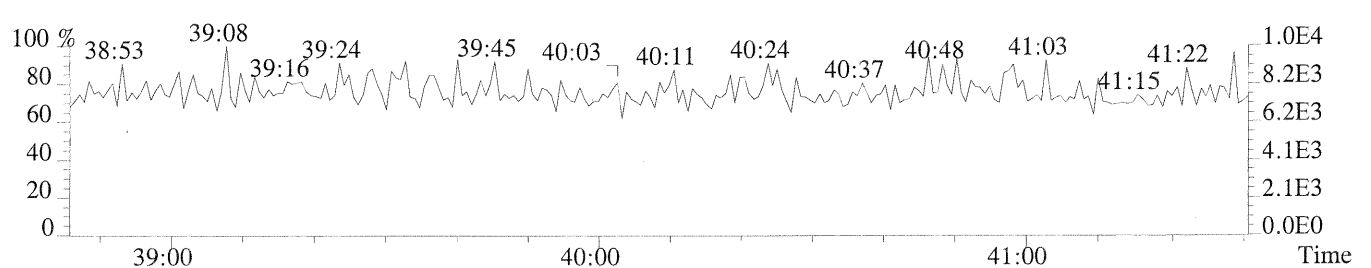
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3040.0,0.50%,F,T)



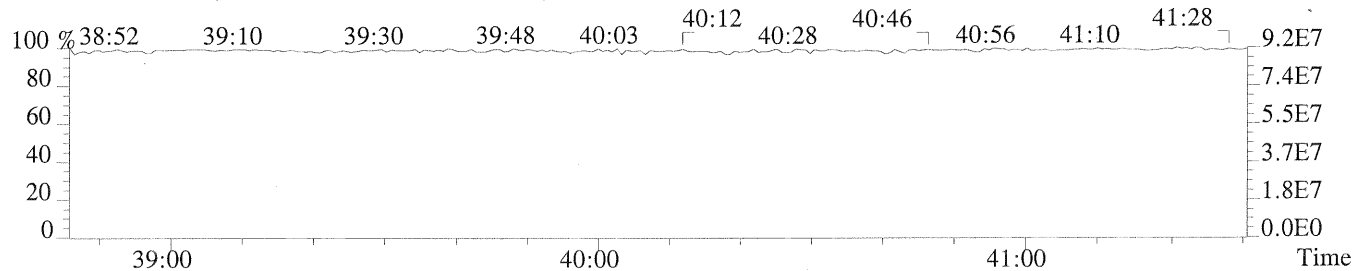
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5600.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

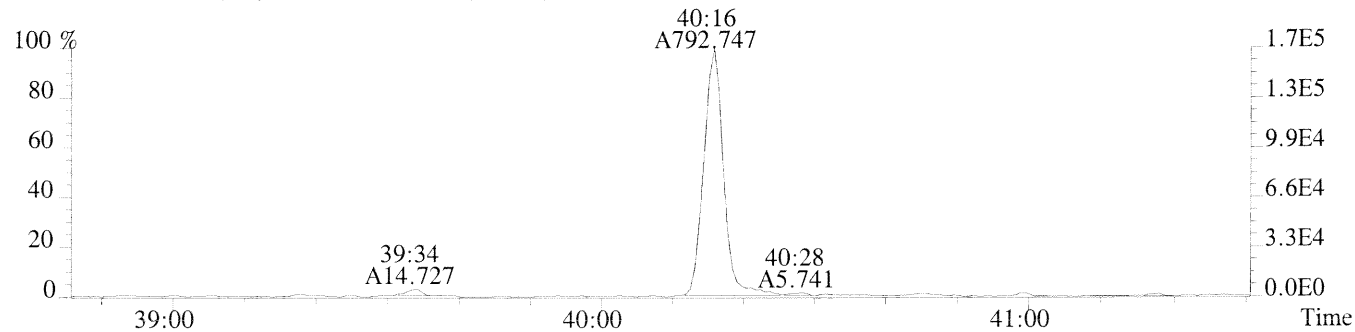


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

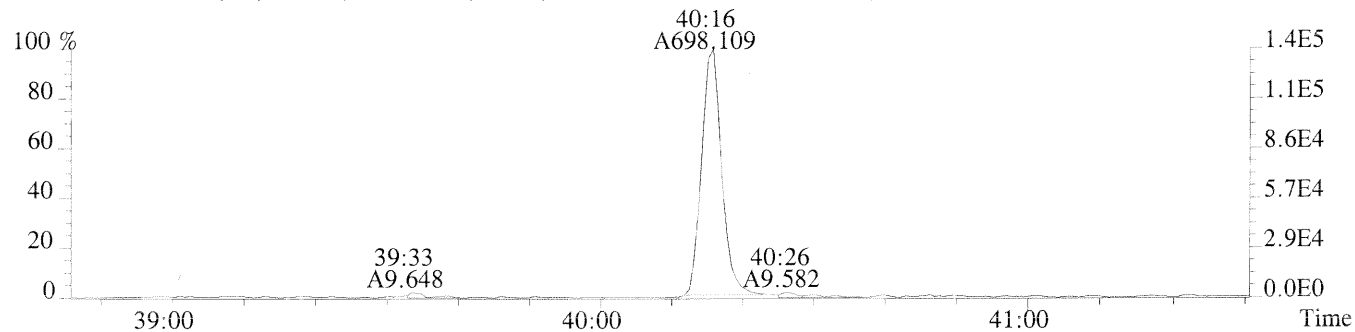


File:P169971 #1-250 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1

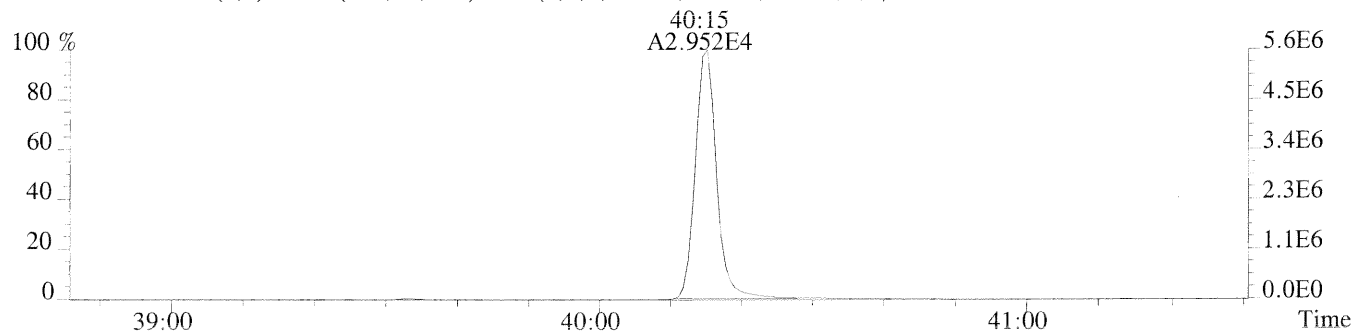
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1020.0,0.40%,F,T)



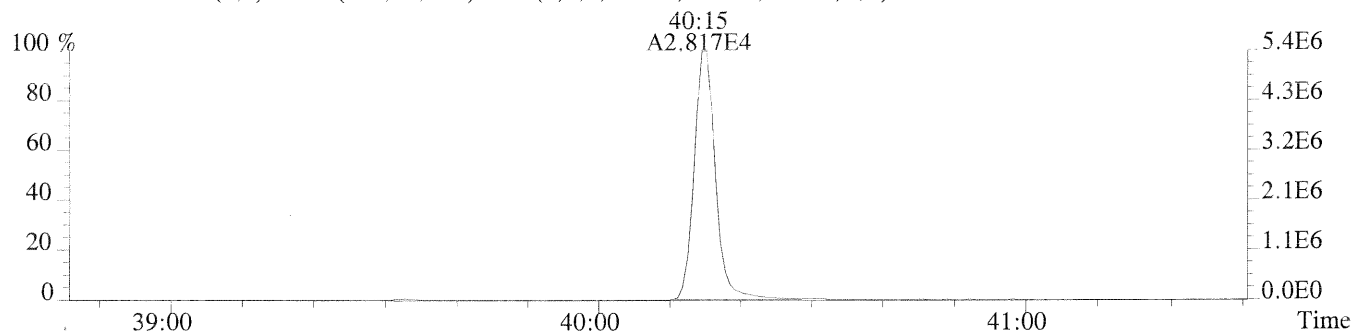
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



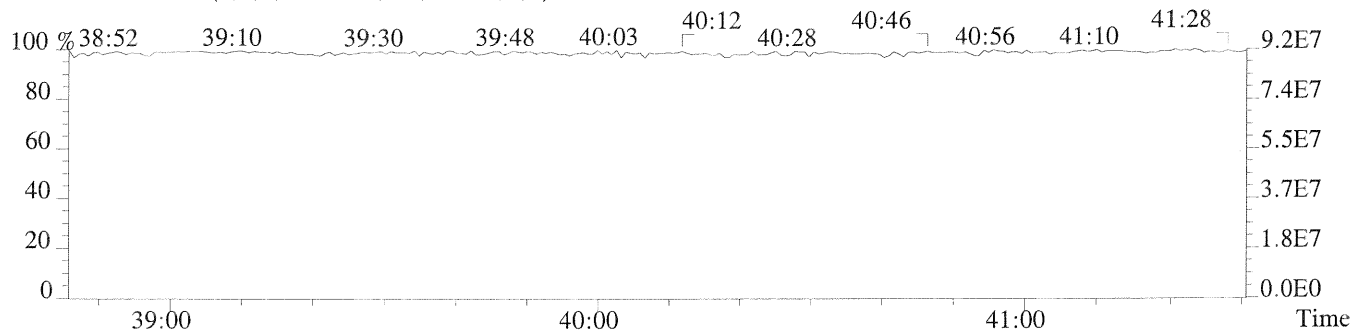
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1876.0,0.40%,F,T)



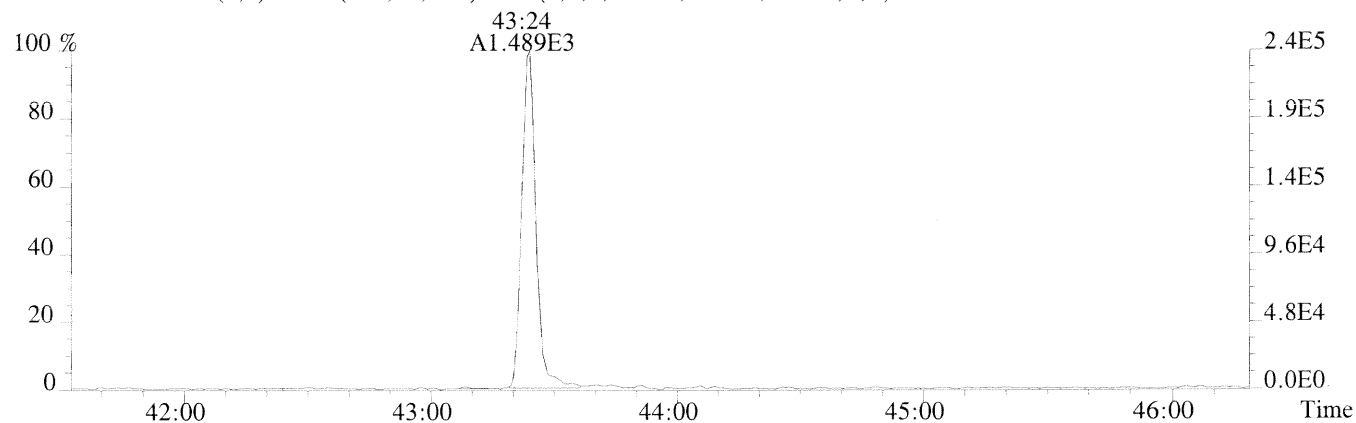
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1140.0,0.40%,F,T)



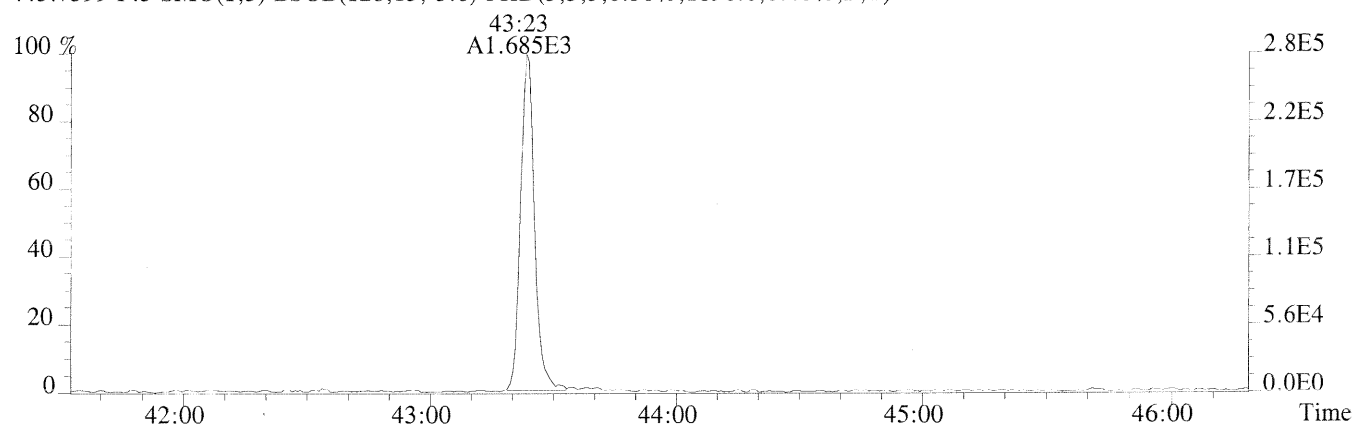
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



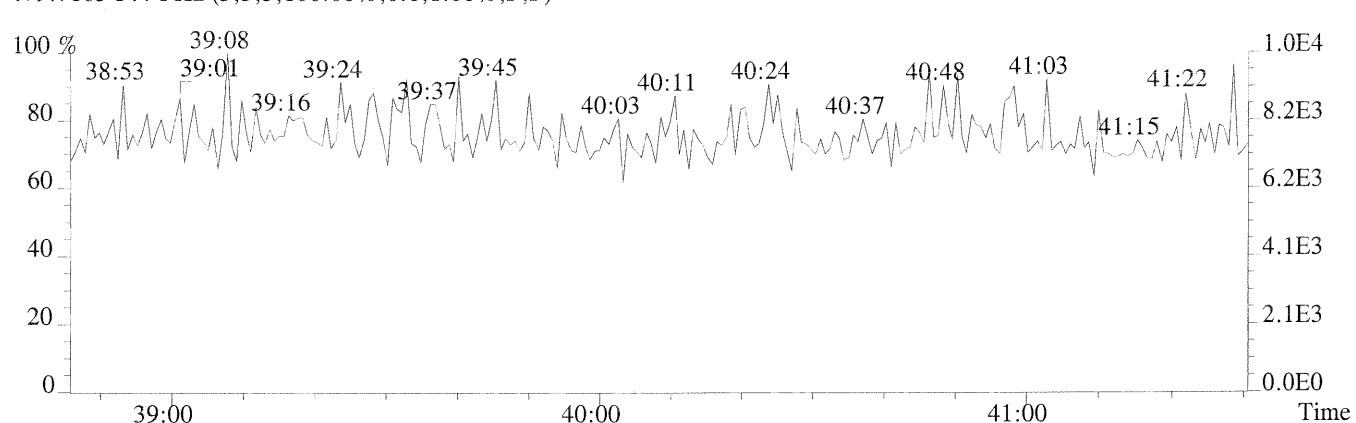
File:P169971 #1-438 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1236.0,0.40%,F,T)



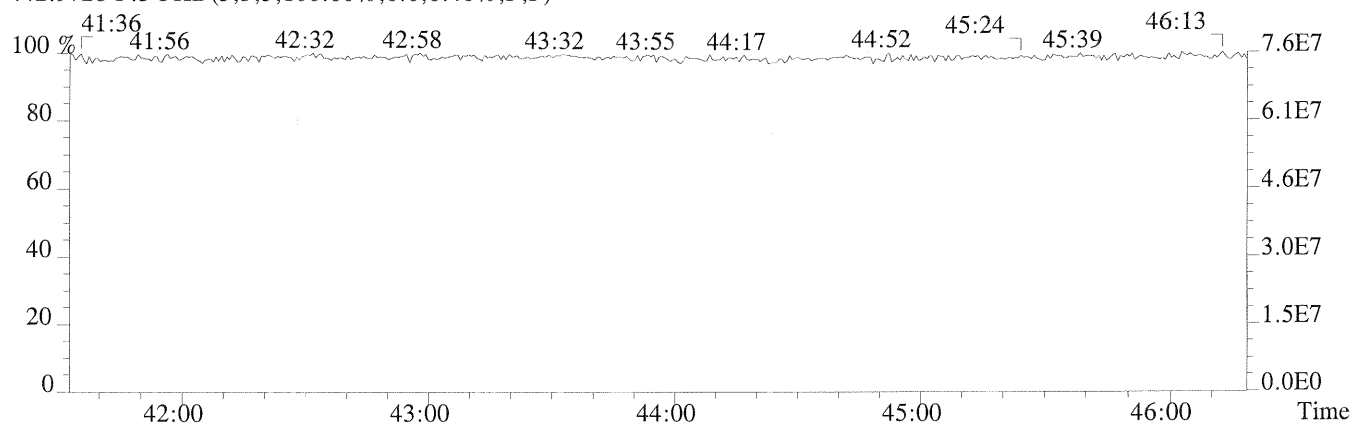
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1896.0,0.40%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

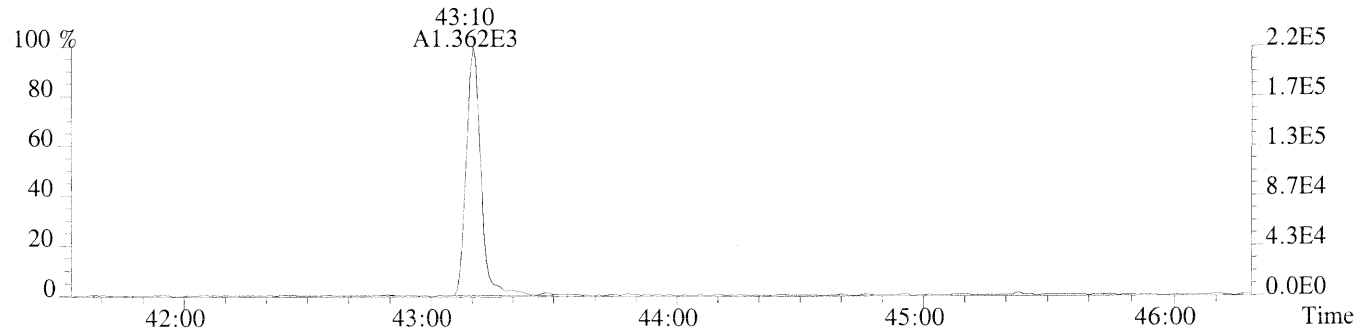


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

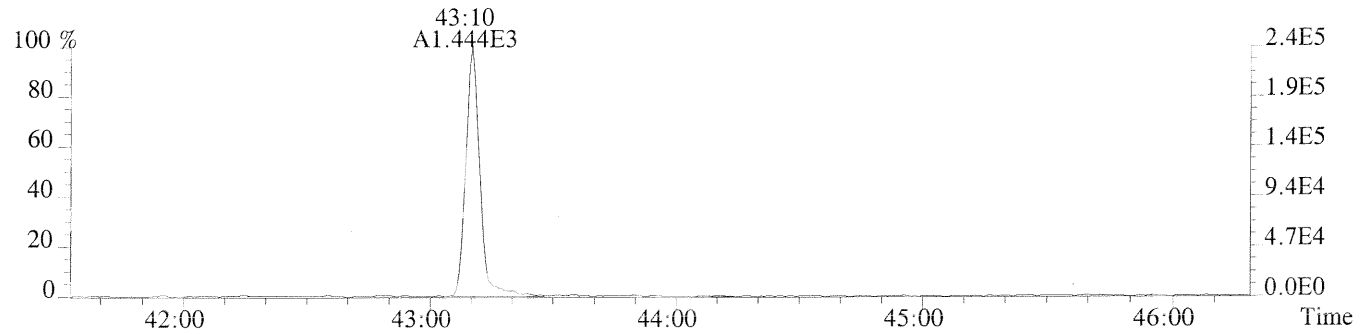




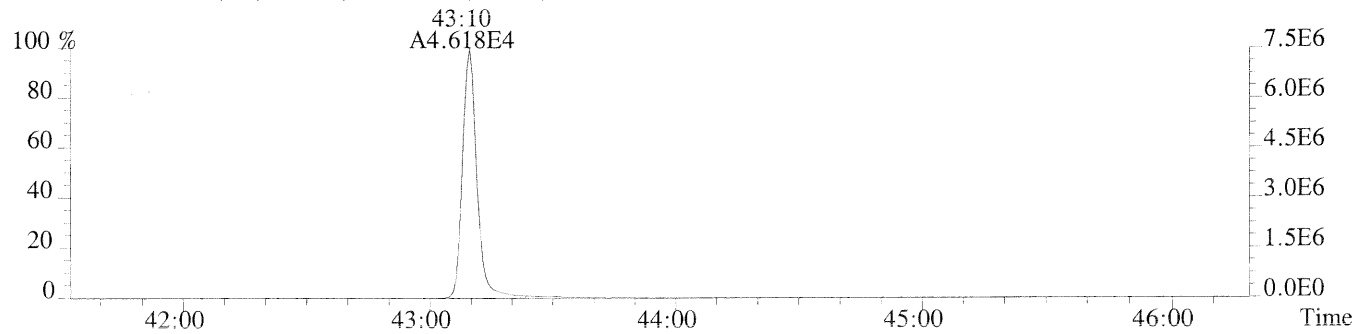
File:P169971 #1-438 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC1/CS1  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



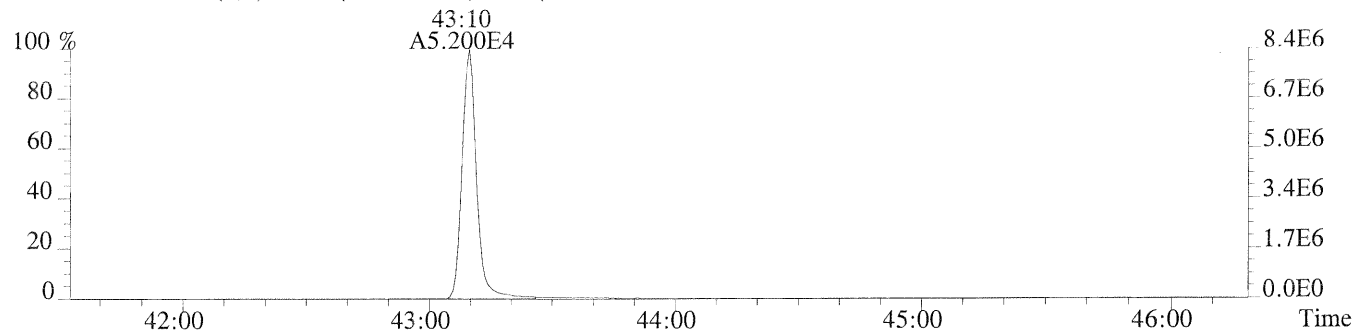
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,712.0,0.40%,F,T)



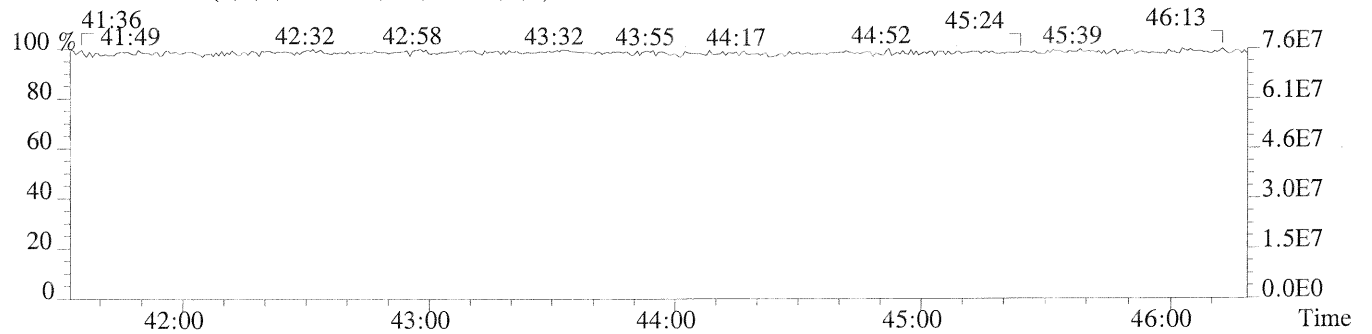
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,892.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1004.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
D12-90-3B

Run #3      Filename P169972      Samp: 1      Inj: 1      Acquired: 25-MAR-14 18:58:18  
Processed: 26-MAR-14 10:00:58      Sample ID: ICAL HRCC2/CS2

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:28	6.797e+02	9.093e+02	0.75	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:22	6.675e+03	4.151e+03	1.61	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:13	6.030e+03	3.973e+03	1.52	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	5.387e+03	4.372e+03	1.23	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:52	5.746e+03	4.693e+03	1.22	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	5.347e+03	4.181e+03	1.28	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:05	4.745e+03	3.974e+03	1.19	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	4.684e+03	4.630e+03	1.01	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:46	4.107e+03	3.950e+03	1.04	yes	no	1.324
10 Unk	OCDF	43:24	6.830e+03	7.744e+03	0.88	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:11	5.678e+02	6.819e+02	0.83	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:29	4.215e+03	2.657e+03	1.59	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	3.548e+03	2.868e+03	1.24	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:33	3.912e+03	3.143e+03	1.24	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:47	3.952e+03	3.273e+03	1.21	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	3.242e+03	3.272e+03	0.99	yes	no	1.016
17 Unk	OCDD	43:10	5.738e+03	6.315e+03	0.91	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	3.995e+04	5.114e+04	0.78	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	6.495e+04	4.159e+04	1.56	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:12	6.394e+04	4.078e+04	1.57	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	2.667e+04	5.143e+04	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	3.055e+04	5.878e+04	0.52	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:20	2.872e+04	5.600e+04	0.51	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:04	2.617e+04	5.040e+04	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	2.085e+04	4.695e+04	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:45	1.886e+04	4.228e+04	0.45	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	2.721e+04	3.548e+04	0.77	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	4.651e+04	2.939e+04	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:28	3.583e+04	2.833e+04	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	3.948e+04	3.114e+04	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:15	3.334e+04	3.141e+04	1.06	yes	no	0.862
32 IS	13C-OCDD	43:09	5.279e+04	5.889e+04	0.90	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	2.831e+04	3.594e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:46	4.249e+04	3.338e+04	1.27	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:11	1.296e+03				no	1.125

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1613RESP

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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

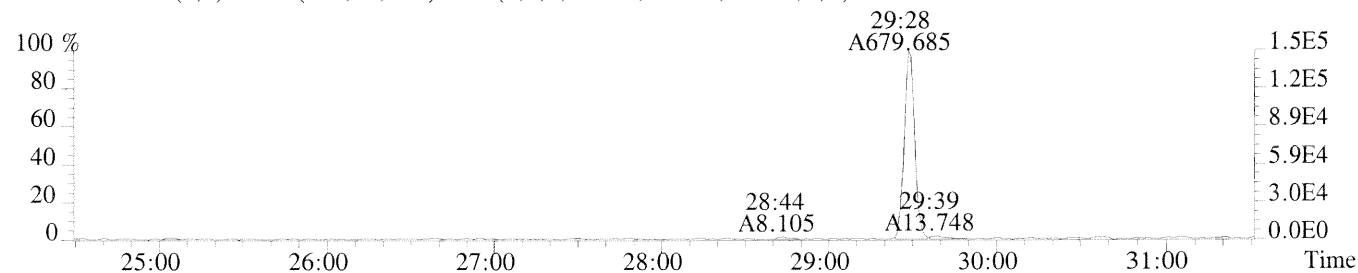
CLIENT ID.  
D12-90-3B

Run #3    Filename P169972    Samp: 1    Inj: 1    Acquired: 25-MAR-14 18:58:18  
Processed: 26-MAR-14 08:20:001    LAB. ID: ICAL HRCC2/CS2

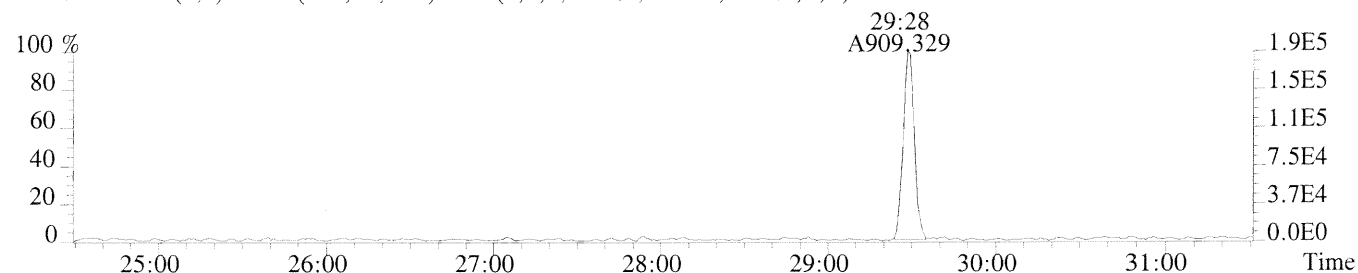
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.48e+05	1.03e+03	1.4e+02	1.85e+05	3.37e+03	5.5e+01
2	1,2,3,7,8-PeCDF	1.28e+06	8.92e+02	1.4e+03	8.02e+05	2.07e+03	3.9e+02
3	2,3,4,7,8-PeCDF	1.22e+06	8.92e+02	1.4e+03	8.08e+05	2.07e+03	3.9e+02
4	1,2,3,4,7,8-HxCDF	1.17e+06	1.62e+03	7.2e+02	9.51e+05	1.22e+03	7.8e+02
5	1,2,3,6,7,8-HxCDF	1.18e+06	1.62e+03	7.3e+02	9.54e+05	1.22e+03	7.8e+02
6	2,3,4,6,7,8-HxCDF	1.15e+06	1.62e+03	7.1e+02	9.09e+05	1.22e+03	7.4e+02
7	1,2,3,7,8,9-HxCDF	1.01e+06	1.62e+03	6.2e+02	8.40e+05	1.22e+03	6.9e+02
8	1,2,3,4,6,7,8-HpCDF	9.55e+05	8.96e+02	1.1e+03	9.33e+05	1.52e+03	6.1e+02
9	1,2,3,4,7,8,9-HpCDF	7.48e+05	8.96e+02	8.3e+02	7.46e+05	1.52e+03	4.9e+02
10	OCDF	1.07e+06	9.00e+02	1.2e+03	1.20e+06	1.69e+03	7.1e+02
11	2,3,7,8-TCDD	1.21e+05	9.64e+02	1.3e+02	1.56e+05	1.27e+03	1.2e+02
12	1,2,3,7,8-PeCDD	8.78e+05	1.60e+03	5.5e+02	5.45e+05	1.14e+03	4.8e+02
13	1,2,3,4,7,8-HxCDD	8.11e+05	1.16e+03	7.0e+02	6.41e+05	1.16e+03	5.5e+02
14	1,2,3,6,7,8-HxCDD	8.05e+05	1.16e+03	7.0e+02	6.51e+05	1.16e+03	5.6e+02
15	1,2,3,7,8,9-HxCDD	8.28e+05	1.16e+03	7.2e+02	6.75e+05	1.16e+03	5.8e+02
16	1,2,3,4,6,7,8-HpCDD	6.26e+05	1.23e+03	5.1e+02	6.15e+05	9.48e+02	6.5e+02
17	OCDD	9.06e+05	7.60e+02	1.2e+03	9.87e+05	6.92e+02	1.4e+03
18	13C-2,3,7,8-TCDF	8.67e+06	1.52e+03	5.7e+03	1.11e+07	1.76e+03	6.3e+03
19	13C-1,2,3,7,8-PeCDF	1.24e+07	1.02e+03	1.2e+04	7.97e+06	1.64e+03	4.8e+03
20	13C-2,3,4,7,8-PeCDF	1.27e+07	1.02e+03	1.2e+04	8.10e+06	1.64e+03	4.9e+03
21	13C-1,2,3,4,7,8-HxCDF	5.77e+06	1.01e+03	5.7e+03	1.11e+07	1.74e+03	6.4e+03
22	13C-1,2,3,6,7,8-HxCDF	6.22e+06	1.01e+03	6.2e+03	1.21e+07	1.74e+03	6.9e+03
23	13C-2,3,4,6,7,8-HxCDF	6.03e+06	1.01e+03	6.0e+03	1.18e+07	1.74e+03	6.8e+03
24	13C-1,2,3,7,8,9-HxCDF	5.40e+06	1.01e+03	5.3e+03	1.04e+07	1.74e+03	6.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	4.16e+06	2.25e+03	1.8e+03	9.28e+06	3.43e+03	2.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.43e+06	2.25e+03	1.5e+03	7.76e+06	3.43e+03	2.3e+03
27	13C-2,3,7,8-TCDD	6.25e+06	4.83e+03	1.3e+03	8.14e+06	1.77e+03	4.6e+03
28	13C-1,2,3,7,8-PeCDD	9.48e+06	1.50e+03	6.3e+03	5.99e+06	9.28e+02	6.5e+03
29	13C-1,2,3,4,7,8-HxCDD	8.14e+06	1.26e+03	6.5e+03	6.35e+06	1.33e+03	4.8e+03
30	13C-1,2,3,6,7,8-HxCDD	7.96e+06	1.26e+03	6.3e+03	6.37e+06	1.33e+03	4.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.28e+06	1.04e+03	6.0e+03	5.94e+06	7.32e+02	8.1e+03
32	13C-OCDD	8.20e+06	1.08e+03	7.6e+03	9.19e+06	7.40e+02	1.2e+04
33	13C-1,2,3,4-TCDD	6.39e+06	4.83e+03	1.3e+03	8.22e+06	1.77e+03	4.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.51e+06	1.26e+03	6.8e+03	6.70e+06	1.33e+03	5.0e+03
35	37Cl-2,3,7,8-TCDD	3.03e+05	1.59e+03	1.9e+02			

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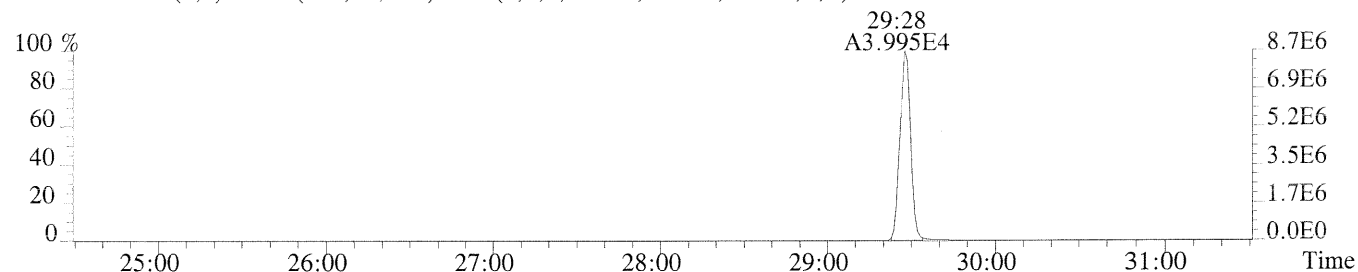
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



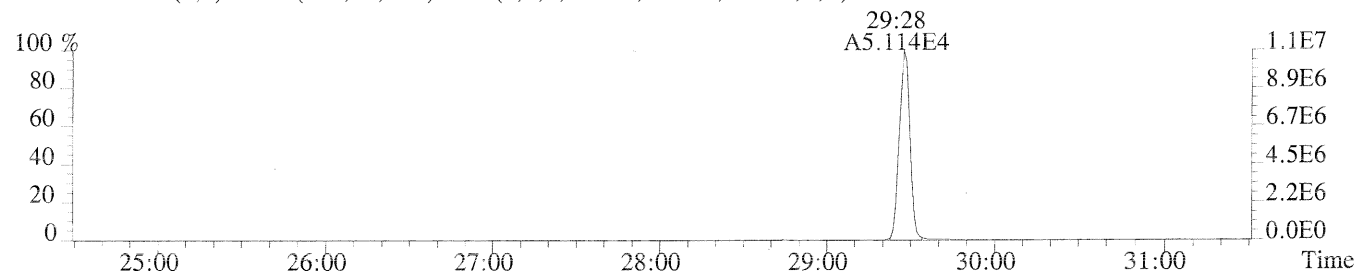
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3372.0,1.00%,F,T)



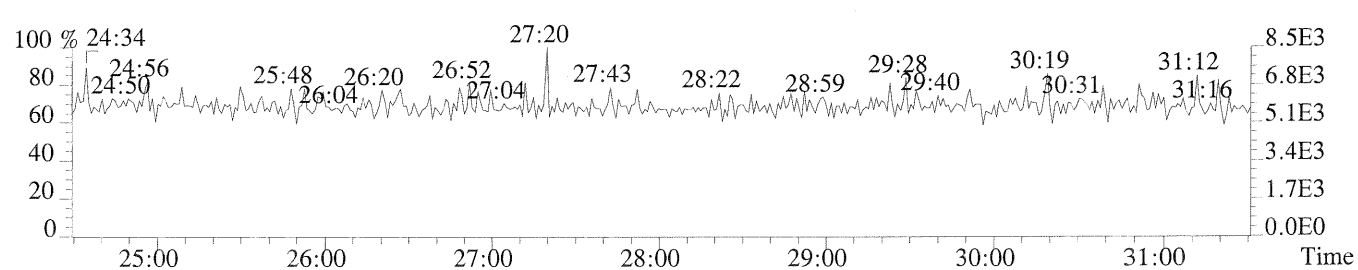
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



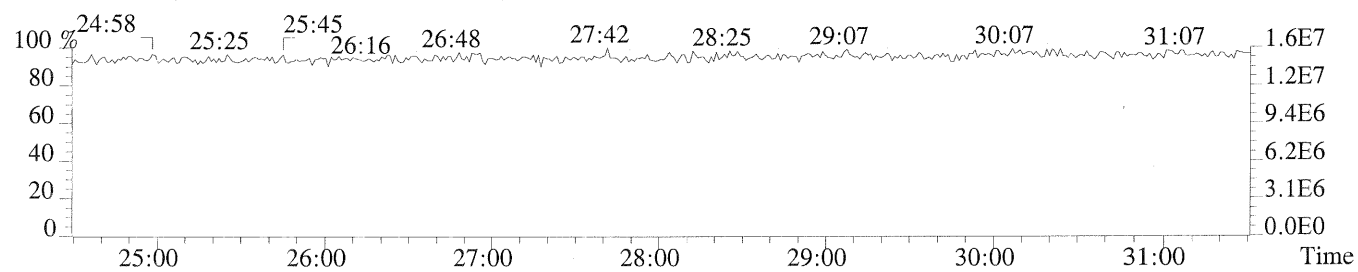
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1760.0,1.00%,F,T)



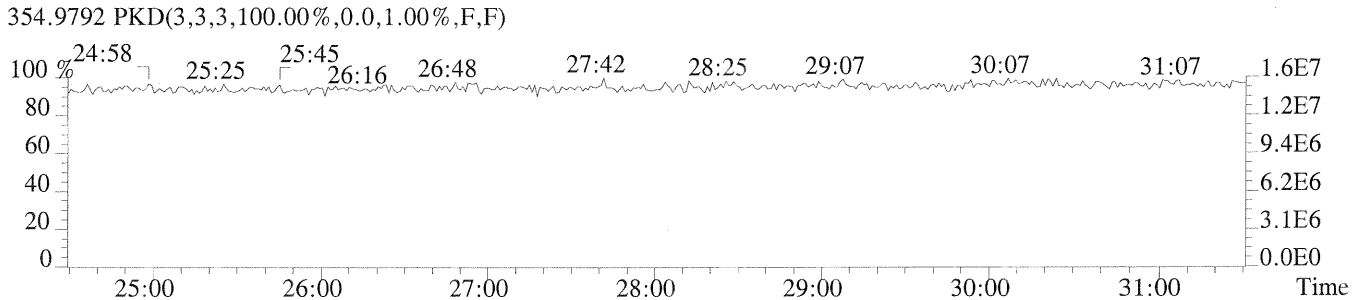
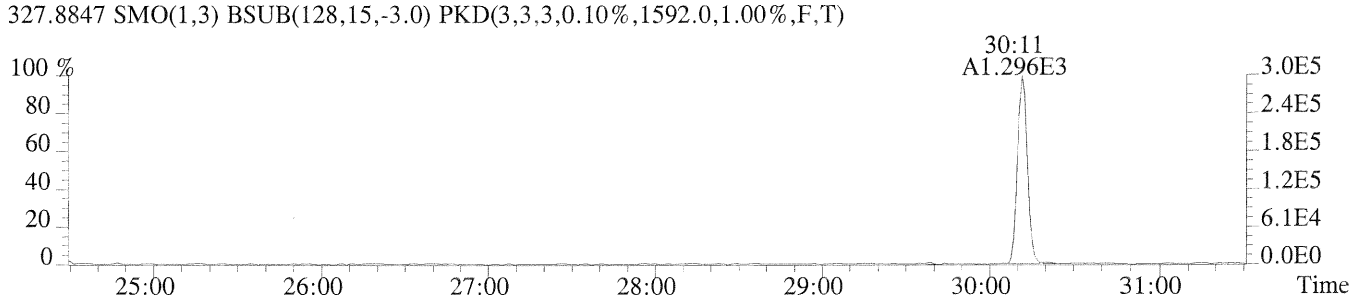
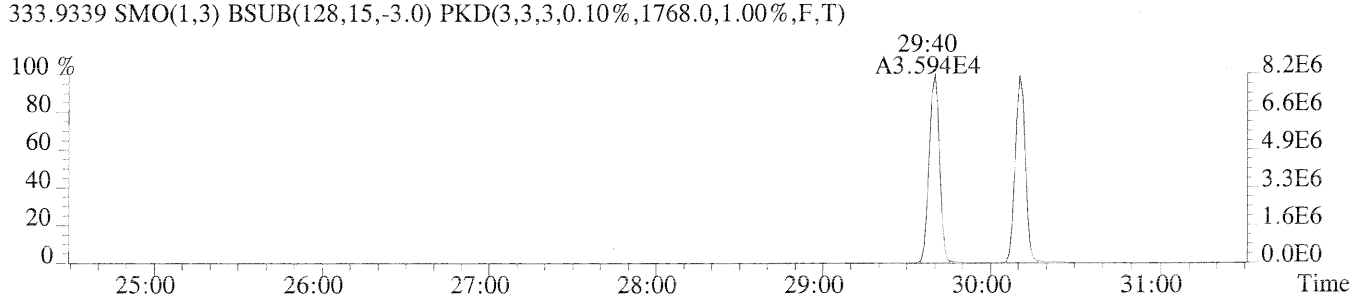
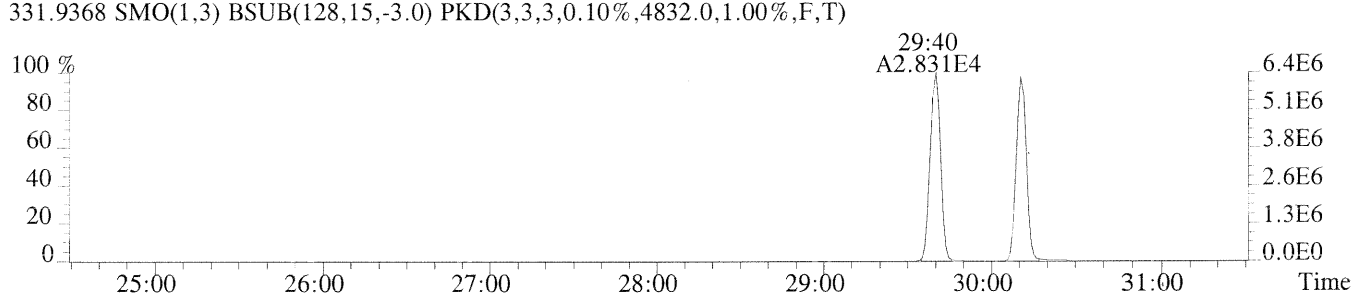
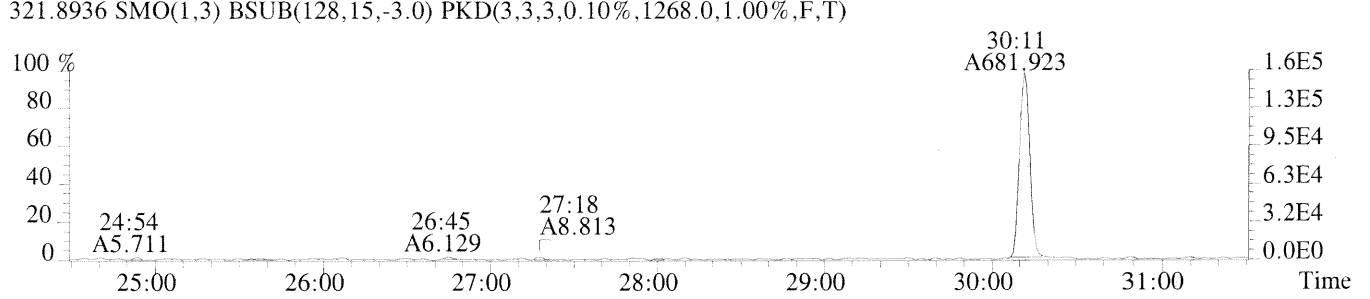
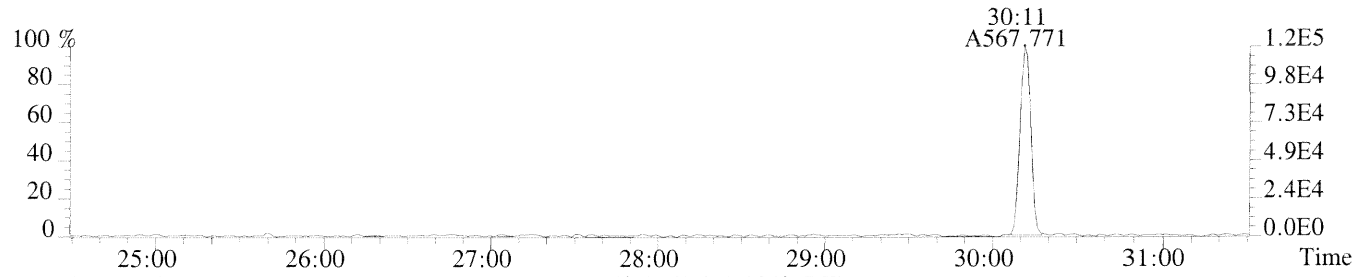
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



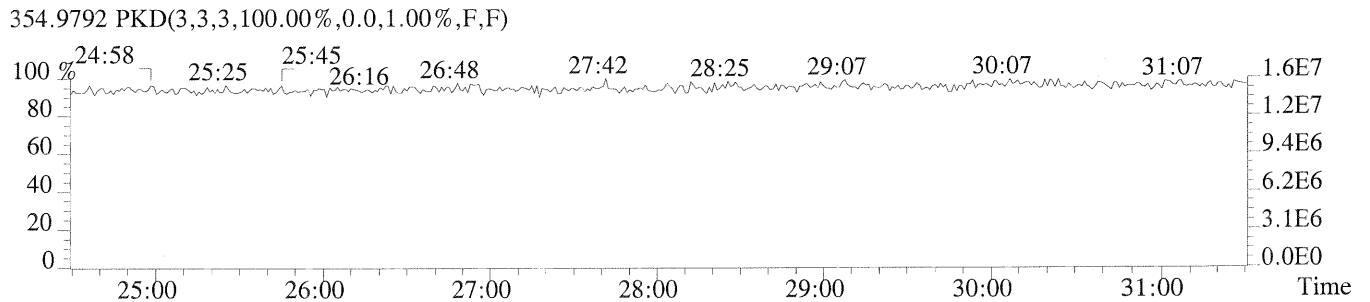
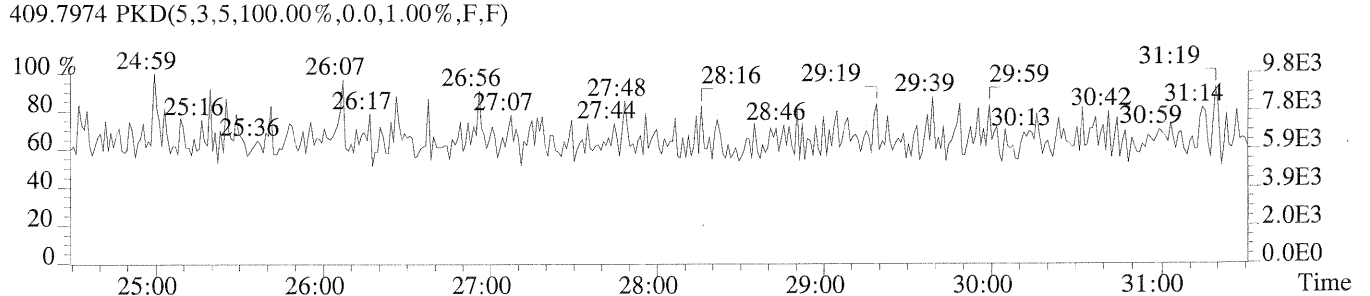
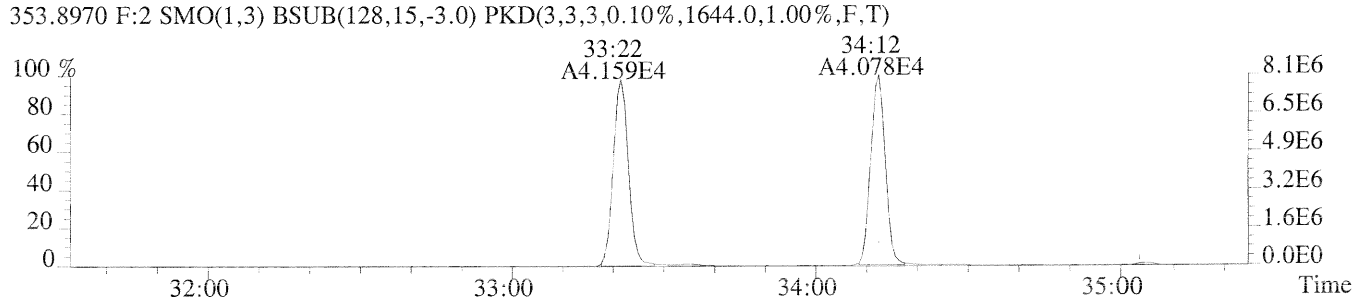
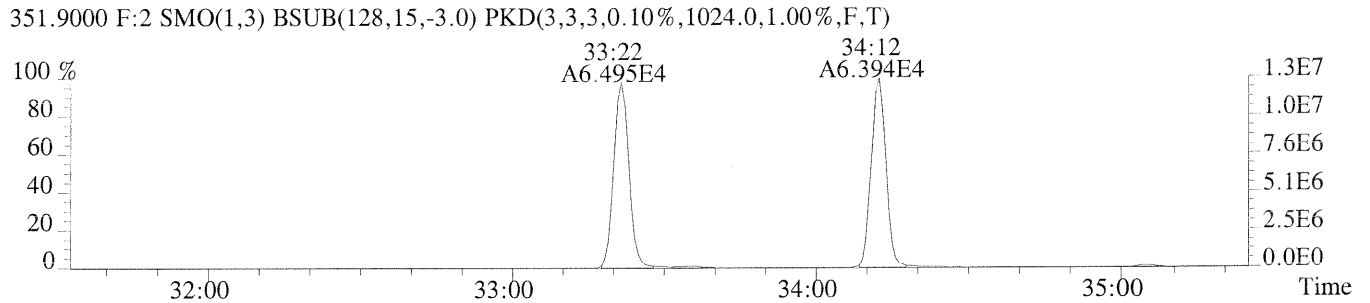
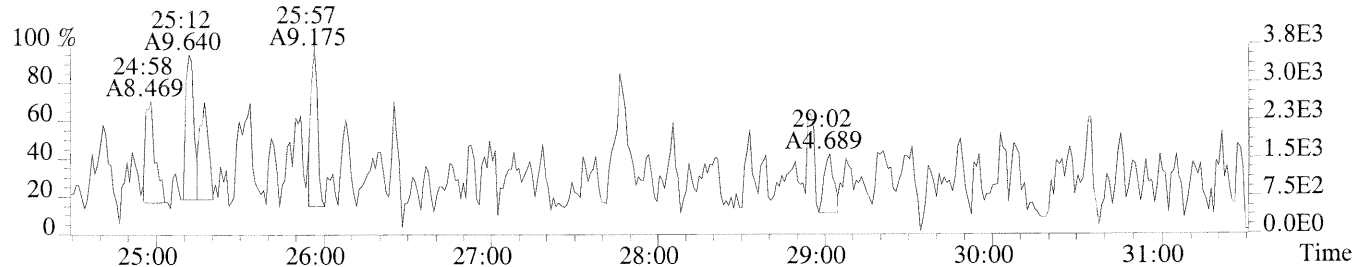
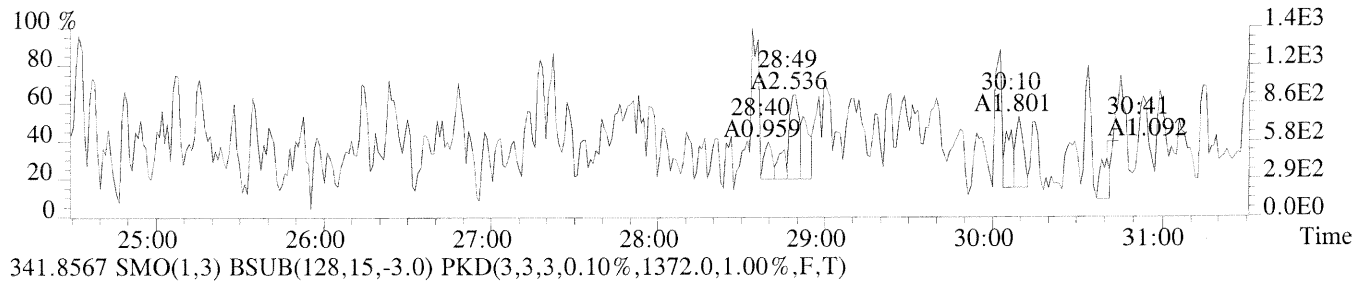
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



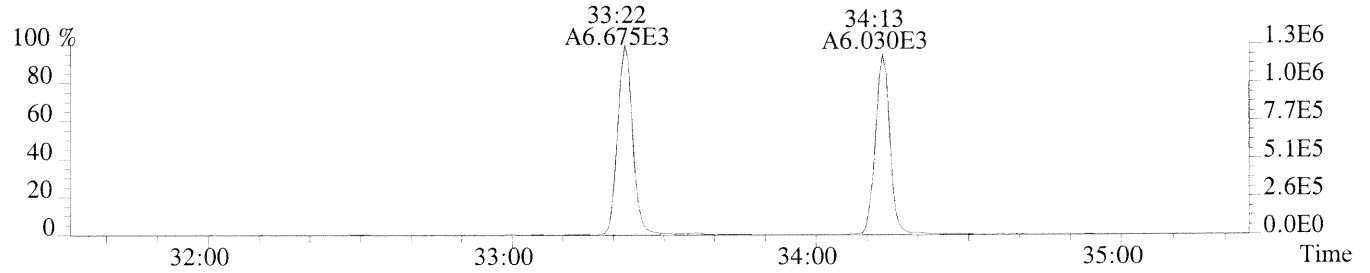
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



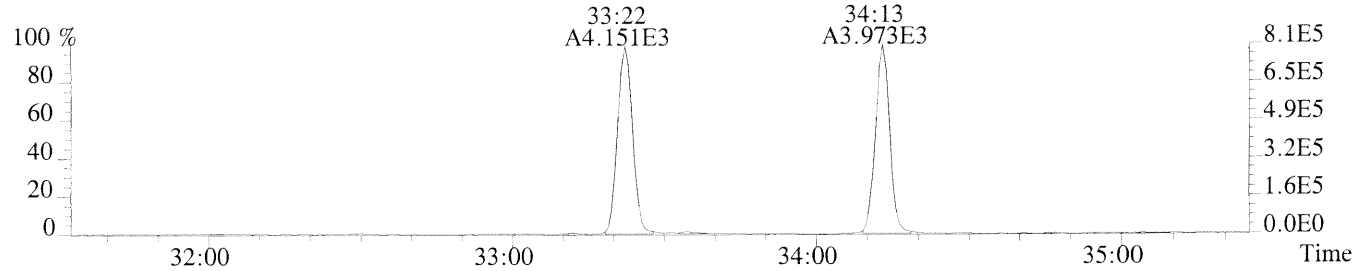
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,T)



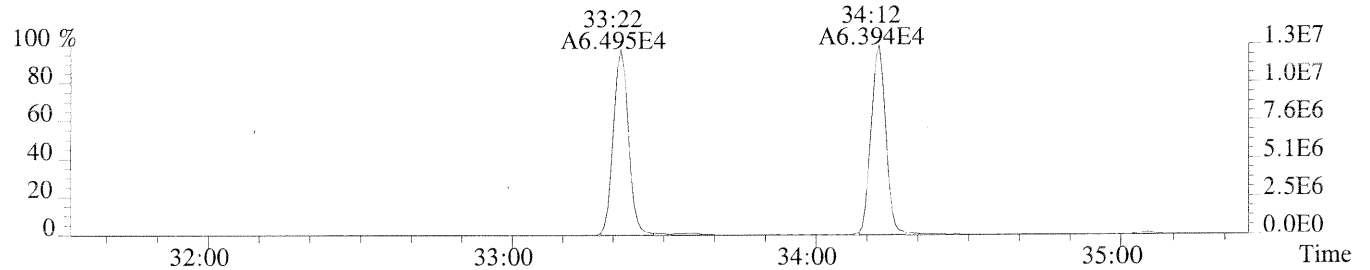
File:P169972 #1-351 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



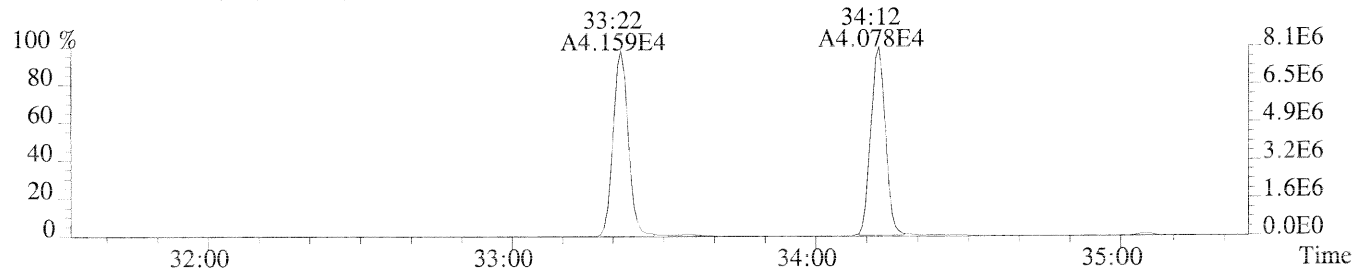
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



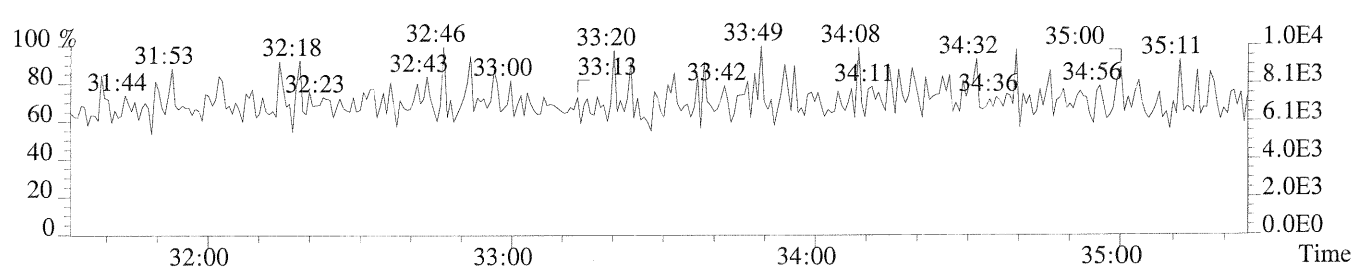
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



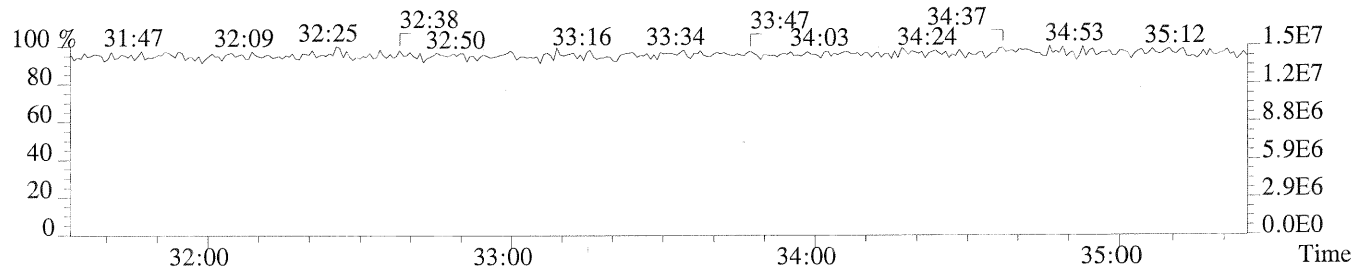
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,T)



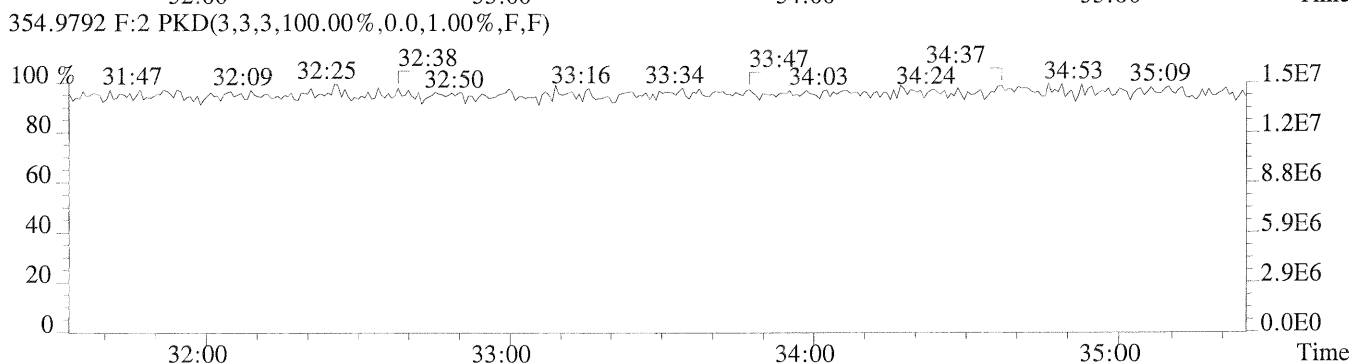
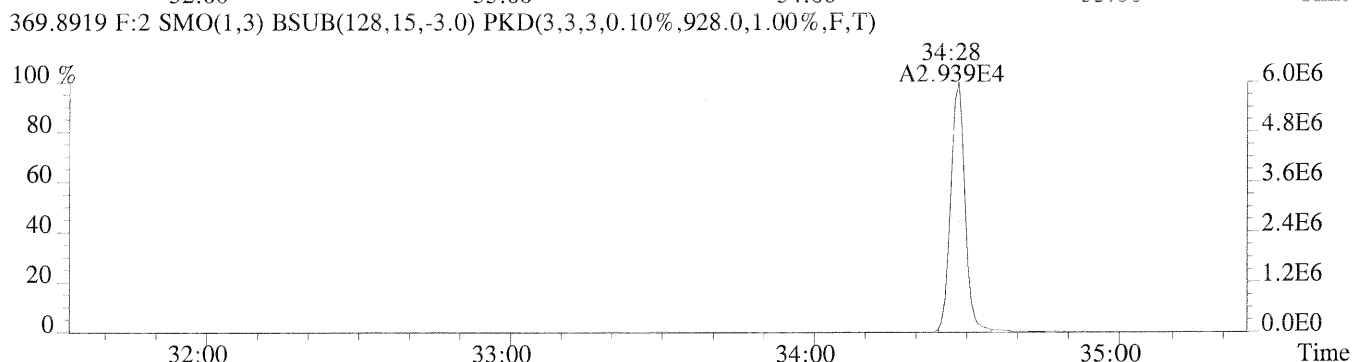
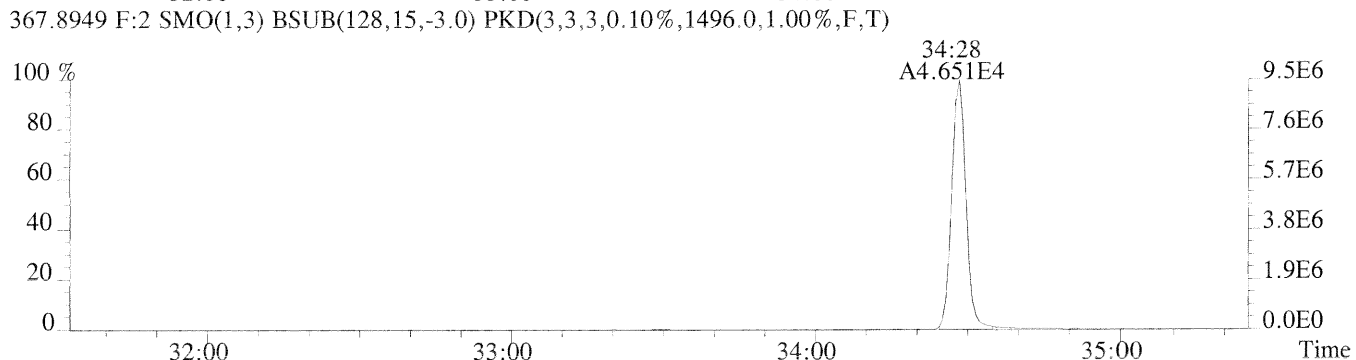
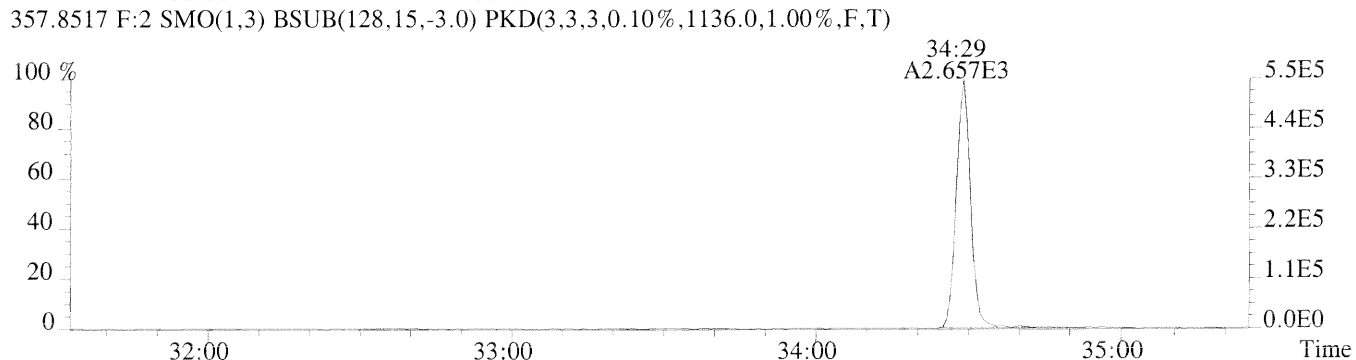
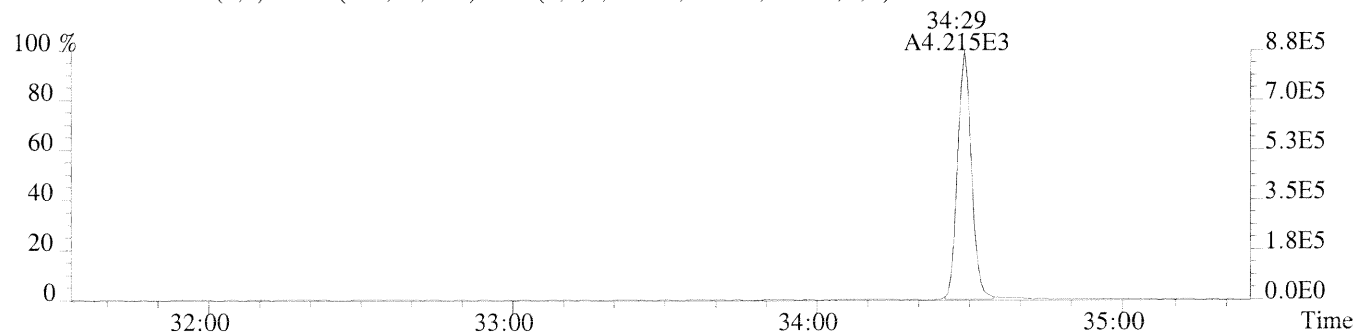
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

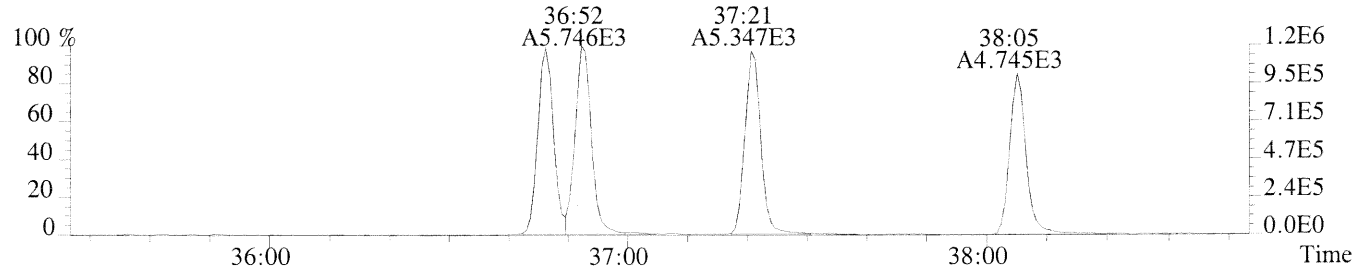


File:P169972 #1-351 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)

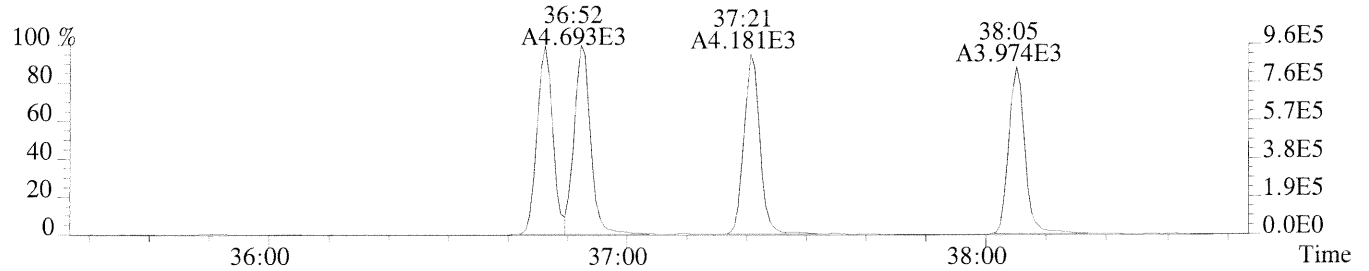




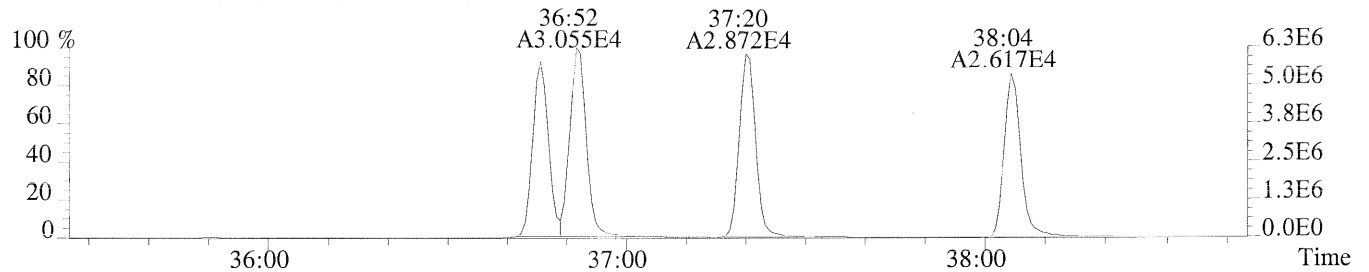
File:P169972 #1-298 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,T)



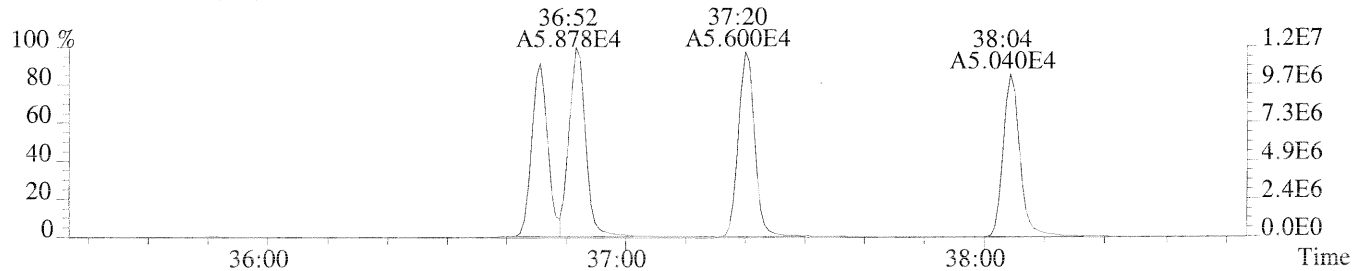
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,T)



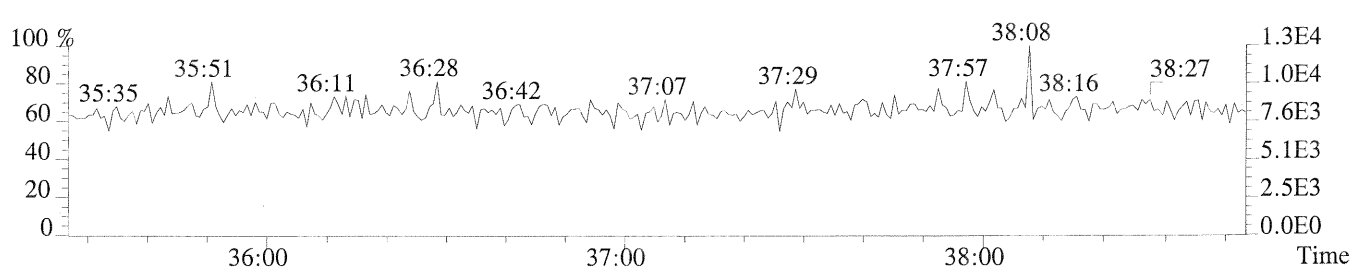
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



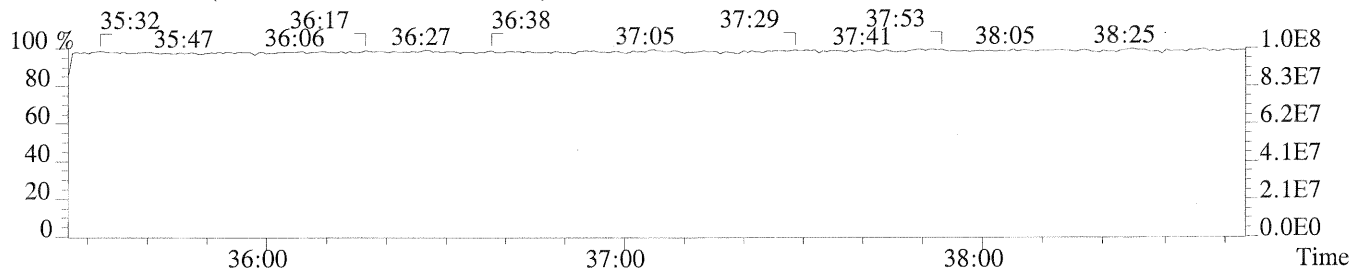
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



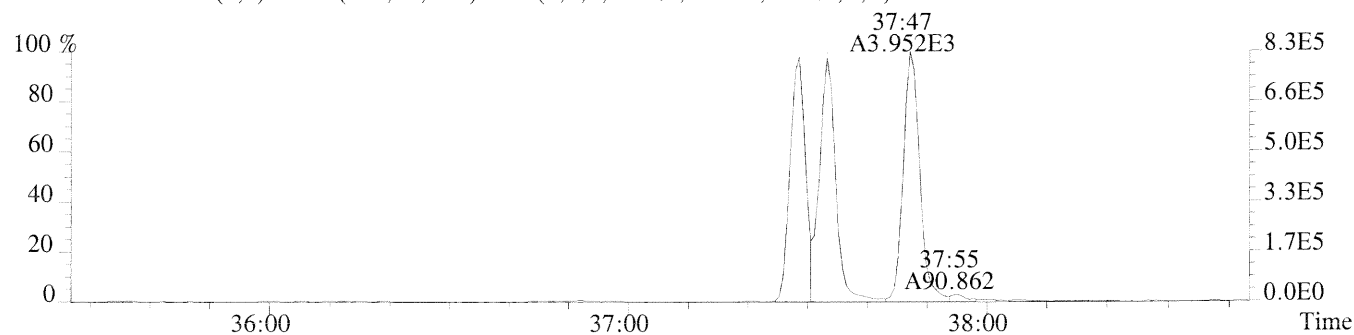
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



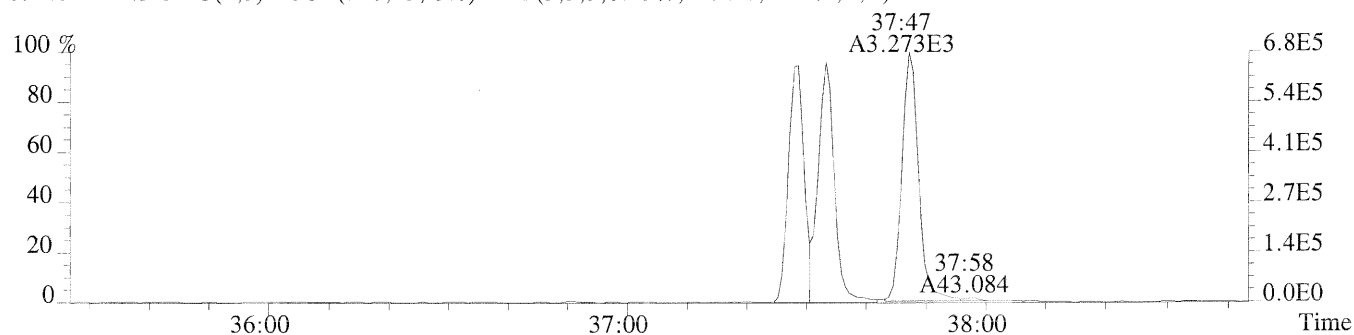
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



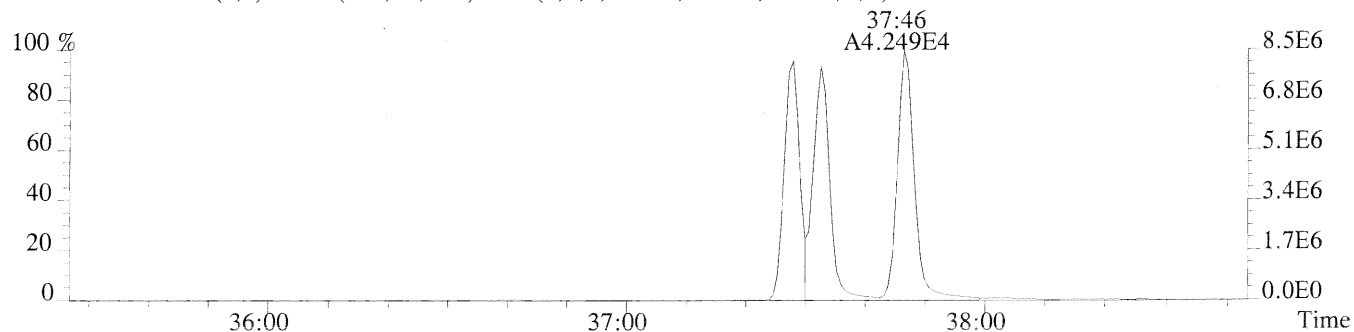
File:P169972 #1-298 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



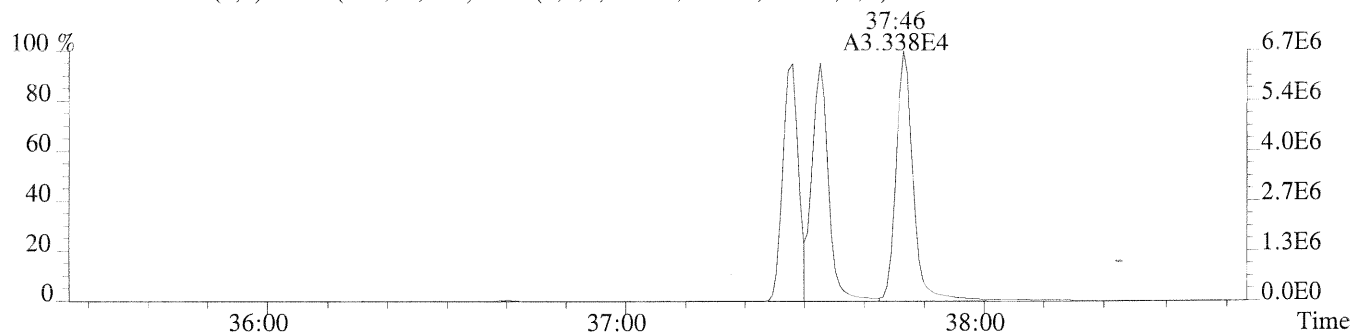
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



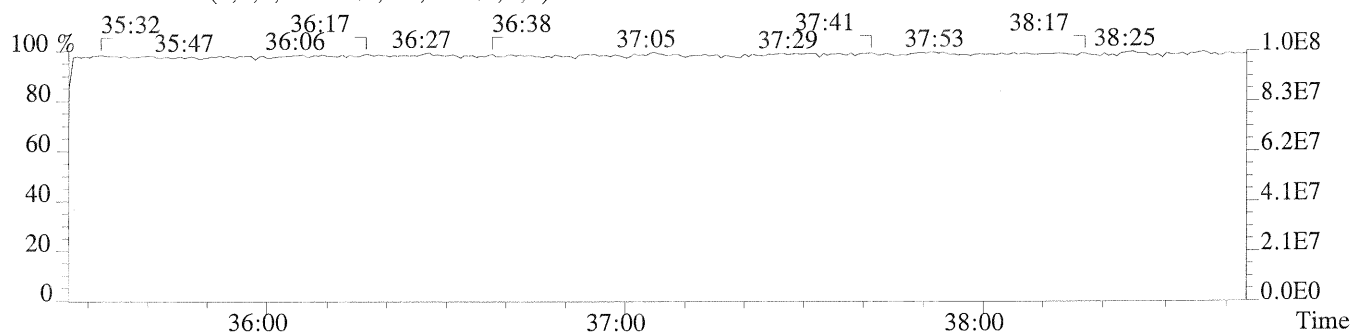
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1260.0,0.40%,F,T)



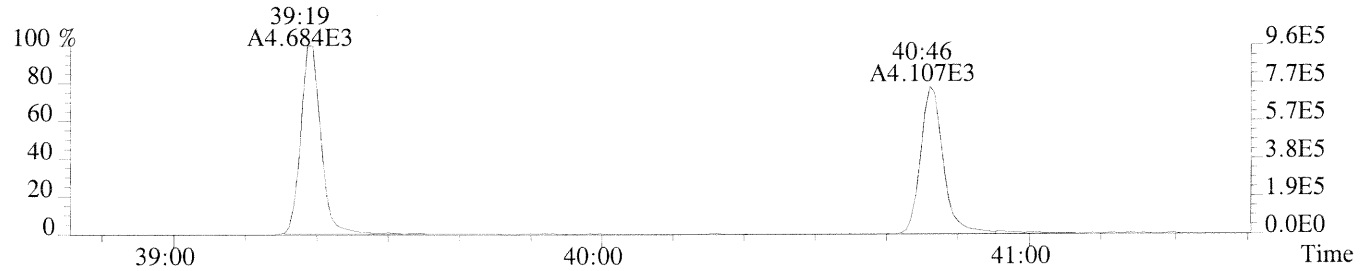
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1332.0,0.40%,F,T)



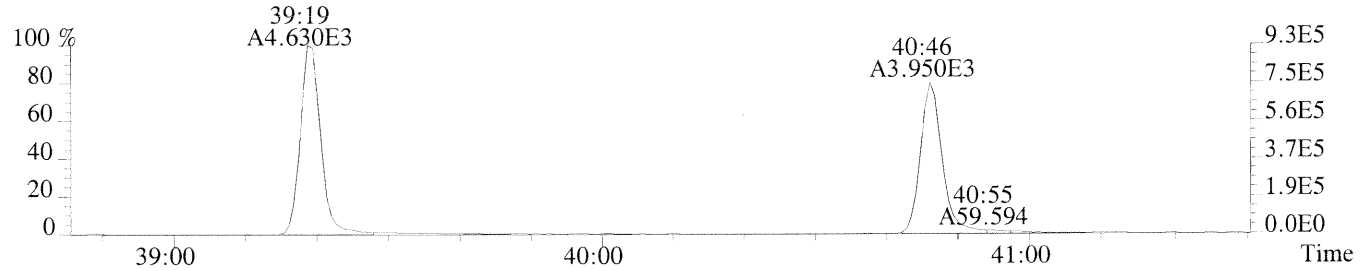
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



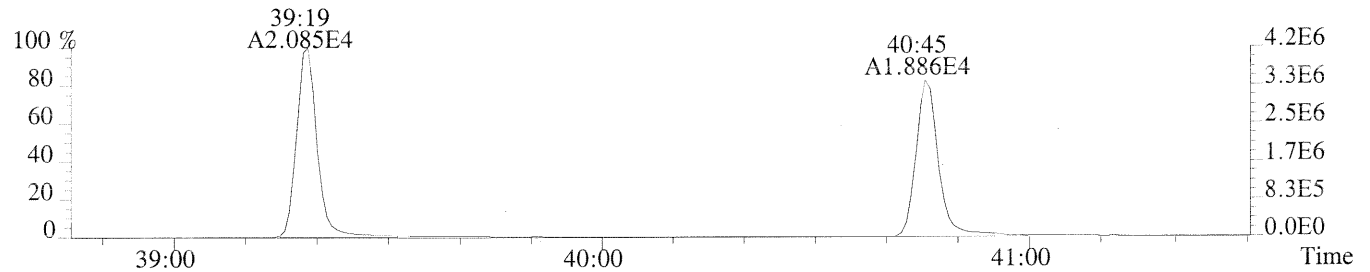
File:P169972 #1-250 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.50%,F,T)



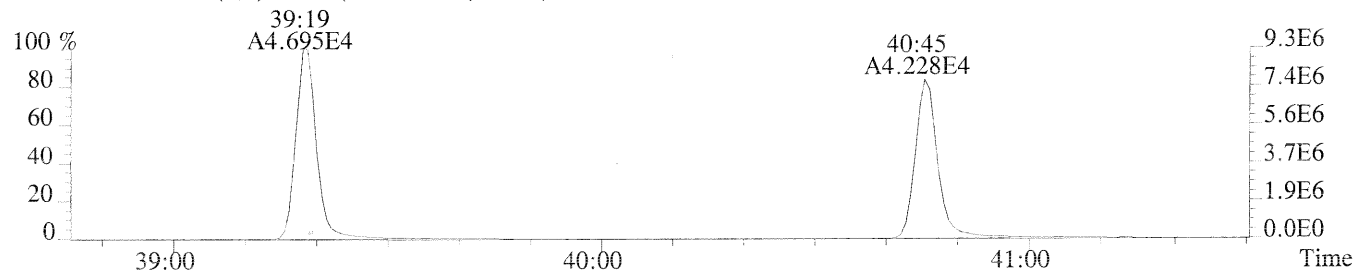
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.50%,F,T)



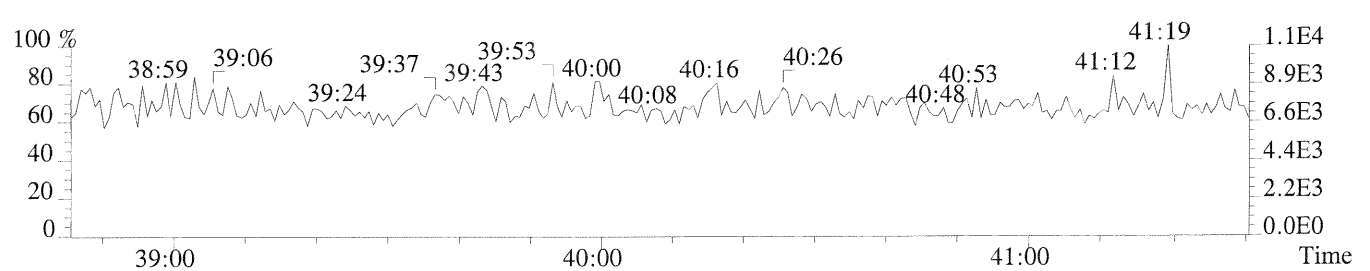
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.50%,F,T)



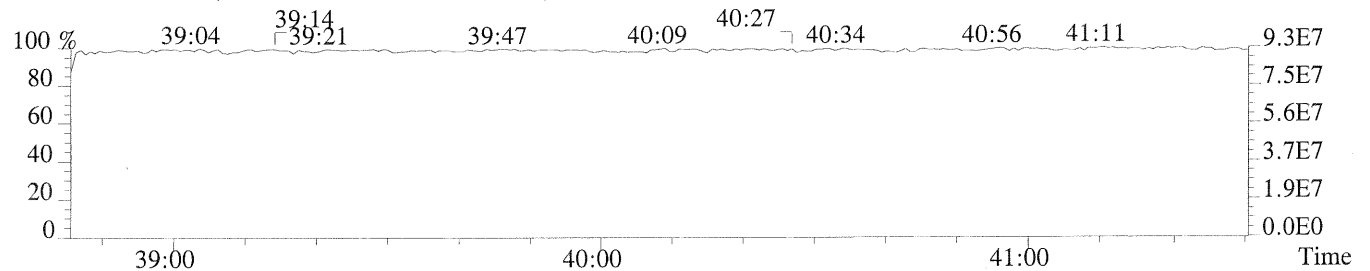
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3432.0,0.50%,F,T)



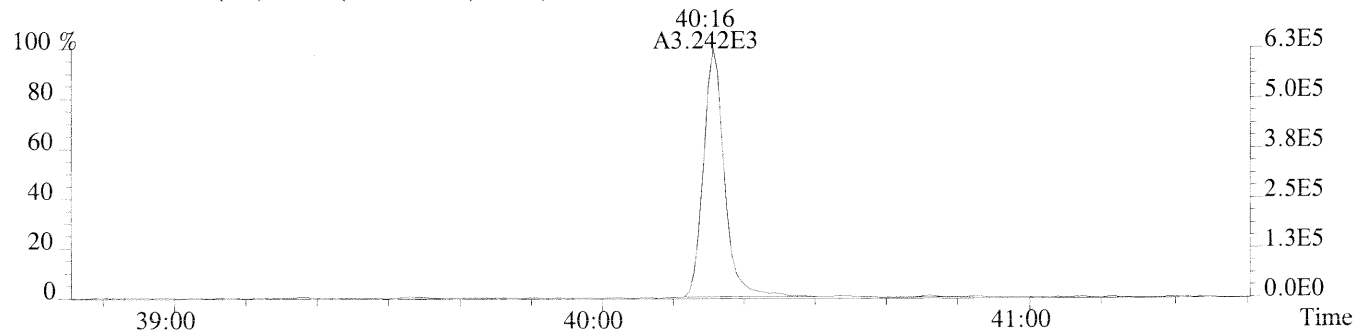
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



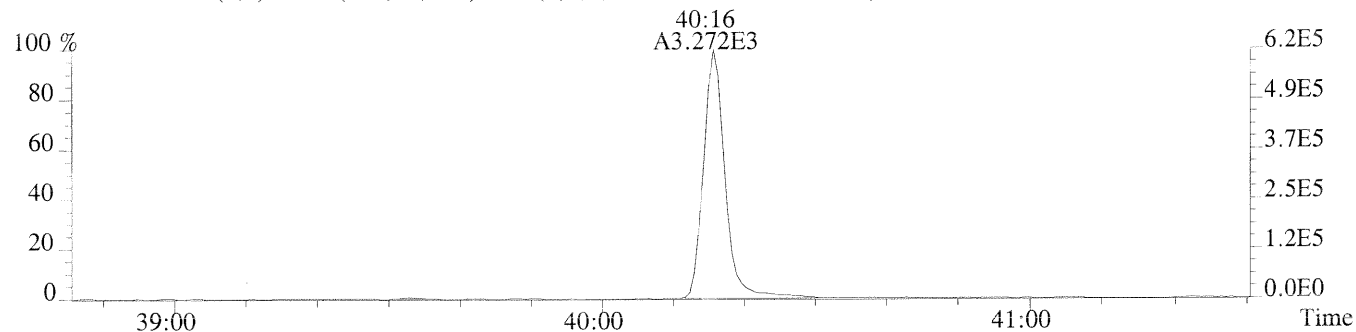
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



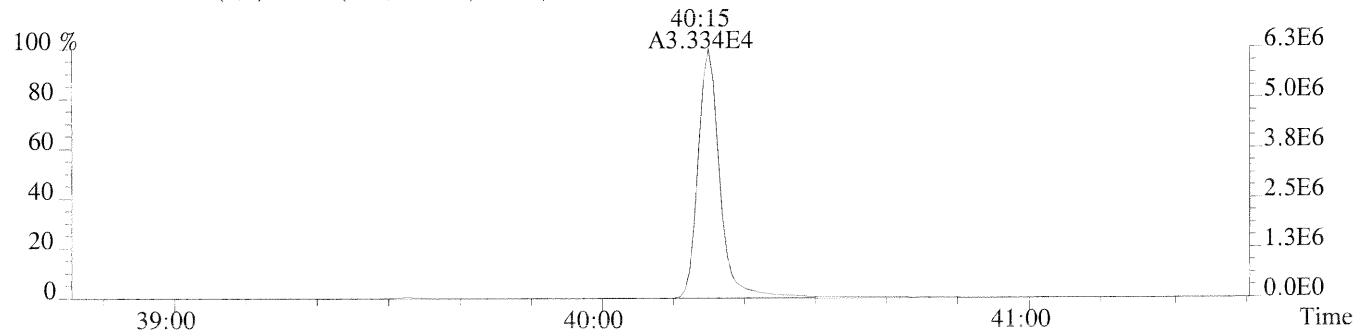
File:P169972 #1-250 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,T)



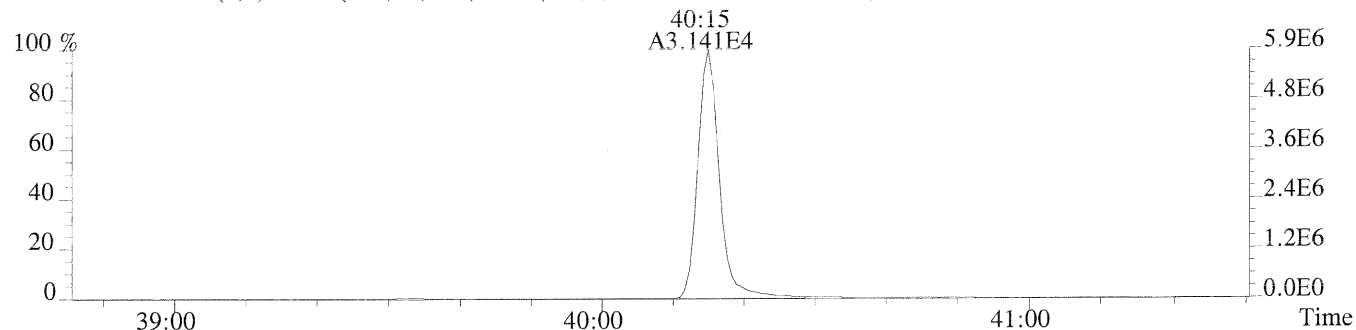
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)



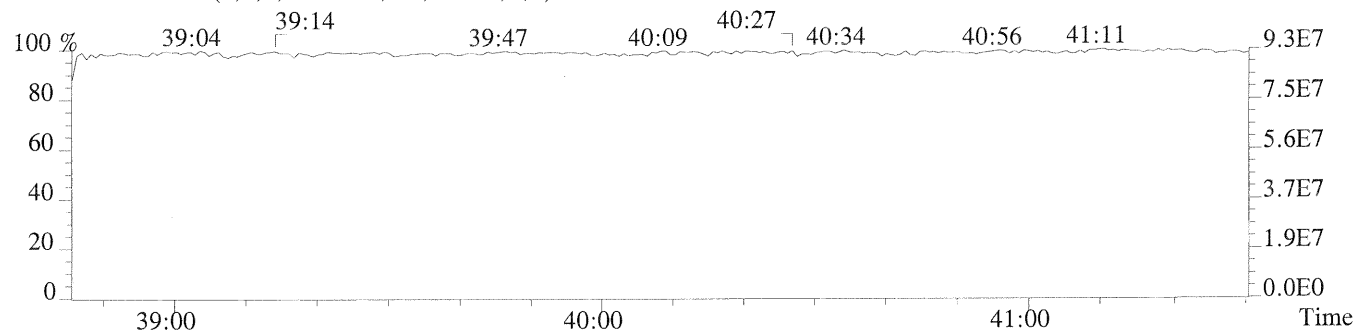
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,T)



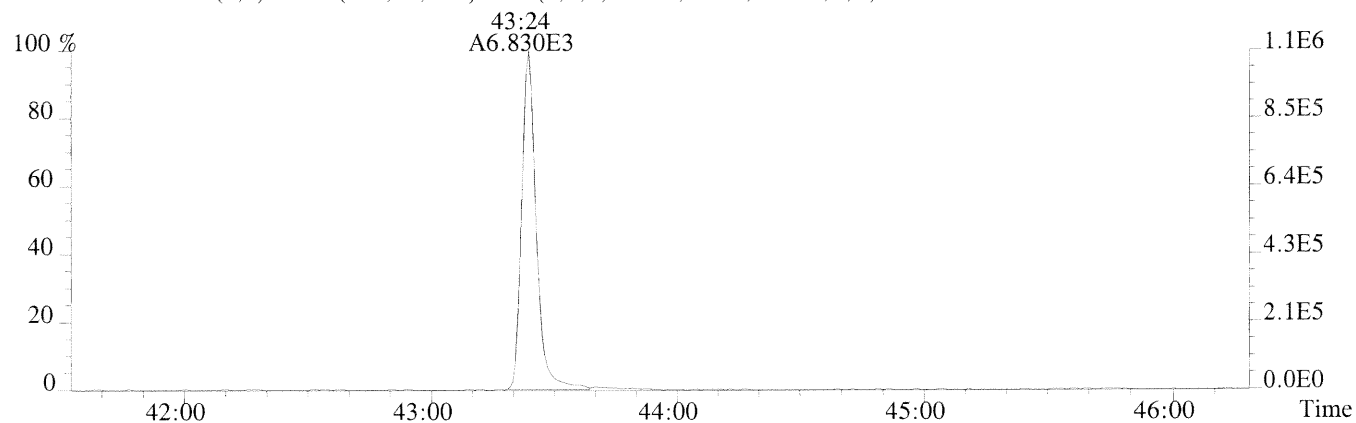
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



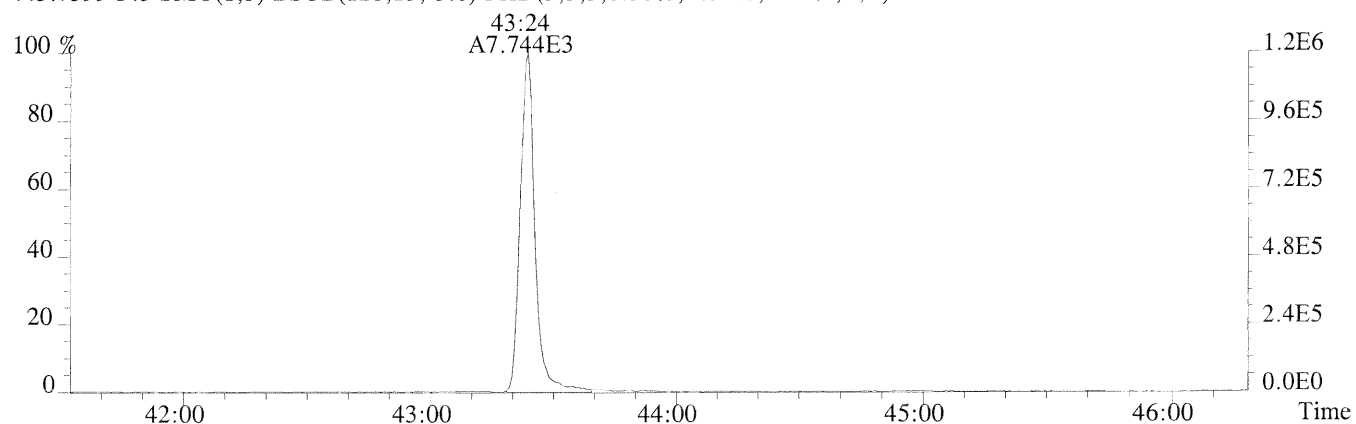
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



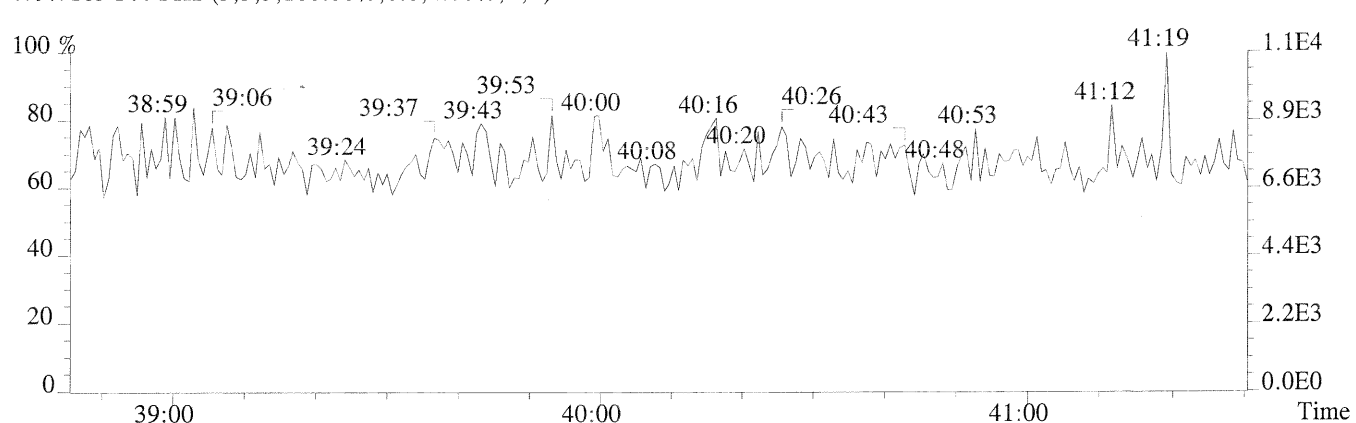
File:P169972 #1-438 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,T)



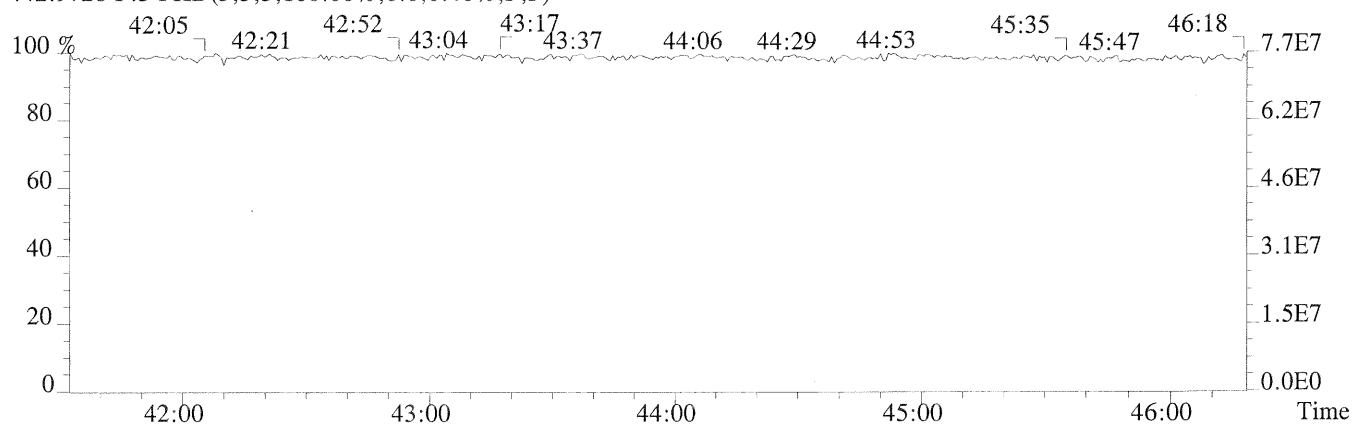
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1692.0,0.40%,F,T)



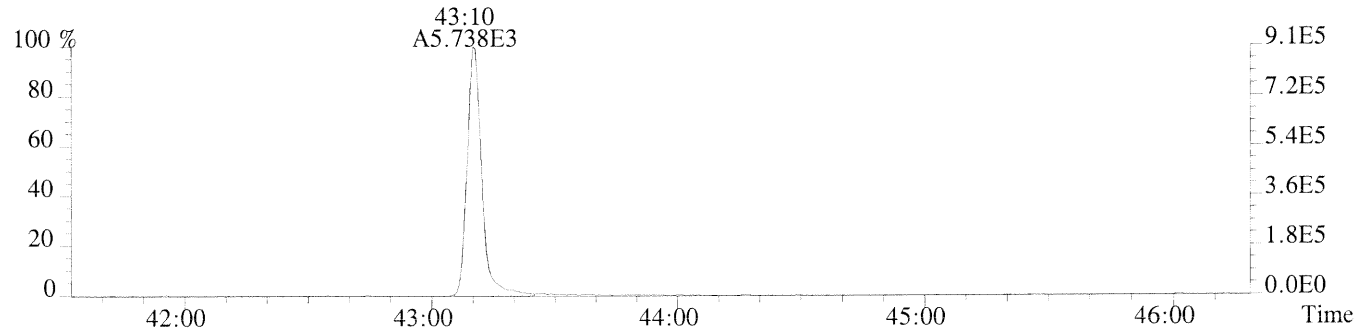
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



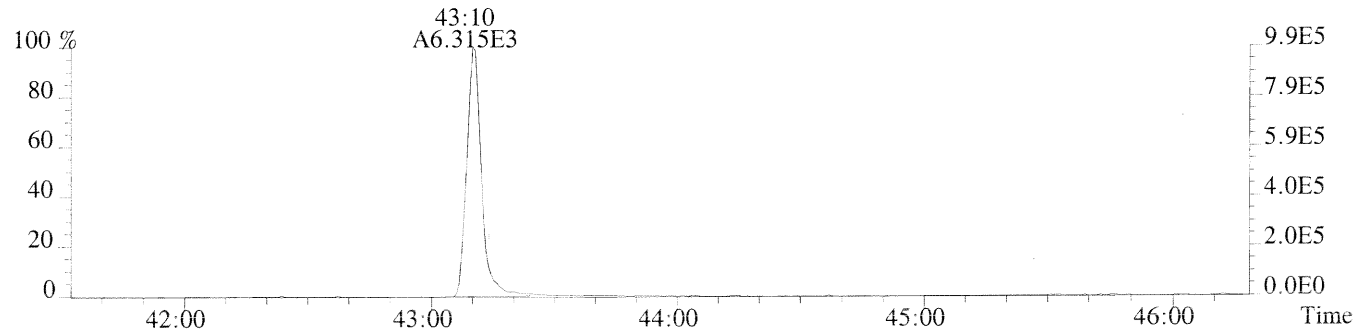
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



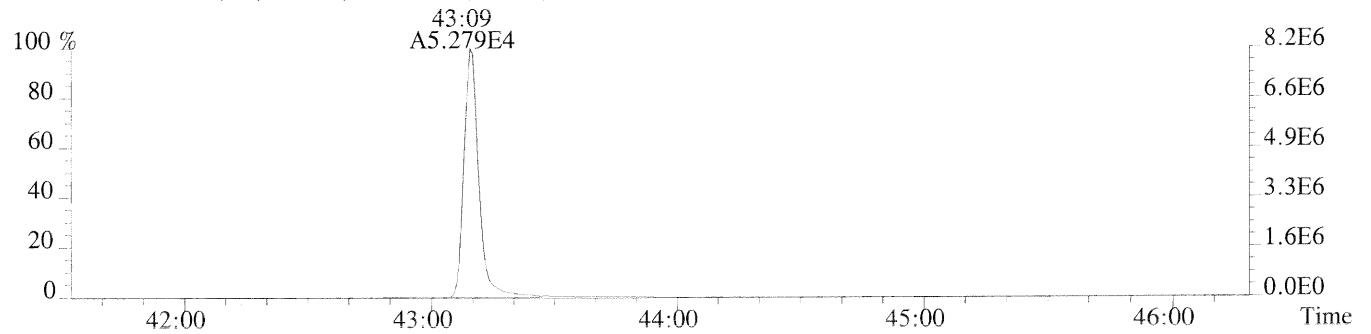
File:P169972 #1-438 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC2/CS2  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



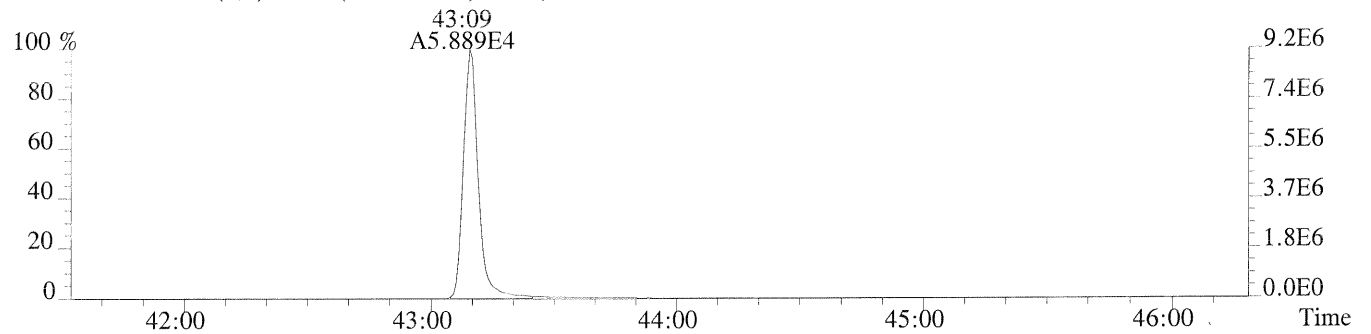
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



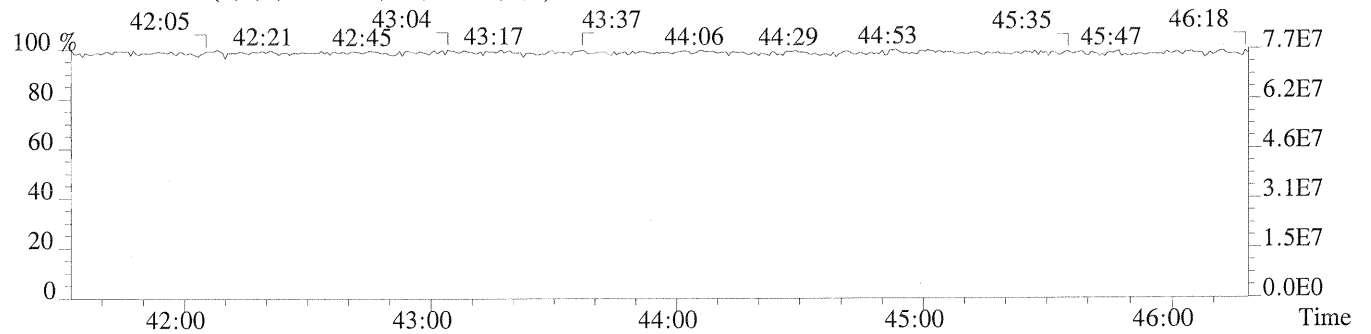
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1080.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,740.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
63383

Run #4      Filename P169973      Samp: 1      Inj: 1      Acquired: 25-MAR-14 19:46:25  
Processed: 26-MAR-14 10:01:08      Sample ID: ICAL HRCC3/CS3

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	4.466e+03	5.928e+03	0.75	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:23	4.454e+04	2.806e+04	1.59	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:14	4.060e+04	2.622e+04	1.55	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:47	3.600e+04	2.867e+04	1.26	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:53	3.885e+04	3.189e+04	1.22	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	3.550e+04	2.899e+04	1.22	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:06	3.295e+04	2.695e+04	1.22	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	3.278e+04	3.154e+04	1.04	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:47	2.769e+04	2.691e+04	1.03	yes	no	1.324
10 Unk	OCDF	43:24	4.694e+04	5.266e+04	0.89	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:12	3.554e+03	4.559e+03	0.78	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:30	2.837e+04	1.825e+04	1.55	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	2.386e+04	1.931e+04	1.24	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:34	2.616e+04	2.103e+04	1.24	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:48	2.680e+04	2.208e+04	1.21	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	2.267e+04	2.136e+04	1.06	yes	no	1.016
17 Unk	OCDD	43:11	3.869e+04	4.323e+04	0.89	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	5.017e+04	6.394e+04	0.78	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	8.620e+04	5.480e+04	1.57	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:13	8.411e+04	5.352e+04	1.57	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	3.538e+04	6.735e+04	0.53	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	4.206e+04	7.939e+04	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:21	3.836e+04	7.360e+04	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:05	3.471e+04	6.786e+04	0.51	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	2.809e+04	6.282e+04	0.45	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:46	2.528e+04	5.711e+04	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	3.517e+04	4.470e+04	0.79	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:29	6.149e+04	3.860e+04	1.59	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:29	4.747e+04	3.745e+04	1.27	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	5.313e+04	4.120e+04	1.29	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:16	4.414e+04	4.127e+04	1.07	yes	no	0.862
32 IS	13C-OCDD	43:10	7.159e+04	7.954e+04	0.90	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:41	3.582e+04	4.552e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	5.573e+04	4.463e+04	1.25	yes	no	-
35 C/Up	37C1-2,3,7,8-TCDD	30:12	8.444e+03				no	1.125

ALS ENVIRONMENTAL  
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1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
63383

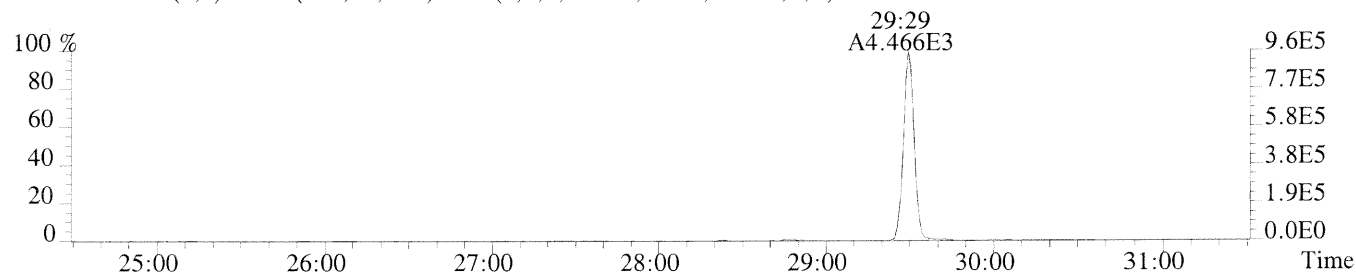
Run #4    Filename P169973    Samp: 1    Inj: 1    Acquired: 25-MAR-14 19:46:25  
Processed: 26-MAR-14 08:20:101    LAB. ID: ICAL HRCC3/CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.58e+05	6.96e+02	1.4e+03	1.28e+06	3.10e+03	4.1e+02
2	1,2,3,7,8-PeCDF	8.63e+06	9.72e+02	8.9e+03	5.44e+06	1.92e+03	2.8e+03
3	2,3,4,7,8-PeCDF	8.21e+06	9.72e+02	8.4e+03	5.33e+06	1.92e+03	2.8e+03
4	1,2,3,4,7,8-HxCDF	7.78e+06	1.23e+03	6.3e+03	6.10e+06	1.07e+03	5.7e+03
5	1,2,3,6,7,8-HxCDF	7.80e+06	1.23e+03	6.3e+03	6.46e+06	1.07e+03	6.0e+03
6	2,3,4,6,7,8-HxCDF	7.54e+06	1.23e+03	6.1e+03	6.19e+06	1.07e+03	5.8e+03
7	1,2,3,7,8,9-HxCDF	6.72e+06	1.23e+03	5.5e+03	5.52e+06	1.07e+03	5.1e+03
8	1,2,3,4,6,7,8-HpCDF	6.42e+06	3.31e+03	1.9e+03	6.30e+06	3.43e+03	1.8e+03
9	1,2,3,4,7,8,9-HpCDF	4.95e+06	3.31e+03	1.5e+03	4.80e+06	3.43e+03	1.4e+03
10	OCDF	7.28e+06	1.19e+03	6.1e+03	7.90e+06	1.71e+03	4.6e+03
11	2,3,7,8-TCDD	8.22e+05	1.05e+03	7.8e+02	1.05e+06	1.30e+03	8.1e+02
12	1,2,3,7,8-PeCDD	5.67e+06	1.51e+03	3.8e+03	3.65e+06	6.08e+02	6.0e+03
13	1,2,3,4,7,8-HxCDD	5.39e+06	1.35e+03	4.0e+03	4.26e+06	1.50e+03	2.8e+03
14	1,2,3,6,7,8-HxCDD	5.33e+06	1.35e+03	4.0e+03	4.23e+06	1.50e+03	2.8e+03
15	1,2,3,7,8,9-HxCDD	5.38e+06	1.35e+03	4.0e+03	4.43e+06	1.50e+03	2.9e+03
16	1,2,3,4,6,7,8-HpCDD	4.29e+06	1.05e+03	4.1e+03	4.00e+06	8.12e+02	4.9e+03
17	OCDD	6.18e+06	6.52e+02	9.5e+03	6.87e+06	8.92e+02	7.7e+03
18	13C-2,3,7,8-TCDF	1.09e+07	2.00e+03	5.4e+03	1.39e+07	1.75e+03	7.9e+03
19	13C-1,2,3,7,8-PeCDF	1.63e+07	1.00e+03	1.6e+04	1.04e+07	1.24e+03	8.4e+03
20	13C-2,3,4,7,8-PeCDF	1.69e+07	1.00e+03	1.7e+04	1.07e+07	1.24e+03	8.6e+03
21	13C-1,2,3,4,7,8-HxCDF	7.60e+06	1.03e+03	7.4e+03	1.44e+07	1.80e+03	8.0e+03
22	13C-1,2,3,6,7,8-HxCDF	8.55e+06	1.03e+03	8.3e+03	1.62e+07	1.80e+03	9.0e+03
23	13C-2,3,4,6,7,8-HxCDF	7.96e+06	1.03e+03	7.7e+03	1.55e+07	1.80e+03	8.6e+03
24	13C-1,2,3,7,8,9-HxCDF	7.01e+06	1.03e+03	6.8e+03	1.38e+07	1.80e+03	7.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.46e+06	3.52e+03	1.6e+03	1.23e+07	3.85e+03	3.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.47e+06	3.52e+03	1.3e+03	1.03e+07	3.85e+03	2.7e+03
27	13C-2,3,7,8-TCDD	7.98e+06	5.24e+03	1.5e+03	1.01e+07	2.82e+03	3.6e+03
28	13C-1,2,3,7,8-PeCDD	1.22e+07	1.42e+03	8.6e+03	7.62e+06	7.64e+02	1.0e+04
29	13C-1,2,3,4,7,8-HxCDD	1.07e+07	2.02e+03	5.3e+03	8.24e+06	1.43e+03	5.8e+03
30	13C-1,2,3,6,7,8-HxCDD	1.05e+07	2.02e+03	5.2e+03	8.19e+06	1.43e+03	5.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	8.11e+06	1.60e+03	5.1e+03	7.67e+06	8.72e+02	8.8e+03
32	13C-OCDD	1.12e+07	1.10e+03	1.0e+04	1.27e+07	9.48e+02	1.3e+04
33	13C-1,2,3,4-TCDD	7.91e+06	5.24e+03	1.5e+03	9.90e+06	2.82e+03	3.5e+03
34	13C-1,2,3,7,8,9-HxCDD	1.09e+07	2.02e+03	5.4e+03	8.87e+06	1.43e+03	6.2e+03
35	37Cl-2,3,7,8-TCDD	1.95e+06	1.38e+03	1.4e+03			

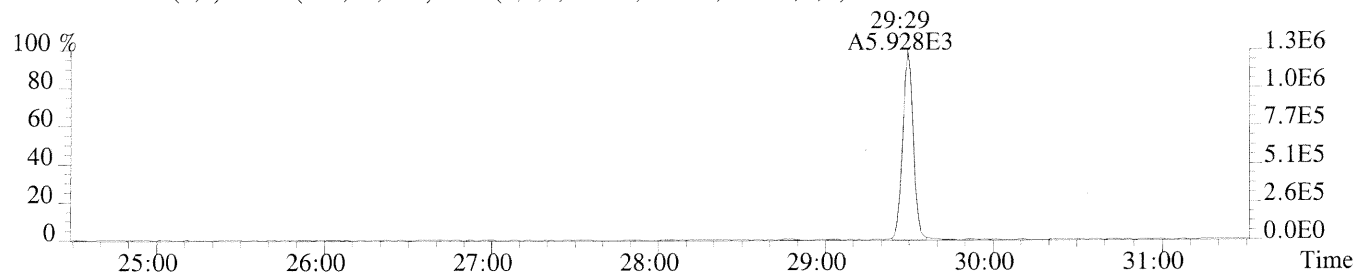
ALS ENVIRONMENTAL  
10450 Stancliff Rd., Suite 115  
Houston, TX 77099  
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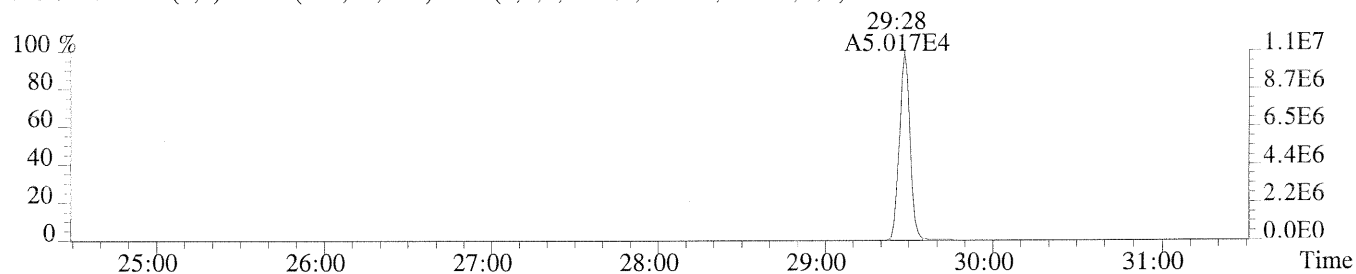
File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



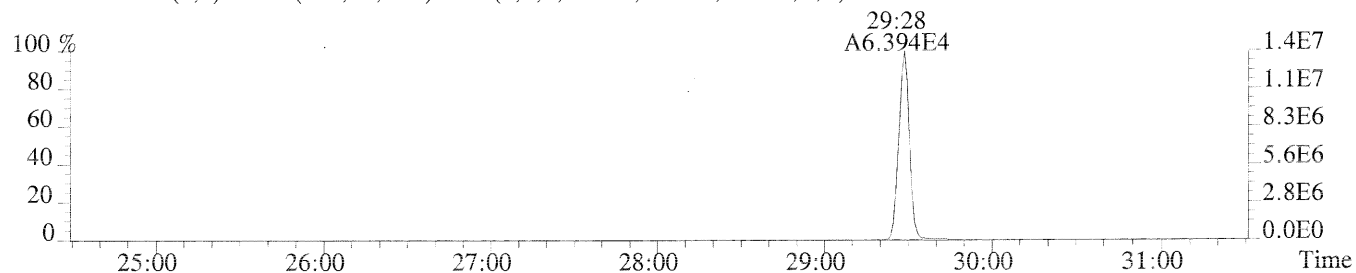
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3100.0,1.00%,F,T)



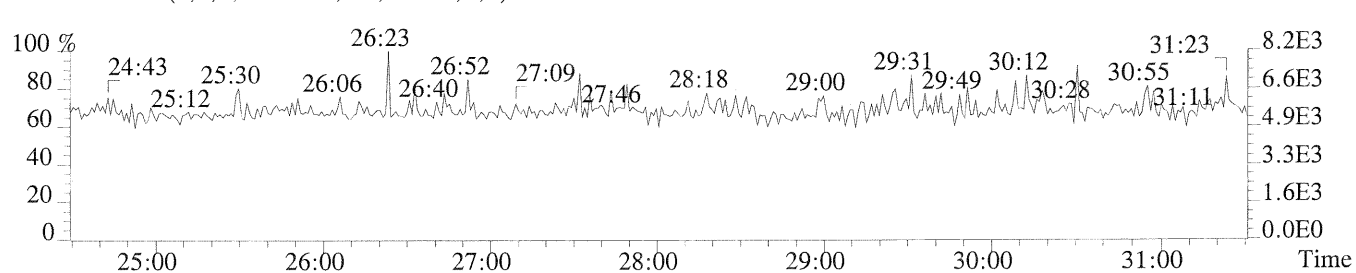
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



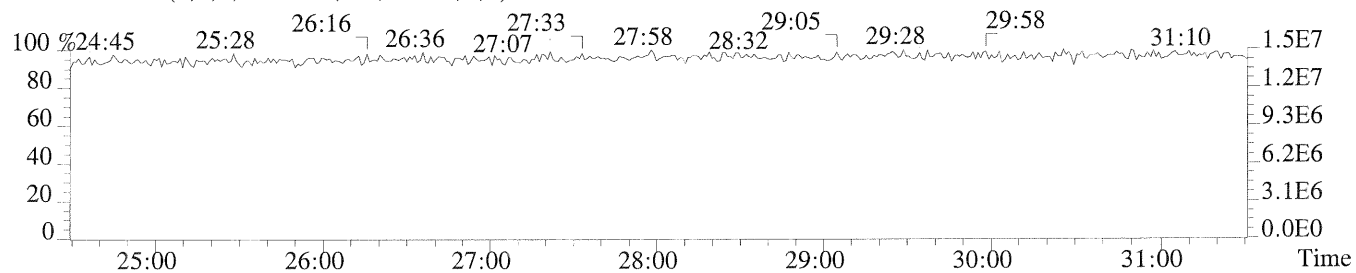
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



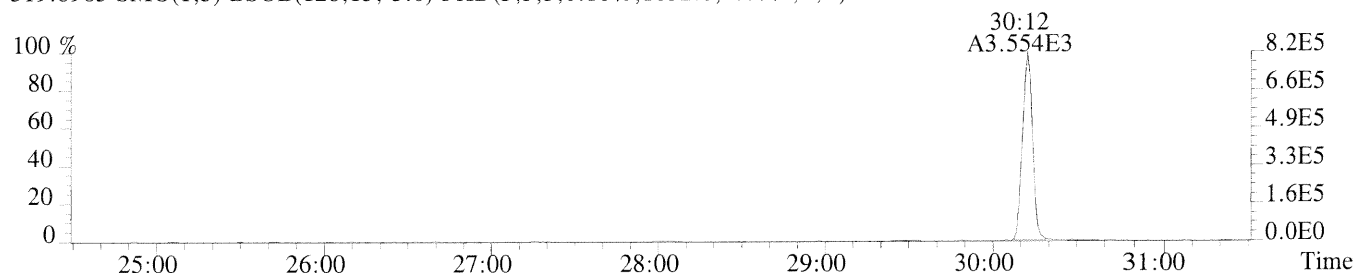
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



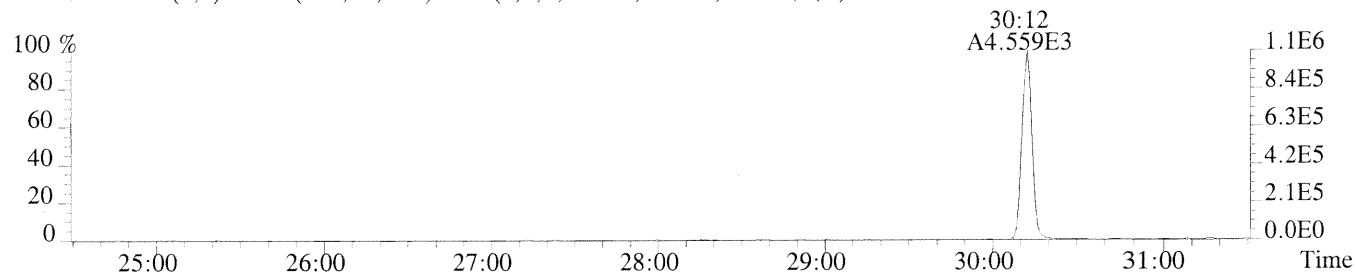
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



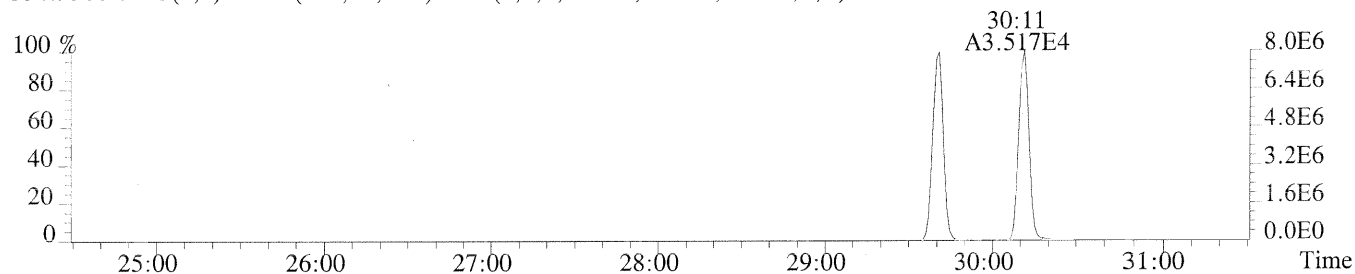
File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



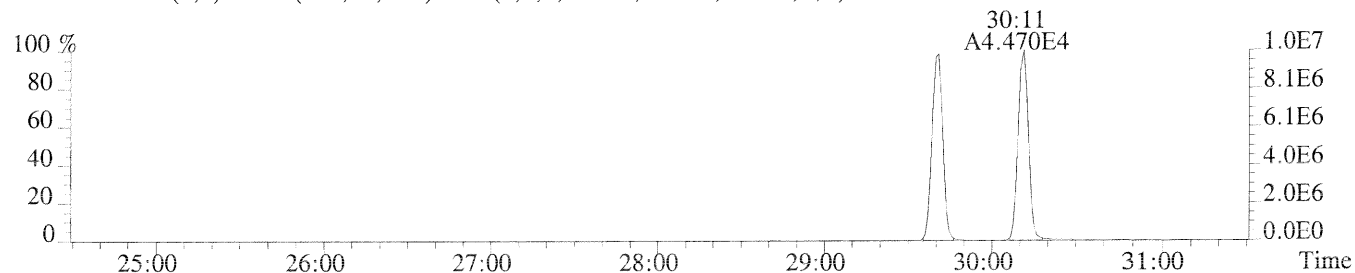
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



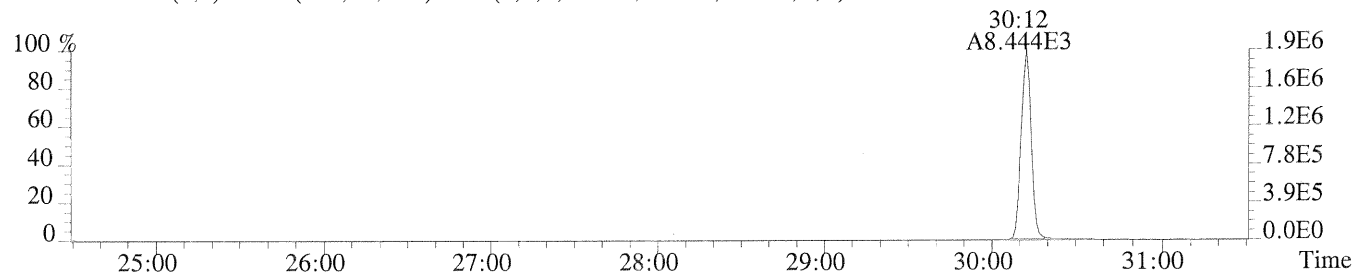
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5244.0,1.00%,F,T)



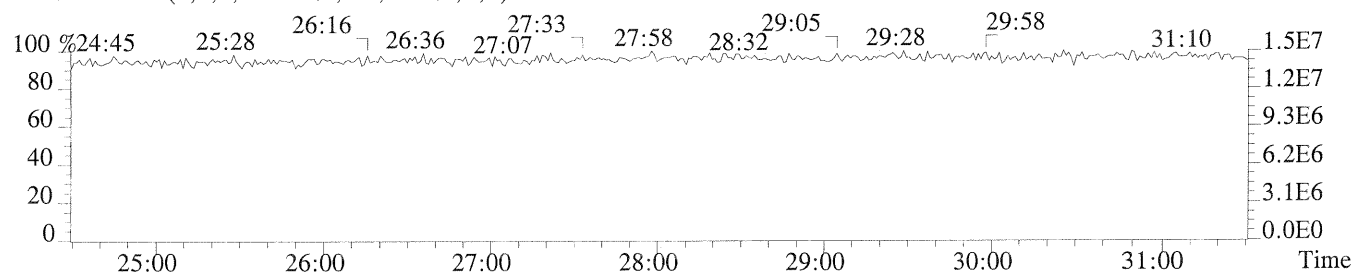
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2820.0,1.00%,F,T)



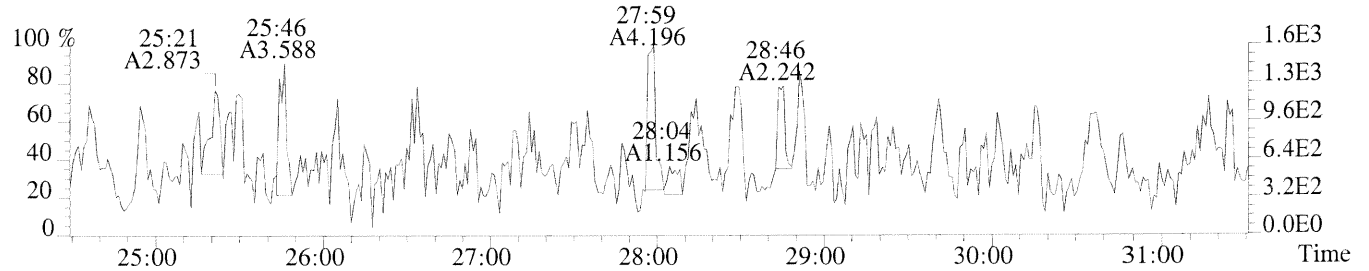
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



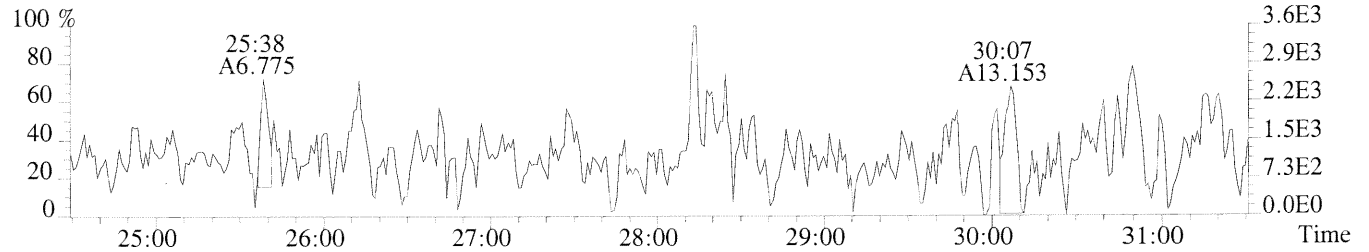
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



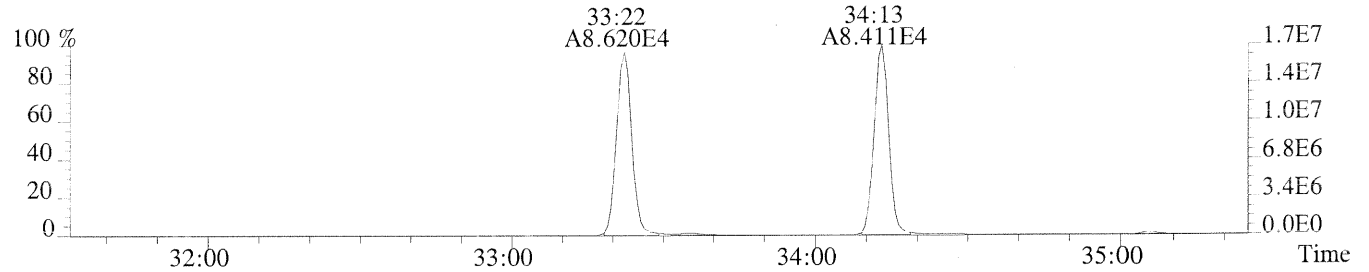
File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



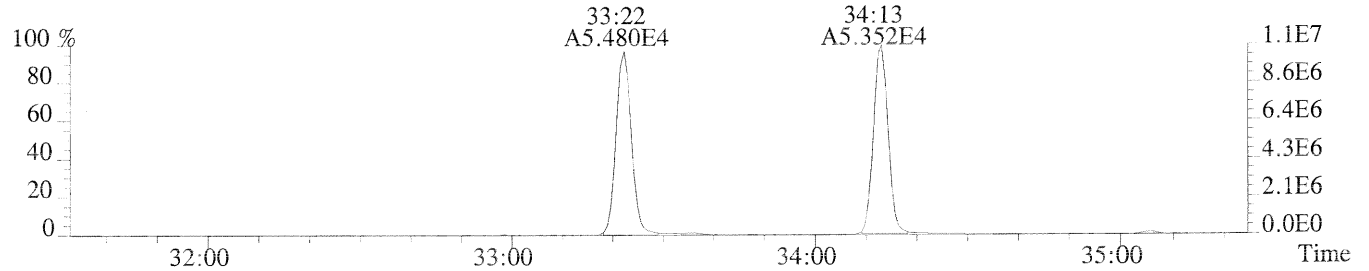
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1532.0,1.00%,F,T)



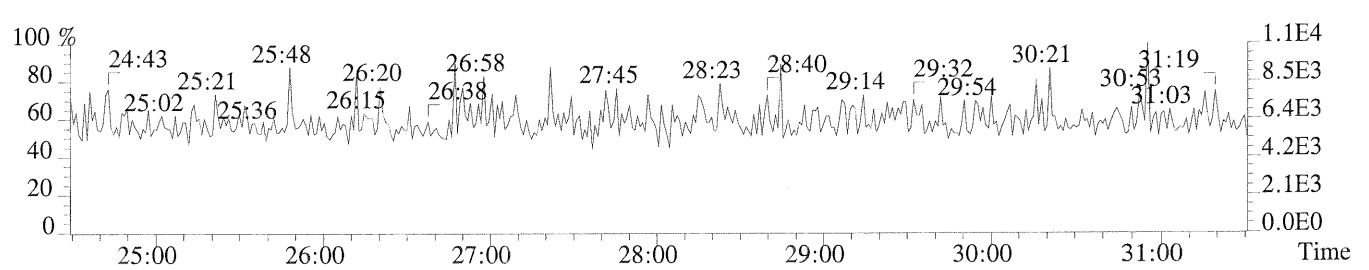
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



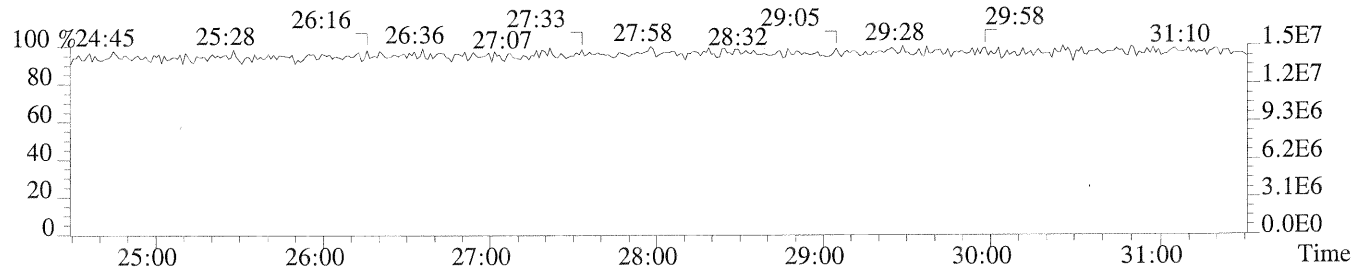
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



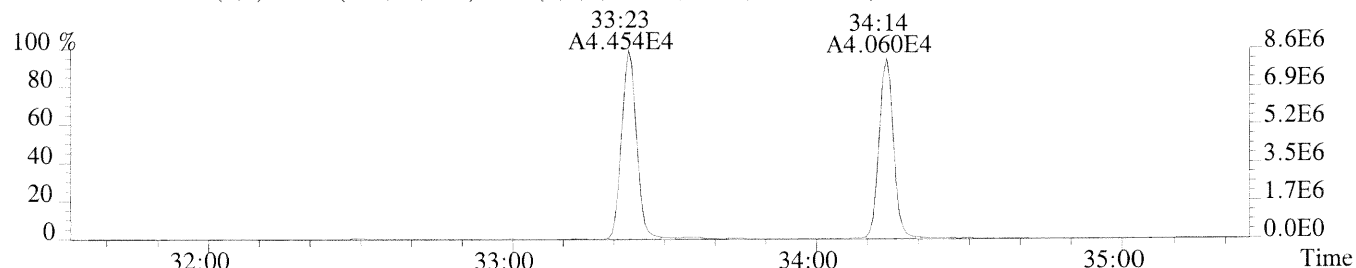
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



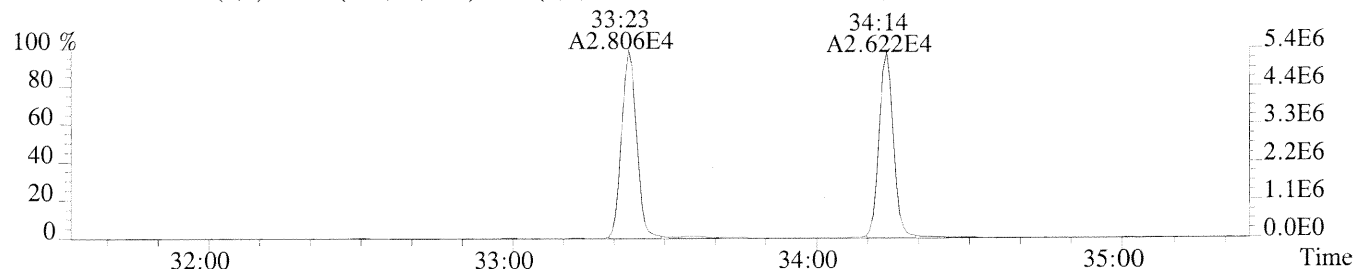
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



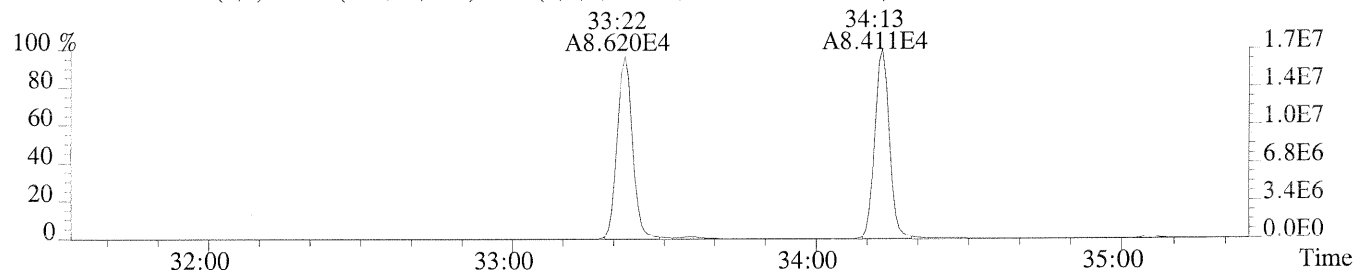
File:P169973 #1-351 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,T)



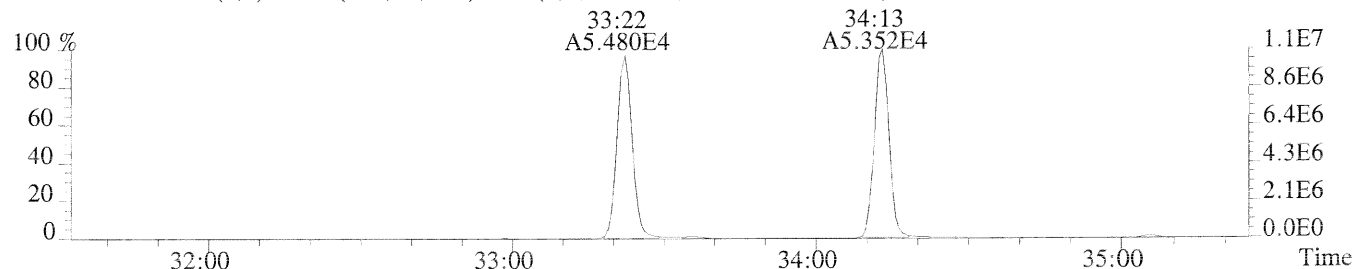
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,T)



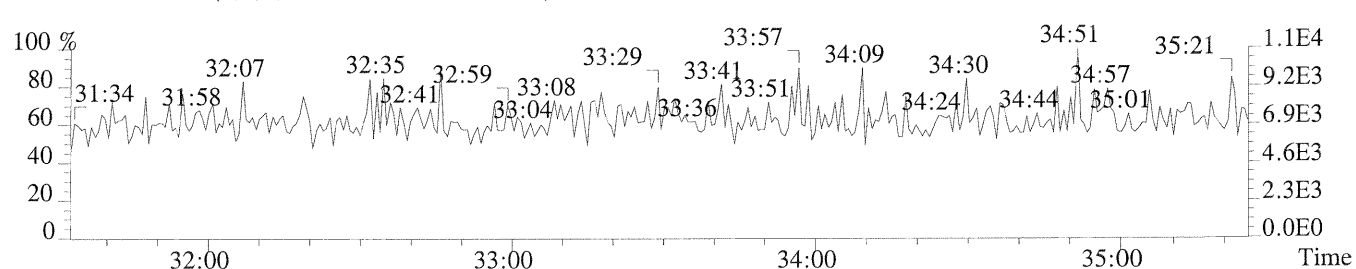
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



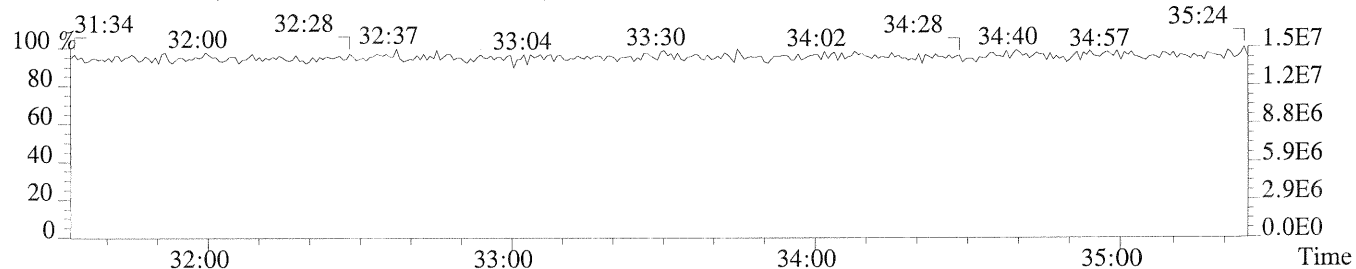
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



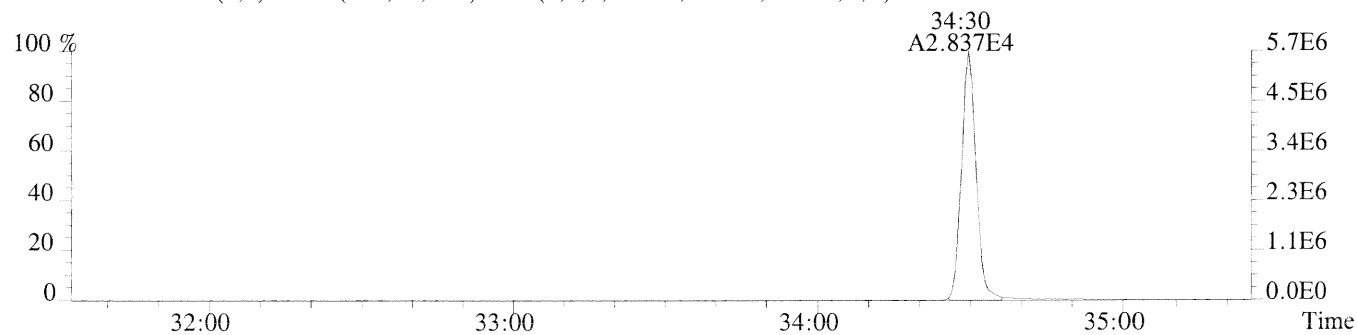
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



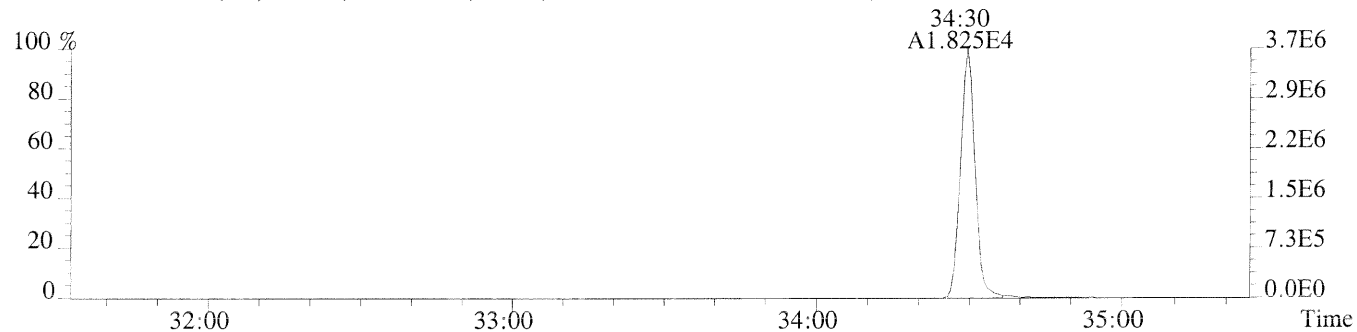
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



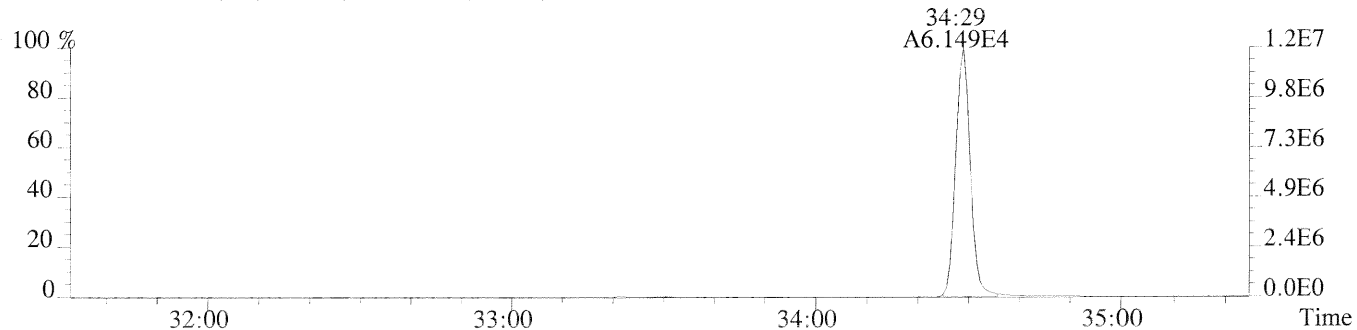
File:P169973 #1-351 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1512.0,1.00%,F,T)



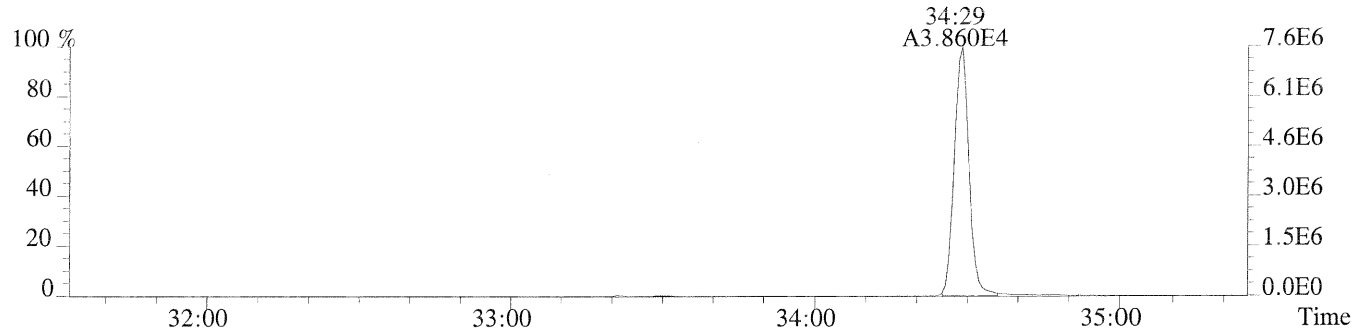
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



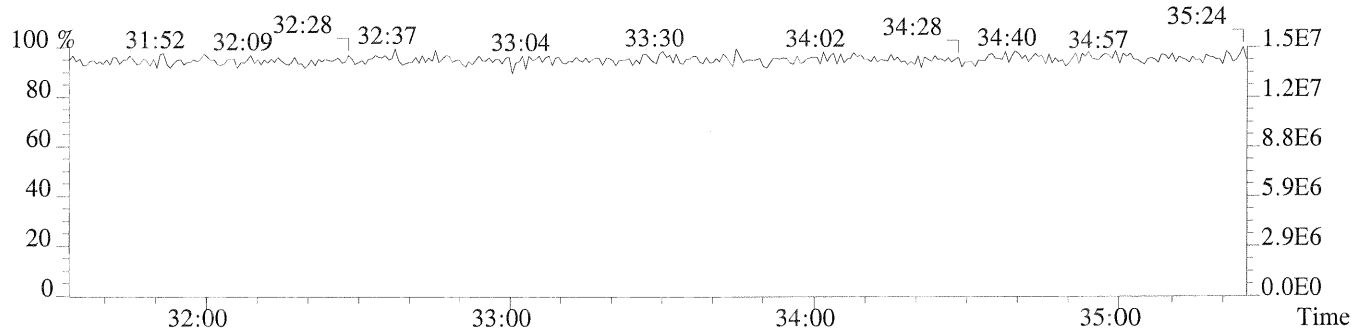
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1420.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)

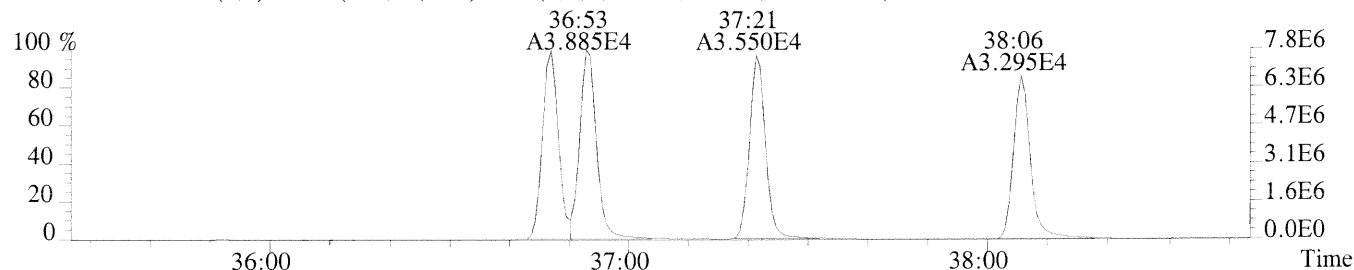


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

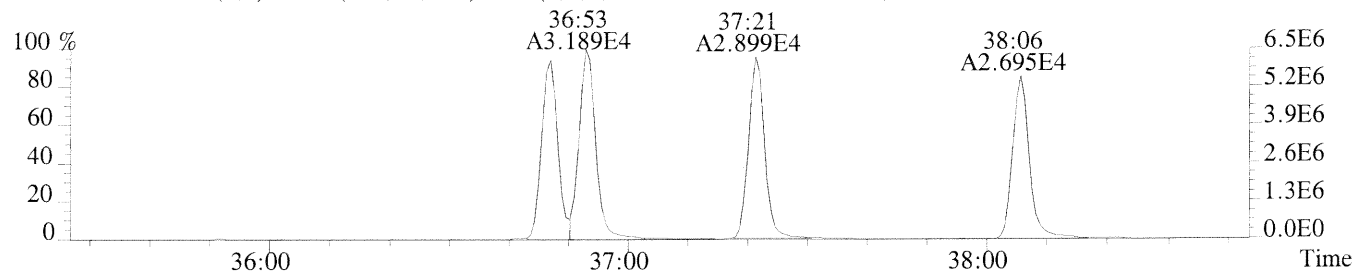


File:P169973 #1-298 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3

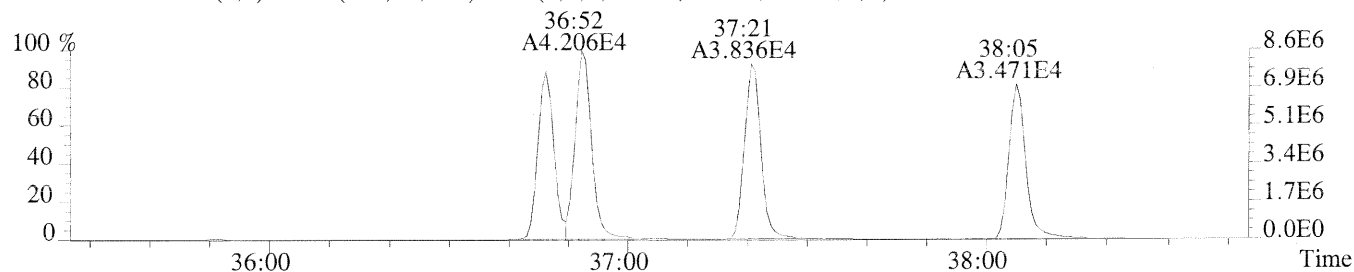
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



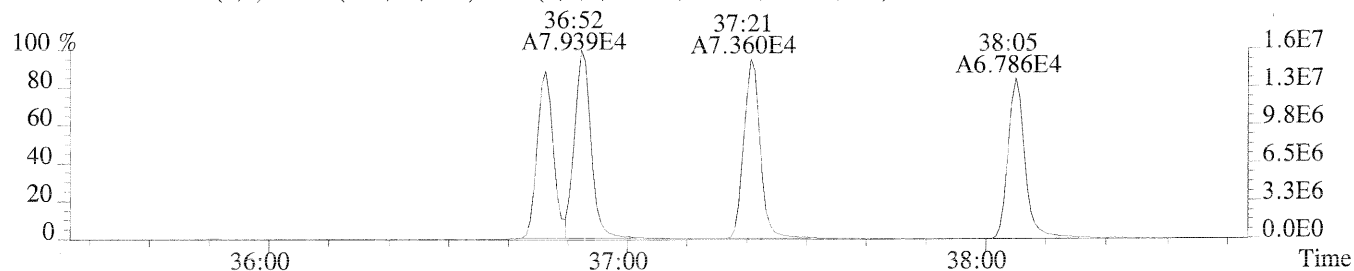
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)



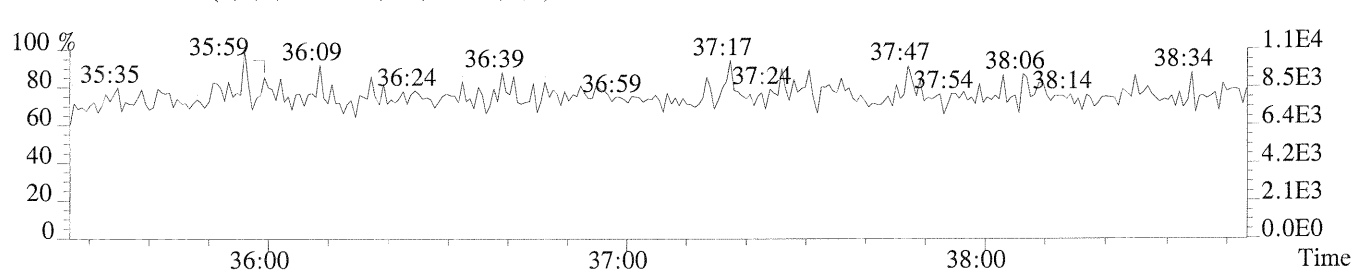
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,T)



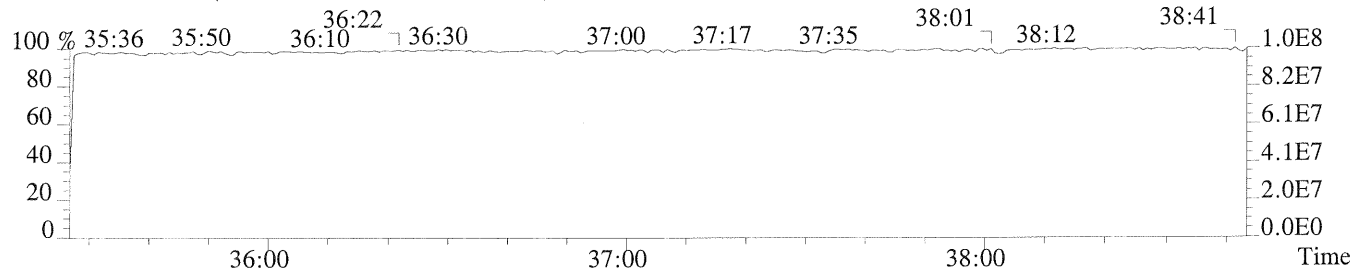
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.40%,F,T)



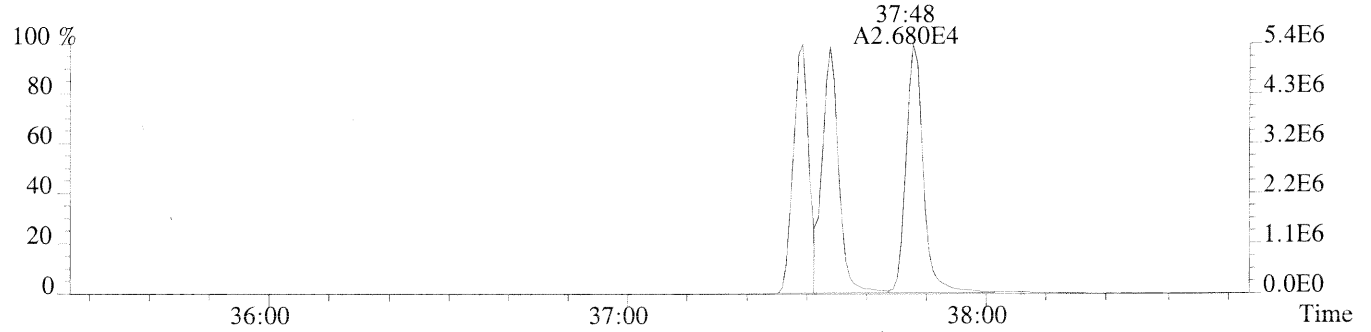
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



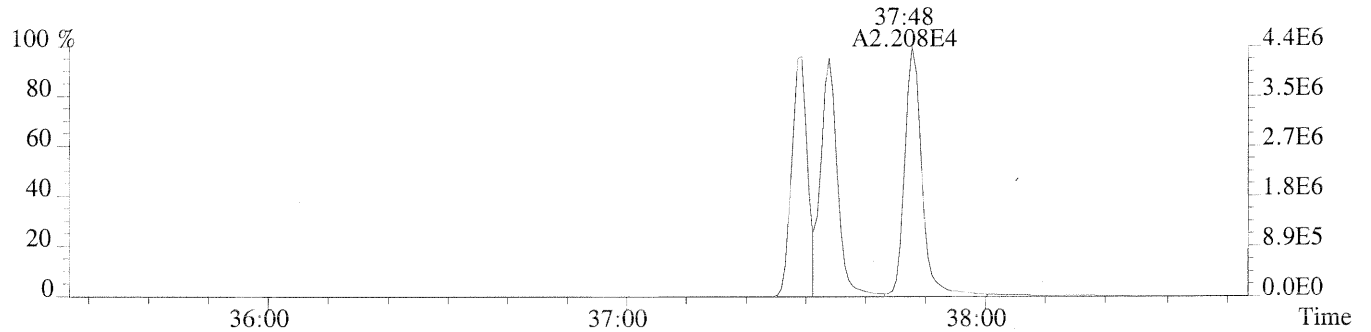
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



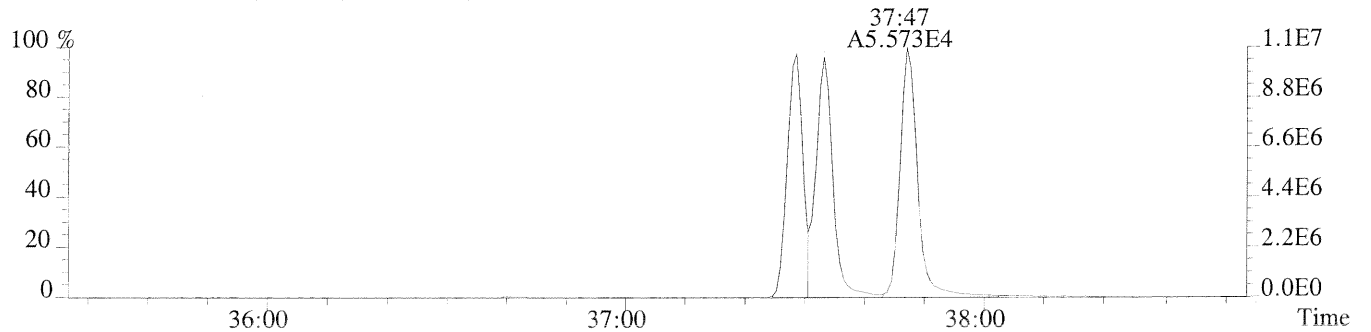
File:P169973 #1-298 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



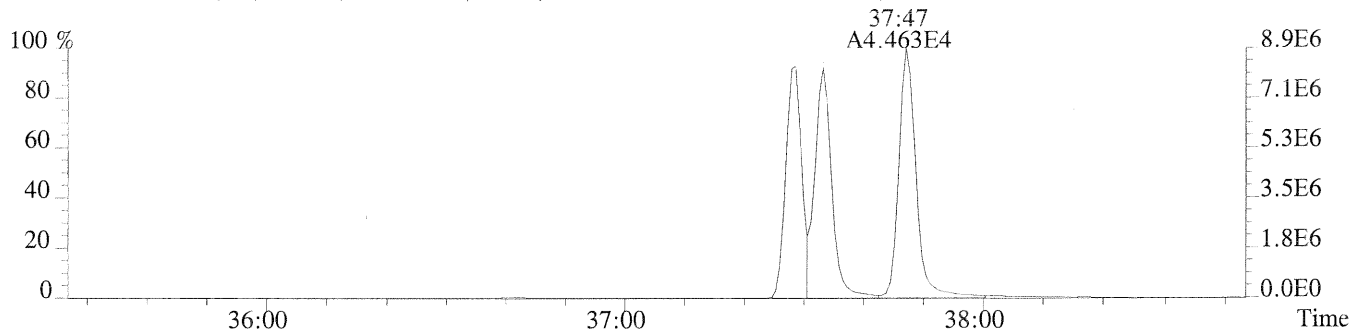
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1504.0,0.40%,F,T)



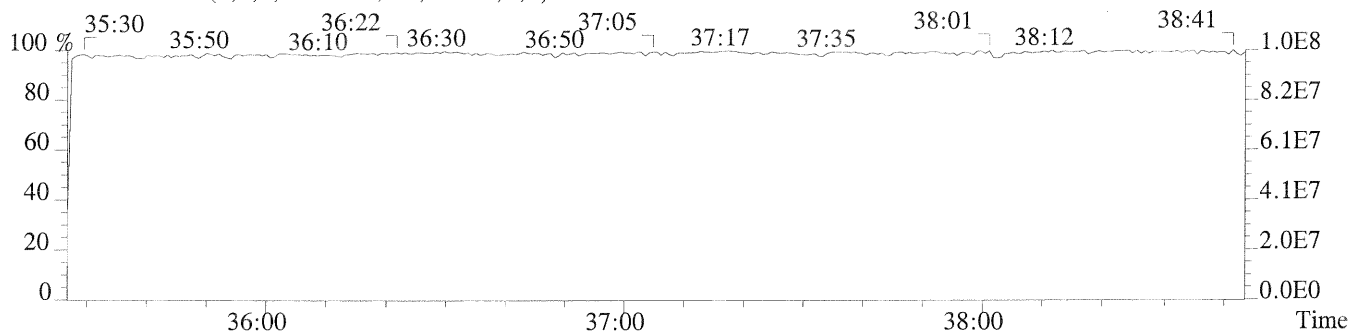
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2016.0,0.40%,F,T)



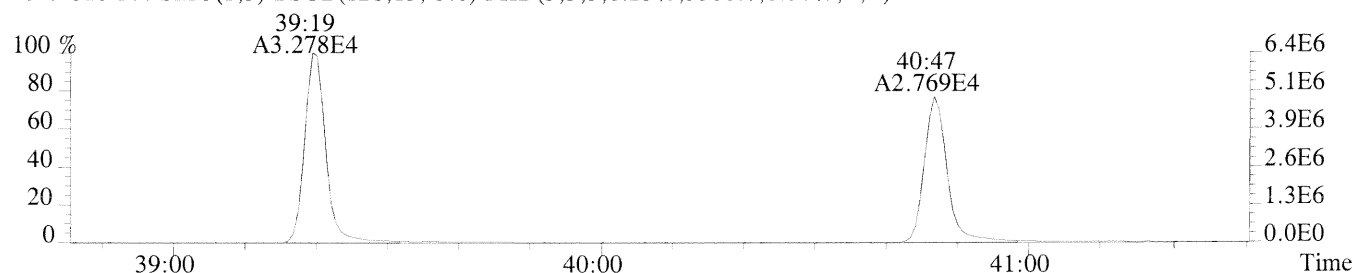
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)



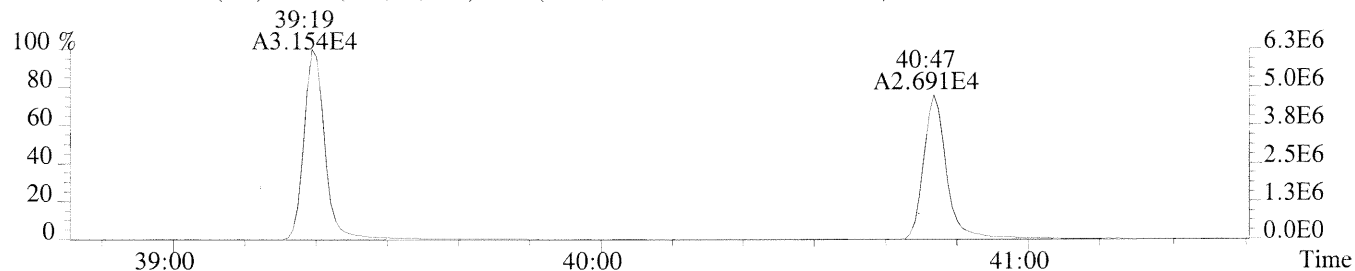
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



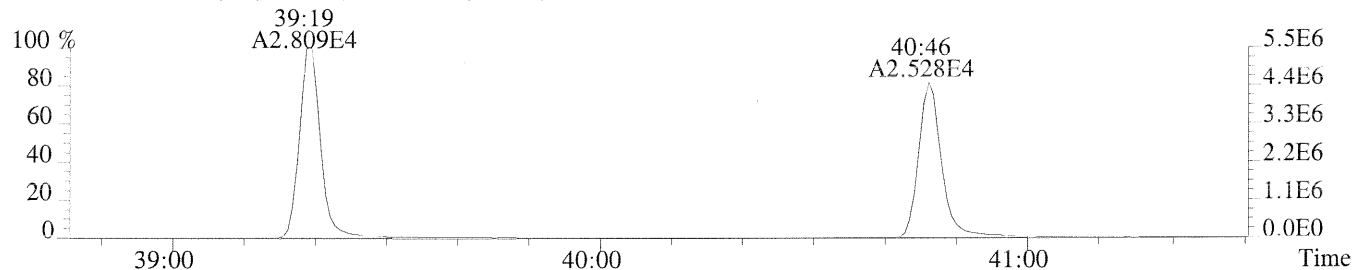
File:P169973 #1-250 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3308.0,0.50%,F,T)



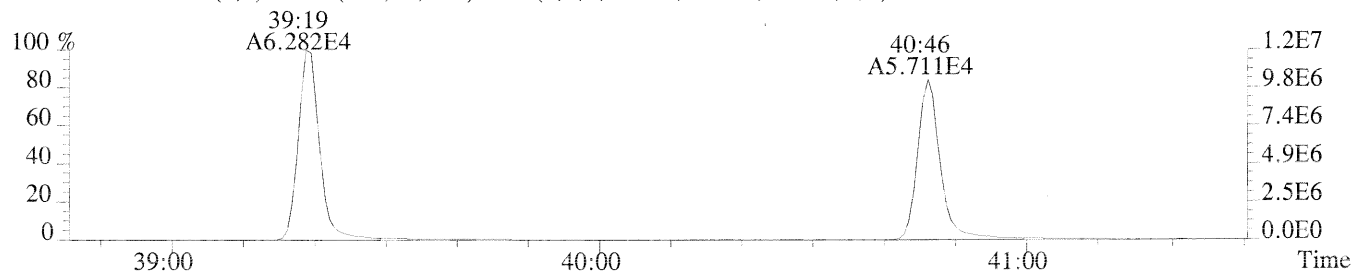
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3432.0,0.50%,F,T)



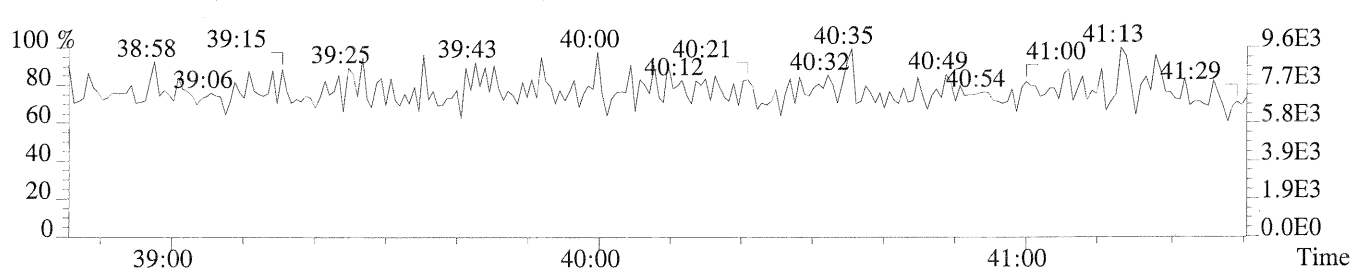
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3516.0,0.50%,F,T)



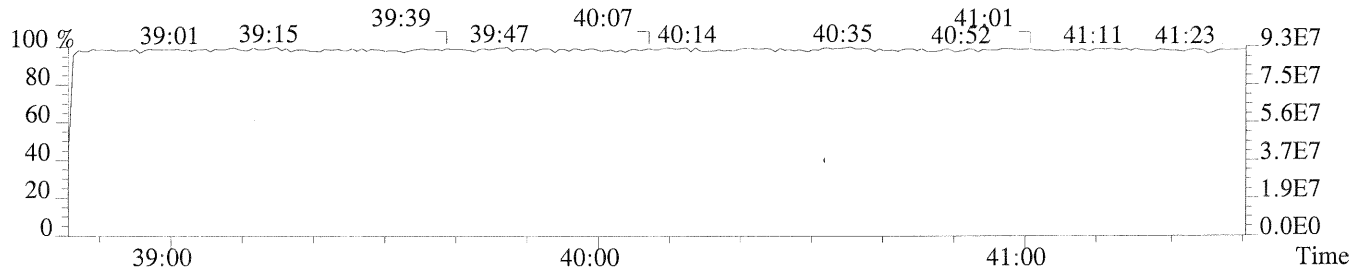
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3852.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

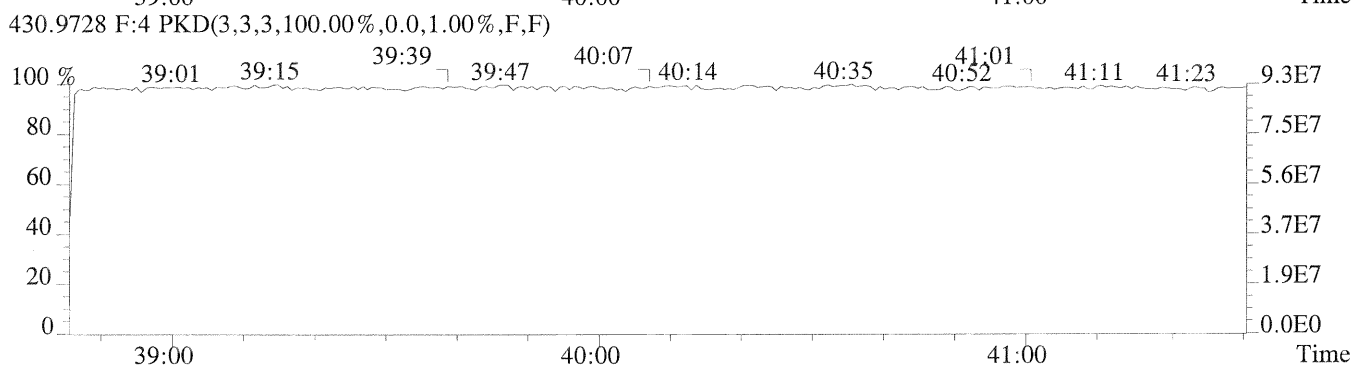
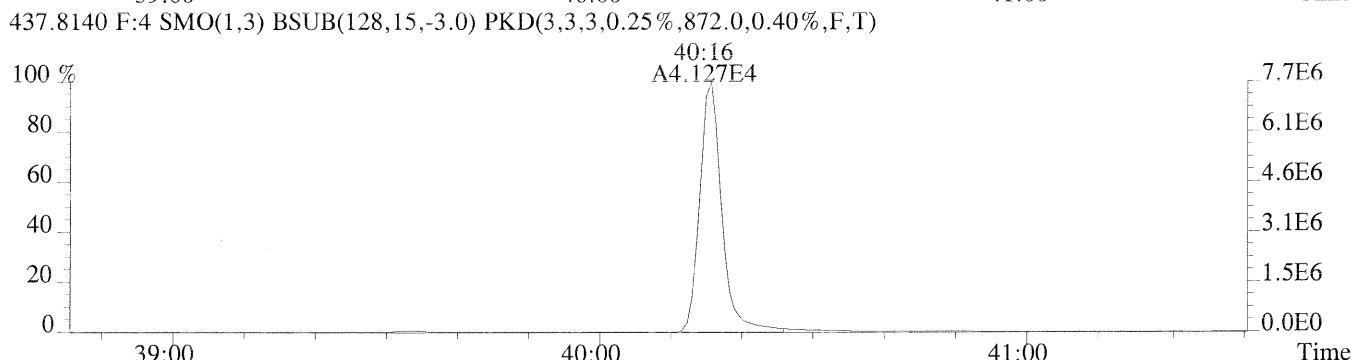
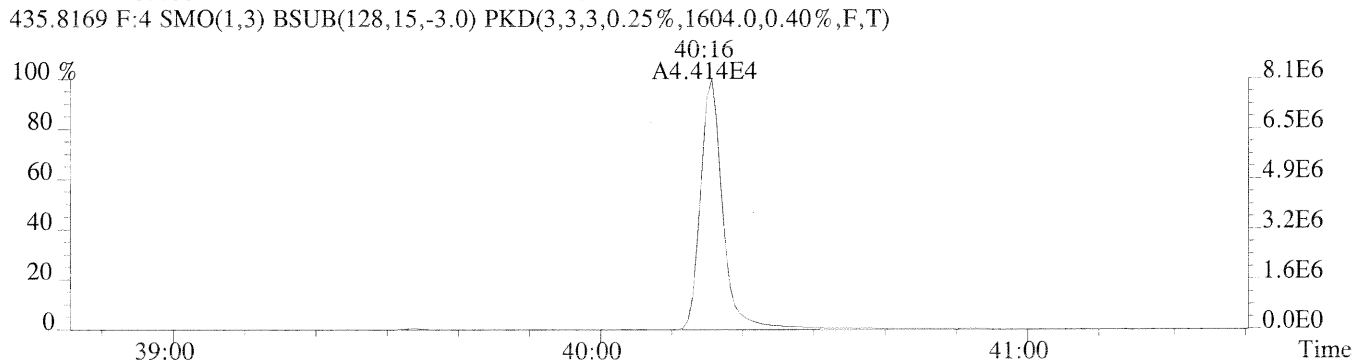
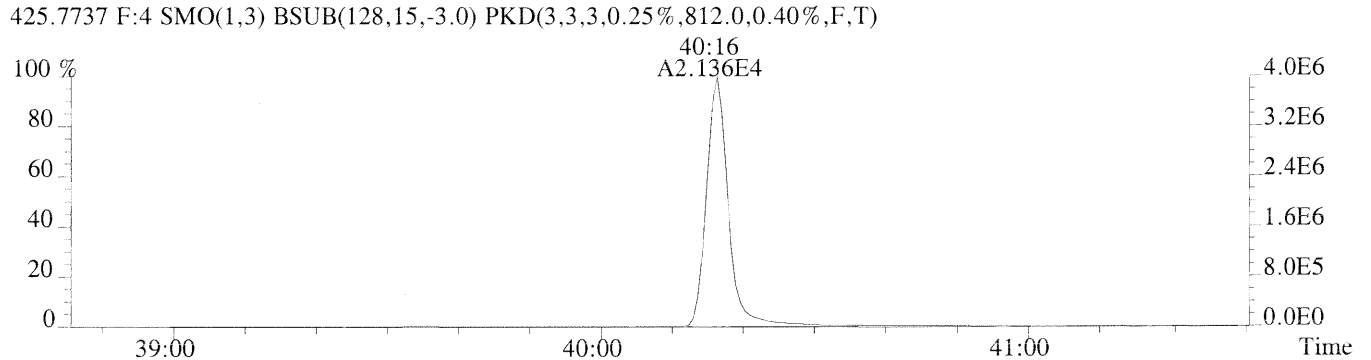
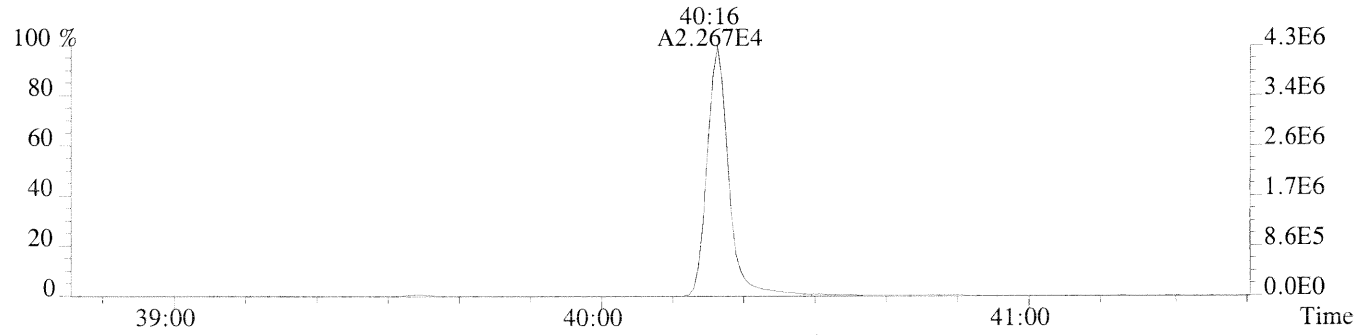


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

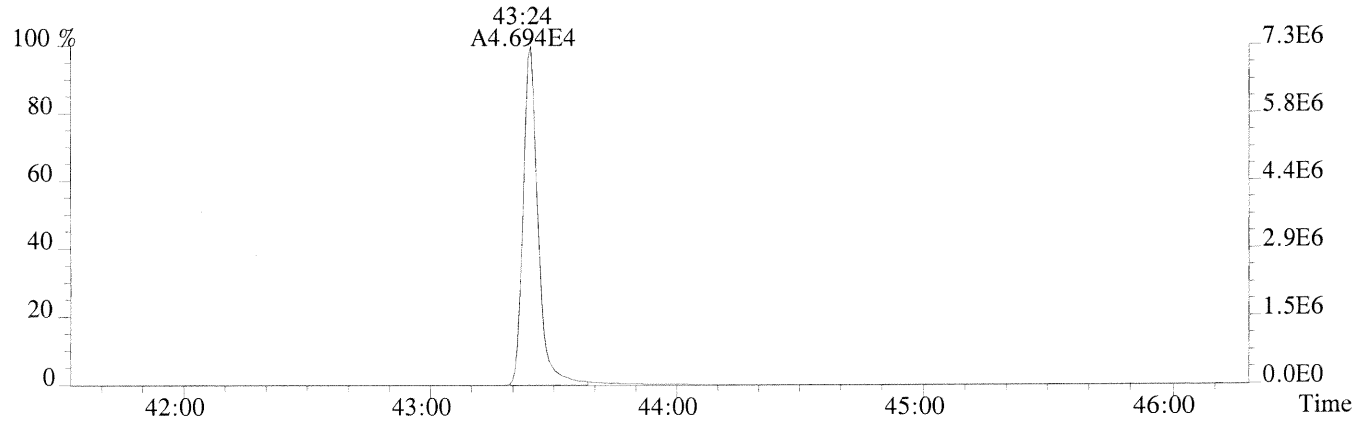




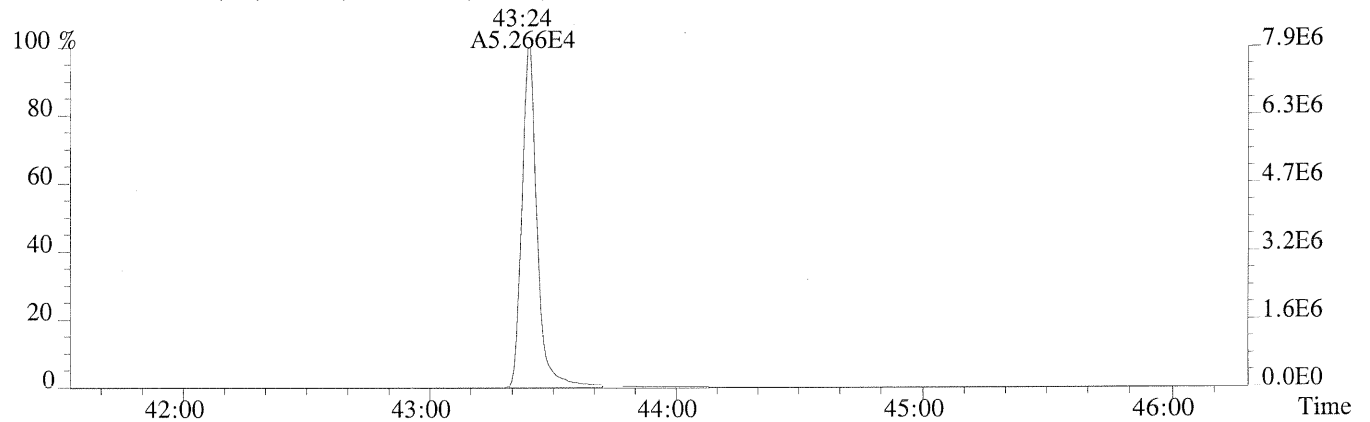
File:P169973 #1-250 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



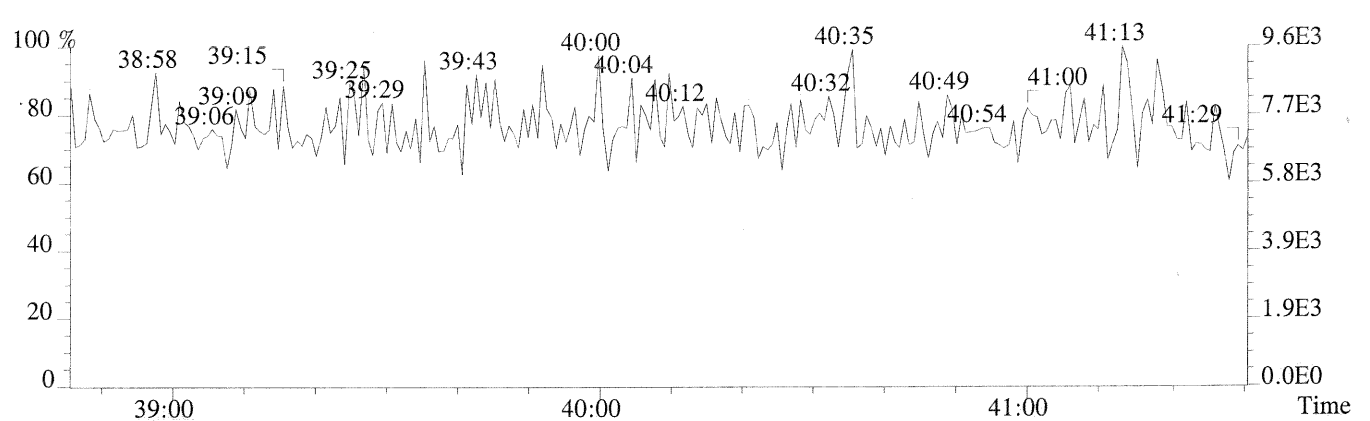
File:P169973 #1-438 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1192.0,0.40%,F,T)



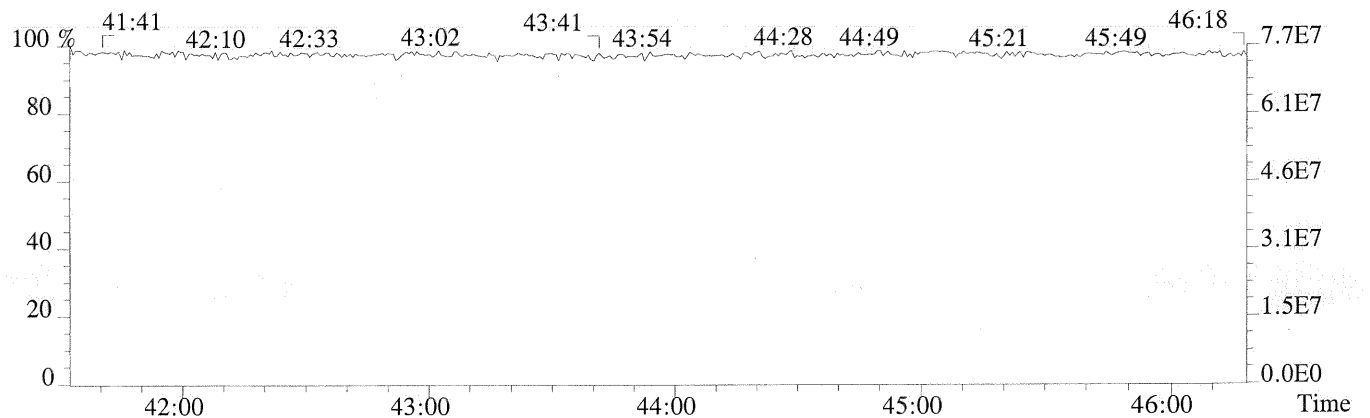
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1708.0,0.40%,F,T)



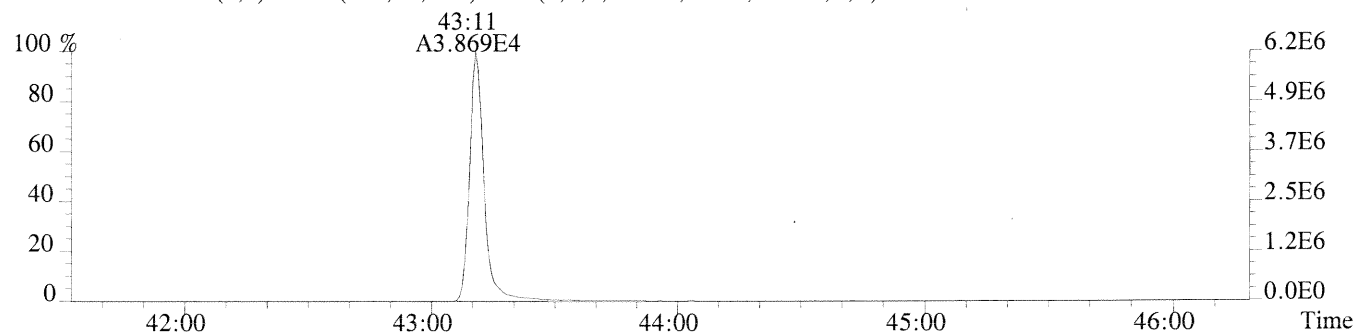
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



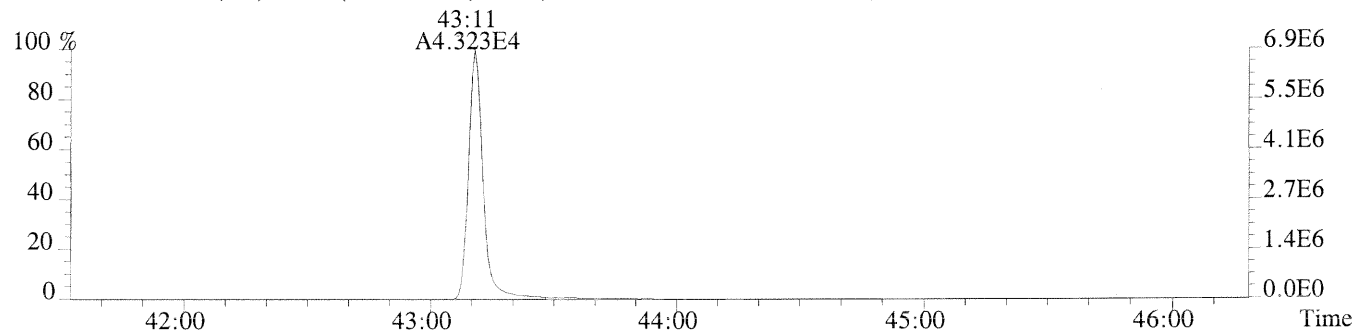
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



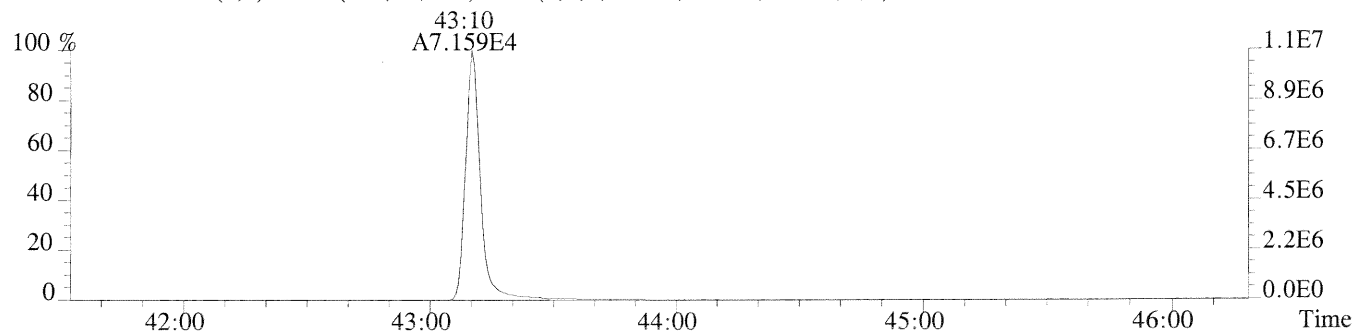
File:P169973 #1-438 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC3/CS3  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,652.0,0.40%,F,T)



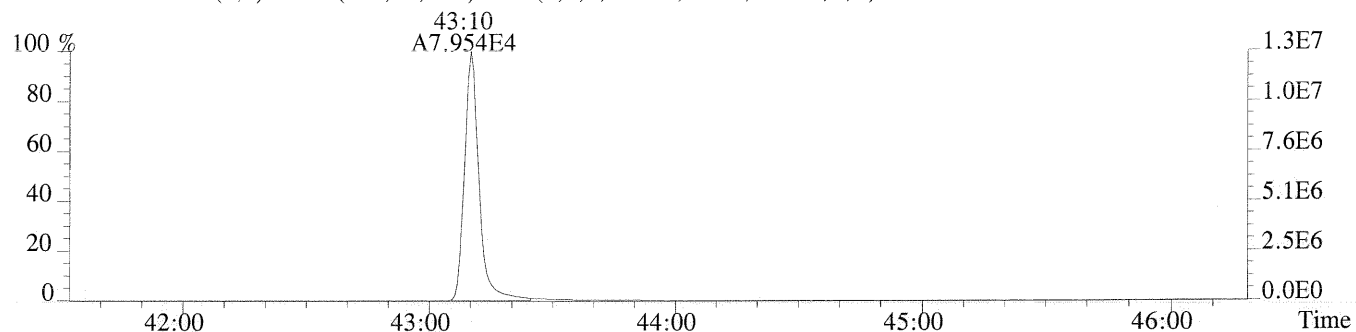
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,892.0,0.40%,F,T)



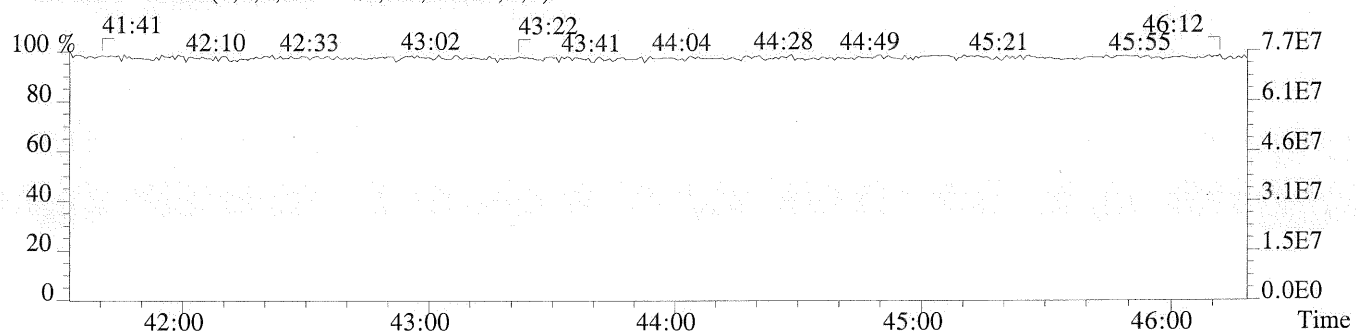
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1100.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,948.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
D12-90-3D

Run #5      Filename P169974      Samp: 1      Inj: 1      Acquired: 25-MAR-14 20:34:32  
Processed: 26-MAR-14 10:01:18      Sample ID: ICAL HRCC4/CS4

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	1.472e+04	1.928e+04	0.76	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:22	1.712e+05	1.086e+05	1.58	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:13	1.565e+05	9.864e+04	1.59	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	1.425e+05	1.159e+05	1.23	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:53	1.578e+05	1.280e+05	1.23	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	1.436e+05	1.141e+05	1.26	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:05	1.351e+05	1.093e+05	1.24	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:20	1.332e+05	1.282e+05	1.04	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:46	1.131e+05	1.092e+05	1.04	yes	no	1.324
10 Unk	OCDF	43:24	1.994e+05	2.180e+05	0.91	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:11	1.353e+04	1.731e+04	0.78	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:29	1.118e+05	7.182e+04	1.56	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	9.605e+04	7.716e+04	1.24	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:33	1.077e+05	8.695e+04	1.24	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:47	1.105e+05	8.977e+04	1.23	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	9.062e+04	8.715e+04	1.04	yes	no	1.016
17 Unk	OCDD	43:10	1.586e+05	1.788e+05	0.89	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	3.916e+04	4.978e+04	0.79	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	8.225e+04	5.218e+04	1.58	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:13	7.908e+04	4.998e+04	1.58	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	3.473e+04	6.744e+04	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	4.167e+04	7.900e+04	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:20	3.798e+04	7.164e+04	0.53	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:04	3.464e+04	6.692e+04	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	2.789e+04	6.320e+04	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:46	2.518e+04	5.760e+04	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	3.272e+04	4.102e+04	0.80	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	5.902e+04	3.779e+04	1.56	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:28	4.689e+04	3.653e+04	1.28	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	5.309e+04	4.165e+04	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:15	4.418e+04	4.198e+04	1.05	yes	no	0.862
32 IS	13C-OCDD	43:10	7.240e+04	7.997e+04	0.91	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	2.315e+04	2.962e+04	0.78	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	5.677e+04	4.355e+04	1.30	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:11	3.201e+04				no	1.125

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1613RESP

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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

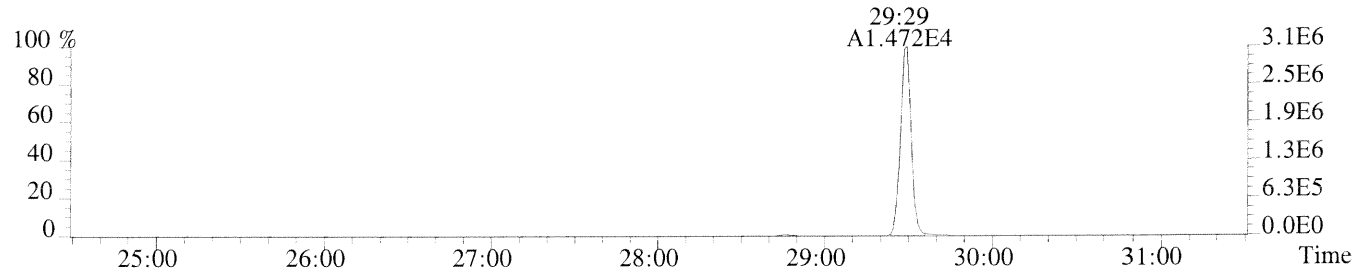
CLIENT ID.  
D12-90-3D

Run #5    Filename P169974    Samp: 1    Inj: 1    Acquired: 25-MAR-14 20:34:32  
Processed: 26-MAR-14 08:20:201    LAB. ID: ICAL HRCC4/CS4

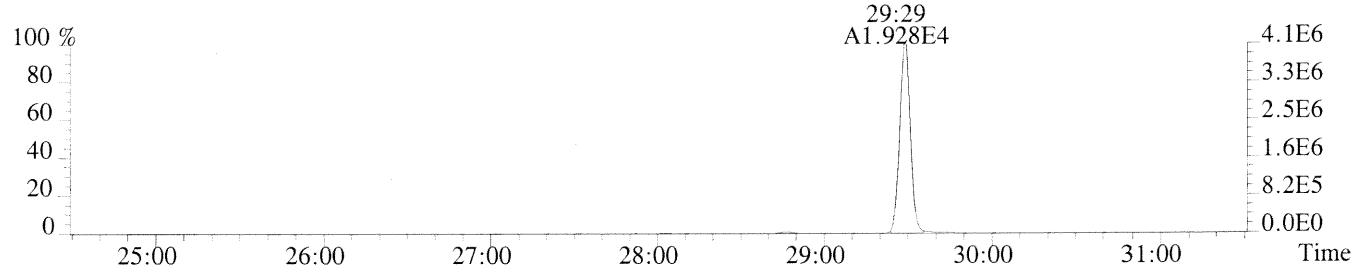
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.14e+06	8.52e+02	3.7e+03	4.09e+06	2.87e+03	1.4e+03
2	1,2,3,7,8-PeCDF	3.24e+07	5.88e+02	5.5e+04	2.07e+07	1.79e+03	1.2e+04
3	2,3,4,7,8-PeCDF	3.16e+07	5.88e+02	5.4e+04	2.01e+07	1.79e+03	1.1e+04
4	1,2,3,4,7,8-HxCDF	3.08e+07	1.60e+03	1.9e+04	2.47e+07	8.24e+02	3.0e+04
5	1,2,3,6,7,8-HxCDF	3.13e+07	1.60e+03	2.0e+04	2.53e+07	8.24e+02	3.1e+04
6	2,3,4,6,7,8-HxCDF	3.00e+07	1.60e+03	1.9e+04	2.39e+07	8.24e+02	2.9e+04
7	1,2,3,7,8,9-HxCDF	2.69e+07	1.60e+03	1.7e+04	2.18e+07	8.24e+02	2.6e+04
8	1,2,3,4,6,7,8-HpCDF	2.59e+07	8.95e+03	2.9e+03	2.50e+07	5.36e+03	4.7e+03
9	1,2,3,4,7,8,9-HpCDF	2.04e+07	8.95e+03	2.3e+03	1.97e+07	5.36e+03	3.7e+03
10	OCDF	3.09e+07	9.88e+02	3.1e+04	3.33e+07	1.71e+03	1.9e+04
11	2,3,7,8-TCDD	2.95e+06	1.30e+03	2.3e+03	3.85e+06	1.70e+03	2.3e+03
12	1,2,3,7,8-PeCDD	2.25e+07	1.22e+03	1.8e+04	1.45e+07	9.40e+02	1.5e+04
13	1,2,3,4,7,8-HxCDD	2.17e+07	8.72e+02	2.5e+04	1.72e+07	1.18e+03	1.5e+04
14	1,2,3,6,7,8-HxCDD	2.16e+07	8.72e+02	2.5e+04	1.75e+07	1.18e+03	1.5e+04
15	1,2,3,7,8,9-HxCDD	2.21e+07	8.72e+02	2.5e+04	1.78e+07	1.18e+03	1.5e+04
16	1,2,3,4,6,7,8-HpCDD	1.69e+07	1.24e+03	1.4e+04	1.62e+07	1.18e+03	1.4e+04
17	OCDD	2.45e+07	8.36e+02	2.9e+04	2.75e+07	7.96e+02	3.5e+04
18	13C-2,3,7,8-TCDF	8.39e+06	1.81e+03	4.6e+03	1.06e+07	1.78e+03	6.0e+03
19	13C-1,2,3,7,8-PeCDF	1.55e+07	6.88e+02	2.3e+04	9.98e+06	1.62e+03	6.1e+03
20	13C-2,3,4,7,8-PeCDF	1.59e+07	6.88e+02	2.3e+04	9.98e+06	1.62e+03	6.1e+03
21	13C-1,2,3,4,7,8-HxCDF	7.48e+06	1.33e+03	5.6e+03	1.44e+07	2.28e+03	6.3e+03
22	13C-1,2,3,6,7,8-HxCDF	8.24e+06	1.33e+03	6.2e+03	1.56e+07	2.28e+03	6.8e+03
23	13C-2,3,4,6,7,8-HxCDF	7.77e+06	1.33e+03	5.8e+03	1.48e+07	2.28e+03	6.5e+03
24	13C-1,2,3,7,8,9-HxCDF	6.76e+06	1.33e+03	5.1e+03	1.31e+07	2.28e+03	5.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.47e+06	2.08e+03	2.6e+03	1.23e+07	3.44e+03	3.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.54e+06	2.08e+03	2.2e+03	1.03e+07	3.44e+03	3.0e+03
27	13C-2,3,7,8-TCDD	7.31e+06	4.25e+03	1.7e+03	9.26e+06	2.48e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	1.17e+07	1.26e+03	9.3e+03	7.48e+06	9.96e+02	7.5e+03
29	13C-1,2,3,4,7,8-HxCDD	1.06e+07	1.52e+03	7.0e+03	8.16e+06	1.59e+03	5.1e+03
30	13C-1,2,3,6,7,8-HxCDD	1.05e+07	1.52e+03	6.9e+03	8.39e+06	1.59e+03	5.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	8.24e+06	1.69e+03	4.9e+03	7.72e+06	1.04e+03	7.4e+03
32	13C-OCDD	1.09e+07	1.13e+03	9.7e+03	1.23e+07	9.00e+02	1.4e+04
33	13C-1,2,3,4-TCDD	5.19e+06	4.25e+03	1.2e+03	6.68e+06	2.48e+03	2.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.09e+07	1.52e+03	7.1e+03	8.62e+06	1.59e+03	5.4e+03
35	37Cl-2,3,7,8-TCDD	7.04e+06	1.79e+03	3.9e+03			

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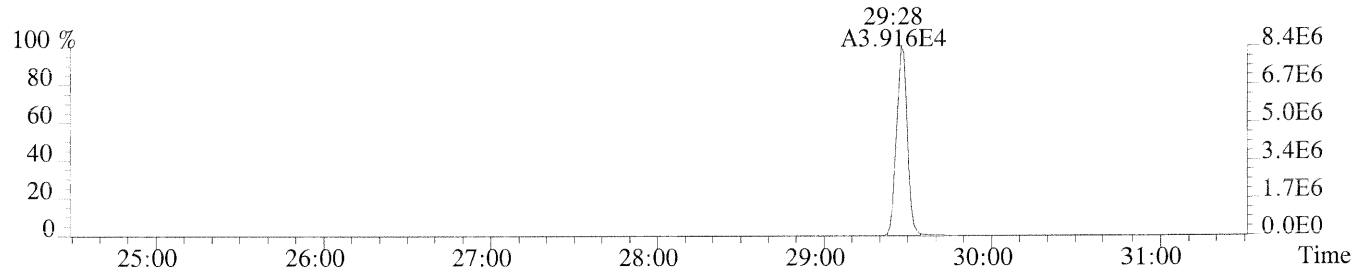
File:P169974 #1-442 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



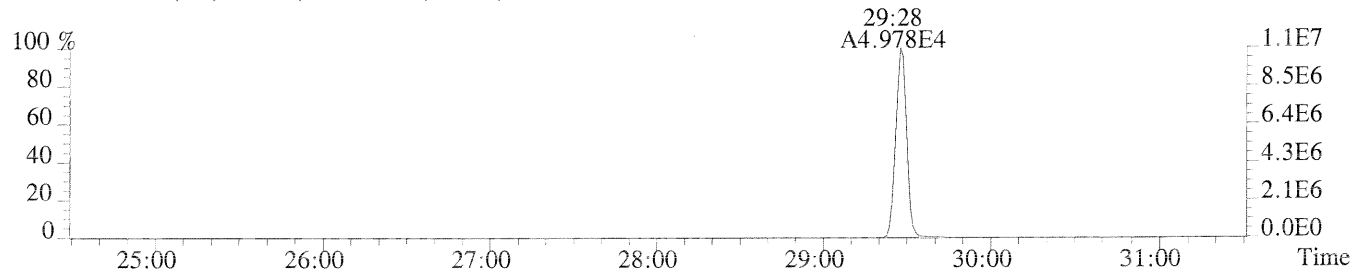
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2872.0,1.00%,F,T)



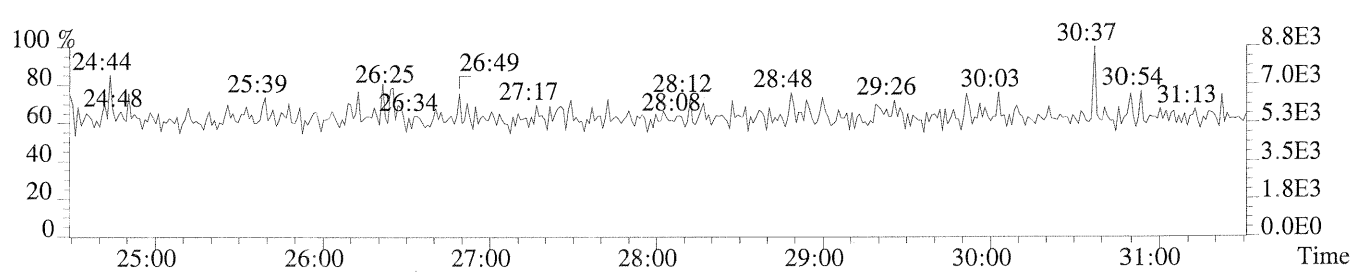
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1812.0,1.00%,F,T)



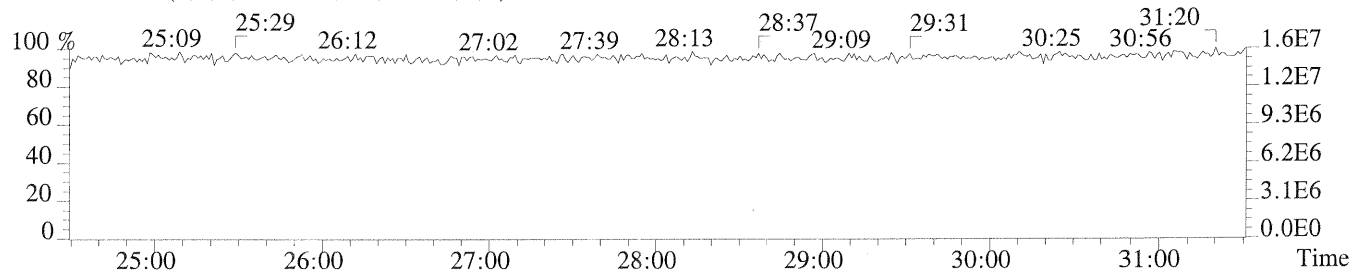
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1784.0,1.00%,F,T)



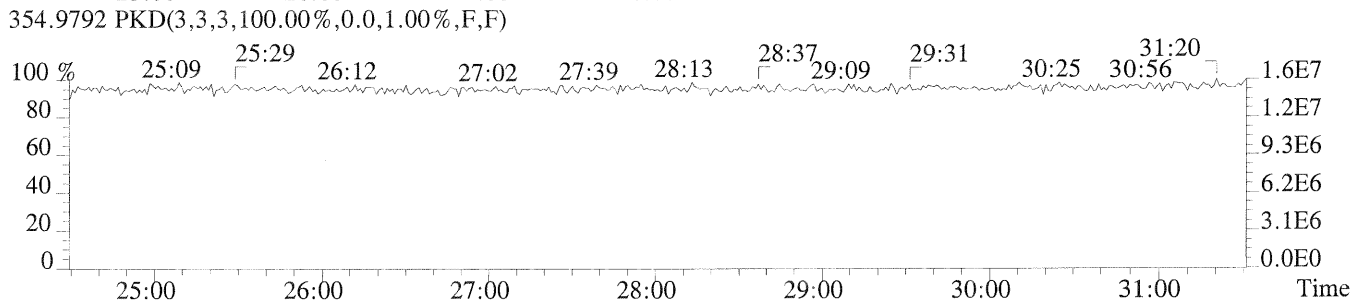
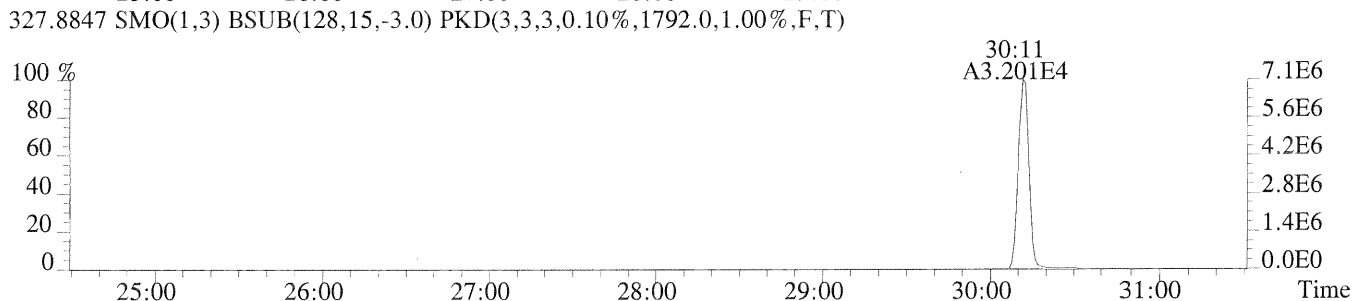
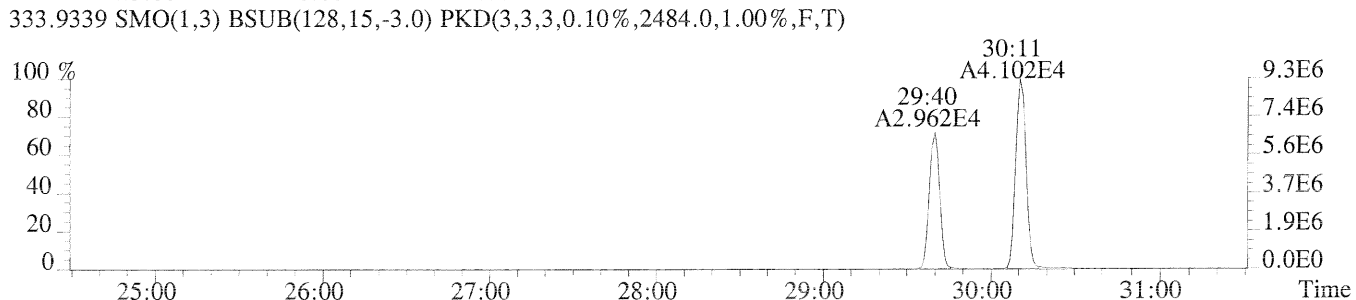
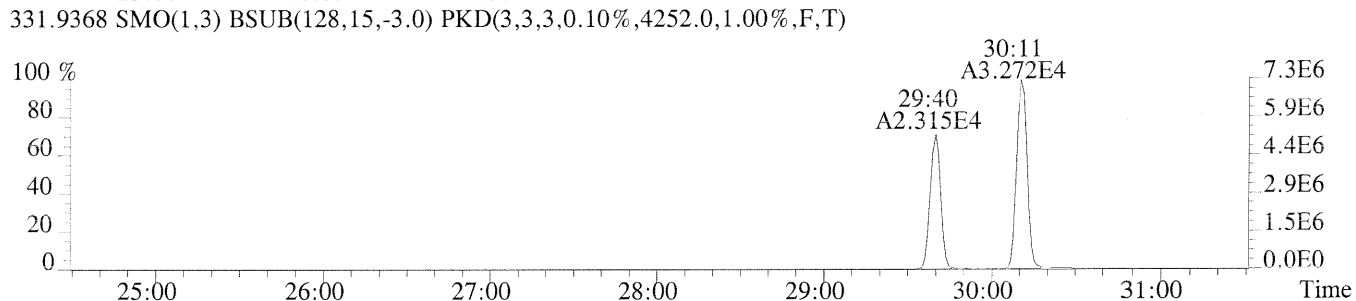
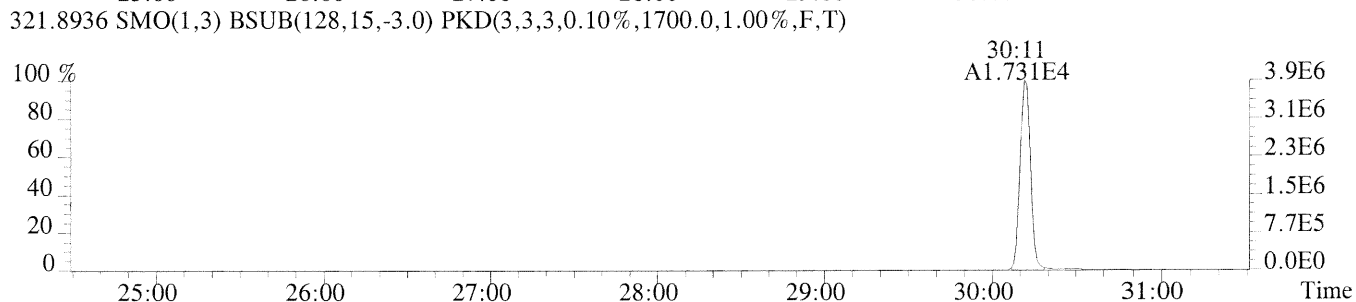
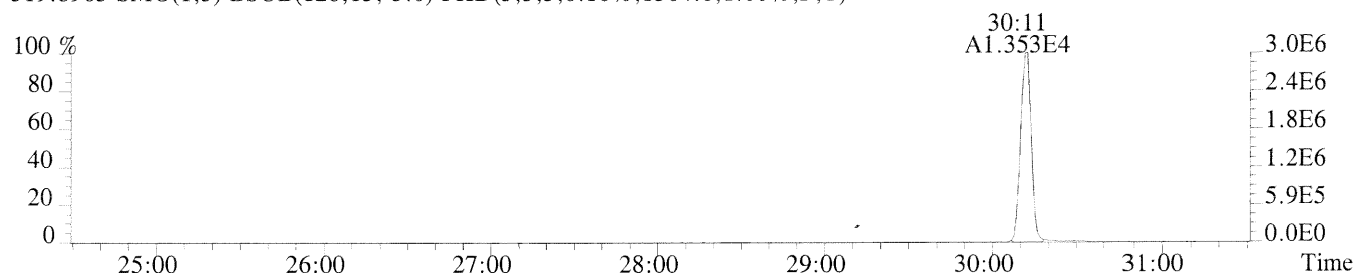
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



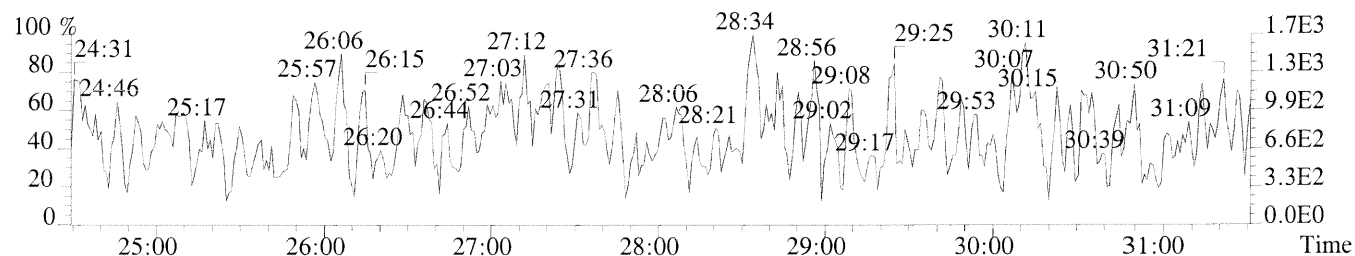
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



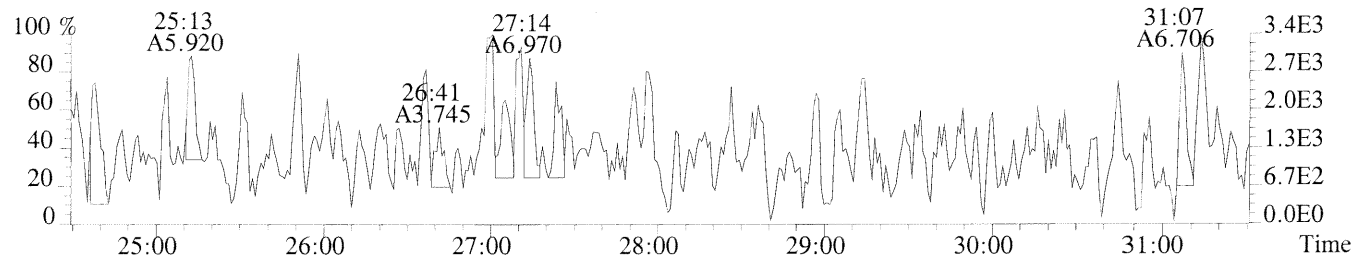
File:P169974 #1-442 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



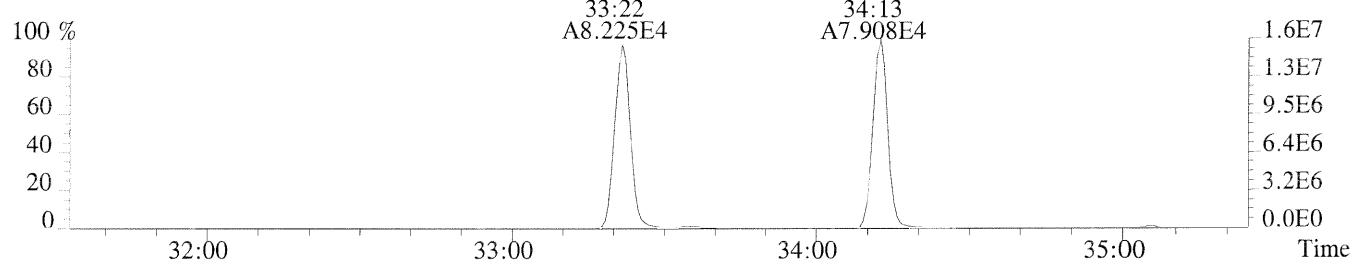
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Sample#1 Exp:ICAL HRCC4/CS4  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



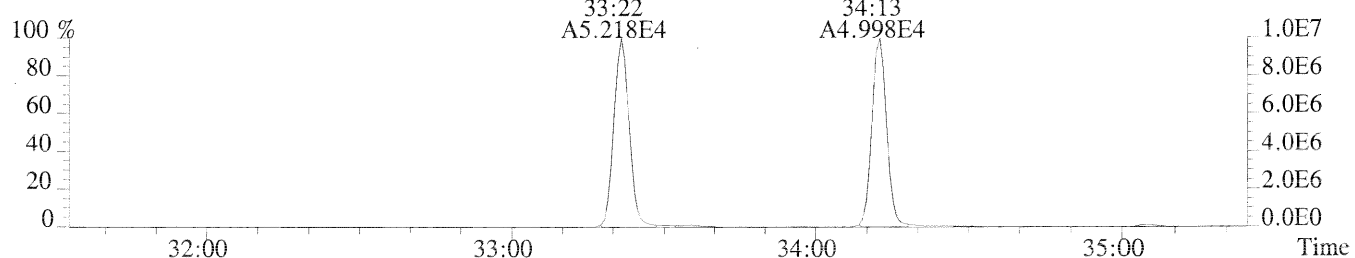
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1552.0,1.00%,F,T)



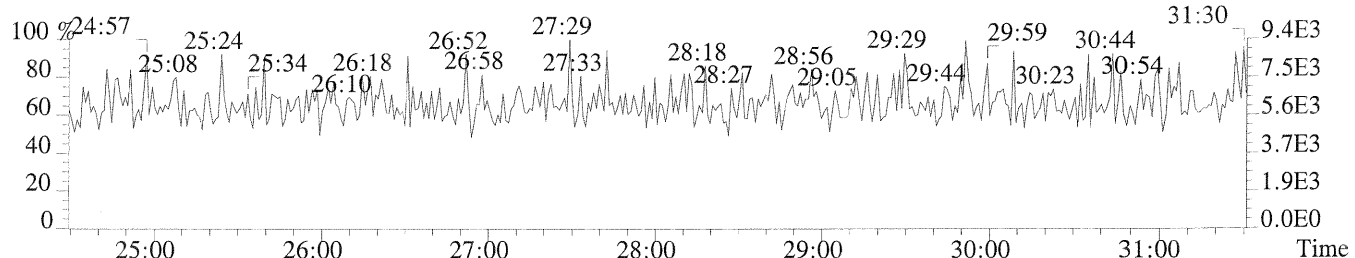
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



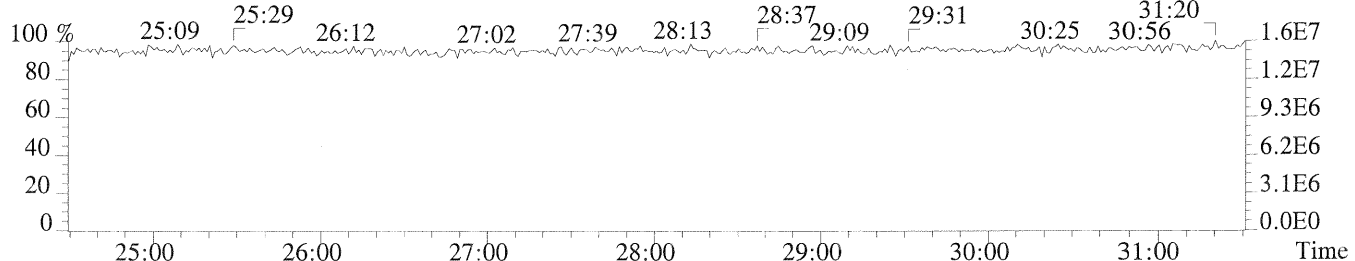
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1624.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

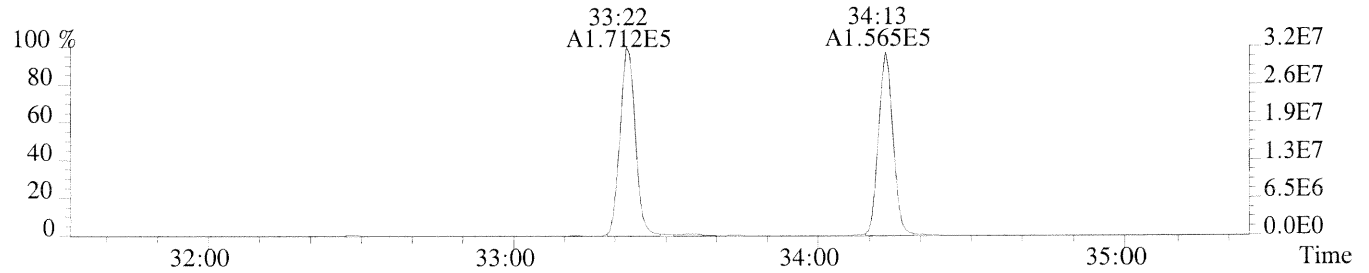


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

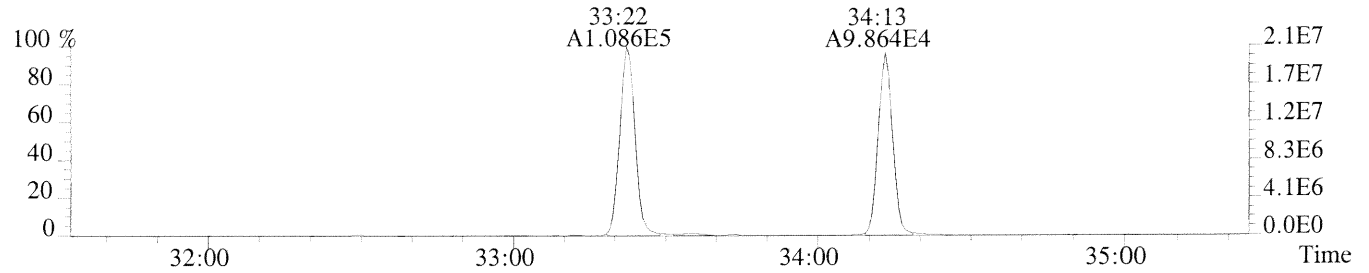




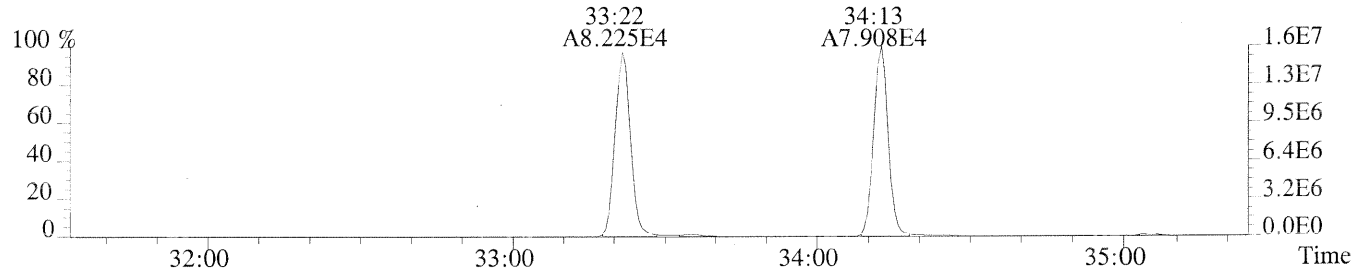
File:P169974 #1-350 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



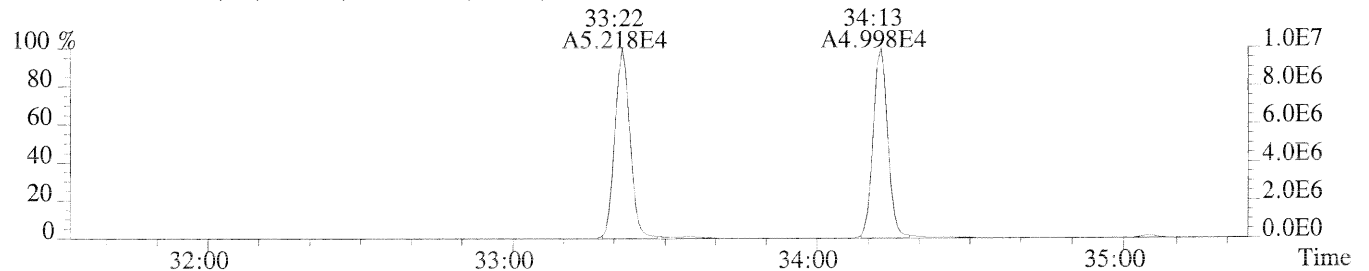
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1788.0,1.00%,F,T)



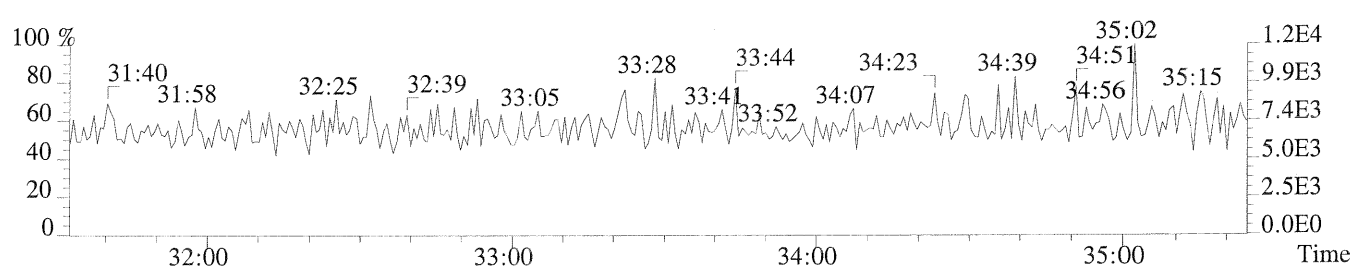
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



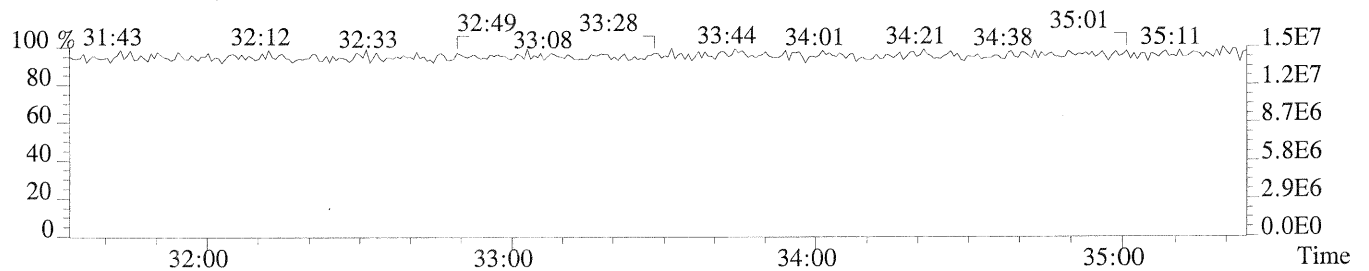
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1624.0,1.00%,F,T)



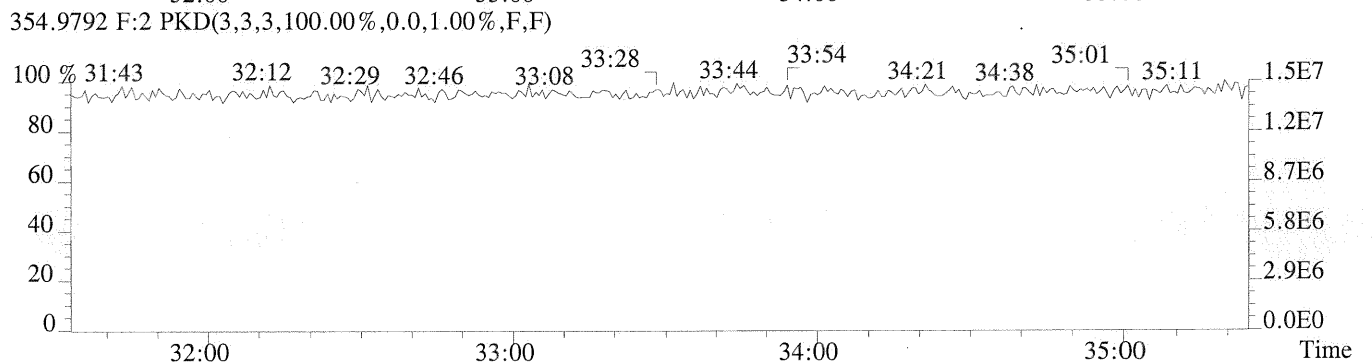
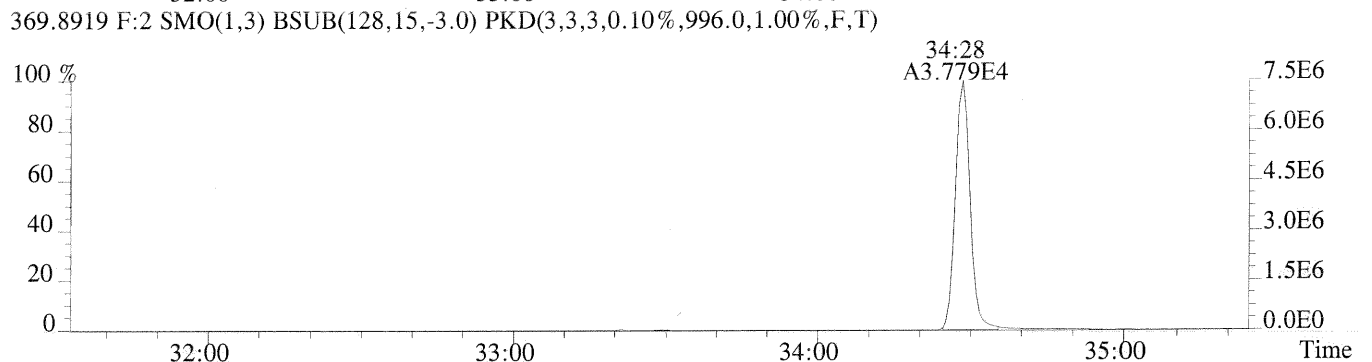
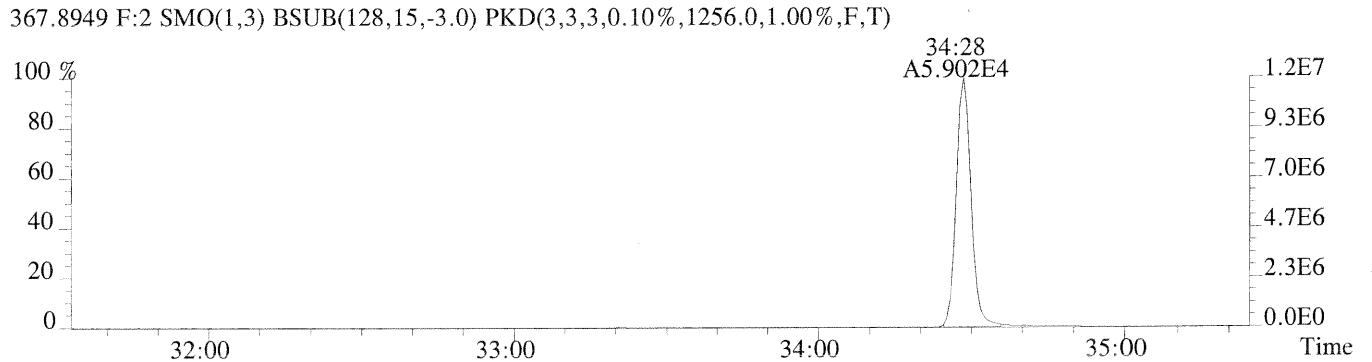
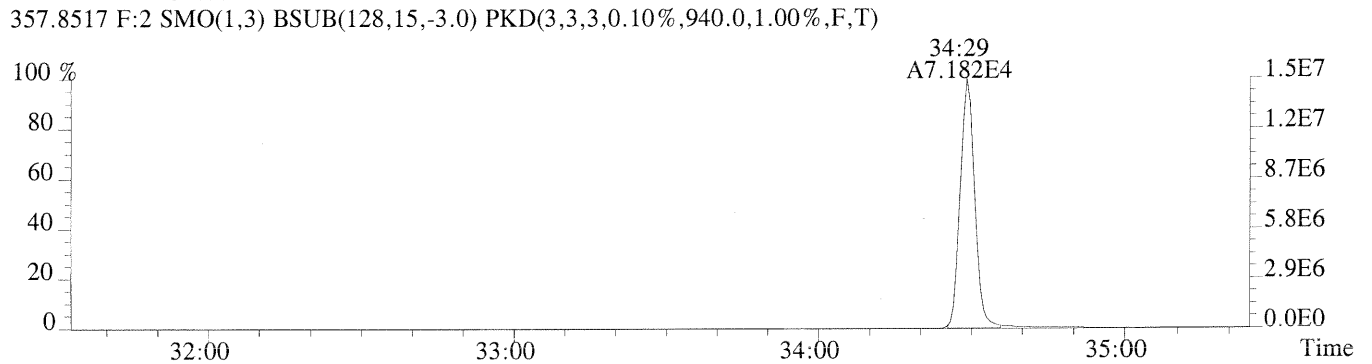
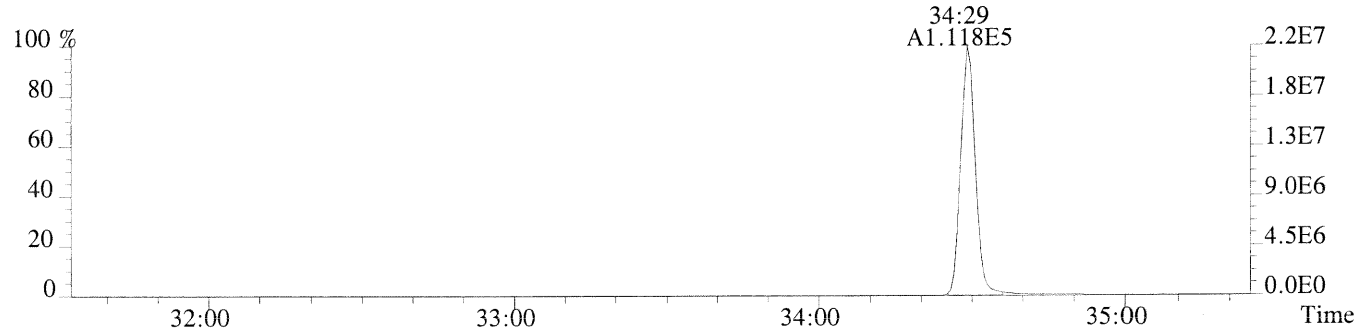
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



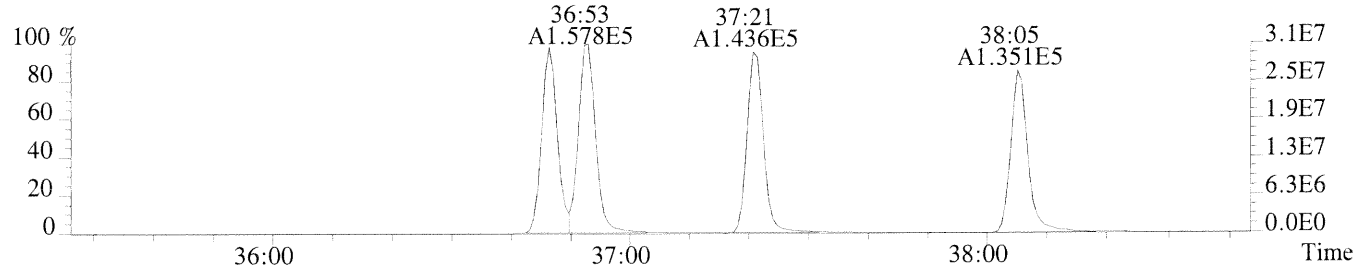
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



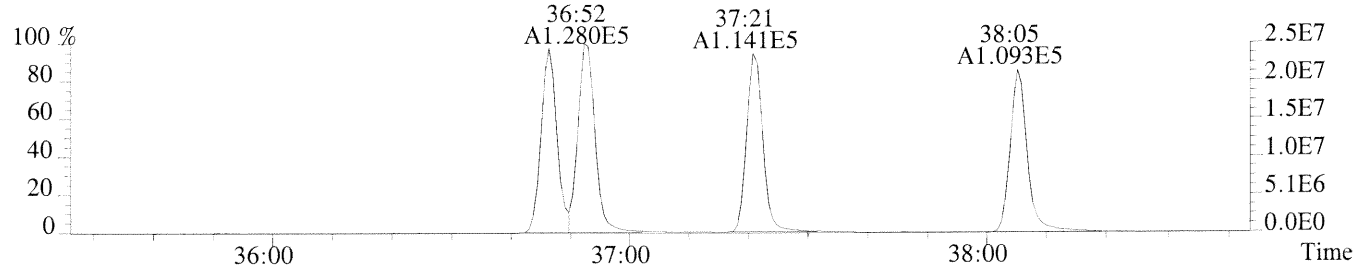
File:P169974 #1-350 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



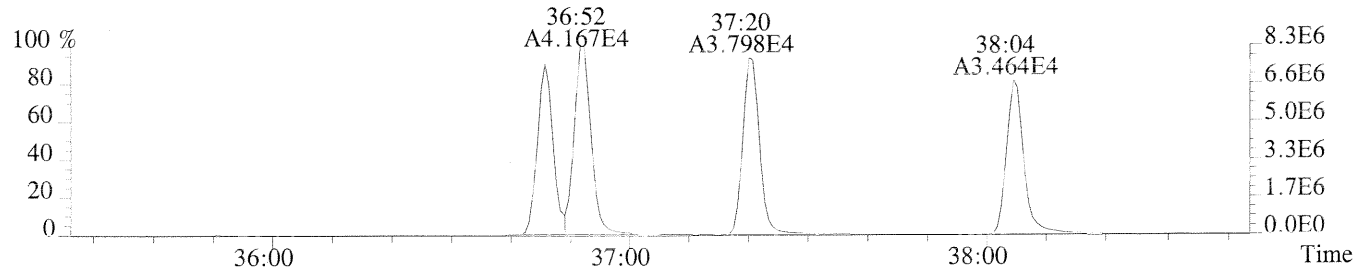
File:P169974 #1-299 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1596.0,0.40%,F,T)



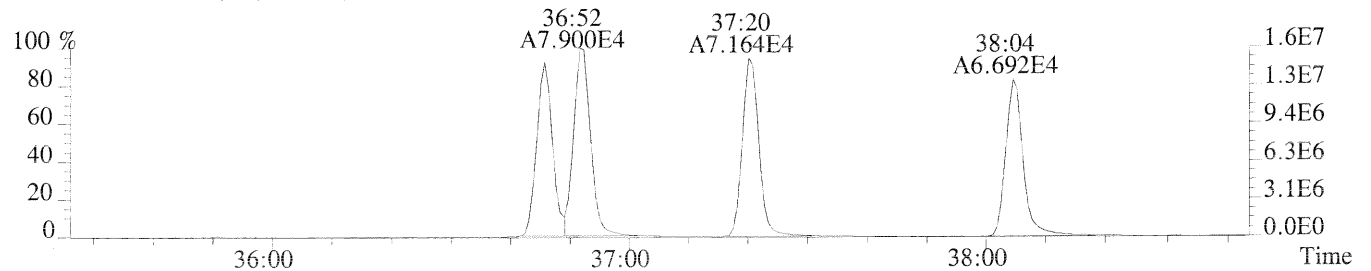
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



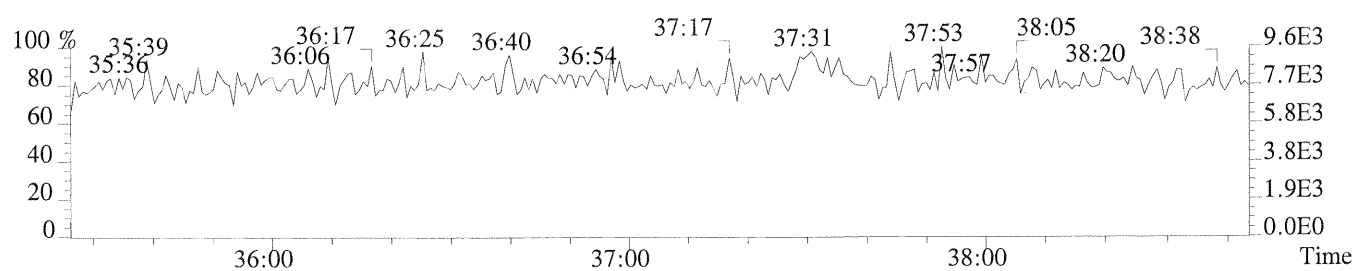
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)



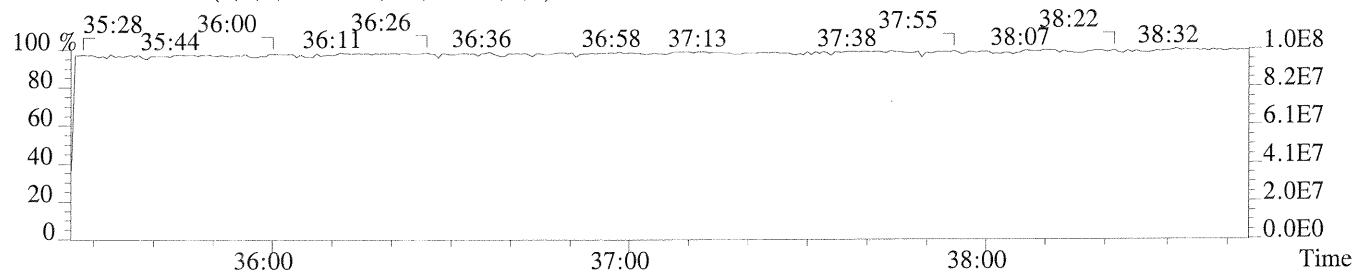
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2284.0,0.40%,F,T)



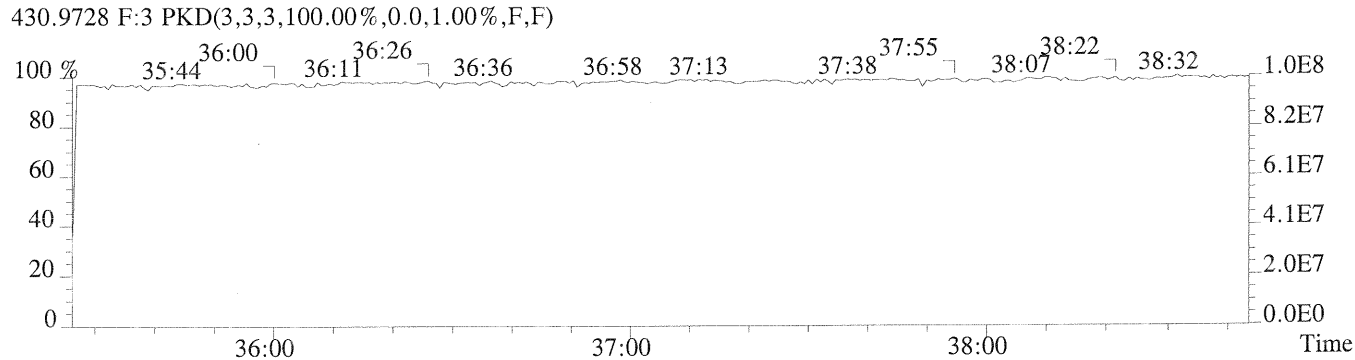
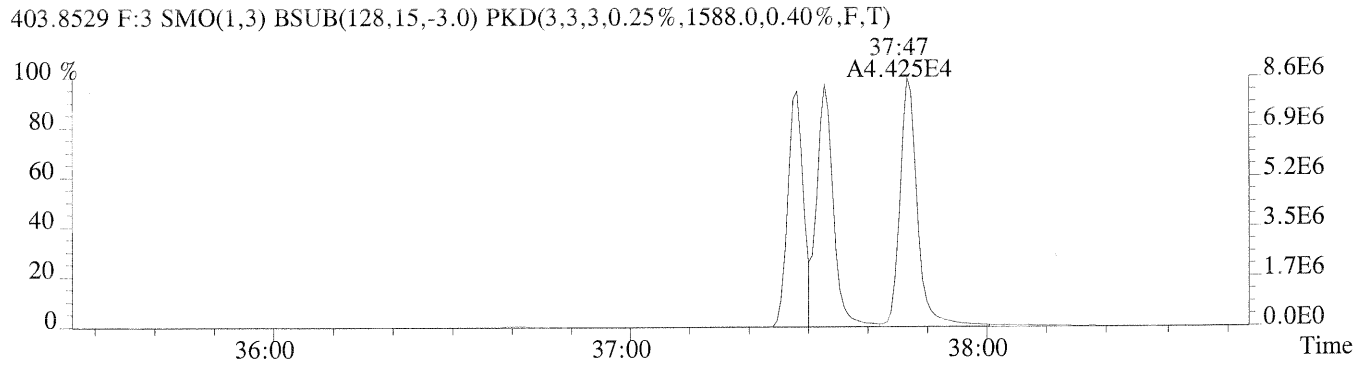
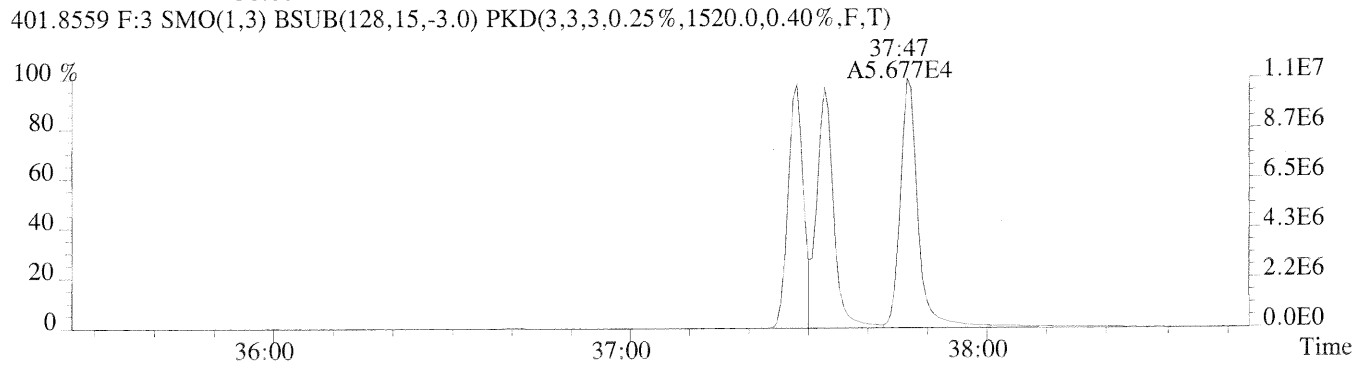
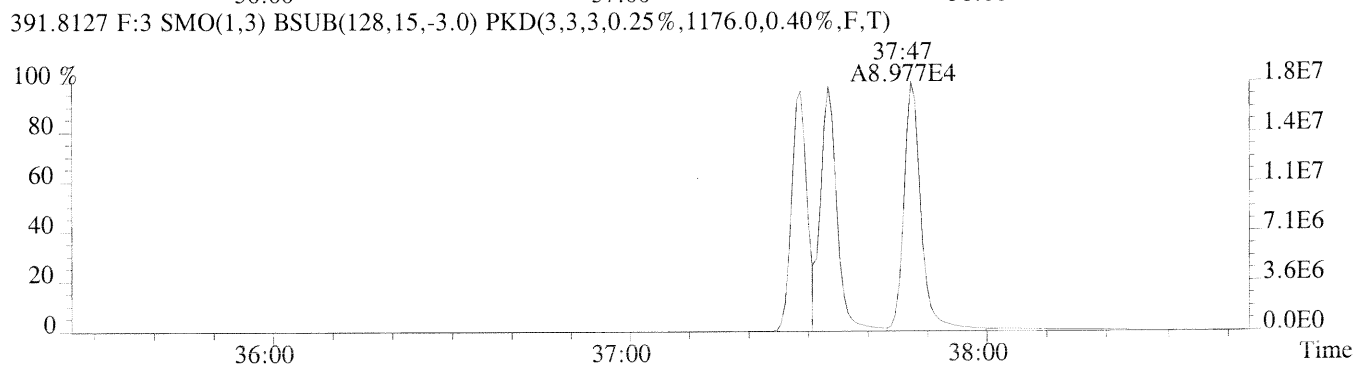
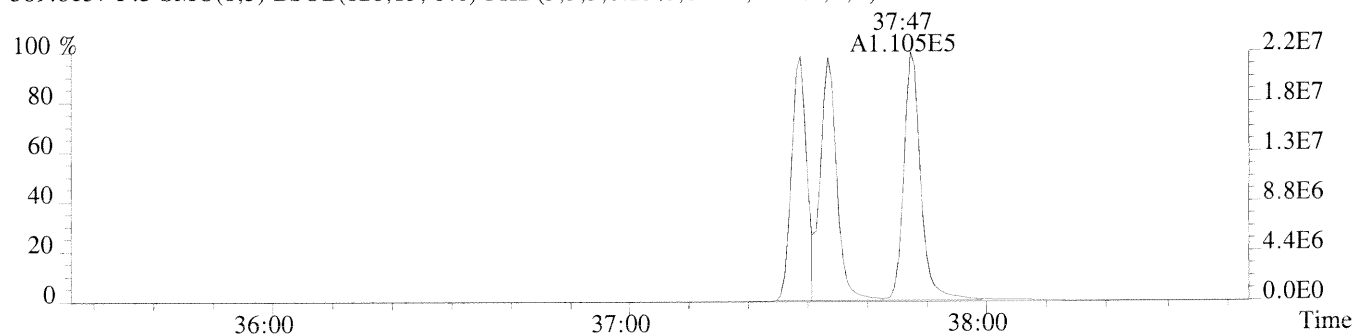
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



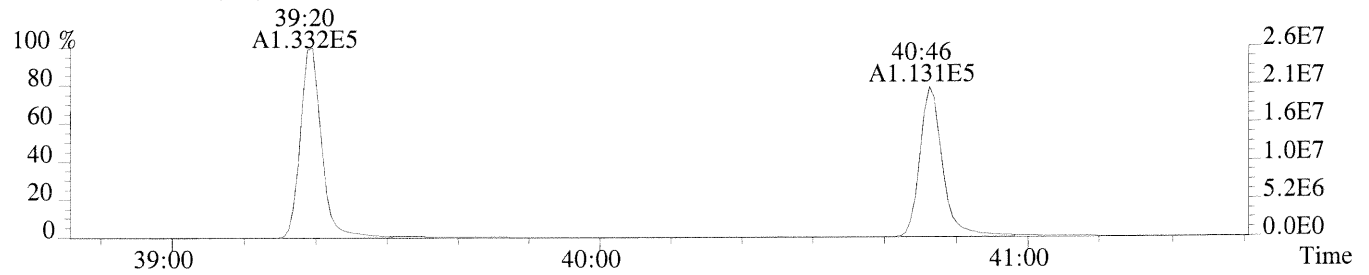
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



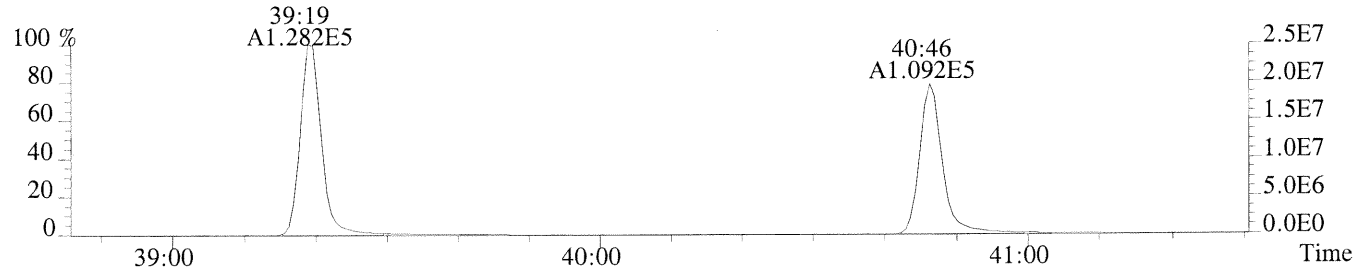
File:P169974 #1-299 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



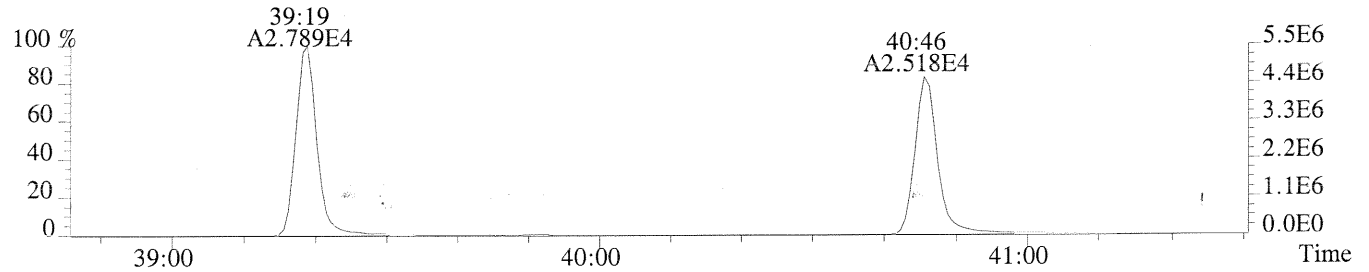
File:P169974 #1-250 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8952.0,0.50%,F,T)



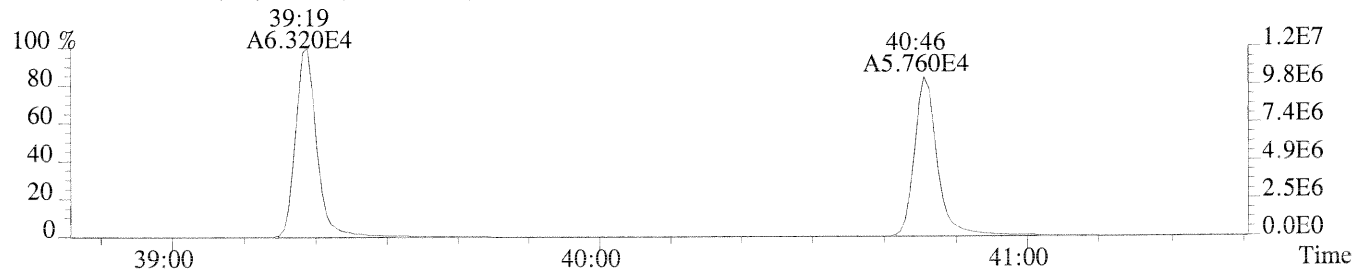
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5364.0,0.50%,F,T)



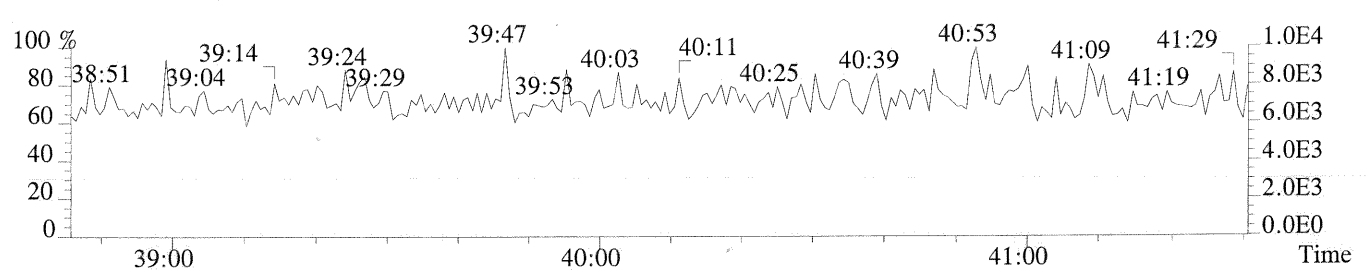
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2080.0,0.50%,F,T)



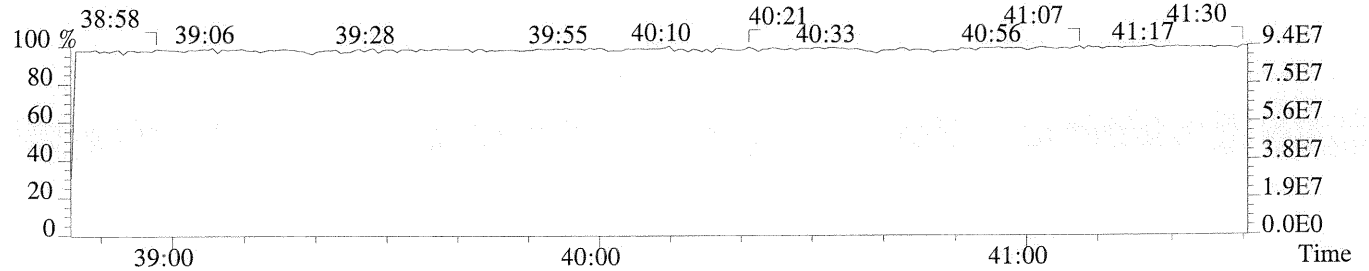
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3444.0,0.50%,F,T)



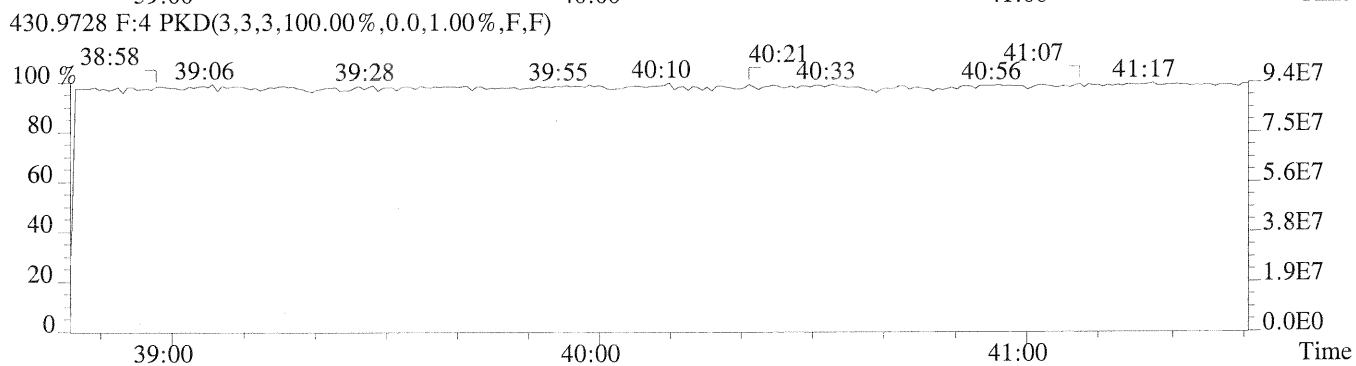
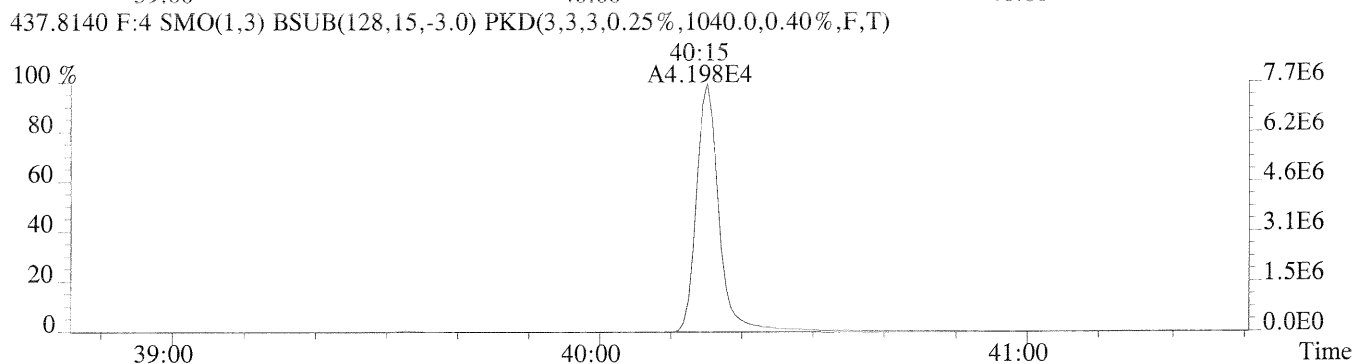
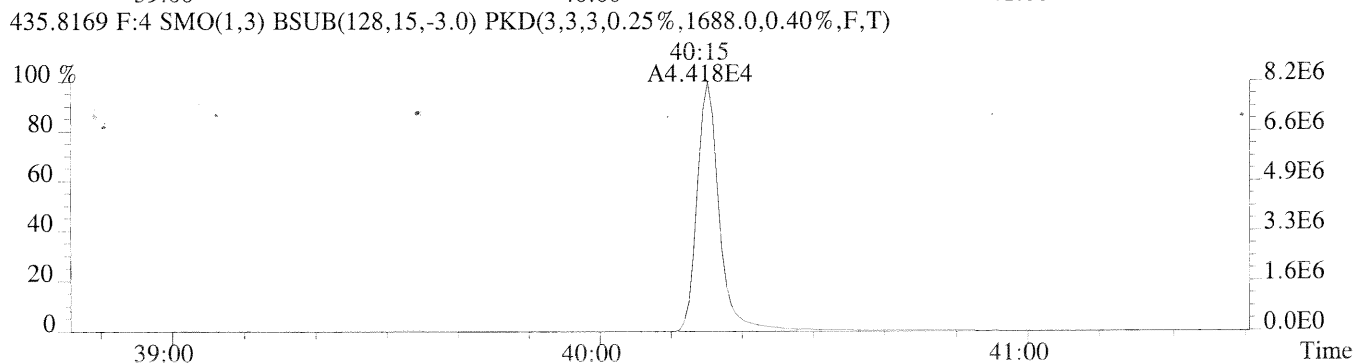
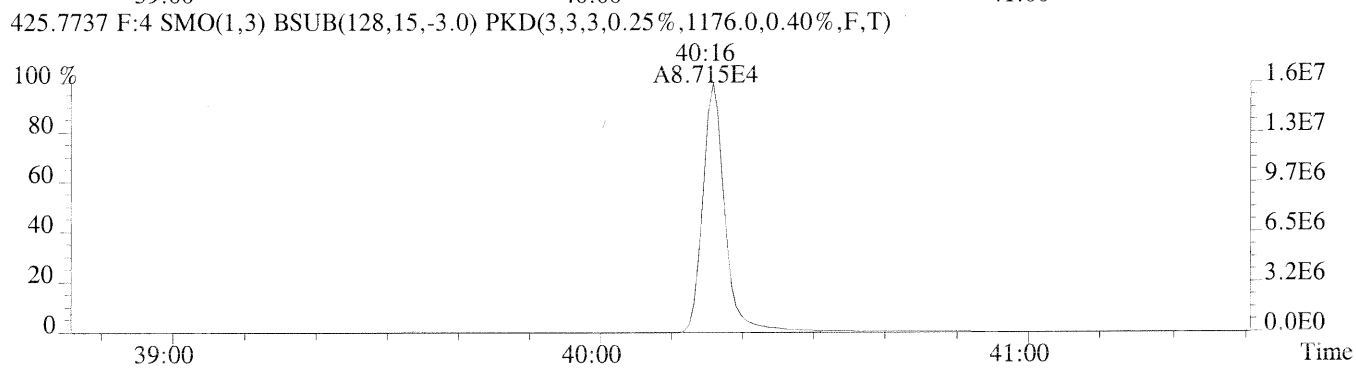
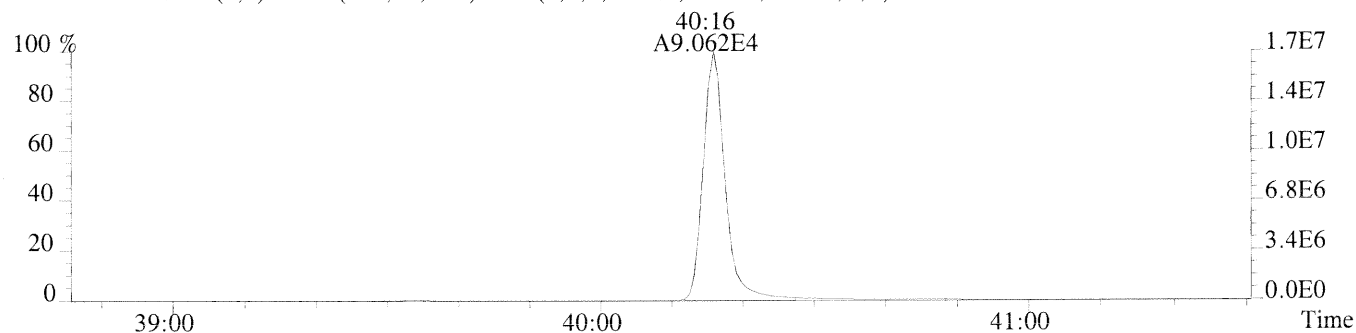
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



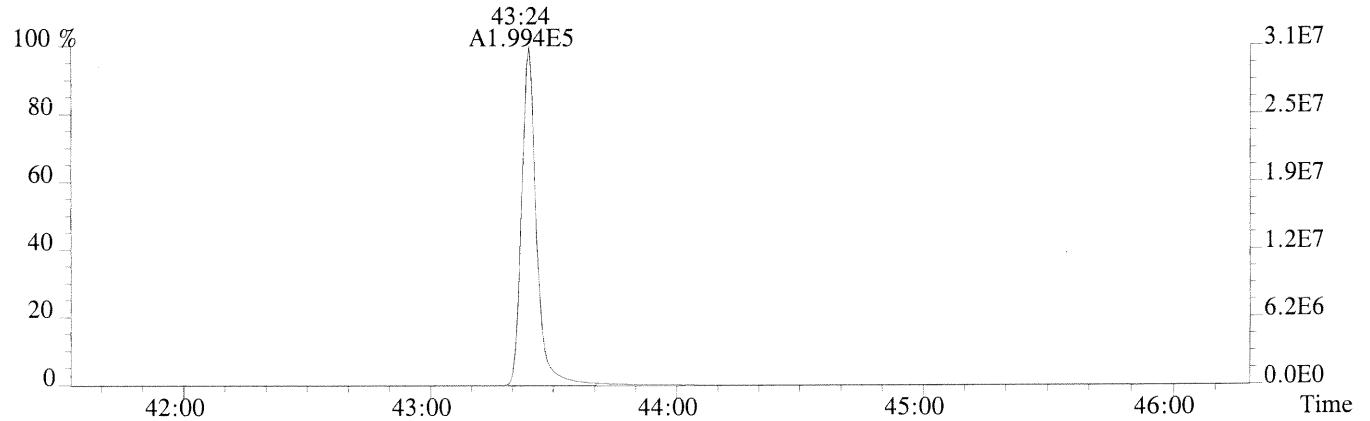
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



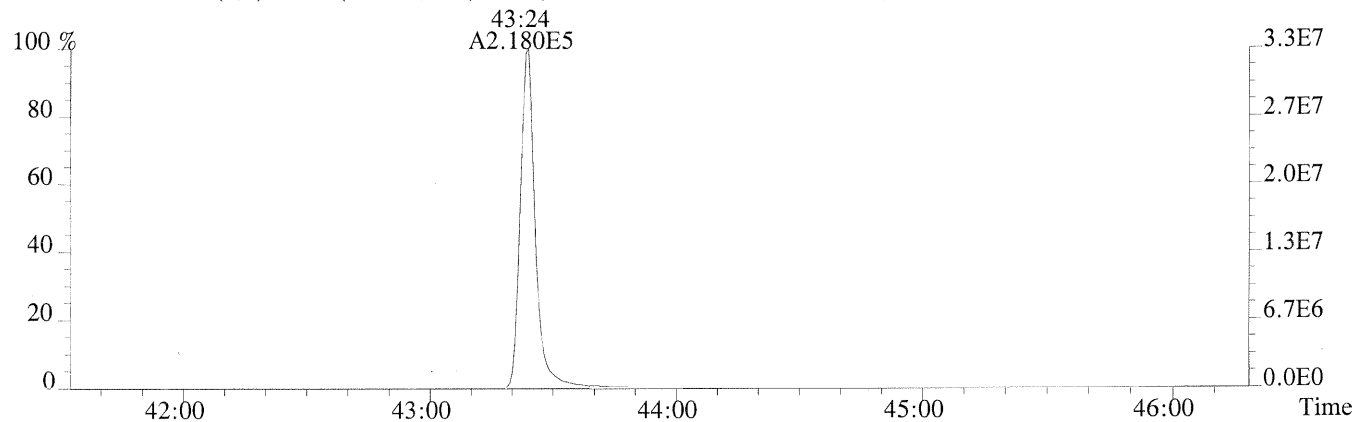
File:P169974 #1-250 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.40%,F,T)



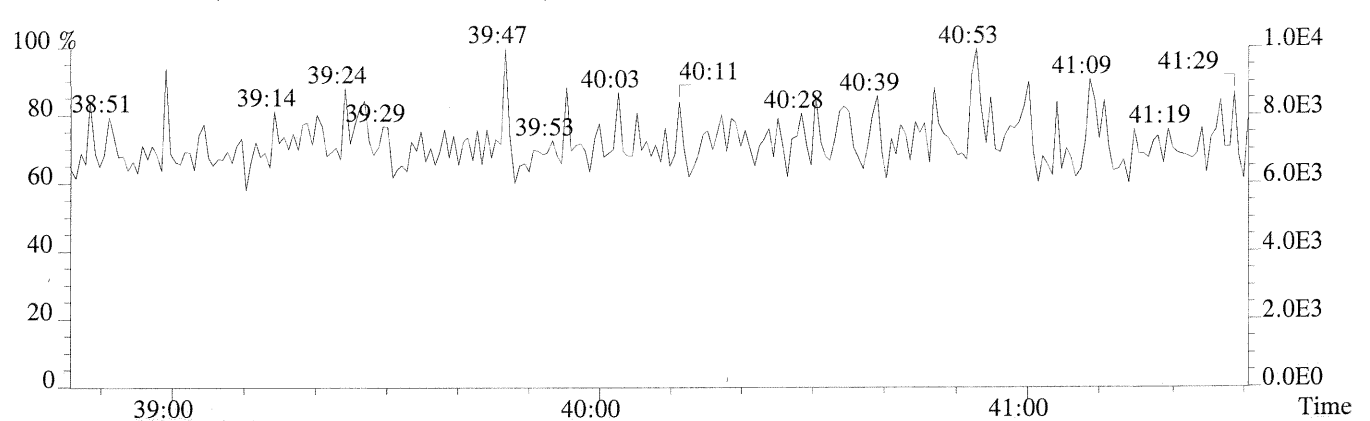
File:P169974 #1-438 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,988.0,0.40%,F,T)



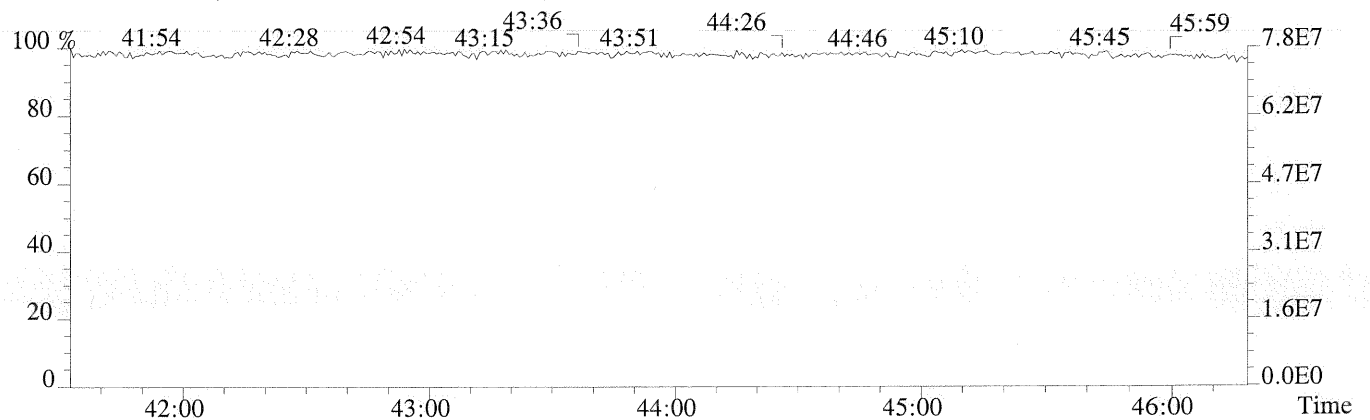
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1708.0,0.40%,F,T)



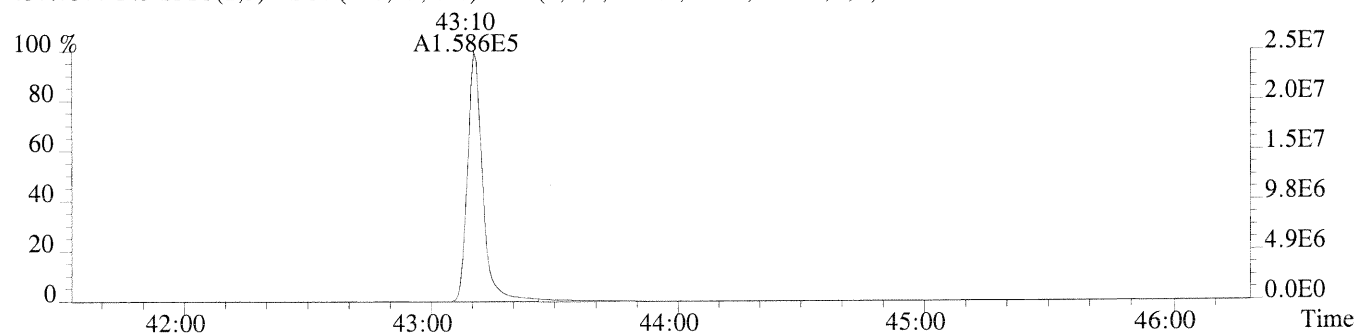
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



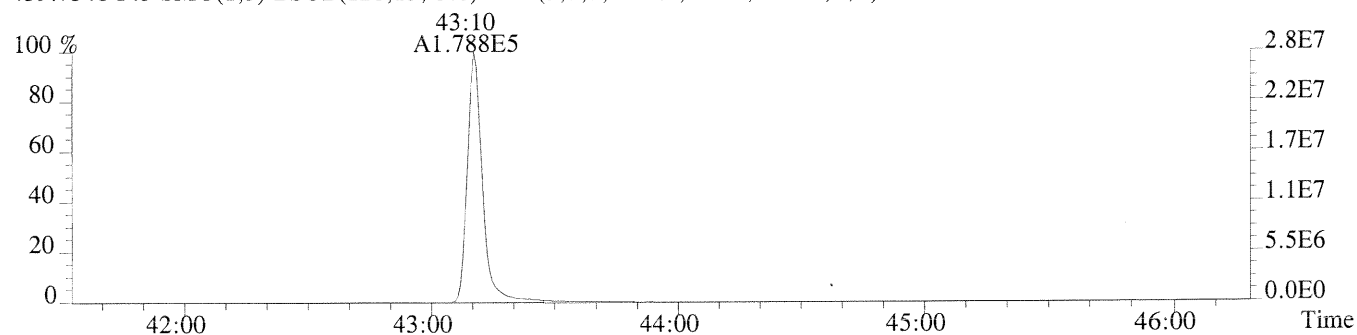
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



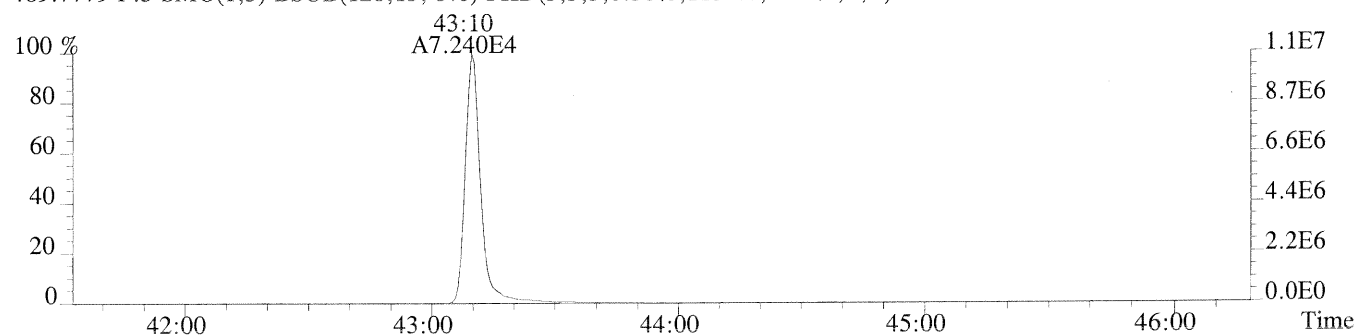
File:P169974 #1-438 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC4/CS4  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,T)



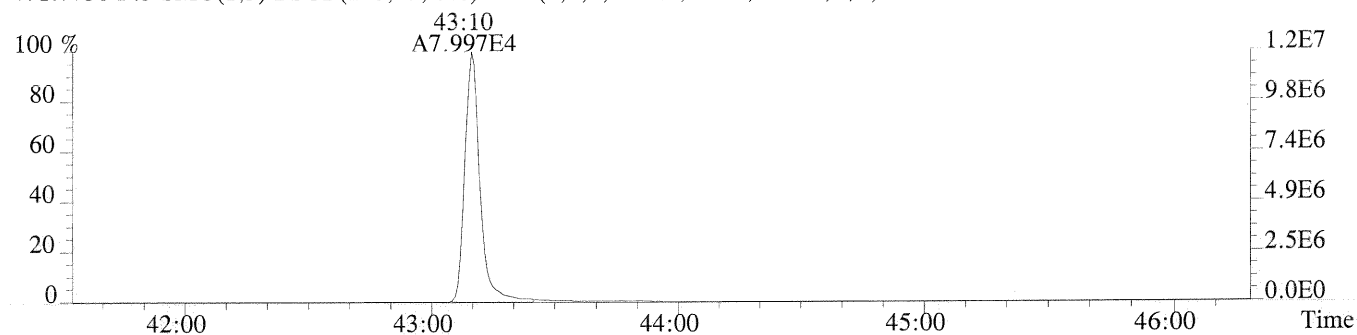
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



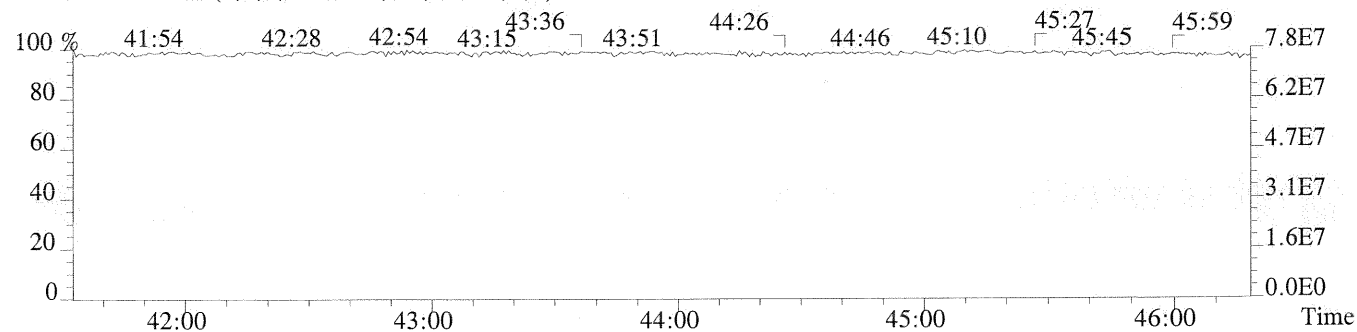
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1132.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
66799

Run #6      Filename P169975      Samp: 1      Inj: 1      Acquired: 25-MAR-14 21:22:40  
Processed: 26-MAR-14 10:01:28      Sample ID: ICAL HRCC5/CS5

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:28	8.188e+04	1.055e+05	0.78	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:22	7.766e+05	4.971e+05	1.56	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:13	7.914e+05	5.056e+05	1.57	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	7.146e+05	5.738e+05	1.25	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:52	7.545e+05	6.106e+05	1.24	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	6.900e+05	5.567e+05	1.24	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:05	6.508e+05	5.243e+05	1.24	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	6.387e+05	6.158e+05	1.04	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:46	5.649e+05	5.430e+05	1.04	yes	no	1.324
10 Unk	OCDF	43:24	9.816e+05	1.075e+06	0.91	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:11	6.336e+04	8.144e+04	0.78	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:29	5.413e+05	3.436e+05	1.58	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	5.124e+05	4.111e+05	1.25	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:33	5.033e+05	4.016e+05	1.25	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:47	5.264e+05	4.195e+05	1.26	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	4.462e+05	4.247e+05	1.05	yes	no	1.016
17 Unk	OCDD	43:11	7.710e+05	8.645e+05	0.89	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	4.236e+04	5.314e+04	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	7.762e+04	5.068e+04	1.53	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:12	7.411e+04	4.801e+04	1.54	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	3.551e+04	6.835e+04	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	3.796e+04	7.448e+04	0.51	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:20	3.665e+04	7.012e+04	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:04	3.399e+04	6.512e+04	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	2.760e+04	6.236e+04	0.44	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:45	2.384e+04	5.416e+04	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	2.962e+04	3.826e+04	0.77	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	5.501e+04	3.479e+04	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:28	4.546e+04	3.573e+04	1.27	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	5.440e+04	4.276e+04	1.27	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:15	4.441e+04	4.147e+04	1.07	yes	no	0.862
32 IS	13C-OCDD	43:10	7.722e+04	8.549e+04	0.90	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	2.973e+04	3.755e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:46	5.100e+04	4.065e+04	1.25	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:11	1.487e+05				no	1.125

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Office(713)266-1599. Fax(713)266-0130

1613RESP

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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

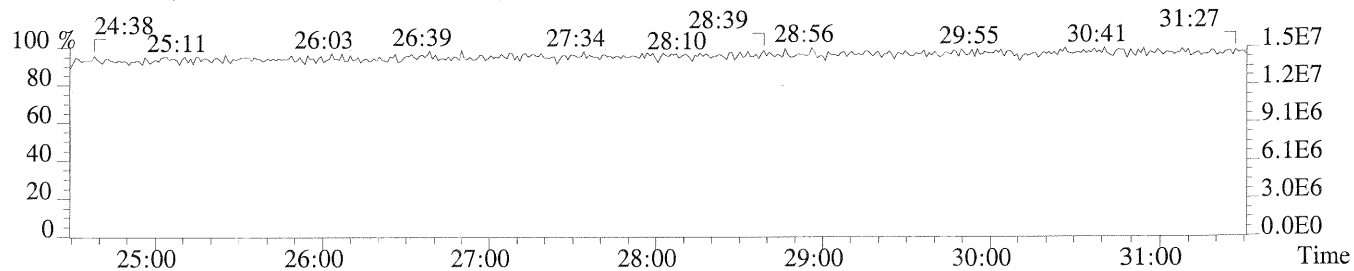
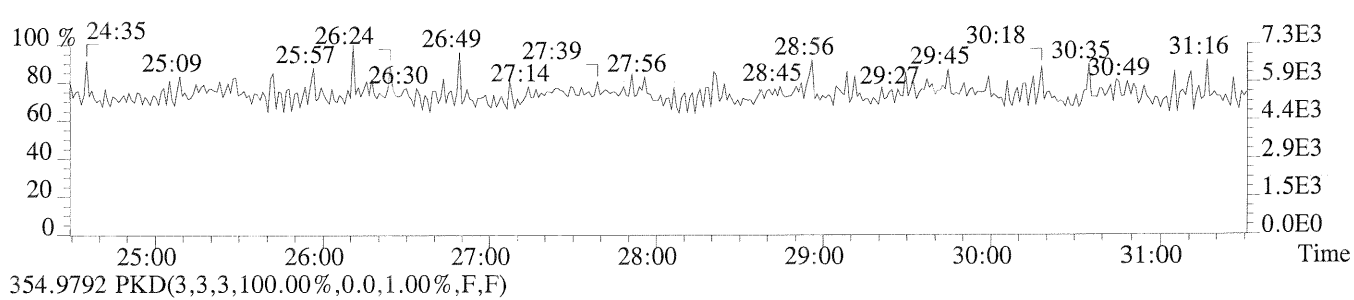
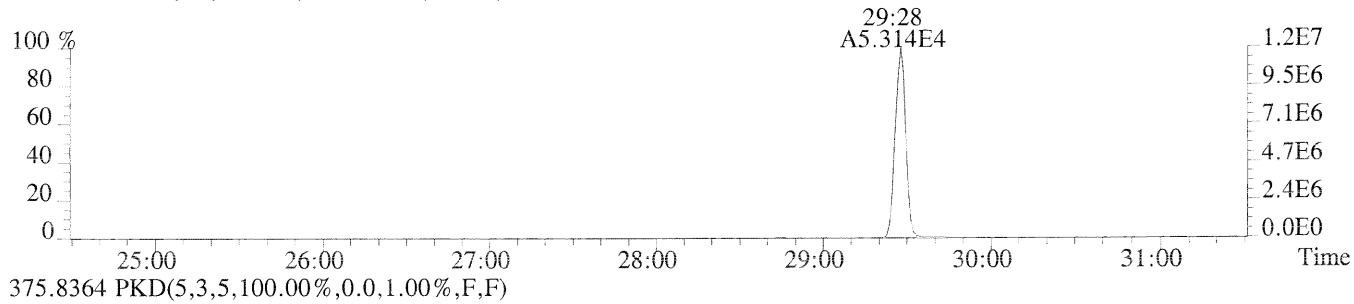
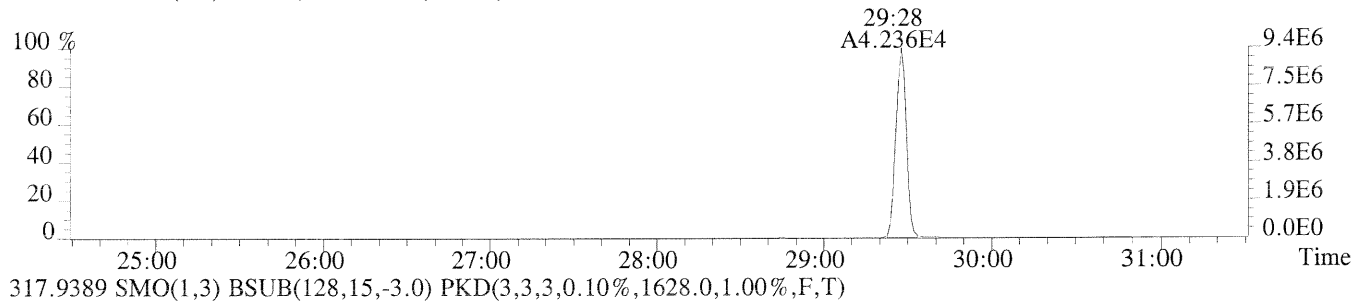
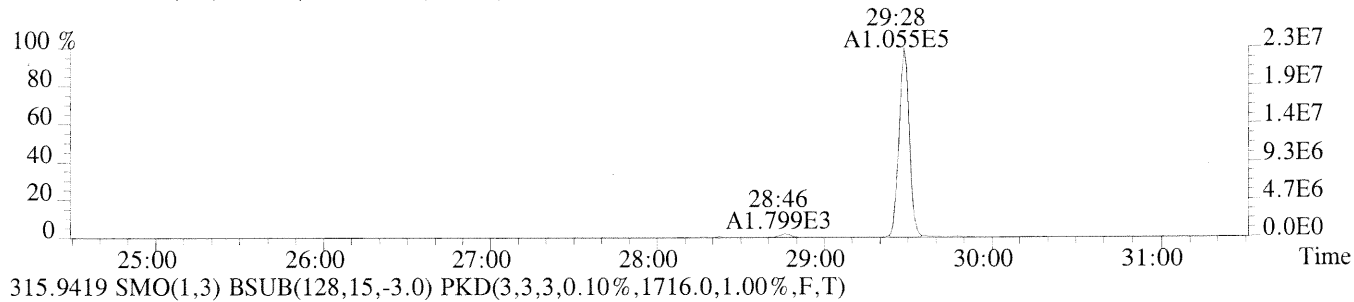
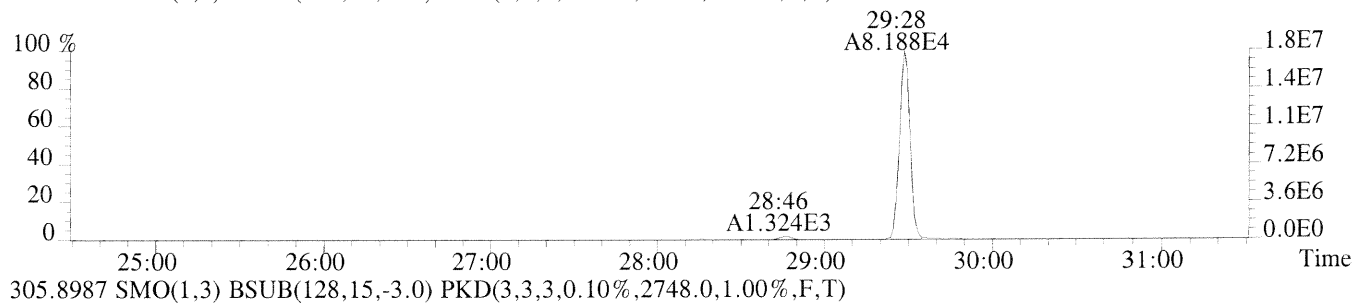
CLIENT ID.  
66799

Run #6    Filename P169975    Samp: 1    Inj: 1    Acquired: 25-MAR-14 21:22:40  
Processed: 26-MAR-14 08:20:301    LAB. ID: ICAL HRCC5/CS5

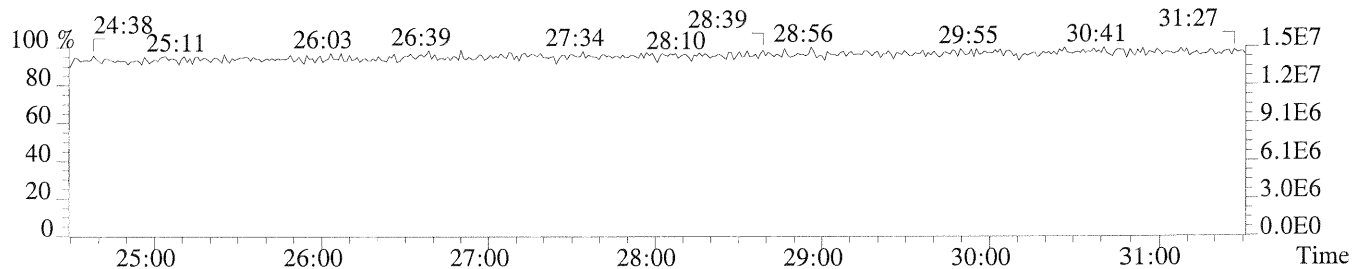
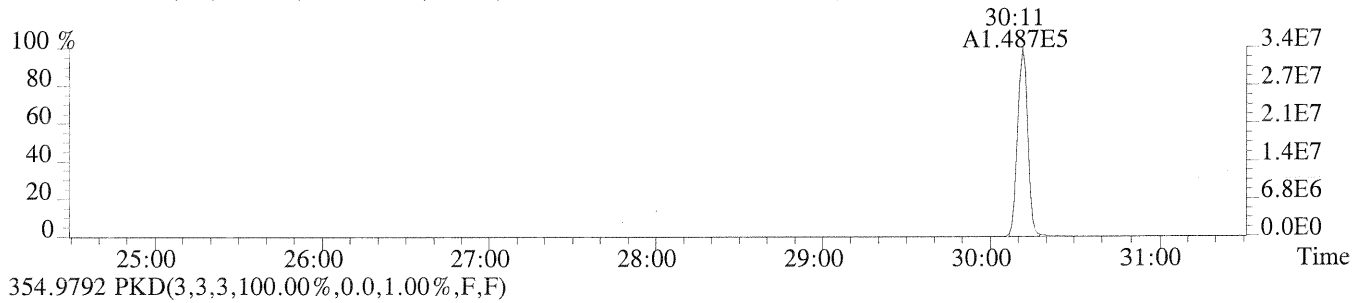
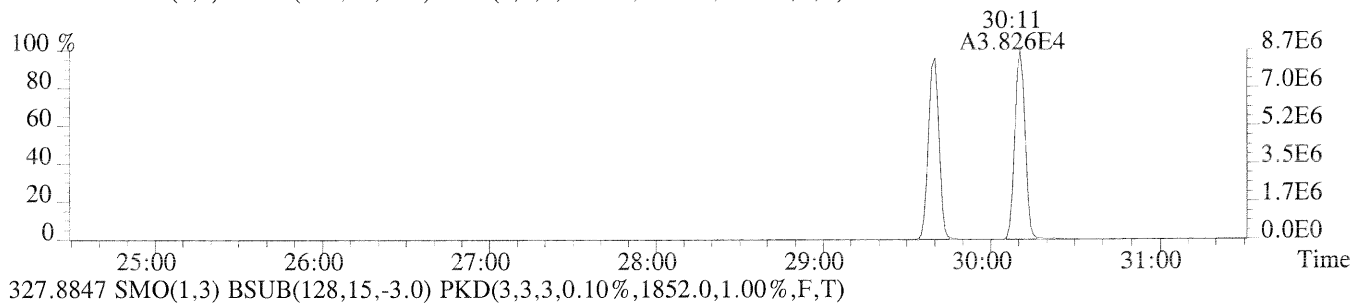
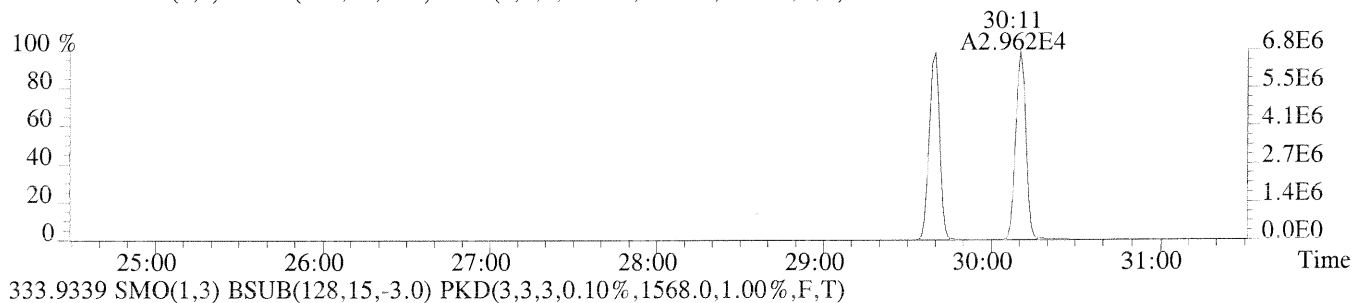
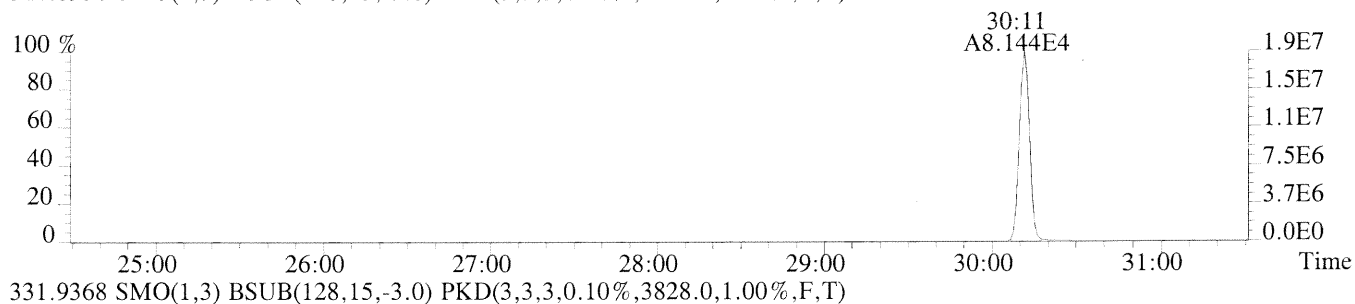
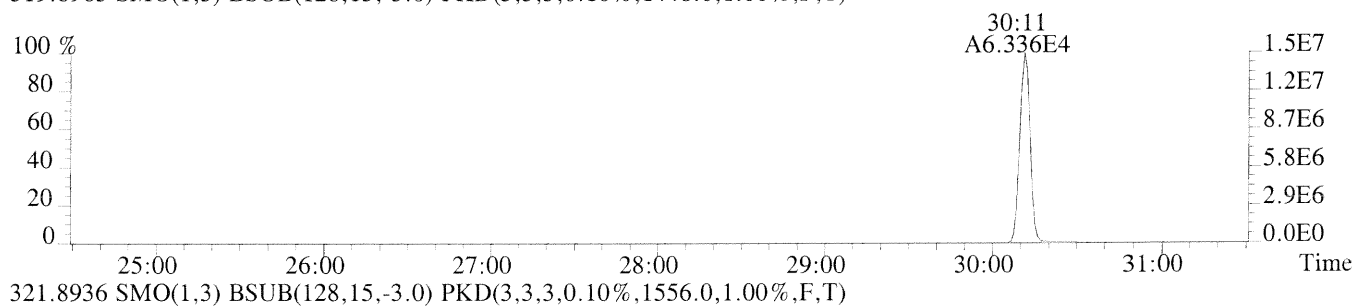
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.79e+07	8.24e+02	2.2e+04	2.33e+07	2.75e+03	8.5e+03
2	1,2,3,7,8-PeCDF	1.53e+08	1.22e+03	1.3e+05	9.84e+07	2.28e+03	4.3e+04
3	2,3,4,7,8-PeCDF	1.64e+08	1.22e+03	1.4e+05	1.04e+08	2.28e+03	4.6e+04
4	1,2,3,4,7,8-HxCDF	1.55e+08	2.35e+03	6.6e+04	1.24e+08	2.10e+03	5.9e+04
5	1,2,3,6,7,8-HxCDF	1.61e+08	2.35e+03	6.8e+04	1.31e+08	2.10e+03	6.3e+04
6	2,3,4,6,7,8-HxCDF	1.51e+08	2.35e+03	6.4e+04	1.22e+08	2.10e+03	5.8e+04
7	1,2,3,7,8,9-HxCDF	1.37e+08	2.35e+03	5.8e+04	1.11e+08	2.10e+03	5.3e+04
8	1,2,3,4,6,7,8-HpCDF	1.30e+08	2.47e+04	5.3e+03	1.26e+08	2.03e+04	6.2e+03
9	1,2,3,4,7,8,9-HpCDF	1.08e+08	2.47e+04	4.4e+03	1.04e+08	2.03e+04	5.1e+03
10	OCDF	1.64e+08	1.15e+03	1.4e+05	1.80e+08	1.61e+03	1.1e+05
11	2,3,7,8-TCDD	1.45e+07	1.45e+03	1.0e+04	1.87e+07	1.56e+03	1.2e+04
12	1,2,3,7,8-PeCDD	1.12e+08	1.41e+03	7.9e+04	7.08e+07	8.96e+02	7.9e+04
13	1,2,3,4,7,8-HxCDD	1.14e+08	8.72e+02	1.3e+05	9.09e+07	1.51e+03	6.0e+04
14	1,2,3,6,7,8-HxCDD	1.06e+08	8.72e+02	1.2e+05	8.54e+07	1.51e+03	5.7e+04
15	1,2,3,7,8,9-HxCDD	1.14e+08	8.72e+02	1.3e+05	9.12e+07	1.51e+03	6.0e+04
16	1,2,3,4,6,7,8-HpCDD	8.92e+07	2.64e+03	3.4e+04	8.45e+07	1.13e+03	7.5e+04
17	OCDD	1.27e+08	1.18e+03	1.1e+05	1.41e+08	1.09e+03	1.3e+05
18	13C-2,3,7,8-TCDF	9.42e+06	1.72e+03	5.5e+03	1.18e+07	1.63e+03	7.3e+03
19	13C-1,2,3,7,8-PeCDF	1.50e+07	8.88e+02	1.7e+04	9.80e+06	1.01e+03	9.7e+03
20	13C-2,3,4,7,8-PeCDF	1.50e+07	8.88e+02	1.7e+04	9.64e+06	1.01e+03	9.5e+03
21	13C-1,2,3,4,7,8-HxCDF	7.67e+06	1.67e+03	4.6e+03	1.46e+07	1.75e+03	8.3e+03
22	13C-1,2,3,6,7,8-HxCDF	7.97e+06	1.67e+03	4.8e+03	1.58e+07	1.75e+03	9.0e+03
23	13C-2,3,4,6,7,8-HxCDF	7.93e+06	1.67e+03	4.7e+03	1.52e+07	1.75e+03	8.7e+03
24	13C-1,2,3,7,8,9-HxCDF	7.01e+06	1.67e+03	4.2e+03	1.33e+07	1.75e+03	7.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.54e+06	3.09e+03	1.8e+03	1.25e+07	3.97e+03	3.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.50e+06	3.09e+03	1.5e+03	1.02e+07	3.97e+03	2.6e+03
27	13C-2,3,7,8-TCDD	6.83e+06	3.83e+03	1.8e+03	8.75e+06	1.57e+03	5.6e+03
28	13C-1,2,3,7,8-PeCDD	1.11e+07	1.32e+03	8.4e+03	6.92e+06	8.68e+02	8.0e+03
29	13C-1,2,3,4,7,8-HxCDD	1.00e+07	1.23e+03	8.2e+03	7.76e+06	1.40e+03	5.5e+03
30	13C-1,2,3,6,7,8-HxCDD	1.15e+07	1.23e+03	9.3e+03	9.04e+06	1.40e+03	6.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	8.70e+06	1.57e+03	5.5e+03	8.14e+06	8.16e+02	1.0e+04
32	13C-OCDD	1.23e+07	1.36e+03	9.0e+03	1.37e+07	1.03e+03	1.3e+04
33	13C-1,2,3,4-TCDD	6.73e+06	3.83e+03	1.8e+03	8.40e+06	1.57e+03	5.4e+03
34	13C-1,2,3,7,8,9-HxCDD	1.08e+07	1.23e+03	8.7e+03	8.66e+06	1.40e+03	6.2e+03
35	37Cl-2,3,7,8-TCDD	3.42e+07	1.85e+03	1.8e+04			

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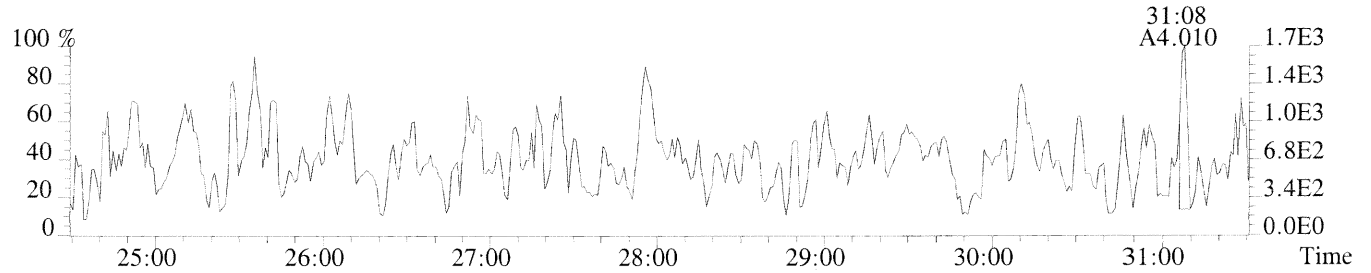
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



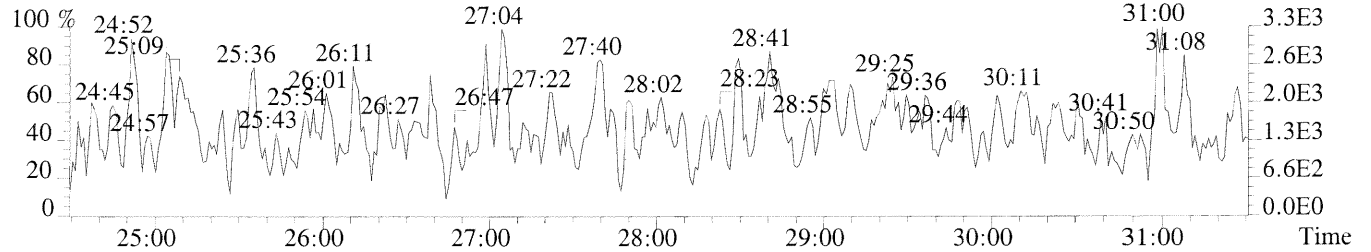
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1448.0,1.00%,F,T)



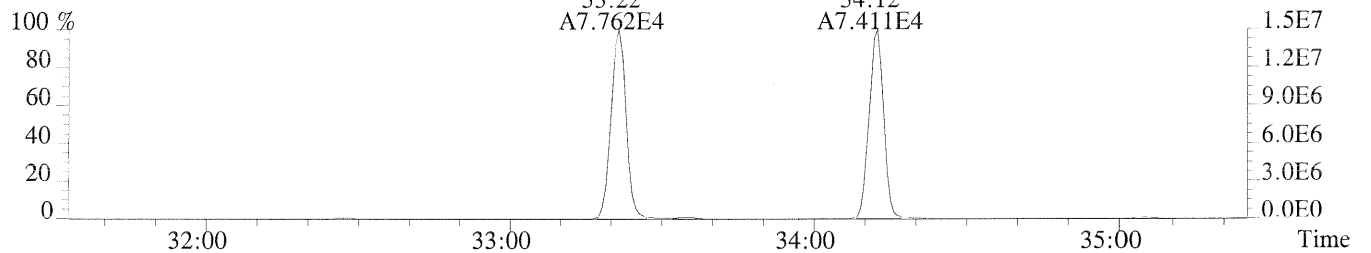
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)



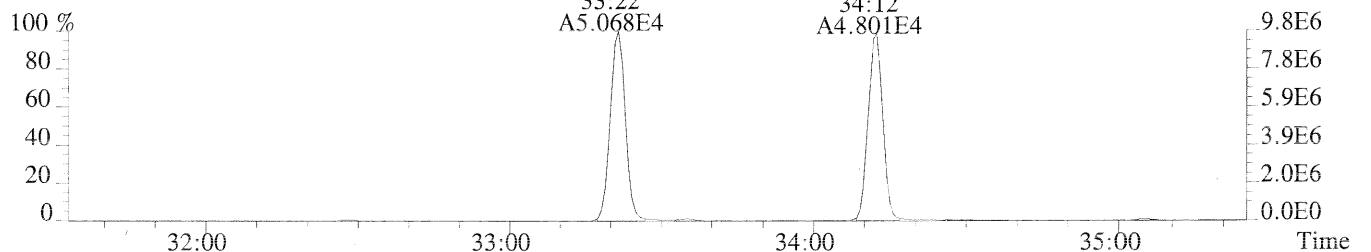
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1872.0,1.00%,F,T)



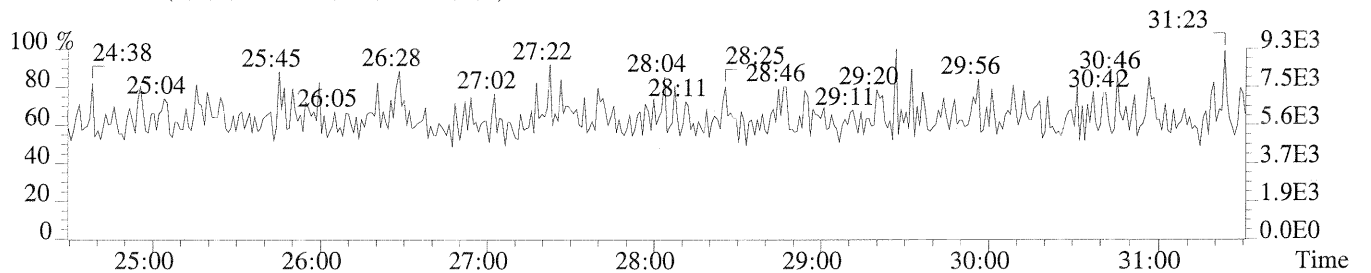
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



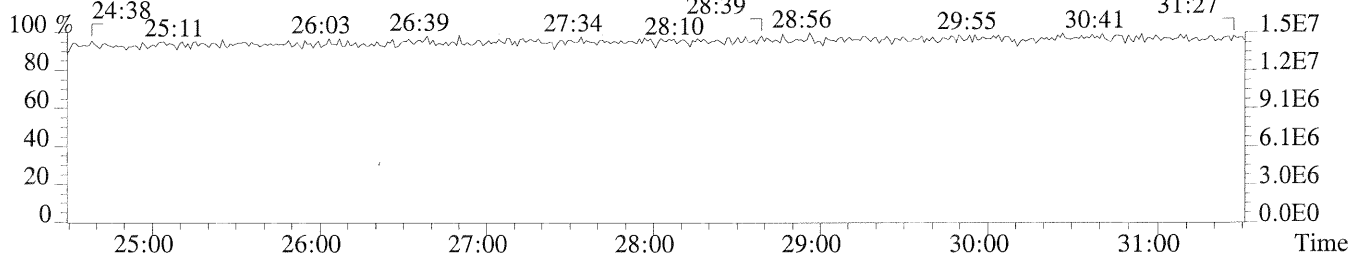
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



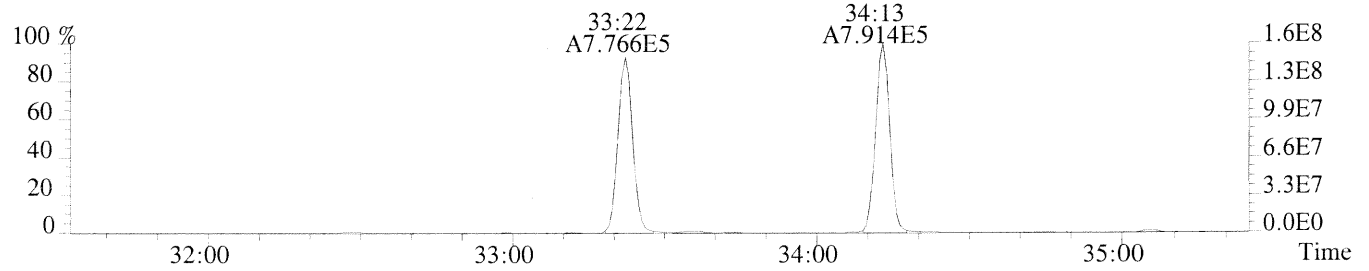
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



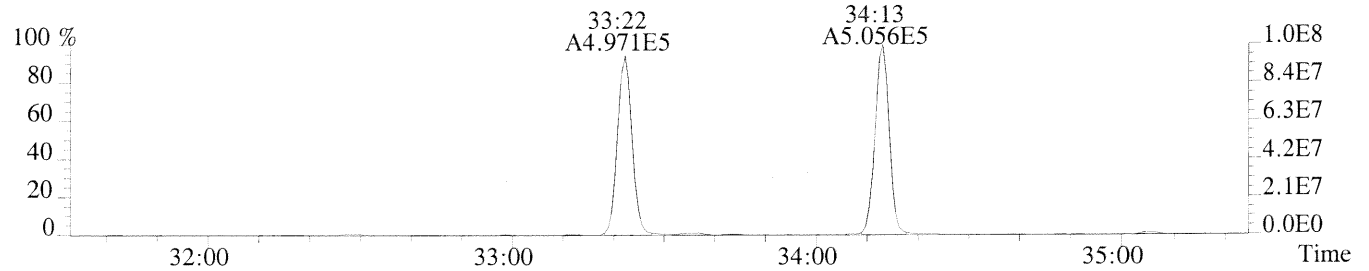
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



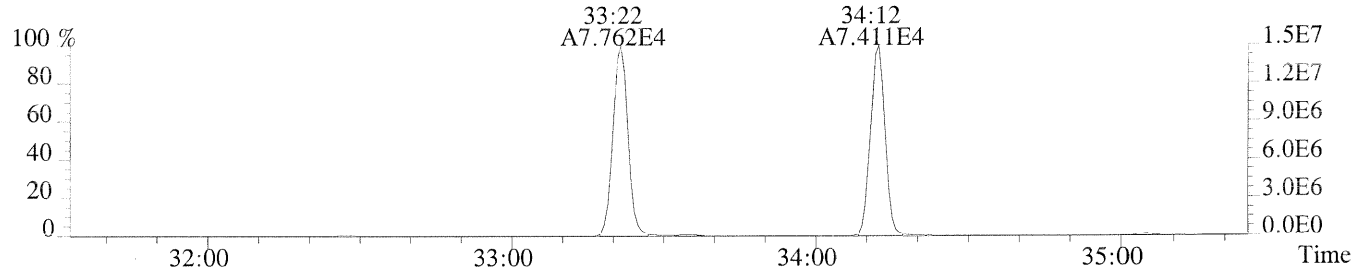
File:P169975 #1-351 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1216.0,1.00%,F,T)



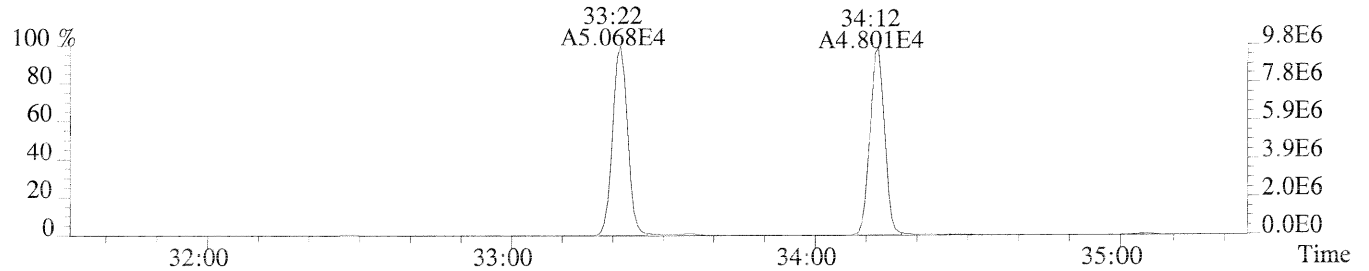
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



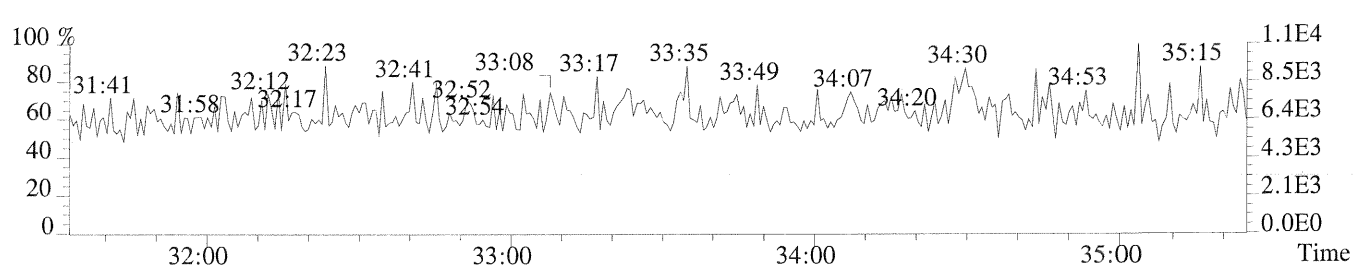
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



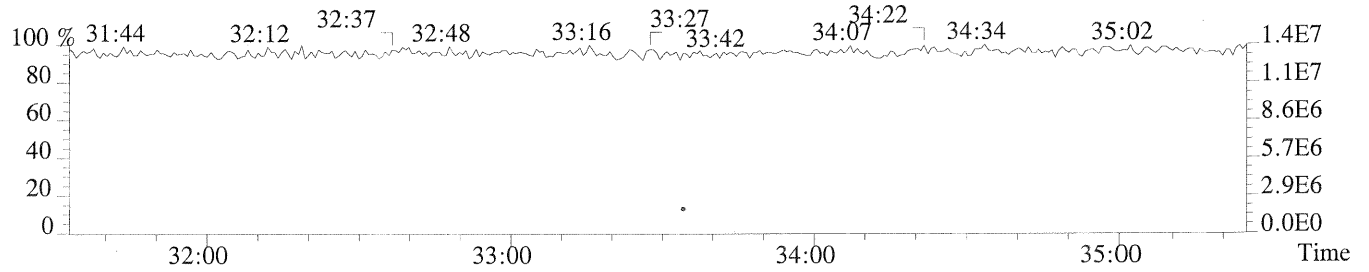
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



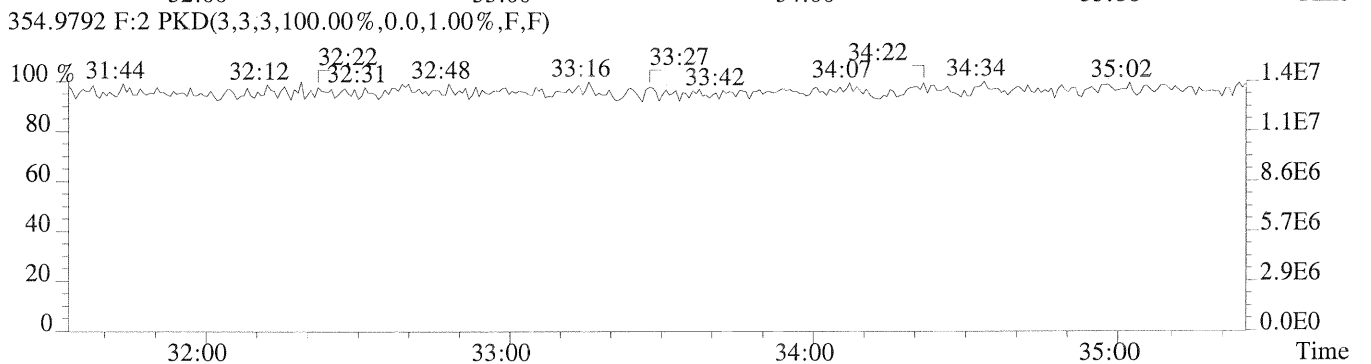
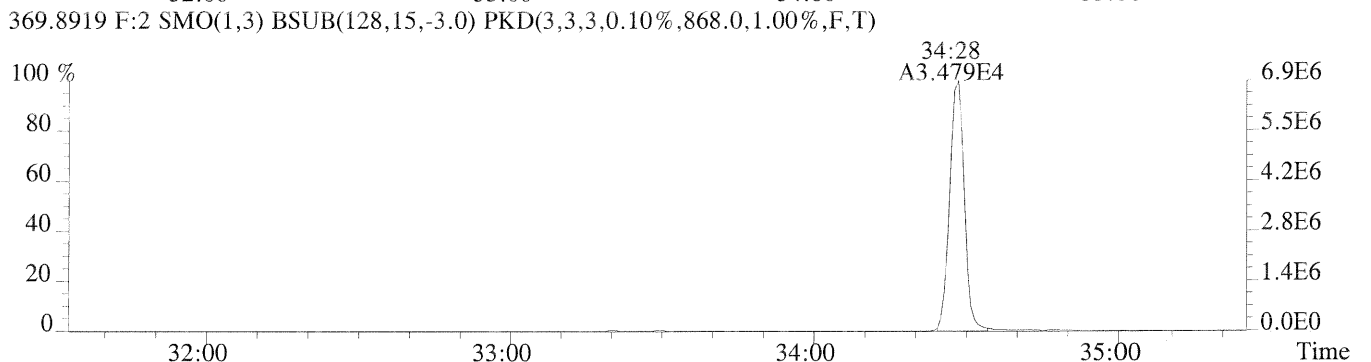
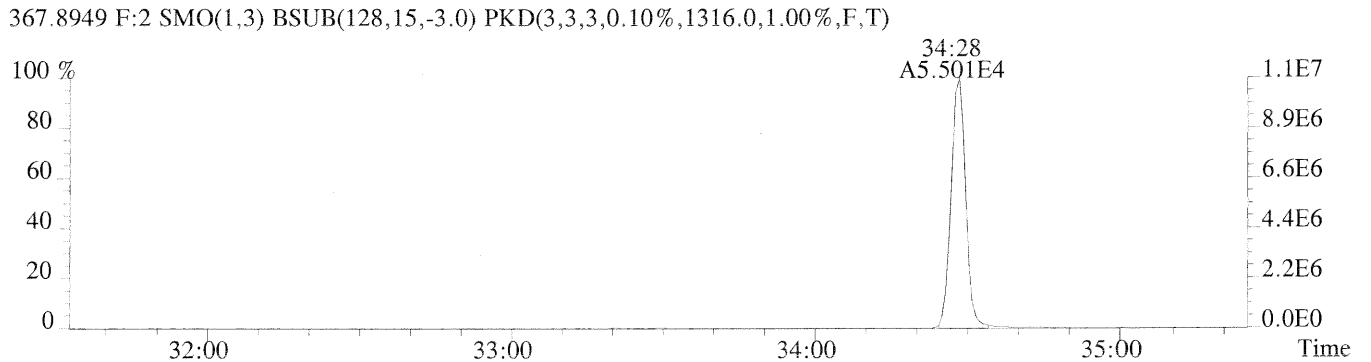
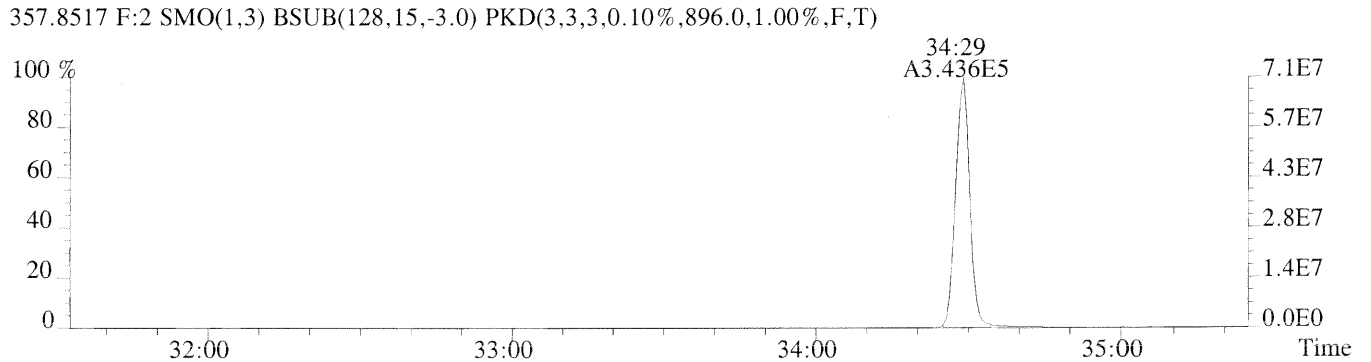
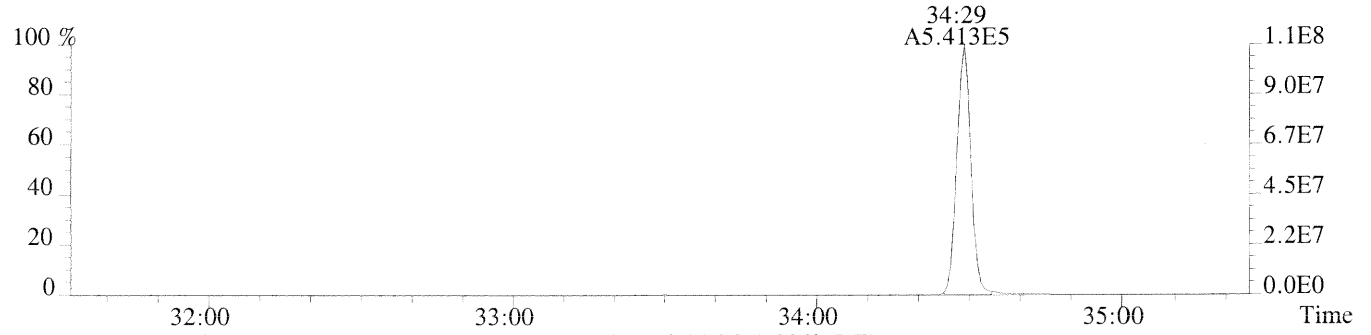
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

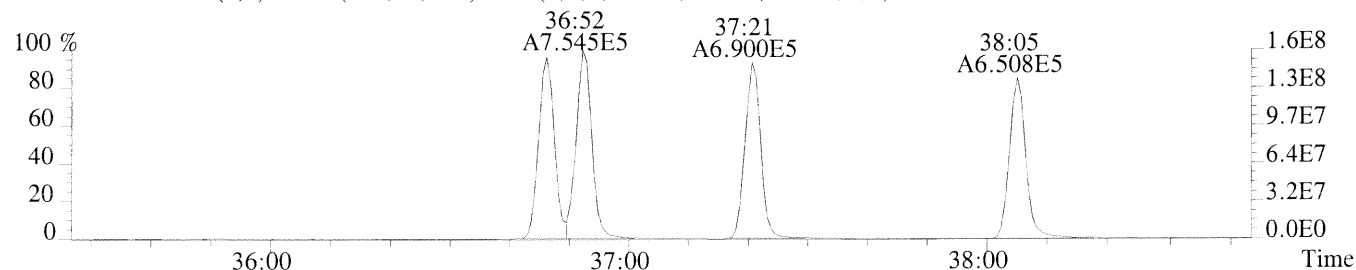


File:P169975 #1-351 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)

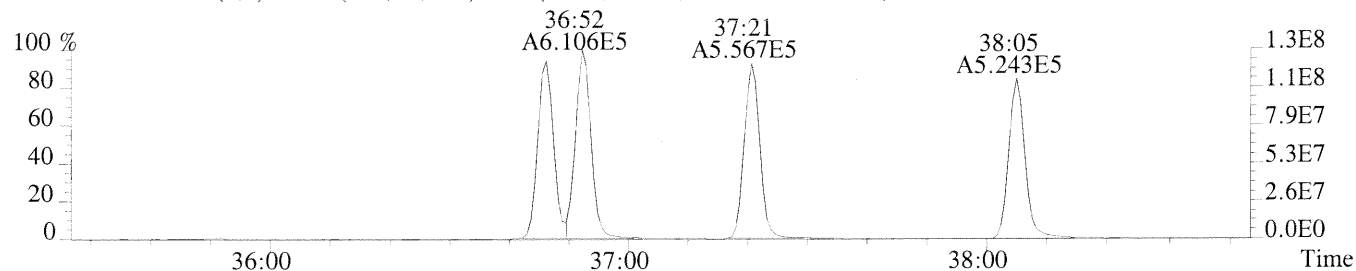


File:P169975 #1-298 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5

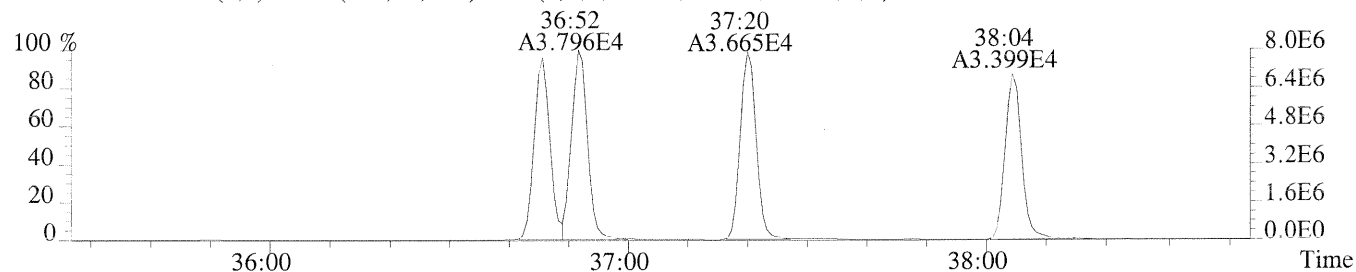
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



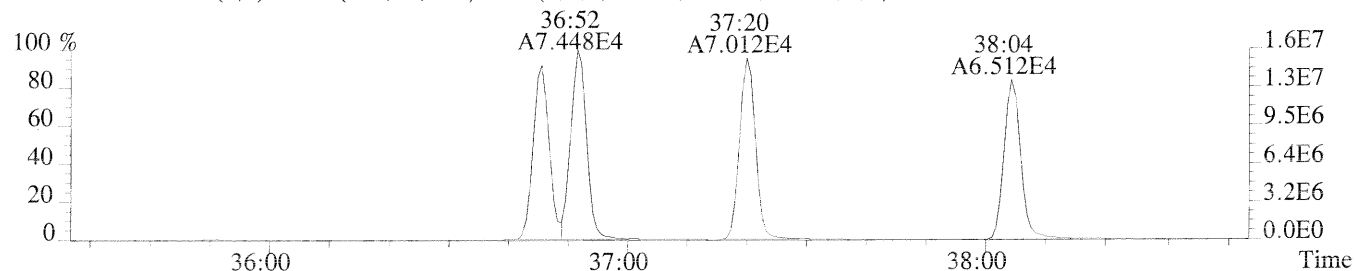
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



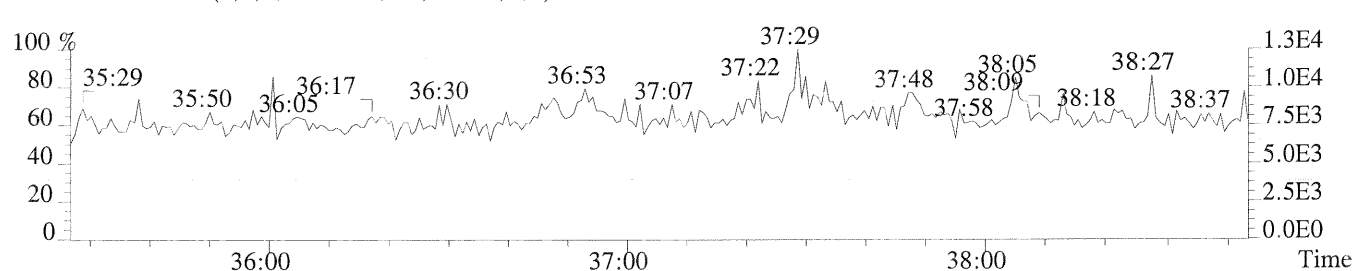
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1672.0,0.40%,F,T)



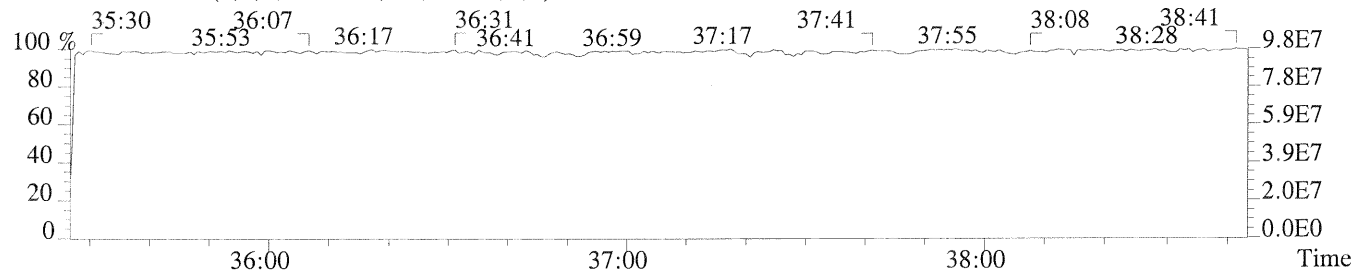
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

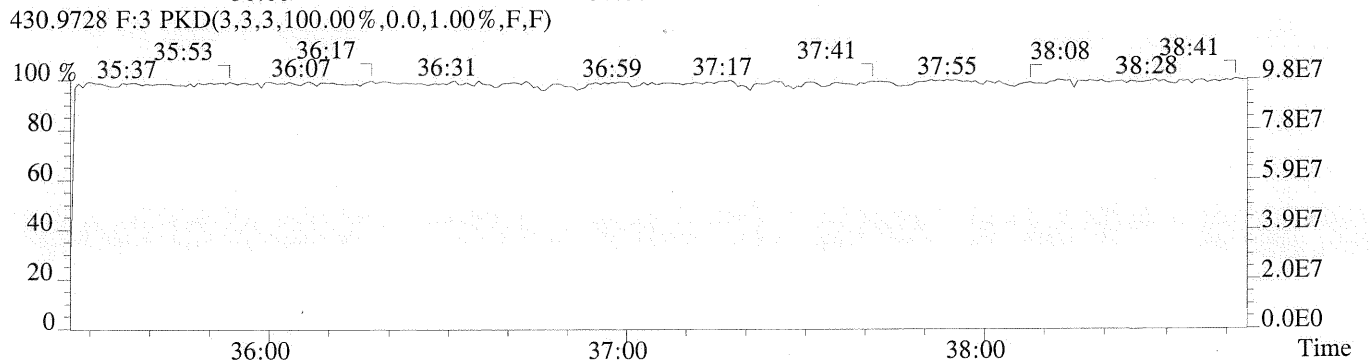
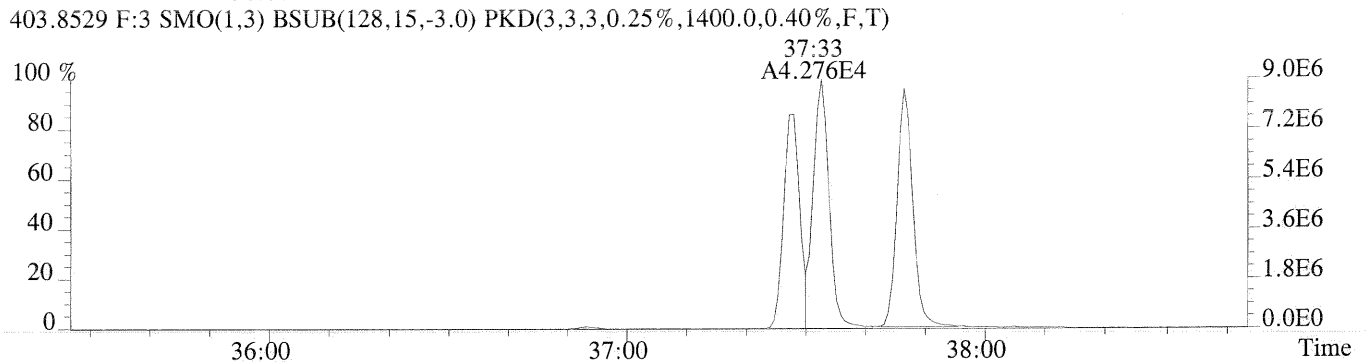
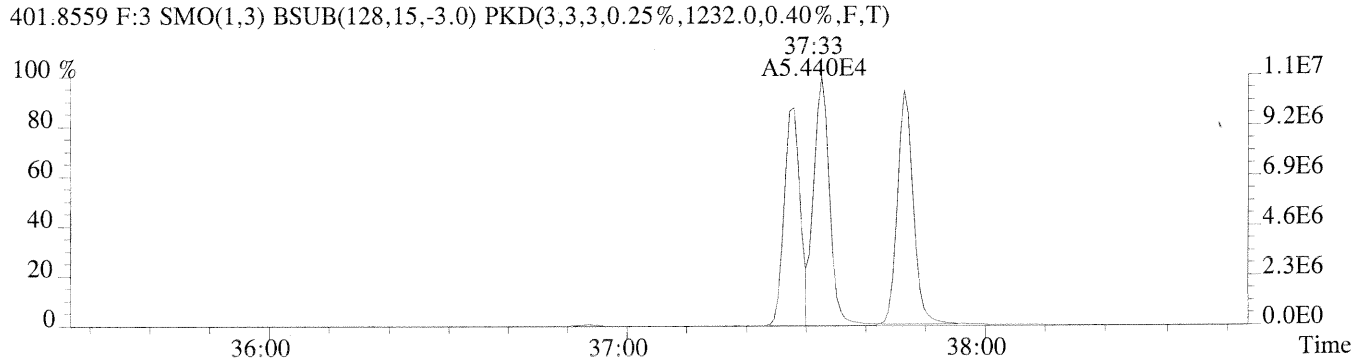
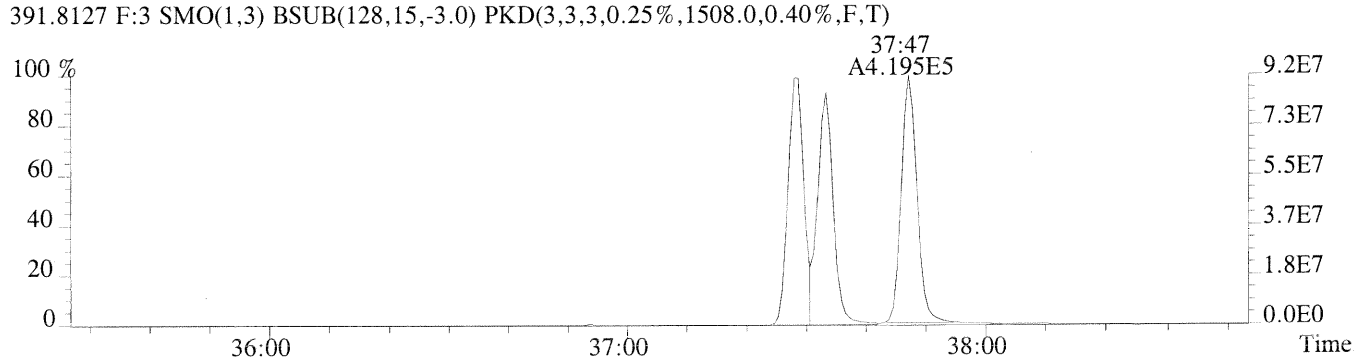
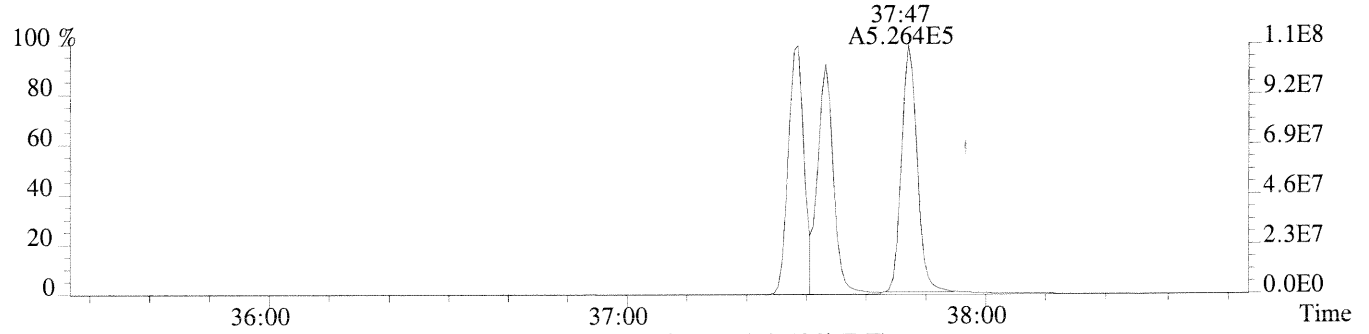


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

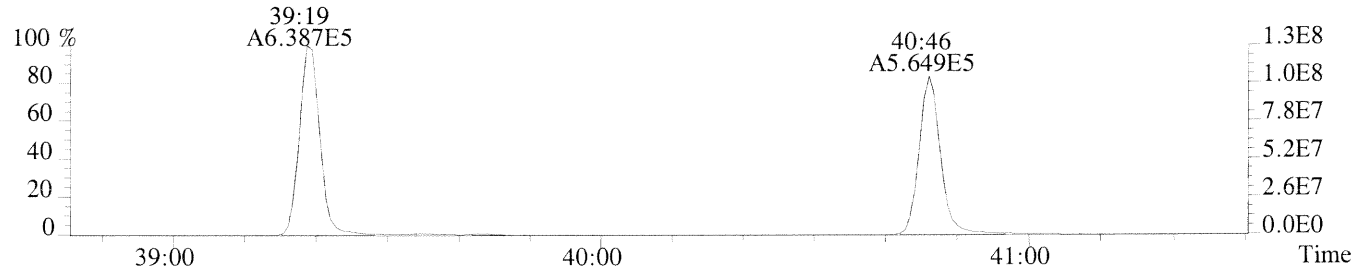




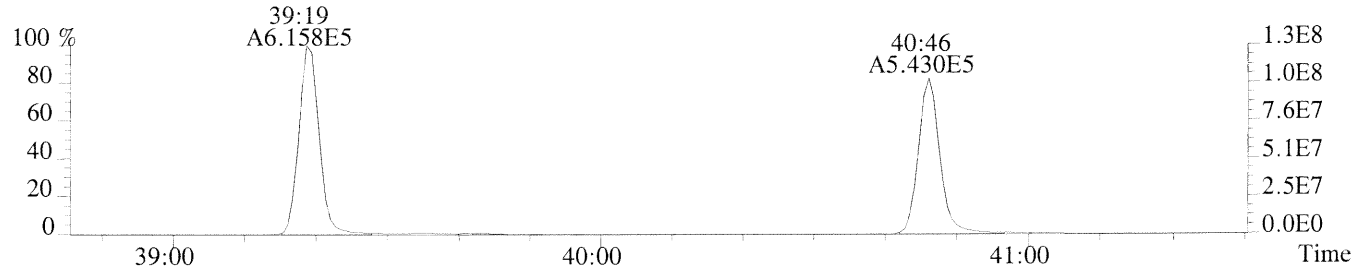
File:P169975 #1-298 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



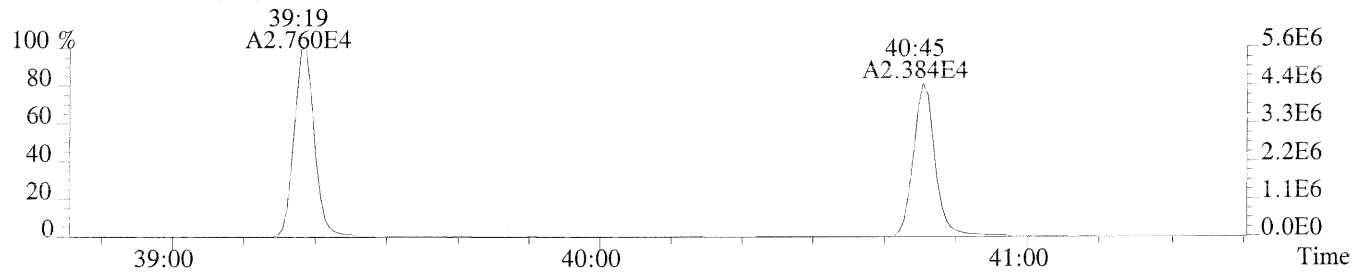
File:P169975 #1-250 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,24704.0,0.50%,F,T)



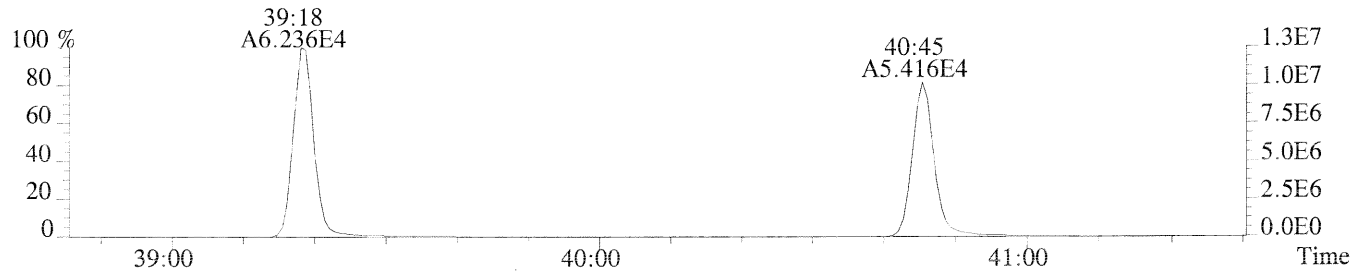
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,20332.0,0.50%,F,T)



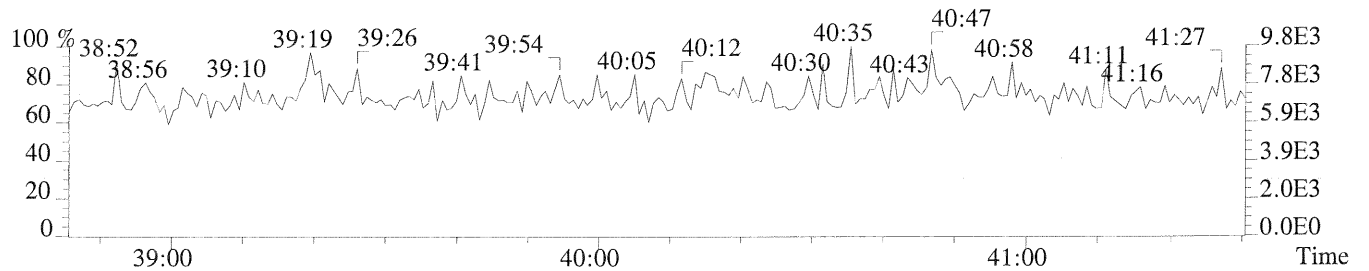
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3092.0,0.50%,F,T)



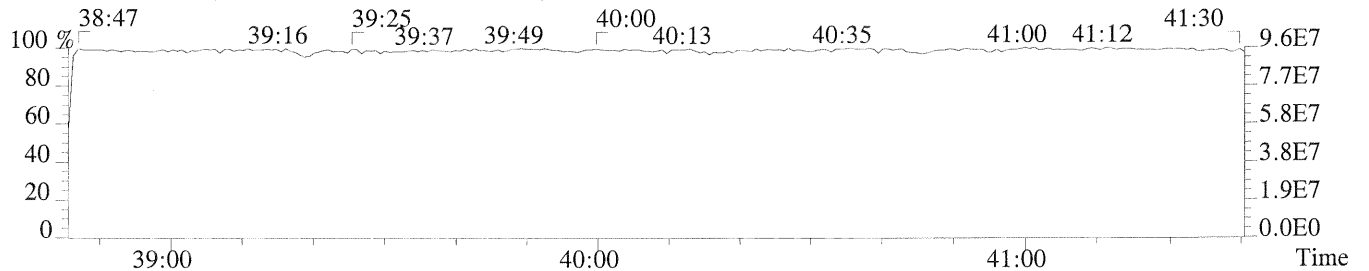
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3968.0,0.50%,F,T)



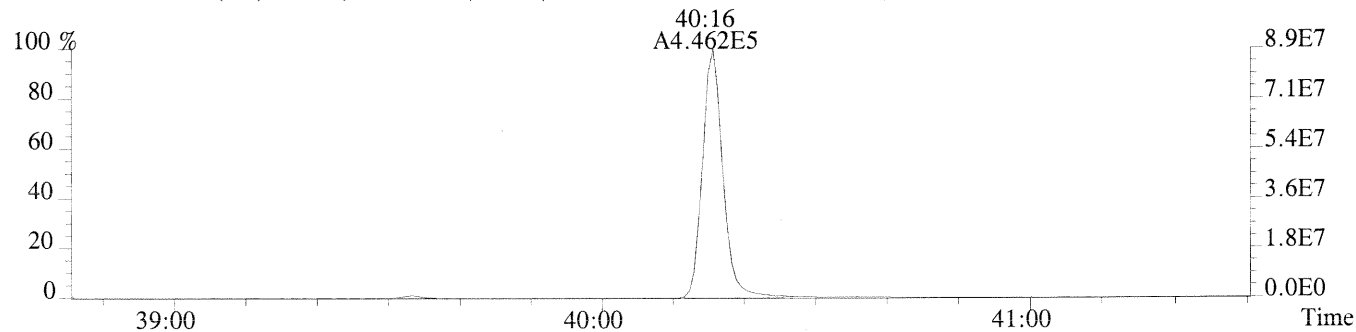
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



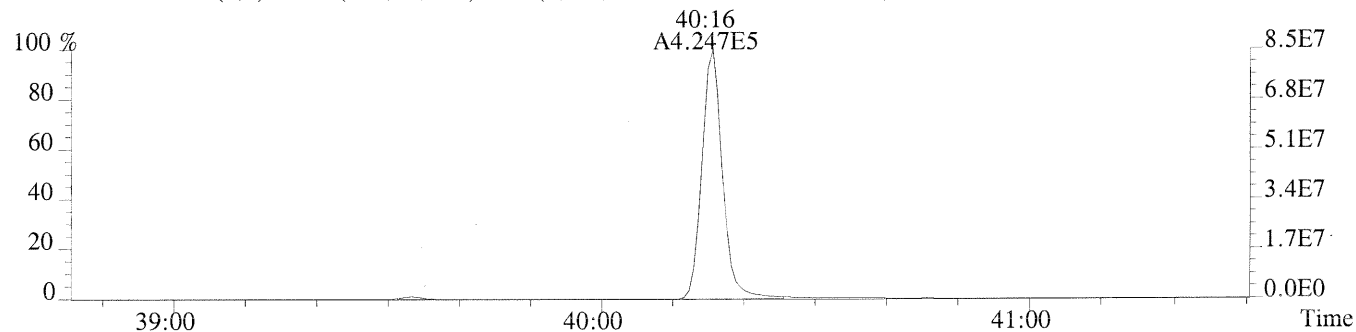
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



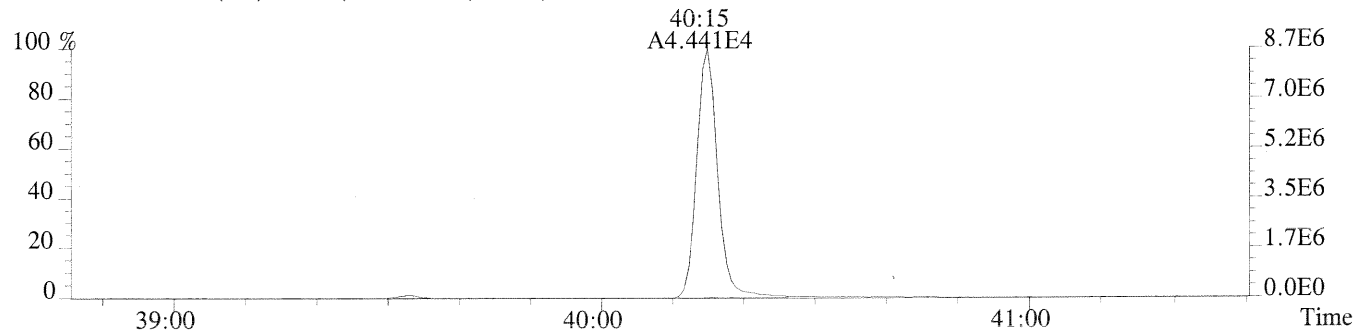
File:P169975 #1-250 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2640.0,0.40%,F,T)



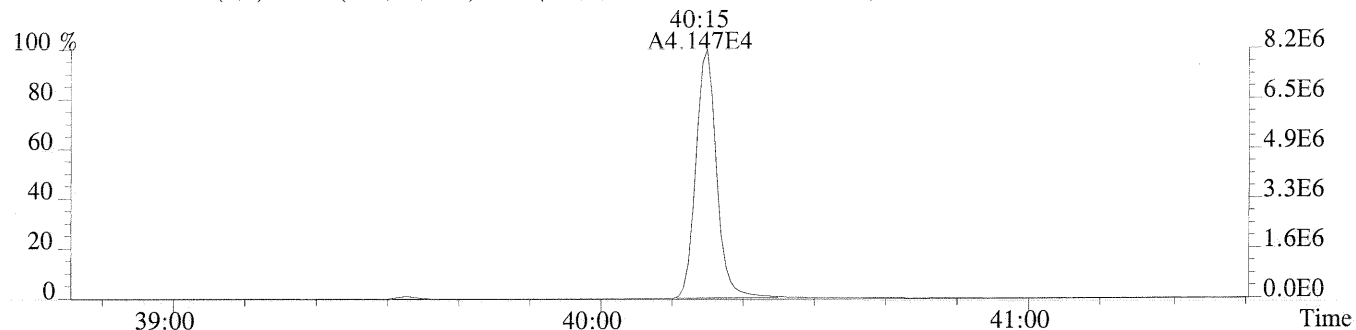
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.40%,F,T)



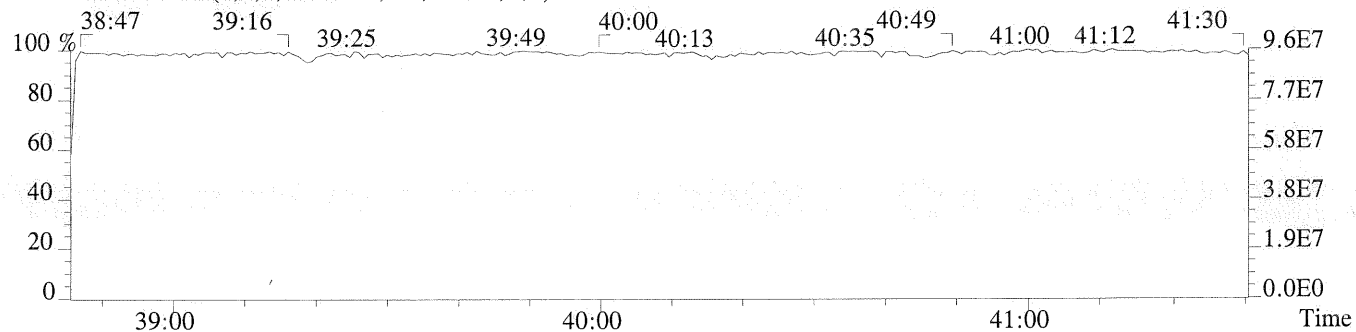
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



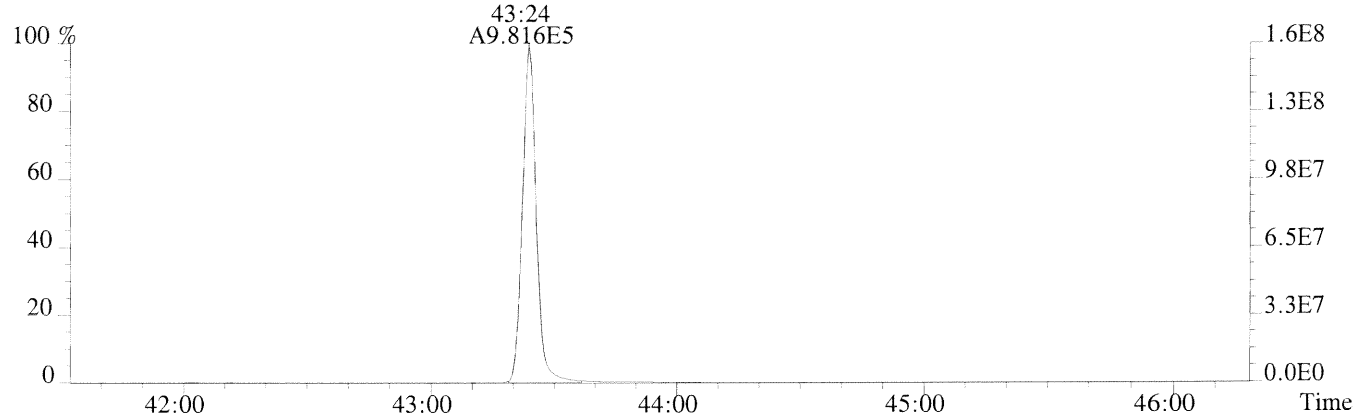
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.40%,F,T)



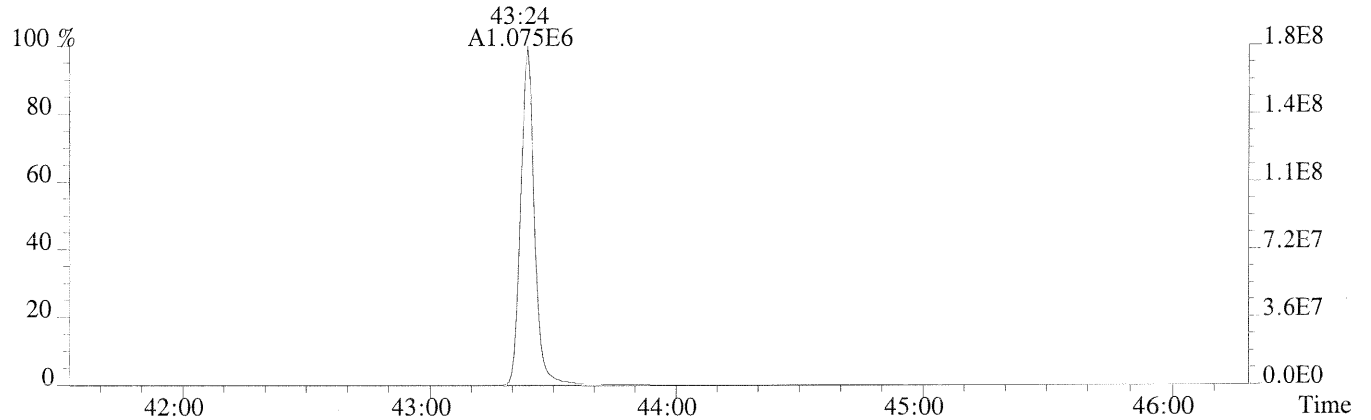
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



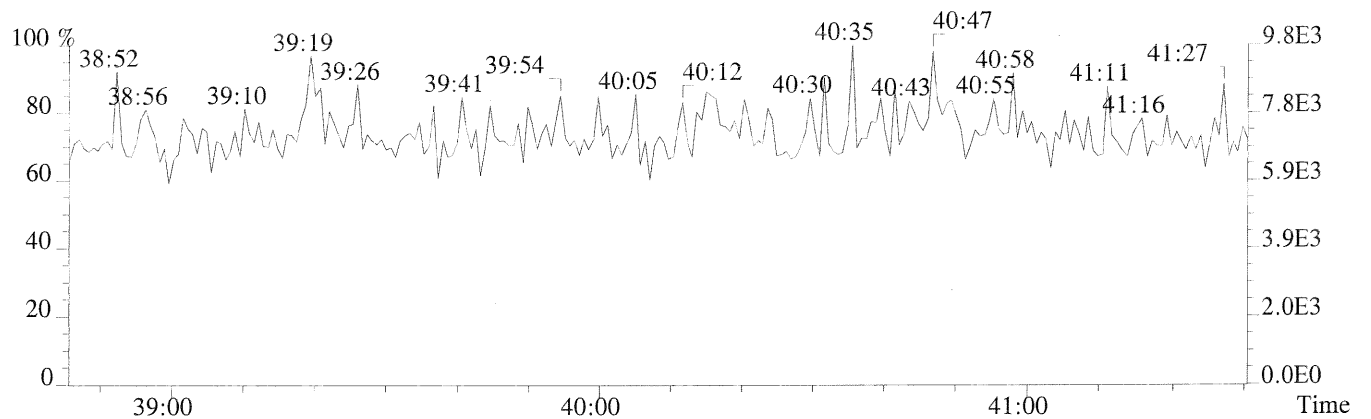
File:P169975 #1-438 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL HRCC5/CS5  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1148.0,0.40%,F,T)



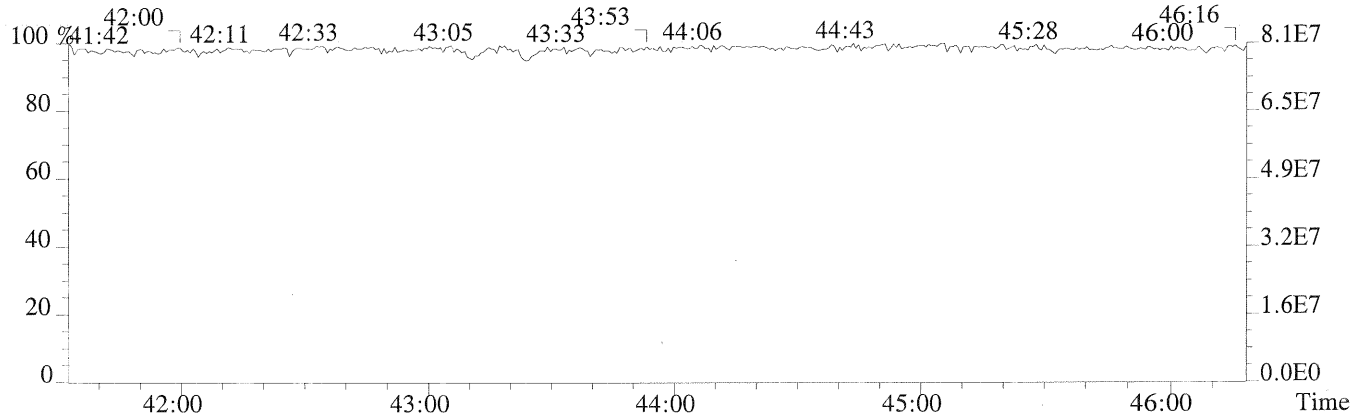
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1612.0,0.40%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



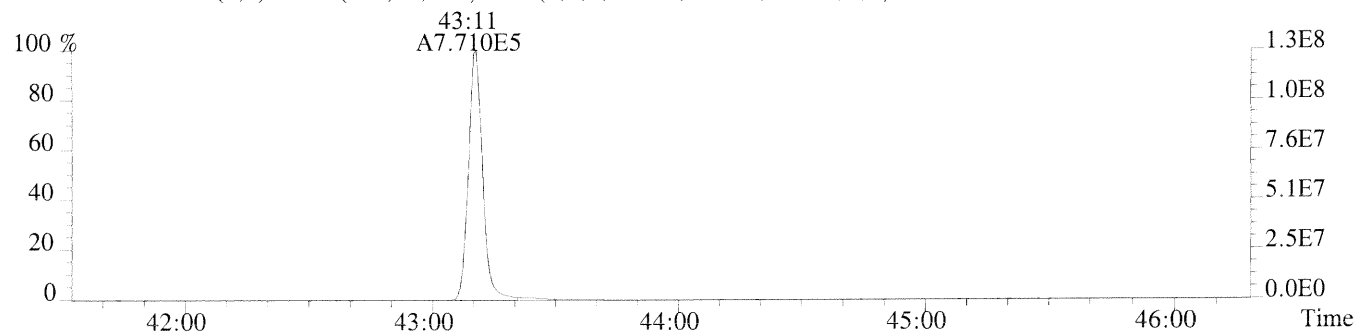
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



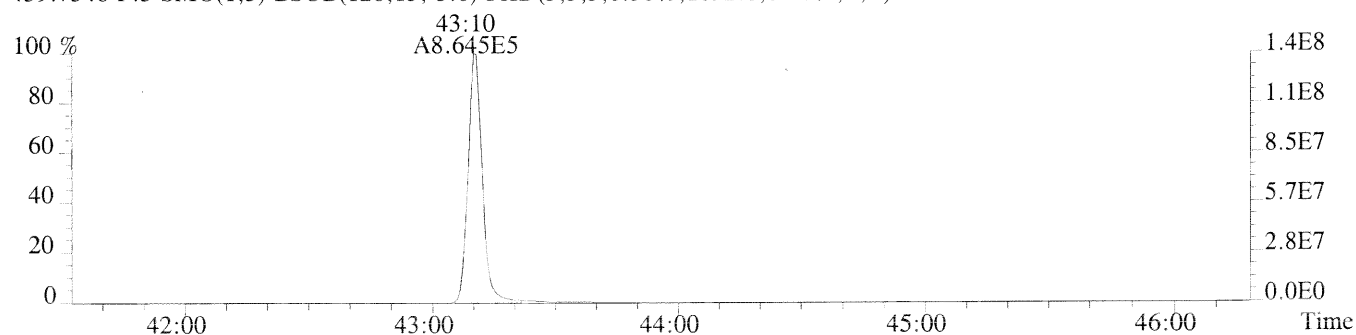
File:P169975 #1-438 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL HRCC5/CS5

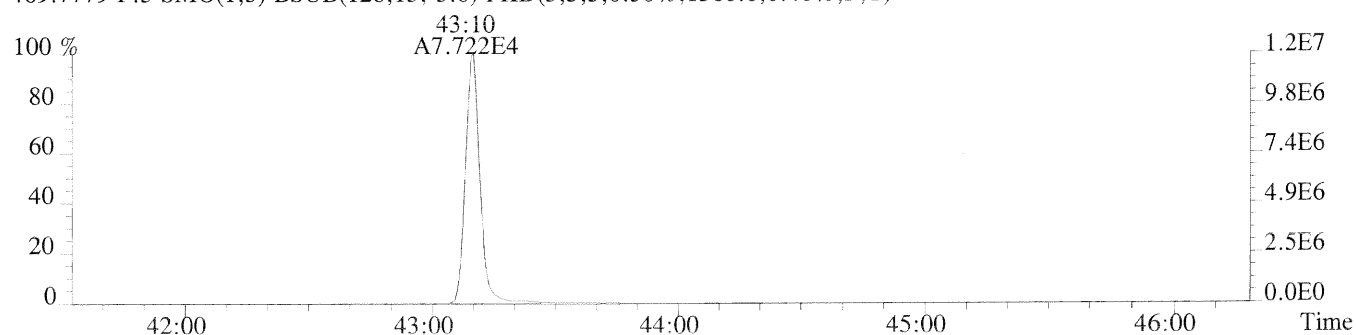
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



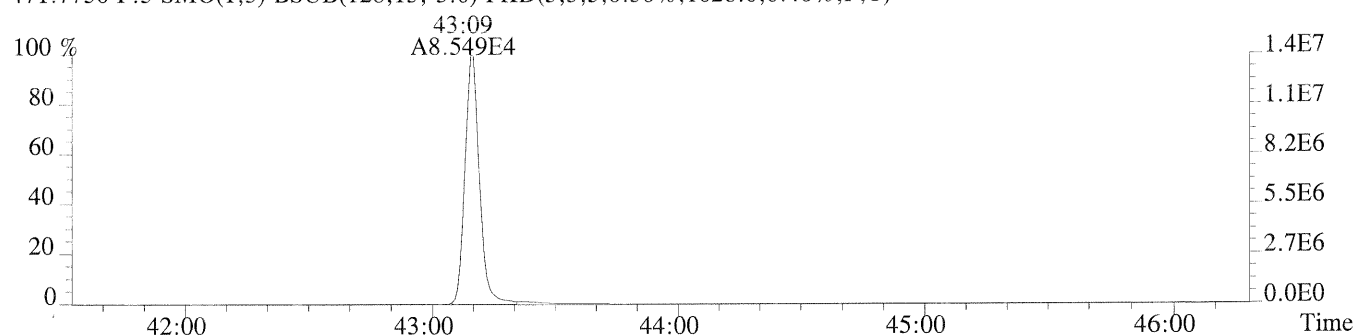
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



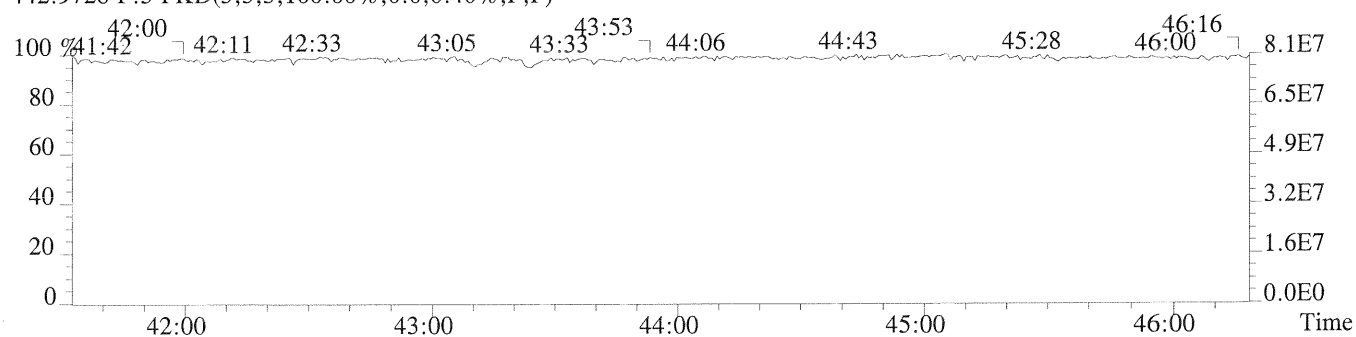
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1360.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P169976

Analysis Date: 25-MAR-14 Time: 22:10:47

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	10.1	7.8 - 12.9	0.6
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	51	39 - 65	2.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	54	39 - 64	7.9
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	46	39 - 64	-7.4
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	48	41 - 61	-3.4
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	-0.9
OCDD	M+2/M+4	0.90	0.76-1.02	93	79 - 126	-7.4
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	10.1	8.4 - 12.0	1.2
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	48	41 - 60	-4.2
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	53	41 - 61	6.3
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	48	45 - 56	-3.5
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	50	44 - 57	-0.1
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	50	45 - 56	-0.4
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	49	44 - 57	-1.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	50	45 - 55	-0.7
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	53	43 - 58	6.5
OCDF	M+2/M+4	0.90	0.76-1.02	91	63 - 159	-9.2

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P169976

Analysis Date: 25-MAR-14 Time: 22:10:47

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	94	82 - 121	-5.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	101	62 - 160	0.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	102	85 - 117	2.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	113	85 - 118	12.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	114	72 - 138	13.7
13C-OCDD	M+2/M+4	0.90	0.76-1.02	244	96 - 415	22.1
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	100	71 - 140	-0.3
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	106	76 - 130	6.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	101	77 - 130	1.3
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	113	76 - 131	12.5
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	104	70 - 143	4.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	110	74 - 135	10.5
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	106	73 - 137	5.9
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	113	78 - 129	13.2
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	110	77 - 129	10.3
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.5	7.8 - 12.7	-5.2

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
- (5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
60287

Run #7      Filename P169976      Samp: 1      Inj: 1      Acquired: 25-MAR-14 22:10:47  
Processed: 26-MAR-14 12:20:58      Sample ID: ICV 2ND SOURCE

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	1.292e+04	1.680e+04	0.77	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:23	1.254e+05	8.021e+04	1.56	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:14	1.245e+05	7.893e+04	1.58	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:47	1.176e+05	9.354e+04	1.26	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:53	1.224e+05	9.868e+04	1.24	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	1.109e+05	9.037e+04	1.23	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:06	1.080e+05	8.761e+04	1.23	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	1.096e+05	1.051e+05	1.04	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:47	9.714e+04	9.290e+04	1.05	yes	no	1.324
10 Unk	OCDF	43:24	1.560e+05	1.732e+05	0.90	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:12	9.732e+03	1.241e+04	0.78	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:30	8.363e+04	5.308e+04	1.58	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:29	8.188e+04	6.562e+04	1.25	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:34	8.182e+04	6.465e+04	1.27	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:48	8.494e+04	6.881e+04	1.23	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:16	7.550e+04	7.271e+04	1.04	yes	no	1.016
17 Unk	OCDD	43:11	1.311e+05	1.463e+05	0.90	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	1.383e+05	1.725e+05	0.80	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:22	2.579e+05	1.642e+05	1.57	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:13	2.396e+05	1.521e+05	1.58	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:46	1.211e+05	2.317e+05	0.52	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	1.297e+05	2.461e+05	0.53	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:21	1.225e+05	2.333e+05	0.52	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:05	1.162e+05	2.243e+05	0.52	yes	no	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:19	9.505e+04	2.133e+05	0.45	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:46	8.242e+04	1.871e+05	0.44	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	9.381e+04	1.185e+05	0.79	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:29	1.744e+05	1.106e+05	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:29	1.467e+05	1.161e+05	1.26	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:33	1.793e+05	1.402e+05	1.28	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:16	1.515e+05	1.427e+05	1.06	yes	no	0.862
32 IS	13C-OCDD	43:10	2.622e+05	2.929e+05	0.90	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:40	9.586e+04	1.188e+05	0.81	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	1.676e+05	1.324e+05	1.27	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:12	2.289e+04				no	1.125

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1613RESP



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Signal/Noise Height Ratio Summary  
Method 1613b/8290A

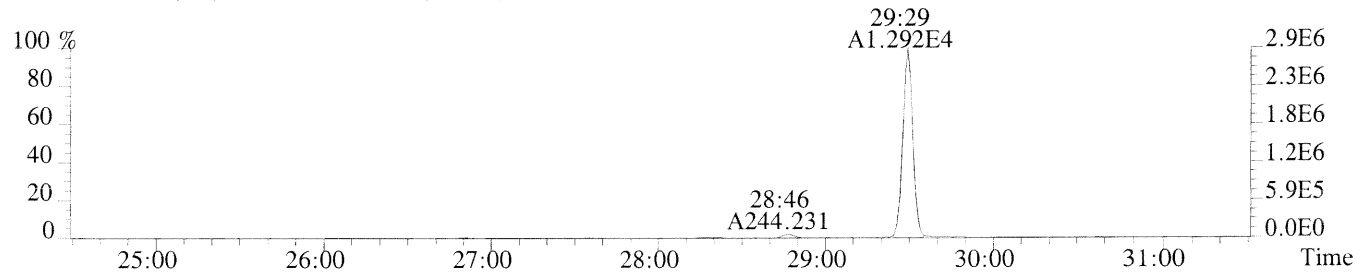
CLIENT ID.  
60287

Run #13 Filename P169976 Samp: 1 Inj: 1 Acquired: 25-MAR-14 22:10:47  
Processed: 26-MAR-14 09:09:411 LAB. ID: ICV 2ND SOURCE

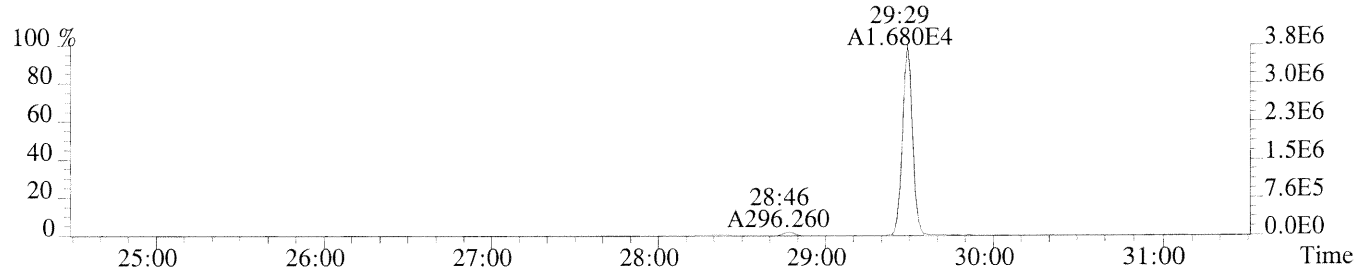
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.93e+06	1.12e+03	2.6e+03	3.78e+06	3.11e+03	1.2e+03
2	1,2,3,7,8-PeCDF	2.49e+07	1.00e+03	2.5e+04	1.57e+07	1.90e+03	8.3e+03
3	2,3,4,7,8-PeCDF	2.56e+07	1.00e+03	2.5e+04	1.62e+07	1.90e+03	8.5e+03
4	1,2,3,4,7,8-HxCDF	2.58e+07	2.42e+03	1.1e+04	2.03e+07	2.06e+03	9.9e+03
5	1,2,3,6,7,8-HxCDF	2.58e+07	2.42e+03	1.1e+04	2.11e+07	2.06e+03	1.0e+04
6	2,3,4,6,7,8-HxCDF	2.44e+07	2.42e+03	1.0e+04	2.01e+07	2.06e+03	9.8e+03
7	1,2,3,7,8,9-HxCDF	2.28e+07	2.42e+03	9.4e+03	1.86e+07	2.06e+03	9.0e+03
8	1,2,3,4,6,7,8-HpCDF	2.27e+07	3.71e+03	6.1e+03	2.19e+07	5.87e+03	3.7e+03
9	1,2,3,4,7,8,9-HpCDF	1.85e+07	3.71e+03	5.0e+03	1.78e+07	5.87e+03	3.0e+03
10	OCDF	2.51e+07	1.56e+03	1.6e+04	2.78e+07	2.25e+03	1.2e+04
11	2,3,7,8-TCDD	2.26e+06	1.25e+03	1.8e+03	2.89e+06	1.17e+03	2.5e+03
12	1,2,3,7,8-PeCDD	1.74e+07	1.83e+03	9.5e+03	1.10e+07	6.48e+02	1.7e+04
13	1,2,3,4,7,8-HxCDD	1.83e+07	1.36e+03	1.3e+04	1.46e+07	1.78e+03	8.2e+03
14	1,2,3,6,7,8-HxCDD	1.73e+07	1.36e+03	1.3e+04	1.38e+07	1.78e+03	7.7e+03
15	1,2,3,7,8,9-HxCDD	1.86e+07	1.36e+03	1.4e+04	1.49e+07	1.78e+03	8.4e+03
16	1,2,3,4,6,7,8-HpCDD	1.52e+07	1.32e+03	1.2e+04	1.46e+07	1.93e+03	7.6e+03
17	OCDD	2.19e+07	1.28e+03	1.7e+04	2.45e+07	1.60e+03	1.5e+04
18	13C-2,3,7,8-TCDF	3.06e+07	2.20e+03	1.4e+04	3.82e+07	1.92e+03	2.0e+04
19	13C-1,2,3,7,8-PeCDF	5.04e+07	8.96e+02	5.6e+04	3.21e+07	8.20e+02	3.9e+04
20	13C-2,3,4,7,8-PeCDF	4.82e+07	8.96e+02	5.4e+04	3.03e+07	8.20e+02	3.7e+04
21	13C-1,2,3,4,7,8-HxCDF	2.63e+07	1.22e+03	2.2e+04	5.01e+07	2.64e+03	1.9e+04
22	13C-1,2,3,6,7,8-HxCDF	2.74e+07	1.22e+03	2.3e+04	5.21e+07	2.64e+03	2.0e+04
23	13C-2,3,4,6,7,8-HxCDF	2.67e+07	1.22e+03	2.2e+04	5.11e+07	2.64e+03	1.9e+04
24	13C-1,2,3,7,8,9-HxCDF	2.43e+07	1.22e+03	2.0e+04	4.71e+07	2.64e+03	1.8e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.94e+07	7.31e+03	2.7e+03	4.35e+07	1.16e+04	3.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.57e+07	7.31e+03	2.1e+03	3.58e+07	1.16e+04	3.1e+03
27	13C-2,3,7,8-TCDD	2.13e+07	4.16e+03	5.1e+03	2.70e+07	2.20e+03	1.2e+04
28	13C-1,2,3,7,8-PeCDD	3.55e+07	1.31e+03	2.7e+04	2.25e+07	8.64e+02	2.6e+04
29	13C-1,2,3,4,7,8-HxCDD	3.27e+07	1.46e+03	2.2e+04	2.56e+07	1.57e+03	1.6e+04
30	13C-1,2,3,6,7,8-HxCDD	3.82e+07	1.46e+03	2.6e+04	3.01e+07	1.57e+03	1.9e+04
31	13C-1,2,3,4,6,7,8-HpCDD	3.01e+07	1.44e+03	2.1e+04	2.82e+07	1.33e+03	2.1e+04
32	13C-OCDD	4.32e+07	7.24e+02	6.0e+04	4.82e+07	1.14e+03	4.2e+04
33	13C-1,2,3,4-TCDD	2.10e+07	4.16e+03	5.0e+03	2.63e+07	2.20e+03	1.2e+04
34	13C-1,2,3,7,8,9-HxCDD	3.60e+07	1.46e+03	2.5e+04	2.86e+07	1.57e+03	1.8e+04
35	37Cl-2,3,7,8-TCDD	5.28e+06	1.78e+03	3.0e+03			

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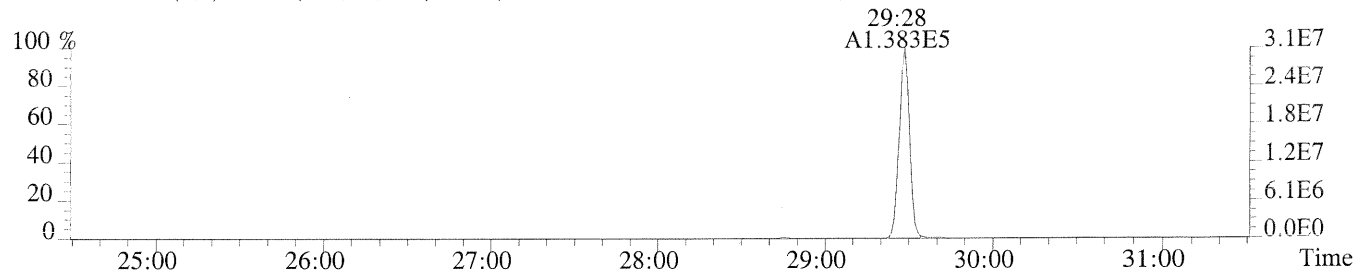
File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



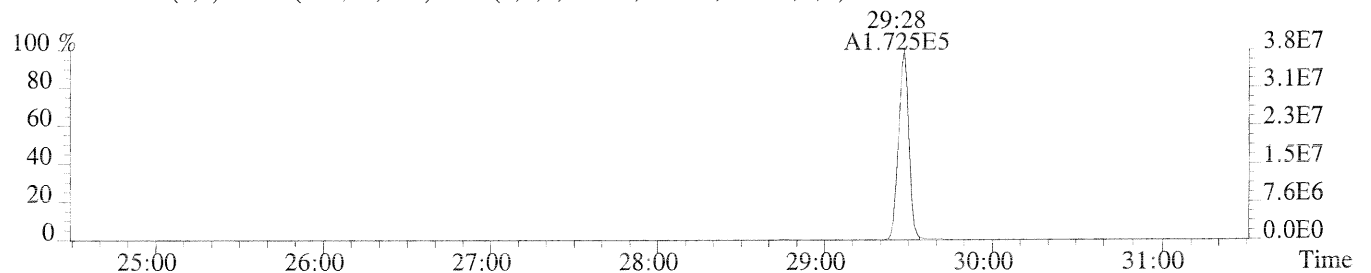
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3112.0,1.00%,F,T)



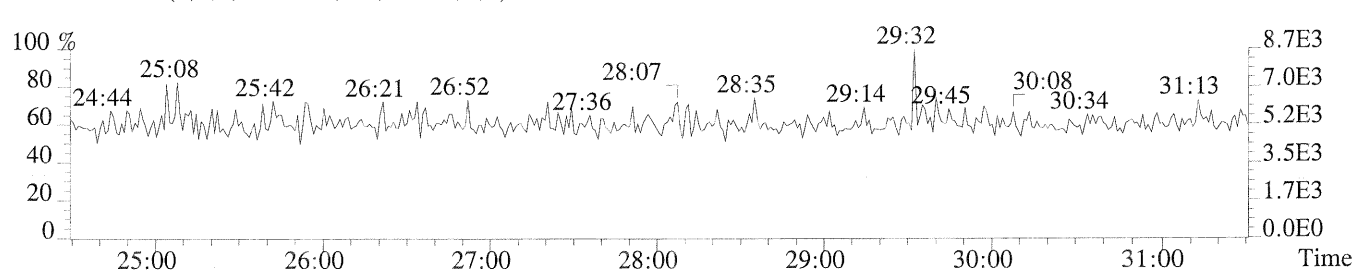
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,T)



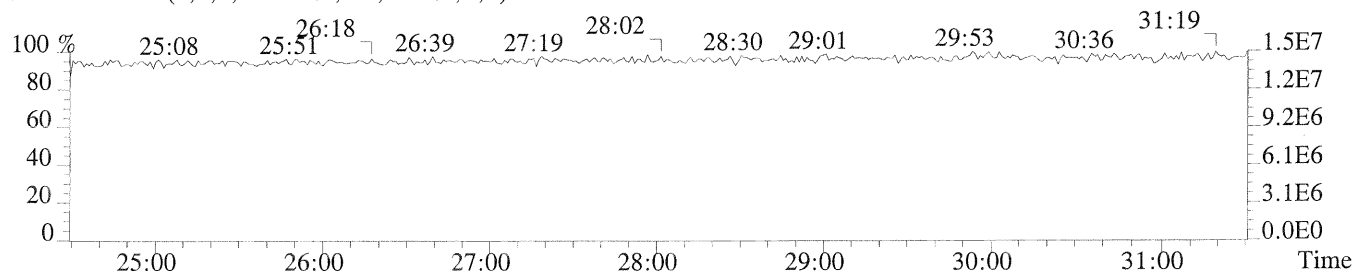
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1924.0,1.00%,F,T)



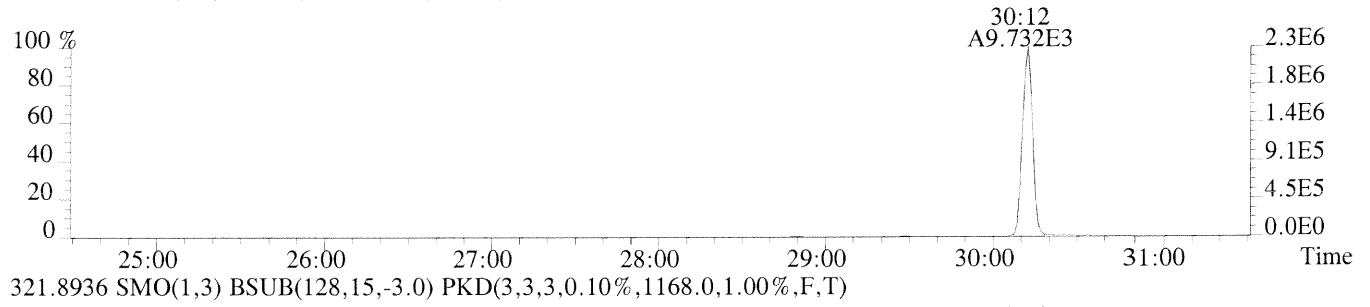
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



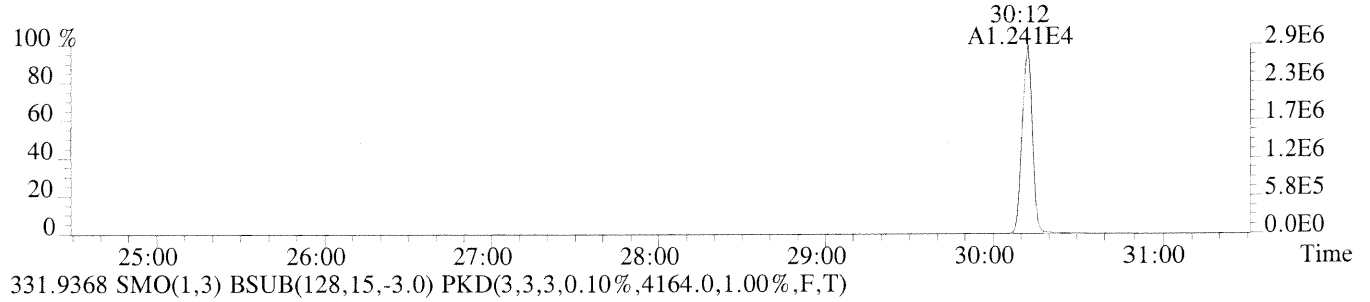
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



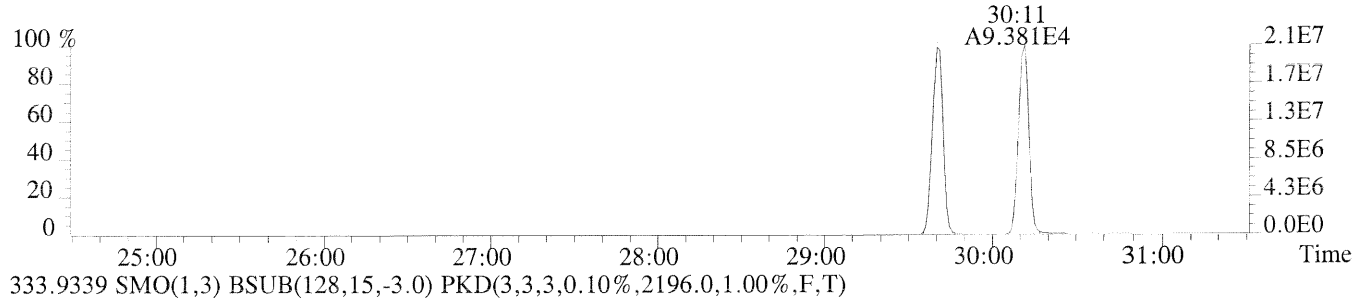
File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



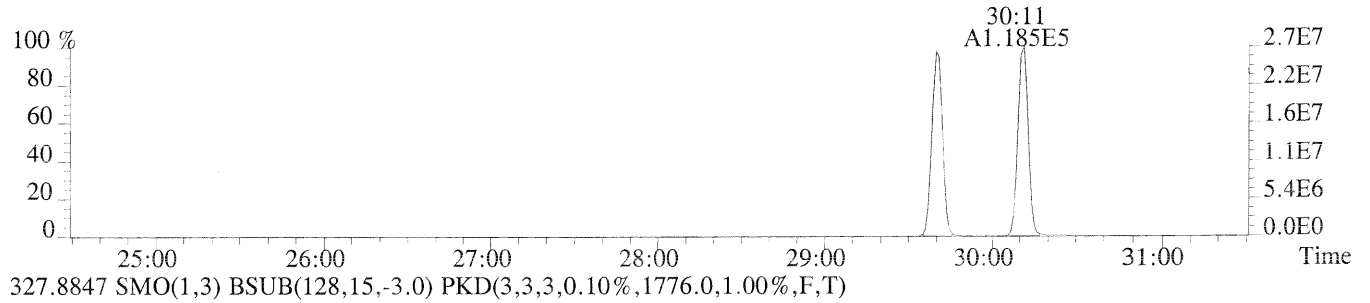
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,T)



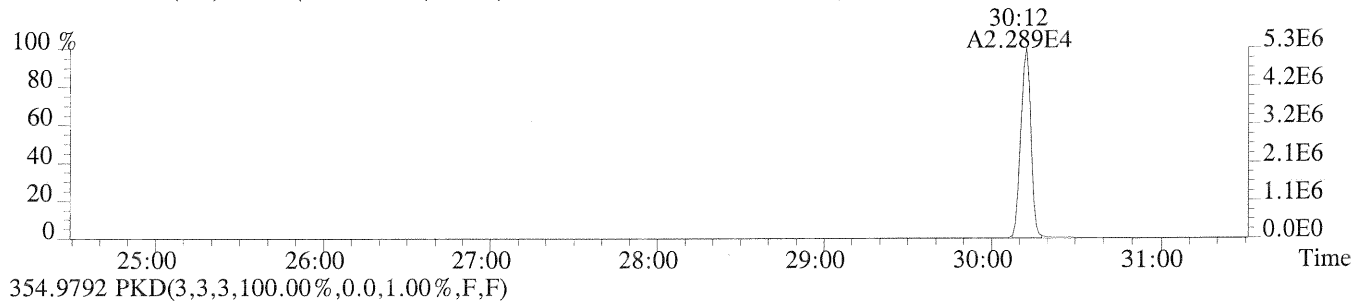
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4164.0,1.00%,F,T)



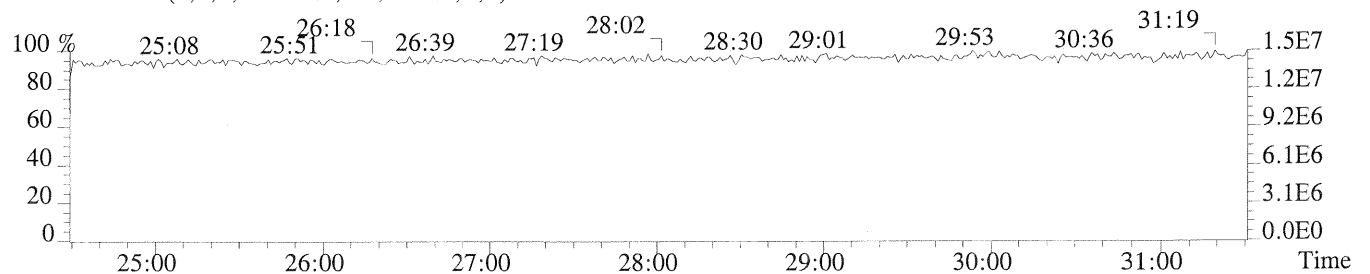
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2196.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)

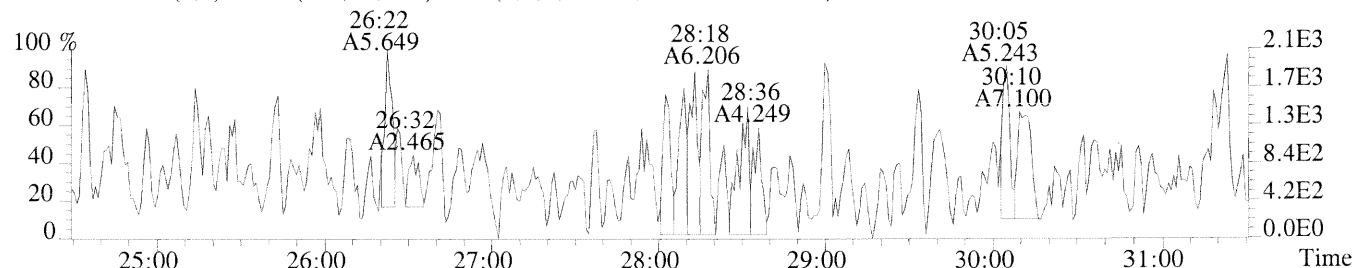


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

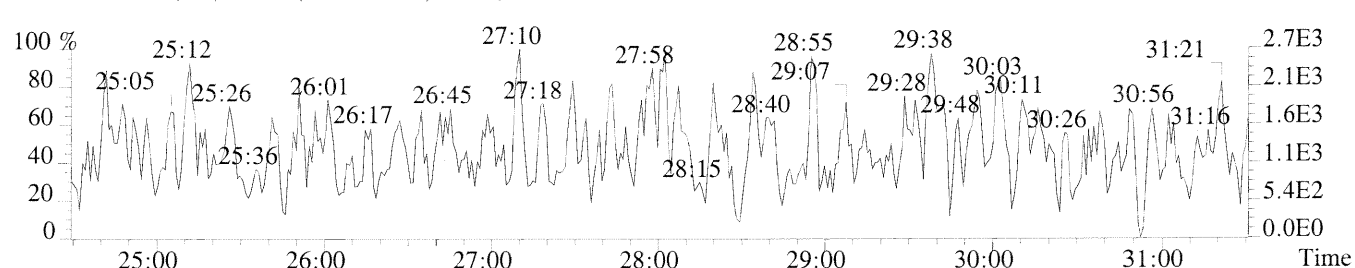


File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

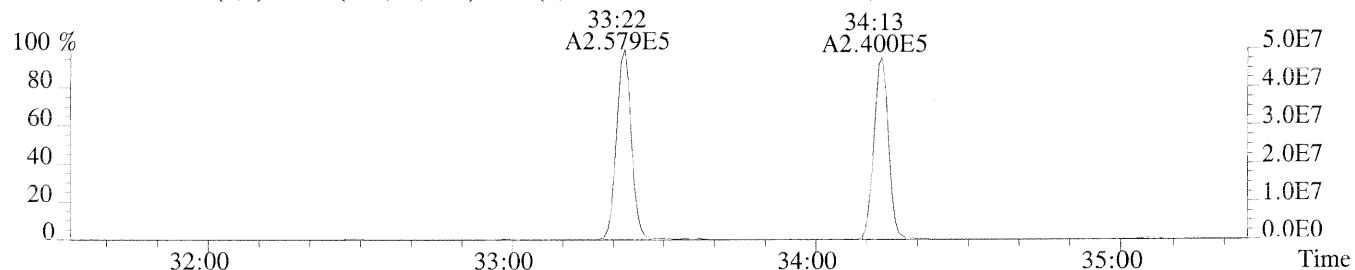
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



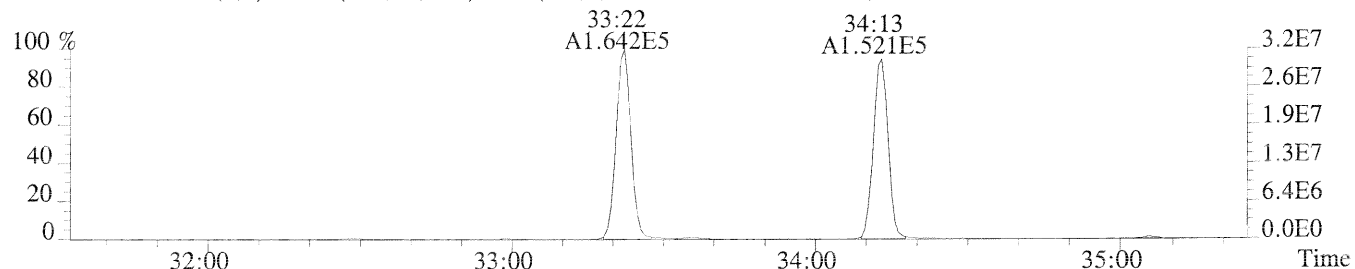
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1576.0,1.00%,F,T)



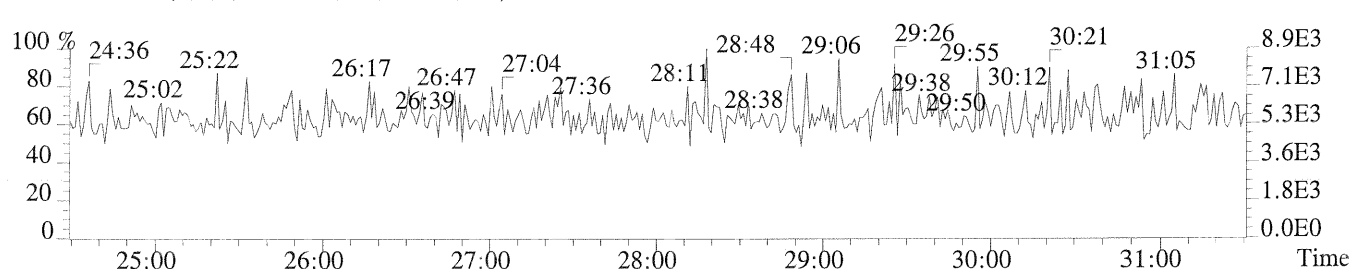
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



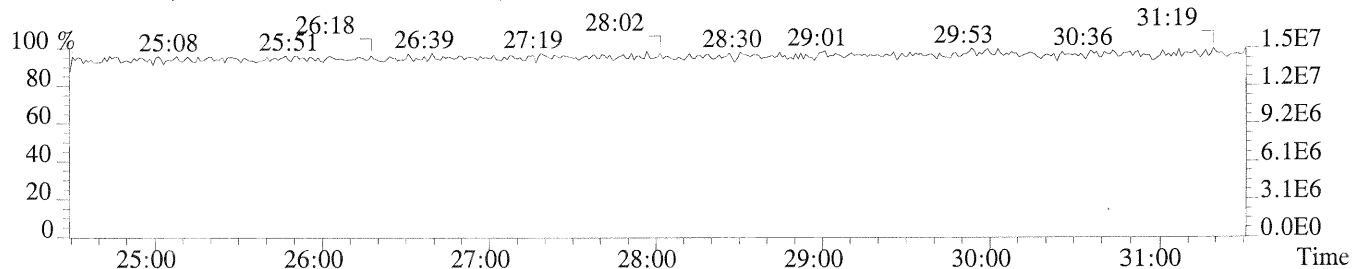
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



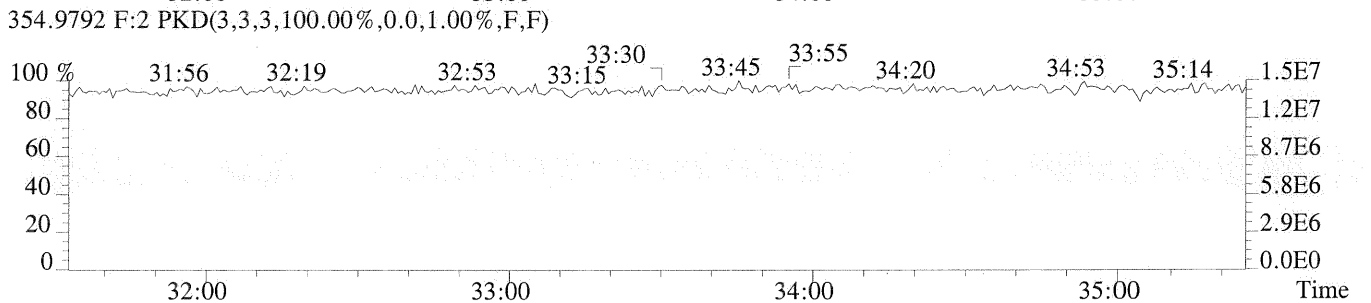
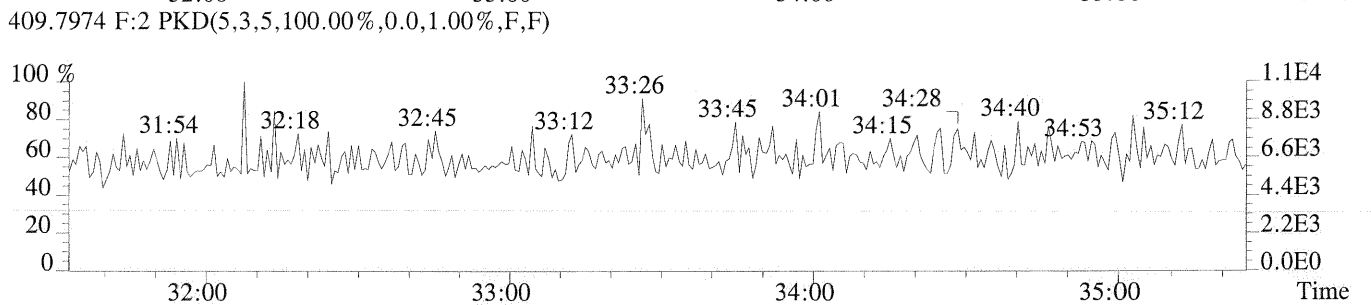
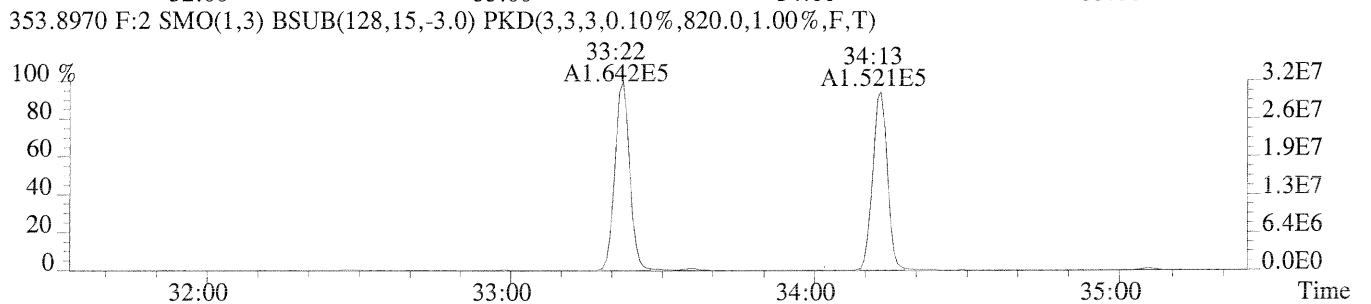
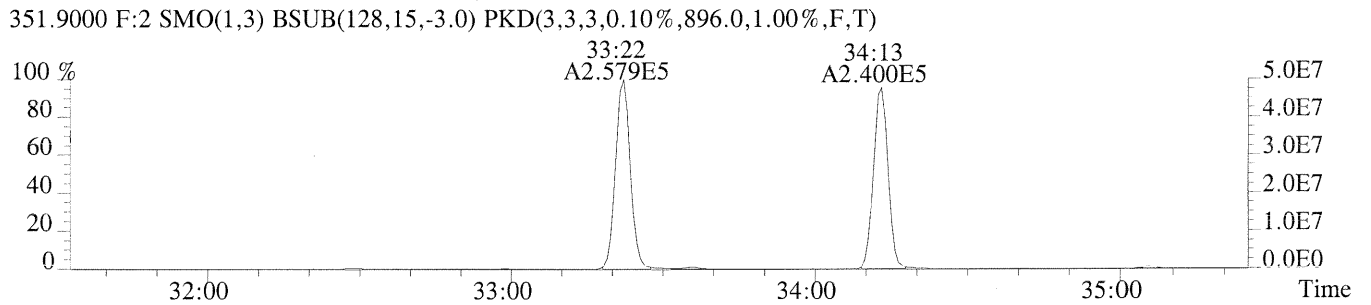
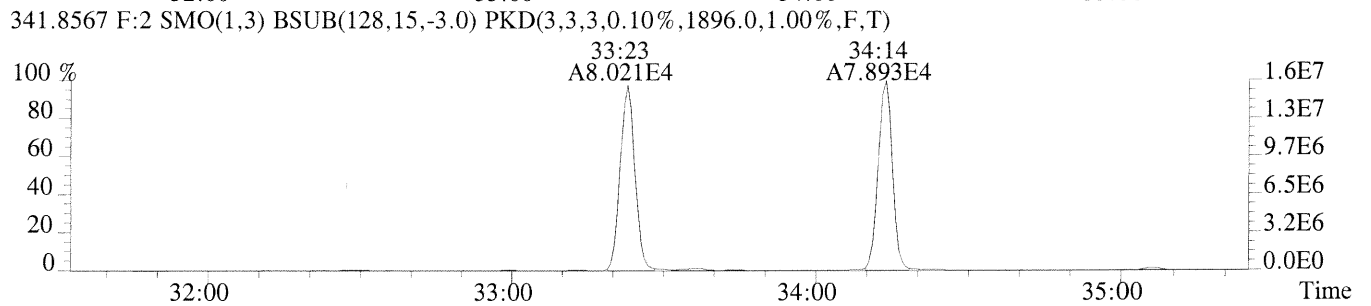
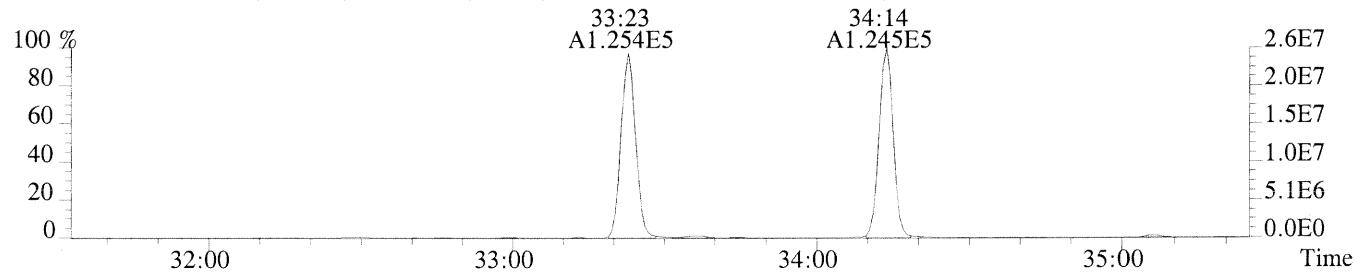
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



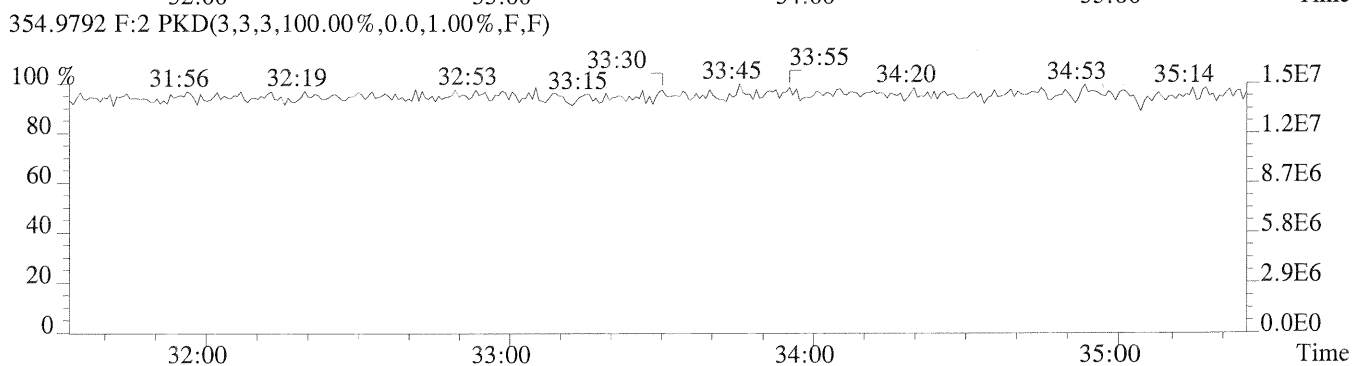
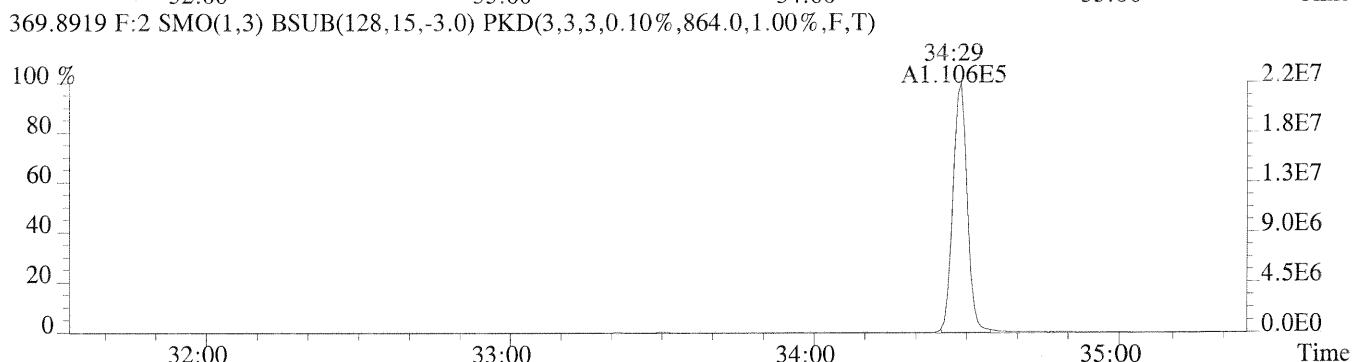
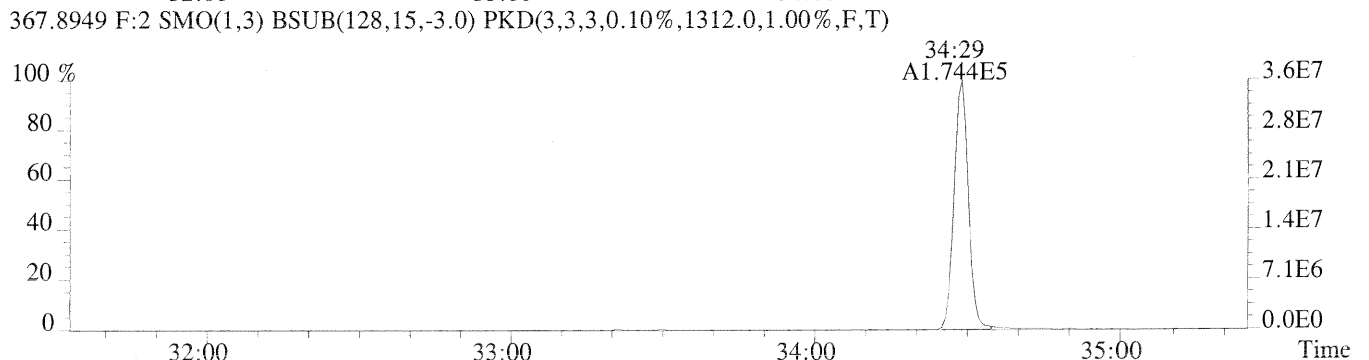
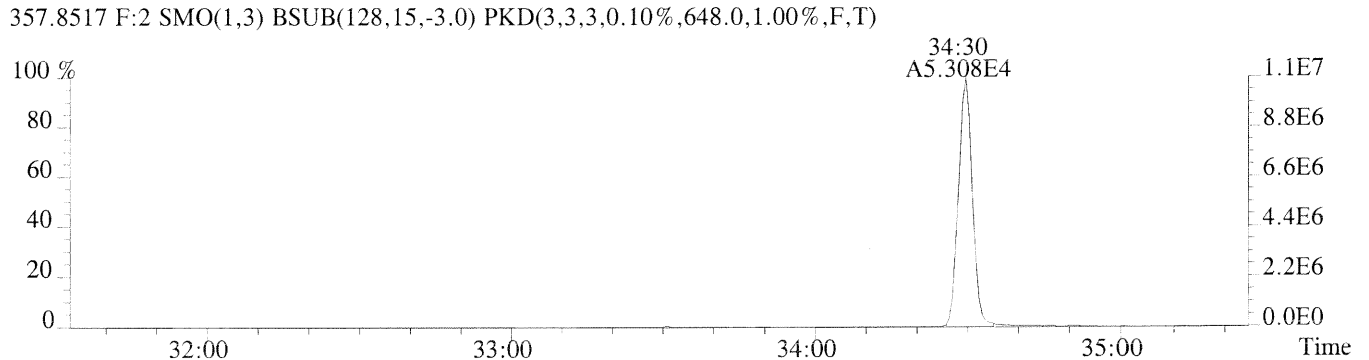
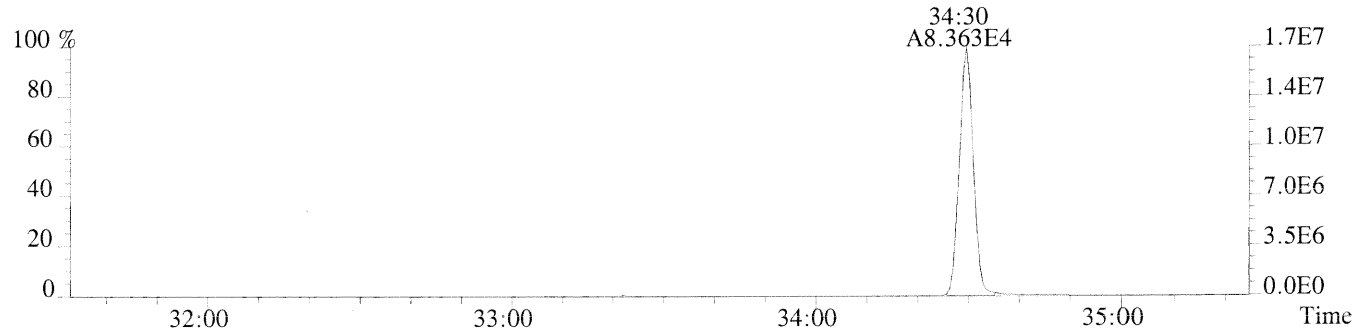
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P169976 #1-351 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)

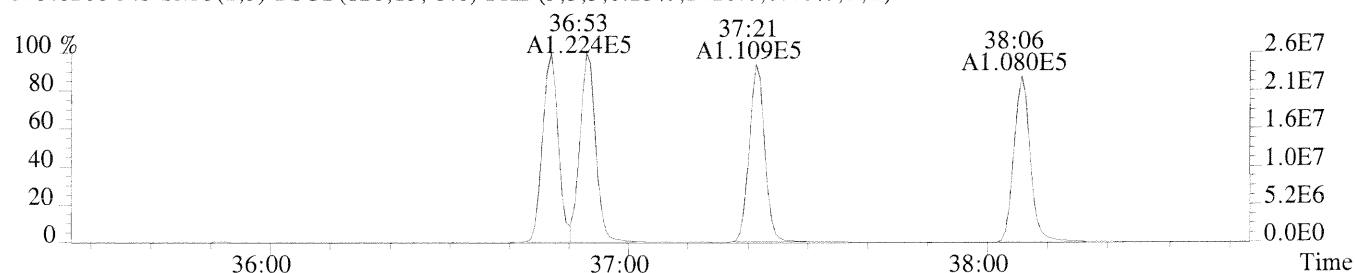


File:P169976 #1-351 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)

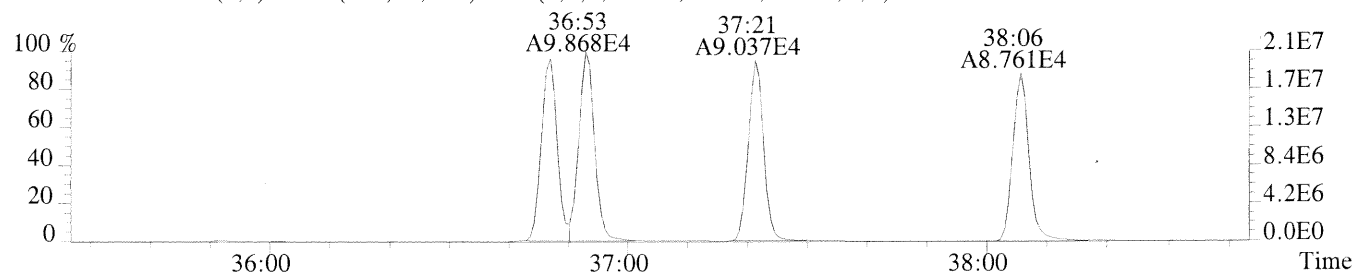


File:P169976 #1-298 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

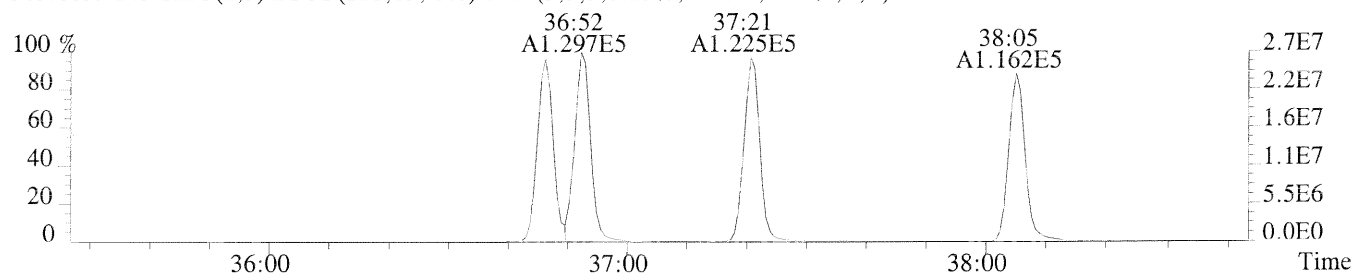
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2420.0,0.40%,F,T)



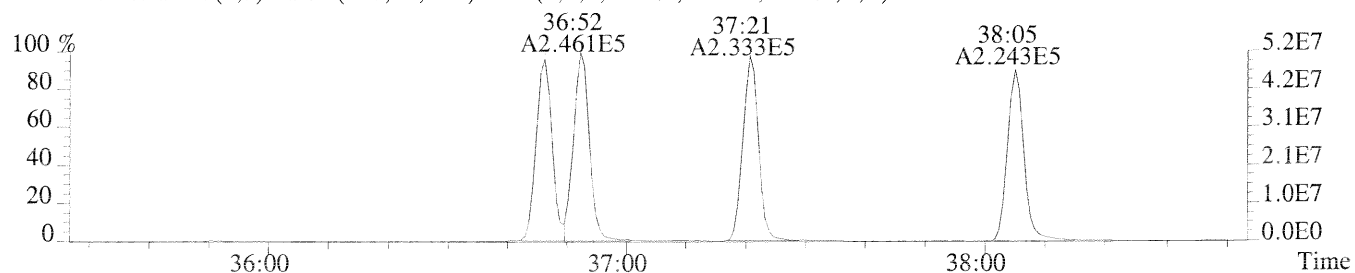
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2056.0,0.40%,F,T)



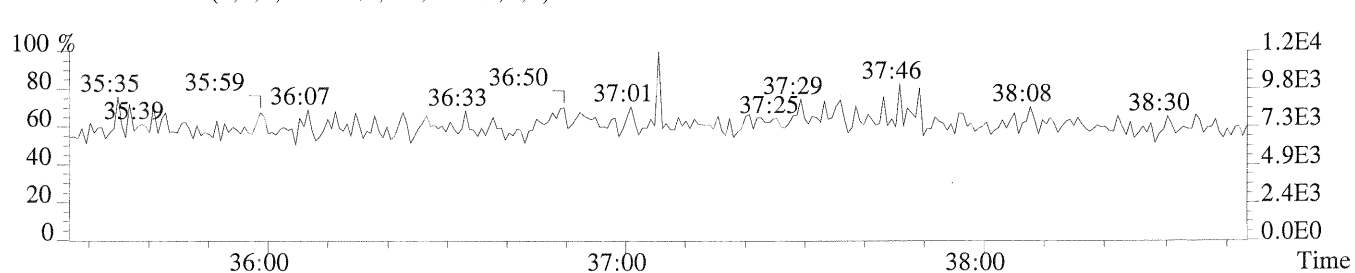
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,T)



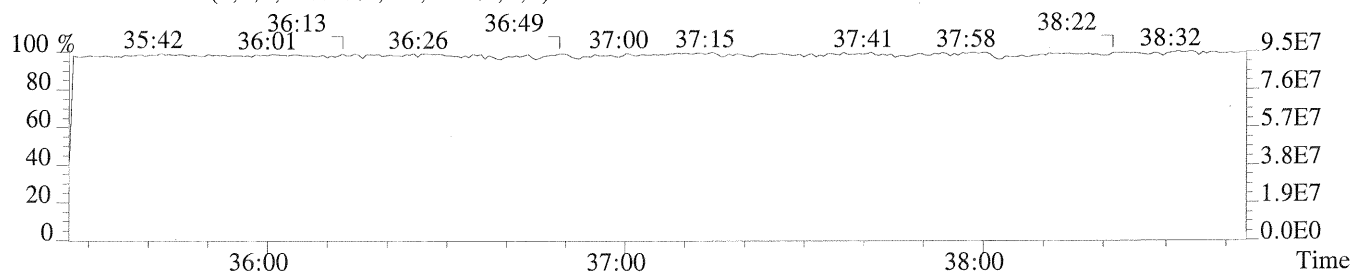
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2644.0,0.40%,F,T)



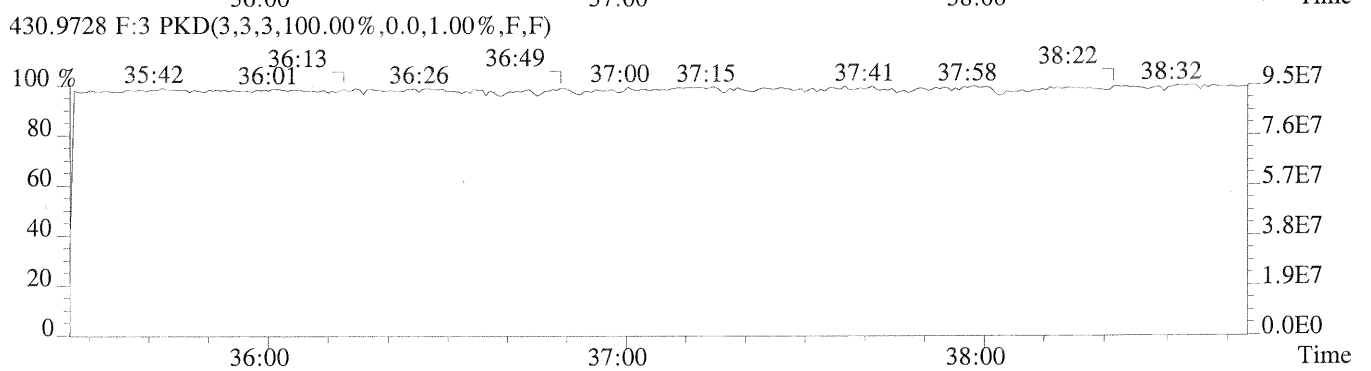
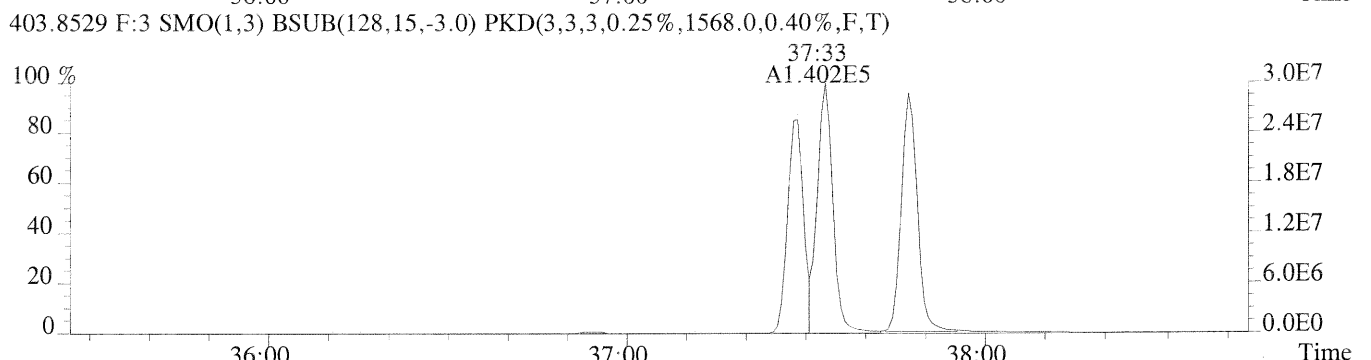
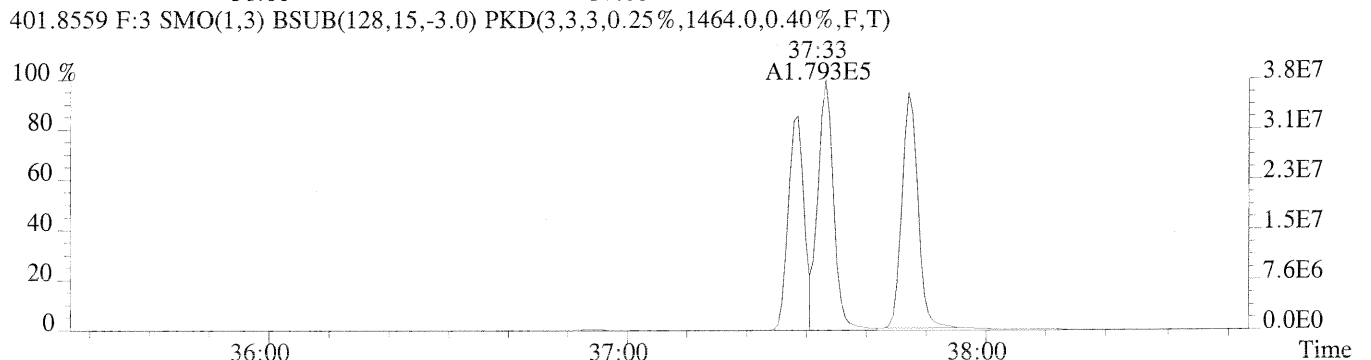
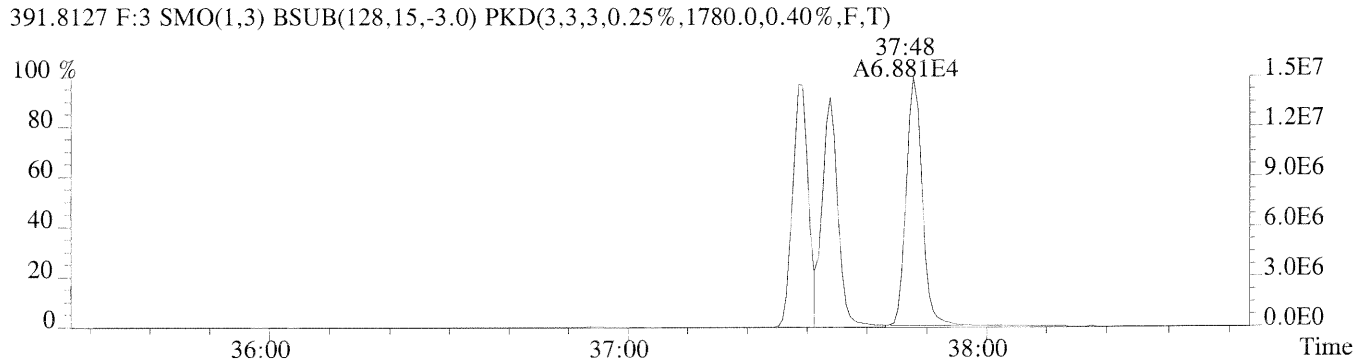
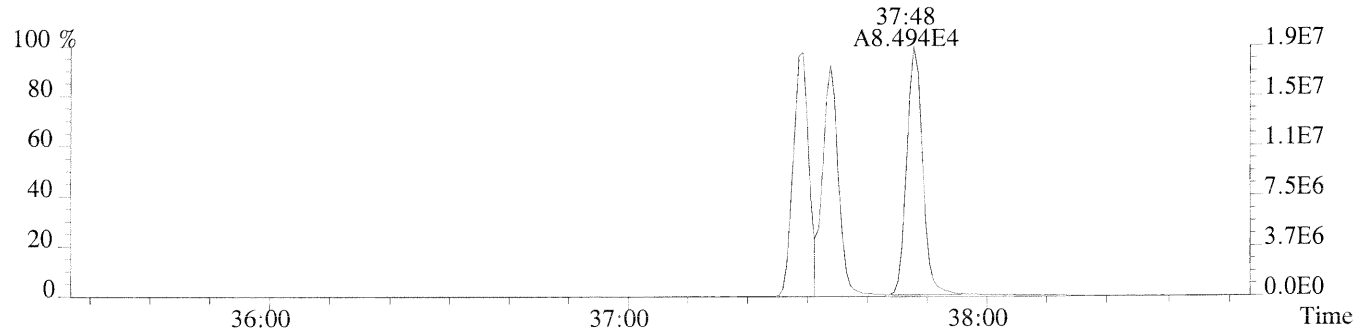
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



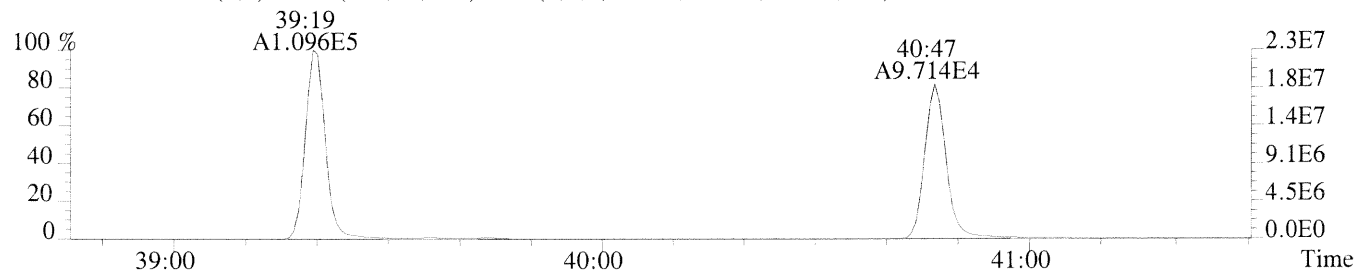
File:P169976 #1-298 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1360.0,0.40%,F,T)



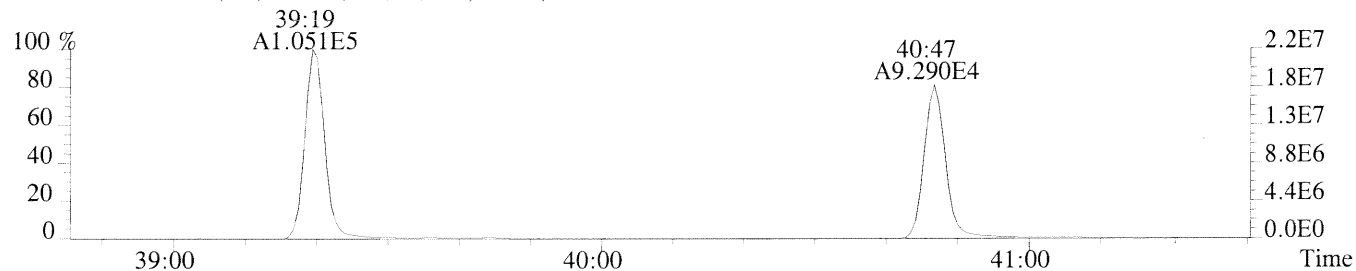


File:P169976 #1-250 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

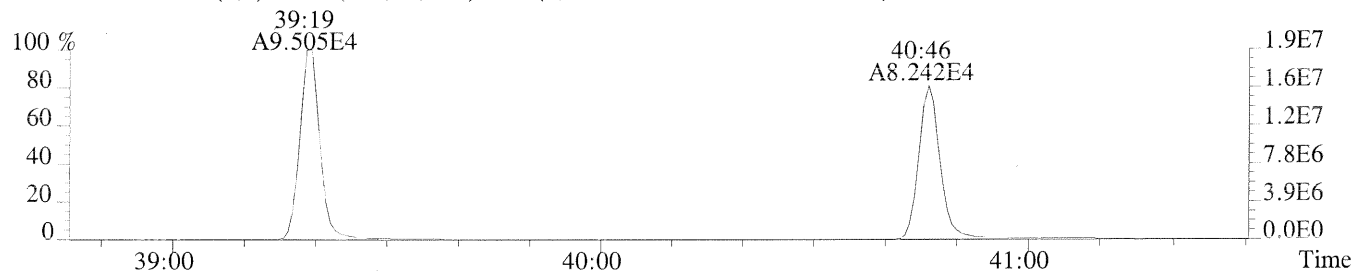
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3708.0,0.50%,F,T)



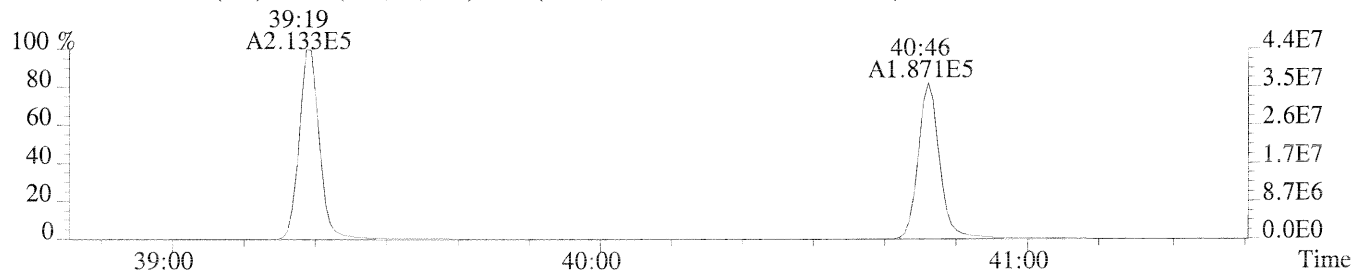
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5868.0,0.50%,F,T)



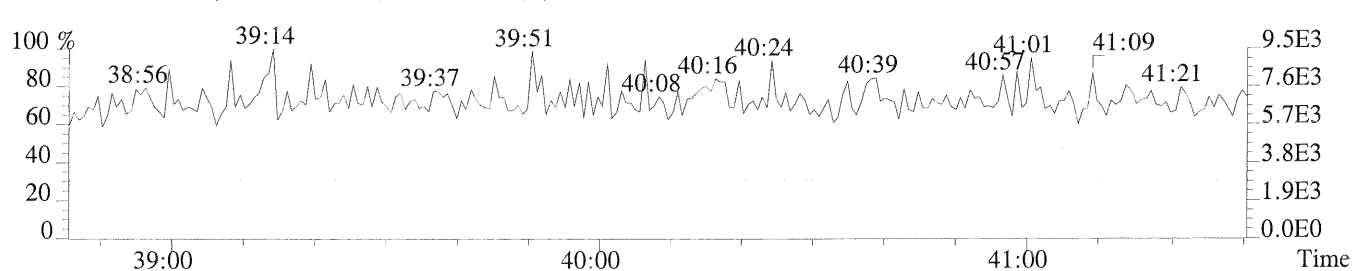
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7308.0,0.50%,F,T)



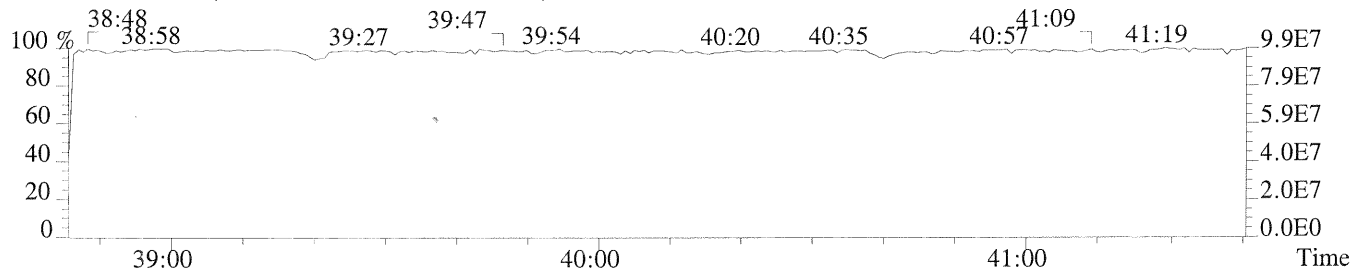
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11564.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

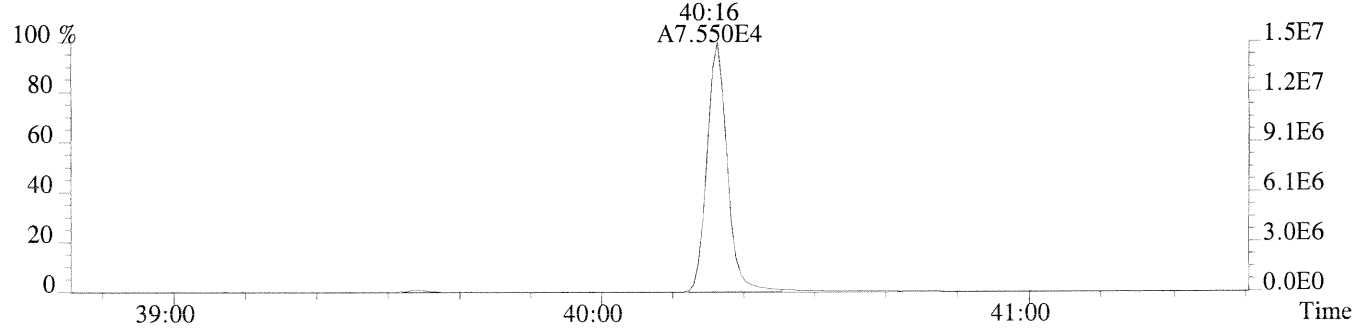


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

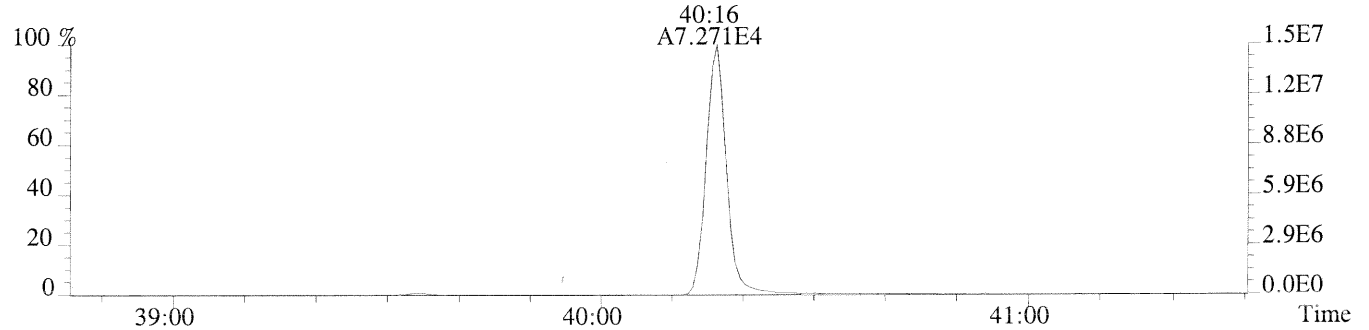


File:P169976 #1-250 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

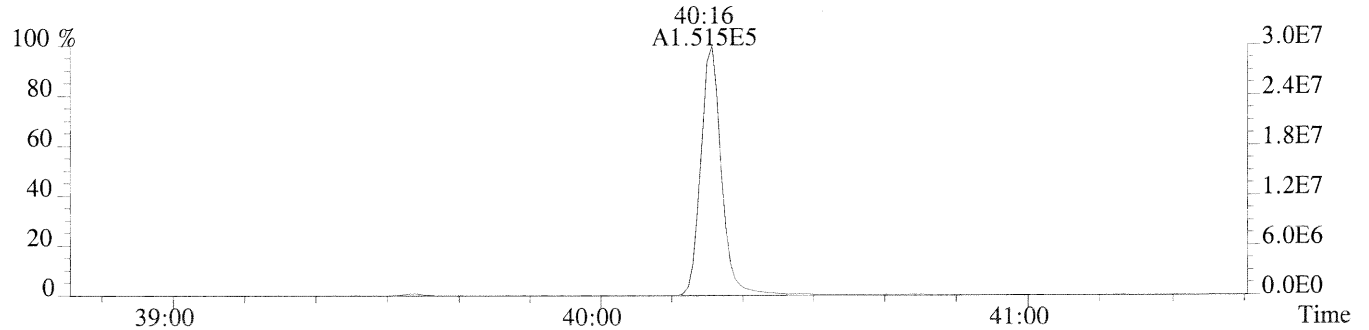
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1316.0,0.40%,F,T)



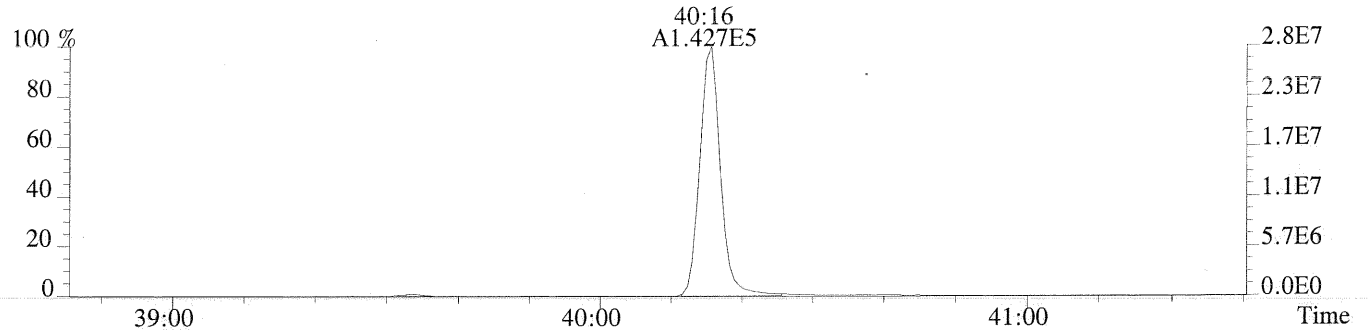
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1928.0,0.40%,F,T)



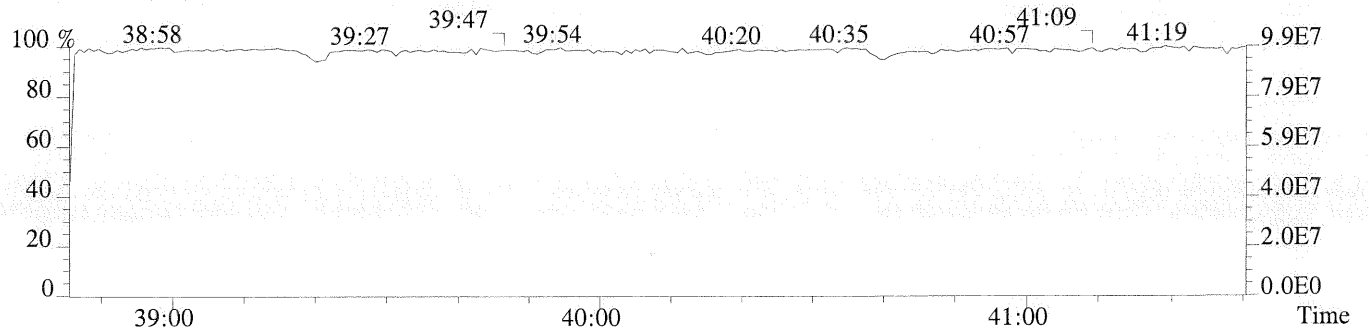
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)

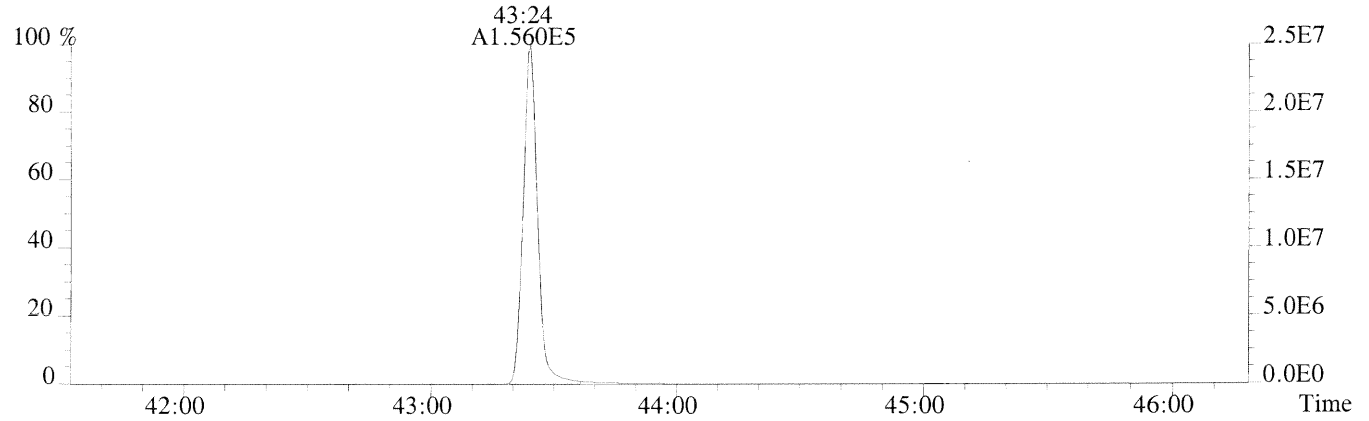


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

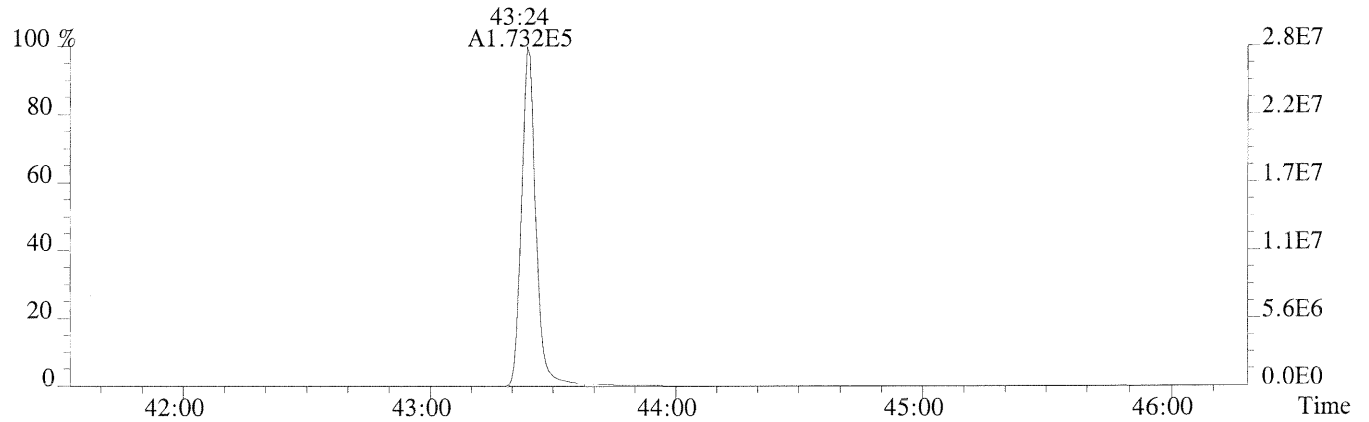


File:P169976 #1-438 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

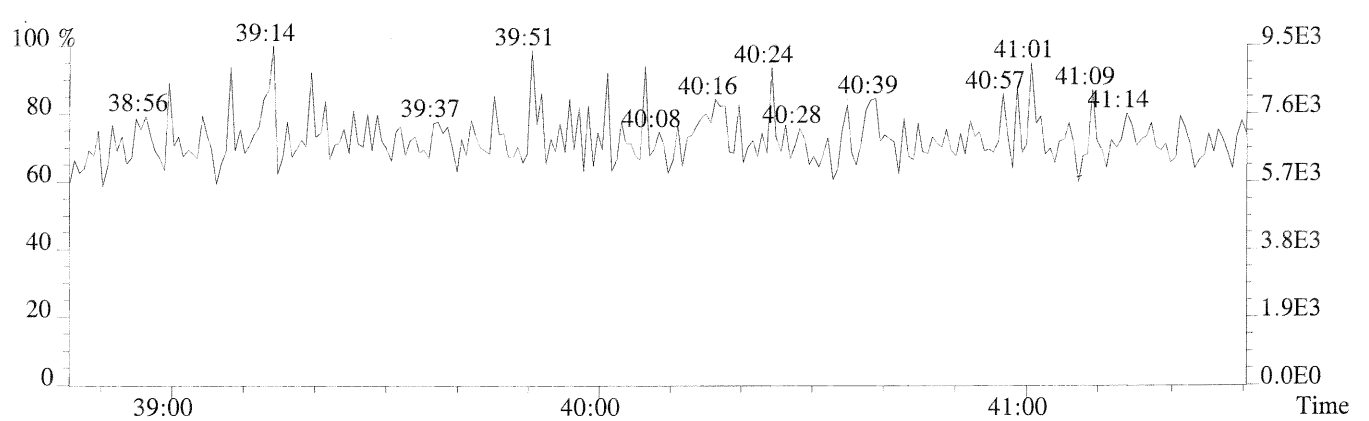
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1564.0,0.40%,F,T)



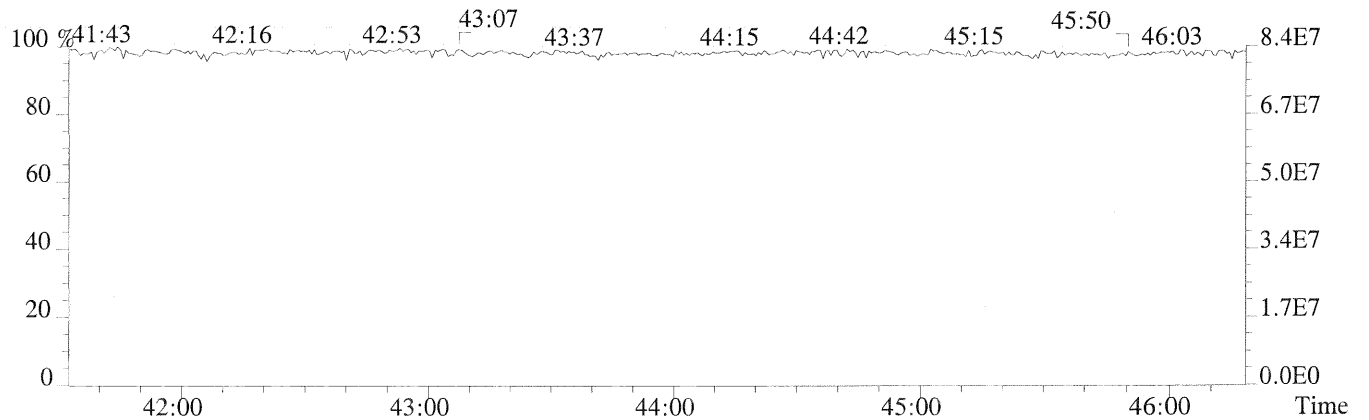
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2252.0,0.40%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

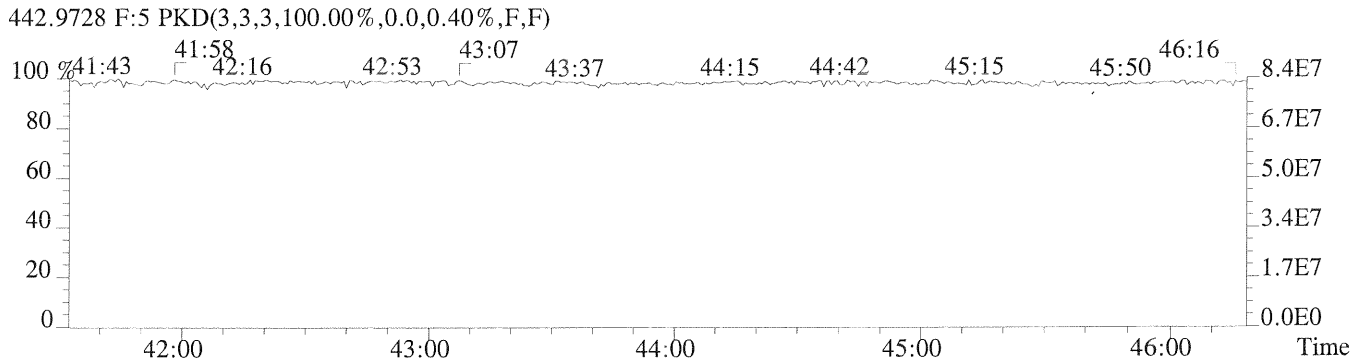
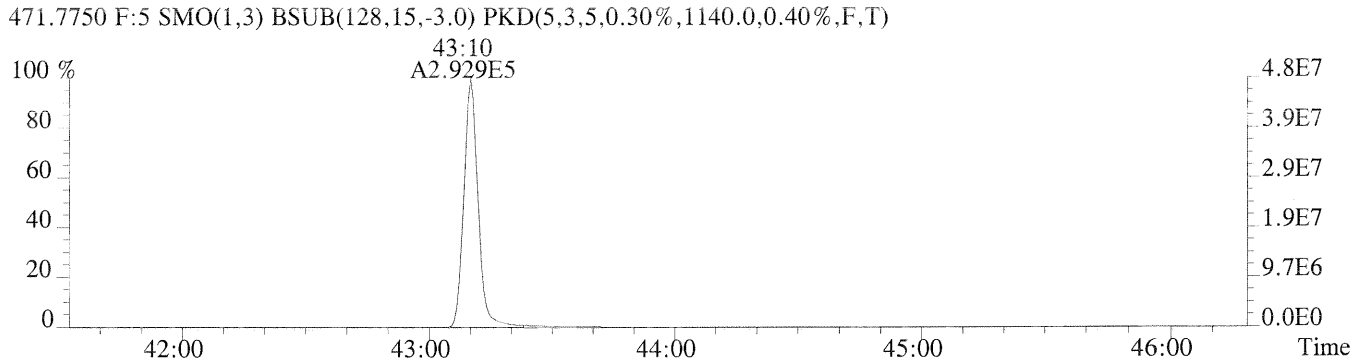
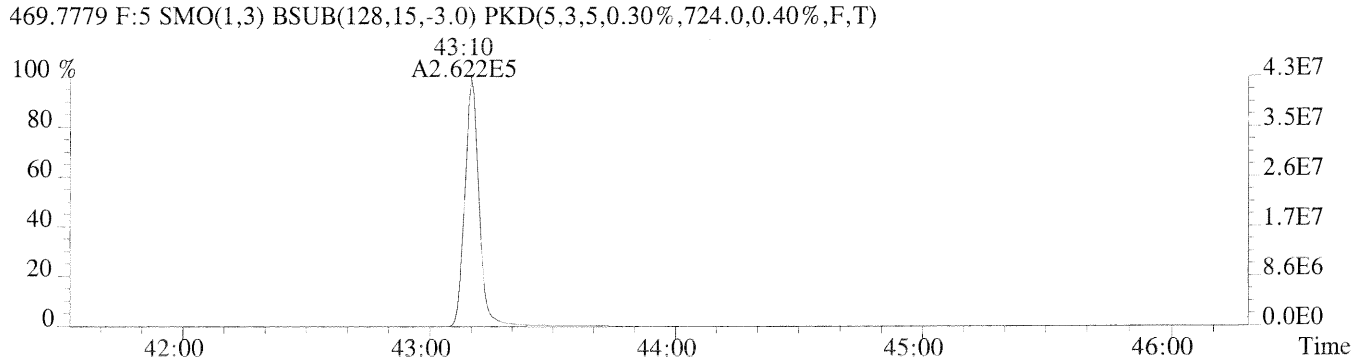
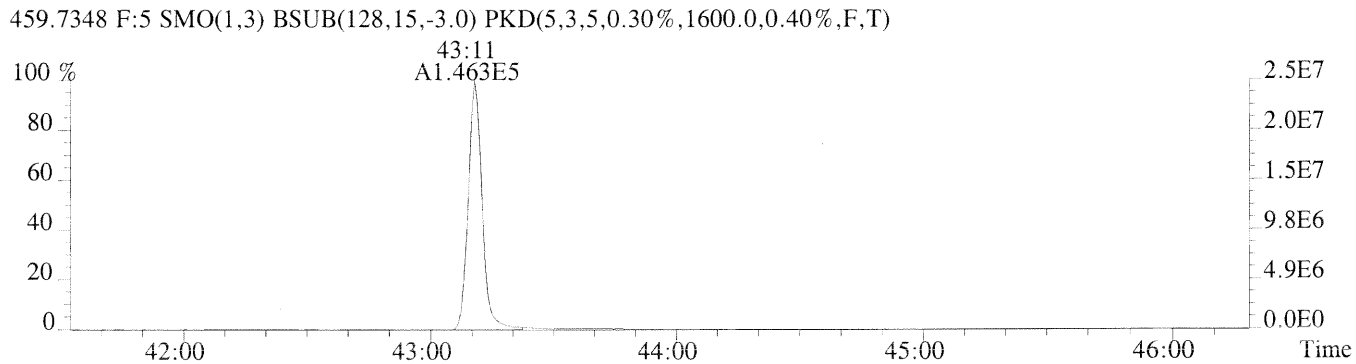
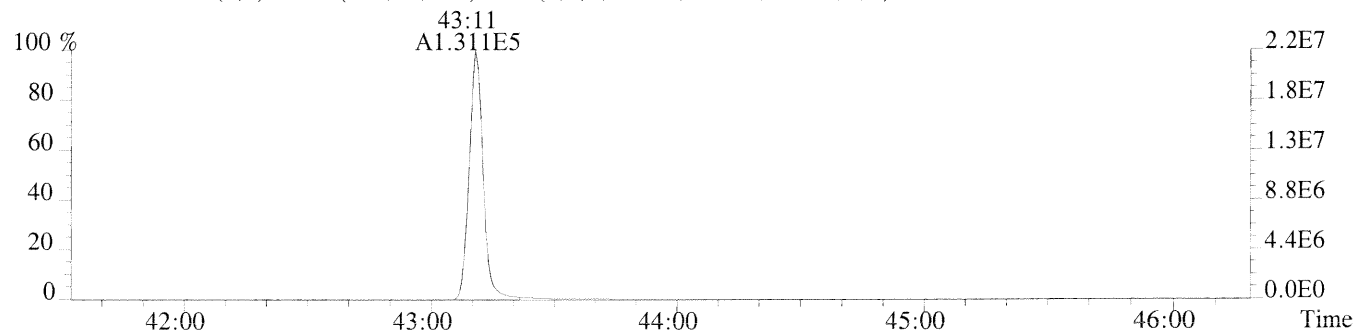


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P169976 #1-438 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICV 2ND SOURCE

457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,F,T)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P169977

Analysis Date: 25-MAR-14 Time: 22:58:54

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	10.4	7.8 - 12.9	3.9
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	55	39 - 65	9.8
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	48	39 - 64	-4.1
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	48	39 - 64	-3.2
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	45	41 - 61	-9.5
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	51	43 - 58	1.7
OCDD	M+2/M+4	0.91	0.76-1.02	95	79 - 126	-5.2
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	9.6	8.4 - 12.0	-3.9
1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	47	41 - 60	-6.2
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	51	41 - 61	3.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	47	45 - 56	-6.9
1,2,3,6,7,8-HxCDF	M+2/M+4	1.30	1.05-1.43	47	44 - 57	-5.1
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	46	45 - 56	-8.8
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	49	44 - 57	-1.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	49	45 - 55	-2.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.5
OCDF	M+2/M+4	0.91	0.76-1.02	97	63 - 159	-3.3

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 03/25/14

Instrument ID: E-HRMS-03

GC Column ID: DB-5MSUI

VER Data Filename: P169977

Analysis Date: 25-MAR-14 Time: 22:58:54

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	91	82 - 121	-8.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	98	62 - 160	-2.1
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	109	85 - 117	9.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	106	85 - 118	6.5
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	102	72 - 138	2.0
13C-OCDD	M+2/M+4	0.89	0.76-1.02	218	96 - 415	9.1
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	114	71 - 140	14.4
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	114	76 - 130	14.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	115	77 - 130	14.7
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	110	76 - 131	10.2
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	106	70 - 143	6.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	113	74 - 135	12.5
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	110	73 - 137	10.4
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	114	78 - 129	14.1
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	107	77 - 129	6.9
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.6	7.8 - 12.7	-4.5

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
- (5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
Sample Response Summary  
Method 1613B/8290A

CLIENT ID.  
D12-5-1B

Run #8      Filename P169977      Samp: 1      Inj: 1      Acquired: 25-MAR-14 22:58:54  
Processed: 26-MAR-14 12:21:08      Sample ID: STD

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	29:29	2.486e+03	3.274e+03	0.76	yes	no	0.945
2 Unk	1,2,3,7,8-PeCDF	33:22	2.372e+04	1.480e+04	1.60	yes	no	1.017
3 Unk	2,3,4,7,8-PeCDF	34:13	2.424e+04	1.543e+04	1.57	yes	no	0.977
4 Unk	1,2,3,4,7,8-HxCDF	36:46	2.173e+04	1.742e+04	1.25	yes	no	1.241
5 Unk	1,2,3,6,7,8-HxCDF	36:52	2.365e+04	1.826e+04	1.30	yes	no	1.178
6 Unk	2,3,4,6,7,8-HxCDF	37:21	2.283e+04	1.848e+04	1.24	yes	no	1.150
7 Unk	1,2,3,7,8,9-HxCDF	38:05	1.992e+04	1.588e+04	1.25	yes	no	1.154
8 Unk	1,2,3,4,6,7,8-HpCDF	39:19	2.136e+04	2.036e+04	1.05	yes	no	1.403
9 Unk	1,2,3,4,7,8,9-HpCDF	40:46	1.795e+04	1.714e+04	1.05	yes	no	1.324
10 Unk	OCDF	43:23	2.928e+04	3.222e+04	0.91	yes	no	1.307
11 Unk	2,3,7,8-TCDD	30:11	1.748e+03	2.191e+03	0.80	yes	no	1.037
12 Unk	1,2,3,7,8-PeCDD	34:28	1.557e+04	9.818e+03	1.59	yes	no	0.938
13 Unk	1,2,3,4,7,8-HxCDD	37:28	1.549e+04	1.206e+04	1.28	yes	no	1.041
14 Unk	1,2,3,6,7,8-HxCDD	37:33	1.576e+04	1.264e+04	1.25	yes	no	0.990
15 Unk	1,2,3,7,8,9-HxCDD	37:47	1.580e+04	1.252e+04	1.26	yes	no	1.094
16 Unk	1,2,3,4,6,7,8-HpCDD	40:15	1.363e+04	1.312e+04	1.04	yes	no	1.016
17 Unk	OCDD	43:10	2.366e+04	2.610e+04	0.91	yes	no	1.079
18 IS	13C-2,3,7,8-TCDF	29:28	2.789e+04	3.550e+04	0.79	yes	no	1.452
19 IS	13C-1,2,3,7,8-PeCDF	33:21	4.915e+04	3.157e+04	1.56	yes	no	1.849
20 IS	13C-2,3,4,7,8-PeCDF	34:12	4.813e+04	3.076e+04	1.56	yes	no	1.800
21 IS	13C-1,2,3,4,7,8-HxCDF	36:45	2.293e+04	4.480e+04	0.51	yes	no	1.045
22 IS	13C-1,2,3,6,7,8-HxCDF	36:52	2.579e+04	4.914e+04	0.52	yes	no	1.202
23 IS	13C-2,3,4,6,7,8-HxCDF	37:20	2.460e+04	4.815e+04	0.51	yes	no	1.120
24 IS	13C-1,2,3,7,8,9-HxCDF	38:04	2.346e+04	4.459e+04	0.53	yes	yes	1.028
25 IS	13C-1,2,3,4,6,7,8-HpCDF	39:18	1.842e+04	4.255e+04	0.43	yes	no	0.908
26 IS	13C-1,2,3,4,7,8,9-HpCDF	40:45	1.538e+04	3.585e+04	0.43	yes	no	0.814
27 IS	13C-2,3,7,8-TCDD	30:11	1.597e+04	2.060e+04	0.78	yes	no	1.049
28 IS	13C-1,2,3,7,8-PeCDD	34:28	3.020e+04	1.913e+04	1.58	yes	no	1.320
29 IS	13C-1,2,3,4,7,8-HxCDD	37:27	3.055e+04	2.469e+04	1.24	yes	no	0.859
30 IS	13C-1,2,3,6,7,8-HxCDD	37:32	3.293e+04	2.634e+04	1.25	yes	no	0.946
31 IS	13C-1,2,3,4,6,7,8-HpCDD	40:14	2.674e+04	2.501e+04	1.07	yes	no	0.862
32 IS	13C-OCDD	43:09	4.571e+04	5.158e+04	0.89	yes	no	0.758
33 RS/RT	13C-1,2,3,4-TCDD	29:39	1.684e+04	2.135e+04	0.79	yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:47	3.283e+04	2.600e+04	1.26	yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	30:11	4.103e+03				no	1.125

ALS ENVIRONMENTAL  
10450 Stancliff Road, Suite 115  
Houston, TX 77099  
Office(713)266-1599. Fax(713)266-0130

1613RESP

ALS ENVIRONMENTAL  
Signal/Noise Height Ratio Summary  
Method 1613b/8290A

CLIENT ID.  
D12-5-1B

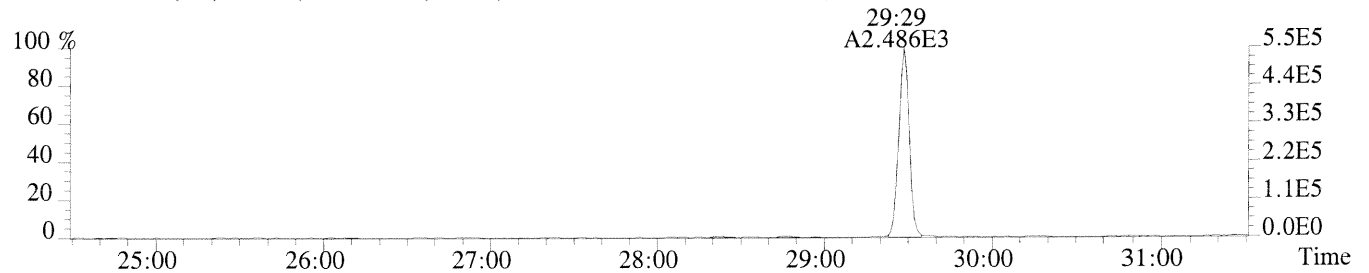
Run #14 Filename P169977 Samp: 1 Inj: 1 Acquired: 25-MAR-14 22:58:54  
Processed: 26-MAR-14 09:09:511 LAB. ID: STD

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.49e+05	9.80e+02	5.6e+02	7.28e+05	2.03e+03	3.6e+02
2	1,2,3,7,8-PeCDF	4.48e+06	1.36e+03	3.3e+03	2.77e+06	1.61e+03	1.7e+03
3	2,3,4,7,8-PeCDF	4.93e+06	1.36e+03	3.6e+03	3.15e+06	1.61e+03	2.0e+03
4	1,2,3,4,7,8-HxCDF	4.68e+06	1.03e+03	4.5e+03	3.81e+06	1.32e+03	2.9e+03
5	1,2,3,6,7,8-HxCDF	4.88e+06	1.03e+03	4.7e+03	3.70e+06	1.32e+03	2.8e+03
6	2,3,4,6,7,8-HxCDF	4.85e+06	1.03e+03	4.7e+03	3.87e+06	1.32e+03	2.9e+03
7	1,2,3,7,8,9-HxCDF	3.98e+06	1.03e+03	3.9e+03	3.22e+06	1.32e+03	2.4e+03
8	1,2,3,4,6,7,8-HpCDF	4.33e+06	2.69e+03	1.6e+03	4.08e+06	3.18e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	3.26e+06	2.69e+03	1.2e+03	3.15e+06	3.18e+03	9.9e+02
10	OCDF	4.63e+06	1.52e+03	3.1e+03	5.02e+06	2.10e+03	2.4e+03
11	2,3,7,8-TCDD	4.01e+05	8.52e+02	4.7e+02	5.02e+05	1.30e+03	3.9e+02
12	1,2,3,7,8-PeCDD	3.15e+06	1.31e+03	2.4e+03	1.95e+06	7.12e+02	2.7e+03
13	1,2,3,4,7,8-HxCDD	3.47e+06	1.07e+03	3.2e+03	2.64e+06	1.20e+03	2.2e+03
14	1,2,3,6,7,8-HxCDD	3.28e+06	1.07e+03	3.1e+03	2.64e+06	1.20e+03	2.2e+03
15	1,2,3,7,8,9-HxCDD	3.18e+06	1.07e+03	3.0e+03	2.49e+06	1.20e+03	2.1e+03
16	1,2,3,4,6,7,8-HpCDD	2.63e+06	1.46e+03	1.8e+03	2.52e+06	7.12e+02	3.5e+03
17	OCDD	3.83e+06	1.06e+03	3.6e+03	4.24e+06	1.95e+03	2.2e+03
18	13C-2,3,7,8-TCDF	6.18e+06	1.46e+03	4.2e+03	7.80e+06	1.76e+03	4.4e+03
19	13C-1,2,3,7,8-PeCDF	9.28e+06	8.80e+02	1.1e+04	6.09e+06	1.20e+03	5.1e+03
20	13C-2,3,4,7,8-PeCDF	9.80e+06	8.80e+02	1.1e+04	6.30e+06	1.20e+03	5.3e+03
21	13C-1,2,3,4,7,8-HxCDF	4.90e+06	1.50e+03	3.3e+03	9.64e+06	1.57e+03	6.2e+03
22	13C-1,2,3,6,7,8-HxCDF	5.20e+06	1.50e+03	3.5e+03	9.86e+06	1.57e+03	6.3e+03
23	13C-2,3,4,6,7,8-HxCDF	5.25e+06	1.50e+03	3.5e+03	1.02e+07	1.57e+03	6.5e+03
24	13C-1,2,3,7,8,9-HxCDF	4.64e+06	1.50e+03	3.1e+03	8.80e+06	1.57e+03	5.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.78e+06	3.35e+03	1.1e+03	8.63e+06	3.47e+03	2.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.88e+06	3.35e+03	8.6e+02	6.68e+06	3.47e+03	1.9e+03
27	13C-2,3,7,8-TCDD	3.56e+06	4.38e+03	8.1e+02	4.60e+06	2.35e+03	2.0e+03
28	13C-1,2,3,7,8-PeCDD	6.22e+06	1.57e+03	4.0e+03	3.97e+06	8.08e+02	4.9e+03
29	13C-1,2,3,4,7,8-HxCDD	6.79e+06	1.86e+03	3.6e+03	5.45e+06	1.46e+03	3.7e+03
30	13C-1,2,3,6,7,8-HxCDD	6.84e+06	1.86e+03	3.7e+03	5.55e+06	1.46e+03	3.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.17e+06	1.69e+03	3.1e+03	4.89e+06	9.76e+02	5.0e+03
32	13C-OCDD	7.33e+06	1.22e+03	6.0e+03	8.30e+06	1.23e+03	6.8e+03
33	13C-1,2,3,4-TCDD	3.71e+06	4.38e+03	8.5e+02	4.71e+06	2.35e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	6.54e+06	1.86e+03	3.5e+03	5.22e+06	1.46e+03	3.6e+03
35	37Cl-2,3,7,8-TCDD	9.27e+05	1.92e+03	4.8e+02			

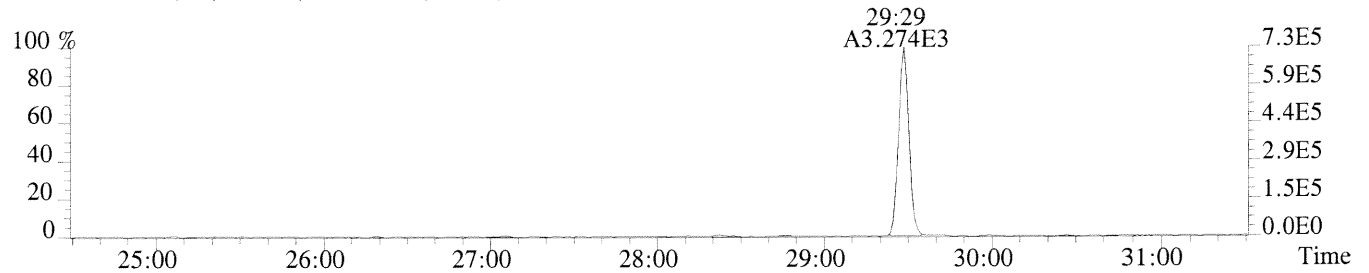
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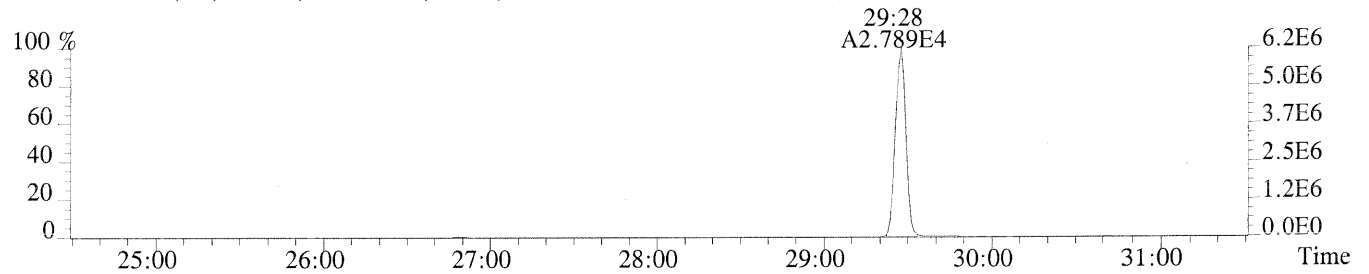
File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



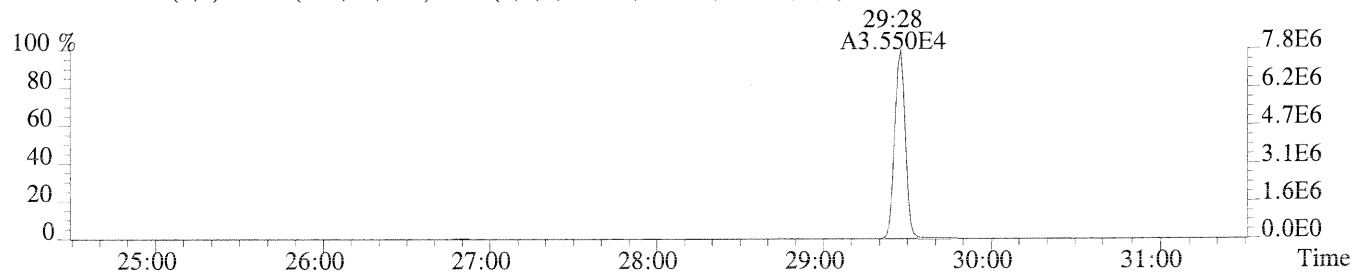
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2032.0,1.00%,F,T)



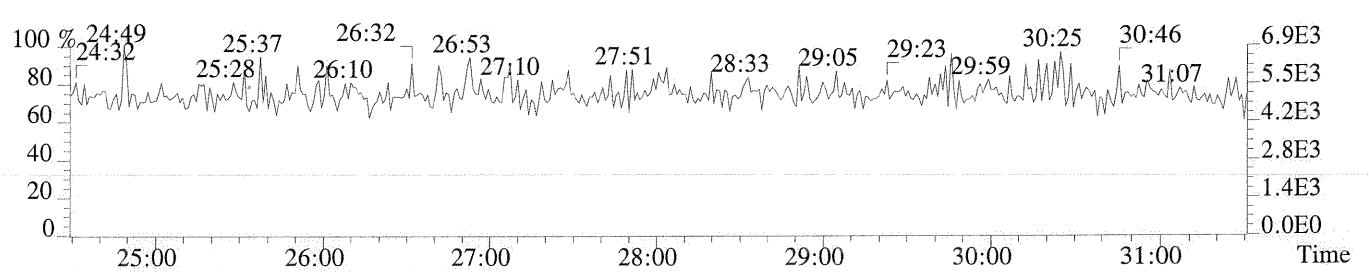
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



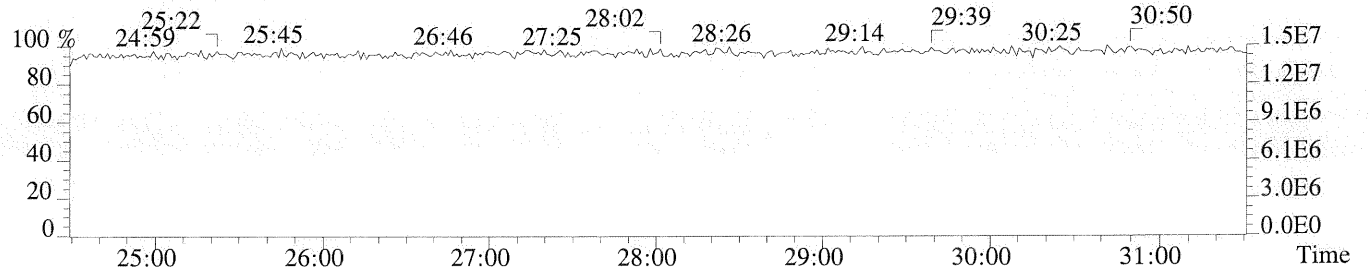
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1764.0,1.00%,F,T)



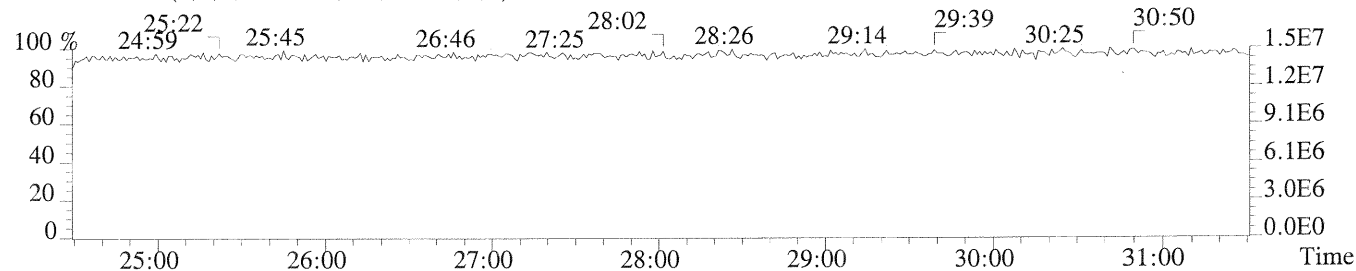
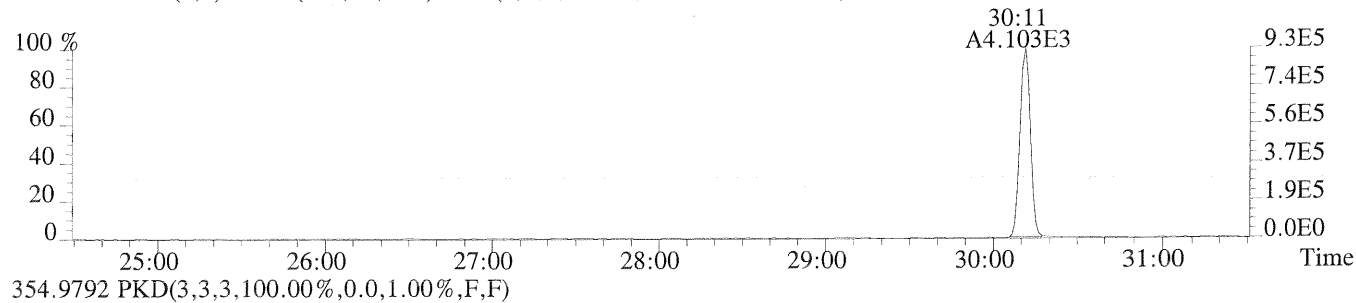
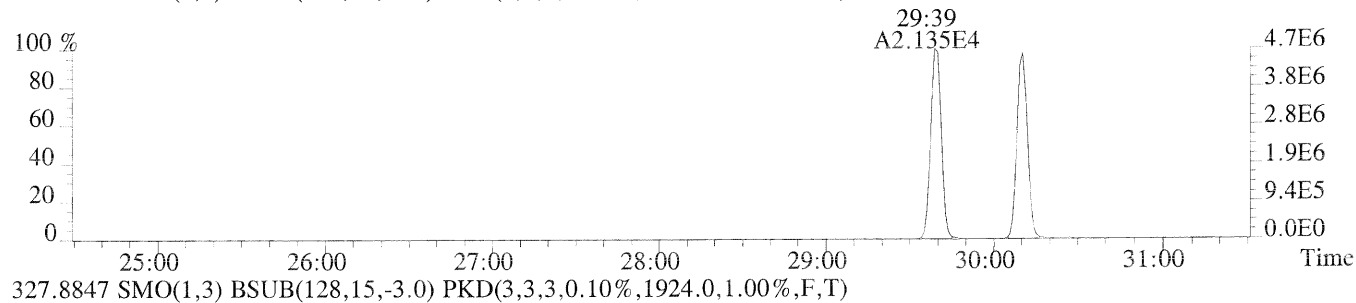
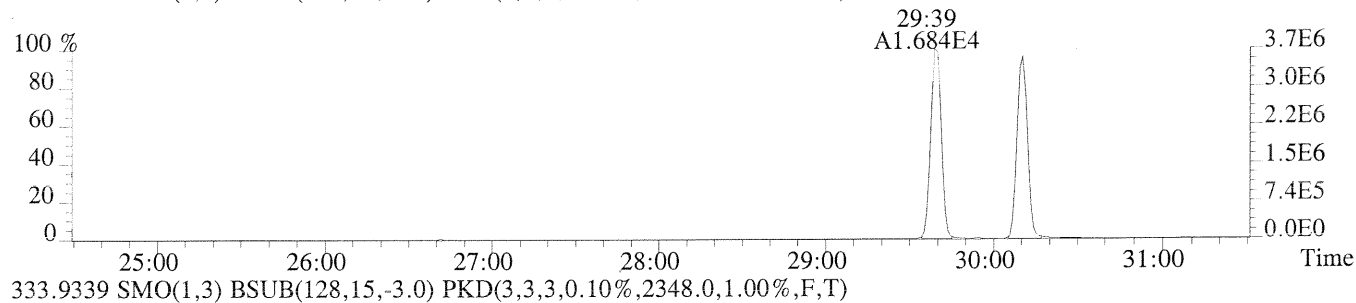
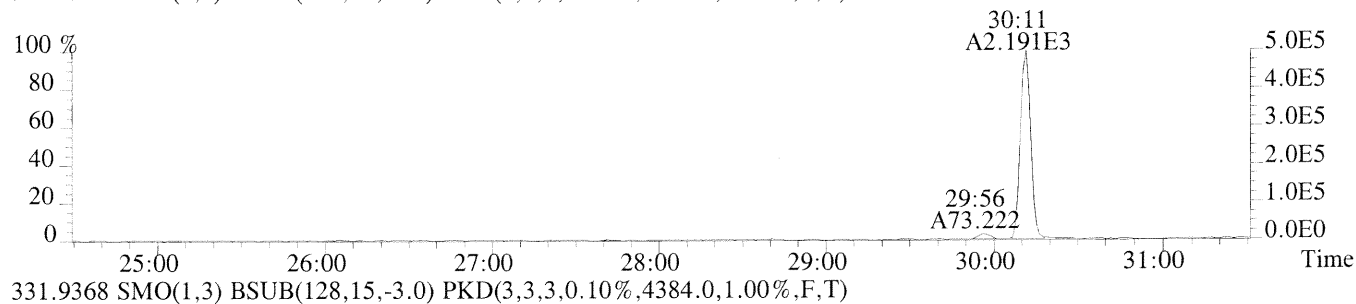
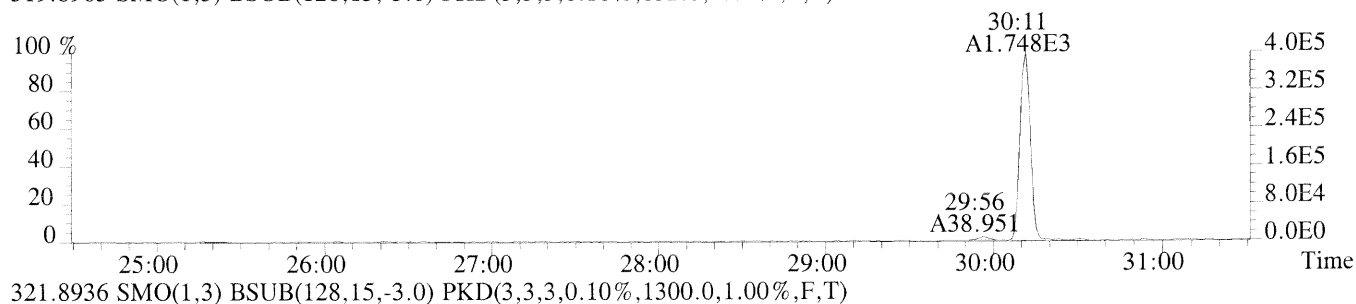
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



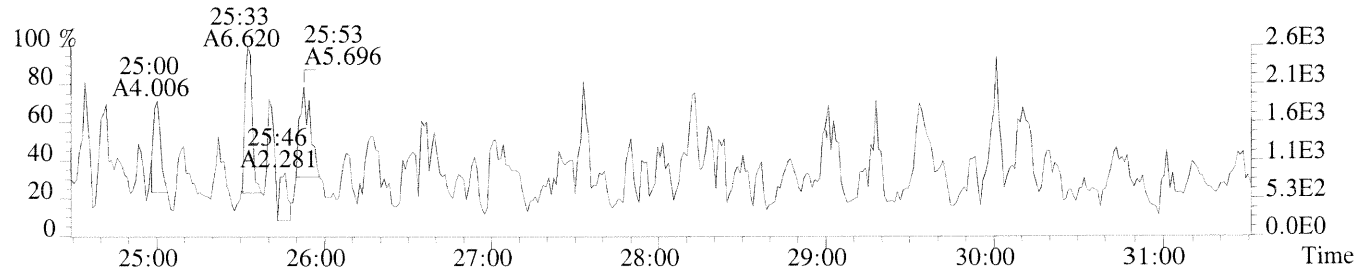
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



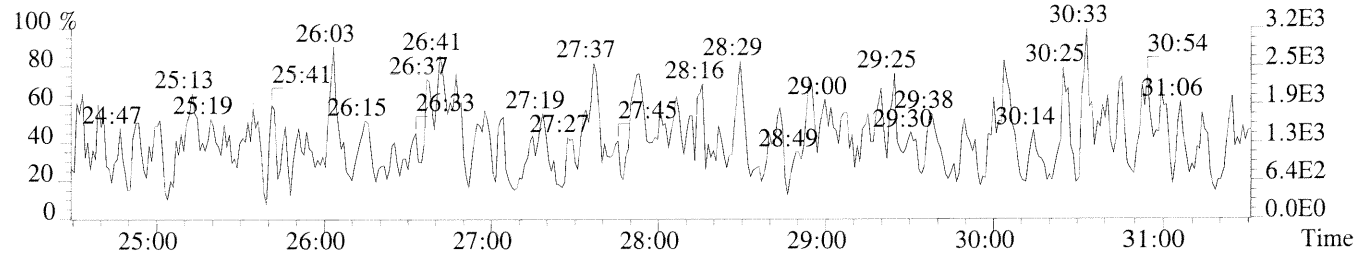
File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



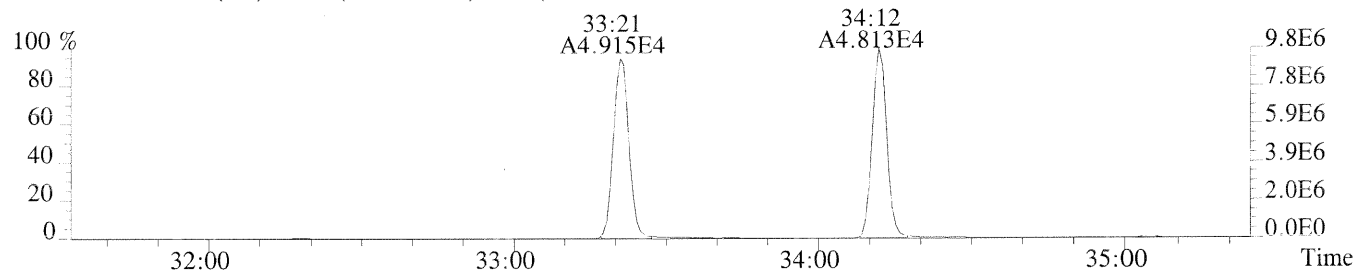
File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
339.8597 SMO(1,3) BSMO(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



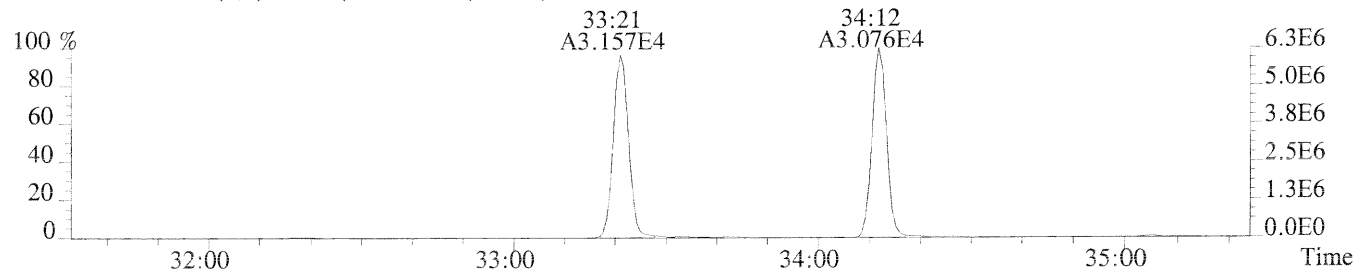
341.8567 SMO(1,3) BSMO(128,15,-3.0) PKD(3,3,3,0.10%,1564.0,1.00%,F,T)



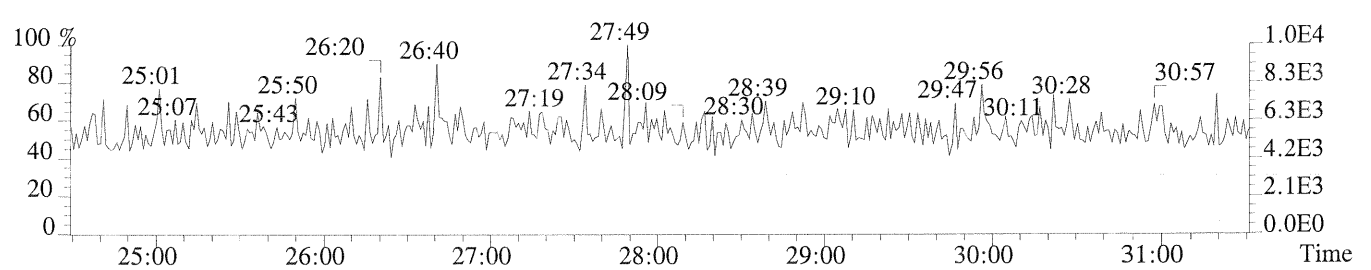
351.9000 F:2 SMO(1,3) BSMO(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



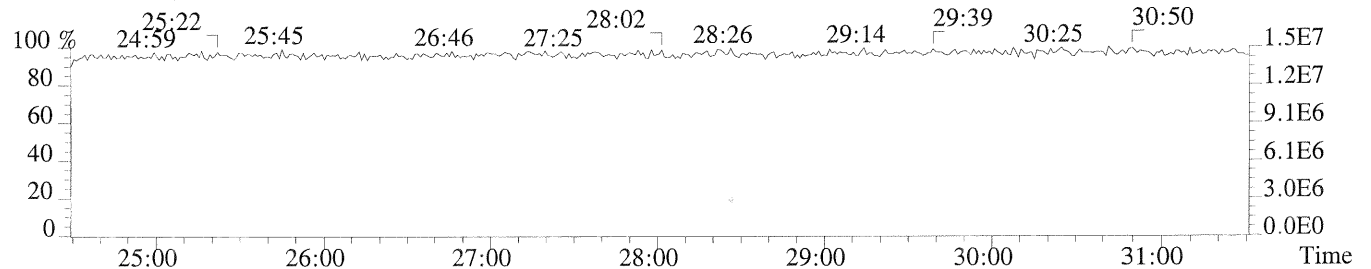
353.8970 F:2 SMO(1,3) BSMO(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



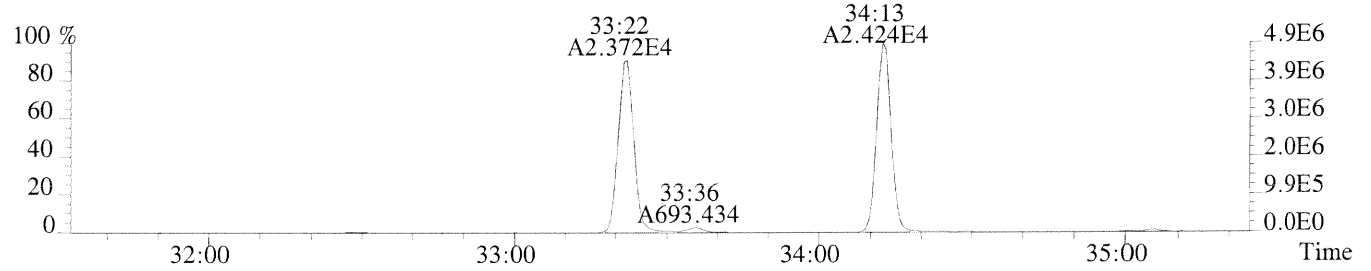
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



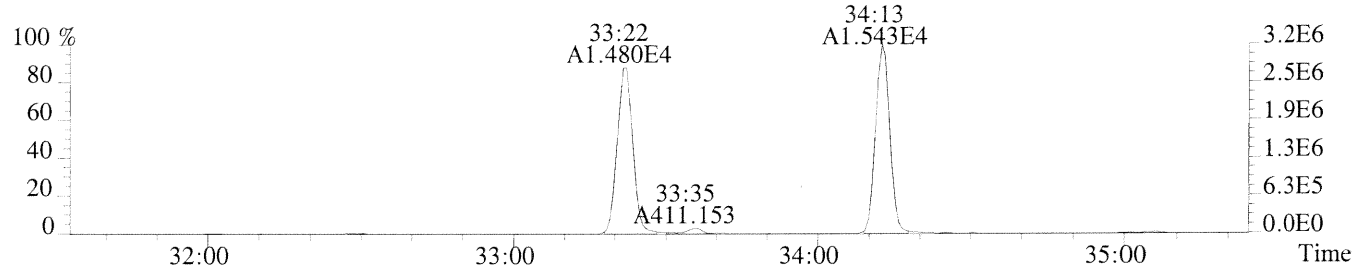
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



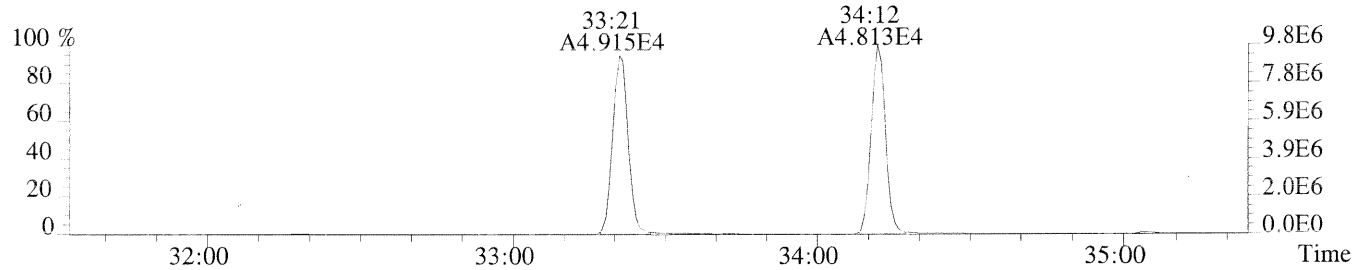
File:P169977 #1-350 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



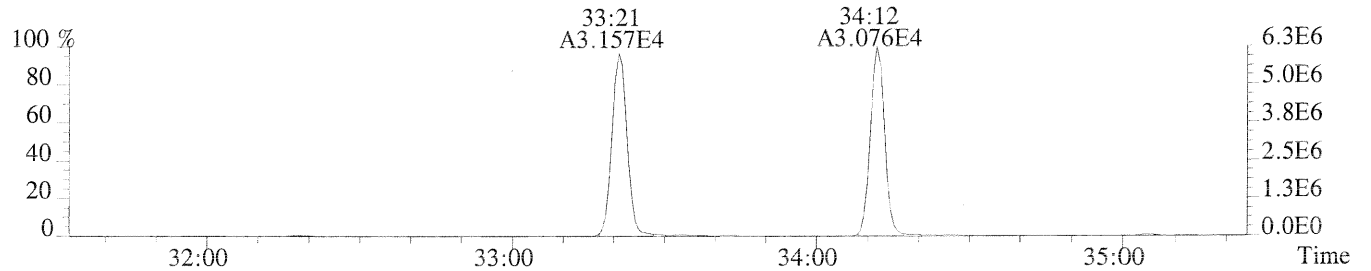
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1612.0,1.00%,F,T)



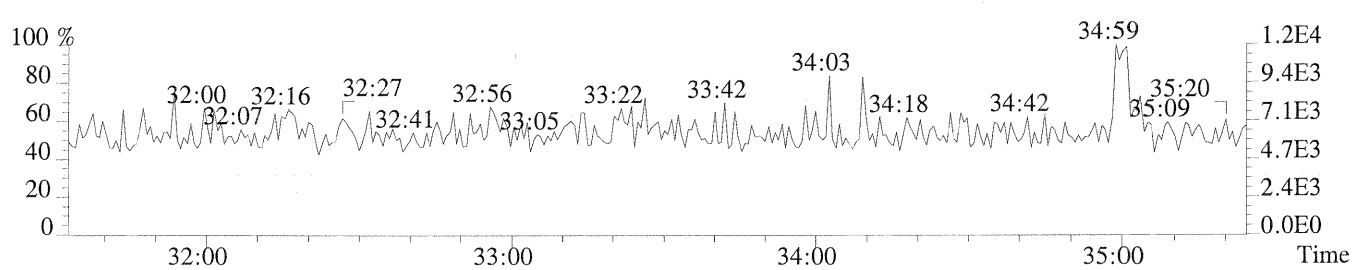
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



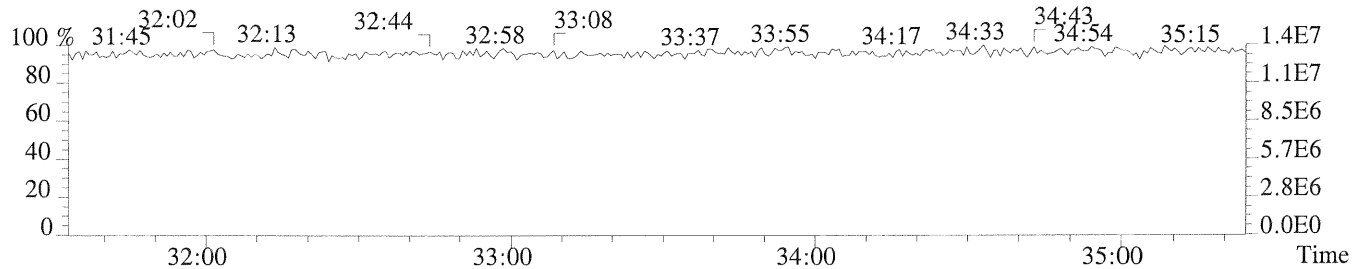
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

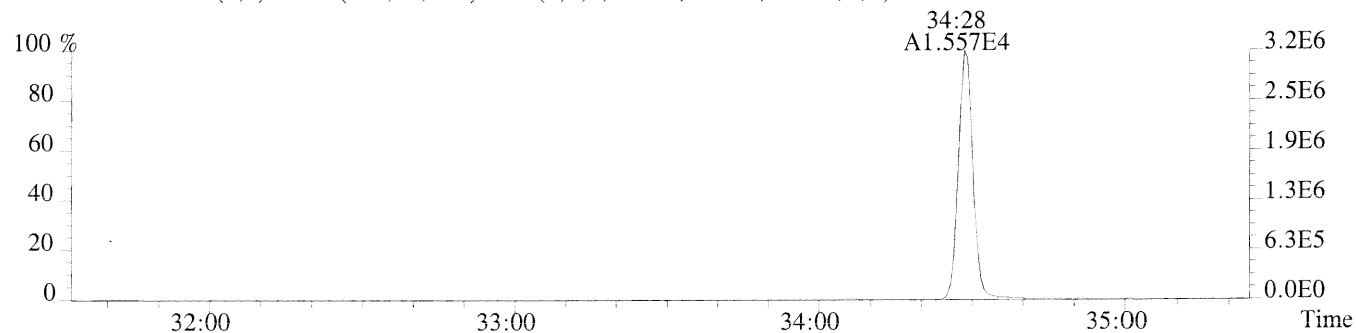


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

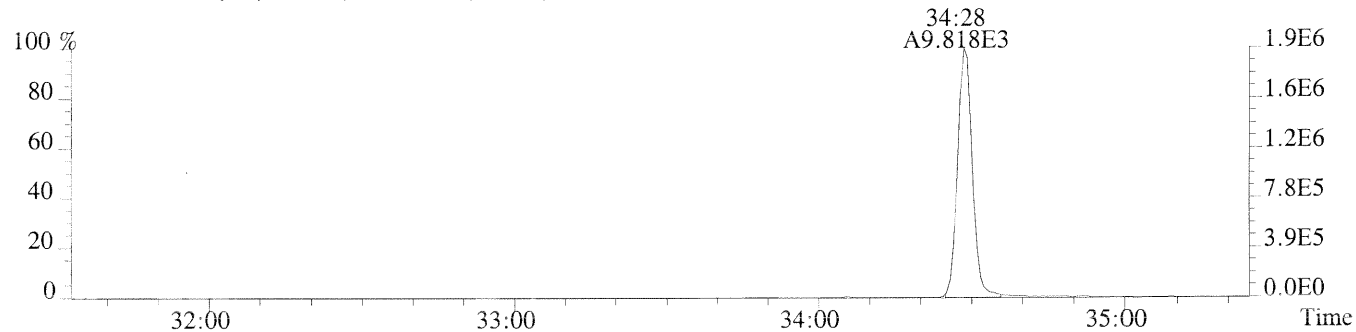


File:P169977 #1-350 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD

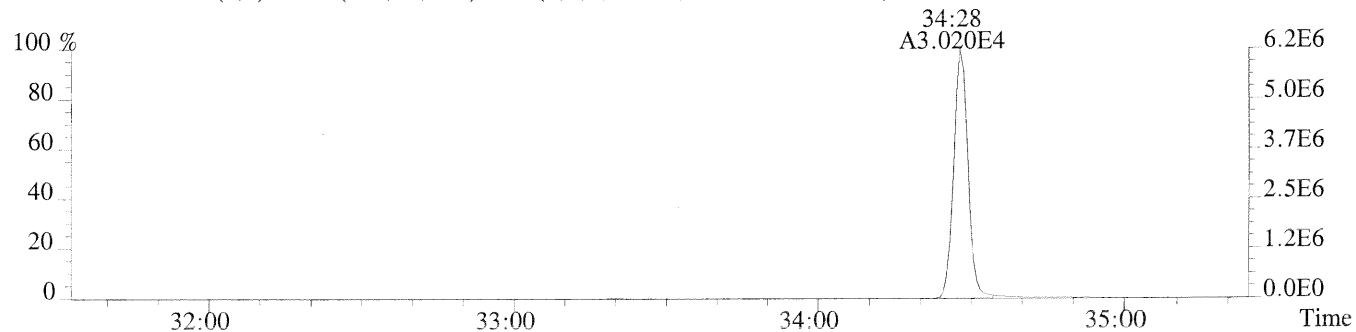
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)



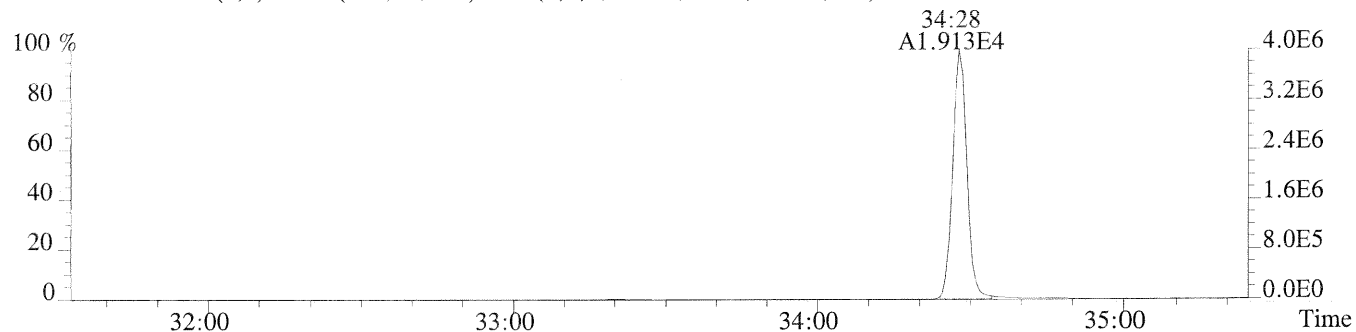
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



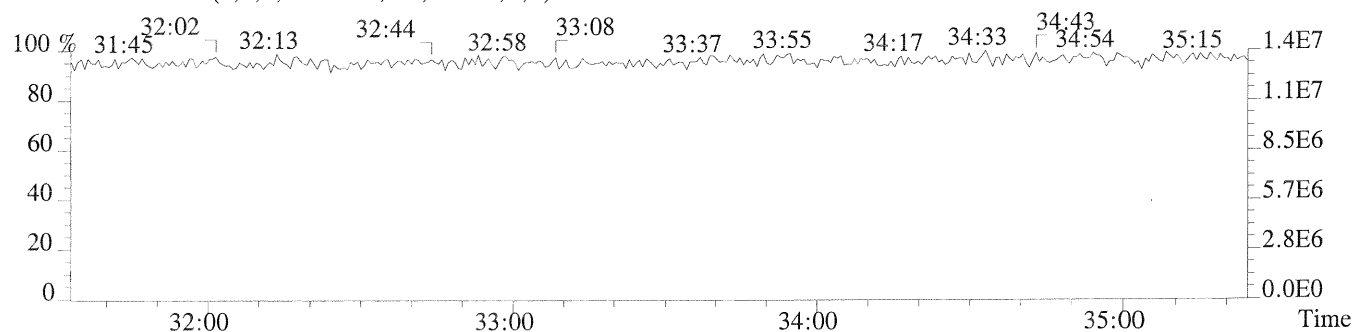
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)

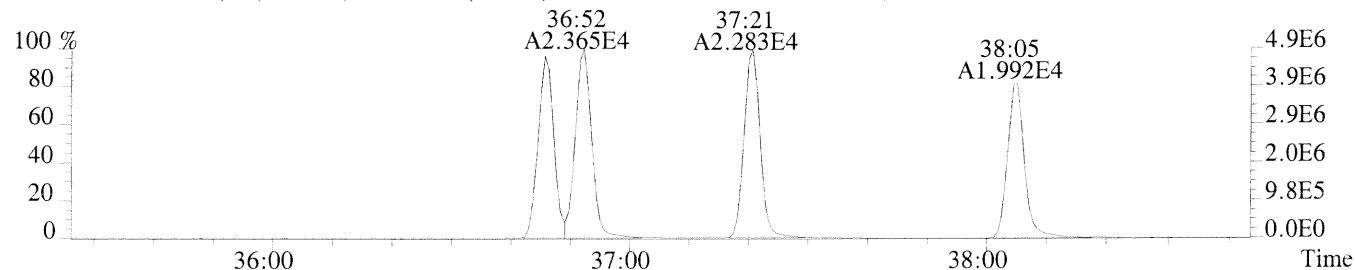


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

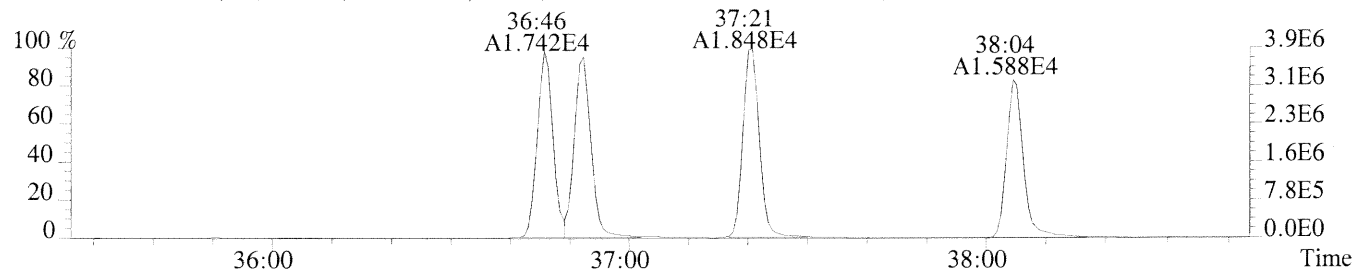


File:P169977 #1-299 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD

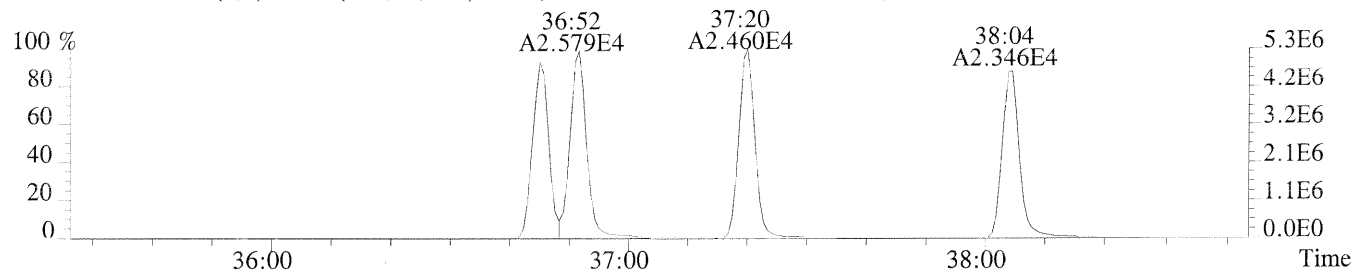
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,T)



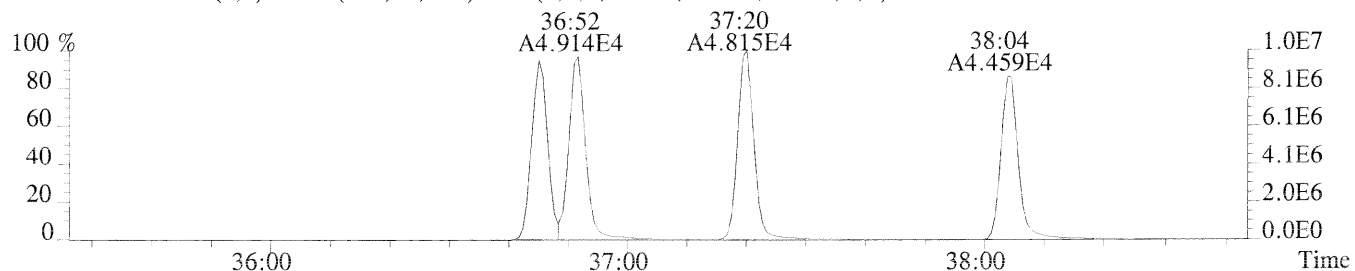
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1320.0,0.40%,F,T)



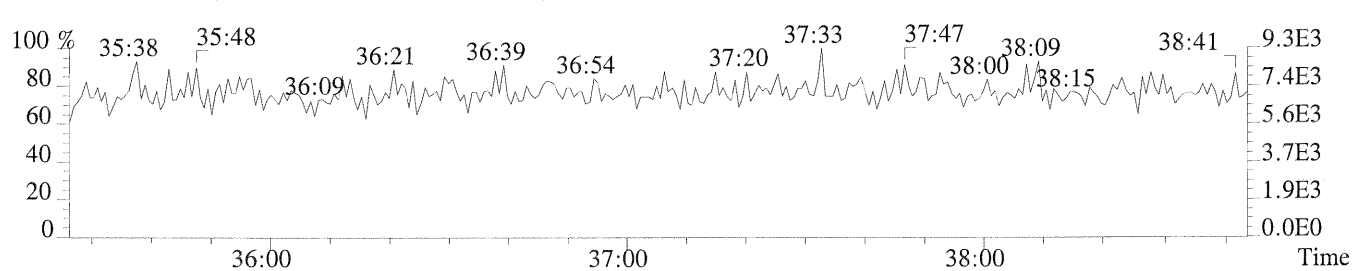
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



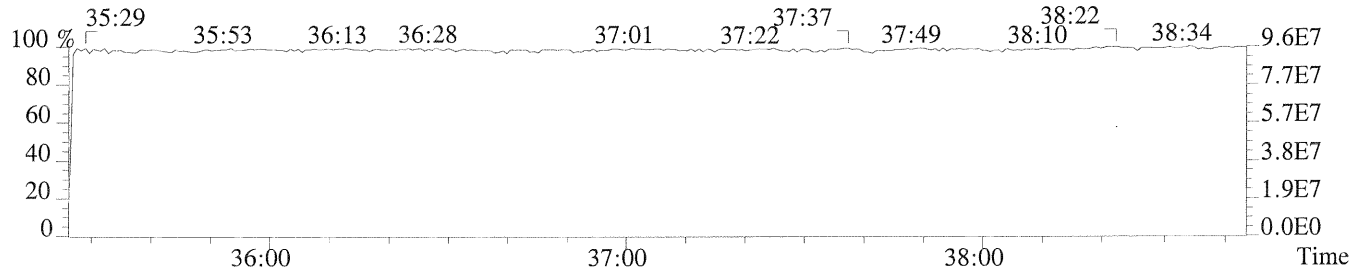
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



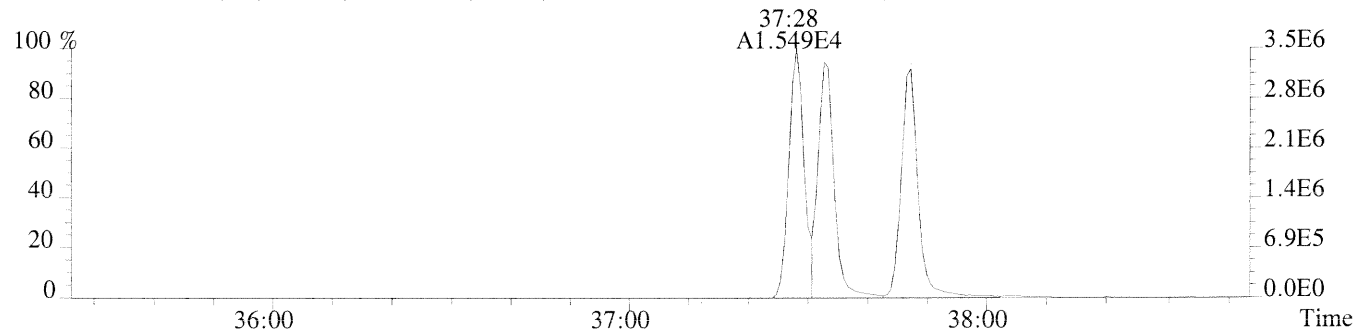
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



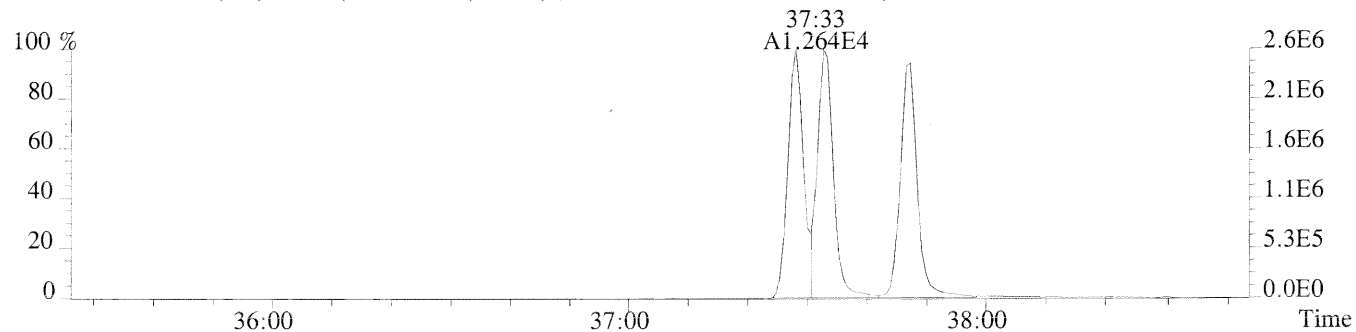
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



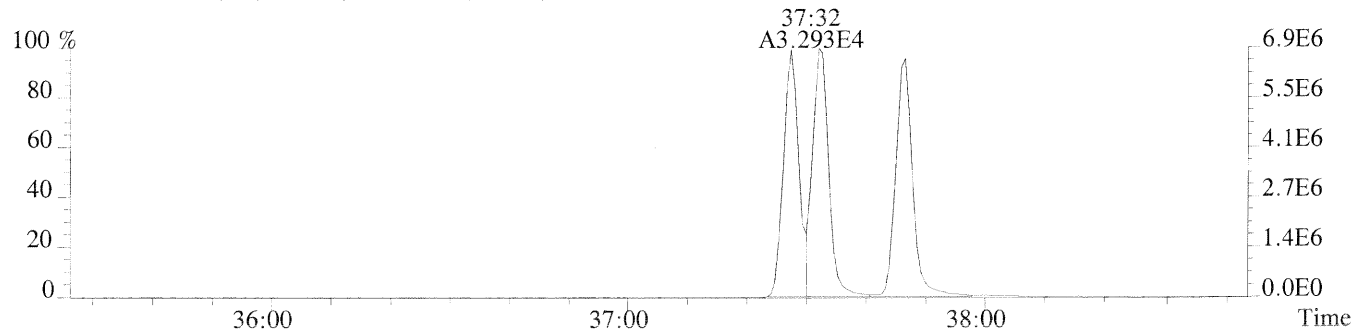
File:P169977 #1-299 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)



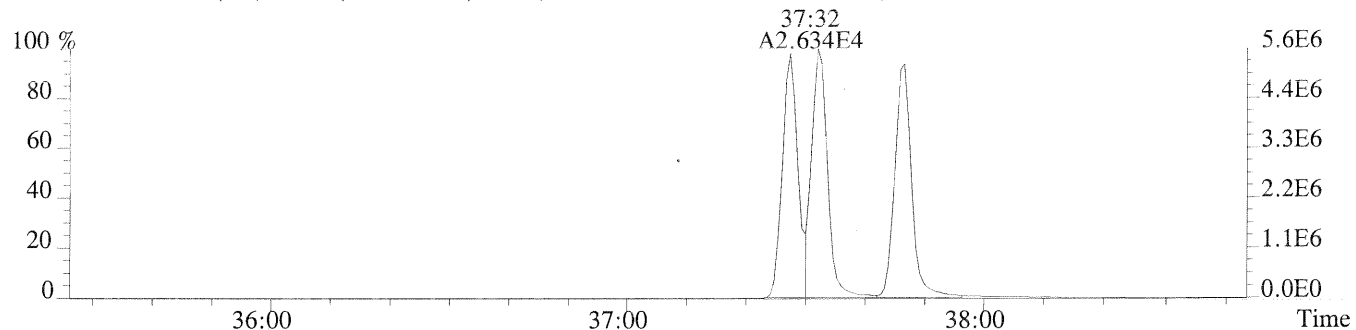
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1204.0,0.40%,F,T)



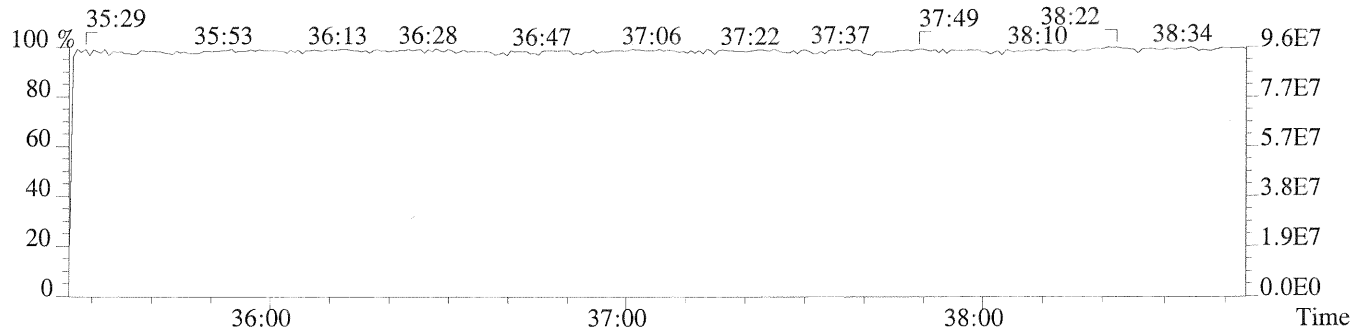
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1860.0,0.40%,F,T)



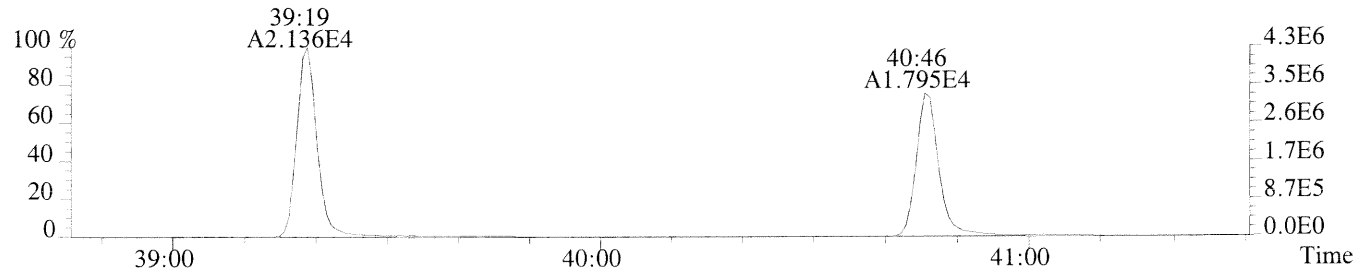
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



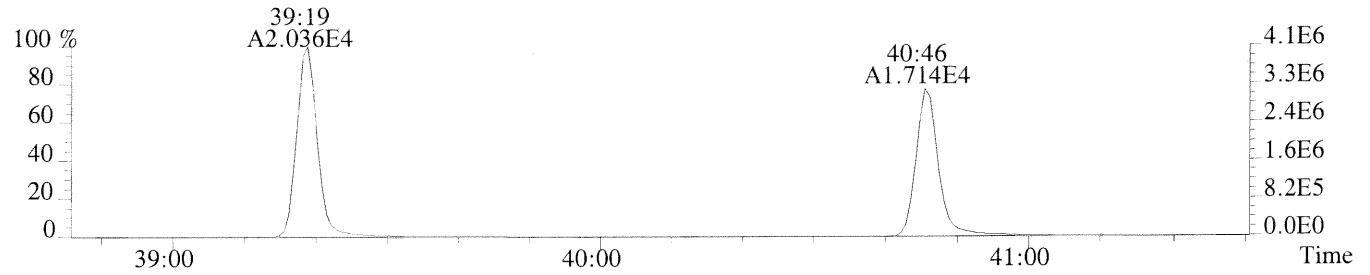
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



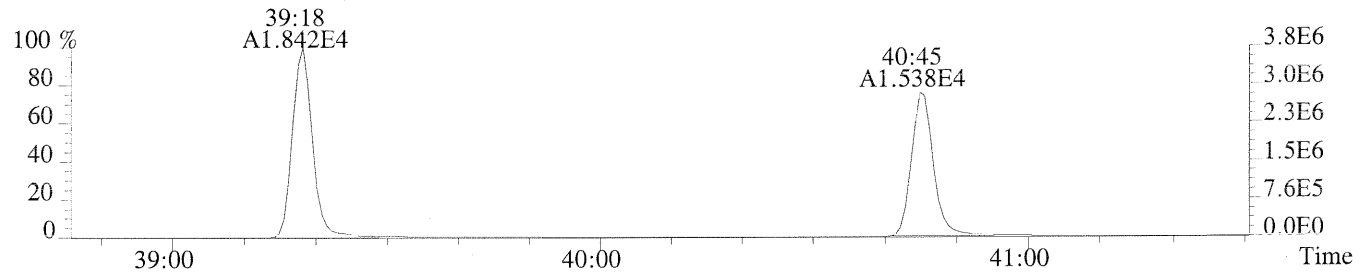
File:P169977 #1-250 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2692.0,0.50%,F,T)



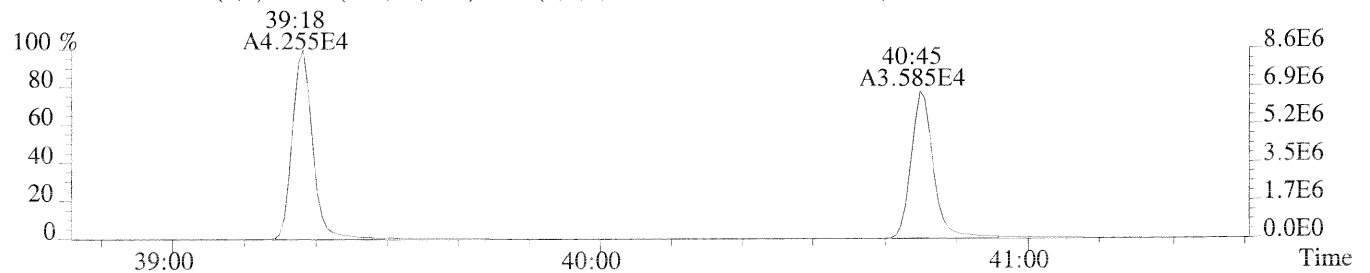
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3180.0,0.50%,F,T)



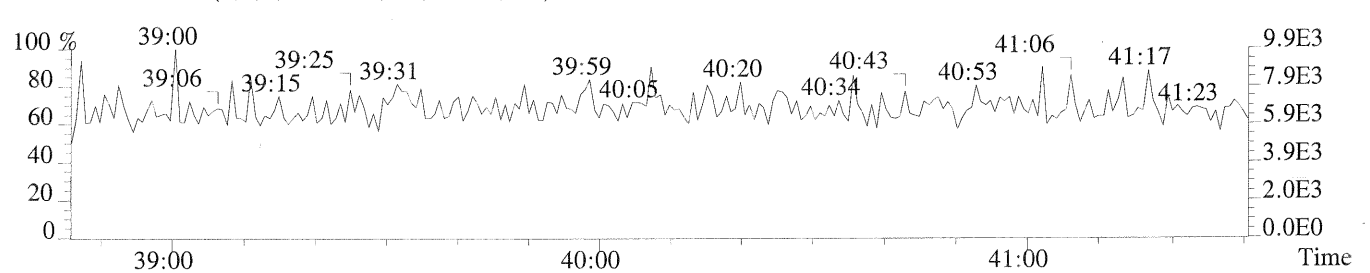
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3348.0,0.50%,F,T)



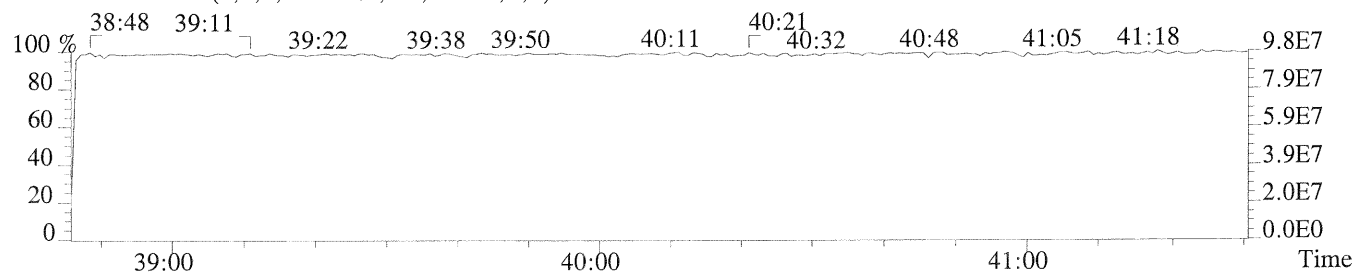
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3472.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

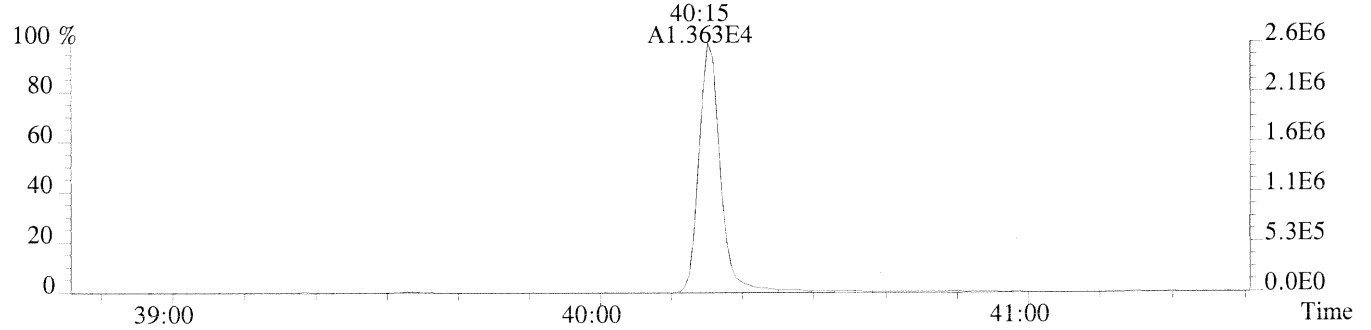


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

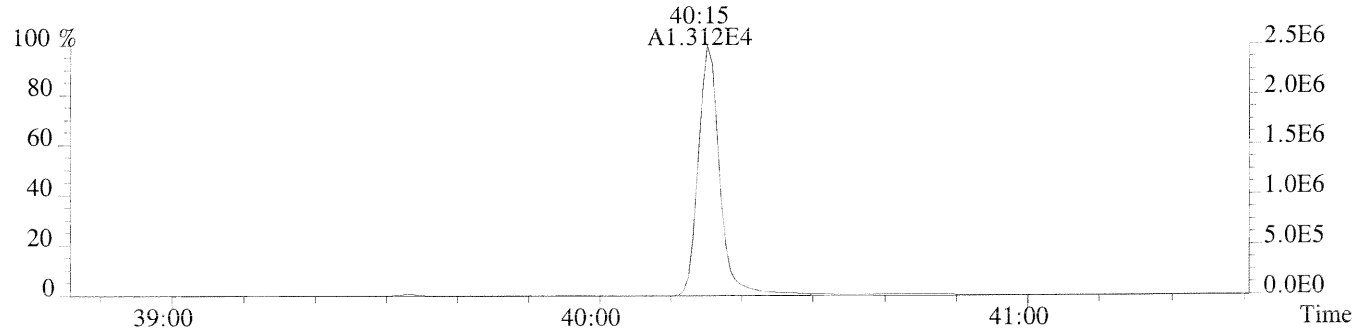




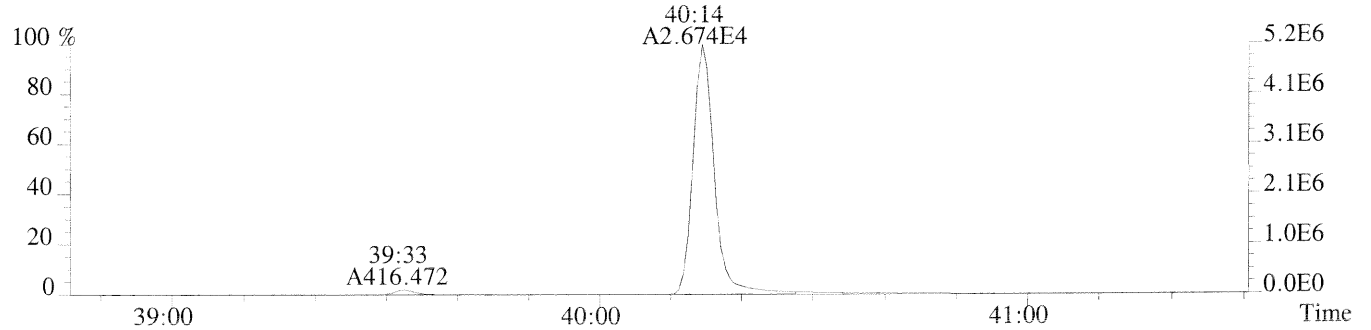
File:P169977 #1-250 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



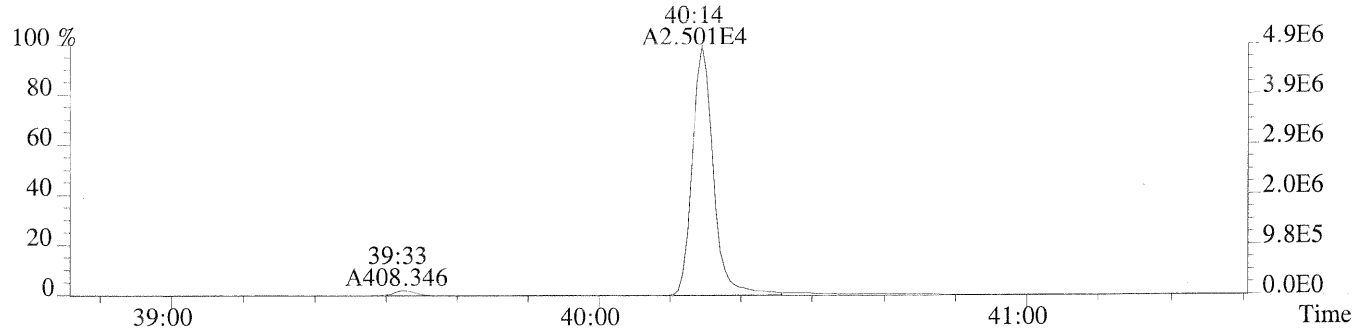
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



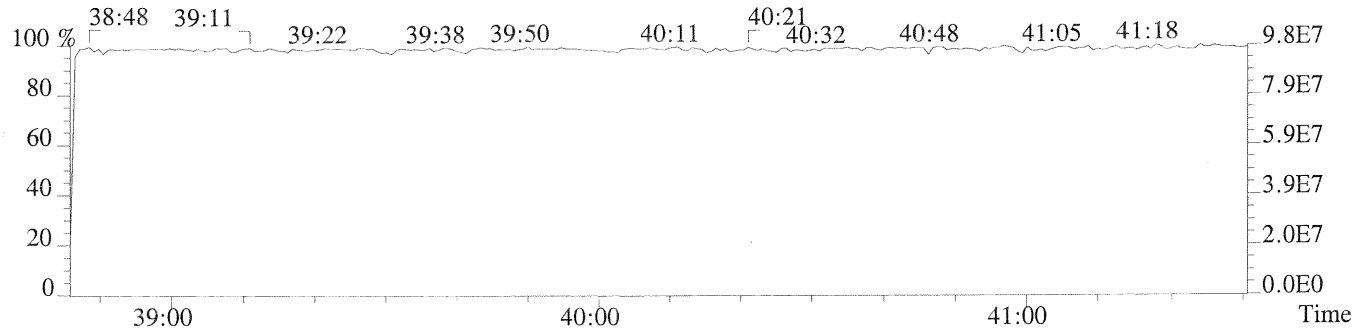
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,976.0,0.40%,F,T)

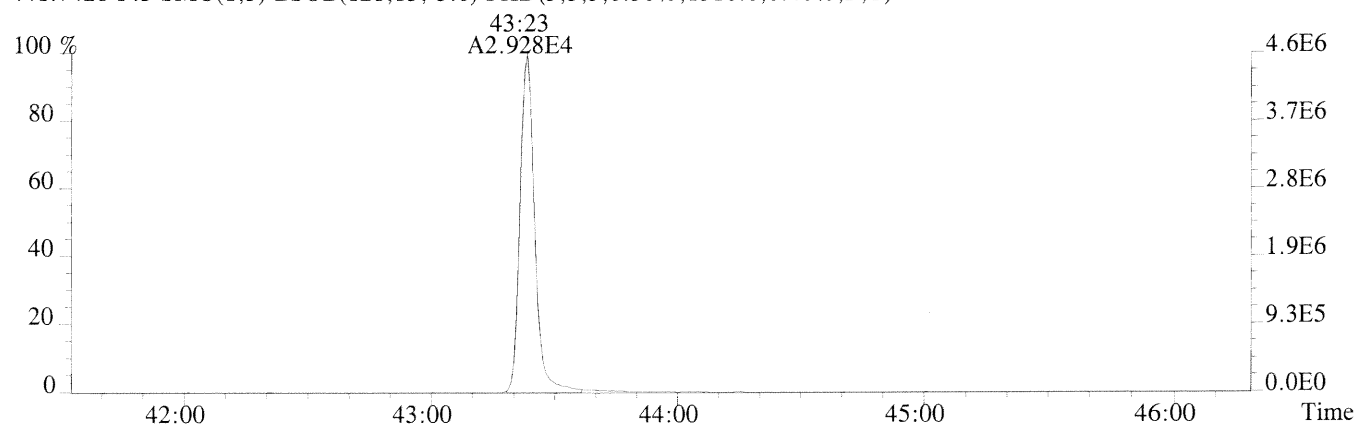


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

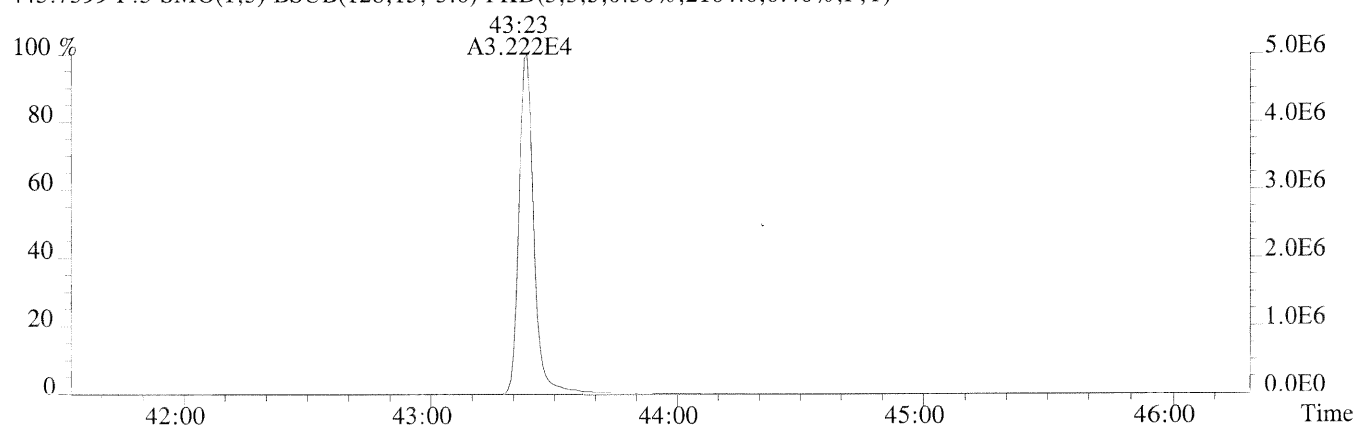


File:P169977 #1-438 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:STD

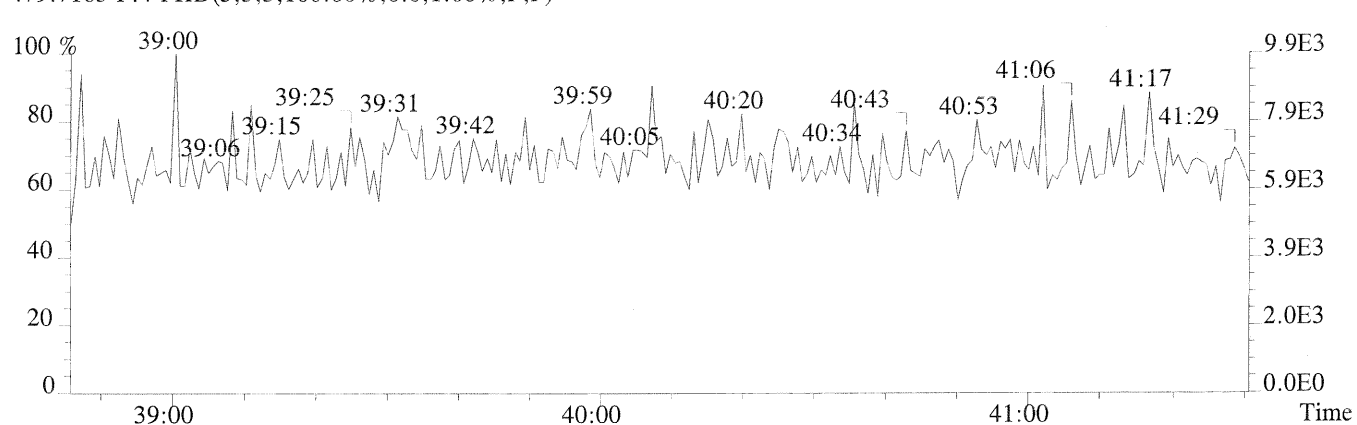
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



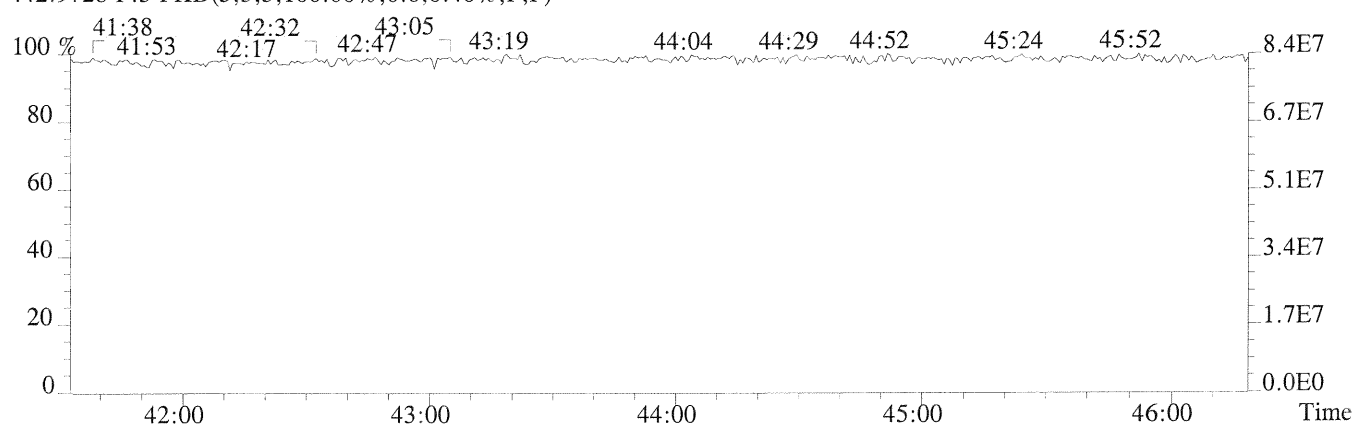
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2104.0,0.40%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

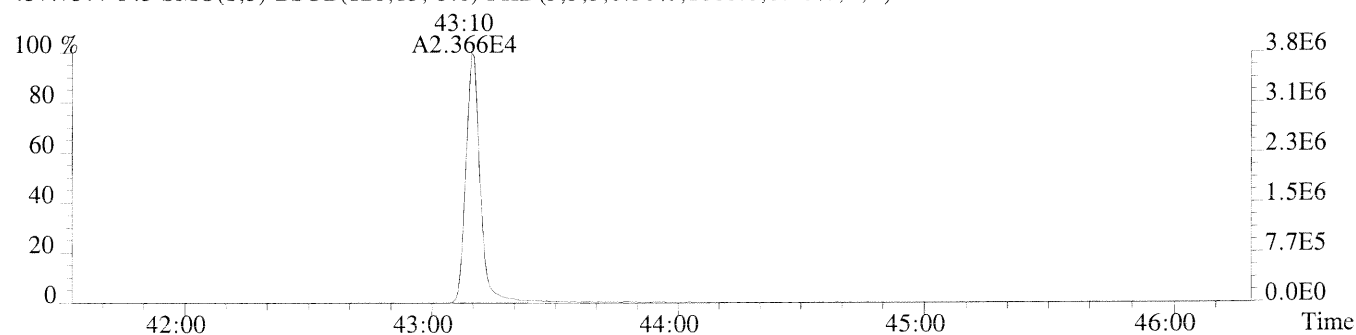


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

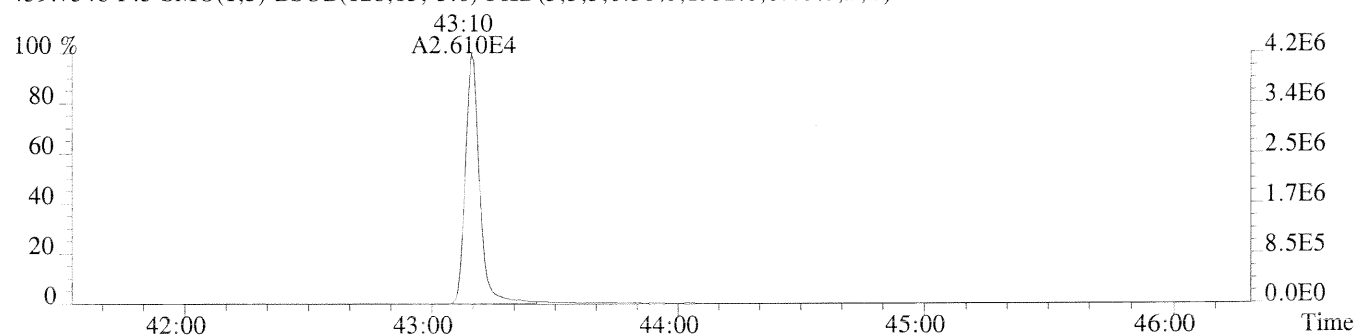


Sample#1 Exp:STD

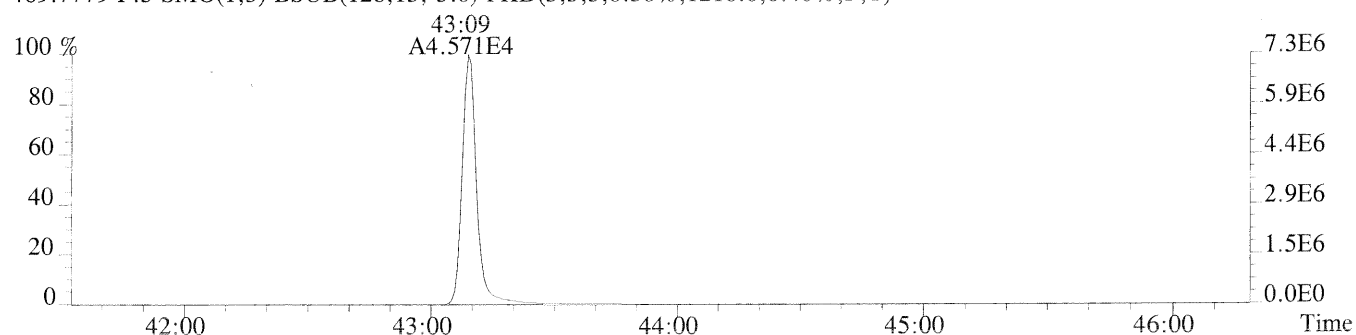
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



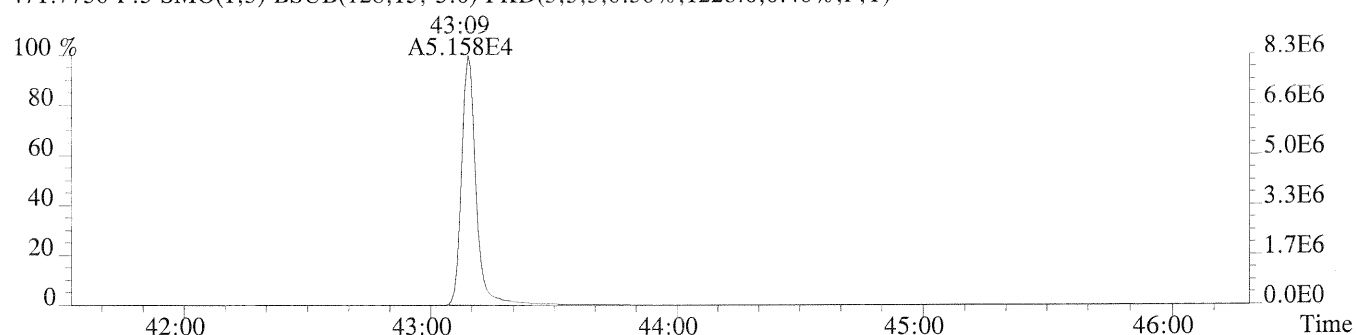
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1952.0,0.40%,F,T)



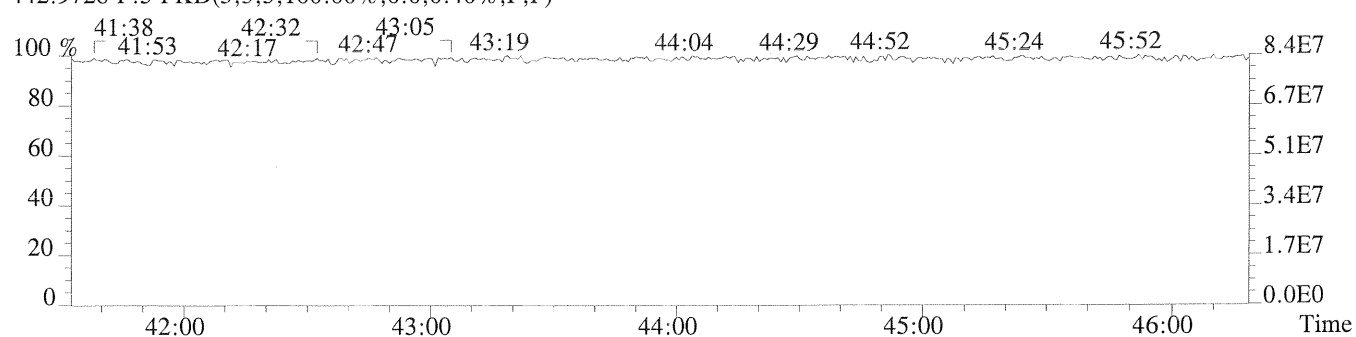
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1228.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 08/25/2014				
Instrument Name: E-HRMS-04	Calibration File Name: P1408241613I				
Processor Name: Jimmy Chau	Reviewer Name: Loan Luong				
Description	Yes	No	NA	NR	ER#
<b>Analytical Sequence</b>					
Does the analytical sequence summary accurately reflect the instrument run log, including ICV?	X				
Was a Mass Resolution Check performed at the beginning and end of the 12-hour sequence?	X				
Were all calibration standards and the ICV analyzed within the same 12-hour sequence?	X				
Were all calibration standards analyzed only once?	X				
Was the ICV analyzed after the ICAL, before analyzing samples?	X				
<b>Mass Resolution Check</b>					
Are beginning and ending resolution checks provided and legible?	X				
Were all target masses >10,000 resolving power at the beginning of the sequence?	X				
Were all target masses >10,000 resolving power at the end of the sequence?	X				
For PCB analysis, were masses at the low and high end of each function mass range >8,000?			X		
Where automatic printout of the mass resolution were not >10,000, was the resolution inspected by a trained analyst, including manual calculation of the resolution, if warranted?			X		
<b>Window Define/209</b>					
Is the window defining mix summary present, and accompanied by SICPs/Chromatograms for the WDM?	X				
Was the WDM/Column Performance/209 solution analyzed prior to the analysis of the calibration standards?	X				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?	X				
Were all first and last eluters adequately resolved in each function?	X				
If first and last eluters were not resolved, was corrective action performed and documented, followed by a reanalysis of the WDM?			X		
Was the retention time of PCB 209 >55 min?			X		
Were the following congeners uniquely resolved (valley height <40% of the shortest peak)? PCB-34 and PCB-23 PCB-187 and PCB-182			X		
Did PCB 156/157 co-elute within 2 seconds at peak maximum?			X		
<b>Calibration Standards</b>					
Were there at least 5 calibration standards analyzed?	X				
If not all calibration standards were used, were the omitted standards either the lowest or highest calibration standard?			X		
Are all sample response summaries, S/N height summaries, and SICPs included (and legible) for the entire sequence?	X				
Did each calibration point meet method criteria for Ion Abundance Ratio for all analytes and labeled standards?	X				

## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290		Process Date: 08/25/2014			
Instrument Name: E-HRMS-04		Calibration File Name: P1408241613I			
Processor Name: Jimmy Chau		Reviewer Name: Loan Luong			
Description	Yes	No	NA	NR	ER#
Did each calibration point meet method criteria for signal-to-noise ratios (S/N)?	X				
Were area counts for the highest calibration standard below levels of saturation?	X				
Were manual integrations technically justified to correct for poor software integration?	X				1
<b>Response Factors</b>					
Is the ICAL Response Factor Summary present, including RR/RF values for each native/labeled analyte at each level of calibration?	X				
Were all calibration standards used in determining response factors?	X				
Were relative response factors (RR) for each native analyte calculated at each calibration point?	X				
Did the RSD for RRFs for each native analyte meet method criteria?	X				
Were response factors (RF) for each native analyte not having a corresponding labeled compound calculated at each calibration point?	X				
Were RFs for each labeled compound calculated for each calibration point?	X				
Did the RSD for RF for each labeled compound meet method criteria?	X				
<b>Initial Calibration Verification</b>					
Is the calibration verification present, including form 4A/B reflecting results for the ICV (Conc. or %D)	X				
Did all analytes meet method criteria for the ICV.	X				

Laboratory Review Checklist: Initial Calibration	
Method: 1613/8290	
Process Date: 08/25/2014	
Instrument Name: E-HRMS-04	
Calibration File Name: P1408241613I	
Processor Name: Jimmy Chau	
Reviewer Name: Loan Luong	
ER#	Description
5	
1	Manual Integration on CS0.5, CS4, CS5 in order to correct inconsistent baseline determinations between primary and secondary ions. Before and After chromatograms provided. Where no "After" is present, modification flag reflects an update to reconcile Response values between Sample Response Summary and chromatograph.
NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

# Initial Calibration QC Checklist

ICAL Name: P1408241613F

Date: 08/24/14

Method: (1613) / (8290) / Tetra / TCDD Only / TCDF Conf / 8280 / M23

Retention Window/Column Performance Check                      Analyst                      Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration    Analyst    Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / <u>DB-5MSPF</u>	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: JL

Second QC: LKL

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB-5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 08/24/14

Init. Calib. Times: 09:48:48

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSS) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
63680	WINDOW DEFINE	P230728	24-AUG-14	09:48:48
CS0.5	66807	P230730	24-AUG-14	11:23:08
CS1	66798	P230731	24-AUG-14	12:10:54
CS2	D12-90-3B	P230732	24-AUG-14	12:58:46
CS3	63383	P230733	24-AUG-14	13:46:32
CS4	D12-90-3D	P230734	24-AUG-14	14:34:24
CS5	66799	P230735	24-AUG-14	15:22:09
CS5	54819	P230736	24-AUG-14	16:10:02

Sample List Report

MassLynx 4.1

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\IP2140824.SPL  
Last Modified: Sunday, August 24, 2014 09:43:19 Central Daylight Time  
Printed: Sunday, August 24, 2014 09:43:32 Central Daylight Time

D:\P1408241613I

	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	08/24/14	08:50	P230727	CCAL HRCC3/CS3	72675	of	flame check 0846	8290CAS
2		09:48	P230728	WINDOW DEFINE	63680			8290CAS
3		10:35	P230729	NONANE BLANK	NONANE BLANK			8290CAS
4		11:23	P230730	ICAL CS0.5	66807			8290CAS
5		12:10	P230731	ICAL CS1	66798			8290CAS
6		12:58	P230732	ICAL CS2	D12-90-3B			8290CAS
7		13:46	P230733	ICAL CS3	63383			8290CAS
8		14:34	P230734	ICAL CS4	D12-90-3D			8290CAS
9		15:22	P230735	ICAL CS5	66799			8290CAS
10		16:10	P230736	2ND SOURCE CCV	54819		HRMS check 13:44	8290CAS
11								8290CAS
12								8290CAS
13								8290CAS
14								8290CAS
15								8290CAS
16								8290CAS
17								8290CAS
18								8290CAS
19								8290CAS
20								8290CAS
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31								8290CAS
32								8290CAS
33								8290CAS
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37								8290CAS
38								8290CAS
39								8290CAS

REVIEWED BY: JIC

08/25/14

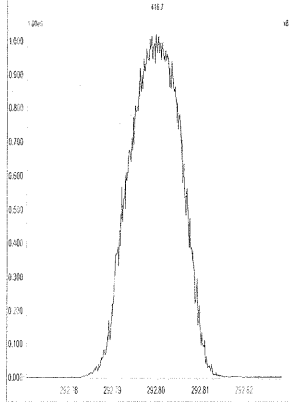
07



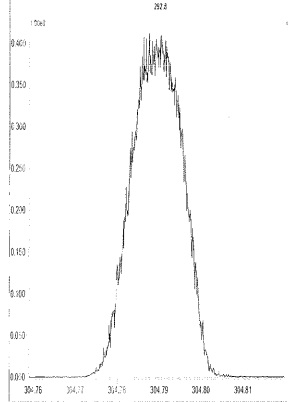
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:46:55 Central Daylight Time

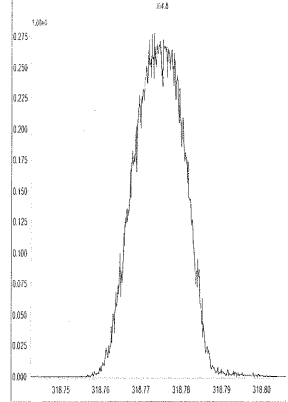
M 292.9824 R 12200



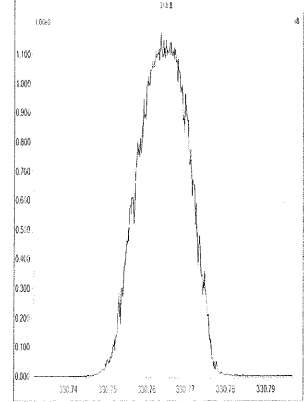
M 304.9824 R 12132



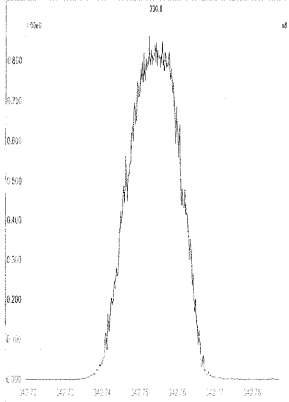
M 318.9792 R 12077



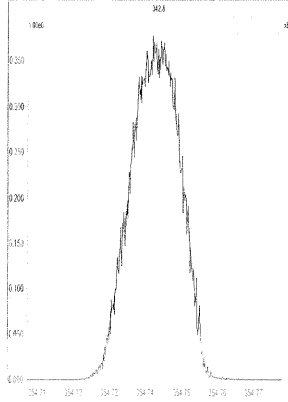
M 330.9792 R 12624



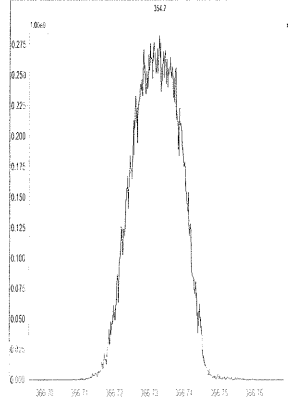
M 342.9792 R 13090



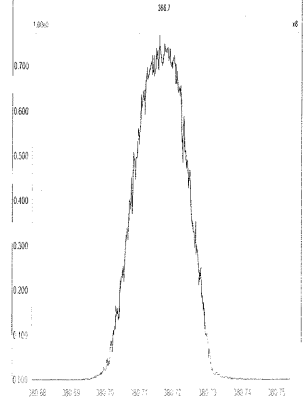
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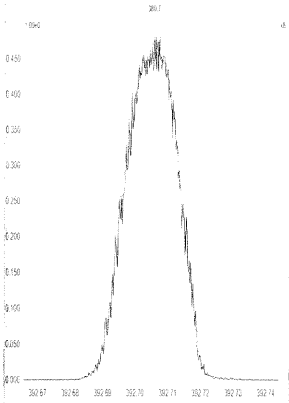
M 366.9792 R 12628



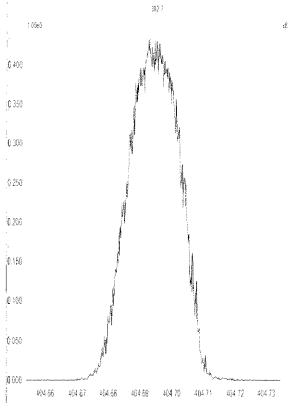
M 380.9760 R 12820



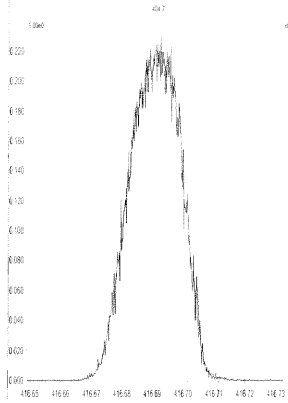
M 392.9760 R 12693



M 404.9760 R 12377



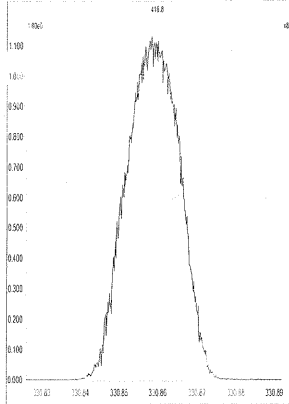
M 416.9760 R 12625



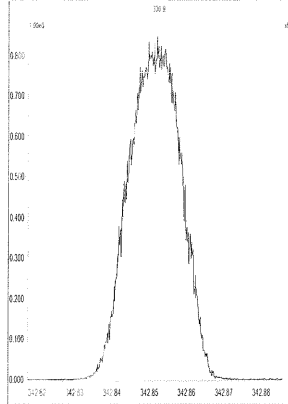
File: Experiment: 8290DB5MSUIF1.exp Reference: pkf.ref Function: 2 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:47:15 Central Daylight Time

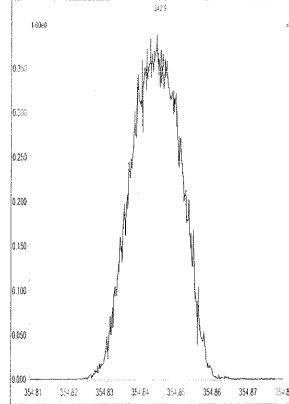
M 330.9792 R 12191



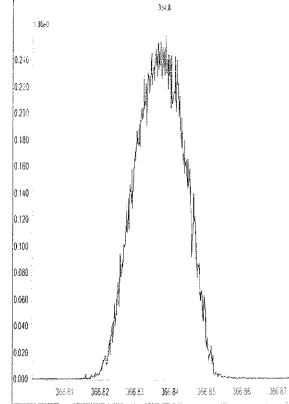
M 342.9792 R 11847



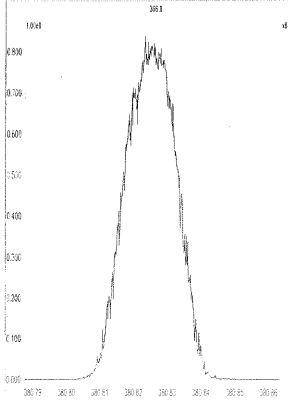
M 354.9792 R 12192



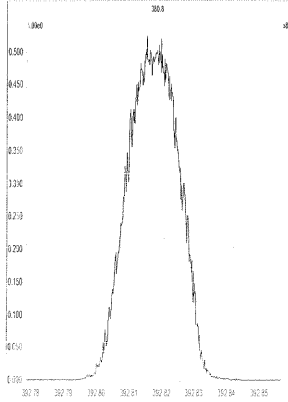
M 366.9792 R 12438



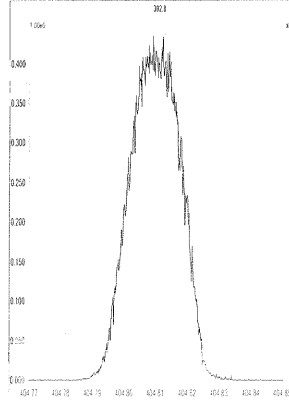
M 380.9760 R 12194



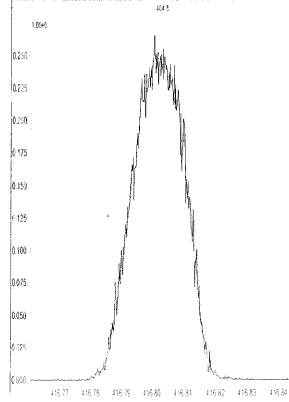
M 392.9760 R 12317



M 404.9760 R 12690



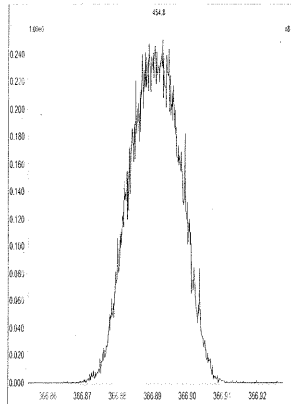
M 416.9760 R 12752



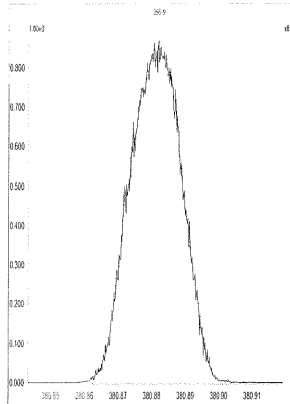
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Printed: Sunday, August 24, 2014 08:47:38 Central Daylight Time

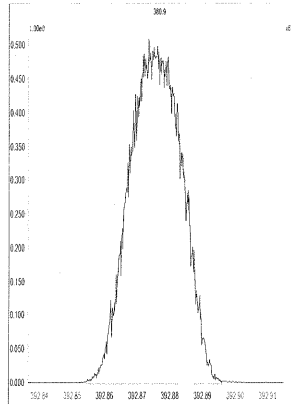
M 366.9792 R 11684



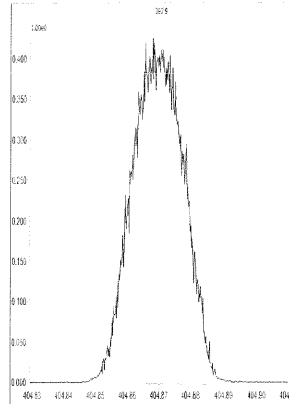
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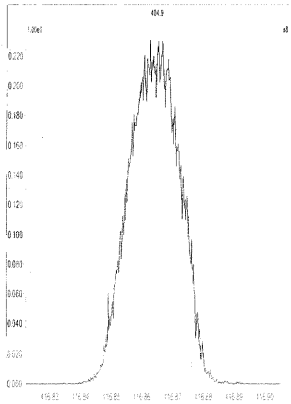
M 392.9760 R 11519



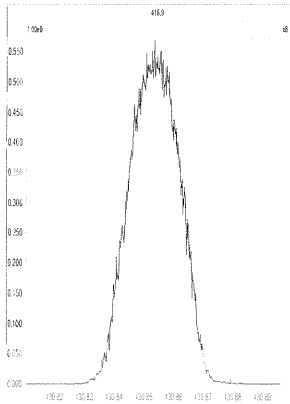
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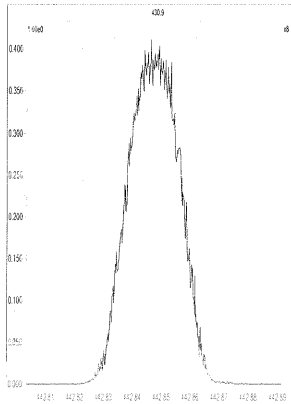
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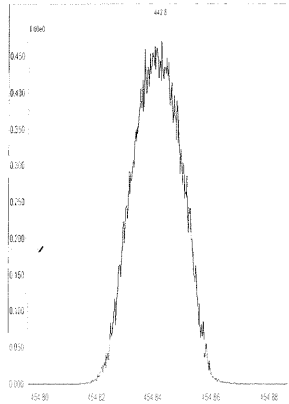
M 430.9728 R 12197



M 442.9728 R 12438



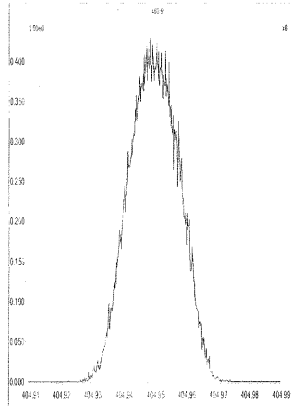
M 454.9728 R 12437



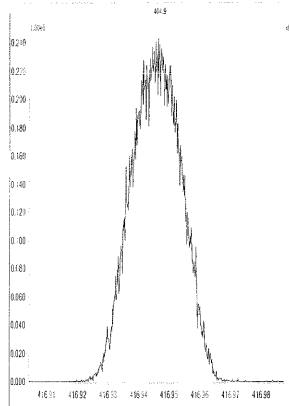
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:48:02 Central Daylight Time

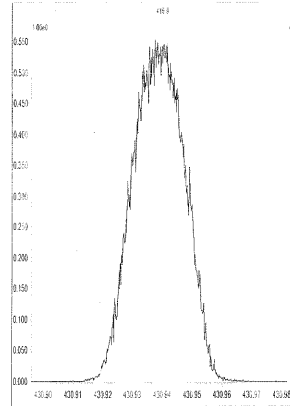
M 404.9760 R 11627



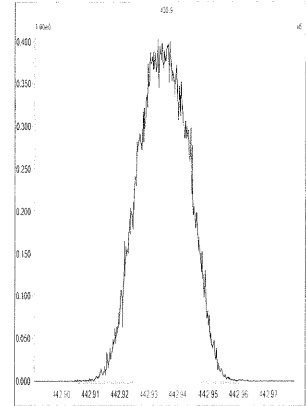
M 416.9760 R 11630



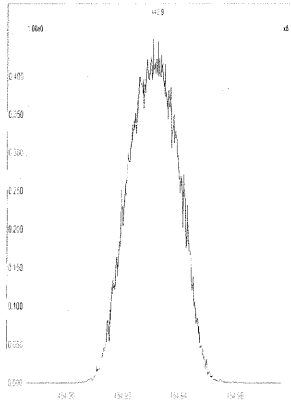
M 430.9728 R 11958



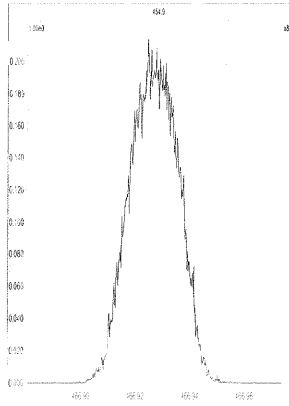
M 442.9728 R 11965



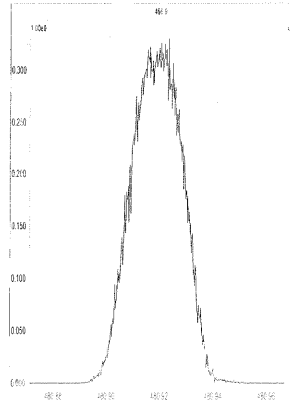
M 454.9728 R 12192



M 466.9728 R 12376



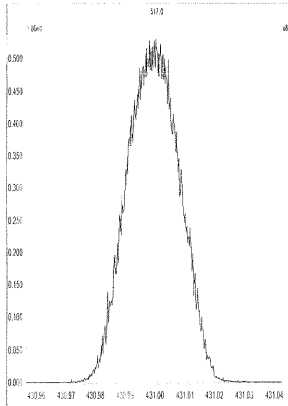
M 480.9696 R 12198



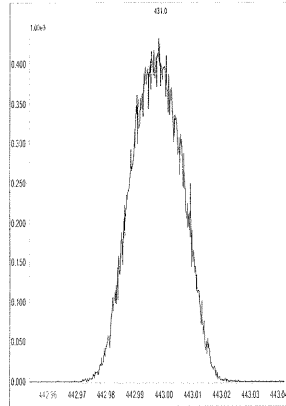
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Sunday, August 24, 2014 08:48:24 Central Daylight Time

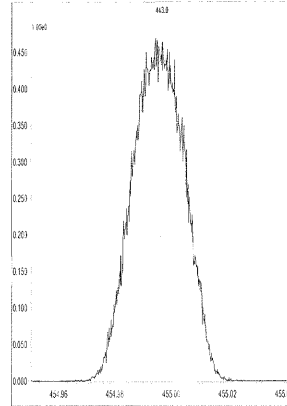
M 430.9728 R 11417



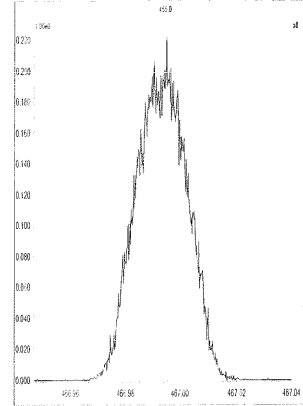
M 442.9728 R 11313



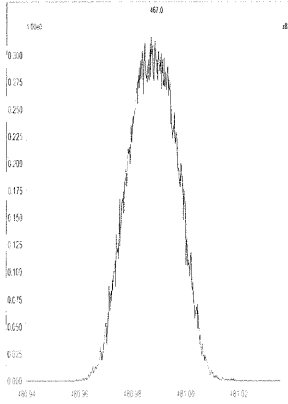
M 454.9728 R 11573



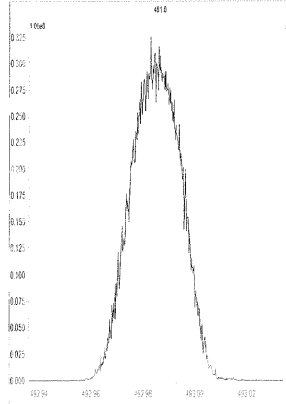
M 466.9728 R 11906



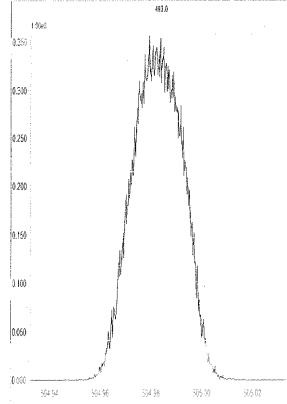
M 480.9696 R 11734



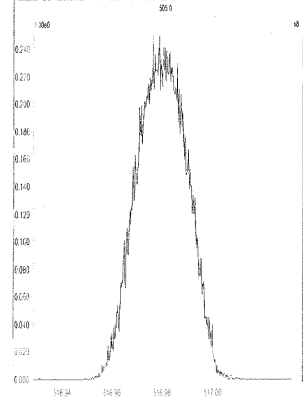
M 492.9696 R 11961



M 504.9696 R 12078



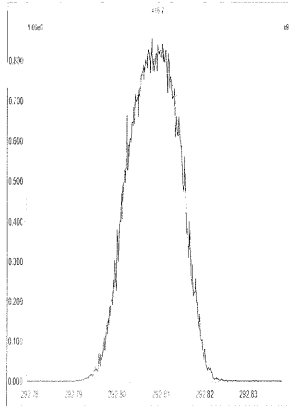
M 516.9697 R 11954



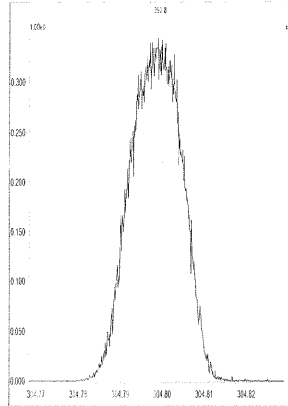
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:44:09 Central Daylight Time

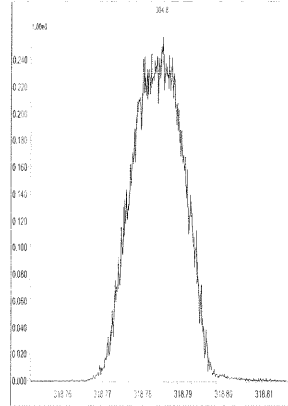
M 292.9824 R 12135



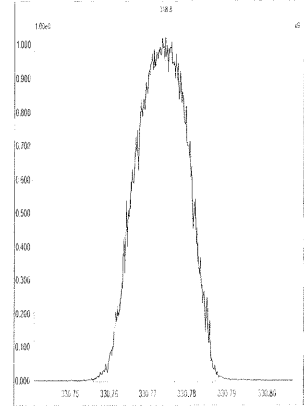
M 304.9824 R 12022



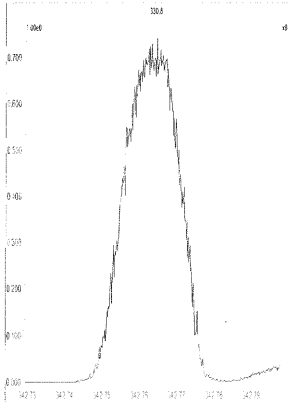
M 318.9792 R 12377



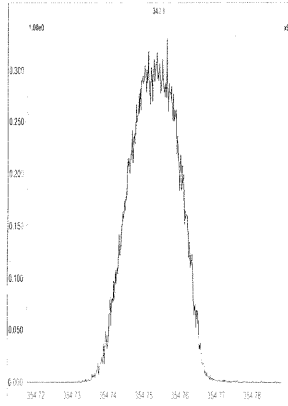
M 330.9792 R 12442



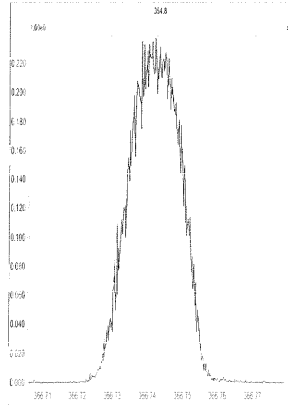
M 342.9792 R 12439



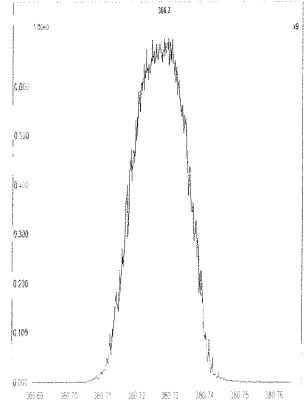
M 354.9792 R 12194



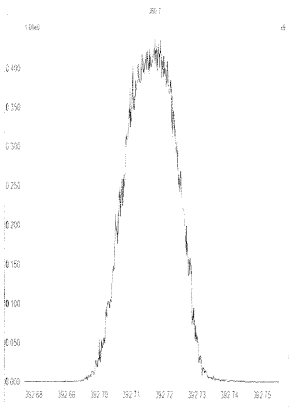
M 366.9792 R 12497



M 380.9760 R 12438



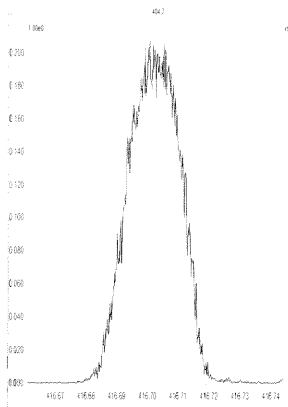
M 392.9760 R 12075



M 404.9760 R 12078



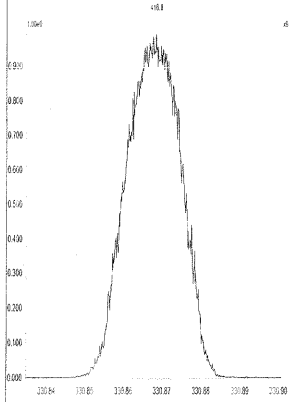
M 416.9760 R 12314



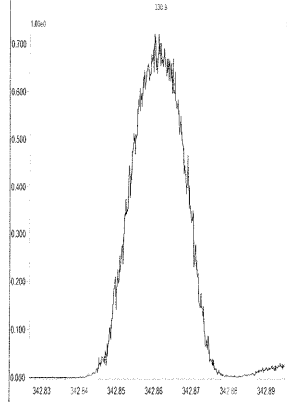
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:44:55 Central Daylight Time

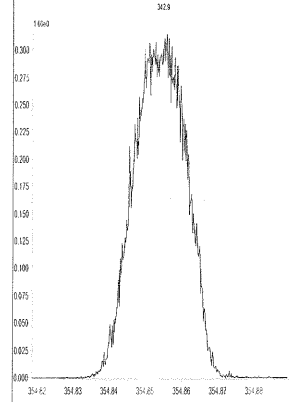
M 330.9792 R 11517



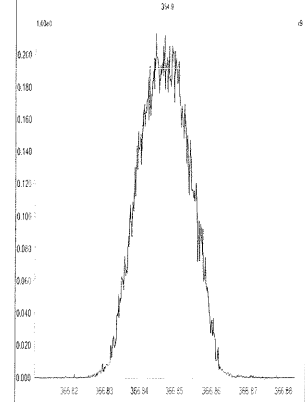
M 342.9792 R 12437



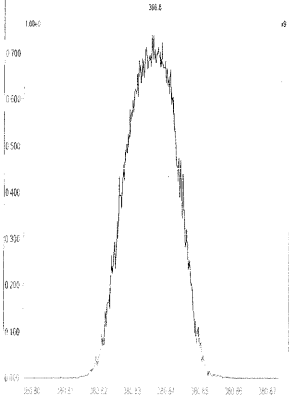
M 354.9792 R 12080



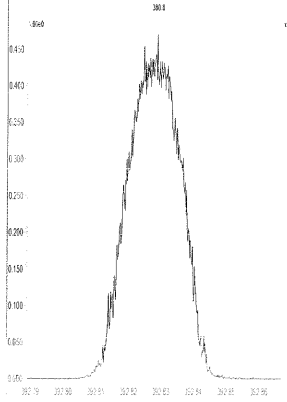
M 366.9792 R 12020



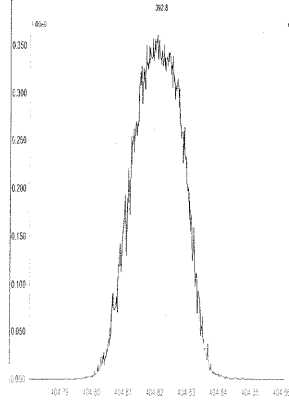
M 380.9760 R 12442



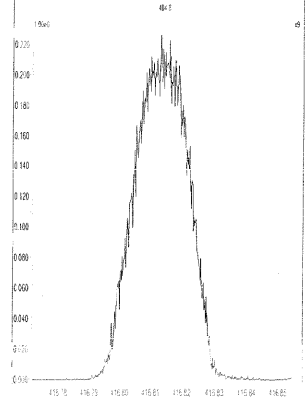
M 392.9760 R 12137



M 404.9760 R 12315



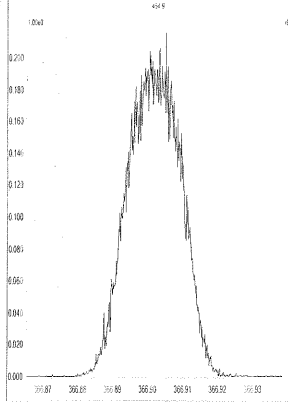
M 416.9760 R 12374



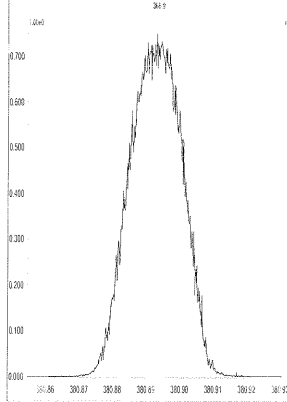
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:45:39 Central Daylight Time

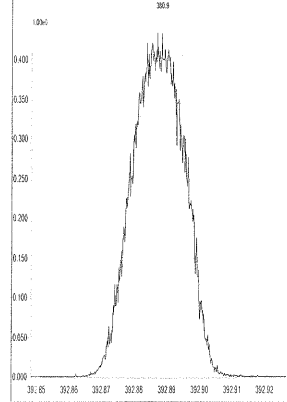
M 366.9792 R 11518



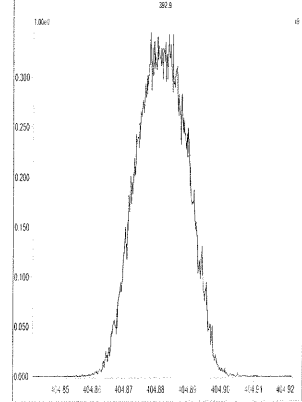
M 380.9760 R 11738



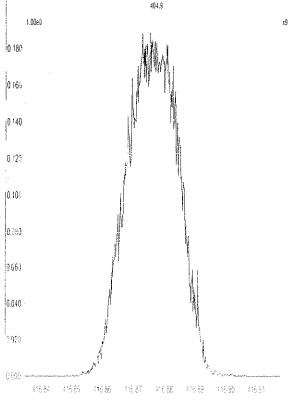
M 392.9760 R 11847



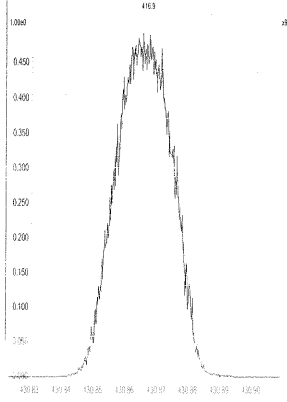
M 404.9760 R 12197



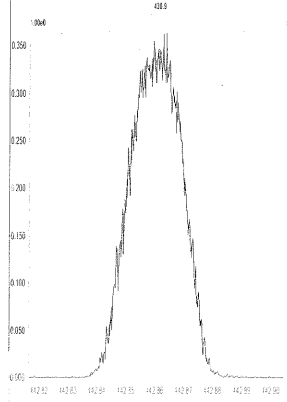
M 416.9760 R 12195



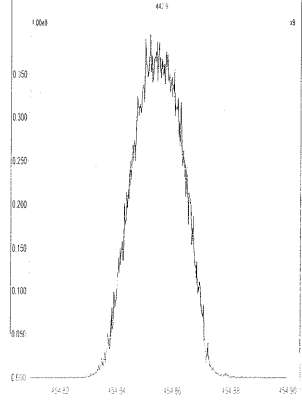
M 430.9728 R 11960



M 442.9728 R 12377



M 454.9728 R 12625

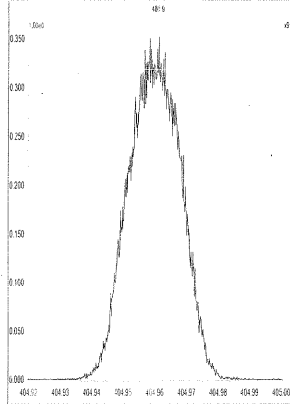




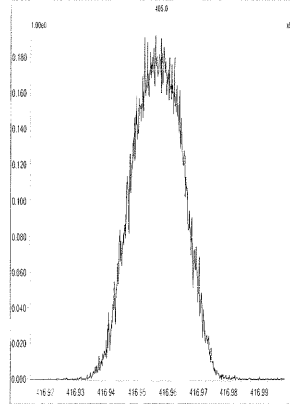
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:46:27 Central Daylight Time

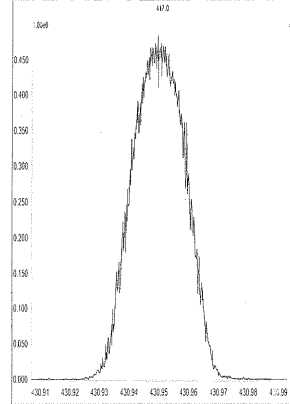
M 404.9760 R 11573



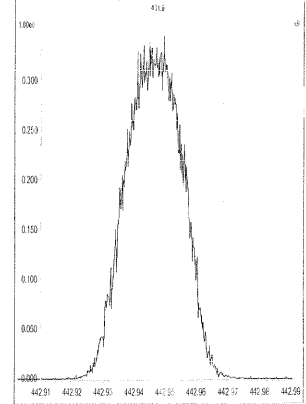
M 416.9760 R 11572



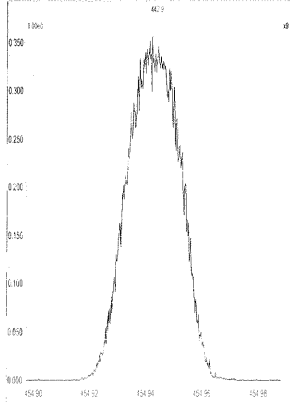
M 430.9728 R 11793



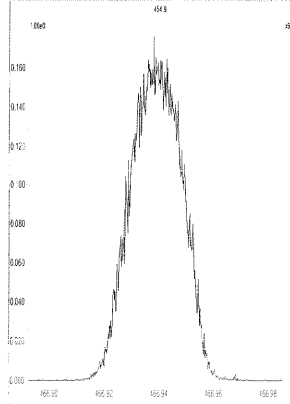
M 442.9728 R 12018



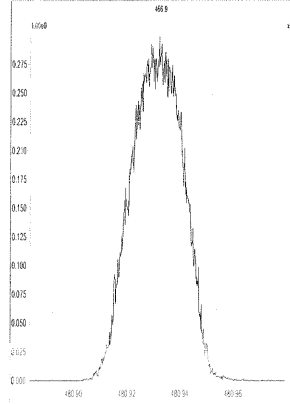
M 454.9728 R 11790



M 466.9728 R 12376



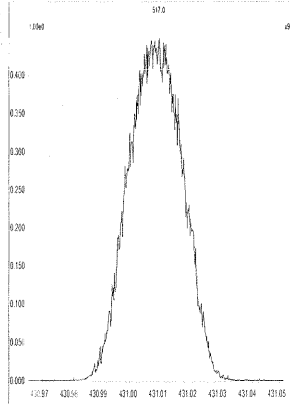
M 480.9696 R 11847



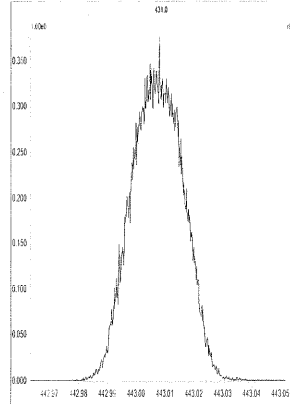
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Monday, August 25, 2014 13:47:16 Central Daylight Time

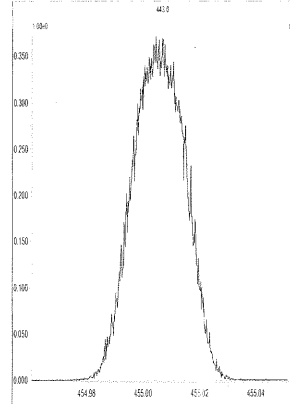
M 430.9728 R 11259



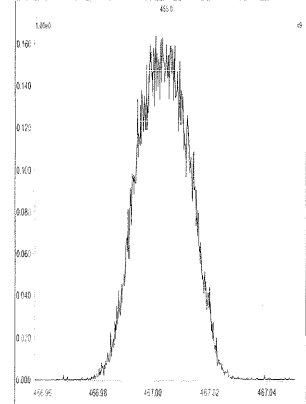
M 442.9728 R 11683



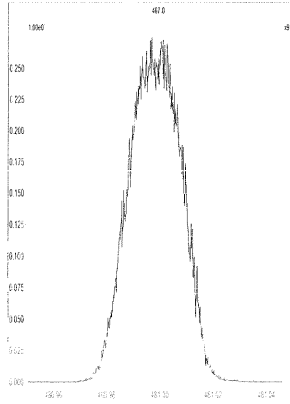
M 454.9728 R 11415



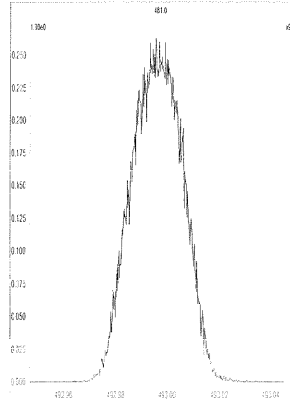
M 466.9728 R 11850



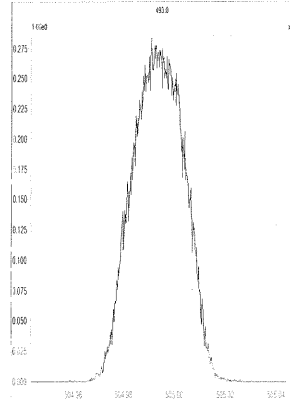
M 480.9696 R 11793



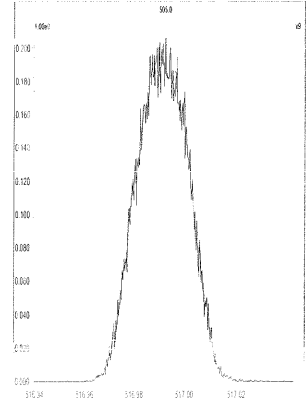
M 492.9696 R 11792



M 504.9696 R 11790



M 516.9697 R 12129



## 5DFA

## WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS ENVIRONMENTAL  
Lab Code: TX01411  
GC Column: DB-5msUI

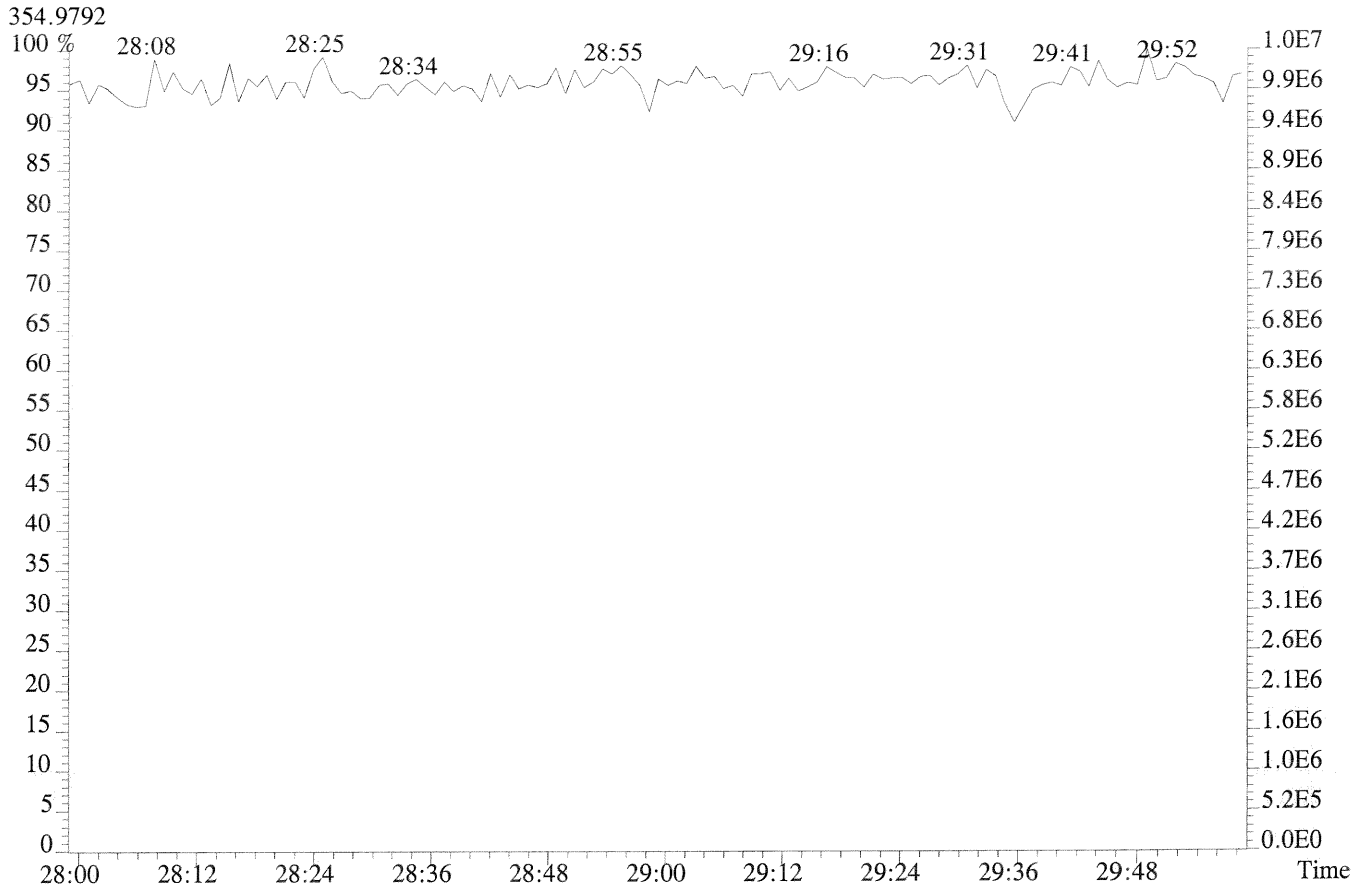
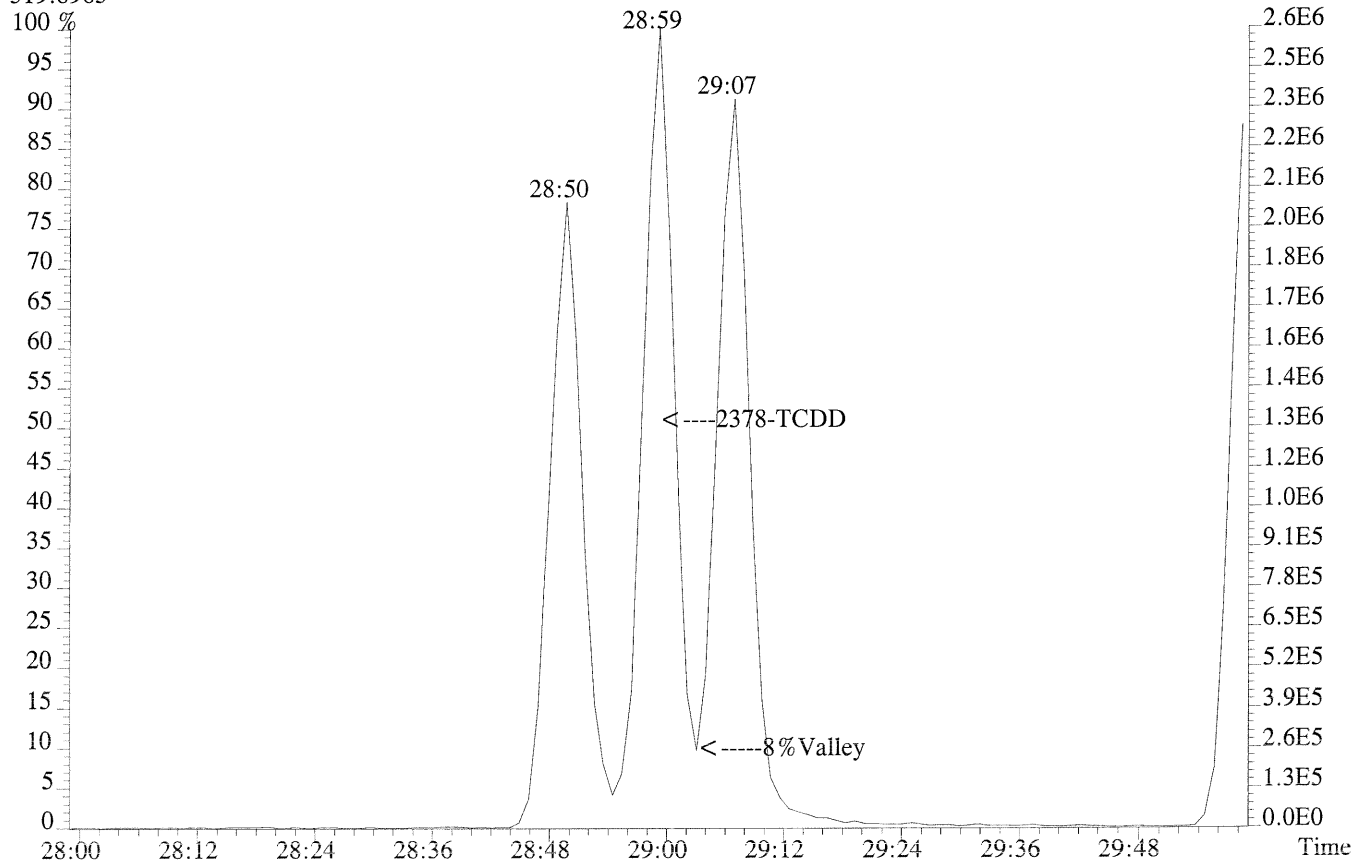
Case No.: \_\_\_\_\_ SDG No.:  
ID: 0.25 (mm) Lab File ID: P230728  
Date Analyzed: 24-AUG-2014  
Time Analyzed: 09:48:48

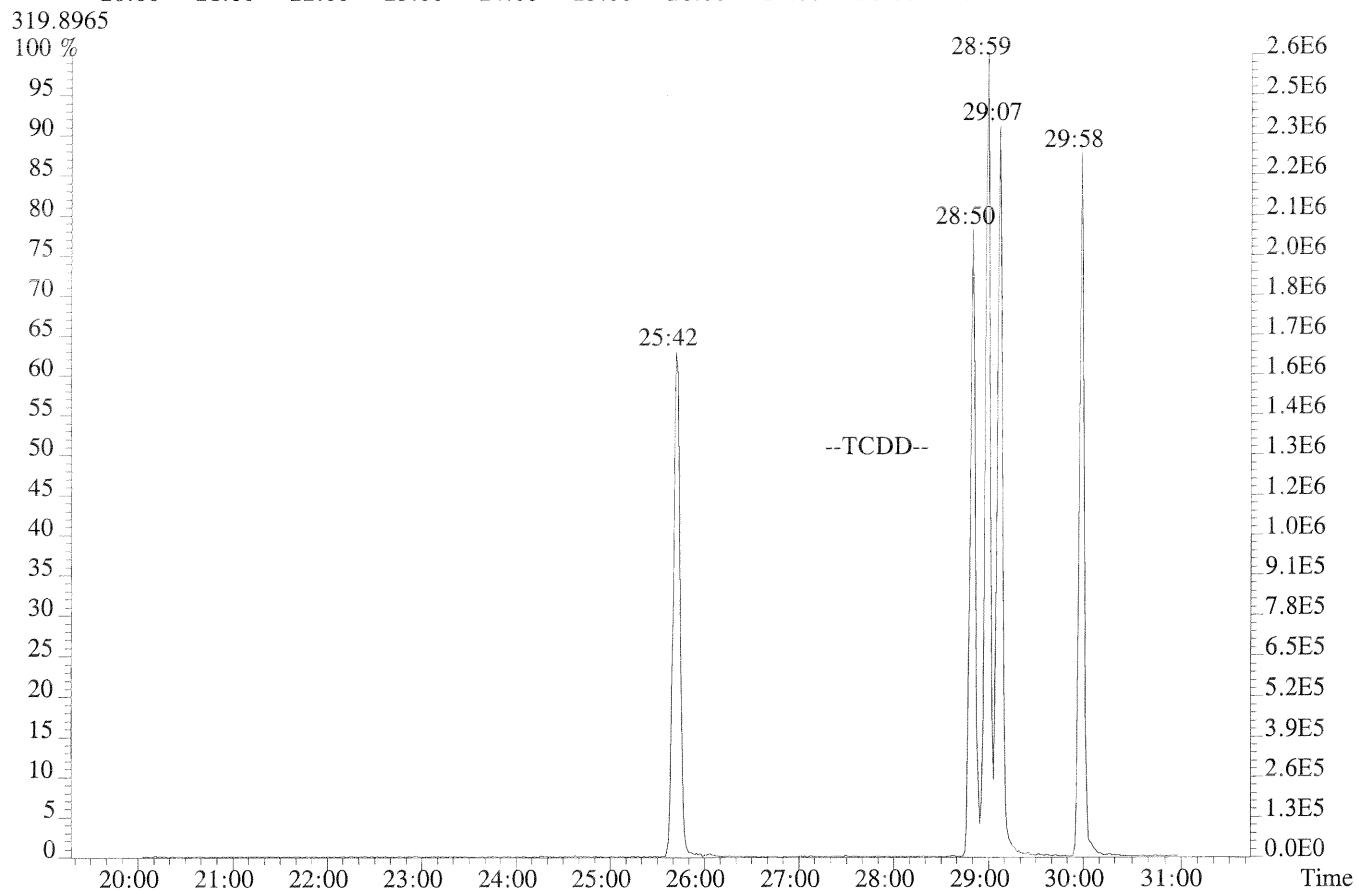
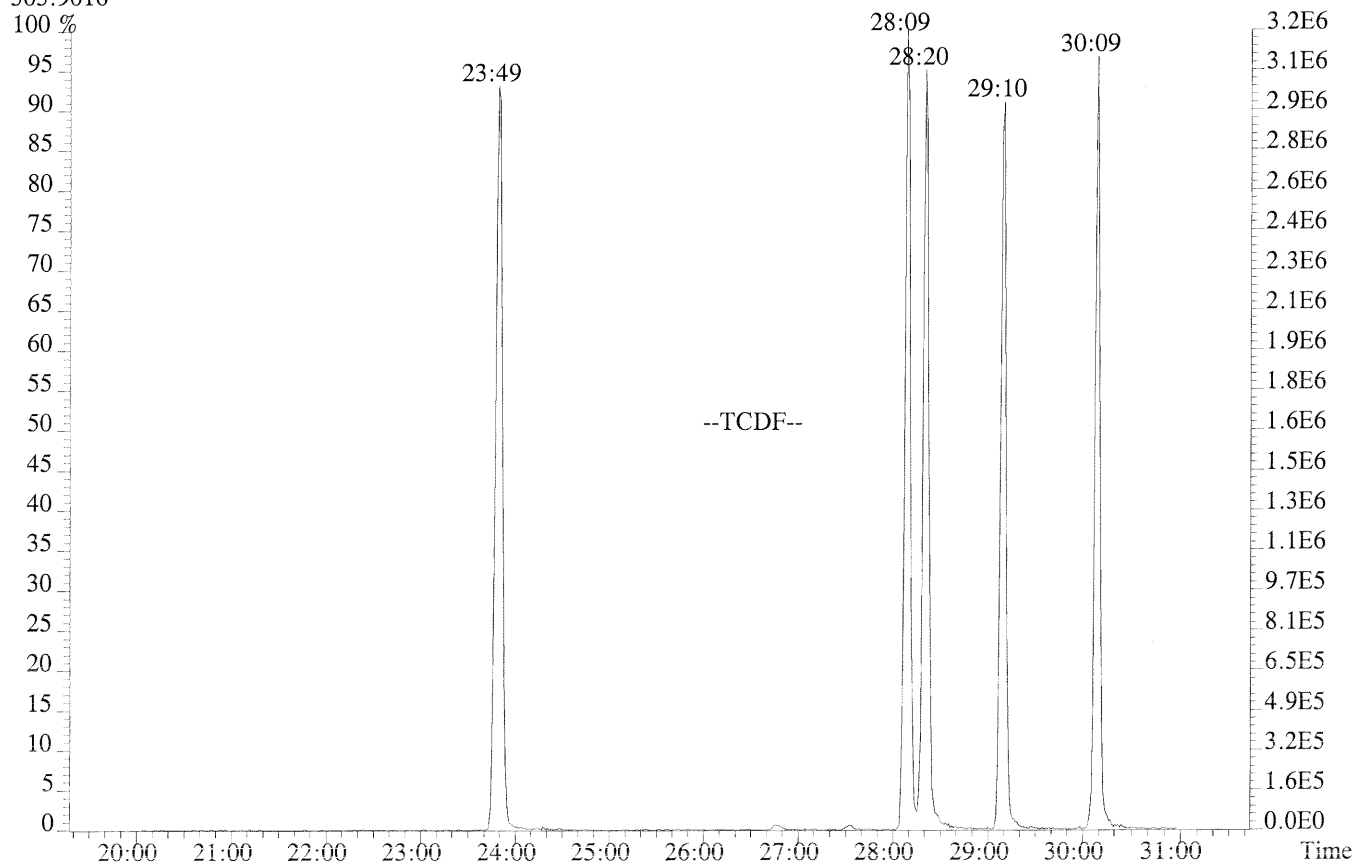
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:49	30:09
TCDD	25:42	29:58
PeCDF	30:04	34:18
PeCDD	31:35	34:02
HxCDF	34:55	37:25
HxCDD	35:26	37:01
HpCDF	38:37	40:02
HpCDD	38:52	39:32

% Valley 2378-TCDD:

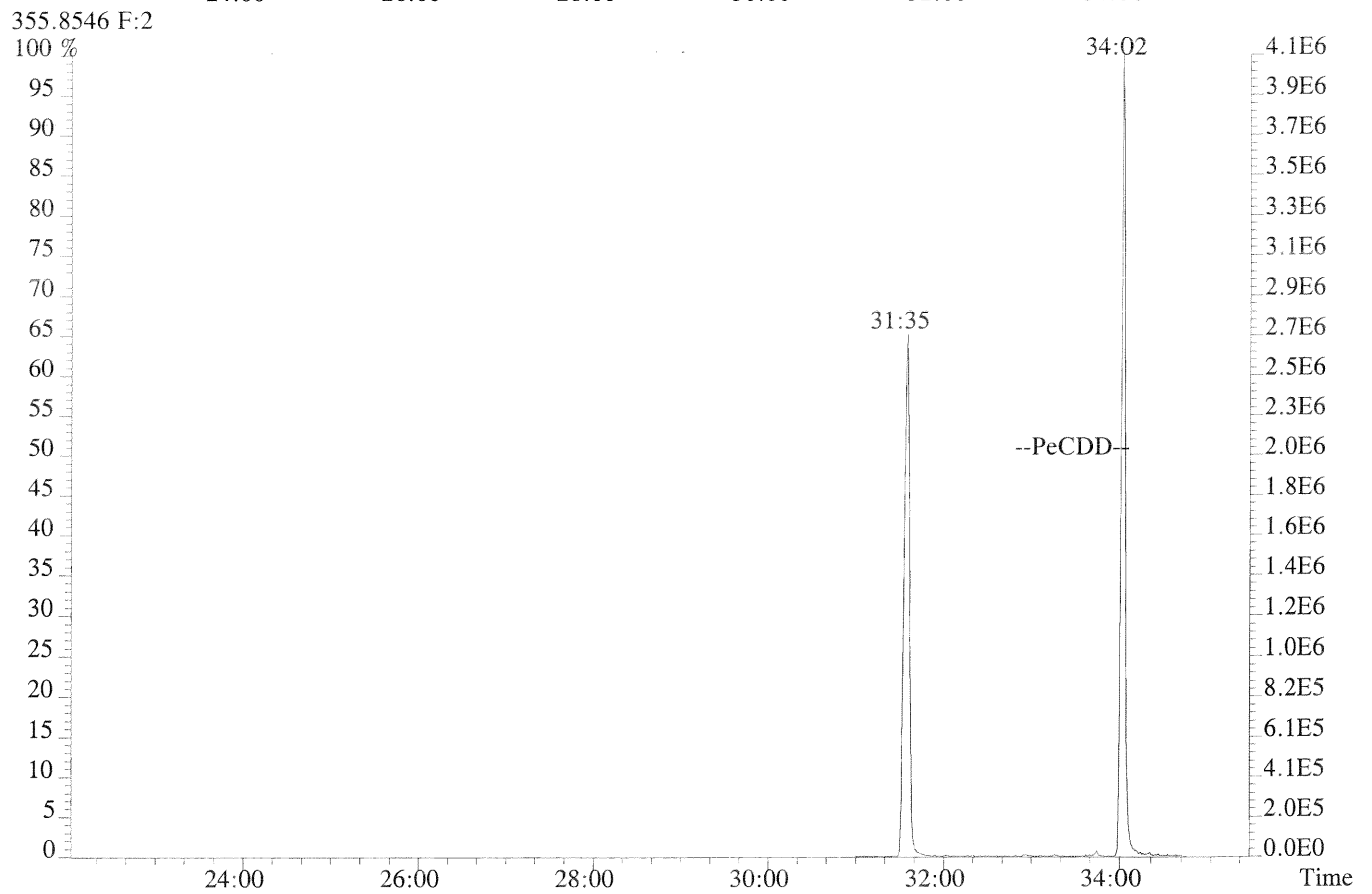
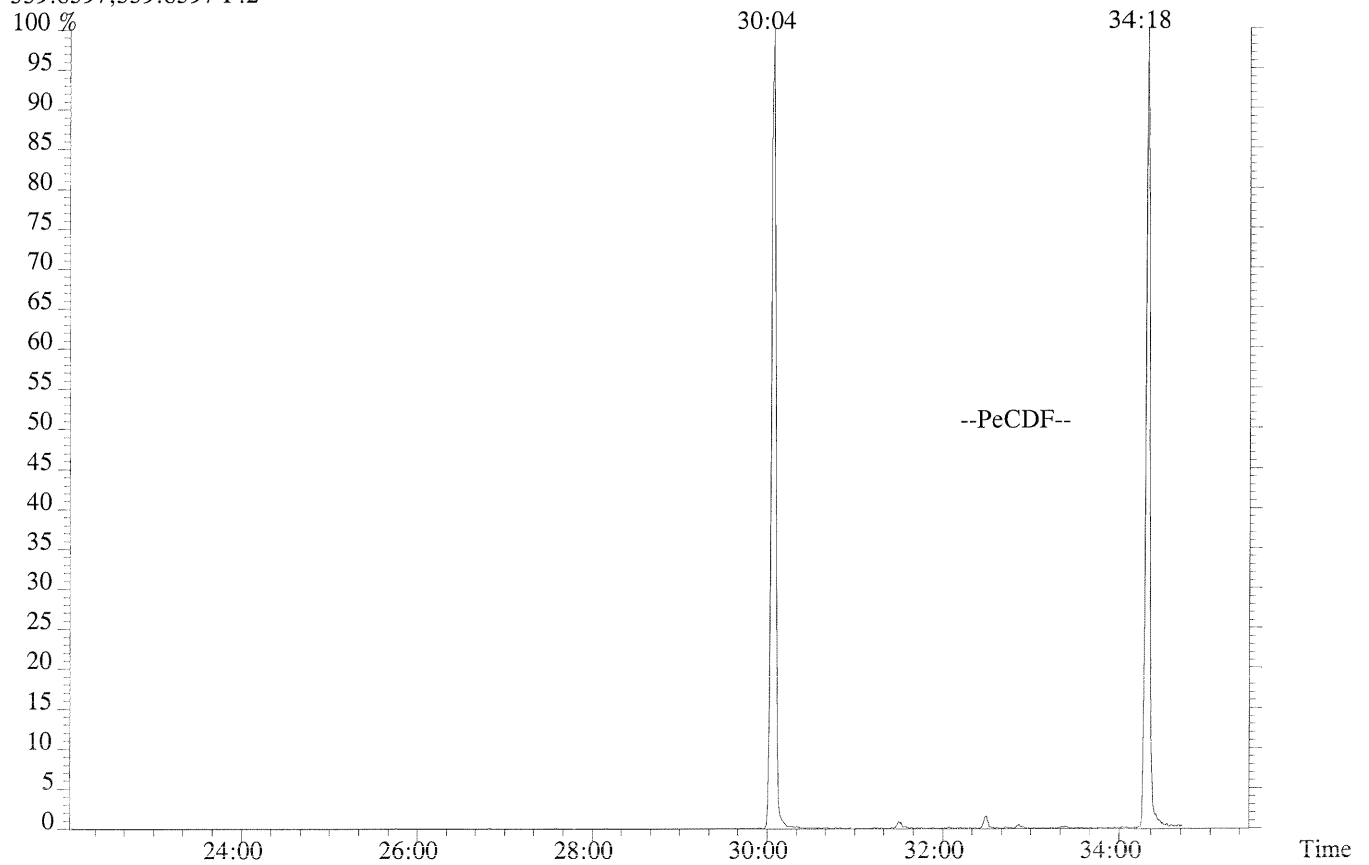
8 %

File:P230728 #1-687 Acq:24-AUG-2014 09:48:48 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965

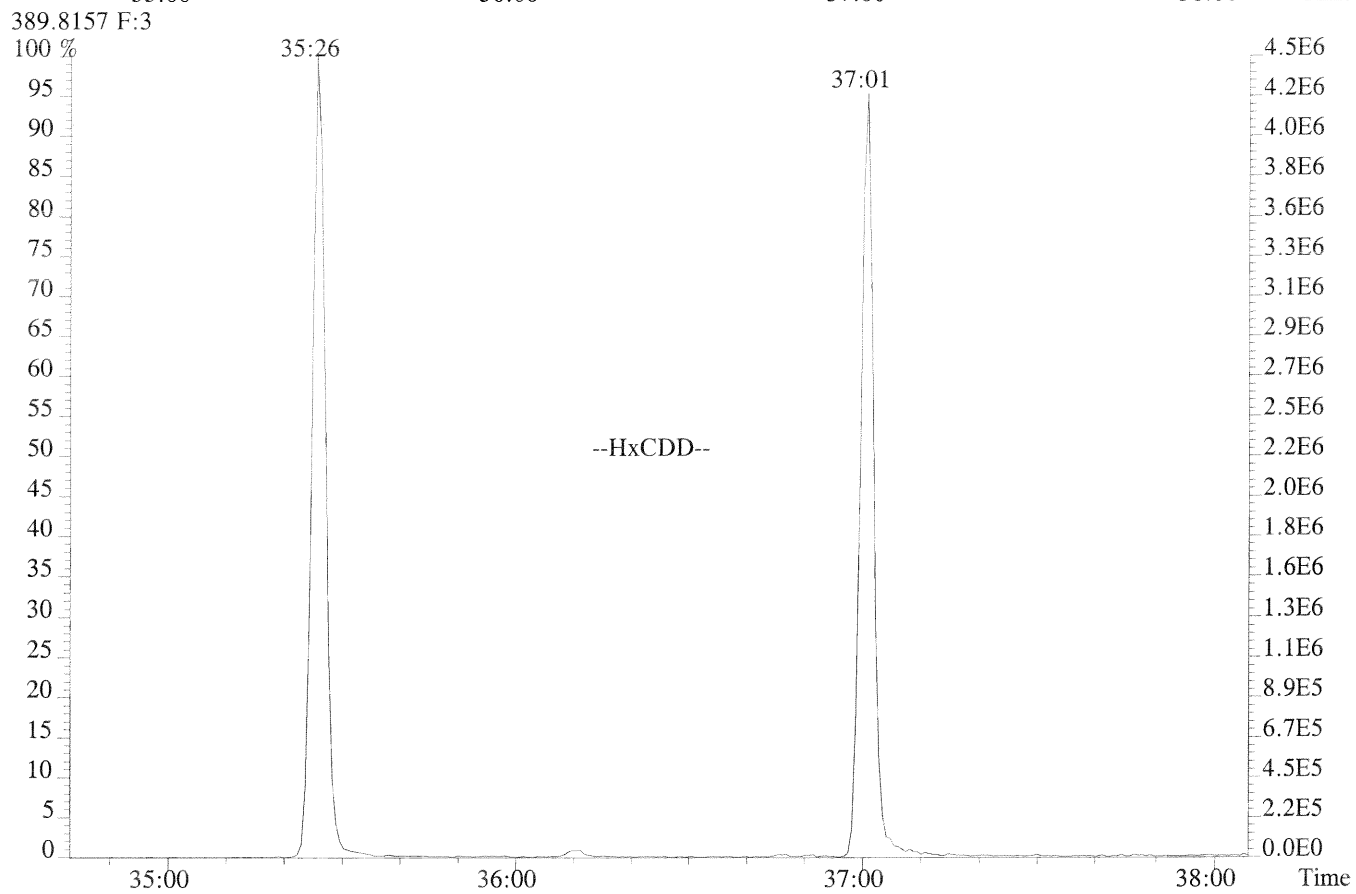
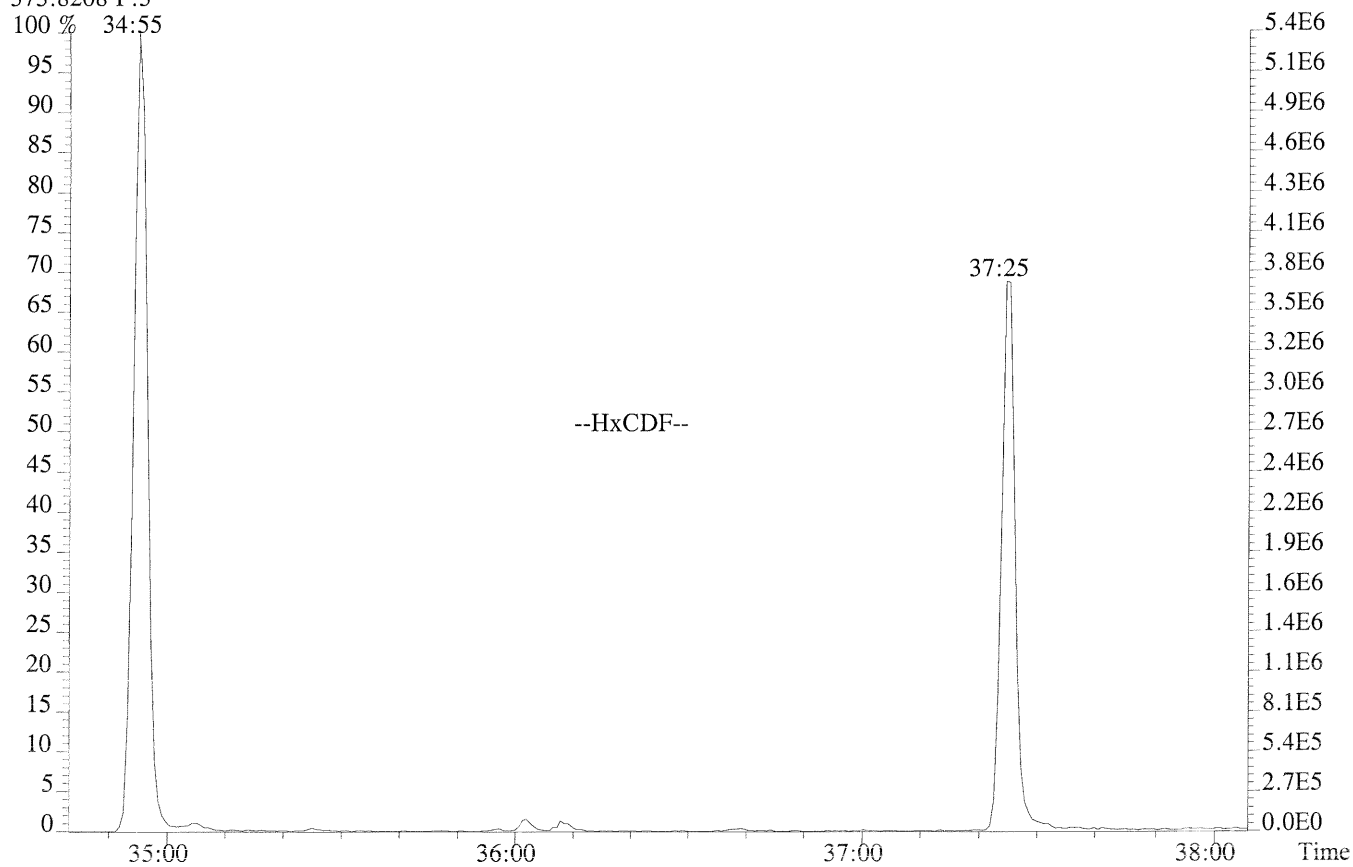




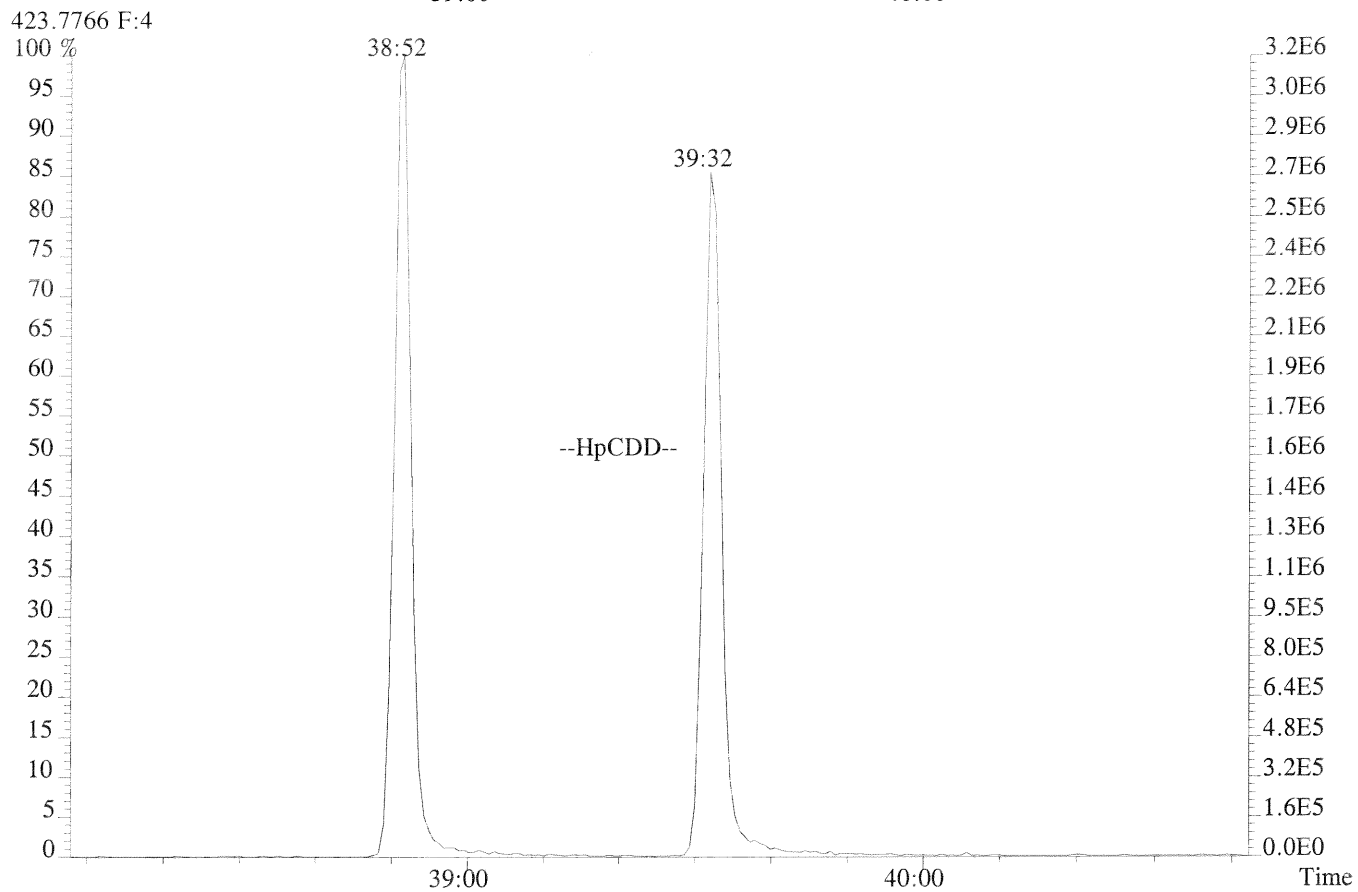
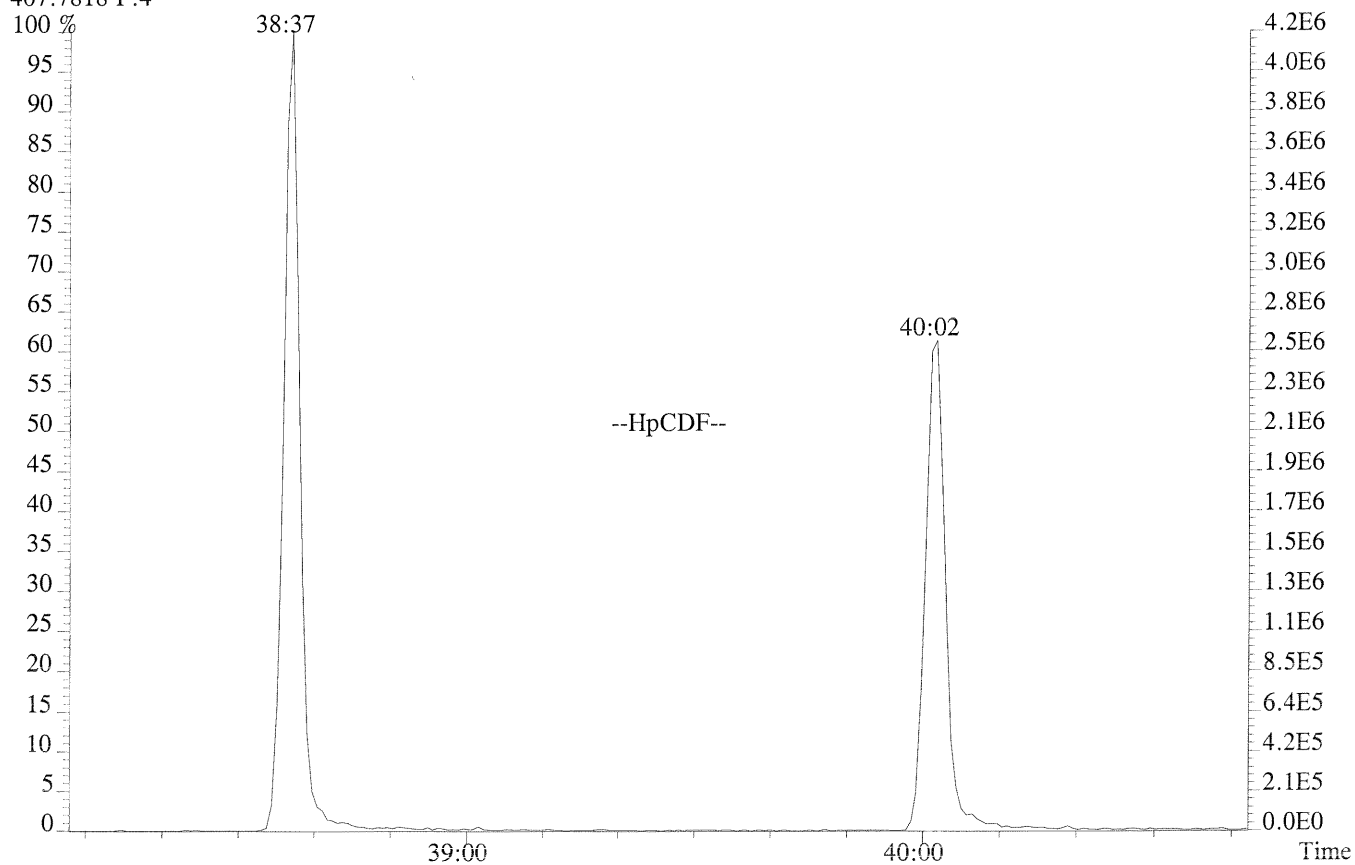
File:P230728 #1-687 Acq:24-AUG-2014 09:48:48 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:P230728 #1-307 Acq:24-AUG-2014 09:48:48 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:P230728 #1-234 Acq:24-AUG-2014 09:48:48 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4





USEPA - CLP  
6DFA6  
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY  
HIGH RESOLUTION

Lab Name: ALS Environmental  
Lab Code: ALSTX Case No.:  
GC Column: DB-5MSUI ID: 0.25(mm)  
Init. Calib. Date(s): 08/24/14  
Init. Calib. Time.: 09:48:48

Contract No.:  
TO No.: SDG No.:  
Instrument ID: E-HRMS-04  
Analyte Table: 1613PP

Target Analytes	RR/RRF						RR/RRF	MEAN %RSD	QC LIMITS
	CS0.5	CS1	CS2	CS3	CS4	CS5			
2,3,7,8-TCDF	0.96	1.03	0.94	0.99	1.01	0.99	0.99	3.10	+/-20%
1,2,3,7,8-PeCDF	0.95	1.02	1.02	1.03	1.04	0.95	1.00	4.03	+/-20%
2,3,4,7,8-PeCDF	0.91	1.00	0.96	0.96	0.97	1.01	0.97	3.54	+/-20%
1,2,3,4,7,8-HxCDF	1.11	1.23	1.22	1.21	1.21	1.16	1.19	3.78	+/-20%
1,2,3,6,7,8-HxCDF	1.12	1.16	1.11	1.13	1.13	1.14	1.13	1.66	+/-20%
2,3,4,6,7,8-HxCDF	1.06	1.12	1.13	1.12	1.13	1.10	1.11	2.21	+/-20%
1,2,3,7,8,9-HxCDF	1.10	1.13	1.14	1.15	1.14	1.13	1.13	1.71	+/-20%
1,2,3,4,6,7,8-HpCDF	1.32	1.34	1.37	1.36	1.38	1.32	1.35	1.98	+/-20%
1,2,3,4,7,8,9-HpCDF	1.26	1.19	1.26	1.29	1.29	1.35	1.27	4.04	+/-20%
OCDF	1.19	1.22	1.19	1.16	1.22	1.19	1.20	1.92	+/-20%
2,3,7,8-TCDD	1.10	1.07	1.05	1.03	1.07	1.05	1.06	2.15	+/-20%
1,2,3,7,8-PeCDD	0.95	1.01	0.99	0.99	1.00	1.01	0.99	1.98	+/-20%
1,2,3,4,7,8-HxCDD	1.07	1.12	1.09	1.11	1.12	1.20	1.12	3.89	+/-20%
1,2,3,6,7,8-HxCDD	1.06	1.13	1.11	1.11	1.12	0.98	1.09	5.43	+/-20%
1,2,3,7,8,9-HxCDD	1.22	1.22	1.19	1.17	1.18	1.14	1.19	2.61	+/-20%
1,2,3,4,6,7,8-HpCDD	1.00	1.05	1.06	1.07	1.08	1.05	1.05	2.84	+/-20%
OCDD	1.19	1.20	1.17	1.18	1.20	1.07	1.17	4.03	+/-20%
13C-2,3,7,8-TCDF	1.45	1.46	1.47	1.46	1.44	1.45	1.46	0.71	+/-35%
13C-1,2,3,7,8-PeCDF	1.91	1.88	1.90	1.87	1.84	1.94	1.89	1.82	+/-35%
13C-2,3,4,7,8-PeCDF	1.92	1.87	1.89	1.89	1.85	1.83	1.87	1.78	+/-35%
13C-1,2,3,4,7,8-HxCDF	1.19	1.18	1.18	1.17	1.15	1.19	1.18	1.26	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.34	1.32	1.34	1.31	1.28	1.25	1.31	2.77	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.26	1.26	1.26	1.25	1.22	1.21	1.24	1.61	+/-35%
13C-1,2,3,7,8,9-HxCDF	1.08	1.01	0.98	0.92	0.90	0.90	0.97	7.34	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	0.95	0.92	0.91	0.89	0.87	0.90	0.91	2.91	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.75	0.68	0.65	0.60	0.60	0.60	0.65	9.79	+/-35%
13C-2,3,7,8-TCDD	0.99	0.99	1.00	1.01	1.00	1.05	1.01	2.05	+/-35%
13C-1,2,3,7,8-PeCDD	1.29	1.29	1.30	1.31	1.27	1.31	1.30	1.31	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.93	0.93	0.94	0.95	0.91	0.89	0.92	2.25	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.90	0.92	0.93	0.91	0.92	1.03	0.93	5.09	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.89	0.87	0.84	0.83	0.81	0.84	0.85	3.15	+/-35%
13C-OCDD	0.60	0.58	0.57	0.55	0.54	0.64	0.58	6.46	+/-35%
13C-1,2,3,4-TCDD	-	-	-	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	-	-	-	-	-	-	-
37Cl-2,3,7,8-TCDD	1.14	1.13	1.04	1.08	1.08	1.12	1.10	3.62	+/-35%

- 1.123789-HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.
2. OCDF RR is calculated based on the labeled analog of OCDD



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS0.5

Run #1    Filename P230730 #1    Samp: 1    Inj: 1    Acquired: 24-AUG-14 11:23:08  
 Processed: 25-AUG-14 11:37:31    LAB. ID: 66807

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:20	1.039e+02	1.419e+02	0.73	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	9.833e+02	6.190e+02	1.59	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:23	9.821e+02	5.635e+02	1.74	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	8.097e+02	6.942e+02	1.17	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	9.272e+02	7.669e+02	1.21	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	8.394e+02	6.771e+02	1.24	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	7.262e+02	6.132e+02	1.18	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:36	7.360e+02	6.815e+02	1.08	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	5.573e+02	5.159e+02	1.08	yes	no	1.000
10	Unk	OCDF	42:31	7.669e+02	8.511e+02	0.90	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:07	8.776e+01	1.045e+02	0.84	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	6.710e+02	4.160e+02	1.61	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	5.996e+02	5.410e+02	1.11	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:50	6.073e+02	4.725e+02	1.29	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	7.097e+02	5.626e+02	1.26	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:32	5.213e+02	4.865e+02	1.07	yes	no	1.000
17	Unk	OCDD	42:18	7.660e+02	8.517e+02	0.90	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:18	4.560e+04	5.653e+04	0.81	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	32:28	8.244e+04	5.209e+04	1.58	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	8.255e+04	5.274e+04	1.57	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	3.691e+04	7.128e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	4.173e+04	7.963e+04	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	3.933e+04	7.476e+04	0.53	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:22	3.340e+04	6.427e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	2.610e+04	6.007e+04	0.43	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.062e+04	4.763e+04	0.43	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:05	3.098e+04	3.900e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:38	5.583e+04	3.524e+04	1.58	yes	no	1.179
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	4.749e+04	3.744e+04	1.27	yes	yes	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	4.511e+04	3.650e+04	1.24	yes	yes	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	4.184e+04	3.900e+04	1.07	yes	no	1.066
32	IS	13C-OCDD	42:18	5.177e+04	5.713e+04	0.91	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:31	3.128e+04	3.917e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:04	5.065e+04	4.019e+04	1.26	yes	no	*
35	C/Up	37C1-2,3,7,8-TCDD	29:06	2.014e+02				no	1.020

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XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS0.5

Run #1 Filename P230730 Samp: 1 Inj: 1 Acquired: 24-AUG-14 11:23:08  
 Processed: 25-AUG-14 11:37:31 LAB. ID: 66807

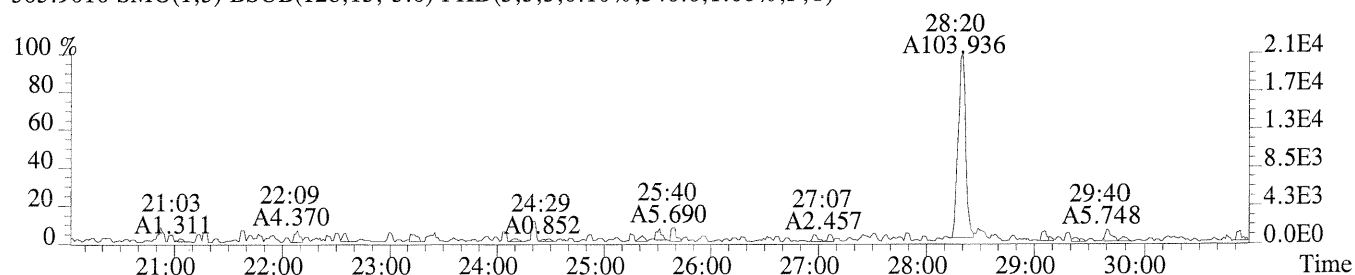
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.07e+04	5.40e+02	3.8e+01	2.91e+04	1.89e+03	1.5e+01
2	1,2,3,7,8-PeCDF	1.80e+05	4.88e+02	3.7e+02	1.14e+05	1.18e+03	9.7e+01
3	2,3,4,7,8-PeCDF	2.06e+05	4.88e+02	4.2e+02	1.12e+05	1.18e+03	9.5e+01
4	1,2,3,4,7,8-HxCDF	1.77e+05	6.96e+02	2.5e+02	1.56e+05	2.20e+02	7.1e+02
5	1,2,3,6,7,8-HxCDF	1.95e+05	6.96e+02	2.8e+02	1.69e+05	2.20e+02	7.7e+02
6	2,3,4,6,7,8-HxCDF	1.88e+05	6.96e+02	2.7e+02	1.54e+05	2.20e+02	7.0e+02
7	1,2,3,7,8,9-HxCDF	1.62e+05	6.96e+02	2.3e+02	1.40e+05	2.20e+02	6.4e+02
8	1,2,3,4,6,7,8-HpCDF	1.65e+05	3.32e+02	5.0e+02	1.50e+05	3.60e+02	4.2e+02
9	1,2,3,4,7,8,9-HpCDF	1.17e+05	3.32e+02	3.5e+02	1.03e+05	3.60e+02	2.9e+02
10	OCDF	1.31e+05	3.36e+02	3.9e+02	1.50e+05	1.30e+03	1.2e+02
11	2,3,7,8-TCDD	1.60e+04	7.52e+02	2.1e+01	2.06e+04	6.88e+02	3.0e+01
12	1,2,3,7,8-PeCDD	1.23e+05	1.14e+03	1.1e+02	8.19e+04	6.00e+01	1.4e+03
13	1,2,3,4,7,8-HxCDD	1.33e+05	6.40e+01	2.1e+03	1.19e+05	3.96e+02	3.0e+02
14	1,2,3,6,7,8-HxCDD	1.39e+05	6.40e+01	2.2e+03	1.01e+05	3.96e+02	2.6e+02
15	1,2,3,7,8,9-HxCDD	1.52e+05	6.40e+01	2.4e+03	1.16e+05	3.96e+02	2.9e+02
16	1,2,3,4,6,7,8-HpCDD	1.11e+05	4.96e+02	2.2e+02	1.05e+05	5.20e+01	2.0e+03
17	OCDD	1.35e+05	1.24e+02	1.1e+03	1.52e+05	3.36e+02	4.5e+02
18	13C-2,3,7,8-TCDF	9.23e+06	1.92e+03	4.8e+03	1.15e+07	1.36e+03	8.4e+03
19	13C-1,2,3,7,8-PeCDF	1.53e+07	1.16e+02	1.3e+05	9.67e+06	8.84e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	1.63e+07	1.16e+02	1.4e+05	1.03e+07	8.84e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	8.21e+06	6.28e+02	1.3e+04	1.58e+07	1.13e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	9.05e+06	6.28e+02	1.4e+04	1.71e+07	1.13e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	8.77e+06	6.28e+02	1.4e+04	1.68e+07	1.13e+03	1.5e+04
24	13C-1,2,3,7,8,9-HxCDF	7.08e+06	6.28e+02	1.1e+04	1.37e+07	1.13e+03	1.2e+04
25	13C-1,2,3,4,6,7,8-HpCDF	5.89e+06	2.92e+02	2.0e+04	1.36e+07	4.56e+03	3.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.28e+06	2.92e+02	1.5e+04	9.66e+06	4.56e+03	2.1e+03
27	13C-2,3,7,8-TCDD	6.61e+06	5.31e+03	1.2e+03	8.28e+06	1.95e+03	4.2e+03
28	13C-1,2,3,7,8-PeCDD	1.09e+07	9.96e+02	1.1e+04	6.95e+06	3.84e+02	1.8e+04
29	13C-1,2,3,4,7,8-HxCDD	1.06e+07	1.20e+03	8.9e+03	8.18e+06	6.88e+02	1.2e+04
30	13C-1,2,3,6,7,8-HxCDD	9.91e+06	1.20e+03	8.3e+03	8.11e+06	6.88e+02	1.2e+04
31	13C-1,2,3,4,6,7,8-HpCDD	8.67e+06	1.50e+03	5.8e+03	8.19e+06	6.72e+02	1.2e+04
32	13C-OCDD	9.20e+06	3.36e+02	2.7e+04	1.01e+07	4.40e+02	2.3e+04
33	13C-1,2,3,4-TCDD	6.50e+06	5.31e+03	1.2e+03	8.16e+06	1.95e+03	4.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.12e+07	1.20e+03	9.4e+03	8.80e+06	6.88e+02	1.3e+04
35	37Cl-2,3,7,8-TCDD	4.13e+04	9.28e+02	4.5e+01			

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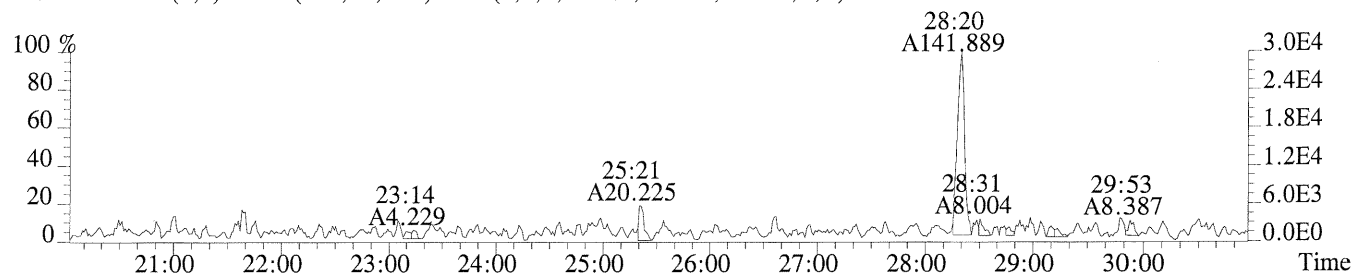
XLSN

File:P230730 #1-687 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5

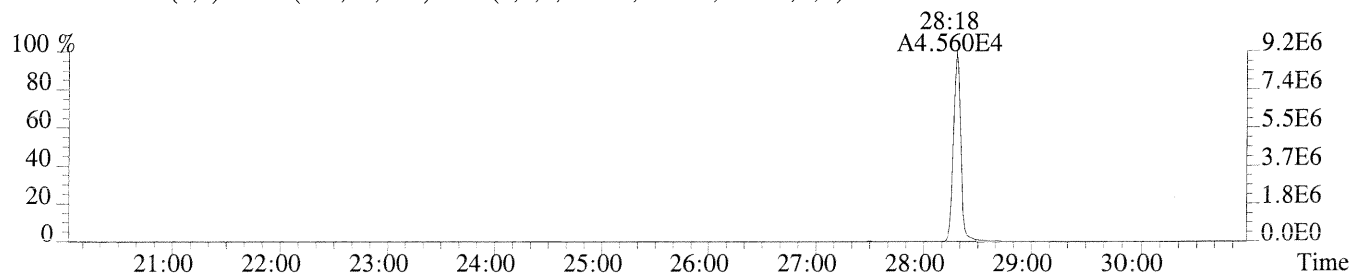
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)



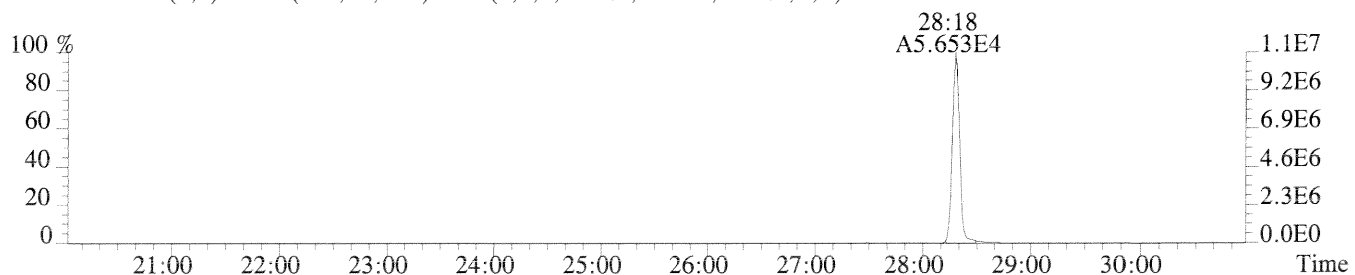
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1888.0,1.00%,F,T)



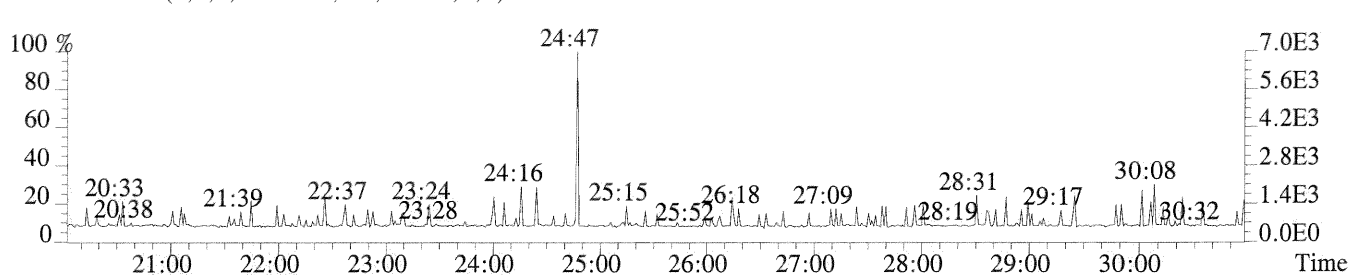
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,T)



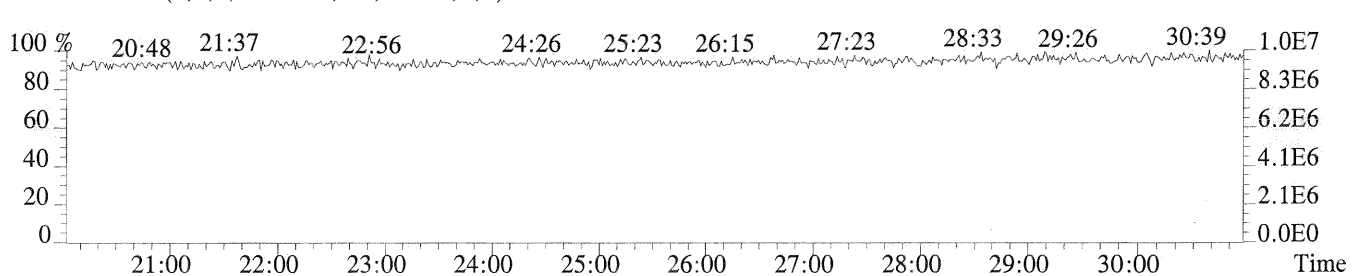
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1360.0,1.00%,F,T)

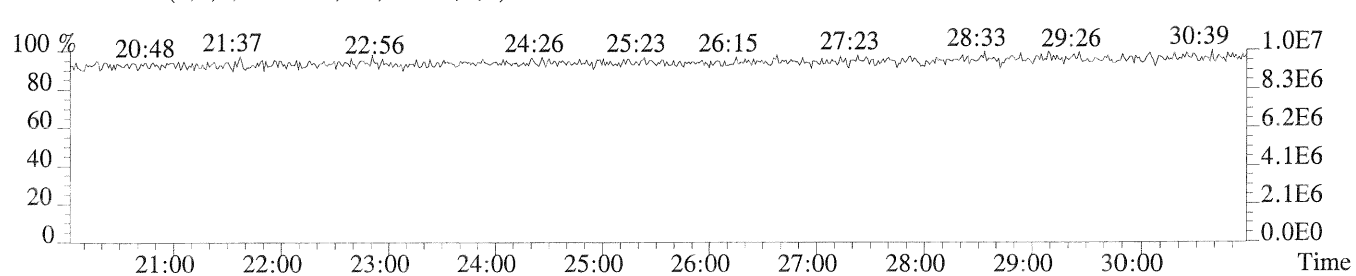
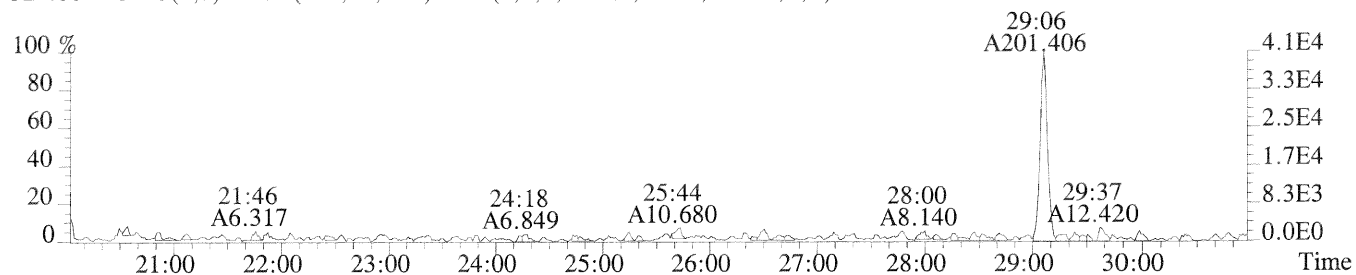
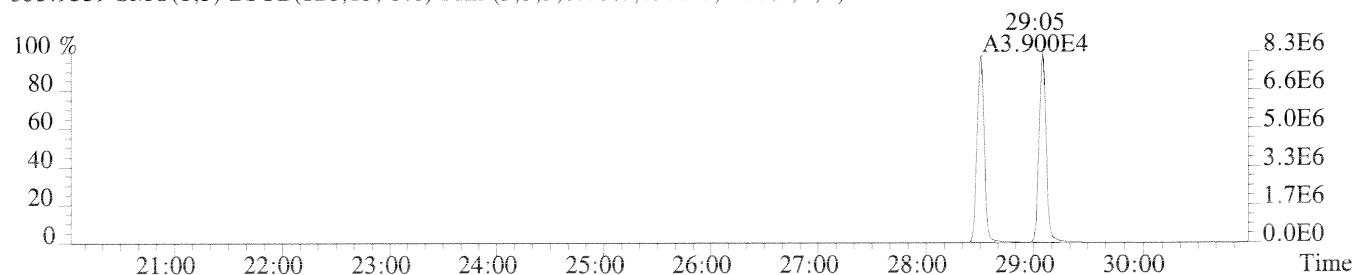
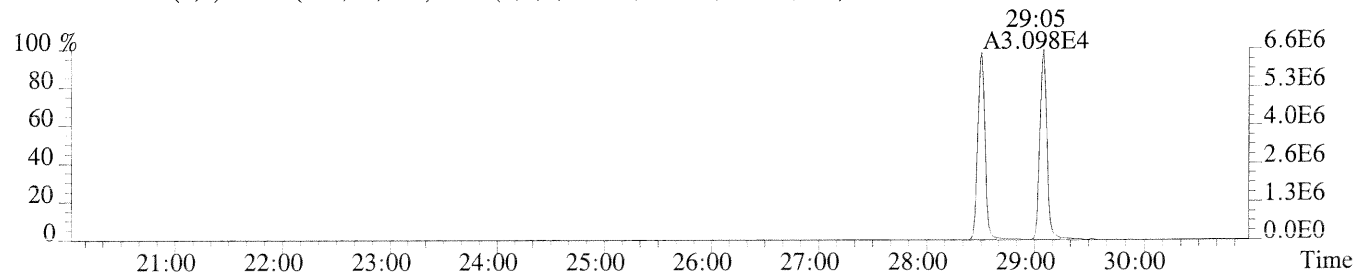
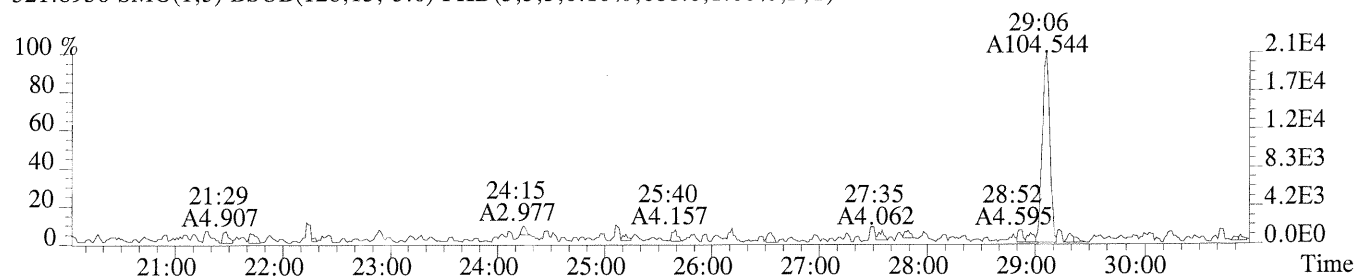
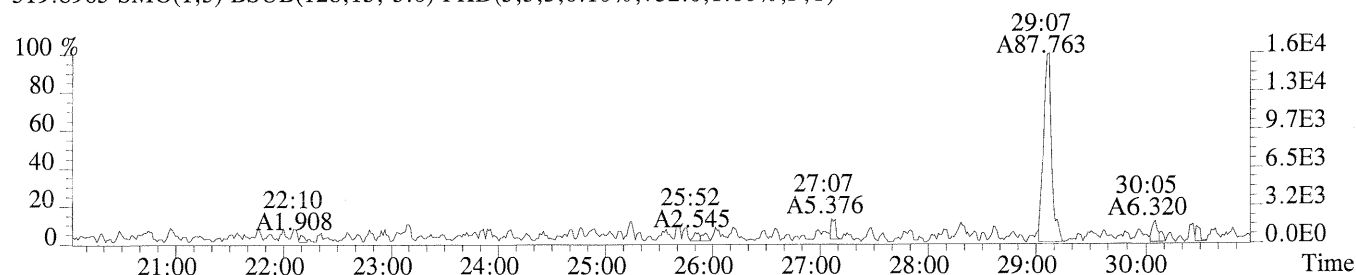


375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

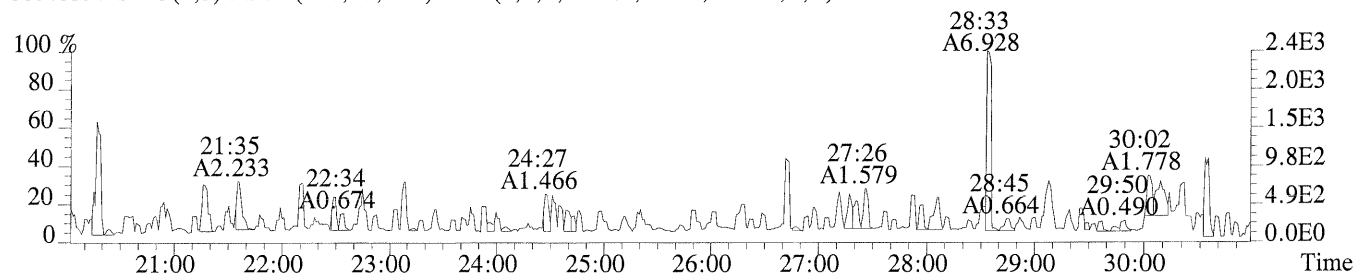


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

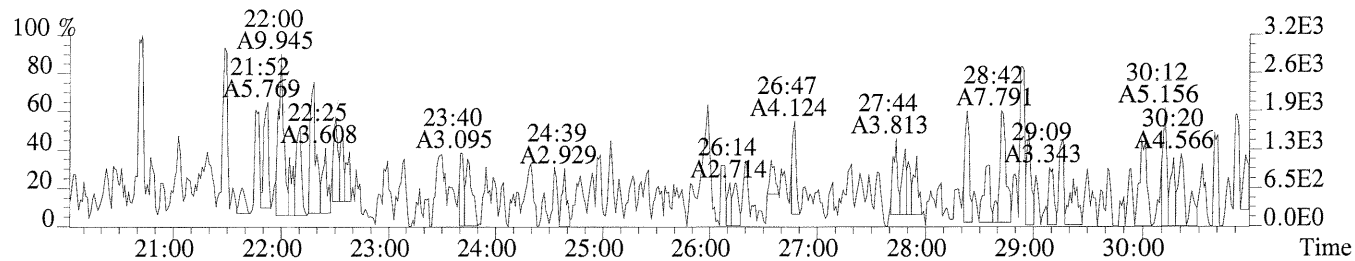




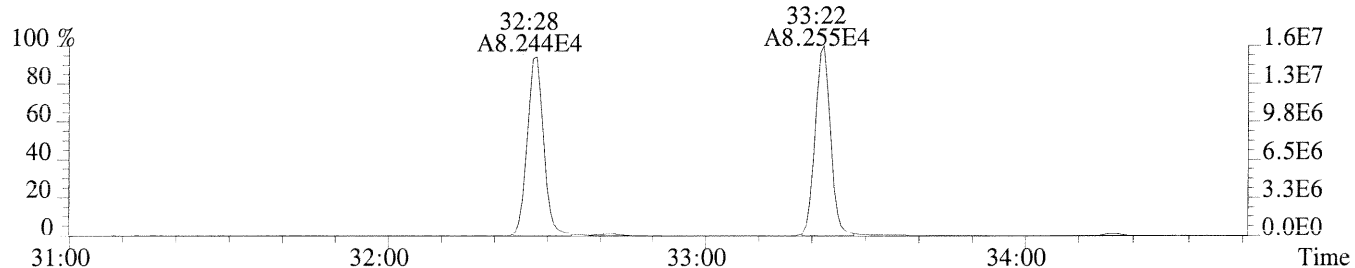
File:P230730 #1-687 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,T)



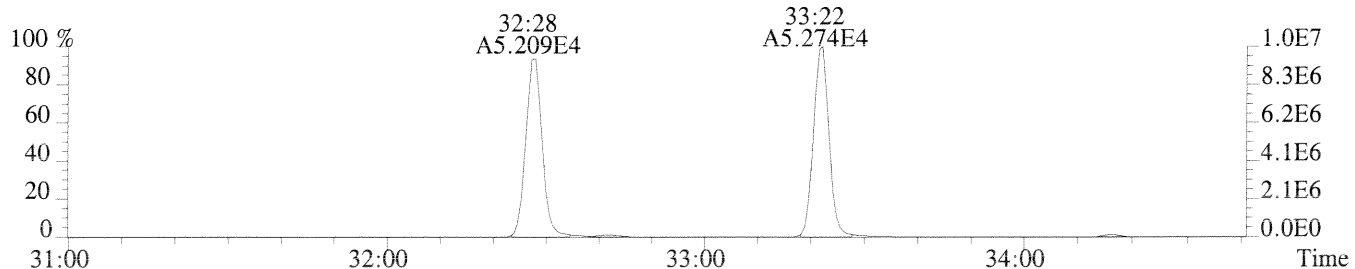
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



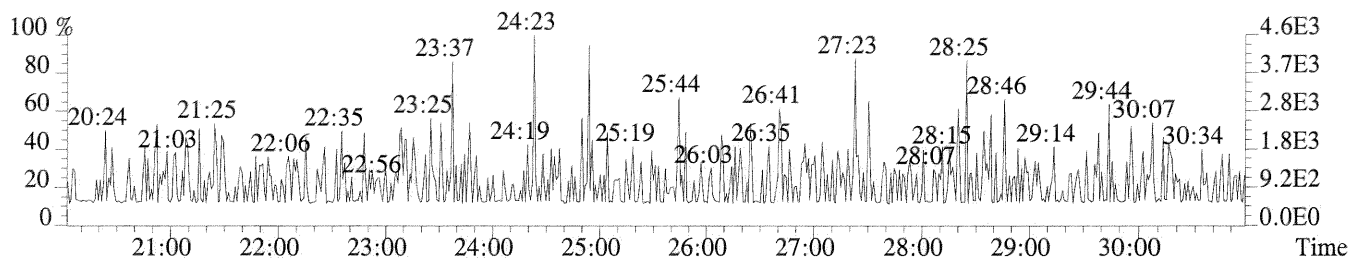
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,116.0,1.00%,F,T)



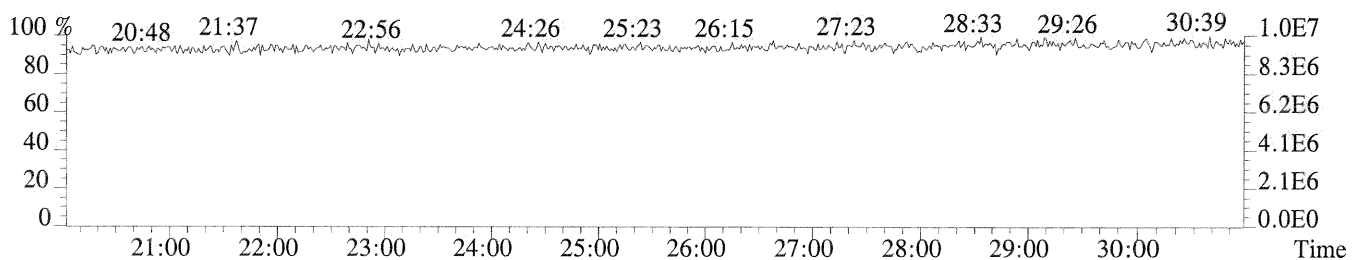
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,884.0,1.00%,F,T)

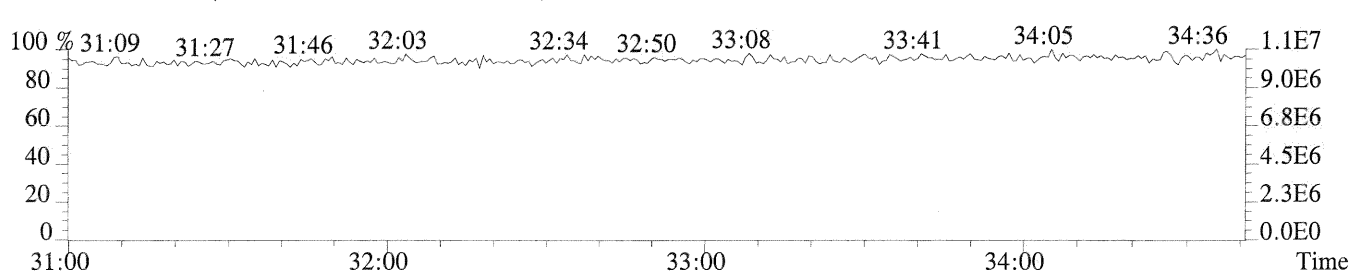
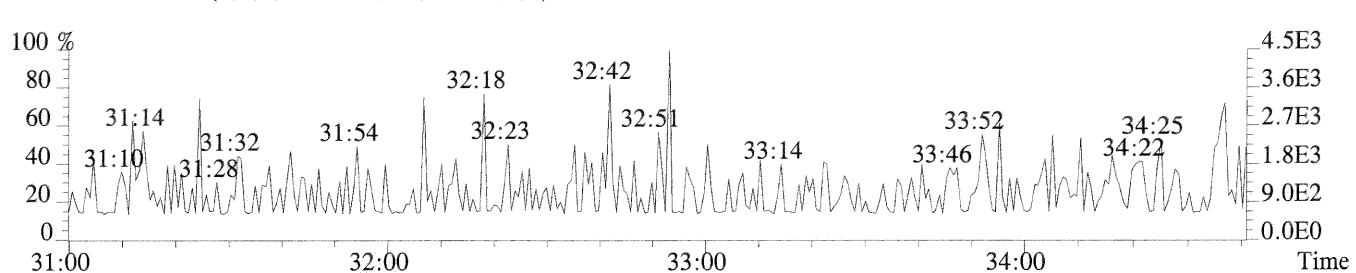
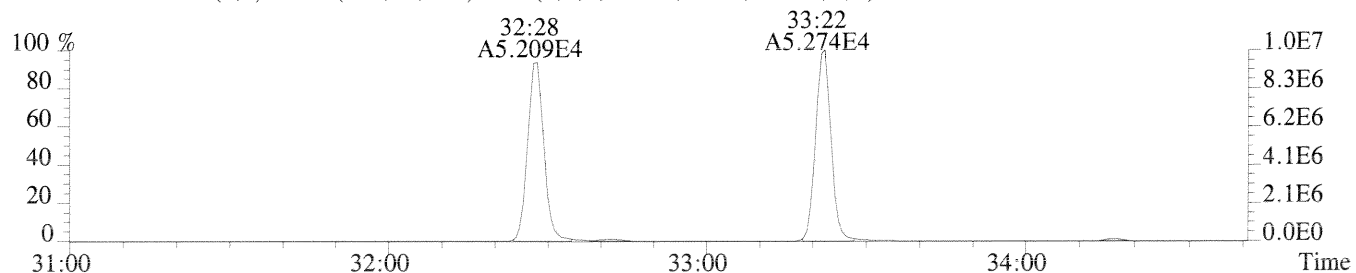
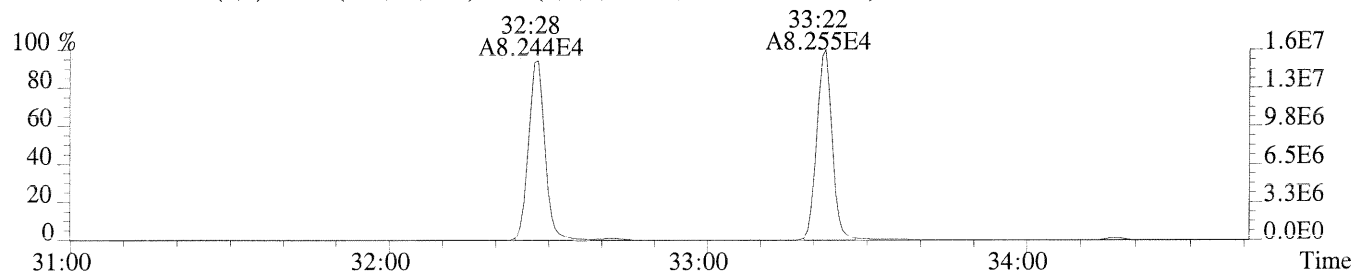
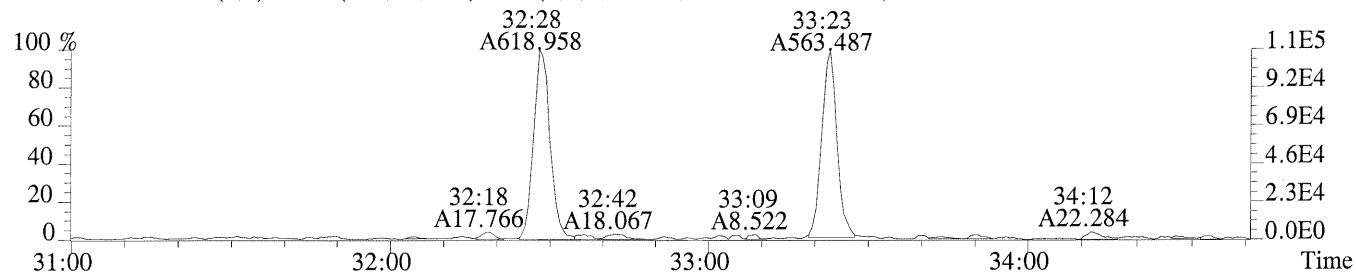
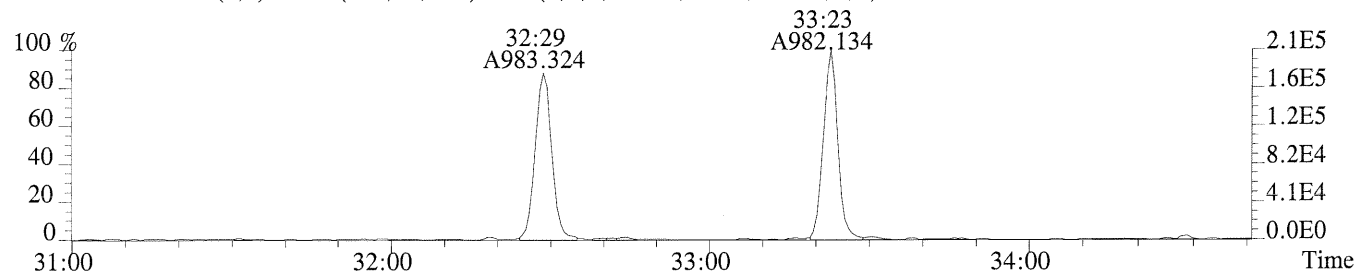


409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



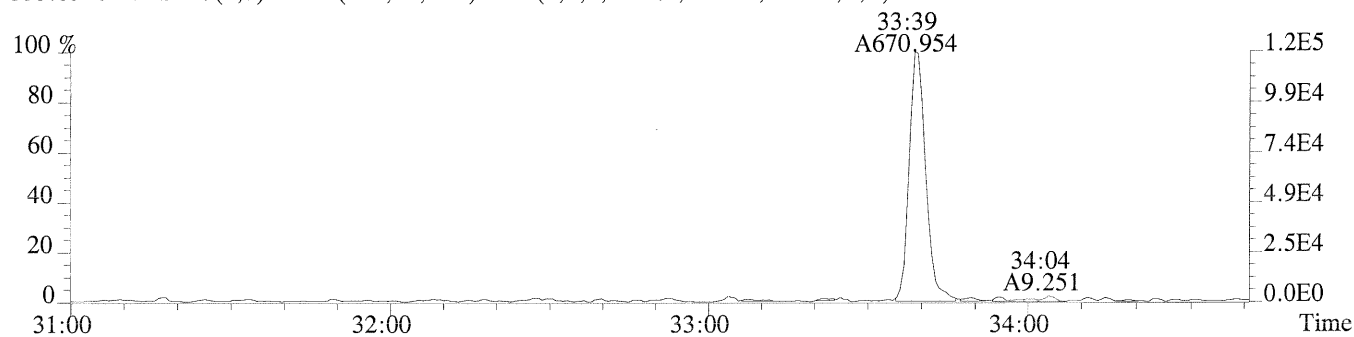
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



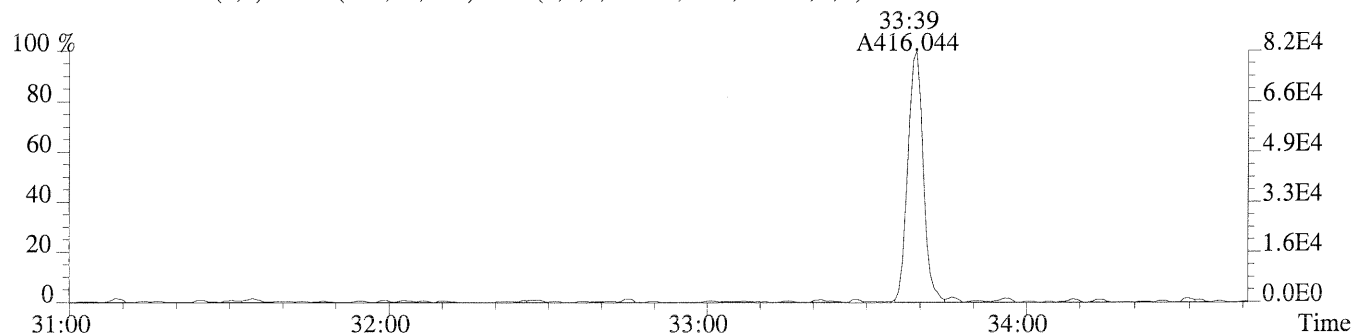




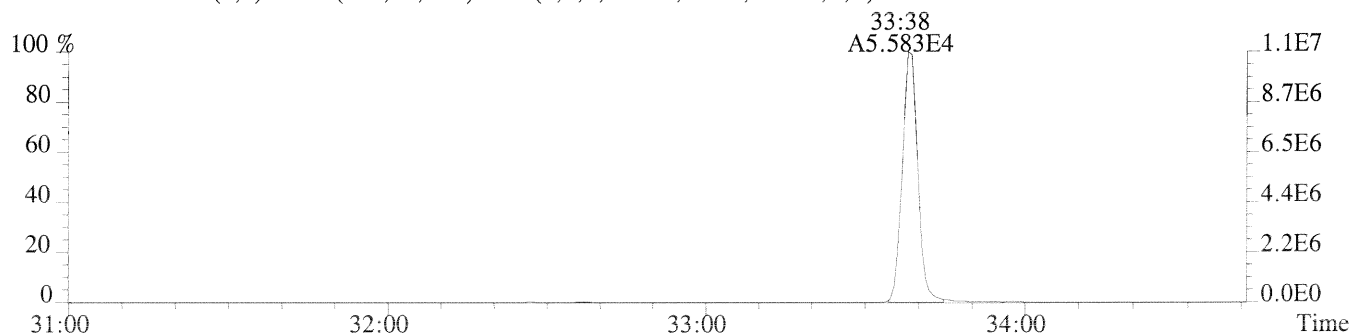
File:P230730 #1-335 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



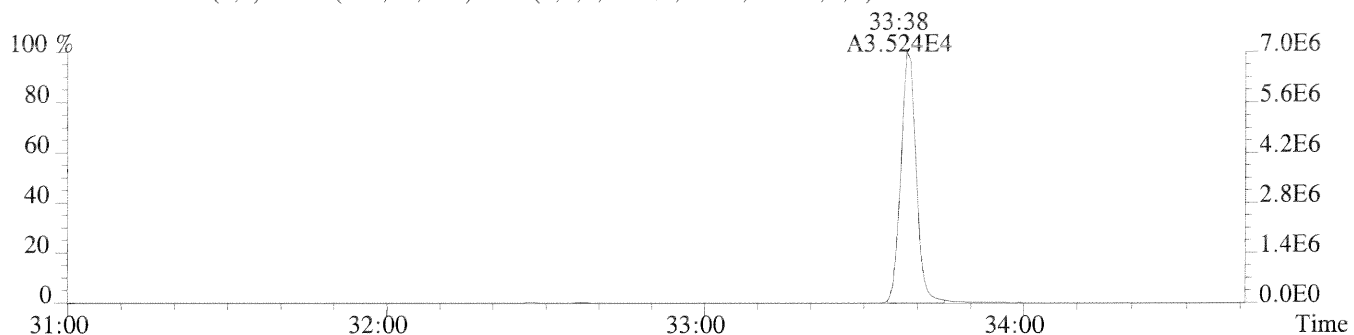
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



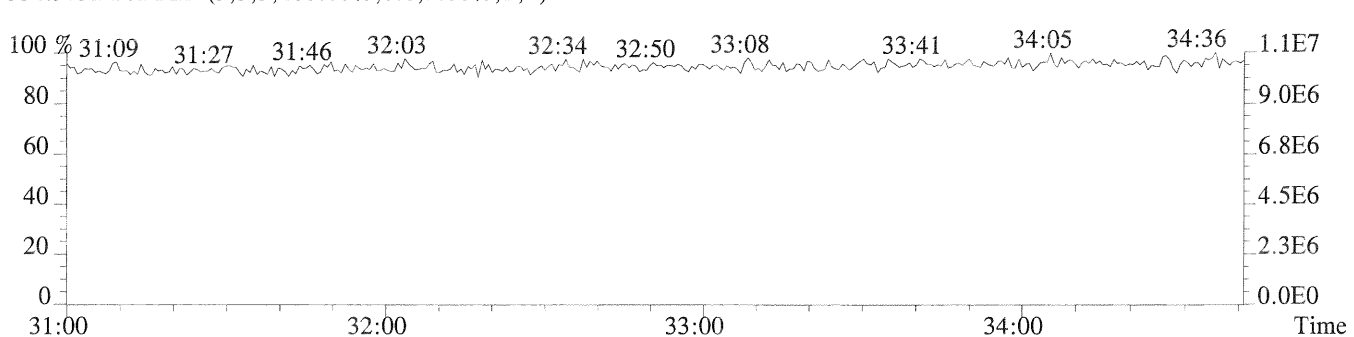
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,T)



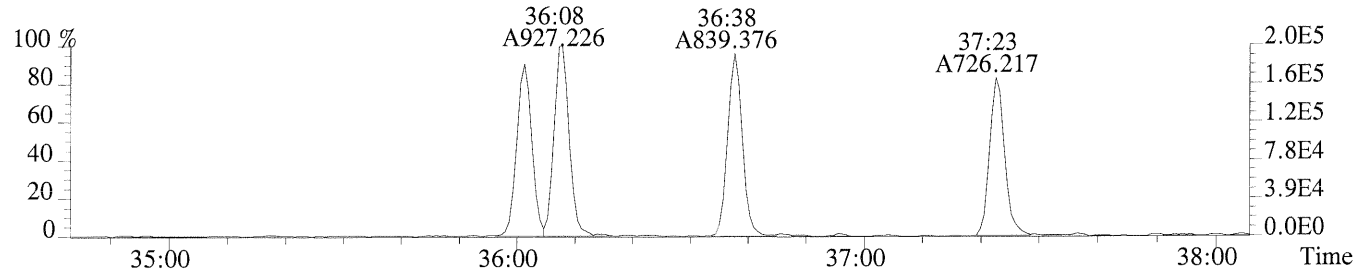
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,384.0,1.00%,F,T)



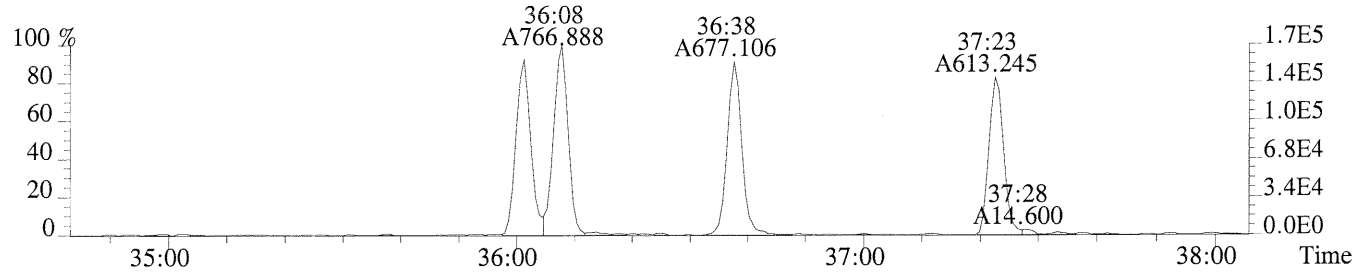
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



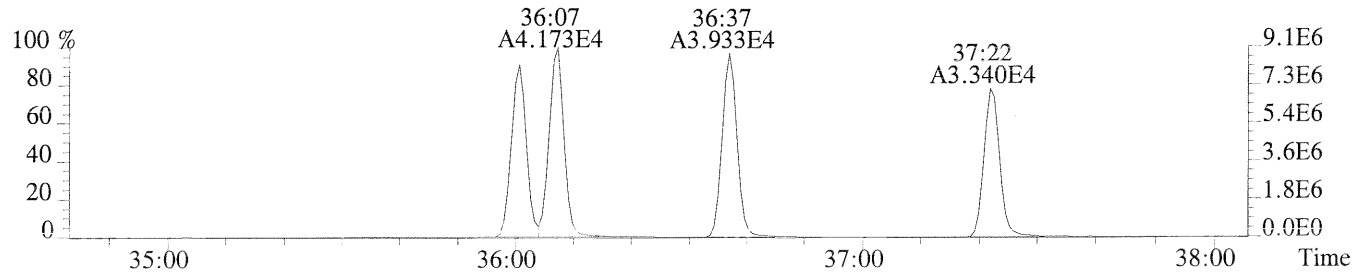
File:P230730 #1-307 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.40%,F,T)



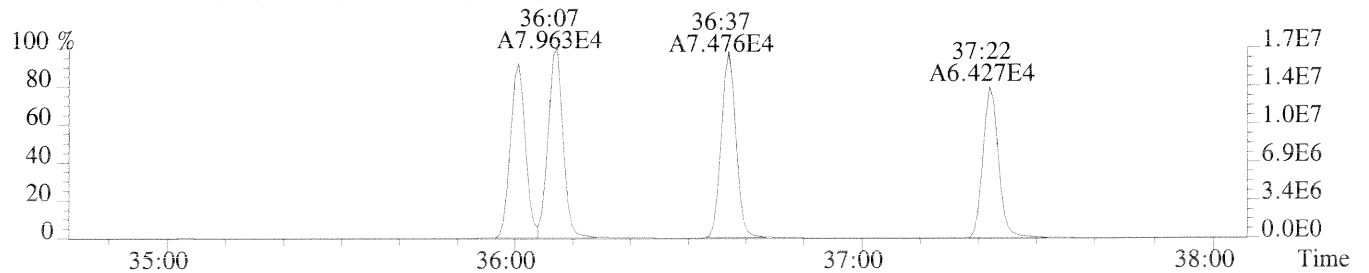
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



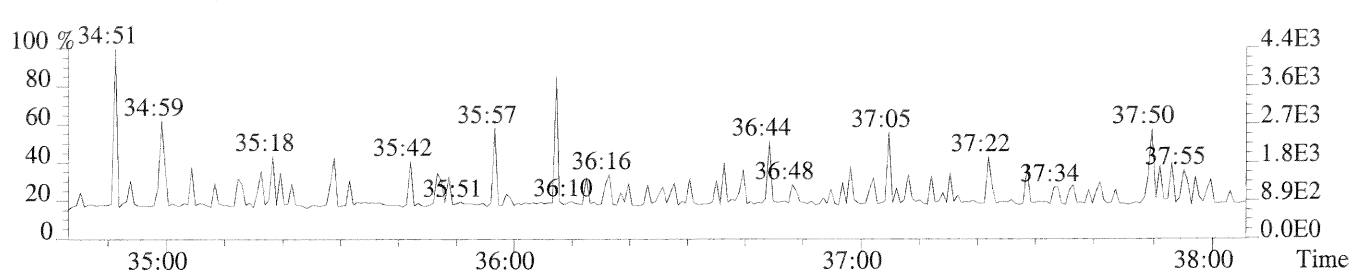
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,T)



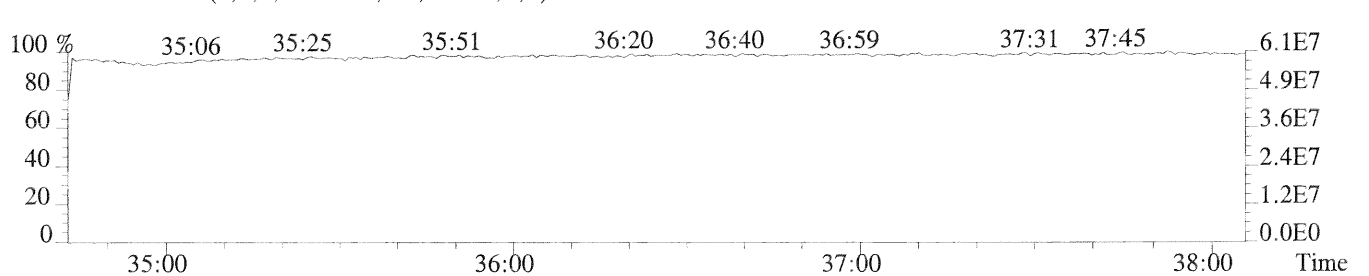
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



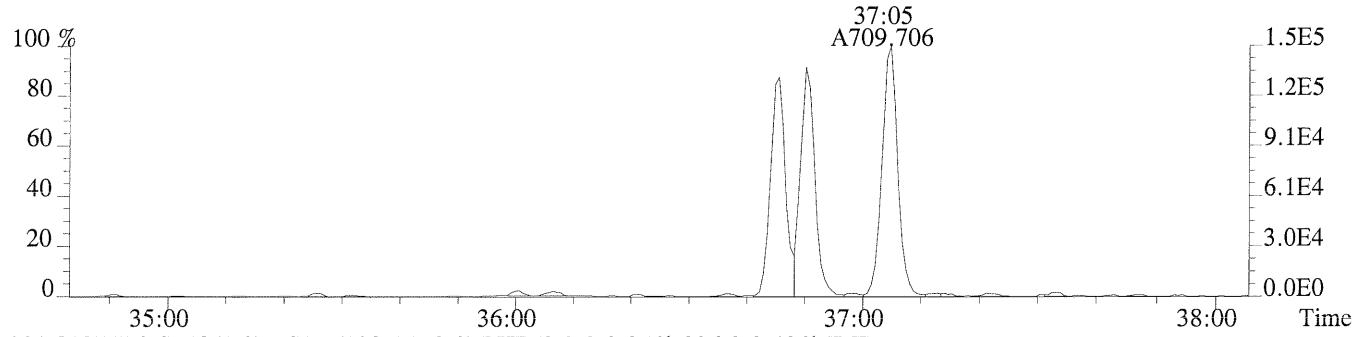
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



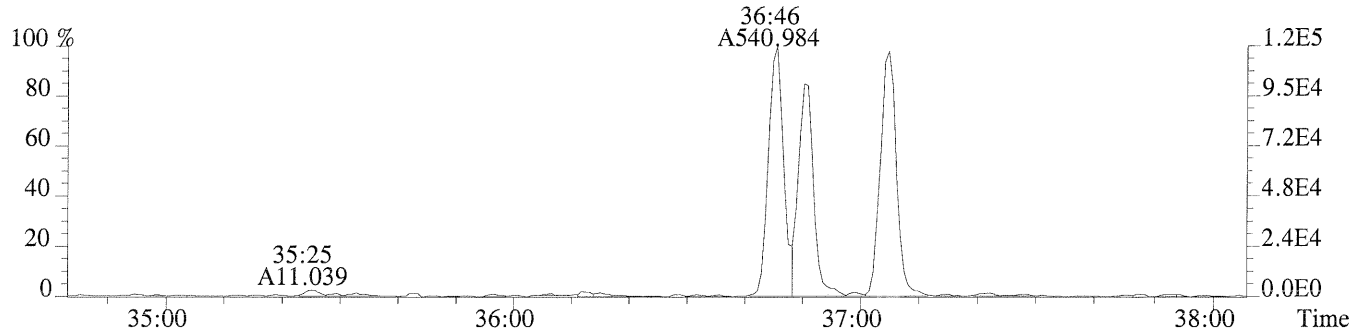
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



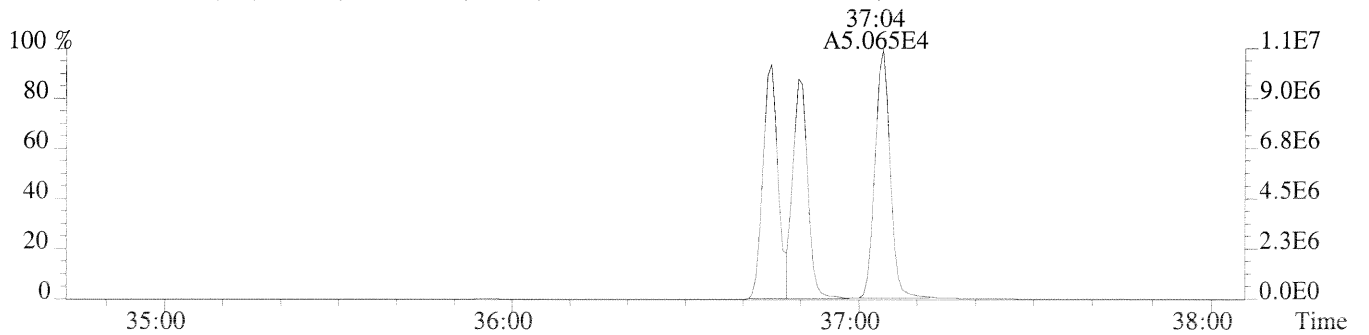
File:P230730 #1-307 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



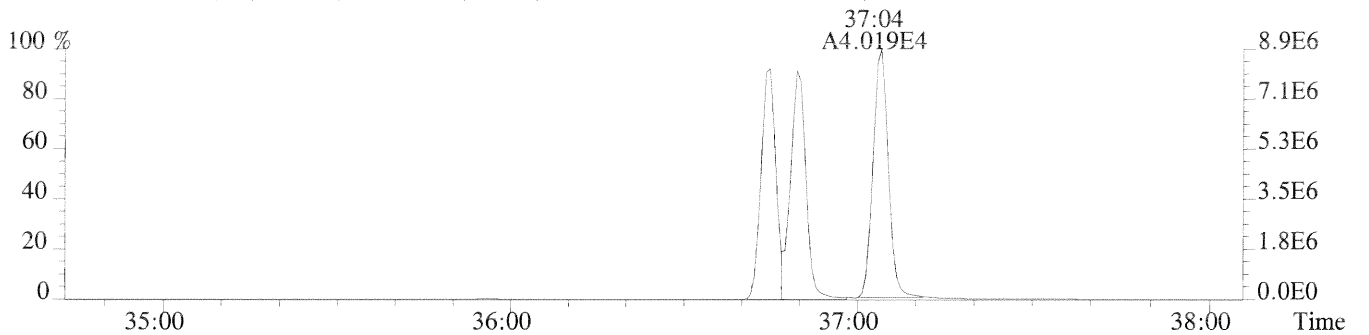
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,396.0,0.40%,F,T)



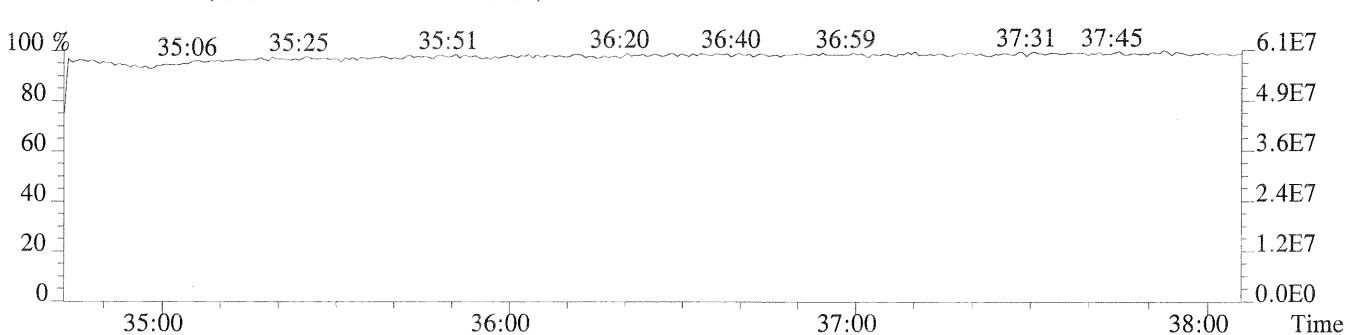
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



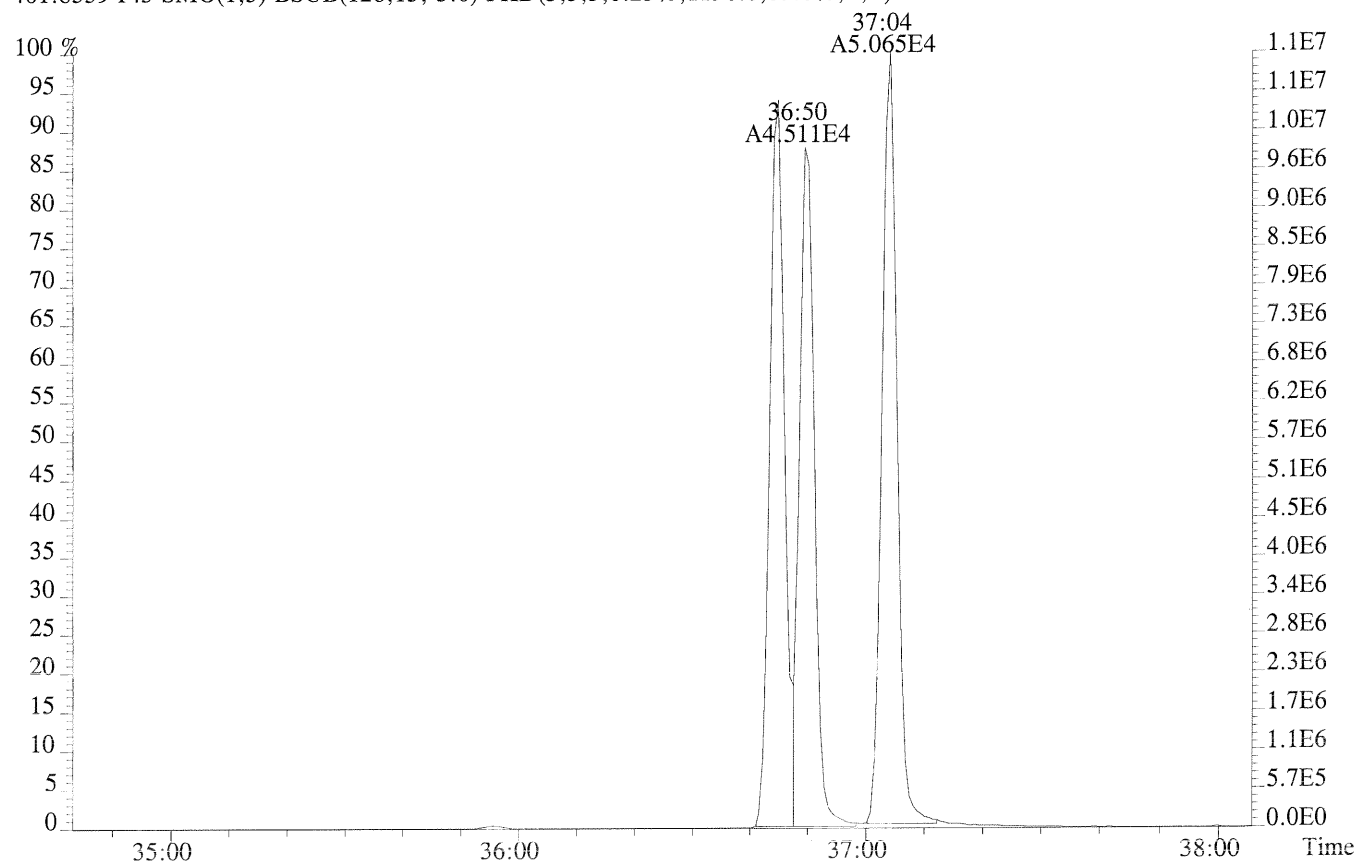
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



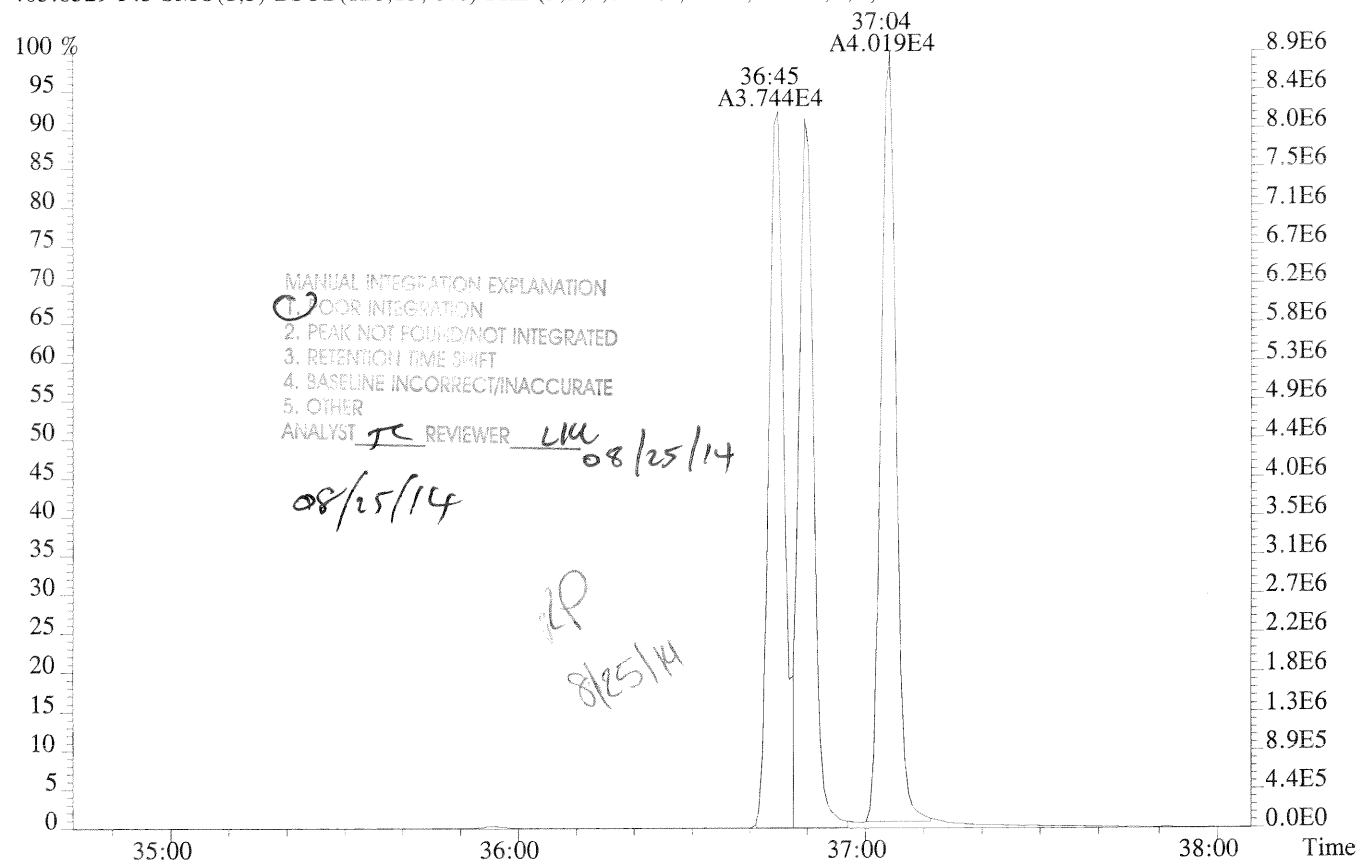
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



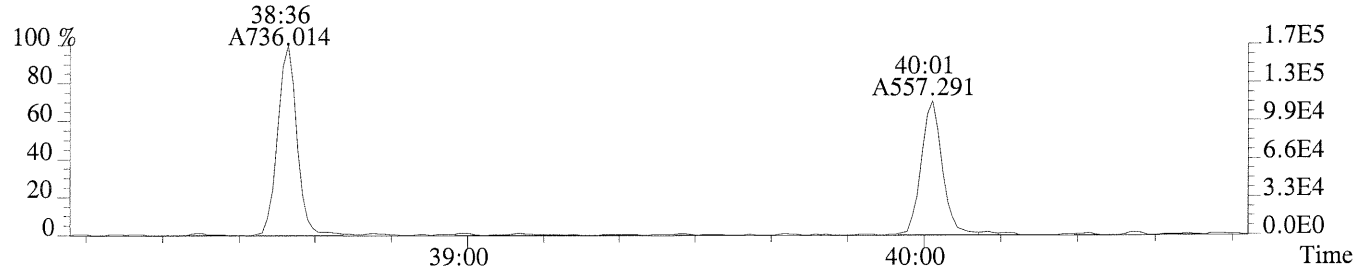
File:P230730 #1-307 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



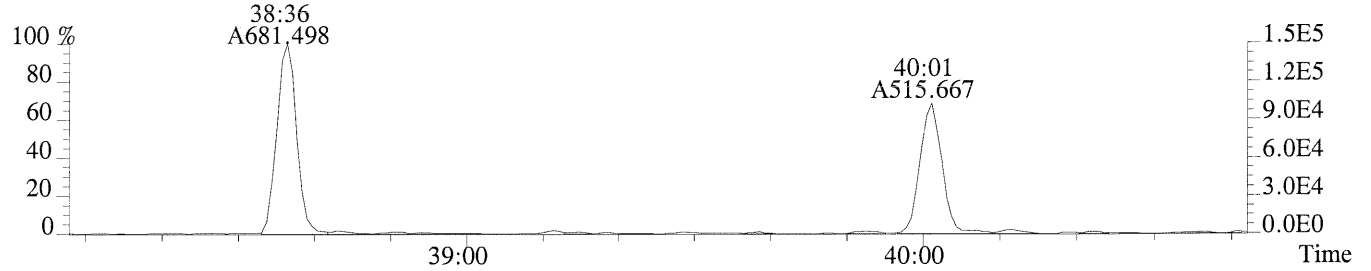
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



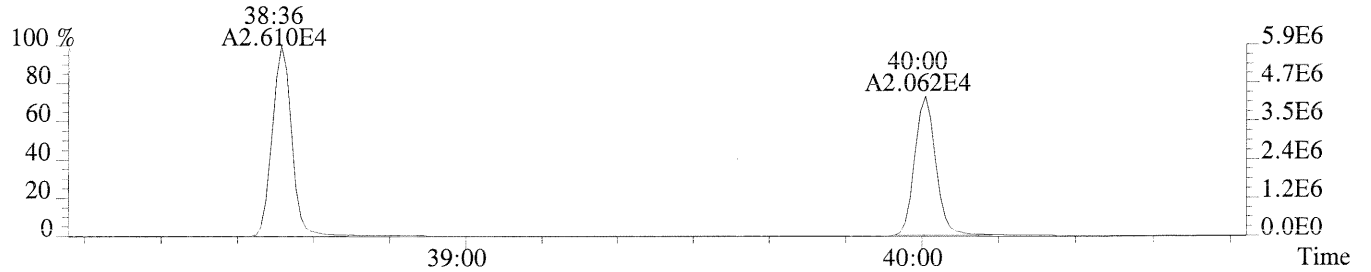
File:P230730 #1-234 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
407.7818 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,332.0,0.50%,F,T)



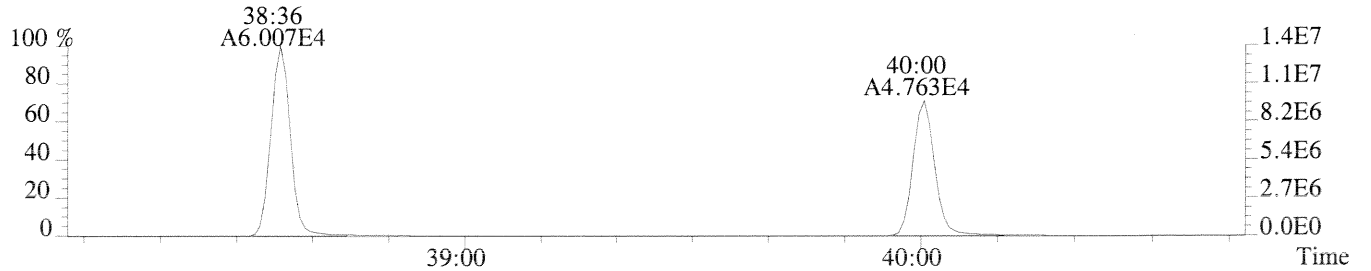
409.7789 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,360.0,0.50%,F,T)



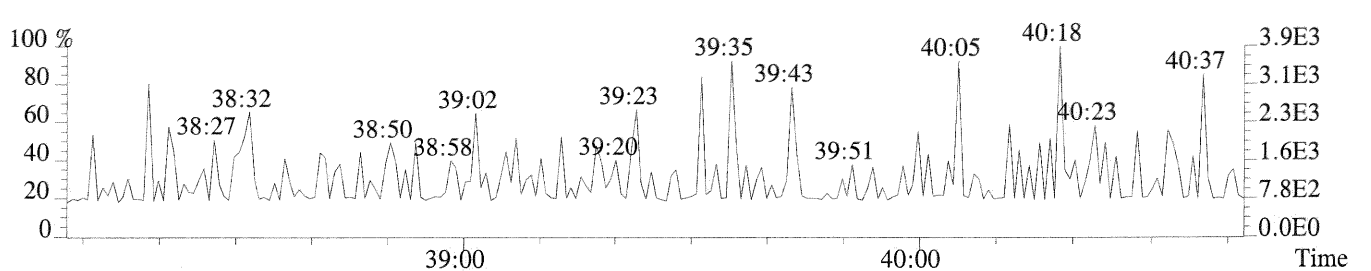
417.8253 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,292.0,0.50%,F,T)



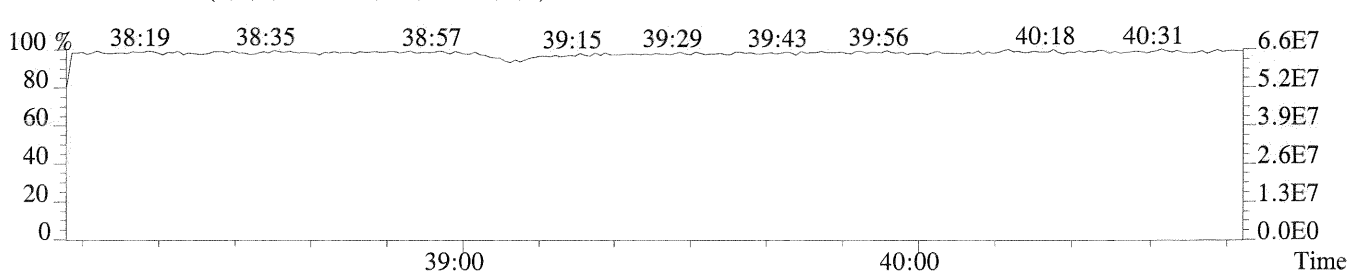
419.8220 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,4556.0,0.50%,F,T)



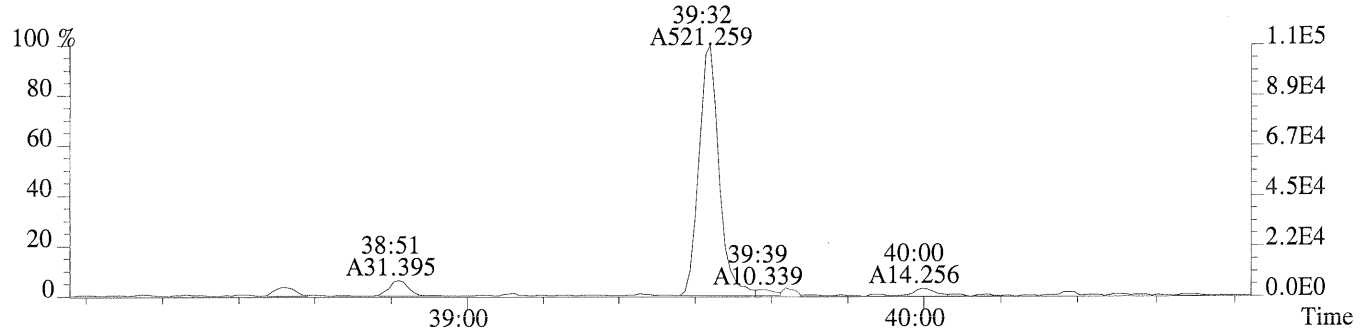
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



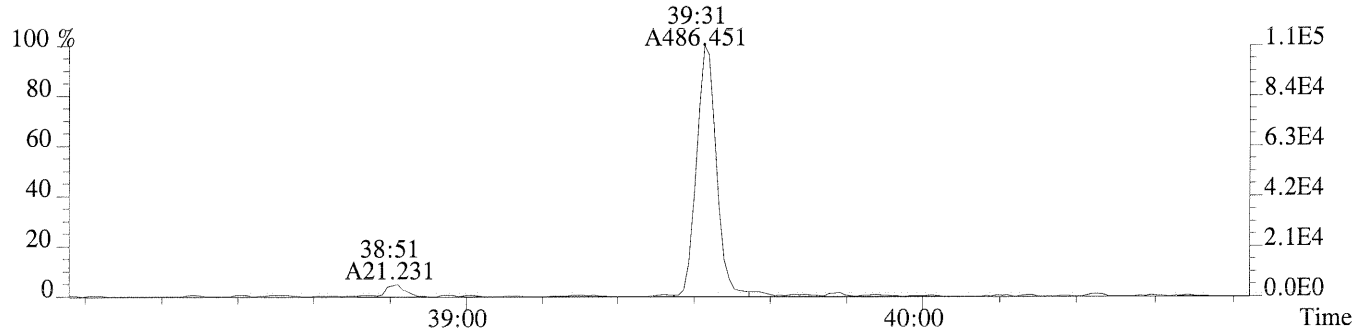
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



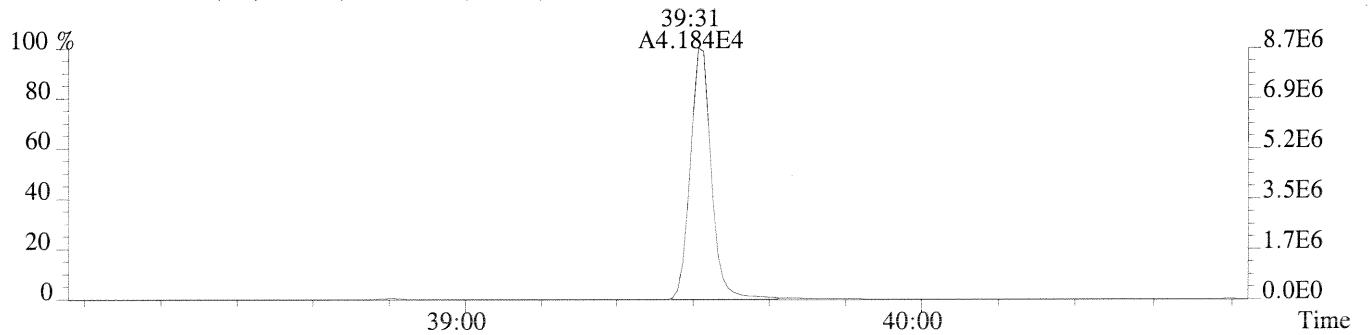
File:P230730 #1-234 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



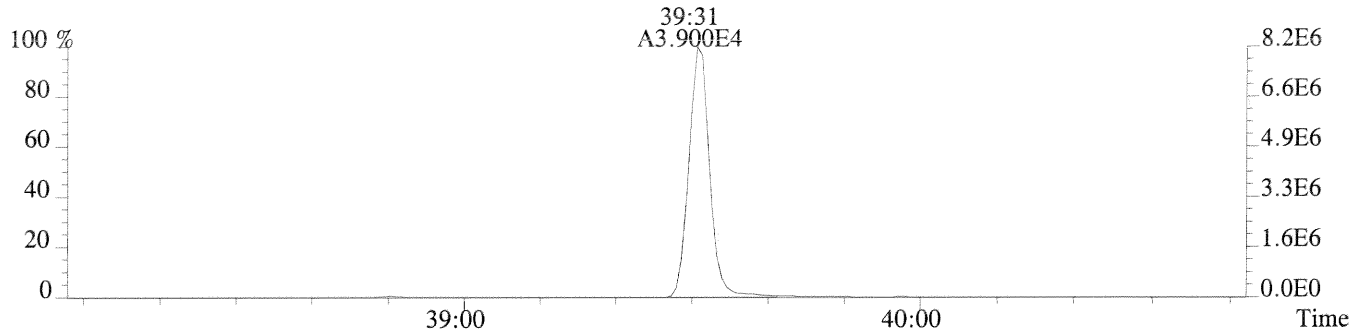
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



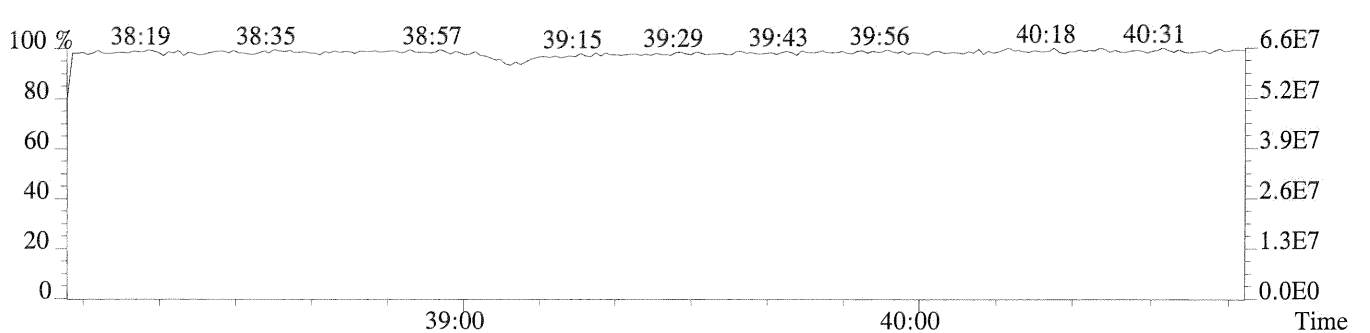
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



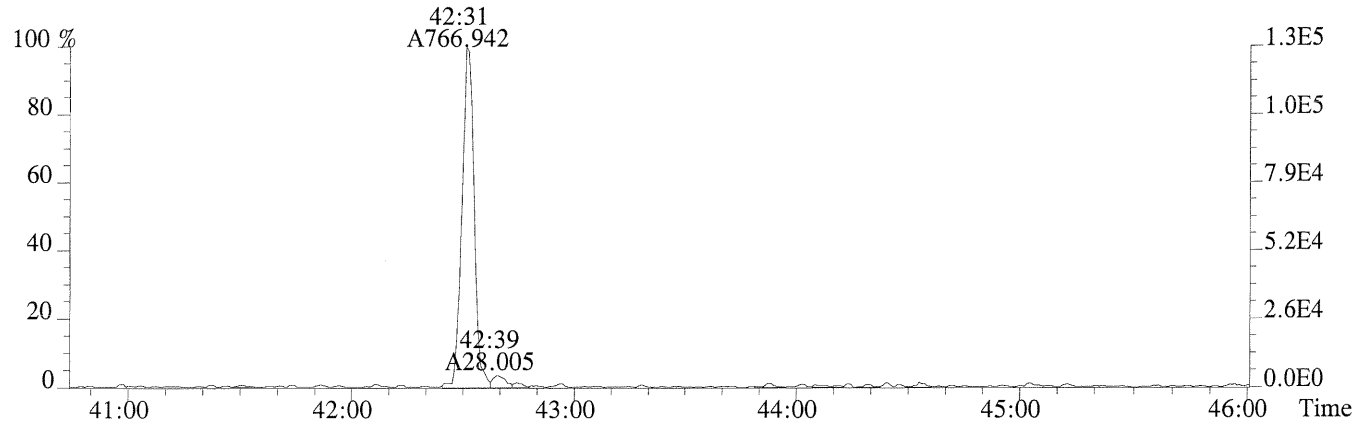
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,T)



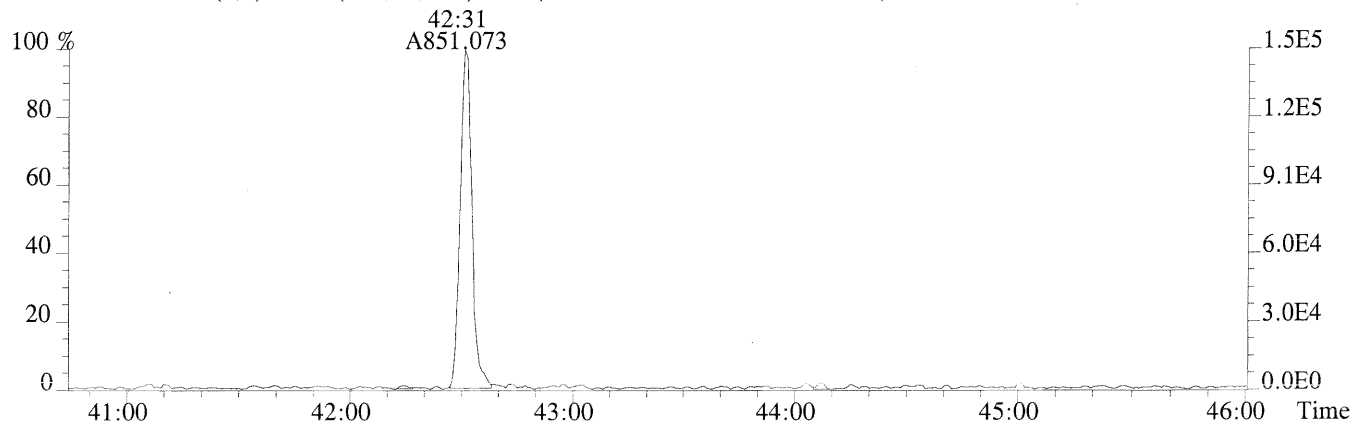
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



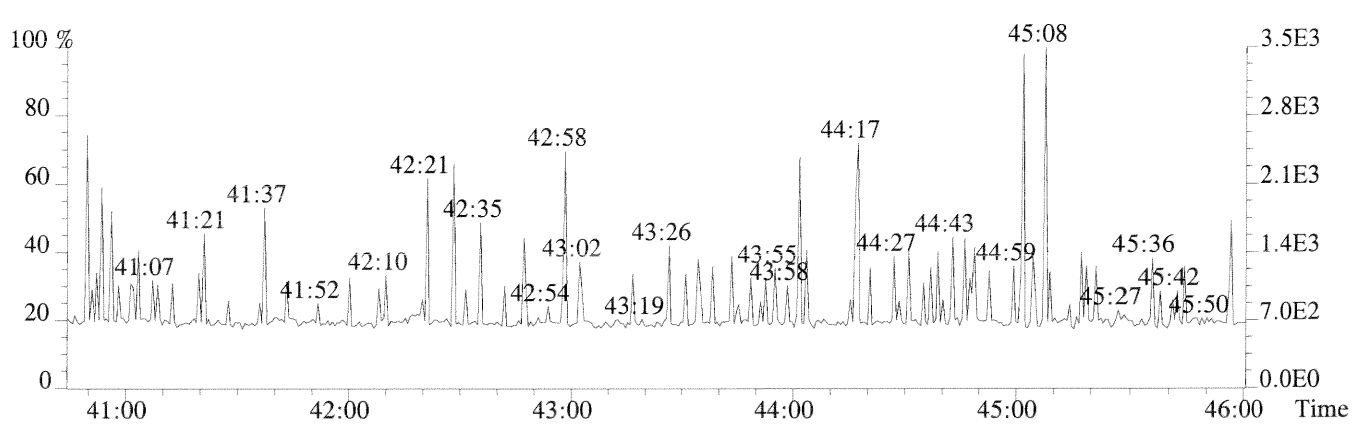
File:P230730 #1-485 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,336.0,0.40%,F,T)



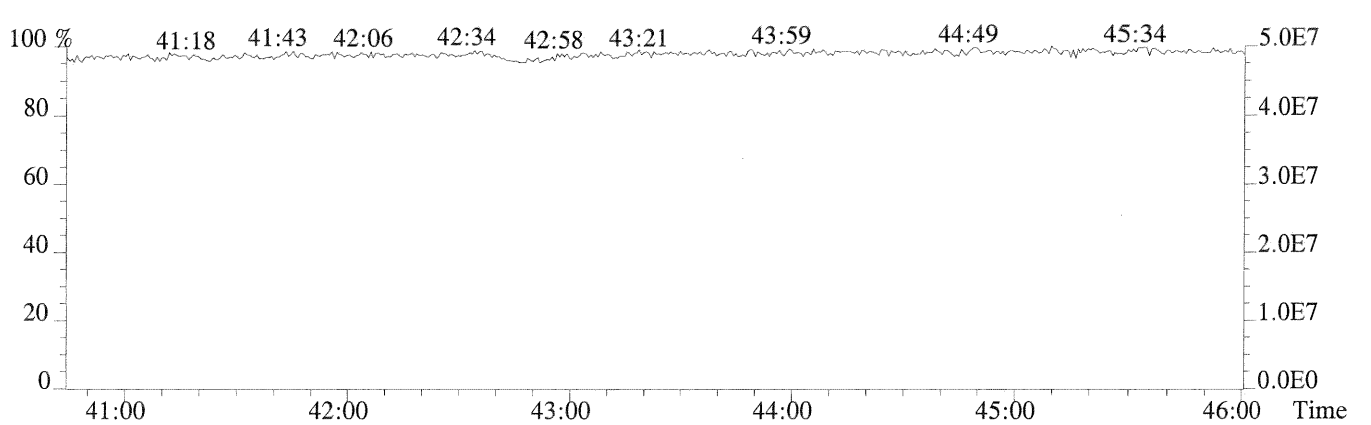
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1300.0,0.40%,F,T)



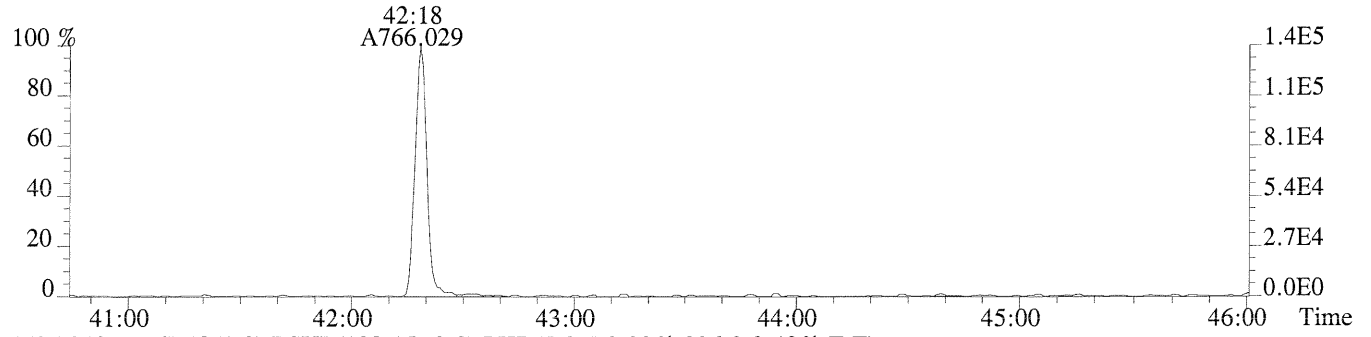
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



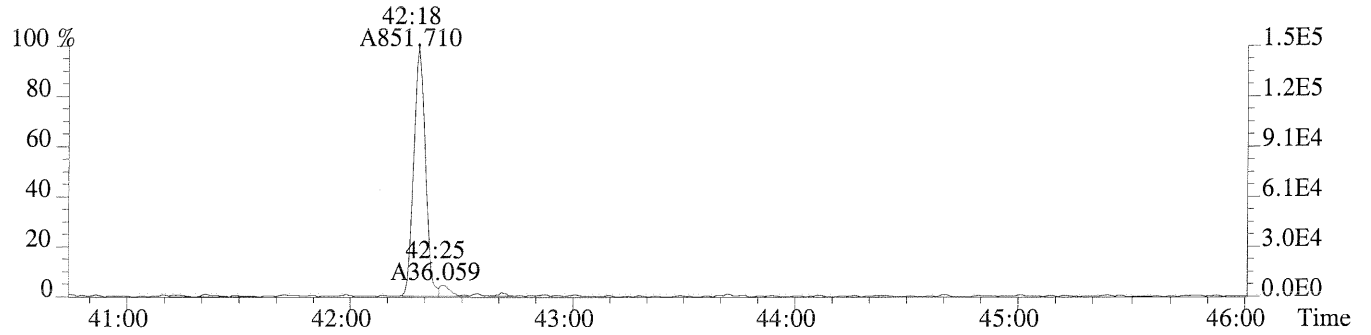
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



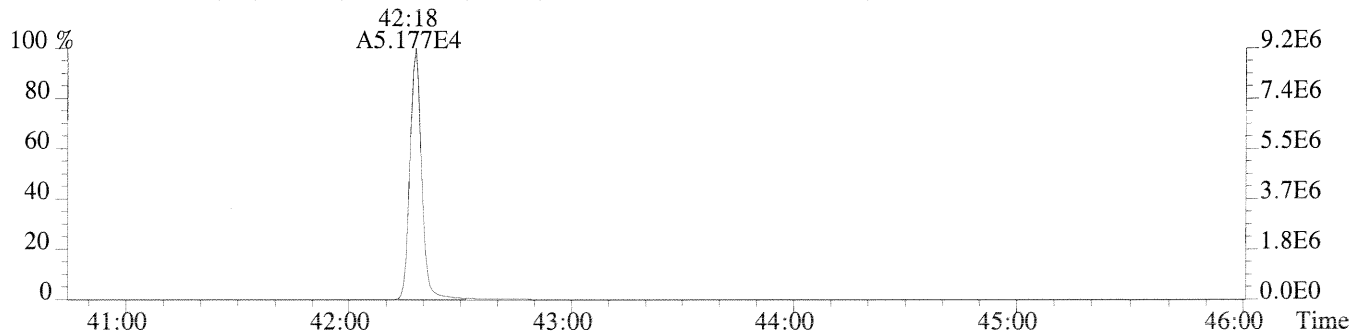
File:P230730 #1-485 Acq:24-AUG-2014 11:23:08 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS0.5  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,124.0,0.40%,F,T)



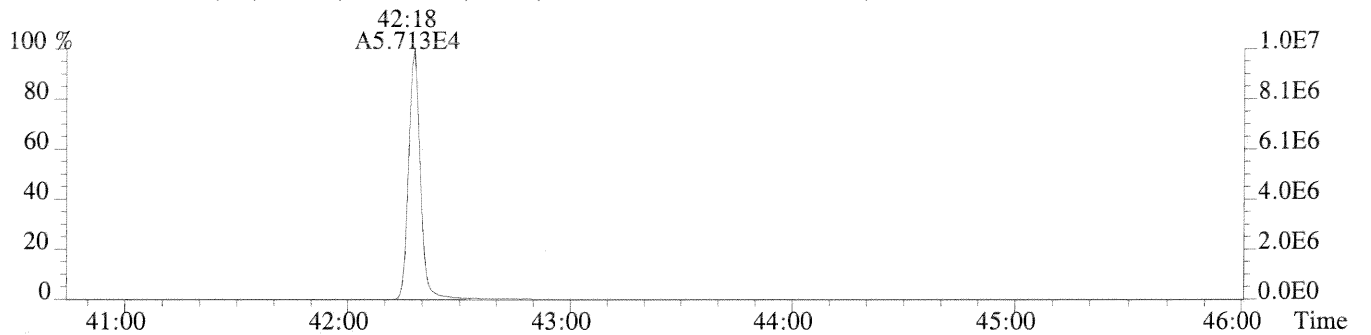
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,336.0,0.40%,F,T)



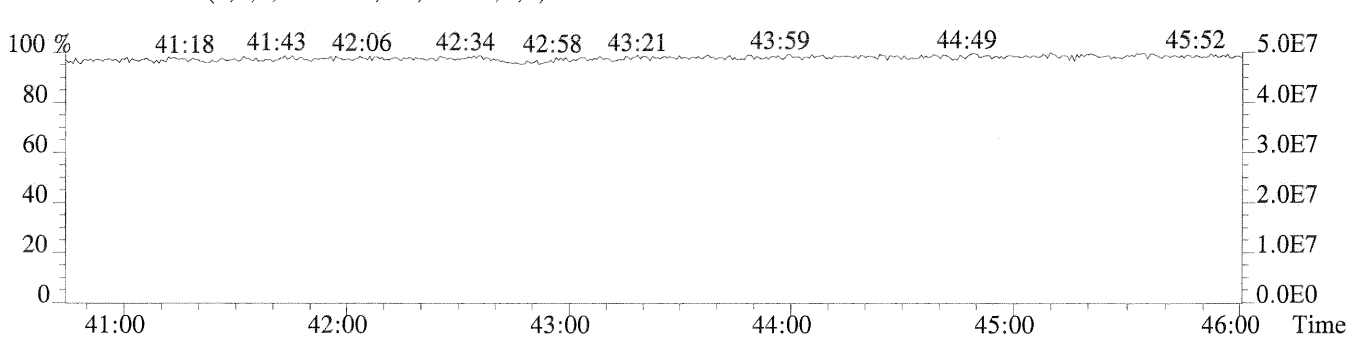
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,336.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,440.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)





ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS1

Run #2 Filename P230731 #1 Samp: 1 Inj: 1 Acquired: 24-AUG-14 12:10:54  
 Processed: 25-AUG-14 11:37:33 LAB. ID: 66798

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:19	2.933e+02	3.603e+02	0.81	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	2.504e+03	1.666e+03	1.50	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:23	2.444e+03	1.612e+03	1.52	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	2.115e+03	1.810e+03	1.17	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	2.303e+03	1.865e+03	1.24	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	2.077e+03	1.722e+03	1.21	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	1.736e+03	1.362e+03	1.27	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:36	1.748e+03	1.600e+03	1.09	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	1.159e+03	1.047e+03	1.11	yes	no	1.000
10	Unk	OCDF	42:32	1.823e+03	1.973e+03	0.92	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:06	2.077e+02	2.535e+02	0.82	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	1.742e+03	1.078e+03	1.62	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	1.585e+03	1.225e+03	1.29	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:51	1.531e+03	1.282e+03	1.19	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	1.651e+03	1.380e+03	1.20	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:32	1.270e+03	1.203e+03	1.06	yes	no	1.000
17	Unk	OCDD	42:18	1.698e+03	2.031e+03	0.84	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:18	5.630e+04	7.081e+04	0.80	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	32:28	1.003e+05	6.302e+04	1.59	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	9.972e+04	6.291e+04	1.59	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	4.352e+04	8.390e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	4.917e+04	9.400e+04	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	4.655e+04	8.946e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:22	3.720e+04	7.234e+04	0.51	yes	yes	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	3.060e+04	6.936e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.278e+04	5.113e+04	0.45	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:05	3.781e+04	4.853e+04	0.78	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:39	6.873e+04	4.335e+04	1.59	yes	no	1.180
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	5.625e+04	4.409e+04	1.28	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	5.569e+04	4.344e+04	1.28	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	4.859e+04	4.571e+04	1.06	yes	no	1.066
32	IS	13C-OCDD	42:18	5.925e+04	6.554e+04	0.90	yes	no	1.141
33RS/RT		13C-1,2,3,4-TCDD	28:31	3.863e+04	4.843e+04	0.80	yes	no	*
34RS/RT		13C-1,2,3,7,8,9-HxCDD	37:04	6.031e+04	4.801e+04	1.26	yes	no	*
35 C/Up		37Cl-2,3,7,8-TCDD	29:06	4.935e+02				no	1.020

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS1

Run #2    Filename P230731    Samp: 1    Inj: 1    Acquired: 24-AUG-14 12:10:54  
 Processed: 25-AUG-14 11:37:33    LAB. ID: 66798

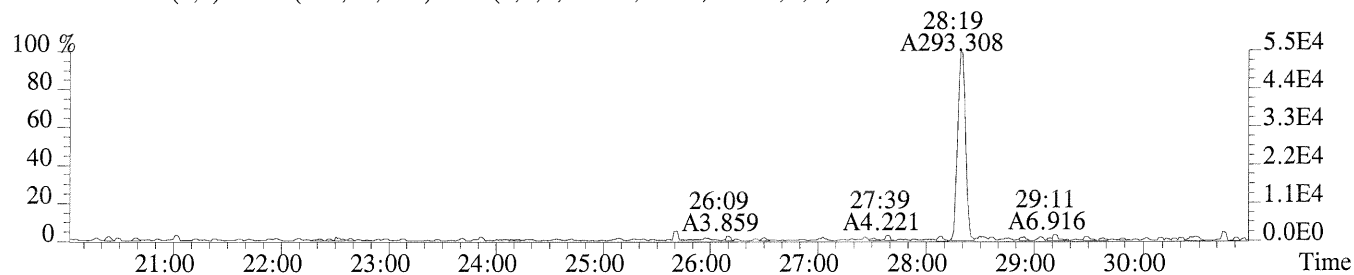
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.49e+04	5.24e+02	1.0e+02	7.08e+04	2.33e+03	3.0e+01
2	1,2,3,7,8-PeCDF	4.60e+05	5.64e+02	8.2e+02	3.12e+05	1.30e+03	2.4e+02
3	2,3,4,7,8-PeCDF	5.07e+05	5.64e+02	9.0e+02	3.13e+05	1.30e+03	2.4e+02
4	1,2,3,4,7,8-HxCDF	4.79e+05	6.56e+02	7.3e+02	3.98e+05	1.36e+02	2.9e+03
5	1,2,3,6,7,8-HxCDF	5.00e+05	6.56e+02	7.6e+02	3.93e+05	1.36e+02	2.9e+03
6	2,3,4,6,7,8-HxCDF	4.67e+05	6.56e+02	7.1e+02	3.76e+05	1.36e+02	2.8e+03
7	1,2,3,7,8,9-HxCDF	3.65e+05	6.56e+02	5.6e+02	2.83e+05	1.36e+02	2.1e+03
8	1,2,3,4,6,7,8-HpCDF	3.90e+05	5.20e+02	7.5e+02	3.64e+05	5.04e+02	7.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.36e+05	5.20e+02	4.5e+02	2.18e+05	5.04e+02	4.3e+02
10	OCDF	3.14e+05	2.76e+02	1.1e+03	3.58e+05	1.34e+03	2.7e+02
11	2,3,7,8-TCDD	4.40e+04	7.56e+02	5.8e+01	6.32e+04	6.52e+02	9.7e+01
12	1,2,3,7,8-PeCDD	3.38e+05	8.52e+02	4.0e+02	2.16e+05	2.00e+02	1.1e+03
13	1,2,3,4,7,8-HxCDD	3.61e+05	5.20e+01	6.9e+03	2.72e+05	6.88e+02	4.0e+02
14	1,2,3,6,7,8-HxCDD	3.38e+05	5.20e+01	6.5e+03	2.77e+05	6.88e+02	4.0e+02
15	1,2,3,7,8,9-HxCDD	3.62e+05	5.20e+01	7.0e+03	2.98e+05	6.88e+02	4.3e+02
16	1,2,3,4,6,7,8-HpCDD	2.59e+05	4.32e+02	6.0e+02	2.51e+05	9.20e+01	2.7e+03
17	OCDD	3.01e+05	3.20e+01	9.4e+03	3.73e+05	3.36e+02	1.1e+03
18	13C-2,3,7,8-TCDF	1.14e+07	1.52e+03	7.5e+03	1.44e+07	1.41e+03	1.0e+04
19	13C-1,2,3,7,8-PeCDF	1.87e+07	4.72e+02	4.0e+04	1.17e+07	1.95e+03	6.0e+03
20	13C-2,3,4,7,8-PeCDF	2.00e+07	4.72e+02	4.2e+04	1.26e+07	1.95e+03	6.5e+03
21	13C-1,2,3,4,7,8-HxCDF	9.68e+06	9.36e+02	1.0e+04	1.86e+07	1.83e+03	1.0e+04
22	13C-1,2,3,6,7,8-HxCDF	1.05e+07	9.36e+02	1.1e+04	2.01e+07	1.83e+03	1.1e+04
23	13C-2,3,4,6,7,8-HxCDF	1.03e+07	9.36e+02	1.1e+04	1.99e+07	1.83e+03	1.1e+04
24	13C-1,2,3,7,8,9-HxCDF	7.76e+06	9.36e+02	8.3e+03	1.51e+07	1.83e+03	8.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.76e+06	3.14e+03	2.2e+03	1.55e+07	1.80e+03	8.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.62e+06	3.14e+03	1.5e+03	1.05e+07	1.80e+03	5.8e+03
27	13C-2,3,7,8-TCDD	8.05e+06	4.62e+03	1.7e+03	1.03e+07	1.77e+03	5.8e+03
28	13C-1,2,3,7,8-PeCDD	1.35e+07	8.20e+02	1.6e+04	8.55e+06	4.00e+02	2.1e+04
29	13C-1,2,3,4,7,8-HxCDD	1.27e+07	1.39e+03	9.1e+03	9.92e+06	1.22e+03	8.2e+03
30	13C-1,2,3,6,7,8-HxCDD	1.21e+07	1.39e+03	8.7e+03	9.39e+06	1.22e+03	7.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.01e+07	1.46e+03	6.9e+03	9.40e+06	3.88e+02	2.4e+04
32	13C-OCDD	1.05e+07	5.08e+02	2.1e+04	1.17e+07	6.80e+01	1.7e+05
33	13C-1,2,3,4-TCDD	8.07e+06	4.62e+03	1.7e+03	1.01e+07	1.77e+03	5.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.33e+07	1.39e+03	9.6e+03	1.06e+07	1.22e+03	8.7e+03
35	37Cl-2,3,7,8-TCDD	1.05e+05	1.24e+03	8.5e+01			

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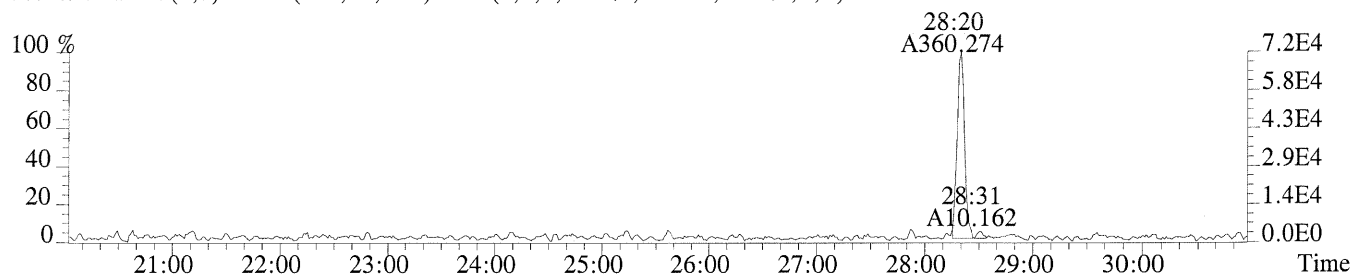
XLSN

Sample#1 Exp:ICAL CS1

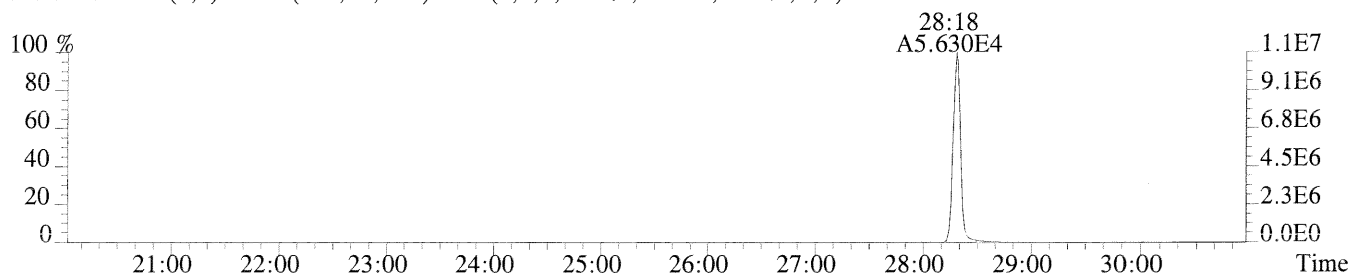
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



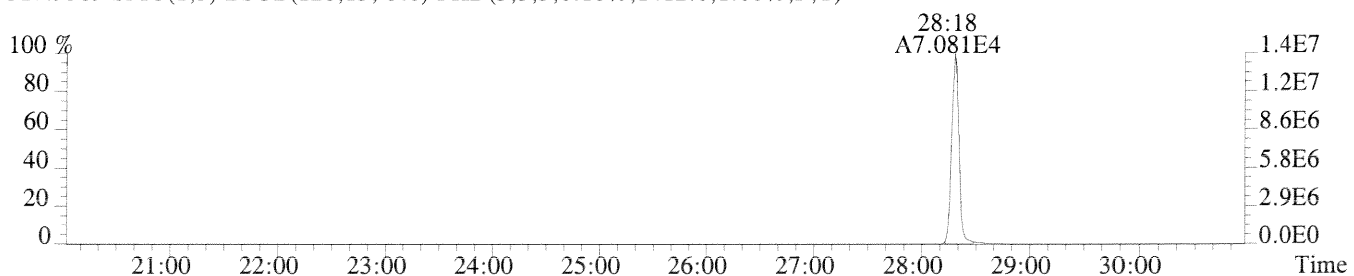
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2332.0,1.00%,F,T)



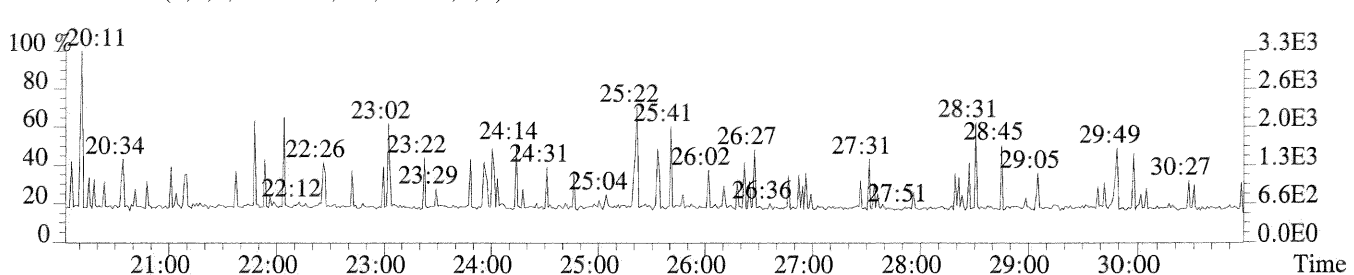
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1520.0,1.00%,F,T)



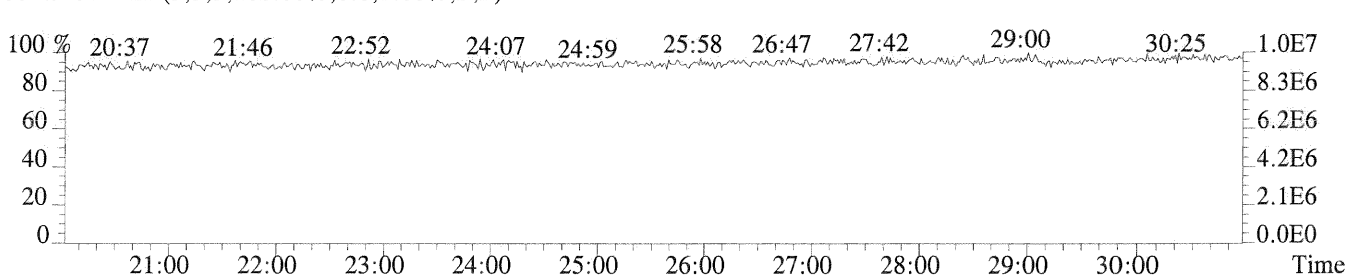
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



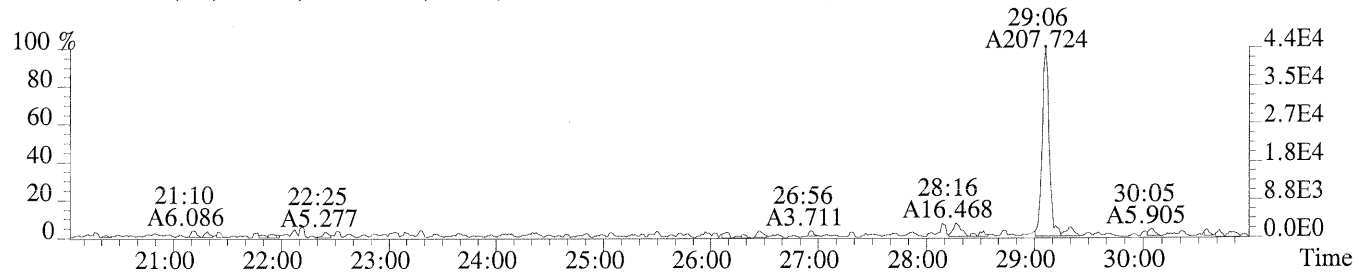
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



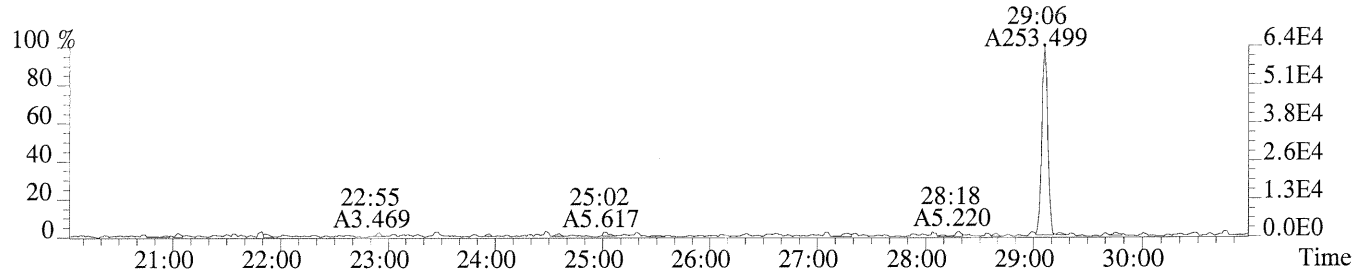
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



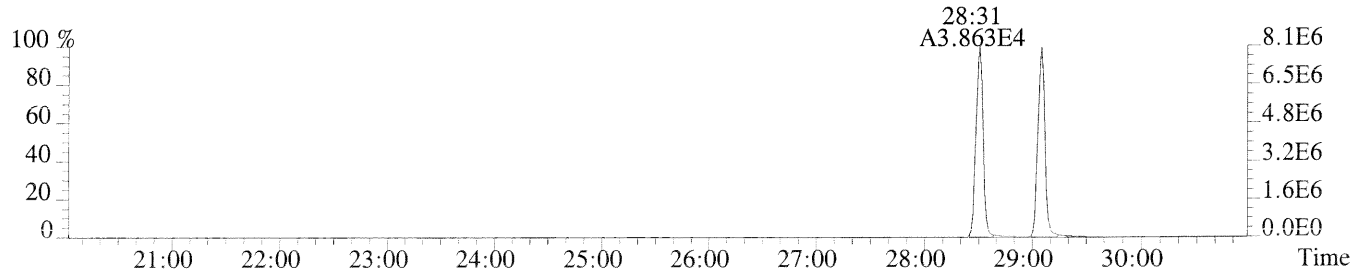
File:P230731 #1-687 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



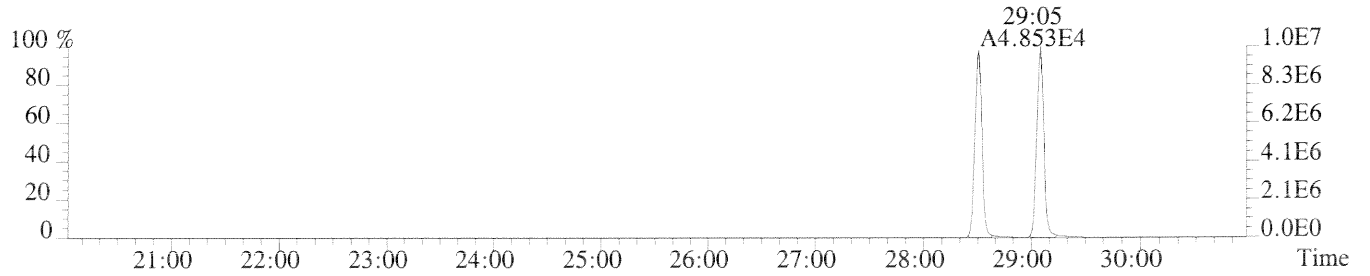
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



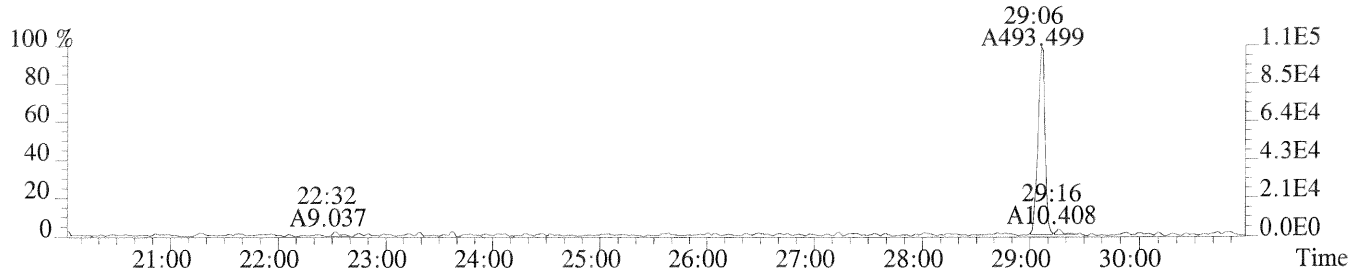
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4624.0,1.00%,F,T)



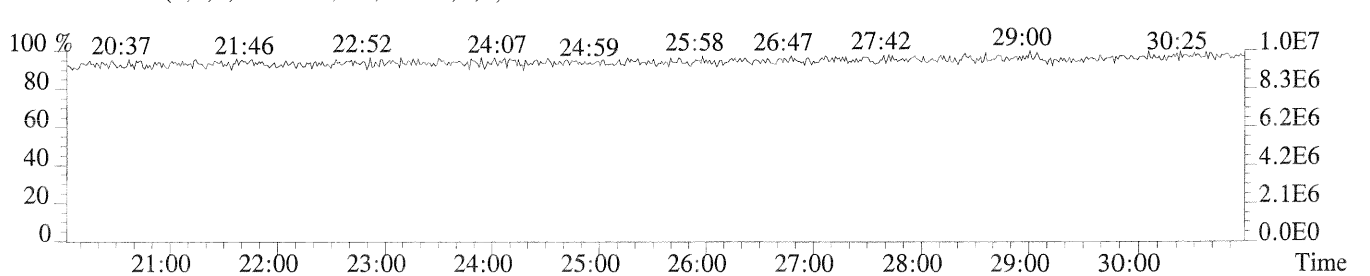
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1772.0,1.00%,F,T)



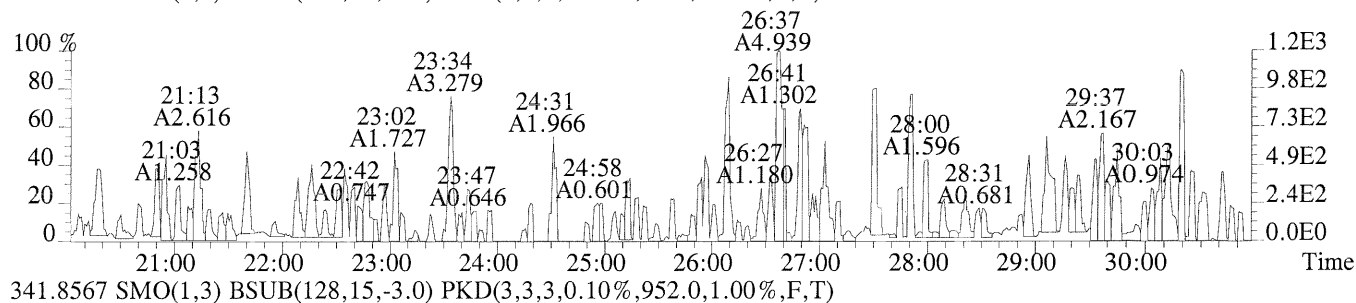
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



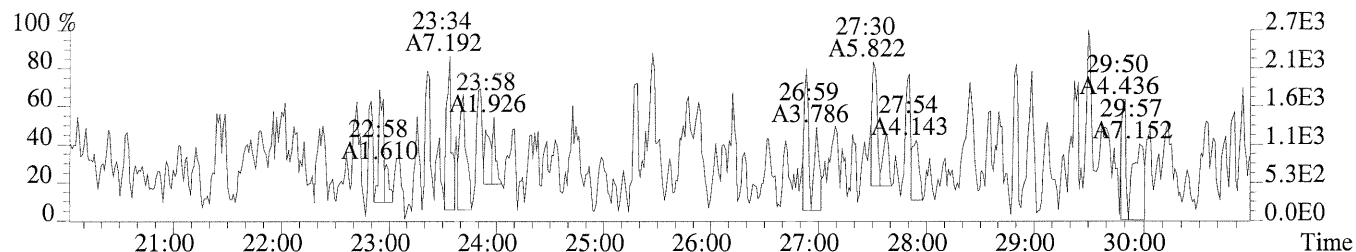
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



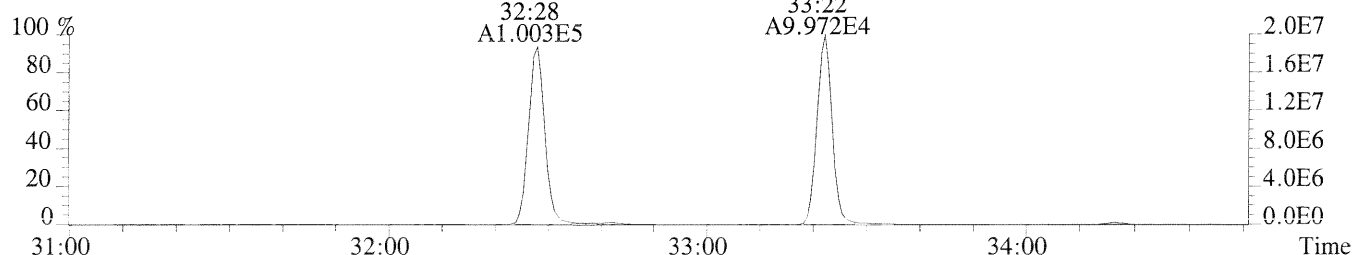
File:P230731 #1-687 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



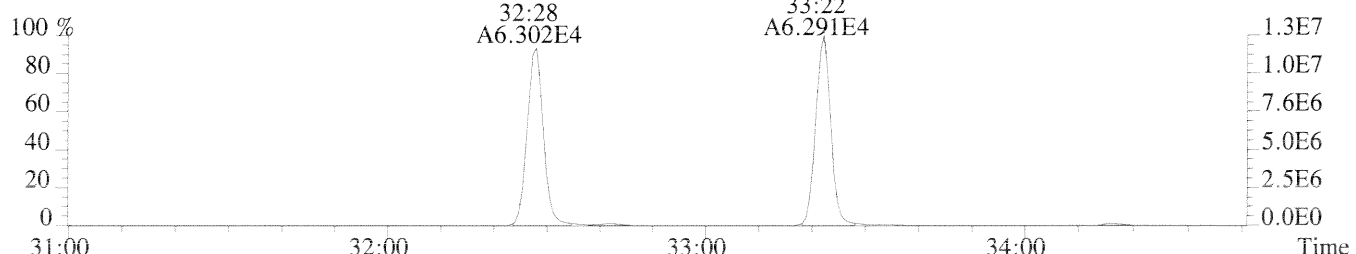
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



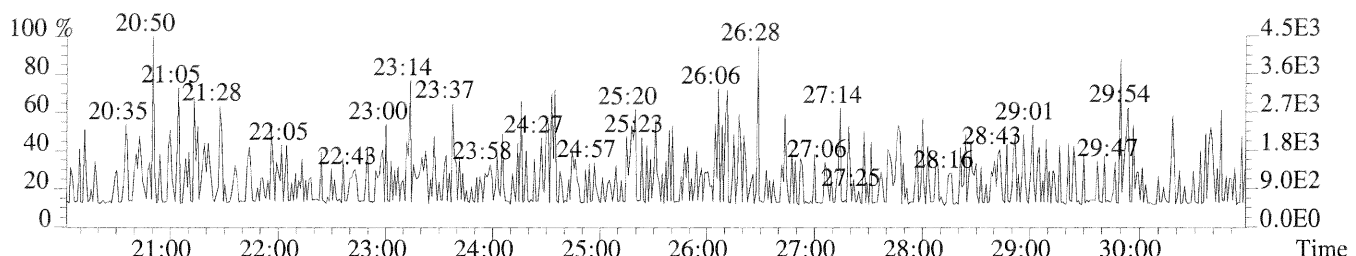
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



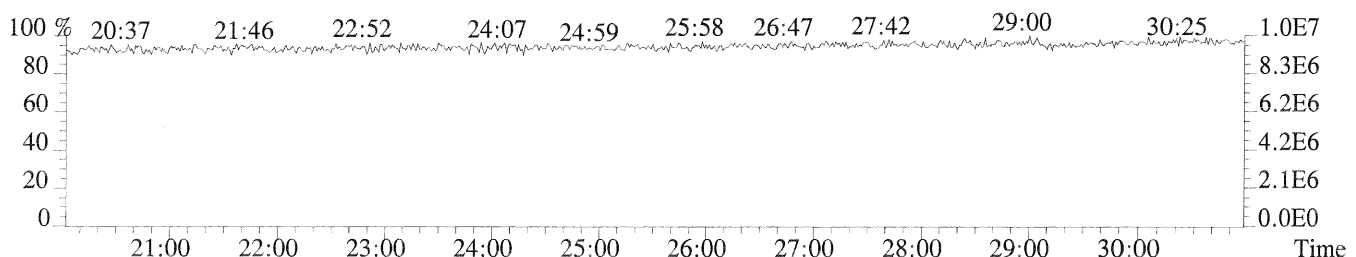
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



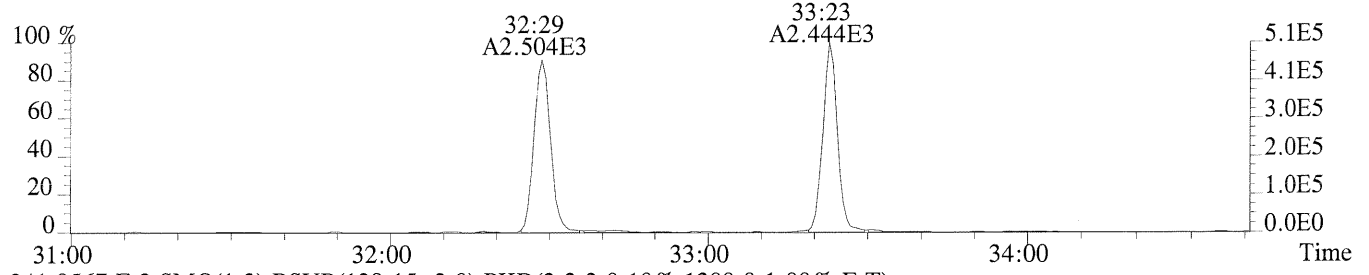
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



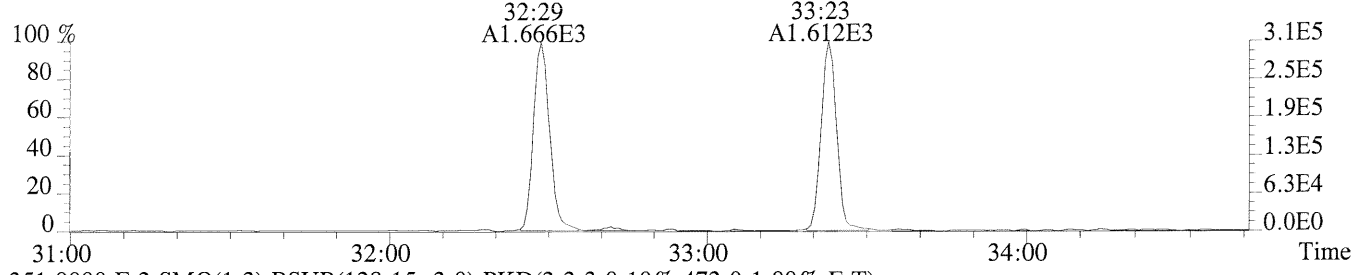
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



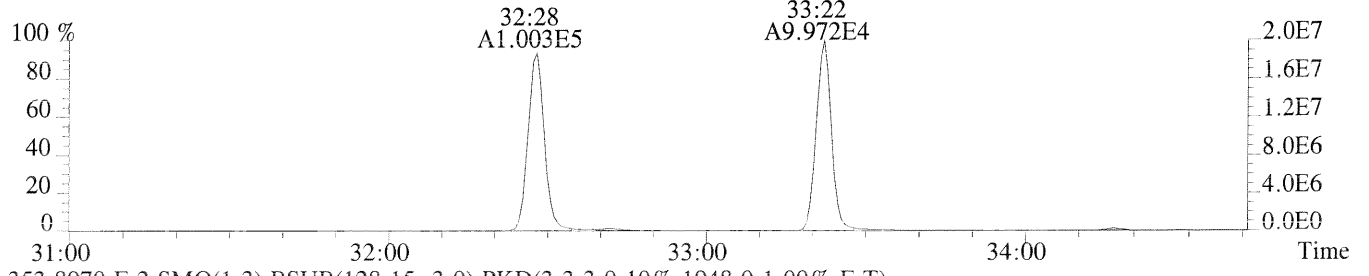
File:P230731 #1-335 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,T)



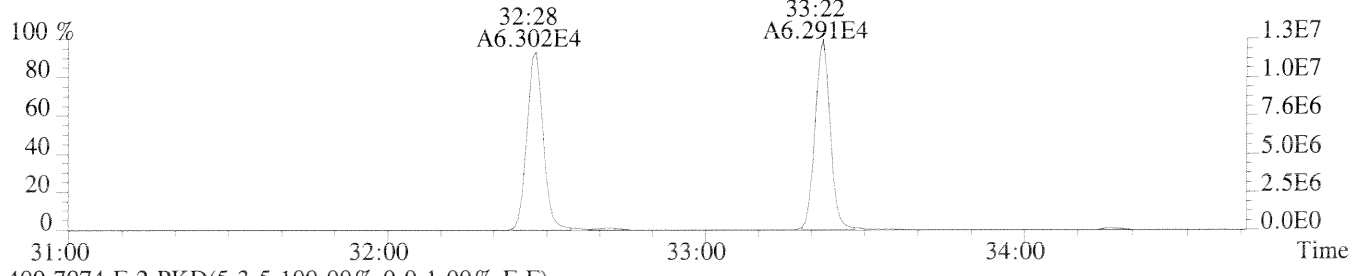
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



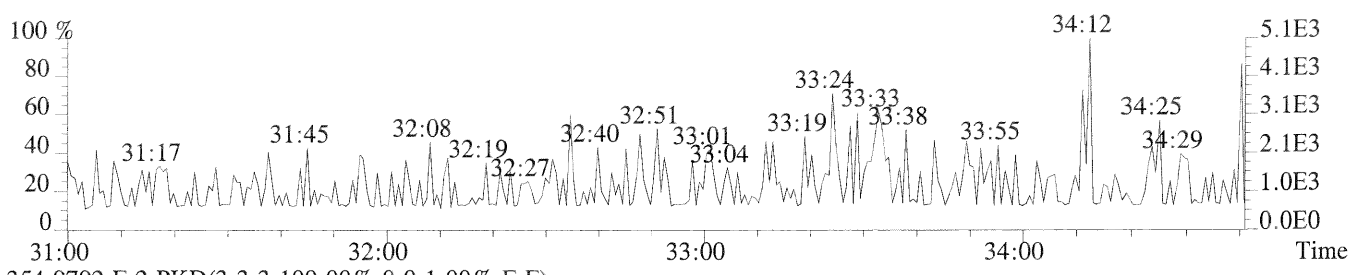
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



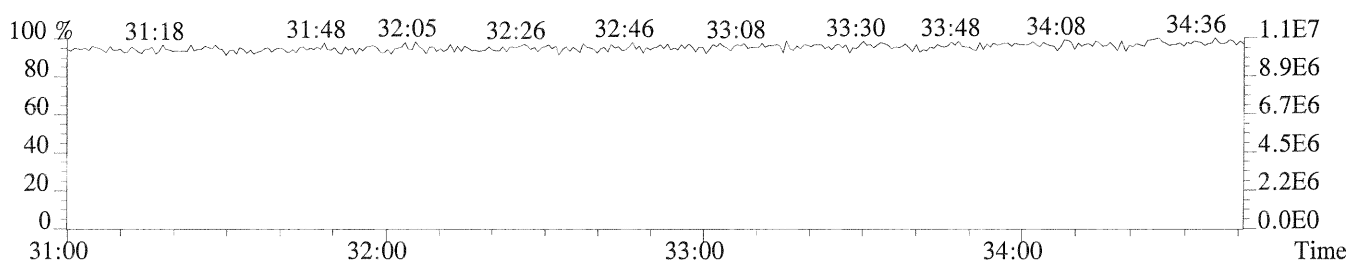
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



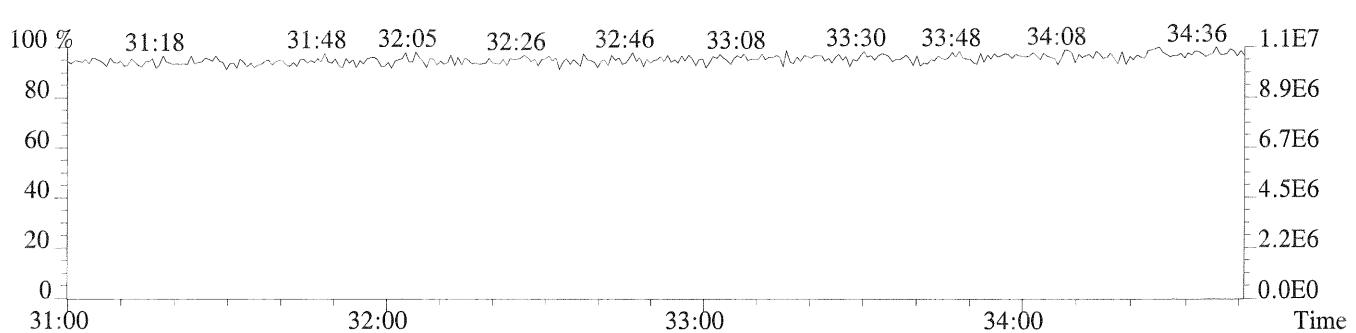
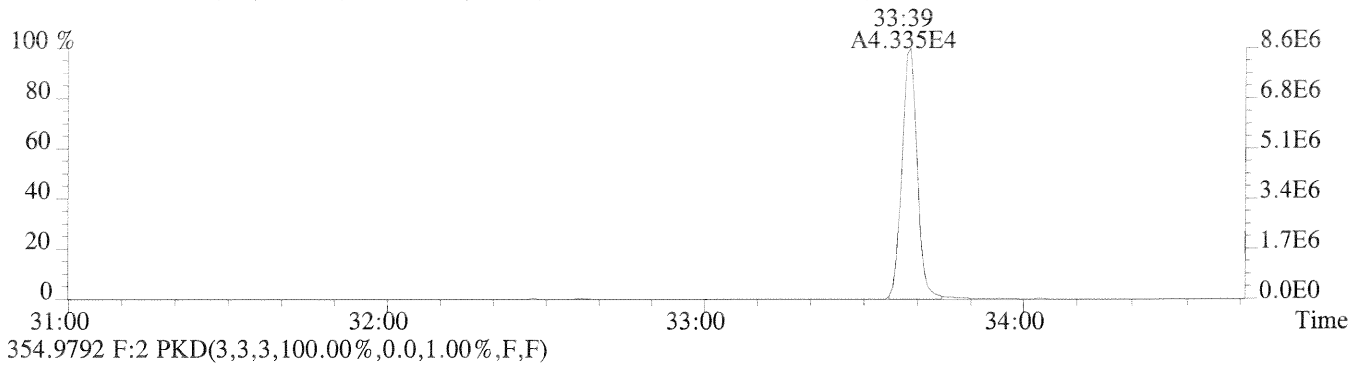
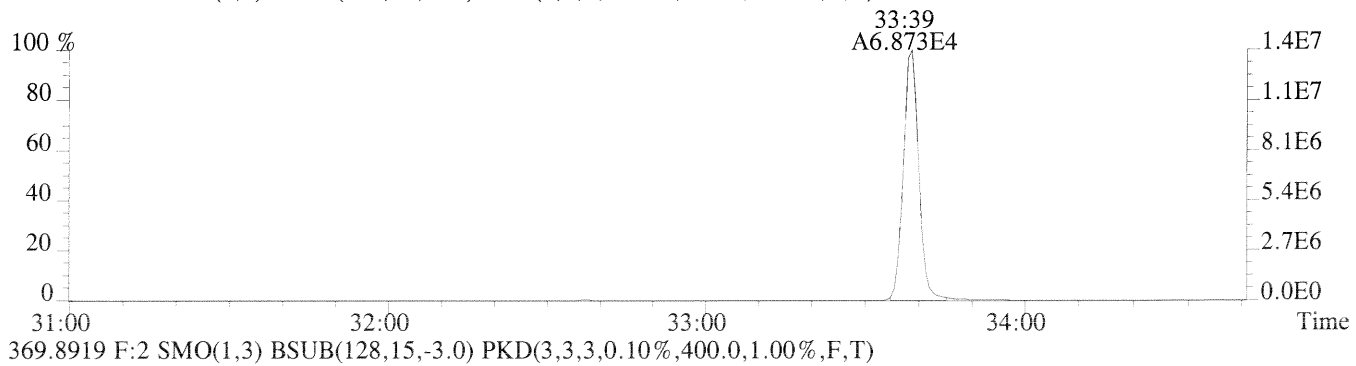
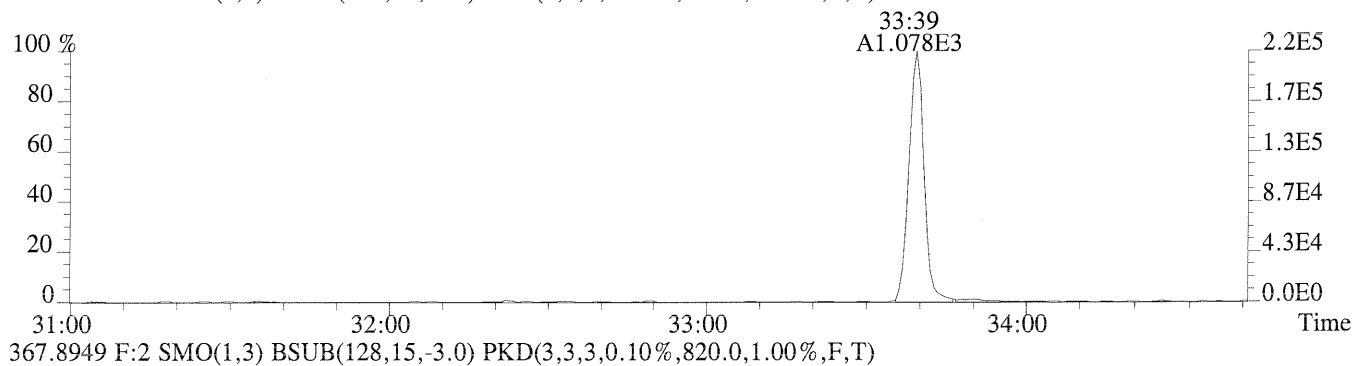
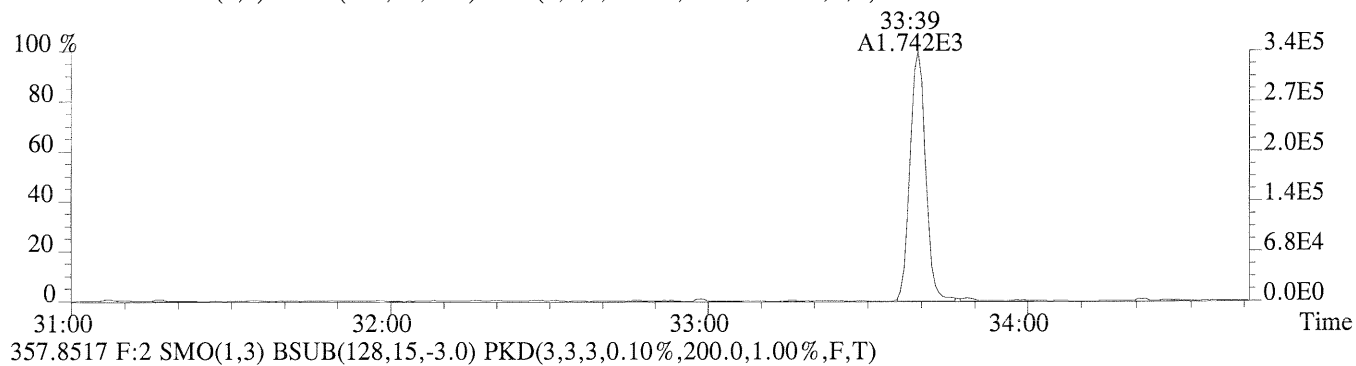
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



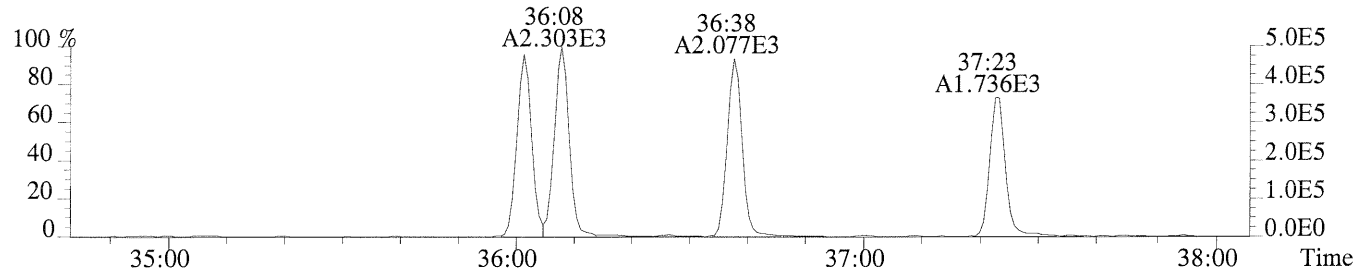
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



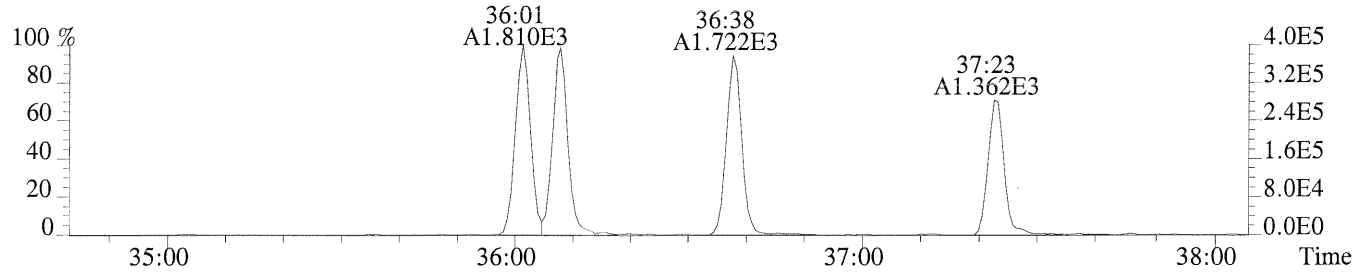
File:P230731 #1-335 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



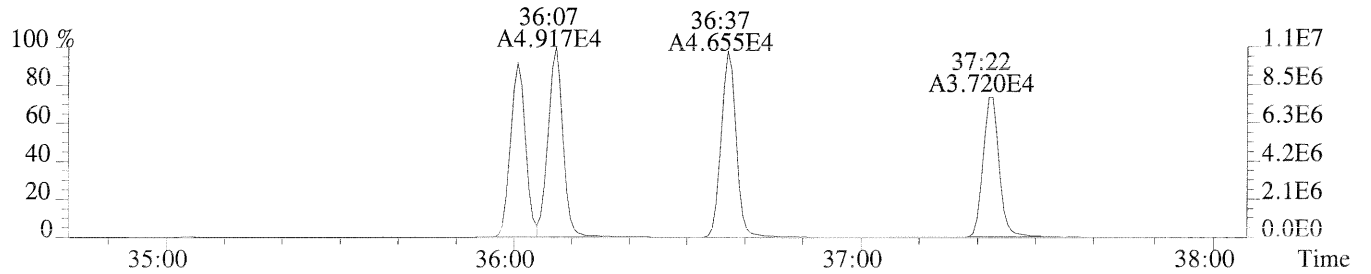
File:P230731 #1-307 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)



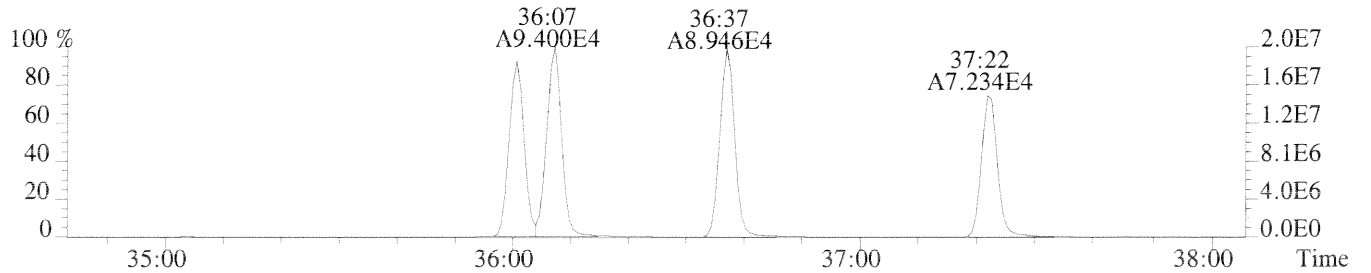
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



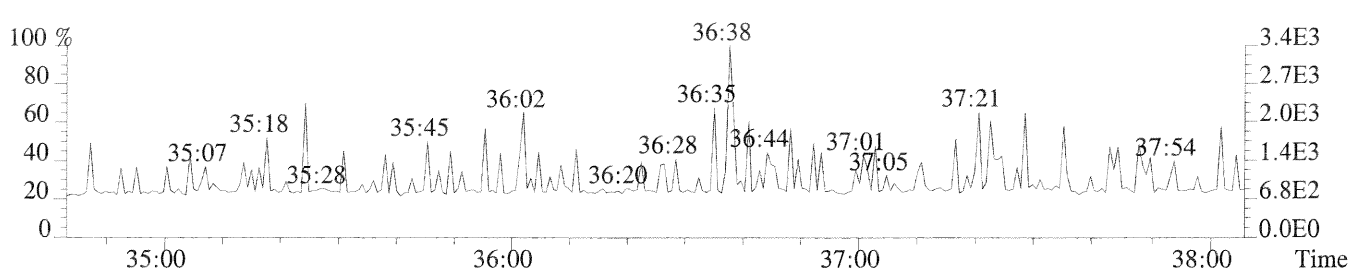
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



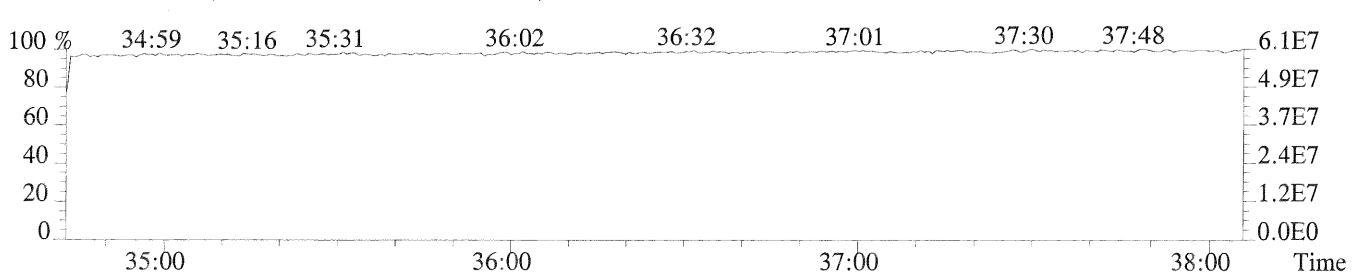
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1832.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



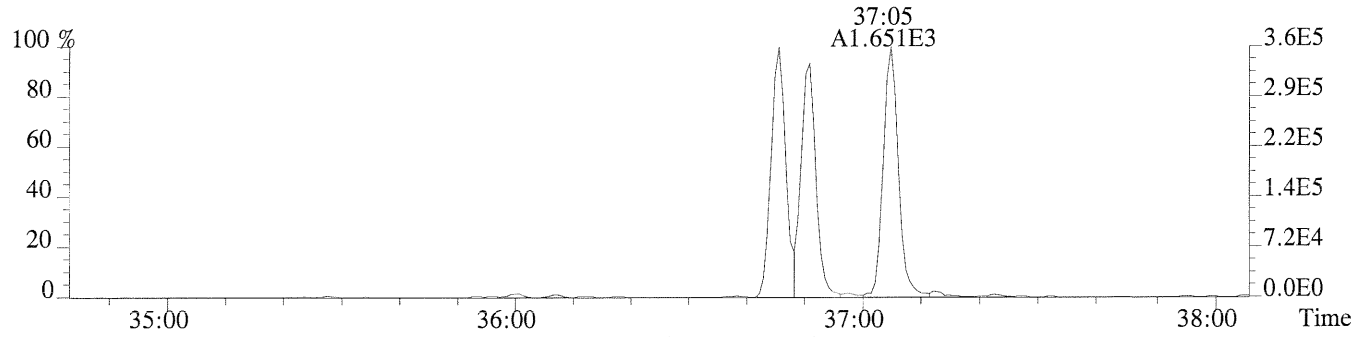
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



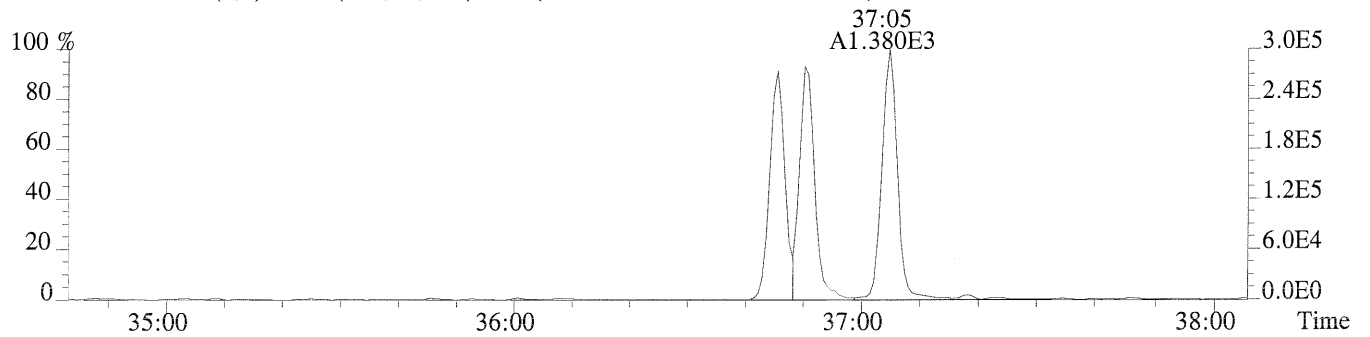


Sample#1 Exp:ICAL CS1

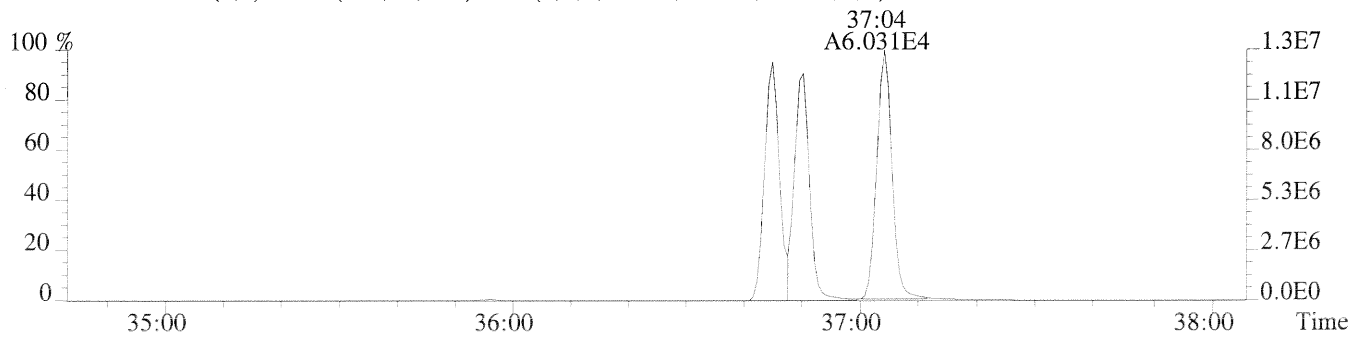
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,T)



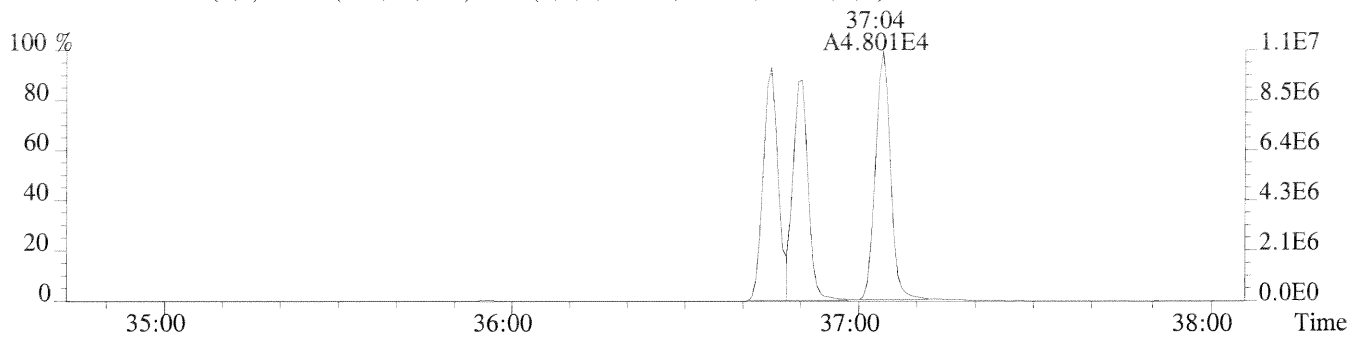
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



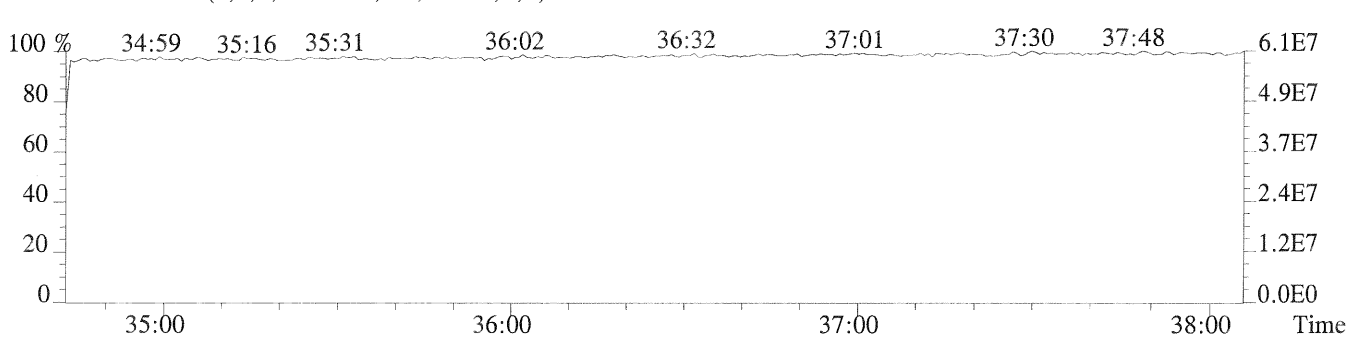
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1388.0,0.40%,F,T)



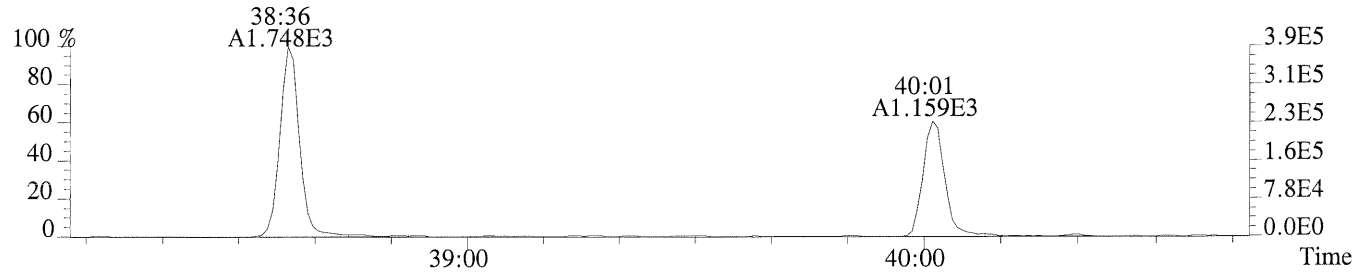
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,T)



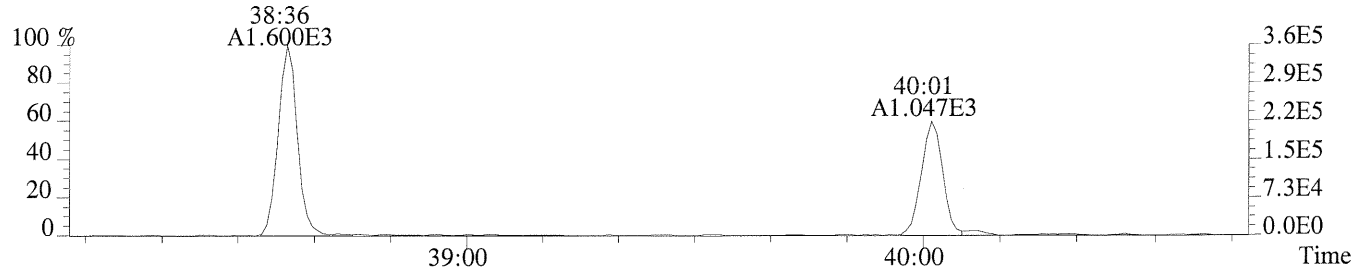
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



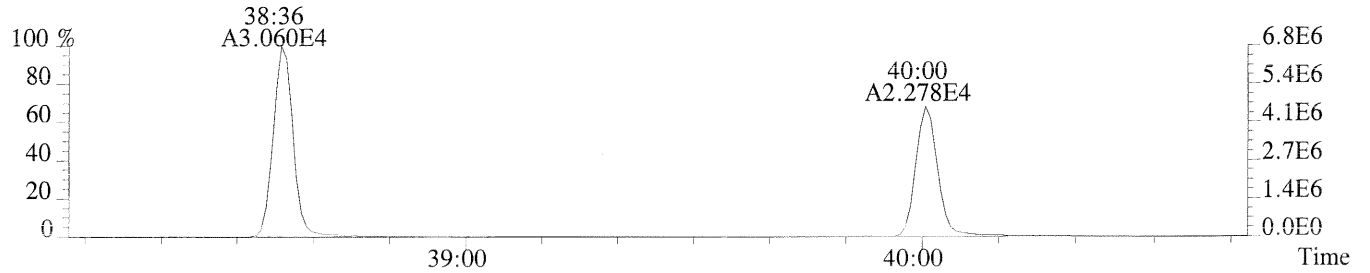
File:P230731 #1-234 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS1  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.50%,F,T)



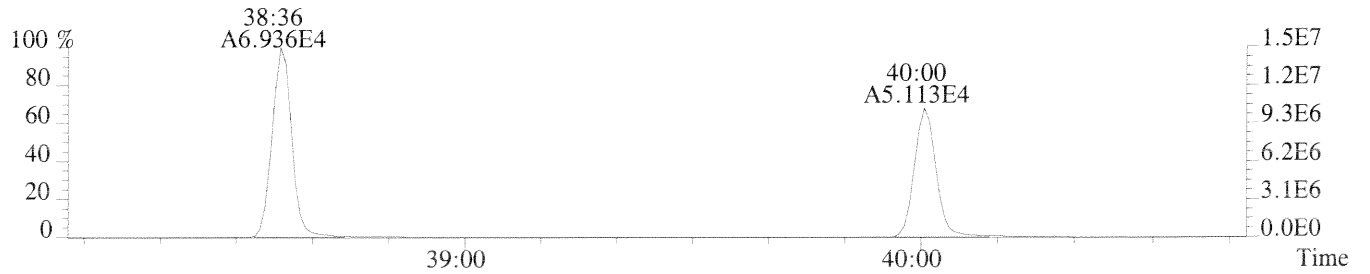
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.50%,F,T)



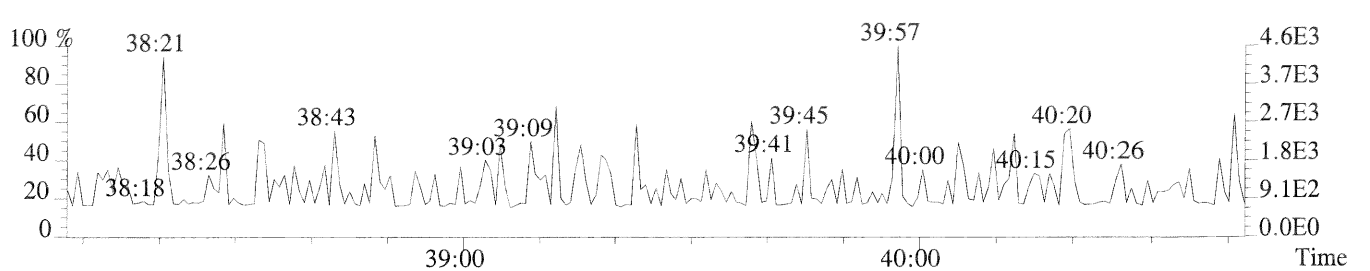
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3136.0,0.50%,F,T)



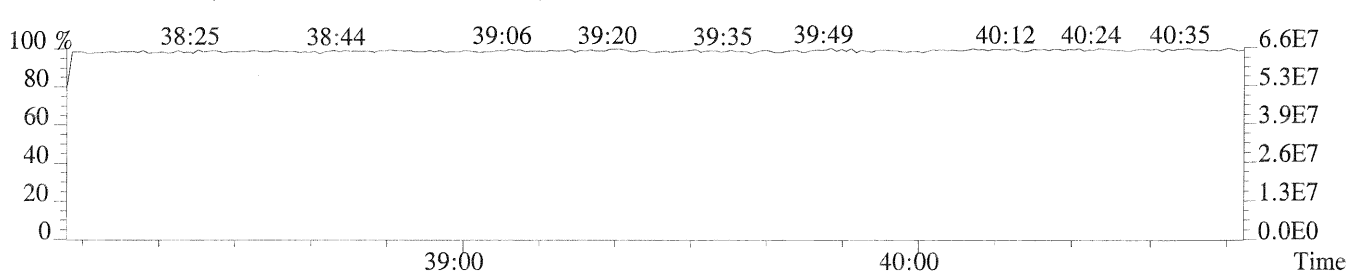
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.50%,F,T)

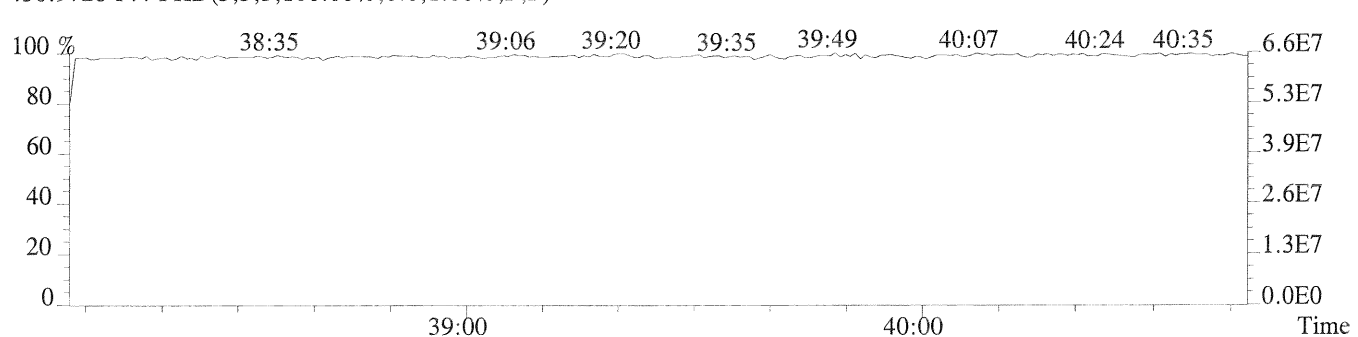
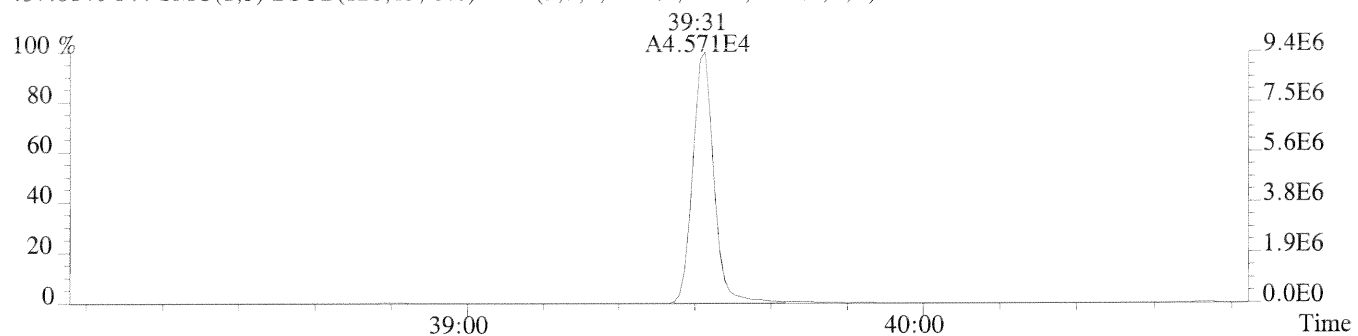
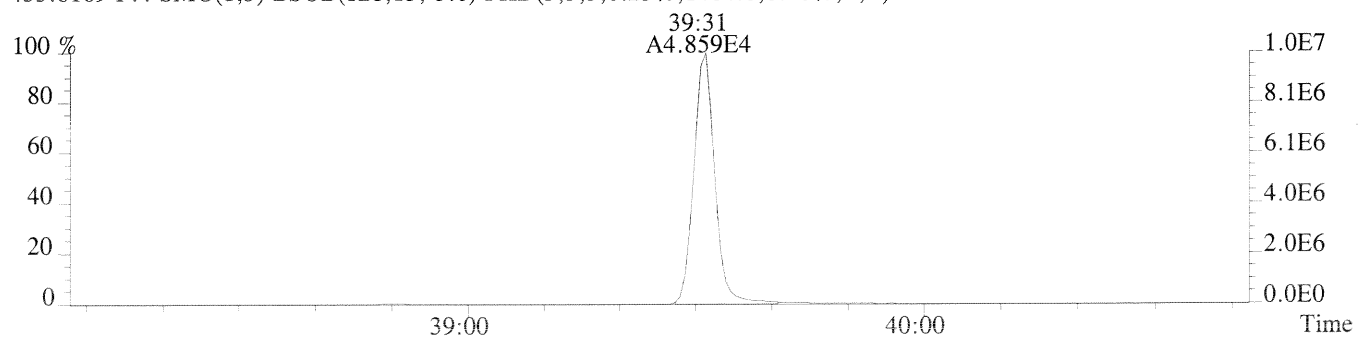
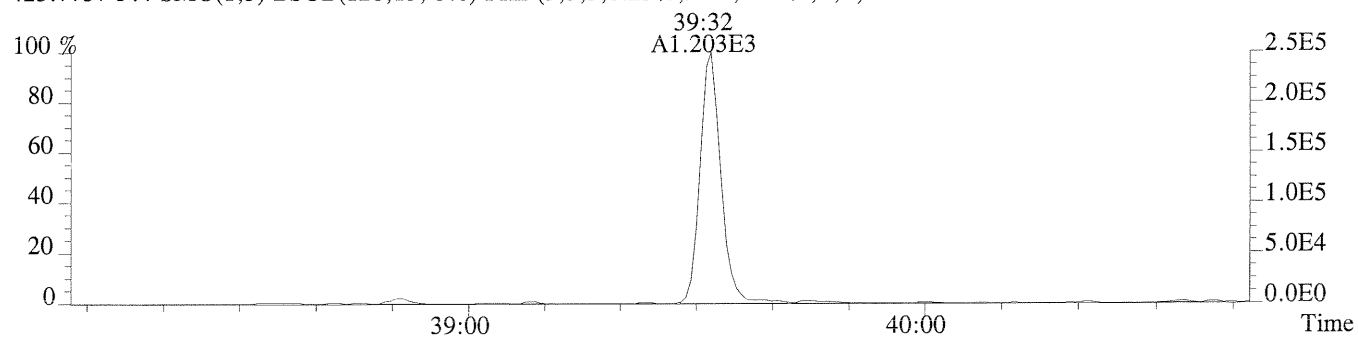
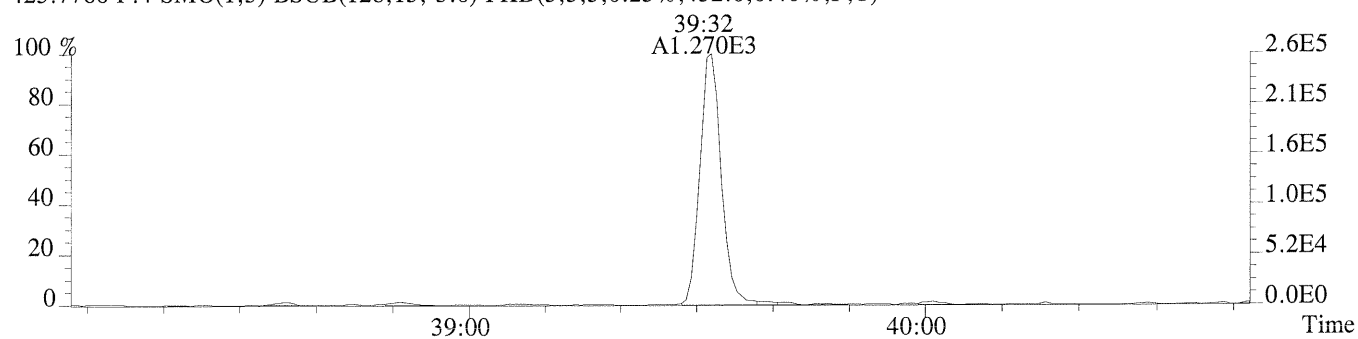


479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

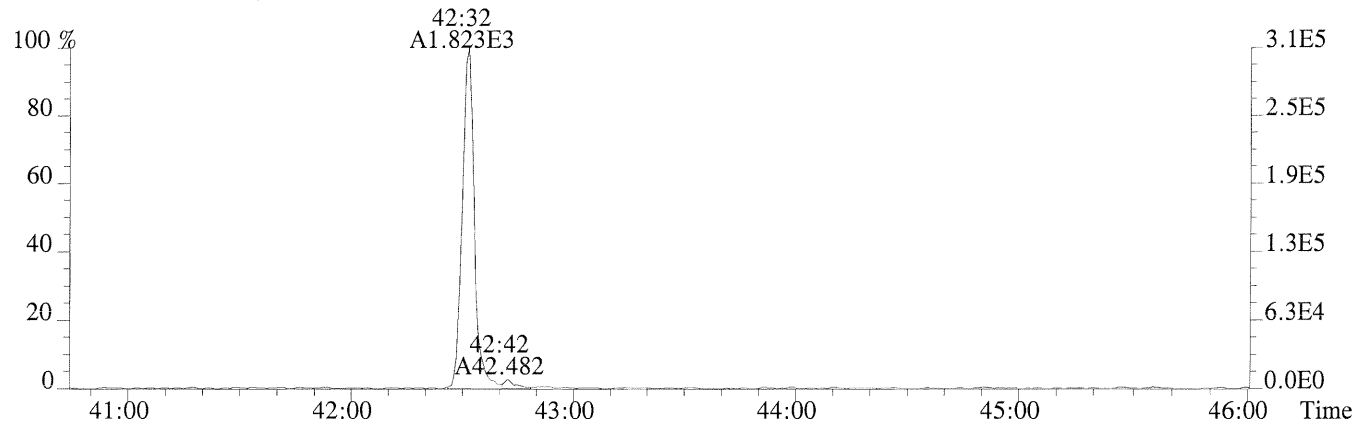




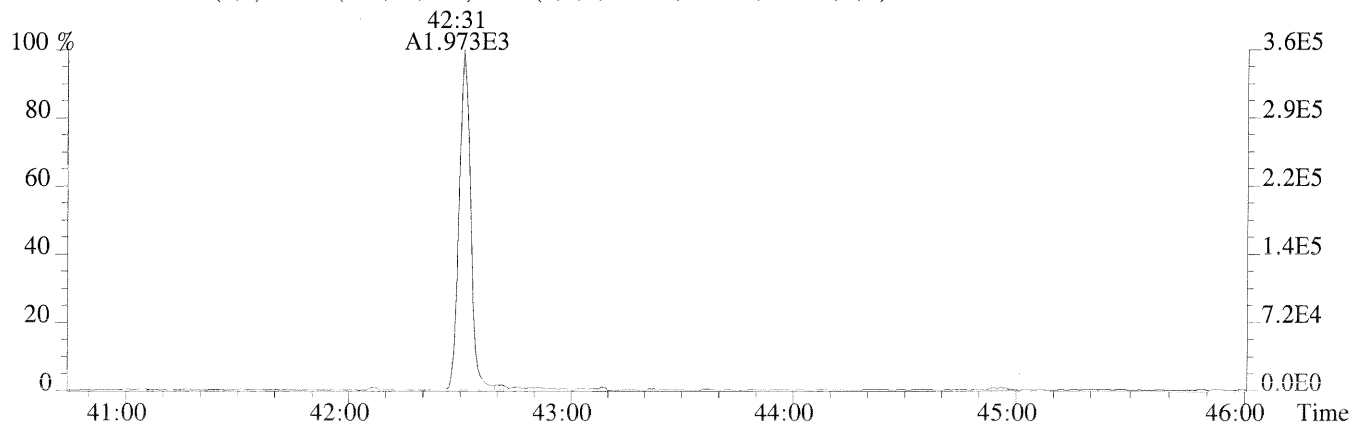
File:P230731 #1-485 Acq:24-AUG-2014 12:10:54 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS1

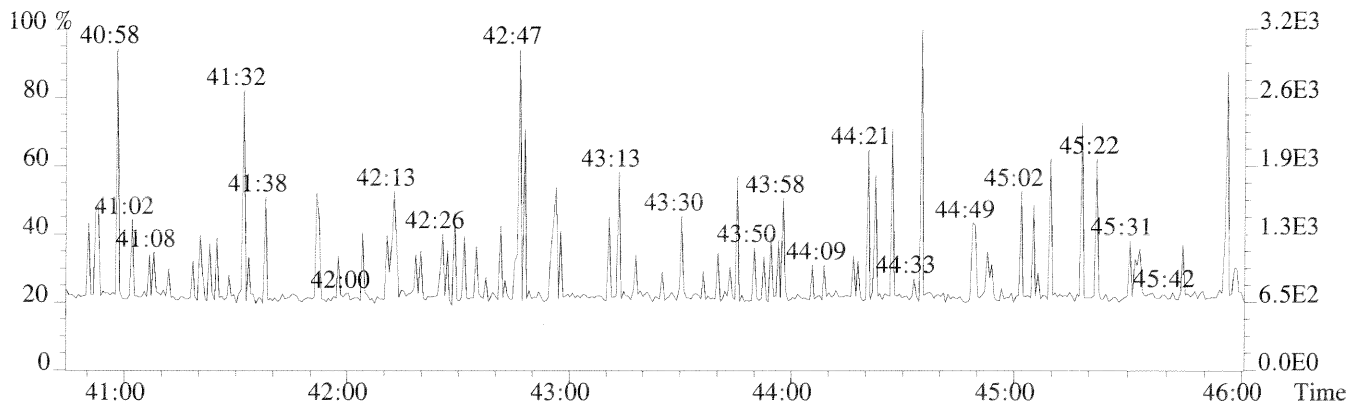
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



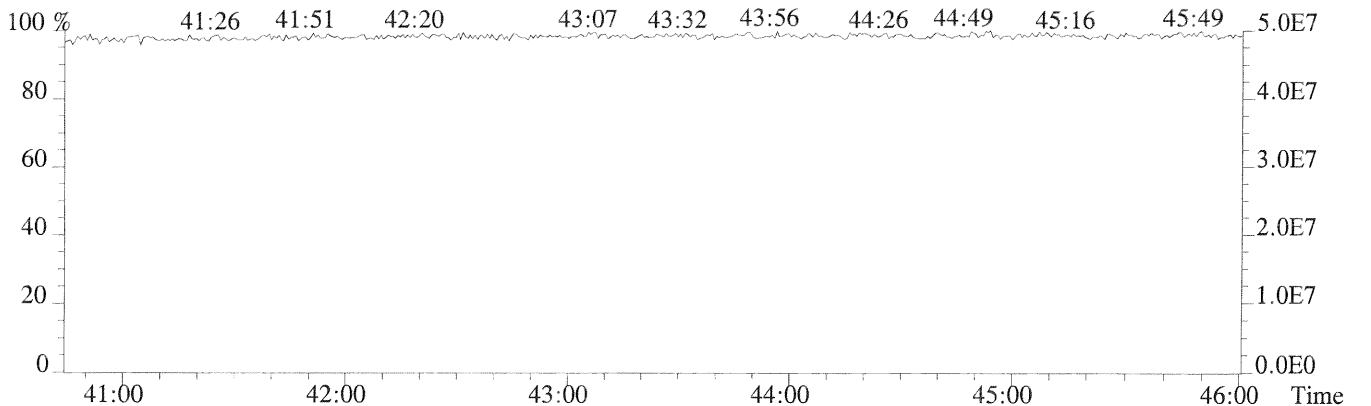
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1336.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

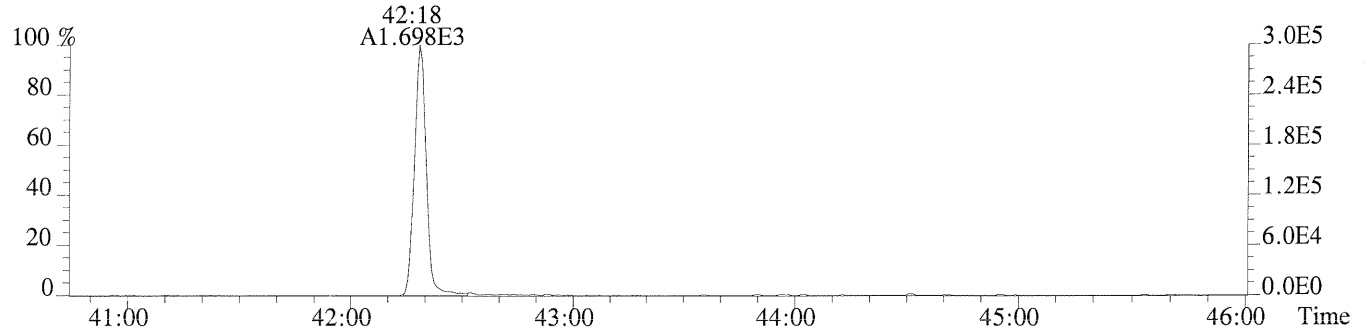


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

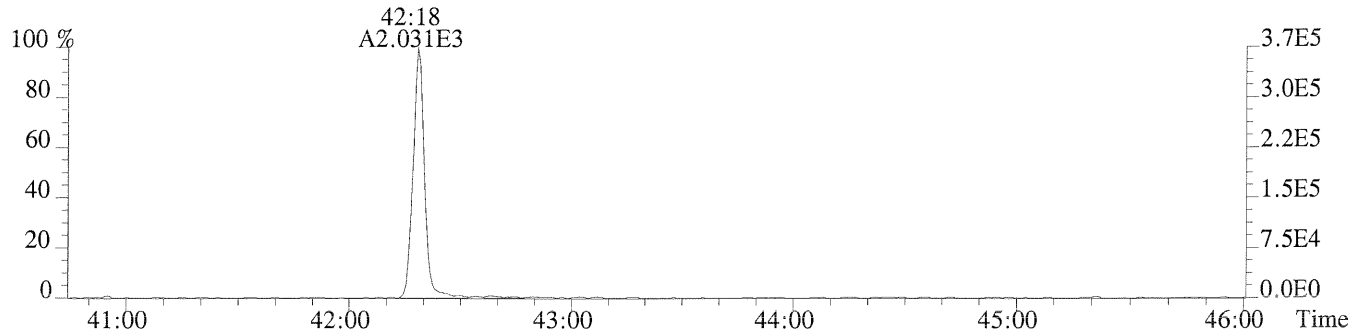


Sample#1 Exp:ICAL CS1

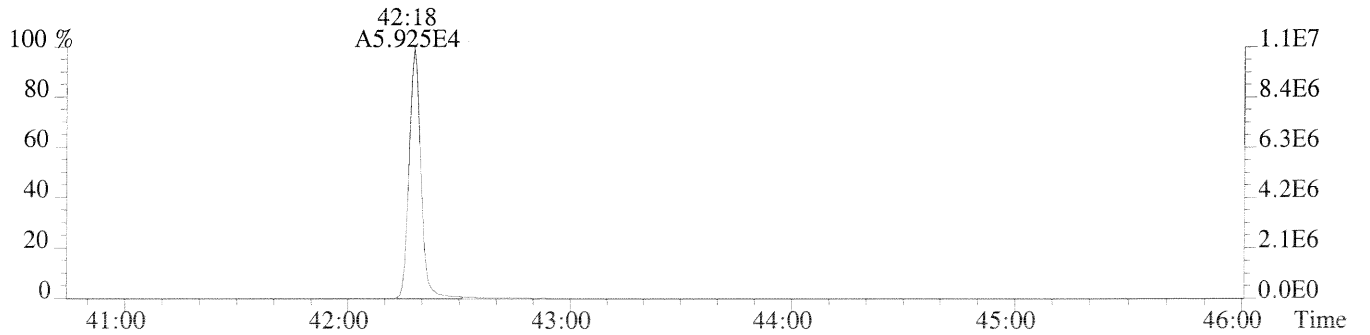
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,32.0,0.40%,F,T)



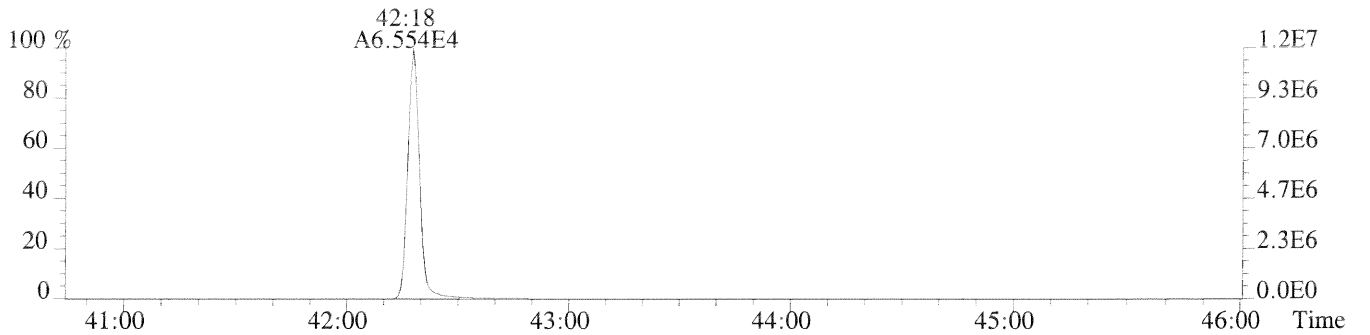
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,336.0,0.40%,F,T)



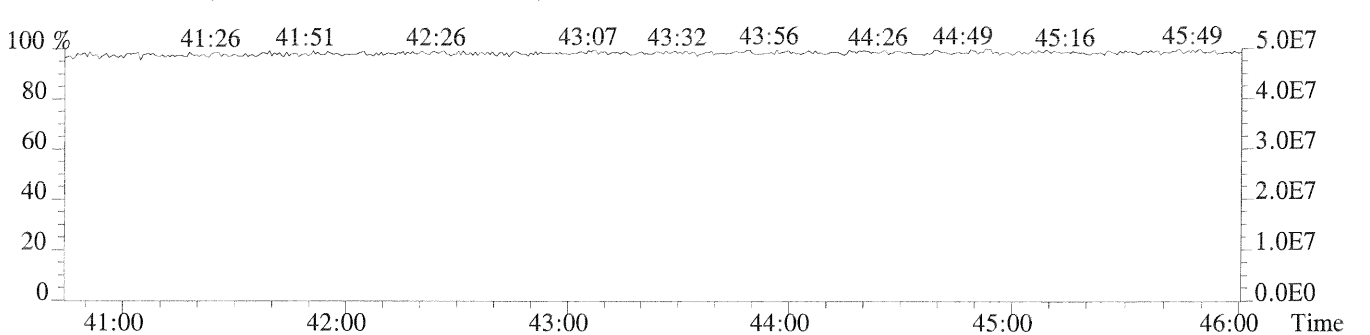
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,508.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS2

Run #3 Filename P230732 #1 Samp: 1 Inj: 1 Acquired: 24-AUG-14 12:58:46  
 Processed: 25-AUG-14 11:37:36 LAB. ID: D12-90-3B

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:19	1.143e+03	1.461e+03	0.78	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:28	1.102e+04	7.107e+03	1.55	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:22	1.027e+04	6.757e+03	1.52	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	9.243e+03	7.365e+03	1.25	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:07	9.569e+03	7.754e+03	1.23	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	9.106e+03	7.394e+03	1.23	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	7.202e+03	5.742e+03	1.25	yes	yes	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:36	7.298e+03	7.184e+03	1.02	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:00	4.860e+03	4.621e+03	1.05	yes	no	1.000
10	Unk	OCDF	42:31	7.448e+03	8.117e+03	0.92	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:06	8.661e+02	1.101e+03	0.79	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	7.404e+03	4.700e+03	1.58	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:45	6.615e+03	5.156e+03	1.28	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:50	6.607e+03	5.324e+03	1.24	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:04	7.122e+03	5.735e+03	1.24	yes	no	1.006
16	Unk	1,2,3,4,6,7,8-HpCDD	39:31	5.358e+03	5.051e+03	1.06	yes	no	1.000
17	Unk	OCDD	42:18	7.261e+03	8.136e+03	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:18	6.145e+04	7.683e+04	0.80	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	32:27	1.095e+05	6.909e+04	1.58	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	1.091e+05	6.873e+04	1.59	yes	no	1.171
21	IS	13C-1,2,3,4,7,8-HxCDF	36:00	4.655e+04	8.963e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	5.311e+04	1.026e+05	0.52	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	5.002e+04	9.623e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:22	3.927e+04	7.474e+04	0.53	yes	no	1.009
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	3.204e+04	7.377e+04	0.43	yes	no	1.042
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.291e+04	5.227e+04	0.44	yes	no	1.080
27	IS	13C-2,3,7,8-TCDD	29:04	4.132e+04	5.245e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:38	7.454e+04	4.740e+04	1.57	yes	no	1.180
29	IS	13C-1,2,3,4,7,8-HxCDD	36:44	6.047e+04	4.787e+04	1.26	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	6.016e+04	4.764e+04	1.26	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	5.060e+04	4.715e+04	1.07	yes	no	1.067
32	IS	13C-OCDD	42:17	6.243e+04	6.862e+04	0.91	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:30	4.152e+04	5.241e+04	0.79	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:03	6.427e+04	5.148e+04	1.25	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:06	1.955e+03				no	1.021

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XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS2

Run #3    Filename P230732    Samp: 1    Inj: 1    Acquired: 24-AUG-14 12:58:46  
 Processed: 25-AUG-14 11:37:36    LAB. ID: D12-90-3B

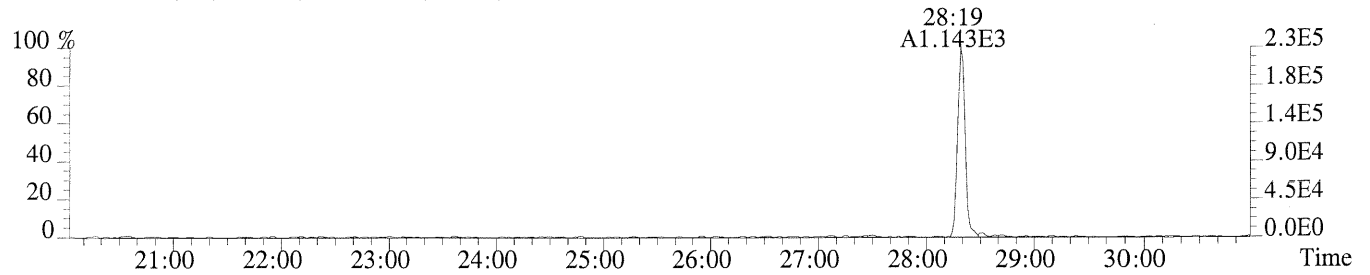
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.26e+05	3.44e+02	6.6e+02	3.02e+05	2.34e+03	1.3e+02
2	1,2,3,7,8-PeCDF	2.08e+06	1.24e+02	1.7e+04	1.35e+06	1.36e+03	9.9e+02
3	2,3,4,7,8-PeCDF	2.03e+06	1.24e+02	1.6e+04	1.31e+06	1.36e+03	9.6e+02
4	1,2,3,4,7,8-HxCDF	2.05e+06	8.84e+02	2.3e+03	1.61e+06	6.40e+01	2.5e+04
5	1,2,3,6,7,8-HxCDF	2.06e+06	8.84e+02	2.3e+03	1.68e+06	6.40e+01	2.6e+04
6	2,3,4,6,7,8-HxCDF	2.00e+06	8.84e+02	2.3e+03	1.57e+06	6.40e+01	2.4e+04
7	1,2,3,7,8,9-HxCDF	1.51e+06	8.84e+02	1.7e+03	1.25e+06	6.40e+01	1.9e+04
8	1,2,3,4,6,7,8-HpCDF	1.56e+06	1.20e+03	1.3e+03	1.60e+06	1.45e+03	1.1e+03
9	1,2,3,4,7,8,9-HpCDF	9.91e+05	1.20e+03	8.3e+02	9.22e+05	1.45e+03	6.4e+02
10	OCDF	1.32e+06	4.60e+02	2.9e+03	1.39e+06	1.54e+03	9.0e+02
11	2,3,7,8-TCDD	1.86e+05	5.72e+02	3.3e+02	2.29e+05	7.96e+02	2.9e+02
12	1,2,3,7,8-PeCDD	1.49e+06	1.46e+03	1.0e+03	9.64e+05	8.40e+01	1.1e+04
13	1,2,3,4,7,8-HxCDD	1.54e+06	5.08e+02	3.0e+03	1.18e+06	4.20e+02	2.8e+03
14	1,2,3,6,7,8-HxCDD	1.46e+06	5.08e+02	2.9e+03	1.18e+06	4.20e+02	2.8e+03
15	1,2,3,7,8,9-HxCDD	1.53e+06	5.08e+02	3.0e+03	1.26e+06	4.20e+02	3.0e+03
16	1,2,3,4,6,7,8-HpCDD	1.16e+06	5.04e+02	2.3e+03	1.09e+06	6.80e+01	1.6e+04
17	OCDD	1.29e+06	6.40e+01	2.0e+04	1.43e+06	5.32e+02	2.7e+03
18	13C-2,3,7,8-TCDF	1.27e+07	1.65e+03	7.7e+03	1.58e+07	1.36e+03	1.2e+04
19	13C-1,2,3,7,8-PeCDF	2.10e+07	4.92e+02	4.3e+04	1.32e+07	4.80e+02	2.7e+04
20	13C-2,3,4,7,8-PeCDF	2.18e+07	4.92e+02	4.4e+04	1.38e+07	4.80e+02	2.9e+04
21	13C-1,2,3,4,7,8-HxCDF	1.02e+07	7.24e+02	1.4e+04	1.99e+07	6.48e+02	3.1e+04
22	13C-1,2,3,6,7,8-HxCDF	1.13e+07	7.24e+02	1.6e+04	2.19e+07	6.48e+02	3.4e+04
23	13C-2,3,4,6,7,8-HxCDF	1.07e+07	7.24e+02	1.5e+04	2.06e+07	6.48e+02	3.2e+04
24	13C-1,2,3,7,8,9-HxCDF	8.31e+06	7.24e+02	1.1e+04	1.59e+07	6.48e+02	2.5e+04
25	13C-1,2,3,4,6,7,8-HpCDF	7.13e+06	3.86e+03	1.9e+03	1.59e+07	8.50e+03	1.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.61e+06	3.86e+03	1.2e+03	1.06e+07	8.50e+03	1.2e+03
27	13C-2,3,7,8-TCDD	8.76e+06	4.44e+03	2.0e+03	1.11e+07	1.90e+03	5.9e+03
28	13C-1,2,3,7,8-PeCDD	1.51e+07	6.88e+02	2.2e+04	9.58e+06	5.88e+02	1.6e+04
29	13C-1,2,3,4,7,8-HxCDD	1.41e+07	1.39e+03	1.0e+04	1.11e+07	1.10e+03	1.0e+04
30	13C-1,2,3,6,7,8-HxCDD	1.31e+07	1.39e+03	9.4e+03	1.04e+07	1.10e+03	9.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.09e+07	1.38e+03	7.9e+03	1.01e+07	1.06e+03	9.5e+03
32	13C-OCDD	1.10e+07	5.08e+02	2.2e+04	1.23e+07	6.08e+02	2.0e+04
33	13C-1,2,3,4-TCDD	8.65e+06	4.44e+03	1.9e+03	1.10e+07	1.90e+03	5.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.42e+07	1.39e+03	1.0e+04	1.14e+07	1.10e+03	1.0e+04
35	37Cl-2,3,7,8-TCDD	4.27e+05	1.34e+03	3.2e+02			

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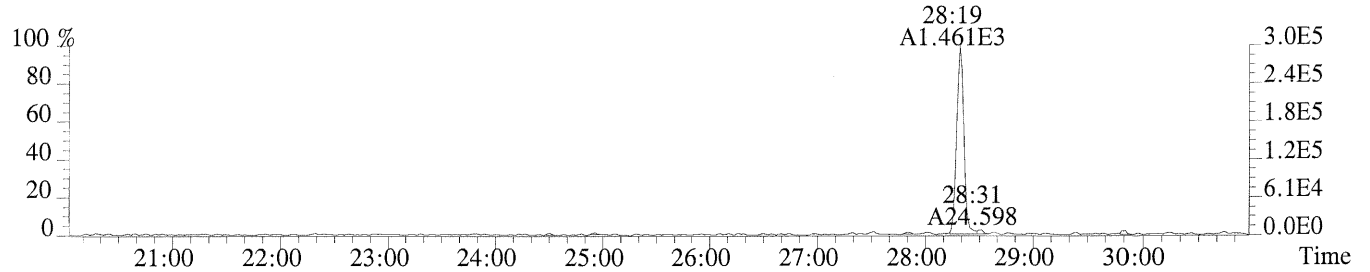
XLSN

Sample#1 Exp:ICAL CS2

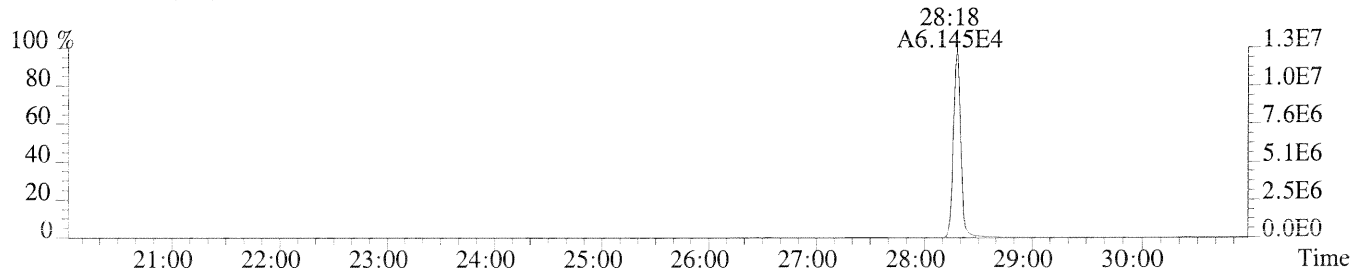
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,T)



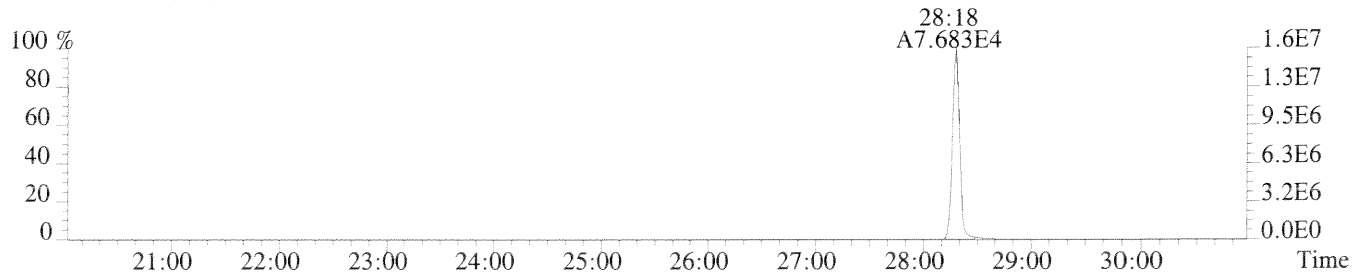
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2336.0,1.00%,F,T)



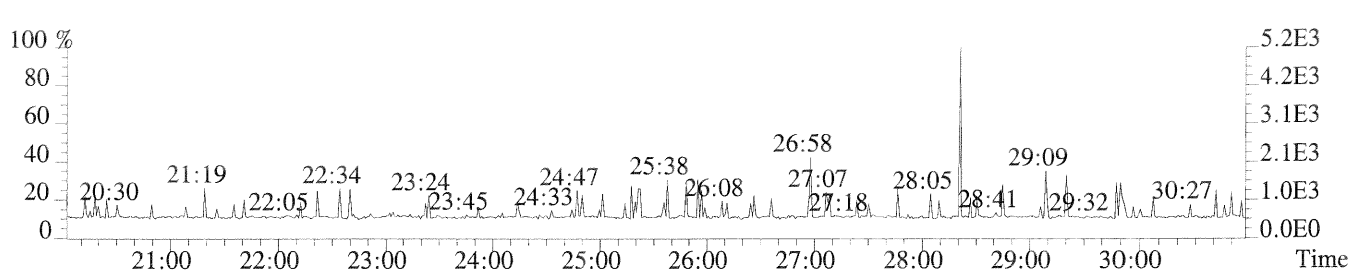
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1648.0,1.00%,F,T)



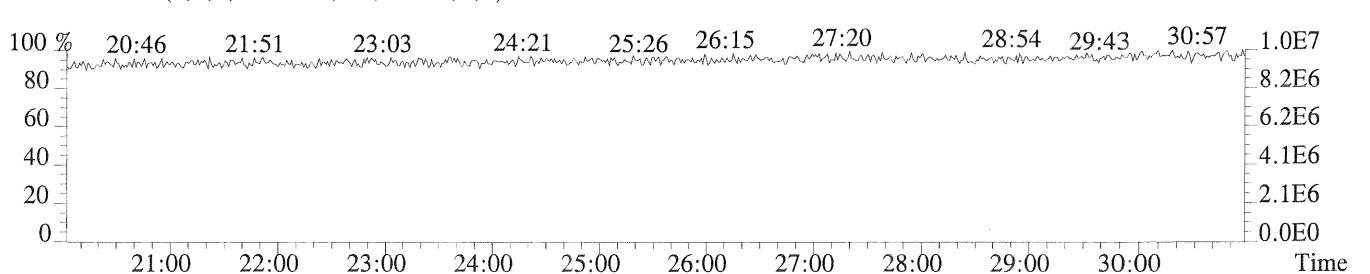
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1364.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



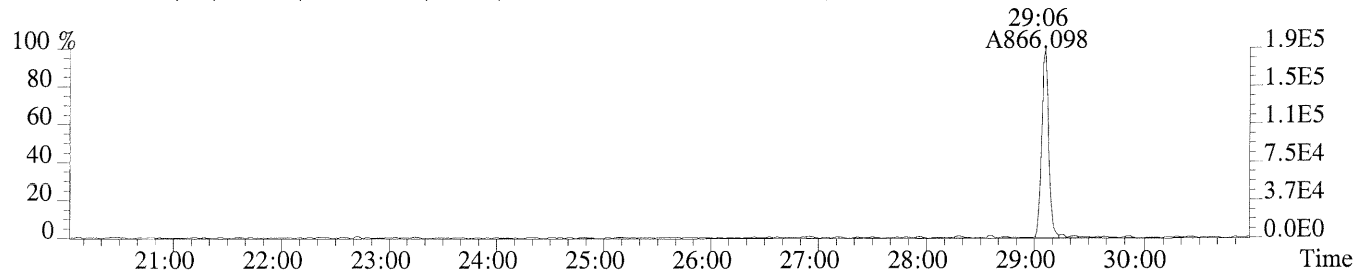
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



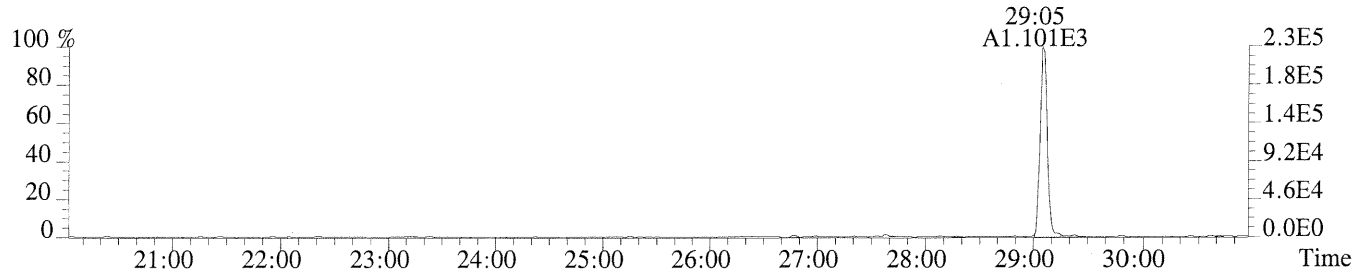


Sample#1 Exp:ICAL CS2

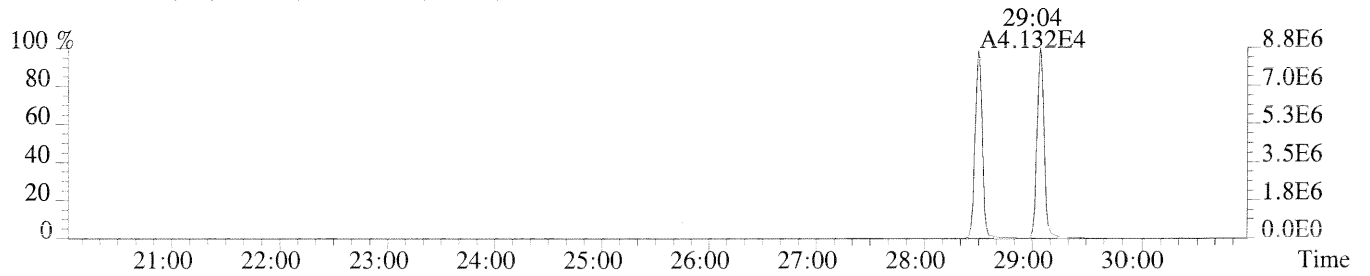
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



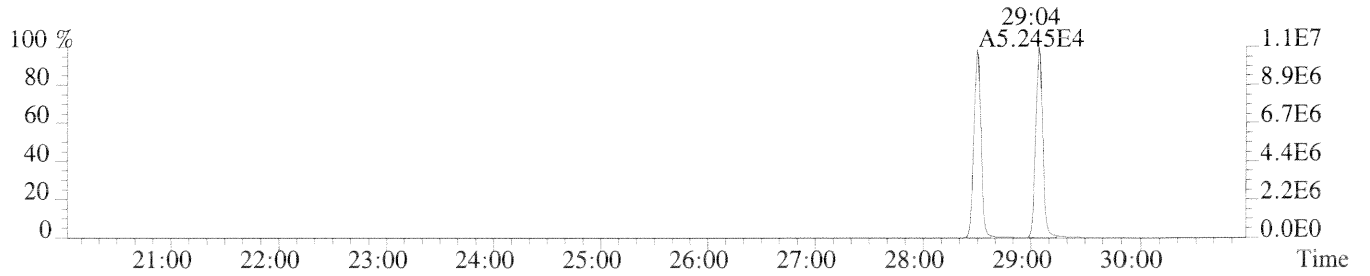
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



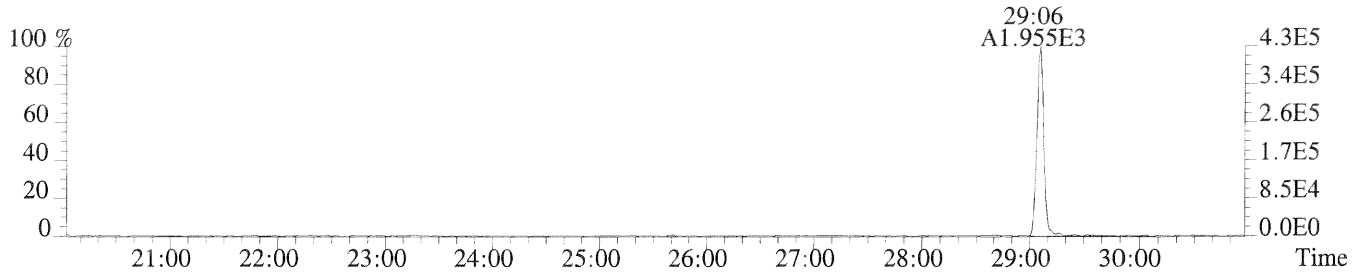
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4440.0,1.00%,F,T)



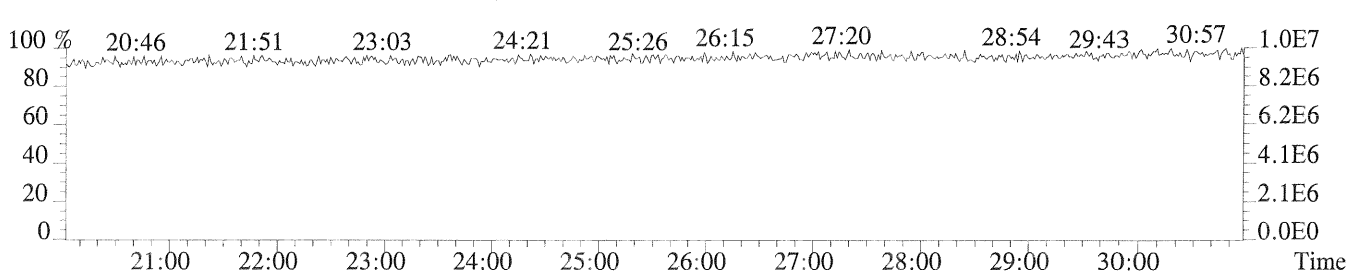
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



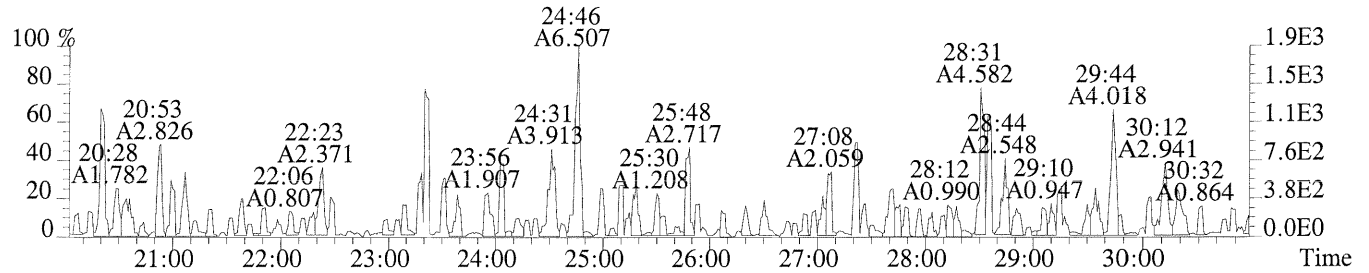
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



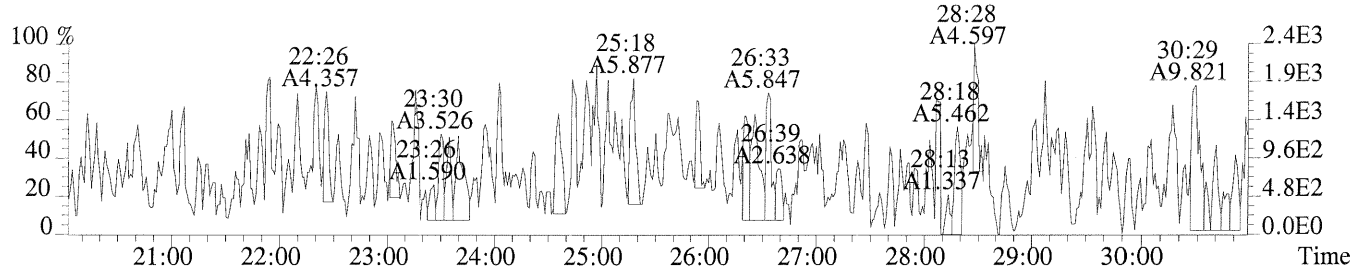
File:P230732 #1-687 Acq:24-AUG-2014 12:58:46 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS2

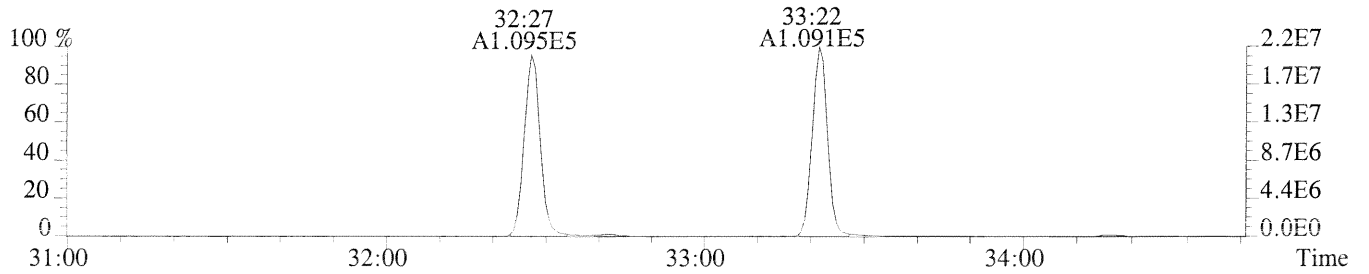
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,48.0,1.00%,F,T)



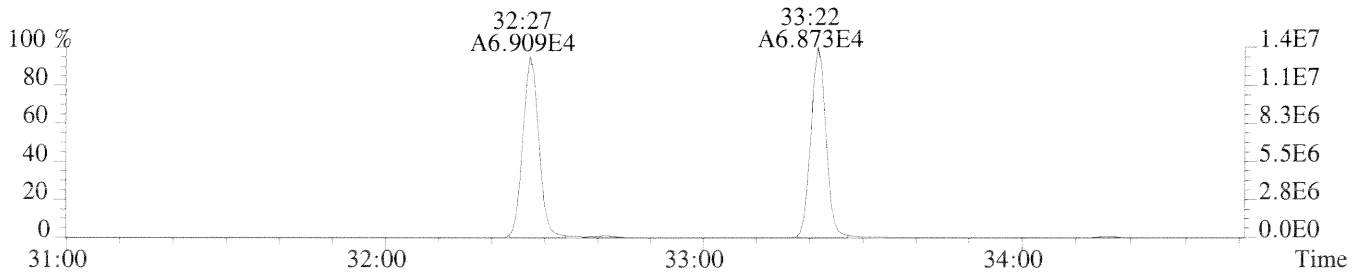
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



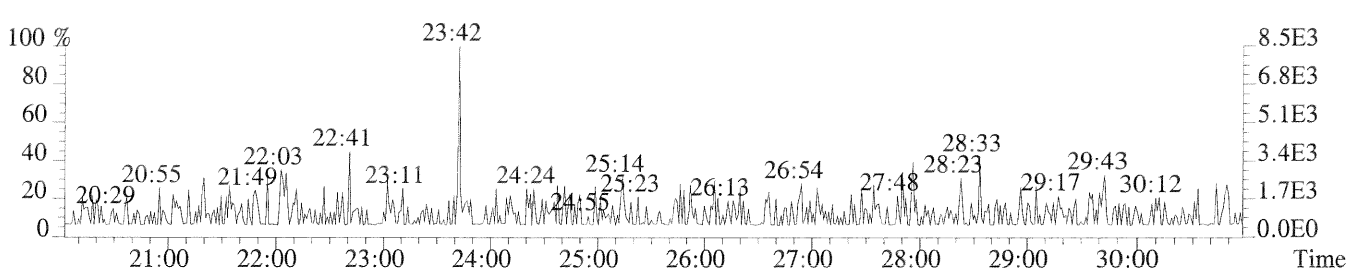
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



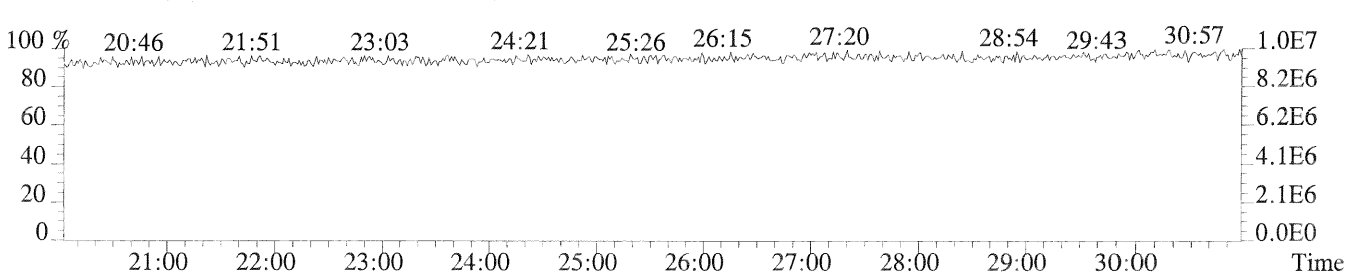
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

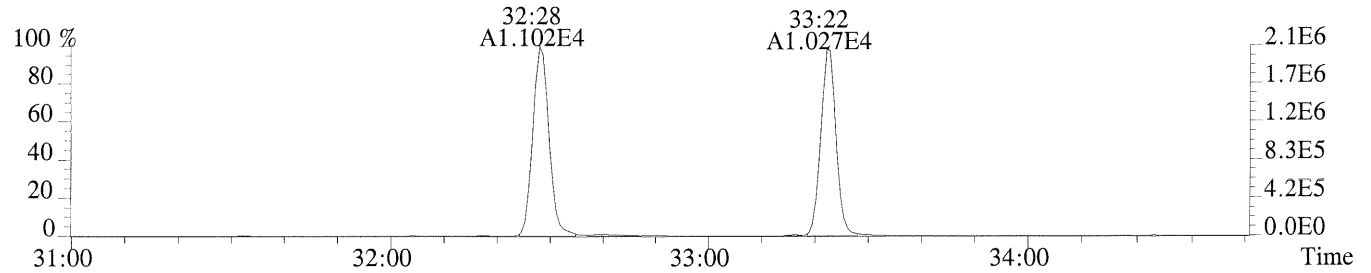


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

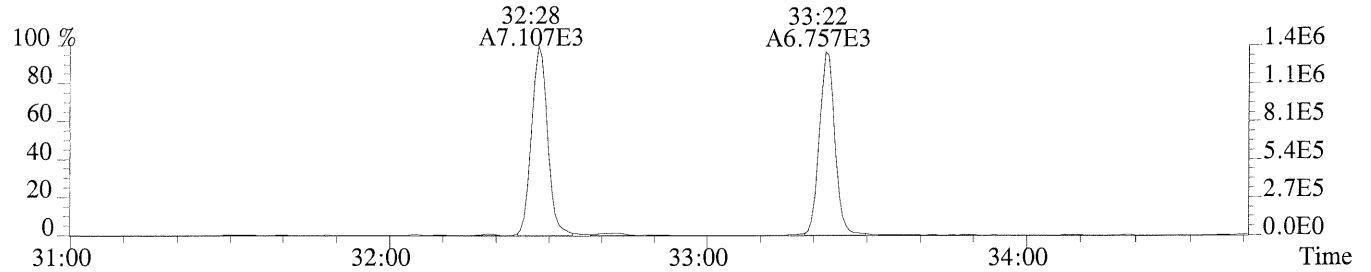


Sample#1 Exp:ICAL CS2

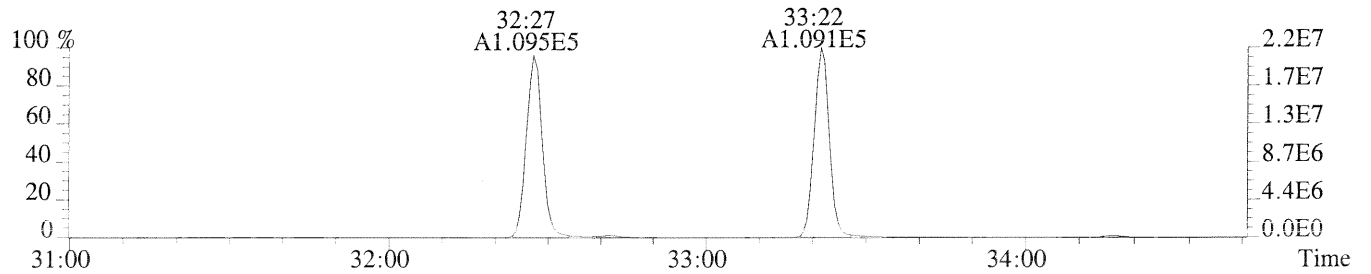
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,124.0,1.00%,F,T)



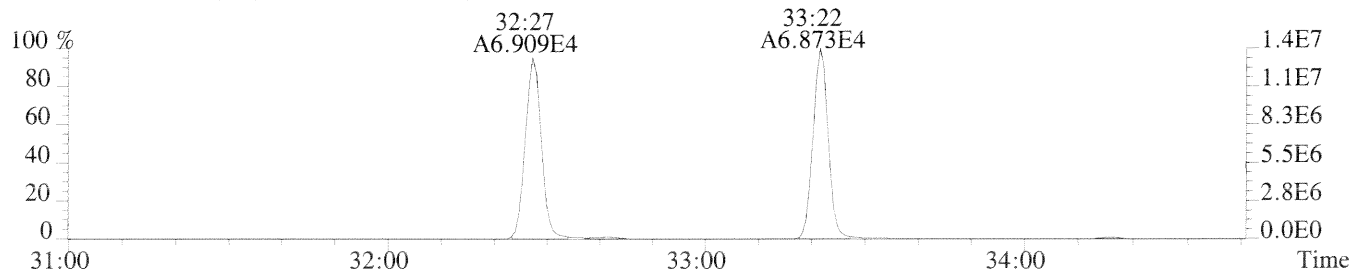
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1364.0,1.00%,F,T)



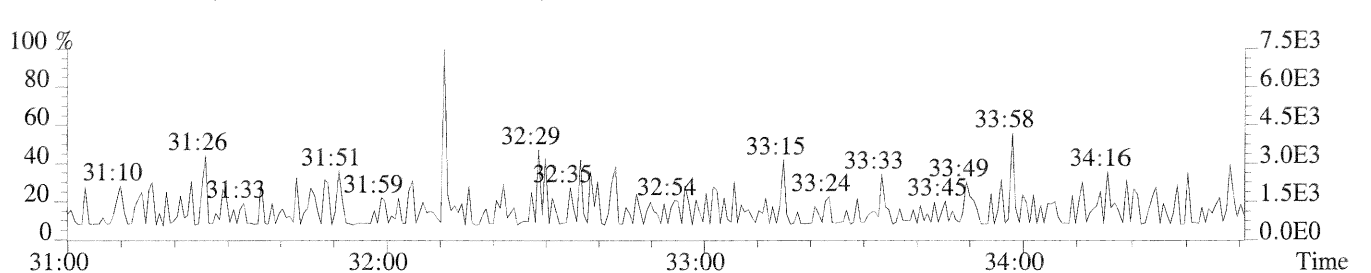
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,T)



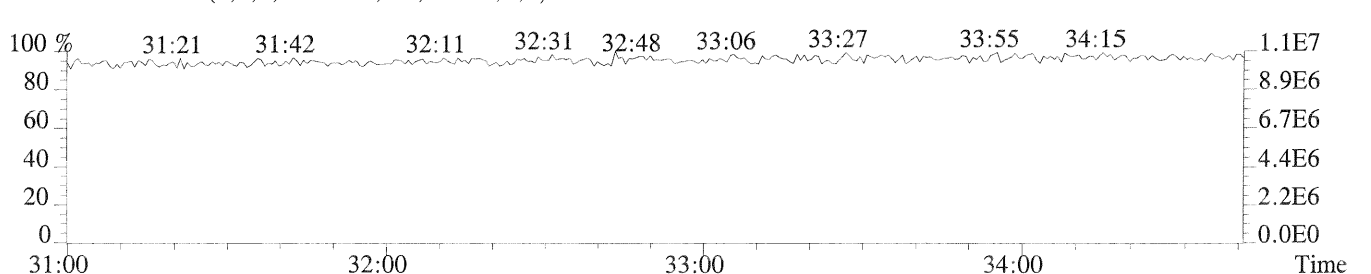
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

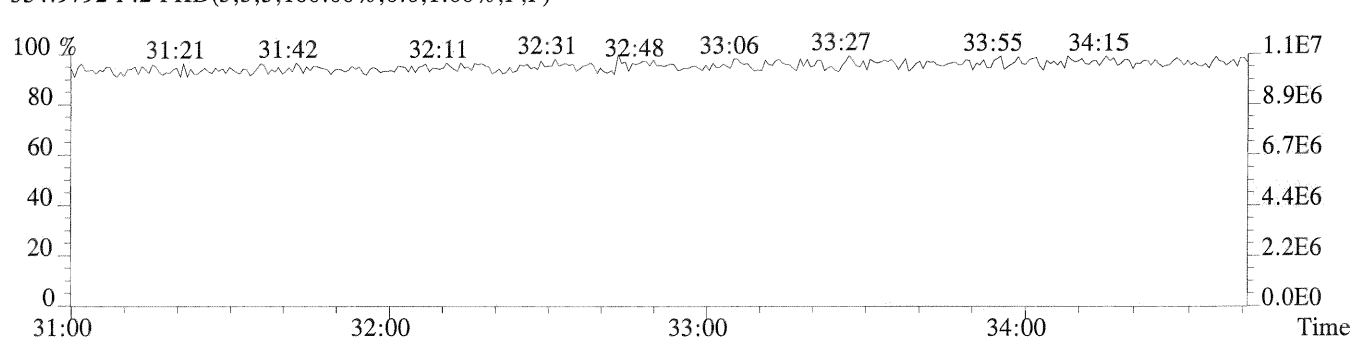
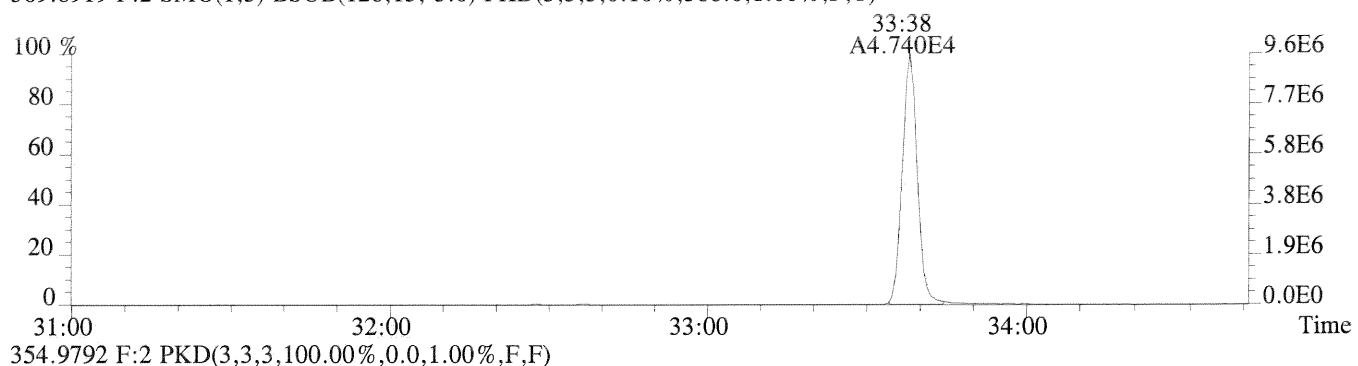
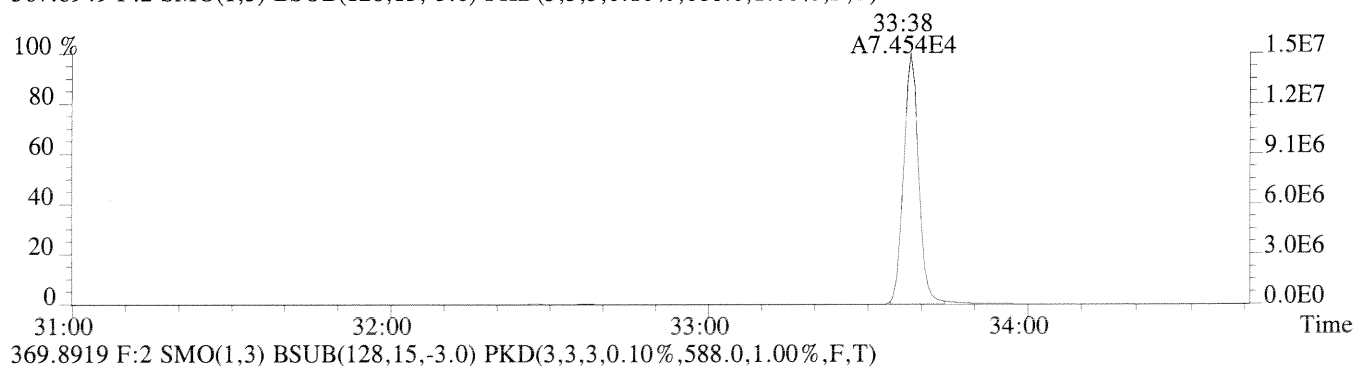
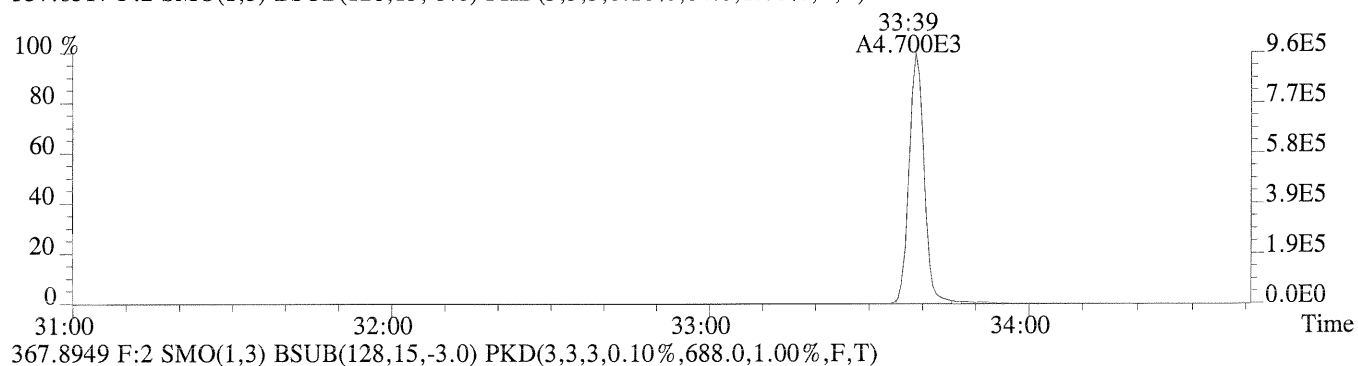
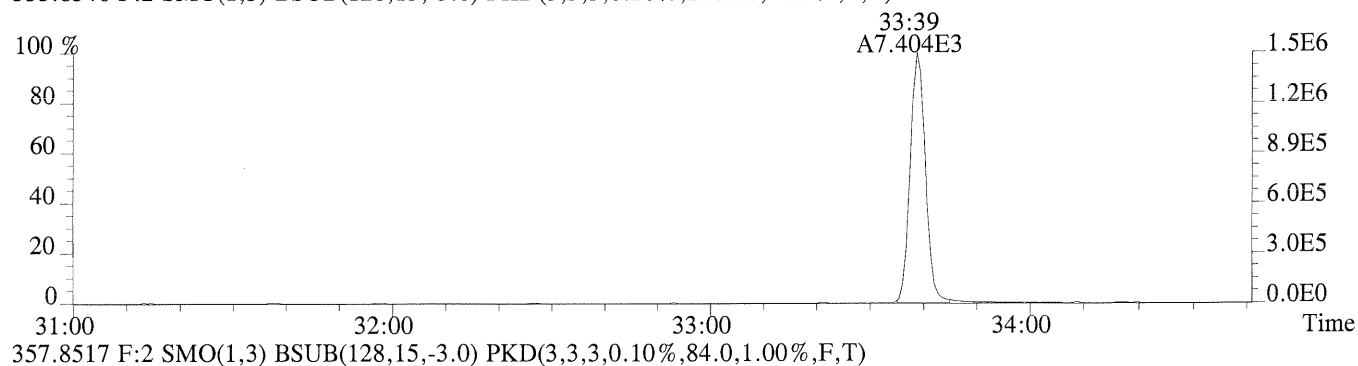


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



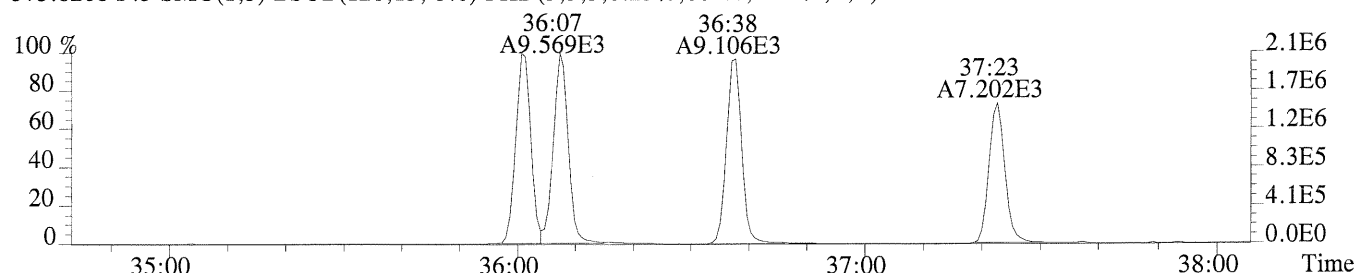
Sample#1 Exp:ICAL CS2

355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1464.0,1.00%,F,T)

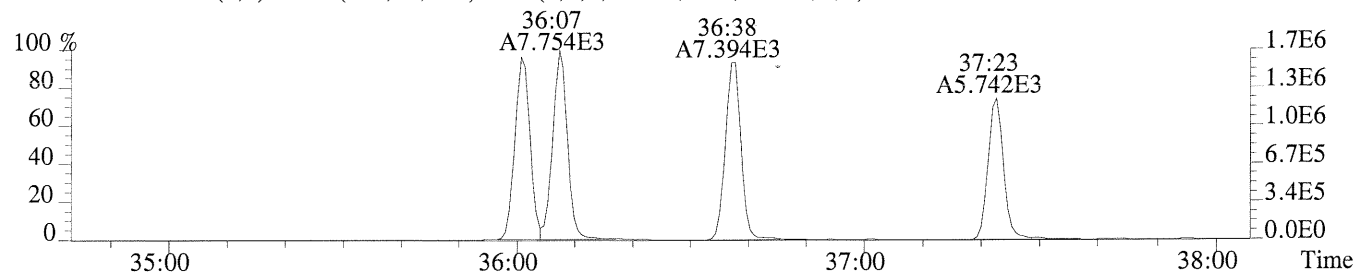


Sample#1 Exp:ICAL CS2

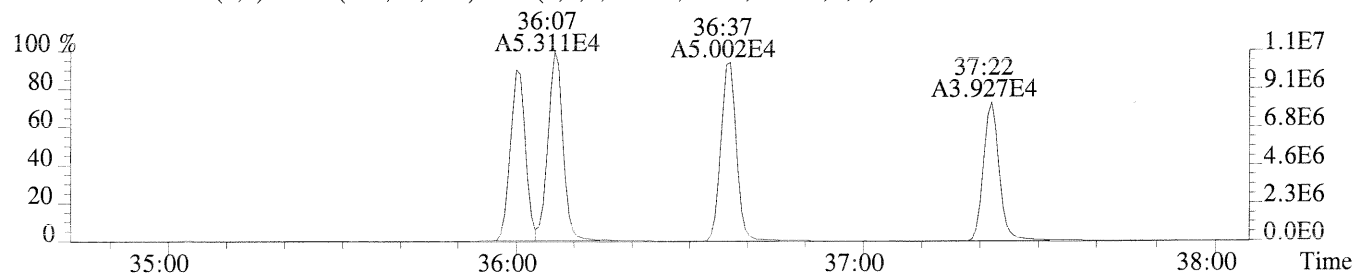
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,T)



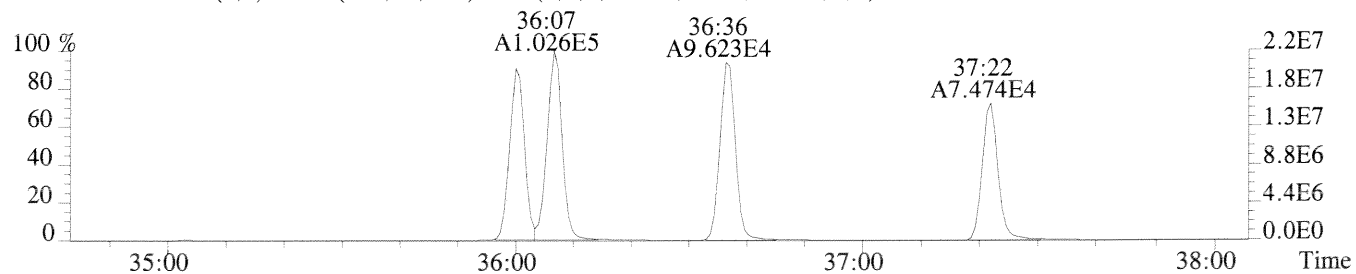
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,T)



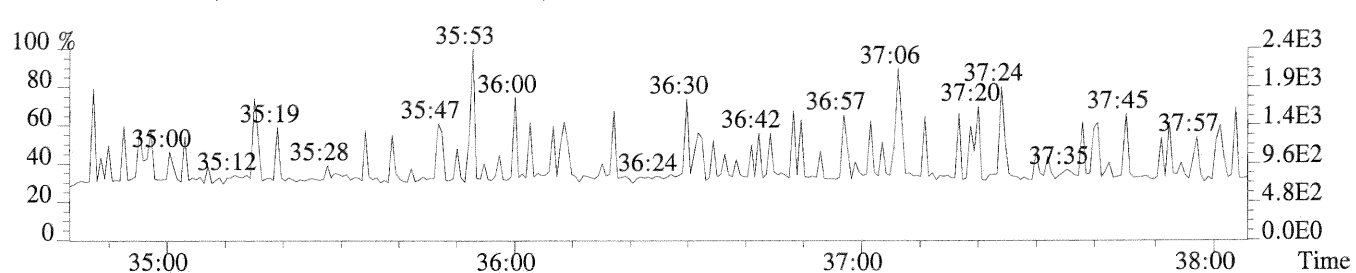
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



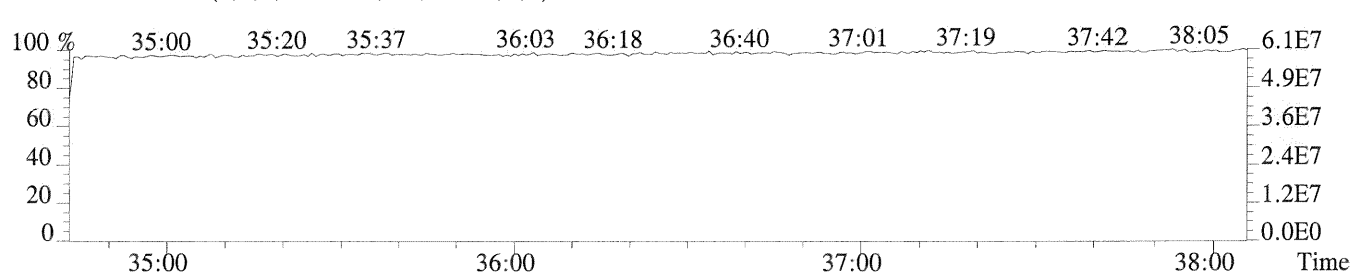
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,648.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

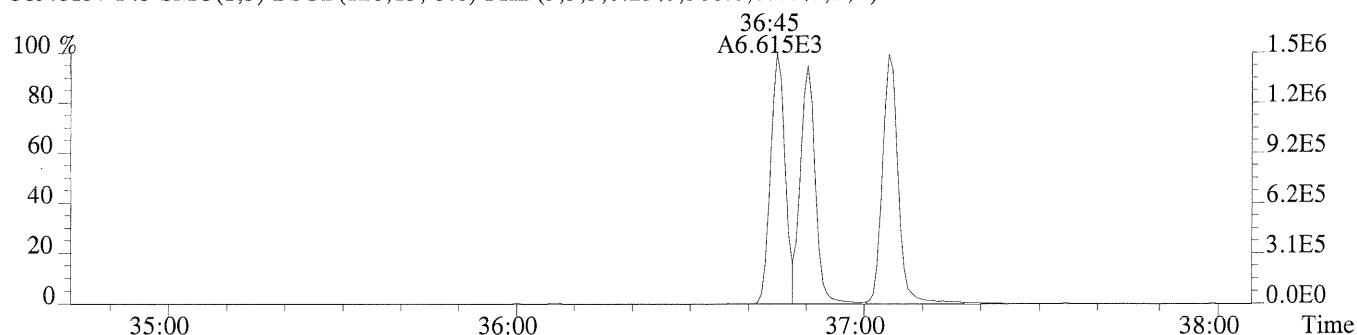


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

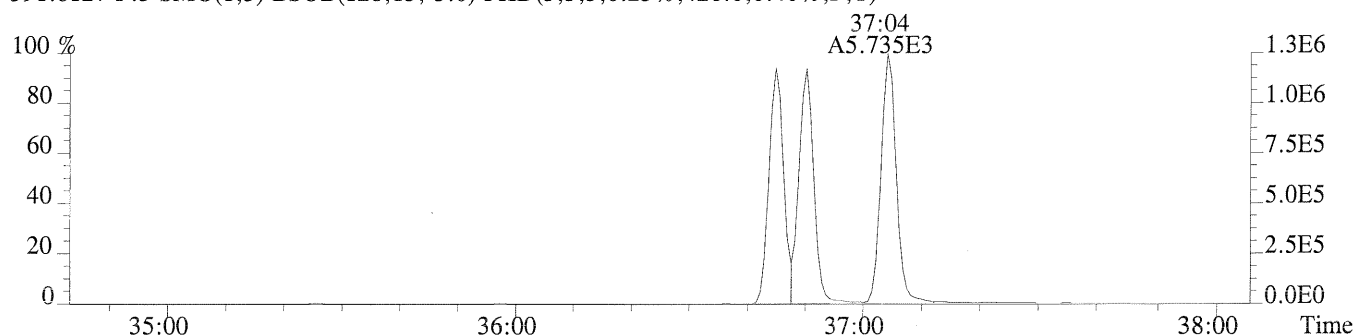


Sample#1 Exp:ICAL CS2

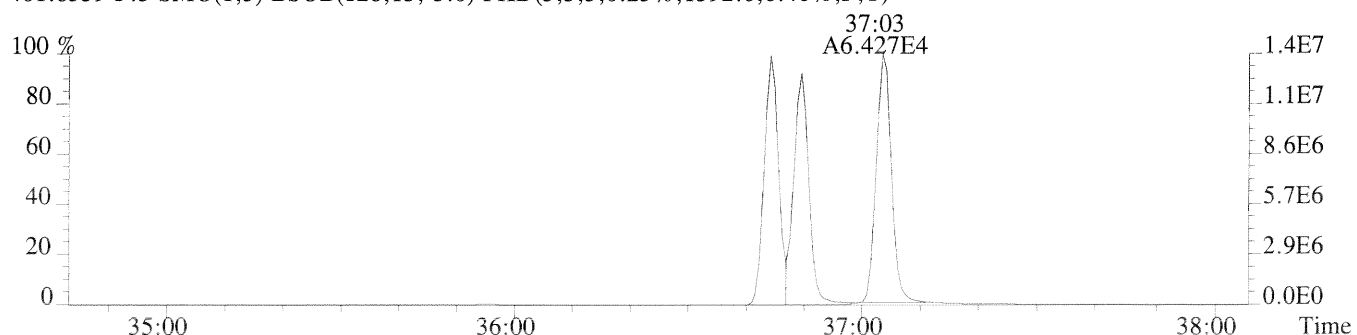
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.40%,F,T)



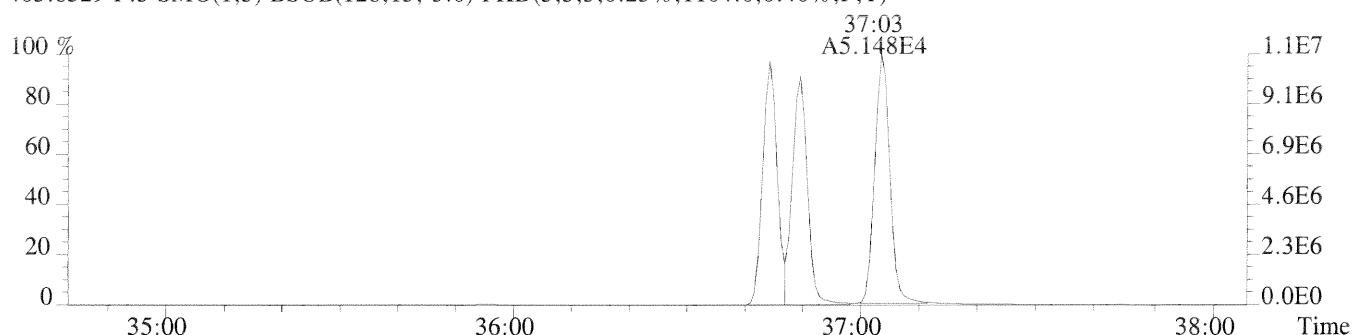
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,420.0,0.40%,F,T)



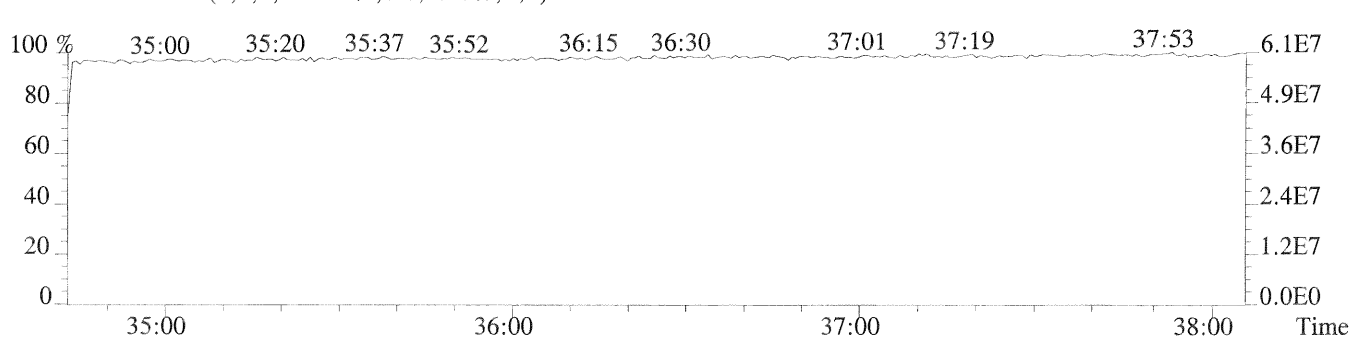
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)

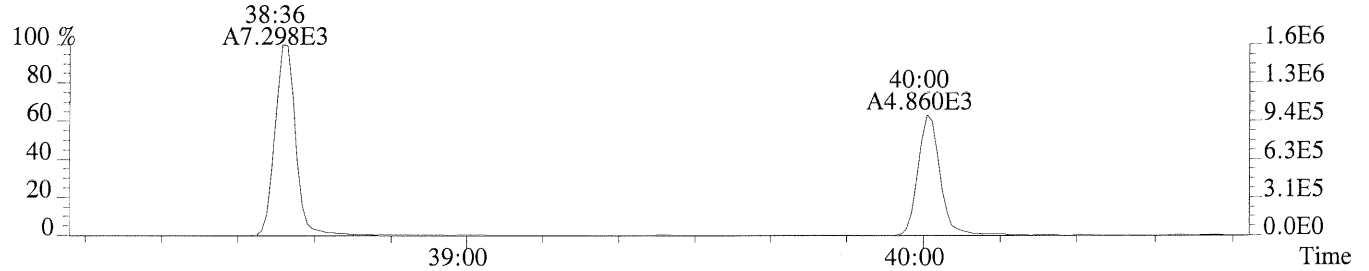


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

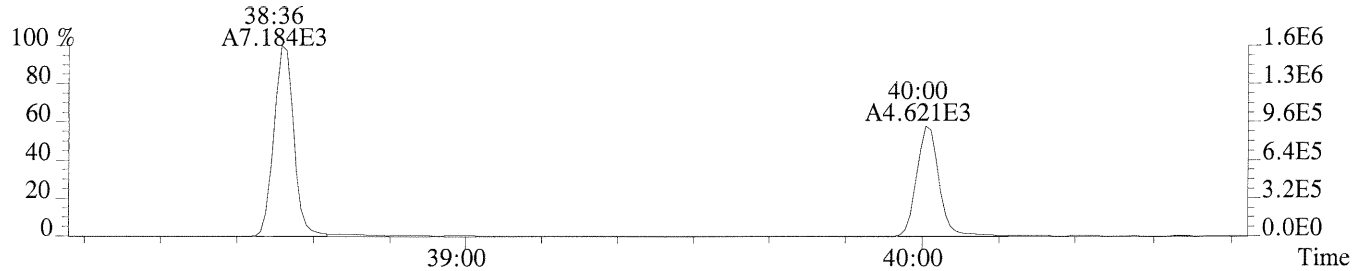


Sample#1 Exp:ICAL CS2

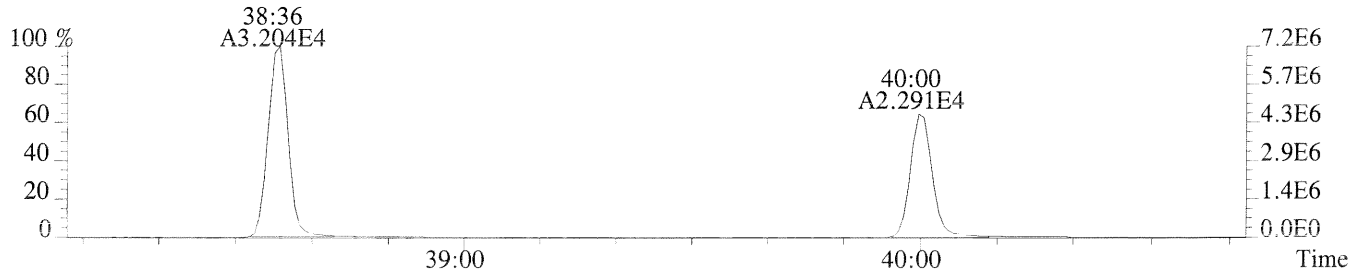
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.50%,F,T)



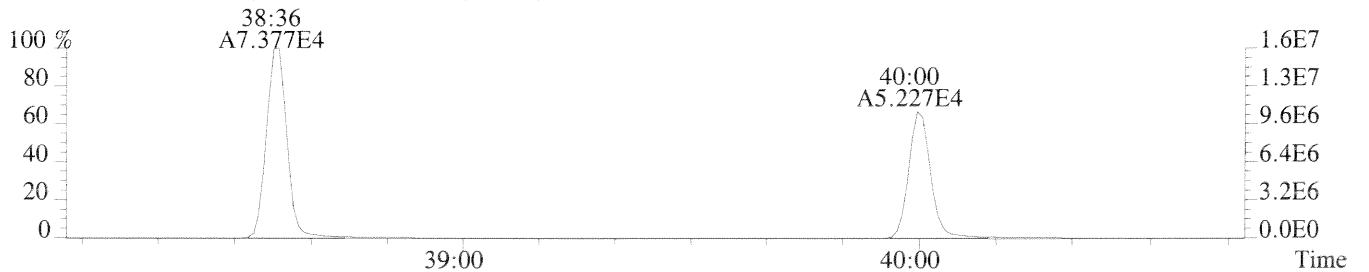
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.50%,F,T)



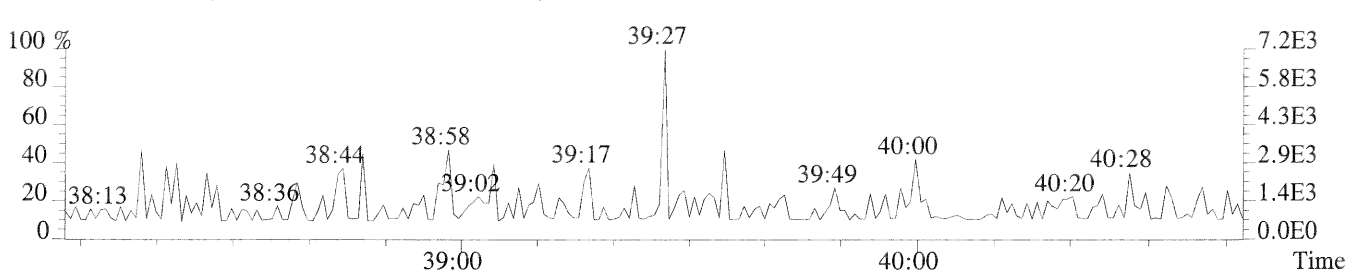
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3856.0,0.50%,F,T)



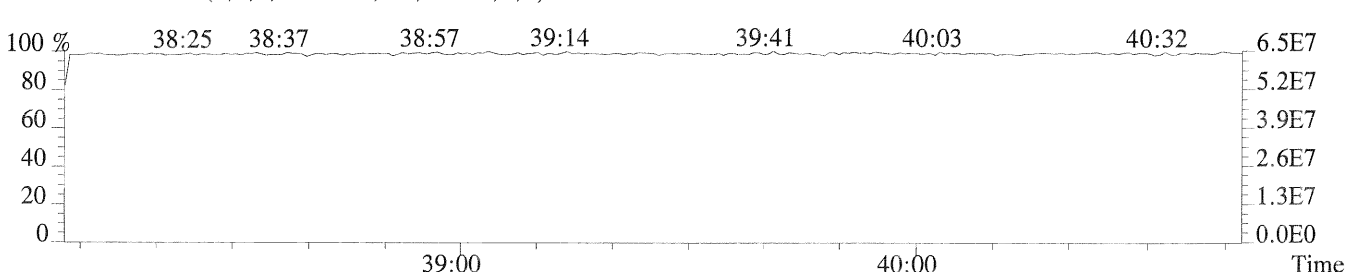
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8500.0,0.50%,F,T)

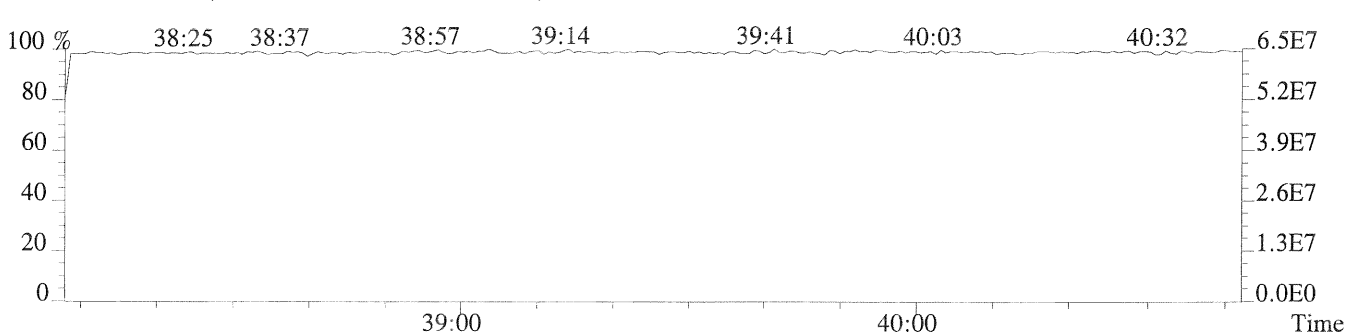
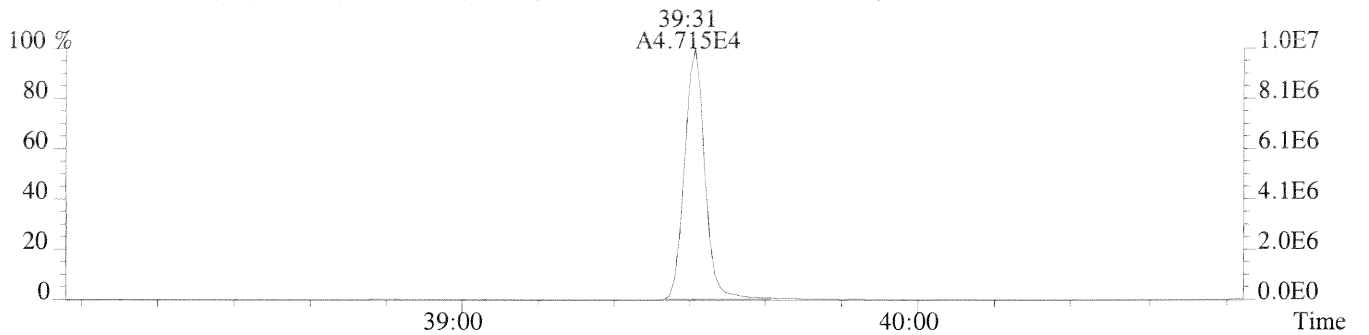
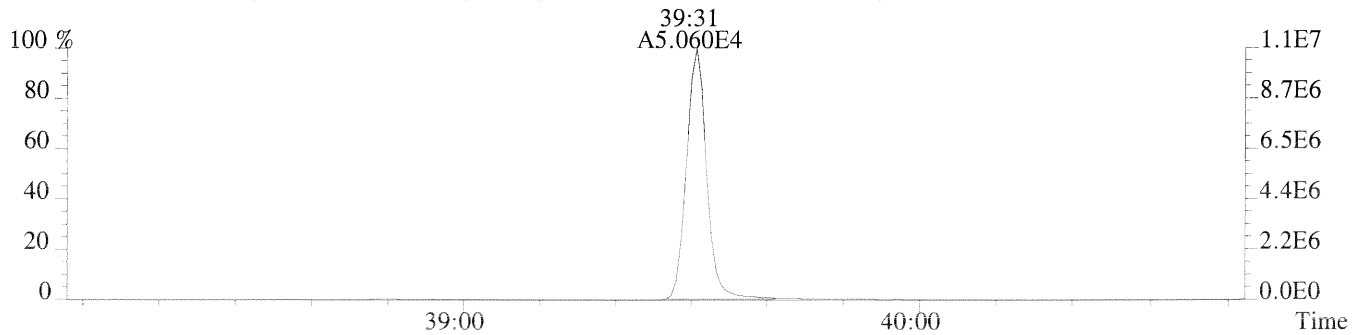
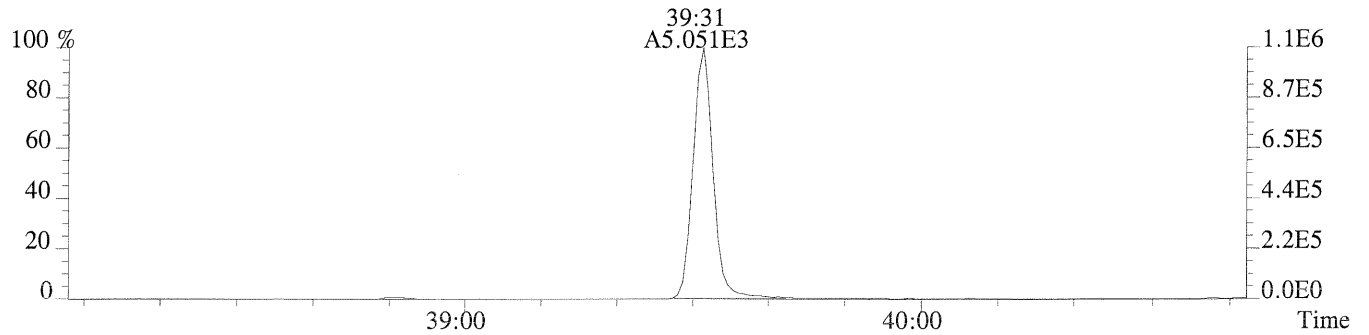
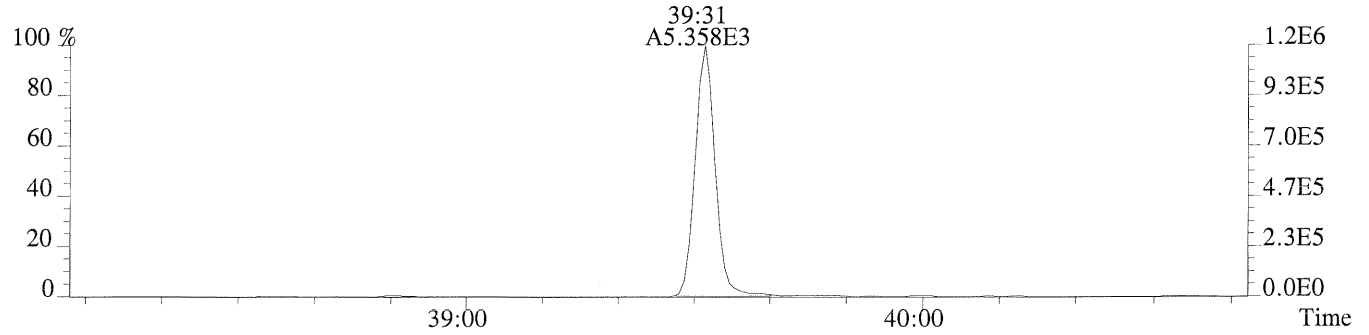


479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



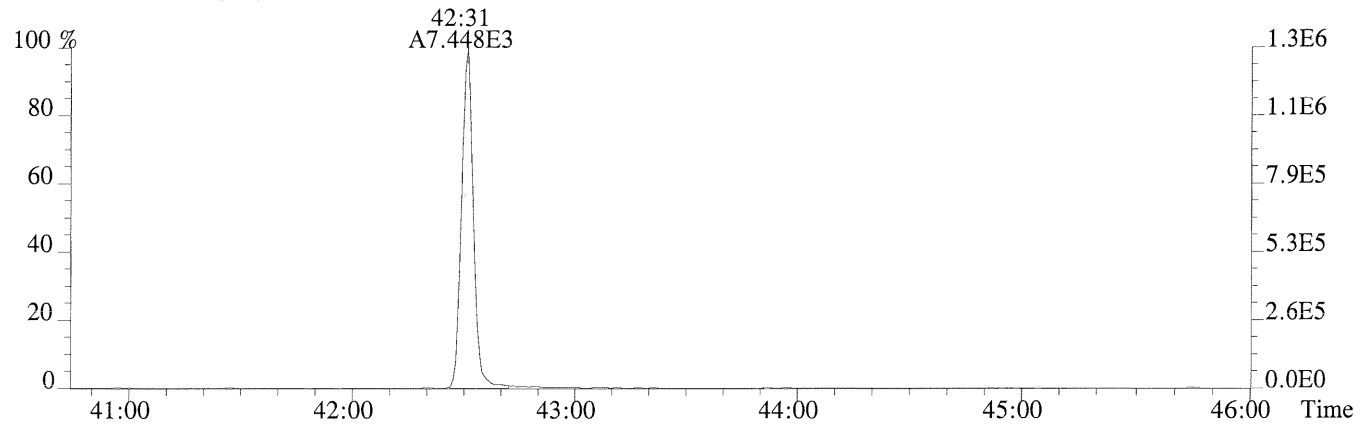




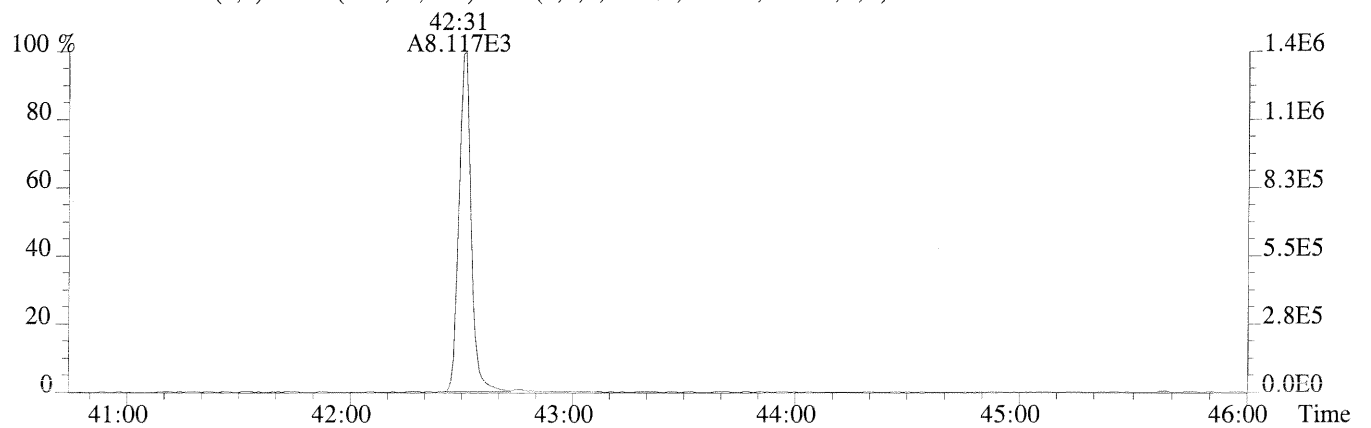
File:P230732 #1-484 Acq:24-AUG-2014 12:58:46 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS2

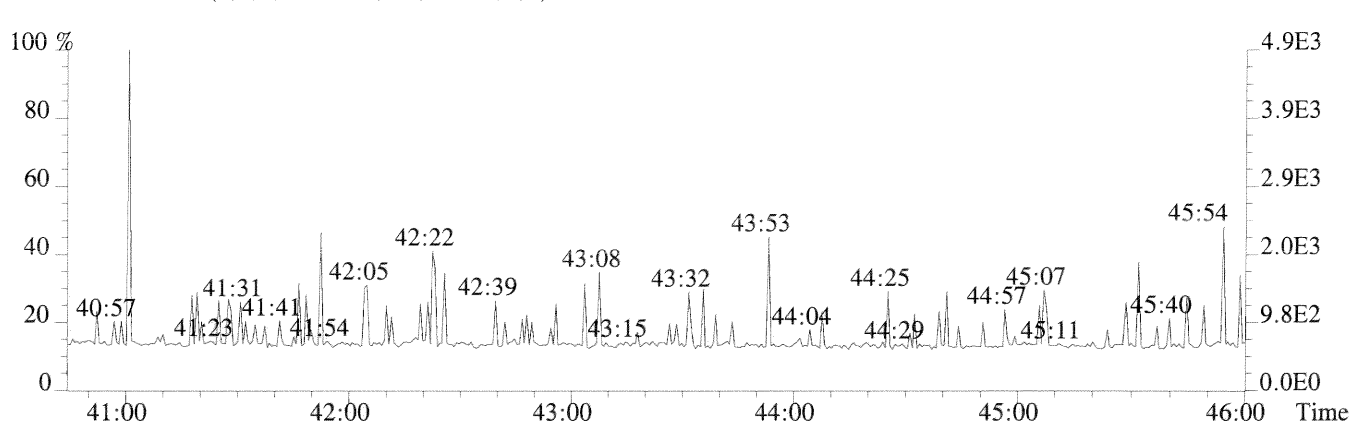
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,460.0,0.40%,F,T)



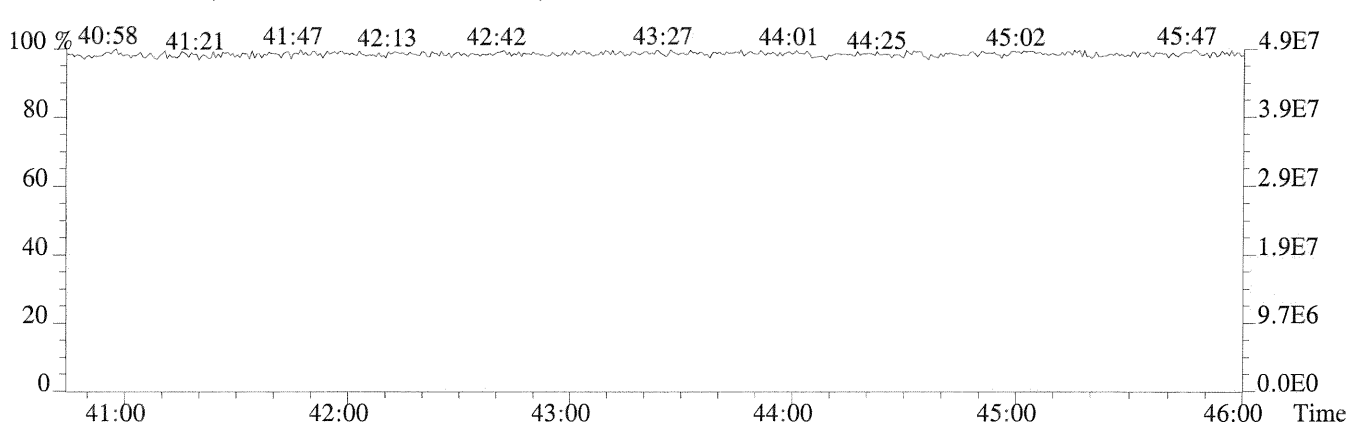
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1540.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

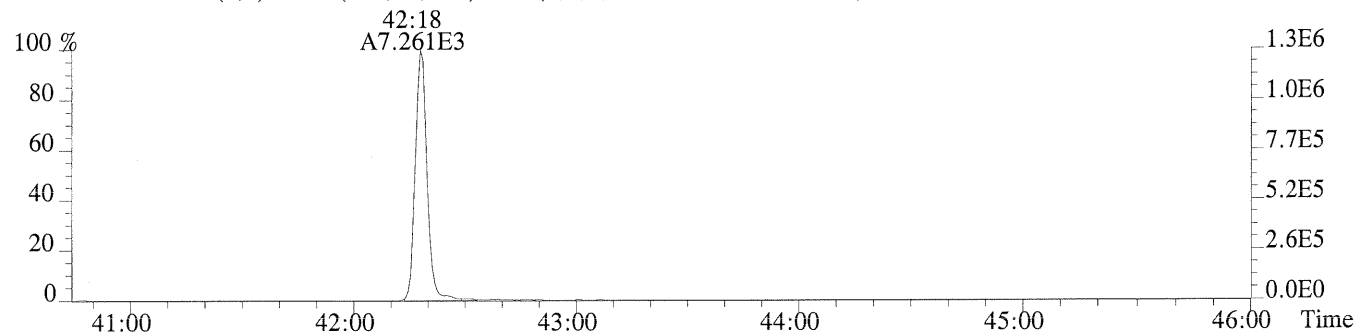


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

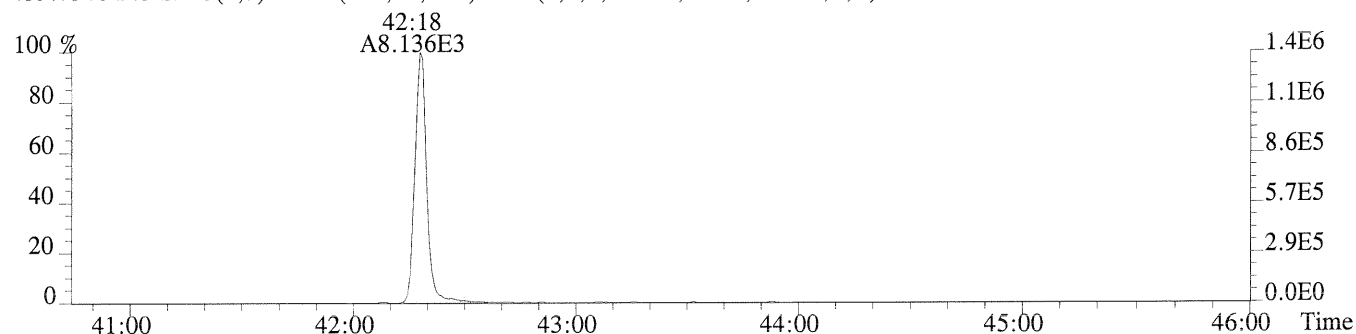


Sample#1 Exp:ICAL CS2

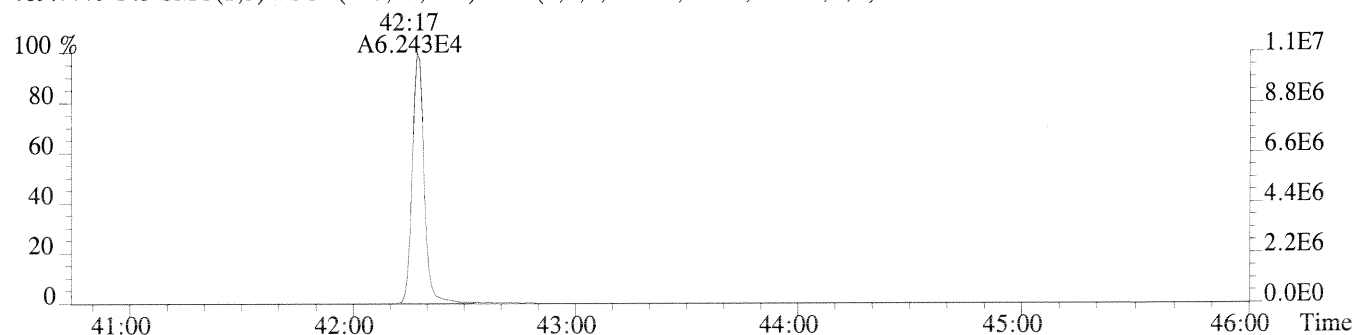
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,64.0,0.40%,F,T)



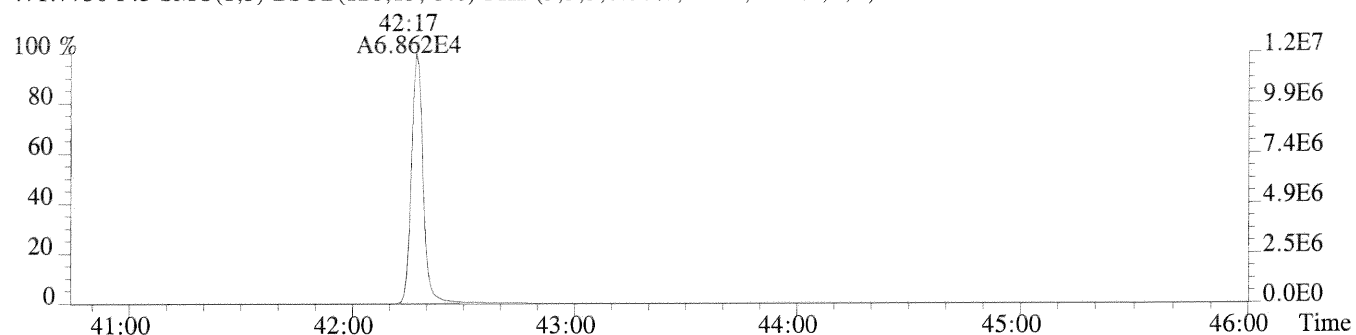
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,532.0,0.40%,F,T)



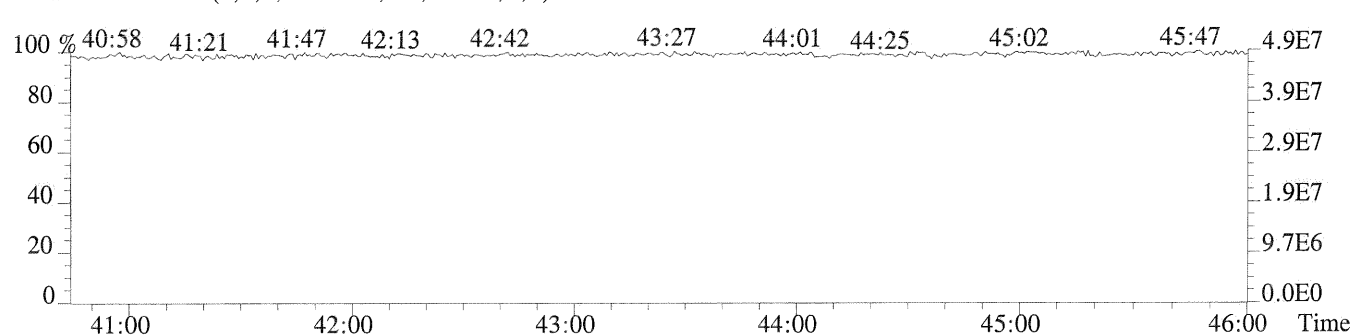
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,508.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,608.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS3

Run #4    Filename P230733 #1    Samp: 1    Inj: 1    Acquired: 24-AUG-14 13:46:32  
 Processed: 25-AUG-14 11:37:38    LAB. ID: 63383

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:20	7.292e+03	9.171e+03	0.80	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	6.671e+04	4.284e+04	1.56	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:23	6.261e+04	4.128e+04	1.52	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	5.426e+04	4.348e+04	1.25	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	5.643e+04	4.561e+04	1.24	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	5.382e+04	4.266e+04	1.26	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	4.075e+04	3.246e+04	1.26	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:36	4.301e+04	4.138e+04	1.04	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	2.722e+04	2.596e+04	1.05	yes	no	1.000
10	Unk	OCDF	42:31	4.177e+04	4.585e+04	0.91	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:06	5.269e+03	6.623e+03	0.80	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	4.530e+04	2.885e+04	1.57	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	4.078e+04	3.170e+04	1.29	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:50	3.919e+04	3.091e+04	1.27	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	4.228e+04	3.320e+04	1.27	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:32	3.171e+04	3.018e+04	1.05	yes	no	1.000
17	Unk	OCDD	42:19	4.206e+04	4.702e+04	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:18	7.405e+04	9.275e+04	0.80	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	32:28	1.309e+05	8.249e+04	1.59	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	1.322e+05	8.360e+04	1.58	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	5.521e+04	1.065e+05	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	6.226e+04	1.188e+05	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	5.950e+04	1.134e+05	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:22	4.315e+04	8.364e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	3.798e+04	8.574e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.513e+04	5.736e+04	0.44	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:05	5.085e+04	6.411e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:39	9.198e+04	5.796e+04	1.59	yes	no	1.180
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	7.318e+04	5.787e+04	1.26	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	7.066e+04	5.544e+04	1.27	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	5.959e+04	5.585e+04	1.07	yes	no	1.066
32	IS	13C-OCDD	42:18	7.147e+04	7.953e+04	0.90	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:31	5.071e+04	6.336e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:04	7.682e+04	6.149e+04	1.25	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:06	1.229e+04				no	1.020

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office (713) 266-1599. Fax (713) 266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS3

Run #4    Filename P230733    Samp: 1    Inj: 1    Acquired: 24-AUG-14 13:46:32  
 Processed: 25-AUG-14 11:37:38    LAB. ID: 63383

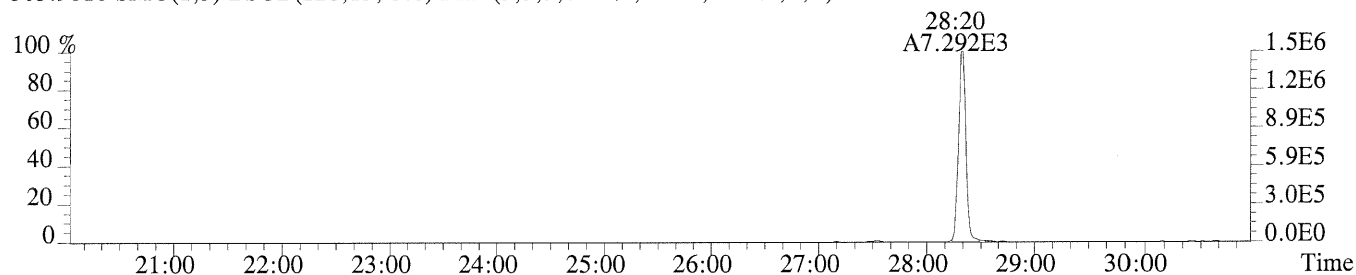
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.48e+06	6.12e+02	2.4e+03	1.84e+06	2.08e+03	8.8e+02
2	1,2,3,7,8-PeCDF	1.29e+07	1.52e+02	8.5e+04	8.22e+06	1.45e+03	5.7e+03
3	2,3,4,7,8-PeCDF	1.28e+07	1.52e+02	8.4e+04	8.41e+06	1.45e+03	5.8e+03
4	1,2,3,4,7,8-HxCDF	1.22e+07	9.44e+02	1.3e+04	9.71e+06	1.40e+02	6.9e+04
5	1,2,3,6,7,8-HxCDF	1.23e+07	9.44e+02	1.3e+04	9.90e+06	1.40e+02	7.1e+04
6	2,3,4,6,7,8-HxCDF	1.20e+07	9.44e+02	1.3e+04	9.55e+06	1.40e+02	6.8e+04
7	1,2,3,7,8,9-HxCDF	8.69e+06	9.44e+02	9.2e+03	7.05e+06	1.40e+02	5.0e+04
8	1,2,3,4,6,7,8-HpCDF	9.77e+06	7.05e+03	1.4e+03	9.39e+06	6.24e+03	1.5e+03
9	1,2,3,4,7,8,9-HpCDF	5.69e+06	7.05e+03	8.1e+02	5.39e+06	6.24e+03	8.6e+02
10	OCDF	7.26e+06	1.04e+02	7.0e+04	8.16e+06	1.04e+03	7.8e+03
11	2,3,7,8-TCDD	1.13e+06	7.00e+02	1.6e+03	1.45e+06	9.28e+02	1.6e+03
12	1,2,3,7,8-PeCDD	9.26e+06	7.68e+02	1.2e+04	5.85e+06	1.00e+02	5.9e+04
13	1,2,3,4,7,8-HxCDD	9.14e+06	2.80e+02	3.3e+04	7.05e+06	6.76e+02	1.0e+04
14	1,2,3,6,7,8-HxCDD	8.52e+06	2.80e+02	3.0e+04	6.79e+06	6.76e+02	1.0e+04
15	1,2,3,7,8,9-HxCDD	9.35e+06	2.80e+02	3.3e+04	7.41e+06	6.76e+02	1.1e+04
16	1,2,3,4,6,7,8-HpCDD	6.60e+06	9.68e+02	6.8e+03	6.25e+06	5.92e+02	1.1e+04
17	OCDD	7.62e+06	3.12e+02	2.4e+04	8.47e+06	3.08e+02	2.8e+04
18	13C-2,3,7,8-TCDF	1.51e+07	1.88e+03	8.0e+03	1.90e+07	1.48e+03	1.3e+04
19	13C-1,2,3,7,8-PeCDF	2.49e+07	4.84e+02	5.1e+04	1.55e+07	1.32e+03	1.2e+04
20	13C-2,3,4,7,8-PeCDF	2.66e+07	4.84e+02	5.5e+04	1.68e+07	1.32e+03	1.3e+04
21	13C-1,2,3,4,7,8-HxCDF	1.23e+07	5.80e+02	2.1e+04	2.36e+07	2.05e+03	1.1e+04
22	13C-1,2,3,6,7,8-HxCDF	1.35e+07	5.80e+02	2.3e+04	2.57e+07	2.05e+03	1.3e+04
23	13C-2,3,4,6,7,8-HxCDF	1.31e+07	5.80e+02	2.3e+04	2.50e+07	2.05e+03	1.2e+04
24	13C-1,2,3,7,8,9-HxCDF	9.25e+06	5.80e+02	1.6e+04	1.78e+07	2.05e+03	8.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	8.54e+06	1.84e+03	4.6e+03	1.94e+07	5.44e+03	3.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	5.27e+06	1.84e+03	2.9e+03	1.19e+07	5.44e+03	2.2e+03
27	13C-2,3,7,8-TCDD	1.08e+07	4.20e+03	2.6e+03	1.37e+07	2.11e+03	6.5e+03
28	13C-1,2,3,7,8-PeCDD	1.84e+07	8.12e+02	2.3e+04	1.14e+07	5.96e+02	1.9e+04
29	13C-1,2,3,4,7,8-HxCDD	1.64e+07	1.40e+03	1.2e+04	1.29e+07	8.96e+02	1.4e+04
30	13C-1,2,3,6,7,8-HxCDD	1.54e+07	1.40e+03	1.1e+04	1.22e+07	8.96e+02	1.4e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.23e+07	1.72e+03	7.1e+03	1.16e+07	6.76e+02	1.7e+04
32	13C-OCDD	1.27e+07	4.68e+02	2.7e+04	1.41e+07	6.40e+02	2.2e+04
33	13C-1,2,3,4-TCDD	1.07e+07	4.20e+03	2.6e+03	1.33e+07	2.11e+03	6.3e+03
34	13C-1,2,3,7,8,9-HxCDD	1.72e+07	1.40e+03	1.2e+04	1.36e+07	8.96e+02	1.5e+04
35	37Cl-2,3,7,8-TCDD	2.70e+06	7.92e+02	3.4e+03			

ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

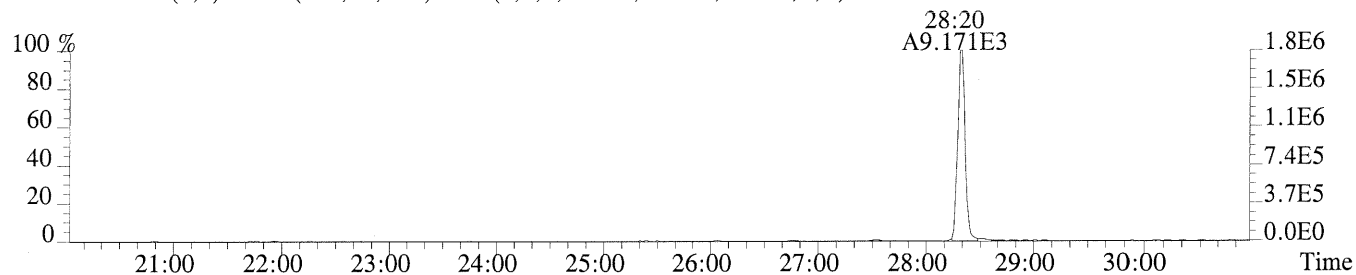
XLSN

Sample#1 Exp:ICAL CS3

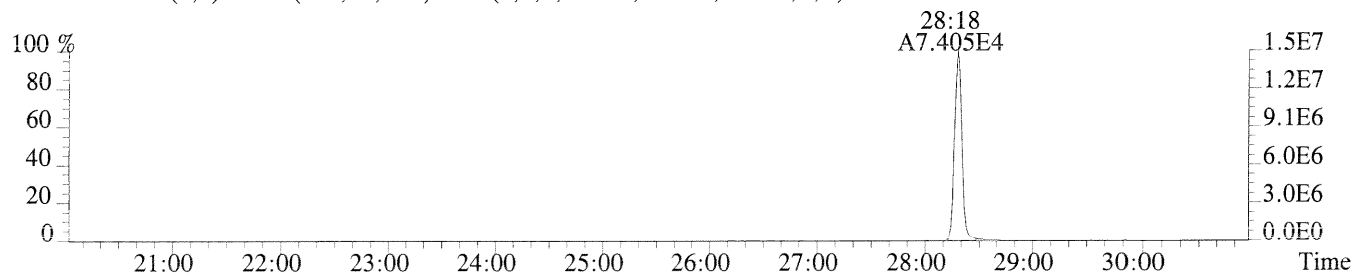
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



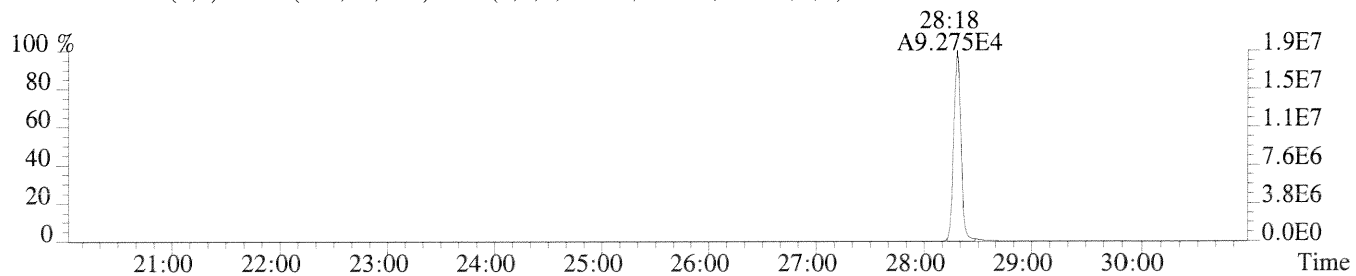
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2084.0,1.00%,F,T)



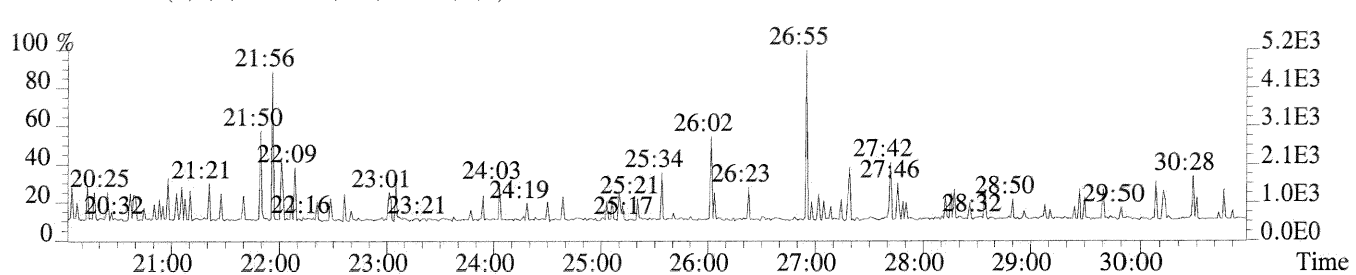
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1876.0,1.00%,F,T)



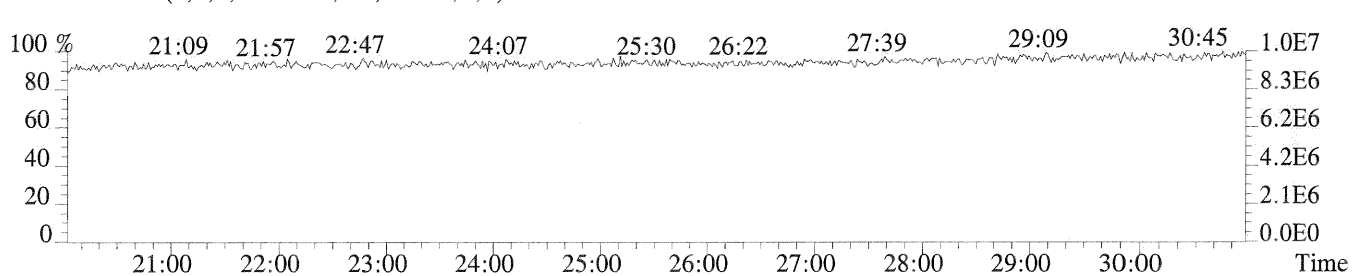
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

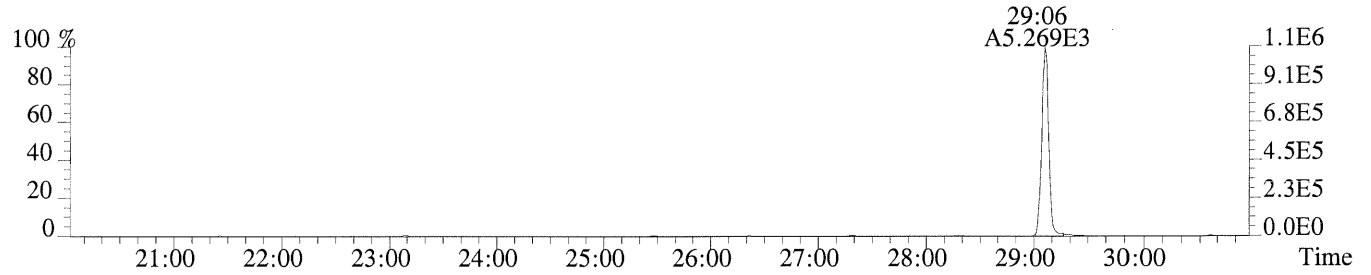


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

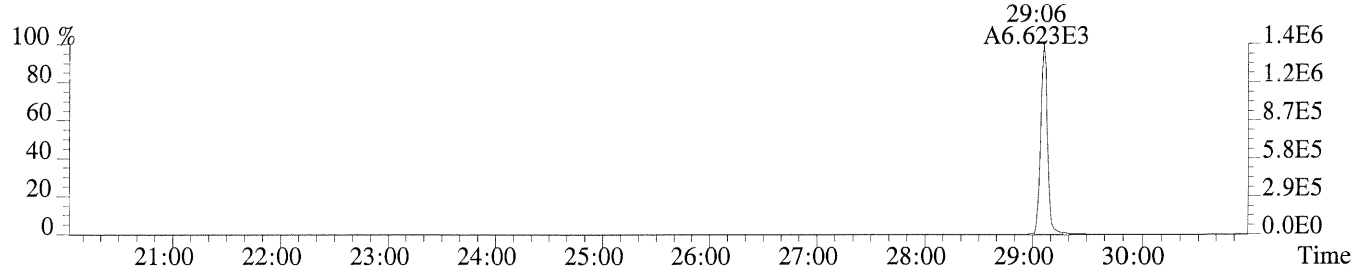


Sample#1 Exp:ICAL CS3

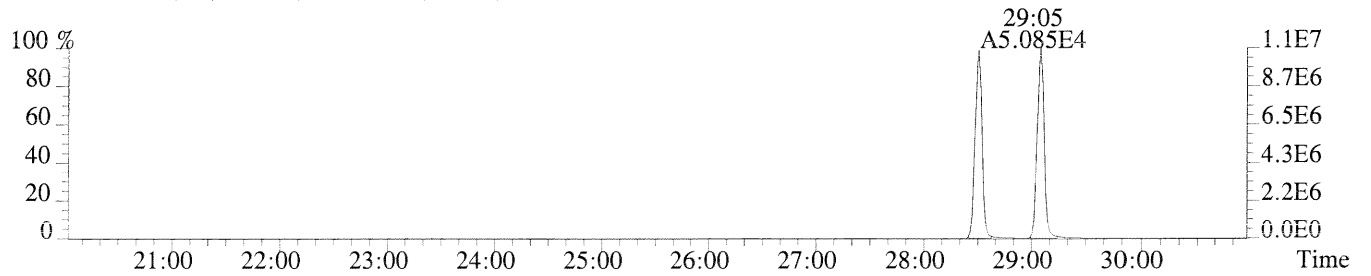
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



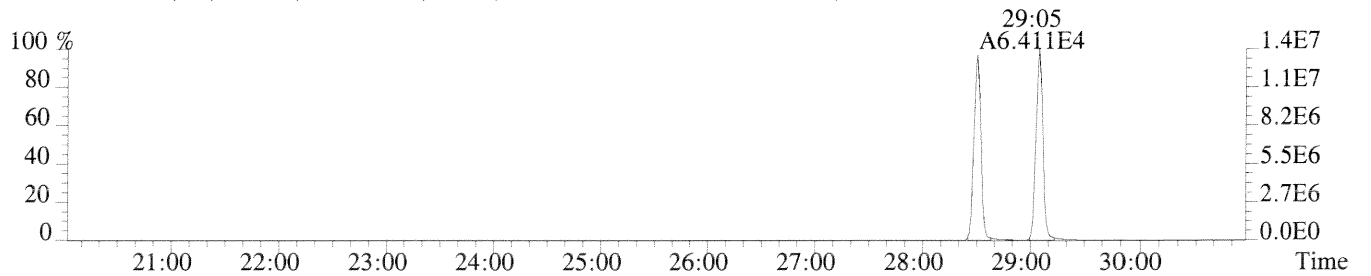
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,T)



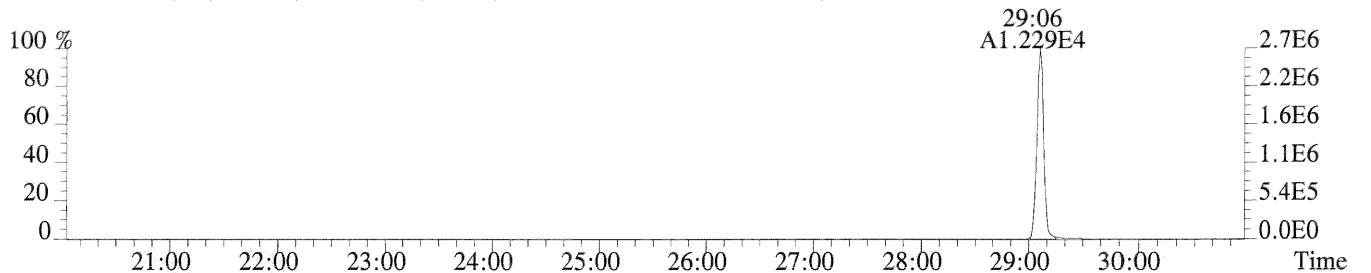
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4200.0,1.00%,F,T)



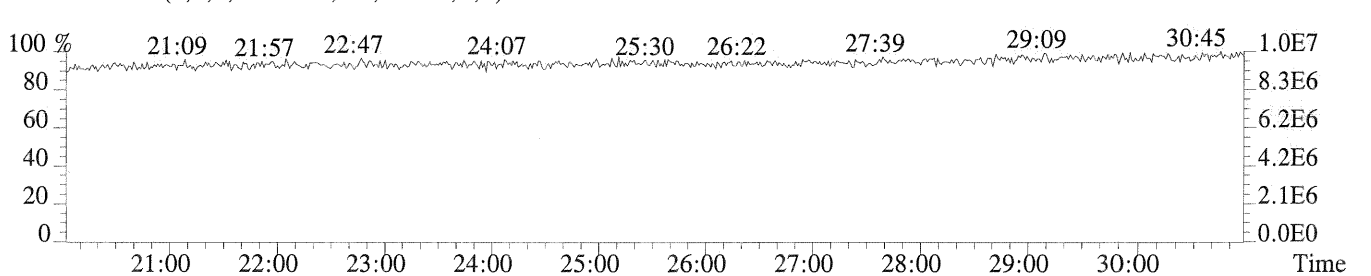
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



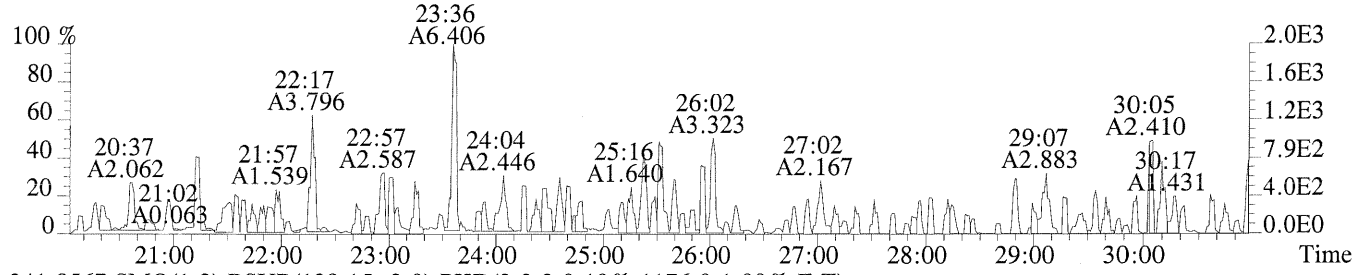
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



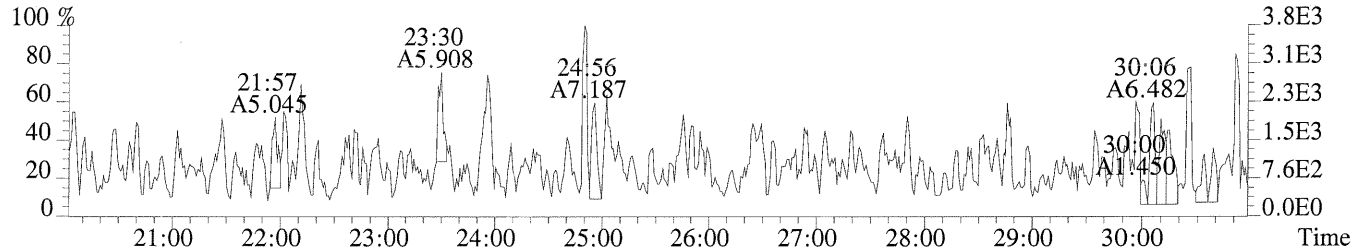
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



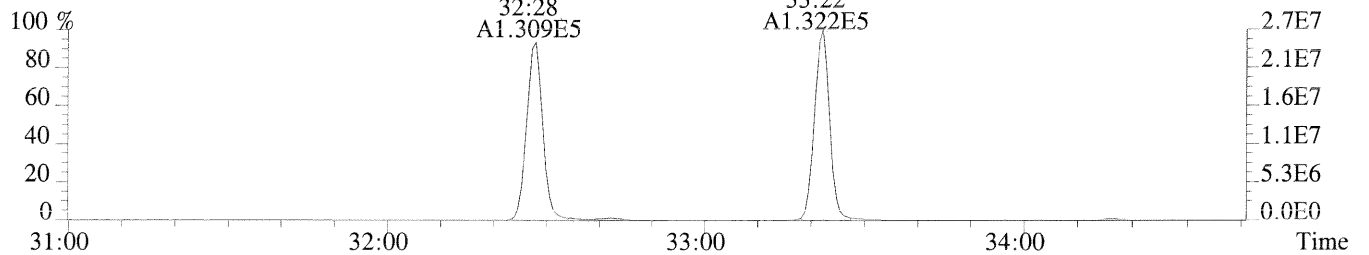
File:P230733 #1-687 Acq:24-AUG-2014 13:46:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS3  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,60.0,1.00%,F,T)



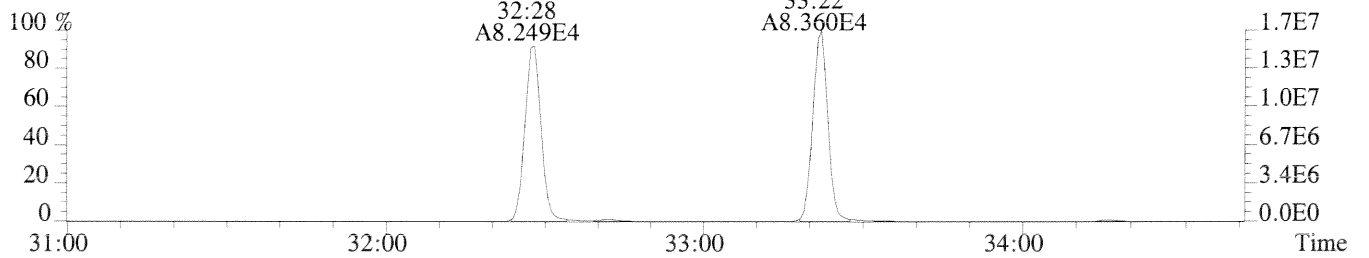
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1176.0,1.00%,F,T)



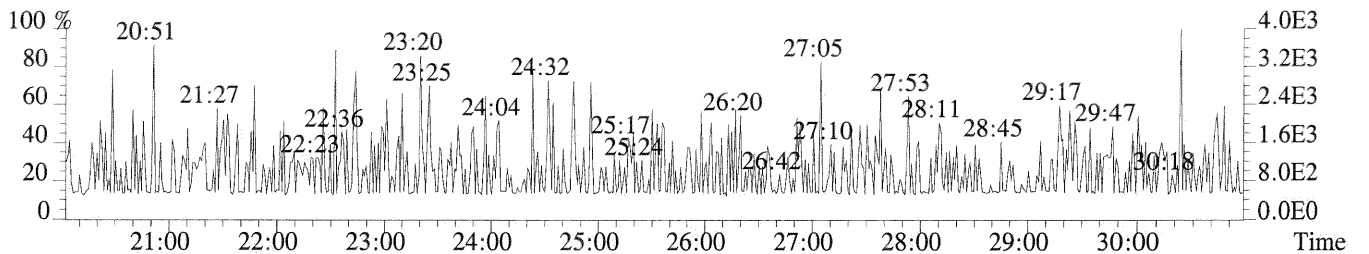
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)



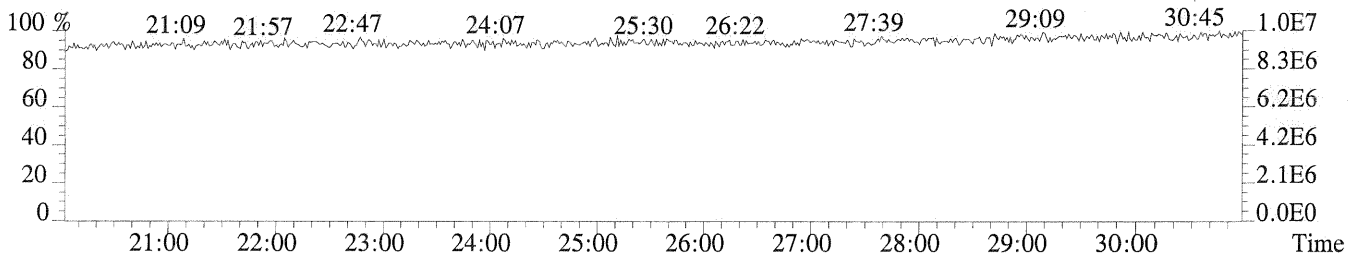
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

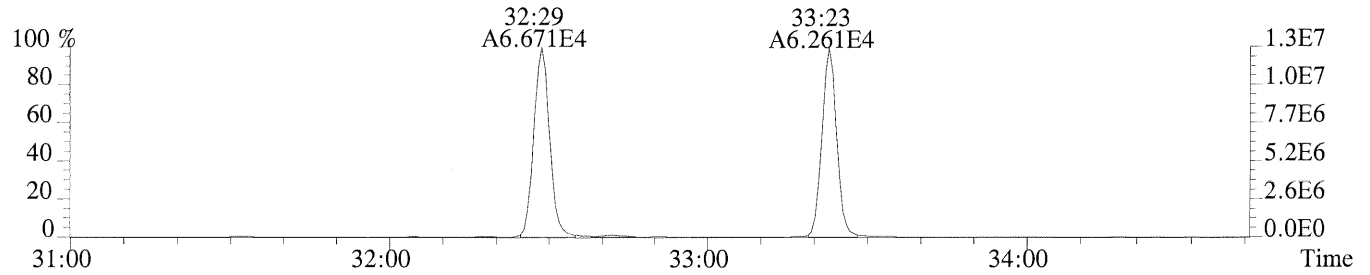


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

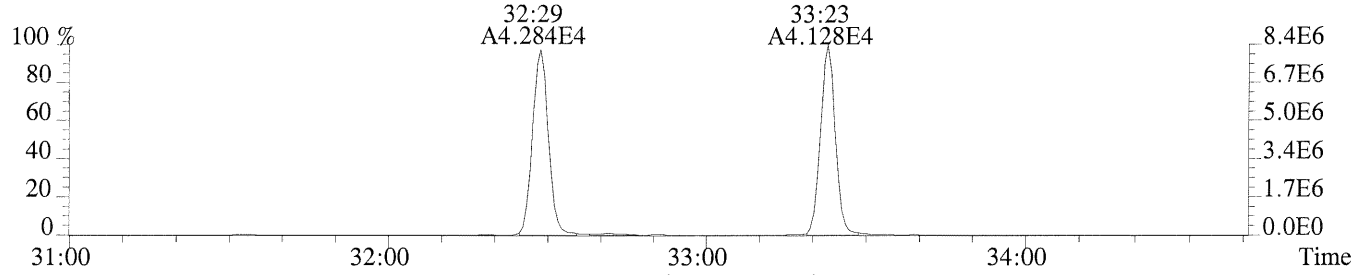


Sample#1 Exp:ICAL CS3

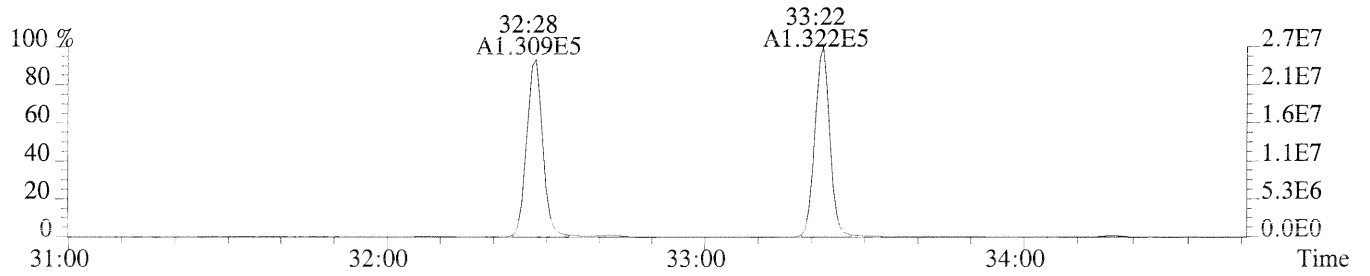
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



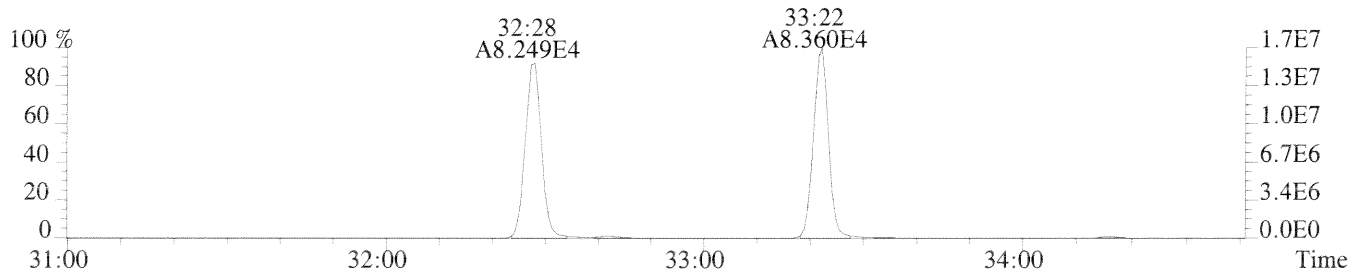
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1448.0,1.00%,F,T)



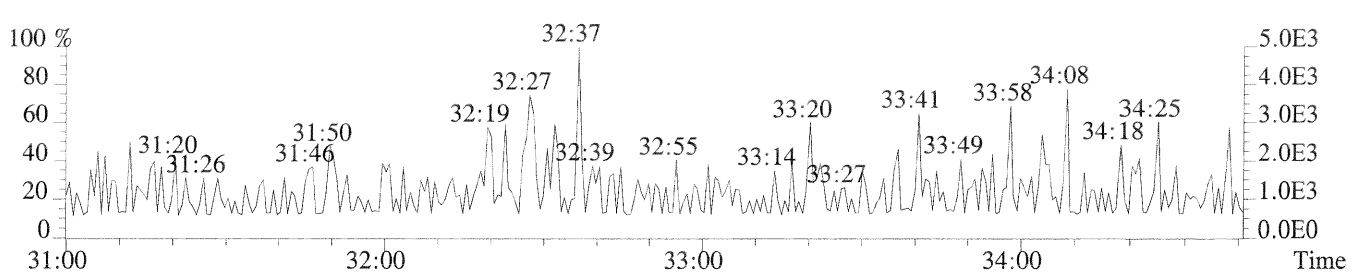
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)



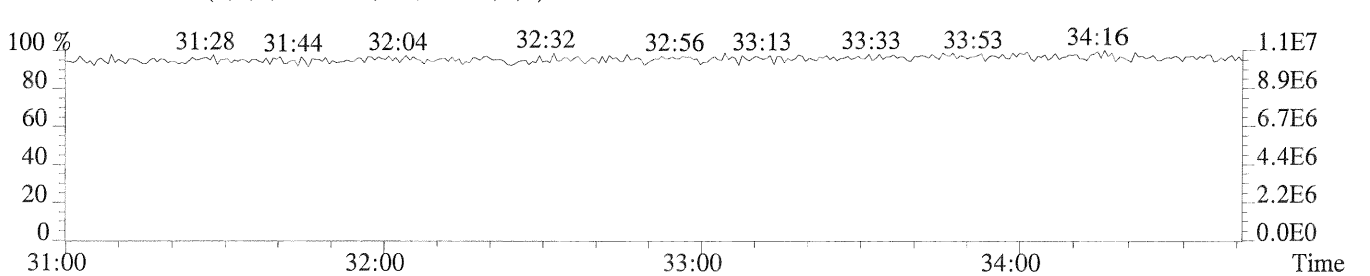
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



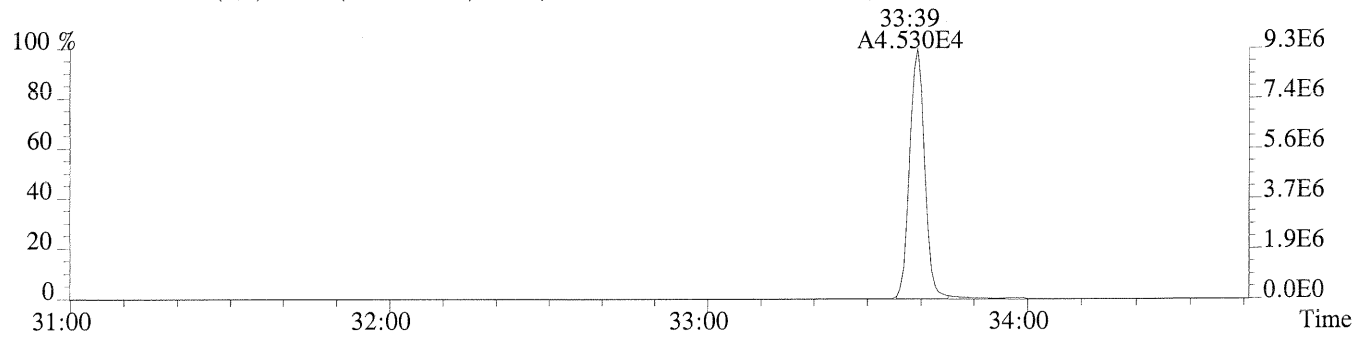
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



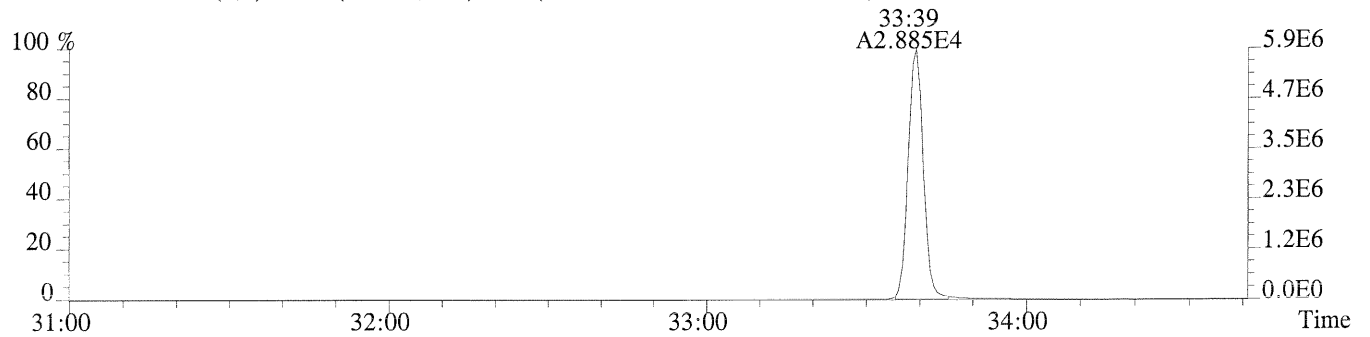


Sample#1 Exp:ICAL CS3

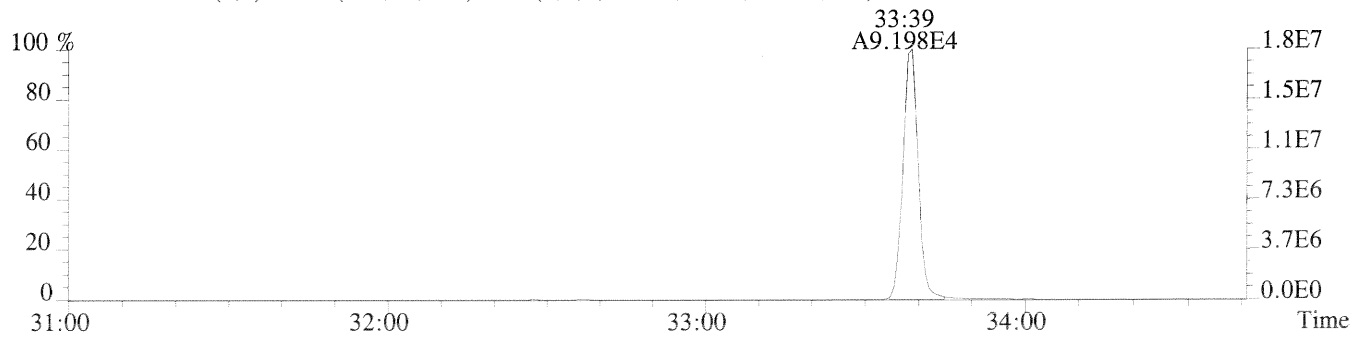
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,768.0,1.00%,F,T)



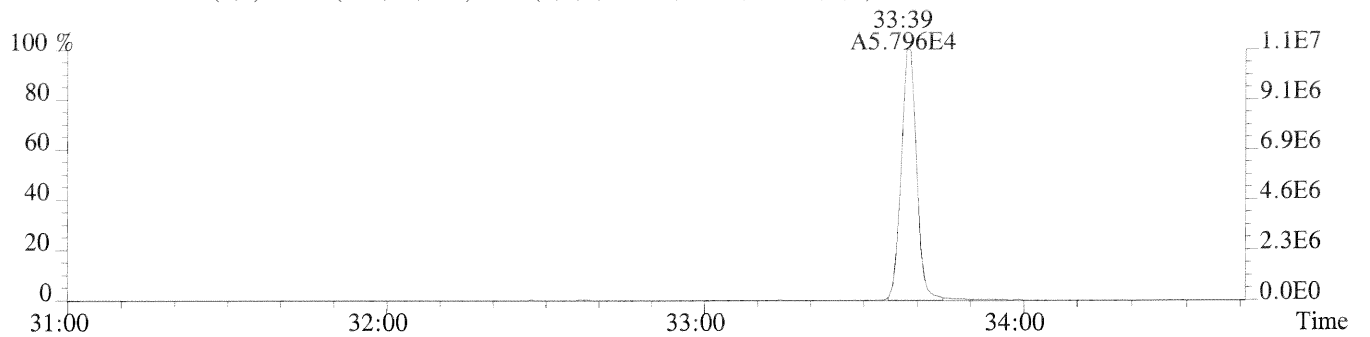
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,T)



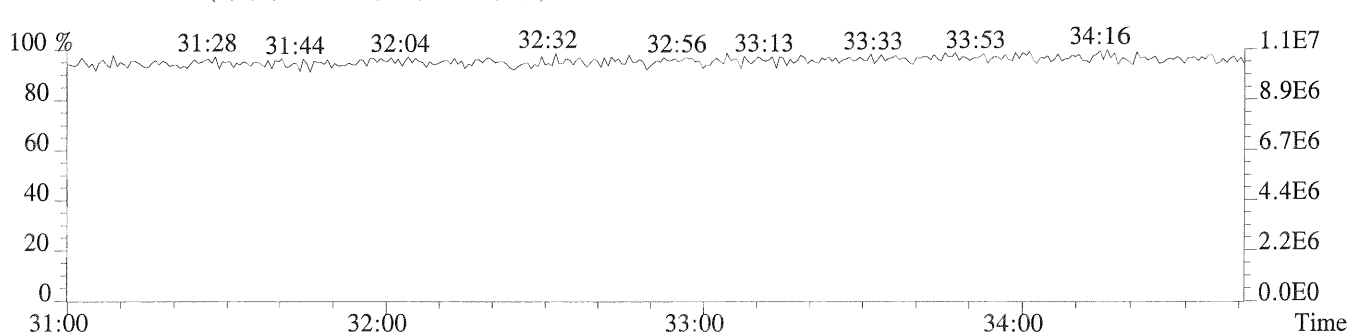
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)

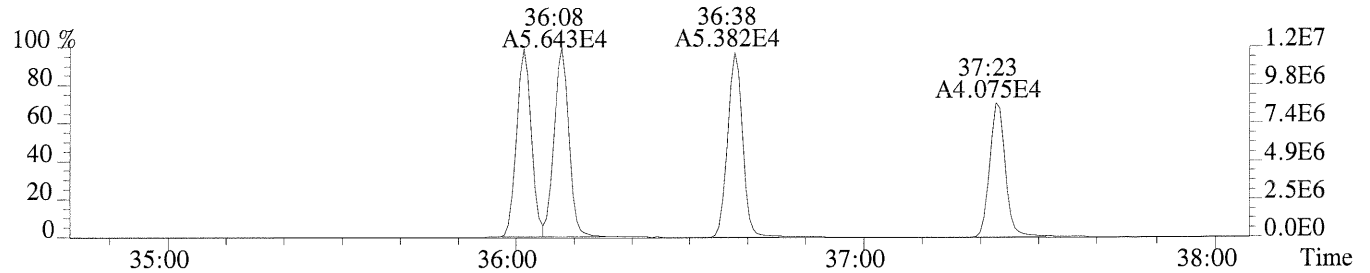


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

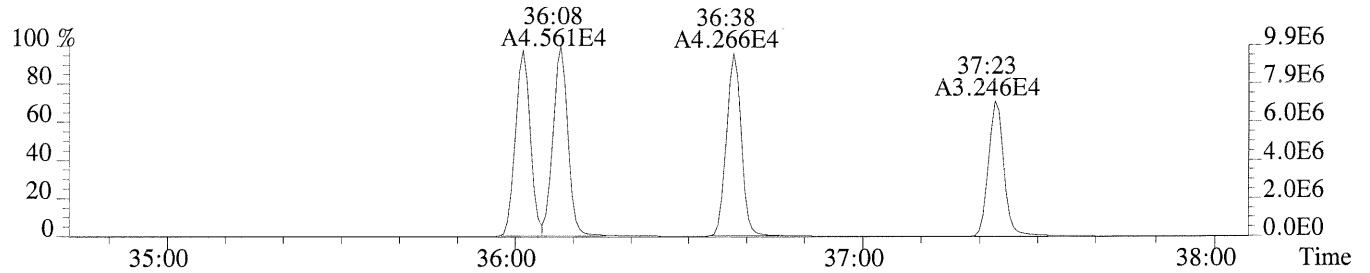


Sample#1 Exp:ICAL CS3

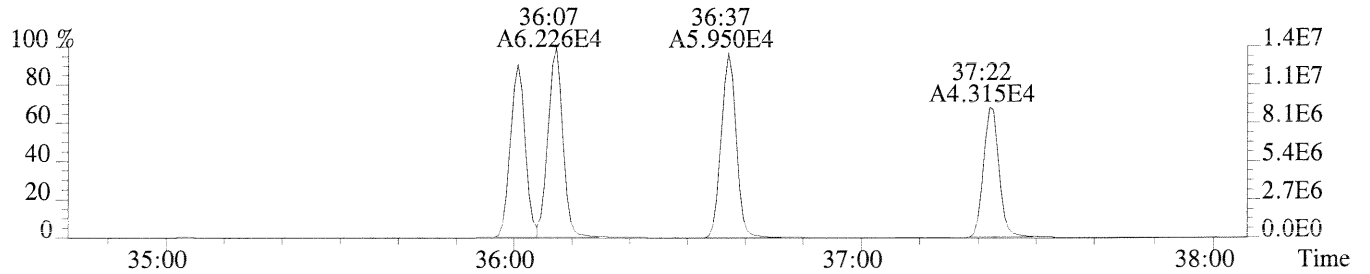
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,T)



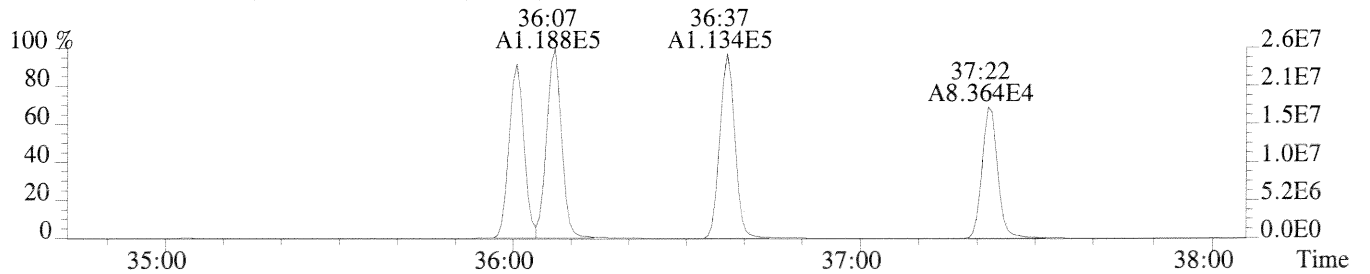
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.40%,F,T)



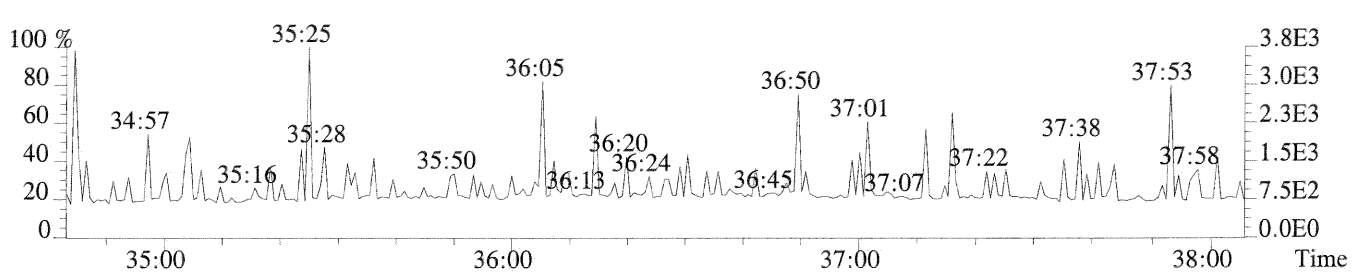
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



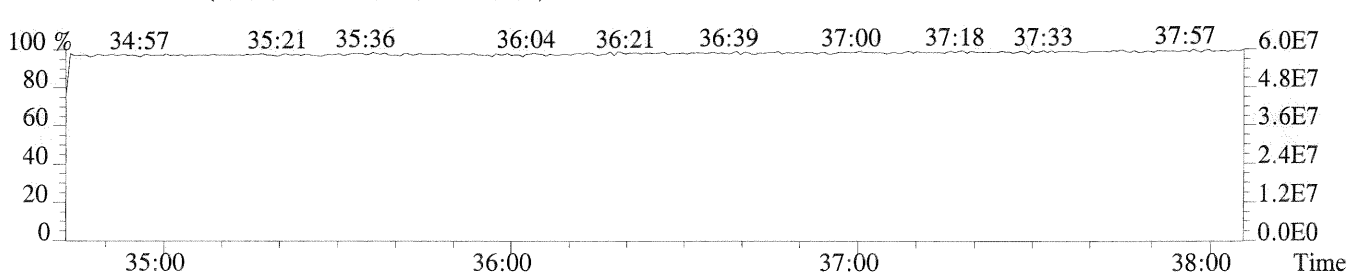
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2052.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

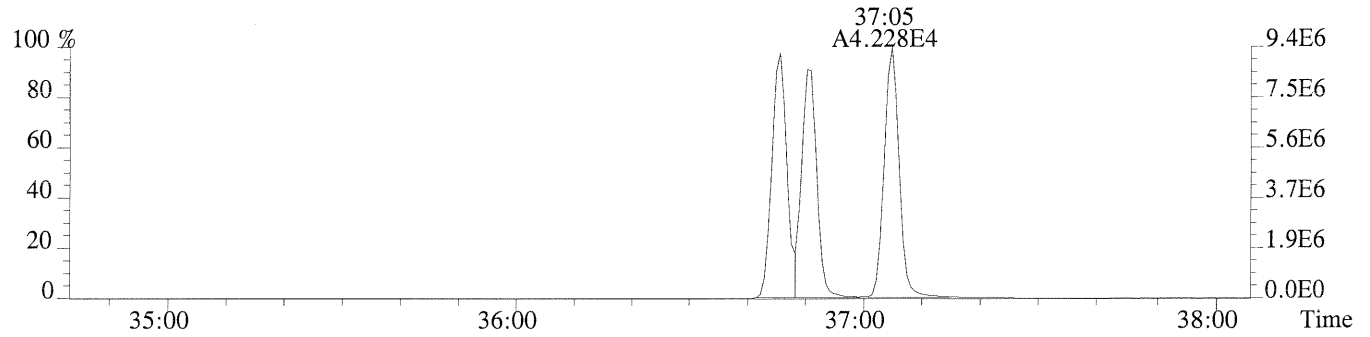


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

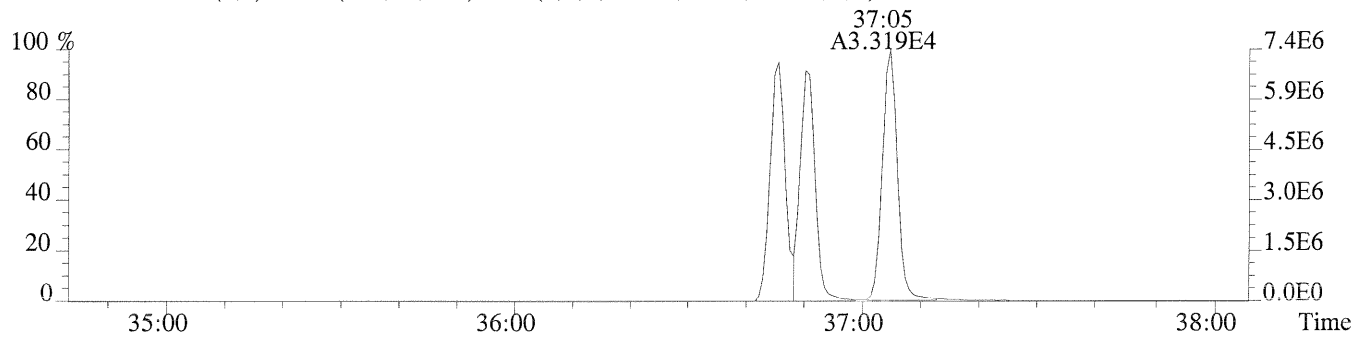


Sample#1 Exp:ICAL CS3

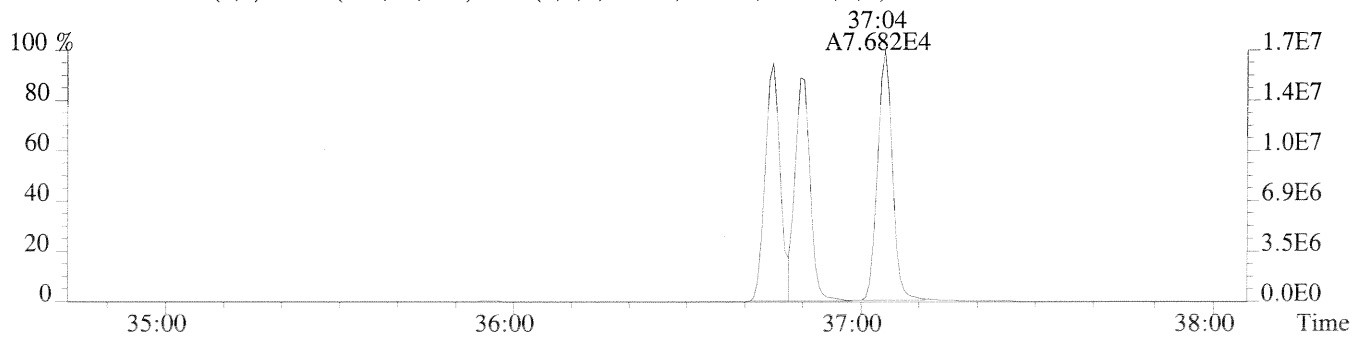
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,T)



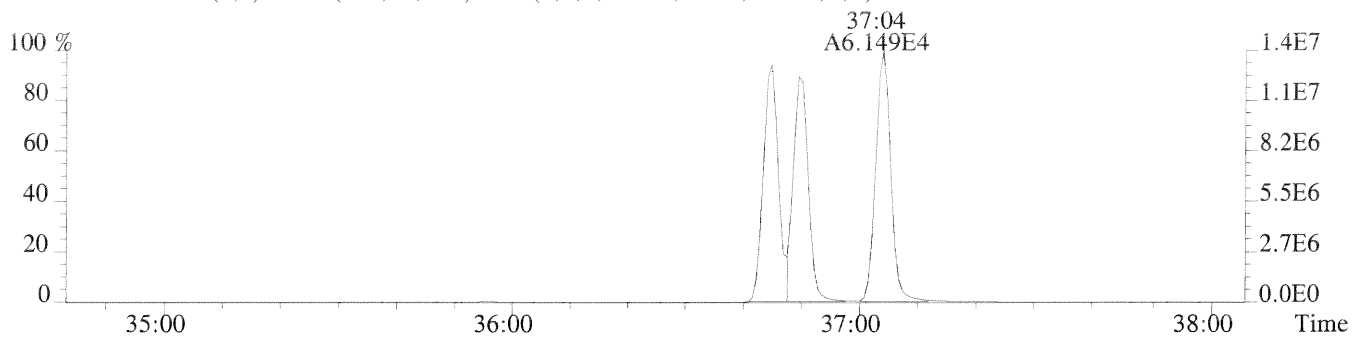
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



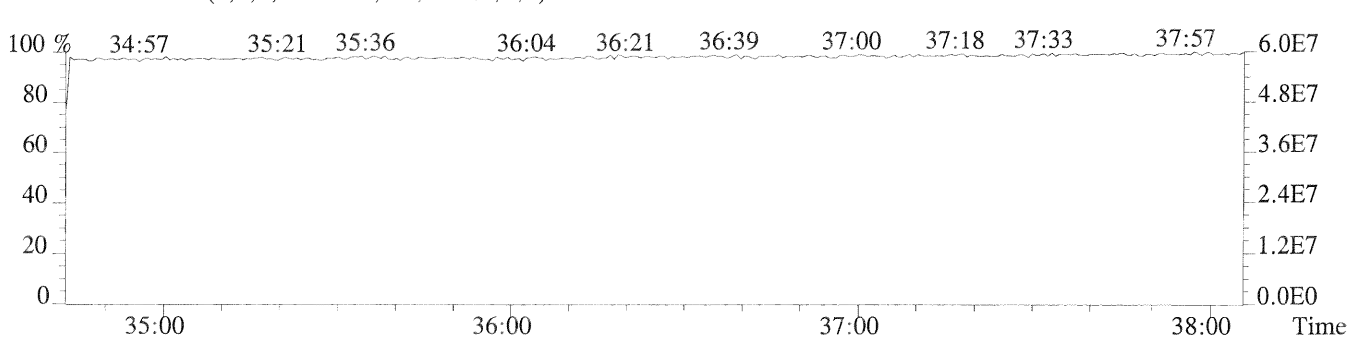
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1396.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)

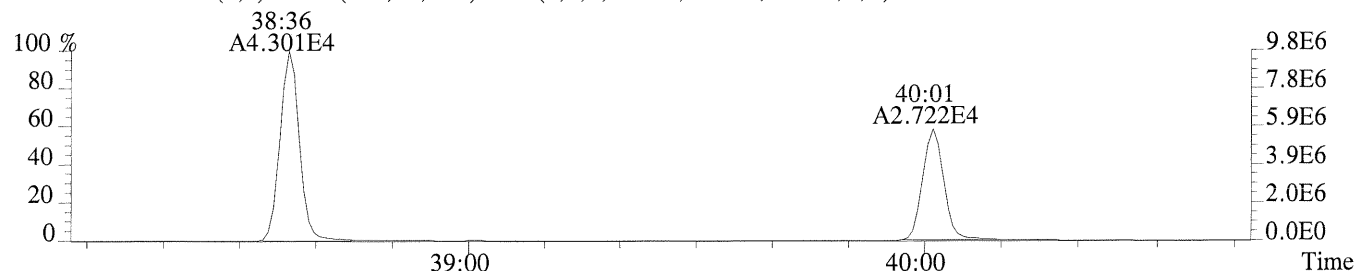


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

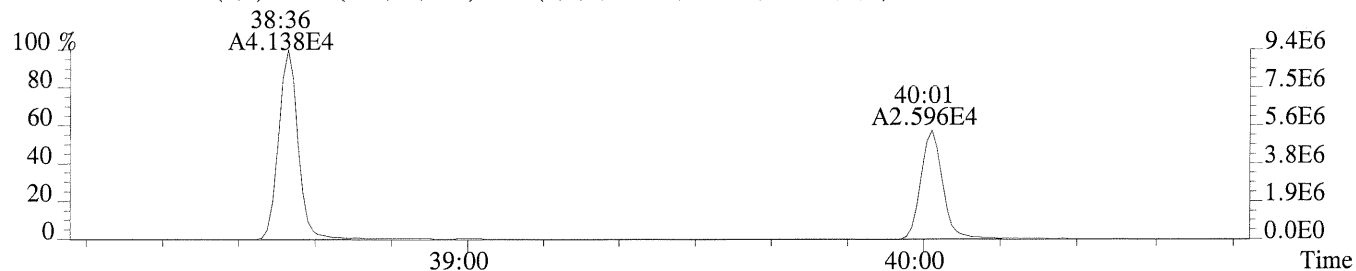


Sample#1 Exp:ICAL CS3

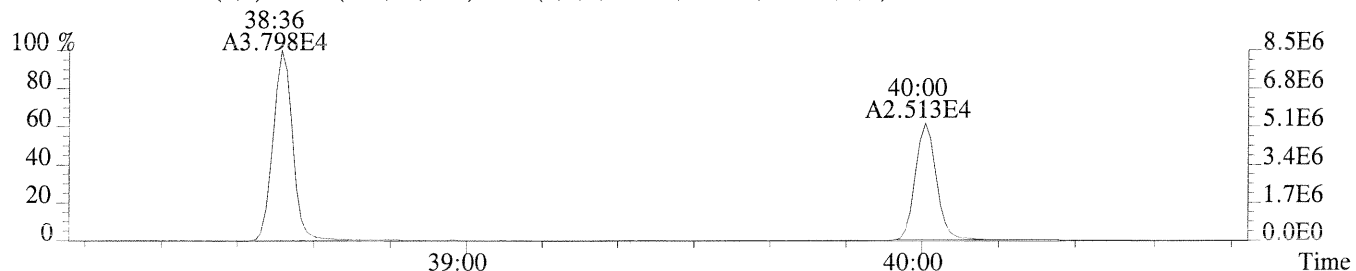
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7052.0,0.50%,F,T)



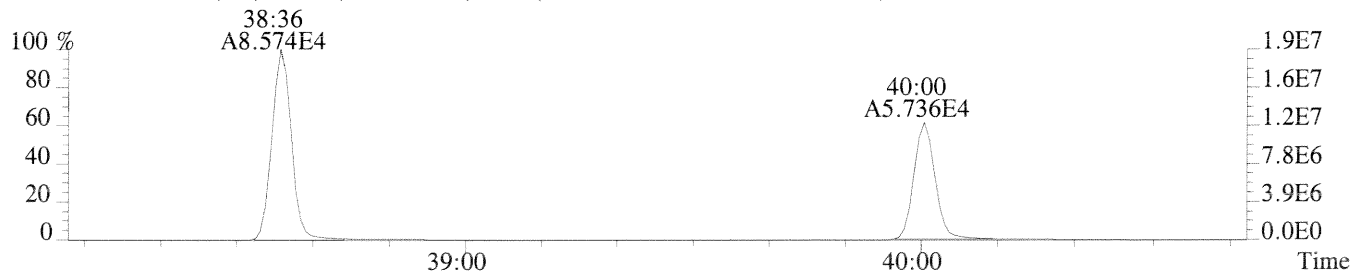
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6244.0,0.50%,F,T)



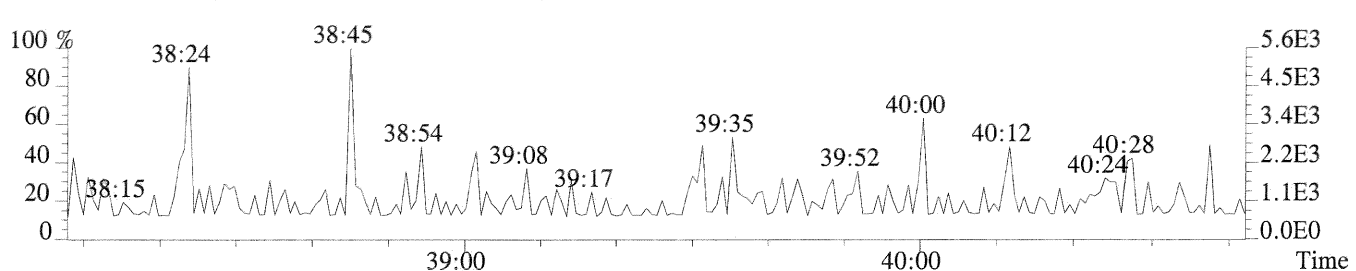
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1844.0,0.50%,F,T)



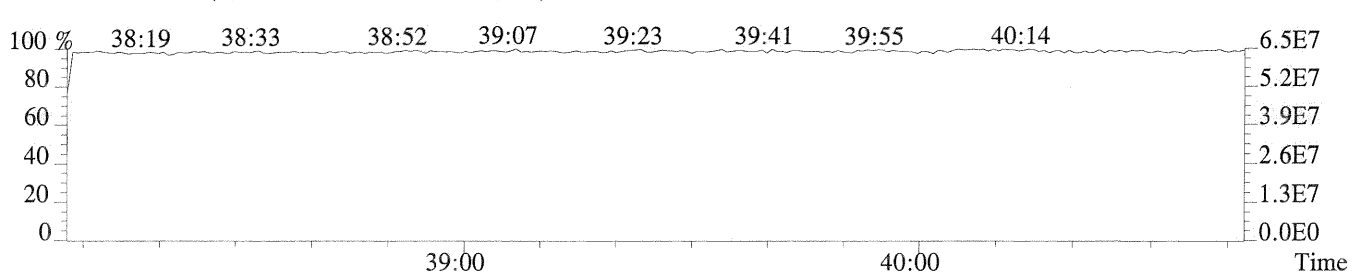
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5436.0,0.50%,F,T)

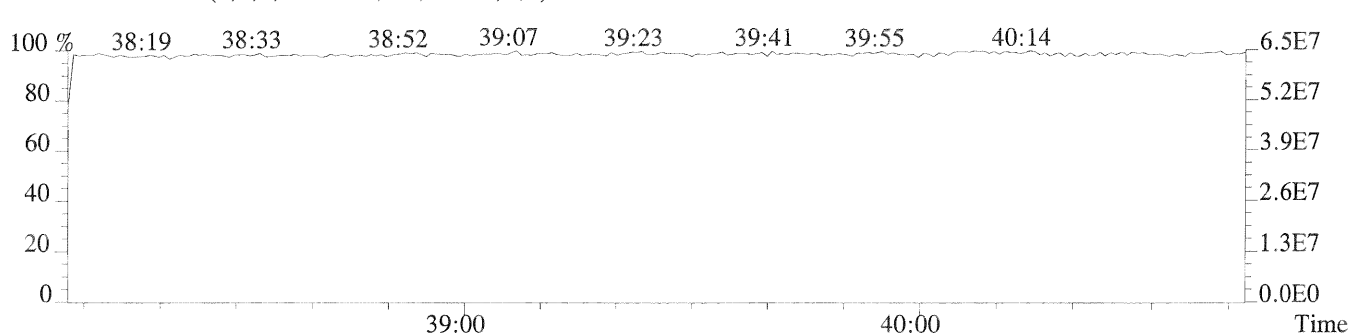
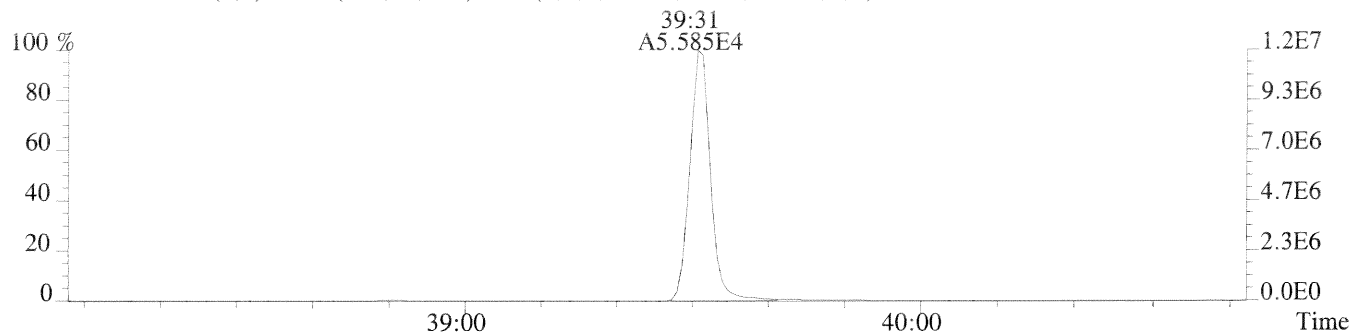
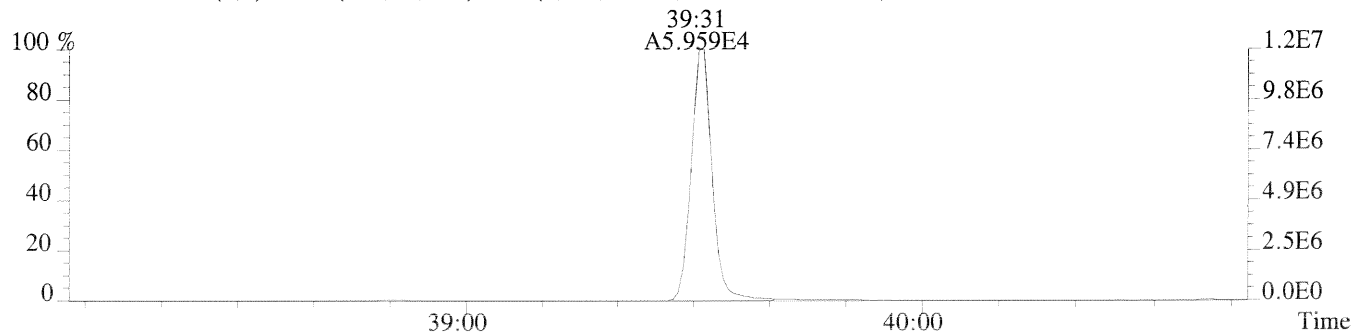
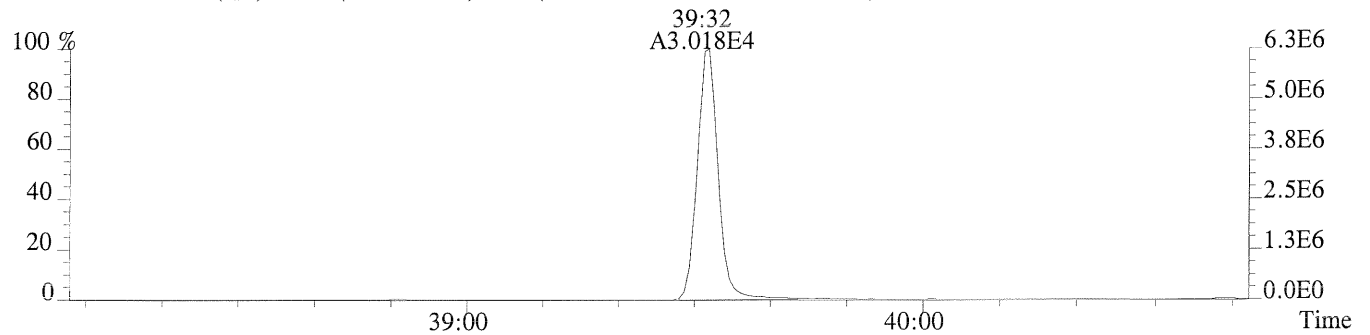
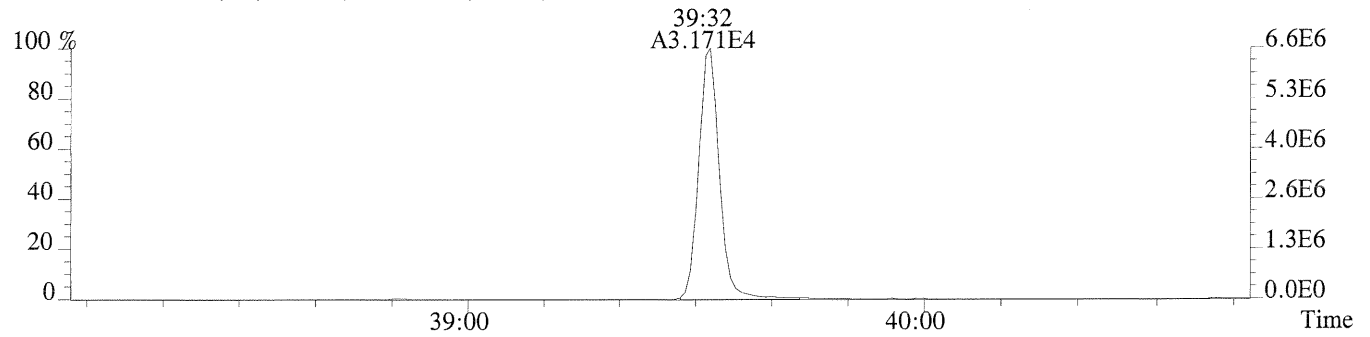


479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

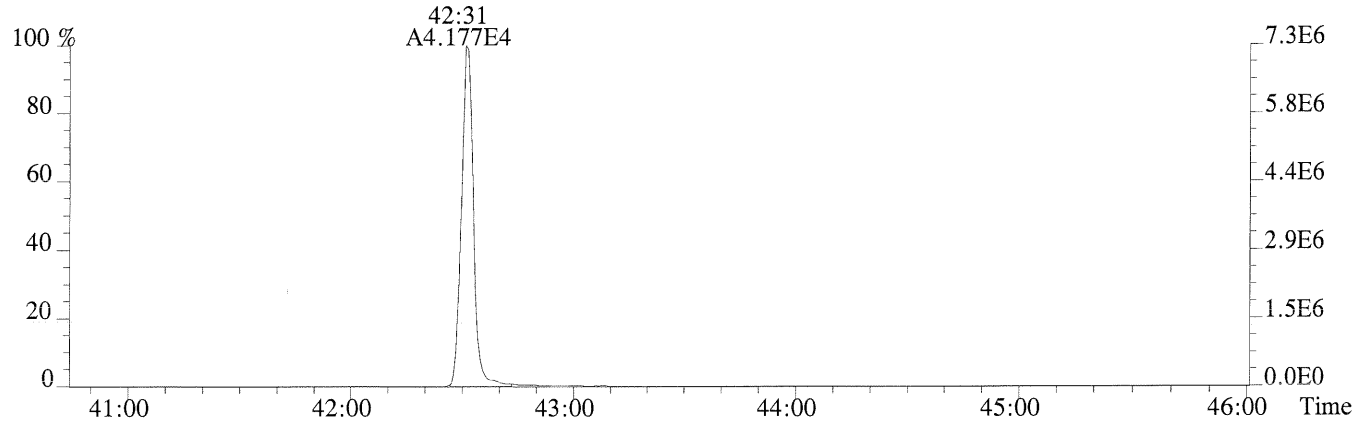




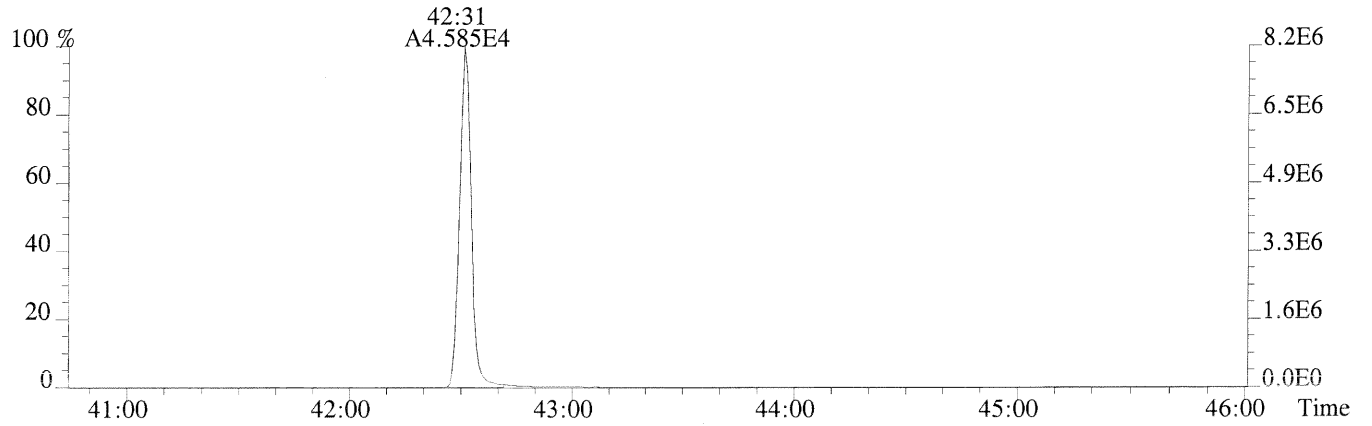
File:P230733 #1-485 Acq:24-AUG-2014 13:46:32 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS3

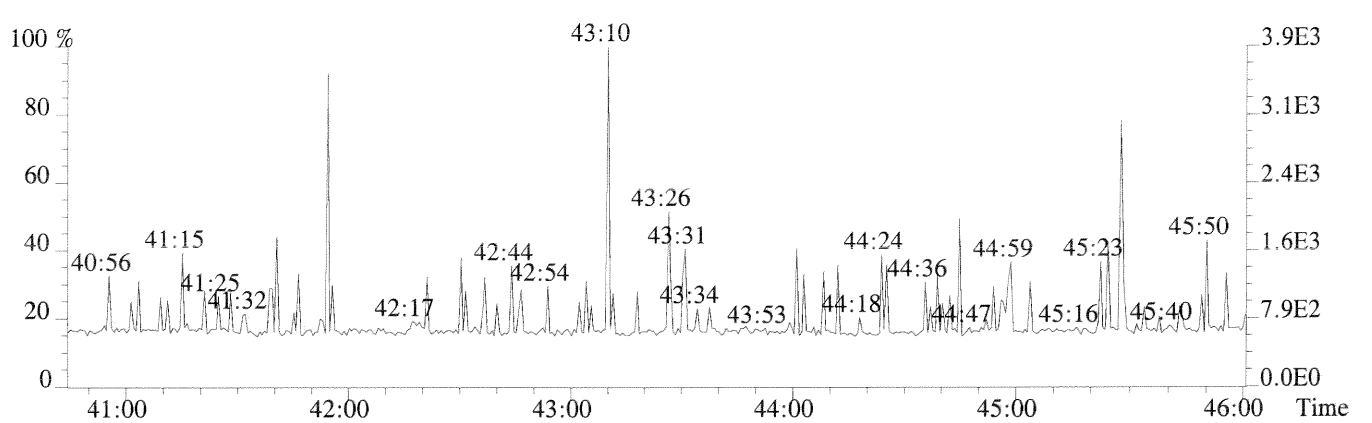
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,T)



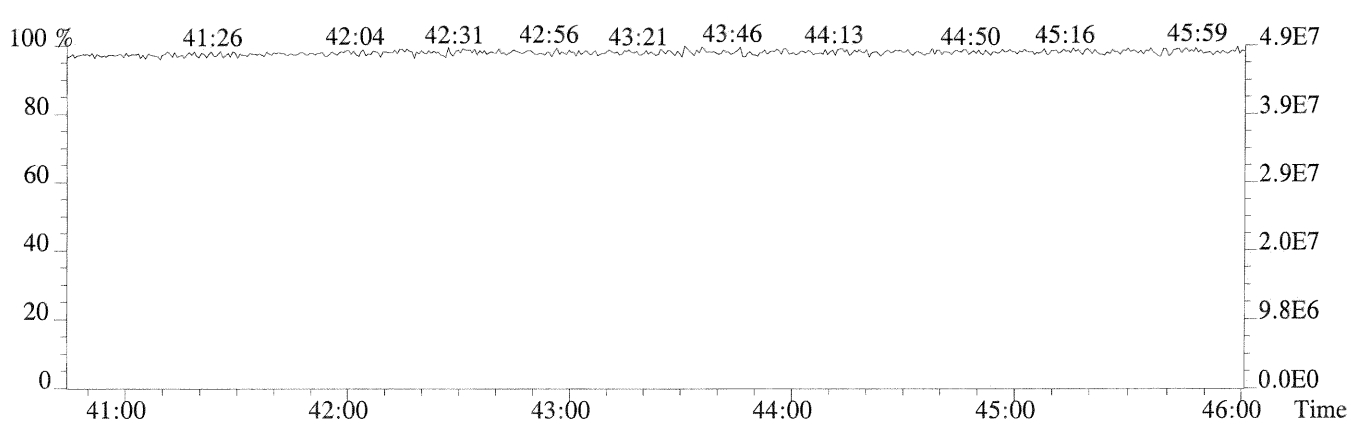
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1040.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



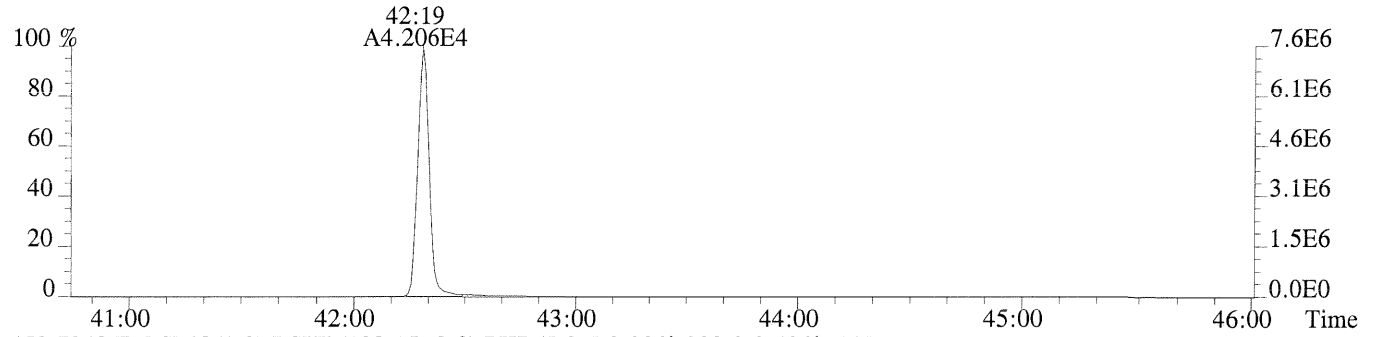
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



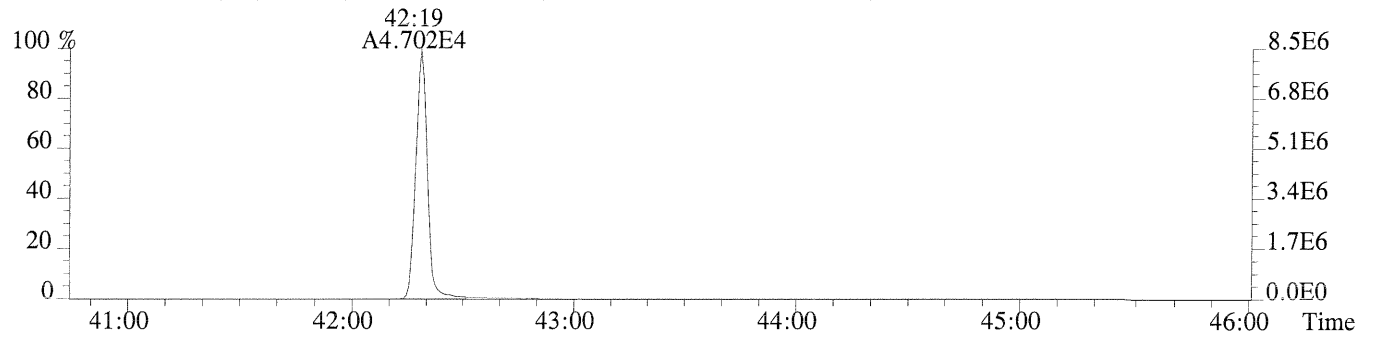
File:P230733 #1-485 Acq:24-AUG-2014 13:46:32 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS3

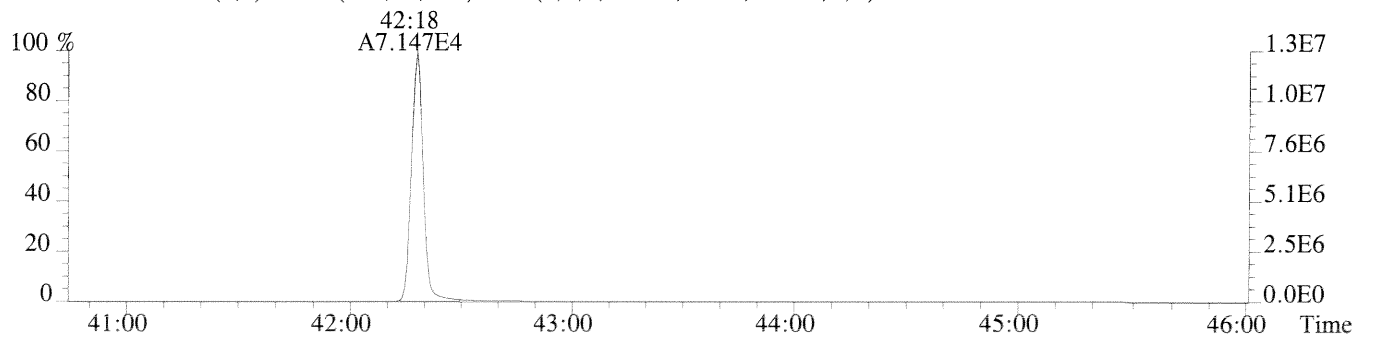
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,312.0,0.40%,F,T)



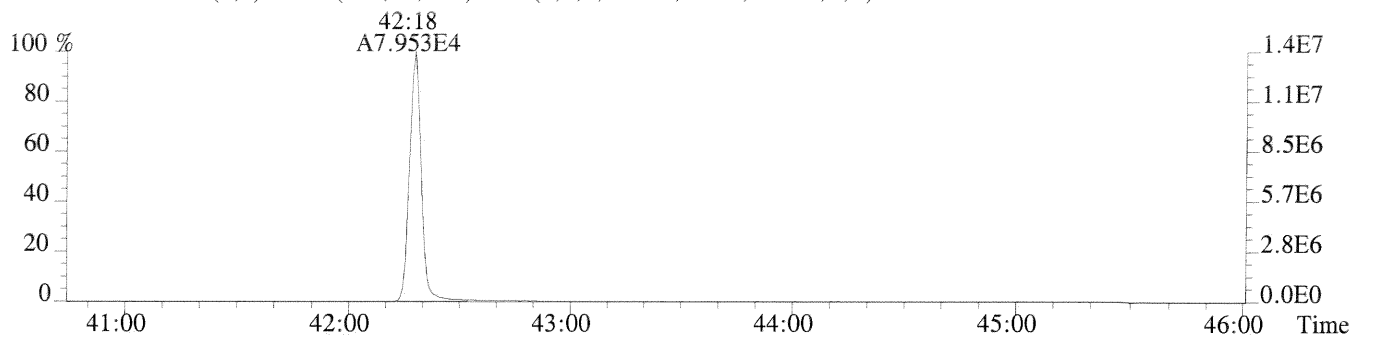
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,308.0,0.40%,F,T)



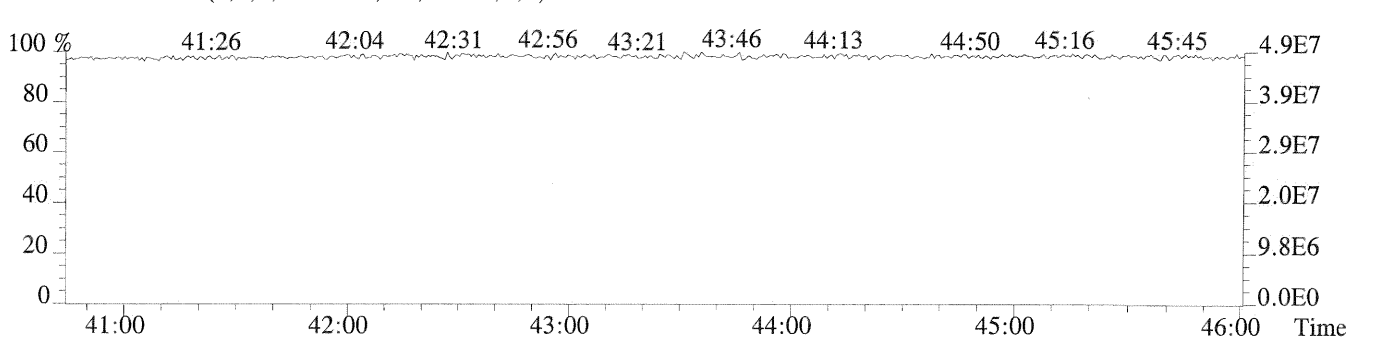
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,468.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,640.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS4

Run #5 Filename P230734 #1 Samp: 1 Inj: 1 Acquired: 24-AUG-14 14:34:24  
 Processed: 25-AUG-14 11:37:41 LAB. ID: D12-90-3D

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:20	2.471e+04	3.231e+04	0.76	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	2.279e+05	1.474e+05	1.55	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:23	2.144e+05	1.391e+05	1.54	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:02	1.842e+05	1.476e+05	1.25	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	1.901e+05	1.527e+05	1.24	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	1.817e+05	1.468e+05	1.24	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	1.343e+05	1.100e+05	1.22	yes	yes	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:37	1.448e+05	1.411e+05	1.03	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:02	9.292e+04	8.956e+04	1.04	yes	no	1.000
10	Unk	OCDF	42:32	1.500e+05	1.663e+05	0.90	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:07	1.812e+04	2.367e+04	0.77	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	1.541e+05	9.662e+04	1.59	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	1.353e+05	1.074e+05	1.26	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:51	1.370e+05	1.091e+05	1.26	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	1.424e+05	1.137e+05	1.25	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:32	1.066e+05	1.028e+05	1.04	yes	no	1.000
17	Unk	OCDD	42:19	1.463e+05	1.638e+05	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:19	6.314e+04	7.869e+04	0.80	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	32:28	1.104e+05	7.012e+04	1.57	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	1.116e+05	7.003e+04	1.59	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	4.643e+04	9.058e+04	0.51	yes	yes	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	5.159e+04	1.006e+05	0.51	yes	yes	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:38	4.929e+04	9.619e+04	0.51	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:23	3.667e+04	7.025e+04	0.52	yes	no	1.009
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	3.153e+04	7.193e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:01	2.167e+04	4.911e+04	0.44	yes	no	1.080
27	IS	13C-2,3,7,8-TCDD	29:05	4.320e+04	5.469e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:39	7.658e+04	4.829e+04	1.59	yes	no	1.180
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	6.070e+04	4.757e+04	1.28	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	6.115e+04	4.830e+04	1.27	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	5.000e+04	4.681e+04	1.07	yes	no	1.066
32	IS	13C-OCDD	42:18	6.151e+04	6.761e+04	0.91	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:31	4.355e+04	5.472e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:04	6.651e+04	5.234e+04	1.27	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:06	4.236e+04				no	1.020

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METHOD 1613B/8290A  
Signal/Noise Height Ratio Summary

CLIENT ID.  
CS4

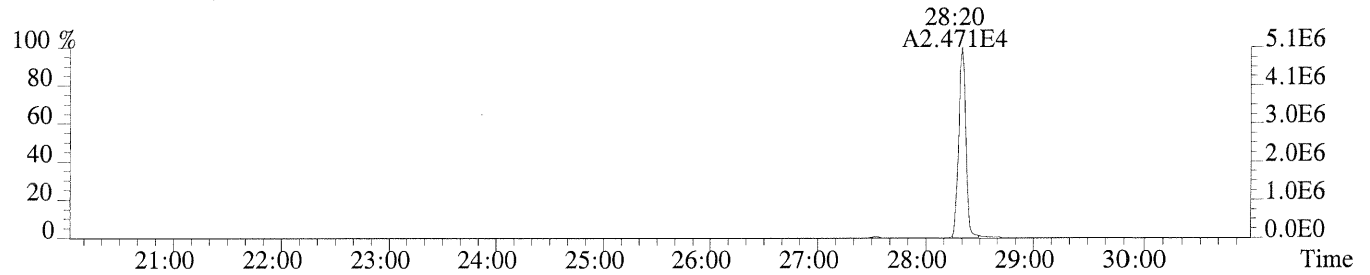
Run #5    Filename P230734    Samp: 1    Inj: 1    Acquired: 24-AUG-14 14:34:24  
Processed: 25-AUG-14 11:37:41    LAB. ID: D12-90-3D

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.08e+06	3.12e+02	1.6e+04	6.75e+06	1.83e+03	3.7e+03
2	1,2,3,7,8-PeCDF	4.31e+07	4.20e+02	1.0e+05	2.78e+07	1.94e+03	1.4e+04
3	2,3,4,7,8-PeCDF	4.30e+07	4.20e+02	1.0e+05	2.76e+07	1.94e+03	1.4e+04
4	1,2,3,4,7,8-HxCDF	3.98e+07	1.15e+03	3.5e+04	3.16e+07	6.64e+02	4.8e+04
5	1,2,3,6,7,8-HxCDF	4.06e+07	1.15e+03	3.5e+04	3.28e+07	6.64e+02	4.9e+04
6	2,3,4,6,7,8-HxCDF	4.06e+07	1.15e+03	3.5e+04	3.24e+07	6.64e+02	4.9e+04
7	1,2,3,7,8,9-HxCDF	2.98e+07	1.15e+03	2.6e+04	2.38e+07	6.64e+02	3.6e+04
8	1,2,3,4,6,7,8-HpCDF	3.27e+07	1.28e+04	2.6e+03	3.14e+07	7.37e+03	4.3e+03
9	1,2,3,4,7,8,9-HpCDF	1.89e+07	1.28e+04	1.5e+03	1.81e+07	7.37e+03	2.5e+03
10	OCDF	2.68e+07	4.32e+02	6.2e+04	2.95e+07	1.11e+03	2.7e+04
11	2,3,7,8-TCDD	3.82e+06	7.40e+02	5.2e+03	4.99e+06	7.88e+02	6.3e+03
12	1,2,3,7,8-PeCDD	3.09e+07	1.06e+03	2.9e+04	1.96e+07	9.60e+01	2.0e+05
13	1,2,3,4,7,8-HxCDD	3.09e+07	4.80e+01	6.4e+05	2.47e+07	4.16e+02	5.9e+04
14	1,2,3,6,7,8-HxCDD	3.00e+07	4.80e+01	6.2e+05	2.40e+07	4.16e+02	5.8e+04
15	1,2,3,7,8,9-HxCDD	3.09e+07	4.80e+01	6.4e+05	2.48e+07	4.16e+02	6.0e+04
16	1,2,3,4,6,7,8-HpCDD	2.31e+07	1.70e+03	1.4e+04	2.23e+07	1.15e+03	1.9e+04
17	OCDD	2.64e+07	6.80e+01	3.9e+05	2.94e+07	6.04e+02	4.9e+04
18	13C-2,3,7,8-TCDF	1.29e+07	1.27e+03	1.0e+04	1.60e+07	9.52e+02	1.7e+04
19	13C-1,2,3,7,8-PeCDF	2.11e+07	1.52e+03	1.4e+04	1.35e+07	7.32e+02	1.8e+04
20	13C-2,3,4,7,8-PeCDF	2.27e+07	1.52e+03	1.5e+04	1.44e+07	7.32e+02	2.0e+04
21	13C-1,2,3,4,7,8-HxCDF	9.96e+06	4.56e+02	2.2e+04	1.94e+07	1.26e+03	1.5e+04
22	13C-1,2,3,6,7,8-HxCDF	1.10e+07	4.56e+02	2.4e+04	2.15e+07	1.26e+03	1.7e+04
23	13C-2,3,4,6,7,8-HxCDF	1.10e+07	4.56e+02	2.4e+04	2.10e+07	1.26e+03	1.7e+04
24	13C-1,2,3,7,8,9-HxCDF	8.04e+06	4.56e+02	1.8e+04	1.52e+07	1.26e+03	1.2e+04
25	13C-1,2,3,4,6,7,8-HpCDF	7.07e+06	3.46e+03	2.0e+03	1.62e+07	4.17e+03	3.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.38e+06	3.46e+03	1.3e+03	9.92e+06	4.17e+03	2.4e+03
27	13C-2,3,7,8-TCDD	9.31e+06	4.59e+03	2.0e+03	1.19e+07	1.78e+03	6.7e+03
28	13C-1,2,3,7,8-PeCDD	1.55e+07	7.72e+02	2.0e+04	9.80e+06	4.24e+02	2.3e+04
29	13C-1,2,3,4,7,8-HxCDD	1.38e+07	1.18e+03	1.2e+04	1.09e+07	5.24e+02	2.1e+04
30	13C-1,2,3,6,7,8-HxCDD	1.33e+07	1.18e+03	1.1e+04	1.06e+07	5.24e+02	2.0e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.09e+07	1.02e+03	1.1e+04	1.02e+07	6.76e+02	1.5e+04
32	13C-OCDD	1.10e+07	5.44e+02	2.0e+04	1.19e+07	3.48e+02	3.4e+04
33	13C-1,2,3,4-TCDD	9.36e+06	4.59e+03	2.0e+03	1.17e+07	1.78e+03	6.6e+03
34	13C-1,2,3,7,8,9-HxCDD	1.42e+07	1.18e+03	1.2e+04	1.13e+07	5.24e+02	2.2e+04
35	37Cl-2,3,7,8-TCDD	8.87e+06	8.08e+02	1.1e+04			

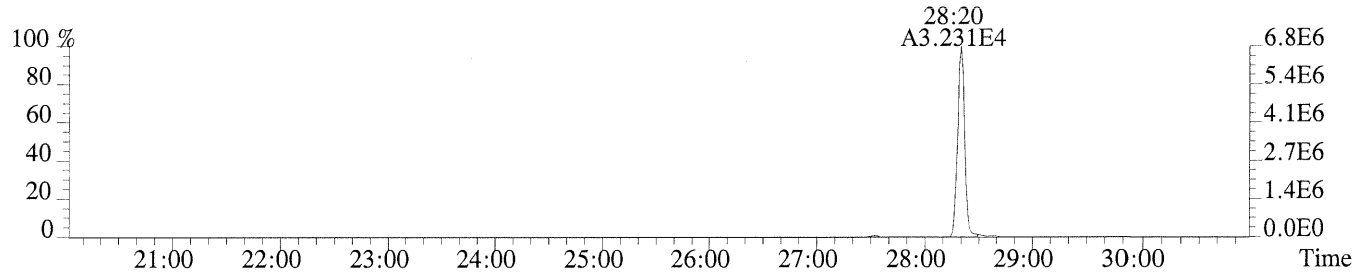
ALS ENVIRONMENTAL  
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Houston, TX 77099  
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XLSN

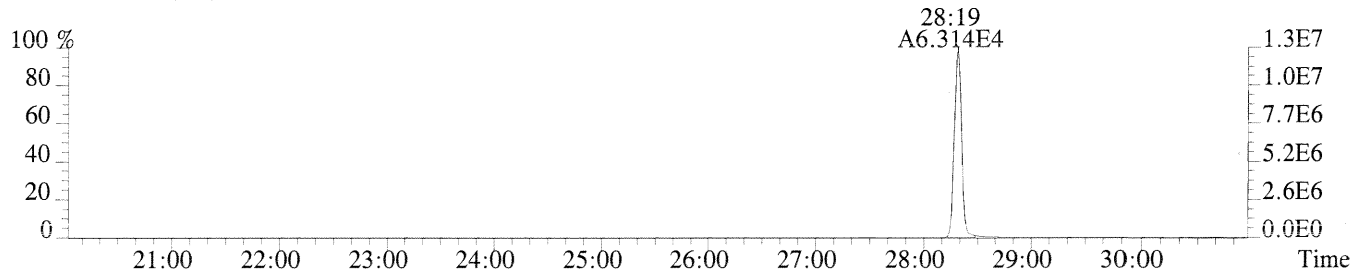
File:P230734 #1-687 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)



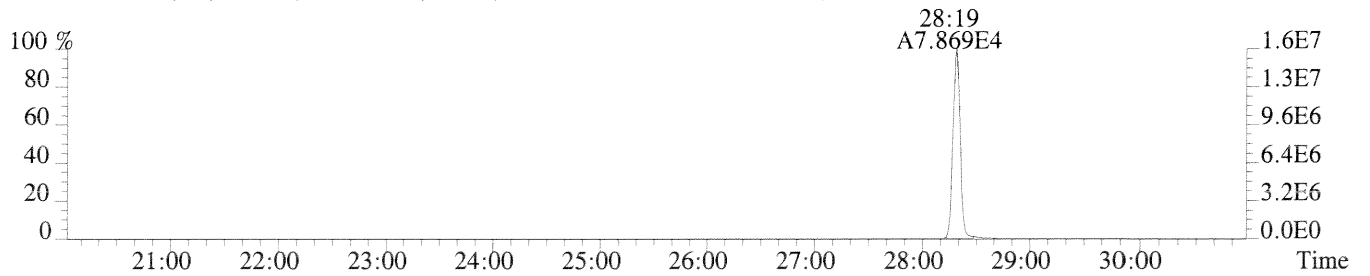
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1828.0,1.00%,F,T)



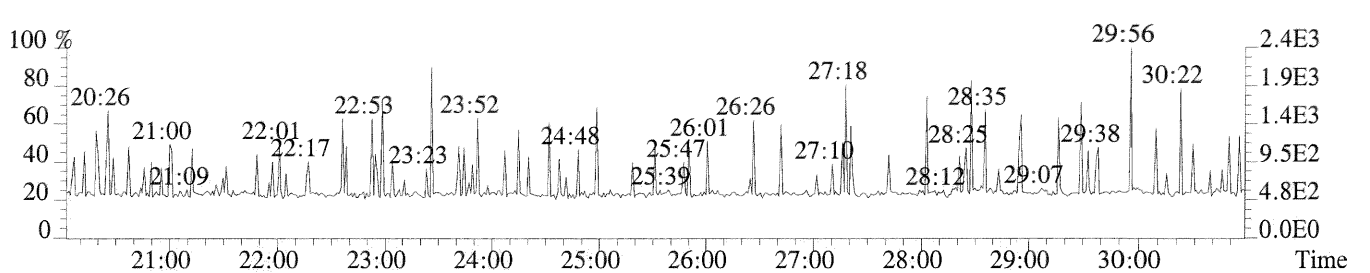
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1268.0,1.00%,F,T)



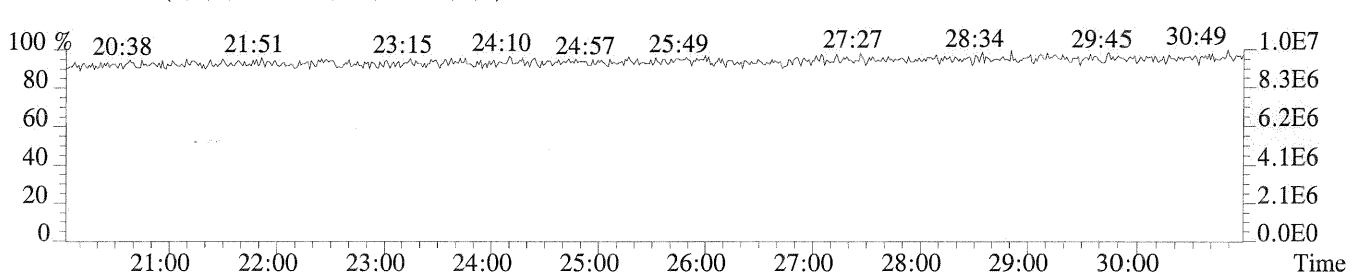
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

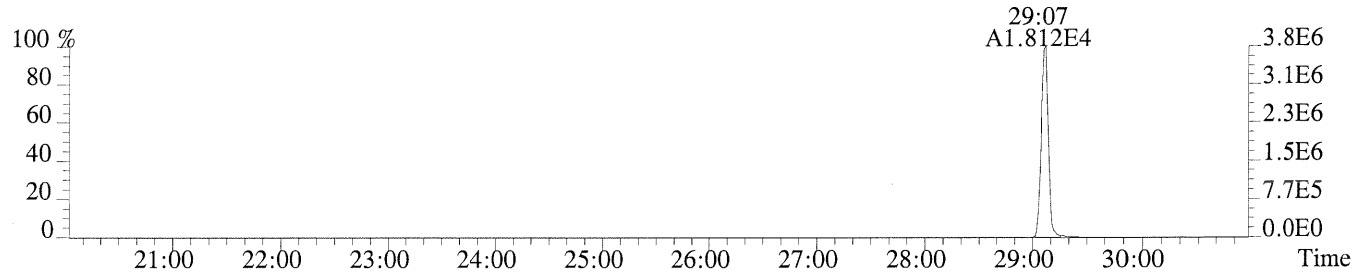


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

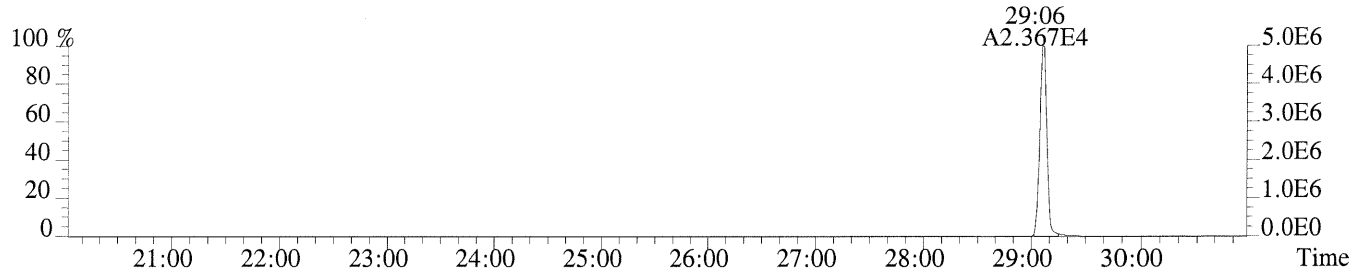


Sample#1 Exp:ICAL CS4

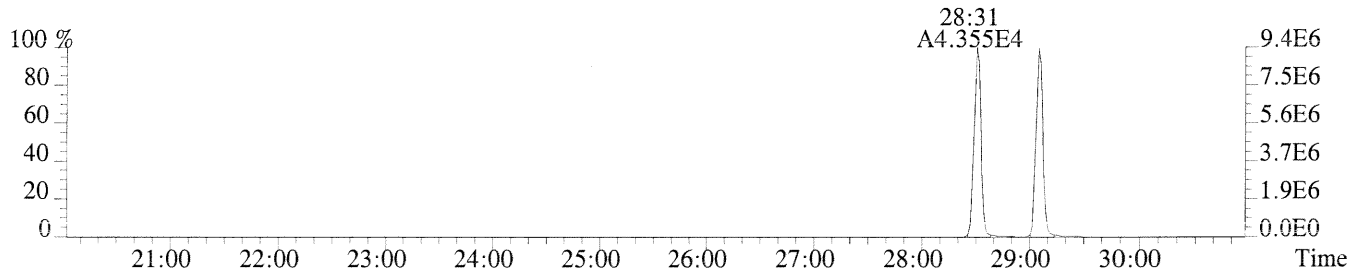
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



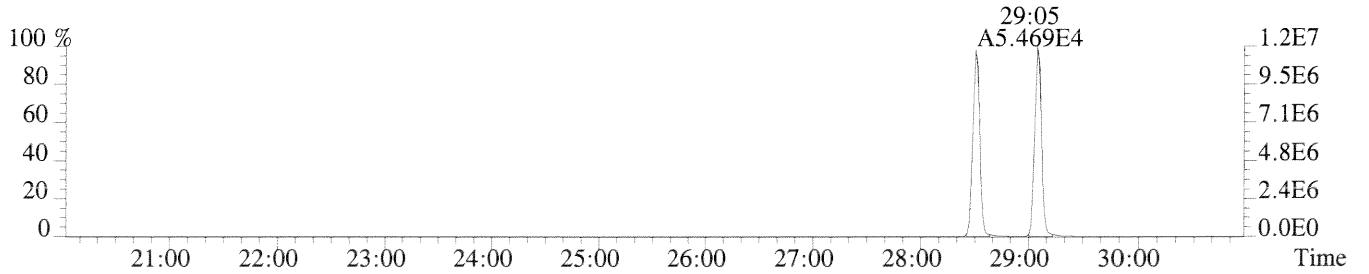
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



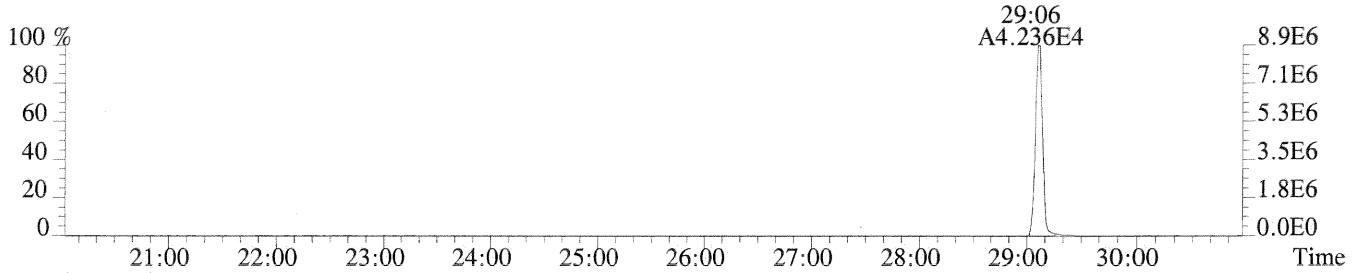
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4592.0,1.00%,F,T)



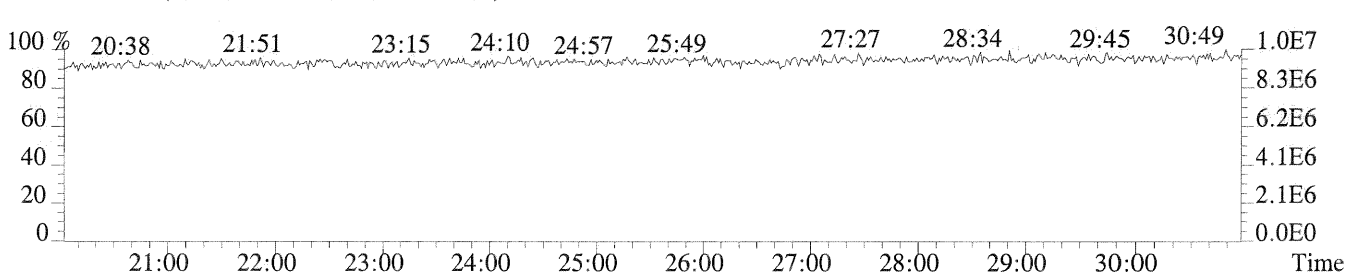
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1784.0,1.00%,F,T)



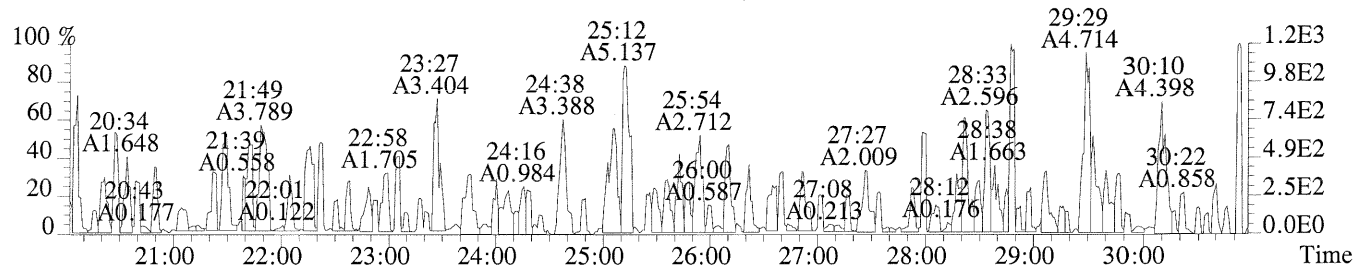
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



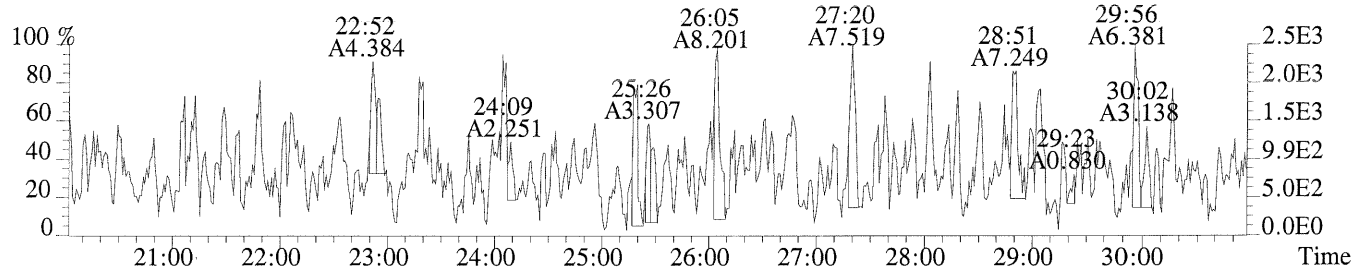
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



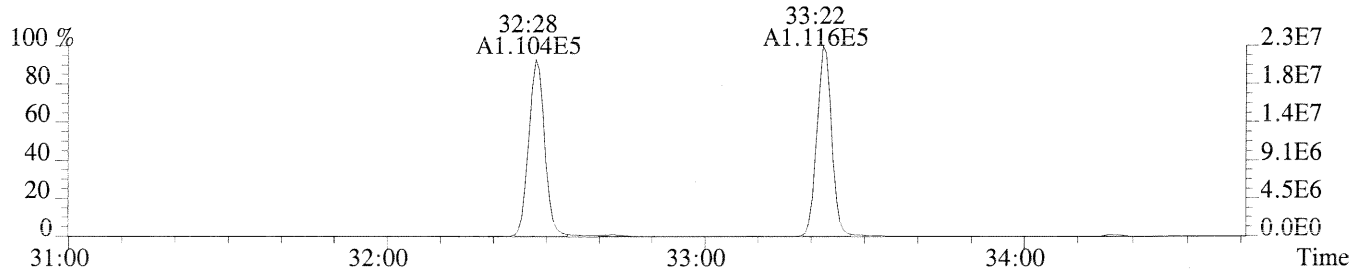
File:P230734 #1-687 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,44.0,1.00%,F,T)



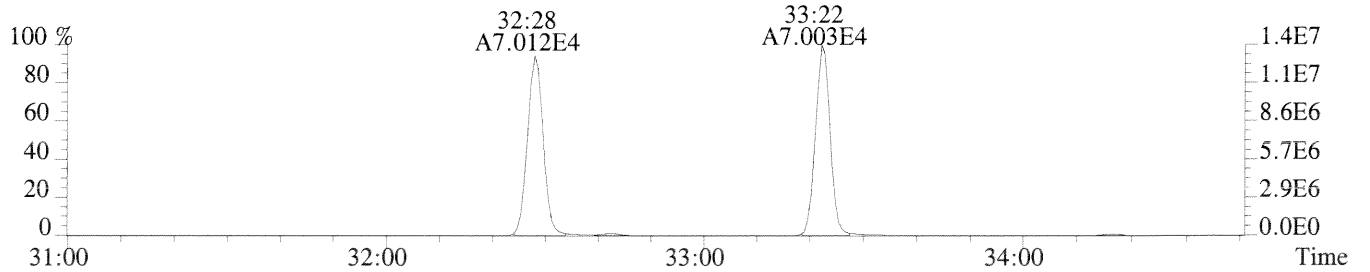
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,T)



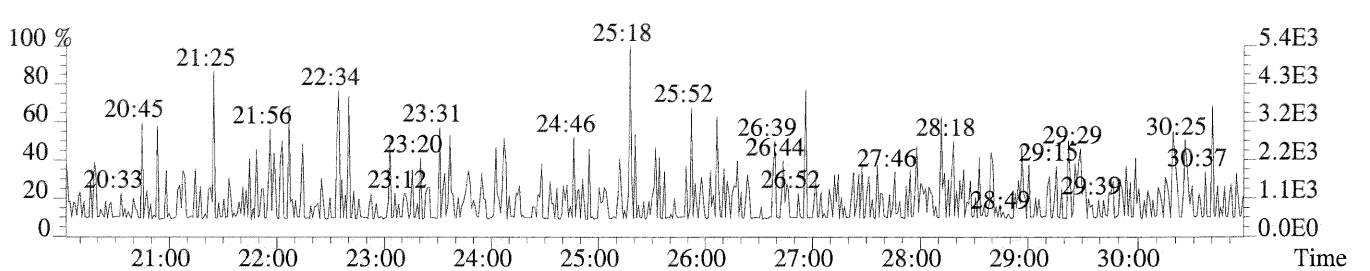
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



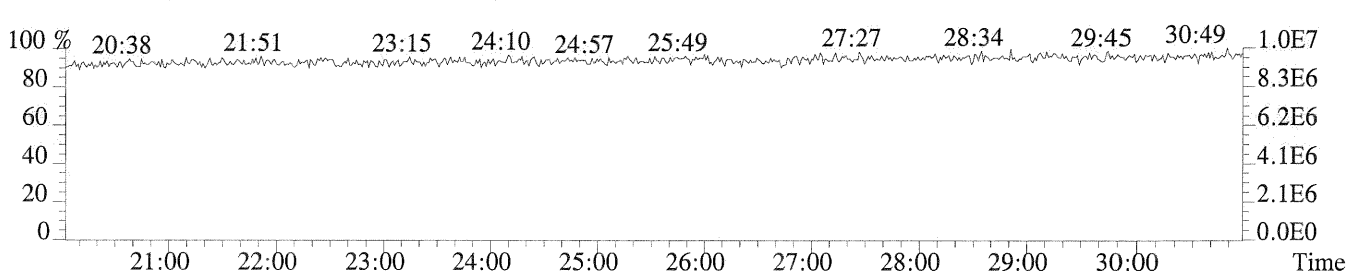
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

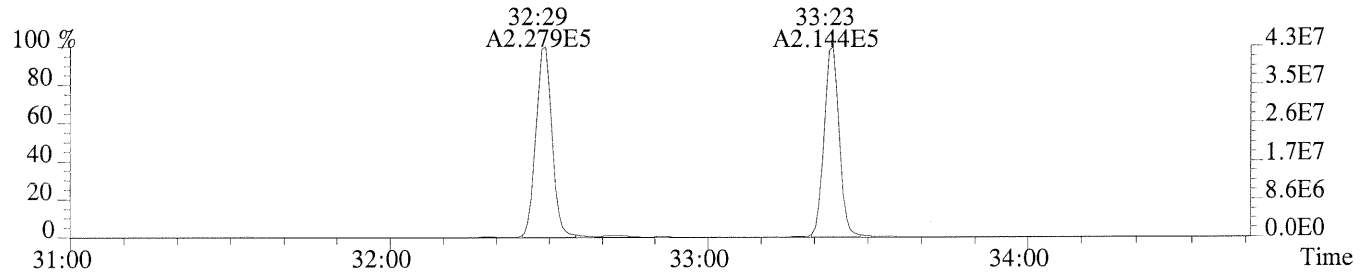


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

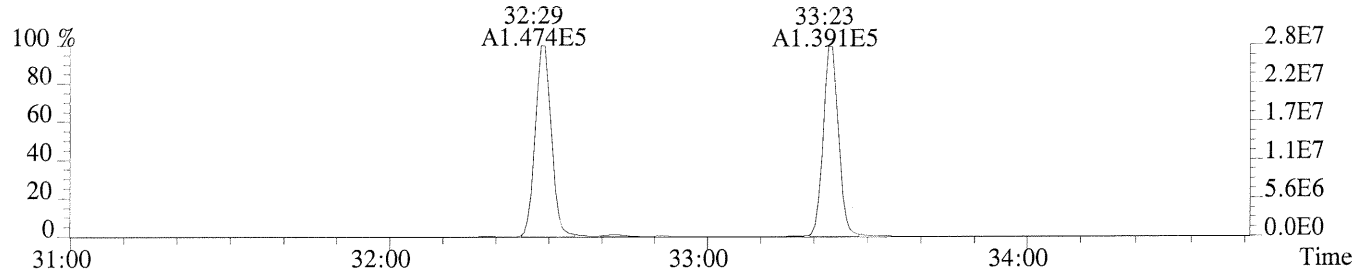


File:P230734 #1-335 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4

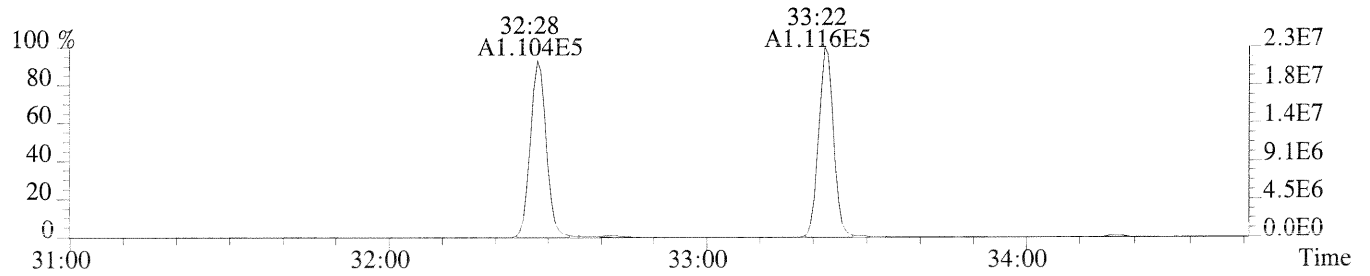
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,T)



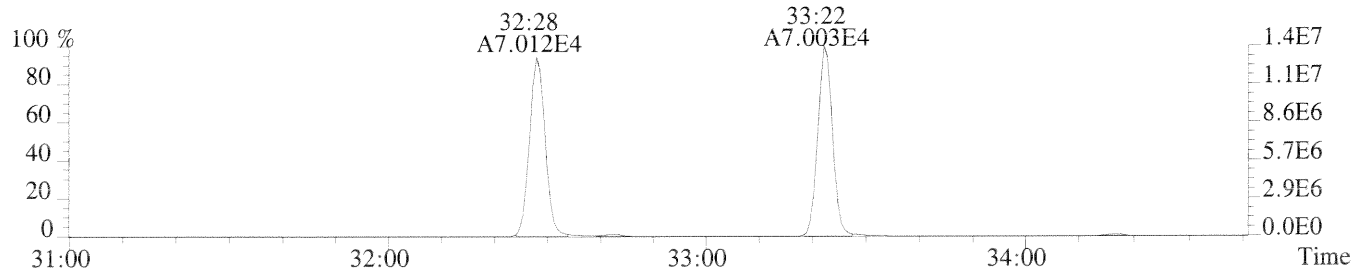
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,T)



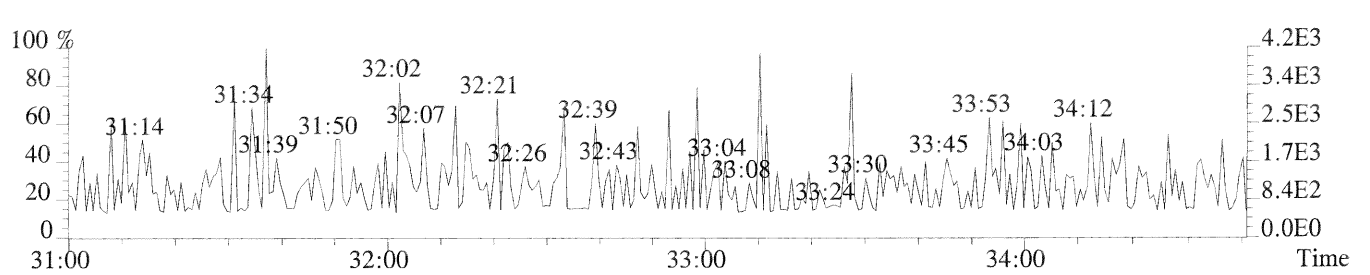
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



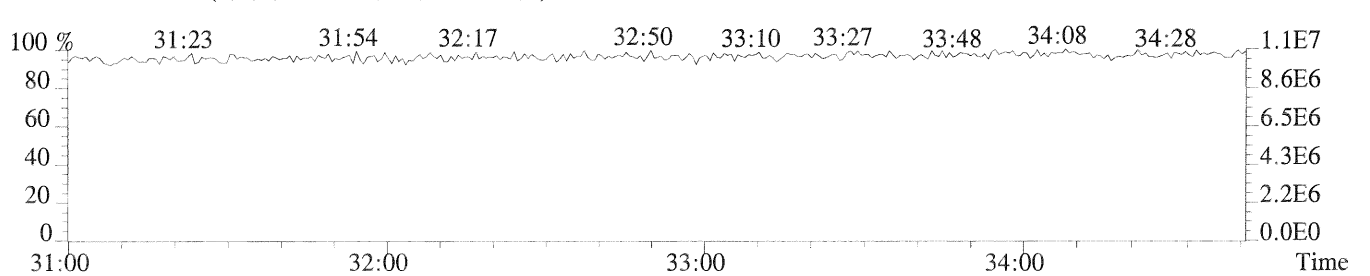
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

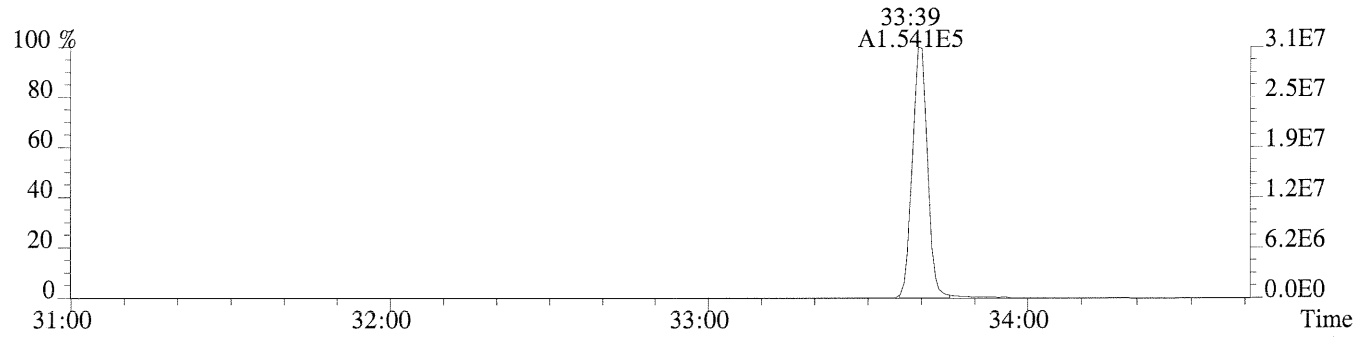


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

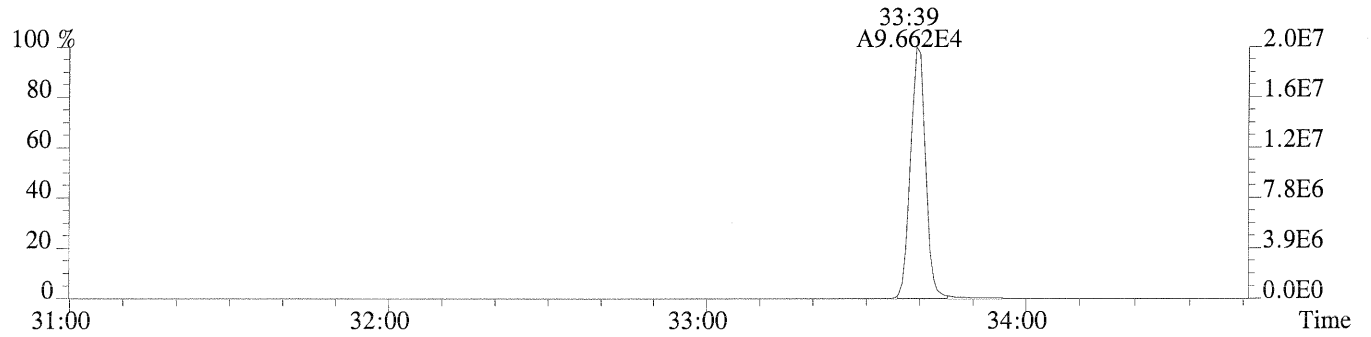


Sample#1 Exp:ICAL CS4

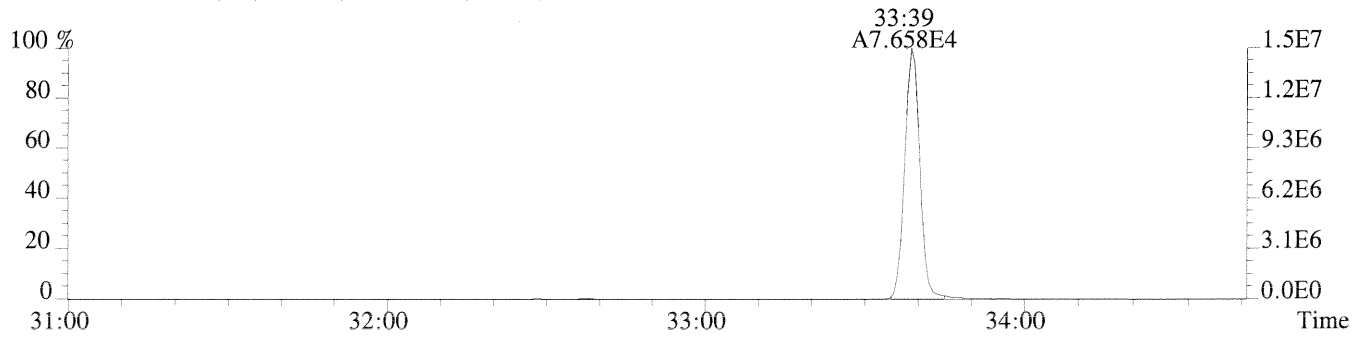
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)



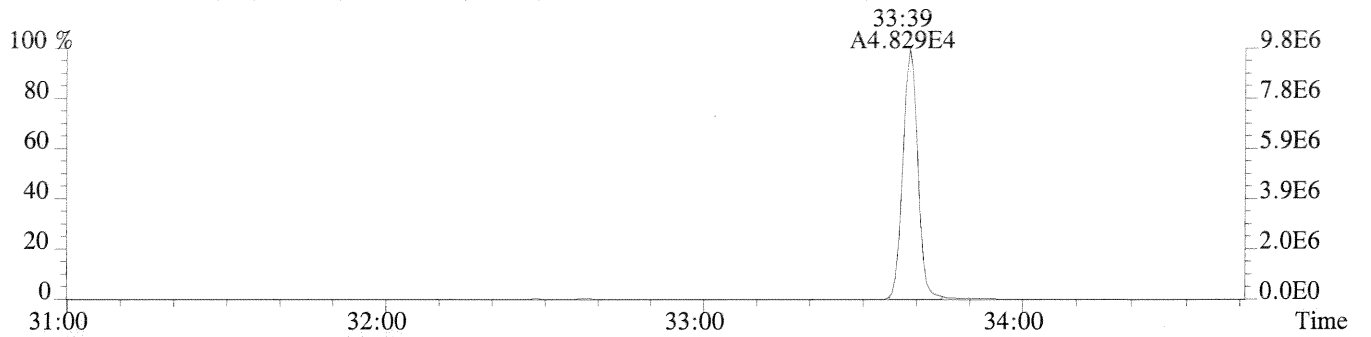
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



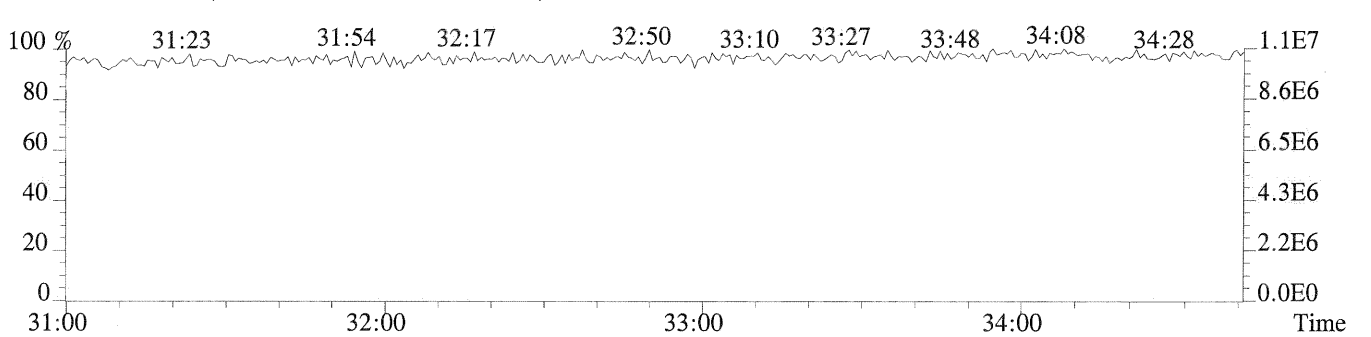
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



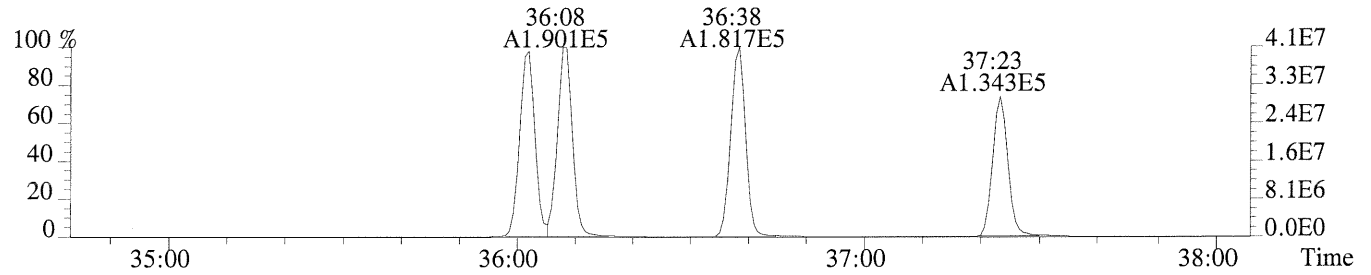
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



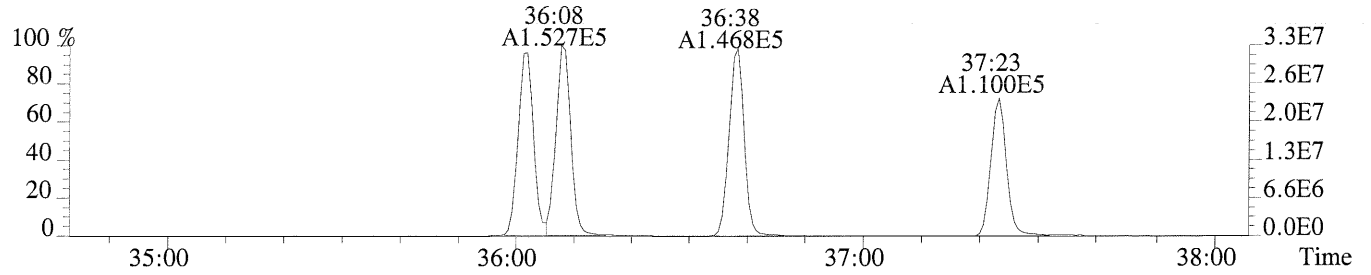
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



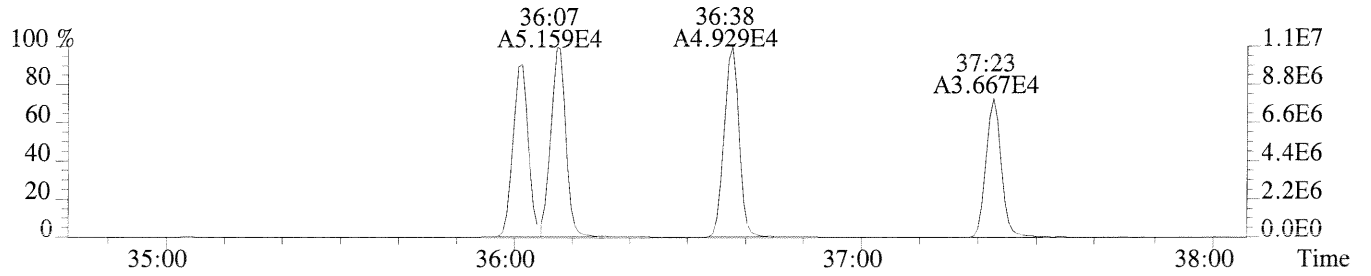
File:P230734 #1-307 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,T)



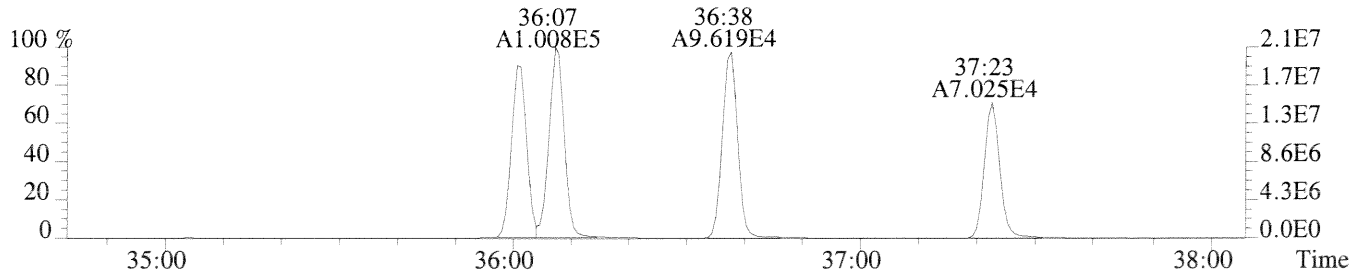
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.40%,F,T)



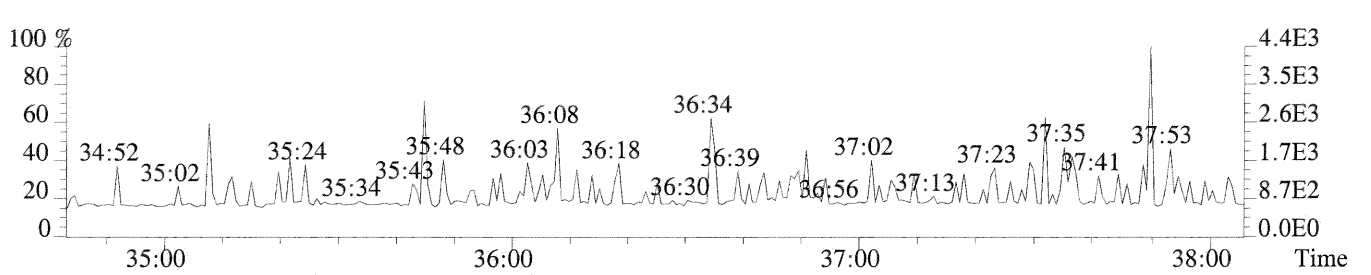
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,T)



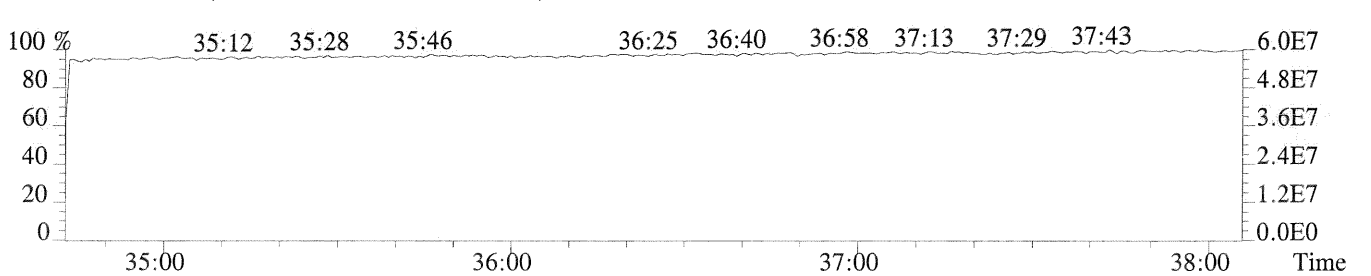
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



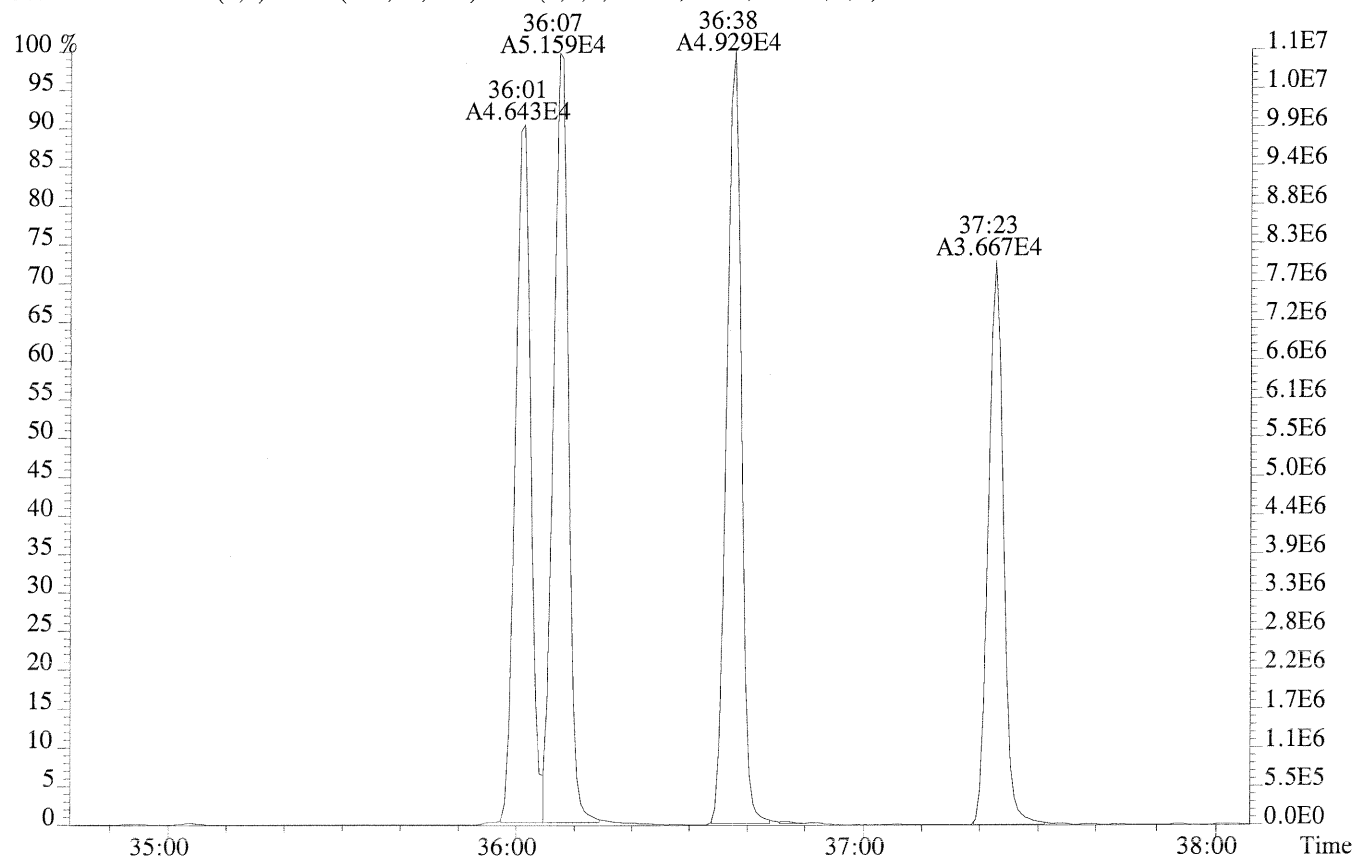
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



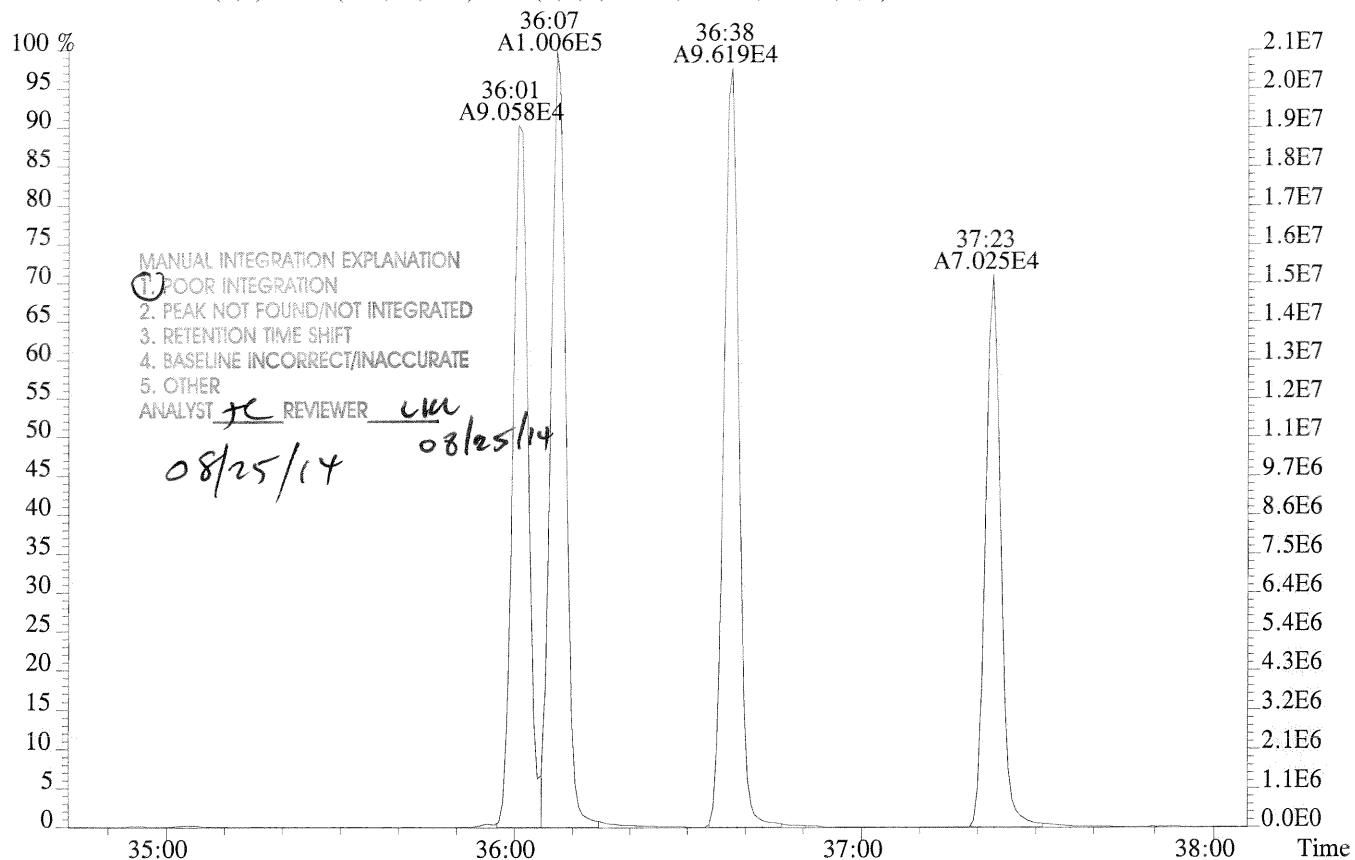
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P230734 #1-307 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
 Sample#1 Exp:ICAL CS4  
 383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,T)



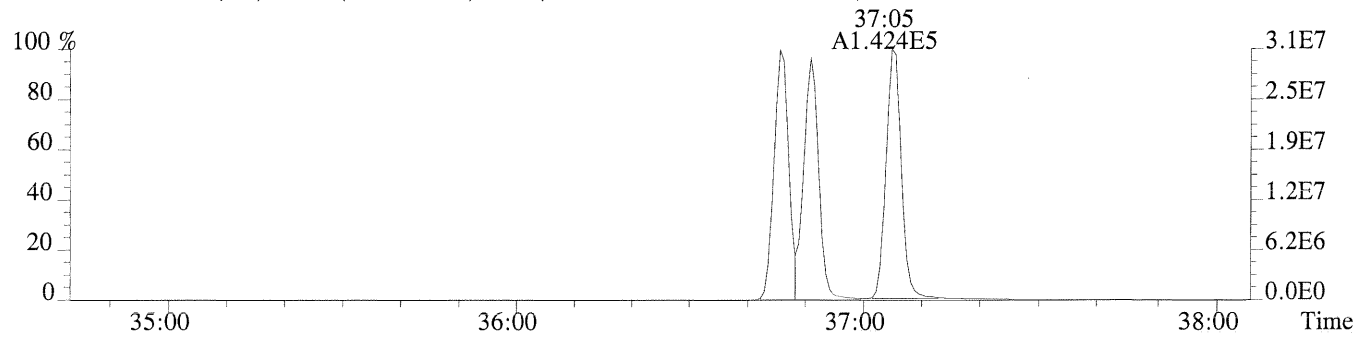
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



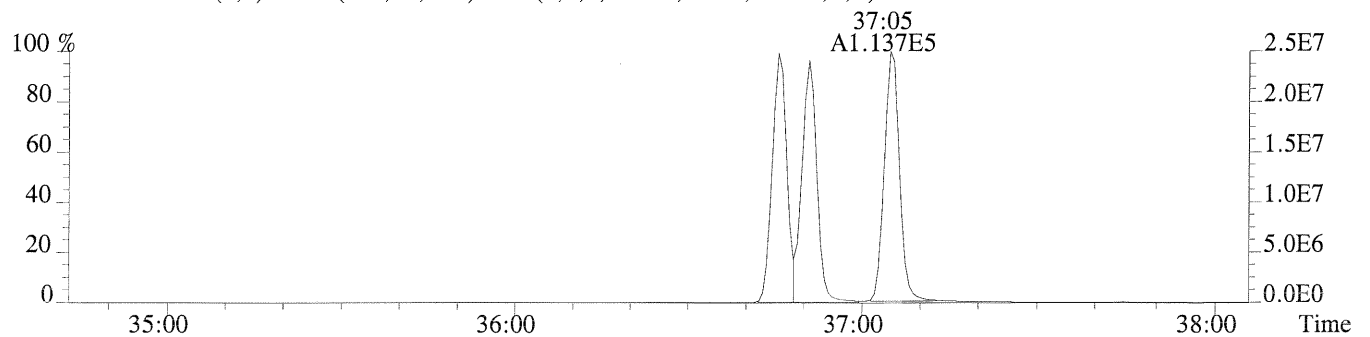


Sample#1 Exp:ICAL CS4

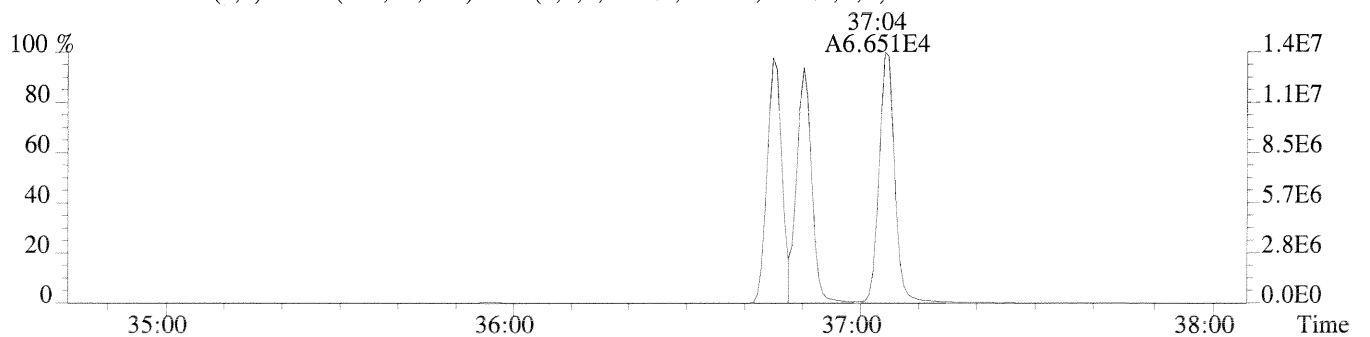
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,48.0,0.40%,F,T)



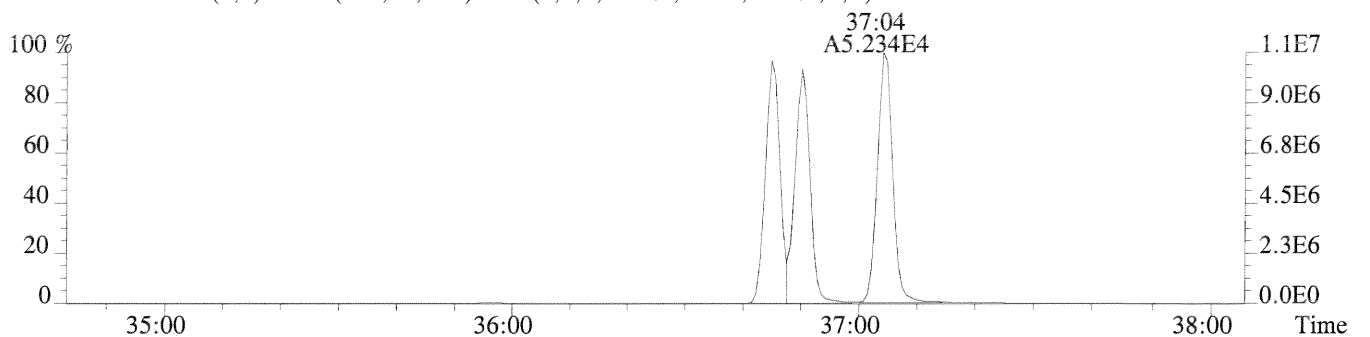
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,416.0,0.40%,F,T)



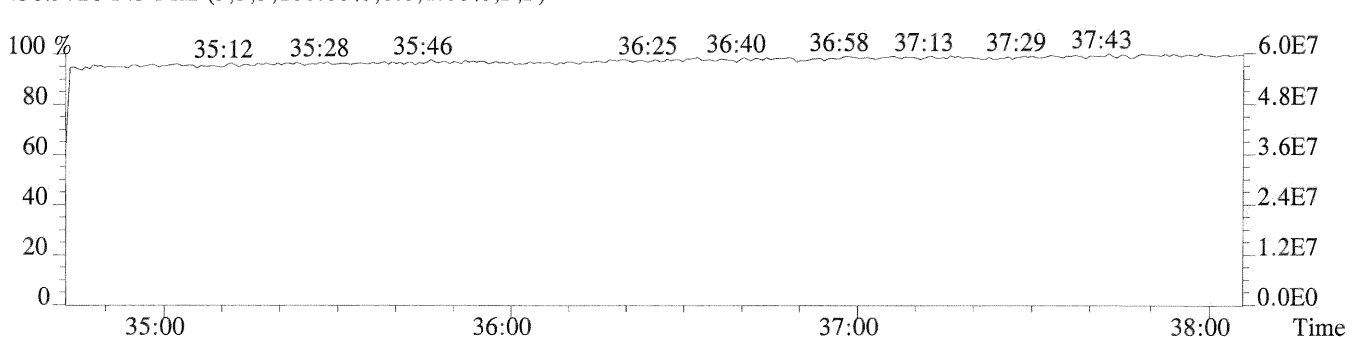
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



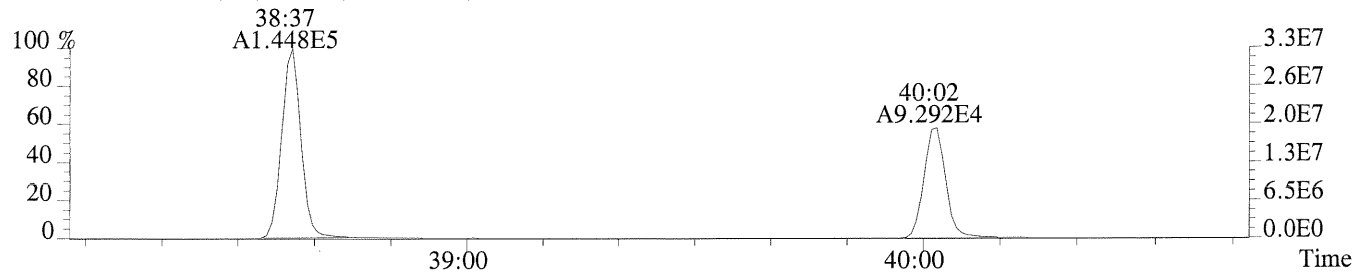
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,524.0,0.40%,F,T)



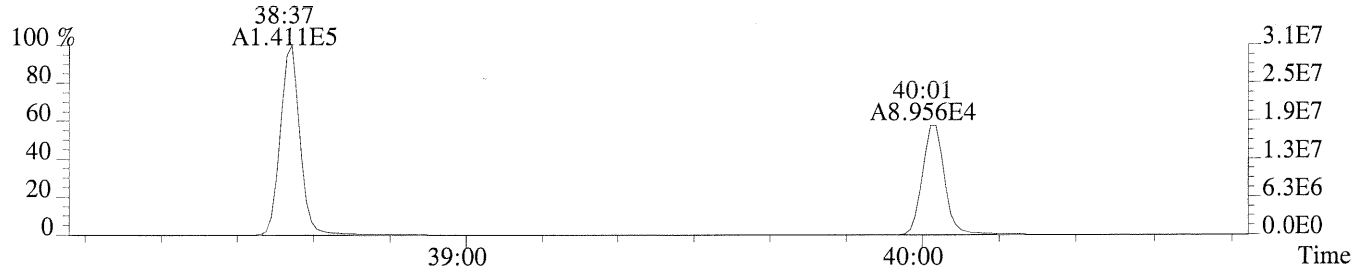
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



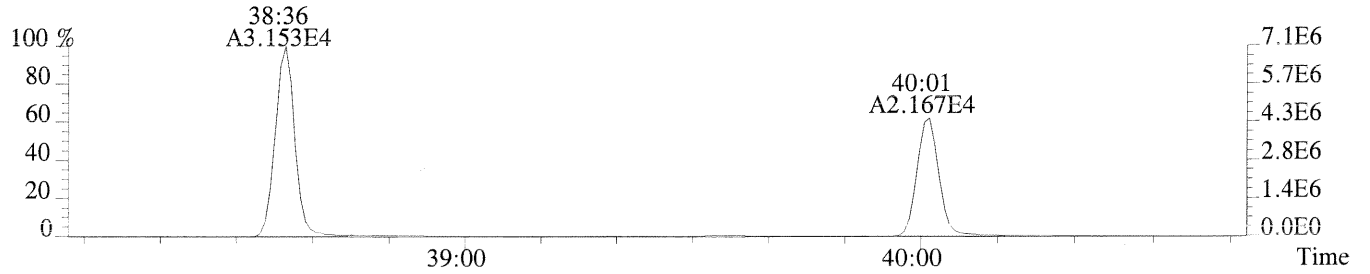
File:P230734 #1-234 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
407.7818 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,12768.0,0.50%,F,T)



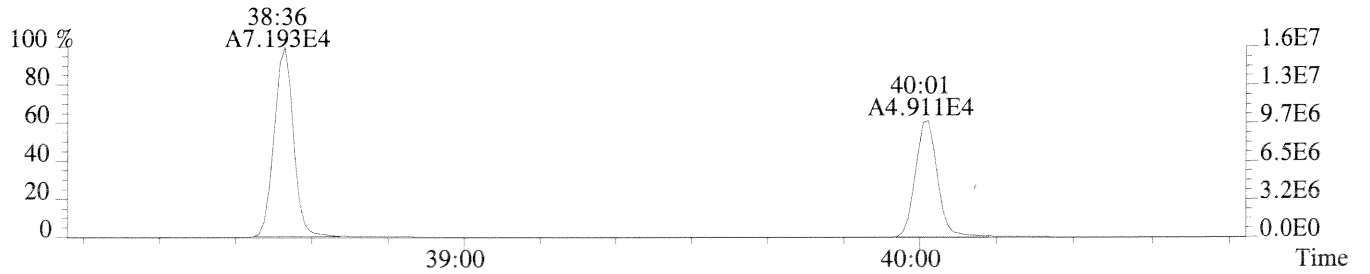
409.7789 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,7368.0,0.50%,F,T)



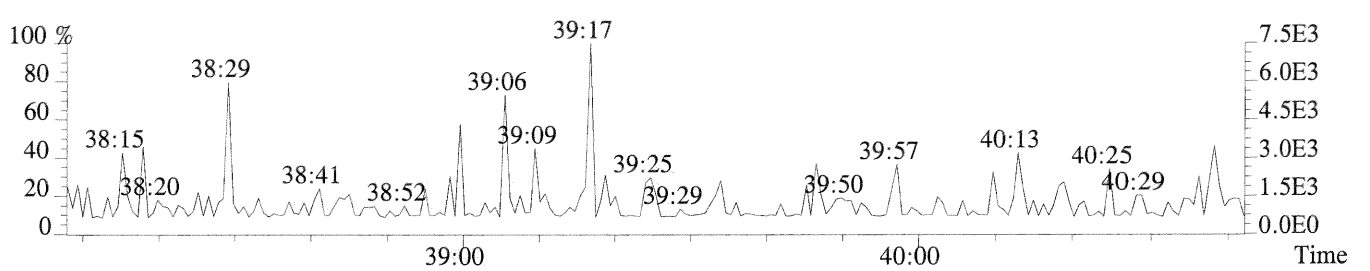
417.8253 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,3460.0,0.50%,F,T)



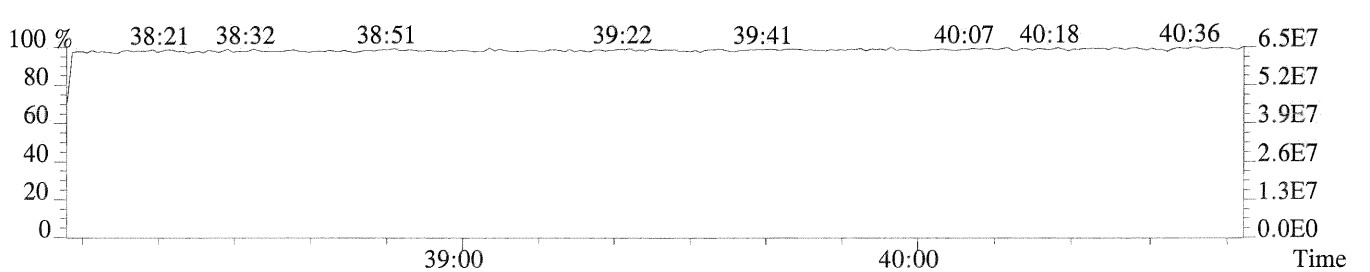
419.8220 F:4 SMO(1,3) BSM(128,15,-3.0) PKD(3,3,3,0.25%,4168.0,0.50%,F,T)



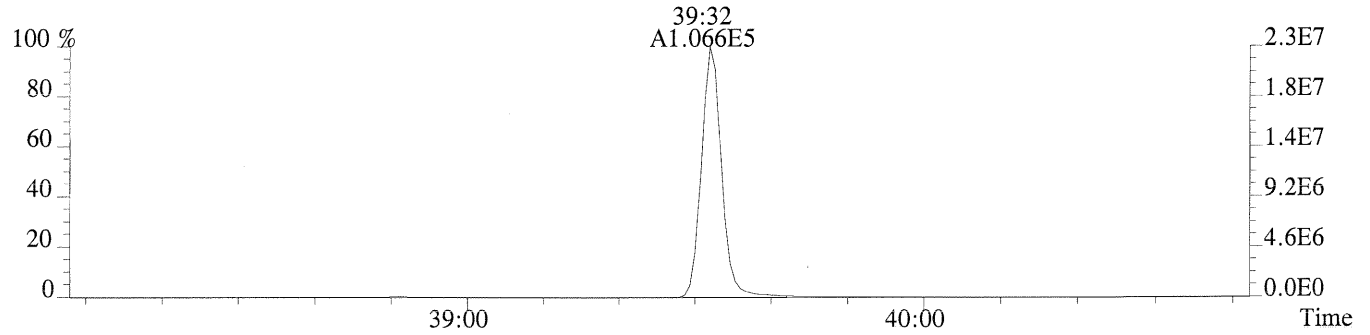
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



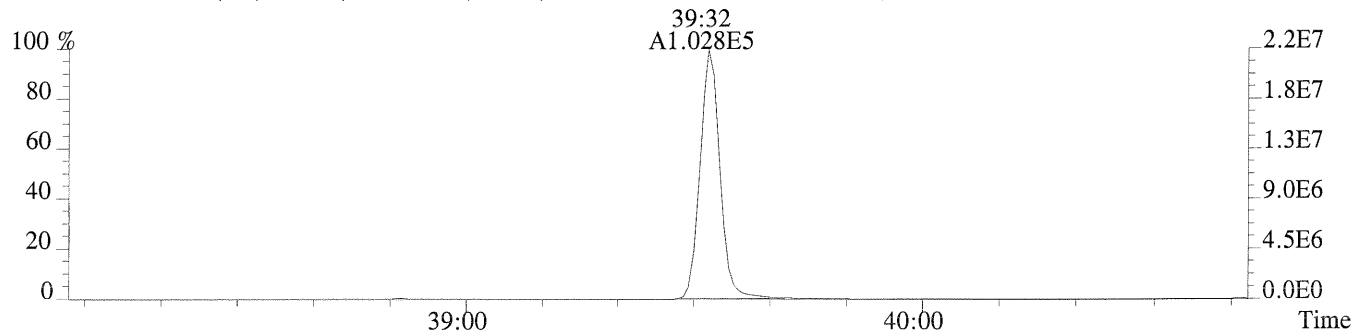
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



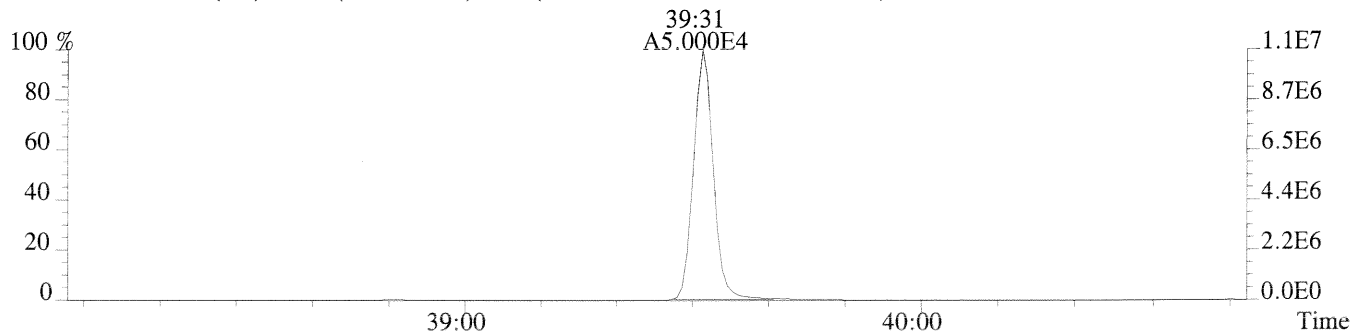
File:P230734 #1-234 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.40%,F,T)



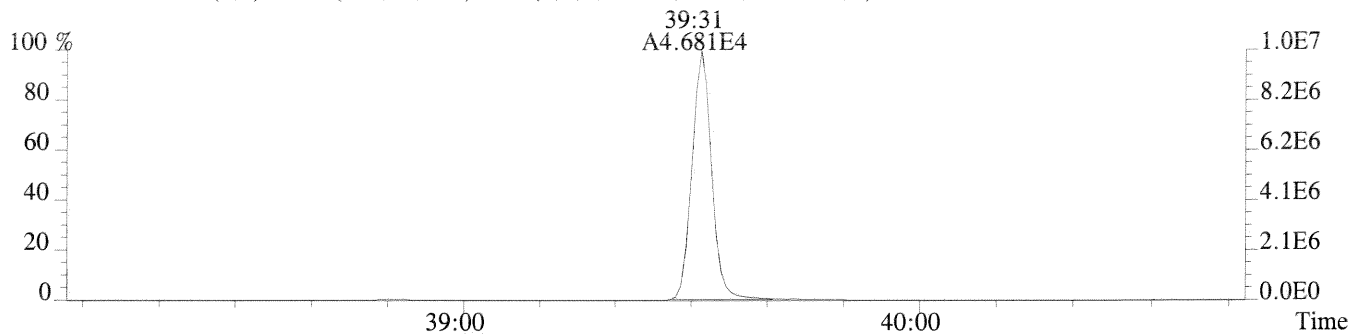
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,T)



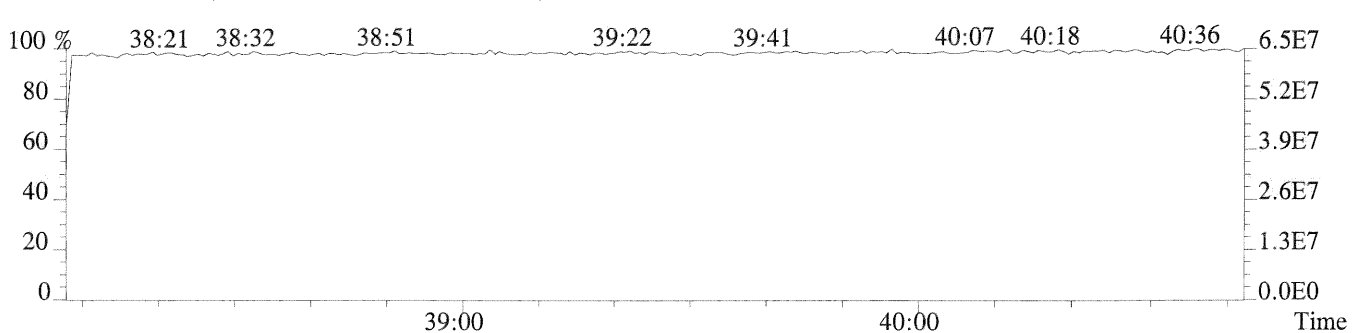
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



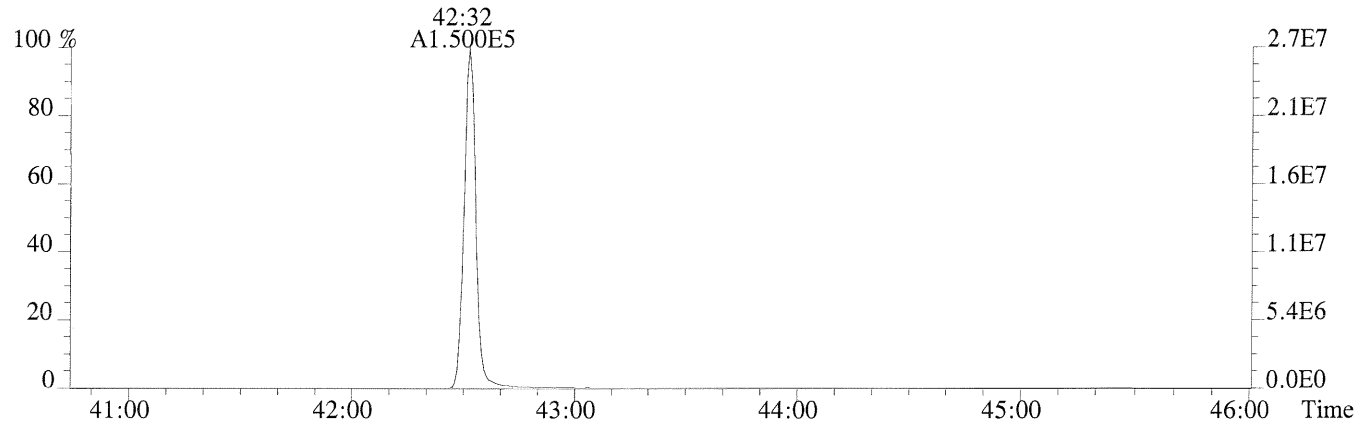
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



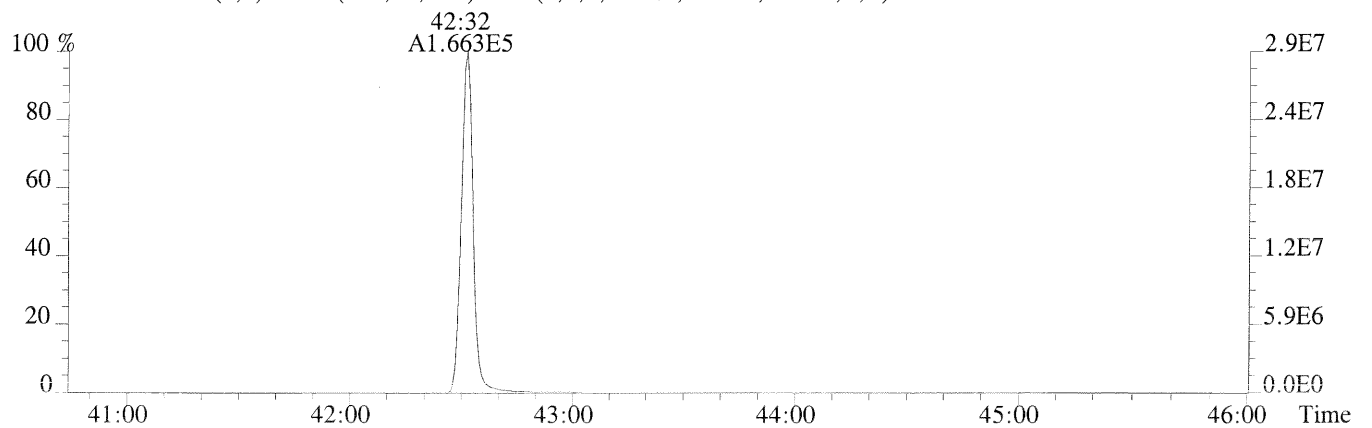
File:P230734 #1-485 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS4

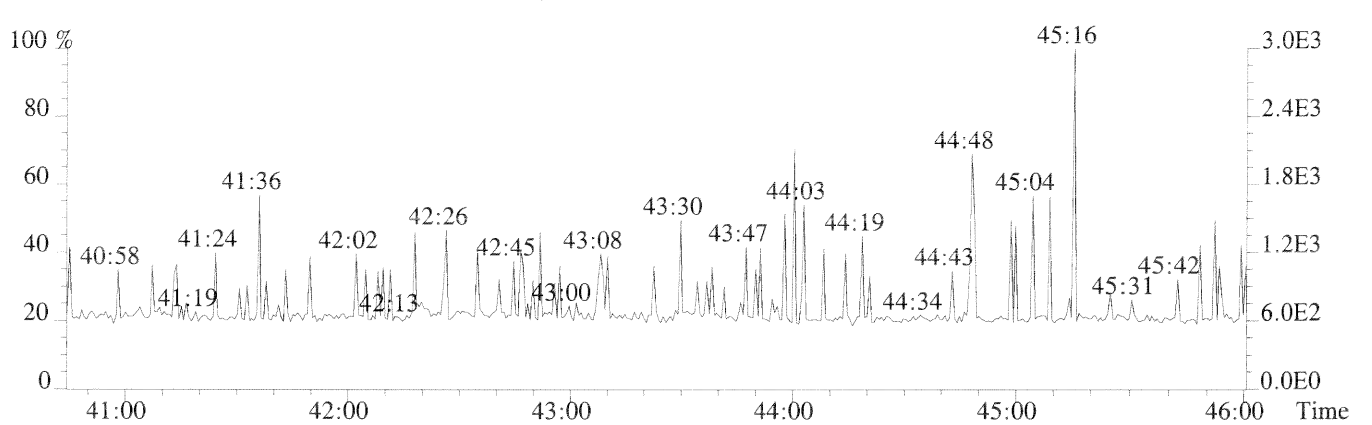
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,432.0,0.40%,F,T)



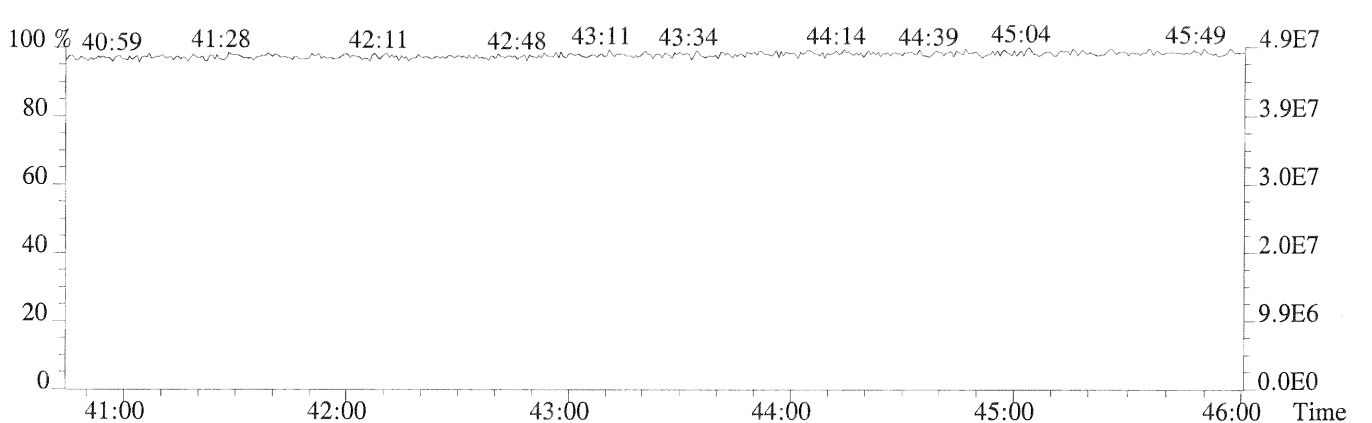
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1108.0,0.40%,F,T)



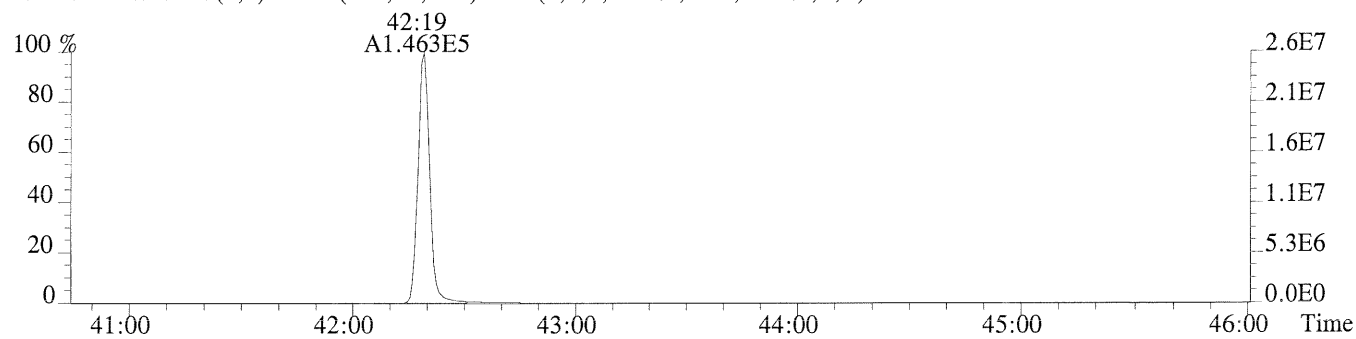
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



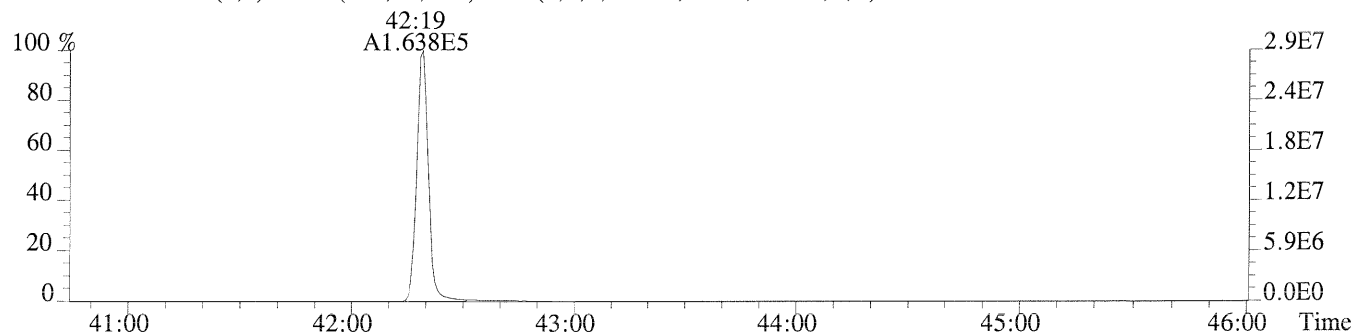
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



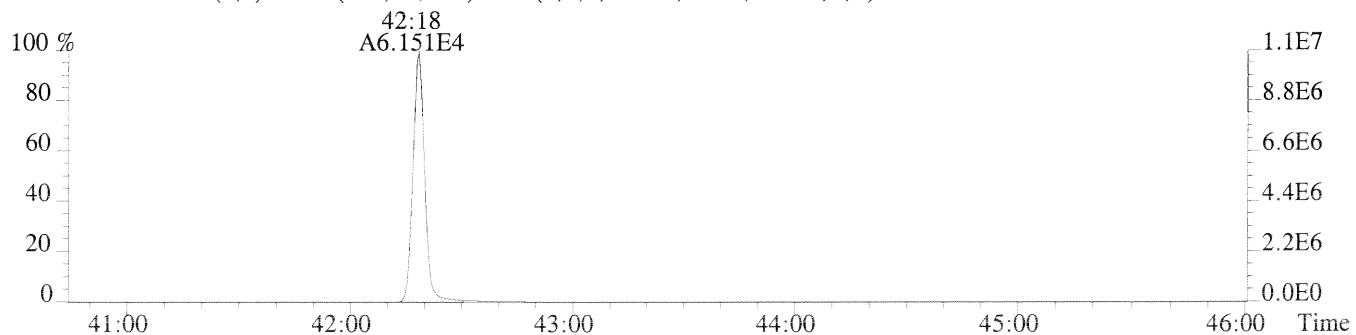
File:P230734 #1-485 Acq:24-AUG-2014 14:34:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS4  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,T)



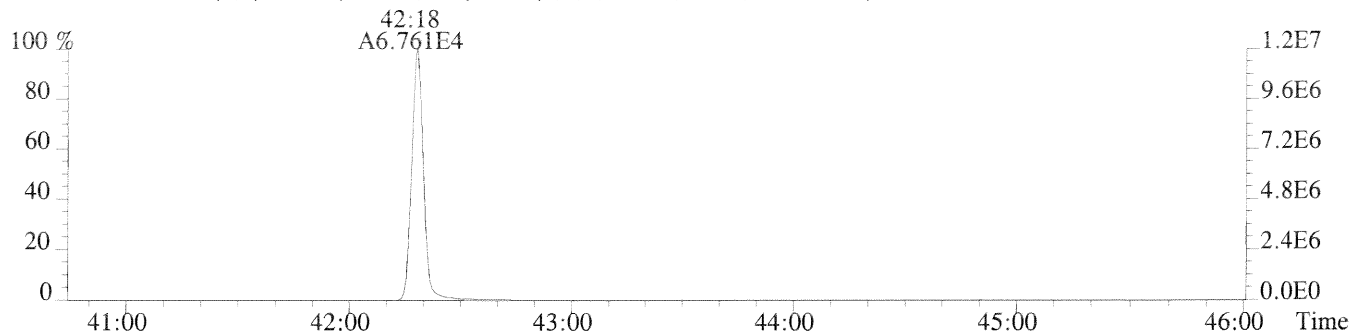
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,604.0,0.40%,F,T)



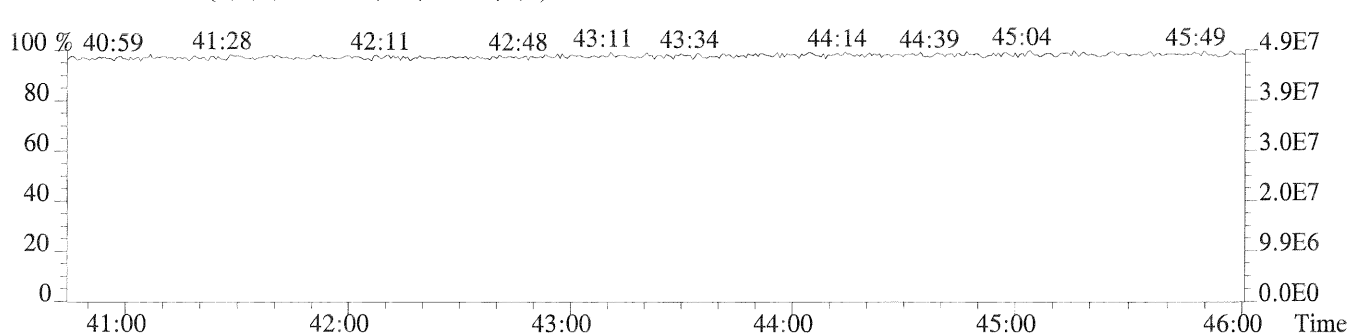
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,544.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,348.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS5

Run #6 Filename P230735 #1 Samp: 1 Inj: 1 Acquired: 24-AUG-14 15:22:09  
 Processed: 25-AUG-14 11:37:43 LAB. ID: 66799

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:19	1.204e+05	1.562e+05	0.77	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	1.068e+06	6.907e+05	1.55	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:23	1.076e+06	7.018e+05	1.53	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	9.238e+05	7.445e+05	1.24	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	9.448e+05	7.624e+05	1.24	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	8.890e+05	7.169e+05	1.24	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:23	6.789e+05	5.448e+05	1.25	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:36	7.295e+05	7.060e+05	1.03	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	4.872e+05	4.793e+05	1.02	yes	no	1.000
10	Unk	OCDF	42:32	8.726e+05	9.679e+05	0.90	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:06	9.272e+04	1.177e+05	0.79	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	7.808e+05	4.903e+05	1.59	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	7.127e+05	5.672e+05	1.26	yes	yes	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:50	6.726e+05	5.351e+05	1.26	yes	yes	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	7.272e+05	5.832e+05	1.25	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:31	5.445e+05	5.214e+05	1.04	yes	no	1.000
17	Unk	OCDD	42:18	7.839e+05	8.739e+05	0.90	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:18	6.202e+04	7.751e+04	0.80	yes	no	0.992
19	IS	13C-1,2,3,7,8-PeCDF	32:27	1.140e+05	7.188e+04	1.59	yes	no	1.138
20	IS	13C-2,3,4,7,8-PeCDF	33:22	1.079e+05	6.776e+04	1.59	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	4.903e+04	9.421e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	5.148e+04	9.842e+04	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	4.991e+04	9.578e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:22	3.705e+04	7.140e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	3.294e+04	7.564e+04	0.44	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.127e+04	5.026e+04	0.42	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:05	4.431e+04	5.617e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:38	7.725e+04	4.906e+04	1.57	yes	no	1.179
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	5.956e+04	4.727e+04	1.26	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	6.922e+04	5.428e+04	1.28	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	5.224e+04	4.900e+04	1.07	yes	no	1.066
32	IS	13C-OCDD	42:18	7.329e+04	8.096e+04	0.91	yes	no	1.141
33	RS/RT	13C-1,2,3,4-TCDD	28:31	4.268e+04	5.339e+04	0.80	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:04	6.750e+04	5.255e+04	1.28	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:06	2.149e+05				no	1.020

ALS ENVIRONMENTAL  
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 Houston, TX 77099  
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XLRESP

ALS ENVIRONMENTAL  
METHOD 1613B/8290A  
Signal/Noise Height Ratio Summary

CLIENT ID.  
CS5

Run #6    Filename P230735    Samp: 1    Inj: 1    Acquired: 24-AUG-14 15:22:09  
Processed: 25-AUG-14 11:37:43    LAB. ID: 66799

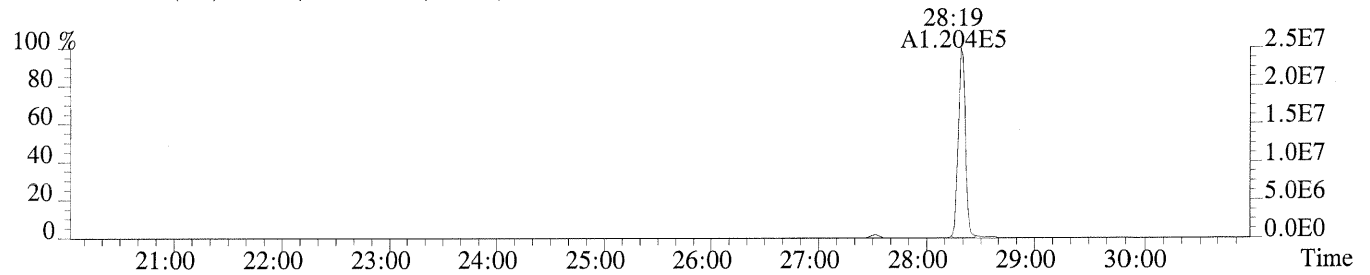
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.50e+07	3.08e+02	8.1e+04	3.26e+07	2.47e+03	1.3e+04
2	1,2,3,7,8-PeCDF	2.11e+08	3.09e+03	6.8e+04	1.36e+08	3.80e+03	3.6e+04
3	2,3,4,7,8-PeCDF	2.24e+08	3.09e+03	7.3e+04	1.45e+08	3.80e+03	3.8e+04
4	1,2,3,4,7,8-HxCDF	2.08e+08	4.70e+03	4.4e+04	1.66e+08	2.75e+03	6.0e+04
5	1,2,3,6,7,8-HxCDF	2.12e+08	4.70e+03	4.5e+04	1.69e+08	2.75e+03	6.2e+04
6	2,3,4,6,7,8-HxCDF	2.04e+08	4.70e+03	4.3e+04	1.63e+08	2.75e+03	5.9e+04
7	1,2,3,7,8,9-HxCDF	1.53e+08	4.70e+03	3.3e+04	1.23e+08	2.75e+03	4.5e+04
8	1,2,3,4,6,7,8-HpCDF	1.70e+08	2.42e+04	7.0e+03	1.64e+08	3.41e+04	4.8e+03
9	1,2,3,4,7,8,9-HpCDF	1.05e+08	2.42e+04	4.3e+03	1.01e+08	3.41e+04	3.0e+03
10	OCDF	1.64e+08	3.88e+02	4.2e+05	1.77e+08	1.07e+03	1.7e+05
11	2,3,7,8-TCDD	2.08e+07	9.56e+02	2.2e+04	2.62e+07	6.52e+02	4.0e+04
12	1,2,3,7,8-PeCDD	1.60e+08	9.08e+02	1.8e+05	9.96e+07	3.36e+02	3.0e+05
13	1,2,3,4,7,8-HxCDD	1.65e+08	6.80e+01	2.4e+06	1.30e+08	5.08e+02	2.6e+05
14	1,2,3,6,7,8-HxCDD	1.46e+08	6.80e+01	2.1e+06	1.17e+08	5.08e+02	2.3e+05
15	1,2,3,7,8,9-HxCDD	1.63e+08	6.80e+01	2.4e+06	1.29e+08	5.08e+02	2.5e+05
16	1,2,3,4,6,7,8-HpCDD	1.16e+08	5.18e+03	2.2e+04	1.12e+08	4.32e+03	2.6e+04
17	OCDD	1.43e+08	3.64e+02	3.9e+05	1.61e+08	4.24e+02	3.8e+05
18	13C-2,3,7,8-TCDF	1.30e+07	1.27e+03	1.0e+04	1.63e+07	1.48e+03	1.1e+04
19	13C-1,2,3,7,8-PeCDF	2.19e+07	7.16e+02	3.1e+04	1.39e+07	1.31e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	2.16e+07	7.16e+02	3.0e+04	1.35e+07	1.31e+03	1.0e+04
21	13C-1,2,3,4,7,8-HxCDF	1.09e+07	4.32e+02	2.5e+04	2.09e+07	2.44e+03	8.6e+03
22	13C-1,2,3,6,7,8-HxCDF	1.14e+07	4.32e+02	2.6e+04	2.17e+07	2.44e+03	8.9e+03
23	13C-2,3,4,6,7,8-HxCDF	1.14e+07	4.32e+02	2.6e+04	2.18e+07	2.44e+03	8.9e+03
24	13C-1,2,3,7,8,9-HxCDF	8.26e+06	4.32e+02	1.9e+04	1.60e+07	2.44e+03	6.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	7.58e+06	1.42e+03	5.3e+03	1.73e+07	3.04e+03	5.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.59e+06	1.42e+03	3.2e+03	1.07e+07	3.04e+03	3.5e+03
27	13C-2,3,7,8-TCDD	9.66e+06	5.04e+03	1.9e+03	1.21e+07	2.69e+03	4.5e+03
28	13C-1,2,3,7,8-PeCDD	1.59e+07	8.00e+02	2.0e+04	1.02e+07	3.96e+02	2.6e+04
29	13C-1,2,3,4,7,8-HxCDD	1.35e+07	1.06e+03	1.3e+04	1.07e+07	1.30e+03	8.2e+03
30	13C-1,2,3,6,7,8-HxCDD	1.49e+07	1.06e+03	1.4e+04	1.19e+07	1.30e+03	9.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.12e+07	1.58e+03	7.1e+03	1.06e+07	1.09e+03	9.7e+03
32	13C-OCDD	1.32e+07	1.42e+03	9.2e+03	1.45e+07	7.04e+02	2.1e+04
33	13C-1,2,3,4-TCDD	9.03e+06	5.04e+03	1.8e+03	1.13e+07	2.69e+03	4.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.48e+07	1.06e+03	1.4e+04	1.16e+07	1.30e+03	8.9e+03
35	37Cl-2,3,7,8-TCDD	4.78e+07	1.20e+03	4.0e+04			

ALS ENVIRONMENTAL  
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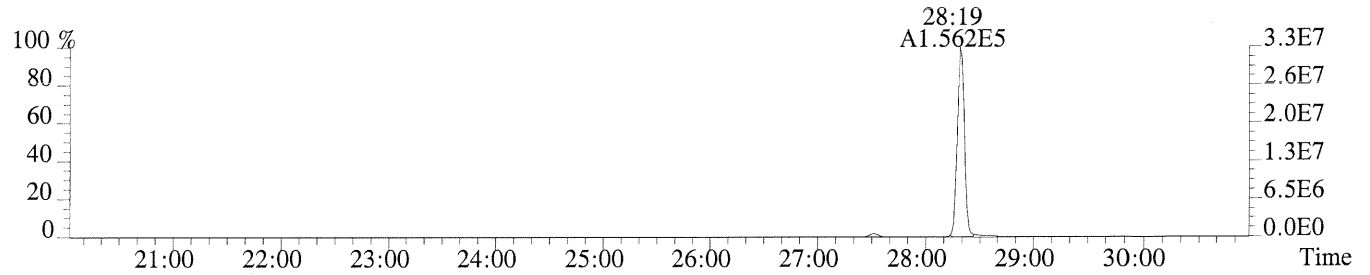
XLSN

Sample#1 Exp:ICAL CS5

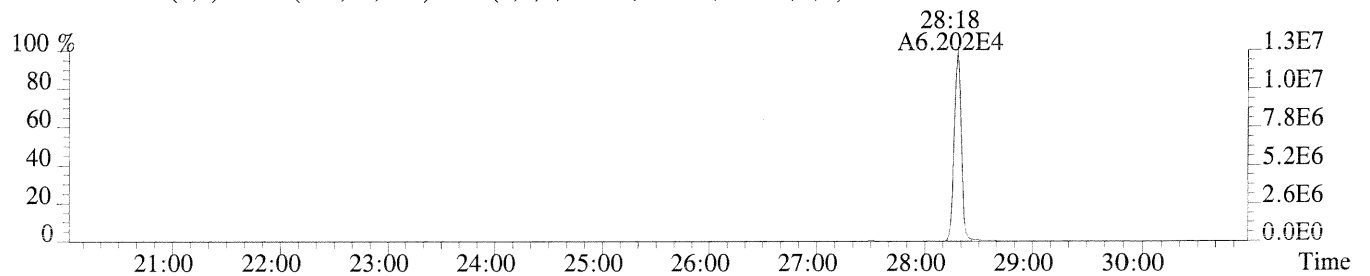
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,T)



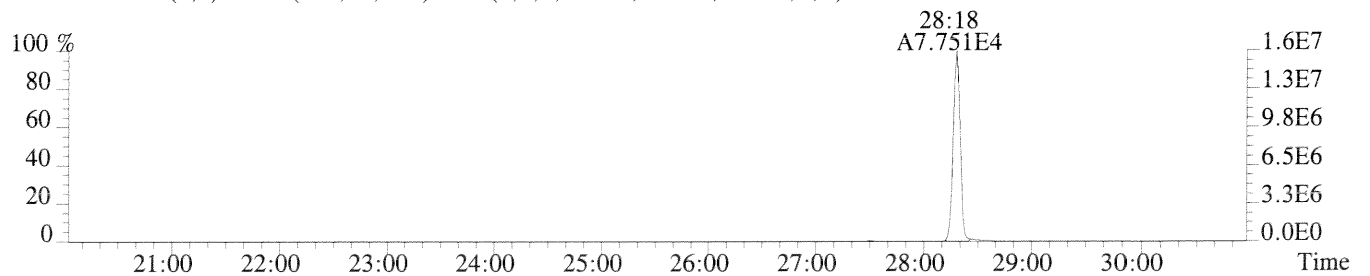
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2468.0,1.00%,F,T)



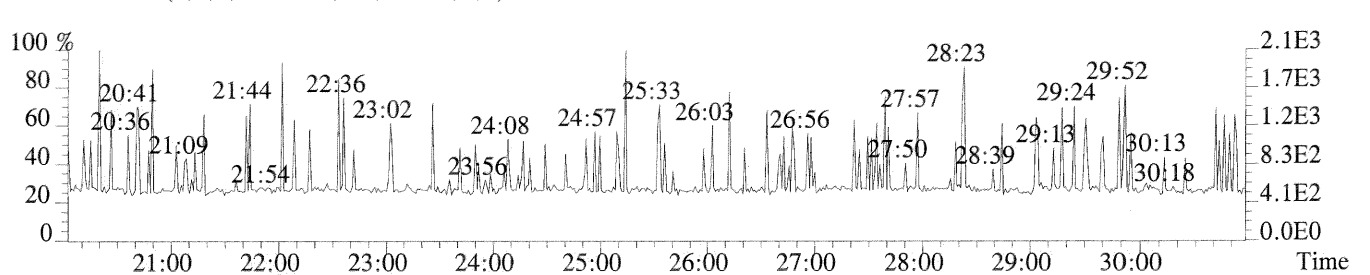
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1272.0,1.00%,F,T)



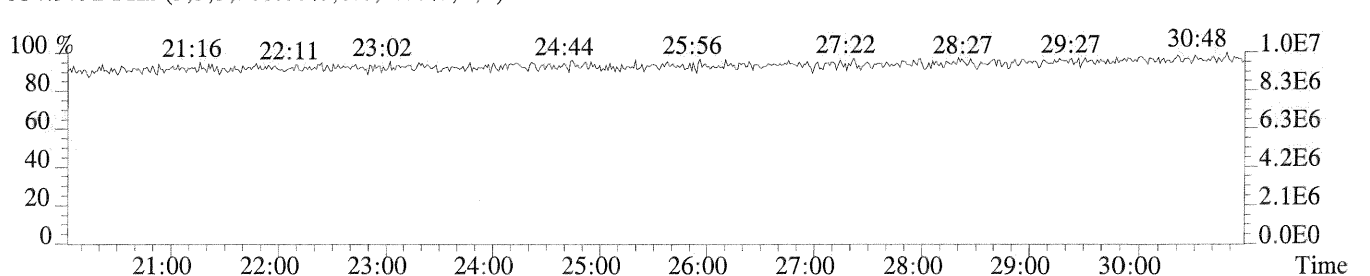
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1476.0,1.00%,F,T)



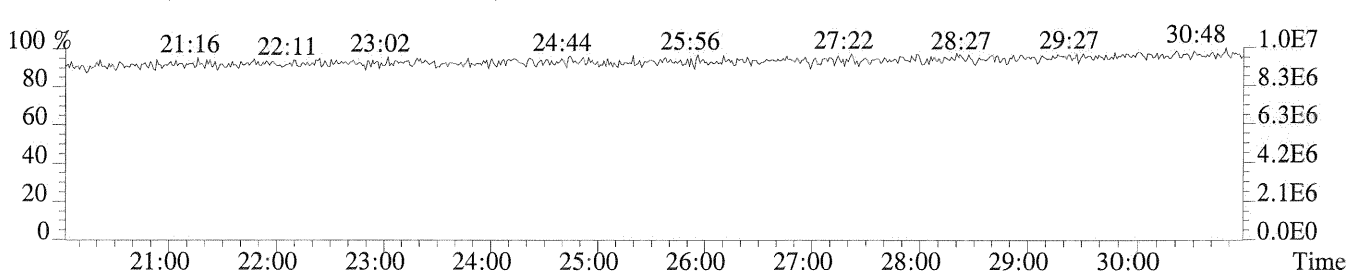
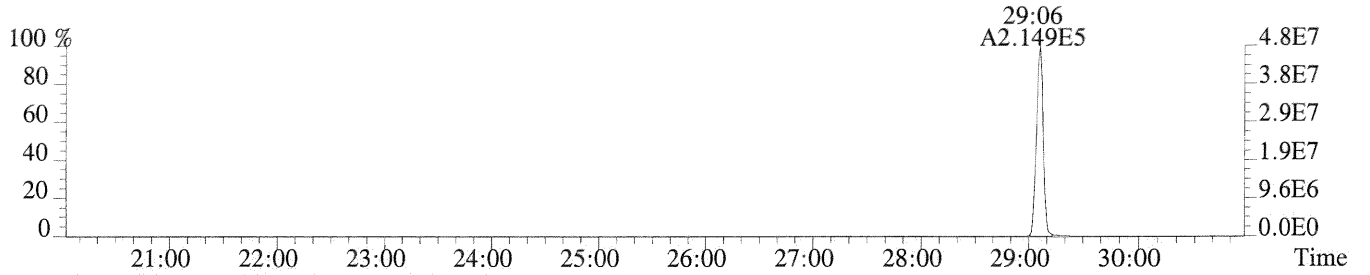
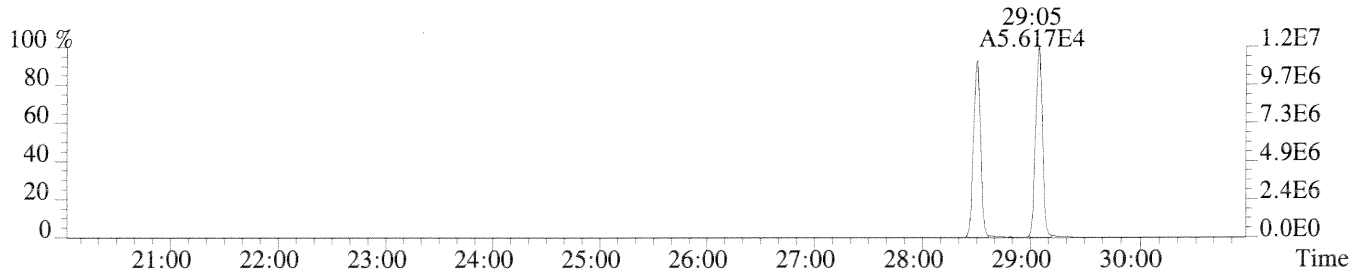
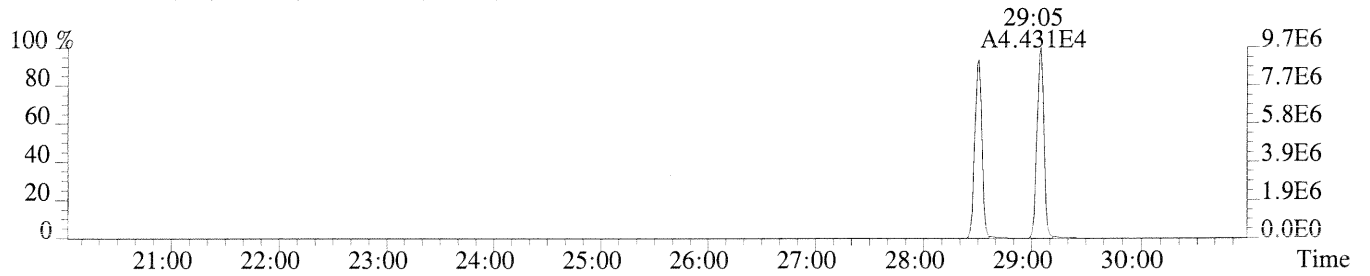
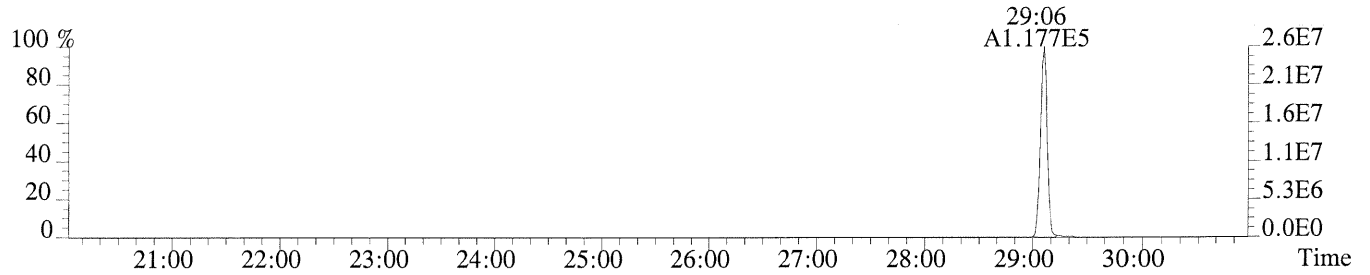
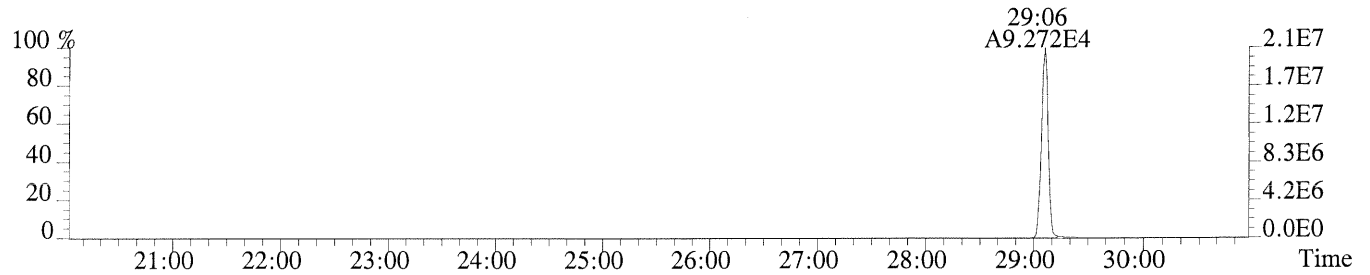
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



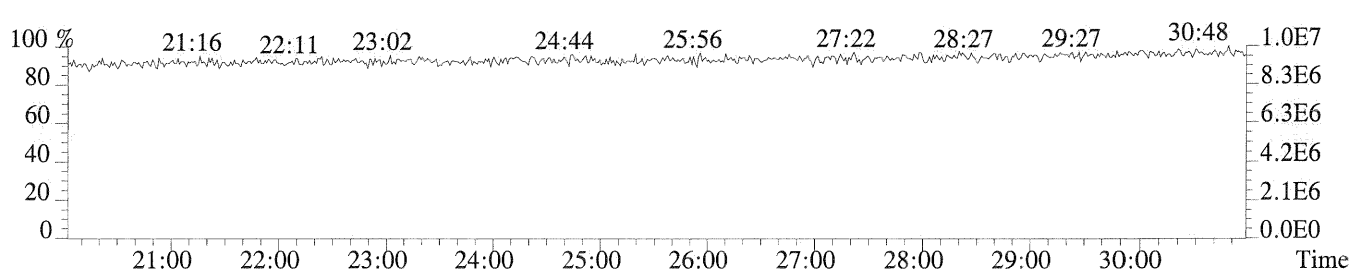
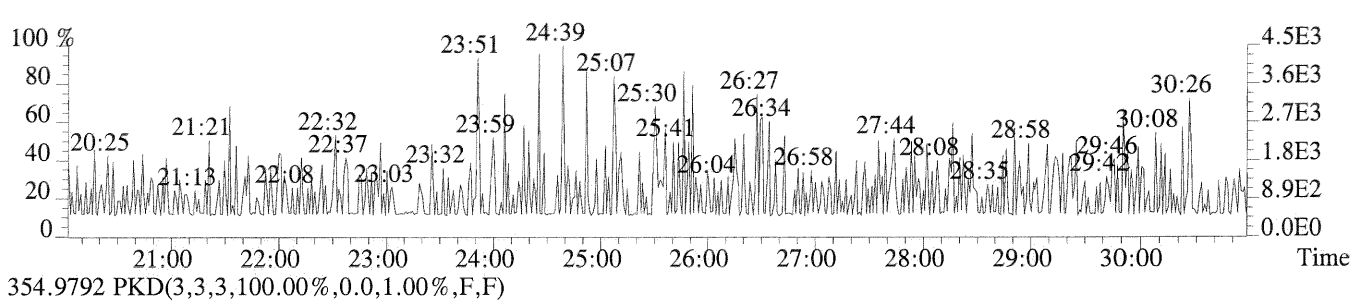
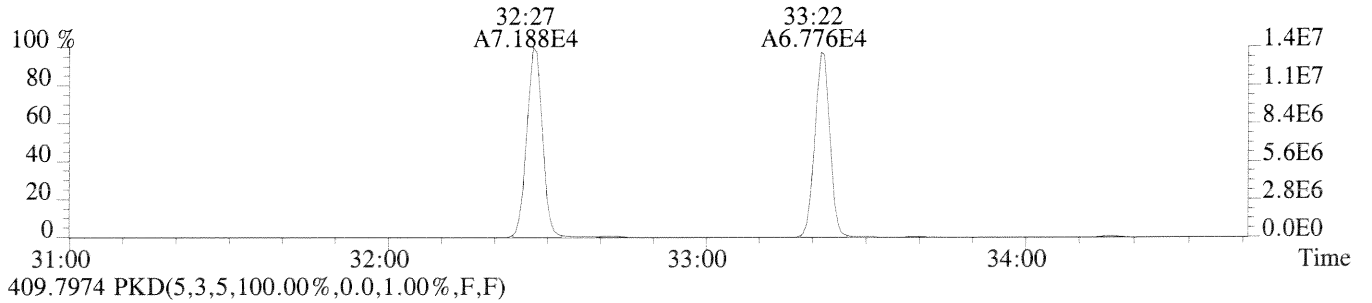
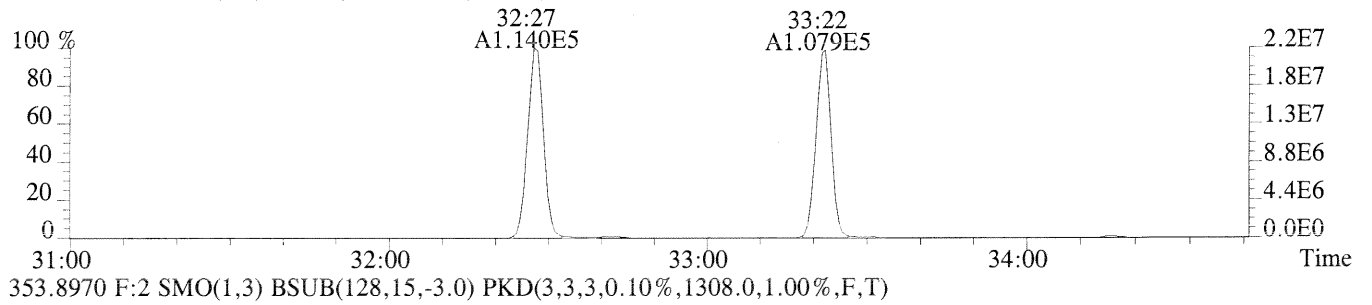
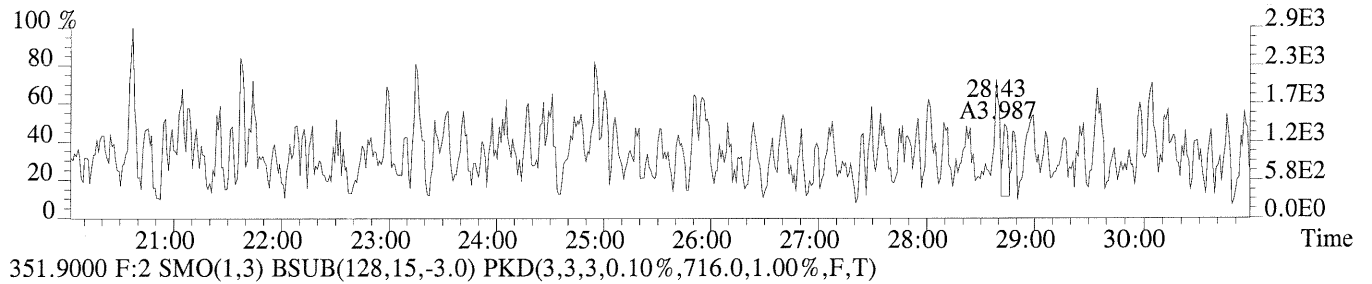
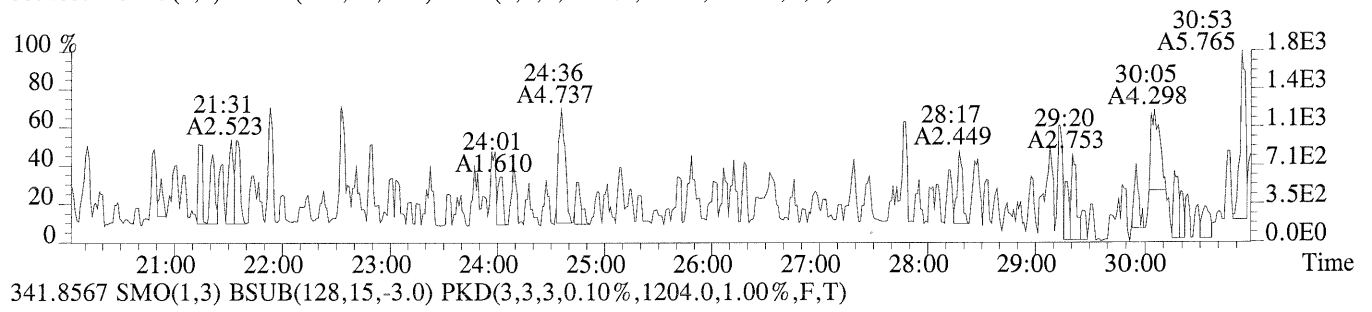
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)





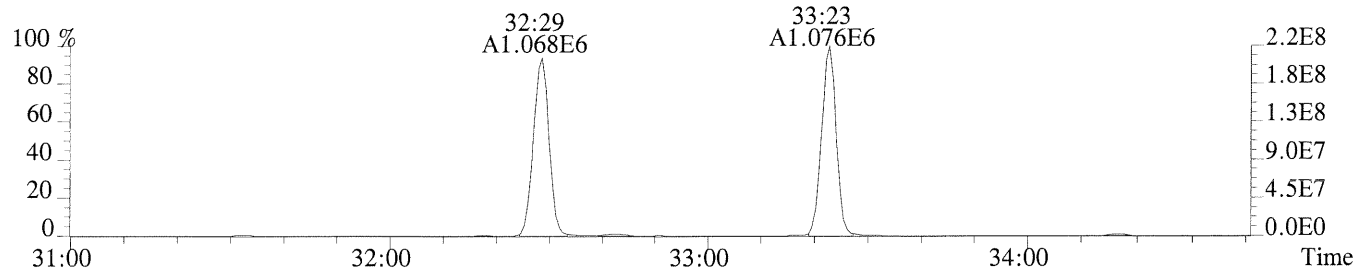


File:P230735 #1-687 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS5  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)

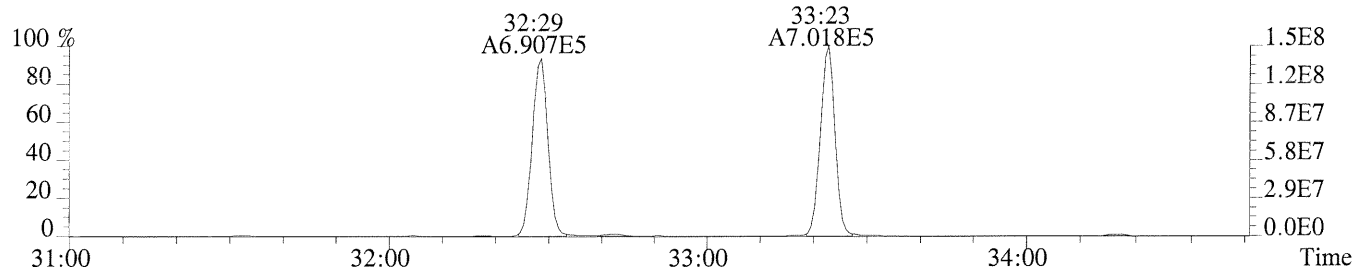


Sample#1 Exp:ICAL CS5

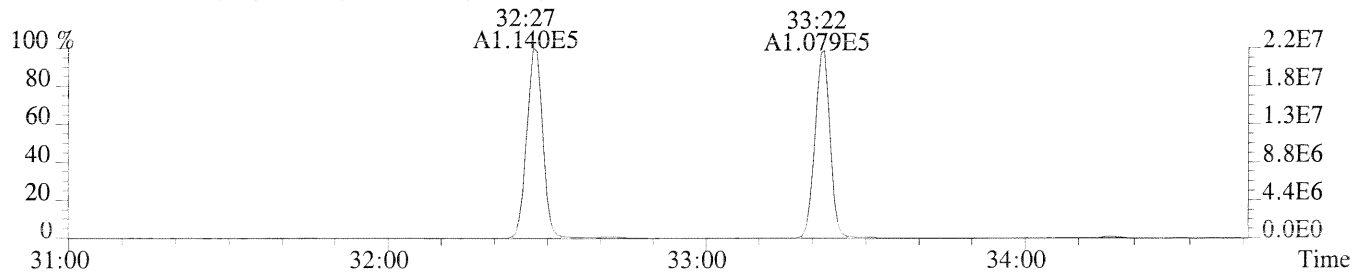
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3088.0,1.00%,F,T)



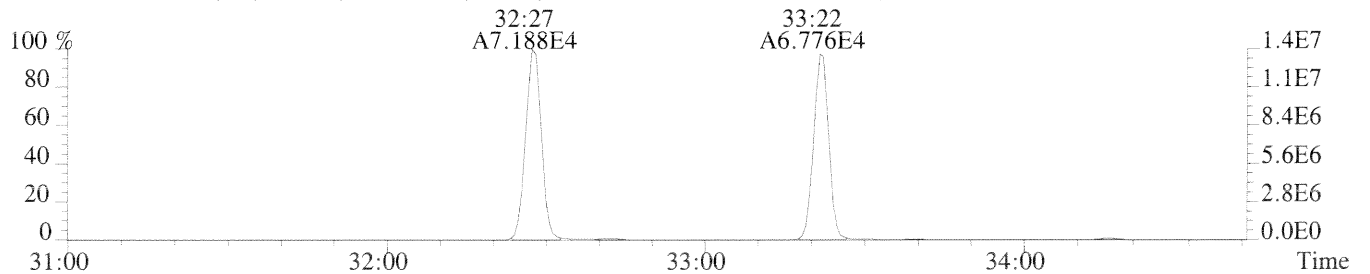
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3796.0,1.00%,F,T)



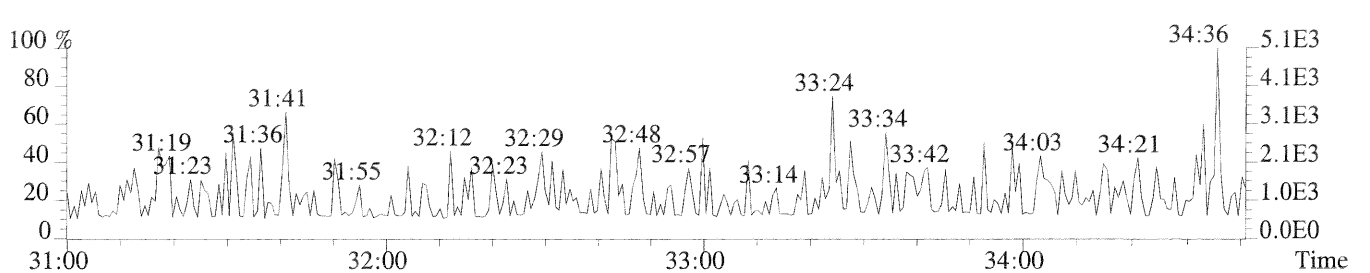
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



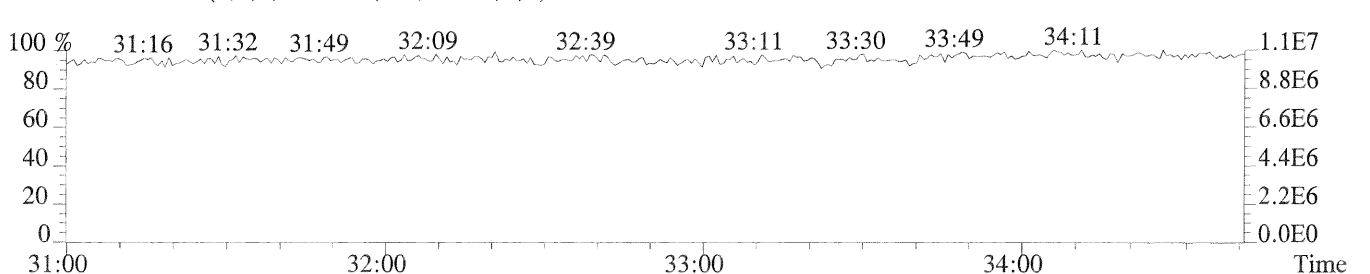
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)



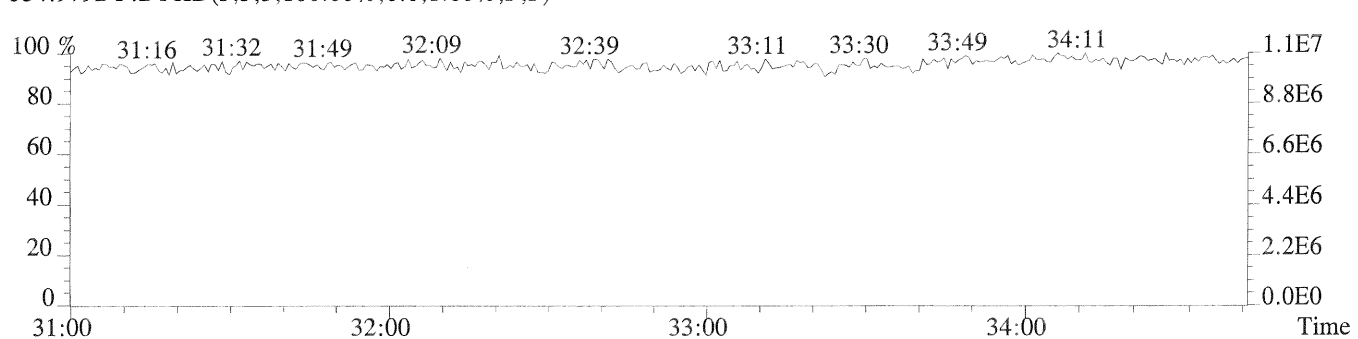
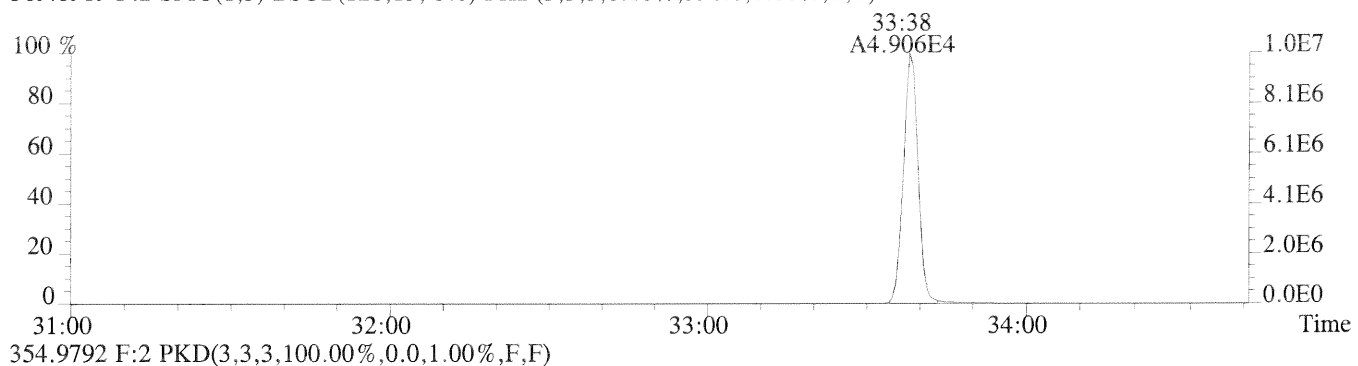
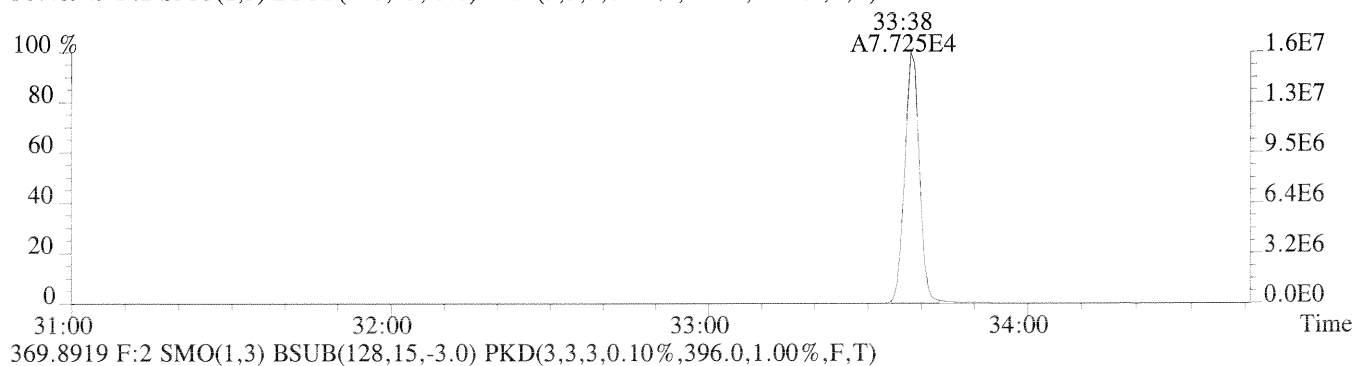
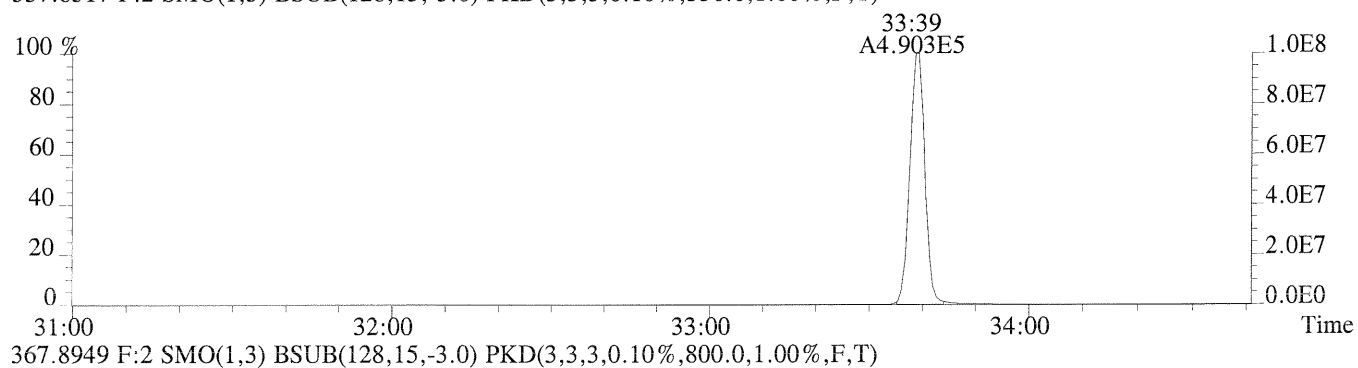
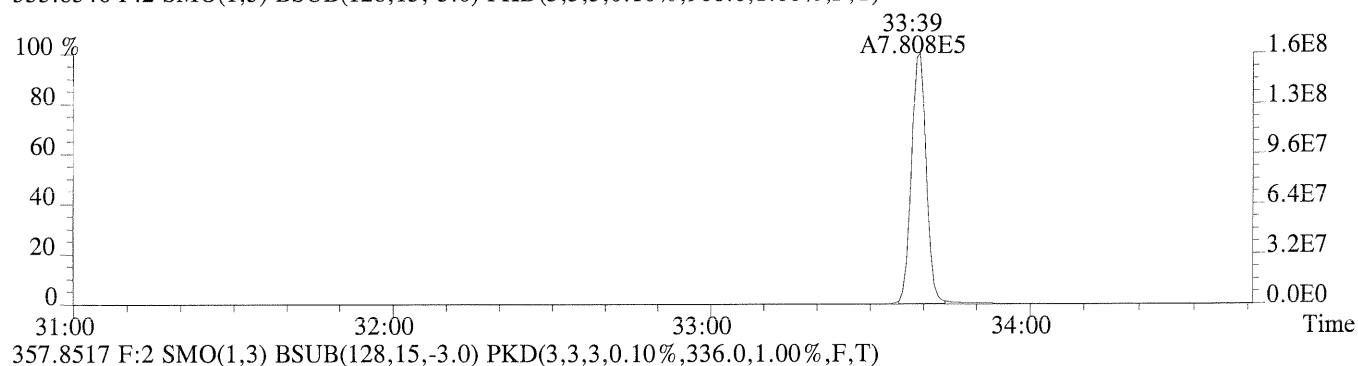
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

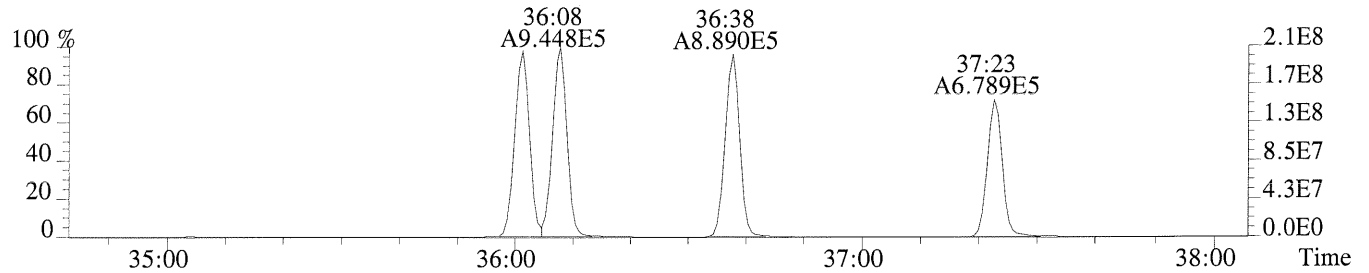


File:P230735 #1-335 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)

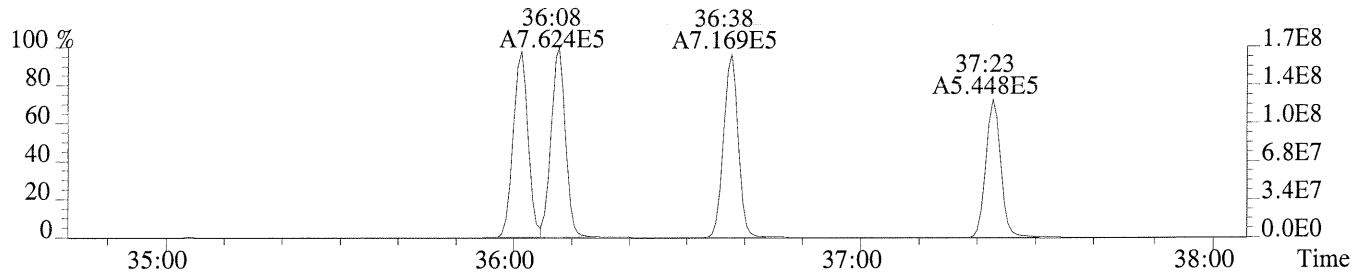


Sample#1 Exp:ICAL CS5

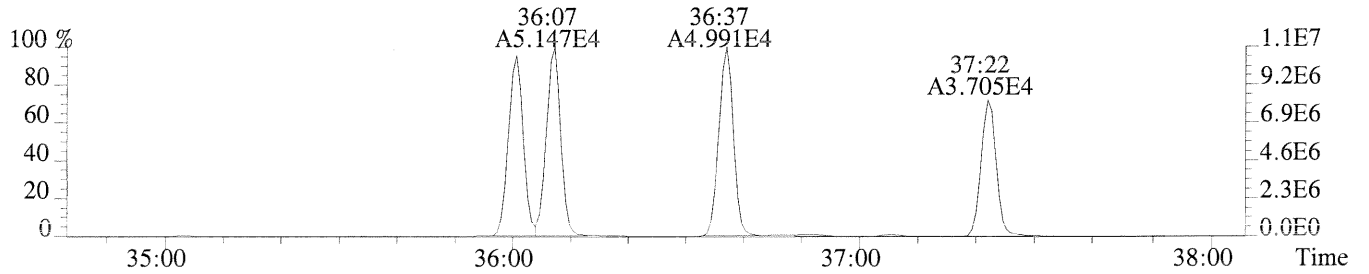
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4700.0,0.40%,F,T)



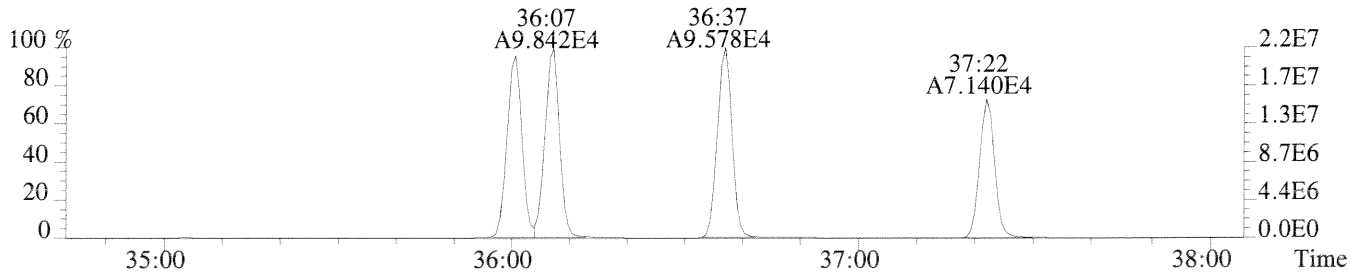
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2748.0,0.40%,F,T)



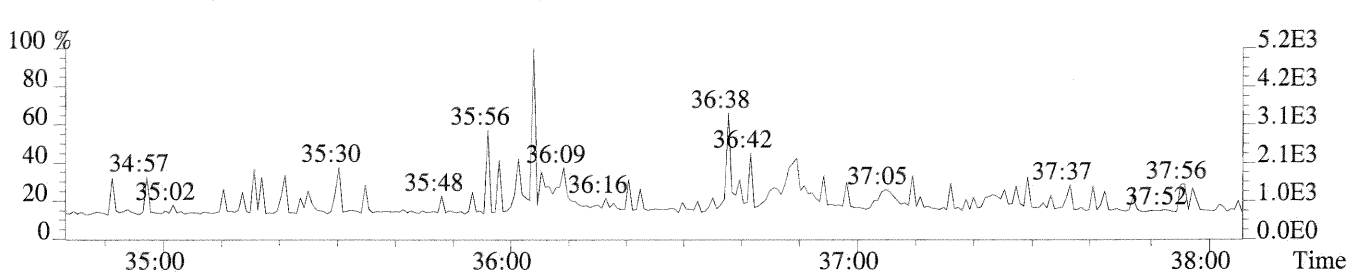
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,432.0,0.40%,F,T)



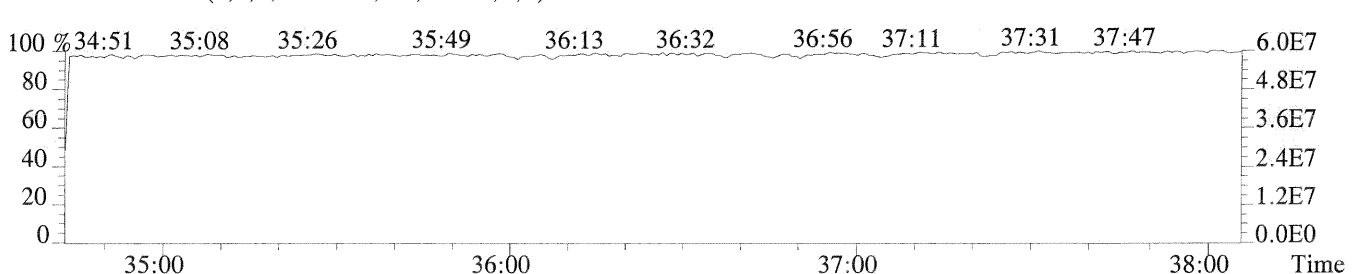
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2436.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

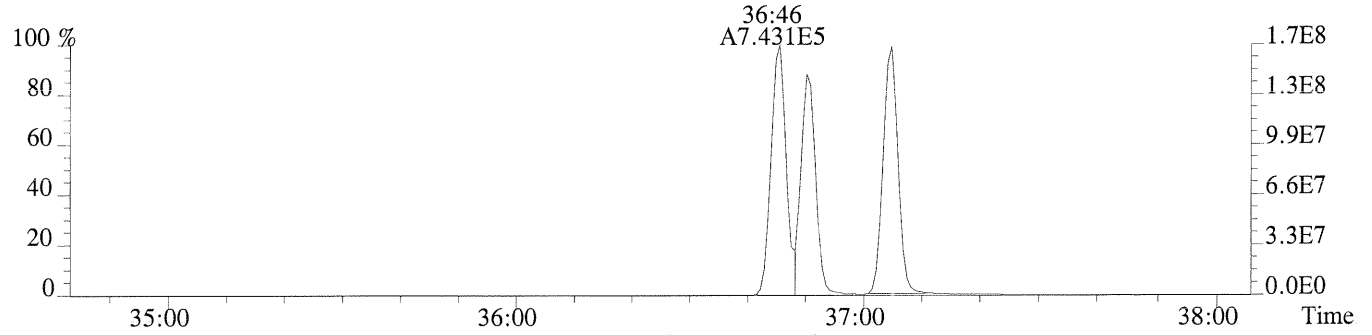


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

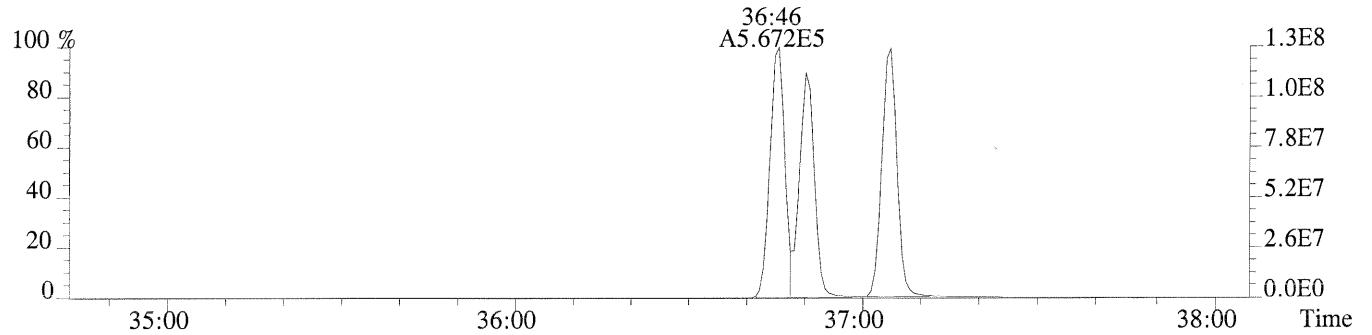


Sample#1 Exp:ICAL CS5

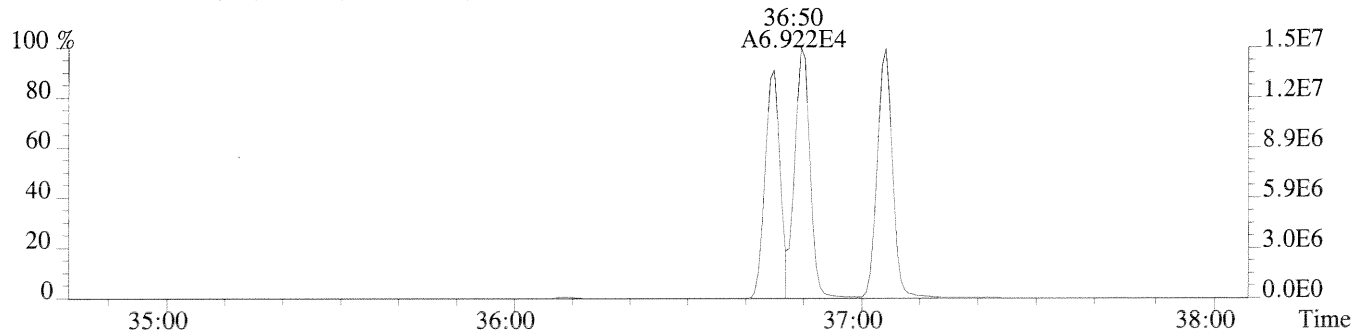
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



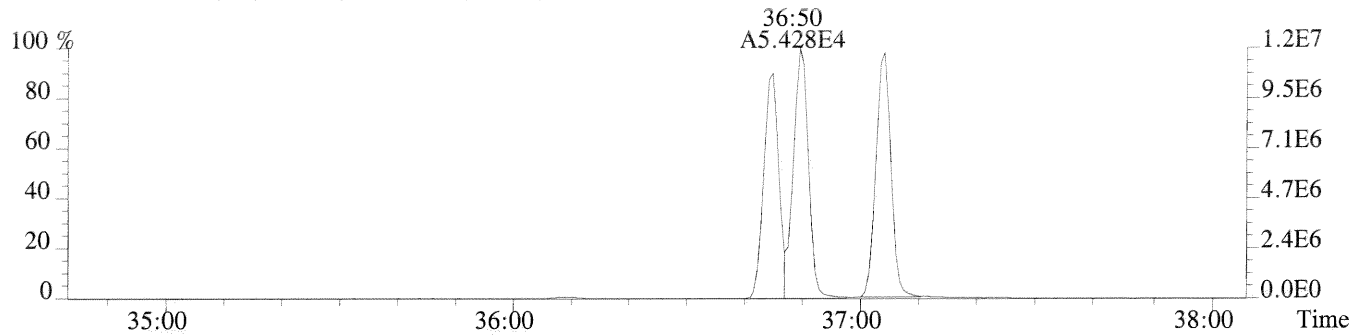
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.40%,F,T)



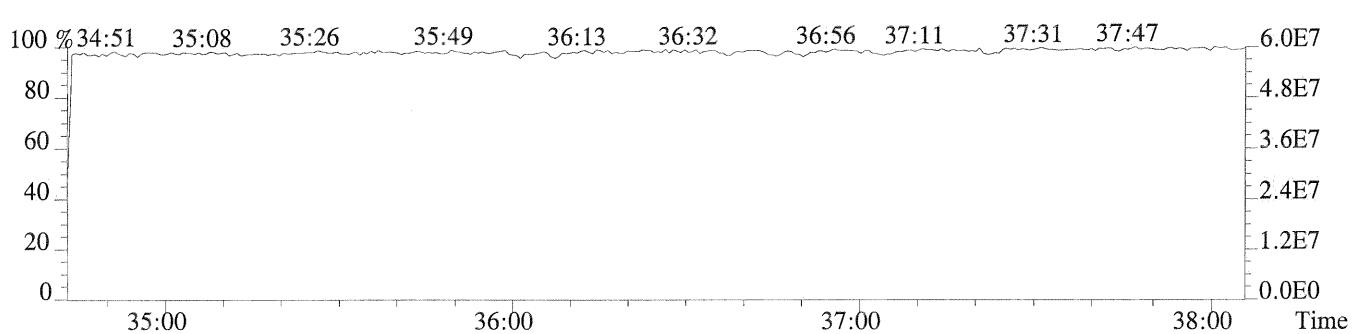
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



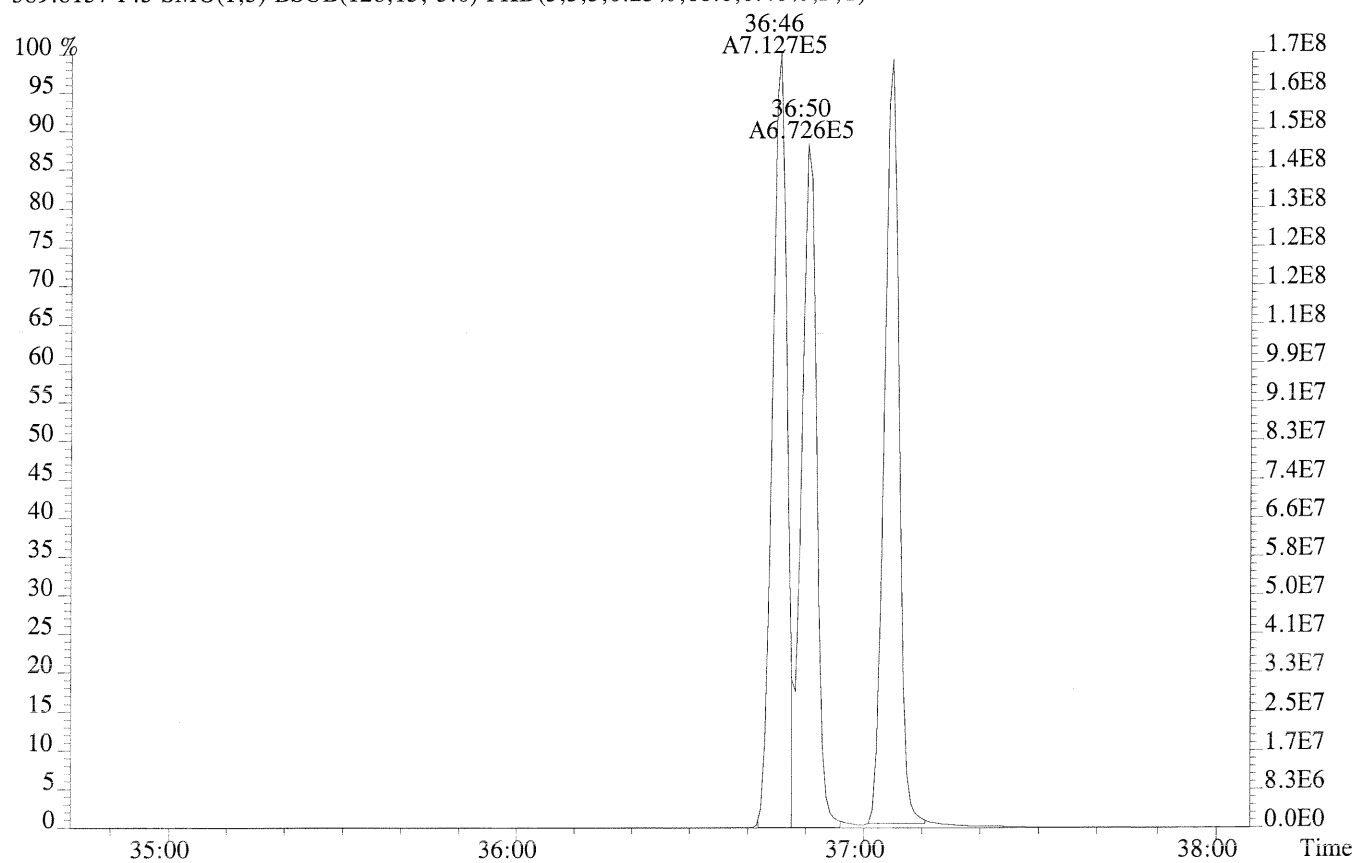
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1300.0,0.40%,F,T)



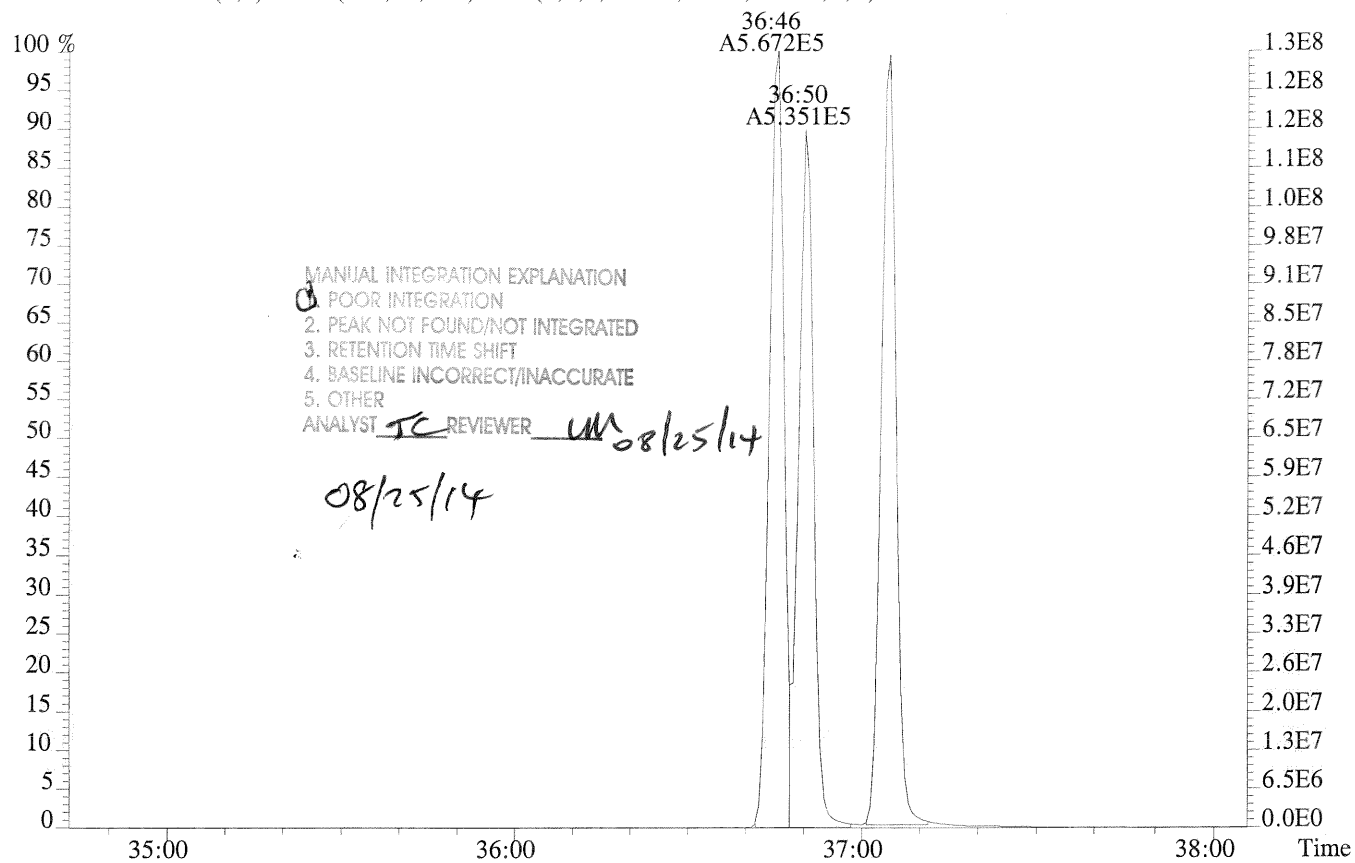
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



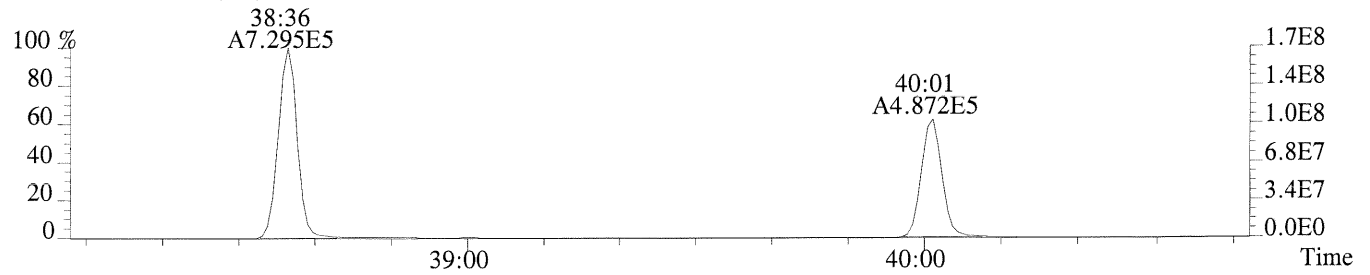
File:P230735 #1-307 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS5  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,T)



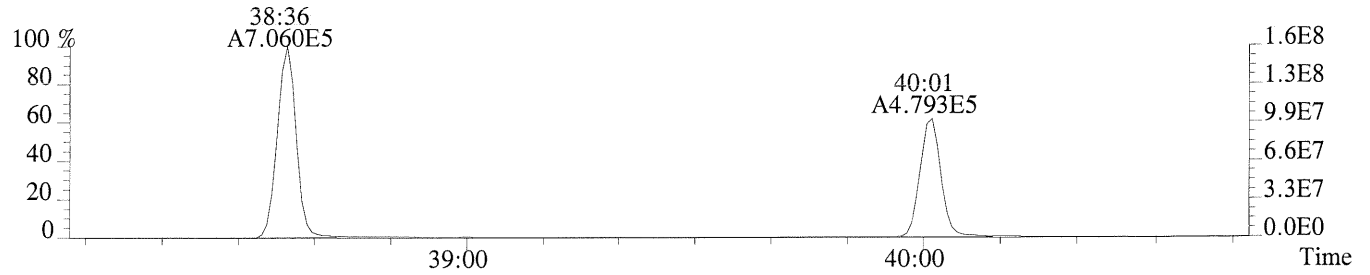
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,508.0,0.40%,F,T)



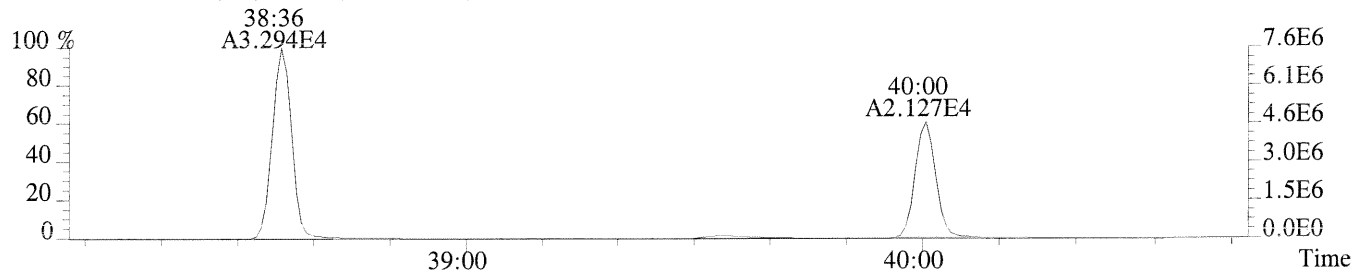
File:P230735 #1-234 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS5  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,24216.0,0.50%,F,T)



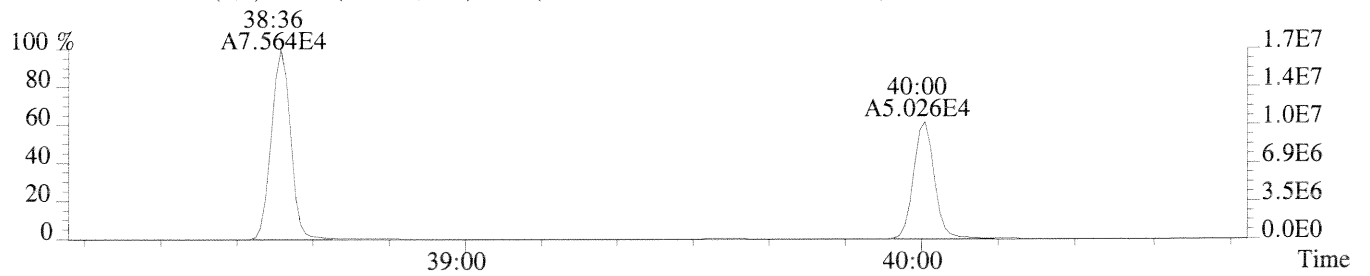
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,34108.0,0.50%,F,T)



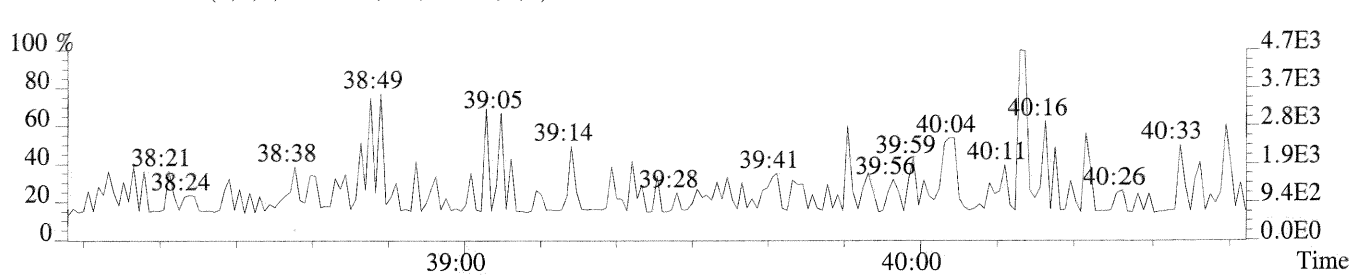
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.50%,F,T)



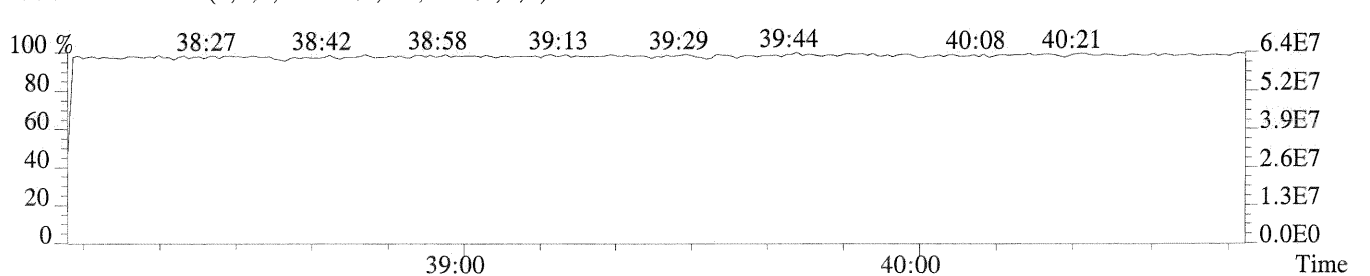
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3044.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

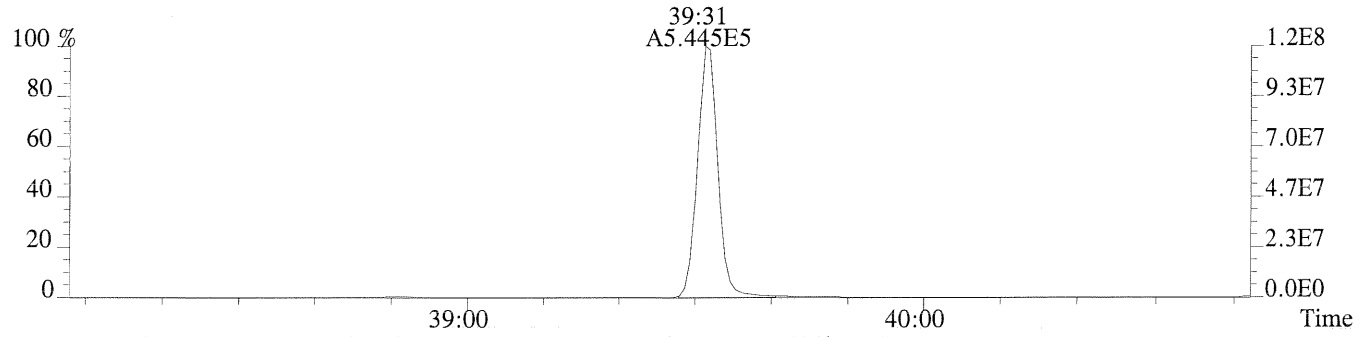


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

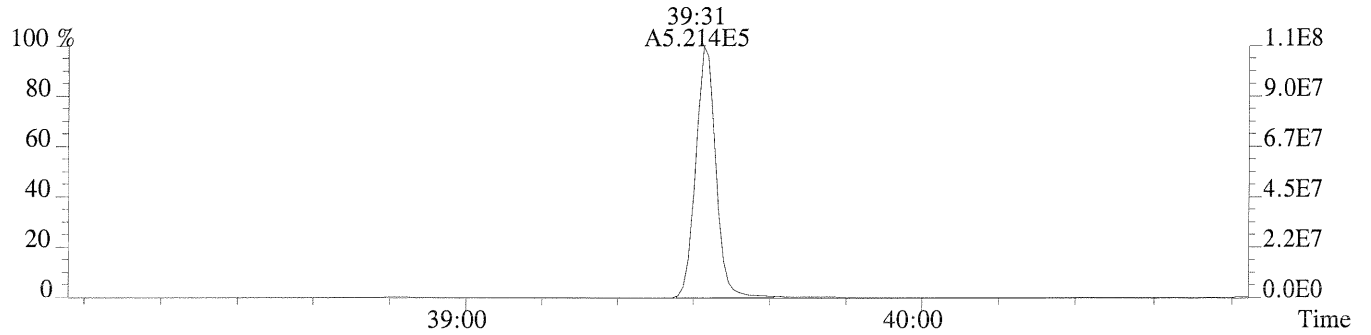




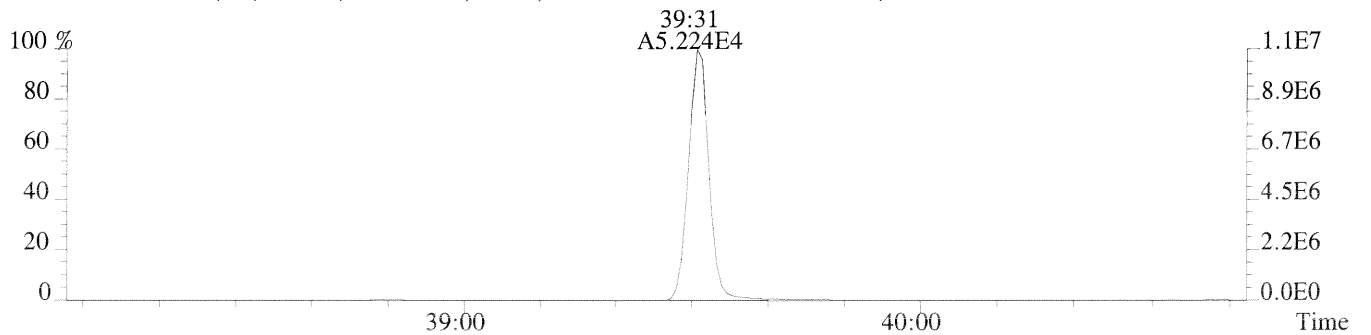
File:P230735 #1-234 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:ICAL CS5  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5180.0,0.40%,F,T)



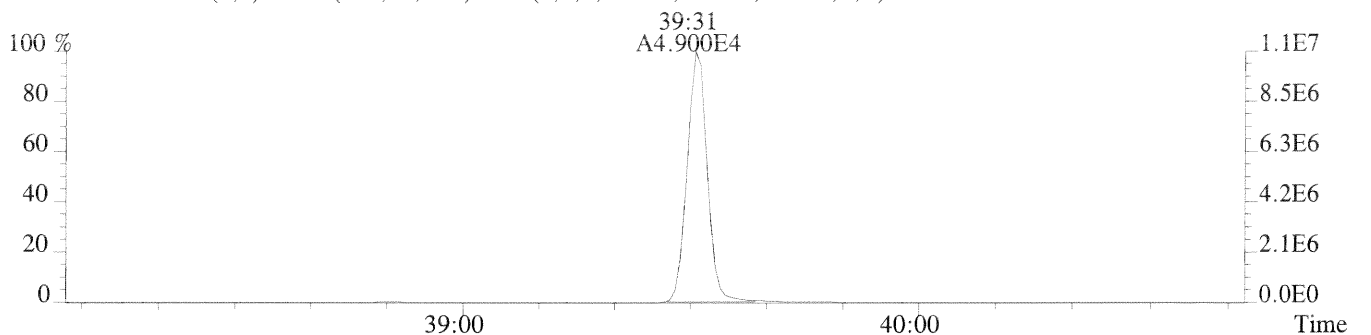
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4320.0,0.40%,F,T)



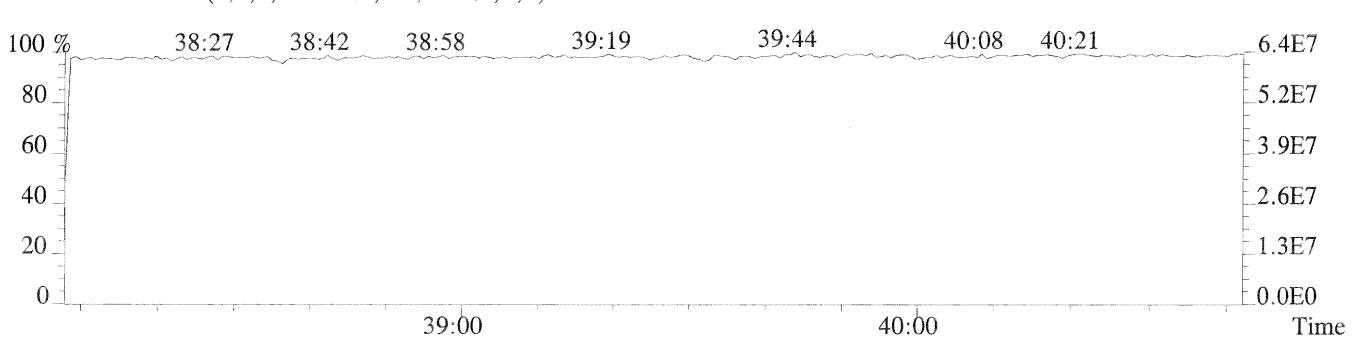
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1576.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1092.0,0.40%,F,T)



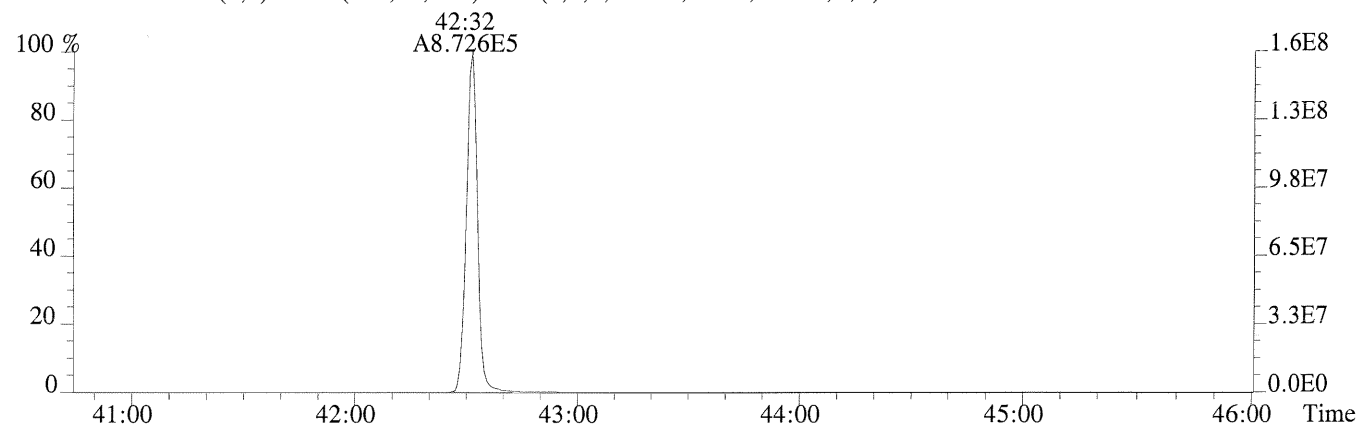
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



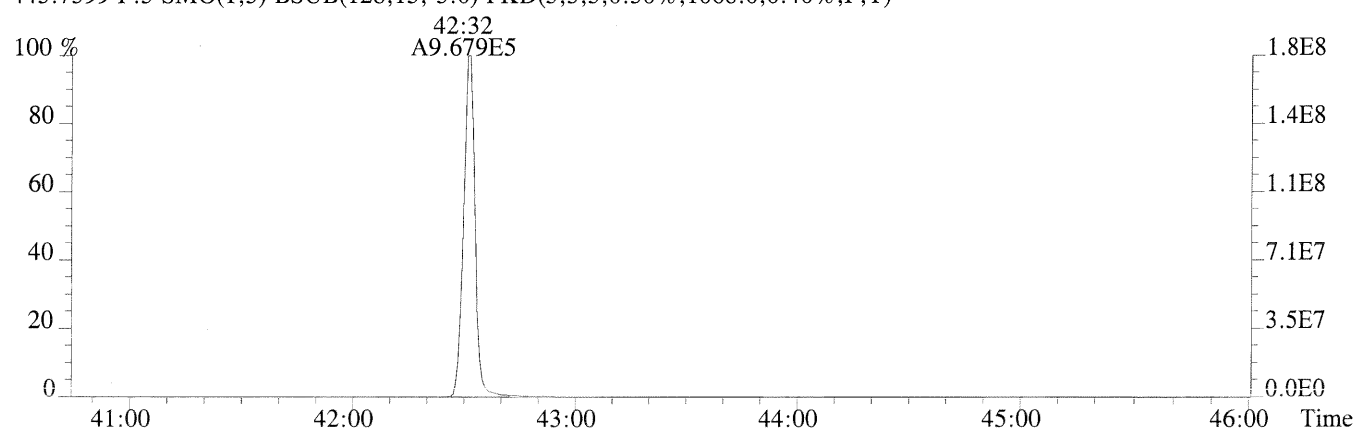
File:P230735 #1-485 Acq:24-AUG-2014 15:22:09 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:ICAL CS5

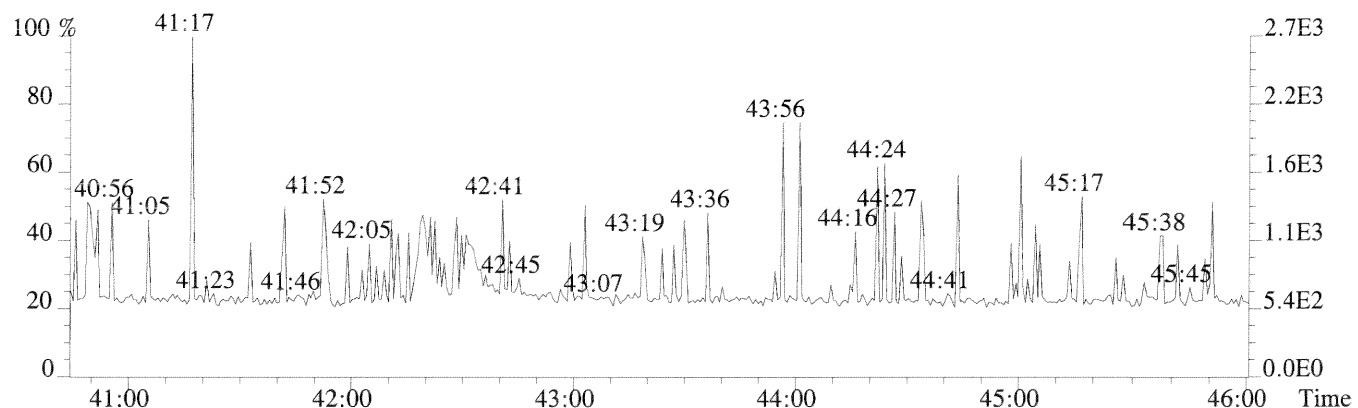
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,388.0,0.40%,F,T)



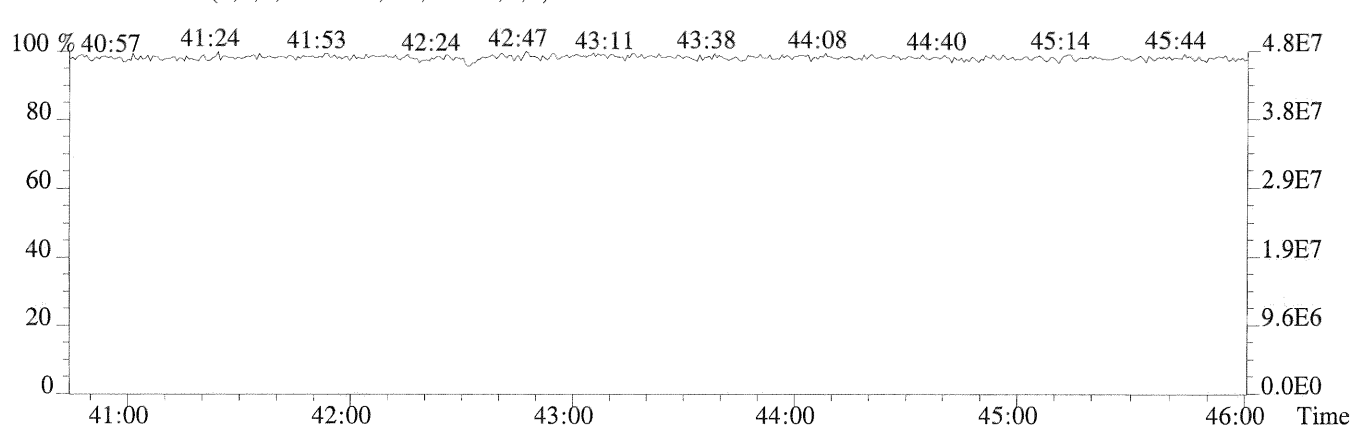
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1068.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

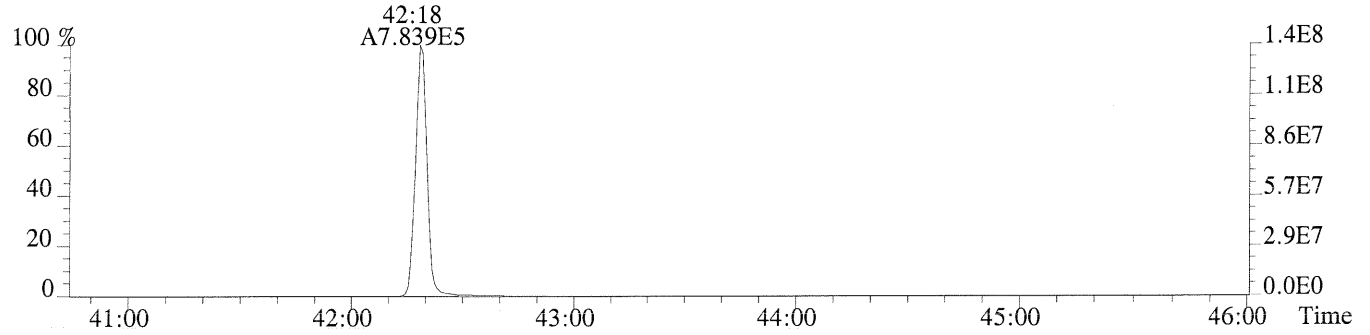


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

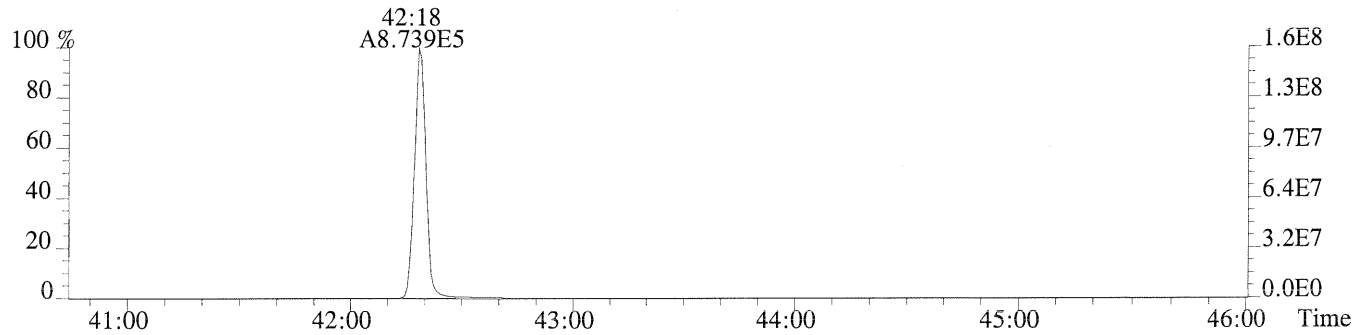


Sample#1 Exp:ICAL CS5

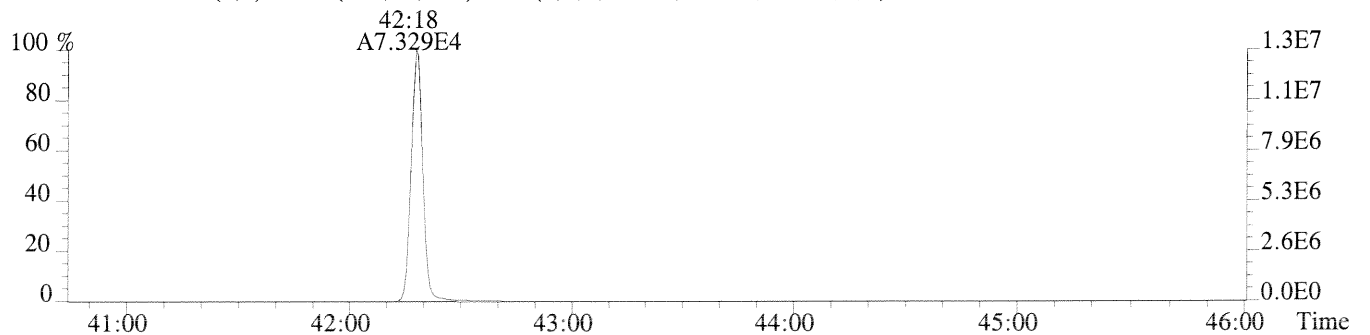
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,364.0,0.40%,F,T)



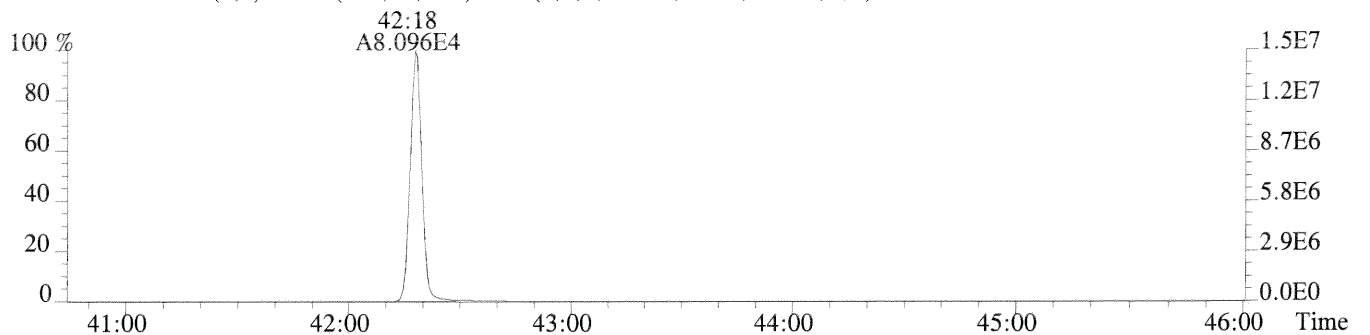
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,424.0,0.40%,F,T)



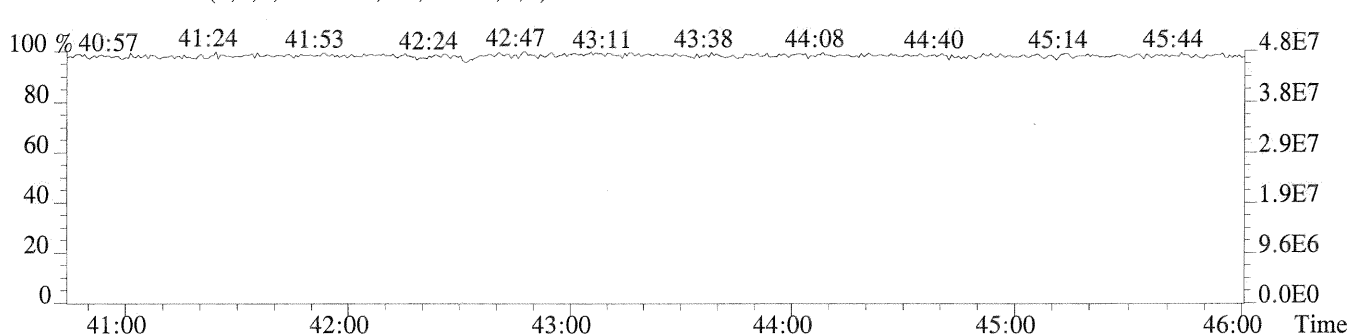
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1424.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,704.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230736

Analysis Date: 24-AUG-14 Time: 16:10:02

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	9.6	7.8 - 12.9	-4.5
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	50	39 - 65	0.6
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	53	39 - 64	6.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	45	39 - 64	-9.7
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	48	41 - 61	-5.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	49	43 - 58	-2.5
OCDD	M+2/M+4	0.89	0.76-1.02	92	79 - 126	-8.1
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	9.8	8.4 - 12.0	-2.4
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	47	41 - 60	-6.0
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	52	41 - 61	4.3
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	49	45 - 56	-3.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	50	44 - 57	0.7
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	49	45 - 56	-2.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	49	44 - 57	-1.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	49	45 - 55	-2.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	53	43 - 58	5.3
OCDF	M+2/M+4	0.89	0.76-1.02	81	63 - 159	-18.9

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 08/24/14

Instrument ID: E-HRMS-04

GC Column ID: DB-5MSUI

VER Data Filename: P230736

Analysis Date: 24-AUG-14 Time: 16:10:02

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	101	82 - 121	0.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	95	62 - 160	-5.1
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	98	85 - 117	-1.7
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	110	85 - 118	9.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	97	72 - 138	-2.6
13C-OCDD	M+2/M+4	0.90	0.76-1.02	198	96 - 415	-0.8
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	98	71 - 140	-1.7
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	97	76 - 130	-2.9
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	92	77 - 130	-8.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	76 - 131	1.1
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	97	70 - 143	-2.6
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	88	74 - 135	-11.8
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	99	73 - 137	-0.6
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	97	78 - 129	-3.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	79	77 - 129	-20.6
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.7	7.8 - 12.7	-3.1

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
METHOD 1613B/8290A  
Sample Response Summary

CLIENT ID.  
2ND SOURCE ICV

Run #13 Filename P230736 #1 Samp: 1 Inj: 1 Acquired: 24-AUG-14 16:10:02  
Processed: 25-AUG-14 09:49:03 LAB. ID: 54819

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:20	8.967e+03	1.163e+04	0.77	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	32:29	7.811e+04	5.069e+04	1.54	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	33:23	7.885e+04	5.149e+04	1.53	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:01	6.550e+04	5.227e+04	1.25	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:08	6.891e+04	5.519e+04	1.25	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	36:38	6.358e+04	5.196e+04	1.22	yes	no	1.001
7	Unk	1,2,3,7,8,9-HxCDF	37:23	4.484e+04	3.600e+04	1.25	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	38:37	5.084e+04	4.899e+04	1.04	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	2.945e+04	2.938e+04	1.00	yes	no	1.000
10	Unk	OCDF	42:32	4.485e+04	5.047e+04	0.89	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:06	6.857e+03	8.484e+03	0.81	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	33:39	5.655e+04	3.525e+04	1.60	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	36:46	5.150e+04	4.102e+04	1.26	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	36:51	4.790e+04	3.785e+04	1.27	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:05	5.218e+04	4.113e+04	1.27	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	39:32	3.705e+04	3.569e+04	1.04	yes	no	1.000
17	Unk	OCDD	42:18	4.965e+04	5.606e+04	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	28:19	9.511e+04	1.189e+05	0.80	yes	no	0.993
19	IS	13C-1,2,3,7,8-PeCDF	32:28	1.683e+05	1.058e+05	1.59	yes	no	1.139
20	IS	13C-2,3,4,7,8-PeCDF	33:22	1.582e+05	9.958e+04	1.59	yes	no	1.170
21	IS	13C-1,2,3,4,7,8-HxCDF	36:01	6.958e+04	1.336e+05	0.52	yes	no	0.971
22	IS	13C-1,2,3,6,7,8-HxCDF	36:07	7.427e+04	1.437e+05	0.52	yes	no	0.974
23	IS	13C-2,3,4,6,7,8-HxCDF	36:37	7.288e+04	1.389e+05	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:23	4.995e+04	9.574e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:36	4.671e+04	1.043e+05	0.45	yes	no	1.042
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	2.623e+04	6.149e+04	0.43	yes	no	1.079
27	IS	13C-2,3,7,8-TCDD	29:05	6.688e+04	8.453e+04	0.79	yes	no	1.020
28	IS	13C-1,2,3,7,8-PeCDD	33:39	1.129e+05	7.104e+04	1.59	yes	no	1.180
29	IS	13C-1,2,3,4,7,8-HxCDD	36:45	8.622e+04	6.886e+04	1.25	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	36:50	9.850e+04	7.758e+04	1.27	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:31	7.258e+04	6.909e+04	1.05	yes	no	1.066
32	IS	13C-OCDD	42:18	9.340e+04	1.034e+05	0.90	yes	no	1.141
33RS/RT		13C-1,2,3,4-TCDD	28:31	6.605e+04	8.344e+04	0.79	yes	no	*
34RS/RT		13C-1,2,3,7,8,9-HxCDD	37:04	9.687e+04	7.440e+04	1.30	yes	no	*
35 C/Up		37Cl-2,3,7,8-TCDD	29:06	1.592e+04				no	1.021

ALS ENVIRONMENTAL  
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Houston, TX 77099  
Office (713) 266-1599. Fax (713) 266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 2ND SOURCE ICV

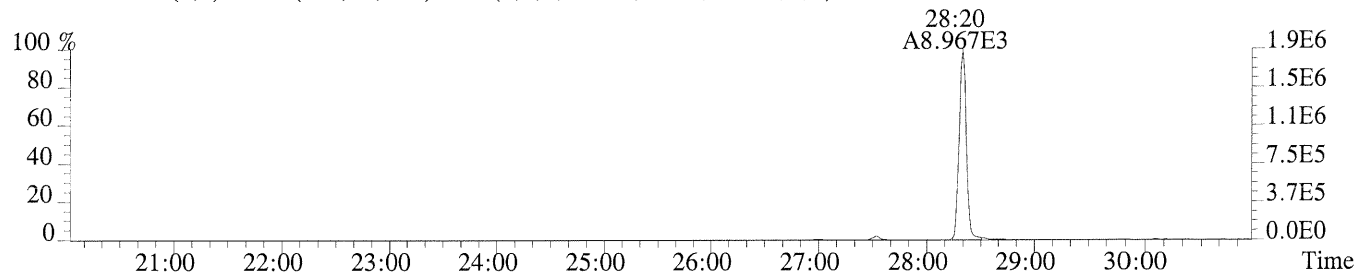
Run #13 Filename P230736 Samp: 1 Inj: 1 Acquired: 24-AUG-14 16:10:02  
 Processed: 25-AUG-14 09:49:03 LAB. ID: 54819

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.87e+06	4.08e+02	4.6e+03	2.37e+06	2.59e+03	9.1e+02
2	1,2,3,7,8-PeCDF	1.48e+07	1.95e+03	7.6e+03	9.71e+06	2.21e+03	4.4e+03
3	2,3,4,7,8-PeCDF	1.58e+07	1.95e+03	8.1e+03	1.04e+07	2.21e+03	4.7e+03
4	1,2,3,4,7,8-HxCDF	1.42e+07	1.22e+03	1.2e+04	1.14e+07	1.63e+03	7.0e+03
5	1,2,3,6,7,8-HxCDF	1.47e+07	1.22e+03	1.2e+04	1.18e+07	1.63e+03	7.3e+03
6	2,3,4,6,7,8-HxCDF	1.38e+07	1.22e+03	1.1e+04	1.13e+07	1.63e+03	7.0e+03
7	1,2,3,7,8,9-HxCDF	9.82e+06	1.22e+03	8.1e+03	7.76e+06	1.63e+03	4.8e+03
8	1,2,3,4,6,7,8-HpCDF	1.11e+07	8.52e+03	1.3e+03	1.08e+07	6.66e+03	1.6e+03
9	1,2,3,4,7,8,9-HpCDF	6.06e+06	8.52e+03	7.1e+02	6.04e+06	6.66e+03	9.1e+02
10	OCDF	8.05e+06	6.16e+02	1.3e+04	8.73e+06	1.47e+03	5.9e+03
11	2,3,7,8-TCDD	1.47e+06	6.24e+02	2.4e+03	1.81e+06	6.44e+02	2.8e+03
12	1,2,3,7,8-PeCDD	1.15e+07	1.44e+03	7.9e+03	7.23e+06	4.32e+02	1.7e+04
13	1,2,3,4,7,8-HxCDD	1.19e+07	6.24e+02	1.9e+04	9.56e+06	1.13e+03	8.5e+03
14	1,2,3,6,7,8-HxCDD	1.06e+07	6.24e+02	1.7e+04	8.34e+06	1.13e+03	7.4e+03
15	1,2,3,7,8,9-HxCDD	1.18e+07	6.24e+02	1.9e+04	9.33e+06	1.13e+03	8.3e+03
16	1,2,3,4,6,7,8-HpCDD	8.09e+06	1.66e+03	4.9e+03	7.78e+06	1.36e+03	5.7e+03
17	OCDD	8.90e+06	4.20e+02	2.1e+04	1.01e+07	8.68e+02	1.2e+04
18	13C-2,3,7,8-TCDF	1.93e+07	1.57e+03	1.2e+04	2.41e+07	7.72e+02	3.1e+04
19	13C-1,2,3,7,8-PeCDF	3.23e+07	1.64e+03	2.0e+04	2.04e+07	1.82e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	3.22e+07	1.64e+03	2.0e+04	2.03e+07	1.82e+03	1.1e+04
21	13C-1,2,3,4,7,8-HxCDF	1.52e+07	9.36e+02	1.6e+04	2.91e+07	2.03e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	1.59e+07	9.36e+02	1.7e+04	3.09e+07	2.03e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.57e+07	9.36e+02	1.7e+04	3.00e+07	2.03e+03	1.5e+04
24	13C-1,2,3,7,8,9-HxCDF	1.09e+07	9.36e+02	1.2e+04	2.07e+07	2.03e+03	1.0e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.04e+07	2.98e+03	3.5e+03	2.29e+07	1.16e+04	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	5.43e+06	2.98e+03	1.8e+03	1.25e+07	1.16e+04	1.1e+03
27	13C-2,3,7,8-TCDD	1.45e+07	4.30e+03	3.4e+03	1.83e+07	1.72e+03	1.1e+04
28	13C-1,2,3,7,8-PeCDD	2.30e+07	9.92e+02	2.3e+04	1.45e+07	5.08e+02	2.8e+04
29	13C-1,2,3,4,7,8-HxCDD	1.98e+07	7.88e+02	2.5e+04	1.59e+07	8.72e+02	1.8e+04
30	13C-1,2,3,6,7,8-HxCDD	2.17e+07	7.88e+02	2.8e+04	1.71e+07	8.72e+02	2.0e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.58e+07	2.23e+03	7.1e+03	1.48e+07	1.33e+03	1.1e+04
32	13C-OCDD	1.67e+07	5.24e+02	3.2e+04	1.87e+07	5.92e+02	3.2e+04
33	13C-1,2,3,4-TCDD	1.41e+07	4.30e+03	3.3e+03	1.78e+07	1.72e+03	1.0e+04
34	13C-1,2,3,7,8,9-HxCDD	2.11e+07	7.88e+02	2.7e+04	1.67e+07	8.72e+02	1.9e+04
35	37Cl-2,3,7,8-TCDD	3.41e+06	1.54e+03	2.2e+03			

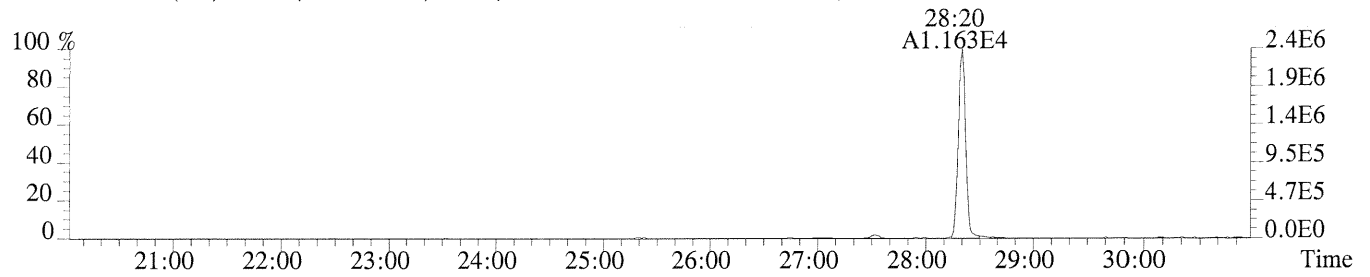
ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713)266-1599. Fax: (713)266-0130

XLSN

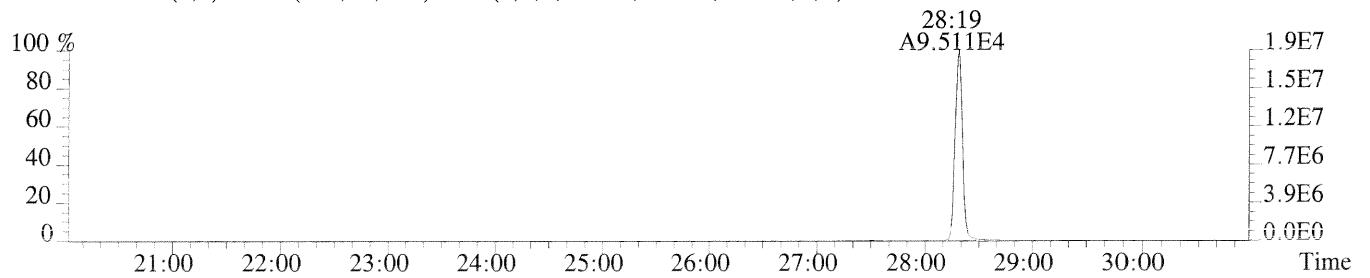
File:P230736 #1-687 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



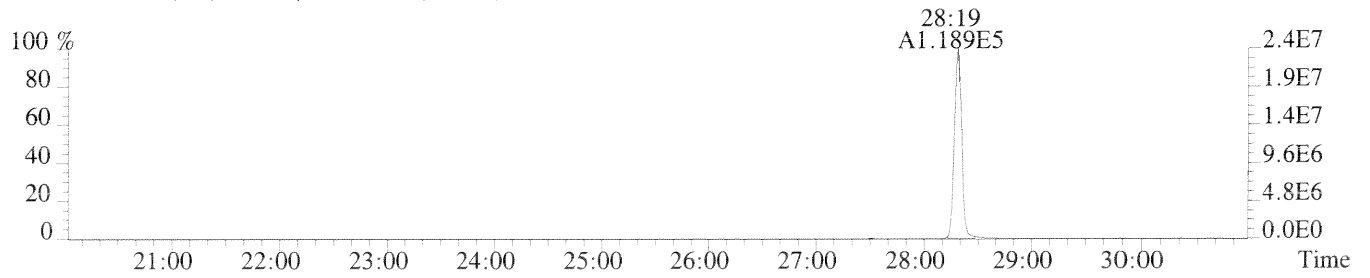
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2592.0,1.00%,F,T)



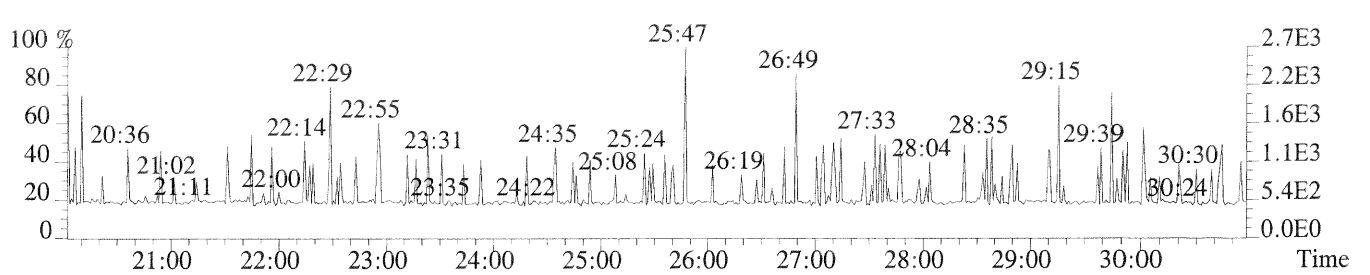
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



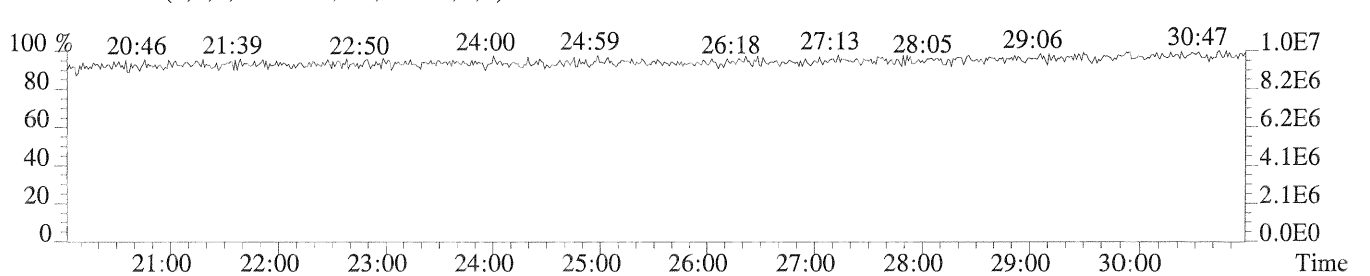
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

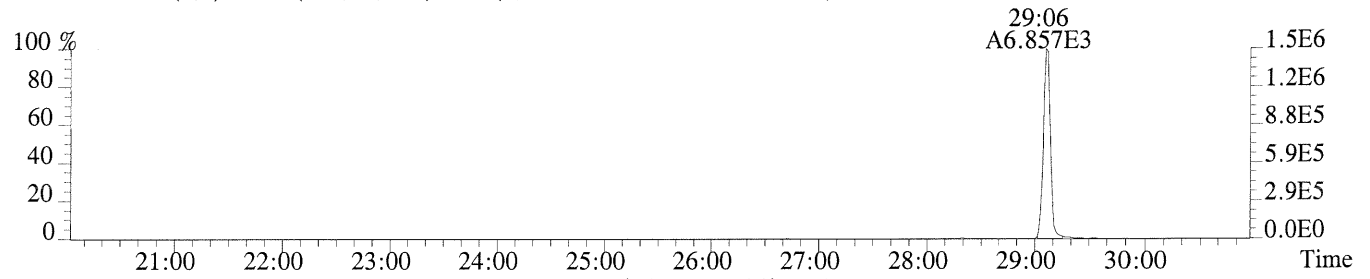


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

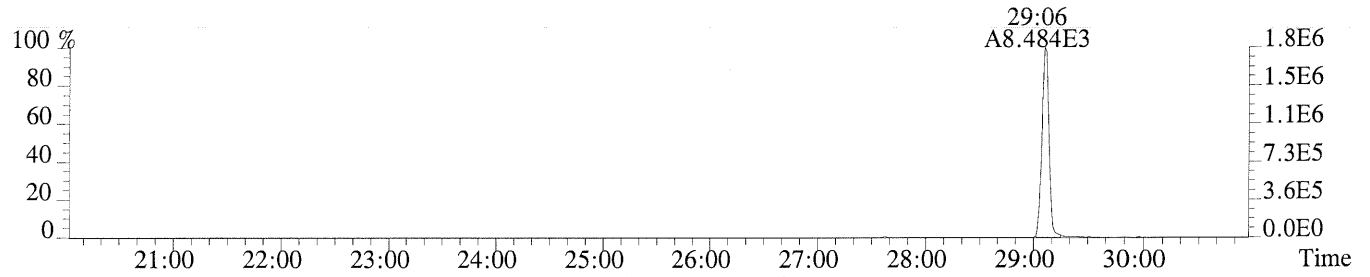




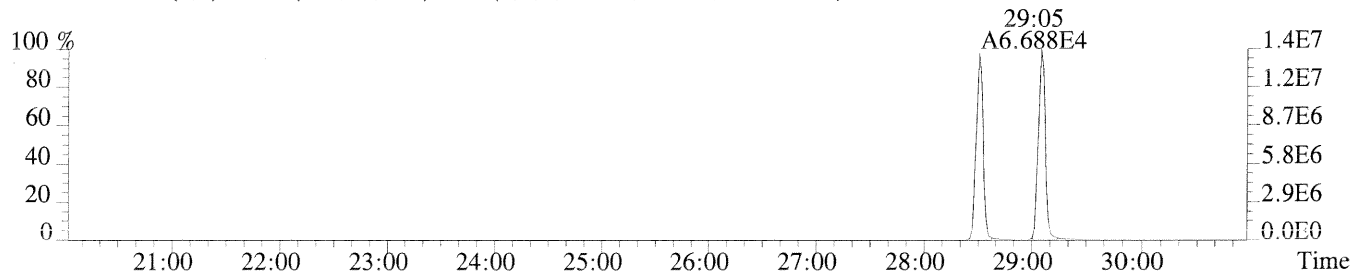
File:P230736 #1-687 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



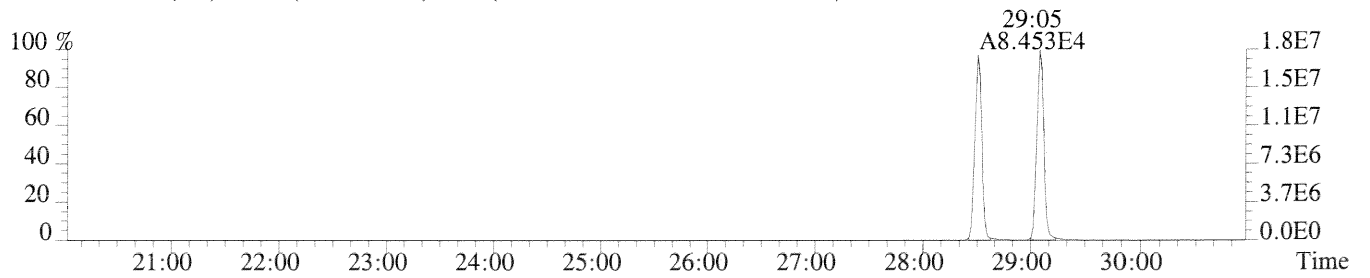
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



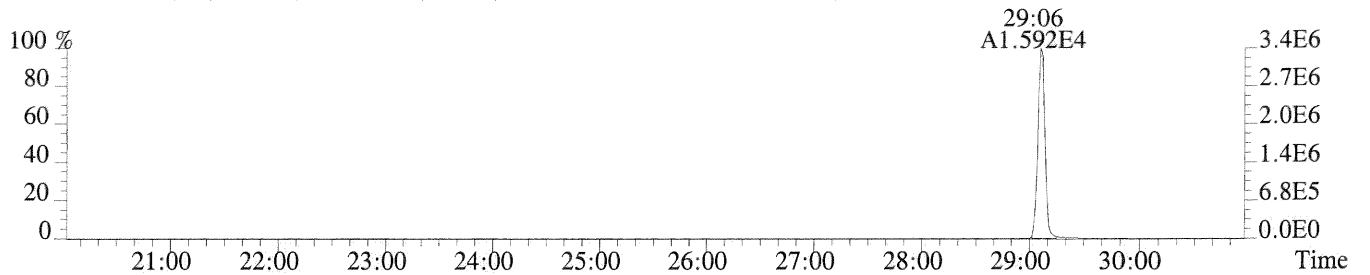
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4296.0,1.00%,F,T)



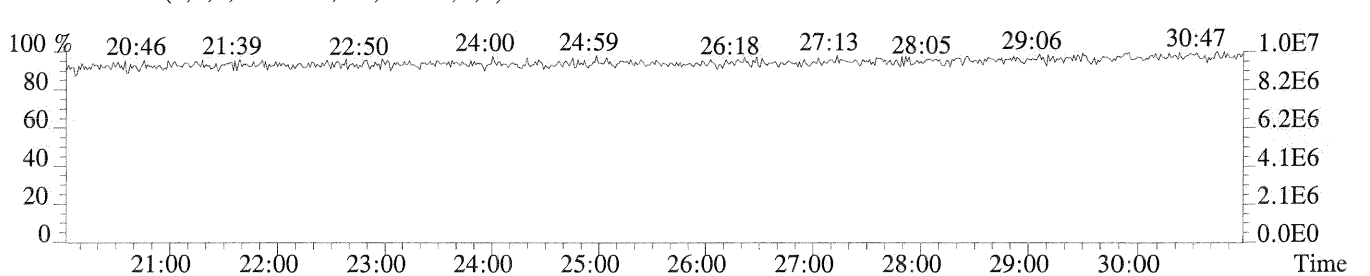
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



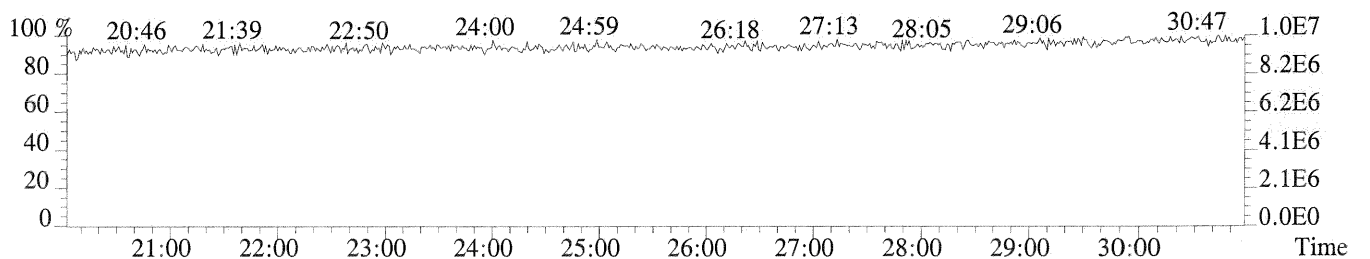
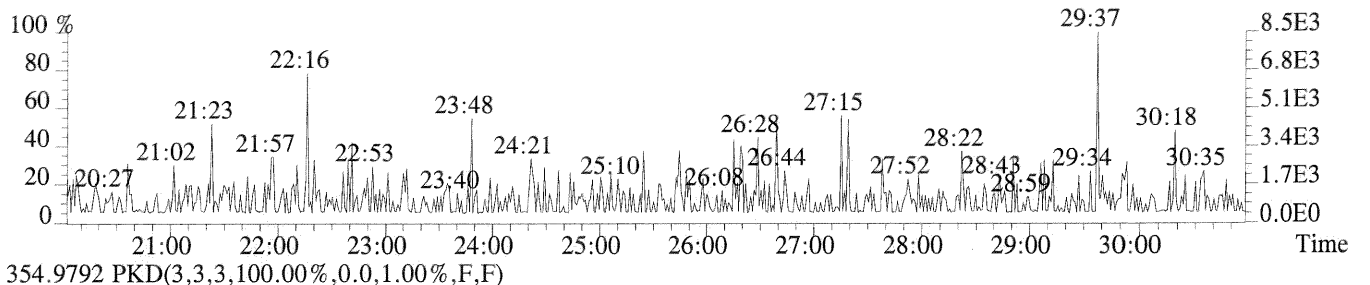
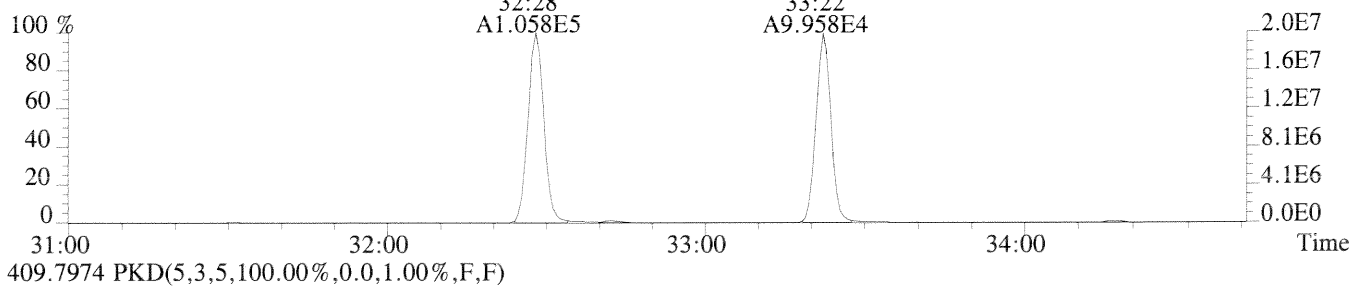
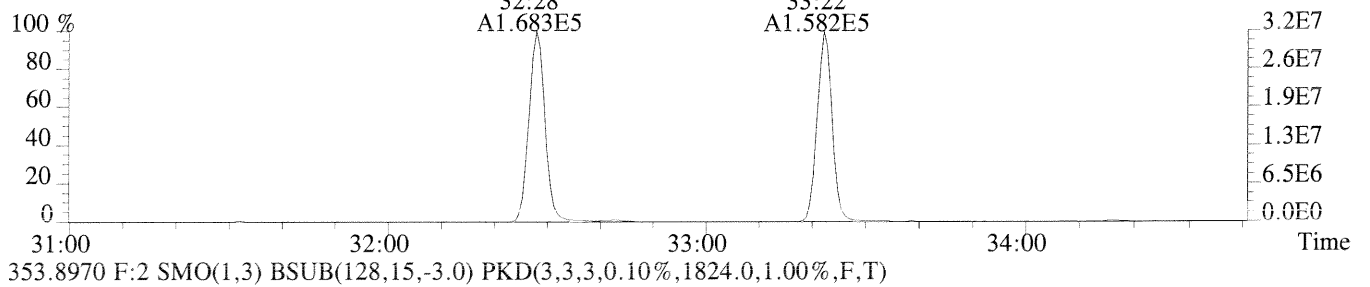
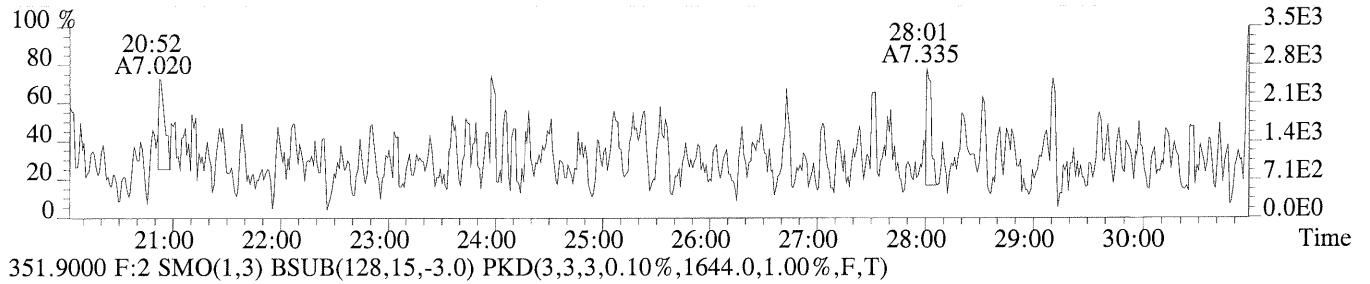
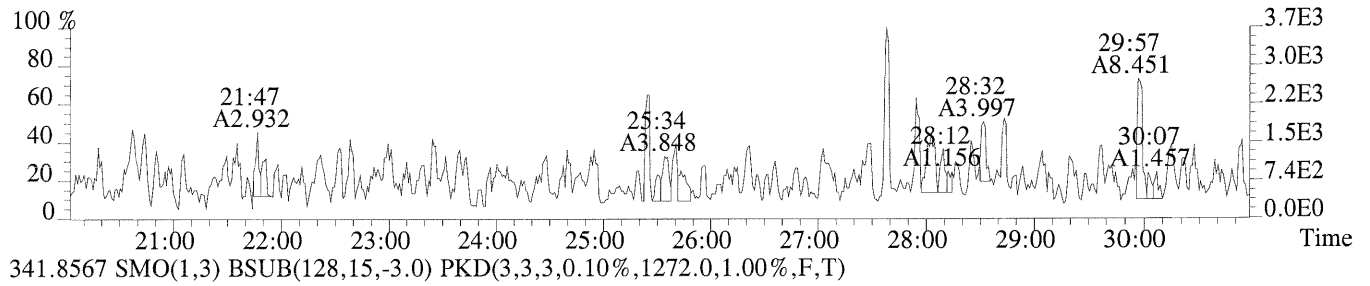
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,T)



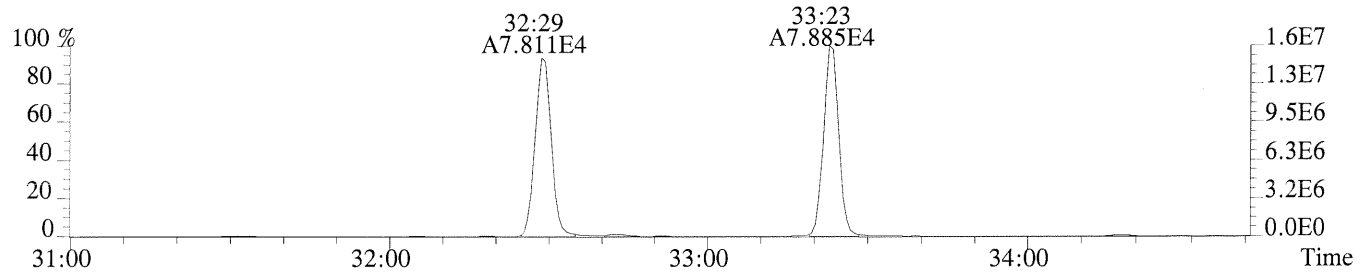
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



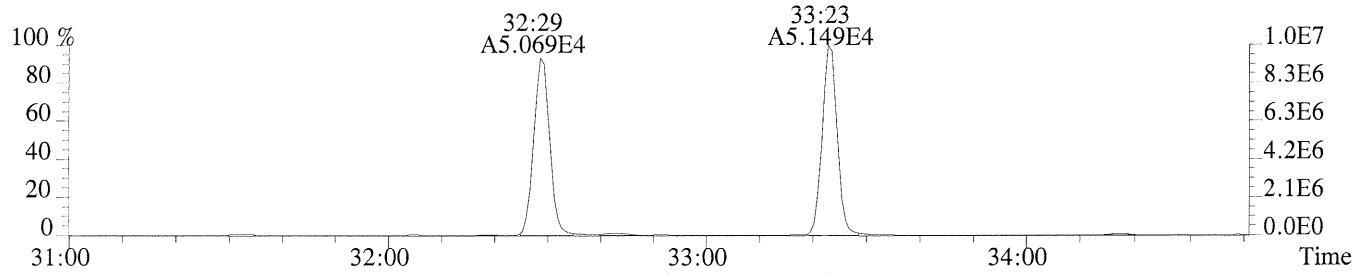
File:P230736 #1-687 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



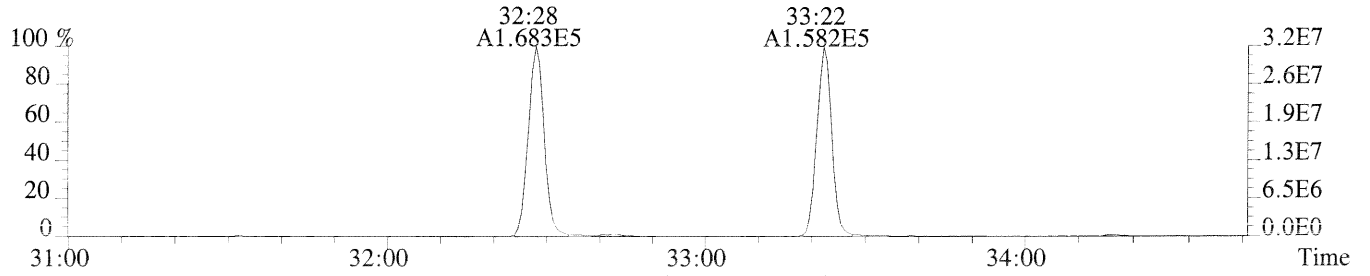
File:P230736 #1-335 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1952.0,1.00%,F,T)



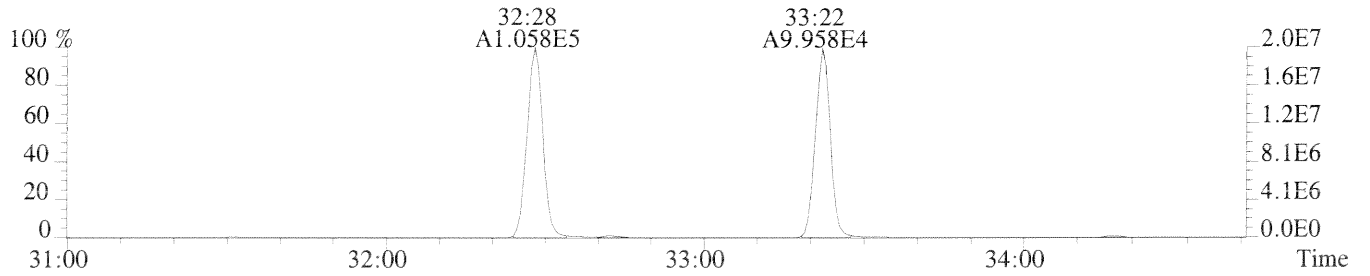
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2208.0,1.00%,F,T)



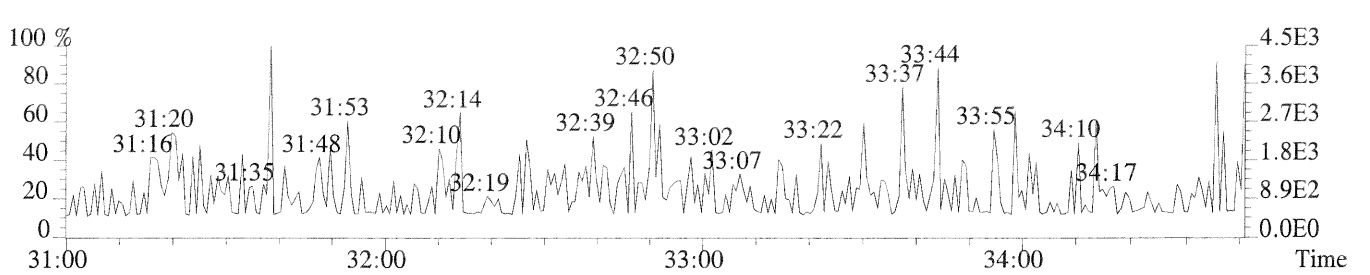
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,T)



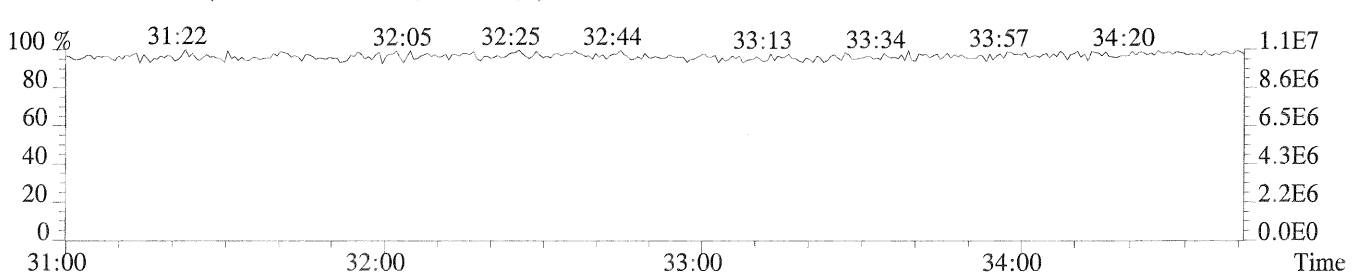
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1824.0,1.00%,F,T)



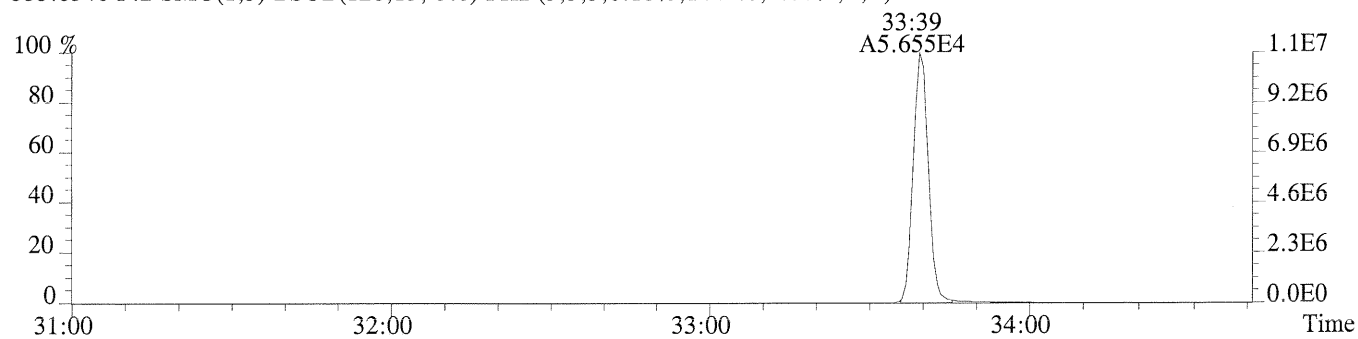
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



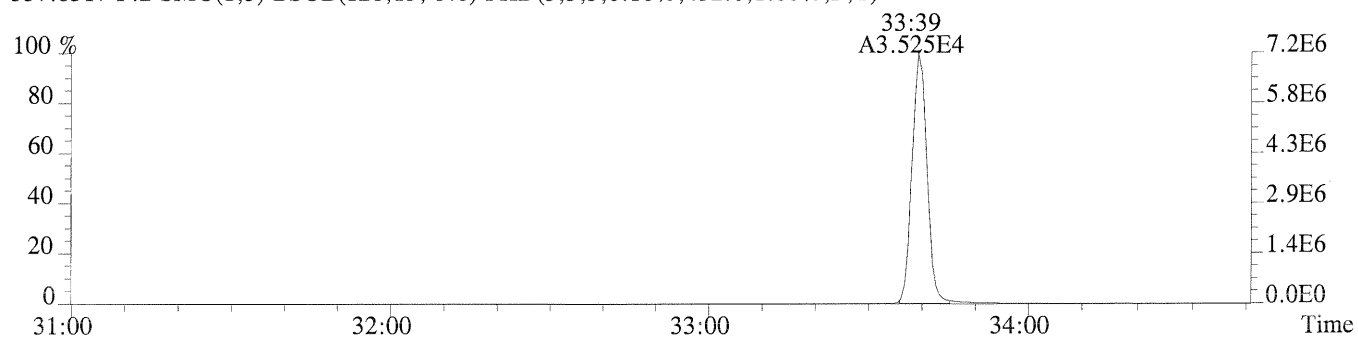
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



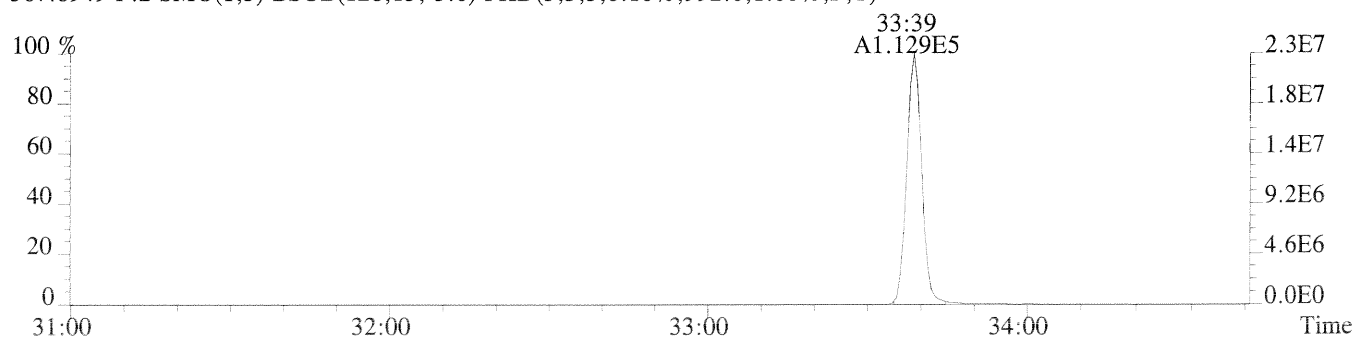
File:P230736 #1-335 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1444.0,1.00%,F,T)



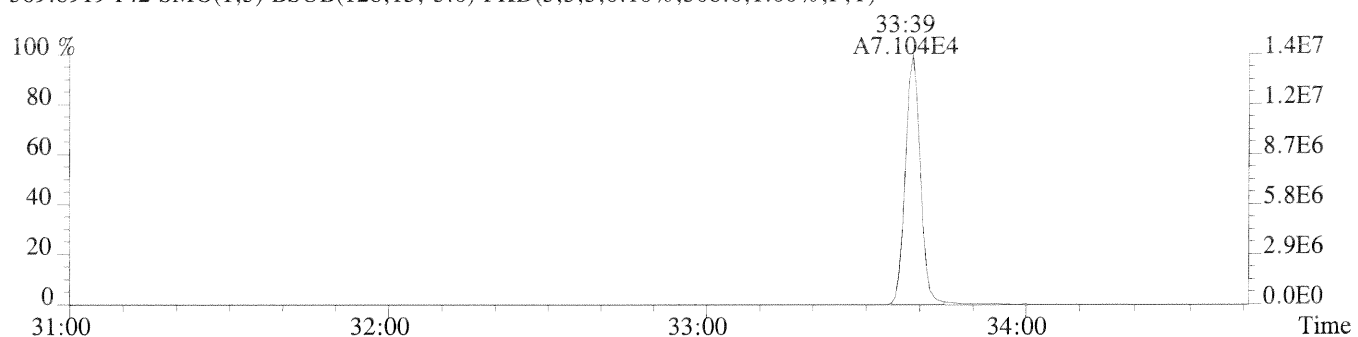
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



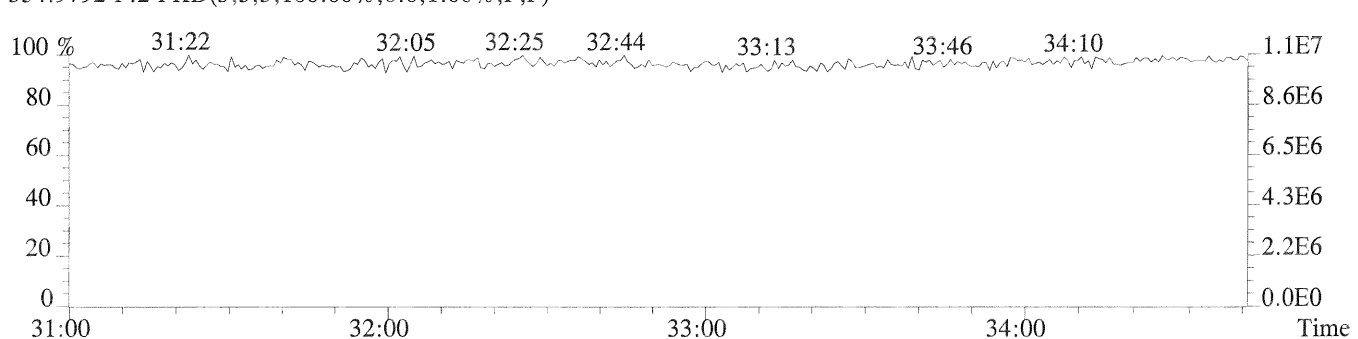
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



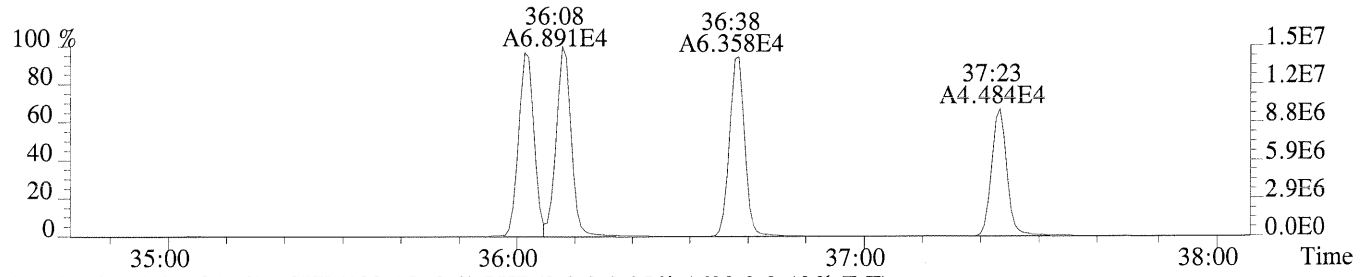
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,T)



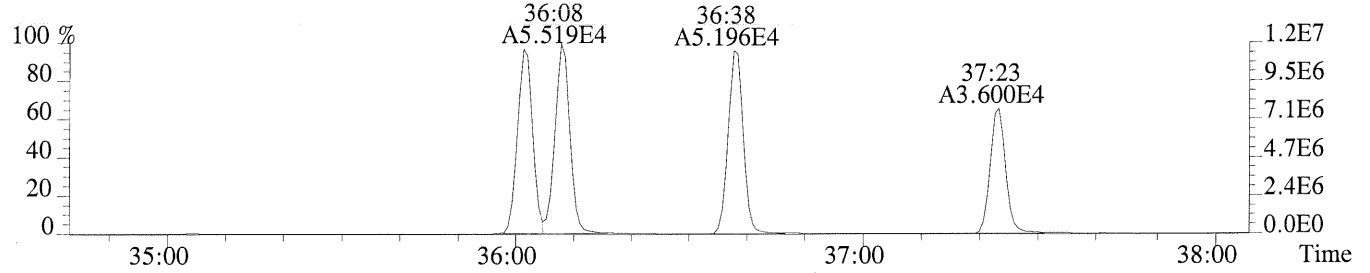
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



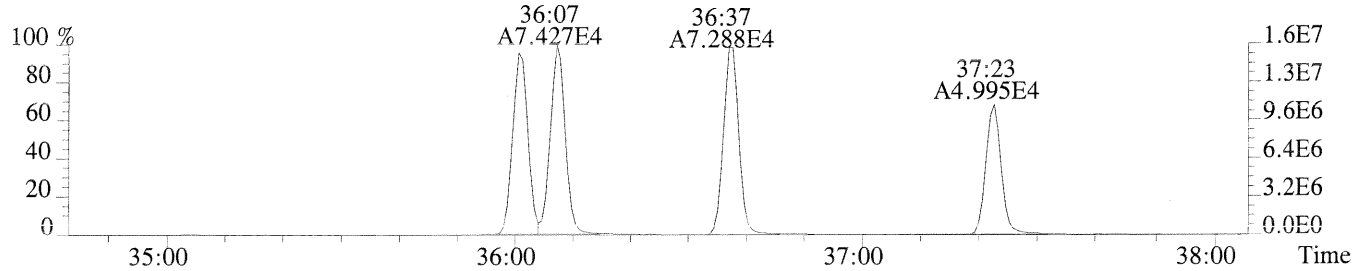
File:P230736 #1-307 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,T)



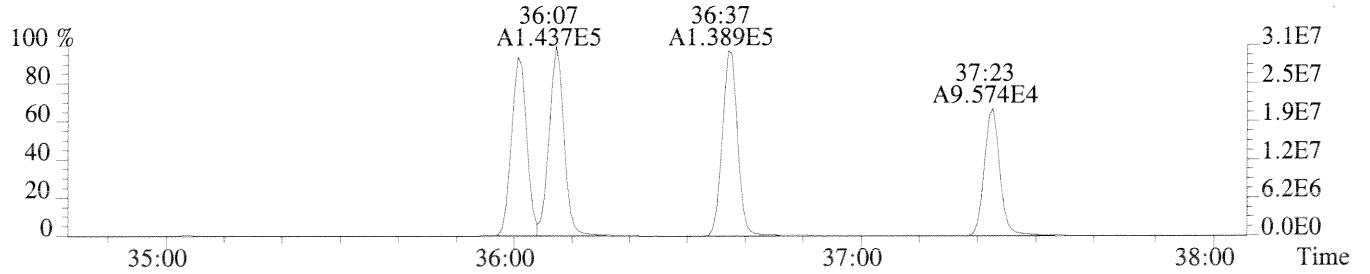
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1628.0,0.40%,F,T)



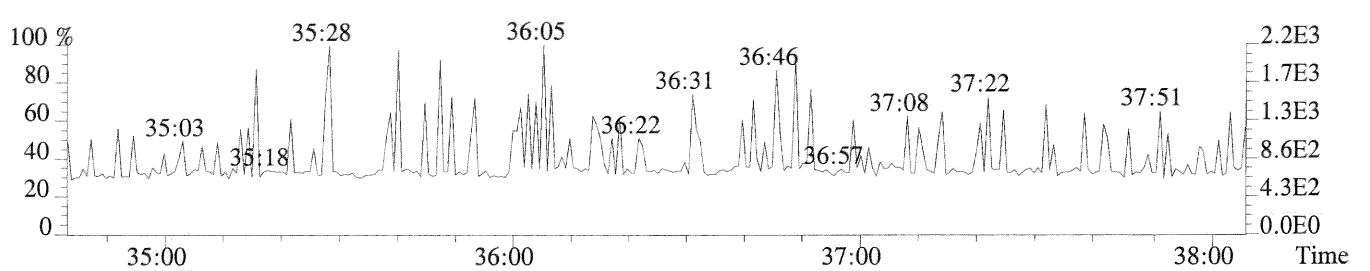
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



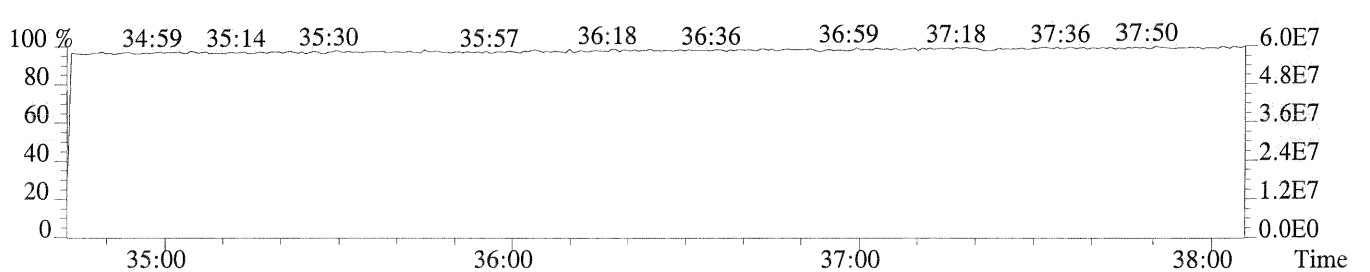
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2028.0,0.40%,F,T)



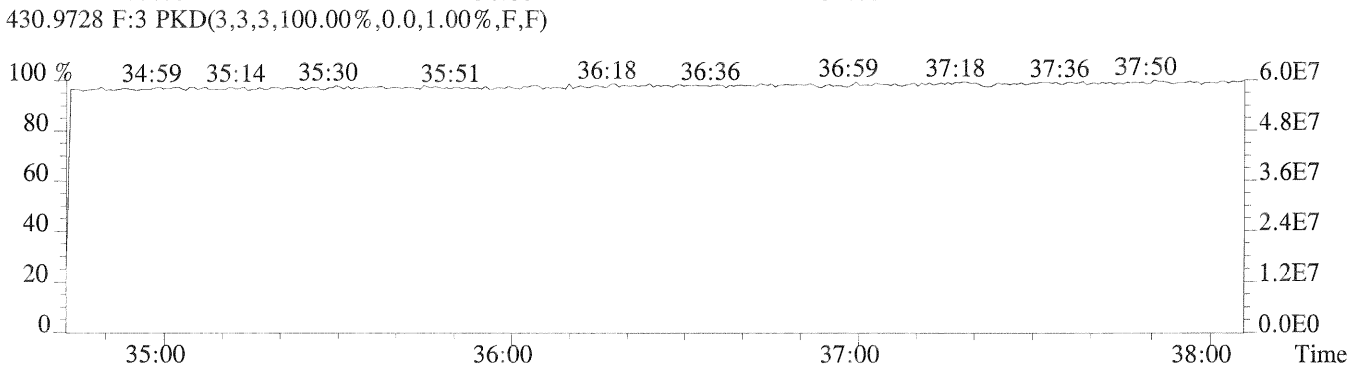
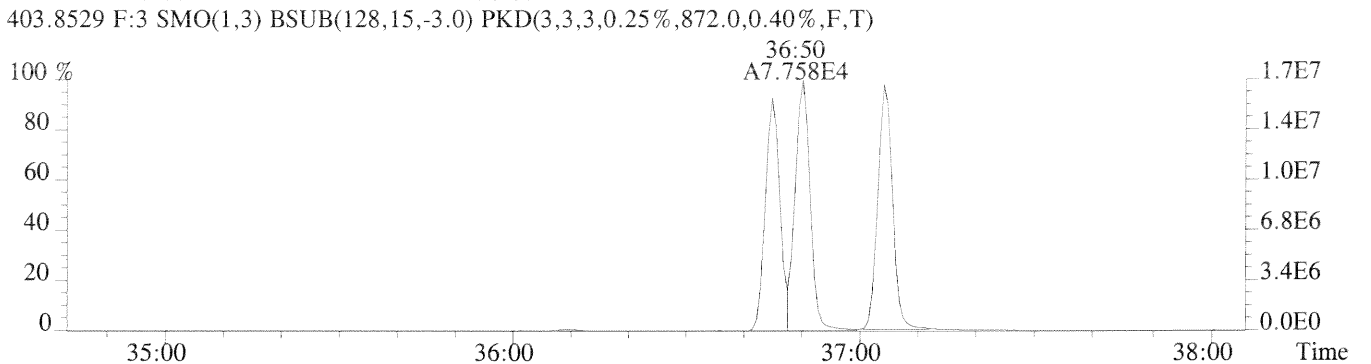
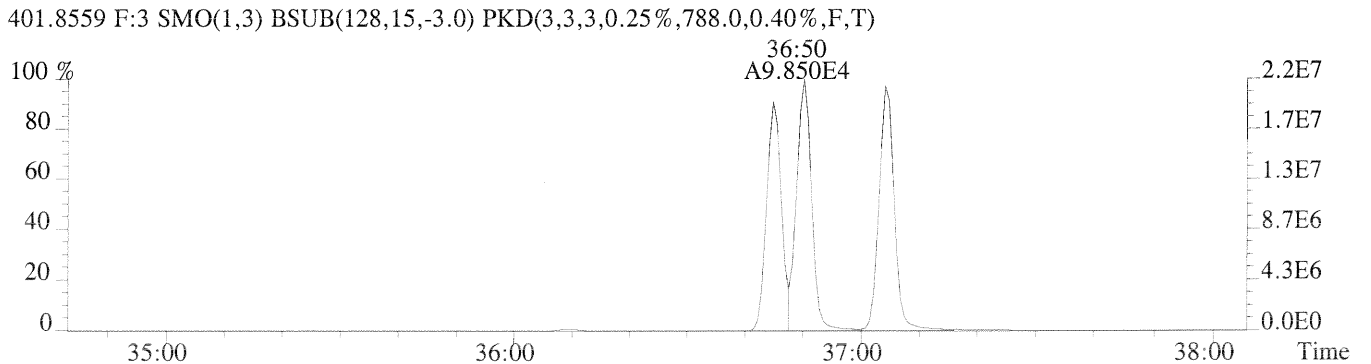
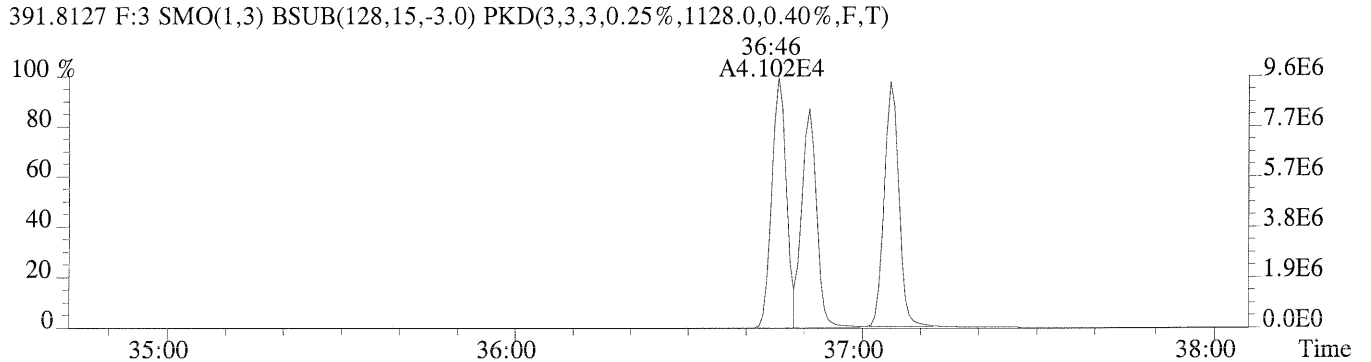
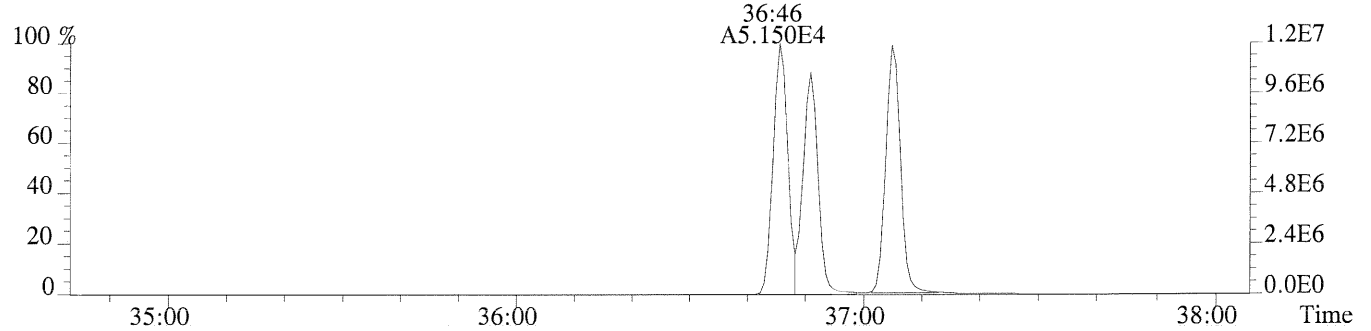
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



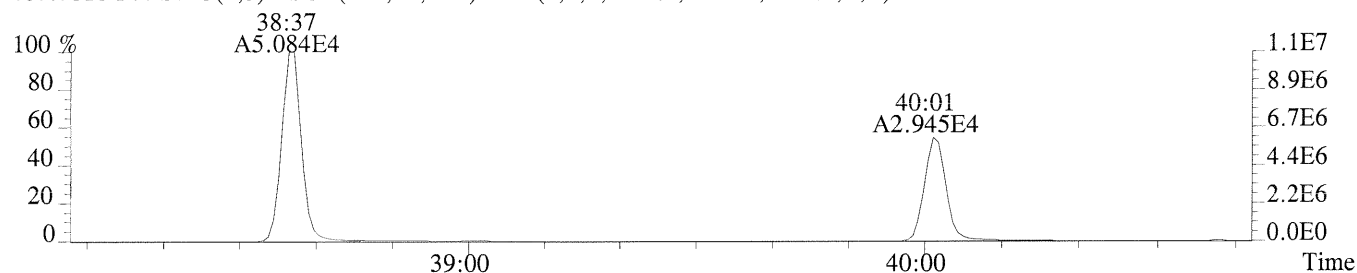
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



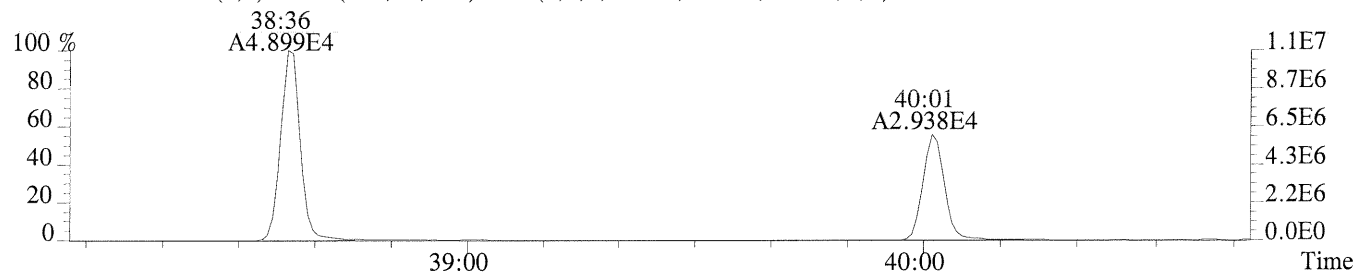
File:P230736 #1-307 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



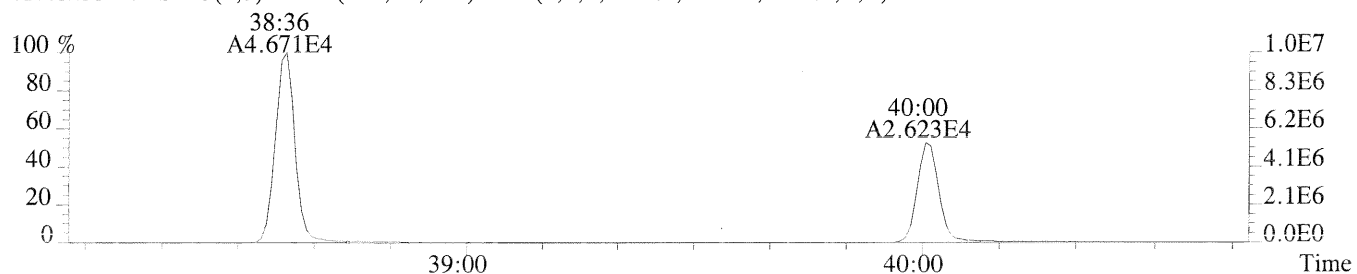
File:P230736 #1-234 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8516.0,0.50%,F,T)



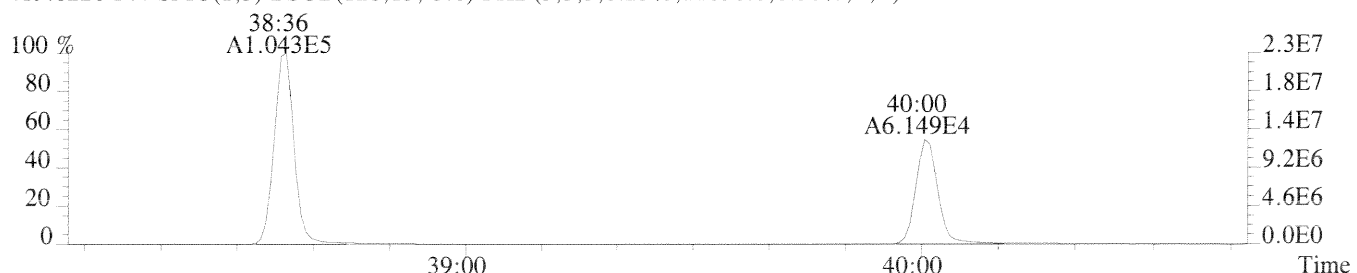
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6660.0,0.50%,F,T)



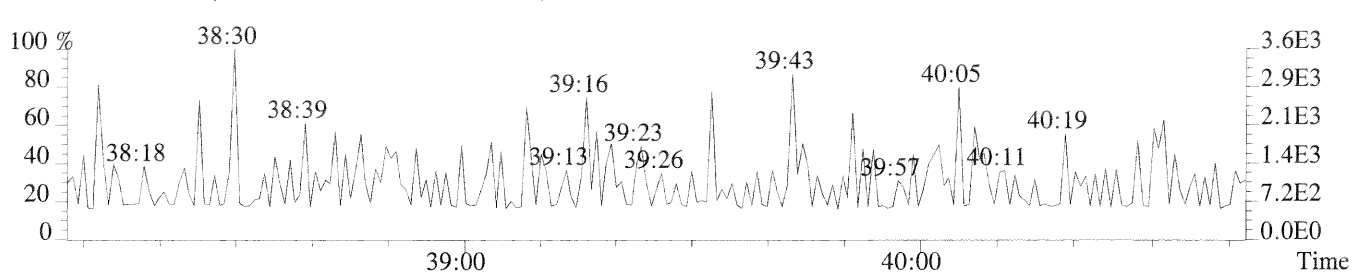
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2980.0,0.50%,F,T)



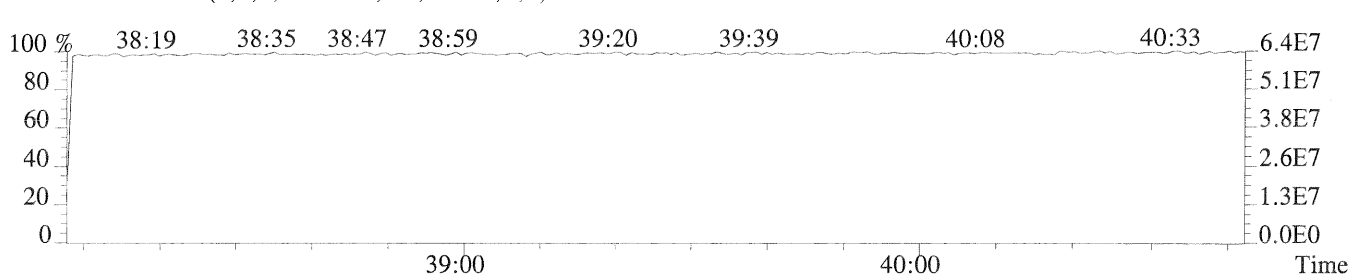
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11636.0,0.50%,F,T)



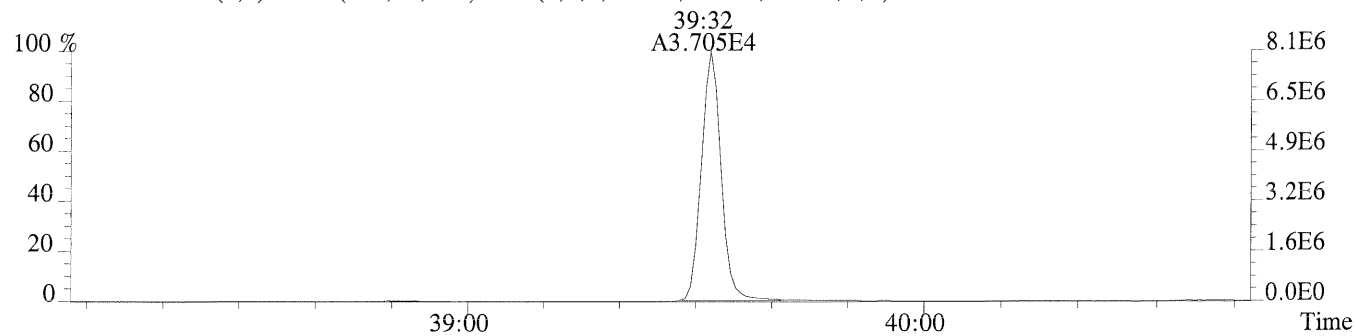
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



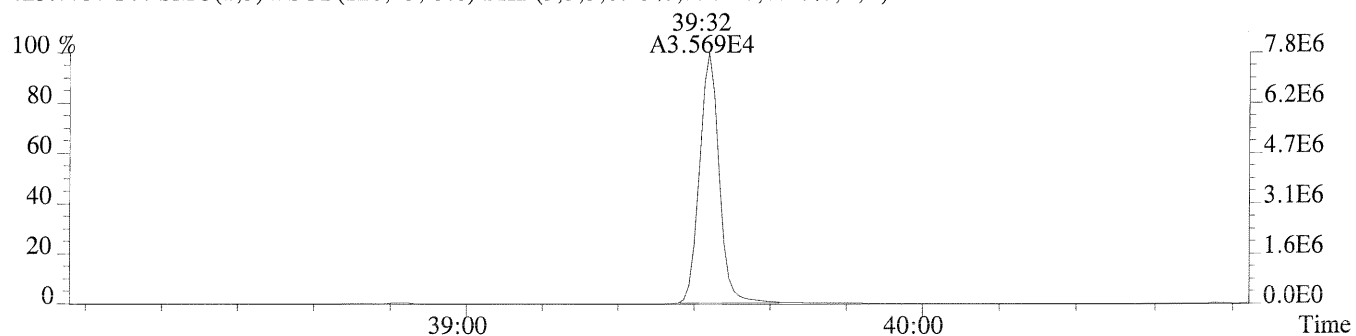
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



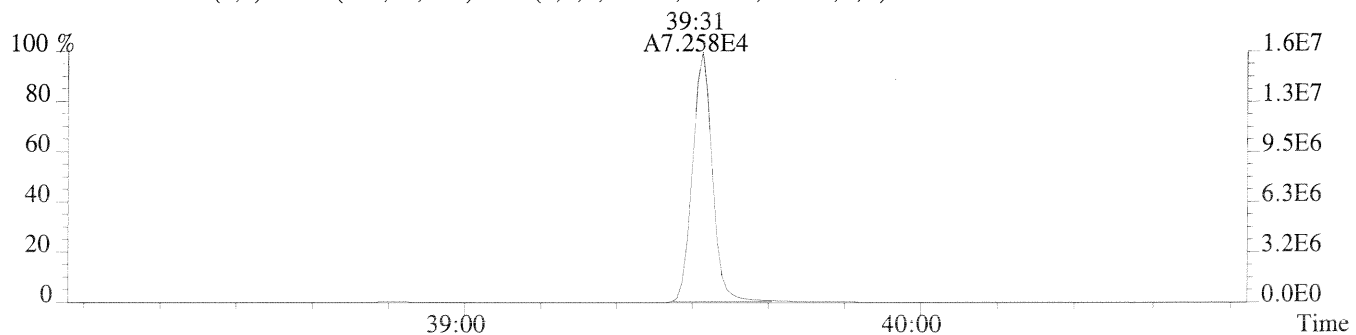
File:P230736 #1-234 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.40%,F,T)



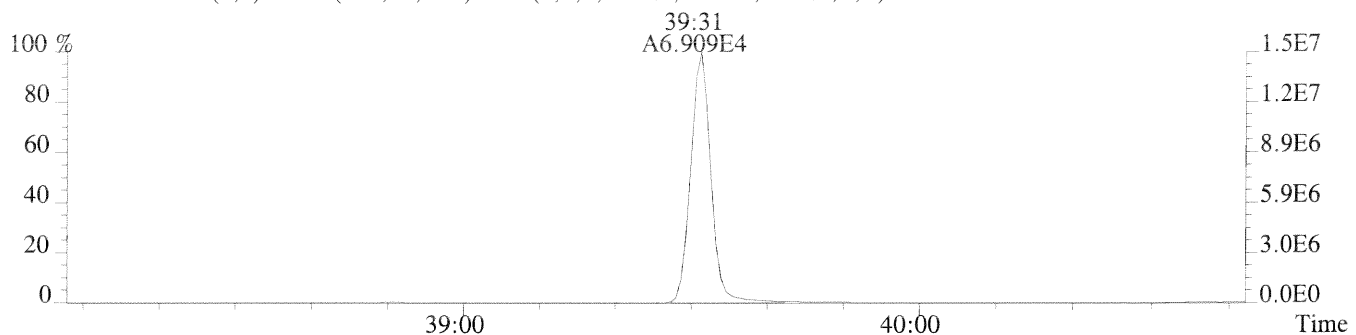
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



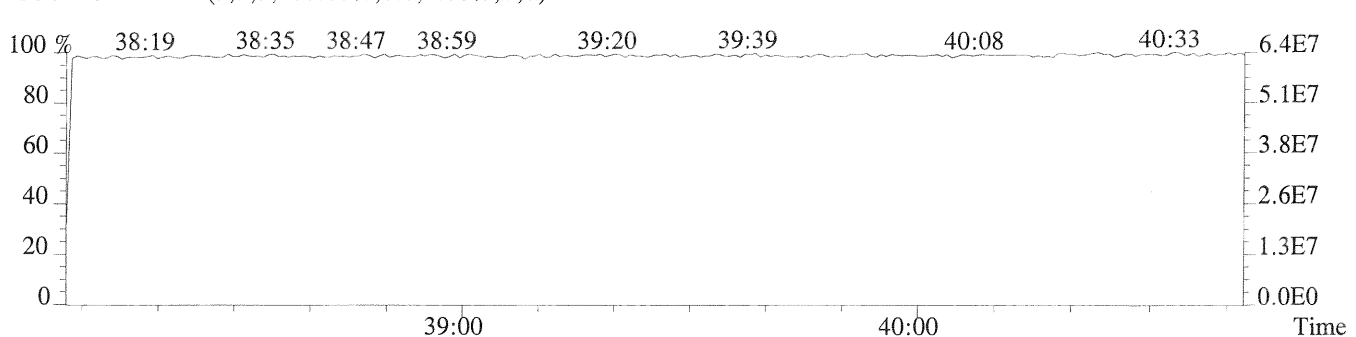
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2228.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)



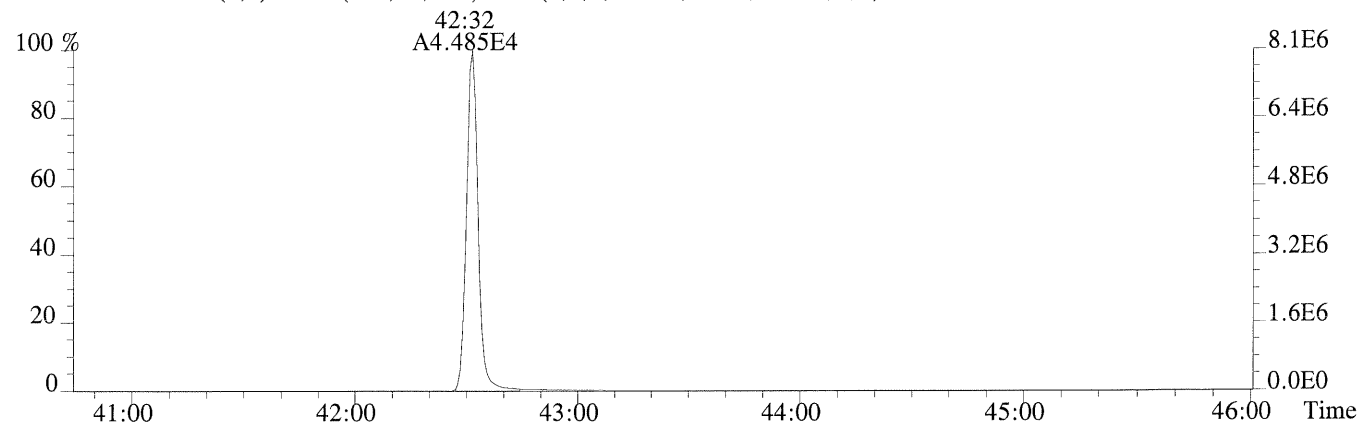
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



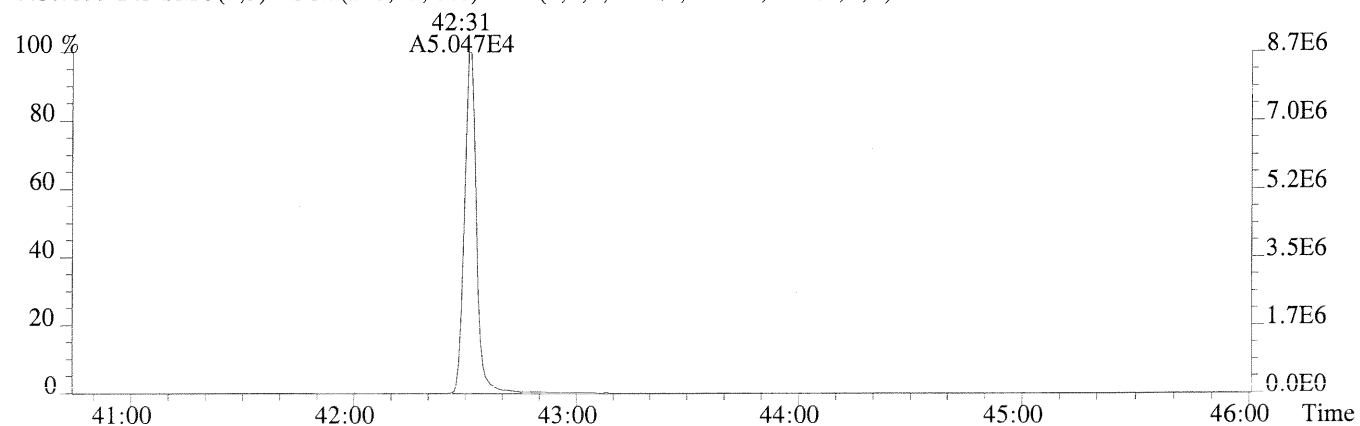


File:P230736 #1-485 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:2ND SOURCE CCV

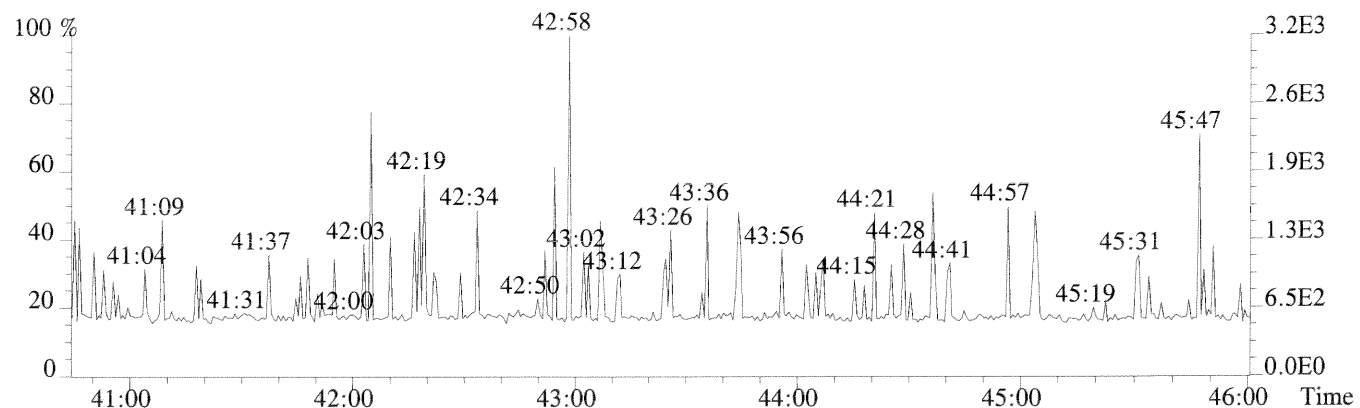
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,616.0,0.40%,F,T)



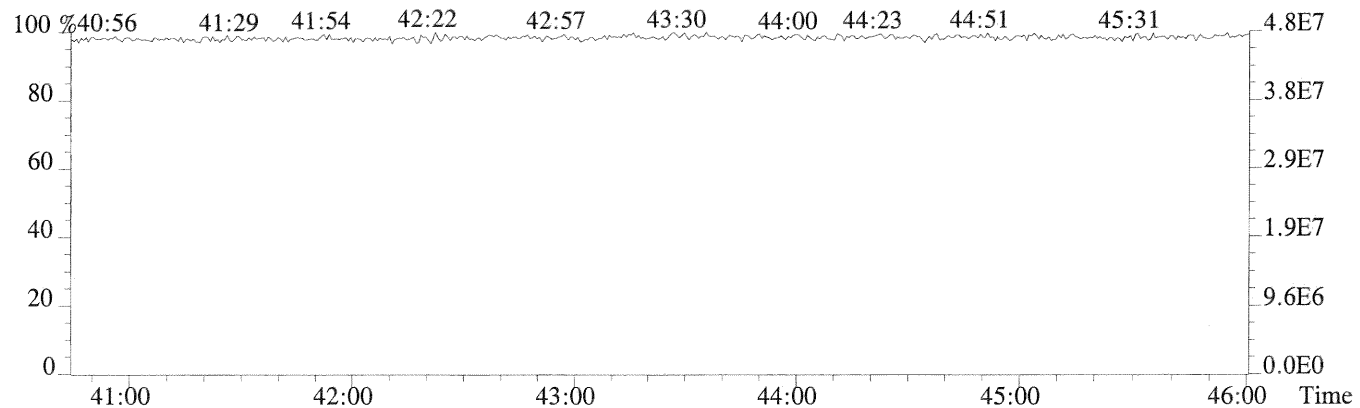
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1468.0,0.40%,F,T)



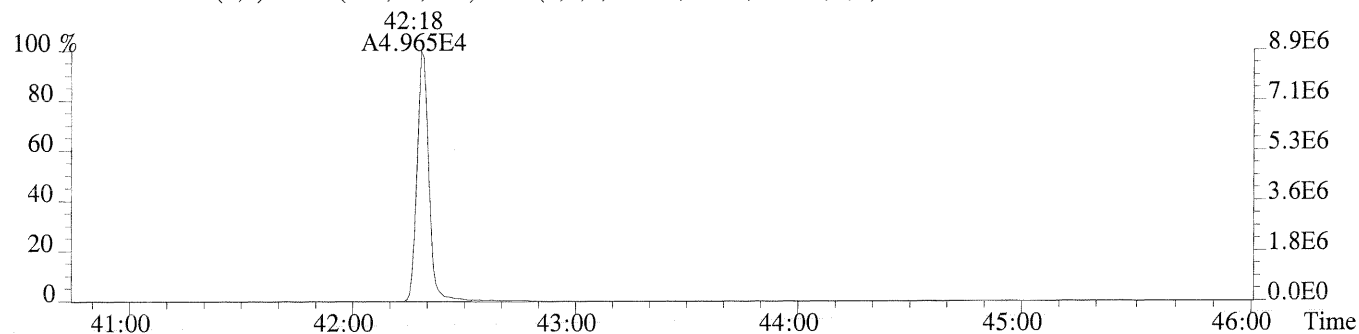
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



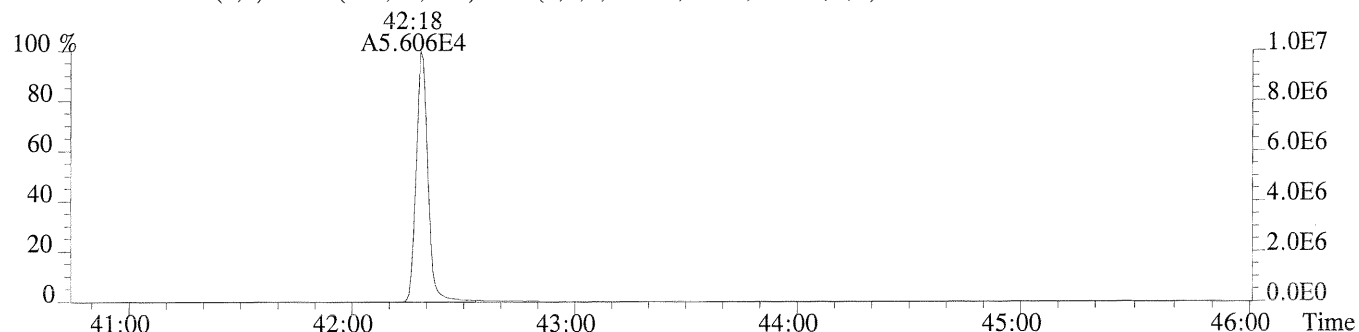
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



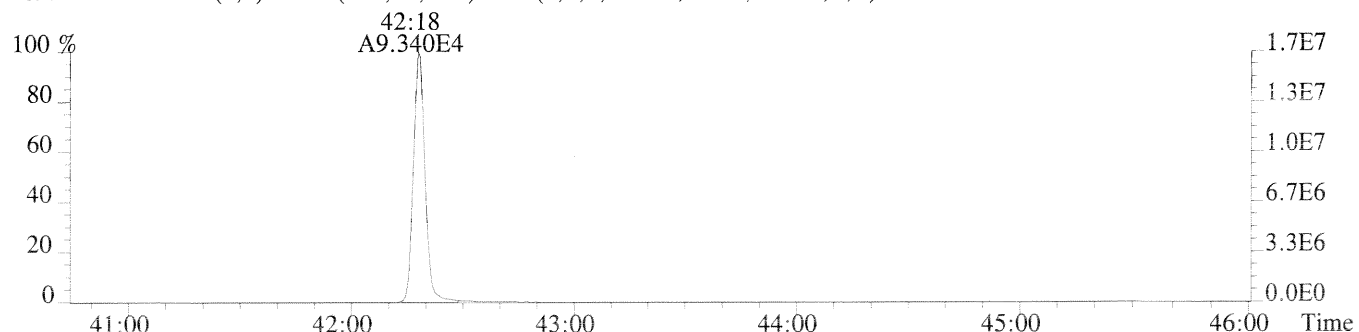
File:P230736 #1-485 Acq:24-AUG-2014 16:10:02 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,420.0,0.40%,F,T)



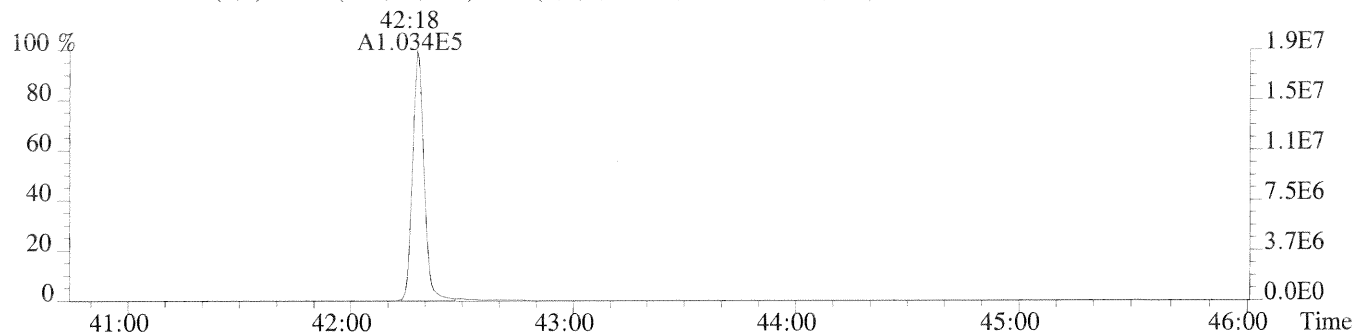
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,868.0,0.40%,F,T)



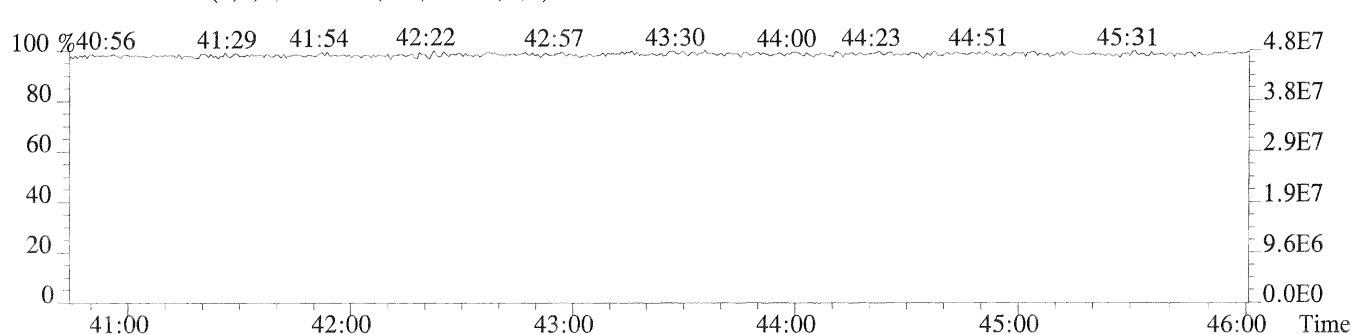
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,524.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,592.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 08/01/2014				
Instrument Name: E-HRMS-01	Calibration File Name: U1407311613I				
Processor Name: Jimmy Chau	Reviewer Name: Loan Luong				
Description	Yes	No	NA	NR	ER#
<b>Analytical Sequence</b>					
Does the analytical sequence summary accurately reflect the instrument run log, including ICV?	X				
Was a Mass Resolution Check performed at the beginning and end of the 12-hour sequence?	X				
Were all calibration standards and the ICV analyzed within the same 12-hour sequence?	X				
Were all calibration standards analyzed only once?	X				
Was the ICV analyzed after the ICAL, before analyzing samples?	X				
<b>Mass Resolution Check</b>					
Are beginning and ending resolution checks provided and legible?	X				
Were all target masses >10,000 resolving power at the beginning of the sequence?	X				
Were all target masses >10,000 resolving power at the end of the sequence?	X				
For PCB analysis, were masses at the low and high end of each function mass range >8,000?			X		
Where automatic printout of the mass resolution were not >10,000, was the resolution inspected by a trained analyst, including manual calculation of the resolution, if warranted?			X		
<b>Window Define/209</b>					
Is the window defining mix summary present, and accompanied by SICPs/Chromatograms for the WDM?	X				
Was the WDM/Column Performance/209 solution analyzed prior to the analysis of the calibration standards?	X				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?	X				
Were all first and last eluters adequately resolved in each function?	X				
If first and last eluters were not resolved, was corrective action performed and documented, followed by a reanalysis of the WDM?			X		
Was the retention time of PCB 209 >55 min?			X		
Were the following congeners uniquely resolved (valley height <40% of the shortest peak)? PCB-34 and PCB-23 PCB-187 and PCB-182			X		
Did PCB 156/157 co-elute within 2 seconds at peak maximum?			X		
<b>Calibration Standards</b>					
Were there at least 5 calibration standards analyzed?	X				
If not all calibration standards were used, were the omitted standards either the lowest or highest calibration standard?			X		
Are all sample response summaries, S/N height summaries, and SICPs included (and legible) for the entire sequence?	X				
Did each calibration point meet method criteria for Ion Abundance Ratio for all analytes and labeled standards?	X				

## Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290		Process Date: 08/01/2014			
Instrument Name: E-HRMS-01		Calibration File Name: U1407311613I			
Processor Name: Jimmy Chau		Reviewer Name: Loan Luong			
Description	Yes	No	NA	NR	ER#
Did each calibration point meet method criteria for signal-to-noise ratios (S/N)?	X				1
Were area counts for the highest calibration standard below levels of saturation?	X				
Were manual integrations technically justified to correct for poor software integration?	X				2
<b>Response Factors</b>					
Is the ICAL Response Factor Summary present, including RR/RF values for each native/labeled analyte at each level of calibration?	X				
Were all calibration standards used in determining response factors?	X				
Were relative response factors (RR) for each native analyte calculated at each calibration point?	X				
Did the RSD for RRFs for each native analyte meet method criteria?	X				
Were response factors (RF) for each native analyte not having a corresponding labeled compound calculated at each calibration point?	X				
Were RFs for each labeled compound calculated for each calibration point?	X				
Did the RSD for RF for each labeled compound meet method criteria?	X				
<b>Initial Calibration Verification</b>					
Is the calibration verification present, including form 4A/B reflecting results for the ICV (Conc. or %D)	X				
Did all analytes meet method criteria for the ICV.	X				

Laboratory Review Checklist: Initial Calibration	
Method: 1613/8290	
Process Date: 08/01/2014	
Instrument Name: E-HRMS-01	
Calibration File Name: U1407311613I	
Processor Name: Jimmy Chau	
Reviewer Name: Loan Luong	
ER#	Description
5	
1	TCDF on CS0.5 did not meet method criteria for signal-to-noise ratios (S/N)
2	Manual Integration on CS0.5, CS1, CS2 in order to correct inconsistent baseline determinations between primary and secondary ions. Before and After chromatograms provided. Where no "After" is present, modification flag reflects an update to reconcile Response values between Sample Response Summary and chromatograph.
NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

# Initial Calibration QC Checklist

ICAL Name: U1407311613I

Date: 07/31/14

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / M23

Retention Window/Column Performance Check

Analyst

Second Check

Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration

Analyst

Second Check

Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column <u>DB-5MSVI</u>	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: JC

Second QC: LKL

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 07/31/14

Init. Calib. Times: 12:13

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSS) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
63680	WINDOW DEFINE	U150158	31-JUL-14	09:17:24
ICV 2ND SOURCE	54819	U150167	31-JUL-14	19:57:38

5DFC  
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.:

Client No.:

SDG No.:

GC Column: DB5MSUI

ID: 0.25 (mm)

Init. Calib. Date: 07/31/14

Instrument ID: EHRMS01

Init. Calib. Times: 12:13:20

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
WINDOW DEFINE	WINDOW DEFINE	U150158	31-JUL-14	09:17:24
CS0.5	66807	U150166	31-JUL-14	19:08:59
CS1	66798	U150160	31-JUL-14	12:13:20
CS2	D12-90-3B	U150161	31-JUL-14	13:10:32
CS3	63383	U150162	31-JUL-14	14:16:41
CS4	D12-90-3D	U150163	31-JUL-14	15:18:57
CS5	66799	U150164	31-JUL-14	16:07:05

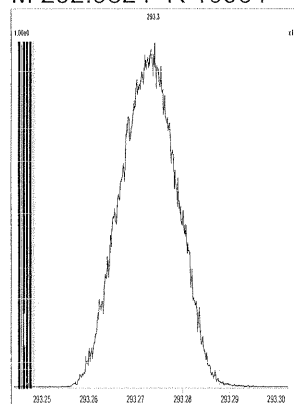




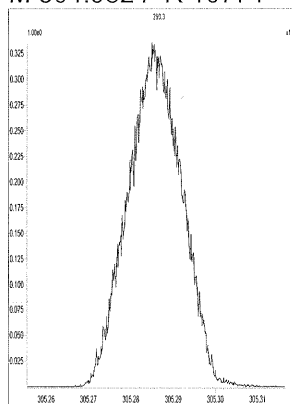
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, July 31, 2014 09:13:02 Central Daylight Time

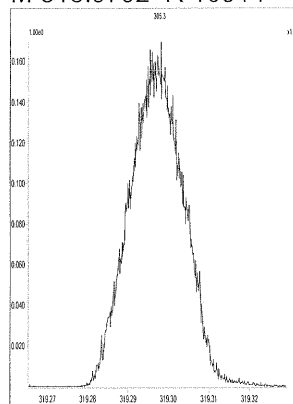
M 292.9824 R 10964



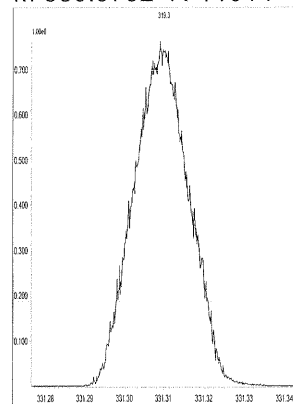
M 304.9824 R 10774



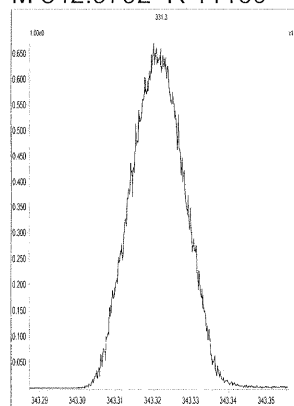
M 318.9792 R 10914



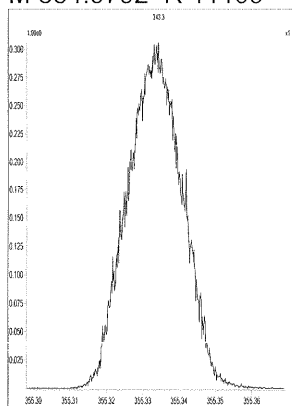
M 330.9792 R 11014



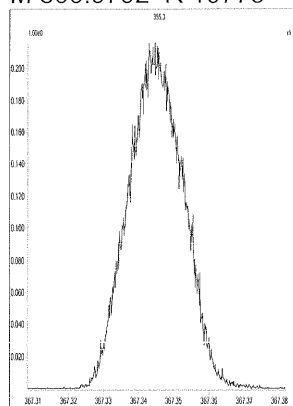
M 342.9792 R 11160



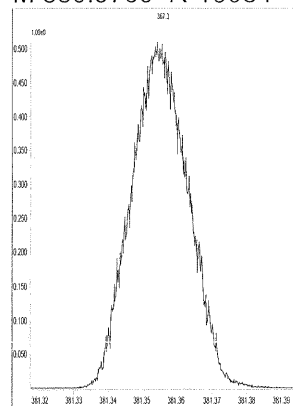
M 354.9792 R 11109



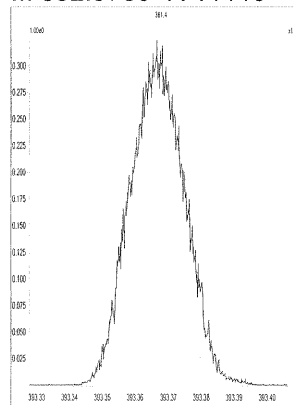
M 366.9792 R 10773



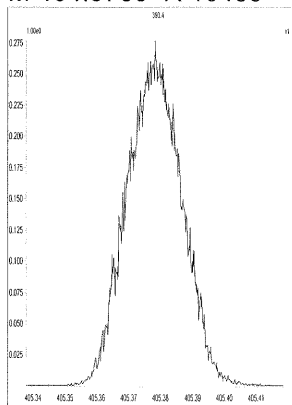
M 380.9760 R 10684



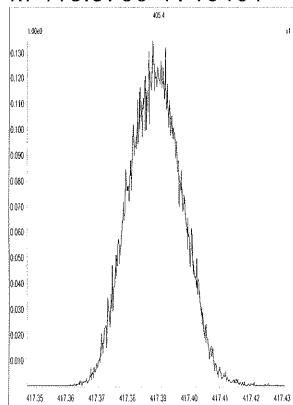
M 392.9760 R 11110



M 404.9760 R 10459



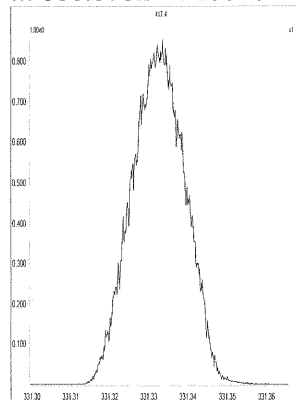
M 416.9760 R 10461



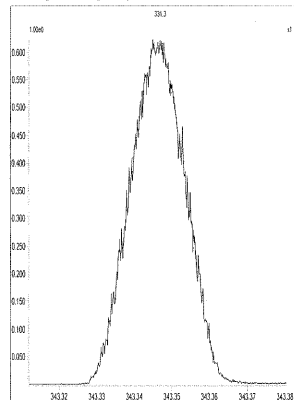
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, July 31, 2014 09:14:03 Central Daylight Time

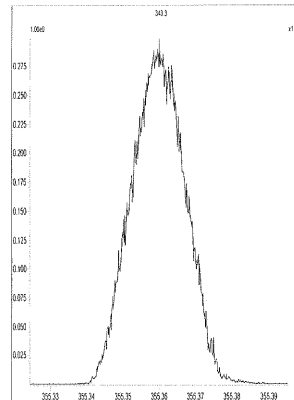
M 330.9792 R 10919



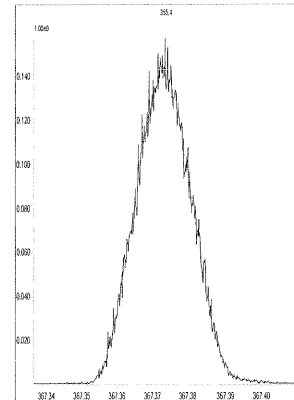
M 342.9792 R 10730



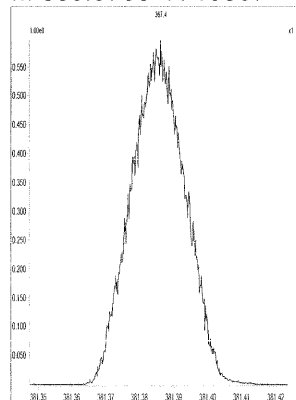
M 354.9792 R 10821



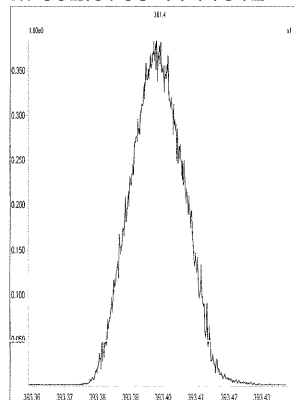
M 366.9792 R 10636



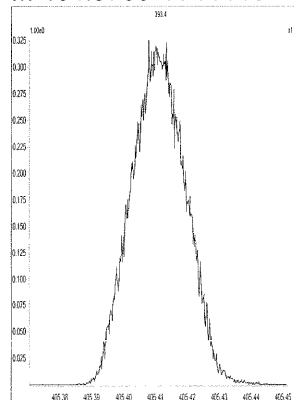
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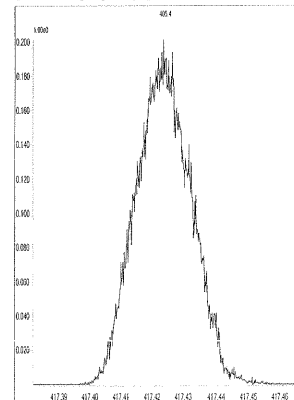
M 392.9760 R 11312



M 404.9760 R 11110



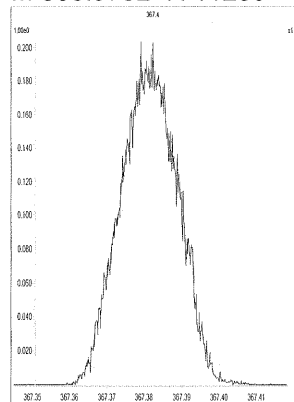
M 416.9760 R 11011



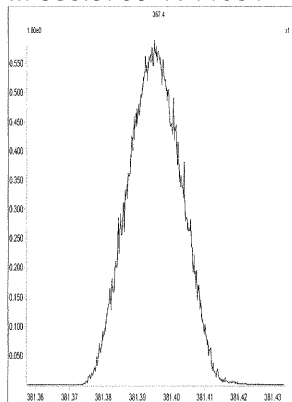
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, July 31, 2014 09:14:47 Central Daylight Time

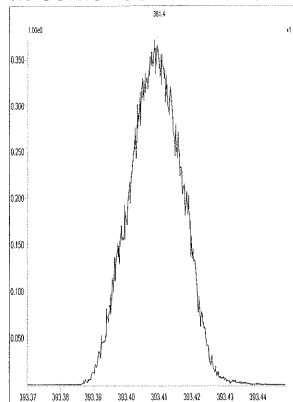
M 366.9792 R 11259



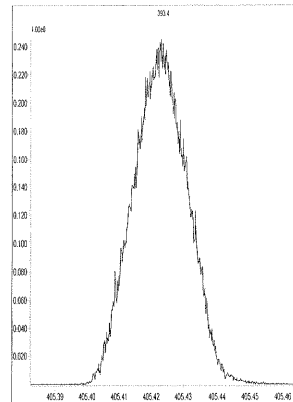
M 380.9760 R 11064



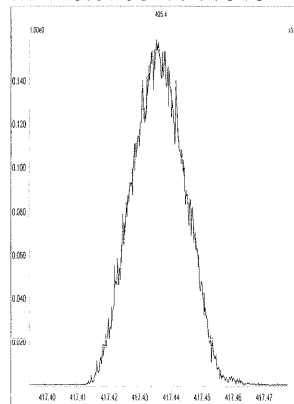
M 392.9760 R 10870



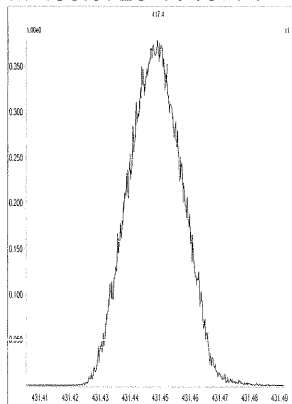
M 404.9760 R 10964



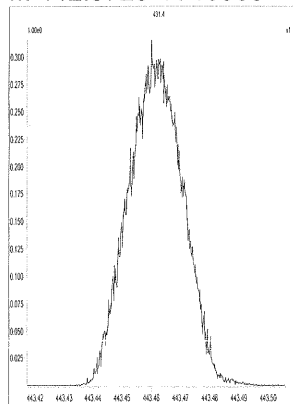
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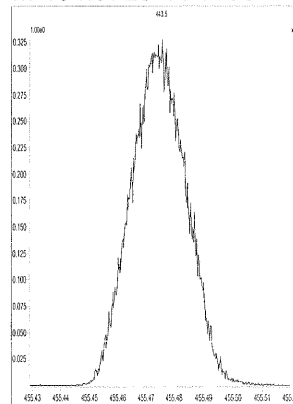
M 430.9728 R 10774



M 442.9728 R 10965



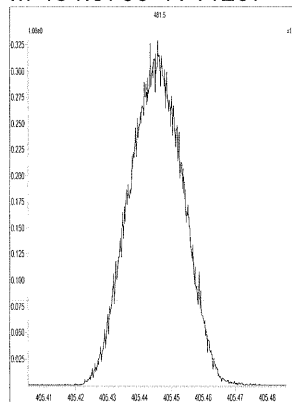
M 454.9728 R 11061



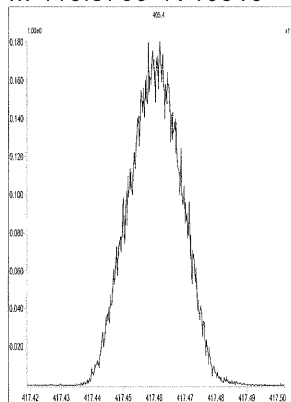
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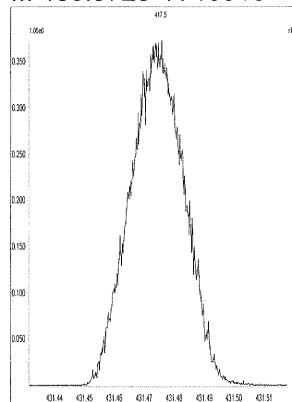
M 404.9760 R 11207



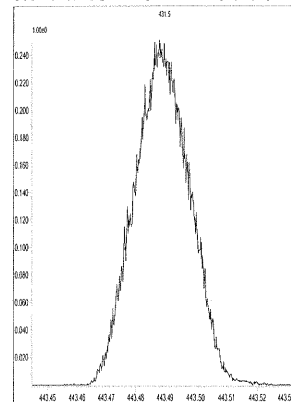
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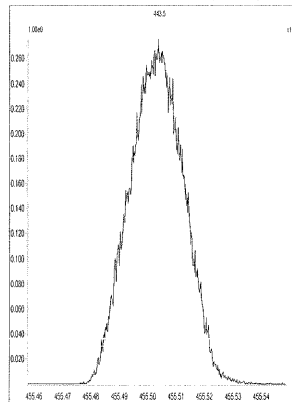
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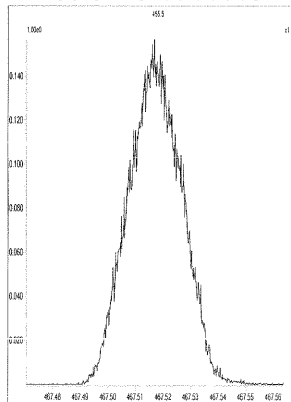
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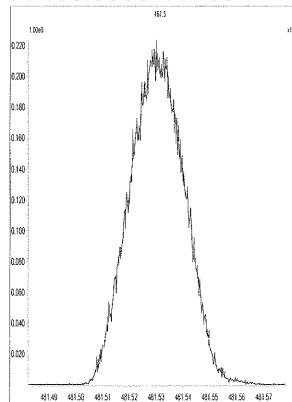
M 454.9728 R 10776



M 466.9728 R 11110



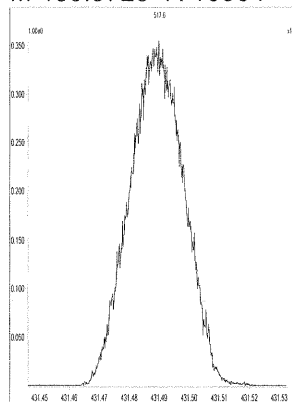
M 480.9696 R 10821



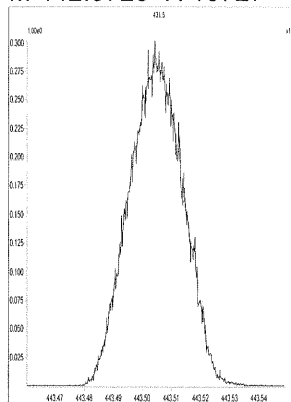
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Printed: Thursday, July 31, 2014 09:16:25 Central Daylight Time

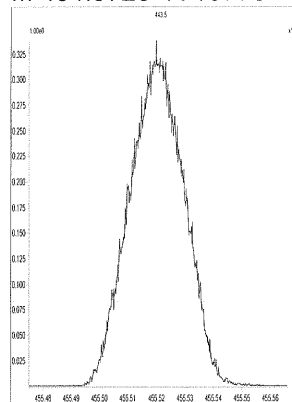
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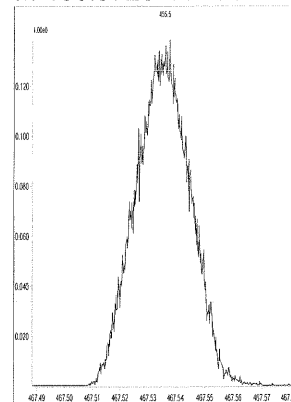
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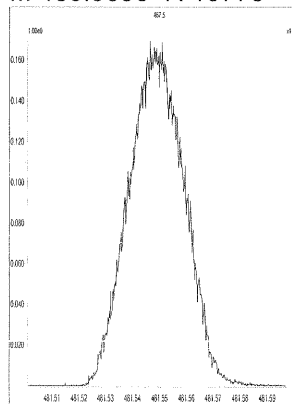
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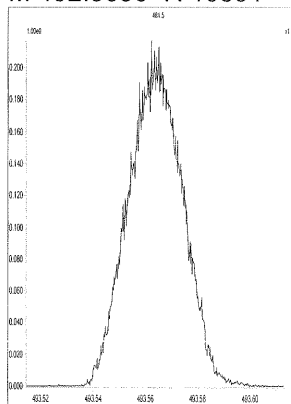
M 466.9728 R 10822



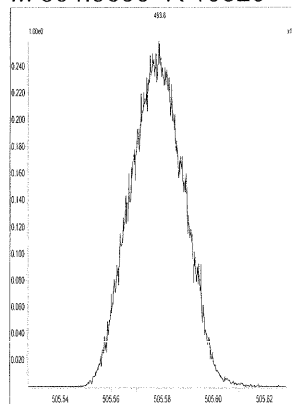
M 480.9696 R 10775



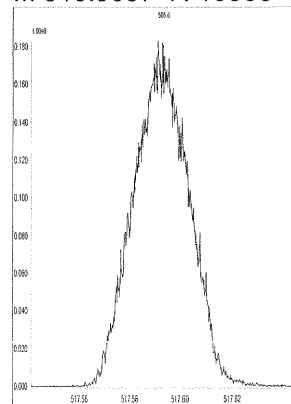
M 492.9696 R 10591



M 504.9696 R 10820

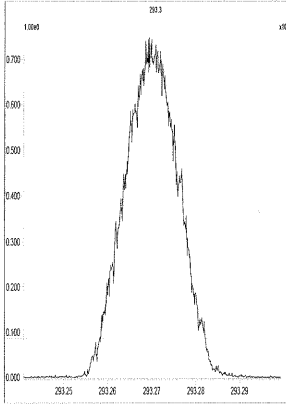


M 516.9697 R 10965

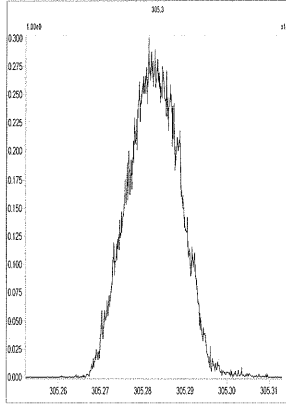


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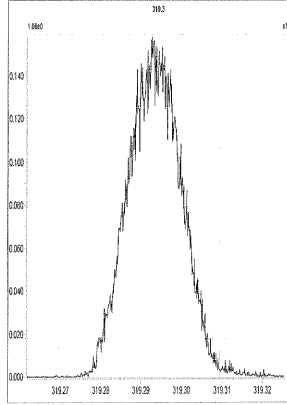
M 292.9824 R 11315



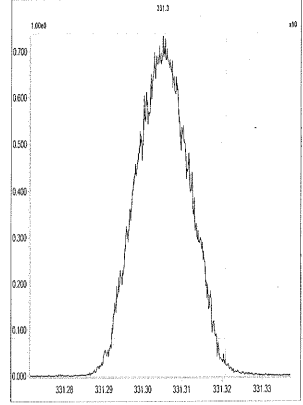
M 304.9824 R 11312



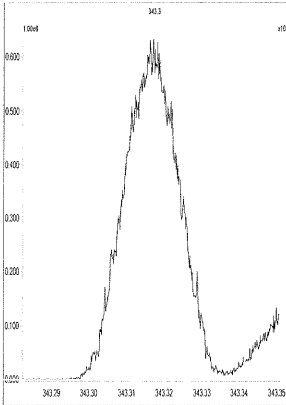
M 318.9792 R 11342



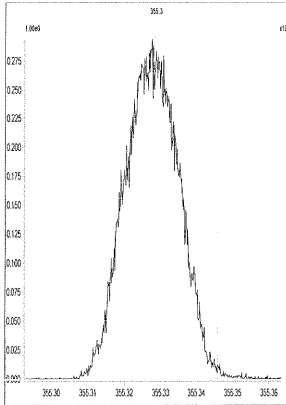
M 330.9792 R 11012



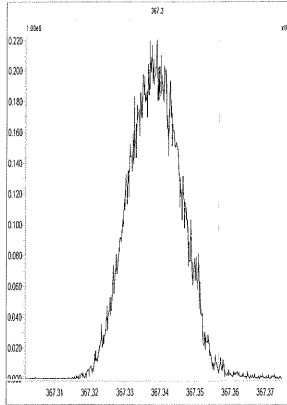
M 342.9792 R 10848



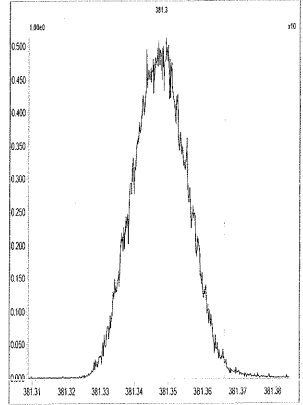
M 354.9792 R 11135



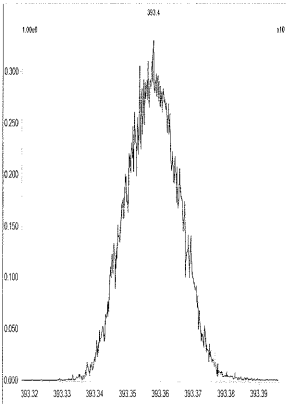
M 366.9792 R 11014



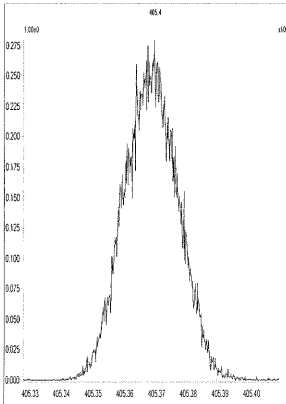
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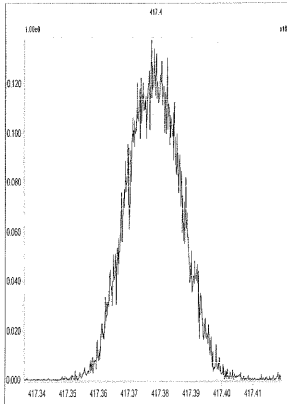
M 392.9760 R 10660



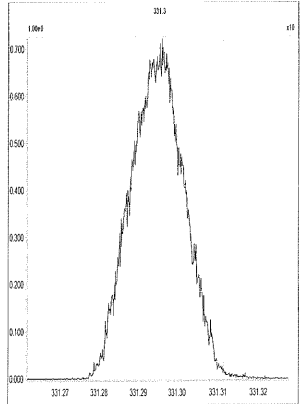
M 404.9760 R 10893



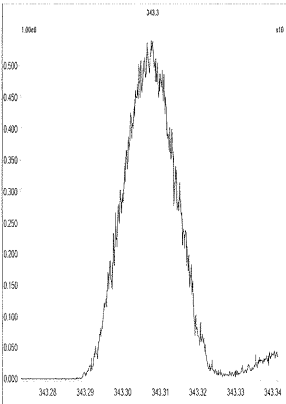
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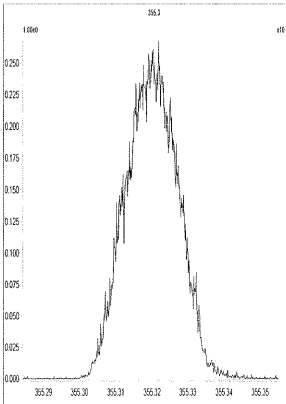
M 330.9792 R 11135



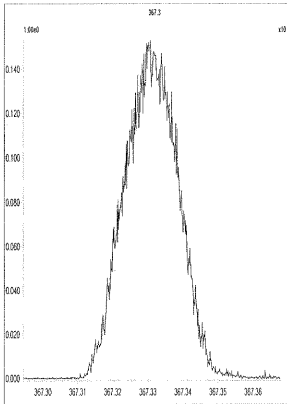
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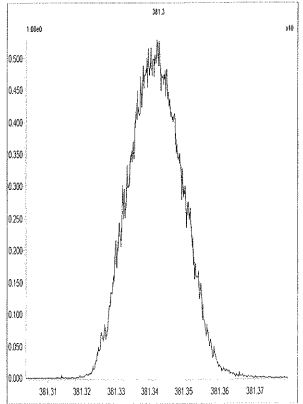
M 354.9792 R 11240



M 366.9792 R 10941

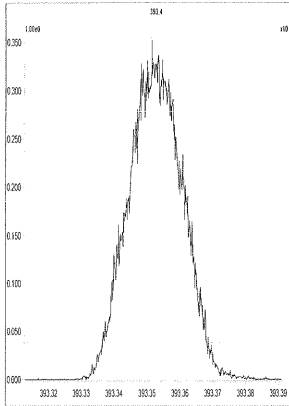


M 380.9760 R 11046

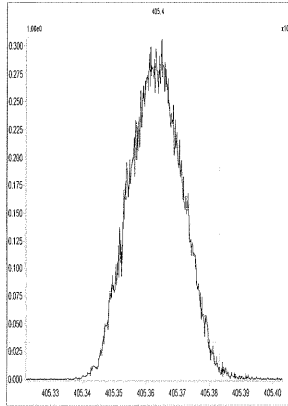


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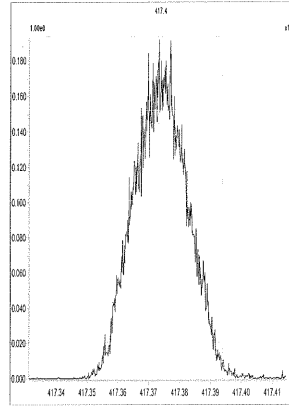
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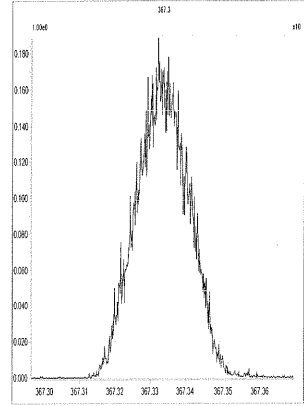
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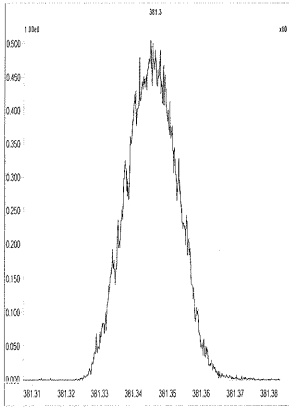
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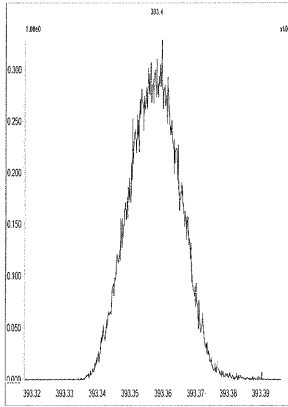
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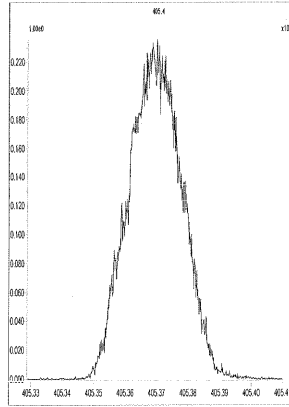
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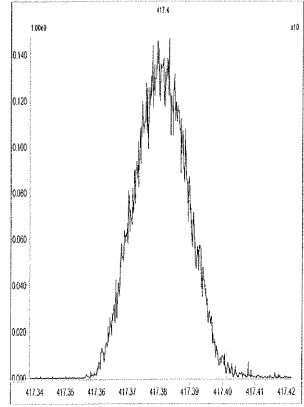
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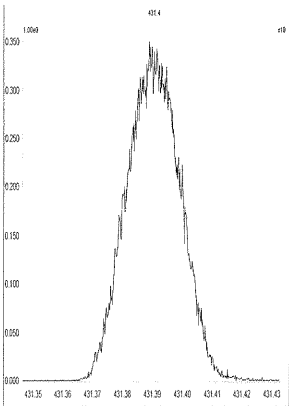
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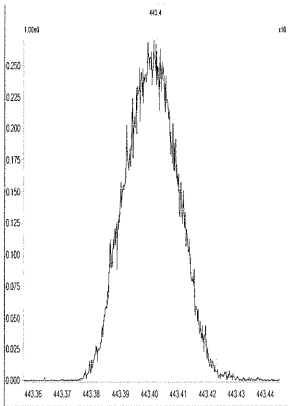
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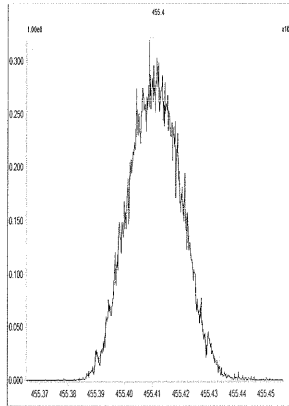
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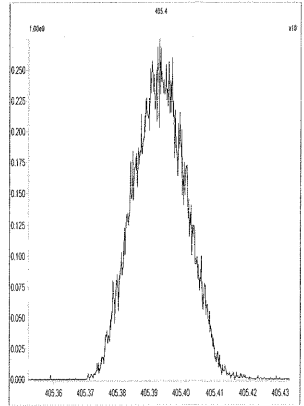
M 442.9728 R 11162



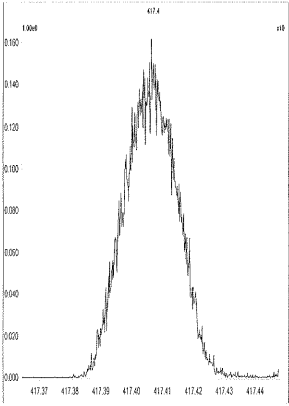
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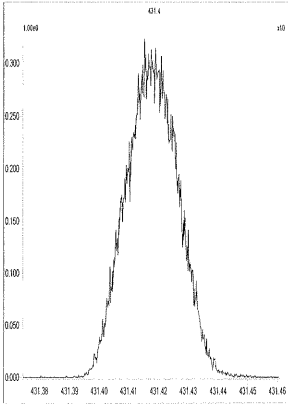
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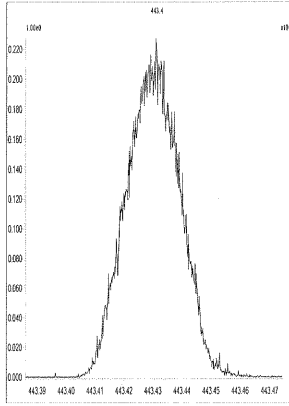
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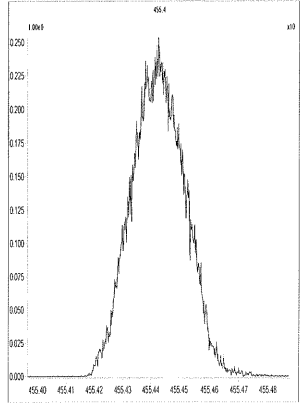
M 430.9728 R 11235



M 442.9728 R 11061

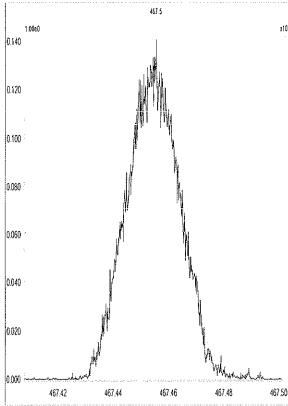


M 454.9728 R 10822

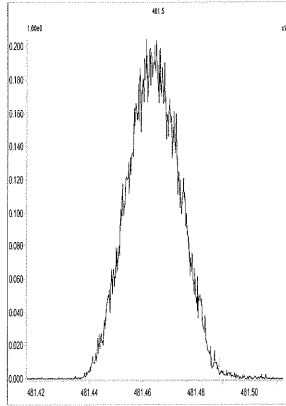


Printed: Thursday, July 31, 2014 20:54:53 Central Daylight Time

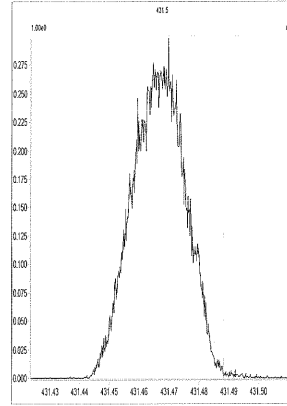
M 466.9728 R 11014



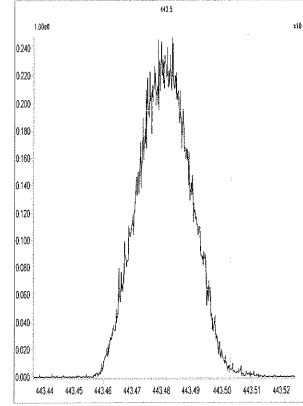
M 480.9696 R 10990



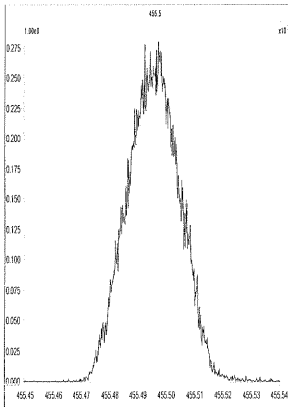
M 430.9728 R 11338



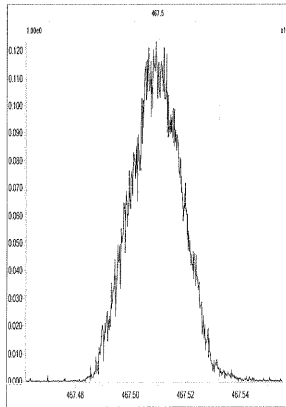
M 442.9728 R 10965



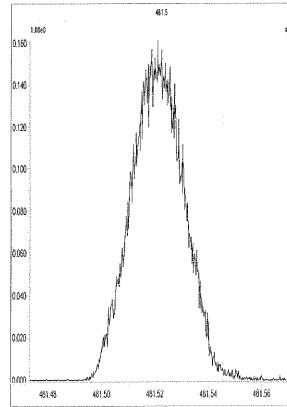
M 454.9728 R 11160



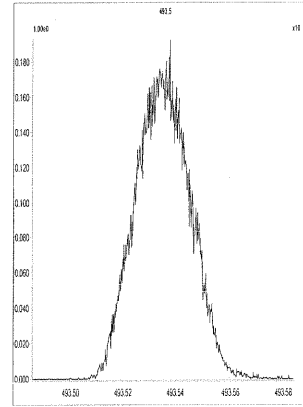
M 466.9728 R 11238



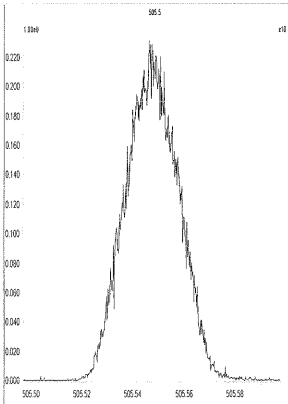
M 480.9696 R 11140



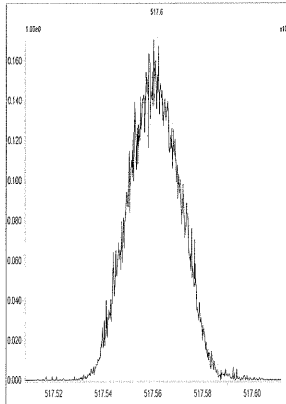
M 492.9696 R 11313



M 504.9696 R 11014



M 516.9697 R 11235





5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS ENVIRONMENTAL  
Lab Code: TX01411  
GC Column: DB-5msUI

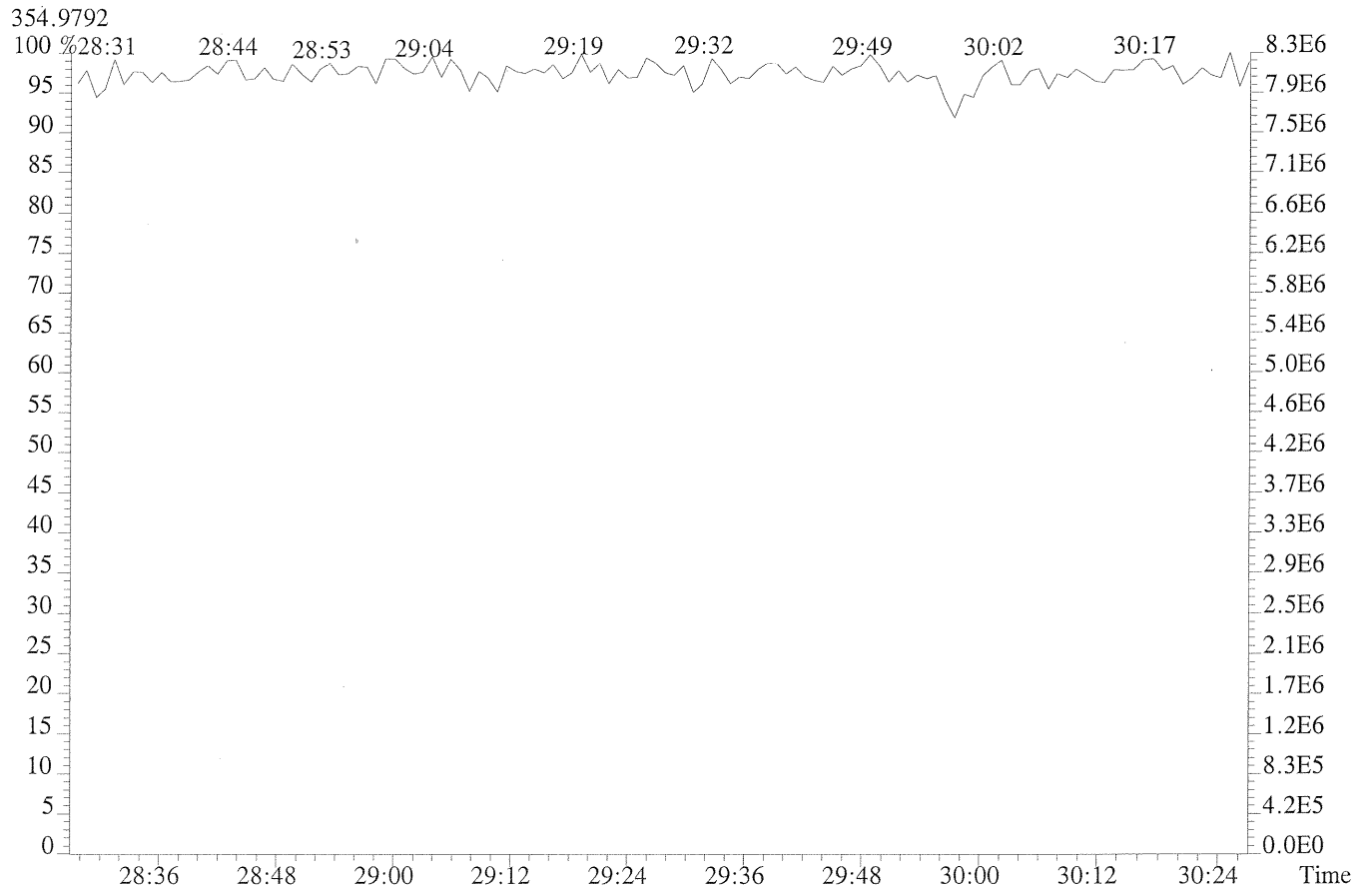
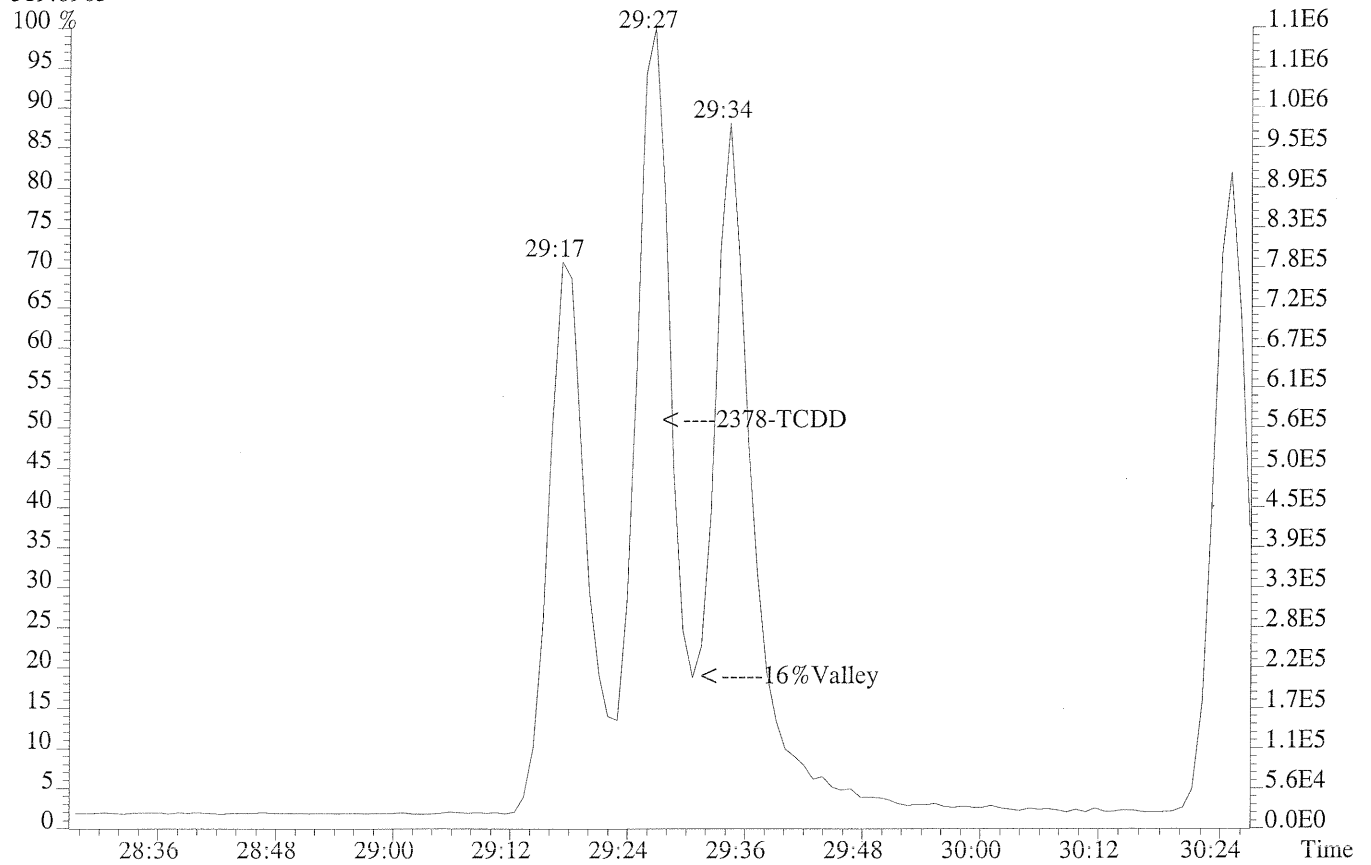
Case No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_  
ID: 0.25 (mm) Lab File ID: U150158  
Date Analyzed: 31-JUL-2014  
Time Analyzed: 09:17:24

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:23	30:35
TCDD	26:17	30:25
PeCDF	30:30	34:42
PeCDD	32:00	34:25
HxCDF	35:18	37:49
HxCDD	35:49	37:24
HpCDF	39:02	40:30
HpCDD	39:17	39:59

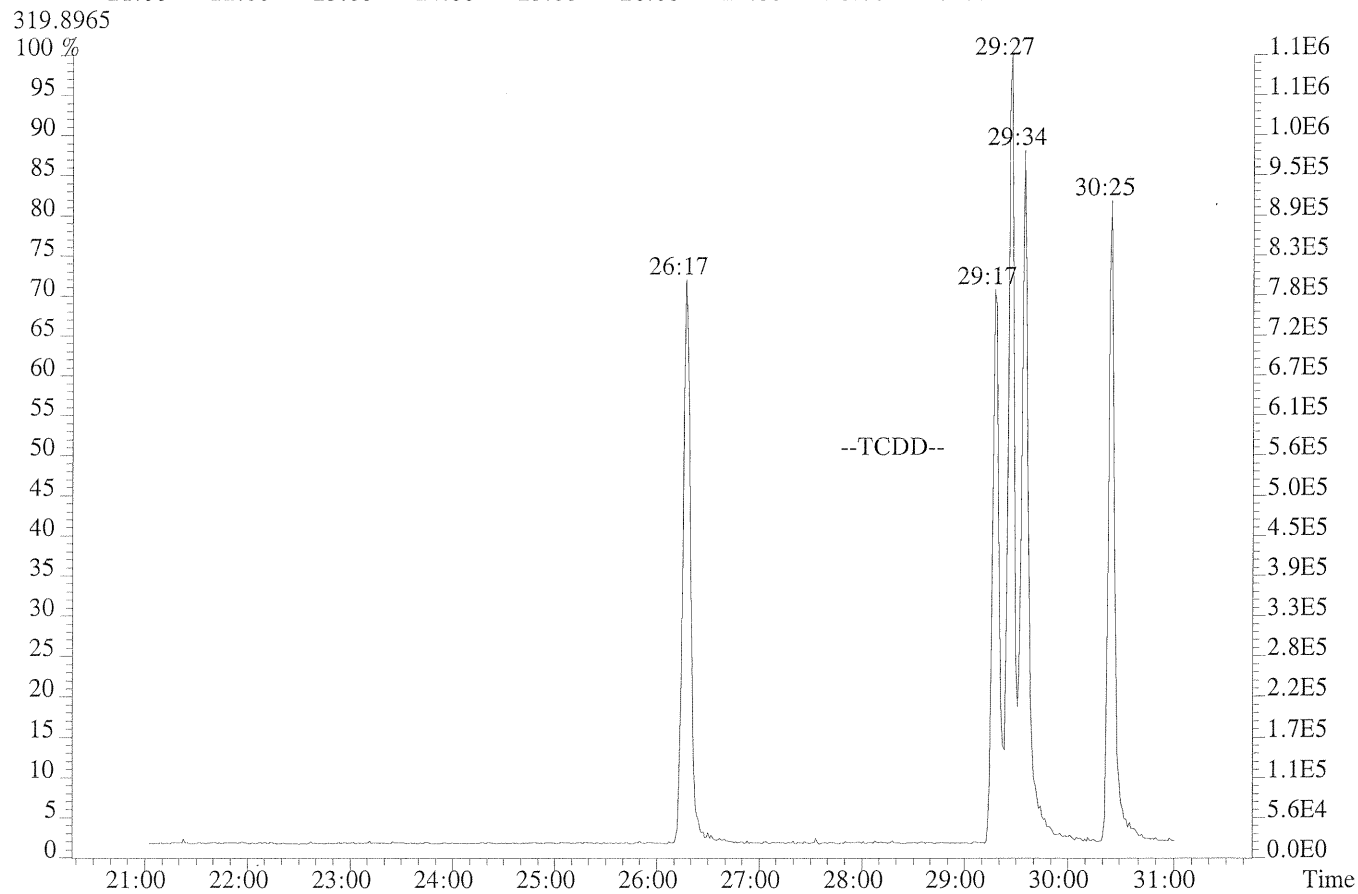
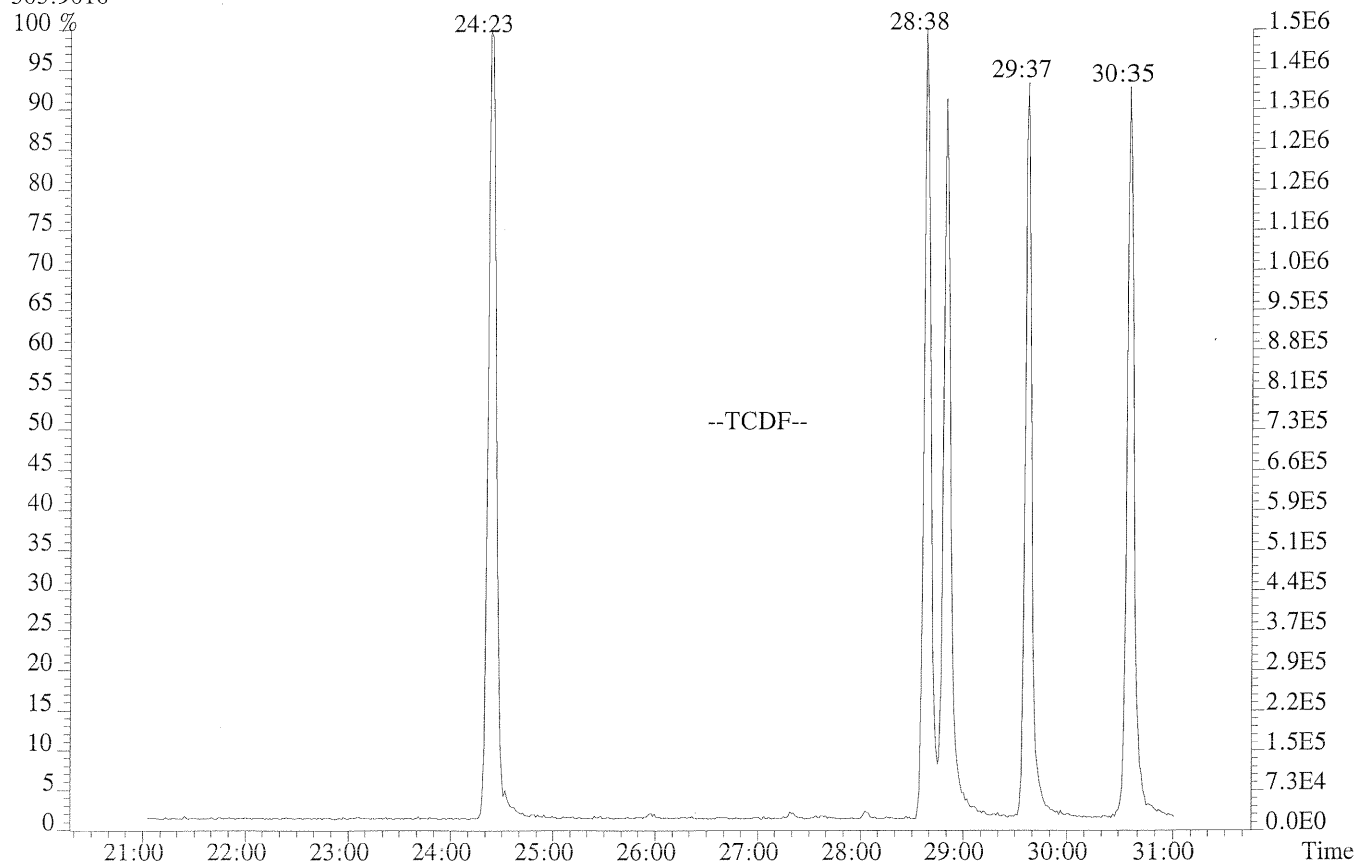
% Valley 2378-TCDD:

16 %

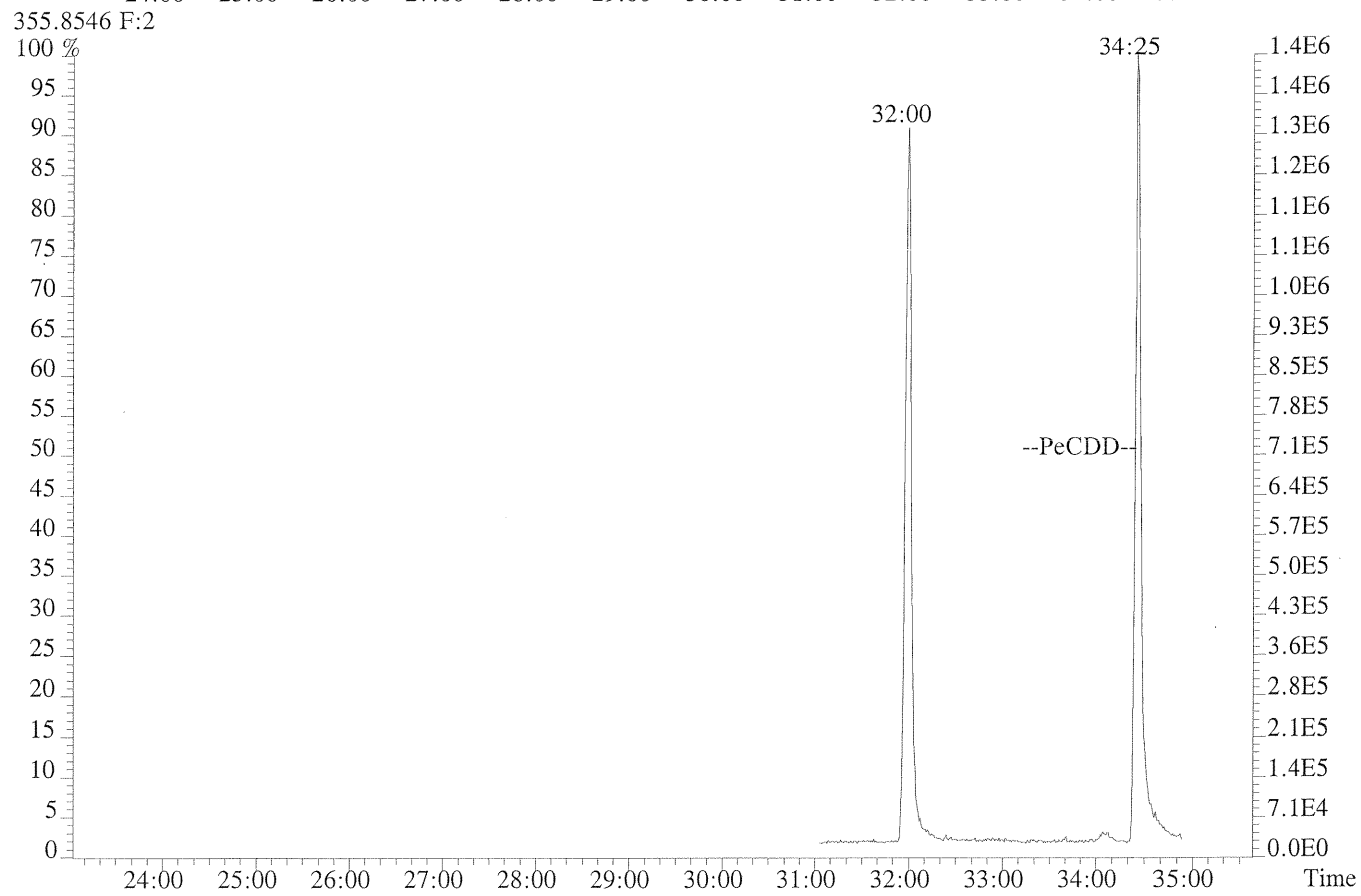
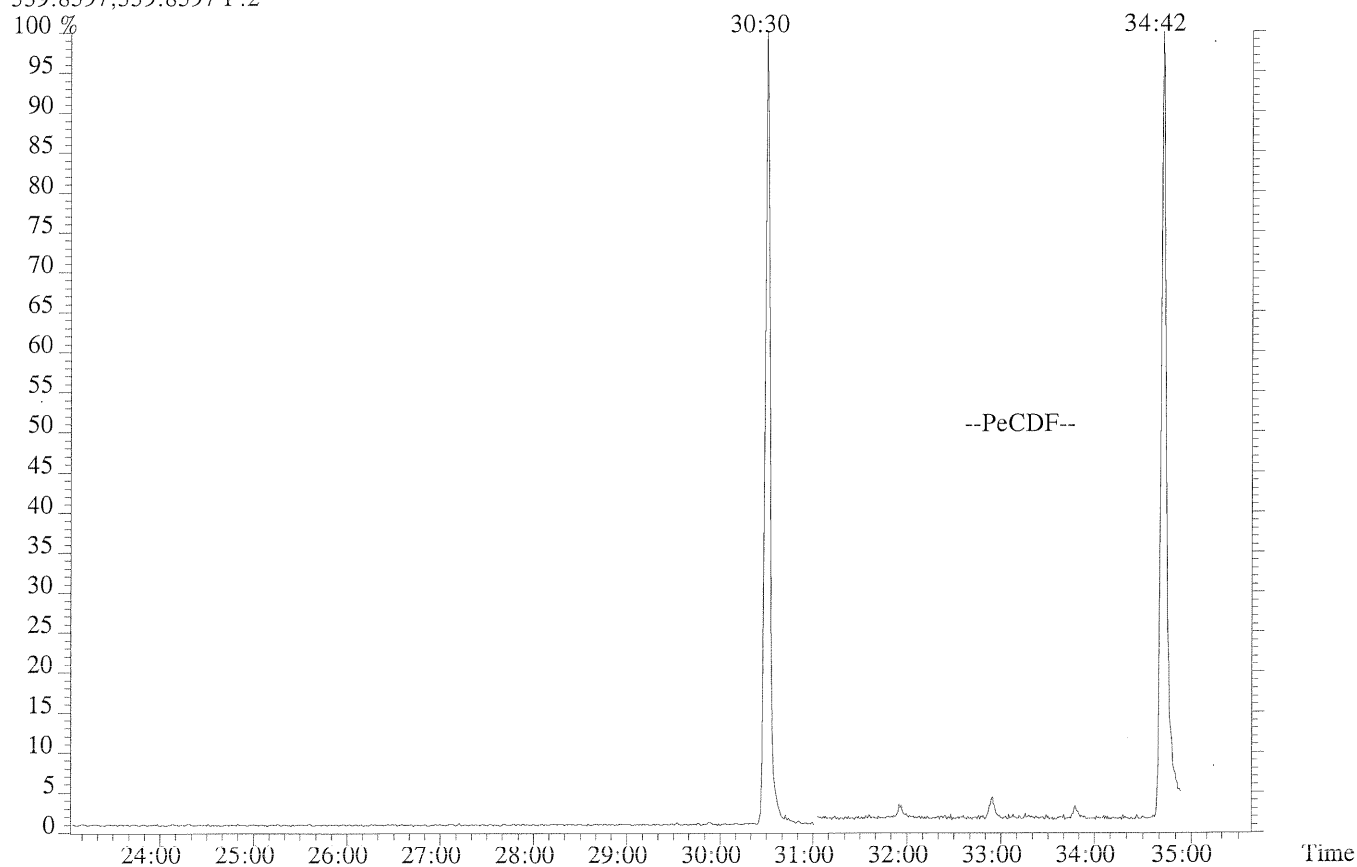
File:U150158 #1-627 Acq:31-JUL-2014 09:17:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
319.8965



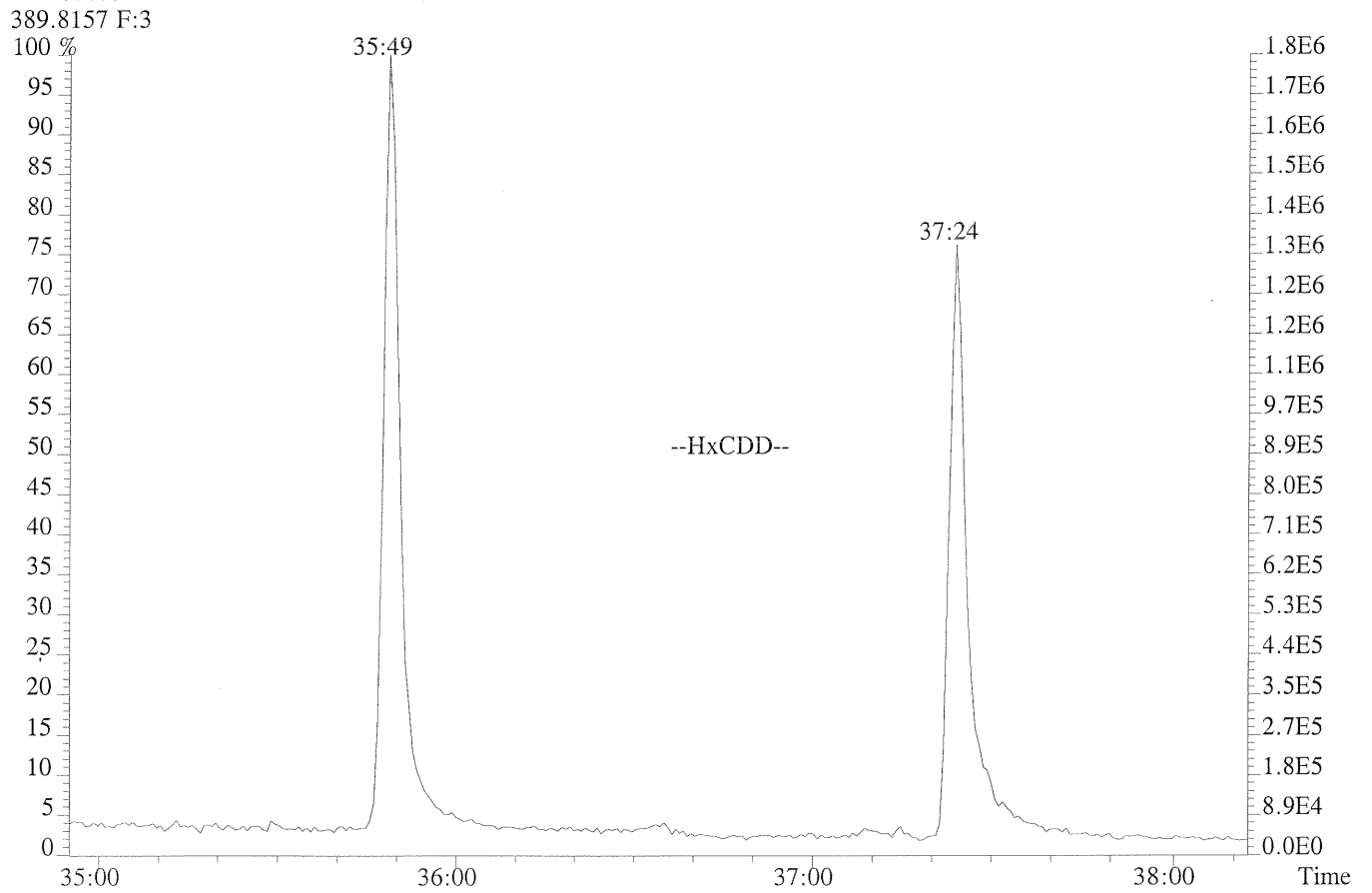
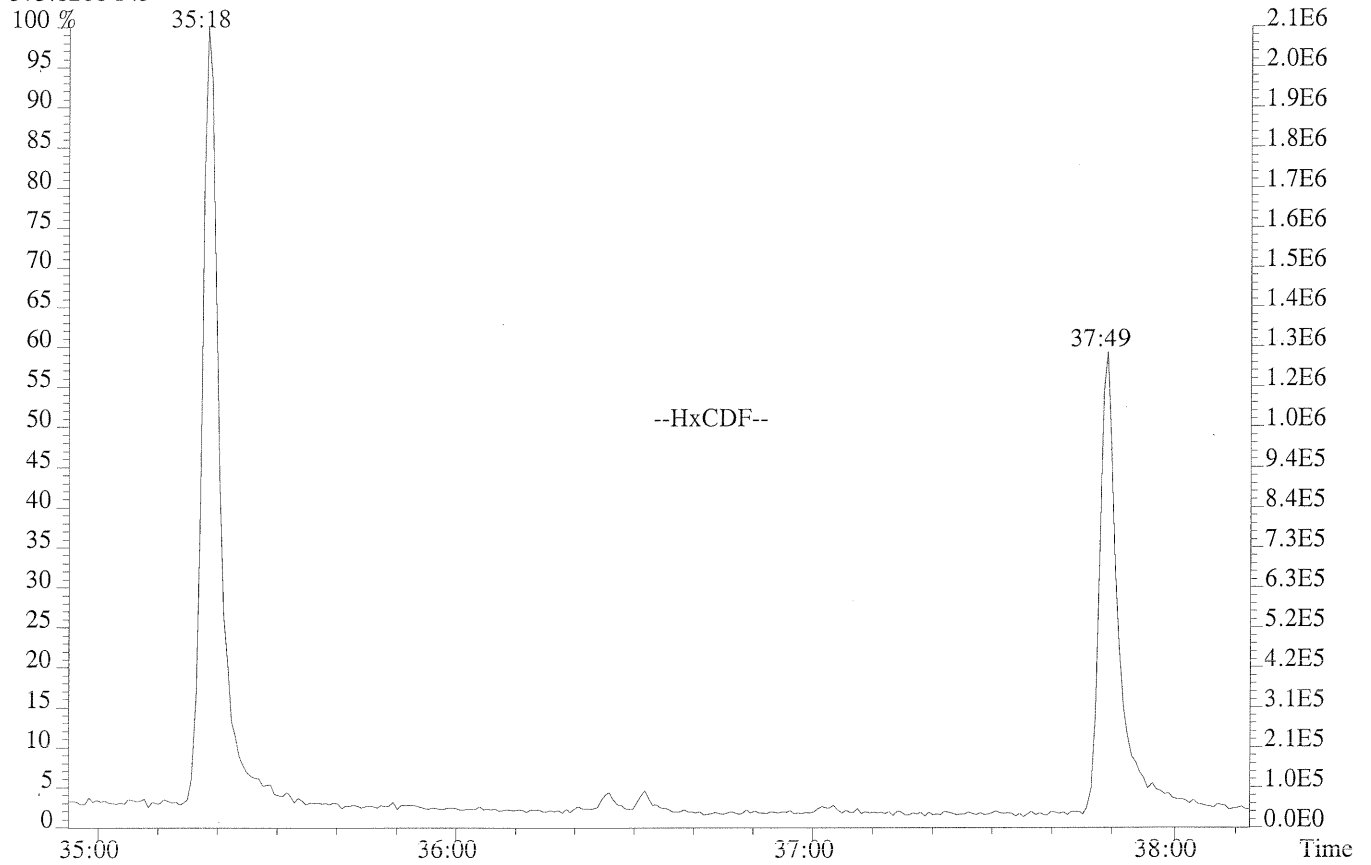
File:U150158 #1-627 Acq:31-JUL-2014 09:17:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
303.9016



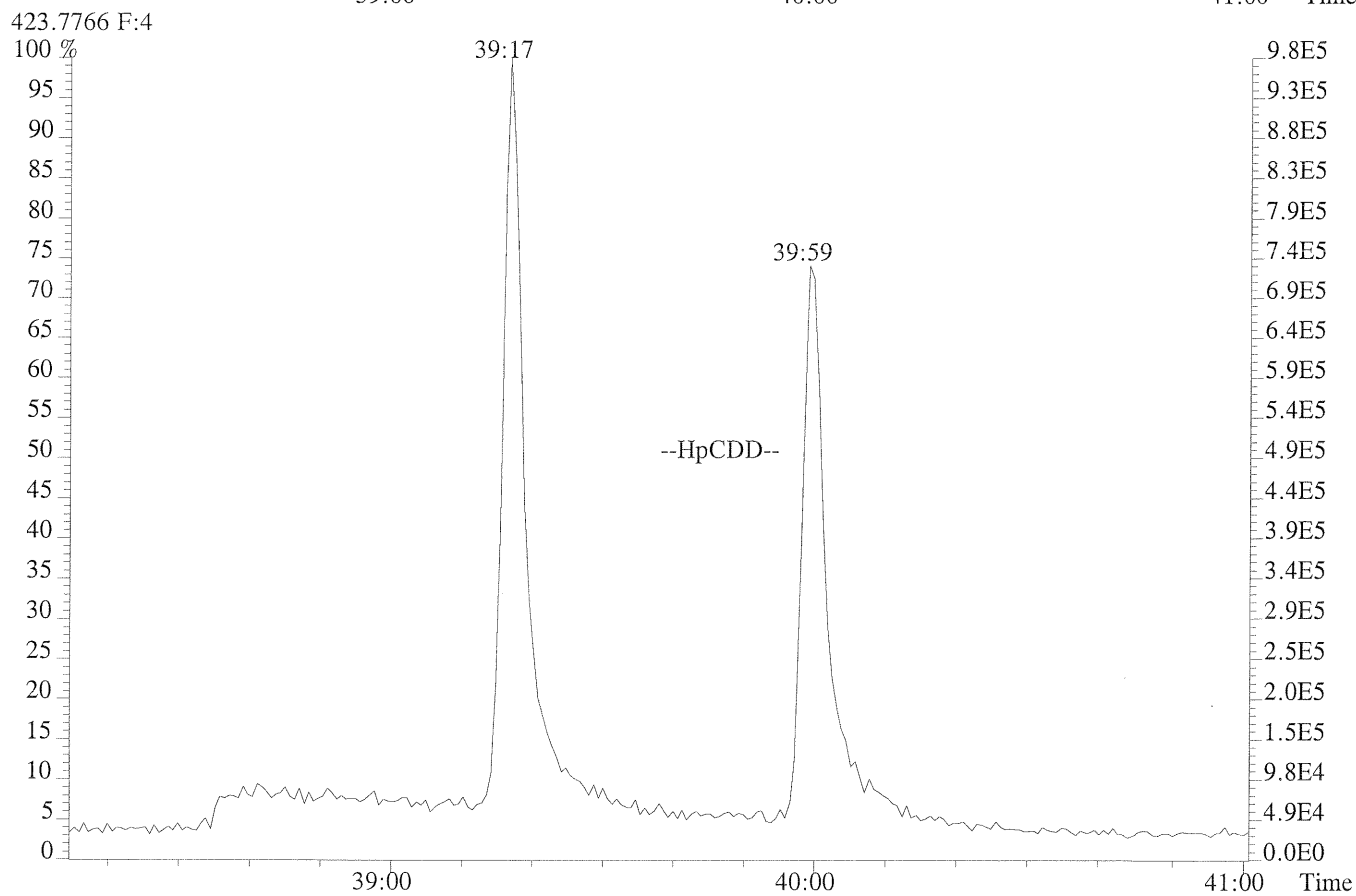
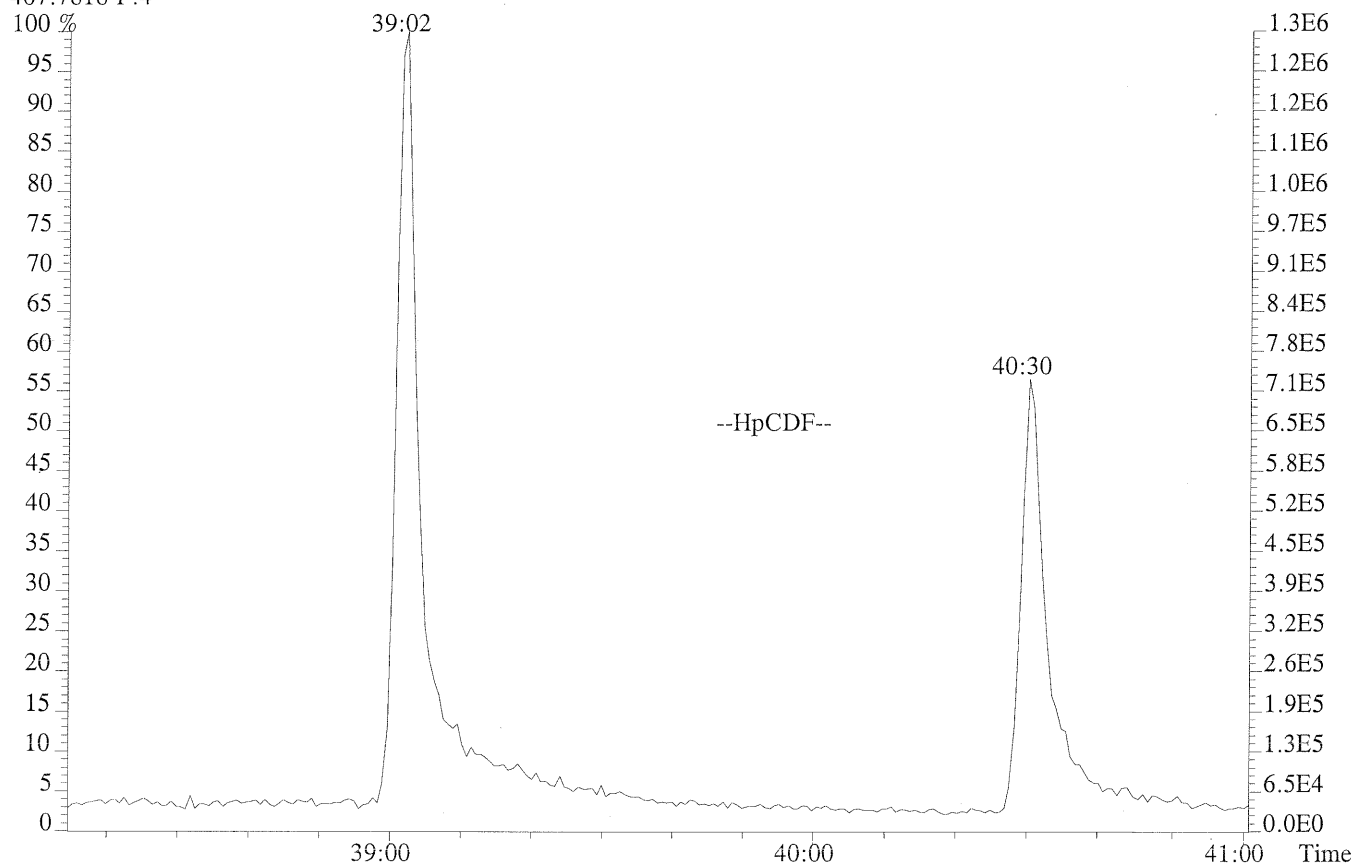
File:U150158 #1-627 Acq:31-JUL-2014 09:17:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
339.8597,339.8597 F:2



File:U150158 #1-299 Acq:31-JUL-2014 09:17:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
373.8208 F:3



File:U150158 #1-252 Acq:31-JUL-2014 09:17:24 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:WINDOW DEFINE  
407.7818 F:4



USEPA - CLP  
6DFA6  
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY  
HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

Lab Code: ALSTX

Case No.:

TO No.:

SDG No.:

GC Column: DB5MSUI ID: 0.25 (mm)

Instrument ID: E-HRMS-01

Init. Calib. Date(s): 07/31/14

Analyte Table: 1613U1

Init. Calib. Time.: 12:13:20

RR/RRF

Target Analytes	RR/RRF						MEAN		QC LIMITS
	CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	
2,3,7,8-TCDF	1.14	1.07	1.02	1.01	1.04	1.05	1.06	4.24	+/-20%
1,2,3,7,8-PeCDF	1.06	1.06	1.01	1.01	1.02	0.96	1.02	3.54	+/-20%
2,3,4,7,8-PeCDF	1.01	0.98	0.95	0.95	0.96	1.02	0.98	3.03	+/-20%
1,2,3,4,7,8-HxCDF	1.26	1.26	1.23	1.22	1.24	1.20	1.24	1.91	+/-20%
1,2,3,6,7,8-HxCDF	1.06	1.18	1.16	1.15	1.16	1.18	1.15	3.86	+/-20%
2,3,4,6,7,8-HxCDF	1.19	1.18	1.15	1.15	1.14	1.13	1.16	2.05	+/-20%
1,2,3,7,8,9-HxCDF	1.29	1.20	1.14	1.15	1.16	1.14	1.18	4.95	+/-20%
1,2,3,4,6,7,8-HpCDF	1.35	1.37	1.33	1.40	1.39	1.34	1.36	1.97	+/-20%
1,2,3,4,7,8,9-HpCDF	1.34	1.25	1.36	1.28	1.29	1.38	1.32	3.78	+/-20%
OCDF	1.46	1.43	1.44	1.51	1.55	1.40	1.47	3.69	+/-20%
2,3,7,8-TCDD	1.05	0.94	0.94	0.96	0.97	0.97	0.97	4.22	+/-20%
1,2,3,7,8-PeCDD	1.09	1.14	1.13	1.12	1.12	1.12	1.12	1.69	+/-20%
1,2,3,4,7,8-HxCDD	1.31	1.35	1.29	1.29	1.27	1.47	1.33	5.55	+/-20%
1,2,3,6,7,8-HxCDD	1.23	1.35	1.29	1.28	1.28	1.07	1.25	7.62	+/-20%
1,2,3,7,8,9-HxCDD	1.28	1.48	1.40	1.43	1.42	1.36	1.39	4.79	+/-20%
1,2,3,4,6,7,8-HpCDD	1.07	1.19	1.07	1.10	1.10	1.07	1.10	4.08	+/-20%
OCDD	1.31	1.48	1.35	1.30	1.33	1.20	1.33	7.00	+/-20%
13C-2,3,7,8-TCDF	1.38	1.40	1.41	1.43	1.41	1.40	1.41	1.21	+/-35%
13C-1,2,3,7,8-PeCDF	1.85	1.79	1.82	1.86	1.89	2.01	1.87	4.19	+/-35%
13C-2,3,4,7,8-PeCDF	1.88	1.82	1.83	1.90	1.91	1.98	1.89	3.25	+/-35%
13C-1,2,3,4,7,8-HxCDF	1.16	1.13	1.19	1.17	1.19	1.25	1.18	3.41	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.48	1.54	1.56	1.52	1.49	1.48	1.51	2.18	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.32	1.34	1.37	1.34	1.35	1.37	1.35	1.45	+/-35%
13C-1,2,3,7,8,9-HxCDF	1.00	0.98	1.03	1.03	1.06	1.14	1.04	5.26	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	0.98	0.97	1.00	0.99	1.02	1.08	1.01	3.78	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.72	0.65	0.69	0.73	0.80	0.81	0.73	8.29	+/-35%
13C-2,3,7,8-TCDD	0.97	0.97	0.97	0.98	0.98	1.01	0.98	1.53	+/-35%
13C-1,2,3,7,8-PeCDD	1.11	1.01	1.03	1.07	1.08	1.16	1.07	5.30	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.79	0.73	0.76	0.76	0.80	0.79	0.77	3.31	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.93	0.96	0.97	0.96	0.95	1.07	0.97	4.98	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.84	0.78	0.82	0.83	0.88	0.92	0.85	5.93	+/-35%
13C-OCDD	0.48	0.39	0.46	0.46	0.56	0.66	0.50	19.23	+/-35%
13C-1,2,3,4-TCDD	-	-	-	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	-	-	-	-	-	-	-
37Cl-2,3,7,8-TCDD	0.92	0.94	0.95	0.96	0.96	1.00	0.95	2.88	+/-35%

1. 123789-HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.

2. OCDF RR is calculated based on the labeled analog of OCDD





ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS0.5

Run #1 Filename U150166 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 19:08:59  
 Processed: 1-AUG-14 09:11:12 LAB. ID: 66807

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:02	8.716e+01	1.025e+02	0.85	yes	yes	1.001
2	Unk	1,2,3,7,8-PeCDF	33:03	7.126e+02	4.673e+02	1.52	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	33:57	6.791e+02	4.642e+02	1.46	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:34	5.269e+02	4.610e+02	1.14	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:40	6.046e+02	4.581e+02	1.32	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:10	5.690e+02	4.952e+02	1.15	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:56	4.882e+02	3.904e+02	1.25	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:10	4.430e+02	4.553e+02	0.97	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:40	3.517e+02	3.010e+02	1.17	yes	no	1.000
10	Unk	OCDF	43:20	4.469e+02	4.962e+02	0.90	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:47	5.671e+01	6.603e+01	0.86	yes	yes	1.001
12	Unk	1,2,3,7,8-PeCDD	34:13	4.619e+02	2.614e+02	1.77	yes	yes	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:18	3.877e+02	3.169e+02	1.22	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:23	4.291e+02	3.508e+02	1.22	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:37	4.064e+02	3.459e+02	1.17	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:09	3.158e+02	2.919e+02	1.08	yes	no	1.000
17	Unk	OCDD	43:06	4.155e+02	4.311e+02	0.96	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	29:01	3.042e+04	3.622e+04	0.84	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:03	5.483e+04	3.411e+04	1.61	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:56	5.566e+04	3.501e+04	1.59	yes	no	1.162
21	IS	13C-1,2,3,4,7,8-HxCDF	36:33	2.146e+04	4.135e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:39	2.726e+04	5.289e+04	0.52	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:10	2.434e+04	4.711e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:55	1.844e+04	3.598e+04	0.51	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:10	1.638e+04	3.666e+04	0.45	yes	no	1.042
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:40	1.205e+04	2.682e+04	0.45	yes	no	1.082
27	IS	13C-2,3,7,8-TCDD	29:45	2.024e+04	2.651e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:12	3.253e+04	2.068e+04	1.57	yes	no	1.171
29	IS	13C-1,2,3,4,7,8-HxCDD	37:17	2.428e+04	1.875e+04	1.30	yes	no	0.992
30	IS	13C-1,2,3,6,7,8-HxCDD	37:22	2.858e+04	2.214e+04	1.29	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:08	2.386e+04	2.157e+04	1.11	yes	no	1.067
32	IS	13C-OCDD	43:05	2.469e+04	2.696e+04	0.92	yes	no	1.146
33	RS/RT	13C-1,2,3,4-TCDD	29:12	2.095e+04	2.717e+04	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	3.053e+04	2.373e+04	1.29	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:46	1.108e+02				no	1.019

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office(713)266-1599. Fax(713)266-0130

XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS0.5

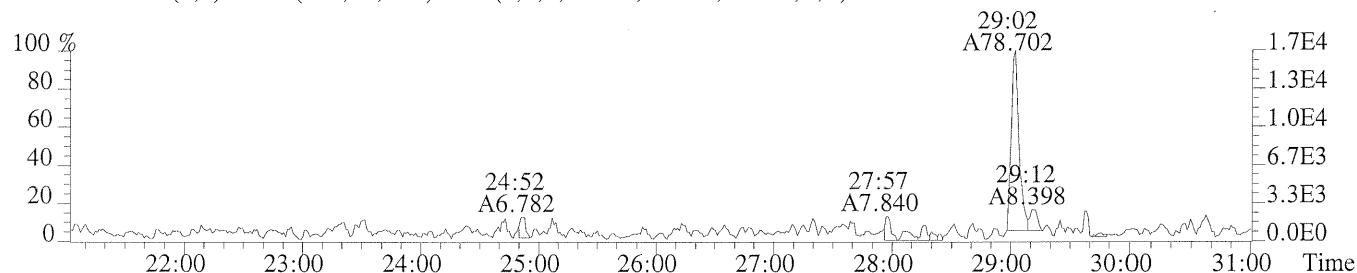
Run #1 Filename U150166 Samp: 1 Inj: 1 Acquired: 31-JUL-14 19:08:59  
 Processed: 1-AUG-14 09:11:121 LAB. ID: 66807

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.64e+04	1.05e+03	1.6e+01	1.69e+04	1.91e+03	8.9e+00
2	1,2,3,7,8-PeCDF	1.21e+05	1.26e+03	9.6e+01	7.89e+04	1.14e+03	6.9e+01
3	2,3,4,7,8-PeCDF	1.27e+05	1.26e+03	1.0e+02	7.88e+04	1.14e+03	6.9e+01
4	1,2,3,4,7,8-HxCDF	1.07e+05	1.12e+03	9.5e+01	8.90e+04	7.76e+02	1.1e+02
5	1,2,3,6,7,8-HxCDF	1.10e+05	1.12e+03	9.8e+01	8.81e+04	7.76e+02	1.1e+02
6	2,3,4,6,7,8-HxCDF	1.02e+05	1.12e+03	9.1e+01	9.01e+04	7.76e+02	1.2e+02
7	1,2,3,7,8,9-HxCDF	8.61e+04	1.12e+03	7.7e+01	6.47e+04	7.76e+02	8.3e+01
8	1,2,3,4,6,7,8-HpCDF	7.96e+04	1.38e+03	5.8e+01	7.53e+04	1.52e+03	5.0e+01
9	1,2,3,4,7,8,9-HpCDF	5.38e+04	1.38e+03	3.9e+01	4.37e+04	1.52e+03	2.9e+01
10	OCDF	5.45e+04	5.04e+02	1.1e+02	6.31e+04	1.23e+03	5.1e+01
11	2,3,7,8-TCDD	1.04e+04	6.84e+02	1.5e+01	1.31e+04	8.08e+02	1.6e+01
12	1,2,3,7,8-PeCDD	7.30e+04	1.24e+03	5.9e+01	4.05e+04	9.04e+02	4.5e+01
13	1,2,3,4,7,8-HxCDD	8.14e+04	9.76e+02	8.3e+01	6.49e+04	9.12e+02	7.1e+01
14	1,2,3,6,7,8-HxCDD	8.33e+04	9.76e+02	8.5e+01	6.67e+04	9.12e+02	7.3e+01
15	1,2,3,7,8,9-HxCDD	7.14e+04	9.76e+02	7.3e+01	6.00e+04	9.12e+02	6.6e+01
16	1,2,3,4,6,7,8-HpCDD	4.96e+04	7.88e+02	6.3e+01	4.91e+04	5.64e+02	8.7e+01
17	OCDD	5.78e+04	5.72e+02	1.0e+02	5.64e+04	8.92e+02	6.3e+01
18	13C-2,3,7,8-TCDF	5.29e+06	1.51e+03	3.5e+03	6.29e+06	1.04e+03	6.1e+03
19	13C-1,2,3,7,8-PeCDF	8.80e+06	1.24e+03	7.1e+03	5.46e+06	1.02e+03	5.4e+03
20	13C-2,3,4,7,8-PeCDF	9.44e+06	1.24e+03	7.6e+03	5.92e+06	1.02e+03	5.8e+03
21	13C-1,2,3,4,7,8-HxCDF	4.21e+06	9.72e+02	4.3e+03	8.00e+06	1.54e+03	5.2e+03
22	13C-1,2,3,6,7,8-HxCDF	4.84e+06	9.72e+02	5.0e+03	9.37e+06	1.54e+03	6.1e+03
23	13C-2,3,4,6,7,8-HxCDF	4.42e+06	9.72e+02	4.6e+03	8.59e+06	1.54e+03	5.6e+03
24	13C-1,2,3,7,8,9-HxCDF	3.17e+06	9.72e+02	3.3e+03	6.22e+06	1.54e+03	4.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.85e+06	1.06e+03	2.7e+03	6.35e+06	6.92e+02	9.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.81e+06	1.06e+03	1.7e+03	3.99e+06	6.92e+02	5.8e+03
27	13C-2,3,7,8-TCDD	3.70e+06	2.86e+03	1.3e+03	4.82e+06	1.55e+03	3.1e+03
28	13C-1,2,3,7,8-PeCDD	5.36e+06	1.32e+03	4.1e+03	3.37e+06	1.05e+03	3.2e+03
29	13C-1,2,3,4,7,8-HxCDD	5.14e+06	1.53e+03	3.4e+03	3.93e+06	9.80e+02	4.0e+03
30	13C-1,2,3,6,7,8-HxCDD	4.99e+06	1.53e+03	3.3e+03	3.83e+06	9.80e+02	3.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.60e+06	9.48e+02	3.8e+03	3.25e+06	7.08e+02	4.6e+03
32	13C-OCDD	2.98e+06	8.40e+02	3.6e+03	3.28e+06	8.12e+02	4.0e+03
33	13C-1,2,3,4-TCDD	4.04e+06	2.86e+03	1.4e+03	5.24e+06	1.55e+03	3.4e+03
34	13C-1,2,3,7,8,9-HxCDD	5.12e+06	1.53e+03	3.4e+03	3.92e+06	9.80e+02	4.0e+03
35	37Cl-2,3,7,8-TCDD	2.20e+04	1.35e+03	1.6e+01			

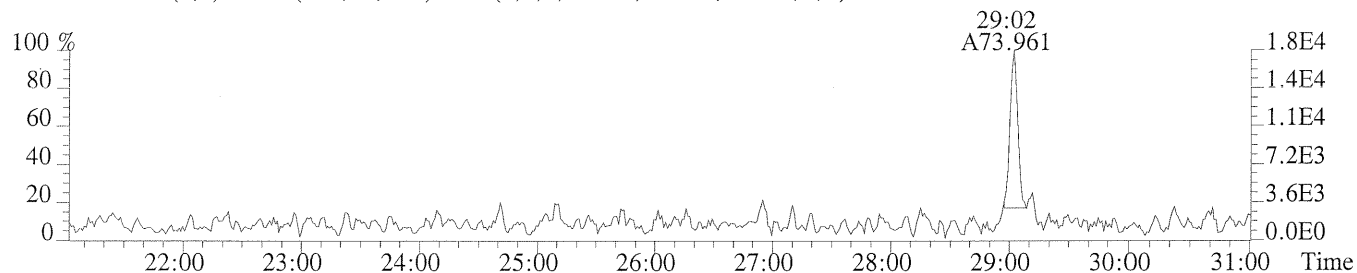
ALS ENVIRONMENTAL  
 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
 Office: (713) 266-1599. Fax: (713) 266-0130

XLSN

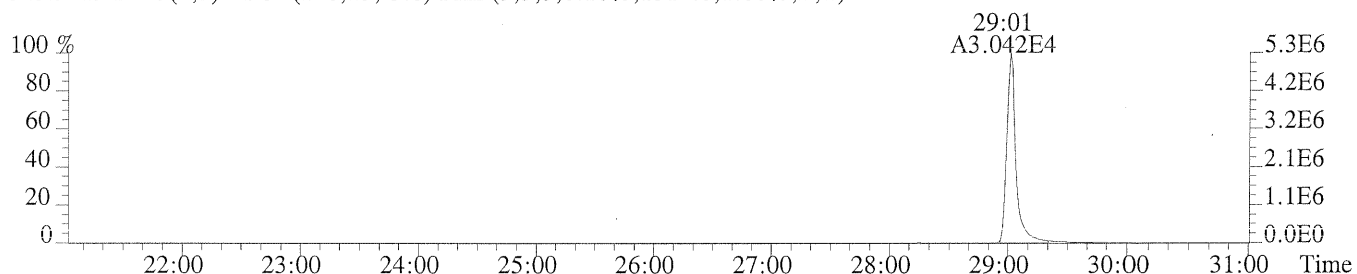
File:U150166 #1-627 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS0.5  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



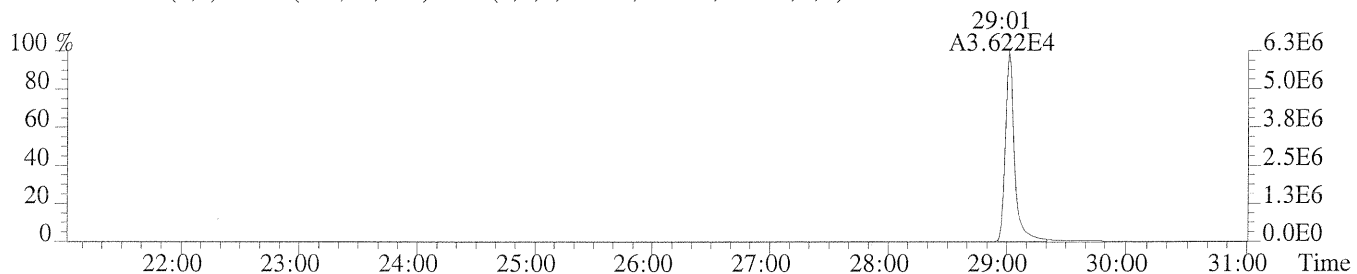
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1908.0,1.00%,F,T)



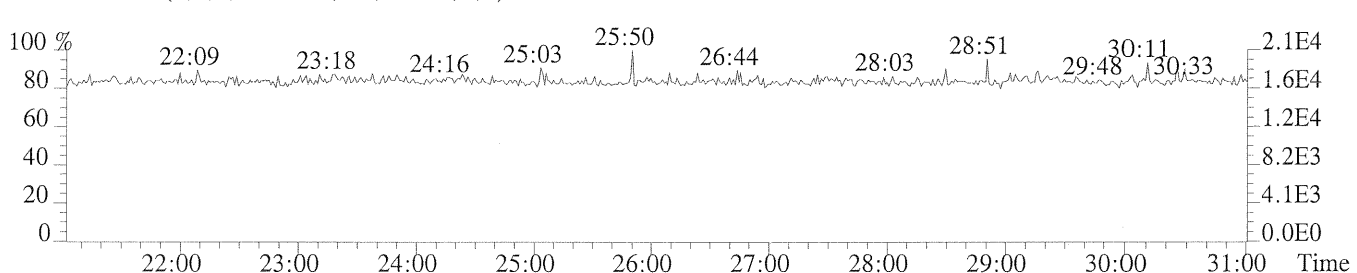
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1512.0,1.00%,F,T)



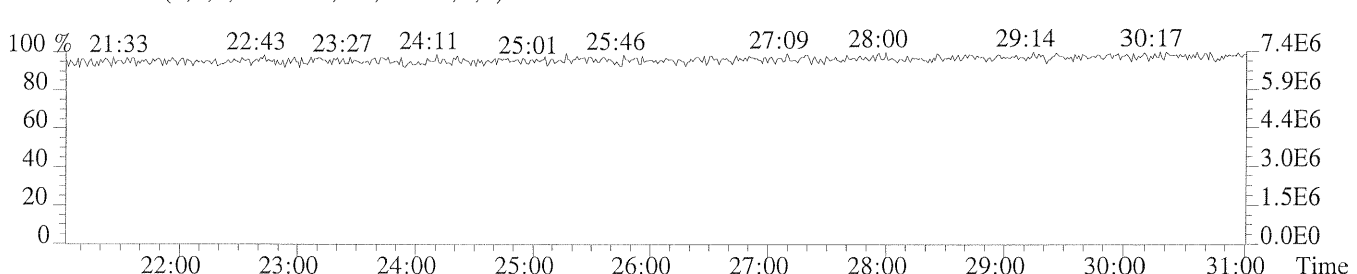
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



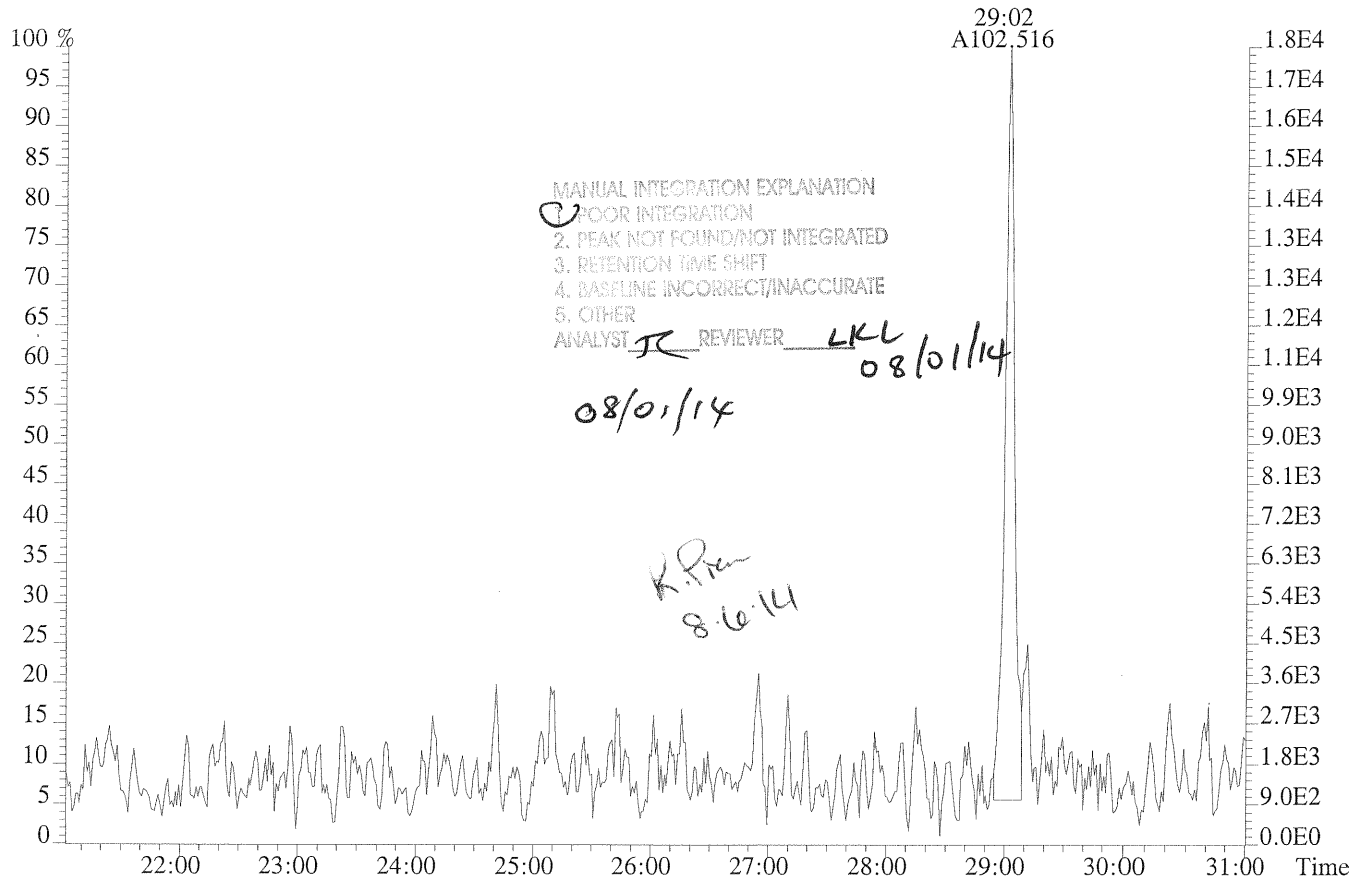
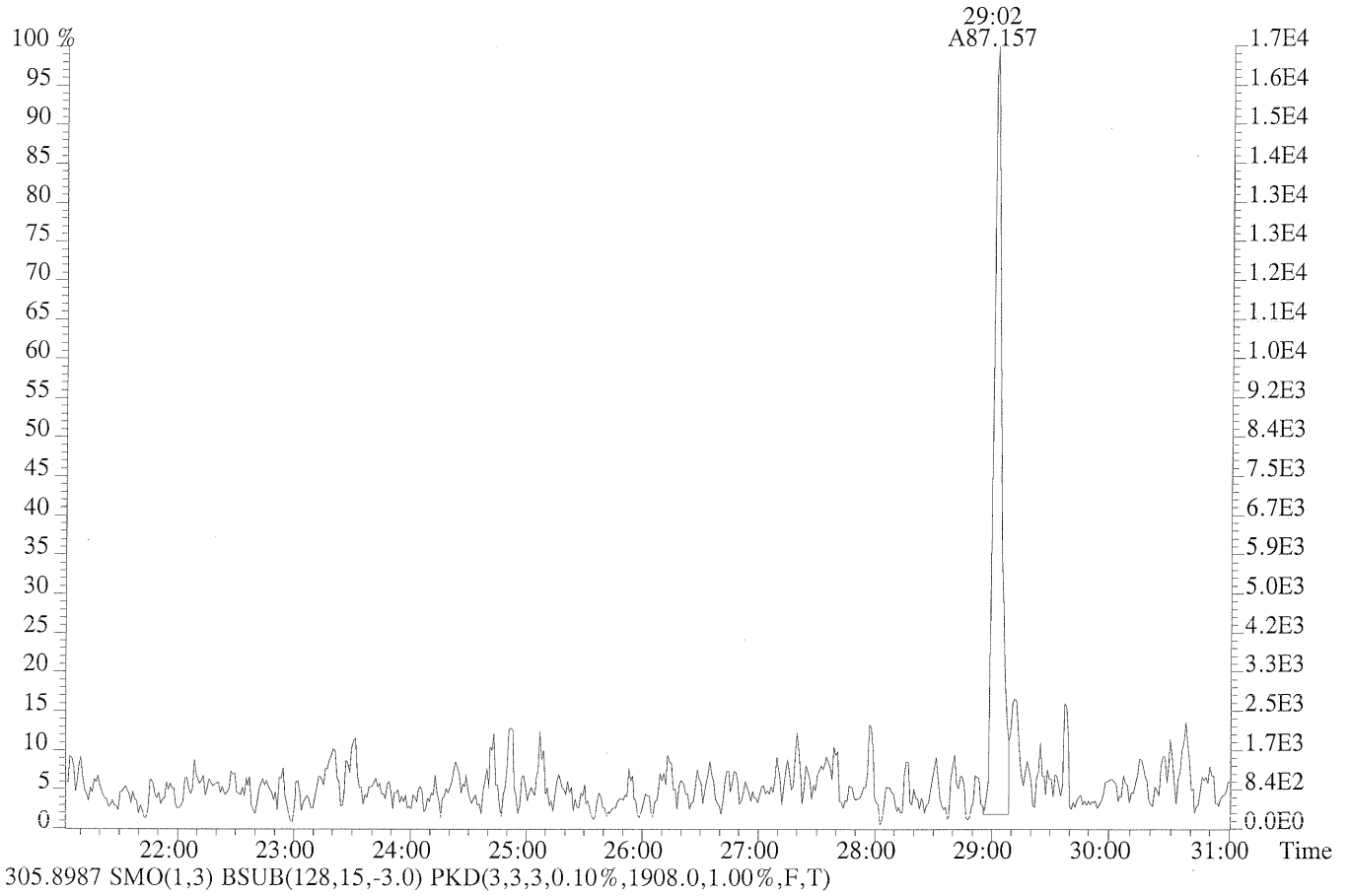
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

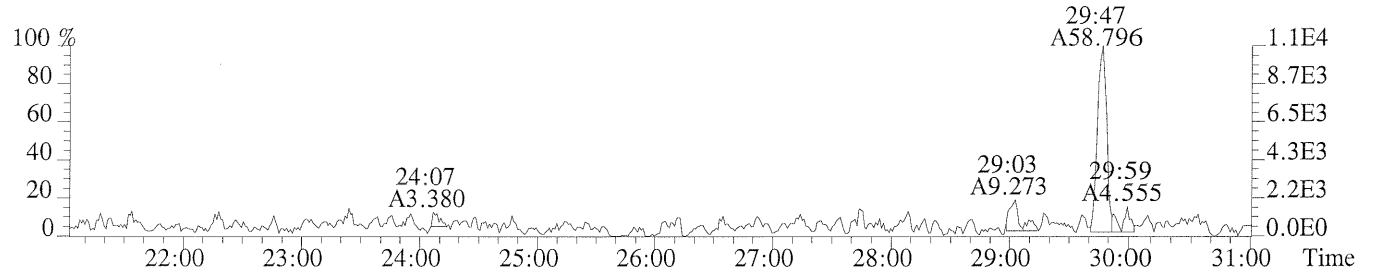


File:U150166 #1-627 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS0.5  
303.9016 SMO(1,3) BSUB(128,15,-3.0)

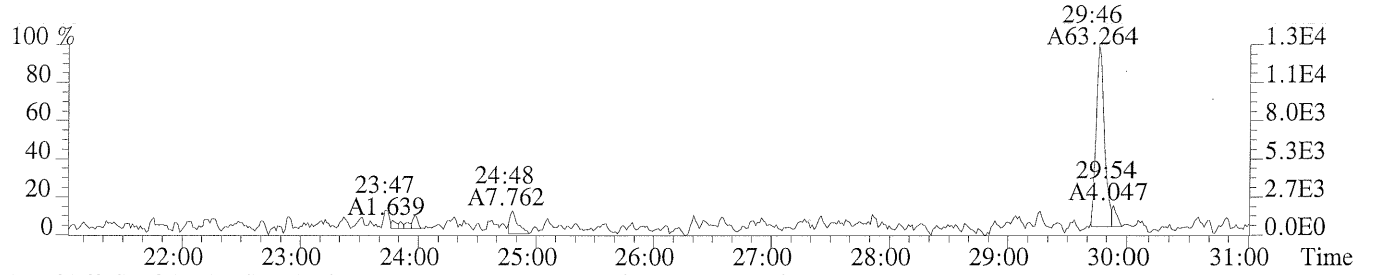


Sample#1 Exp:CS0.5

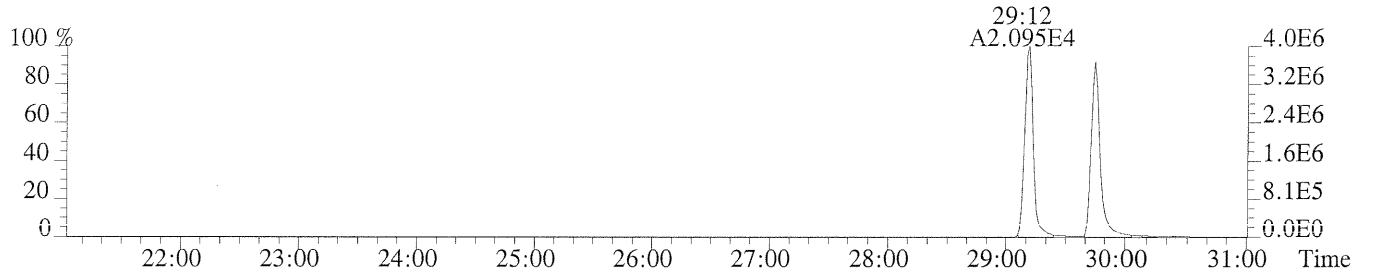
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



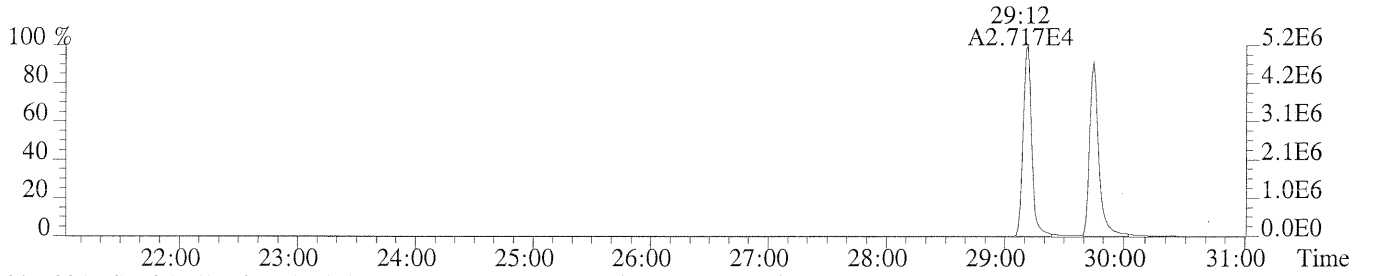
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



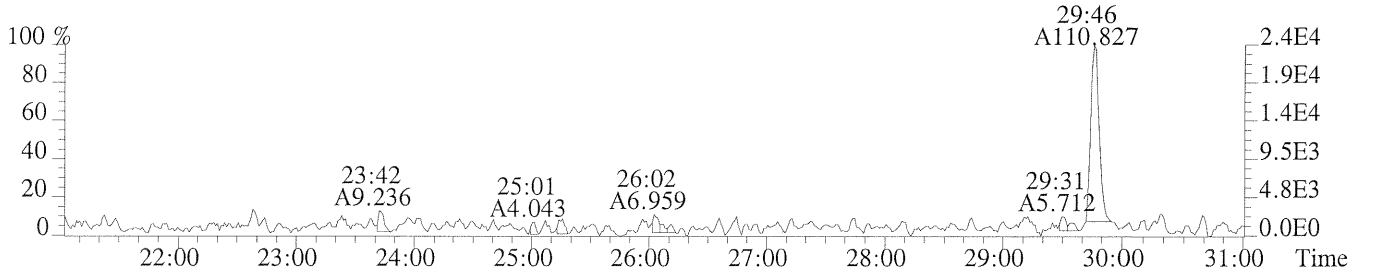
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2864.0,1.00%,F,T)



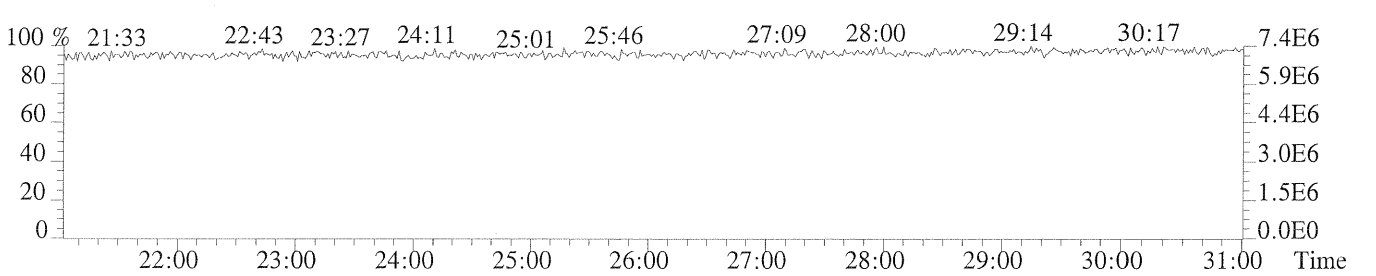
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1548.0,1.00%,F,T)



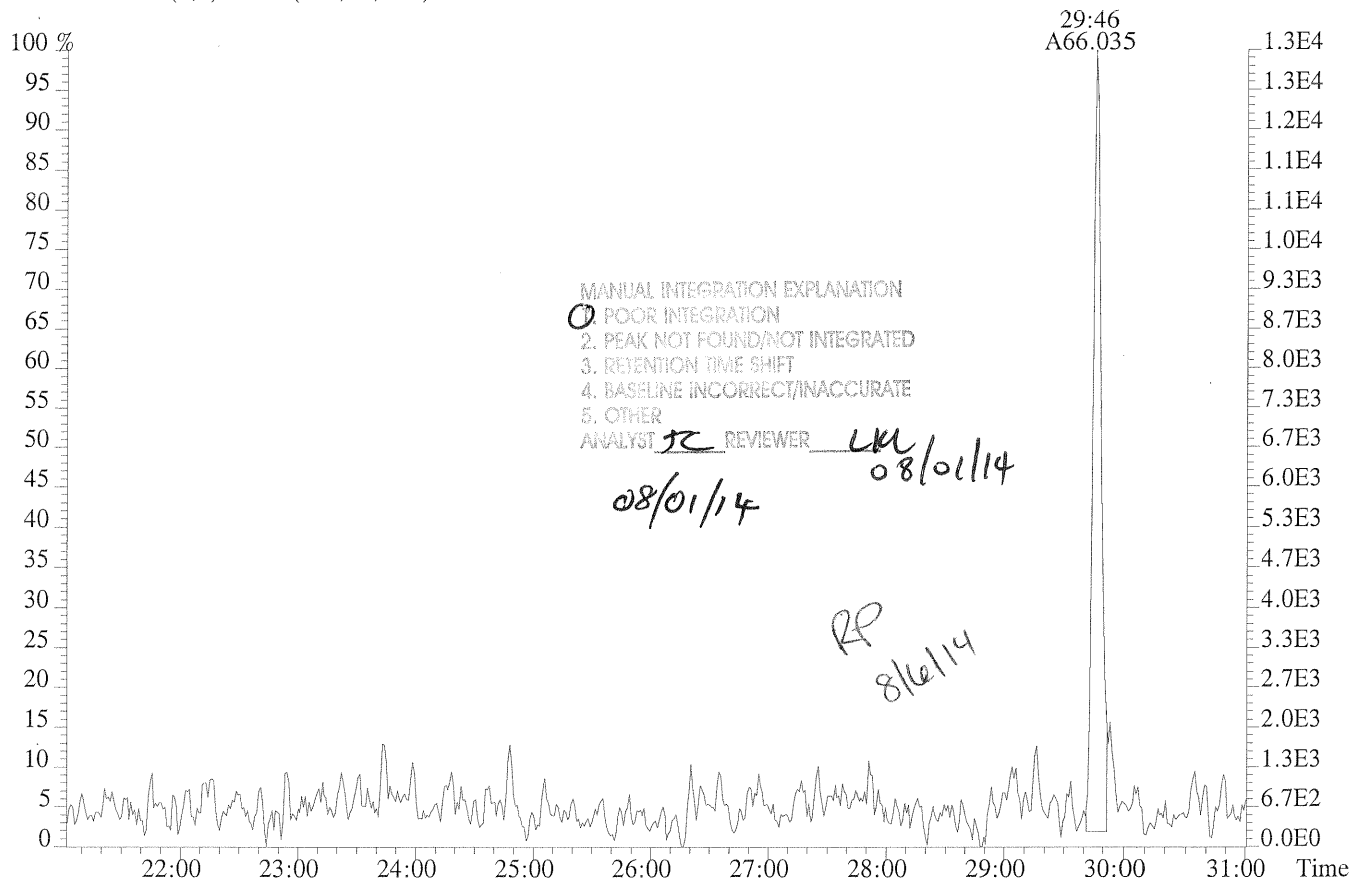
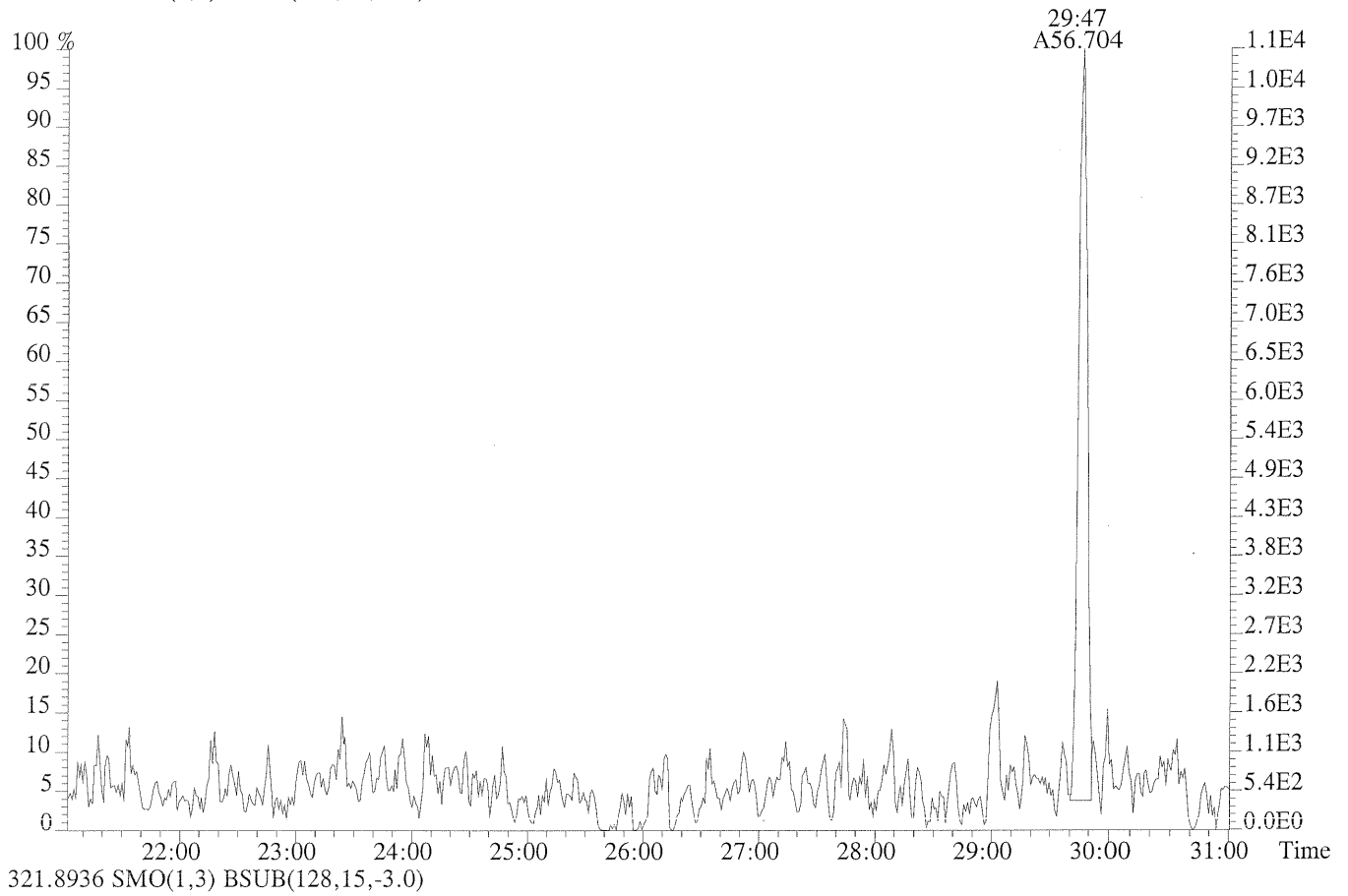
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1348.0,1.00%,F,T)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



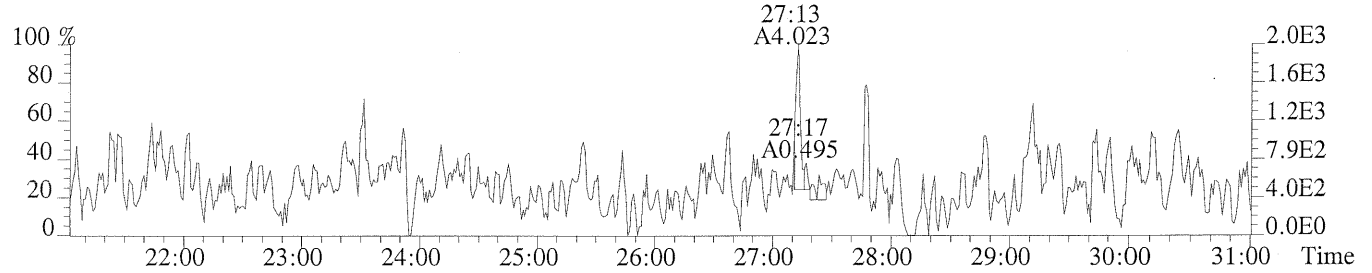
File:U150166 #1-627 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS0.5  
319.8965 SMO(1,3) BSUB(128,15,-3.0)



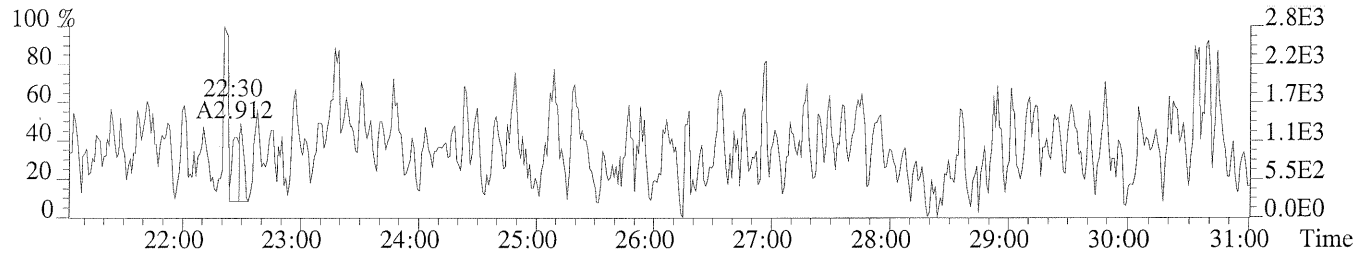
File:U150166 #1-627 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS0.5

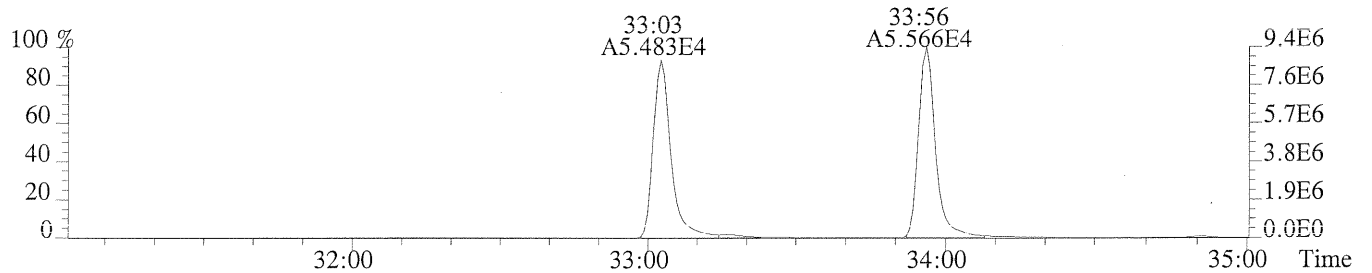
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



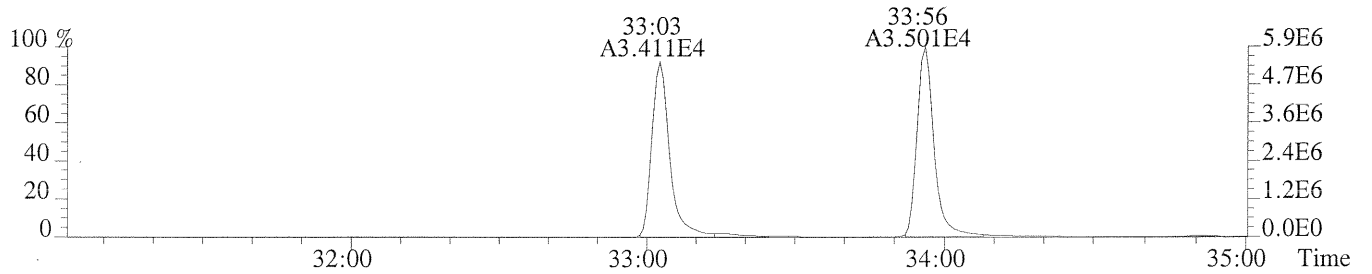
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,T)



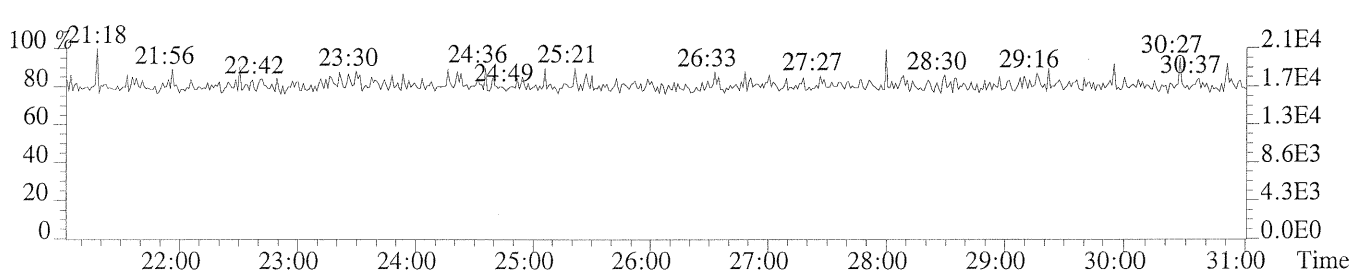
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



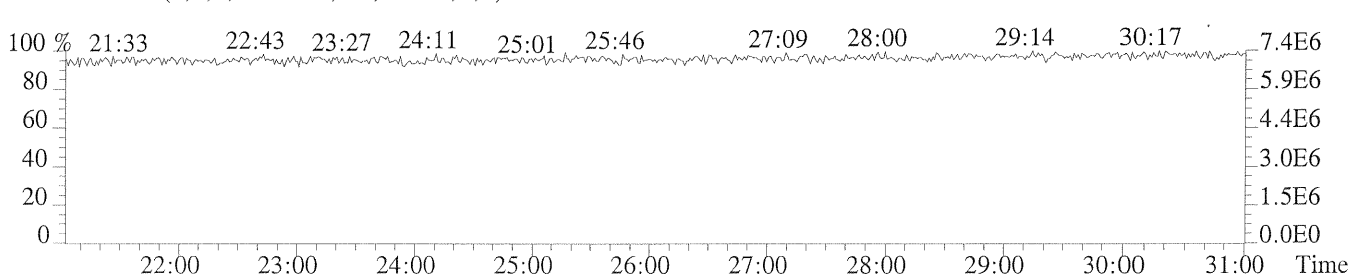
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

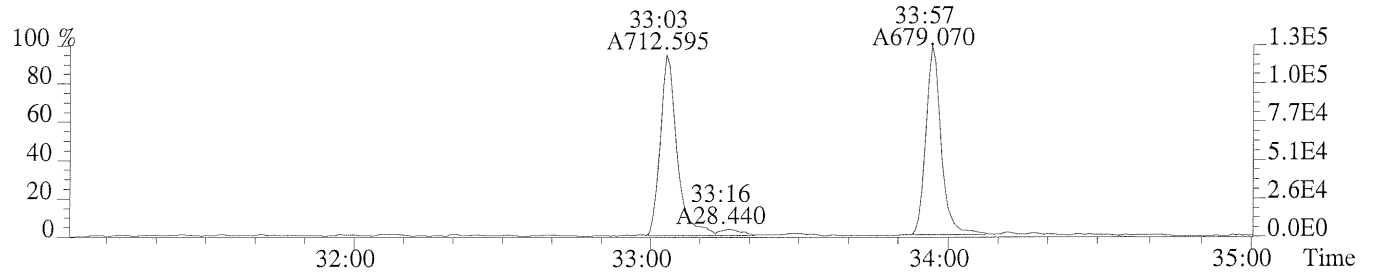


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

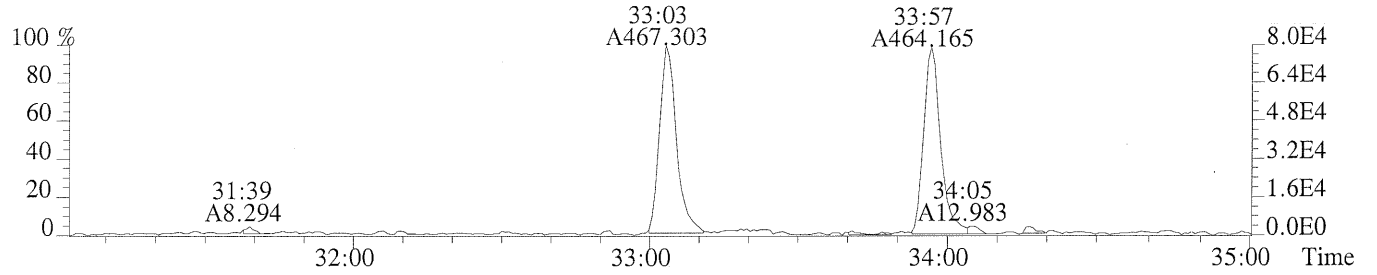


Sample#1 Exp:CS0.5

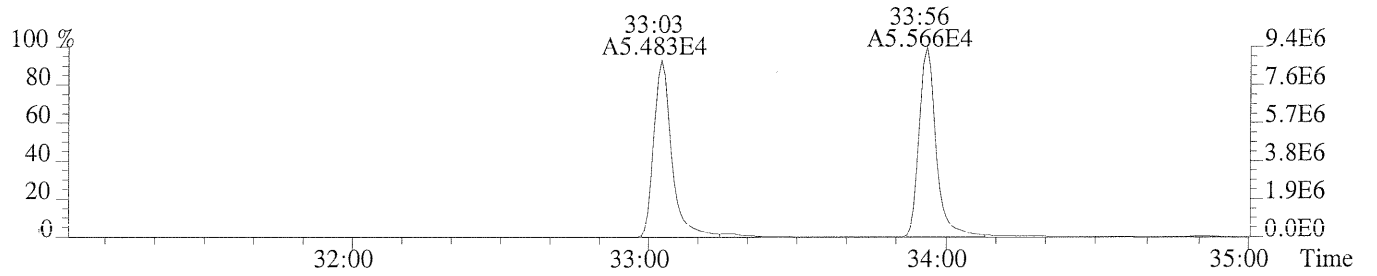
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



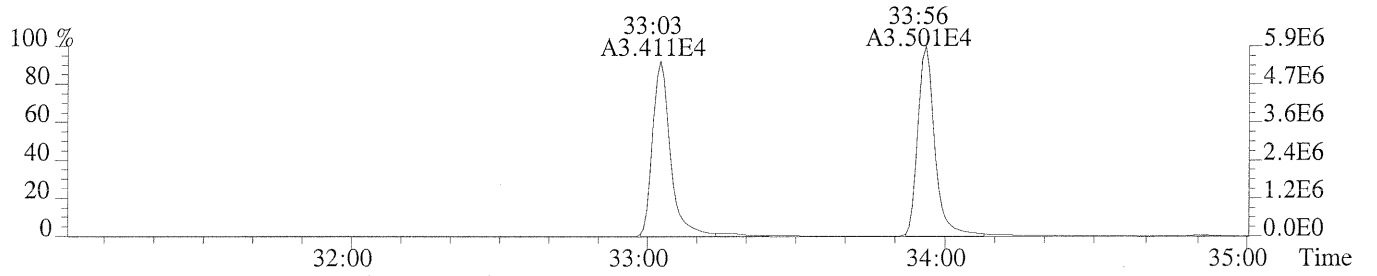
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



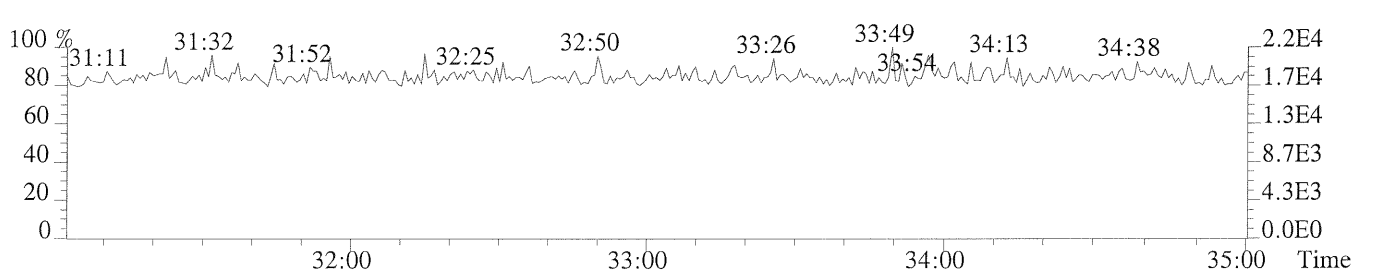
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



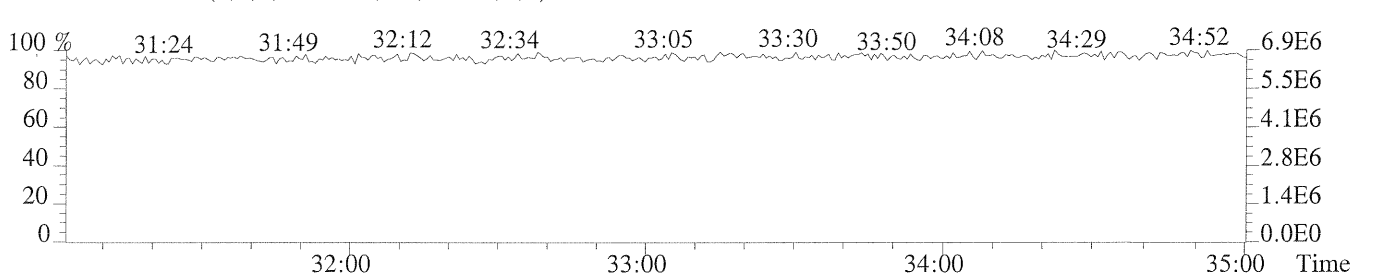
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

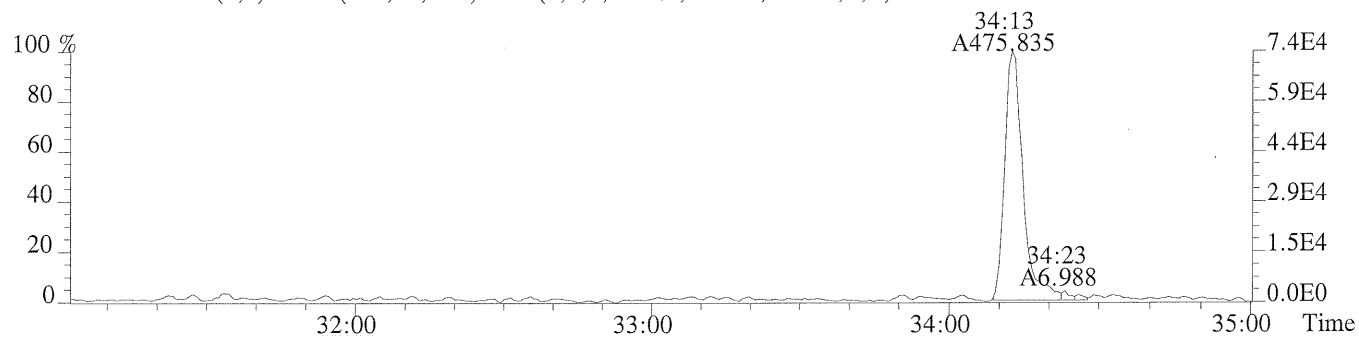


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

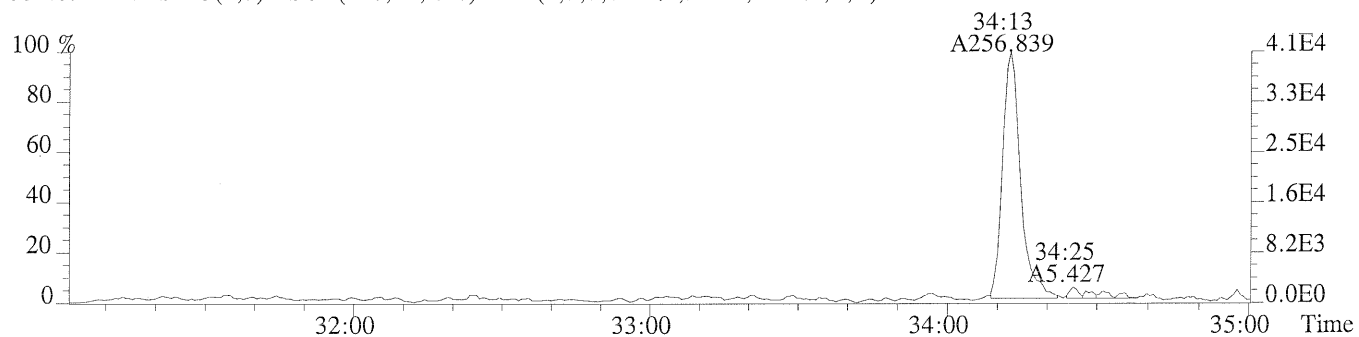




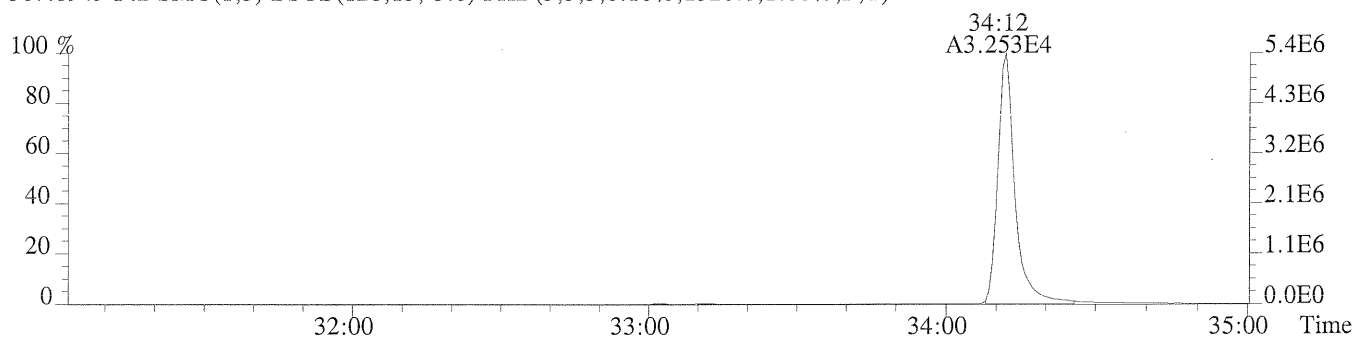
File:U150166 #1-360 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS0.5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



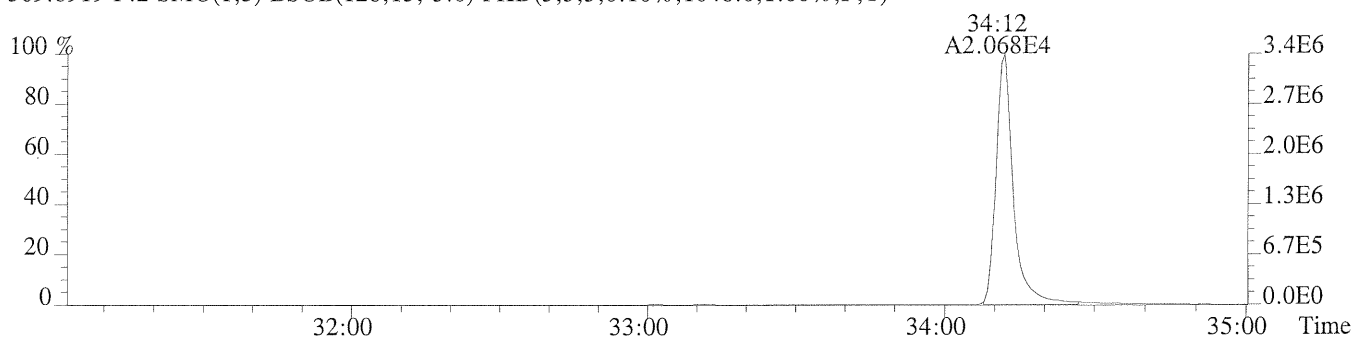
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



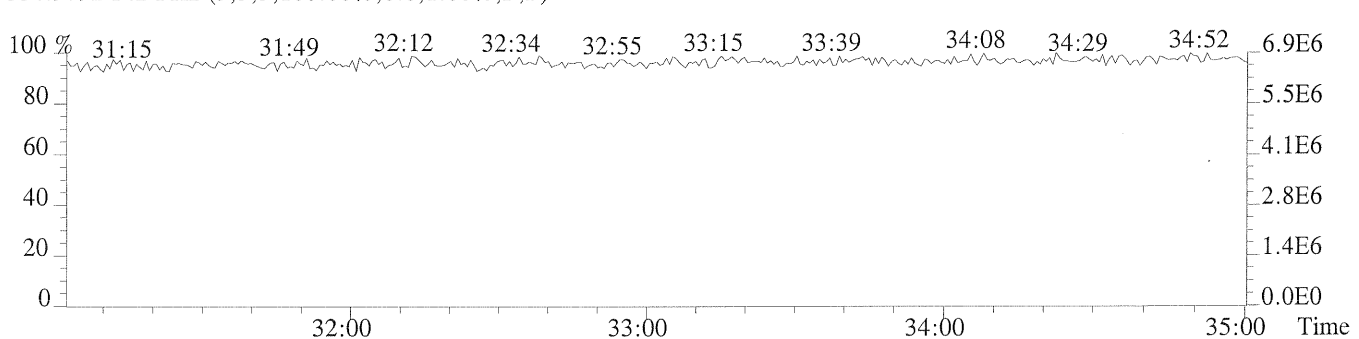
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



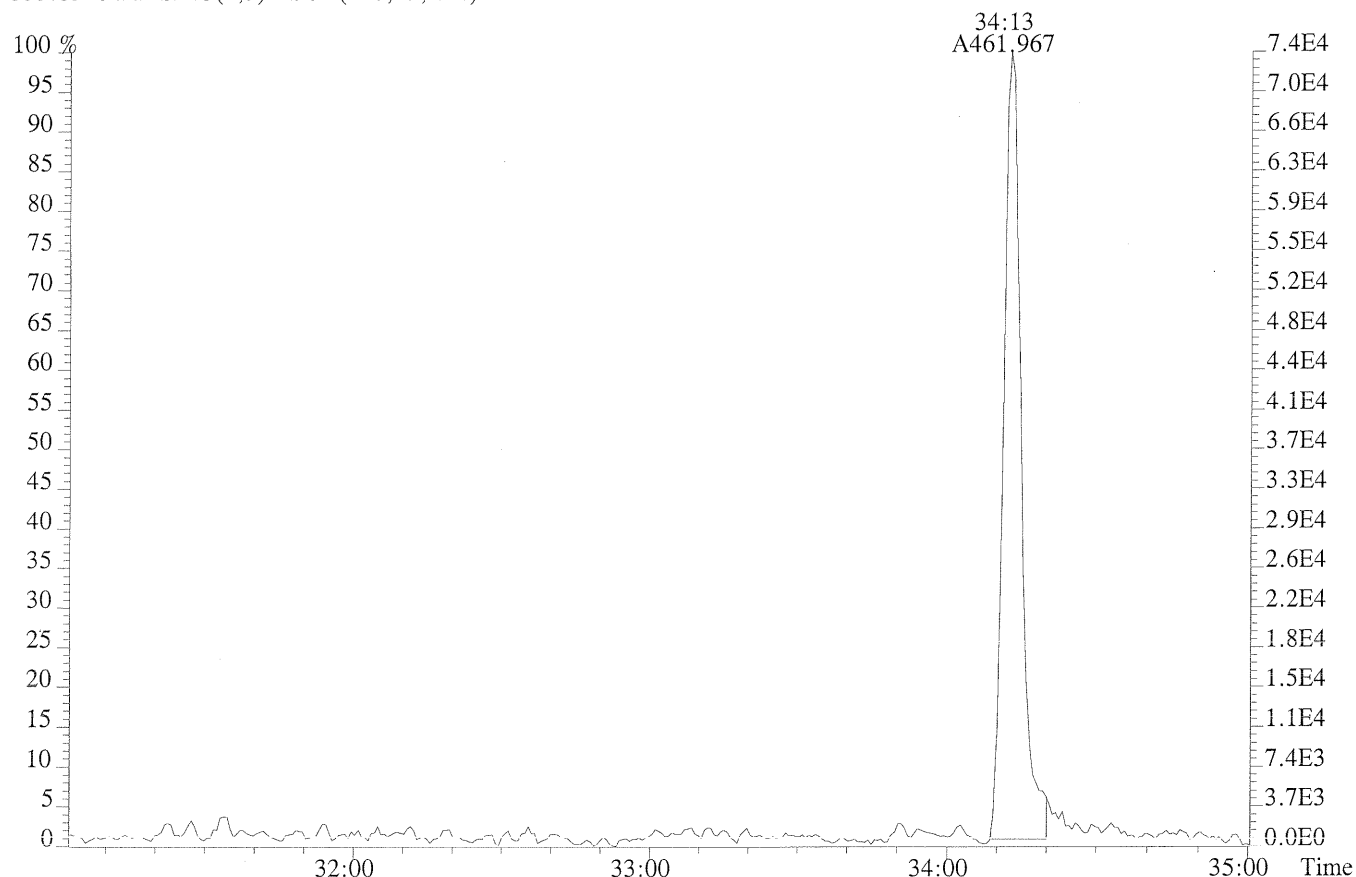
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



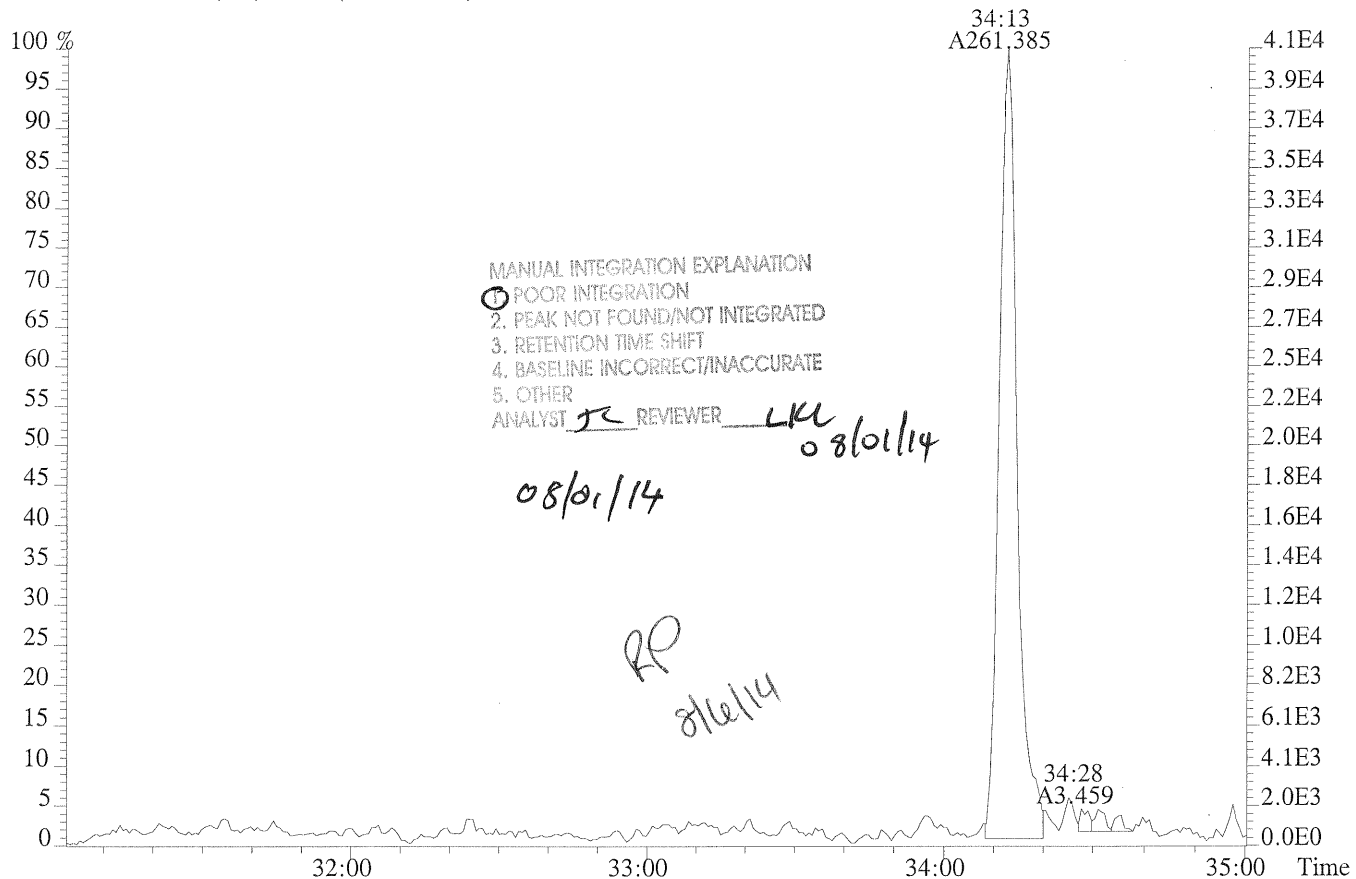
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U150166 #1-360 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS0.5  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0)



357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0)



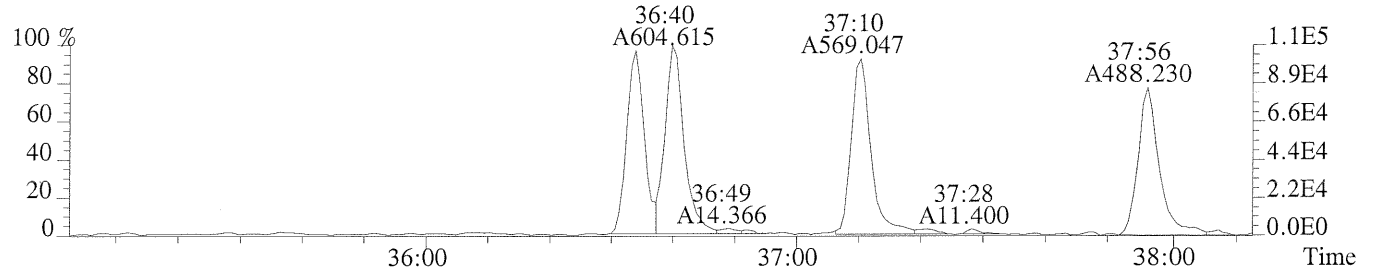
MANUAL INTEGRATION EXPLANATION  
1. POOR INTEGRATION  
2. PEAK NOT FOUND/NOT INTEGRATED  
3. RETENTION TIME SHIFT  
4. BASELINE INCORRECT/INACCURATE  
5. OTHER  
ANALYST JP REVIEWER LKL

08/01/14 08/01/14

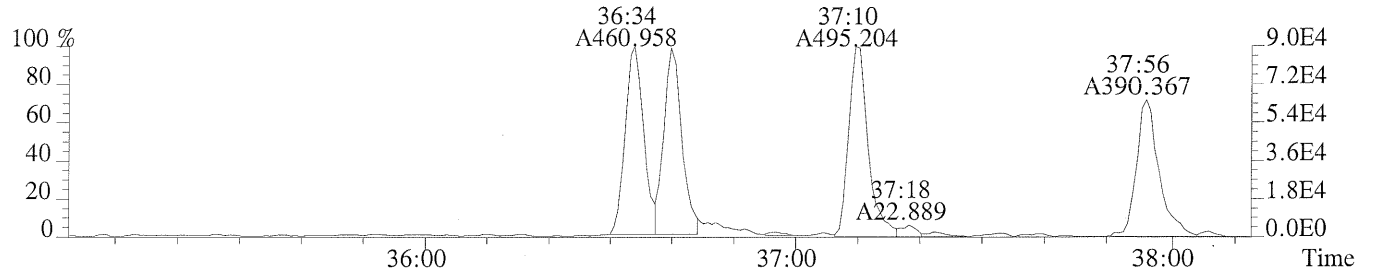
RP  
8/6/14

Sample#1 Exp:CS0.5

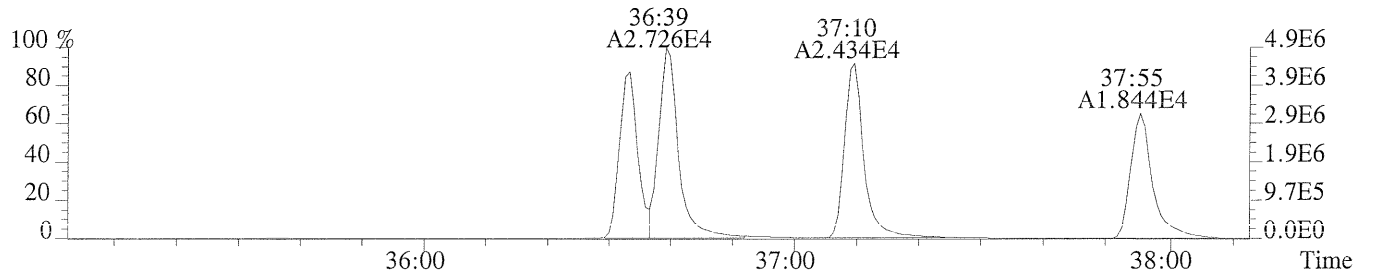
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



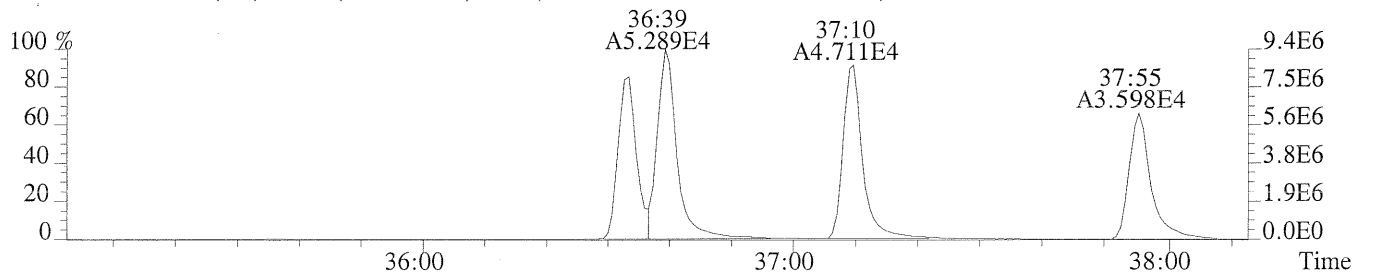
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,T)



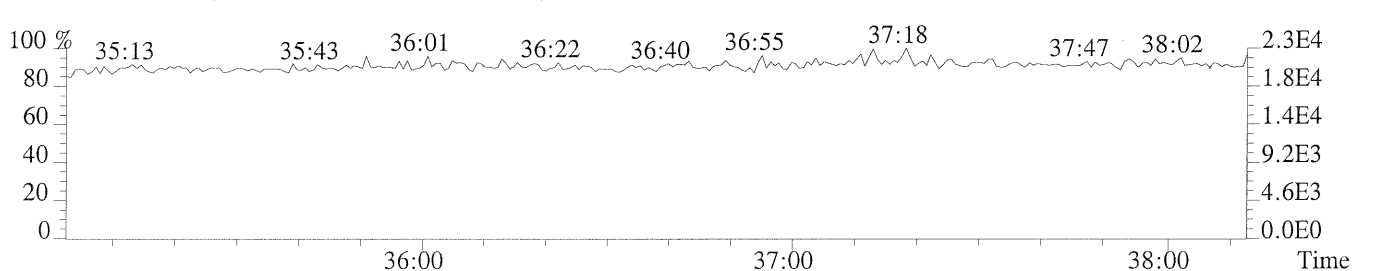
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)



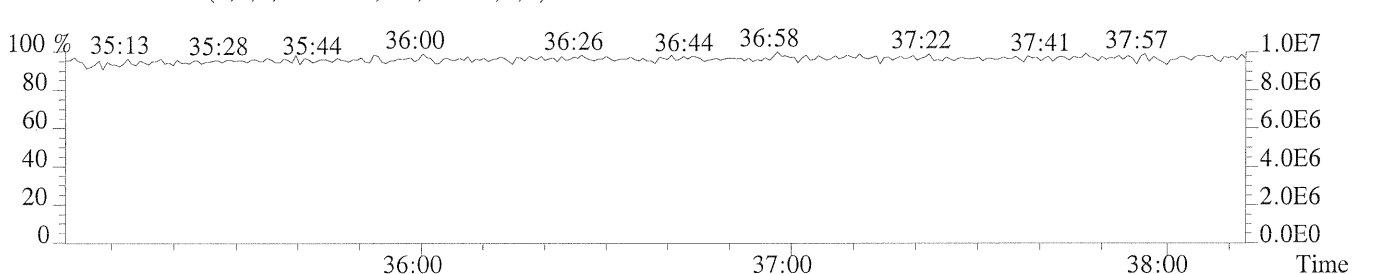
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1540.0,0.40%,F,T)

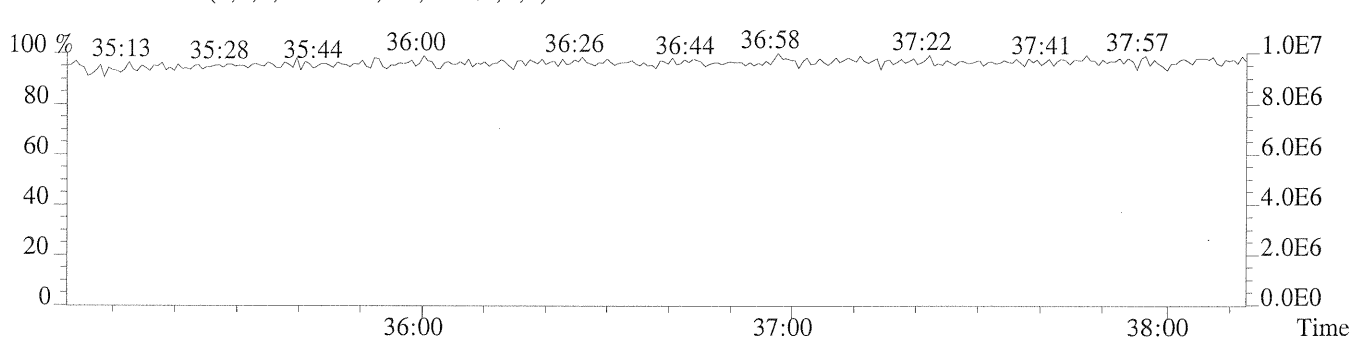
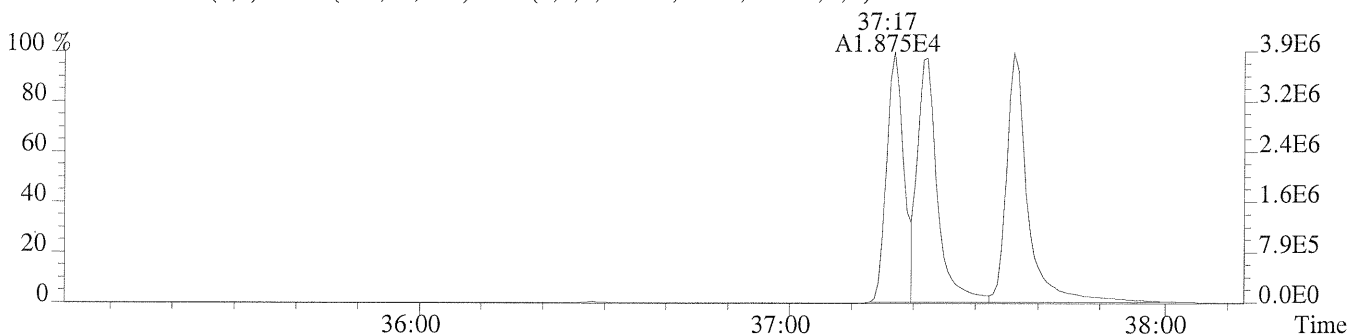
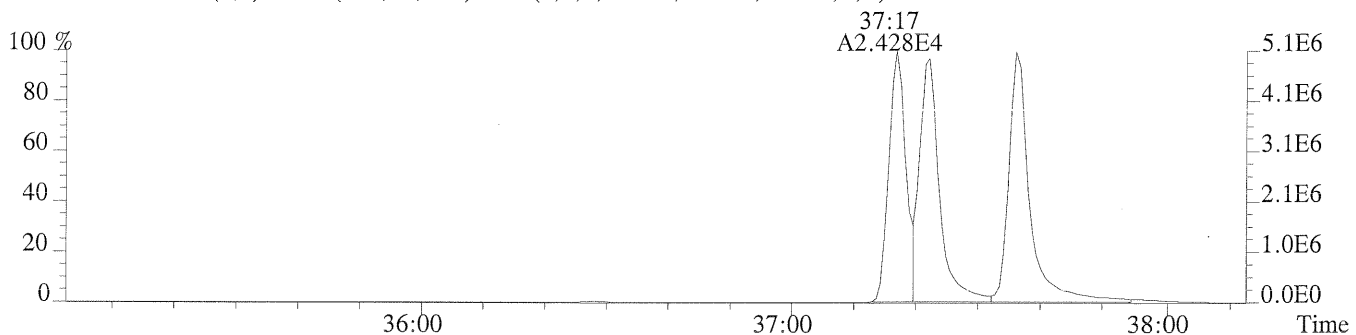
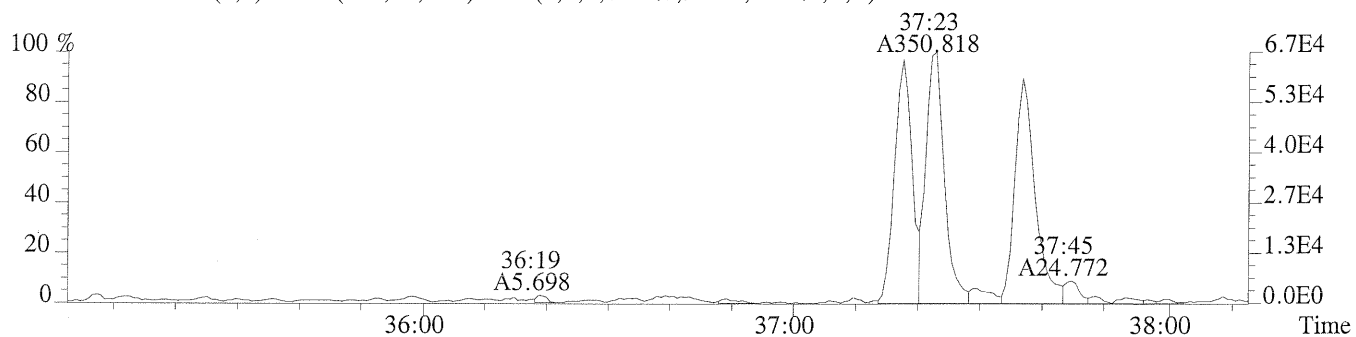
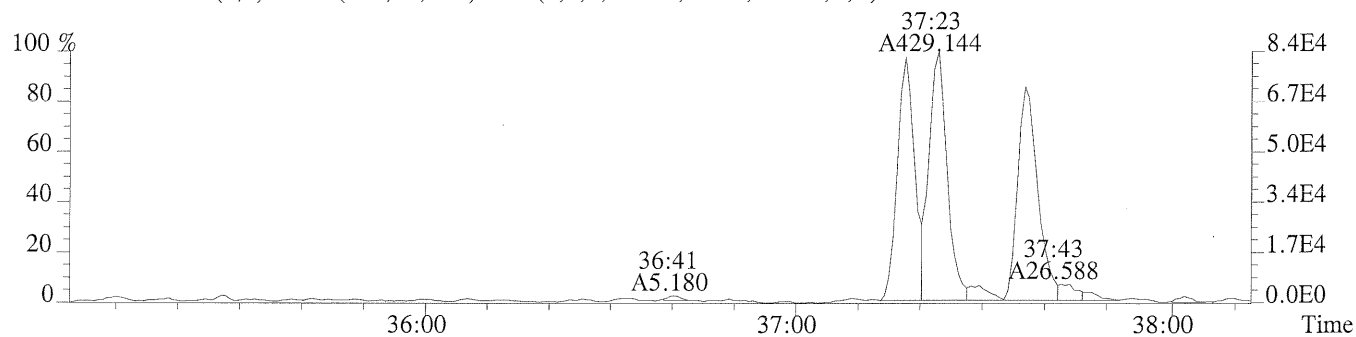


445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

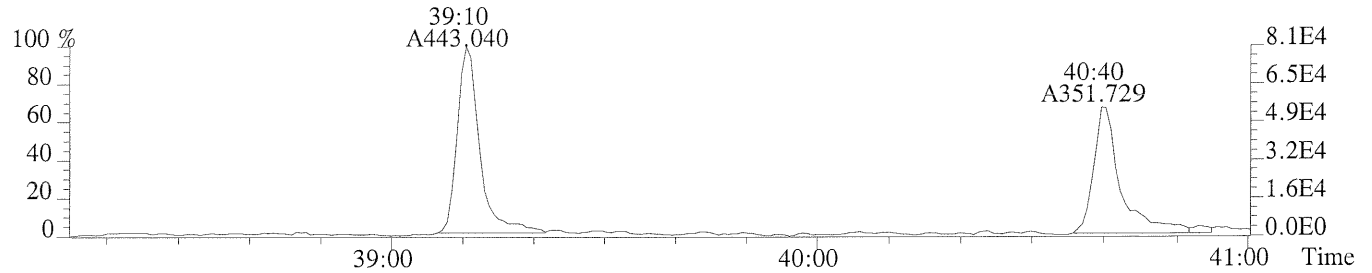




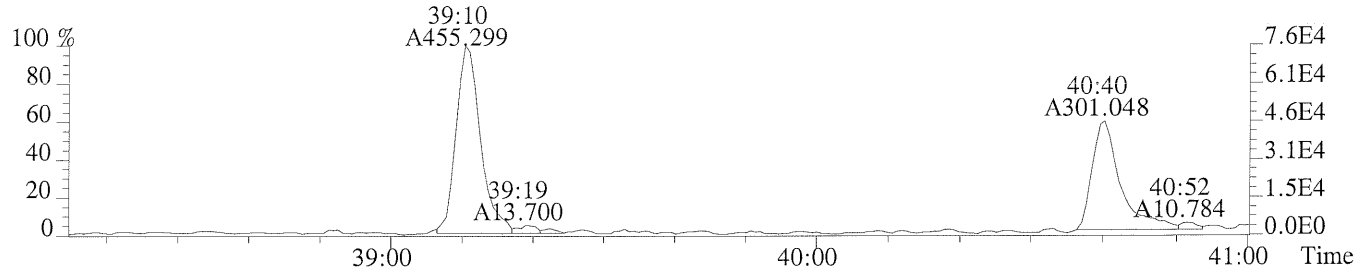
File:U150166 #1-251 Acq:31-JUL-2014 19:08:59 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS0.5

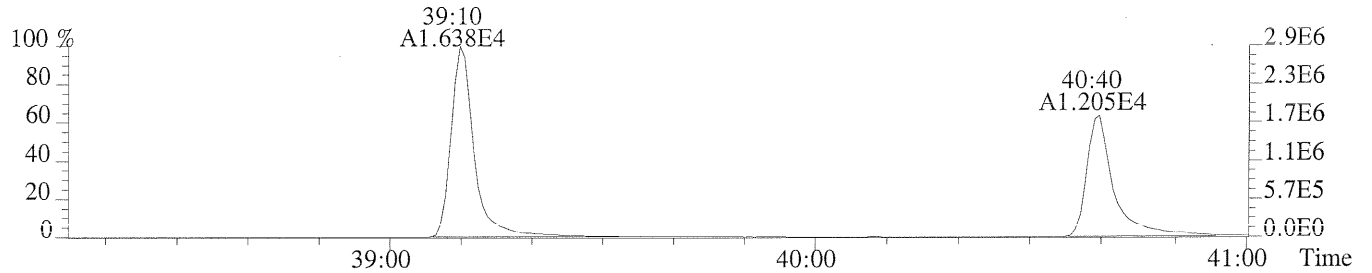
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.50%,F,T)



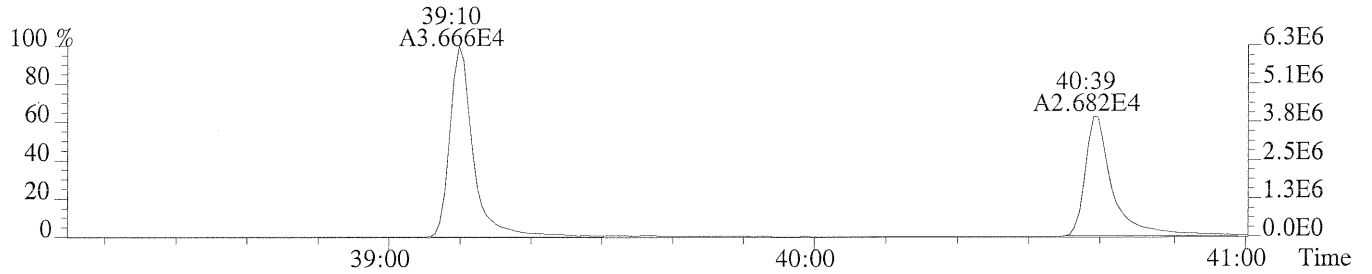
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1516.0,0.50%,F,T)



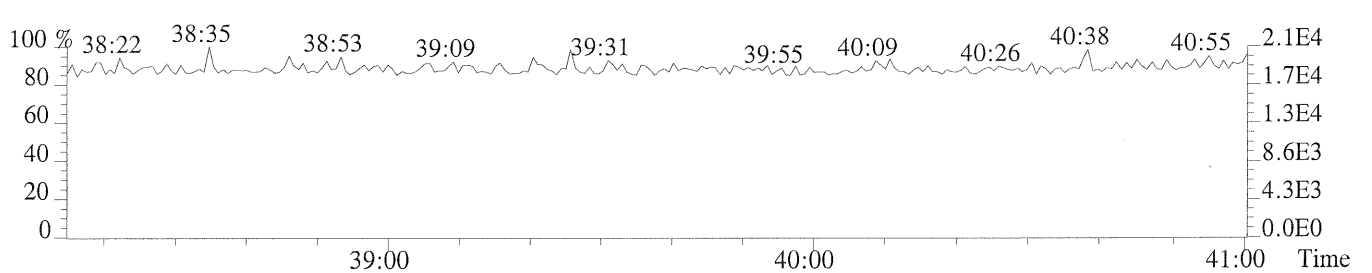
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.50%,F,T)



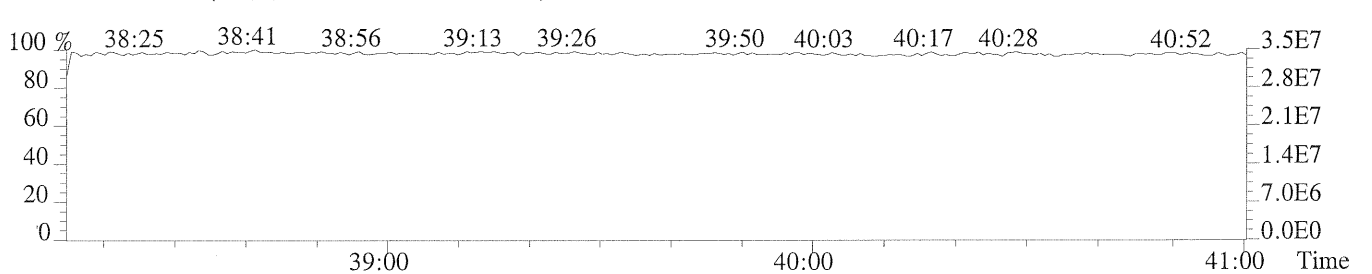
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,692.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

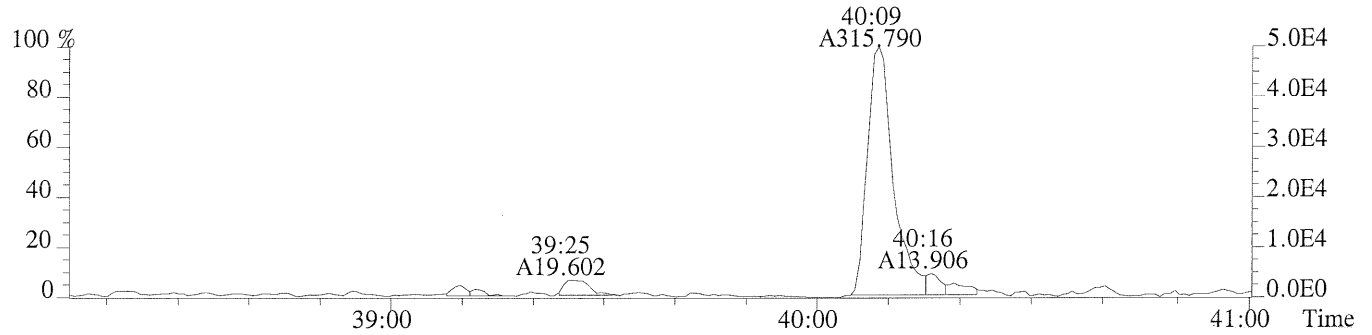


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

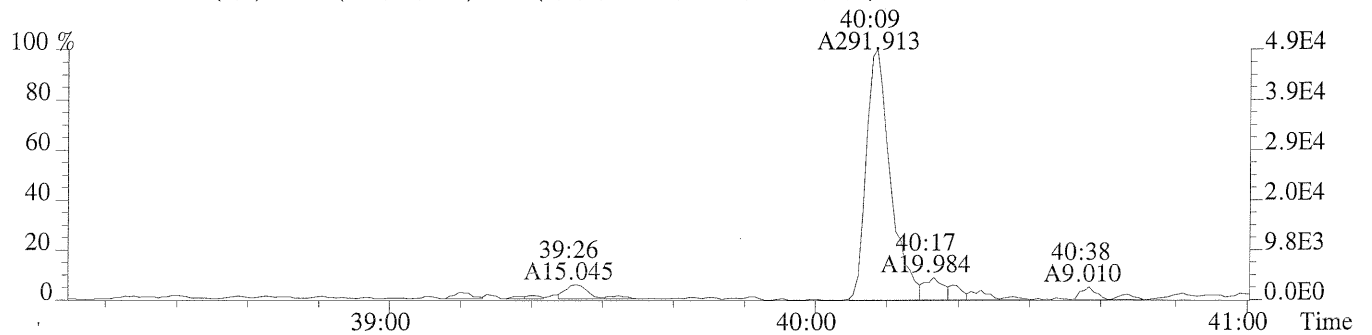


Sample#1 Exp:CS0.5

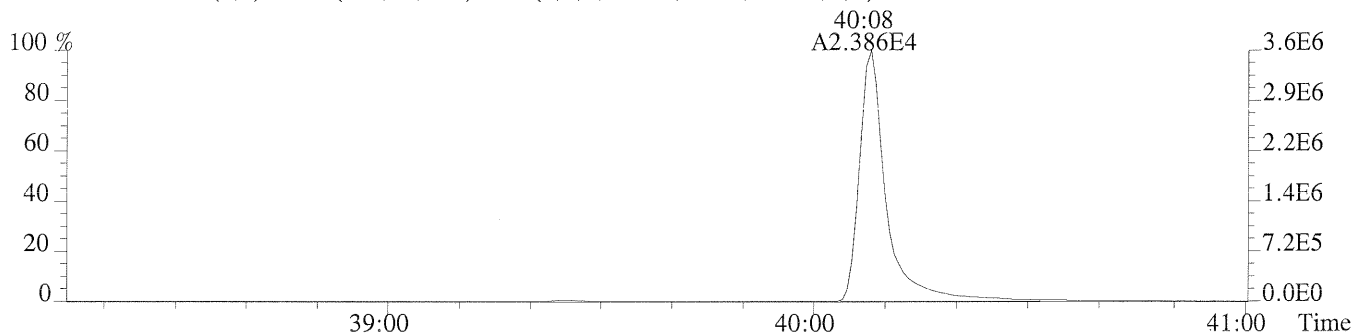
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,788.0,0.40%,F,T)



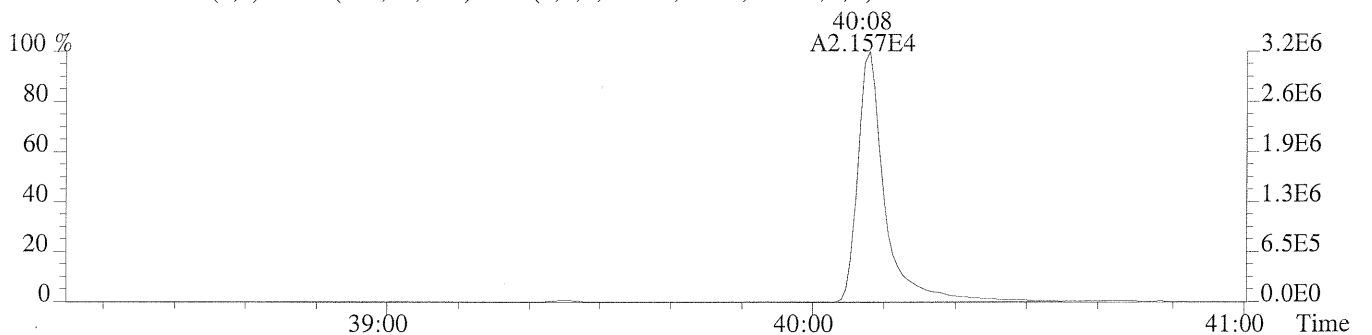
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



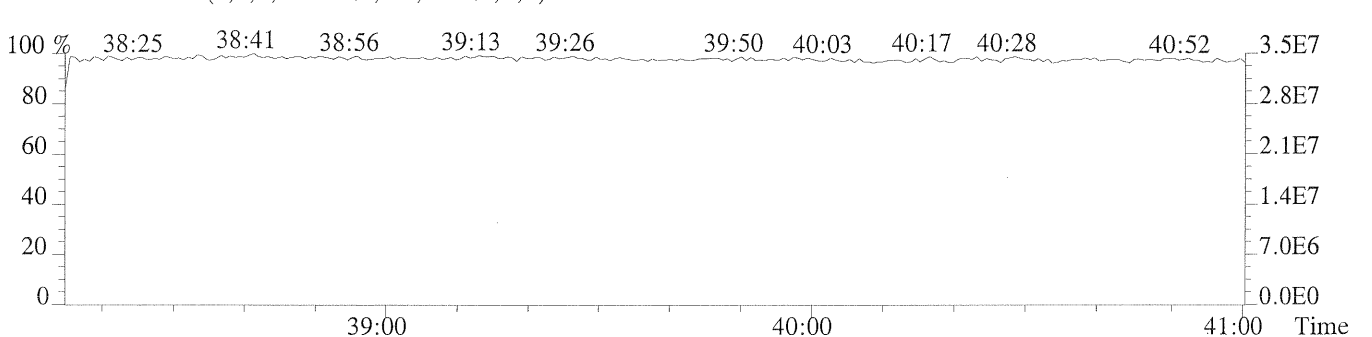
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)

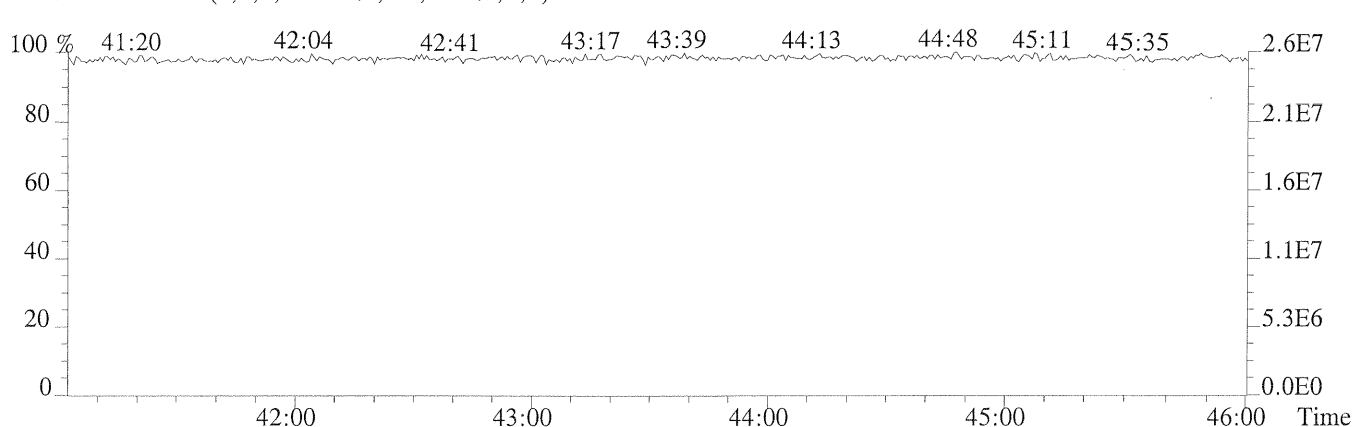
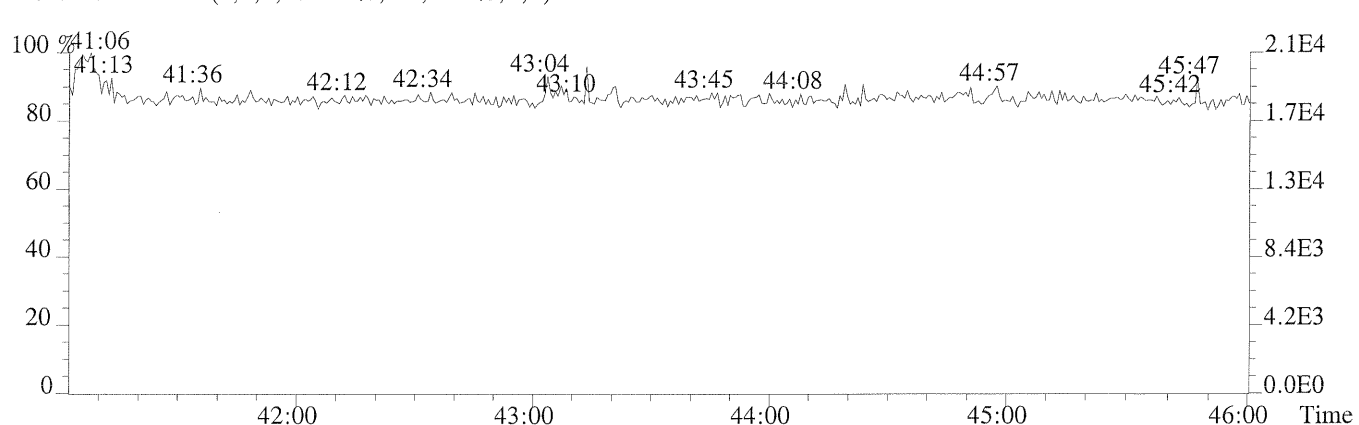
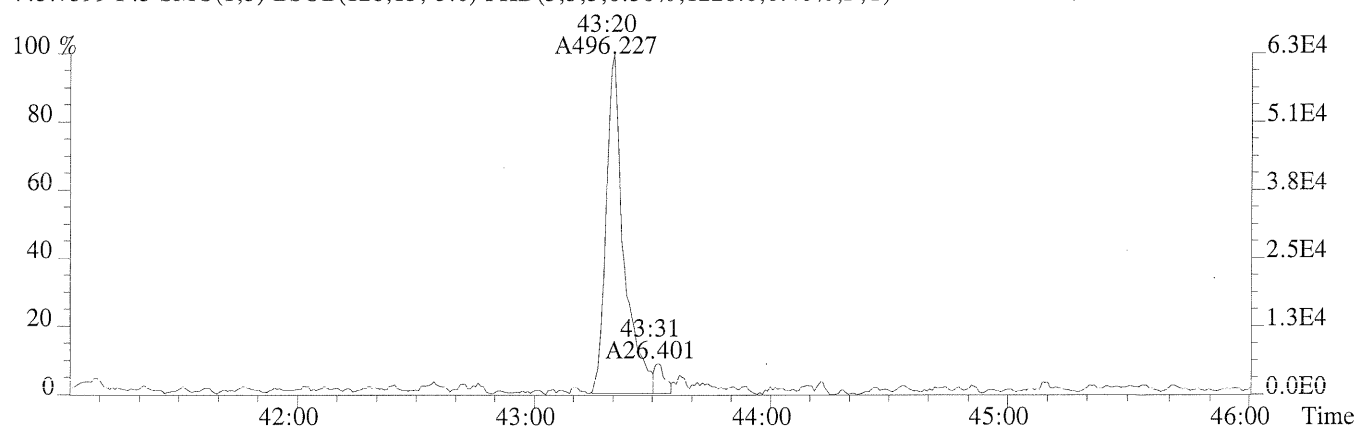
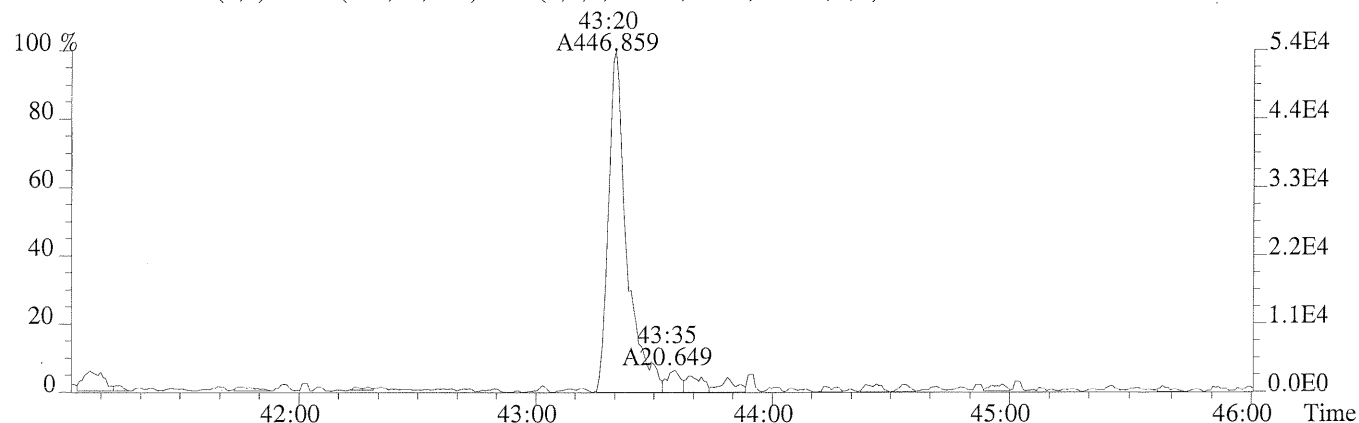


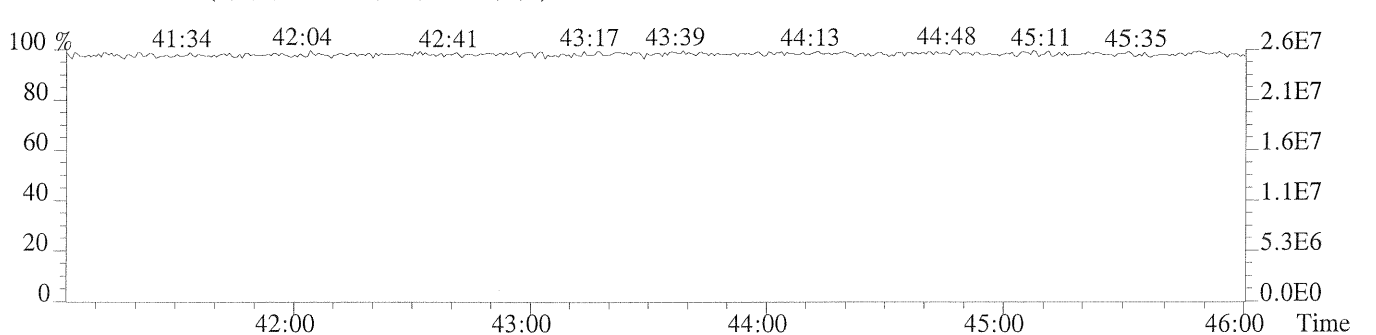
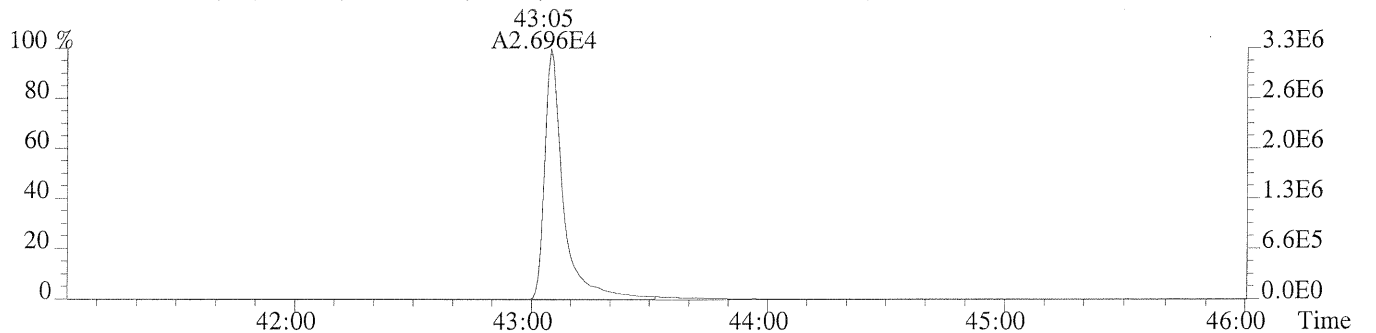
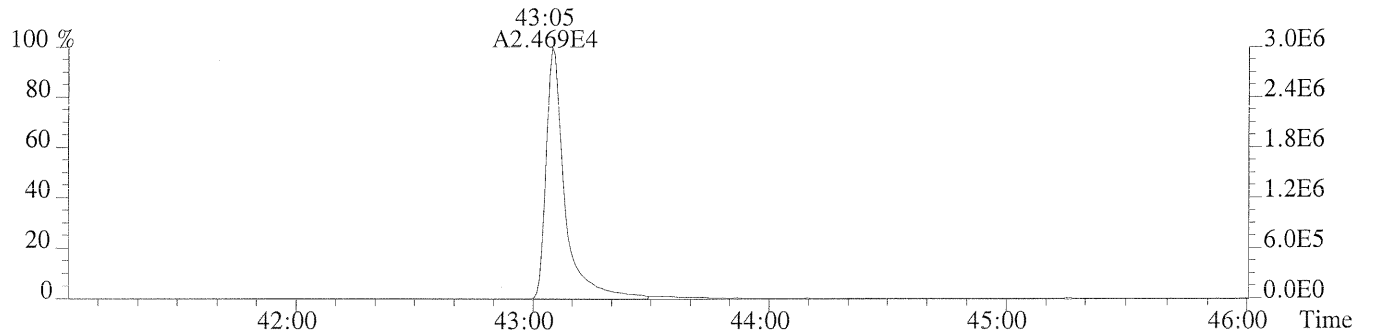
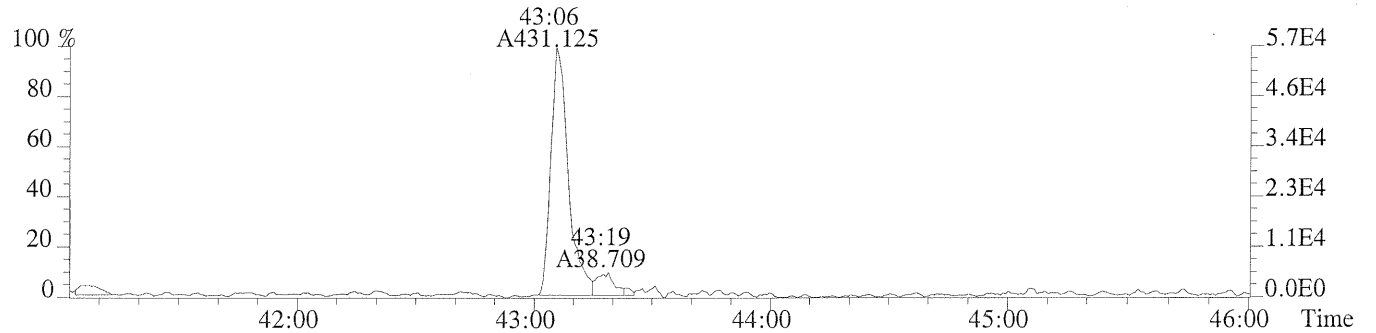
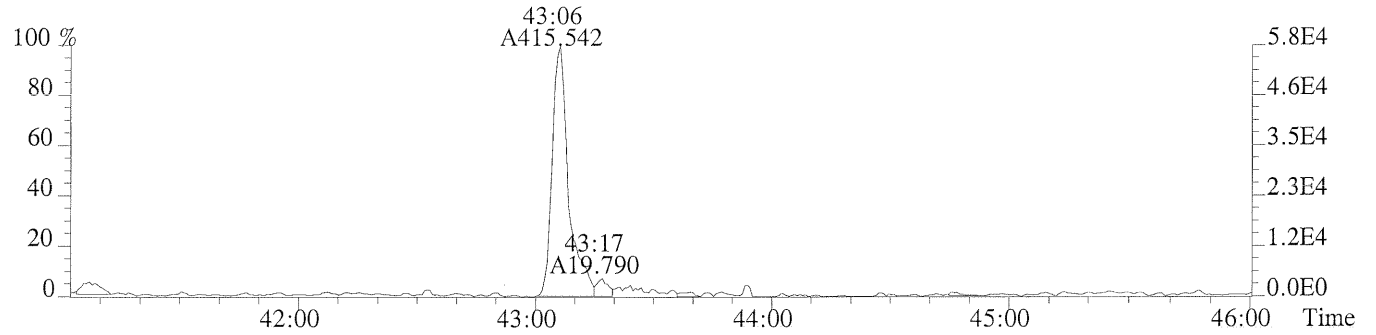
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)









ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS1

Run #2 Filename U150160 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 12:13:20  
 Processed: 1-AUG-14 09:14:09 LAB. ID: 66798

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	28:58	1.493e+02	1.903e+02	0.78	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:00	1.328e+03	8.220e+02	1.62	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:54	1.188e+03	8.293e+02	1.43	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:31	9.098e+02	7.812e+02	1.16	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:38	1.169e+03	9.759e+02	1.20	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:08	1.025e+03	8.404e+02	1.22	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:53	7.830e+02	6.033e+02	1.30	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:08	7.799e+02	7.926e+02	0.98	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:38	4.755e+02	4.867e+02	0.98	yes	no	1.001
10	Unk	OCDF	43:17	6.359e+02	6.786e+02	0.94	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:42	9.271e+01	1.144e+02	0.81	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:09	7.972e+02	5.109e+02	1.56	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:15	6.374e+02	5.353e+02	1.19	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:20	8.303e+02	7.024e+02	1.18	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:35	8.095e+02	6.701e+02	1.21	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:06	5.455e+02	5.496e+02	0.99	yes	yes	1.000
17	Unk	OCDD	43:03	6.185e+02	7.410e+02	0.83	yes	yes	1.000
18	IS	13C-2,3,7,8-TCDF	28:57	2.897e+04	3.448e+04	0.84	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	32:59	5.035e+04	3.112e+04	1.62	yes	no	1.133
20	IS	13C-2,3,4,7,8-PeCDF	33:53	5.104e+04	3.155e+04	1.62	yes	no	1.164
21	IS	13C-1,2,3,4,7,8-HxCDF	36:31	1.838e+04	3.518e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:37	2.511e+04	4.776e+04	0.53	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:07	2.147e+04	4.181e+04	0.51	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:53	1.583e+04	3.057e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:07	1.428e+04	3.164e+04	0.45	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:36	9.685e+03	2.103e+04	0.46	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:41	1.901e+04	2.507e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:09	2.737e+04	1.834e+04	1.49	yes	no	1.173
29	IS	13C-1,2,3,4,7,8-HxCDD	37:14	1.995e+04	1.471e+04	1.36	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	37:19	2.612e+04	1.931e+04	1.35	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:05	1.936e+04	1.750e+04	1.11	yes	no	1.067
32	IS	13C-OCDD	43:02	1.759e+04	1.906e+04	0.92	yes	yes	1.146
33	RS/RT	13C-1,2,3,4-TCDD	29:07	1.977e+04	2.568e+04	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:34	2.694e+04	2.035e+04	1.32	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:42	2.127e+02				no	1.020

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XLRESP

ALS ENVIRONMENTAL  
METHOD 1613B/8290A  
Signal/Noise Height Ratio Summary

CLIENT ID.  
CS1

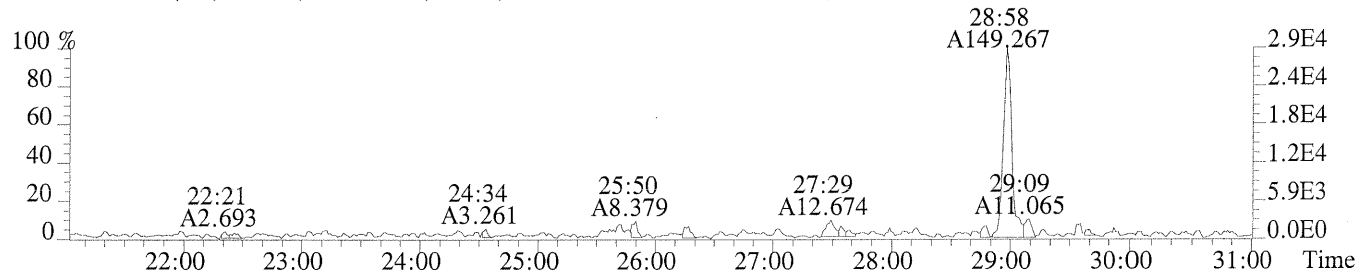
Run #2    Filename U150160    Samp: 1    Inj: 1    Acquired: 31-JUL-14 12:13:20  
Processed: 1-AUG-14 09:14:091    LAB. ID: 66798

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.92e+04	8.04e+02	3.6e+01	3.77e+04	1.40e+03	2.7e+01
2	1,2,3,7,8-PeCDF	2.12e+05	1.08e+03	2.0e+02	1.34e+05	1.81e+03	7.4e+01
3	2,3,4,7,8-PeCDF	2.03e+05	1.08e+03	1.9e+02	1.40e+05	1.81e+03	7.8e+01
4	1,2,3,4,7,8-HxCDF	1.80e+05	1.46e+03	1.2e+02	1.53e+05	1.13e+03	1.4e+02
5	1,2,3,6,7,8-HxCDF	1.83e+05	1.46e+03	1.3e+02	1.58e+05	1.13e+03	1.4e+02
6	2,3,4,6,7,8-HxCDF	1.87e+05	1.46e+03	1.3e+02	1.44e+05	1.13e+03	1.3e+02
7	1,2,3,7,8,9-HxCDF	1.21e+05	1.46e+03	8.3e+01	9.70e+04	1.13e+03	8.6e+01
8	1,2,3,4,6,7,8-HpCDF	1.36e+05	1.65e+03	8.2e+01	1.33e+05	1.56e+03	8.6e+01
9	1,2,3,4,7,8,9-HpCDF	7.72e+04	1.65e+03	4.7e+01	7.40e+04	1.56e+03	4.8e+01
10	OCDF	7.84e+04	5.60e+02	1.4e+02	8.30e+04	1.22e+03	6.8e+01
11	2,3,7,8-TCDD	2.04e+04	8.92e+02	2.3e+01	2.24e+04	1.13e+03	2.0e+01
12	1,2,3,7,8-PeCDD	1.33e+05	1.35e+03	9.8e+01	8.11e+04	9.60e+02	8.4e+01
13	1,2,3,4,7,8-HxCDD	1.28e+05	9.44e+02	1.4e+02	1.13e+05	6.76e+02	1.7e+02
14	1,2,3,6,7,8-HxCDD	1.42e+05	9.44e+02	1.5e+02	1.21e+05	6.76e+02	1.8e+02
15	1,2,3,7,8,9-HxCDD	1.26e+05	9.44e+02	1.3e+02	1.06e+05	6.76e+02	1.6e+02
16	1,2,3,4,6,7,8-HpCDD	8.53e+04	1.04e+03	8.2e+01	8.51e+04	8.92e+02	9.5e+01
17	OCDD	7.69e+04	7.48e+02	1.0e+02	8.91e+04	7.80e+02	1.1e+02
18	13C-2,3,7,8-TCDF	5.28e+06	1.42e+03	3.7e+03	6.33e+06	8.08e+02	7.8e+03
19	13C-1,2,3,7,8-PeCDF	7.95e+06	1.00e+03	7.9e+03	4.89e+06	1.46e+03	3.4e+03
20	13C-2,3,4,7,8-PeCDF	8.62e+06	1.00e+03	8.6e+03	5.38e+06	1.46e+03	3.7e+03
21	13C-1,2,3,4,7,8-HxCDF	3.66e+06	1.18e+03	3.1e+03	6.96e+06	1.40e+03	5.0e+03
22	13C-1,2,3,6,7,8-HxCDF	4.02e+06	1.18e+03	3.4e+03	7.76e+06	1.40e+03	5.5e+03
23	13C-2,3,4,6,7,8-HxCDF	3.86e+06	1.18e+03	3.3e+03	7.46e+06	1.40e+03	5.3e+03
24	13C-1,2,3,7,8,9-HxCDF	2.54e+06	1.18e+03	2.1e+03	4.97e+06	1.40e+03	3.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.35e+06	1.14e+03	2.1e+03	5.10e+06	9.32e+02	5.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.34e+06	1.14e+03	1.2e+03	2.94e+06	9.32e+02	3.2e+03
27	13C-2,3,7,8-TCDD	3.62e+06	2.49e+03	1.5e+03	4.77e+06	1.48e+03	3.2e+03
28	13C-1,2,3,7,8-PeCDD	4.44e+06	1.28e+03	3.5e+03	2.98e+06	9.84e+02	3.0e+03
29	13C-1,2,3,4,7,8-HxCDD	4.11e+06	1.88e+03	2.2e+03	3.03e+06	8.76e+02	3.5e+03
30	13C-1,2,3,6,7,8-HxCDD	4.29e+06	1.88e+03	2.3e+03	3.17e+06	8.76e+02	3.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.89e+06	1.22e+03	2.4e+03	2.57e+06	1.05e+03	2.4e+03
32	13C-OCDD	2.05e+06	9.32e+02	2.2e+03	2.17e+06	8.72e+02	2.5e+03
33	13C-1,2,3,4-TCDD	3.88e+06	2.49e+03	1.6e+03	5.03e+06	1.48e+03	3.4e+03
34	13C-1,2,3,7,8,9-HxCDD	4.05e+06	1.88e+03	2.2e+03	2.97e+06	8.76e+02	3.4e+03
35	37Cl-2,3,7,8-TCDD	4.18e+04	1.38e+03	3.0e+01			

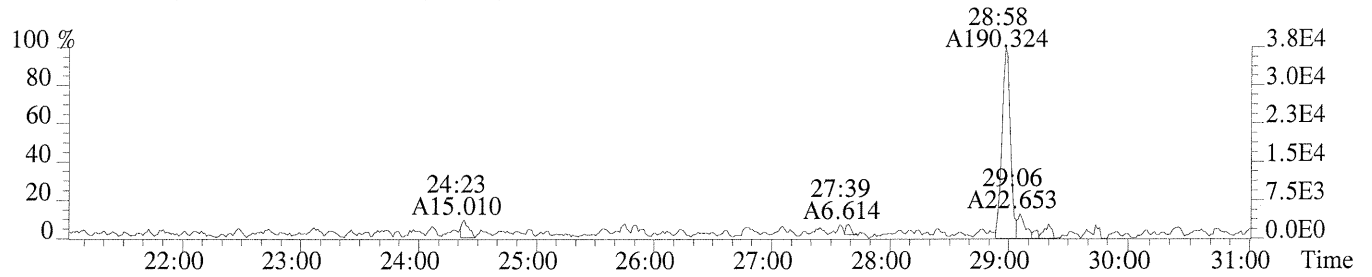
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XLSN

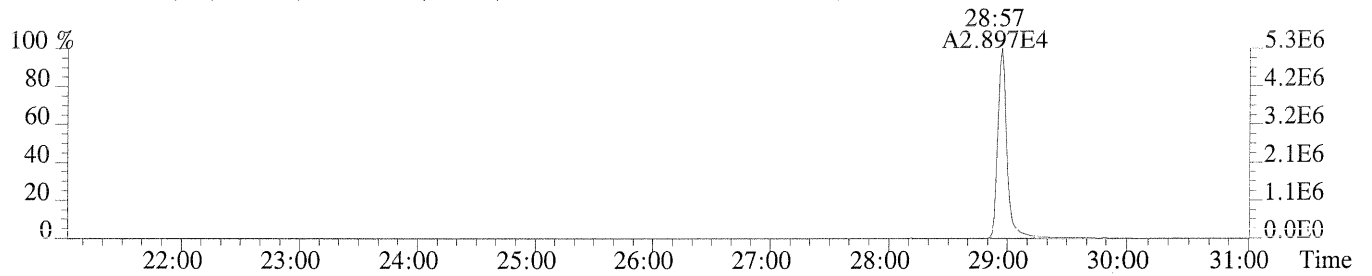
File:U150160 #1-627 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



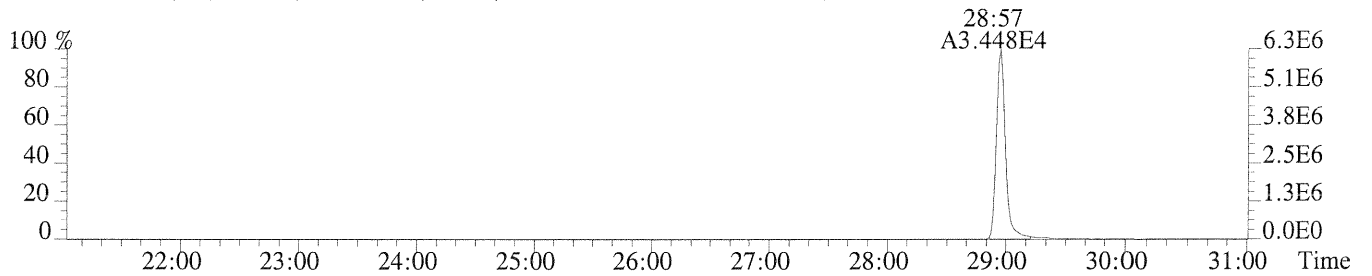
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



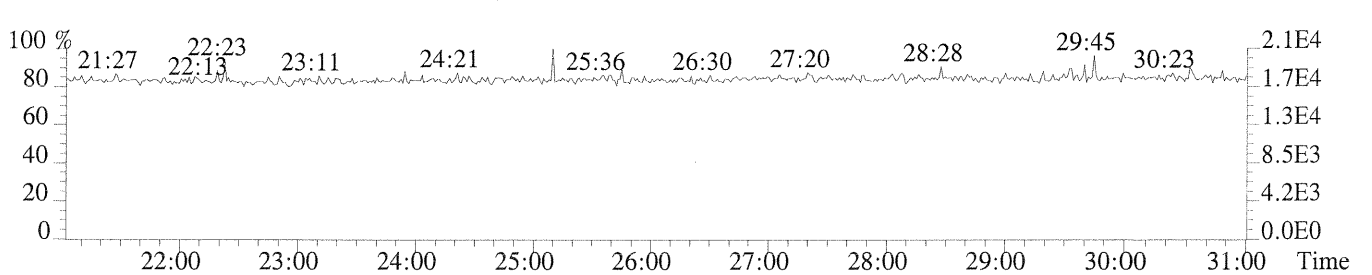
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1424.0,1.00%,F,T)



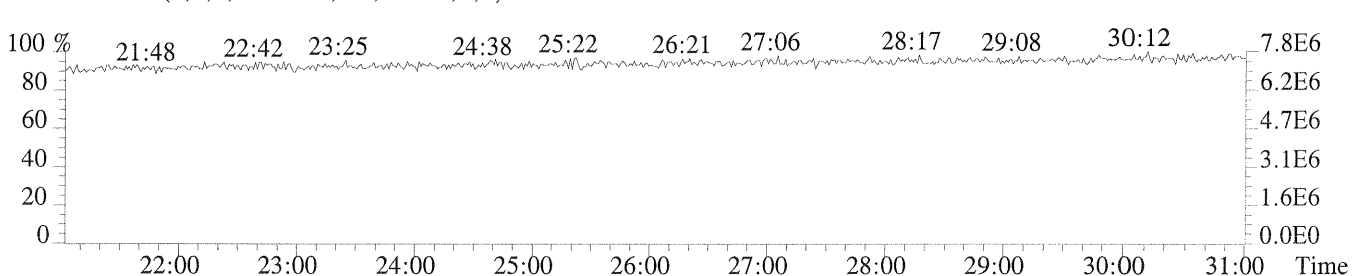
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

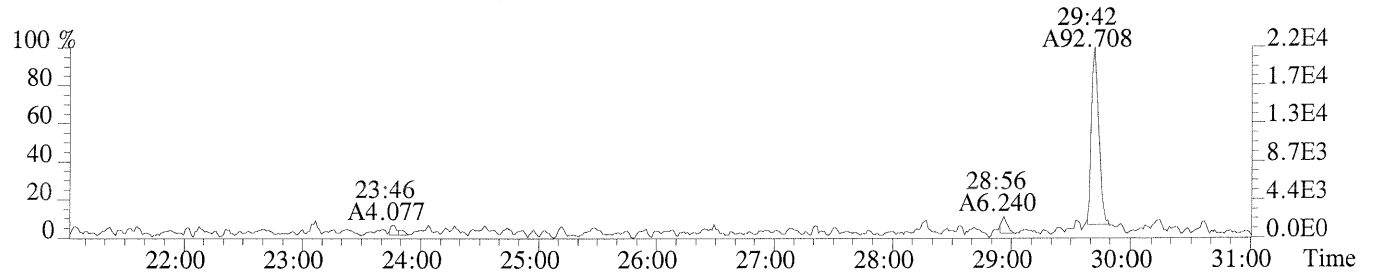


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

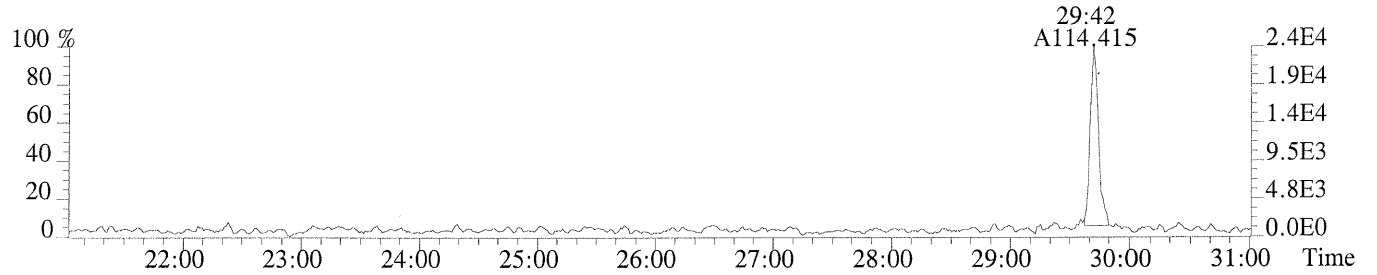


Sample#1 Exp:CS1

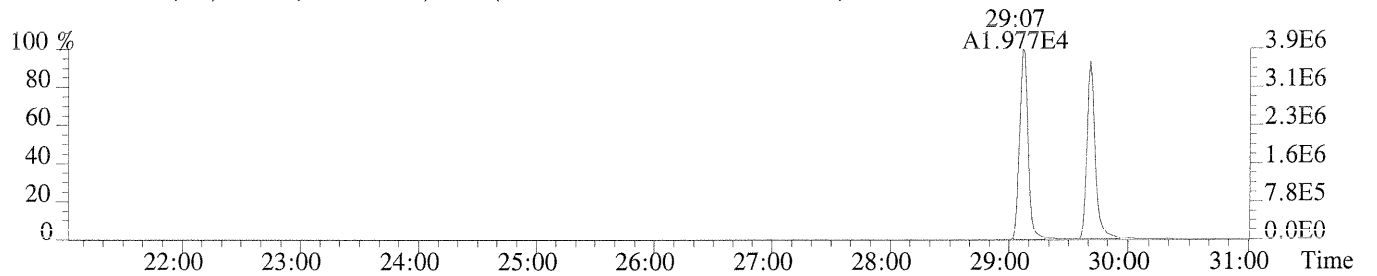
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



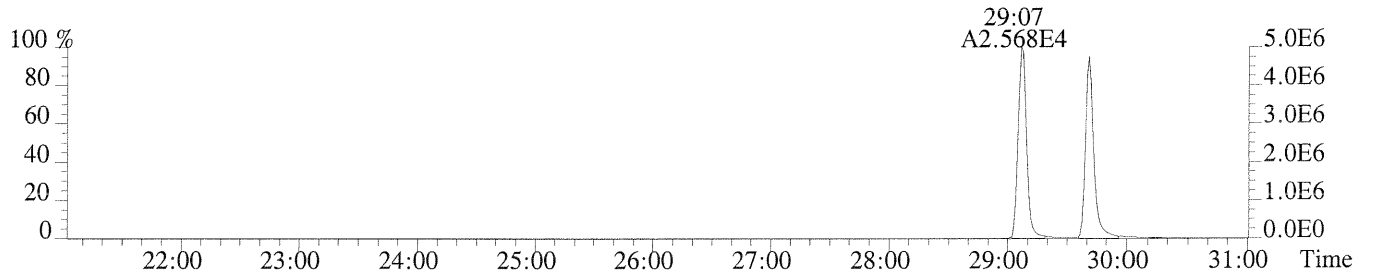
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



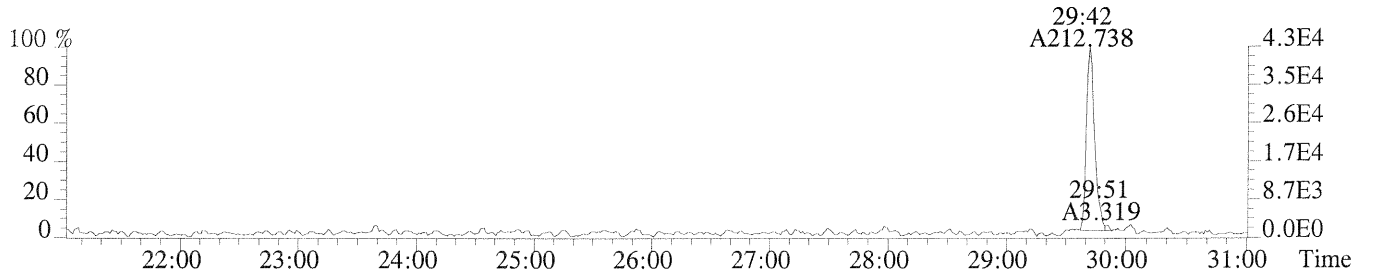
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2488.0,1.00%,F,T)



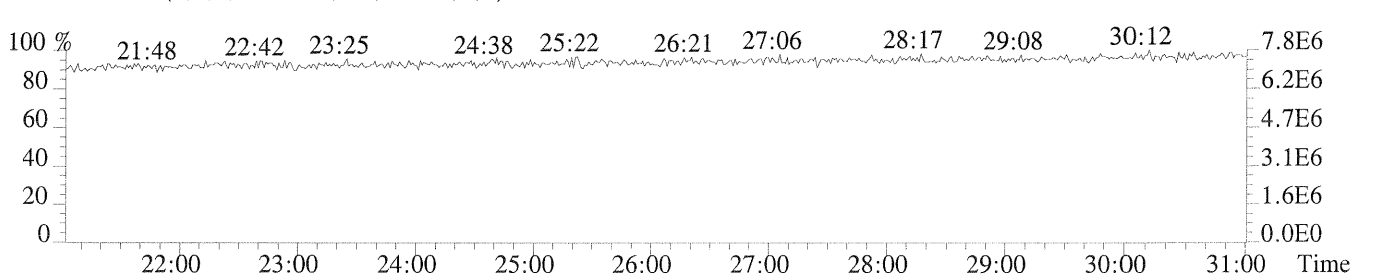
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1476.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)

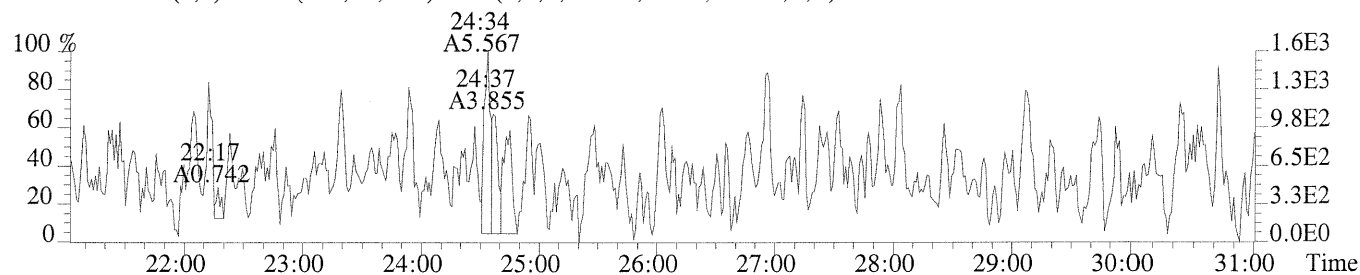


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

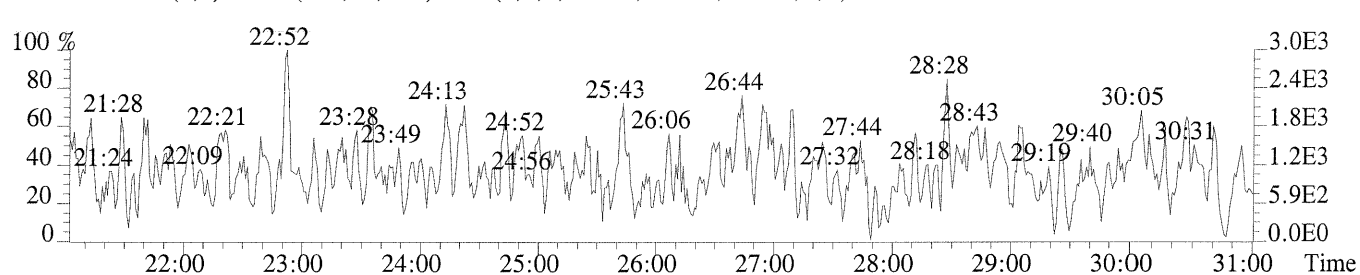


Sample#1 Exp:CS1

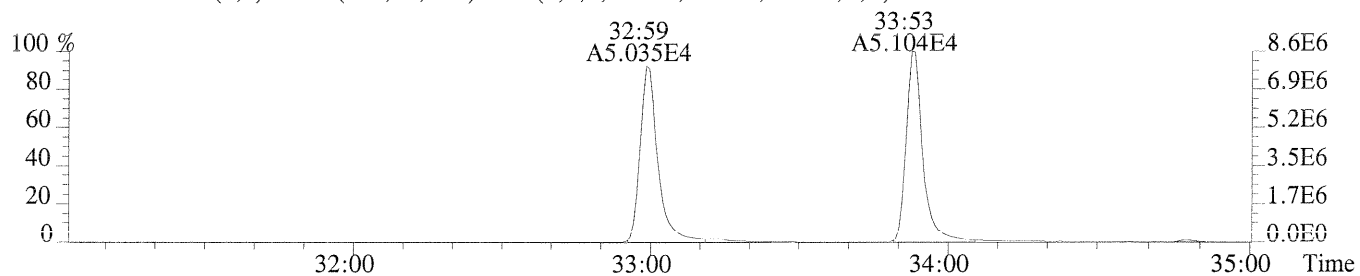
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



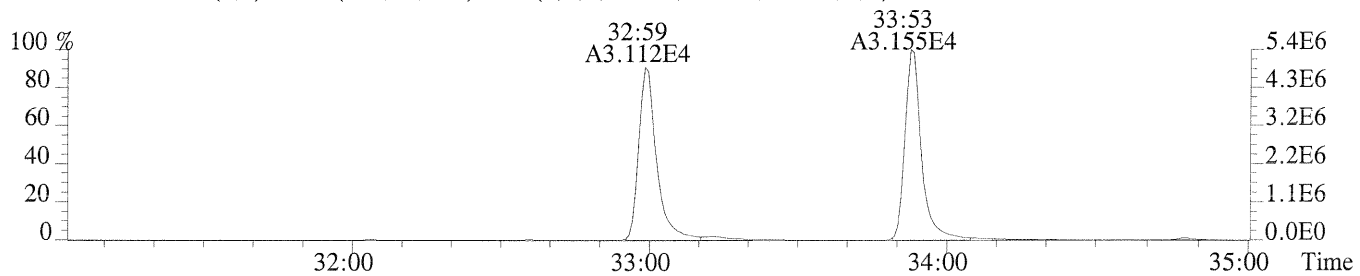
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1388.0,1.00%,F,T)



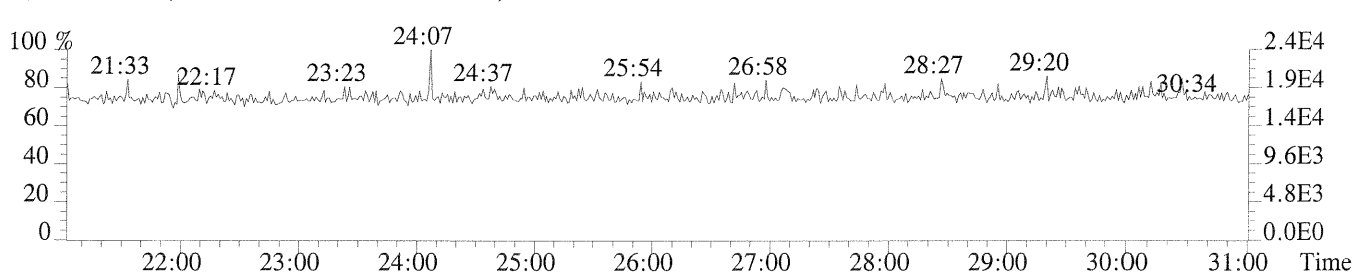
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,T)



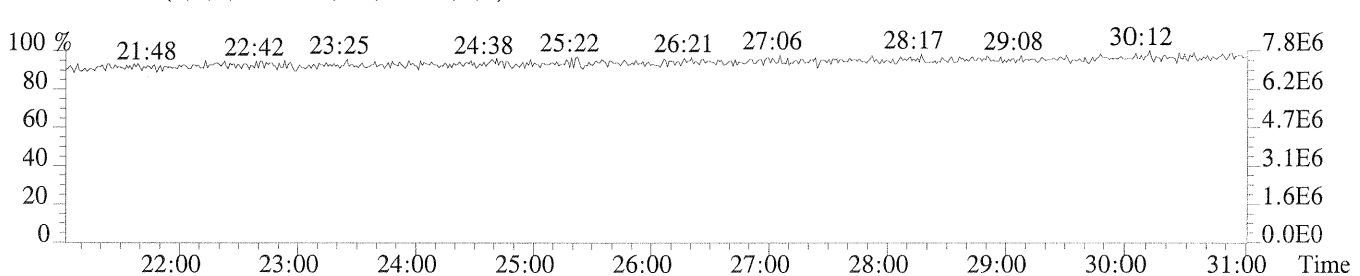
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

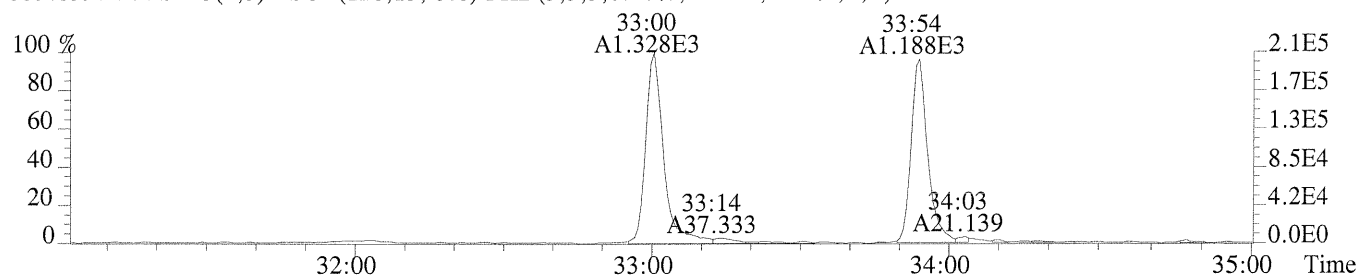


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

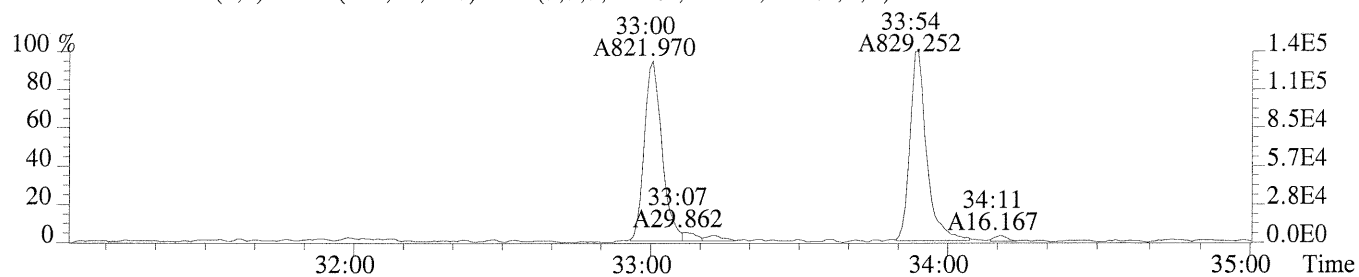


Sample#1 Exp:CS1

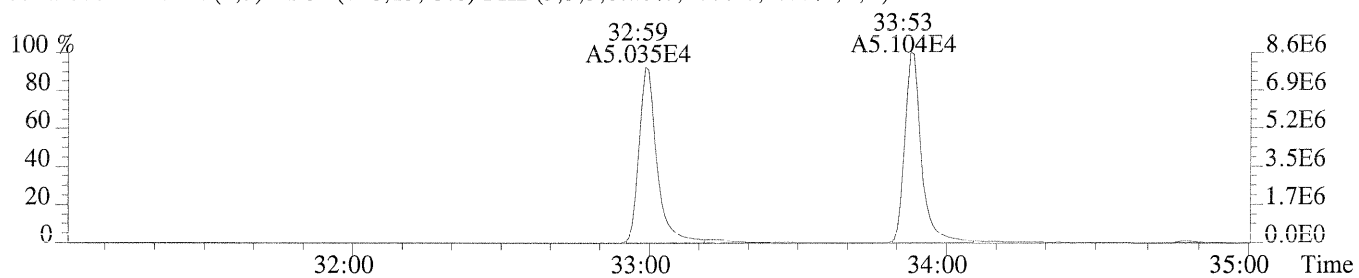
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1076.0,1.00%,F,T)



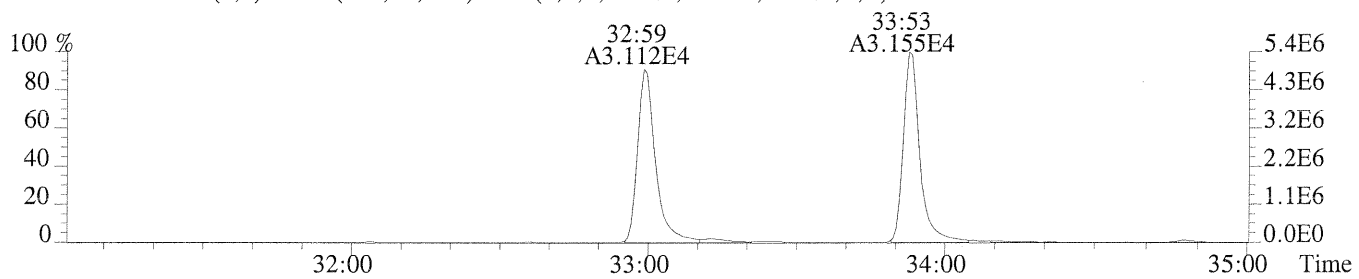
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



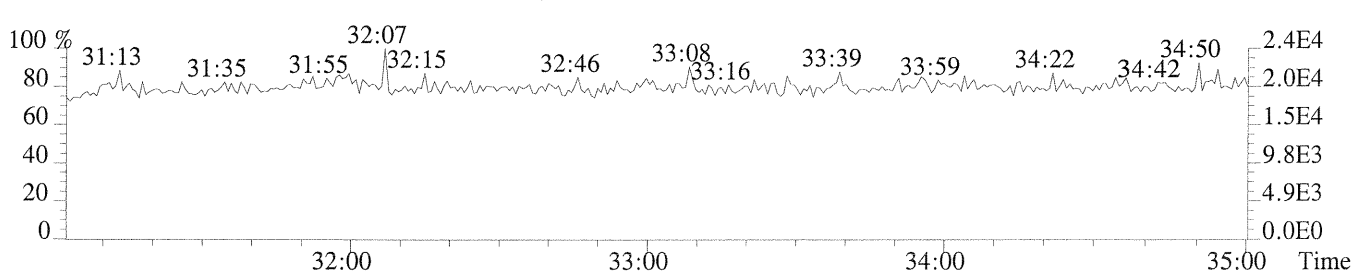
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,T)



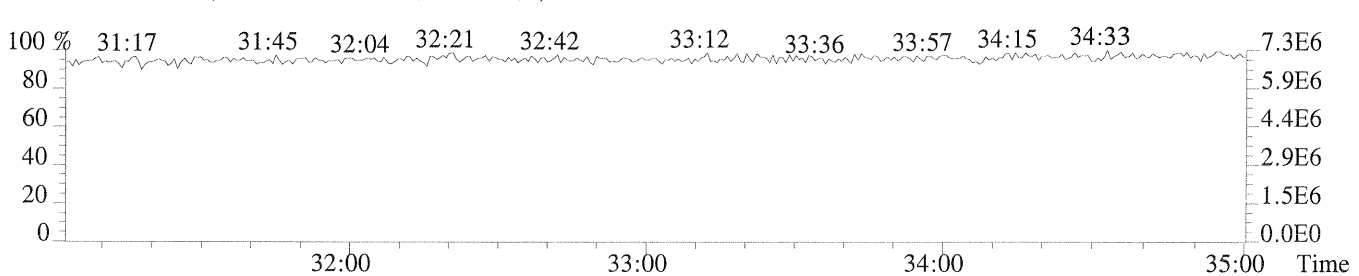
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



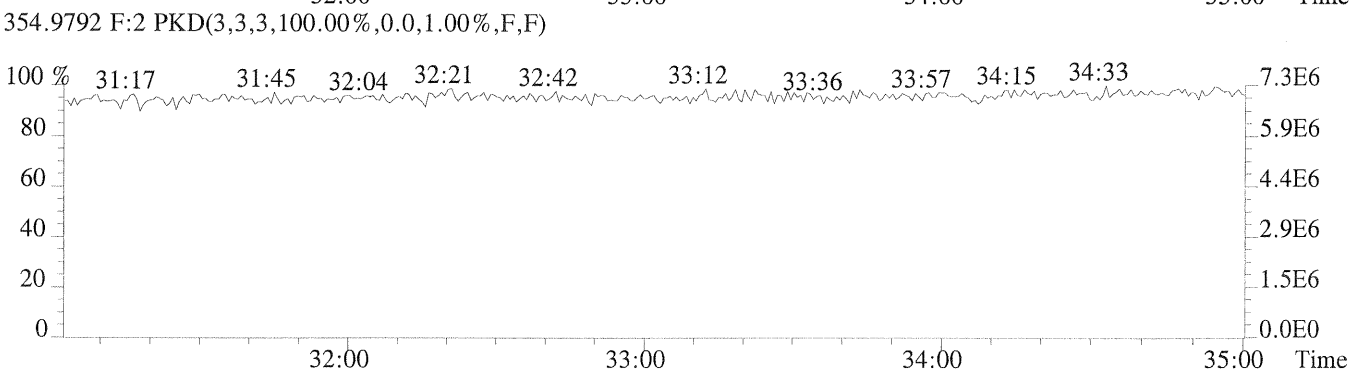
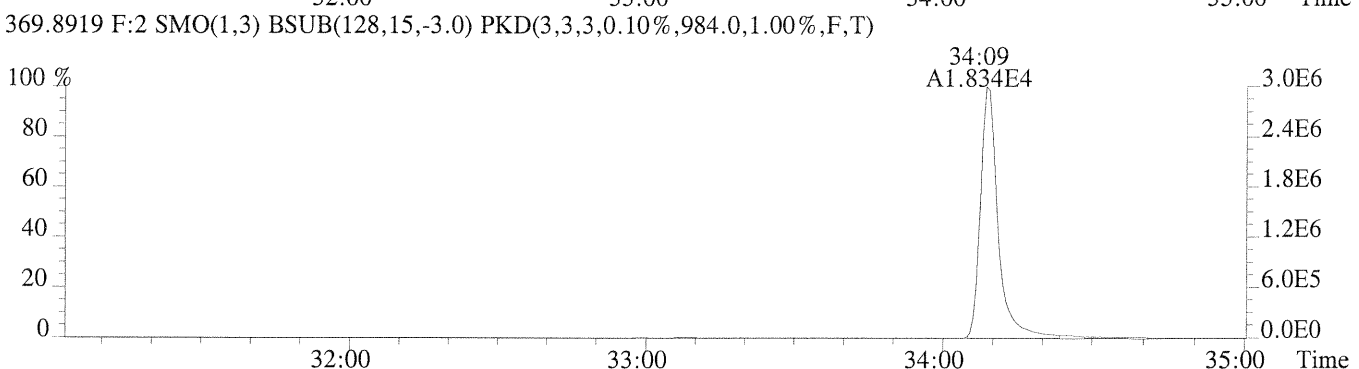
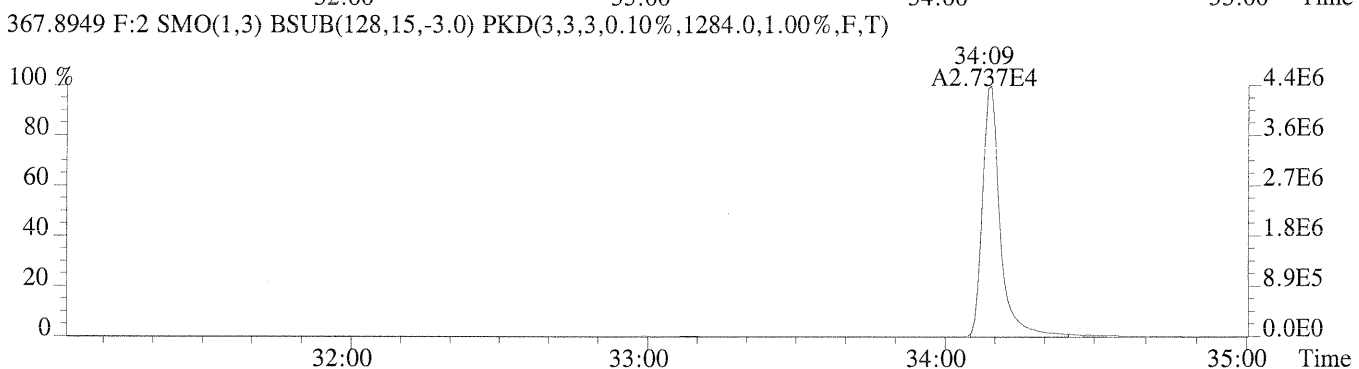
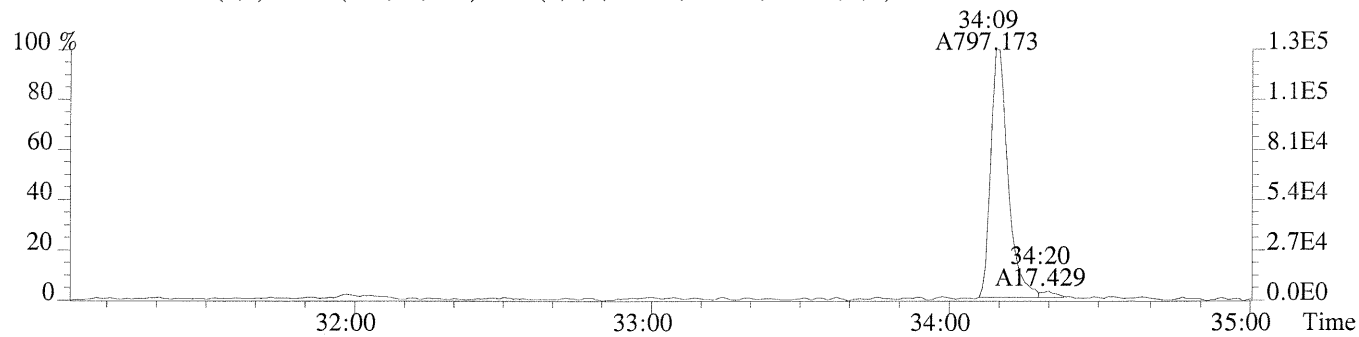
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

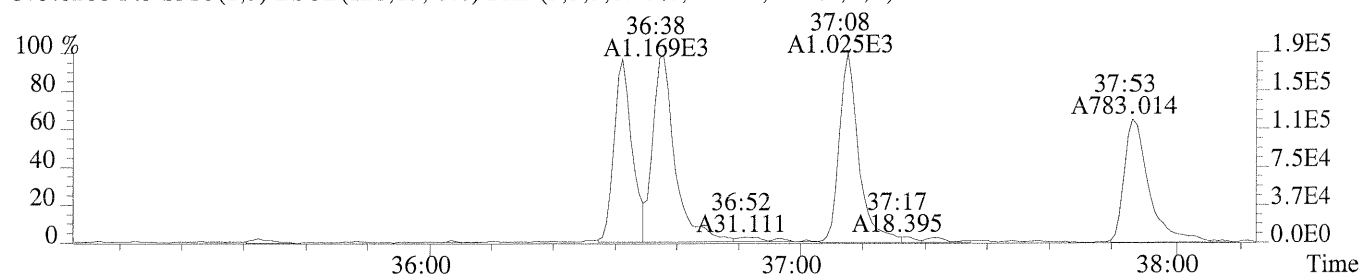


File:U150160 #1-360 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1348.0,1.00%,F,T)

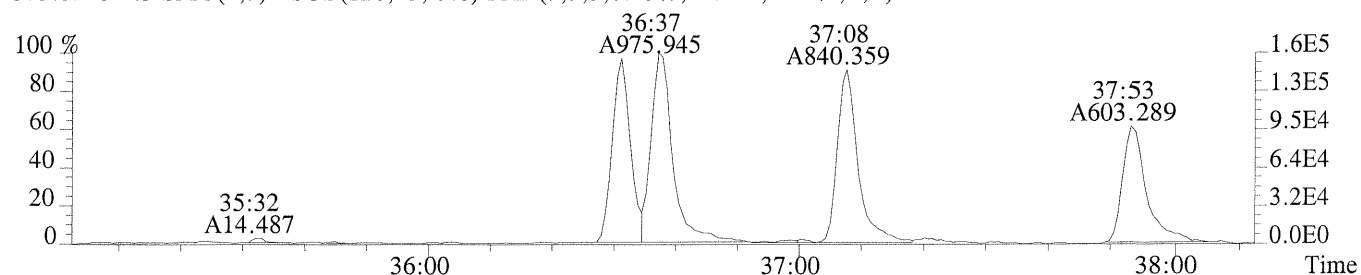


Sample#1 Exp:CS1

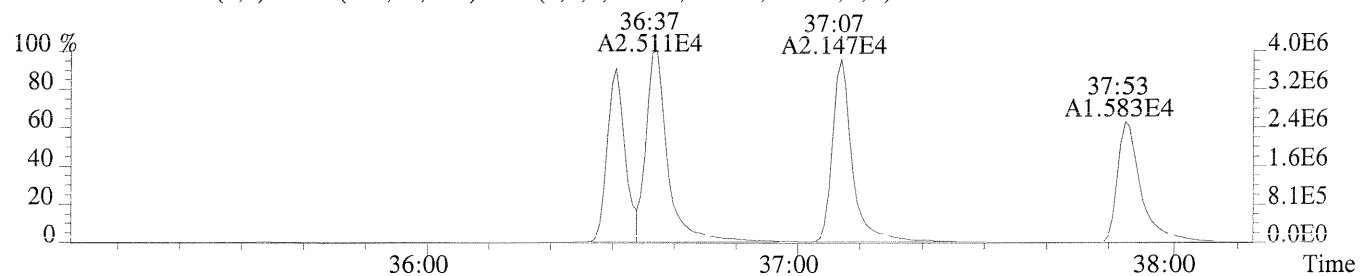
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



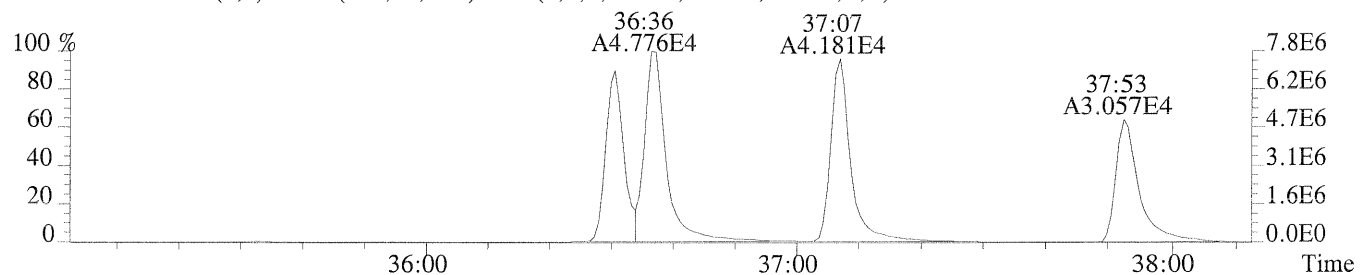
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



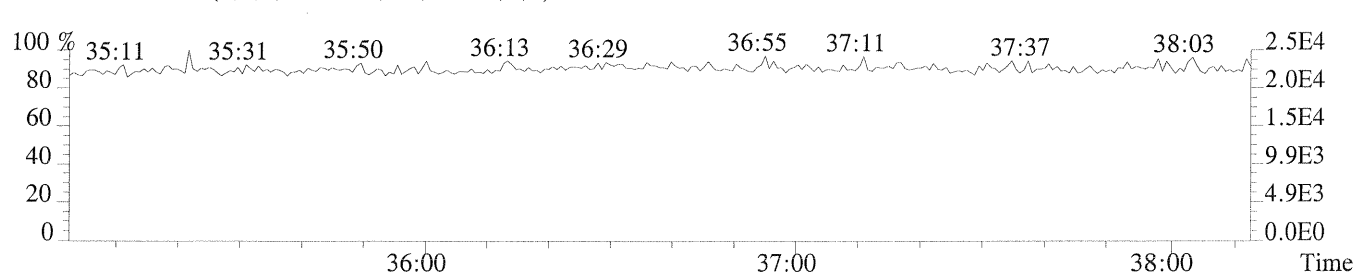
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.40%,F,T)



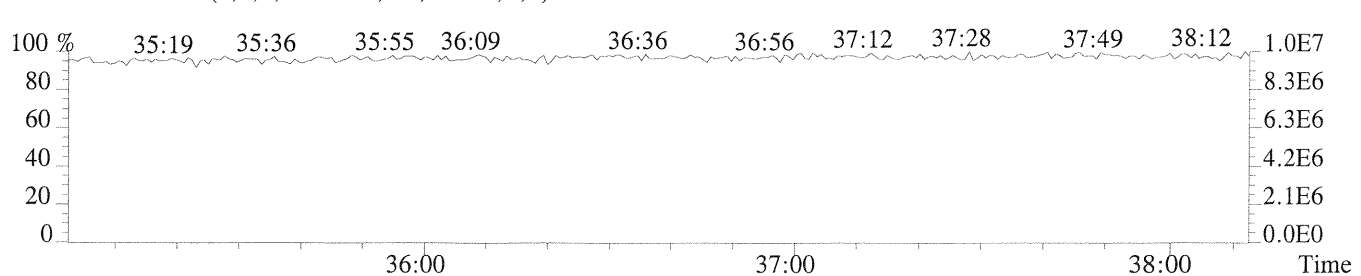
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1404.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

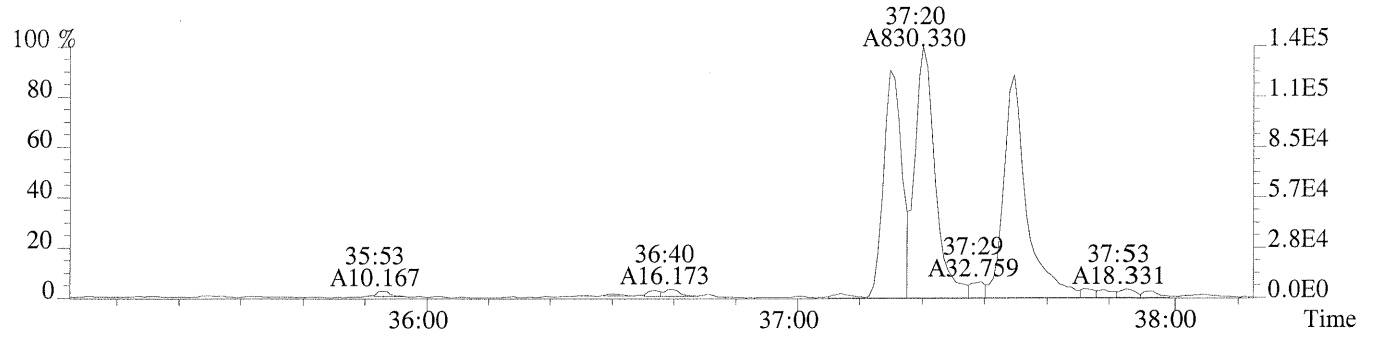


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

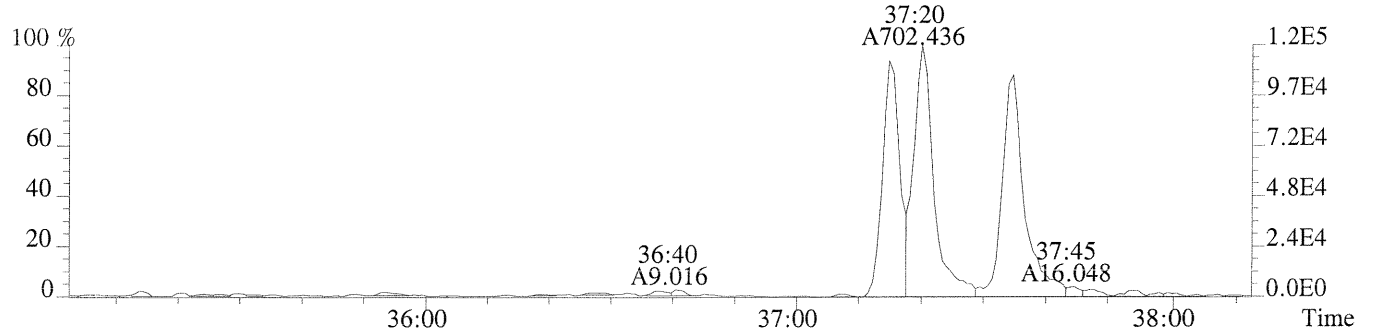




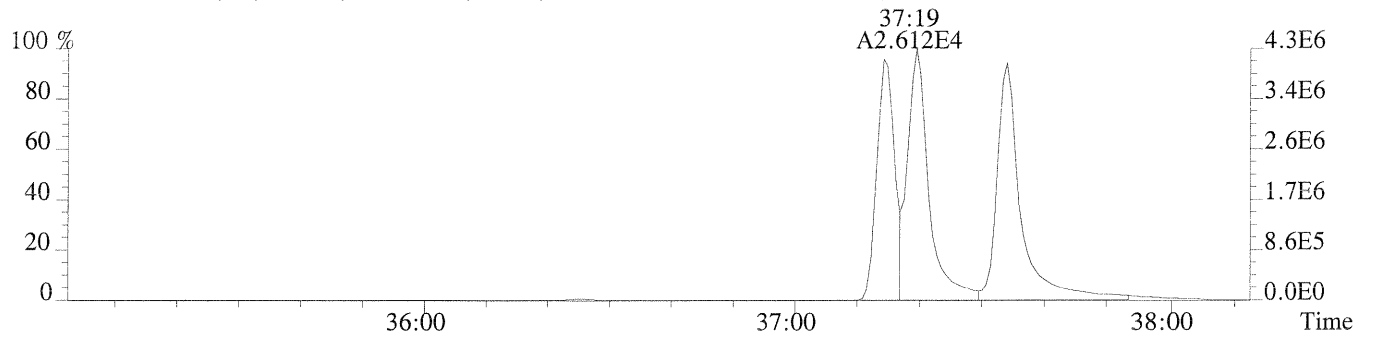
File:U150160 #1-288 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,T)



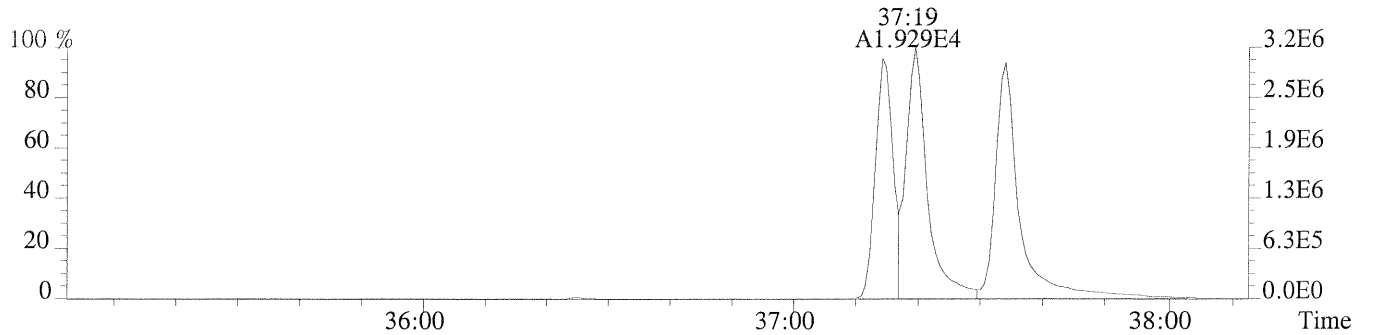
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



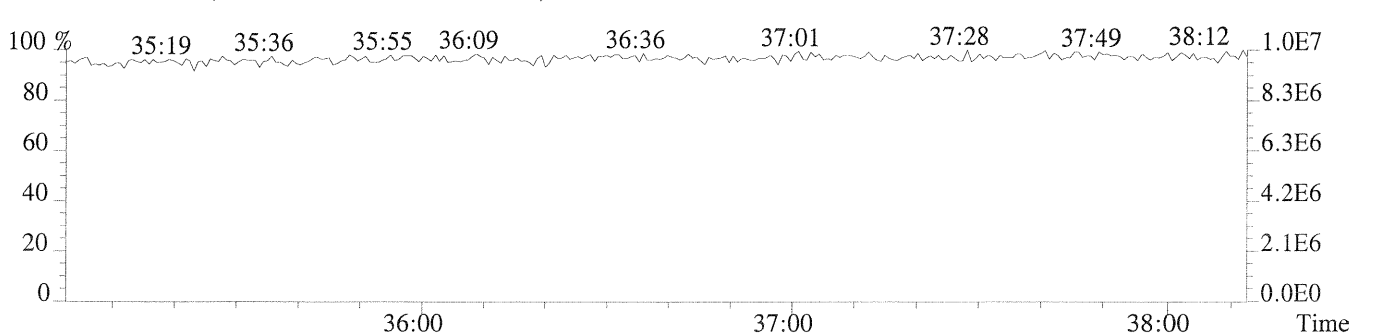
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1876.0,0.40%,F,T)



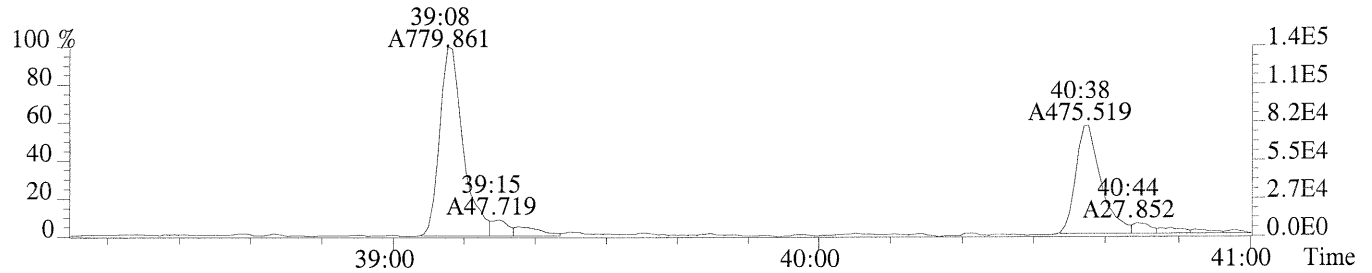
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



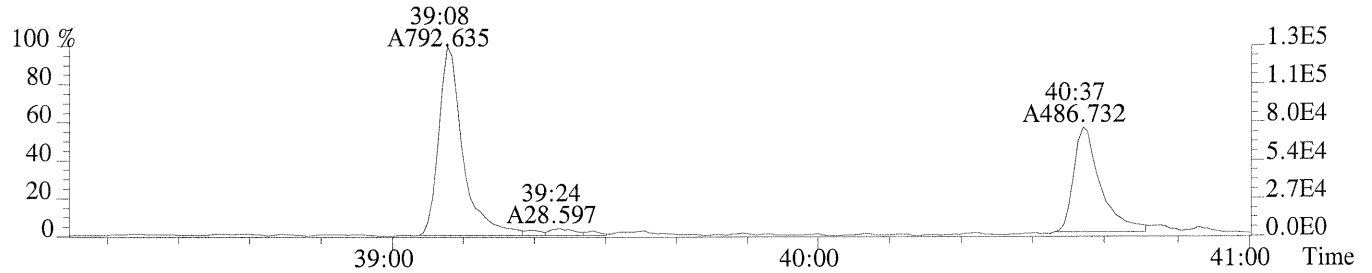
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



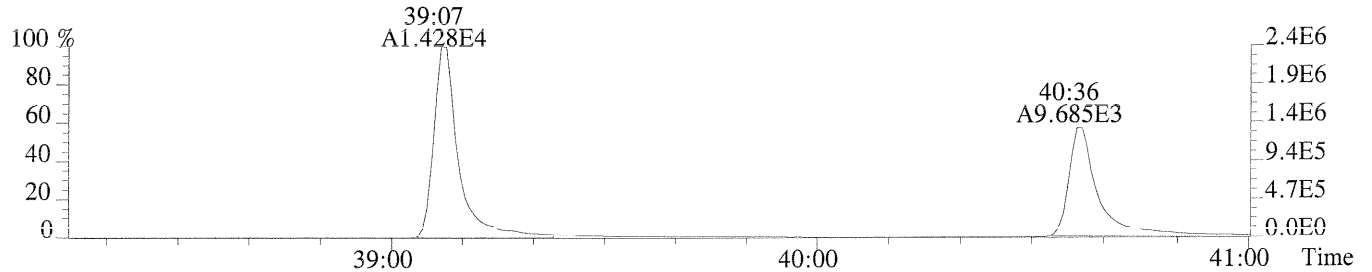
File:U150160 #1-251 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1652.0,0.50%,F,T)



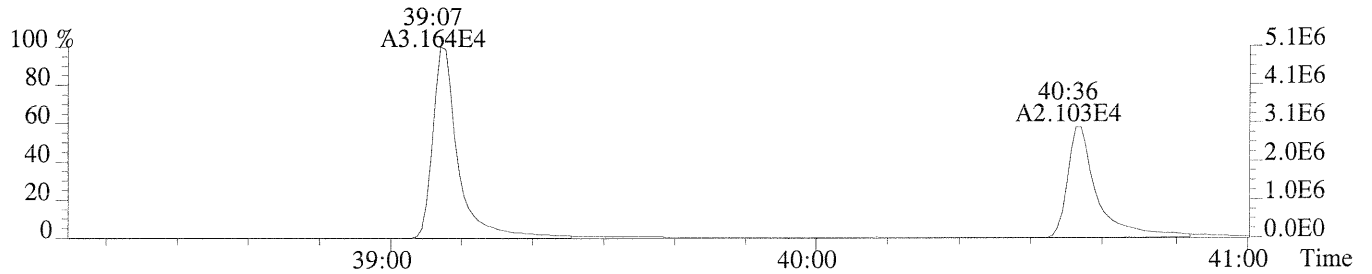
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1556.0,0.50%,F,T)



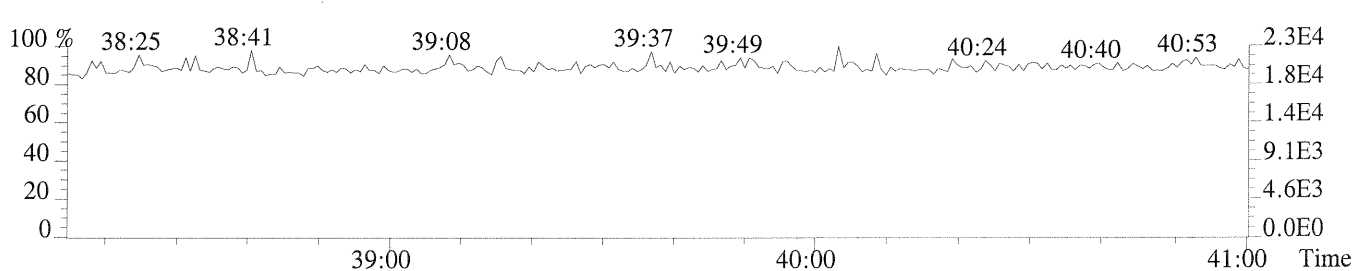
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1144.0,0.50%,F,T)



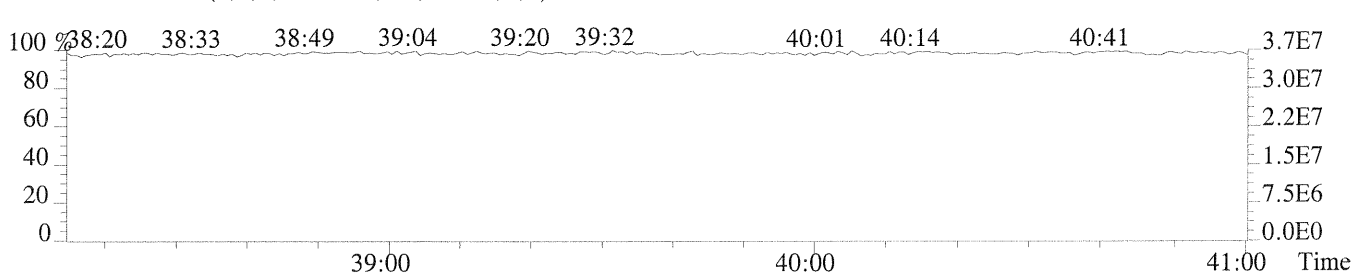
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.50%,F,T)



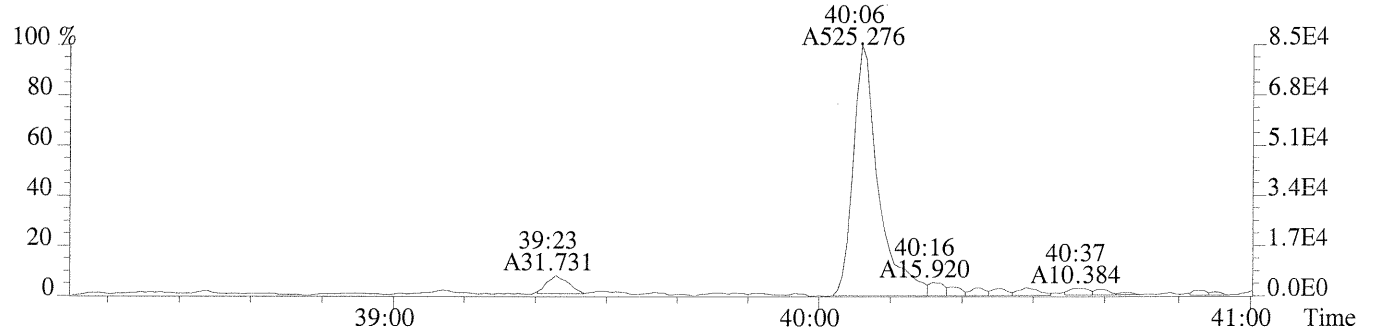
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



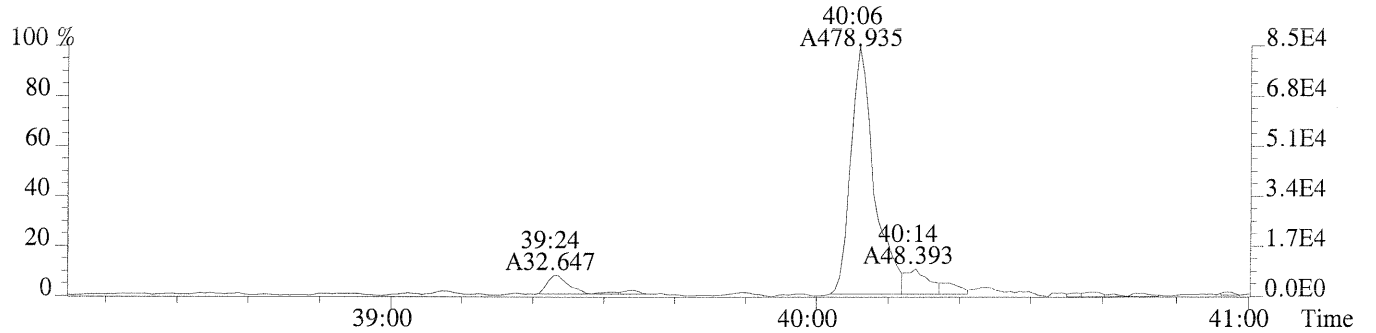
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



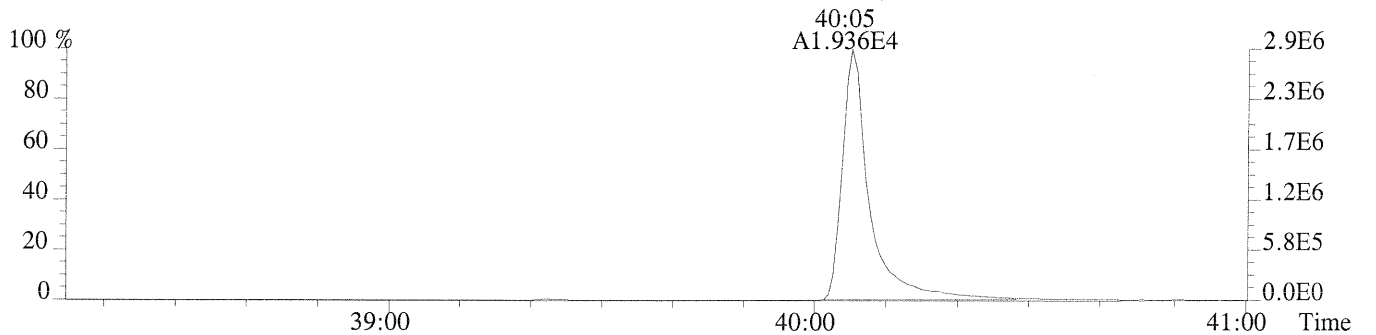
File:U150160 #1-251 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:CS1  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



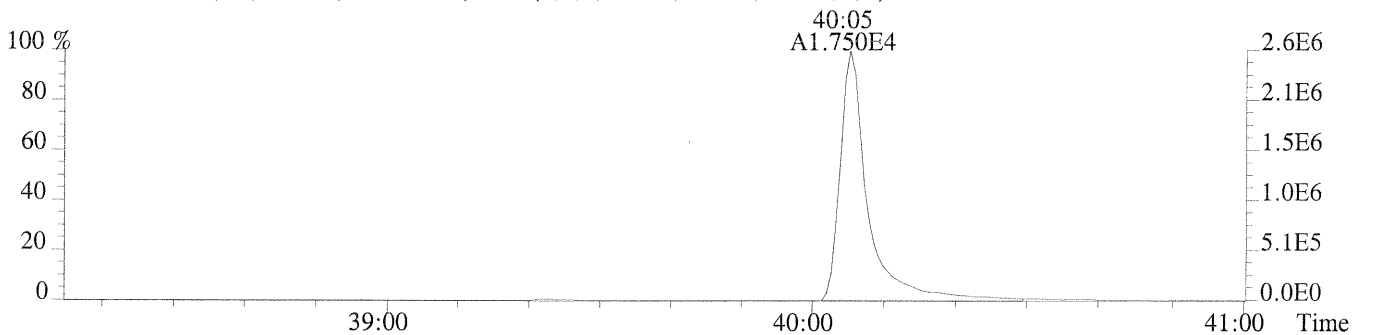
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



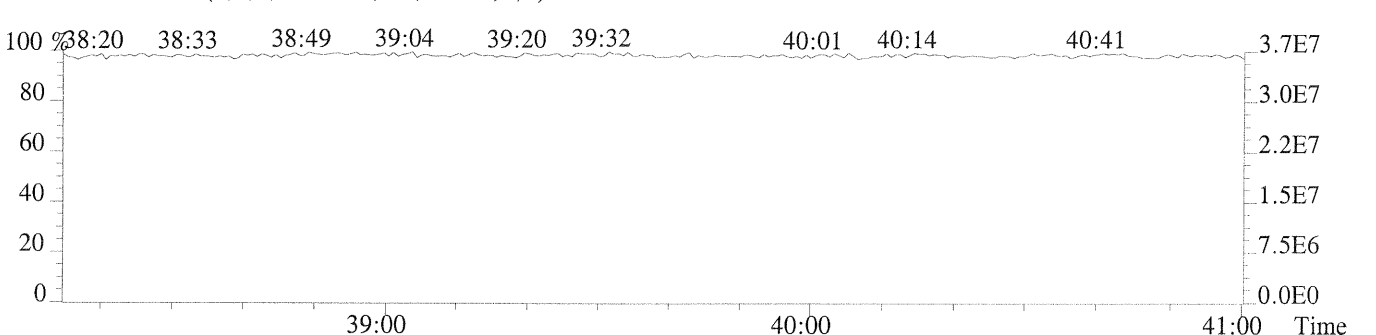
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)

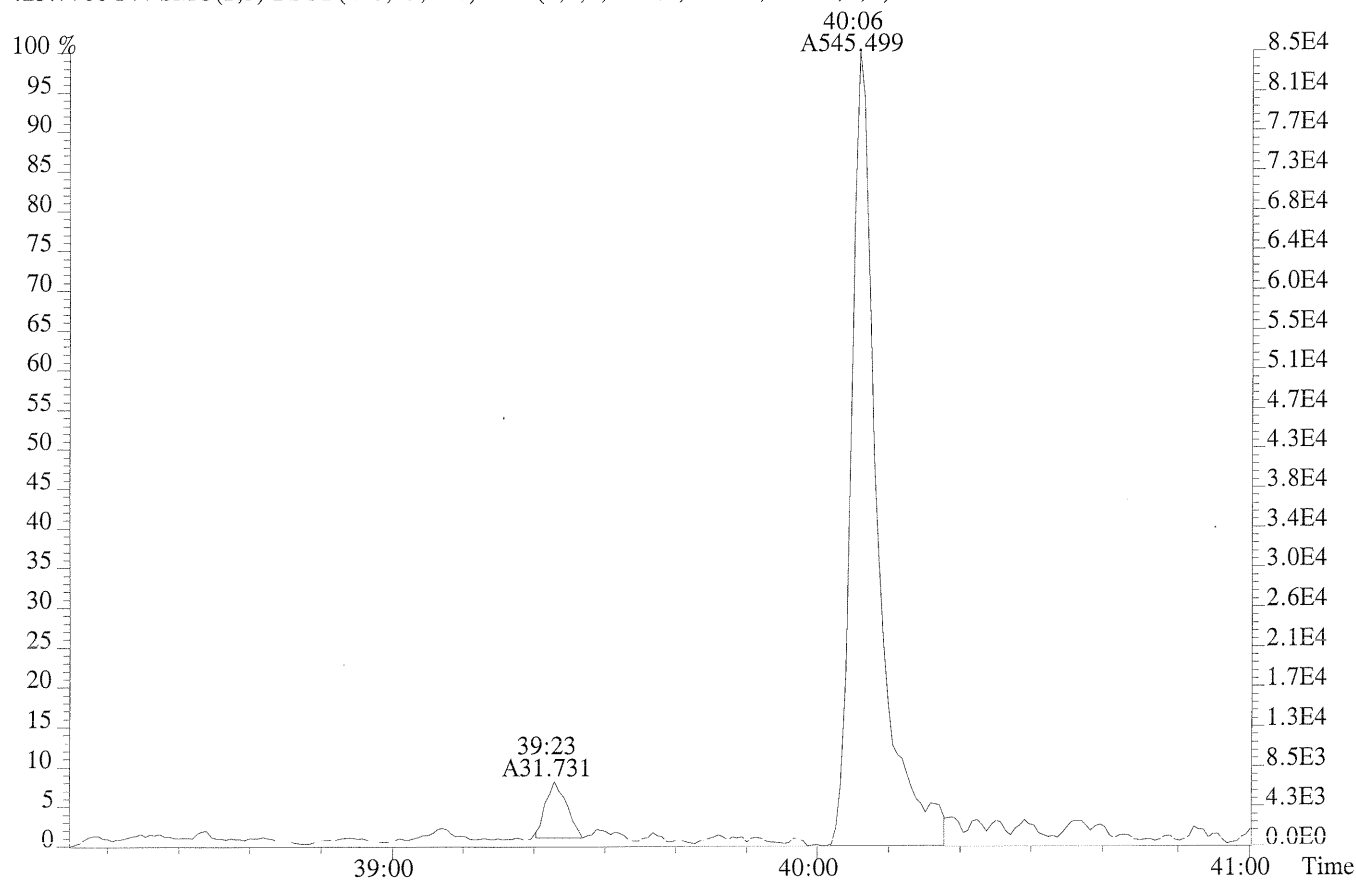


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

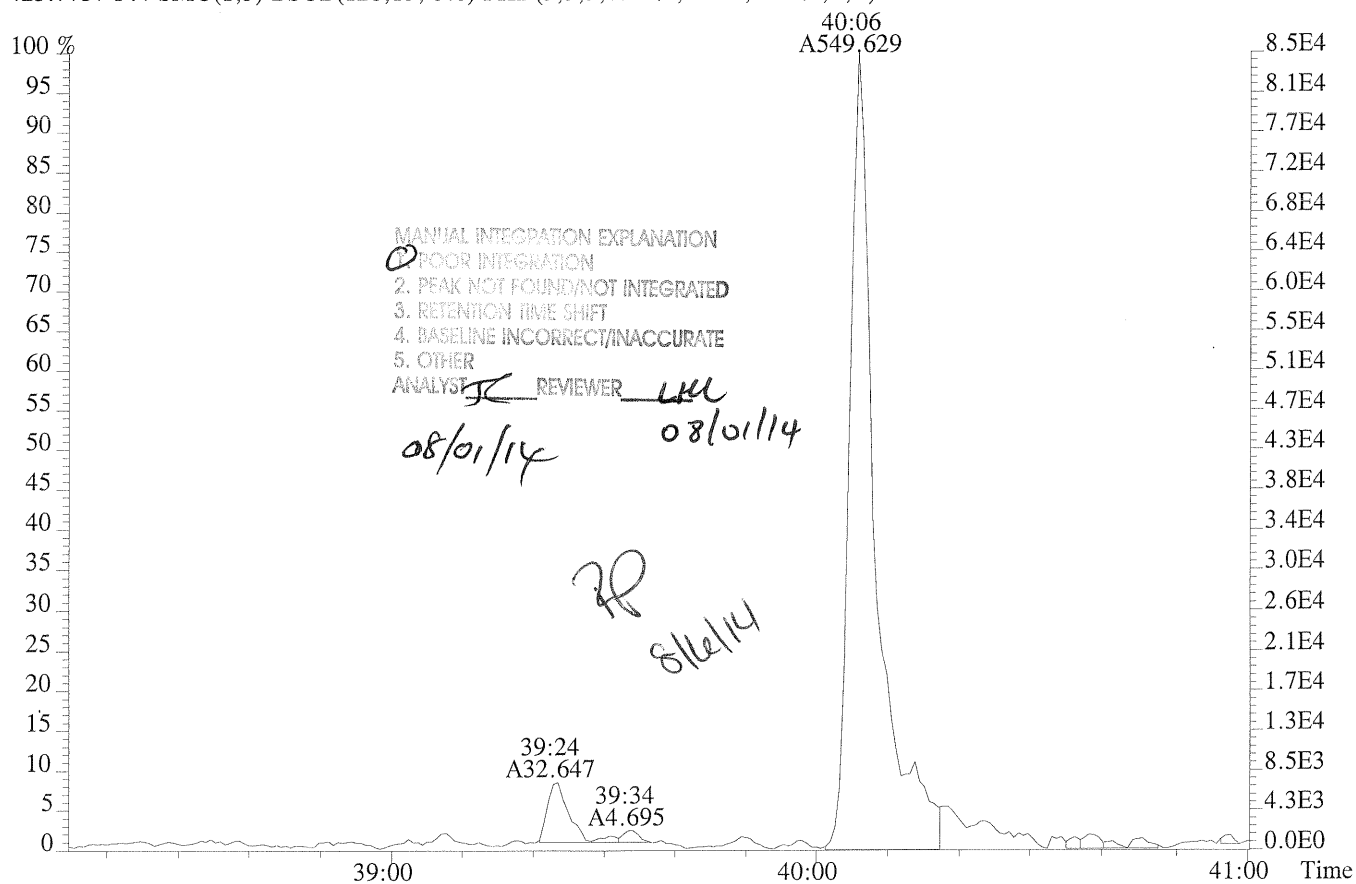


Sample#1 Exp:CS1

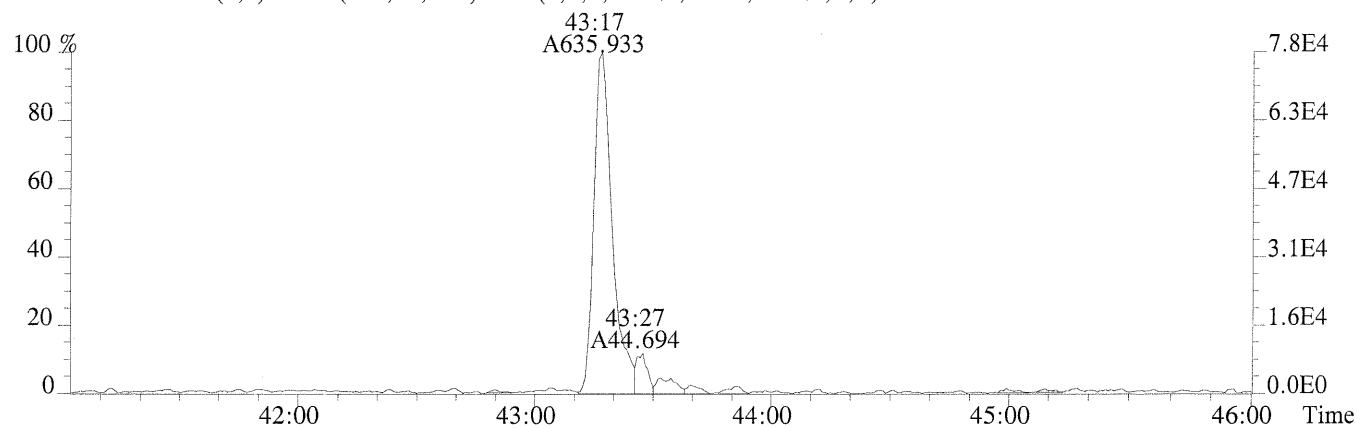
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



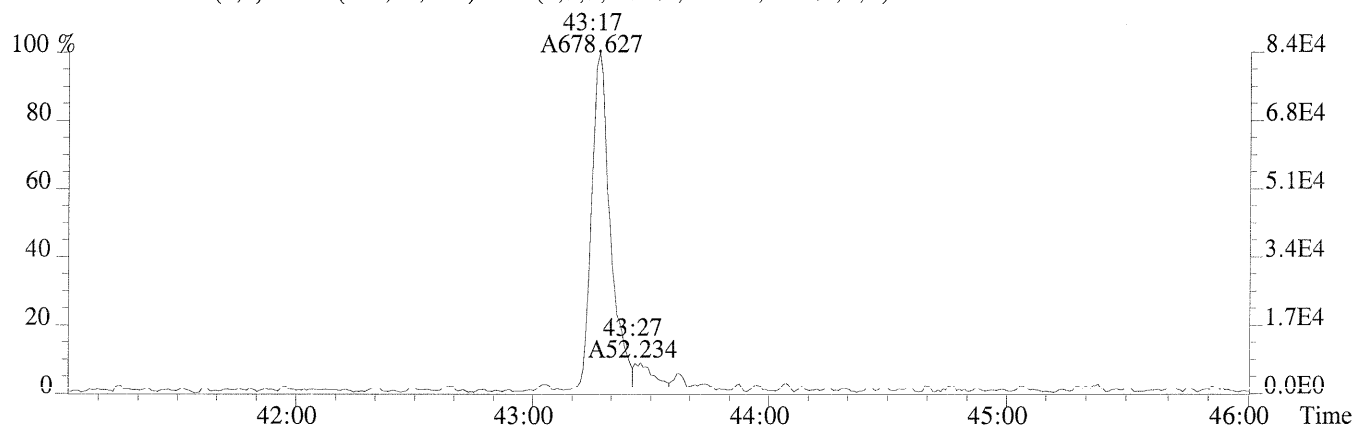
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



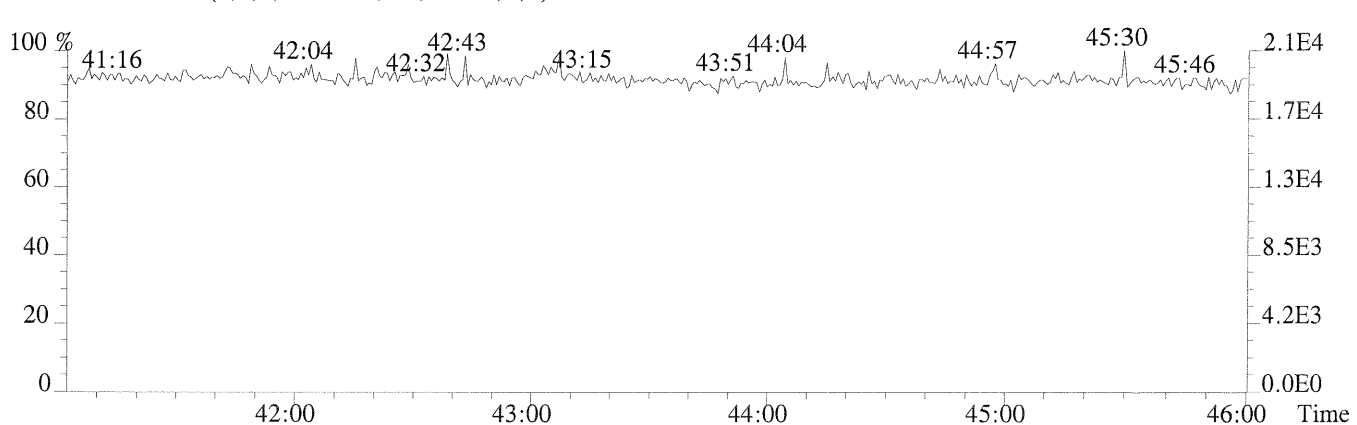
File:U150160 #1-451 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,560.0,0.40%,F,T)



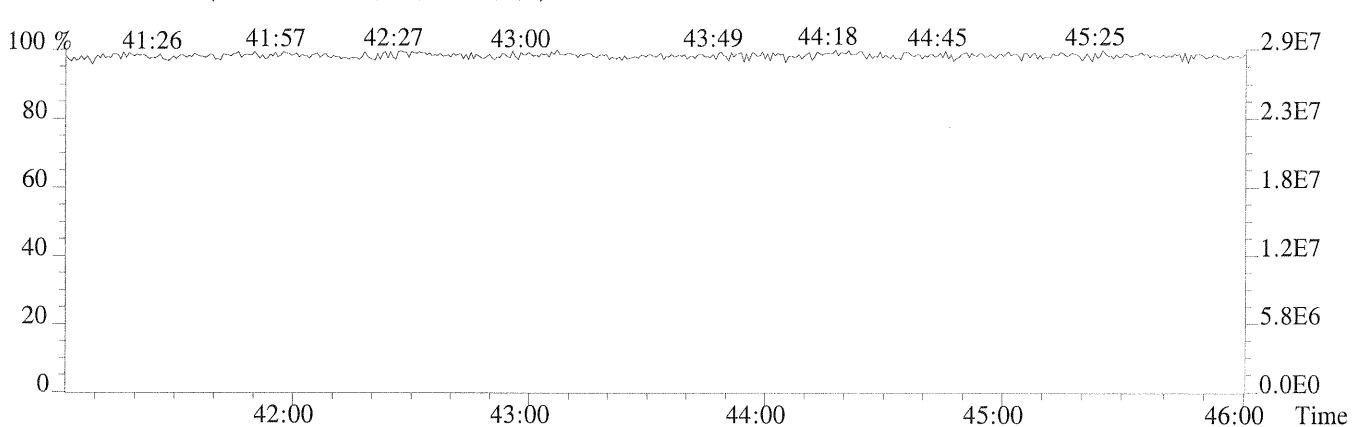
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



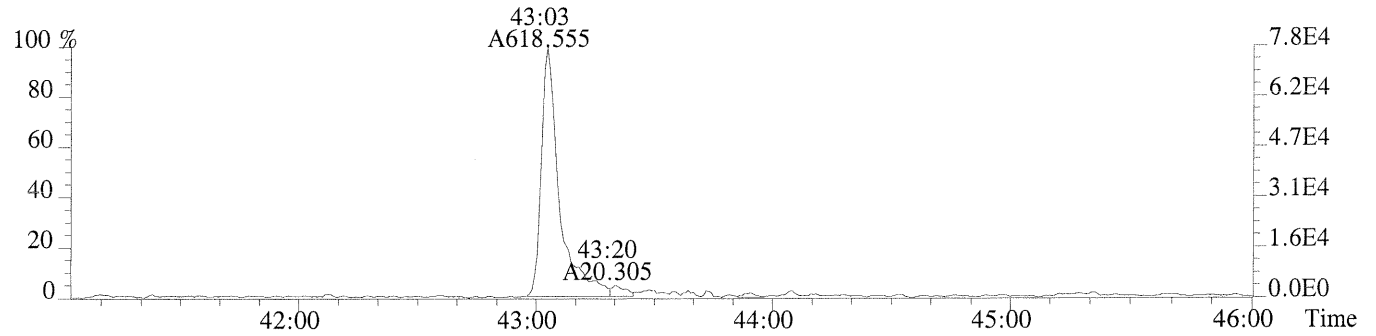
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



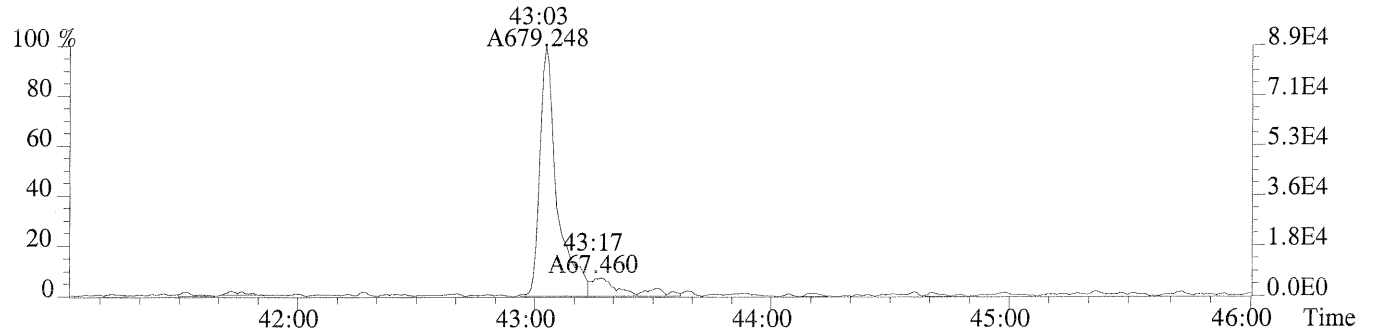
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



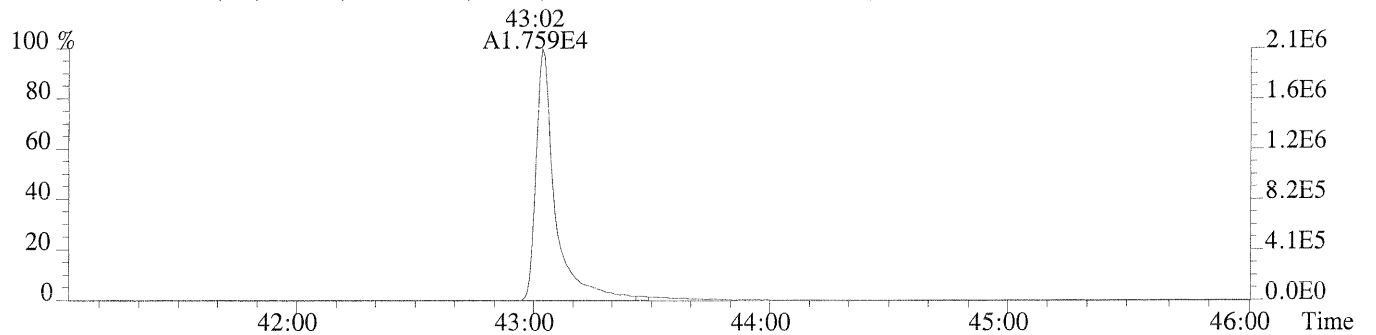
File:U150160 #1-451 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,748.0,0.40%,F,T)



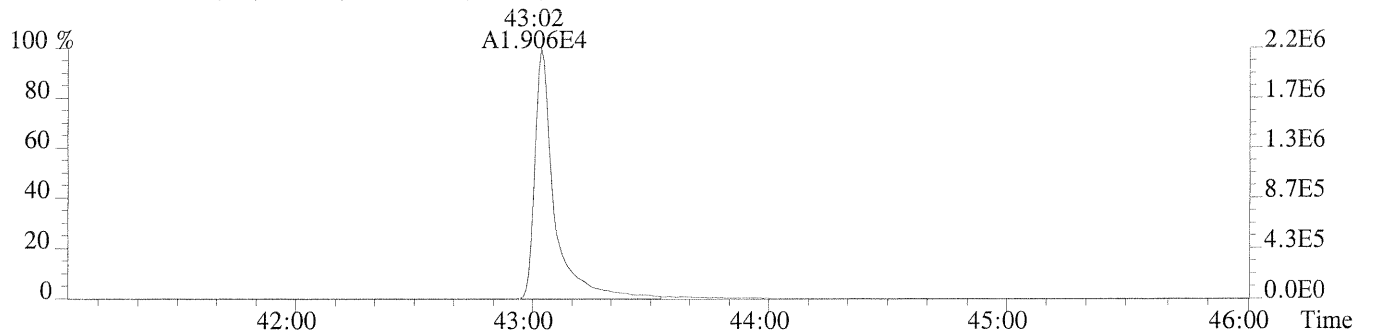
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,T)



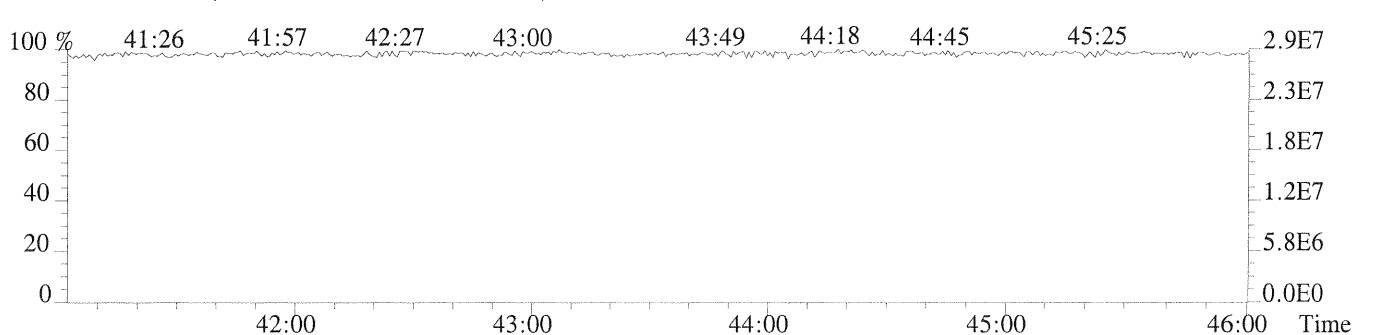
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,932.0,0.40%,F,T)



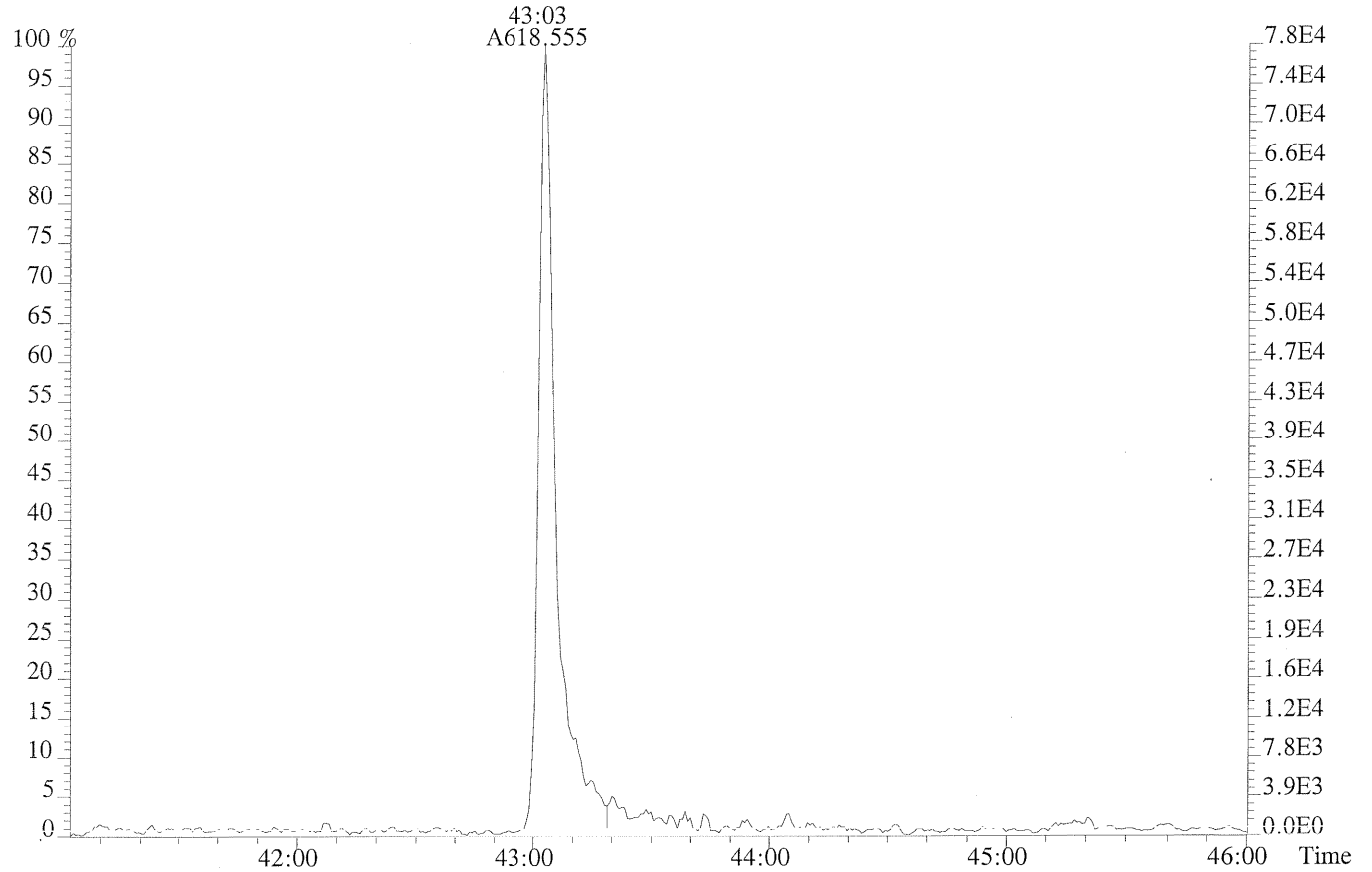
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,872.0,0.40%,F,T)



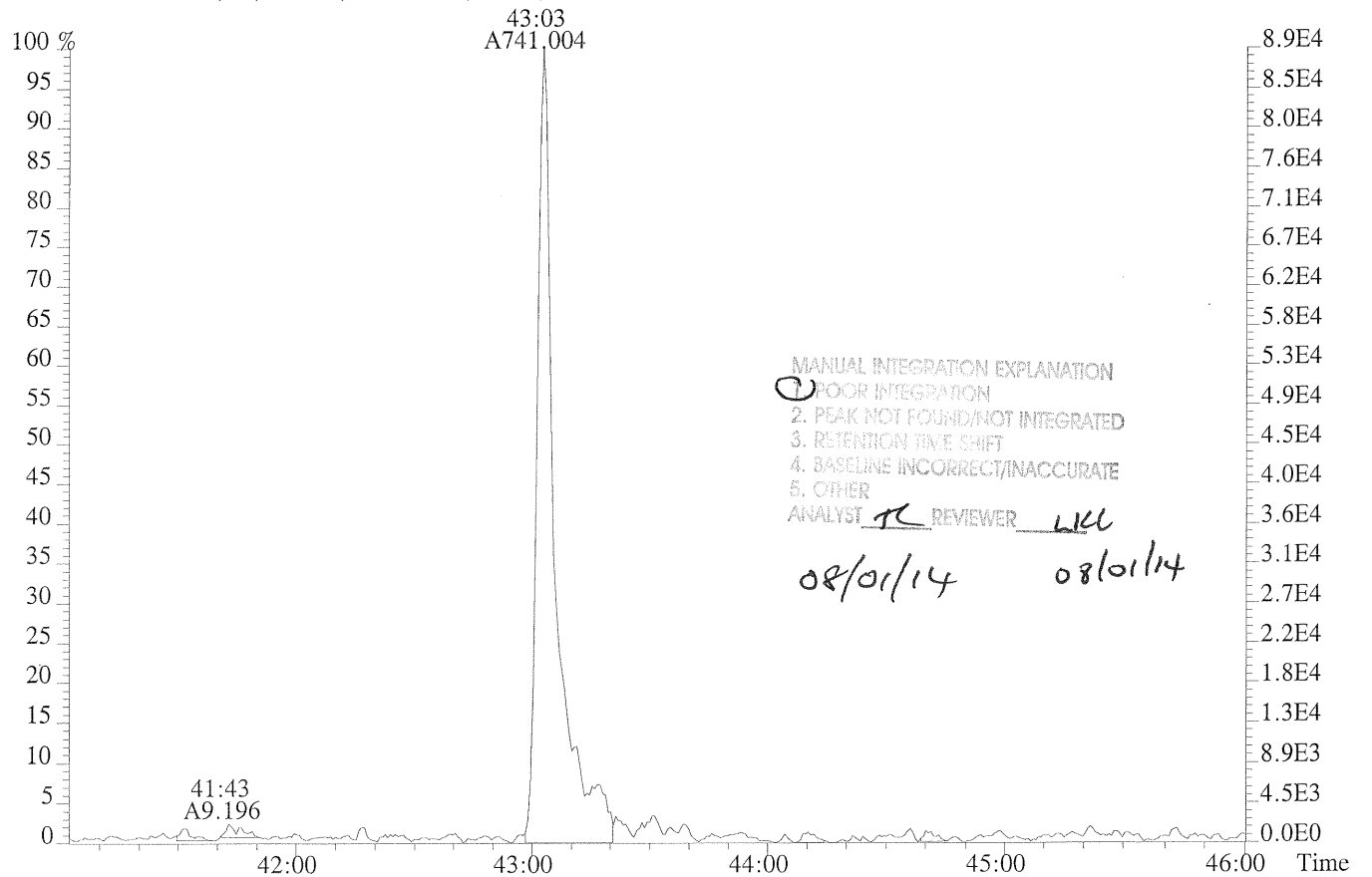
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:U150160 #1-451 Acq:31-JUL-2014 12:13:20 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS1  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,748.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,T)



MANUAL INTEGRATION EXPLANATION  
1. POOR INTEGRATION  
2. PEAK NOT FOUND/NOT INTEGRATED  
3. RETENTION TIME SHIFT  
4. BASELINE INCORRECT/INACCURATE  
5. OTHER  
ANALYST TC REVIEWER LKC

08/01/14 08/01/14

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS2

Run #3 Filename U150161 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 13:10:32  
 Processed: 1-AUG-14 09:14:12 LAB. ID: D12-90-3B

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:01	6.078e+02	8.036e+02	0.76	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:02	5.484e+03	3.458e+03	1.59	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:55	5.147e+03	3.337e+03	1.54	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:33	3.977e+03	3.204e+03	1.24	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:39	4.853e+03	4.049e+03	1.20	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:09	4.207e+03	3.499e+03	1.20	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:55	3.174e+03	2.585e+03	1.23	yes	yes	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:09	3.342e+03	3.191e+03	1.05	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:39	2.385e+03	2.230e+03	1.07	yes	no	1.000
10	Unk	OCDF	43:19	3.132e+03	3.367e+03	0.93	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:44	3.809e+02	5.076e+02	0.75	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:11	3.551e+03	2.090e+03	1.70	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:16	2.666e+03	2.176e+03	1.23	yes	yes	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:22	3.429e+03	2.752e+03	1.25	yes	yes	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:36	3.311e+03	2.663e+03	1.24	yes	yes	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:07	2.169e+03	2.173e+03	1.00	yes	no	1.000
17	Unk	OCDD	43:04	2.887e+03	3.219e+03	0.90	yes	yes	1.000
18	IS	13C-2,3,7,8-TCDF	28:59	3.126e+04	3.759e+04	0.83	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:01	5.465e+04	3.394e+04	1.61	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:55	5.463e+04	3.439e+04	1.59	yes	no	1.163
21	IS	13C-1,2,3,4,7,8-HxCDF	36:32	1.968e+04	3.864e+04	0.51	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:39	2.562e+04	5.088e+04	0.50	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:08	2.340e+04	4.389e+04	0.53	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:54	1.702e+04	3.343e+04	0.51	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:08	1.523e+04	3.382e+04	0.45	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:38	1.076e+04	2.324e+04	0.46	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:43	2.039e+04	2.694e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:11	3.005e+04	1.994e+04	1.51	yes	no	1.172
29	IS	13C-1,2,3,4,7,8-HxCDD	37:16	2.126e+04	1.629e+04	1.31	yes	no	0.992
30	IS	13C-1,2,3,6,7,8-HxCDD	37:21	2.740e+04	2.047e+04	1.34	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:07	2.120e+04	1.929e+04	1.10	yes	no	1.067
32	IS	13C-OCDD	43:04	2.180e+04	2.342e+04	0.93	yes	no	1.146
33	RS/RT	13C-1,2,3,4-TCDD	29:10	2.121e+04	2.754e+04	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	2.872e+04	2.041e+04	1.41	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:44	9.292e+02				no	1.019

ALS ENVIRONMENTAL  
 10450 Stancliff, Suite 115  
 Houston, TX 77099  
 Office(713)266-1599. Fax(713)266-0130

XLRESP



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS2

Run #3 Filename U150161 Samp: 1 Inj: 1 Acquired: 31-JUL-14 13:10:32  
 Processed: 1-AUG-14 09:14:121 LAB. ID: D12-90-3B

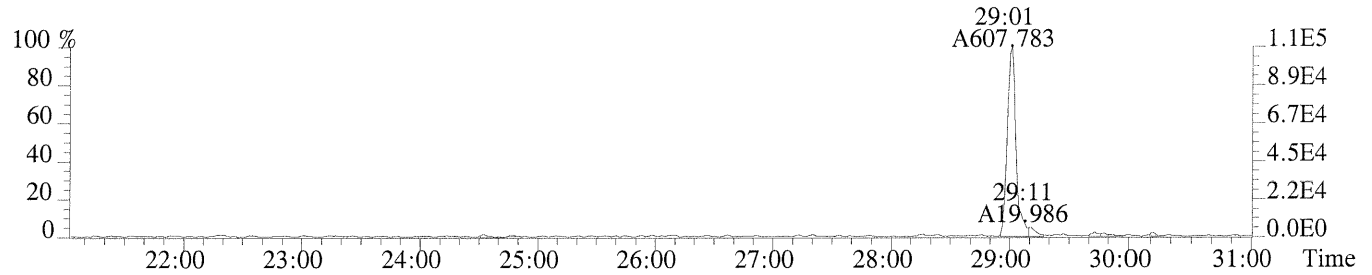
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.11e+05	8.24e+02	1.3e+02	1.39e+05	1.93e+03	7.2e+01
2	1,2,3,7,8-PeCDF	8.68e+05	1.31e+03	6.6e+02	5.39e+05	1.65e+03	3.3e+02
3	2,3,4,7,8-PeCDF	8.74e+05	1.31e+03	6.7e+02	5.66e+05	1.65e+03	3.4e+02
4	1,2,3,4,7,8-HxCDF	7.67e+05	9.08e+02	8.4e+02	6.19e+05	8.08e+02	7.7e+02
5	1,2,3,6,7,8-HxCDF	8.31e+05	9.08e+02	9.2e+02	6.71e+05	8.08e+02	8.3e+02
6	2,3,4,6,7,8-HxCDF	7.55e+05	9.08e+02	8.3e+02	6.27e+05	8.08e+02	7.8e+02
7	1,2,3,7,8,9-HxCDF	5.20e+05	9.08e+02	5.7e+02	4.31e+05	8.08e+02	5.3e+02
8	1,2,3,4,6,7,8-HpCDF	5.76e+05	1.47e+03	3.9e+02	5.62e+05	6.72e+02	8.4e+02
9	1,2,3,4,7,8,9-HpCDF	3.26e+05	1.47e+03	2.2e+02	3.08e+05	6.72e+02	4.6e+02
10	OCDF	3.61e+05	7.92e+02	4.6e+02	4.00e+05	1.16e+03	3.4e+02
11	2,3,7,8-TCDD	7.22e+04	9.00e+02	8.0e+01	9.42e+04	8.12e+02	1.2e+02
12	1,2,3,7,8-PeCDD	5.91e+05	1.18e+03	5.0e+02	3.58e+05	1.14e+03	3.1e+02
13	1,2,3,4,7,8-HxCDD	5.64e+05	7.32e+02	7.7e+02	4.49e+05	1.06e+03	4.2e+02
14	1,2,3,6,7,8-HxCDD	5.77e+05	7.32e+02	7.9e+02	4.56e+05	1.06e+03	4.3e+02
15	1,2,3,7,8,9-HxCDD	5.54e+05	7.32e+02	7.6e+02	4.14e+05	1.06e+03	3.9e+02
16	1,2,3,4,6,7,8-HpCDD	3.41e+05	9.52e+02	3.6e+02	3.50e+05	8.32e+02	4.2e+02
17	OCDD	3.51e+05	6.80e+02	5.2e+02	3.92e+05	7.84e+02	5.0e+02
18	13C-2,3,7,8-TCDF	5.59e+06	1.16e+03	4.8e+03	6.70e+06	8.12e+02	8.3e+03
19	13C-1,2,3,7,8-PeCDF	8.66e+06	1.30e+03	6.6e+03	5.33e+06	1.28e+03	4.2e+03
20	13C-2,3,4,7,8-PeCDF	9.40e+06	1.30e+03	7.2e+03	5.89e+06	1.28e+03	4.6e+03
21	13C-1,2,3,4,7,8-HxCDF	3.89e+06	1.07e+03	3.6e+03	7.59e+06	1.82e+03	4.2e+03
22	13C-1,2,3,6,7,8-HxCDF	4.34e+06	1.07e+03	4.1e+03	8.45e+06	1.82e+03	4.6e+03
23	13C-2,3,4,6,7,8-HxCDF	4.19e+06	1.07e+03	3.9e+03	7.99e+06	1.82e+03	4.4e+03
24	13C-1,2,3,7,8,9-HxCDF	2.81e+06	1.07e+03	2.6e+03	5.50e+06	1.82e+03	3.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.59e+06	1.04e+03	2.5e+03	5.74e+06	5.28e+02	1.1e+04
26	13C-1,2,3,4,7,8,9-HpCDF	1.54e+06	1.04e+03	1.5e+03	3.37e+06	5.28e+02	6.4e+03
27	13C-2,3,7,8-TCDD	3.85e+06	3.54e+03	1.1e+03	5.08e+06	1.77e+03	2.9e+03
28	13C-1,2,3,7,8-PeCDD	4.96e+06	1.14e+03	4.3e+03	3.34e+06	7.24e+02	4.6e+03
29	13C-1,2,3,4,7,8-HxCDD	4.44e+06	1.09e+03	4.1e+03	3.43e+06	1.04e+03	3.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.70e+06	1.09e+03	4.3e+03	3.50e+06	1.04e+03	3.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.24e+06	1.38e+03	2.4e+03	2.92e+06	5.60e+02	5.2e+03
32	13C-OCDD	2.62e+06	9.92e+02	2.6e+03	2.83e+06	1.04e+03	2.7e+03
33	13C-1,2,3,4-TCDD	4.24e+06	3.54e+03	1.2e+03	5.49e+06	1.77e+03	3.1e+03
34	13C-1,2,3,7,8,9-HxCDD	4.38e+06	1.09e+03	4.0e+03	3.26e+06	1.04e+03	3.1e+03
35	37Cl-2,3,7,8-TCDD	1.72e+05	1.32e+03	1.3e+02			

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 10450 Stancliff Rd., Suite 115  
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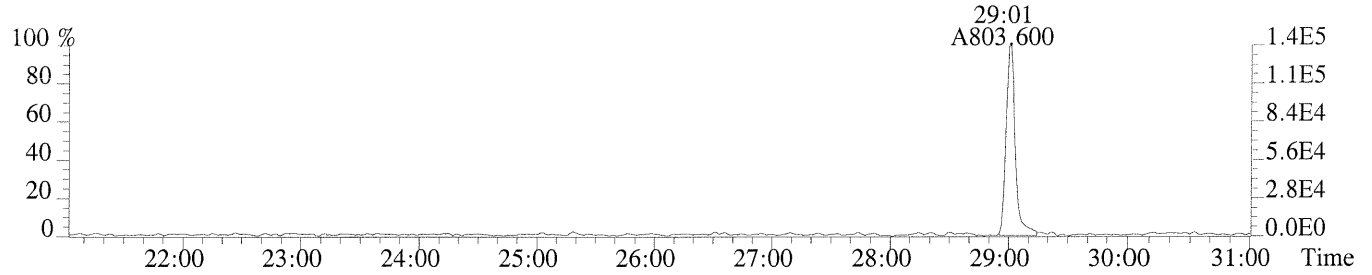
XLSN

Sample#1 Exp:CS2

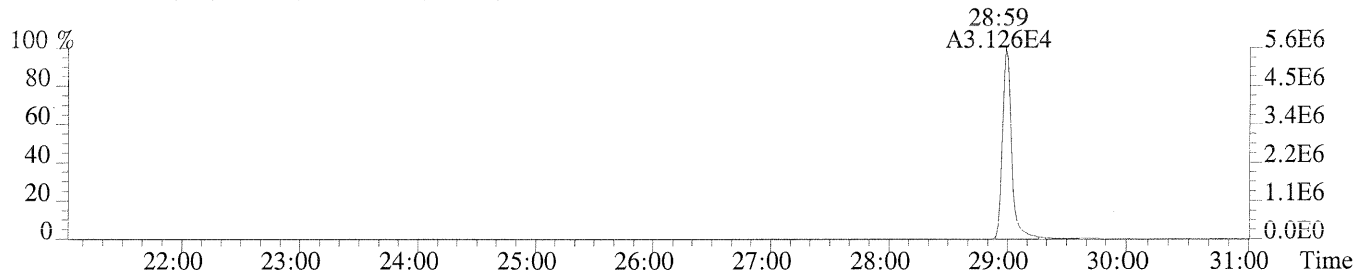
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



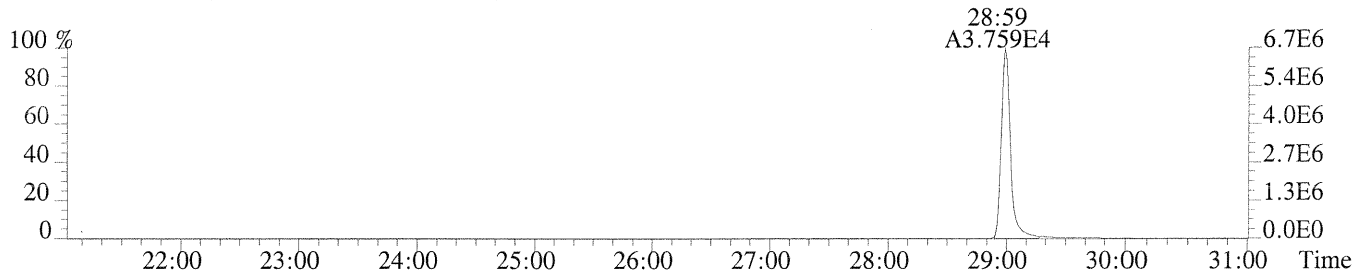
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1932.0,1.00%,F,T)



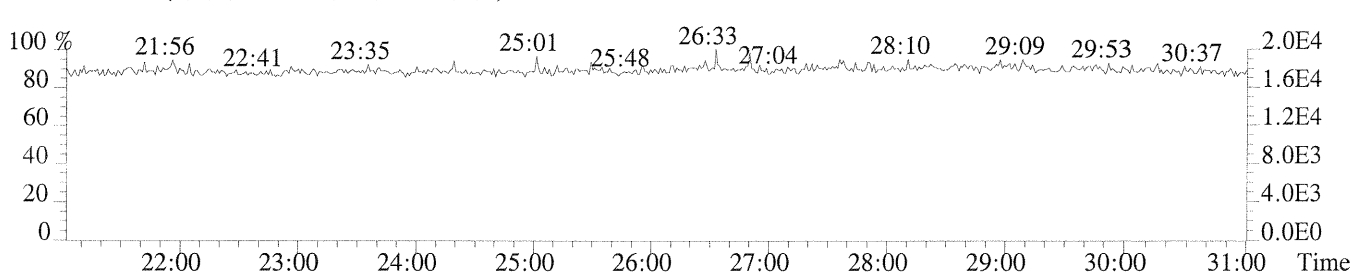
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)



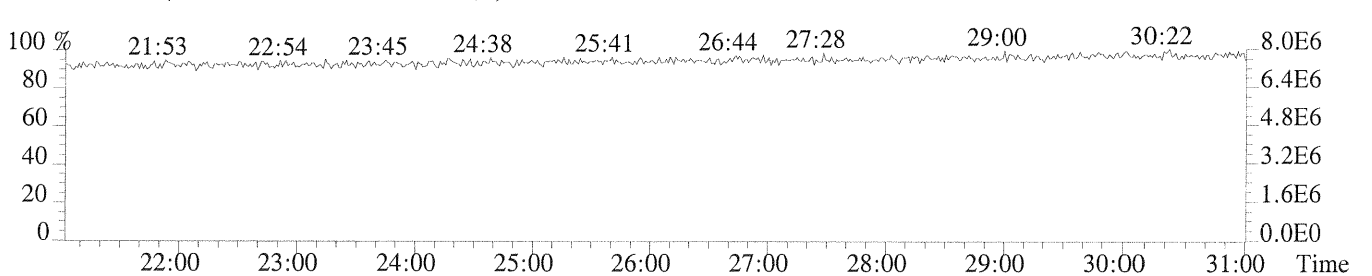
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

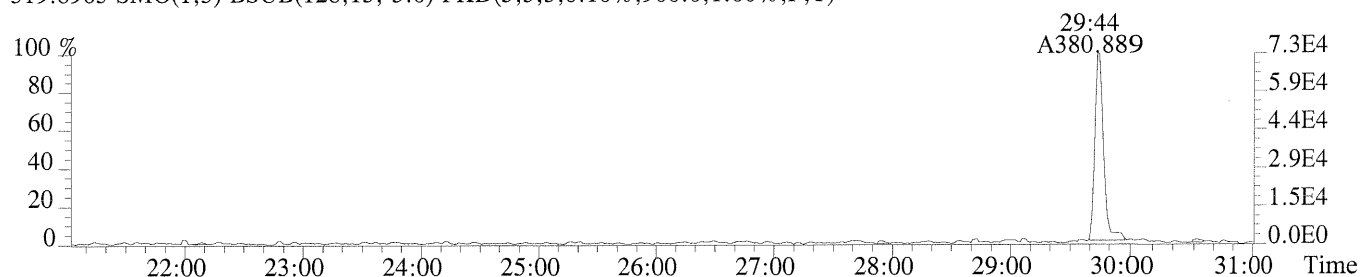


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

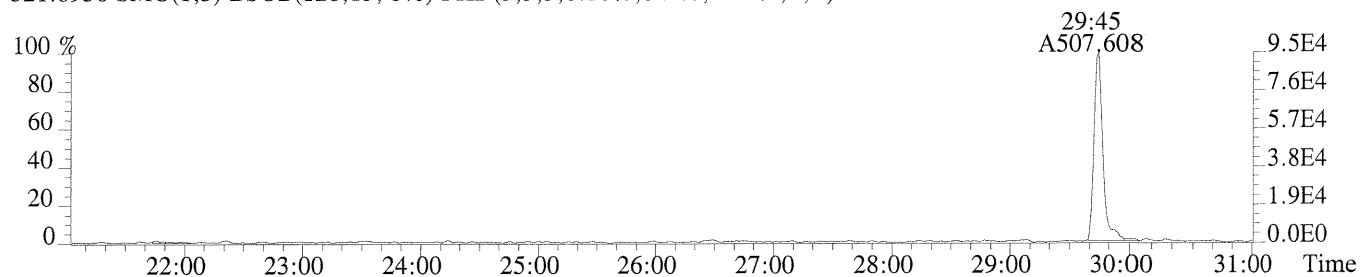


Sample#1 Exp:CS2

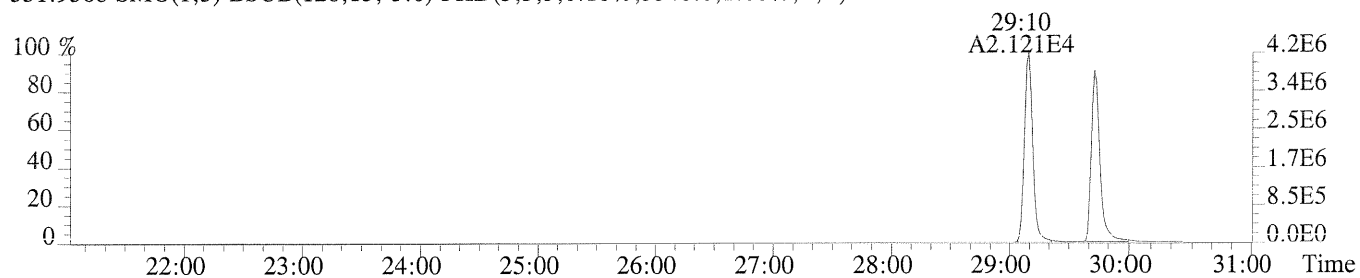
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



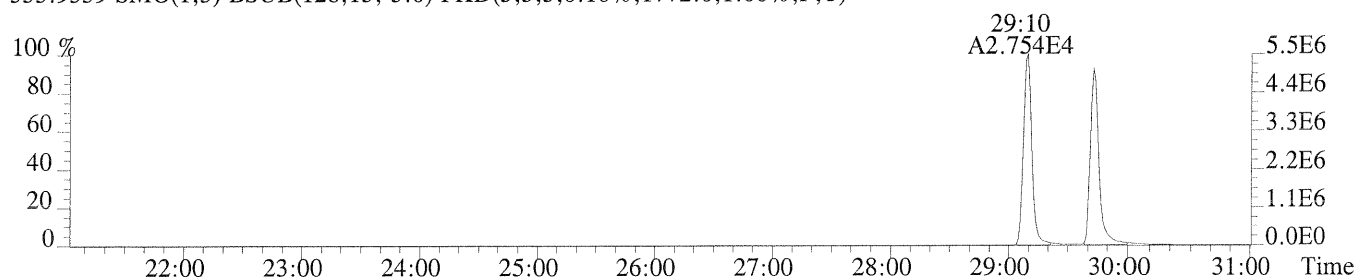
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



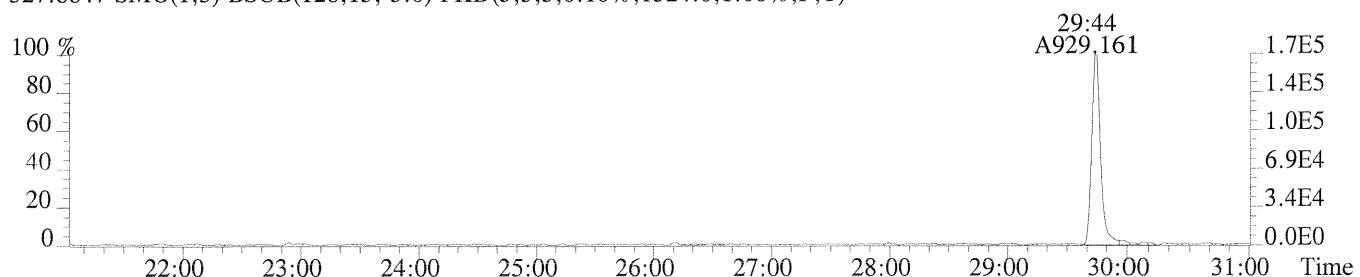
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3540.0,1.00%,F,T)



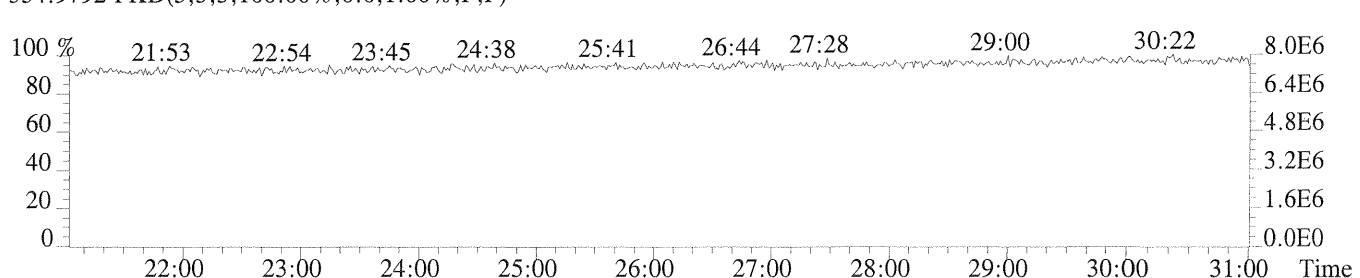
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1772.0,1.00%,F,T)



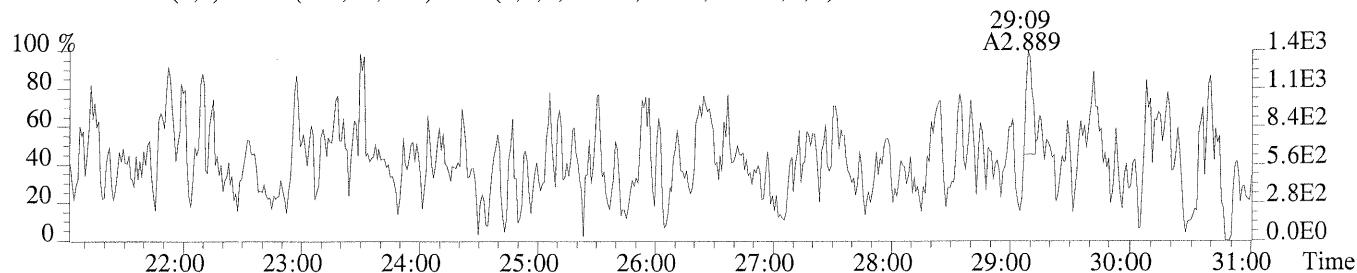
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



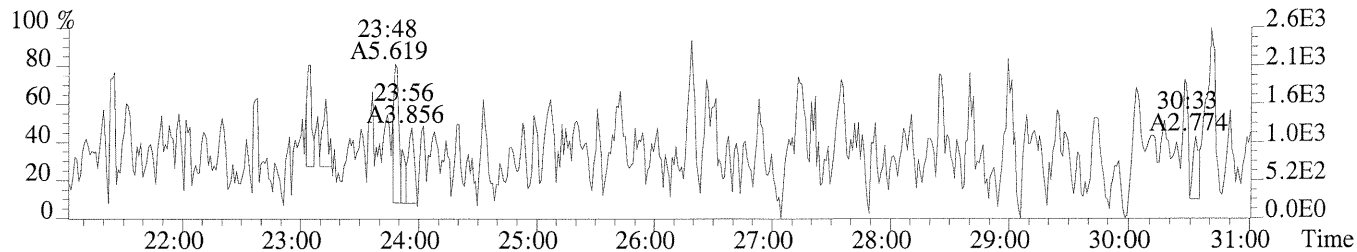
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



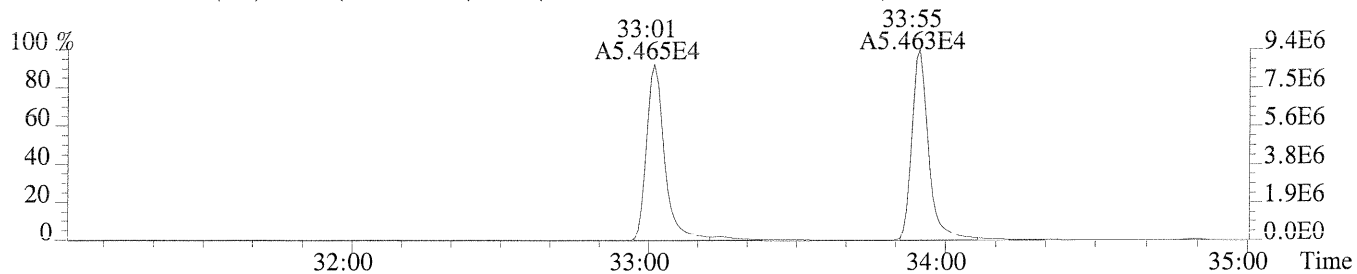
File:U150161 #1-627 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS2  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



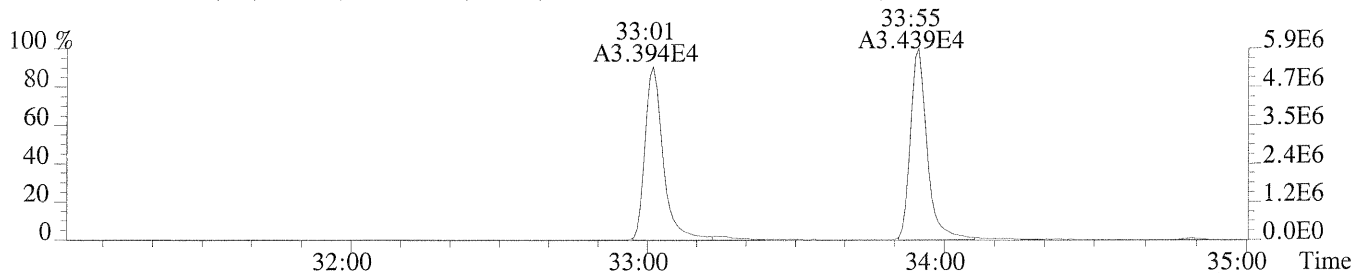
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1080.0,1.00%,F,T)



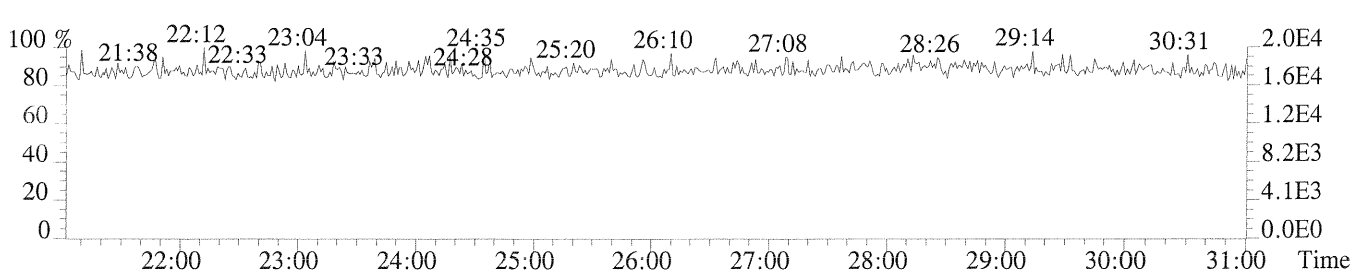
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



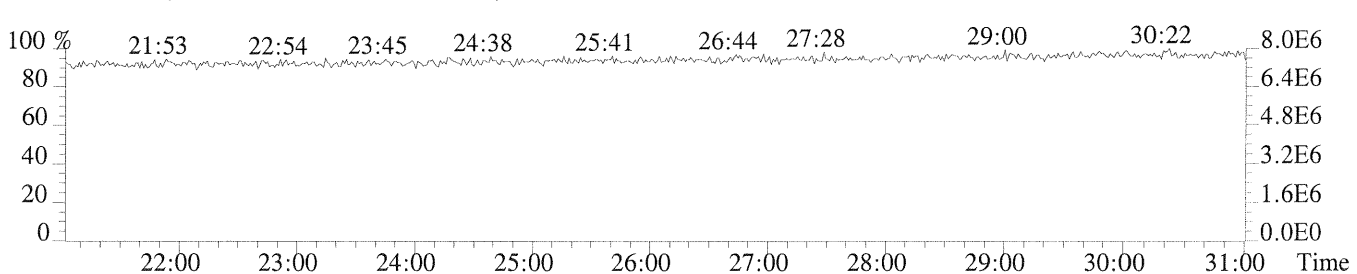
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1284.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

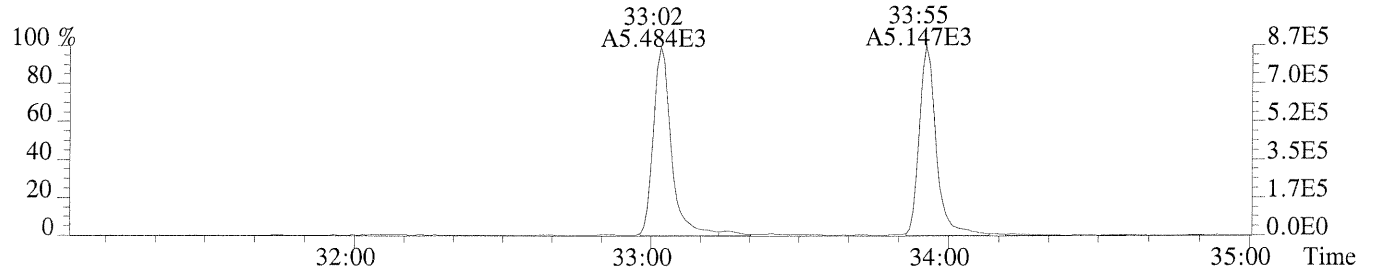


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

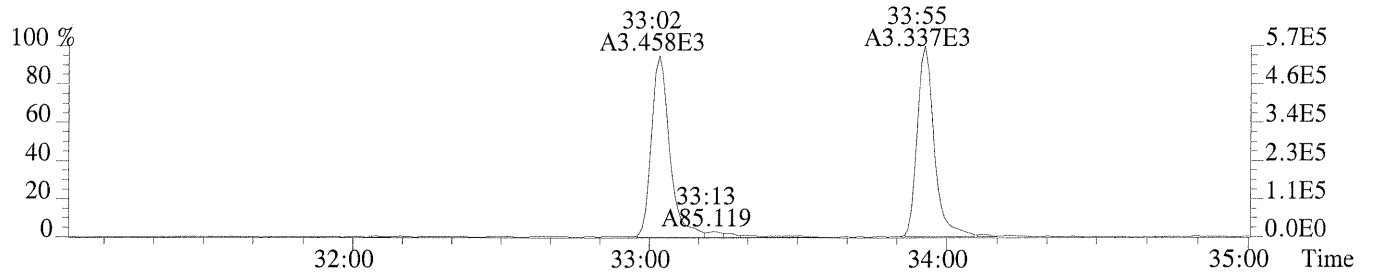


Sample#1 Exp:CS2

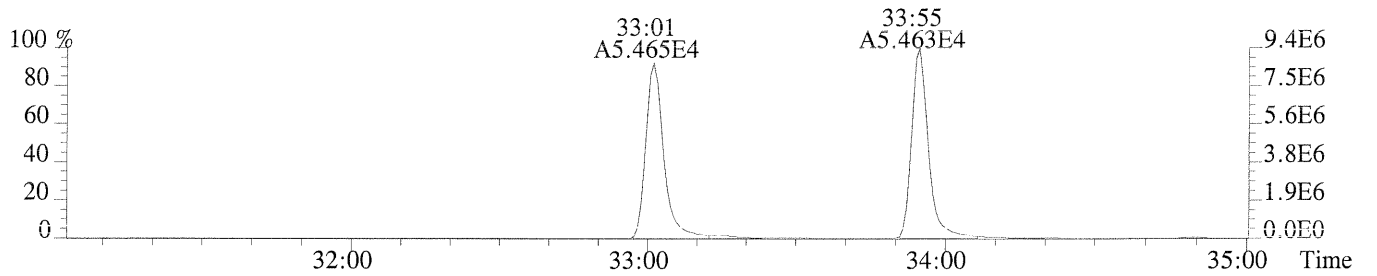
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



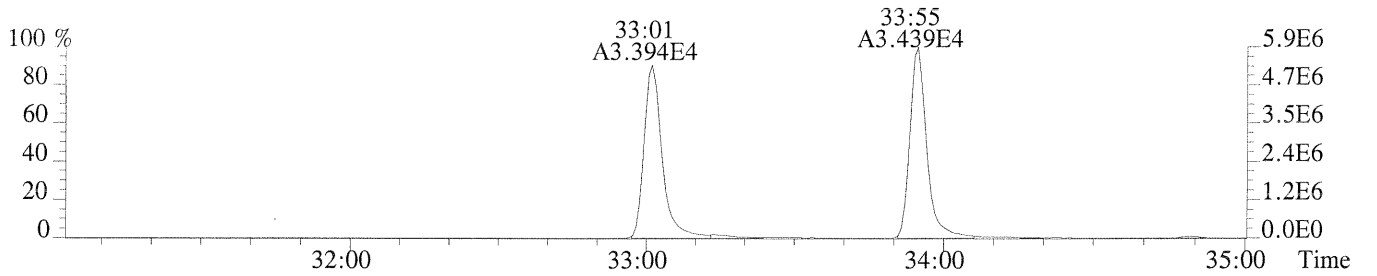
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1652.0,1.00%,F,T)



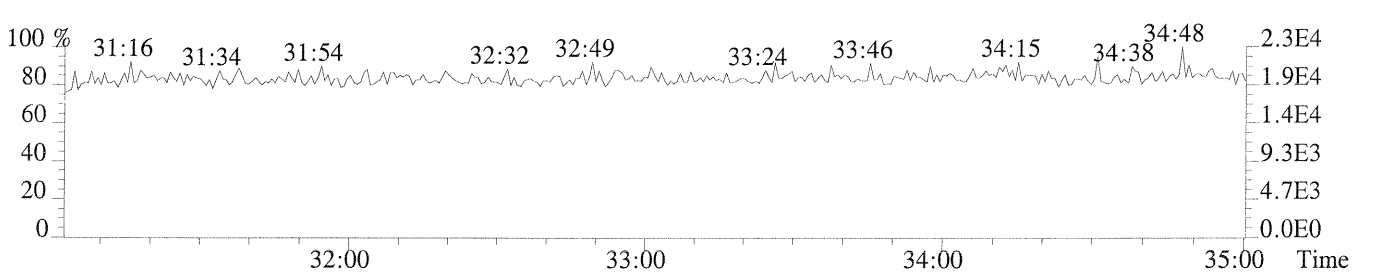
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



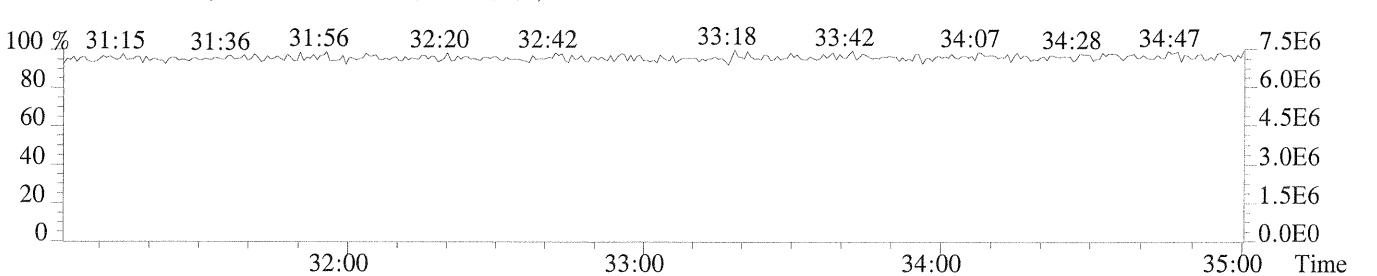
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1284.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

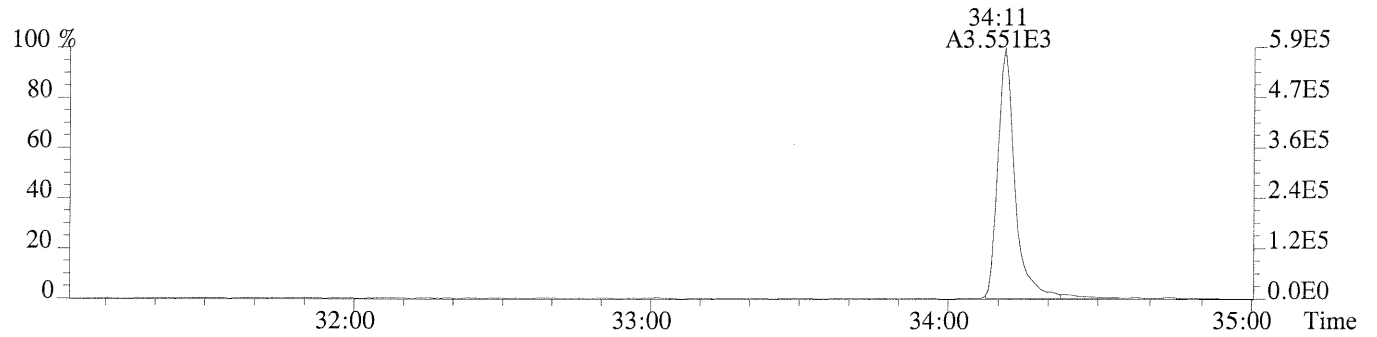


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

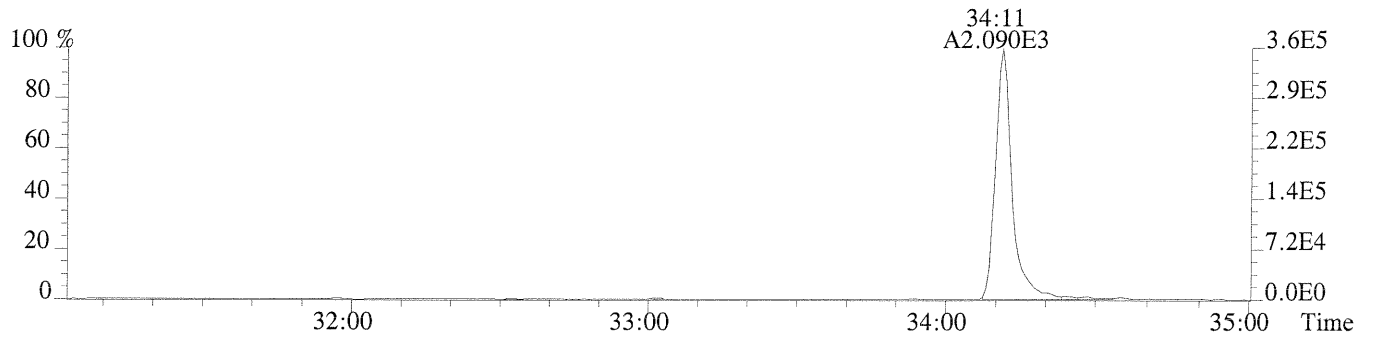


Sample#1 Exp:CS2

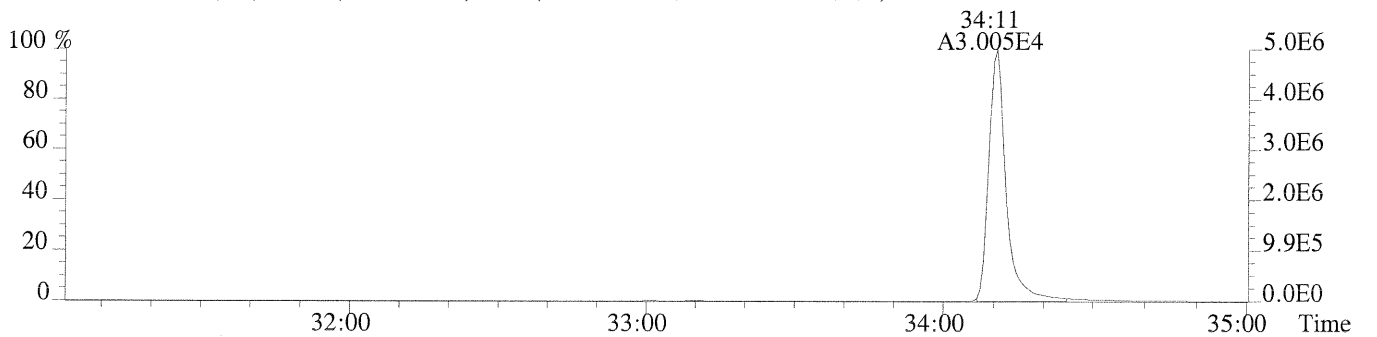
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1184.0,1.00%,F,T)



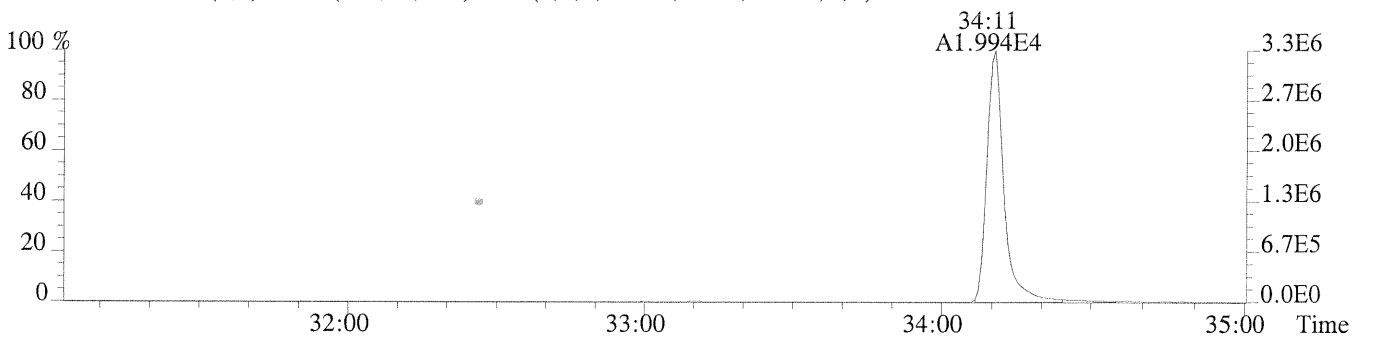
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



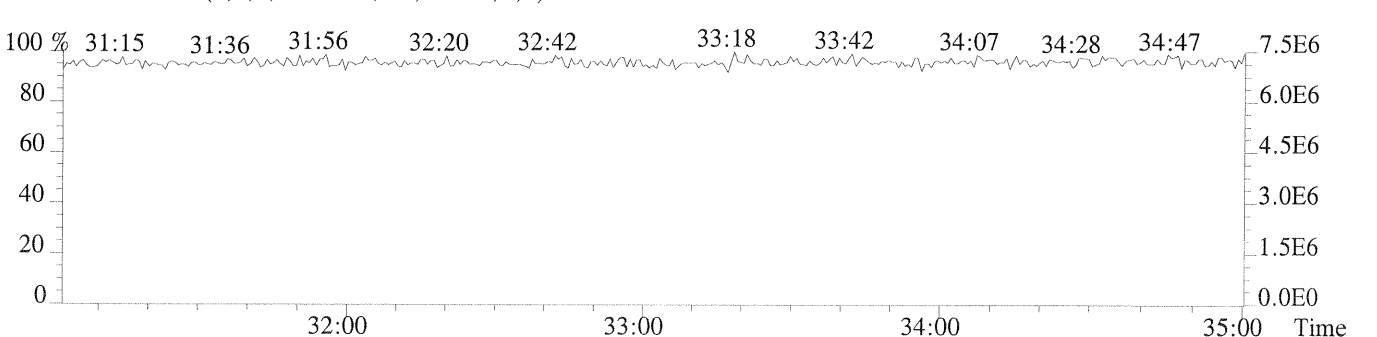
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



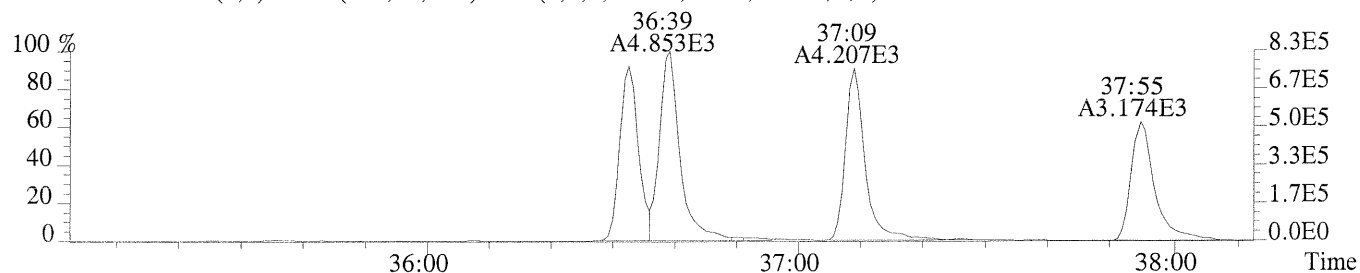
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



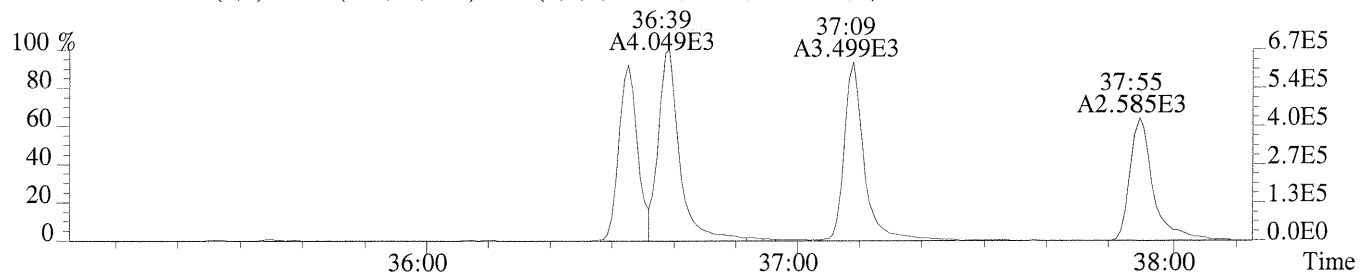
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



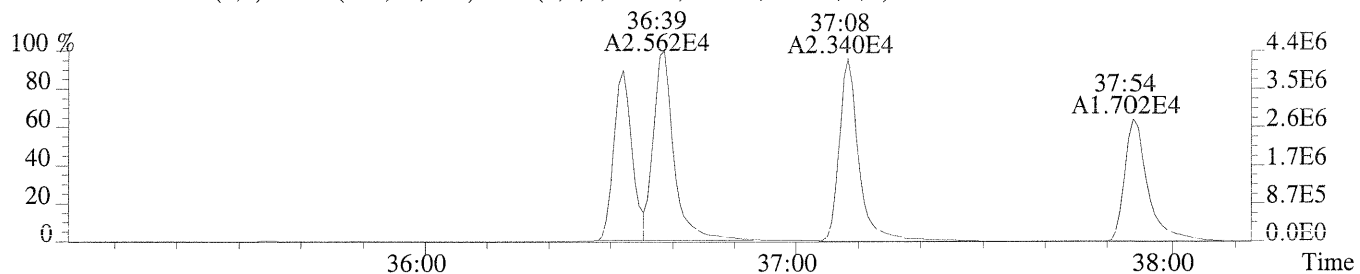
File:U150161 #1-288 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS2  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,908.0,0.40%,F,T)



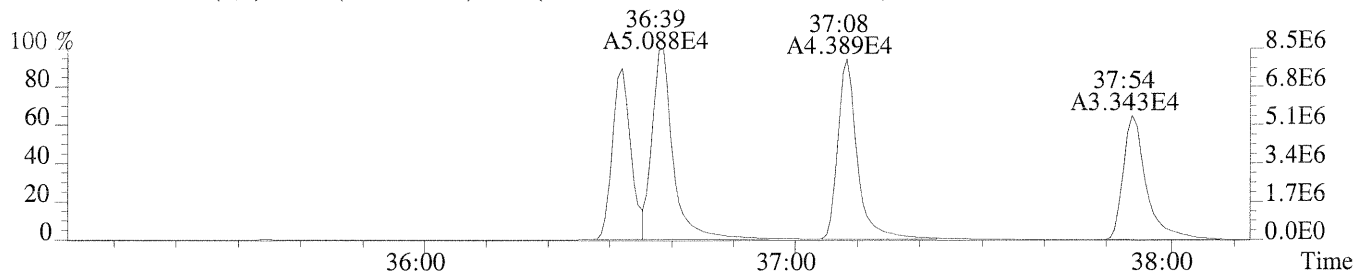
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,808.0,0.40%,F,T)



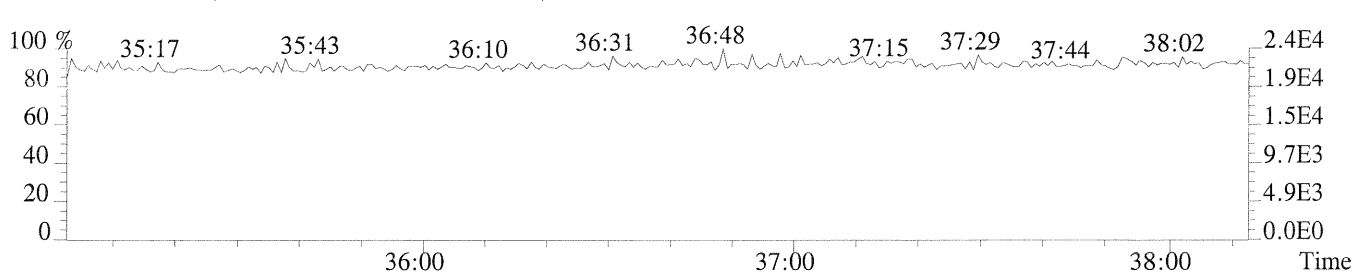
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,T)



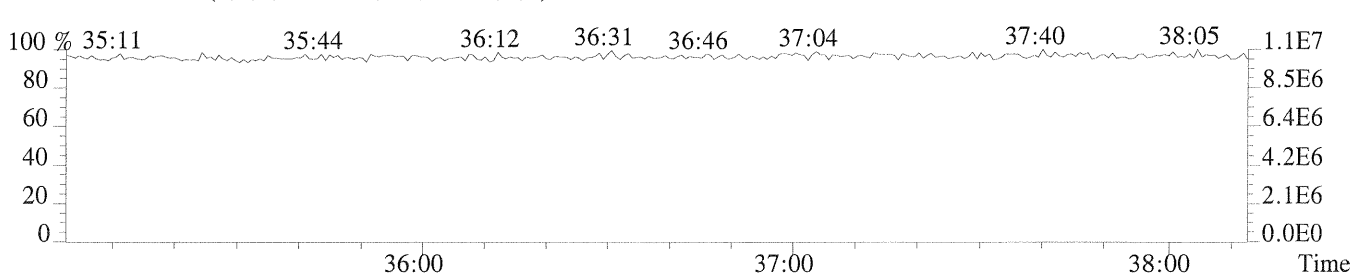
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1820.0,0.40%,F,T)



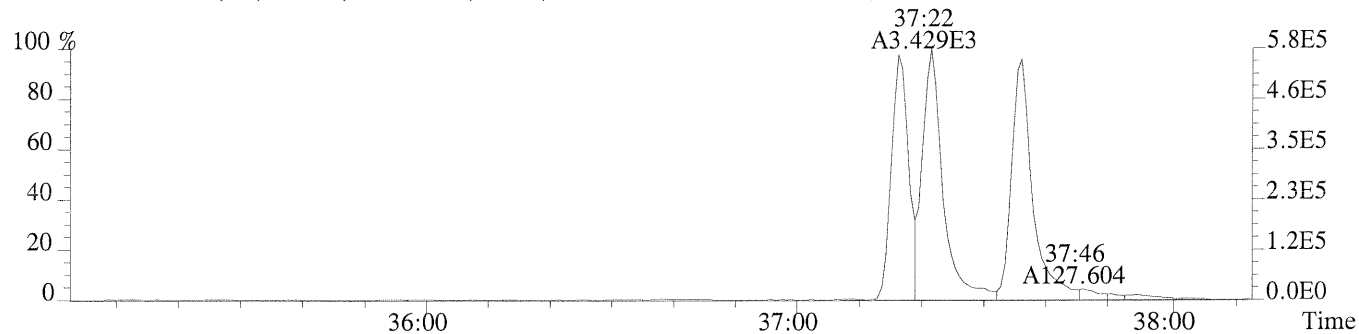
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



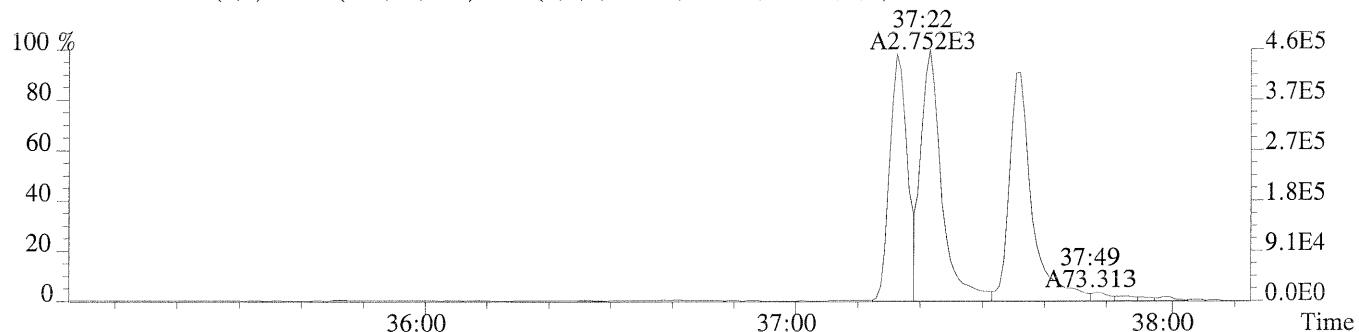
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



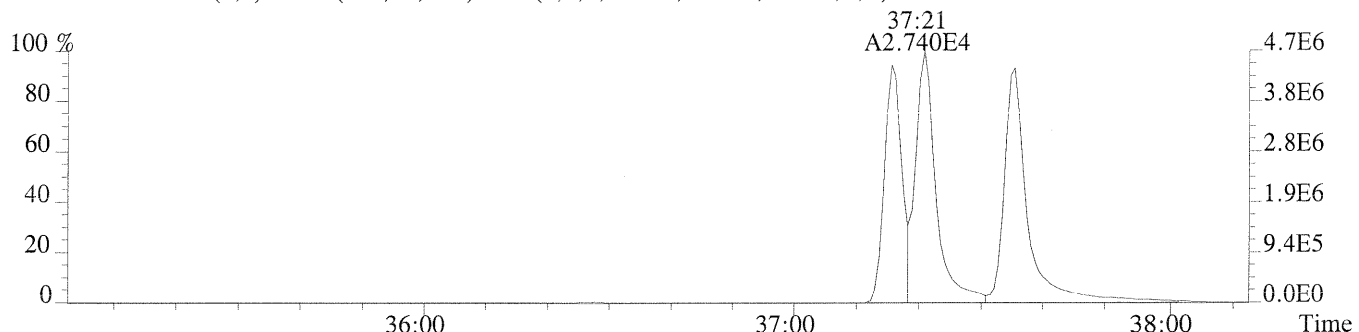
File:U150161 #1-288 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS2  
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



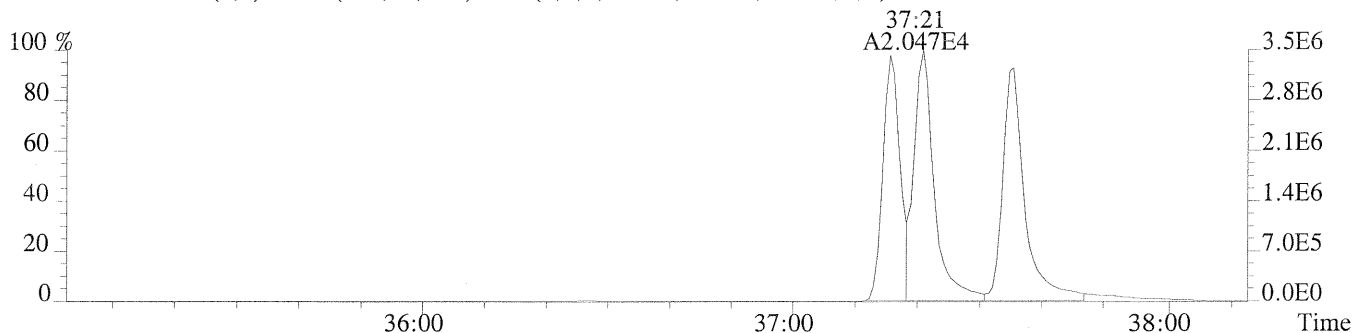
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



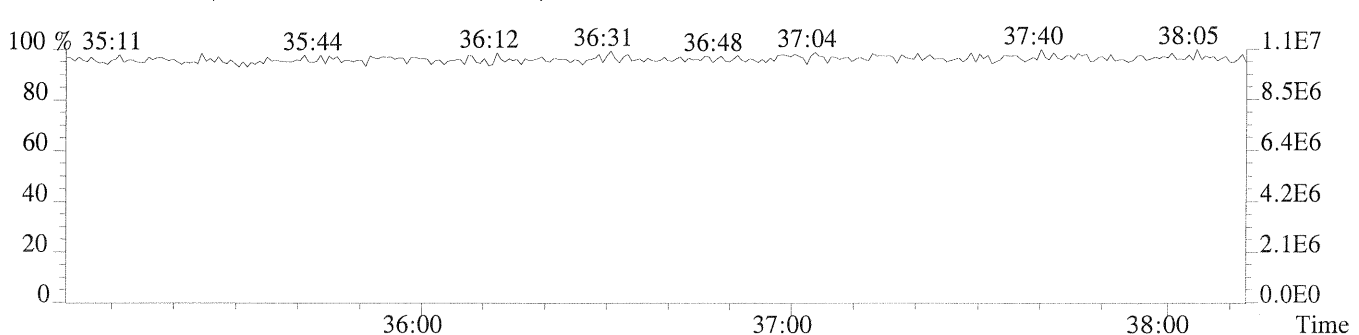
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1092.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

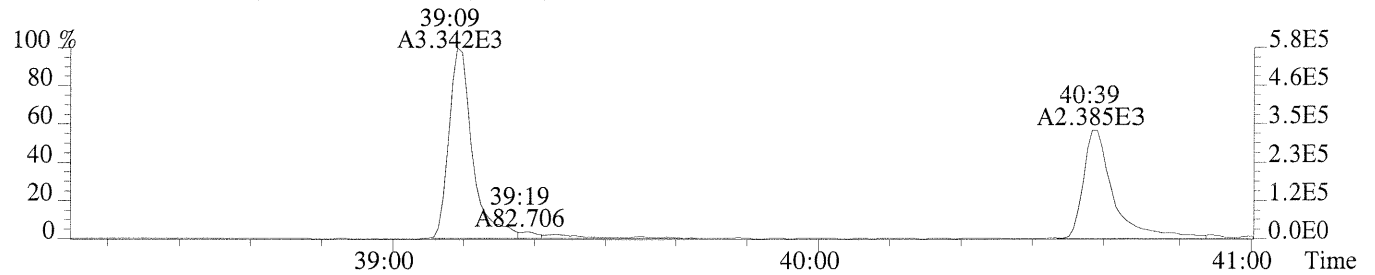




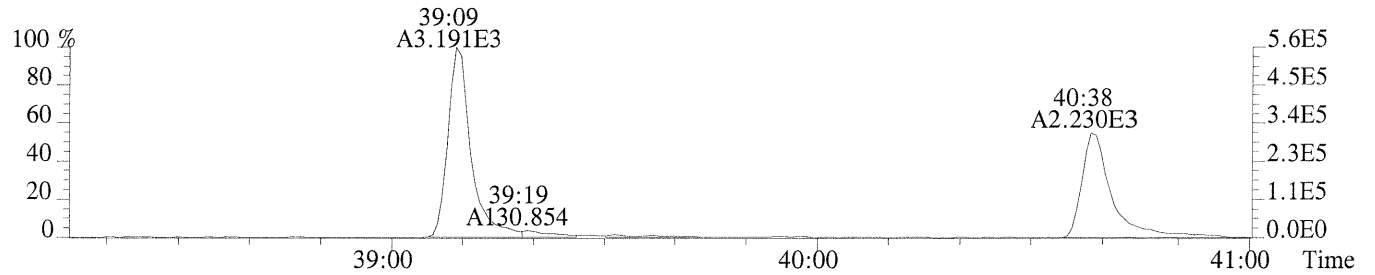
File:U150161 #1-251 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS2

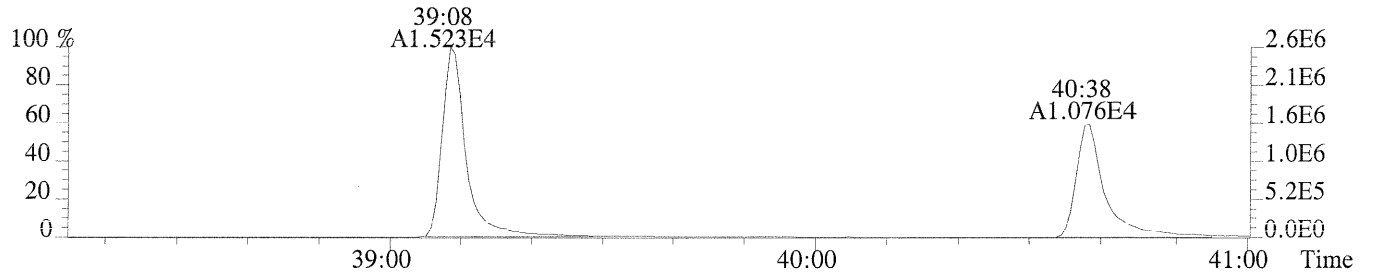
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1468.0,0.50%,F,T)



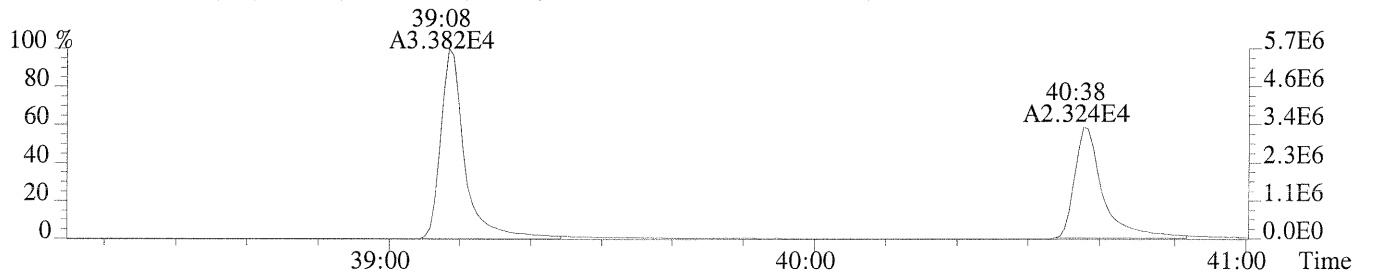
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.50%,F,T)



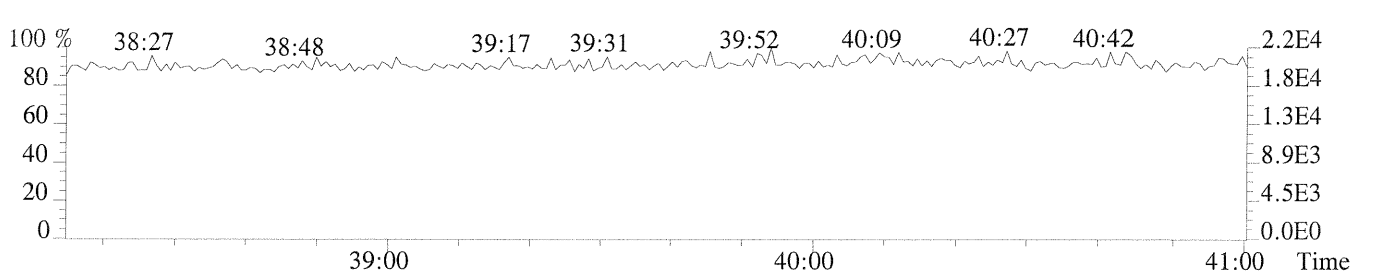
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.50%,F,T)



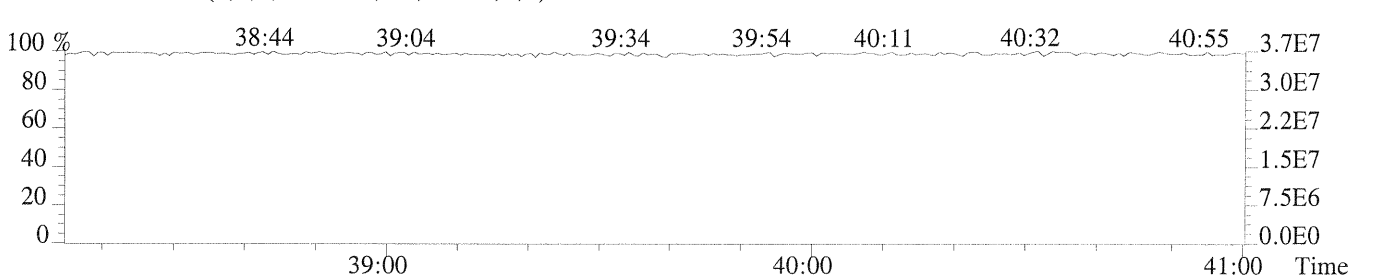
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,528.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

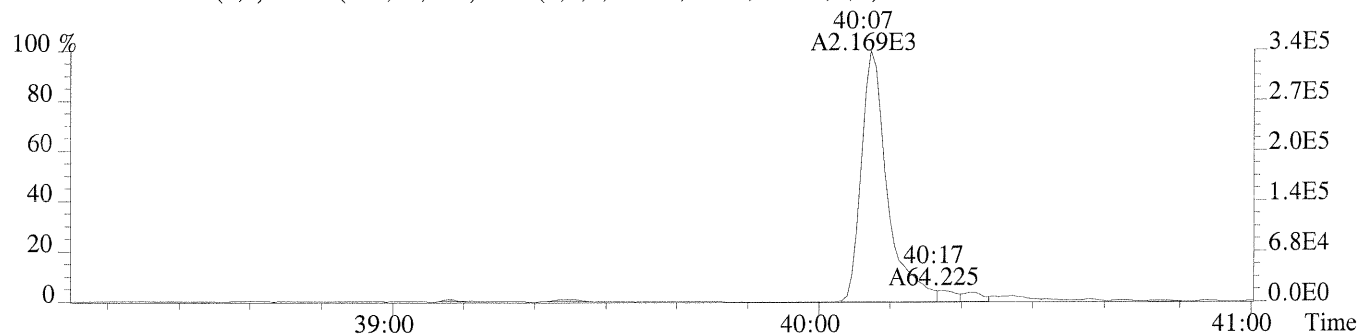


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

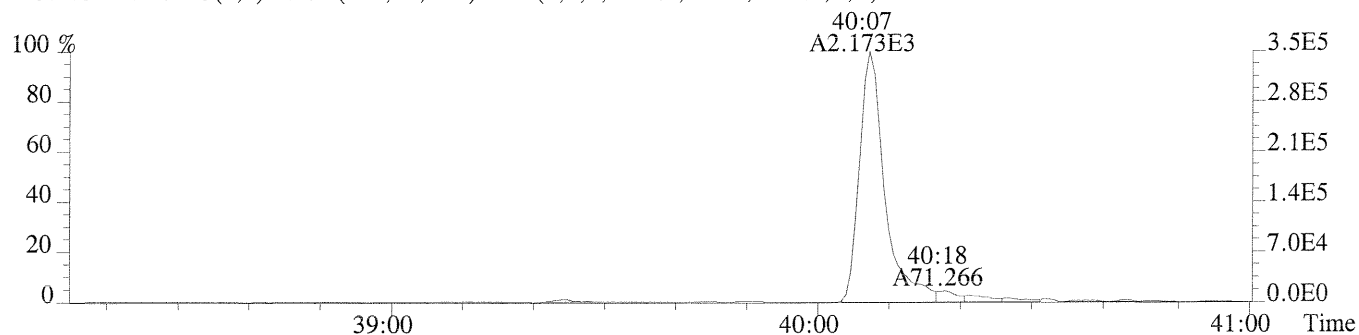


Sample#1 Exp:CS2

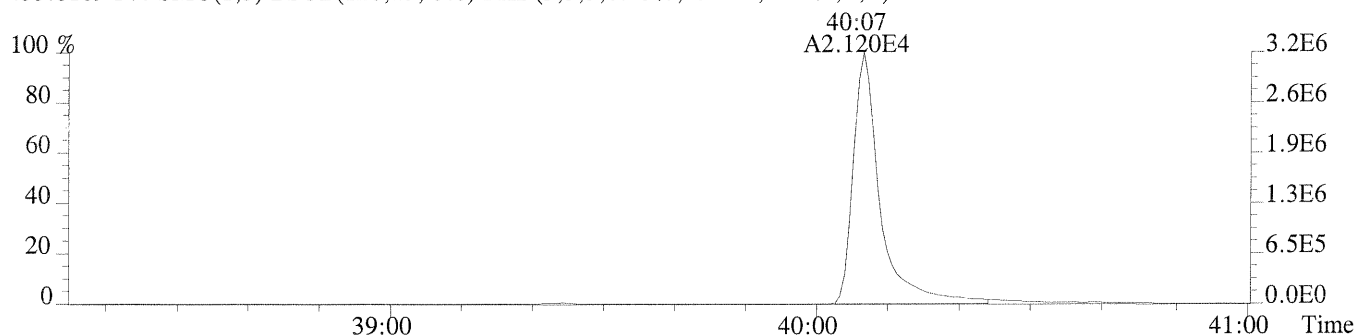
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



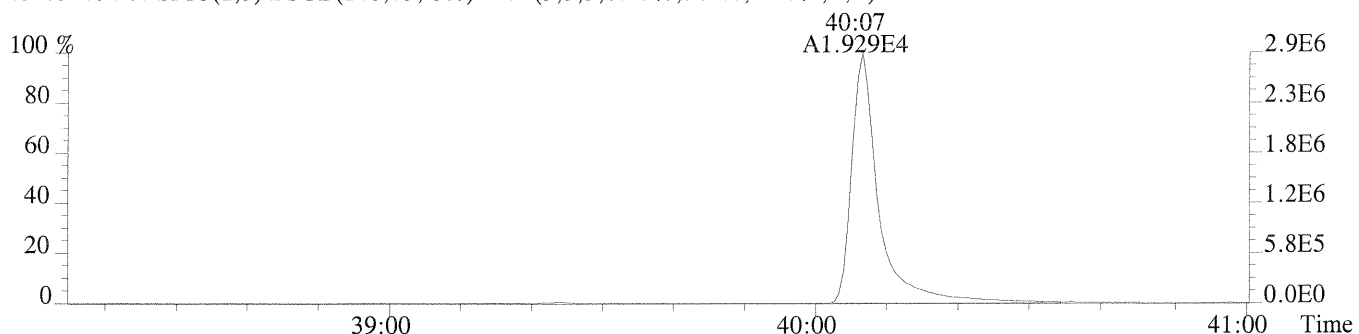
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,T)



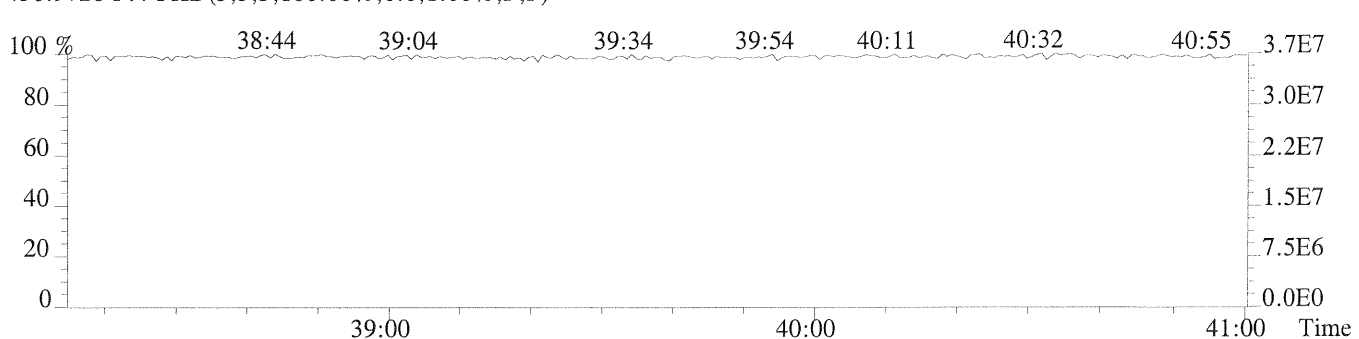
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.40%,F,T)



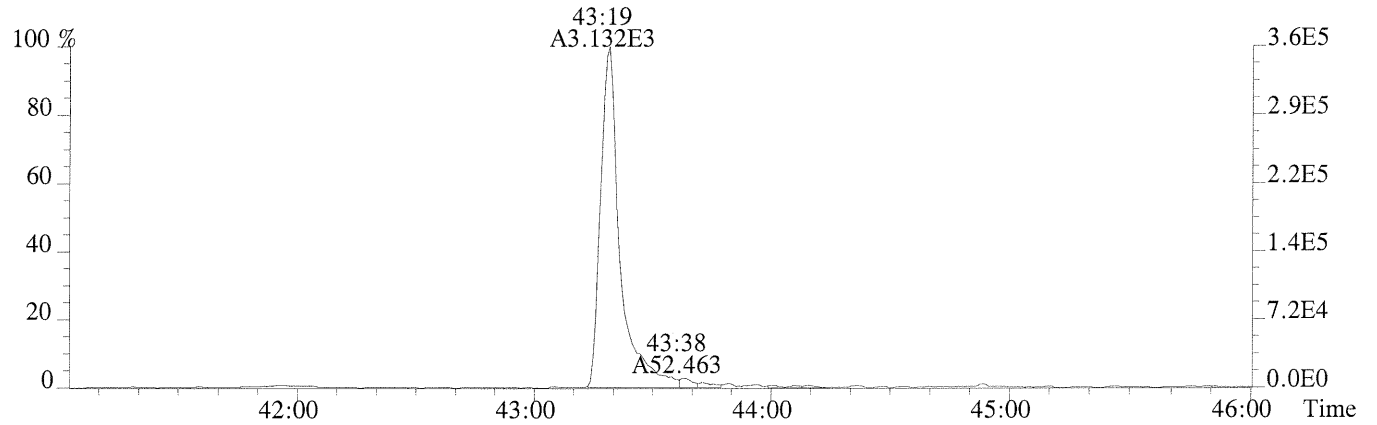
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



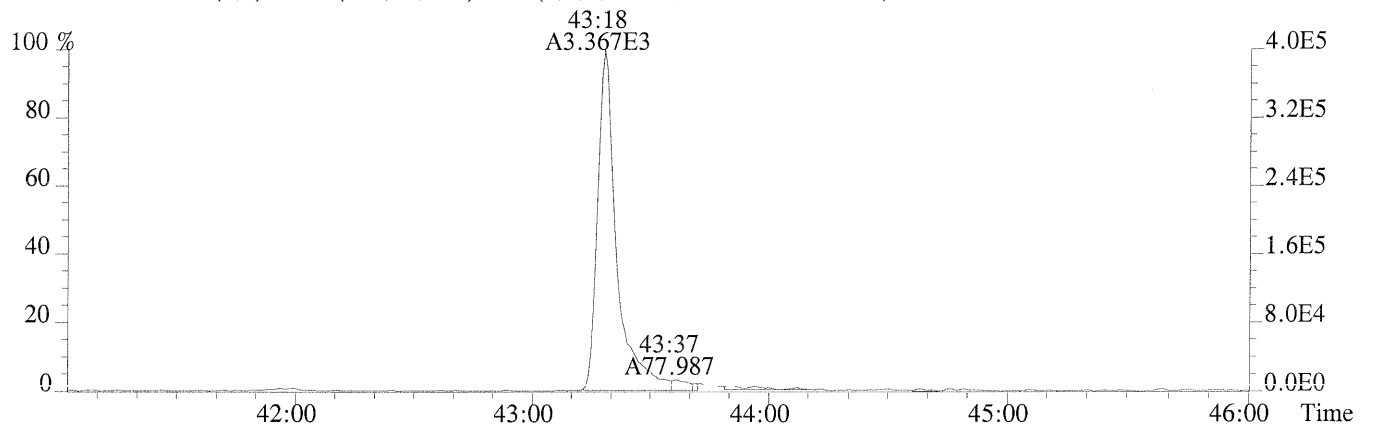
File:U150161 #1-451 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS2

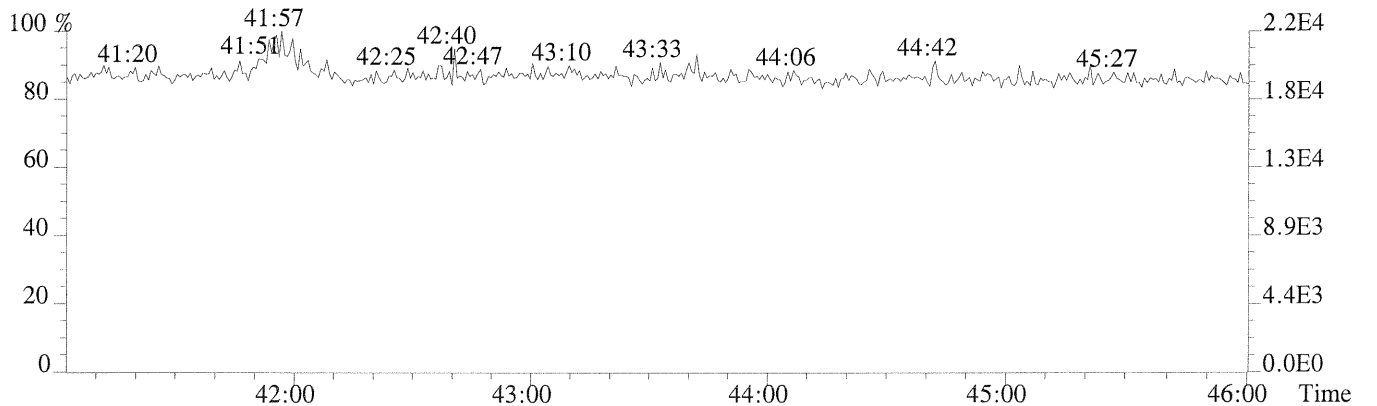
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,792.0,0.40%,F,T)



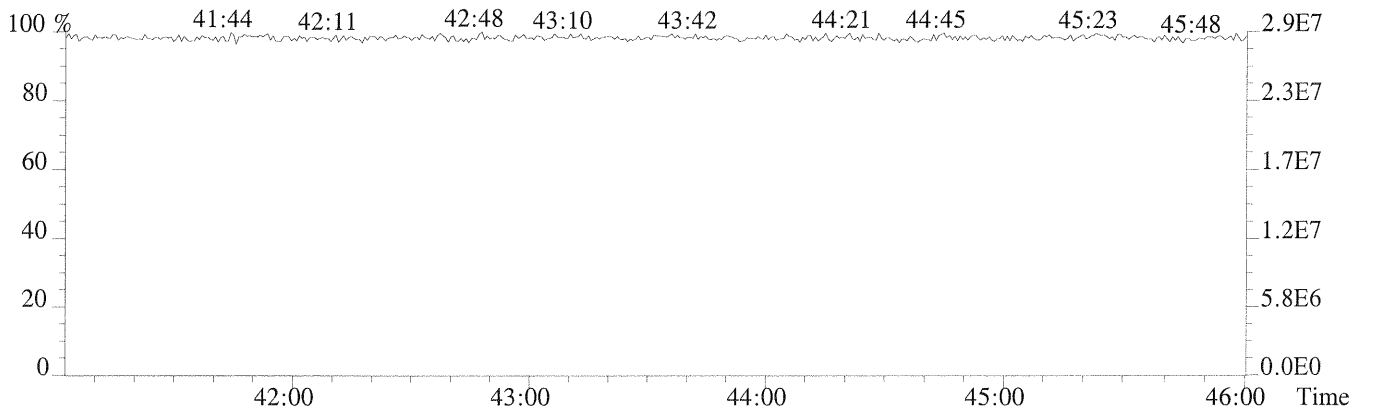
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1164.0,0.40%,F,T)



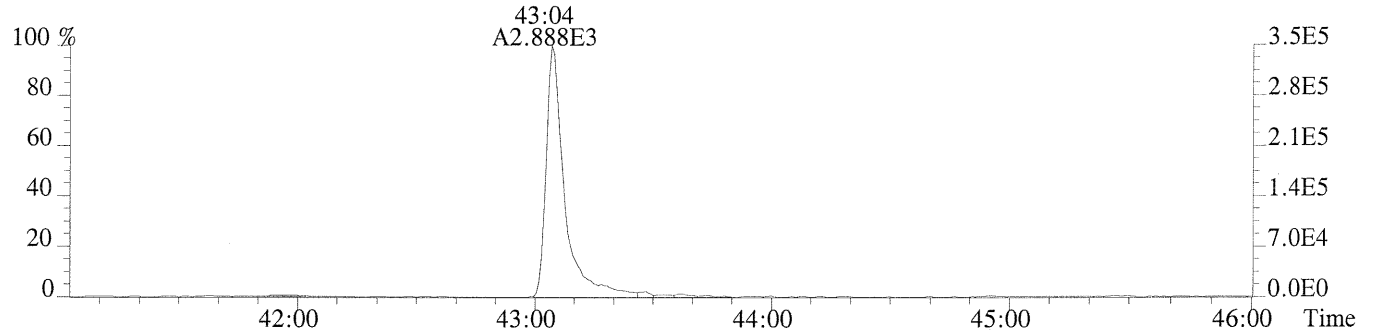
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



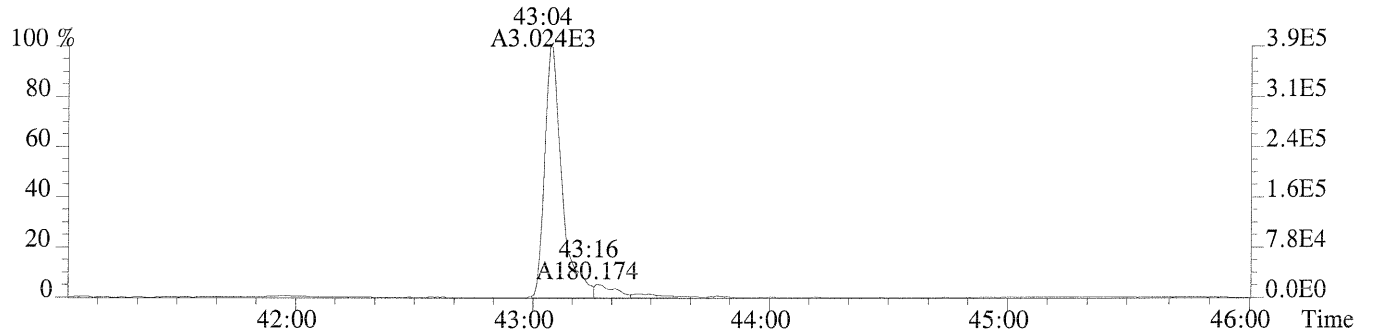
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



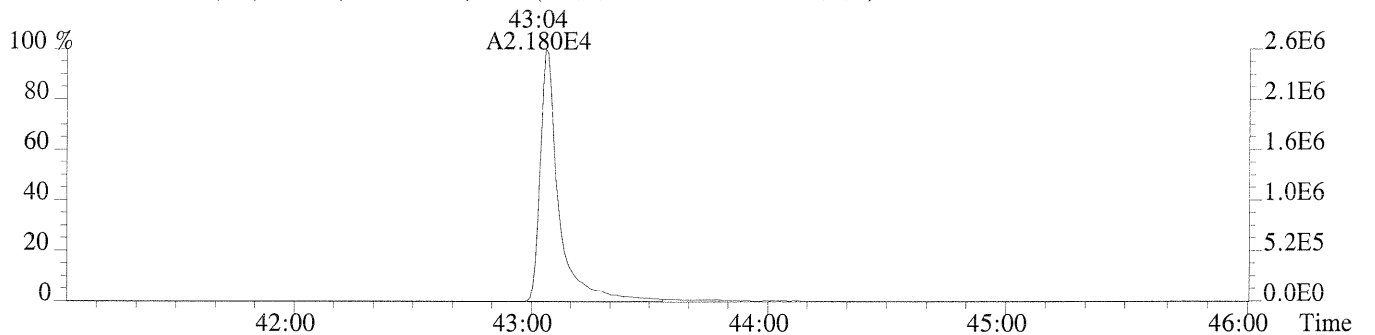
File:U150161 #1-451 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS2  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



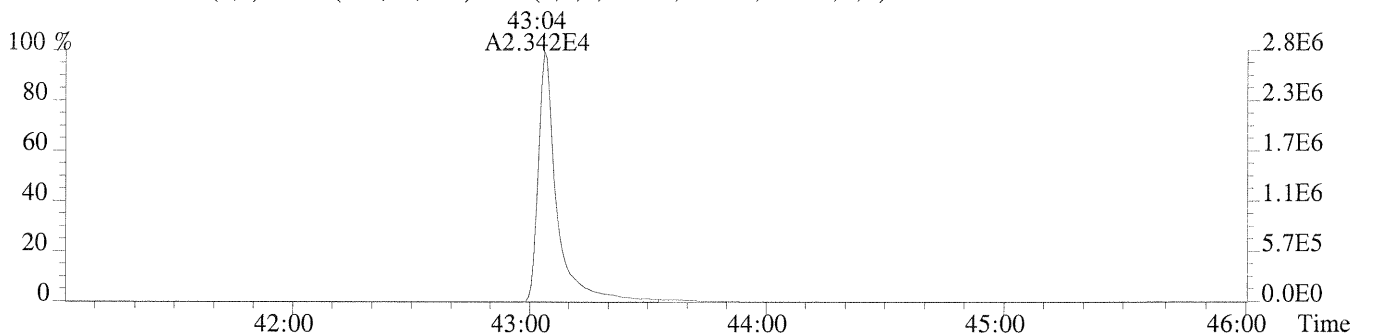
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,784.0,0.40%,F,T)



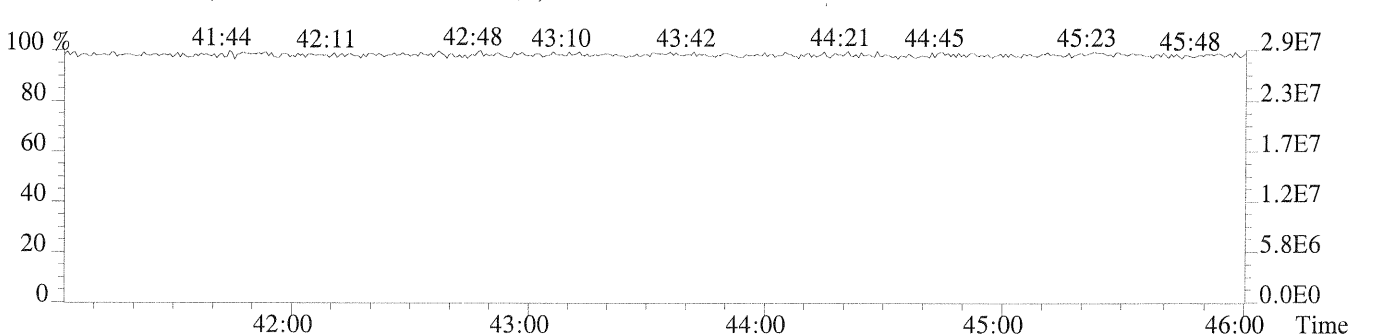
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,992.0,0.40%,F,T)



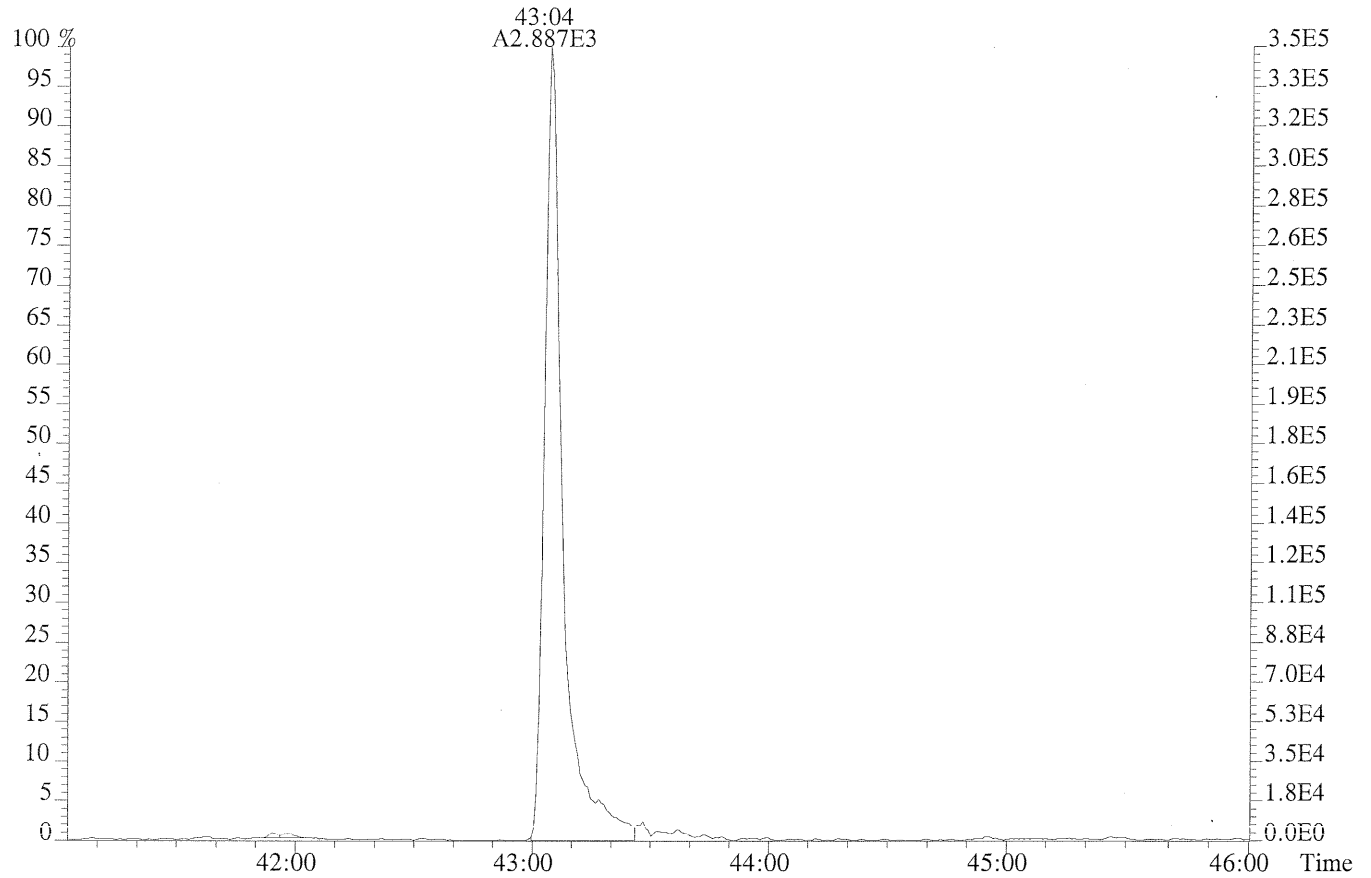
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1040.0,0.40%,F,T)



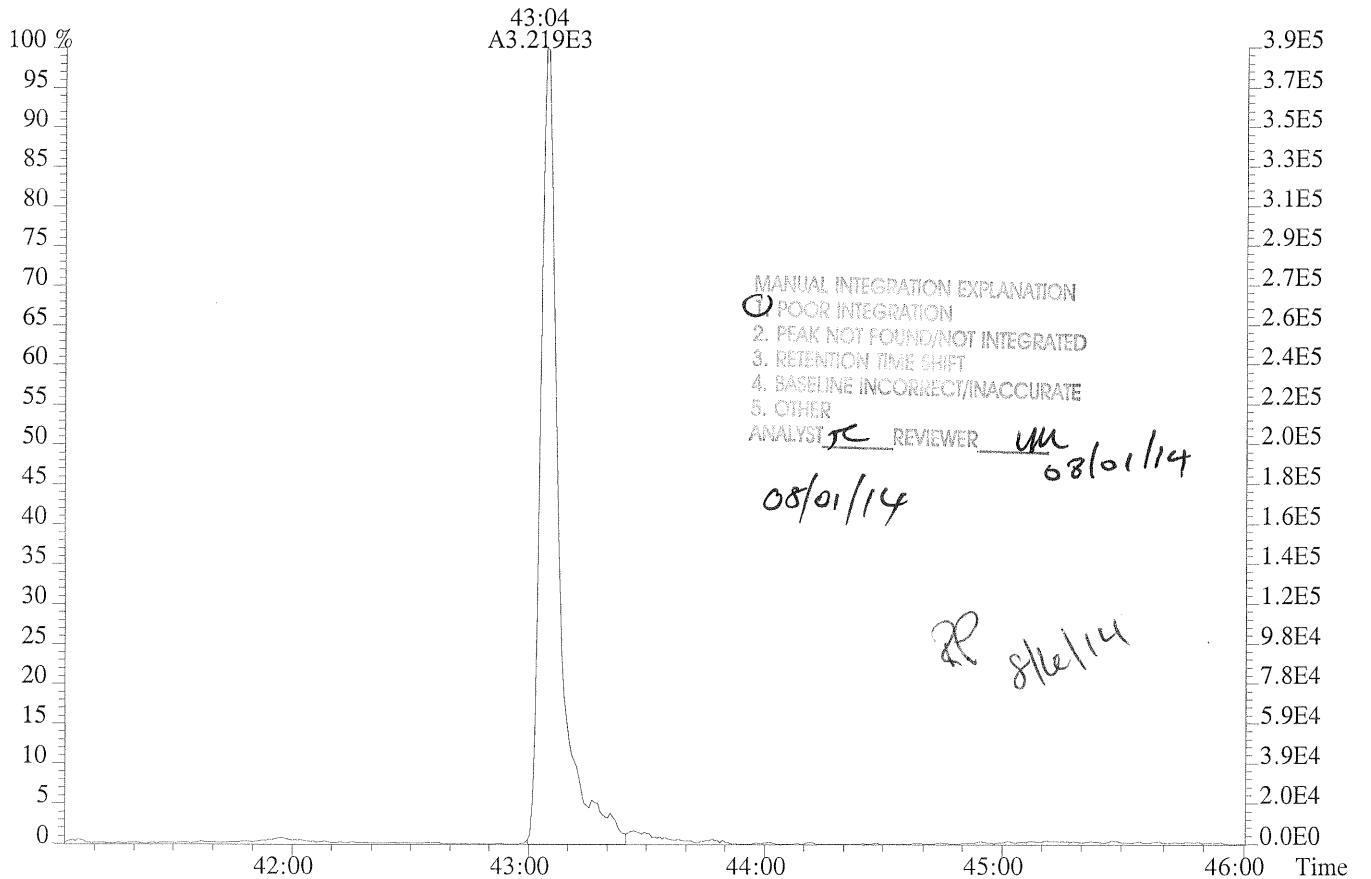
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:U150161 #1-451 Acq:31-JUL-2014 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS2  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS3

Run #4 Filename U150162 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 14:16:41  
 Processed: 1-AUG-14 09:14:14 LAB. ID: 63383

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:01	3.097e+03	3.828e+03	0.81	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:03	2.737e+04	1.741e+04	1.57	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:56	2.619e+04	1.686e+04	1.55	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.022e+04	1.688e+04	1.20	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:40	2.485e+04	2.055e+04	1.21	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:10	2.175e+04	1.807e+04	1.20	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:55	1.717e+04	1.368e+04	1.25	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:10	1.838e+04	1.757e+04	1.05	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:40	1.229e+04	1.200e+04	1.02	yes	no	1.000
10	Unk	OCDF	43:19	1.699e+04	1.907e+04	0.89	yes	no	1.006
11	Unk	2,3,7,8-TCDD	29:46	2.019e+03	2.460e+03	0.82	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:12	1.777e+04	1.057e+04	1.68	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:17	1.417e+04	1.120e+04	1.27	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:22	1.785e+04	1.400e+04	1.27	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:37	1.761e+04	1.435e+04	1.23	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:08	1.205e+04	1.150e+04	1.05	yes	no	1.000
17	Unk	OCDD	43:05	1.455e+04	1.660e+04	0.88	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	29:00	3.134e+04	3.704e+04	0.85	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:02	5.450e+04	3.412e+04	1.60	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:55	5.574e+04	3.499e+04	1.59	yes	no	1.162
21	IS	13C-1,2,3,4,7,8-HxCDF	36:33	2.090e+04	3.974e+04	0.53	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:39	2.721e+04	5.148e+04	0.53	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:09	2.374e+04	4.571e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:55	1.822e+04	3.537e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:09	1.608e+04	3.541e+04	0.45	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:39	1.185e+04	2.612e+04	0.45	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:44	2.014e+04	2.653e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:11	3.051e+04	2.029e+04	1.50	yes	no	1.171
29	IS	13C-1,2,3,4,7,8-HxCDD	37:16	2.254e+04	1.687e+04	1.34	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	37:22	2.847e+04	2.146e+04	1.33	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:07	2.237e+04	2.040e+04	1.10	yes	no	1.067
32	IS	13C-OCDD	43:04	2.306e+04	2.476e+04	0.93	yes	no	1.145
33	RS/RT	13C-1,2,3,4-TCDD	29:11	2.058e+04	2.710e+04	0.76	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	2.931e+04	2.253e+04	1.30	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:46	4.575e+03				no	1.020

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XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS3

Run #4    Filename U150162    Samp: 1    Inj: 1    Acquired: 31-JUL-14 14:16:41  
 Processed: 1-AUG-14 09:14:141    LAB. ID: 63383

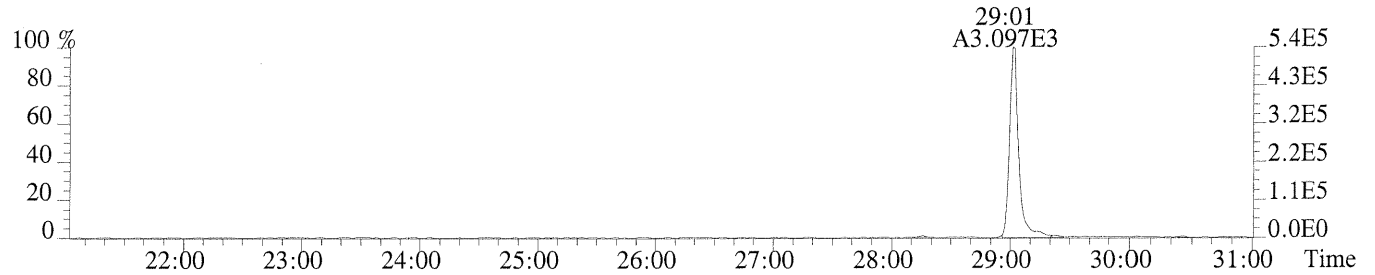
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.37e+05	1.20e+03	4.5e+02	6.70e+05	1.78e+03	3.8e+02
2	1,2,3,7,8-PeCDF	4.37e+06	8.68e+02	5.0e+03	2.87e+06	1.78e+03	1.6e+03
3	2,3,4,7,8-PeCDF	4.54e+06	8.68e+02	5.2e+03	2.94e+06	1.78e+03	1.6e+03
4	1,2,3,4,7,8-HxCDF	4.09e+06	1.10e+03	3.7e+03	3.37e+06	1.08e+03	3.1e+03
5	1,2,3,6,7,8-HxCDF	4.27e+06	1.10e+03	3.9e+03	3.47e+06	1.08e+03	3.2e+03
6	2,3,4,6,7,8-HxCDF	4.03e+06	1.10e+03	3.7e+03	3.32e+06	1.08e+03	3.1e+03
7	1,2,3,7,8,9-HxCDF	2.90e+06	1.10e+03	2.6e+03	2.33e+06	1.08e+03	2.1e+03
8	1,2,3,4,6,7,8-HpCDF	3.08e+06	8.68e+02	3.5e+03	3.03e+06	5.44e+02	5.6e+03
9	1,2,3,4,7,8,9-HpCDF	1.75e+06	8.68e+02	2.0e+03	1.71e+06	5.44e+02	3.1e+03
10	OCDF	2.07e+06	7.04e+02	2.9e+03	2.35e+06	1.02e+03	2.3e+03
11	2,3,7,8-TCDD	3.79e+05	1.00e+03	3.8e+02	4.64e+05	8.32e+02	5.6e+02
12	1,2,3,7,8-PeCDD	3.00e+06	9.76e+02	3.1e+03	1.79e+06	6.96e+02	2.6e+03
13	1,2,3,4,7,8-HxCDD	2.95e+06	5.84e+02	5.1e+03	2.34e+06	1.02e+03	2.3e+03
14	1,2,3,6,7,8-HxCDD	3.06e+06	5.84e+02	5.2e+03	2.37e+06	1.02e+03	2.3e+03
15	1,2,3,7,8,9-HxCDD	2.81e+06	5.84e+02	4.8e+03	2.25e+06	1.02e+03	2.2e+03
16	1,2,3,4,6,7,8-HpCDD	1.84e+06	5.64e+02	3.3e+03	1.80e+06	8.40e+02	2.1e+03
17	OCDD	1.83e+06	9.08e+02	2.0e+03	2.04e+06	7.48e+02	2.7e+03
18	13C-2,3,7,8-TCDF	5.61e+06	1.64e+03	3.4e+03	6.69e+06	1.12e+03	6.0e+03
19	13C-1,2,3,7,8-PeCDF	9.04e+06	8.52e+02	1.1e+04	5.68e+06	1.21e+03	4.7e+03
20	13C-2,3,4,7,8-PeCDF	9.76e+06	8.52e+02	1.1e+04	6.12e+06	1.21e+03	5.0e+03
21	13C-1,2,3,4,7,8-HxCDF	4.19e+06	1.52e+03	2.8e+03	7.98e+06	1.68e+03	4.8e+03
22	13C-1,2,3,6,7,8-HxCDF	4.71e+06	1.52e+03	3.1e+03	8.90e+06	1.68e+03	5.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.44e+06	1.52e+03	2.9e+03	8.52e+06	1.68e+03	5.1e+03
24	13C-1,2,3,7,8,9-HxCDF	3.05e+06	1.52e+03	2.0e+03	6.00e+06	1.68e+03	3.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.74e+06	7.02e+03	3.9e+02	6.04e+06	6.08e+02	9.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.70e+06	7.02e+03	2.4e+02	3.74e+06	6.08e+02	6.1e+03
27	13C-2,3,7,8-TCDD	3.76e+06	3.35e+03	1.1e+03	5.02e+06	1.60e+03	3.1e+03
28	13C-1,2,3,7,8-PeCDD	5.19e+06	1.18e+03	4.4e+03	3.43e+06	6.92e+02	5.0e+03
29	13C-1,2,3,4,7,8-HxCDD	4.70e+06	1.36e+03	3.4e+03	3.55e+06	1.13e+03	3.1e+03
30	13C-1,2,3,6,7,8-HxCDD	4.85e+06	1.36e+03	3.6e+03	3.70e+06	1.13e+03	3.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.45e+06	1.39e+03	2.5e+03	3.12e+06	7.56e+02	4.1e+03
32	13C-OCDD	2.84e+06	1.18e+03	2.4e+03	3.09e+06	9.00e+02	3.4e+03
33	13C-1,2,3,4-TCDD	4.15e+06	3.35e+03	1.2e+03	5.40e+06	1.60e+03	3.4e+03
34	13C-1,2,3,7,8,9-HxCDD	4.66e+06	1.36e+03	3.4e+03	3.54e+06	1.13e+03	3.1e+03
35	37Cl-2,3,7,8-TCDD	8.56e+05	1.36e+03	6.3e+02			

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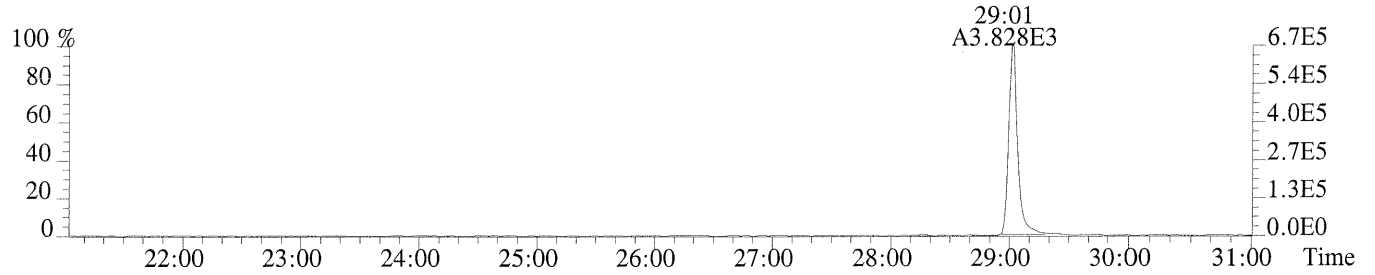
XLSN

Sample#1 Exp:CS3

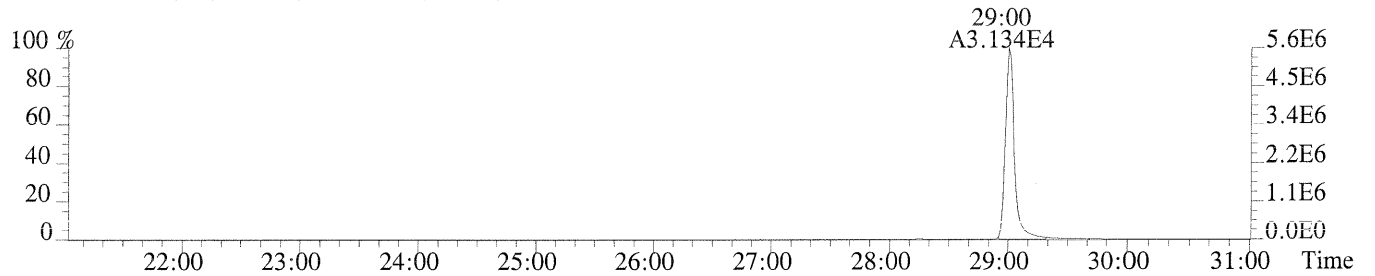
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



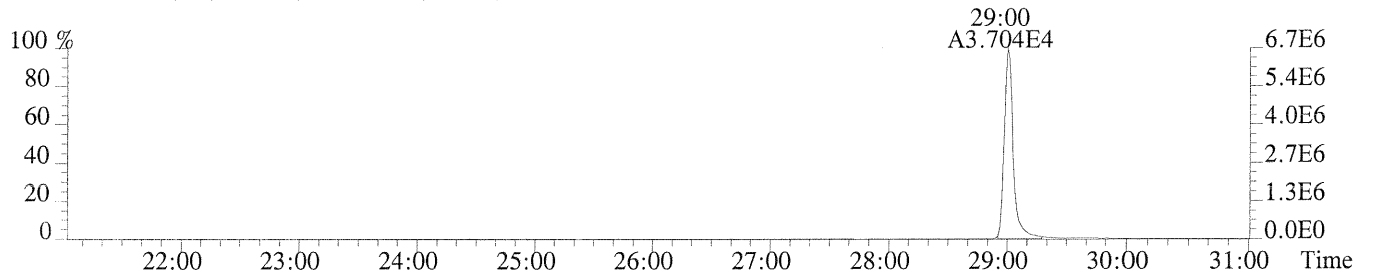
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



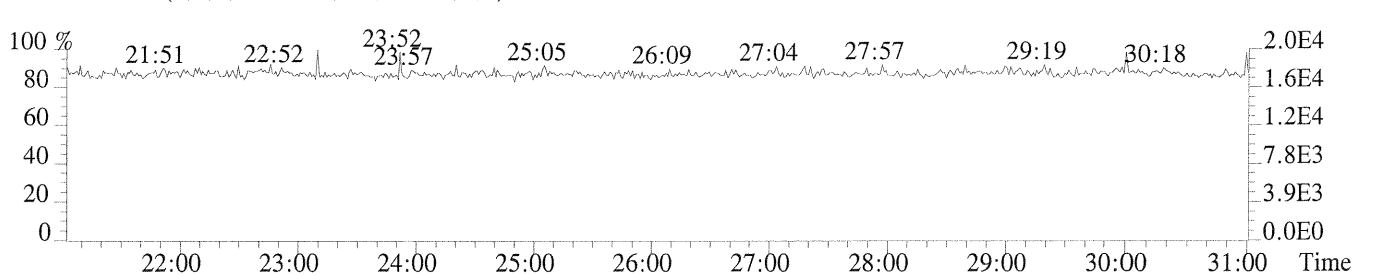
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



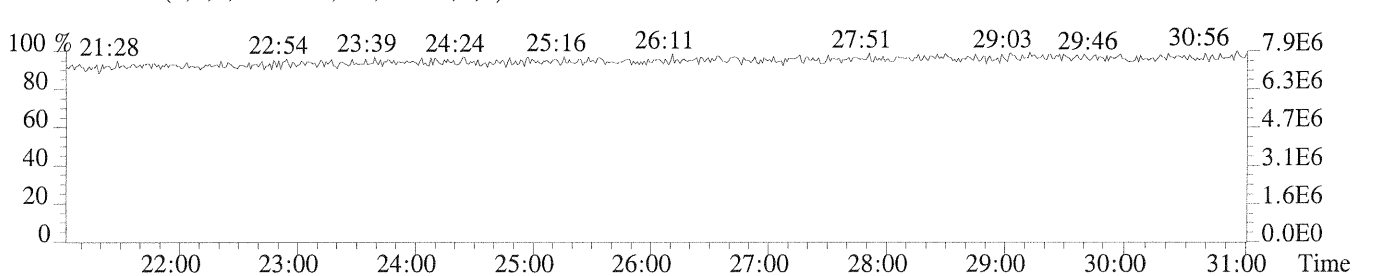
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1116.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



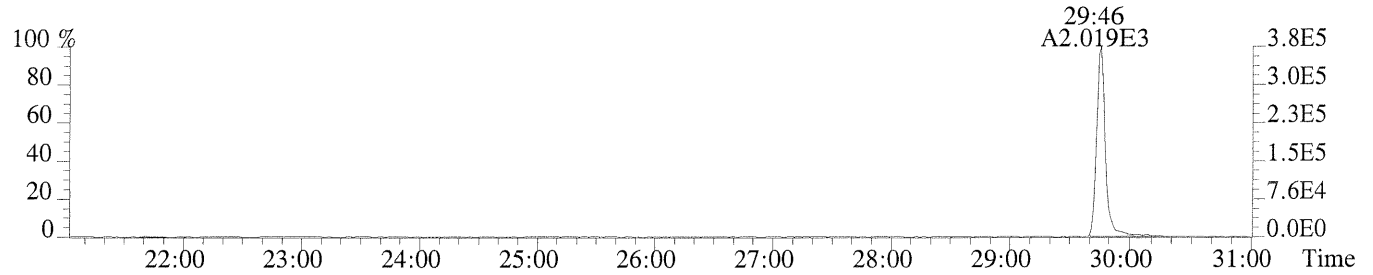
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



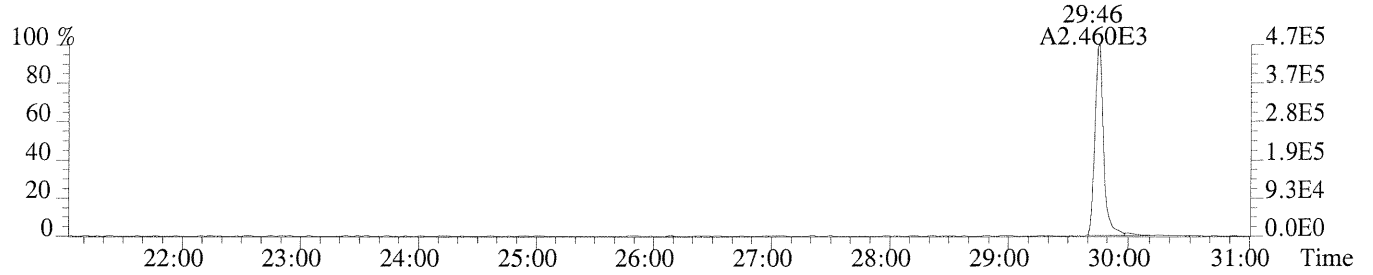


Sample#1 Exp:CS3

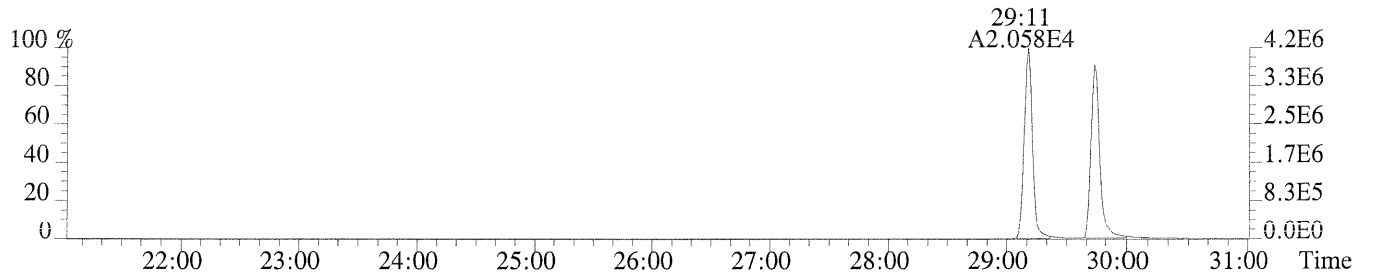
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,T)



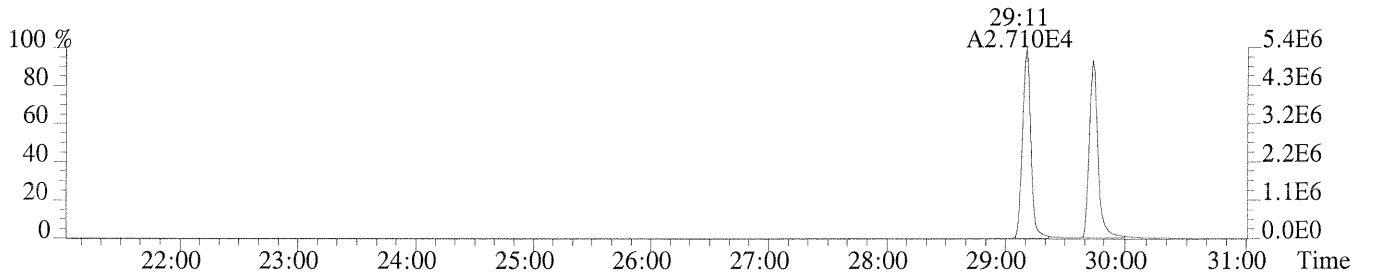
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



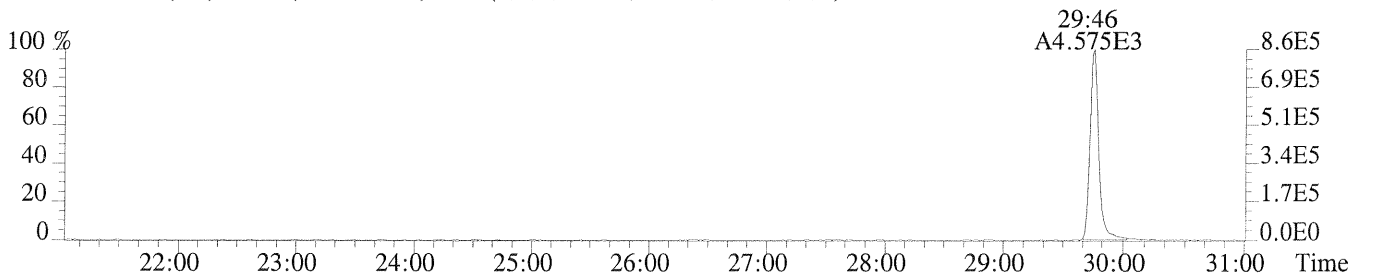
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3348.0,1.00%,F,T)



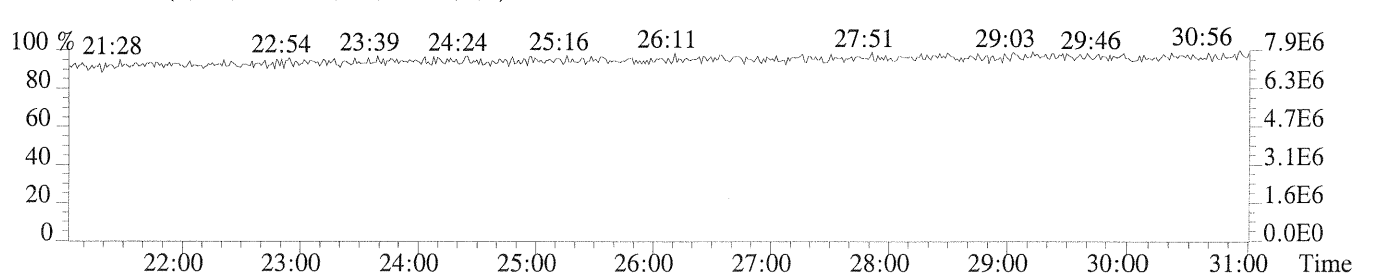
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1360.0,1.00%,F,T)



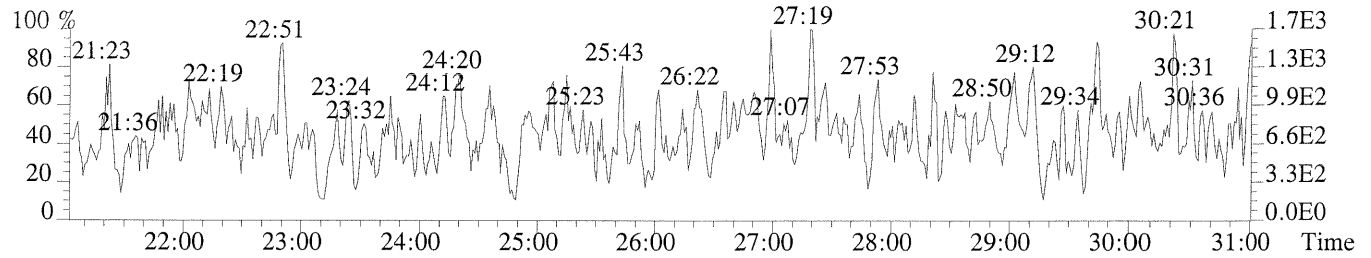
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



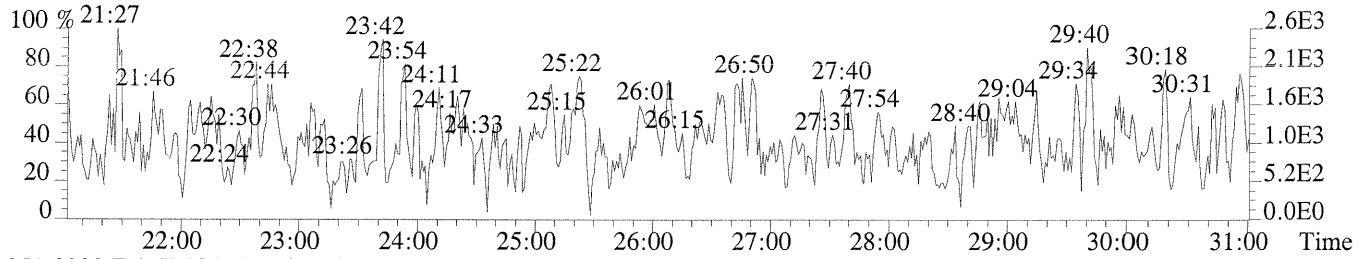
File:U150162 #1-627 Acq:31-JUL-2014 14:16:41 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS3

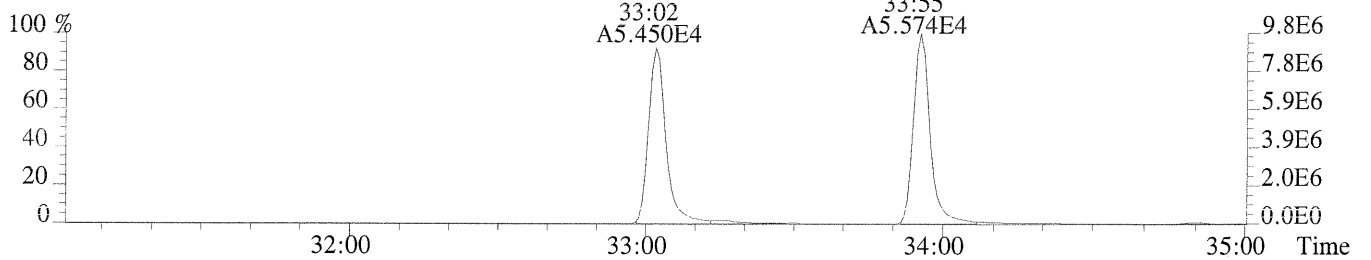
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



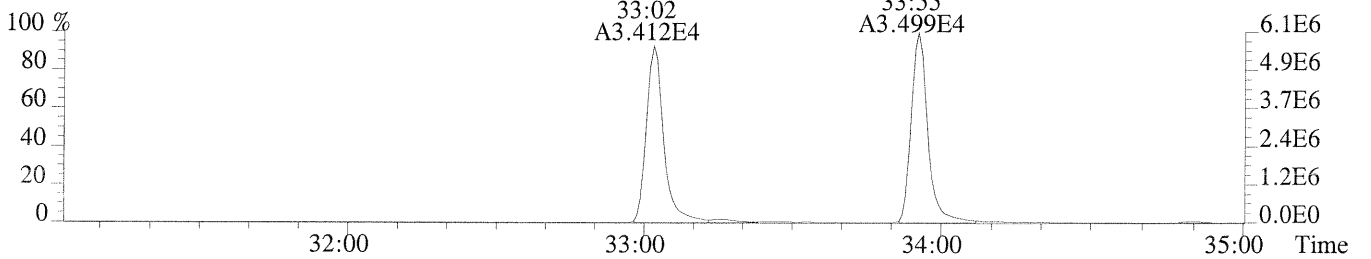
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



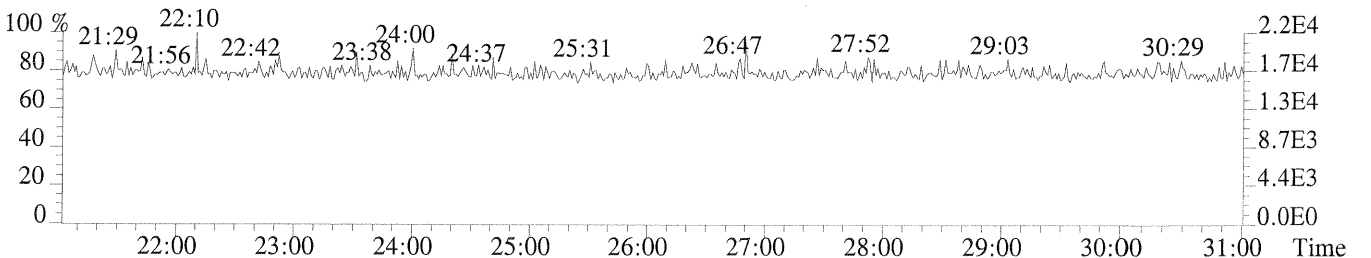
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



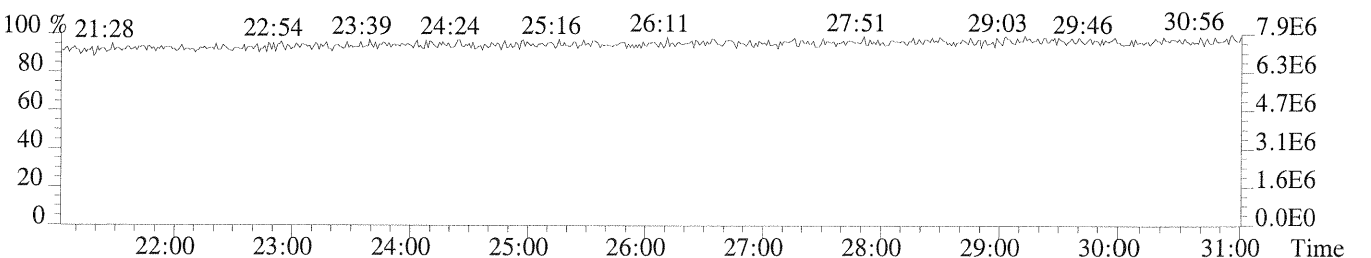
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1212.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

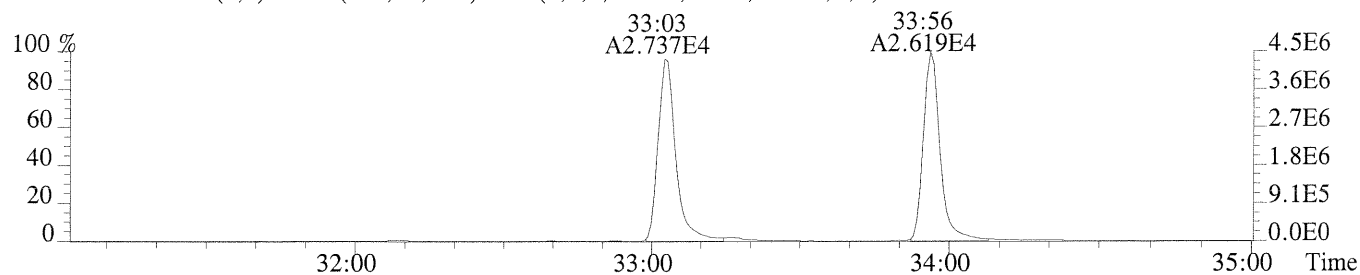


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

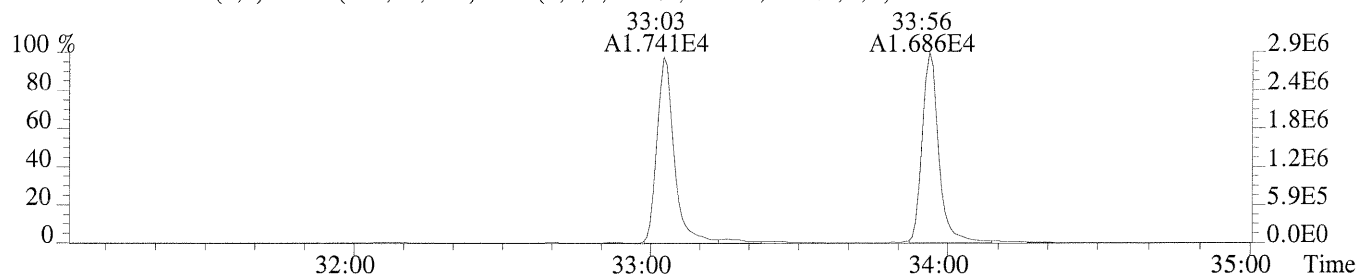


Sample#1 Exp:CS3

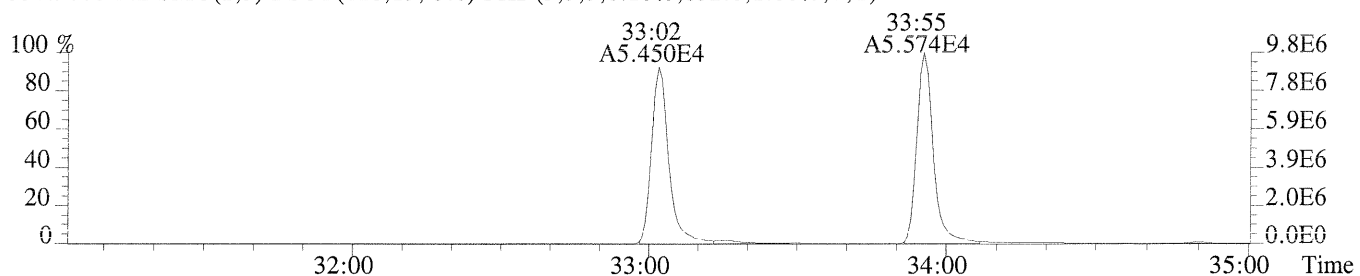
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,T)



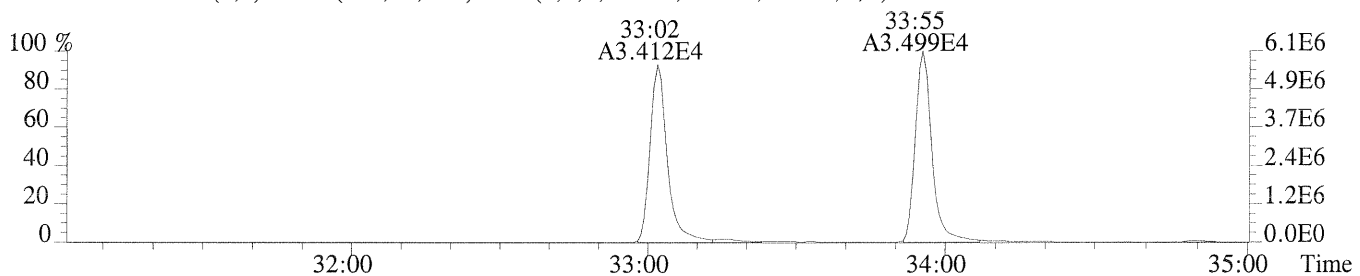
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1784.0,1.00%,F,T)



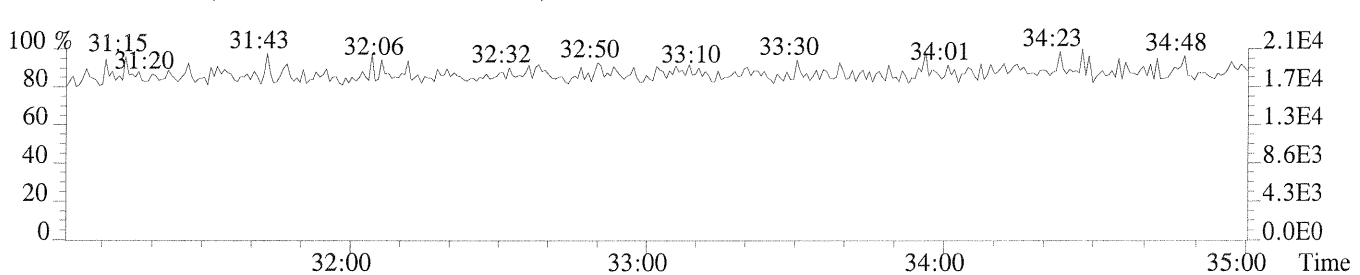
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



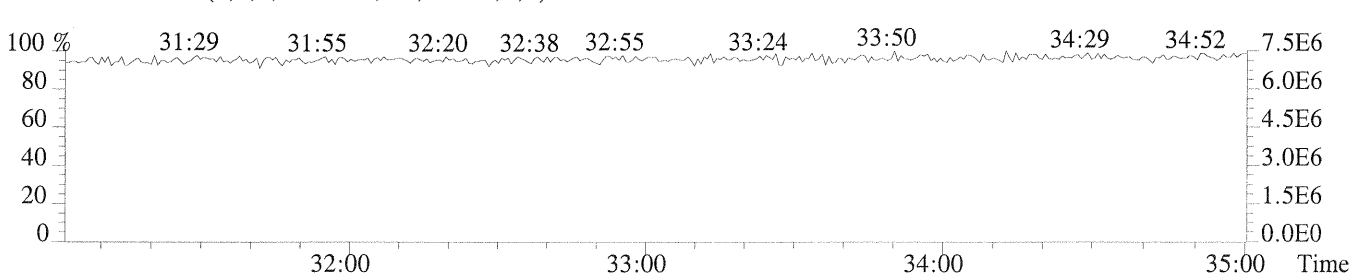
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1212.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

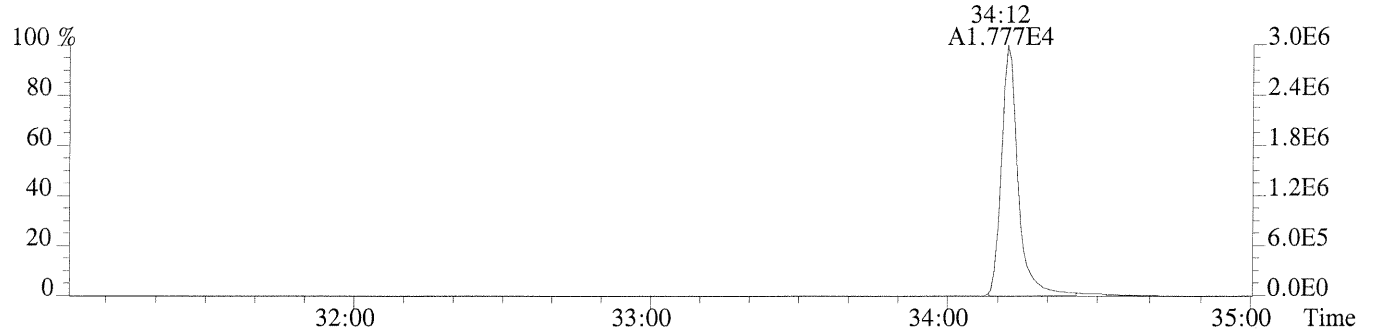


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

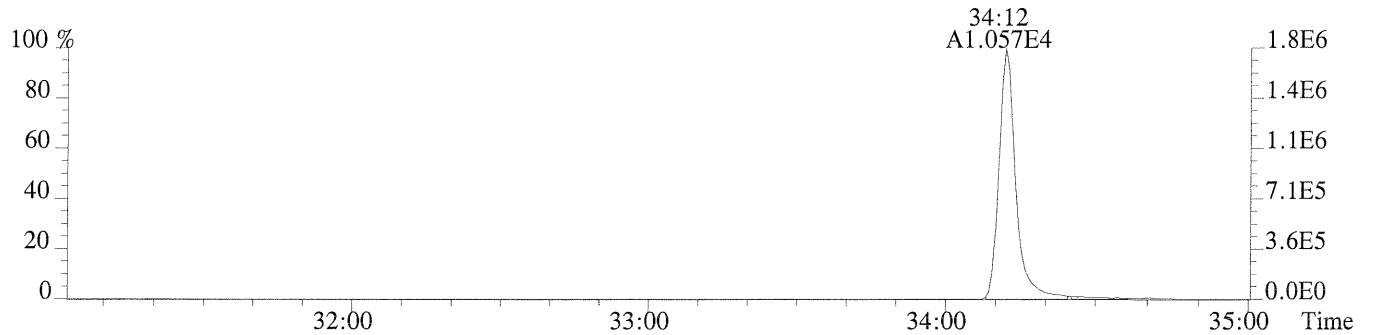


Sample#1 Exp:CS3

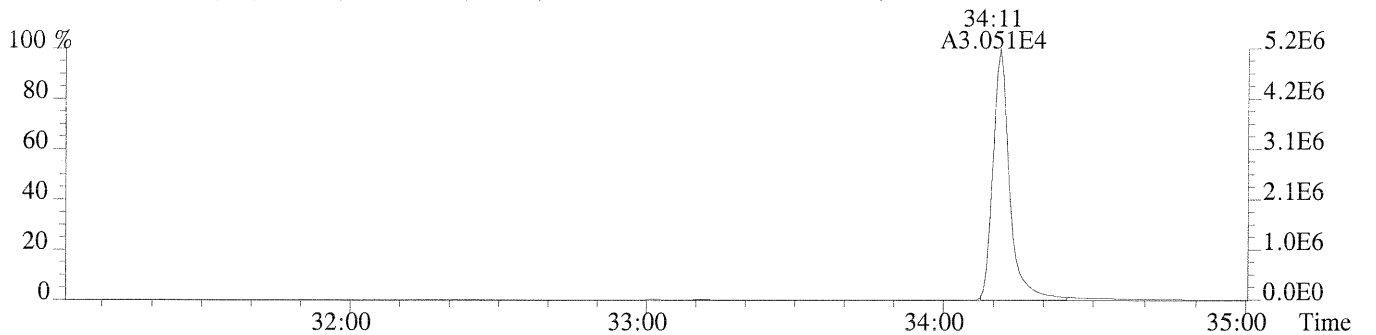
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



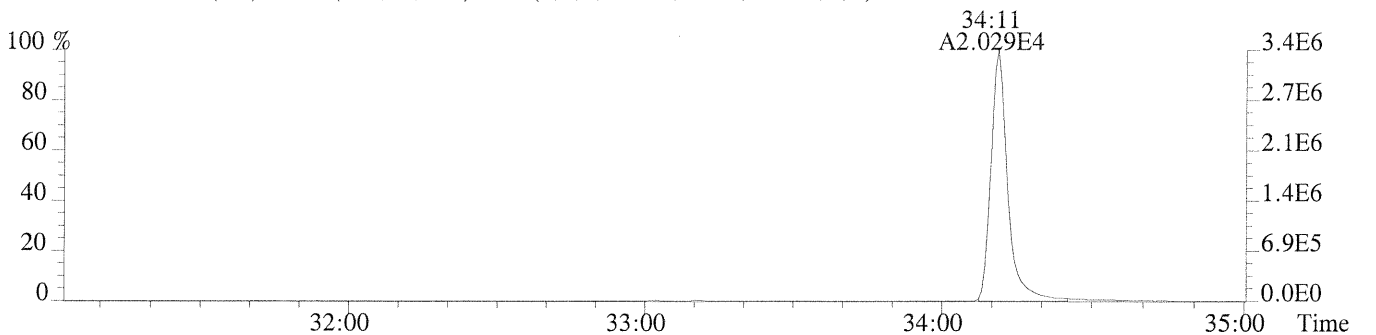
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



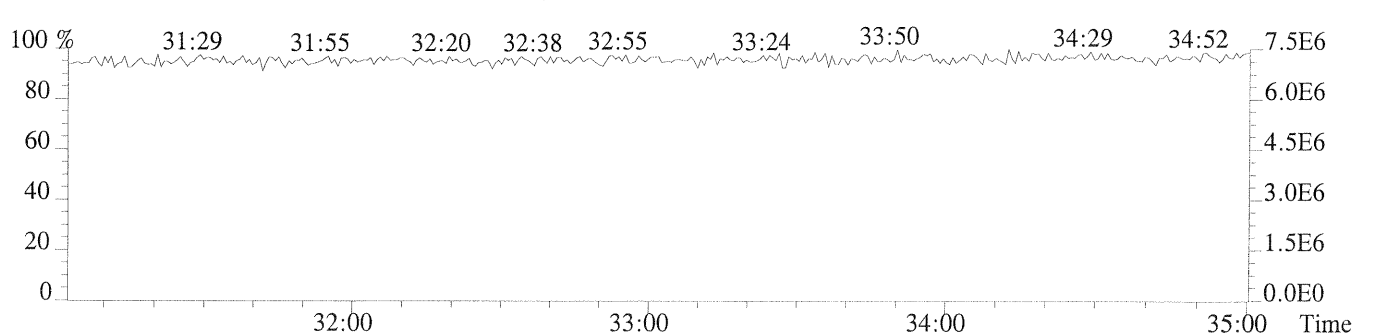
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1176.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)

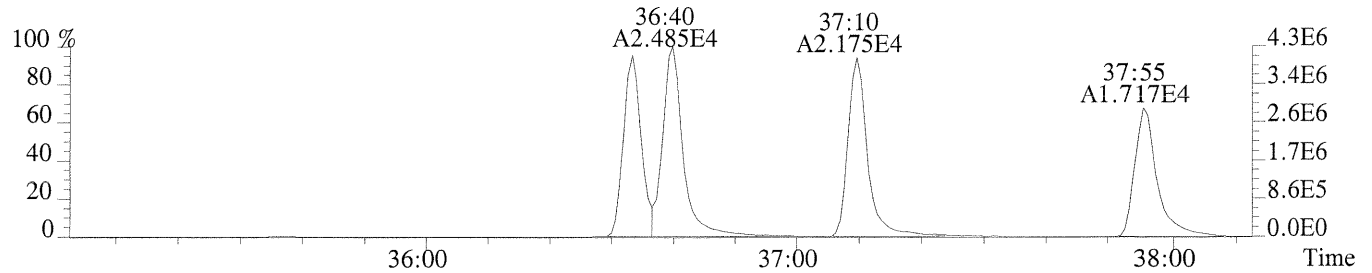


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

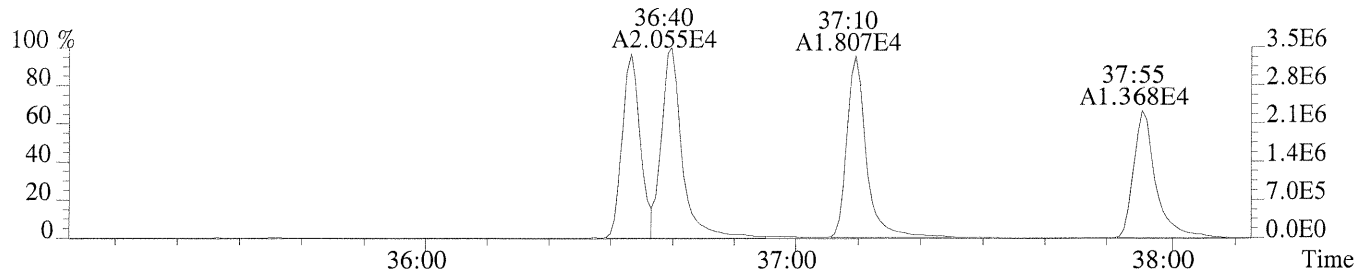


Sample#1 Exp:CS3

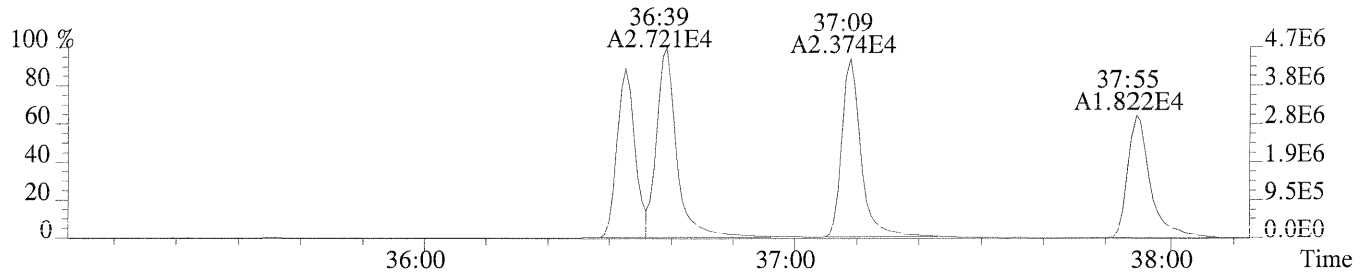
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,T)



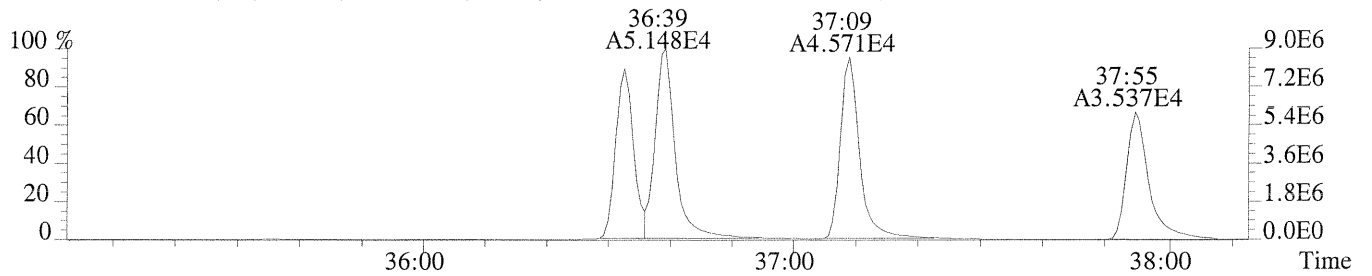
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.40%,F,T)



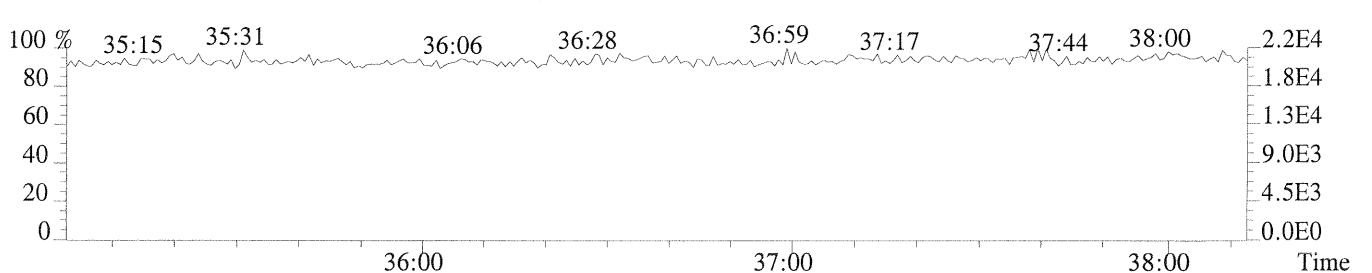
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1516.0,0.40%,F,T)



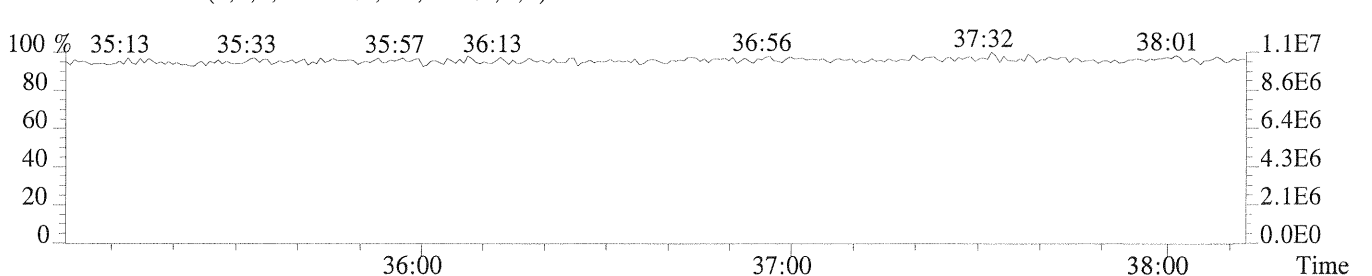
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1676.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

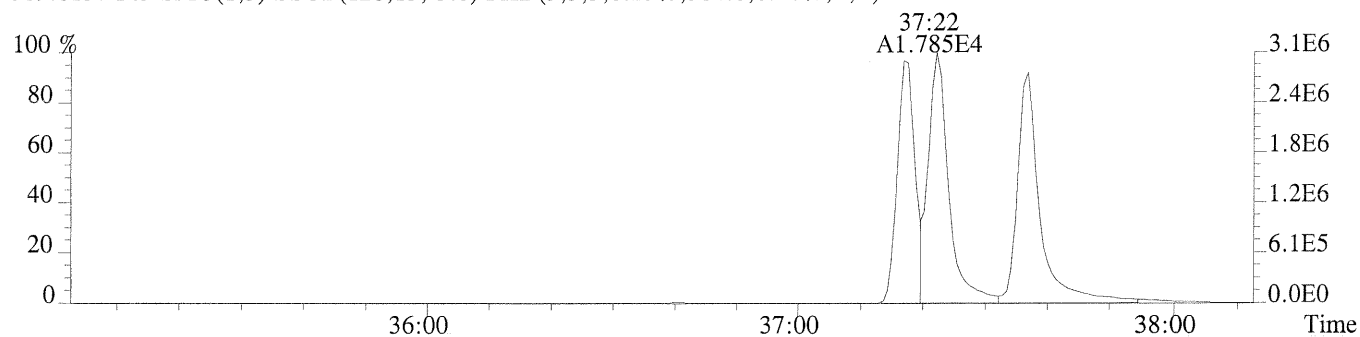


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

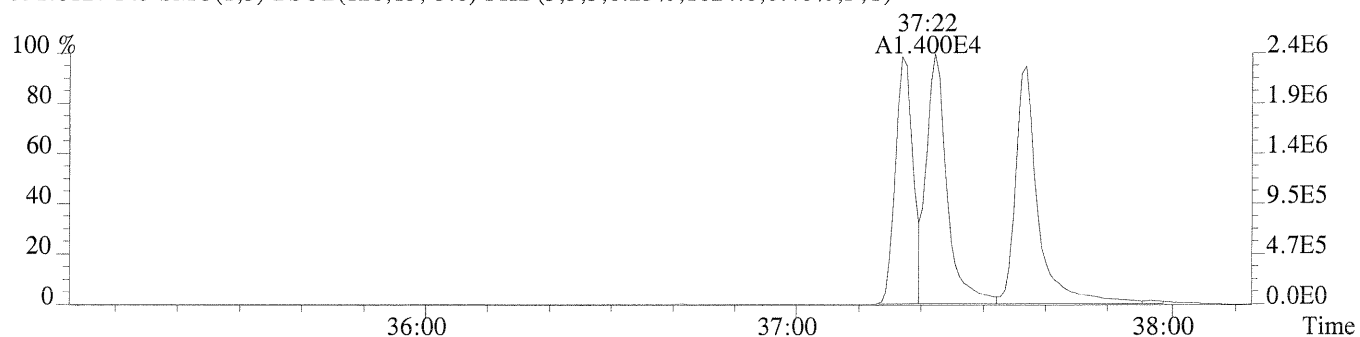


Sample#1 Exp:CS3

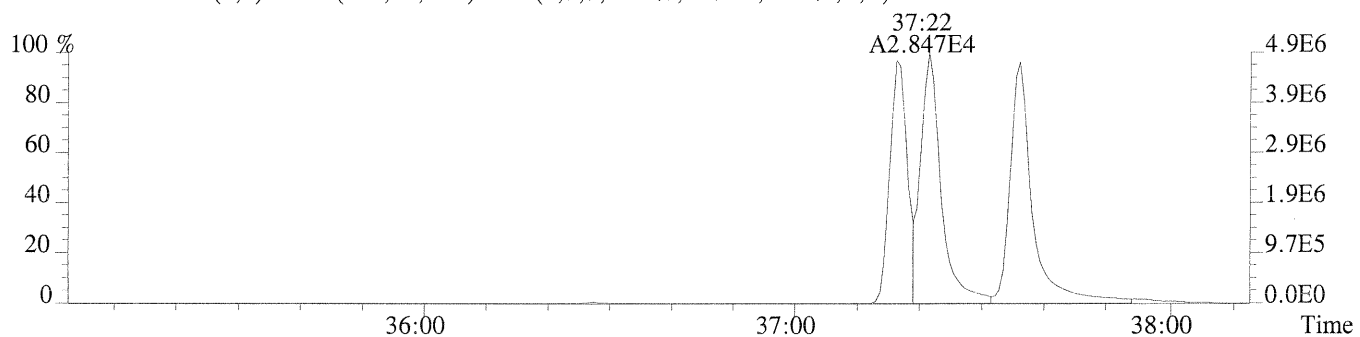
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,584.0,0.40%,F,T)



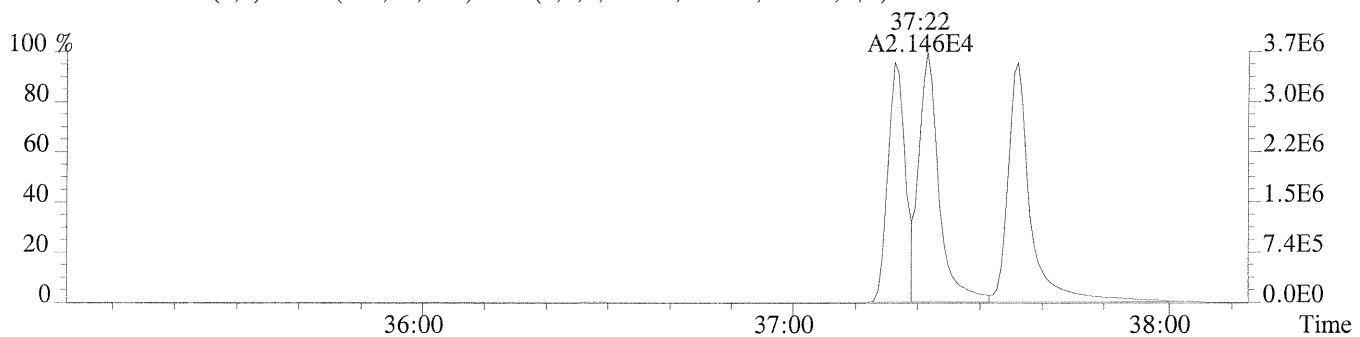
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1024.0,0.40%,F,T)



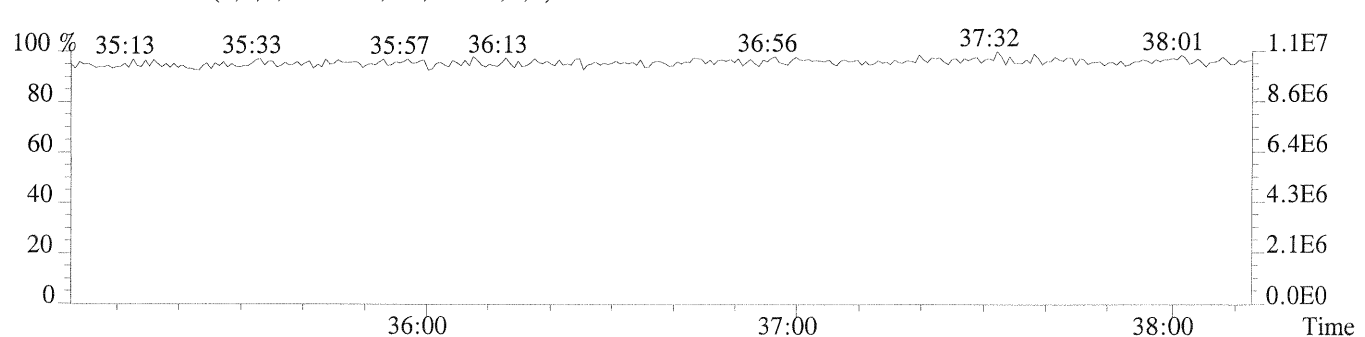
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)

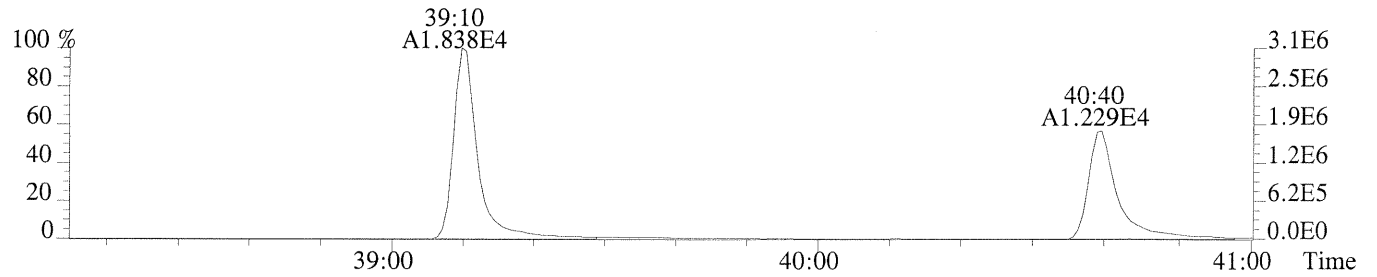


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

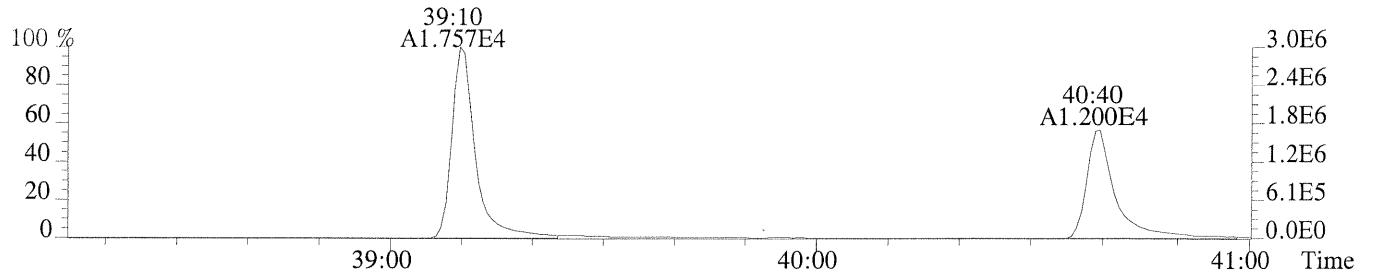


Sample#1 Exp:CS3

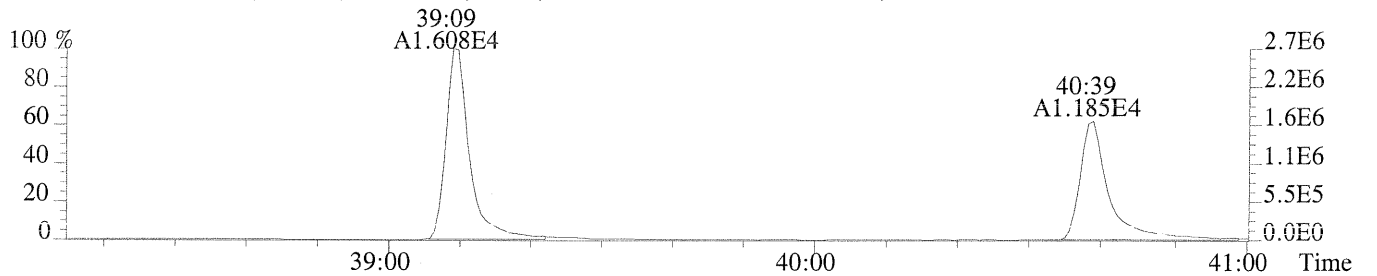
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.50%,F,T)



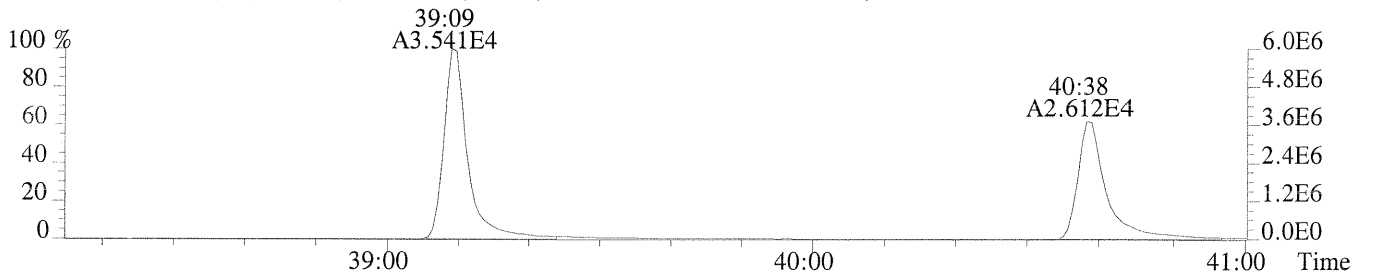
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,544.0,0.50%,F,T)



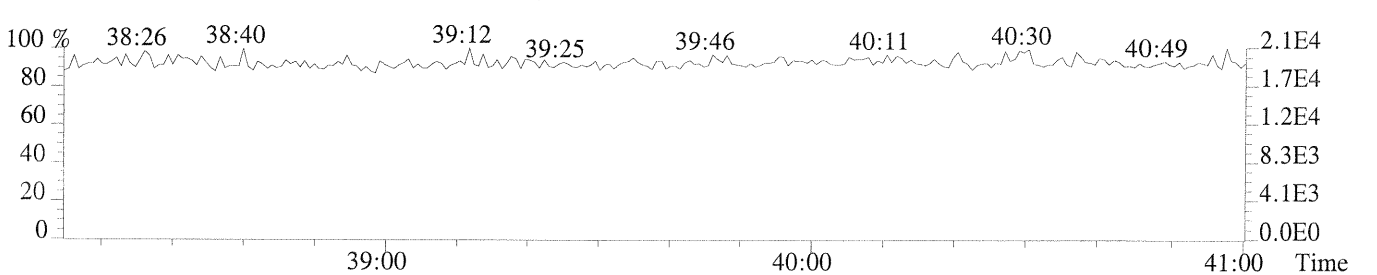
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7020.0,0.50%,F,T)



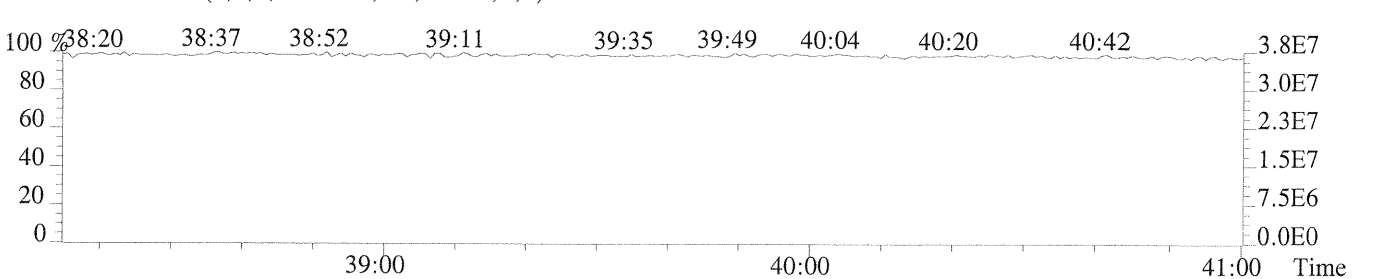
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,608.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

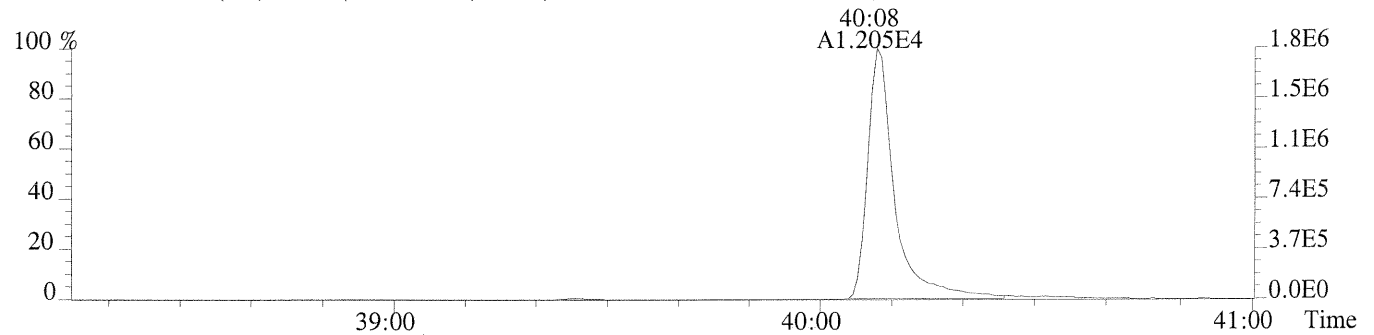


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

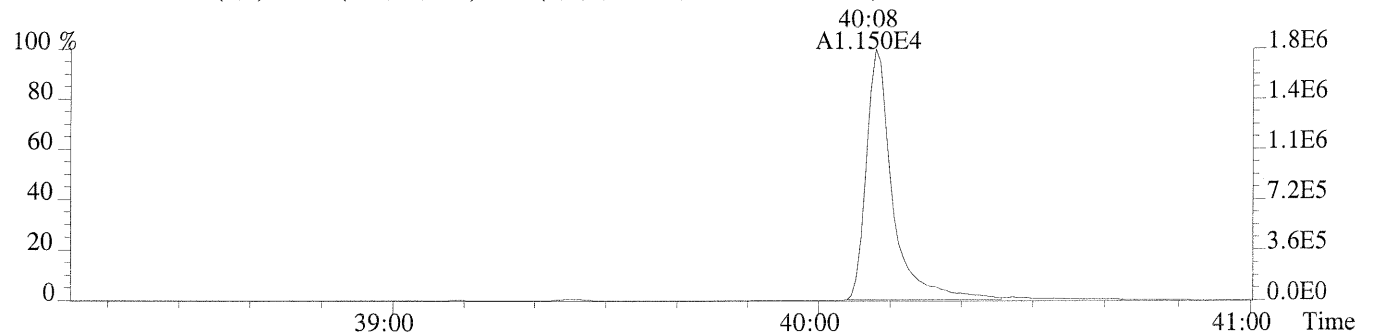


Sample#1 Exp:CS3

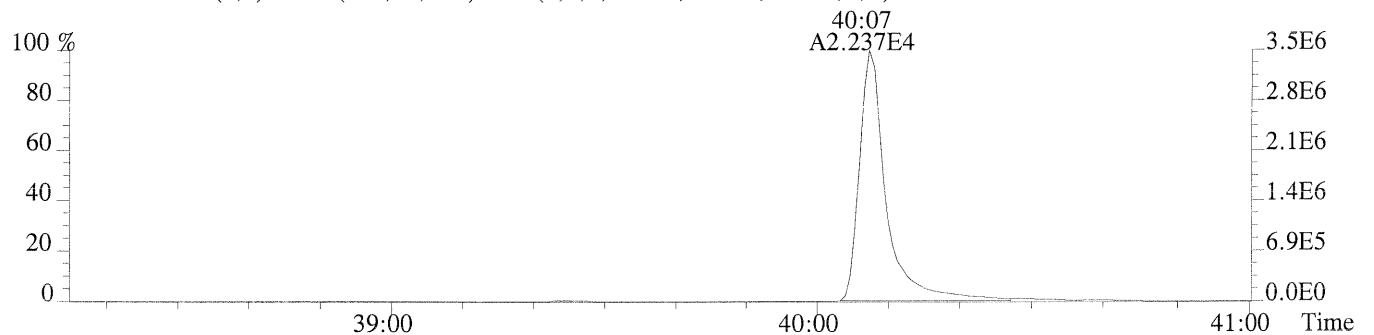
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



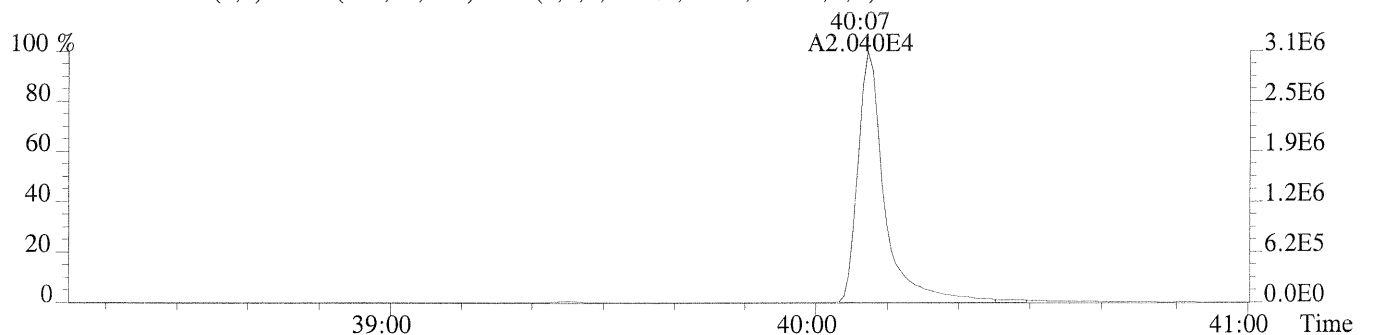
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



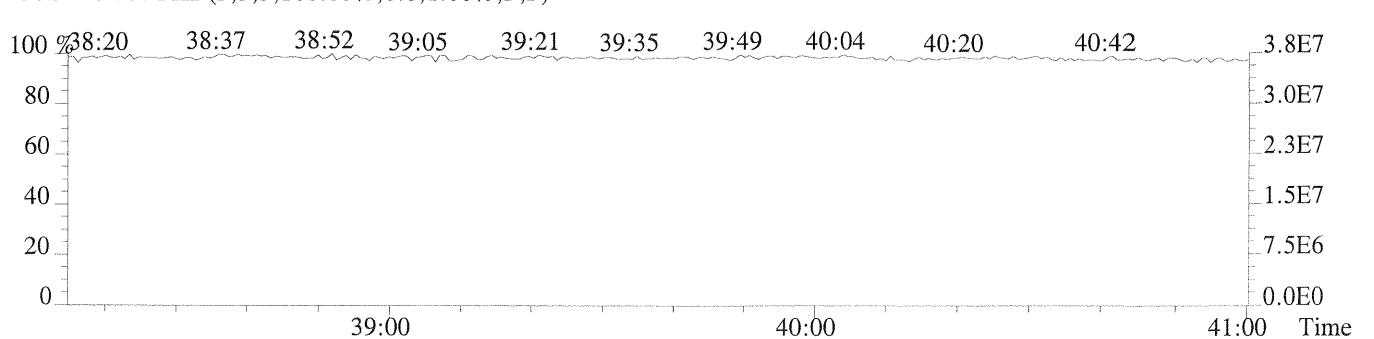
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)

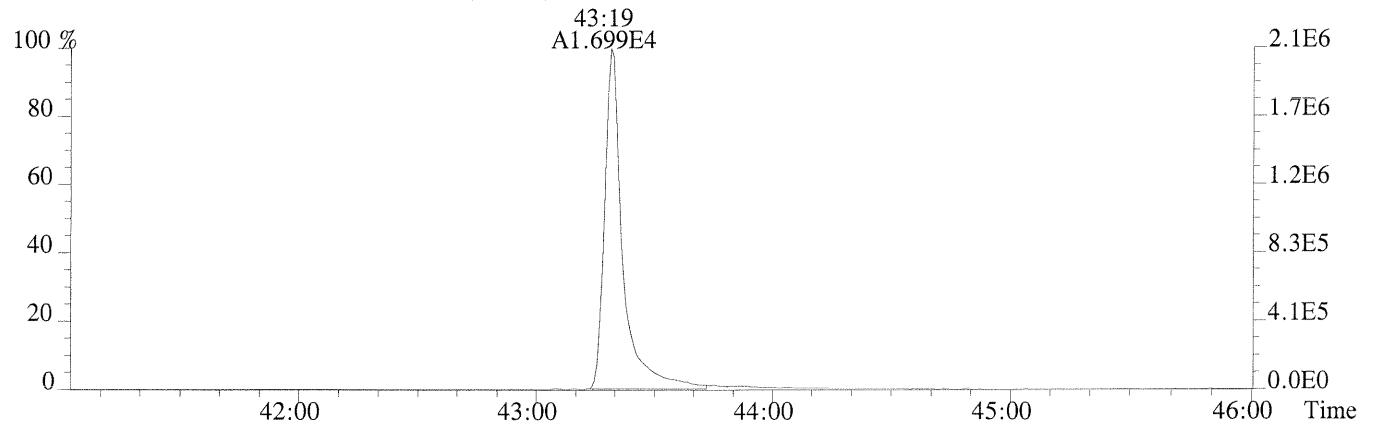


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

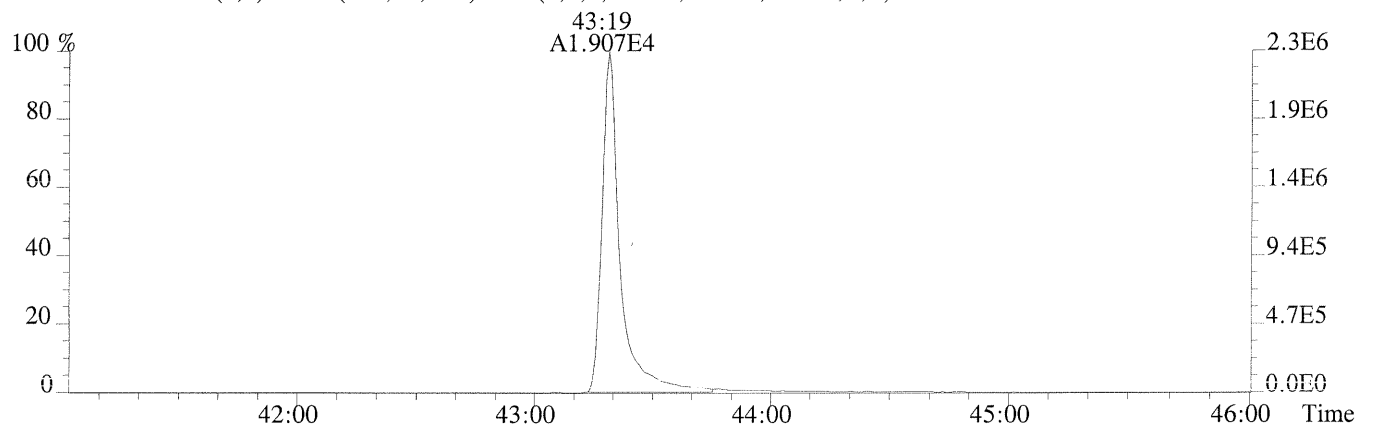




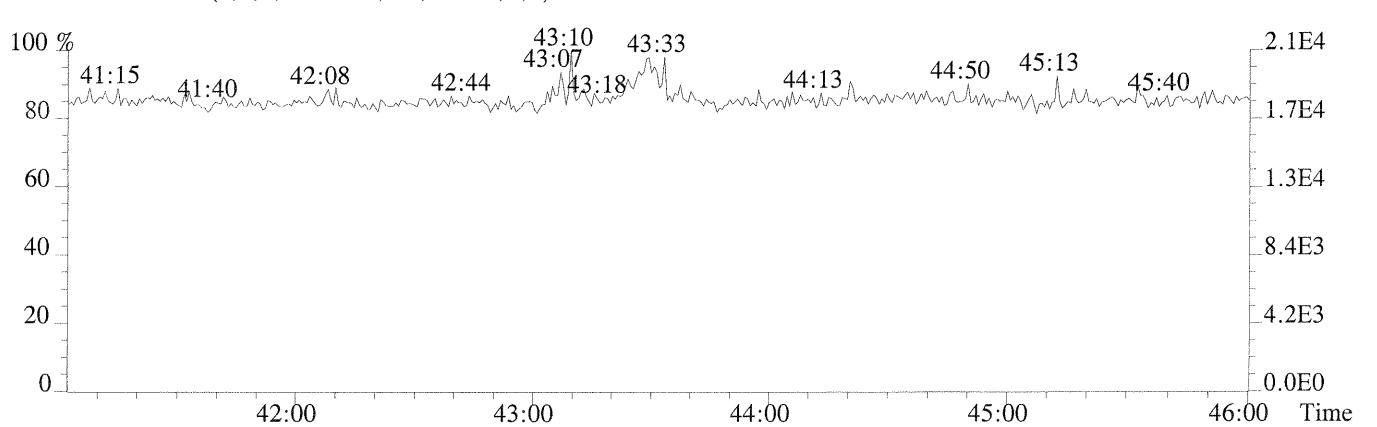
File:U150162 #1-451 Acq:31-JUL-2014 14:16:41 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS3  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,704.0,0.40%,F,T)



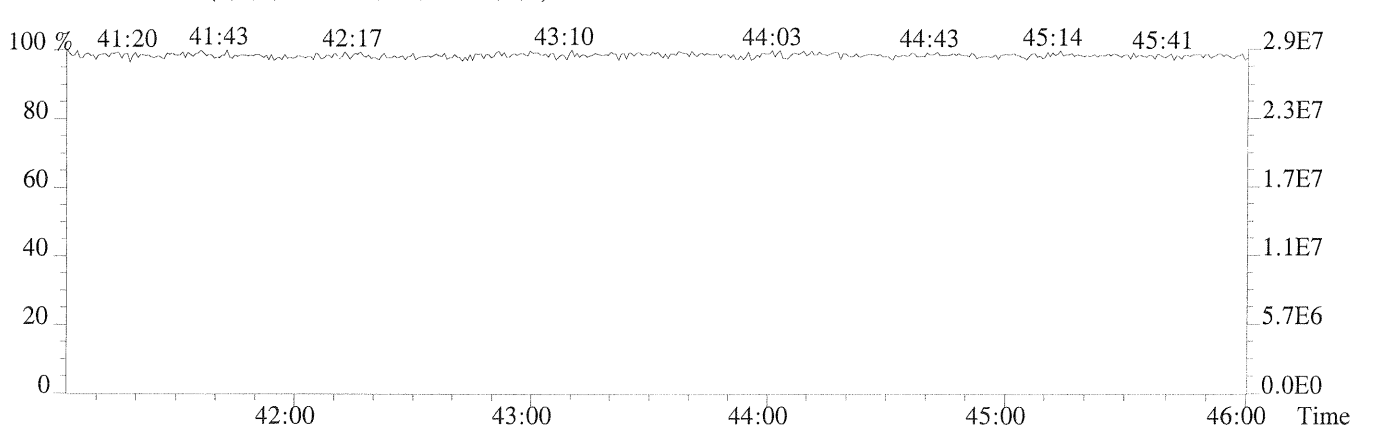
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

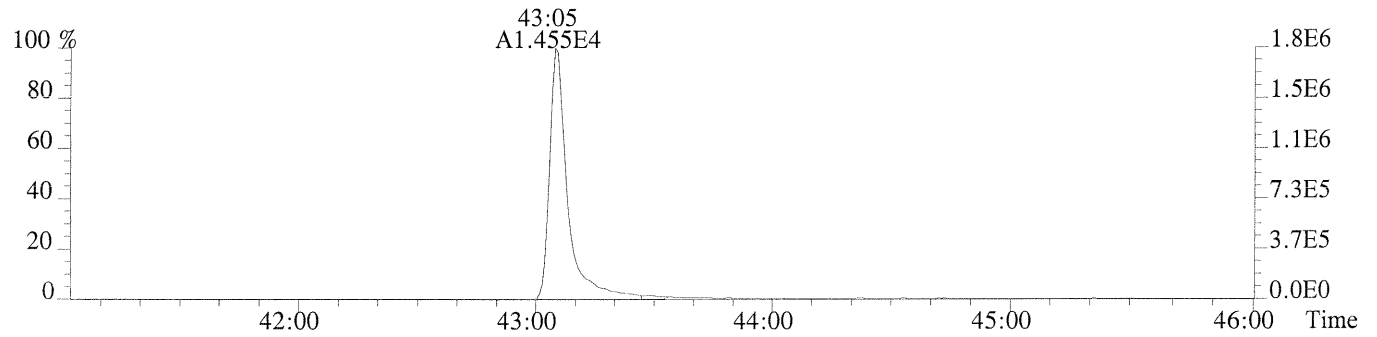


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

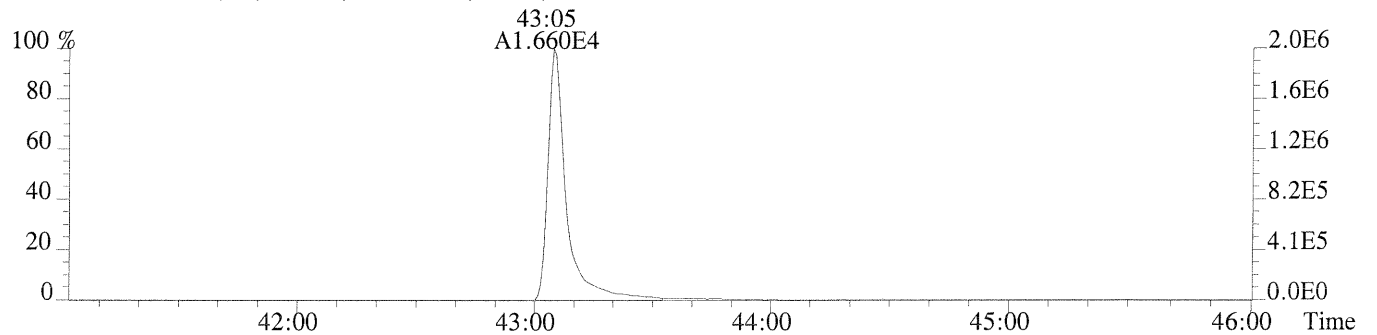


Sample#1 Exp:CS3

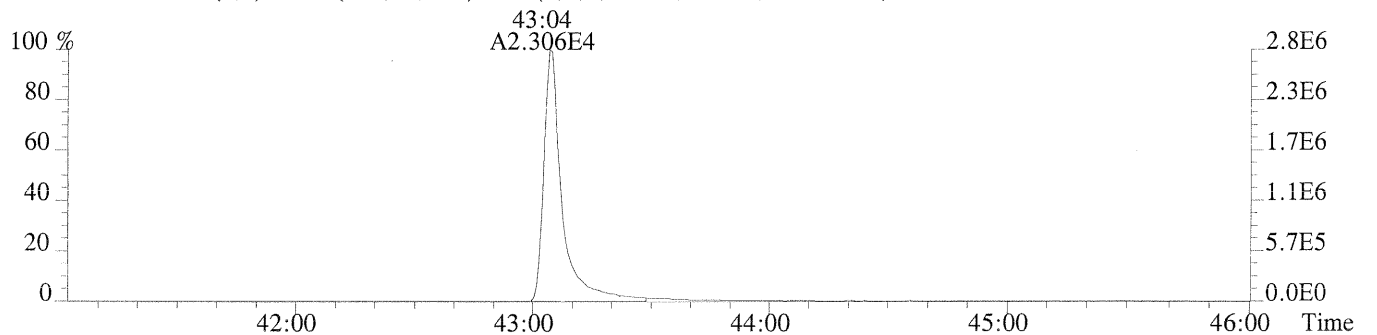
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,908.0,0.40%,F,T)



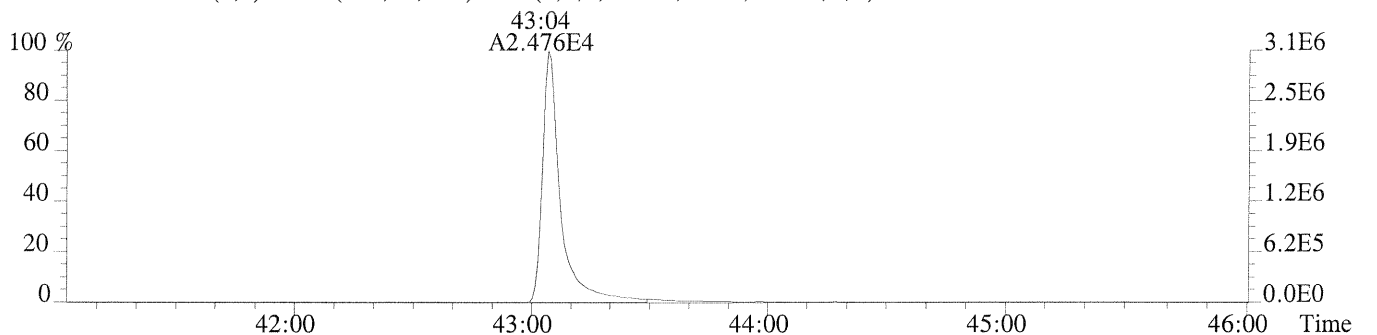
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,748.0,0.40%,F,T)



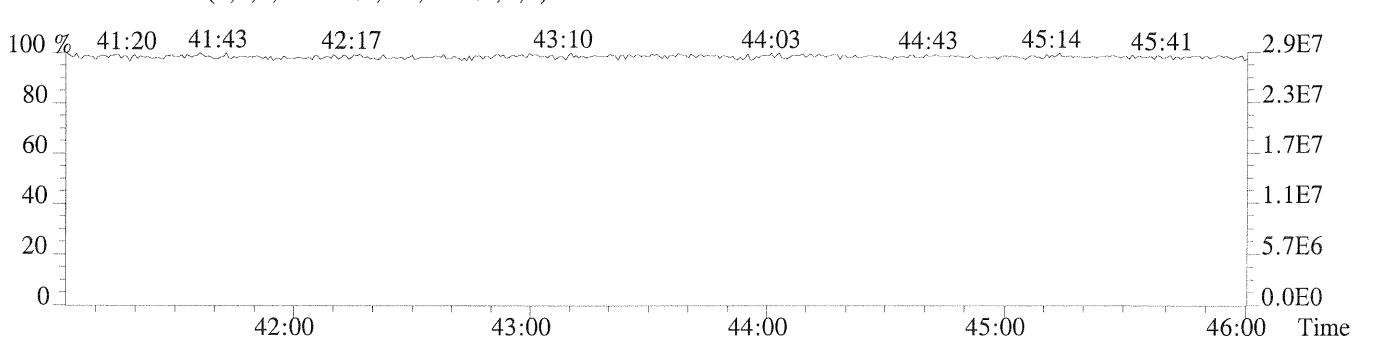
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1176.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS4

Run #5    Filename U150163 #1    Samp: 1    Inj: 1    Acquired: 31-JUL-14 15:18:57  
 Processed: 1-AUG-14 09:14:17    LAB. ID: D12-90-3D

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:01	1.222e+04	1.605e+04	0.76	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:02	1.128e+05	7.280e+04	1.55	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:55	1.077e+05	6.977e+04	1.54	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:33	8.901e+04	7.223e+04	1.23	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:39	1.050e+05	8.497e+04	1.24	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:09	9.162e+04	7.624e+04	1.20	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:55	7.461e+04	6.068e+04	1.23	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:09	7.898e+04	7.626e+04	1.04	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:38	5.847e+04	5.393e+04	1.08	yes	no	1.000
10	Unk	OCDF	43:18	8.981e+04	9.983e+04	0.90	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:45	8.282e+03	1.005e+04	0.82	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:11	7.288e+04	4.342e+04	1.68	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:16	6.175e+04	4.922e+04	1.25	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:21	7.376e+04	5.880e+04	1.25	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:35	7.588e+04	5.934e+04	1.28	yes	no	1.006
16	Unk	1,2,3,4,6,7,8-HpCDD	40:07	5.398e+04	5.231e+04	1.03	yes	no	1.000
17	Unk	OCDD	43:04	7.576e+04	8.669e+04	0.87	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	29:00	3.095e+04	3.679e+04	0.84	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:01	5.586e+04	3.507e+04	1.59	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:55	5.661e+04	3.542e+04	1.60	yes	no	1.163
21	IS	13C-1,2,3,4,7,8-HxCDF	36:32	2.209e+04	4.277e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:38	2.813e+04	5.352e+04	0.53	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:08	2.494e+04	4.871e+04	0.51	yes	yes	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:54	1.960e+04	3.848e+04	0.51	yes	yes	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:08	1.742e+04	3.831e+04	0.45	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:38	1.343e+04	3.007e+04	0.45	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:44	2.029e+04	2.672e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:11	3.159e+04	2.045e+04	1.55	yes	no	1.172
29	IS	13C-1,2,3,4,7,8-HxCDD	37:16	2.490e+04	1.882e+04	1.32	yes	no	0.992
30	IS	13C-1,2,3,6,7,8-HxCDD	37:21	2.939e+04	2.227e+04	1.32	yes	no	0.994
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:07	2.549e+04	2.271e+04	1.12	yes	no	1.067
32	IS	13C-OCDD	43:04	2.956e+04	3.159e+04	0.94	yes	no	1.146
33	RS/RT	13C-1,2,3,4-TCDD	29:10	2.084e+04	2.726e+04	0.76	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	3.119e+04	2.346e+04	1.33	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:45	1.842e+04				no	1.020

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XLRESP

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 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS4

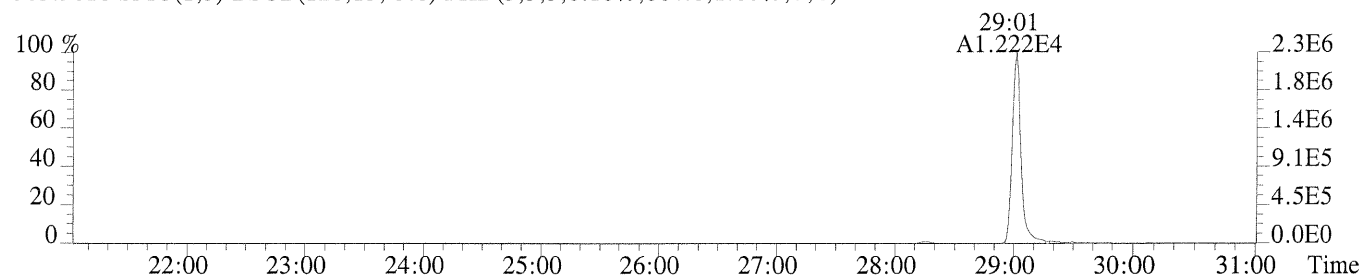
Run #5    Filename U150163    Samp: 1    Inj: 1    Acquired: 31-JUL-14 15:18:57  
 Processed: 1-AUG-14 09:14:171    LAB. ID: D12-90-3D

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.26e+06	8.64e+02	2.6e+03	3.00e+06	1.72e+03	1.7e+03
2	1,2,3,7,8-PeCDF	1.93e+07	1.83e+03	1.1e+04	1.25e+07	2.46e+03	5.1e+03
3	2,3,4,7,8-PeCDF	1.96e+07	1.83e+03	1.1e+04	1.26e+07	2.46e+03	5.1e+03
4	1,2,3,4,7,8-HxCDF	1.81e+07	1.94e+03	9.4e+03	1.46e+07	1.23e+03	1.2e+04
5	1,2,3,6,7,8-HxCDF	1.85e+07	1.94e+03	9.6e+03	1.52e+07	1.23e+03	1.2e+04
6	2,3,4,6,7,8-HxCDF	1.77e+07	1.94e+03	9.2e+03	1.45e+07	1.23e+03	1.2e+04
7	1,2,3,7,8,9-HxCDF	1.32e+07	1.94e+03	6.8e+03	1.07e+07	1.23e+03	8.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.44e+07	3.12e+04	4.6e+02	1.39e+07	6.16e+02	2.3e+04
9	1,2,3,4,7,8,9-HpCDF	8.88e+06	3.12e+04	2.8e+02	8.53e+06	6.16e+02	1.4e+04
10	OCDF	1.21e+07	7.24e+02	1.7e+04	1.33e+07	1.34e+03	9.9e+03
11	2,3,7,8-TCDD	1.59e+06	9.12e+02	1.7e+03	1.93e+06	8.84e+02	2.2e+03
12	1,2,3,7,8-PeCDD	1.28e+07	9.80e+02	1.3e+04	7.60e+06	6.40e+02	1.2e+04
13	1,2,3,4,7,8-HxCDD	1.31e+07	1.01e+03	1.3e+04	1.05e+07	1.08e+03	9.7e+03
14	1,2,3,6,7,8-HxCDD	1.34e+07	1.01e+03	1.3e+04	1.07e+07	1.08e+03	9.9e+03
15	1,2,3,7,8,9-HxCDD	1.26e+07	1.01e+03	1.3e+04	1.02e+07	1.08e+03	9.4e+03
16	1,2,3,4,6,7,8-HpCDD	9.06e+06	1.76e+03	5.1e+03	8.68e+06	1.35e+03	6.4e+03
17	OCDD	1.02e+07	6.96e+02	1.5e+04	1.14e+07	8.48e+02	1.3e+04
18	13C-2,3,7,8-TCDF	5.76e+06	1.35e+03	4.3e+03	6.76e+06	1.09e+03	6.2e+03
19	13C-1,2,3,7,8-PeCDF	9.63e+06	8.28e+02	1.2e+04	6.02e+06	8.68e+02	6.9e+03
20	13C-2,3,4,7,8-PeCDF	1.03e+07	8.28e+02	1.2e+04	6.41e+06	8.68e+02	7.4e+03
21	13C-1,2,3,4,7,8-HxCDF	4.47e+06	7.32e+02	6.1e+03	8.64e+06	1.70e+03	5.1e+03
22	13C-1,2,3,6,7,8-HxCDF	4.99e+06	7.32e+02	6.8e+03	9.72e+06	1.70e+03	5.7e+03
23	13C-2,3,4,6,7,8-HxCDF	4.81e+06	7.32e+02	6.6e+03	9.19e+06	1.70e+03	5.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.44e+06	7.32e+02	4.7e+03	6.77e+06	1.70e+03	4.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.17e+06	1.39e+03	2.3e+03	6.95e+06	9.92e+02	7.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.07e+06	1.39e+03	1.5e+03	4.59e+06	9.92e+02	4.6e+03
27	13C-2,3,7,8-TCDD	3.85e+06	2.68e+03	1.4e+03	5.03e+06	2.04e+03	2.5e+03
28	13C-1,2,3,7,8-PeCDD	5.49e+06	9.68e+02	5.7e+03	3.57e+06	7.52e+02	4.7e+03
29	13C-1,2,3,4,7,8-HxCDD	5.28e+06	1.15e+03	4.6e+03	4.00e+06	9.12e+02	4.4e+03
30	13C-1,2,3,6,7,8-HxCDD	5.32e+06	1.15e+03	4.6e+03	4.07e+06	9.12e+02	4.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.21e+06	1.62e+03	2.6e+03	3.77e+06	1.26e+03	3.0e+03
32	13C-OCDD	3.91e+06	7.64e+02	5.1e+03	4.16e+06	9.12e+02	4.6e+03
33	13C-1,2,3,4-TCDD	4.20e+06	2.68e+03	1.6e+03	5.49e+06	2.04e+03	2.7e+03
34	13C-1,2,3,7,8,9-HxCDD	5.18e+06	1.15e+03	4.5e+03	3.93e+06	9.12e+02	4.3e+03
35	37Cl-2,3,7,8-TCDD	3.54e+06	1.65e+03	2.1e+03			

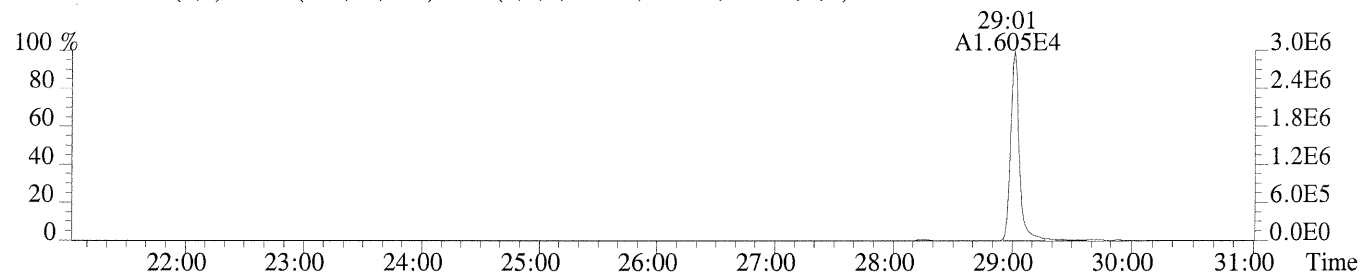
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 10450 Stancliff Rd., Suite 115  
 Houston, TX 77099  
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XLSN

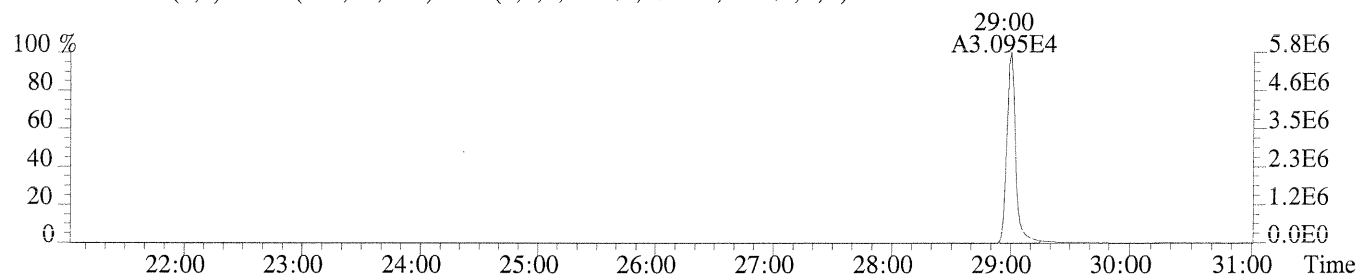
File:U150163 #1-627 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS4  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,T)



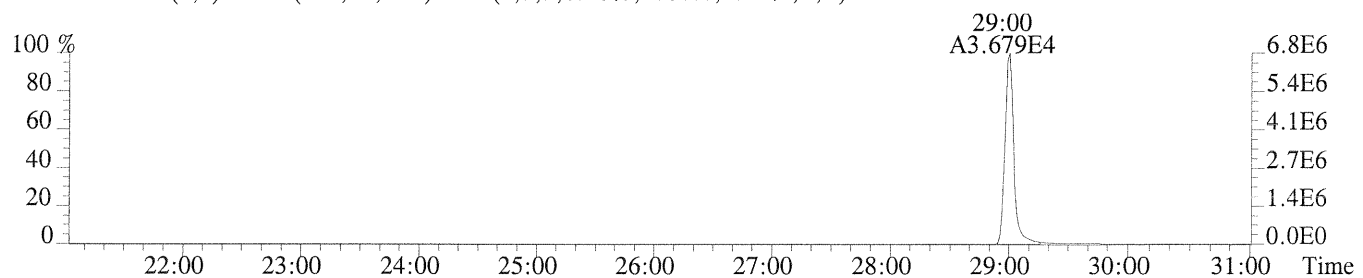
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



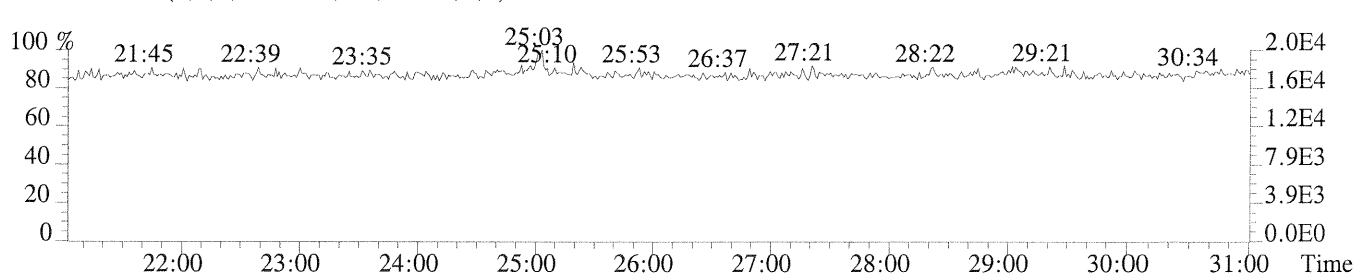
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,T)



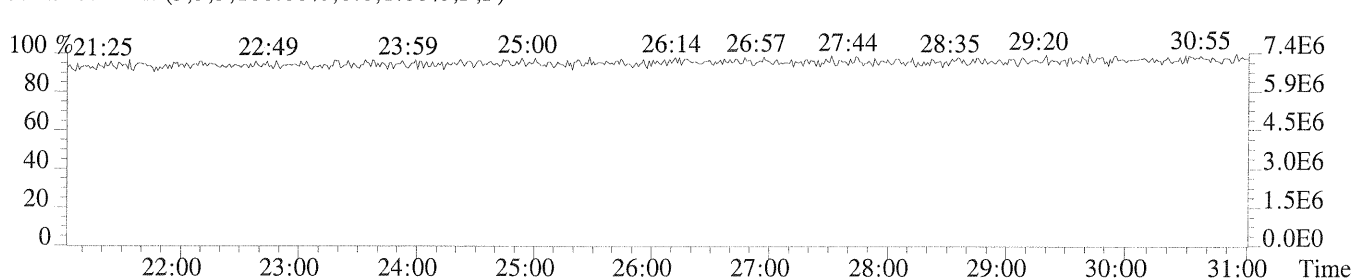
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1088.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

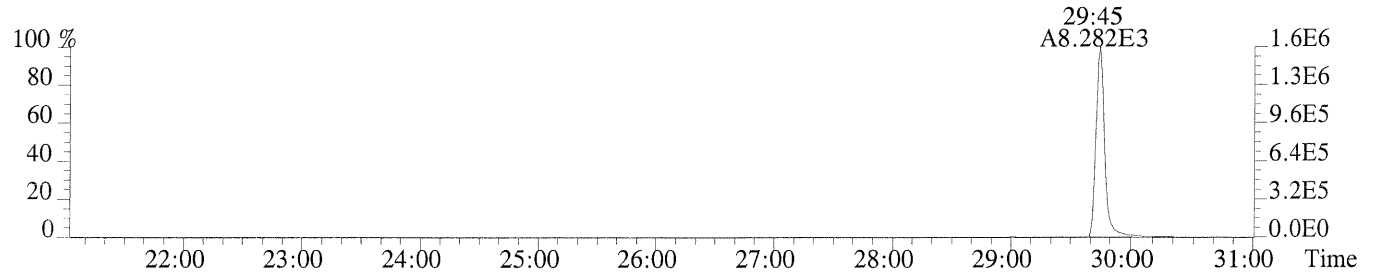


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

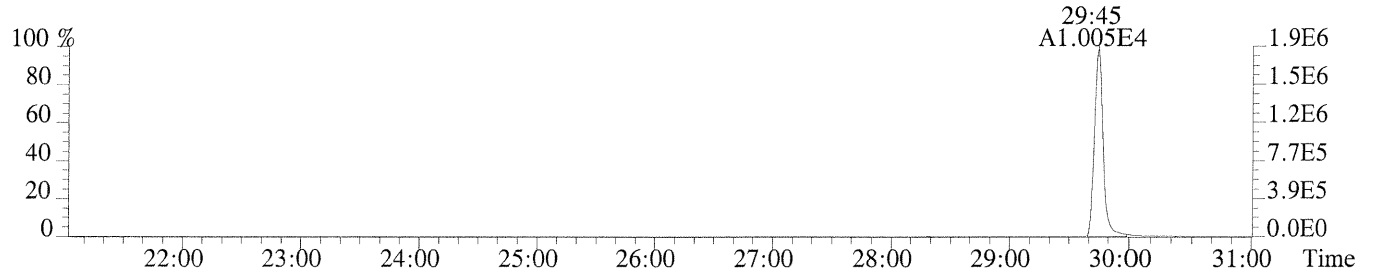


Sample#1 Exp:CS4

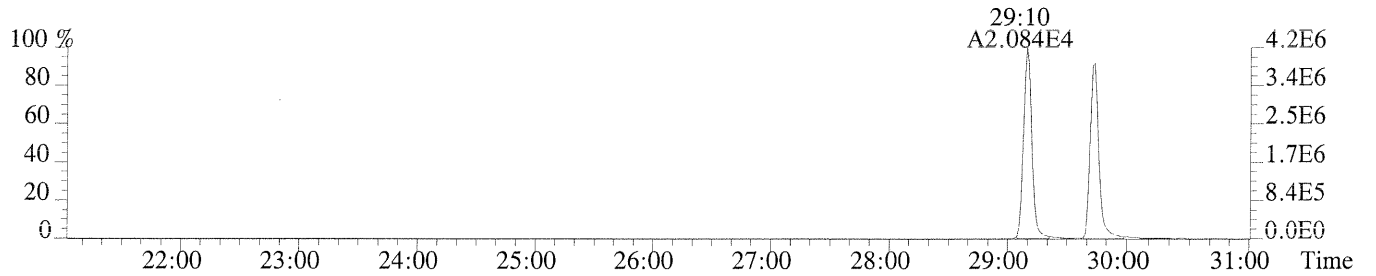
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



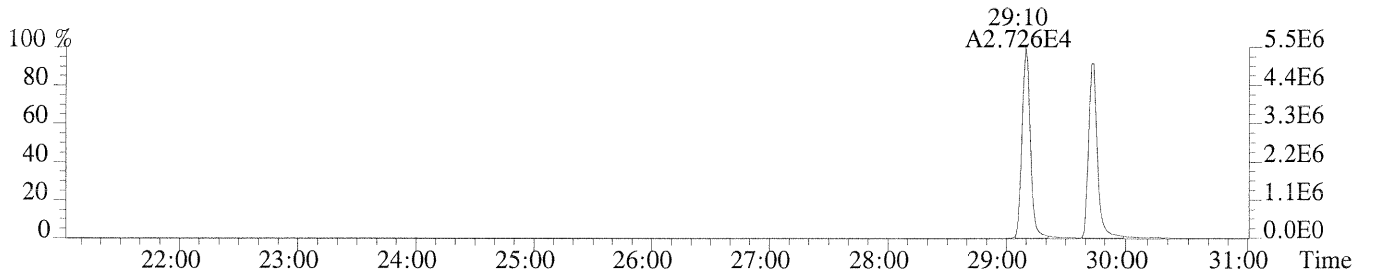
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,884.0,1.00%,F,T)



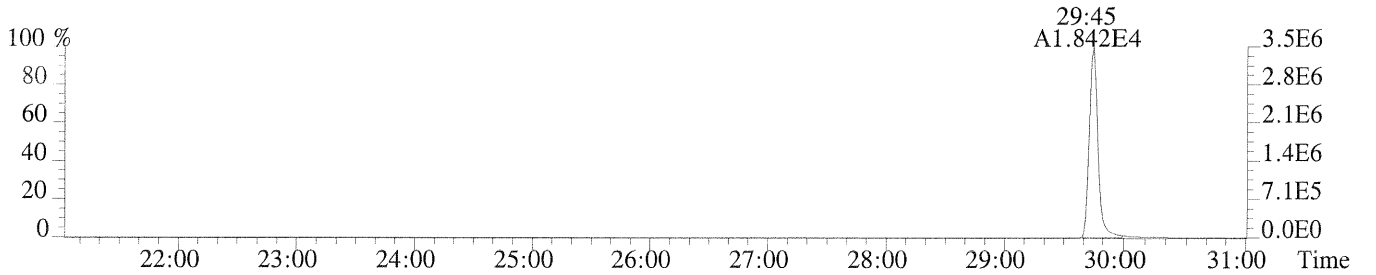
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2680.0,1.00%,F,T)



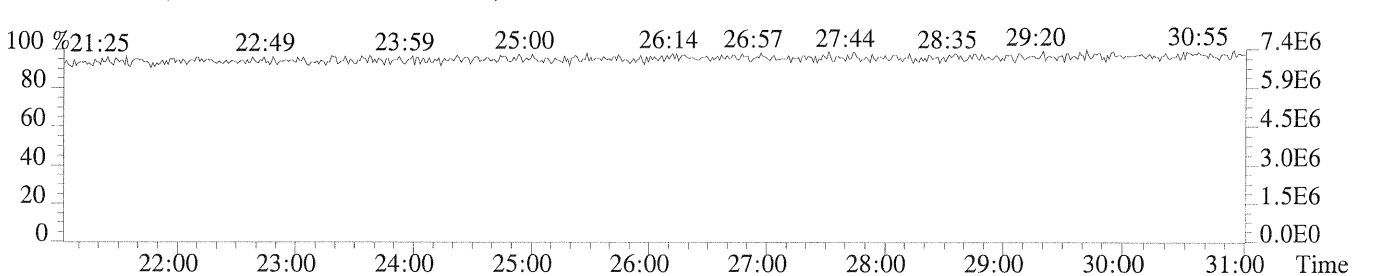
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2040.0,1.00%,F,T)



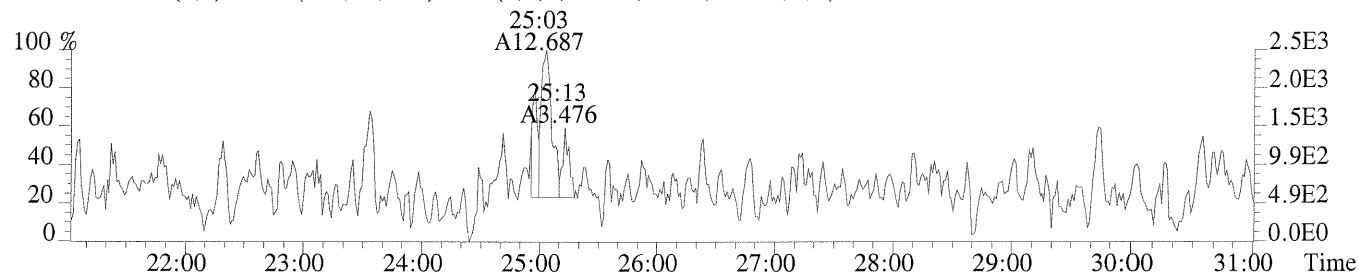
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1652.0,1.00%,F,T)



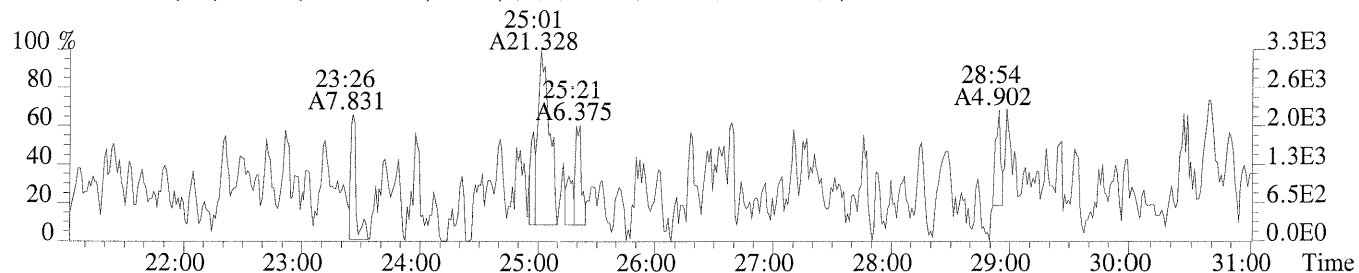
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



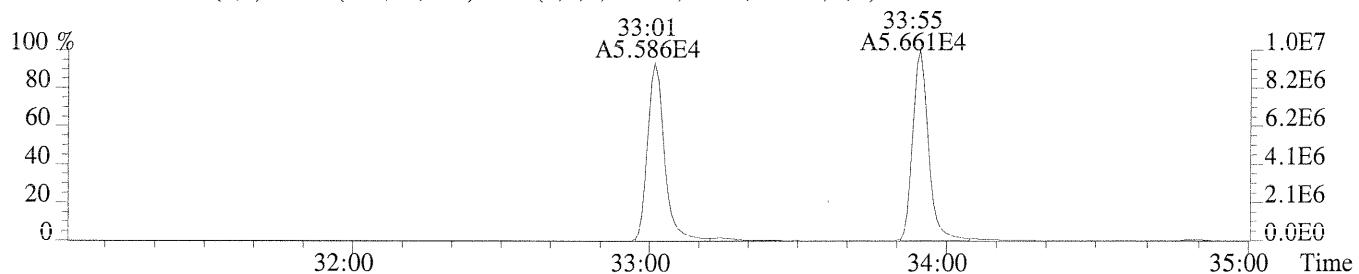
File:U150163 #1-627 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS4  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



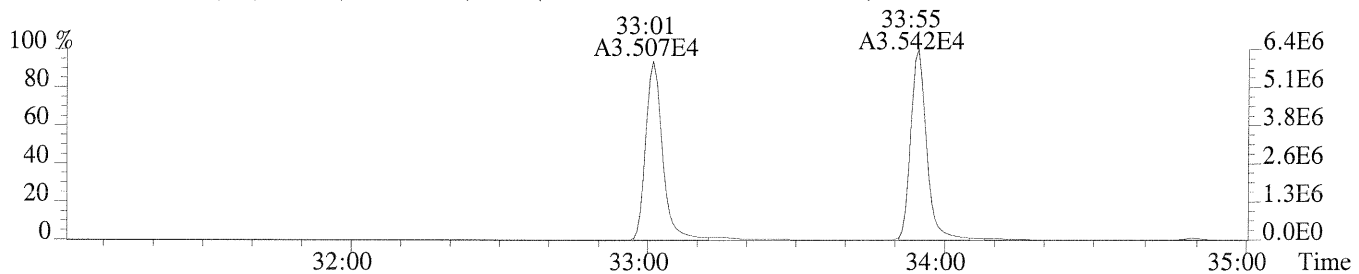
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,T)



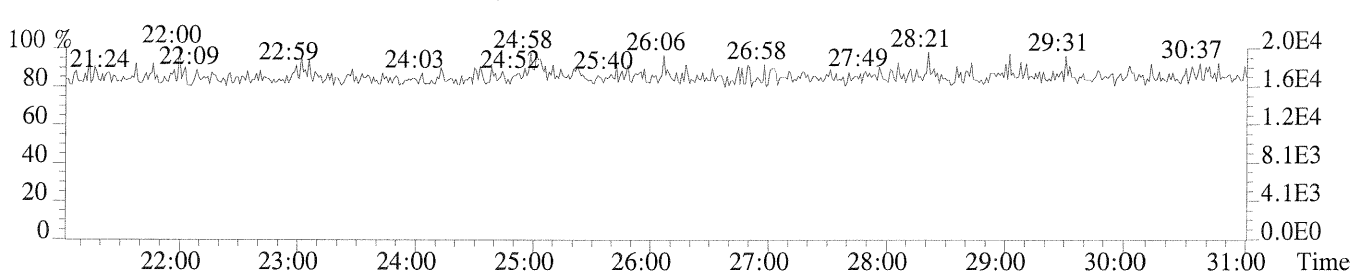
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



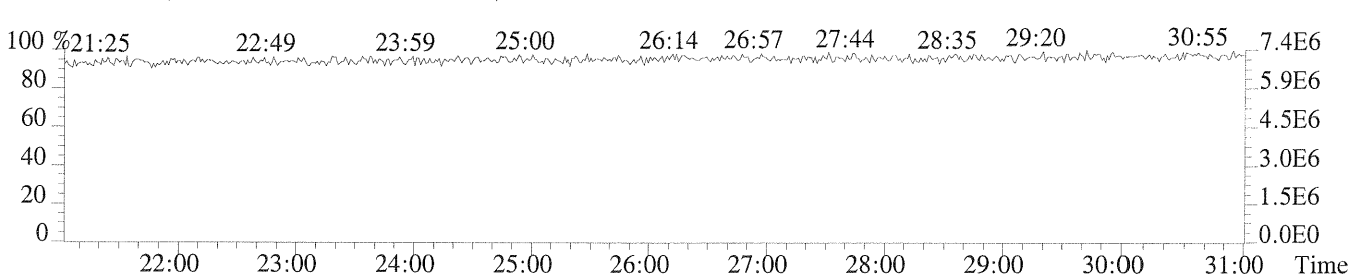
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

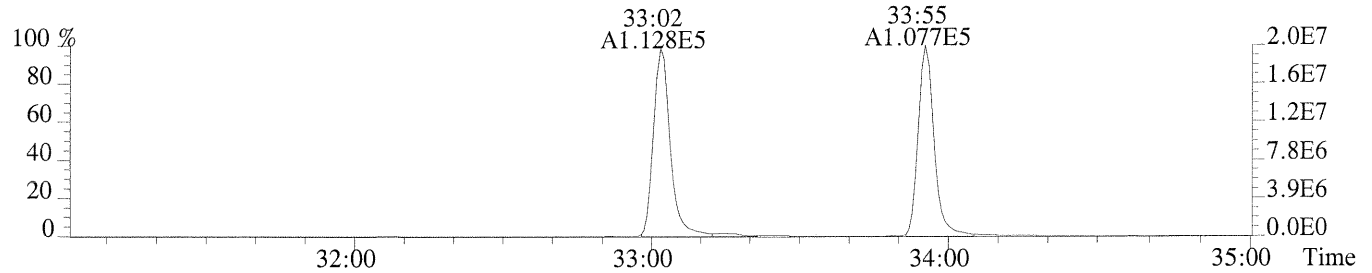


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

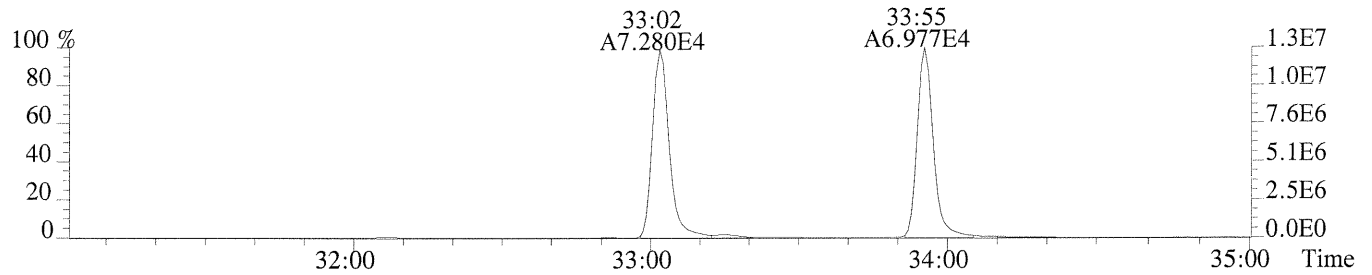


Sample#1 Exp:CS4

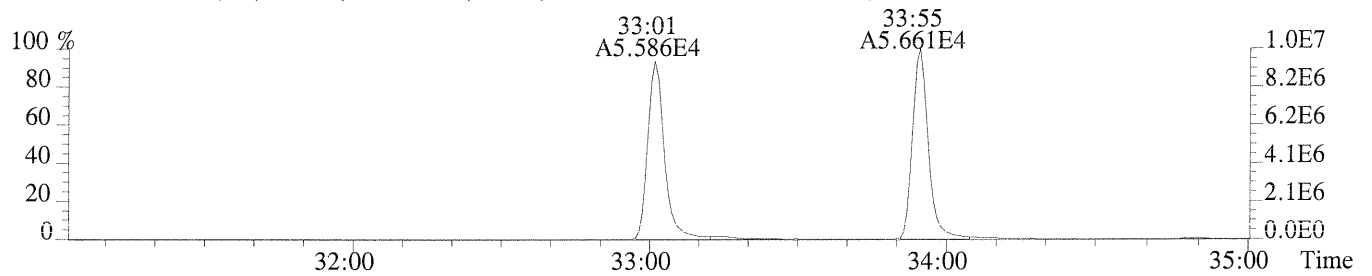
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)



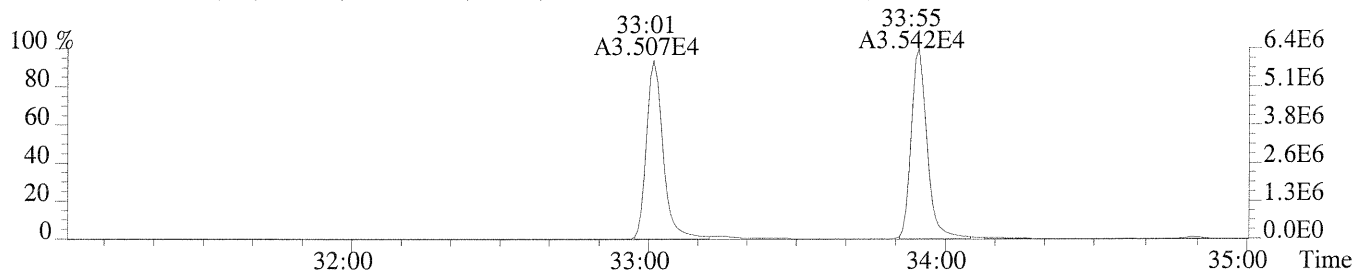
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2460.0,1.00%,F,T)



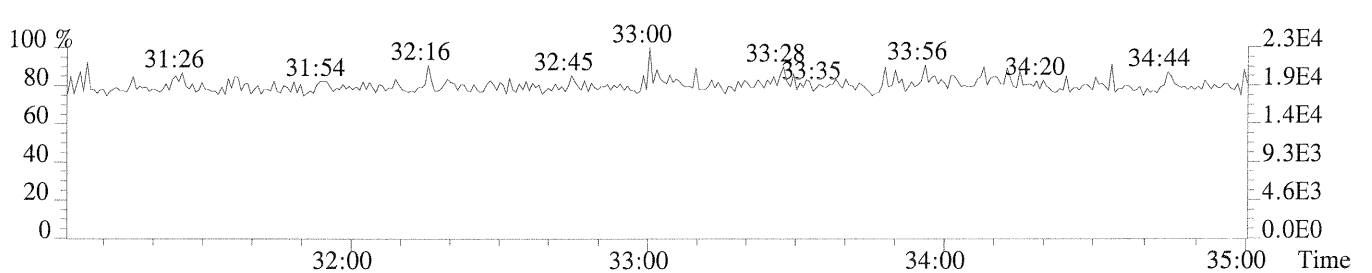
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



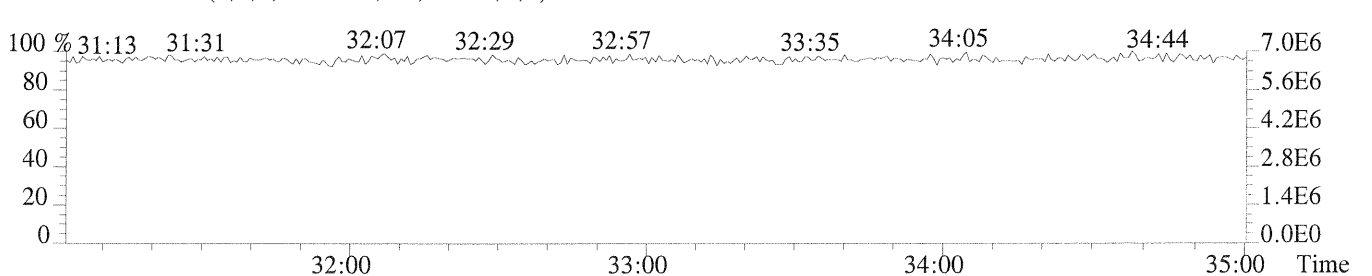
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

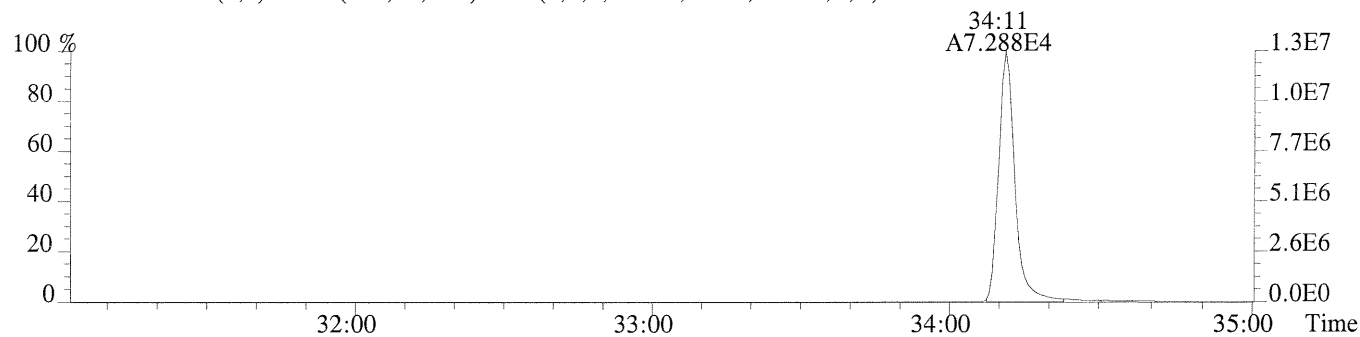


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

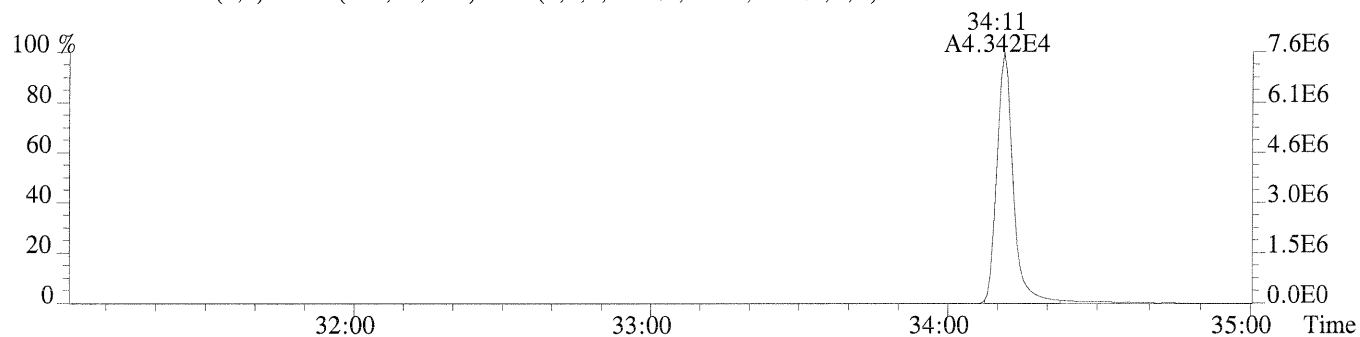




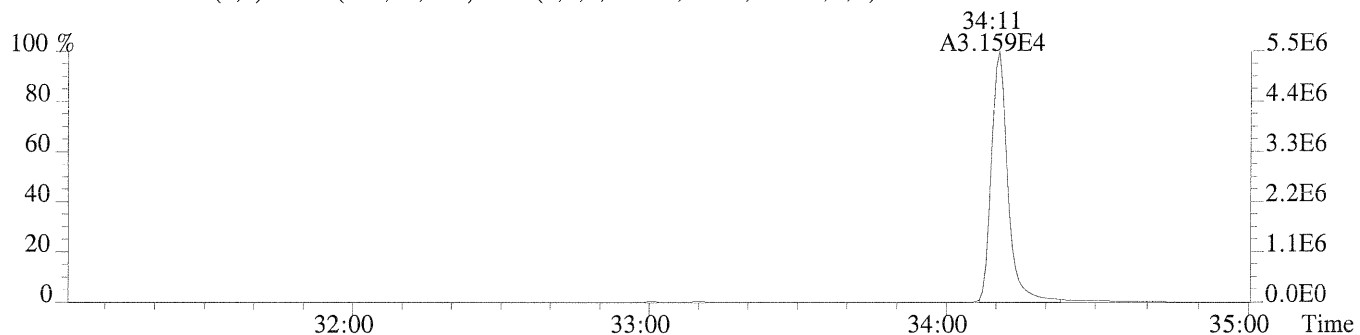
File:U150163 #1-360 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS4  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



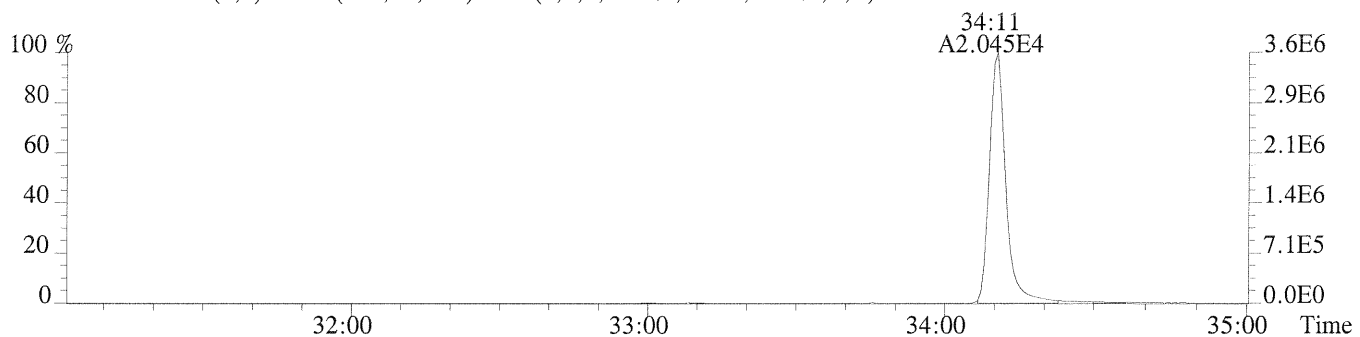
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



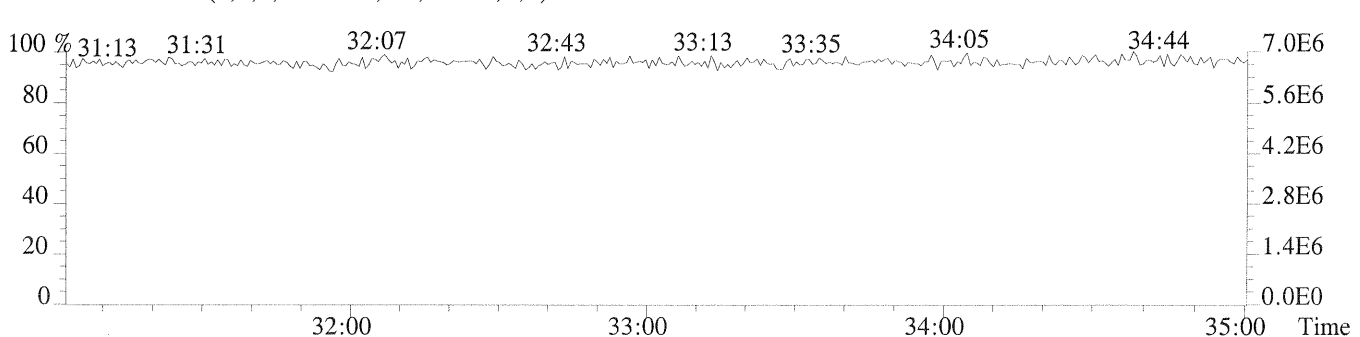
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)

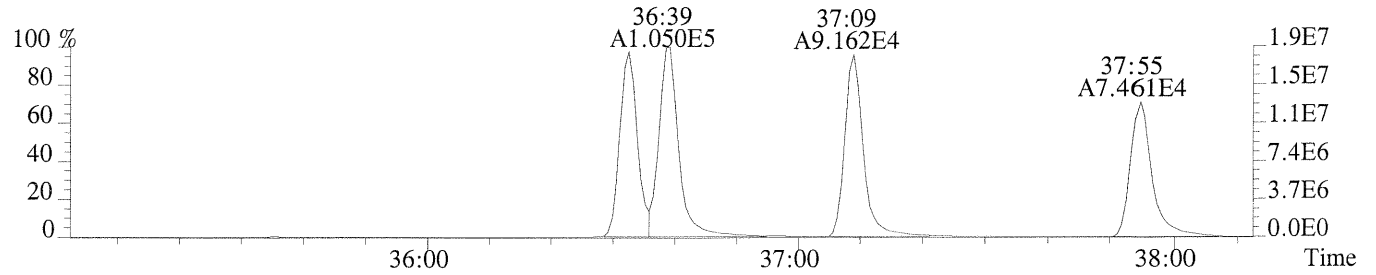


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

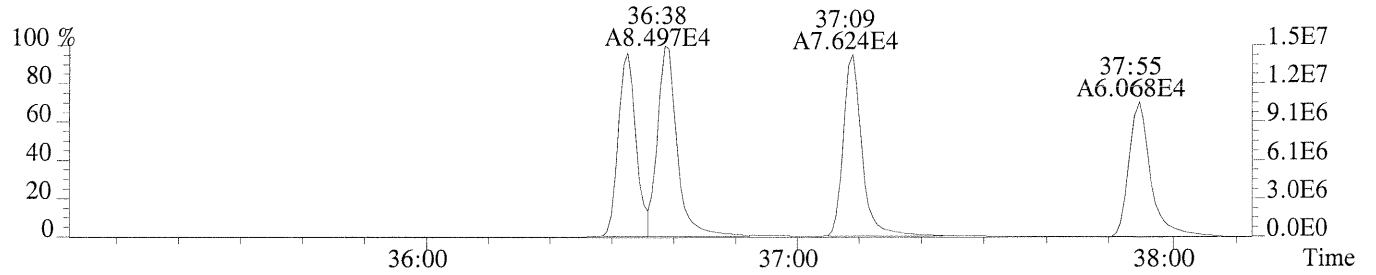


File:U150163 #1-288 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS4

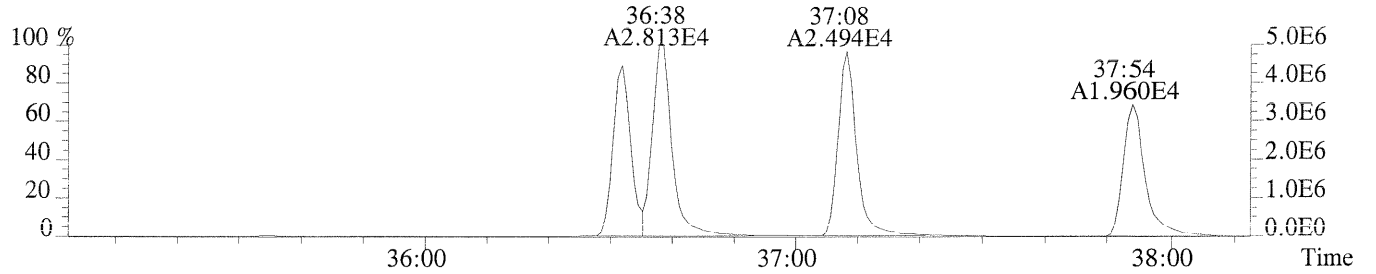
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1936.0,0.40%,F,T)



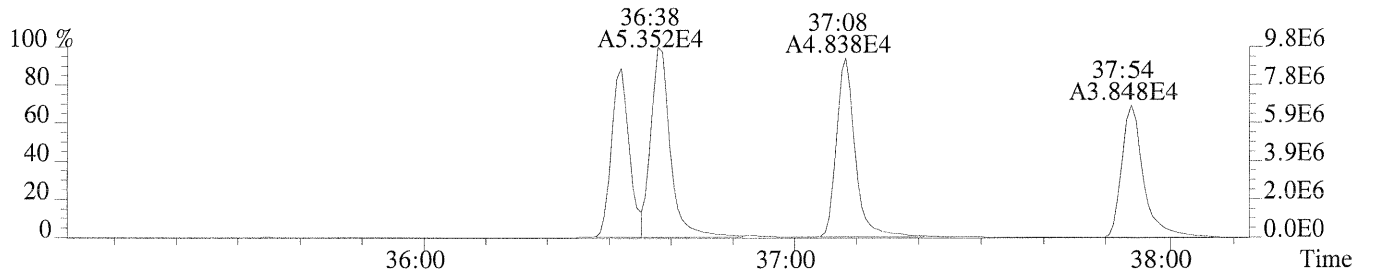
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



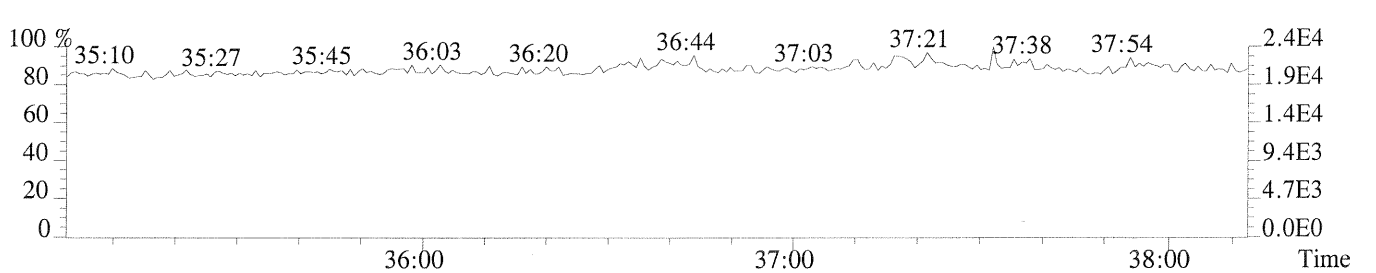
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



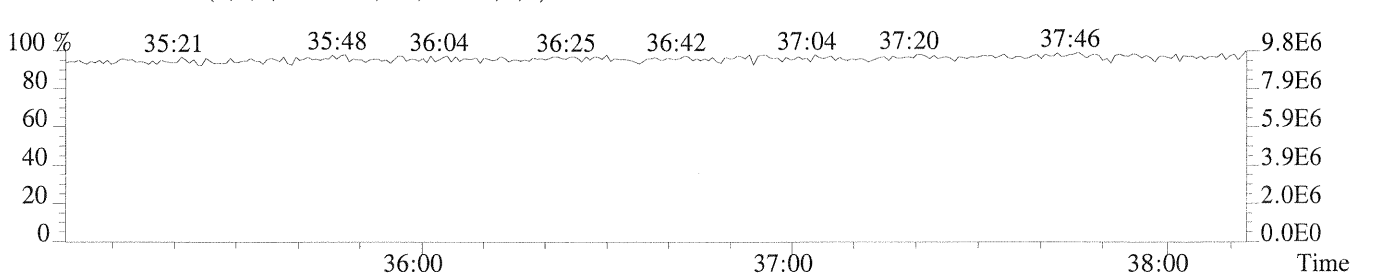
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

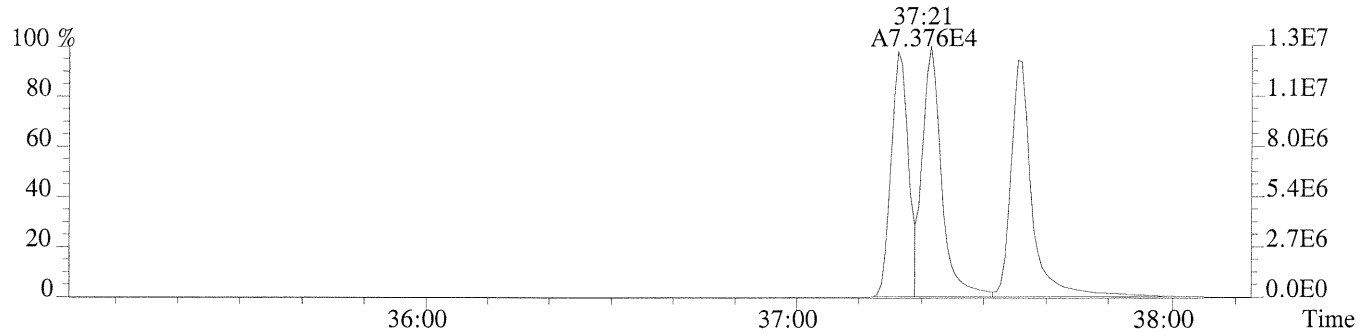


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

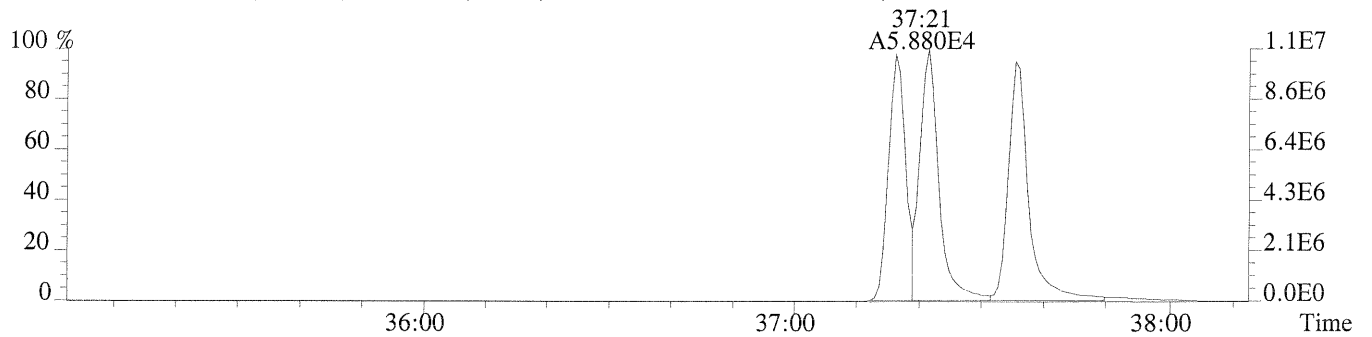


Sample#1 Exp:CS4

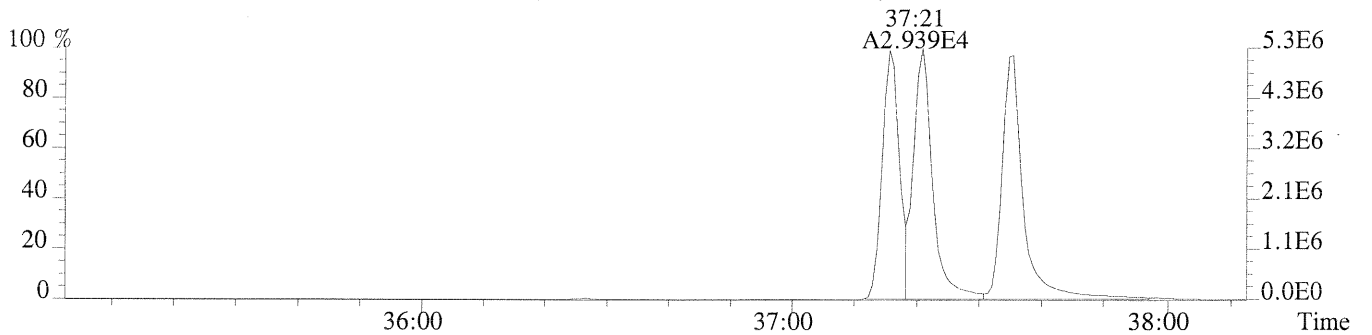
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.40%,F,T)



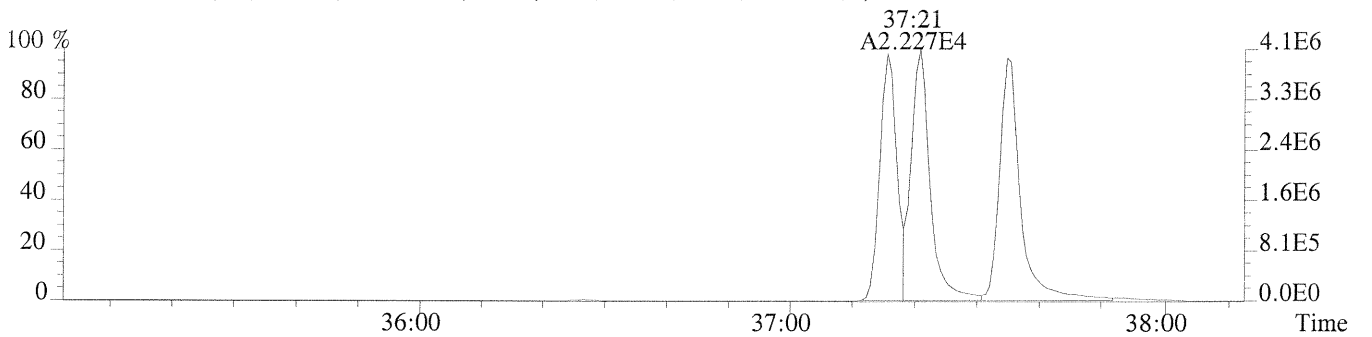
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1080.0,0.40%,F,T)



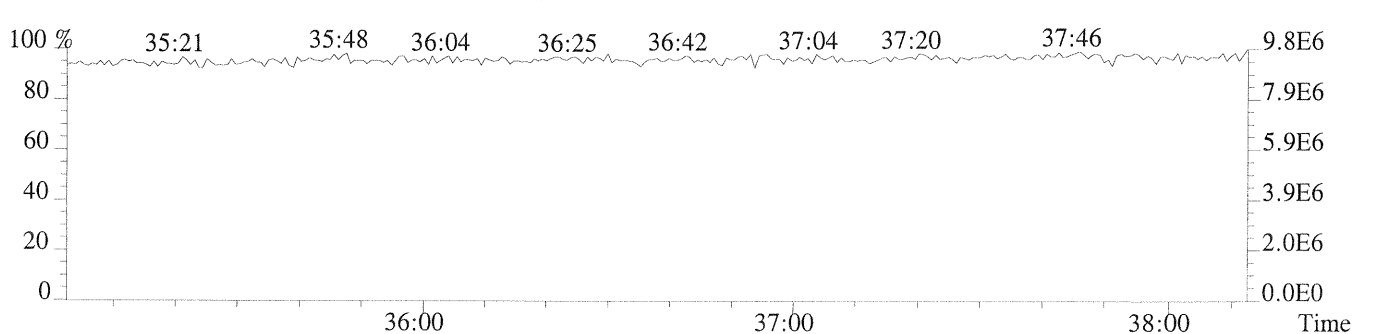
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,T)



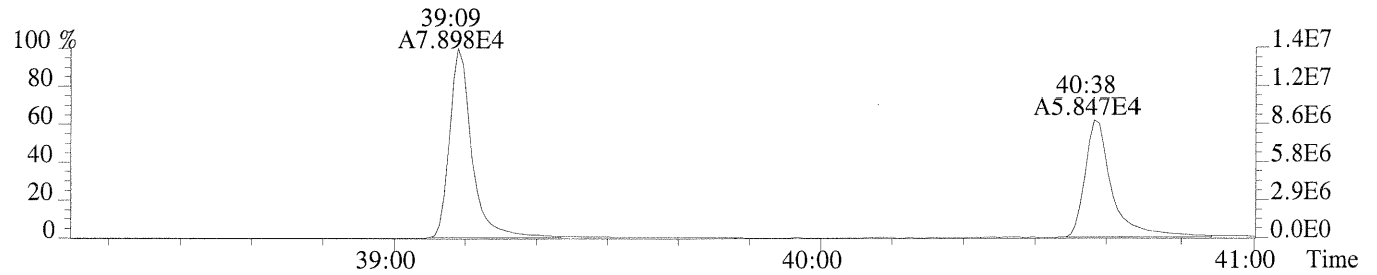
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.40%,F,T)



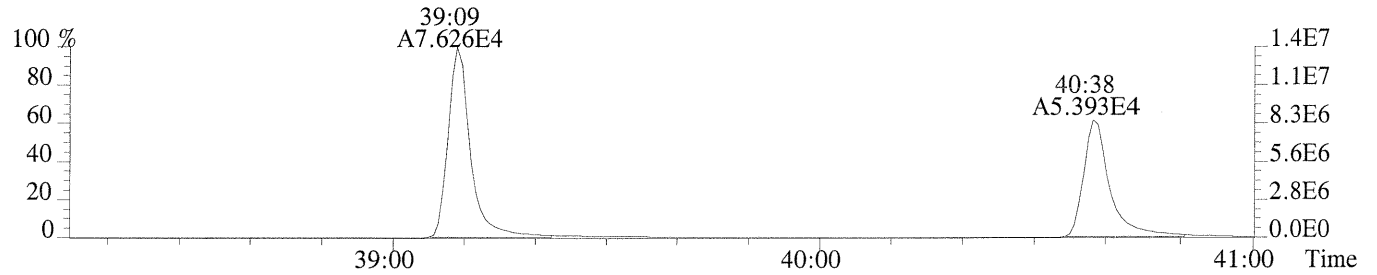
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



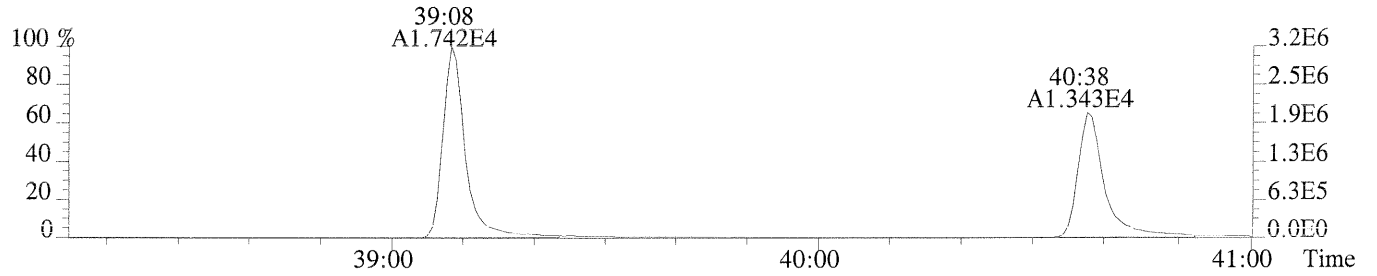
File:U150163 #1-251 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS4  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,31184.0,0.50%,F,T)



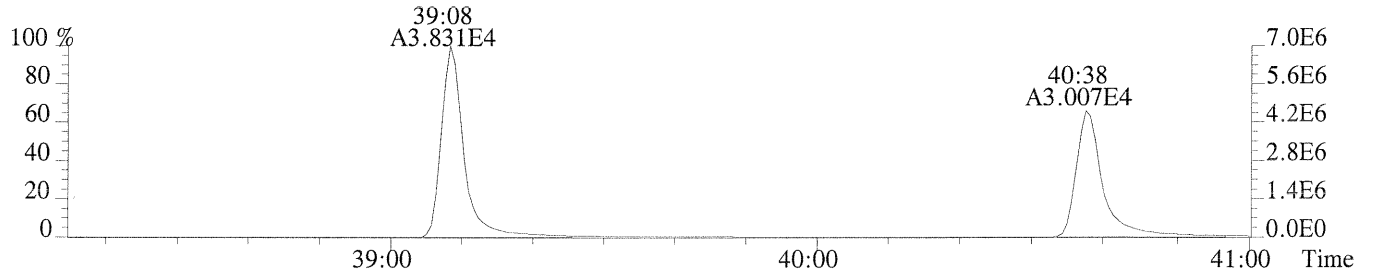
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,616.0,0.50%,F,T)



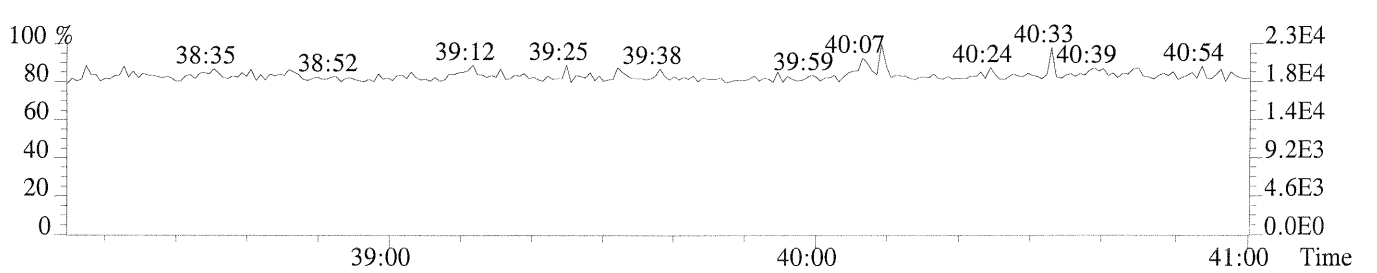
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1388.0,0.50%,F,T)



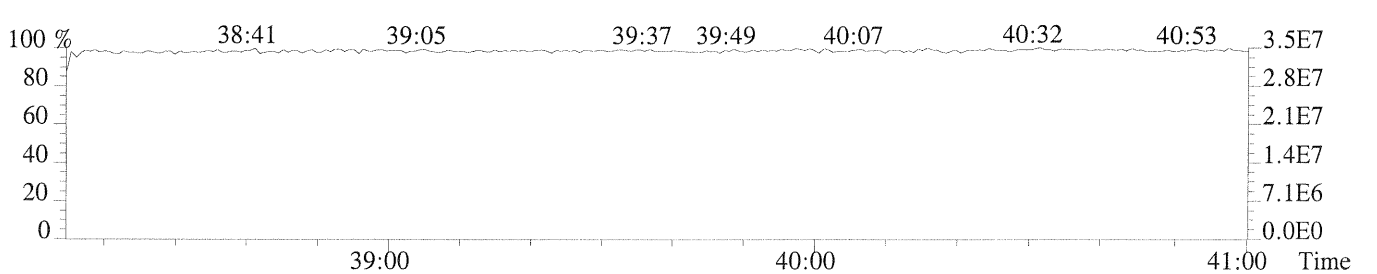
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,992.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

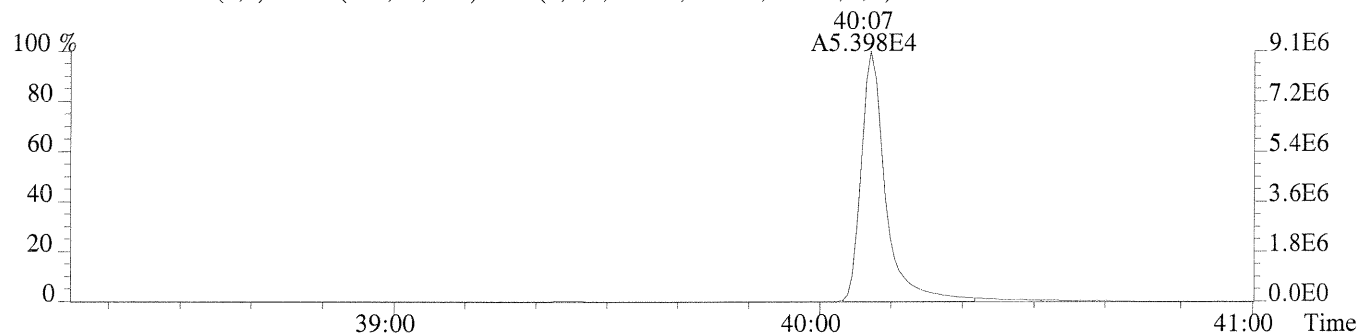


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

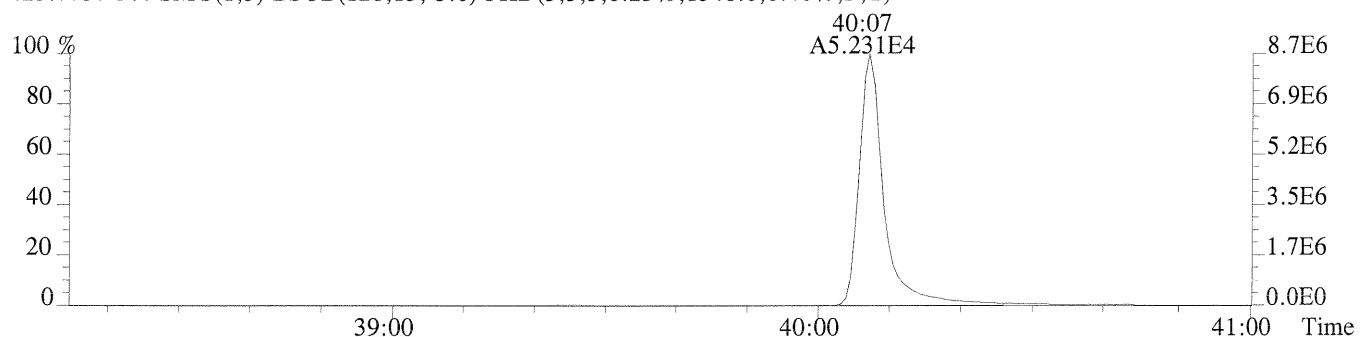


Sample#1 Exp:CS4

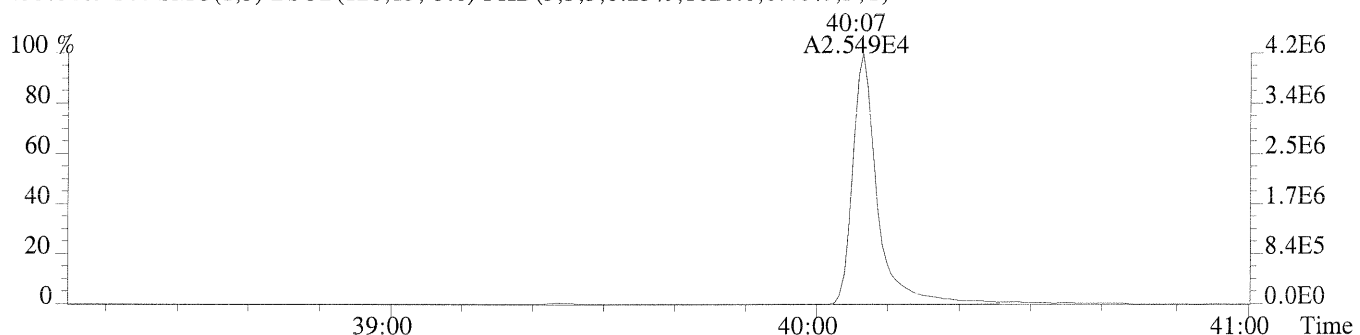
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1764.0,0.40%,F,T)



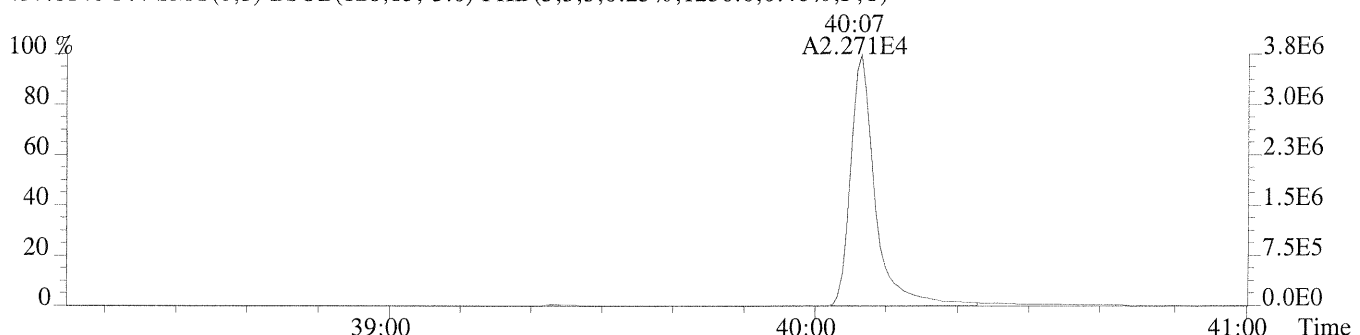
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



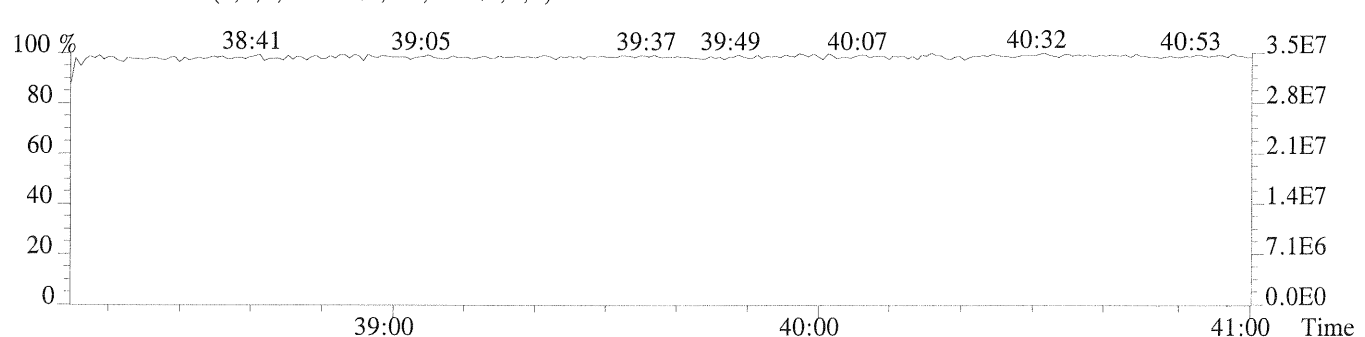
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,T)



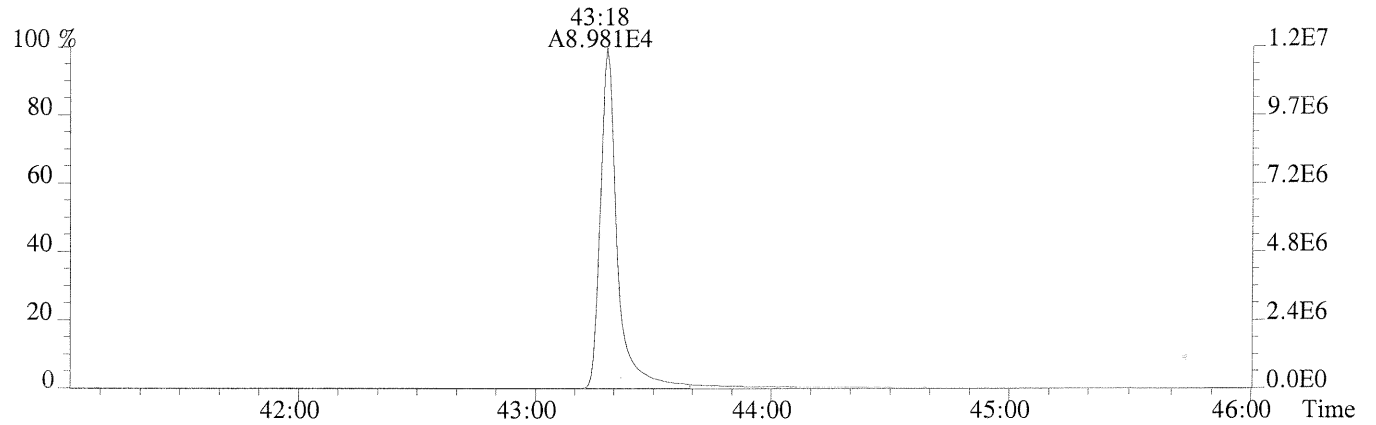
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



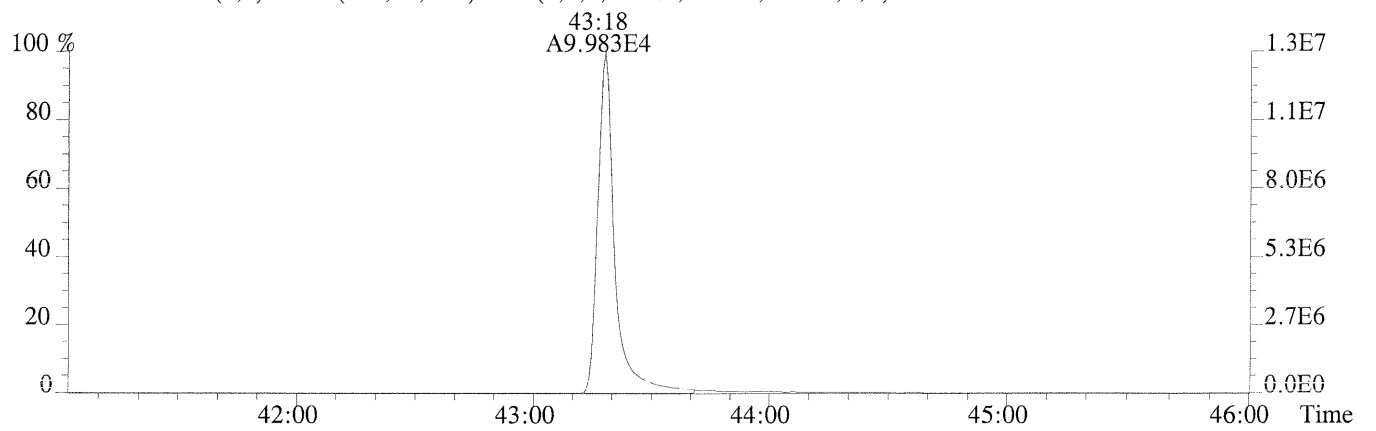
File:U150163 #1-451 Acq:31-JUL-2014 15:18:57 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS4

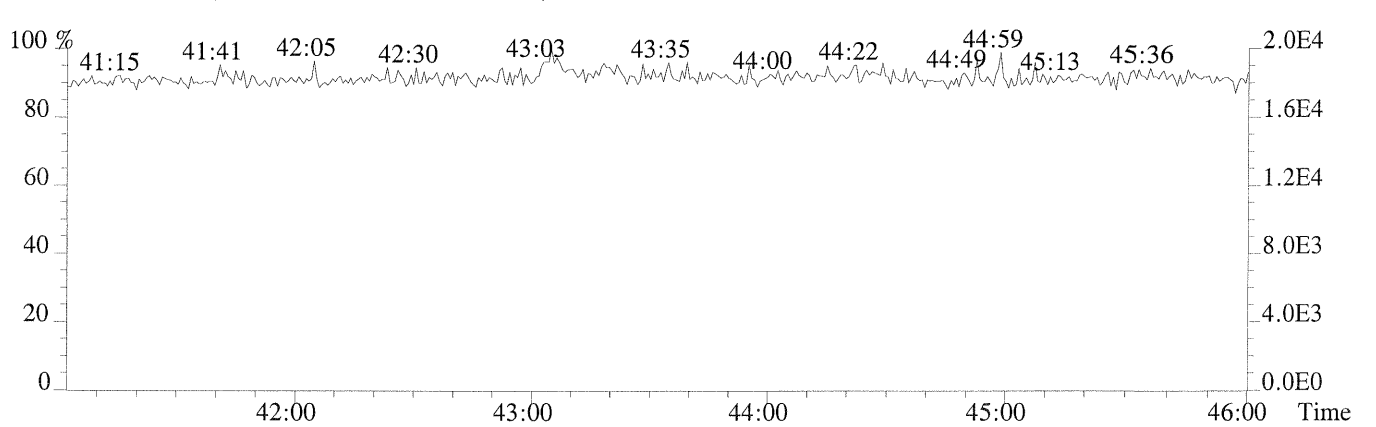
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,724.0,0.40%,F,T)



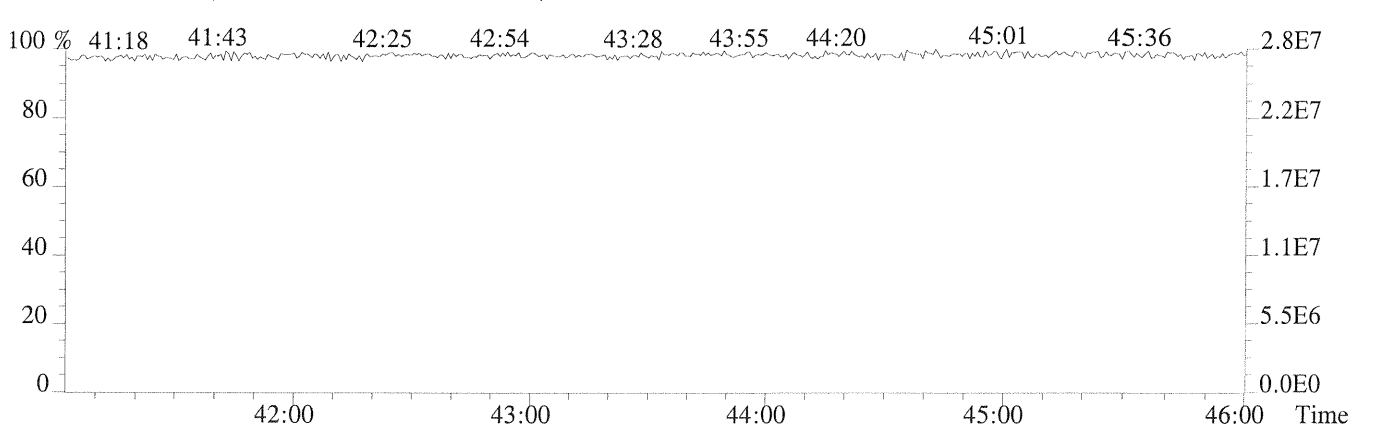
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1340.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

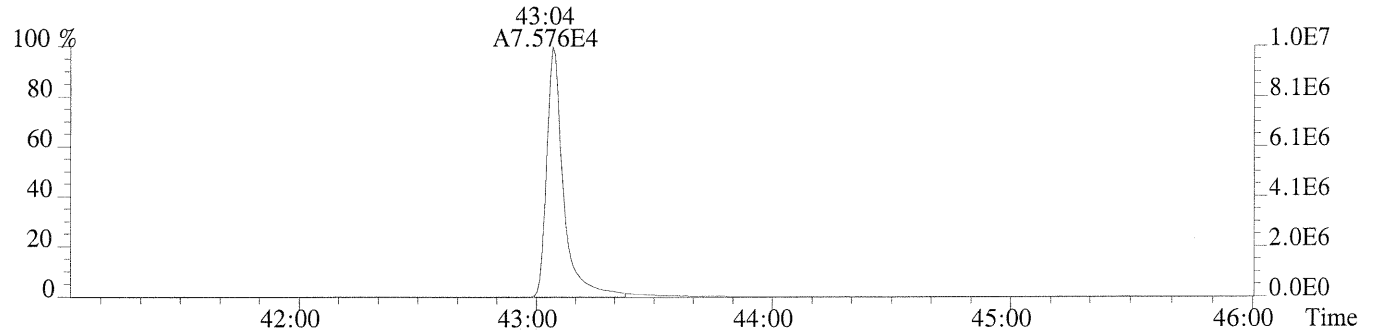


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

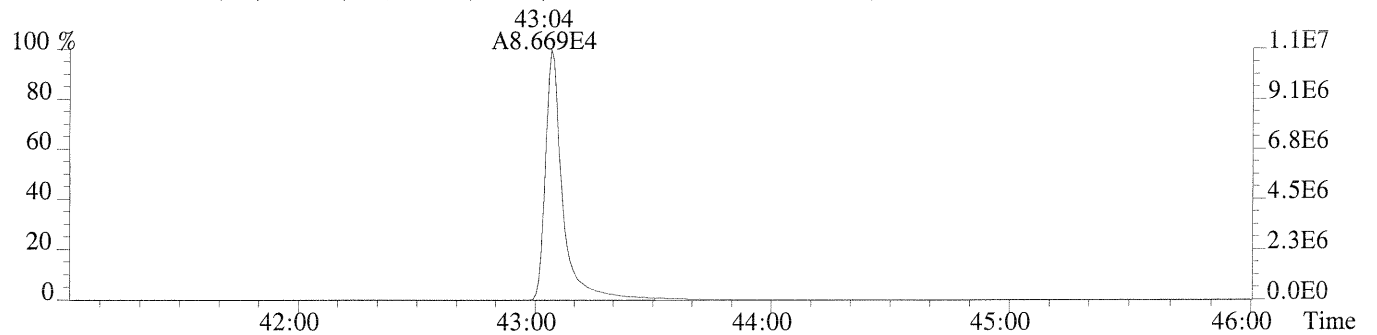


Sample#1 Exp:CS4

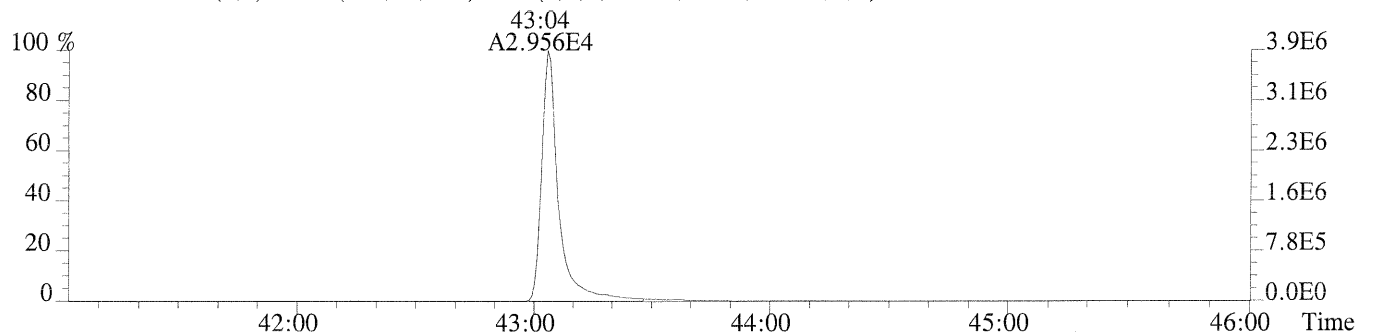
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,696.0,0.40%,F,T)



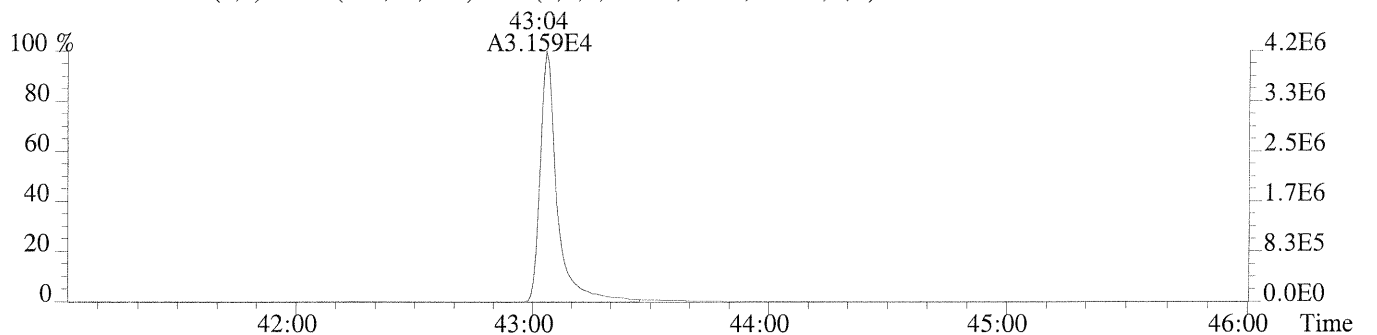
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,848.0,0.40%,F,T)



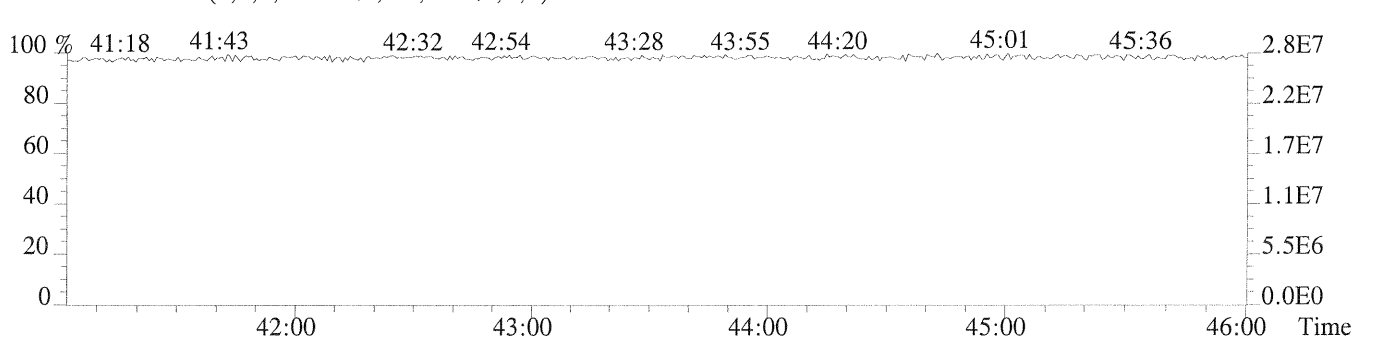
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,764.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,912.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 CS5

Run #6 Filename U150164 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 16:07:05  
 Processed: 1-AUG-14 09:14:20 LAB. ID: 66799

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:02	6.287e+04	8.186e+04	0.77	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:02	5.818e+05	3.739e+05	1.56	yes	no	1.000
3	Unk	2,3,4,7,8-PeCDF	33:56	6.069e+05	3.913e+05	1.55	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:33	4.978e+05	4.051e+05	1.23	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:40	5.789e+05	4.690e+05	1.23	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:09	5.135e+05	4.169e+05	1.23	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:55	4.295e+05	3.483e+05	1.23	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:10	4.405e+05	4.254e+05	1.04	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:40	3.392e+05	3.304e+05	1.03	yes	no	1.000
10	Unk	OCDF	43:19	5.312e+05	5.883e+05	0.90	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:45	4.307e+04	5.334e+04	0.81	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:12	4.024e+05	2.433e+05	1.65	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:17	3.882e+05	3.095e+05	1.25	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:22	3.844e+05	3.051e+05	1.26	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:37	4.224e+05	3.375e+05	1.25	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:08	3.052e+05	2.908e+05	1.05	yes	no	1.000
17	Unk	OCDD	43:05	4.504e+05	5.028e+05	0.90	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	29:00	3.161e+04	3.735e+04	0.85	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:02	6.151e+04	3.783e+04	1.63	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:55	6.012e+04	3.769e+04	1.60	yes	no	1.162
21	IS	13C-1,2,3,4,7,8-HxCDF	36:32	2.577e+04	4.952e+04	0.52	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:39	3.063e+04	5.837e+04	0.52	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:09	2.816e+04	5.399e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:54	2.358e+04	4.478e+04	0.53	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:10	2.047e+04	4.418e+04	0.46	yes	no	1.042
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:39	1.513e+04	3.341e+04	0.45	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:44	2.157e+04	2.821e+04	0.76	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:11	3.493e+04	2.247e+04	1.55	yes	no	1.171
29	IS	13C-1,2,3,4,7,8-HxCDD	37:17	2.701e+04	2.051e+04	1.32	yes	no	0.992
30	IS	13C-1,2,3,6,7,8-HxCDD	37:21	3.660e+04	2.772e+04	1.32	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:07	2.920e+04	2.626e+04	1.11	yes	no	1.067
32	IS	13C-OCDD	43:05	3.825e+04	4.149e+04	0.92	yes	yes	1.146
33RS/RT		13C-1,2,3,4-TCDD	29:11	2.136e+04	2.796e+04	0.76	yes	no	*
34RS/RT		13C-1,2,3,7,8,9-HxCDD	37:36	3.410e+04	2.603e+04	1.31	yes	no	*
35 C/Up		37Cl-2,3,7,8-TCDD	29:45	9.886e+04				no	1.019

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XLRESP



ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 CS5

Run #6 Filename U150164 Samp: 1 Inj: 1 Acquired: 31-JUL-14 16:07:05  
 Processed: 1-AUG-14 09:14:201 LAB. ID: 66799

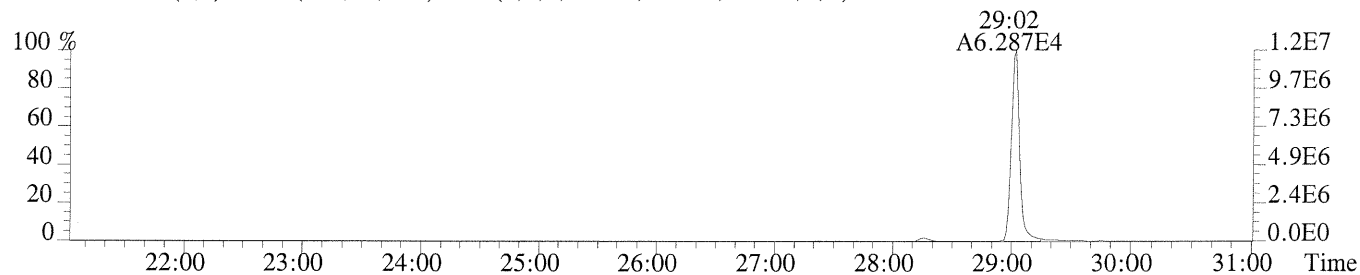
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.21e+07	1.04e+03	1.2e+04	1.57e+07	1.99e+03	7.9e+03
2	1,2,3,7,8-PeCDF	1.04e+08	3.77e+03	2.8e+04	6.69e+07	2.57e+03	2.6e+04
3	2,3,4,7,8-PeCDF	1.17e+08	3.77e+03	3.1e+04	7.57e+07	2.57e+03	2.9e+04
4	1,2,3,4,7,8-HxCDF	1.05e+08	5.18e+03	2.0e+04	8.55e+07	3.48e+03	2.5e+04
5	1,2,3,6,7,8-HxCDF	1.11e+08	5.18e+03	2.1e+04	9.05e+07	3.48e+03	2.6e+04
6	2,3,4,6,7,8-HxCDF	1.04e+08	5.18e+03	2.0e+04	8.44e+07	3.48e+03	2.4e+04
7	1,2,3,7,8,9-HxCDF	8.22e+07	5.18e+03	1.6e+04	6.69e+07	3.48e+03	1.9e+04
8	1,2,3,4,6,7,8-HpCDF	8.44e+07	1.05e+03	8.1e+04	8.12e+07	1.36e+03	6.0e+04
9	1,2,3,4,7,8,9-HpCDF	5.57e+07	1.05e+03	5.3e+04	5.41e+07	1.36e+03	4.0e+04
10	OCDF	7.78e+07	8.12e+02	9.6e+04	8.60e+07	1.05e+03	8.2e+04
11	2,3,7,8-TCDD	8.62e+06	8.48e+02	1.0e+04	1.07e+07	1.13e+03	9.5e+03
12	1,2,3,7,8-PeCDD	7.57e+07	1.38e+03	5.5e+04	4.61e+07	9.64e+02	4.8e+04
13	1,2,3,4,7,8-HxCDD	8.28e+07	9.20e+02	9.0e+04	6.50e+07	9.96e+02	6.5e+04
14	1,2,3,6,7,8-HxCDD	7.51e+07	9.20e+02	8.2e+04	6.03e+07	9.96e+02	6.1e+04
15	1,2,3,7,8,9-HxCDD	7.88e+07	9.20e+02	8.6e+04	6.26e+07	9.96e+02	6.3e+04
16	1,2,3,4,6,7,8-HpCDD	5.31e+07	7.76e+02	6.8e+04	5.03e+07	7.52e+02	6.7e+04
17	OCDD	6.57e+07	6.20e+02	1.1e+05	7.35e+07	5.68e+02	1.3e+05
18	13C-2,3,7,8-TCDF	6.12e+06	1.68e+03	3.6e+03	7.20e+06	1.00e+03	7.2e+03
19	13C-1,2,3,7,8-PeCDF	1.12e+07	1.54e+03	7.3e+03	6.88e+06	1.08e+03	6.4e+03
20	13C-2,3,4,7,8-PeCDF	1.15e+07	1.54e+03	7.5e+03	7.29e+06	1.08e+03	6.8e+03
21	13C-1,2,3,4,7,8-HxCDF	5.43e+06	9.12e+02	6.0e+03	1.04e+07	1.30e+03	8.0e+03
22	13C-1,2,3,6,7,8-HxCDF	5.82e+06	9.12e+02	6.4e+03	1.11e+07	1.30e+03	8.5e+03
23	13C-2,3,4,6,7,8-HxCDF	5.59e+06	9.12e+02	6.1e+03	1.08e+07	1.30e+03	8.3e+03
24	13C-1,2,3,7,8,9-HxCDF	4.40e+06	9.12e+02	4.8e+03	8.48e+06	1.30e+03	6.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.88e+06	1.04e+03	3.7e+03	8.44e+06	9.12e+02	9.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.46e+06	1.04e+03	2.4e+03	5.44e+06	9.12e+02	6.0e+03
27	13C-2,3,7,8-TCDD	4.46e+06	3.48e+03	1.3e+03	5.84e+06	2.06e+03	2.8e+03
28	13C-1,2,3,7,8-PeCDD	6.65e+06	1.14e+03	5.9e+03	4.27e+06	9.64e+02	4.4e+03
29	13C-1,2,3,4,7,8-HxCDD	6.07e+06	1.58e+03	3.8e+03	4.54e+06	8.96e+02	5.1e+03
30	13C-1,2,3,6,7,8-HxCDD	6.79e+06	1.58e+03	4.3e+03	5.17e+06	8.96e+02	5.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.00e+06	2.16e+03	2.3e+03	4.55e+06	1.15e+03	4.0e+03
32	13C-OCDD	5.50e+06	8.20e+02	6.7e+03	5.94e+06	9.84e+02	6.0e+03
33	13C-1,2,3,4-TCDD	4.44e+06	3.48e+03	1.3e+03	5.75e+06	2.06e+03	2.8e+03
34	13C-1,2,3,7,8,9-HxCDD	6.29e+06	1.58e+03	4.0e+03	4.74e+06	8.96e+02	5.3e+03
35	37Cl-2,3,7,8-TCDD	2.00e+07	1.78e+03	1.1e+04			

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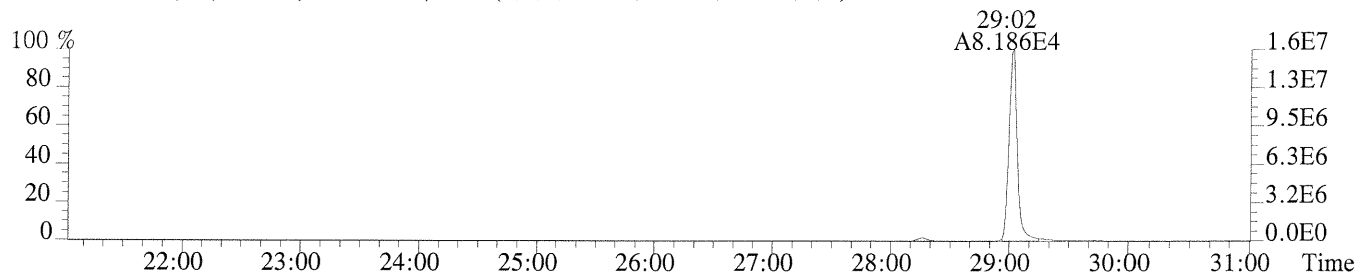
XLSN

Sample#1 Exp:CS5

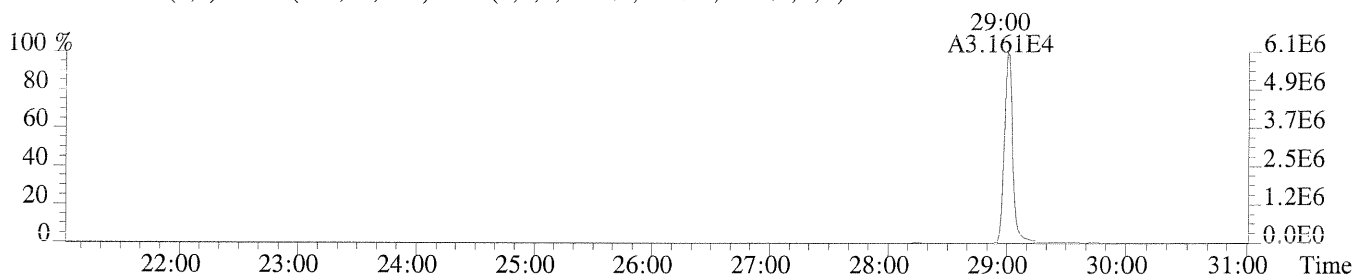
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,T)



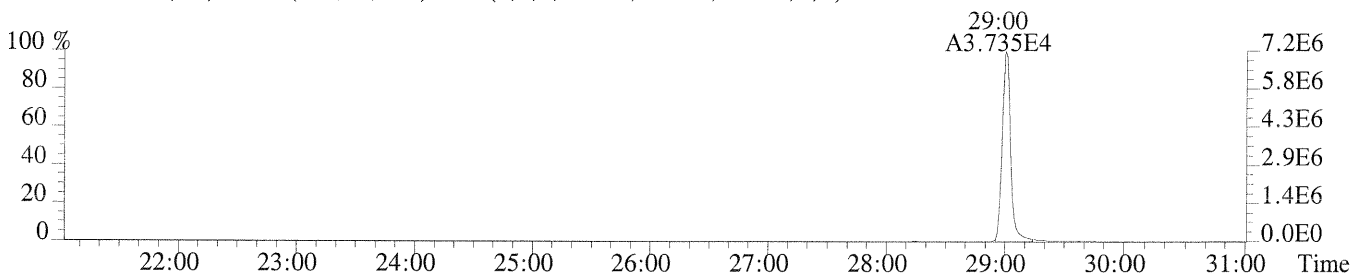
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1992.0,1.00%,F,T)



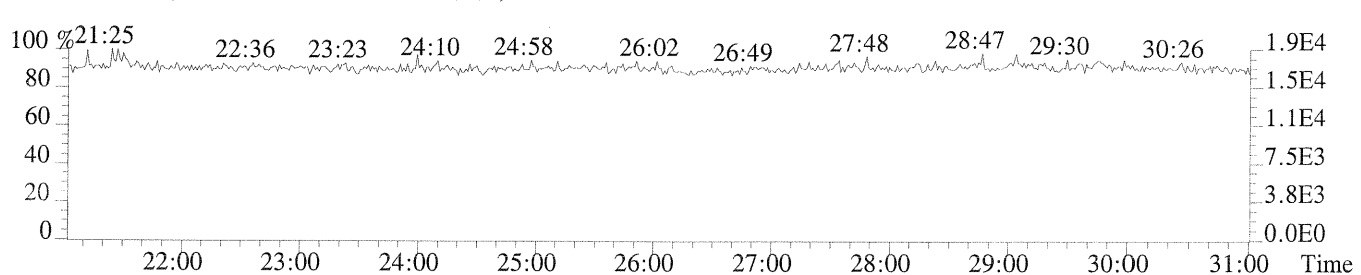
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1680.0,1.00%,F,T)



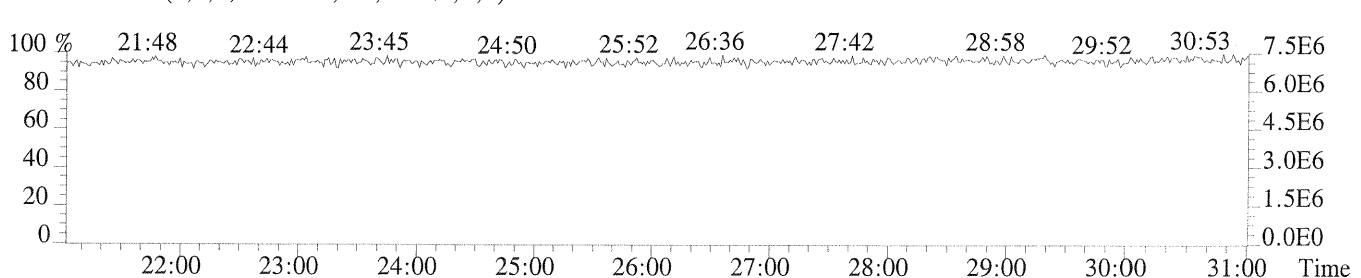
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

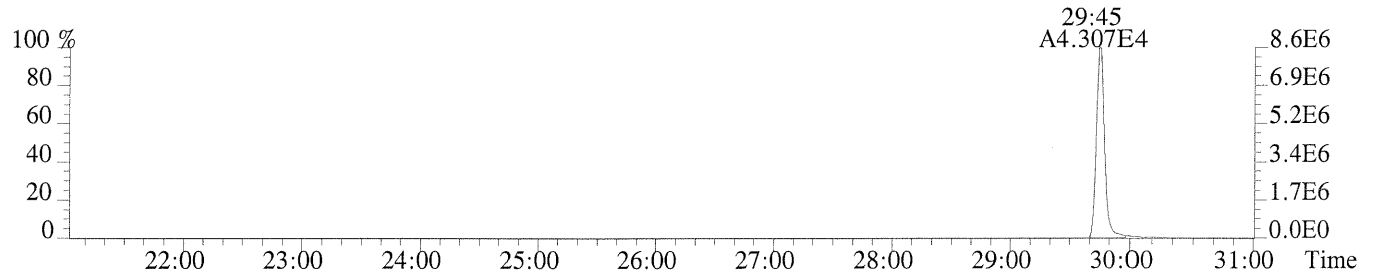


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

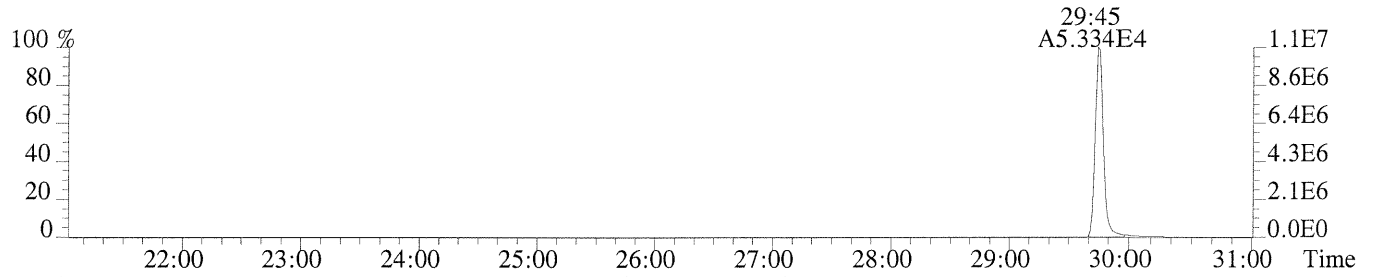


Sample#1 Exp:CS5

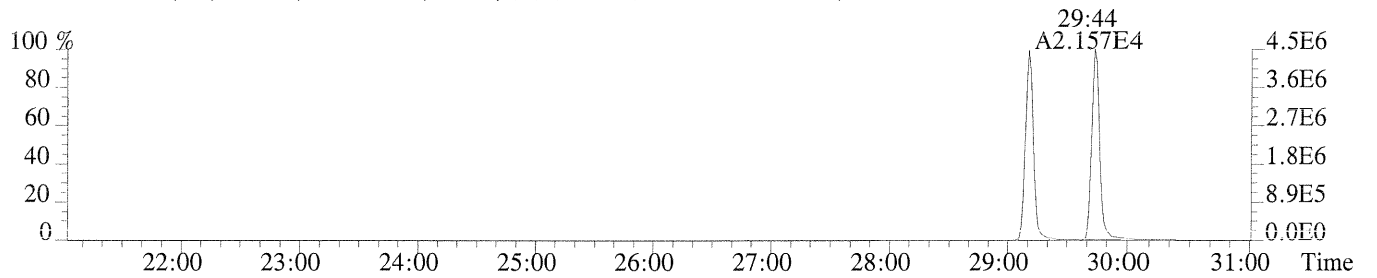
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



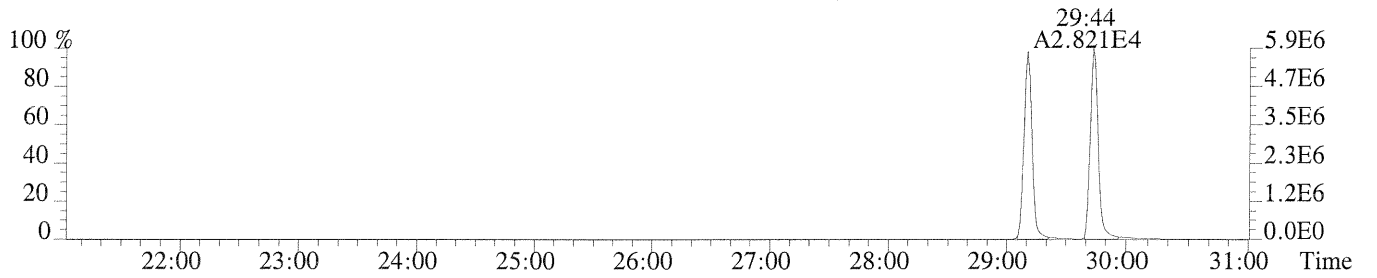
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



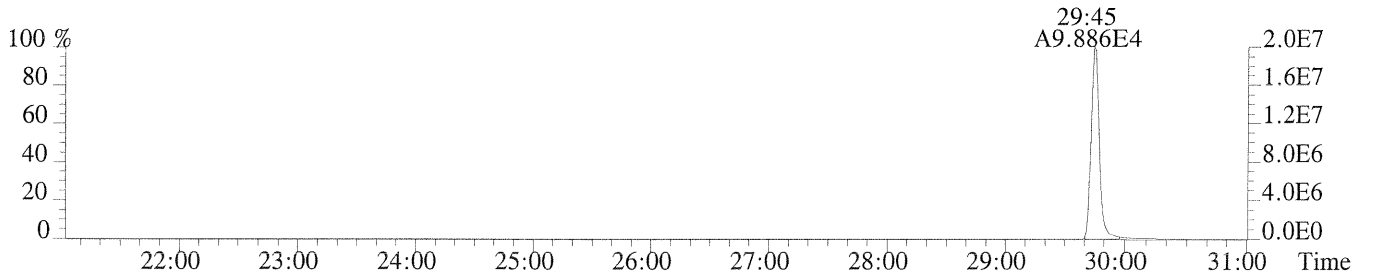
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3480.0,1.00%,F,T)



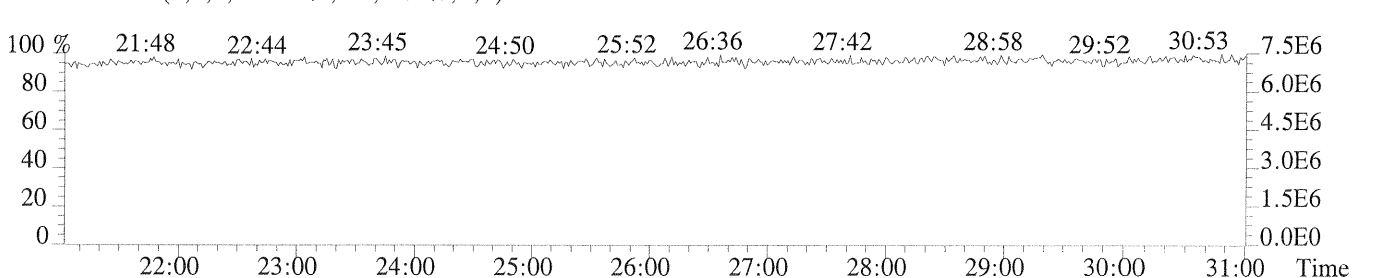
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2056.0,1.00%,F,T)



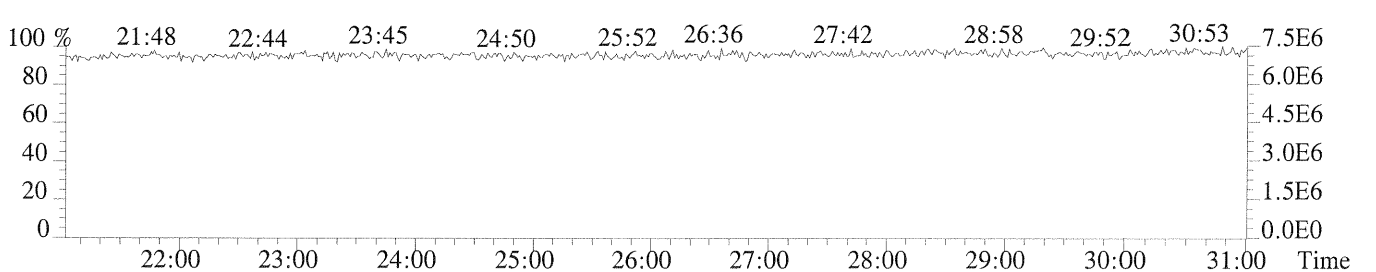
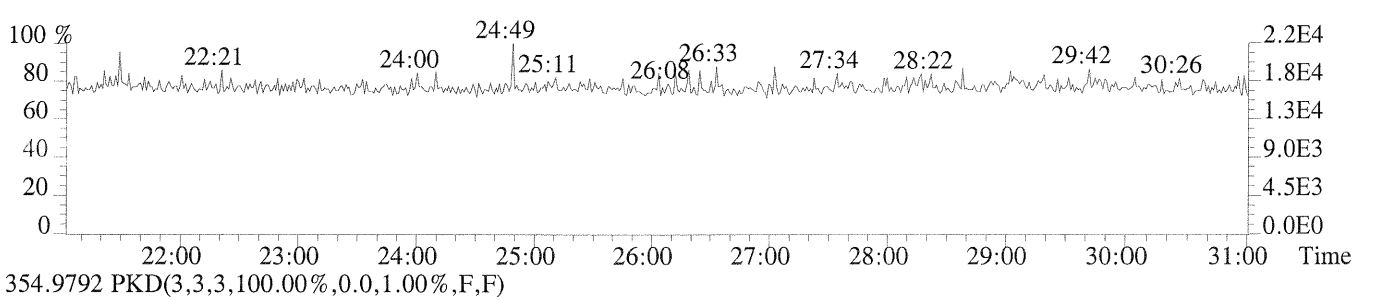
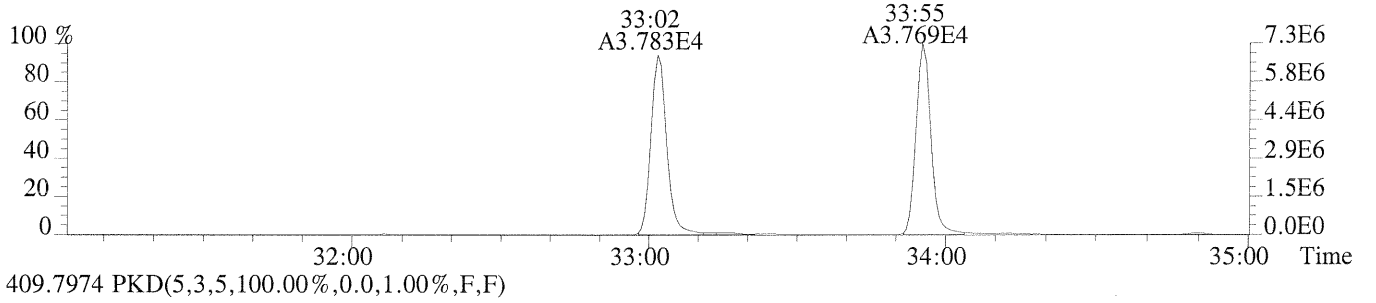
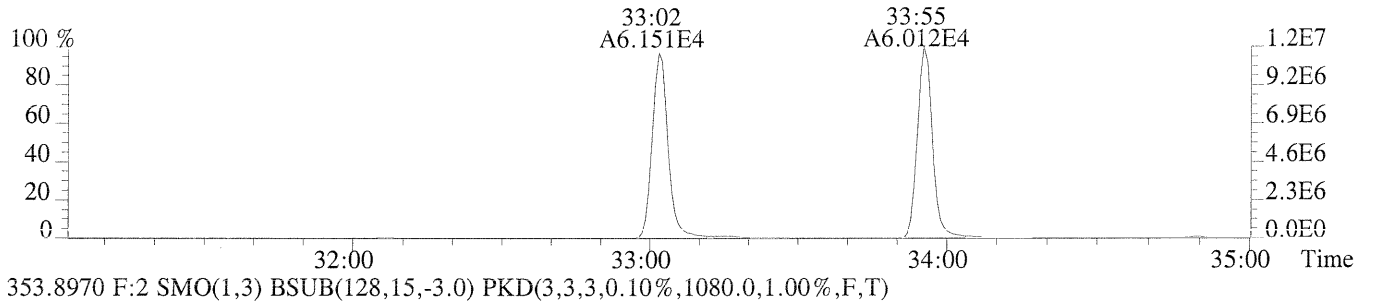
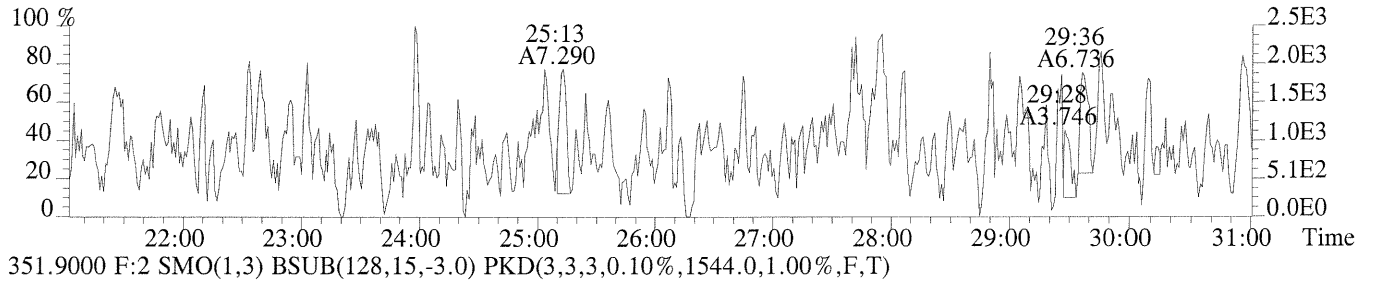
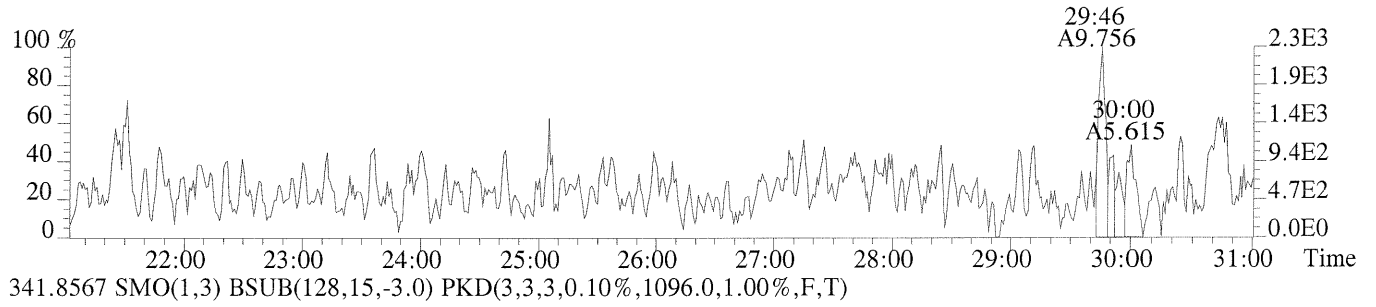
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

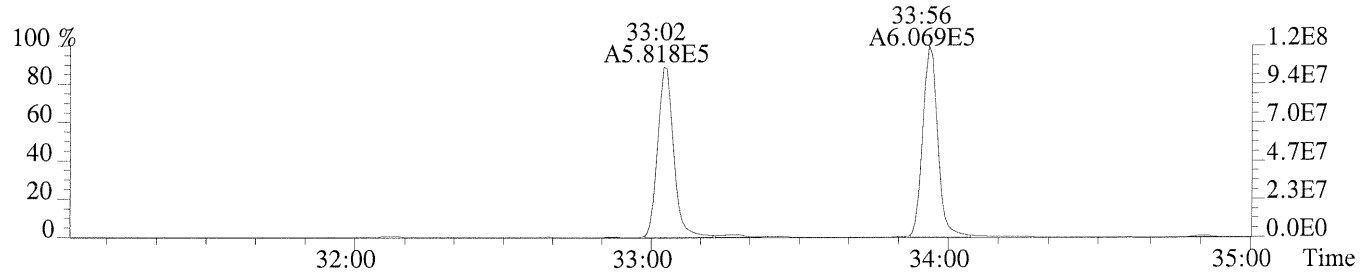


File:U150164 #1-627 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectr  
Sample#1 Exp:CS5  
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)

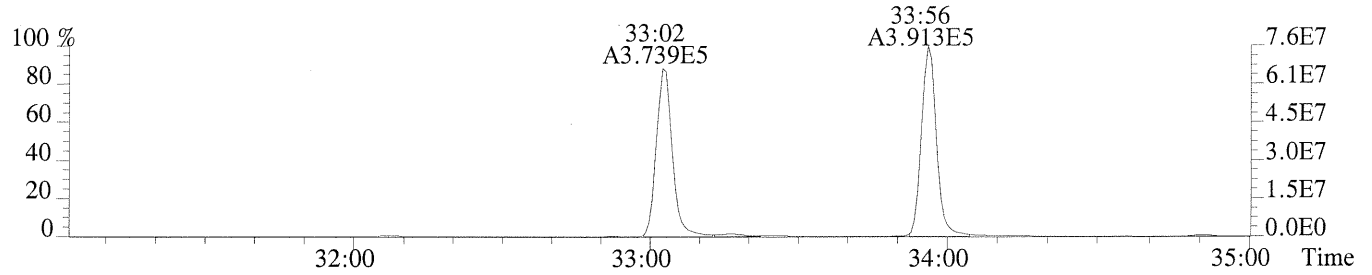


Sample#1 Exp:CS5

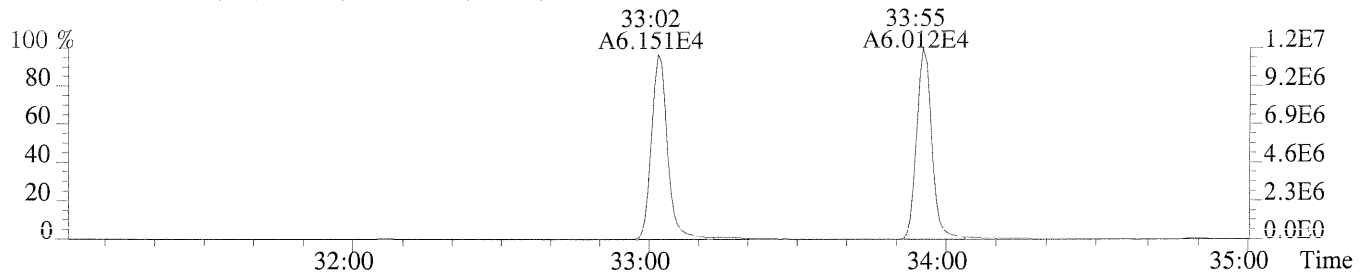
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3768.0,1.00%,F,T)



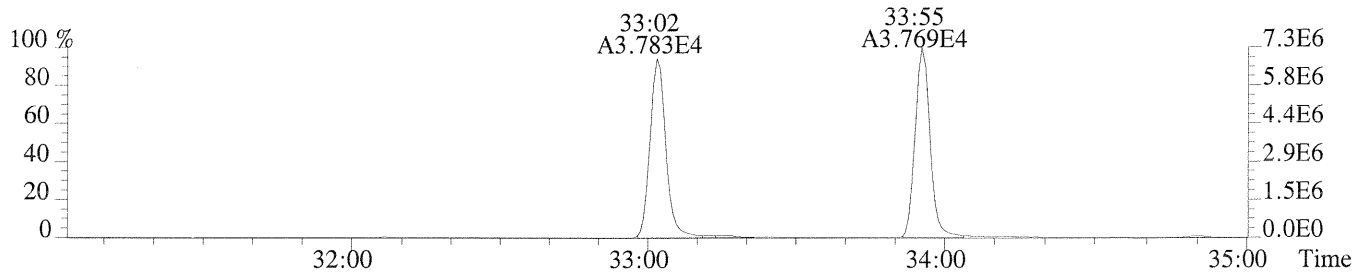
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2572.0,1.00%,F,T)



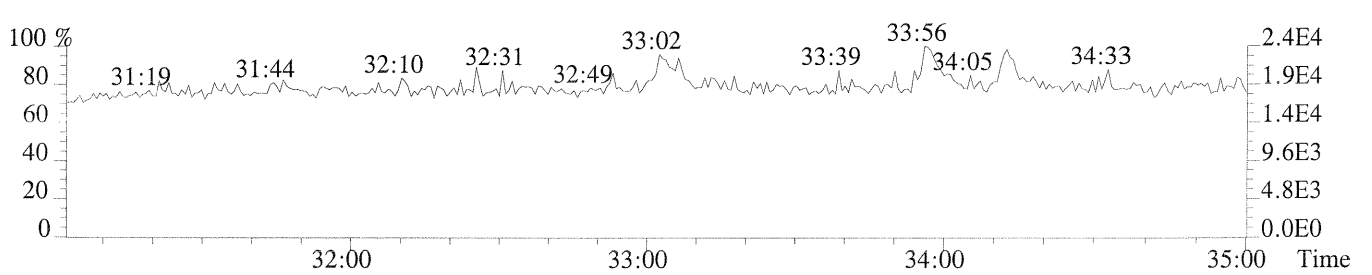
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,T)



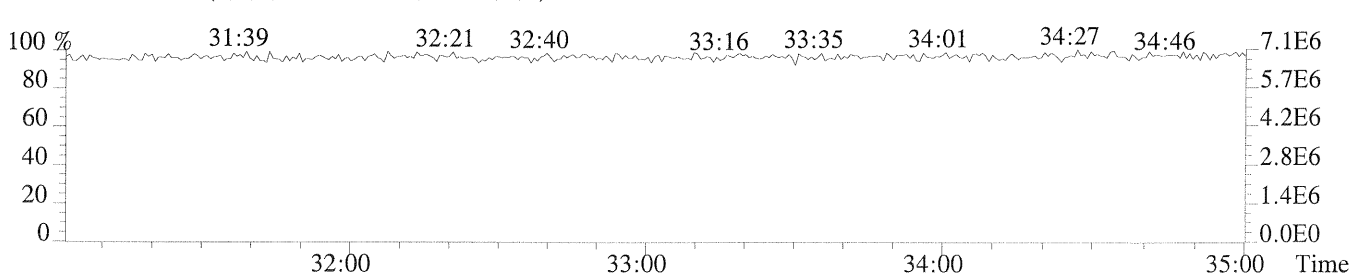
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1080.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

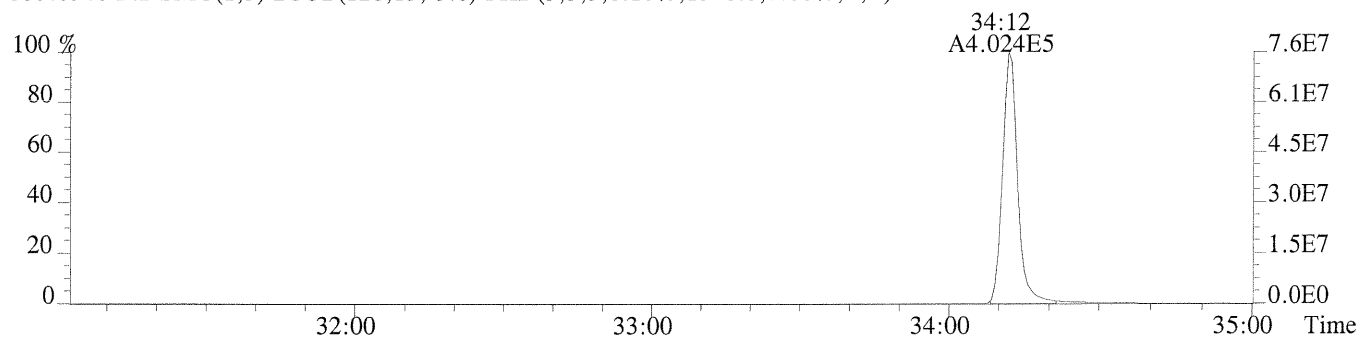


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

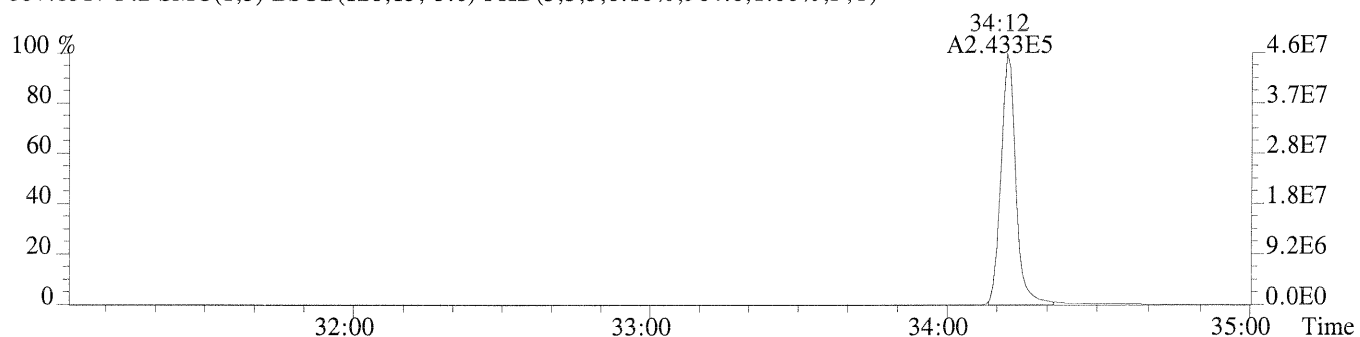


Sample#1 Exp:CS5

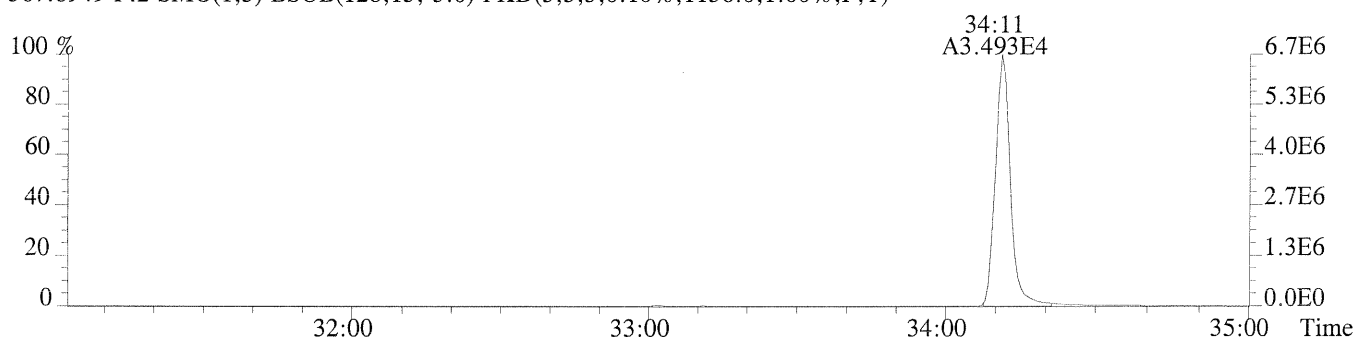
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



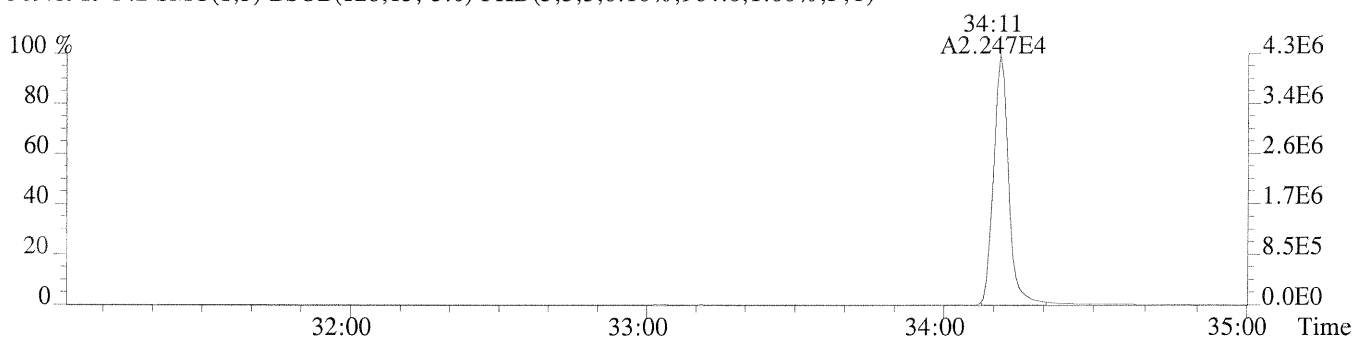
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



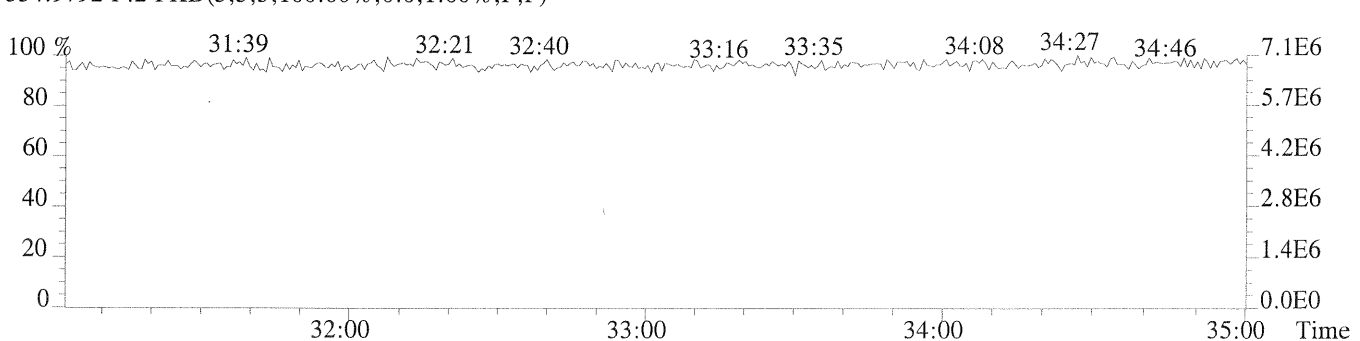
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,T)



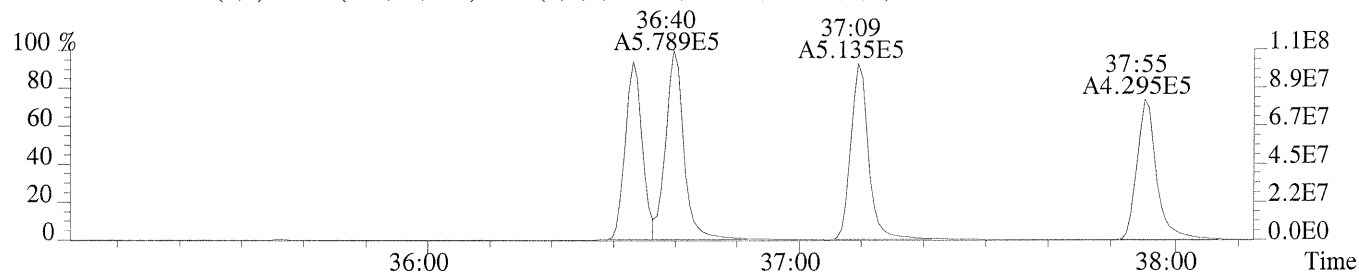
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



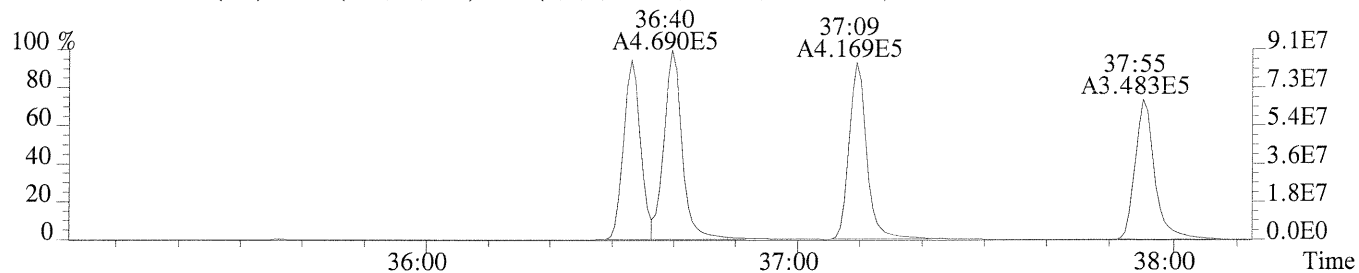
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



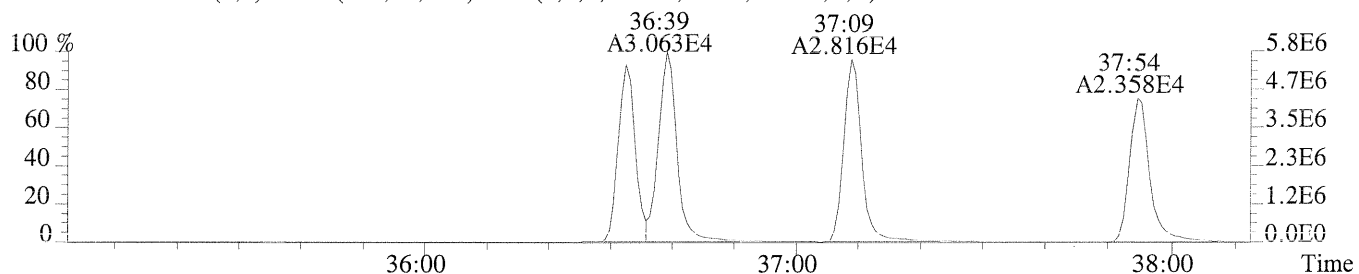
File:U150164 #1-288 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS5  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5184.0,0.40%,F,T)



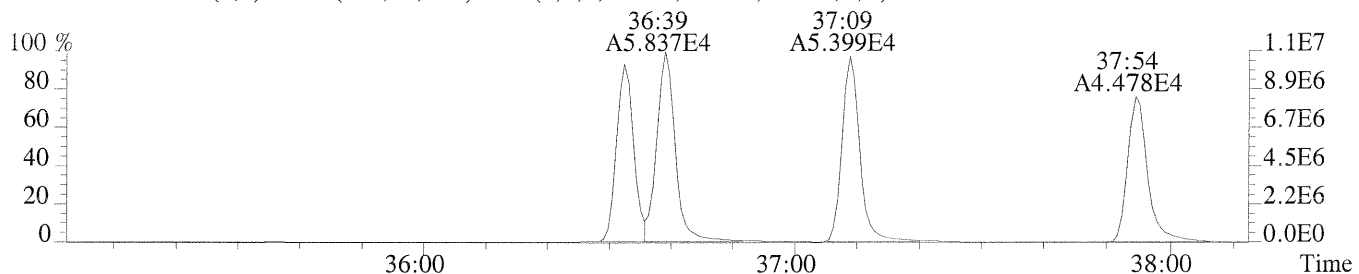
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3484.0,0.40%,F,T)



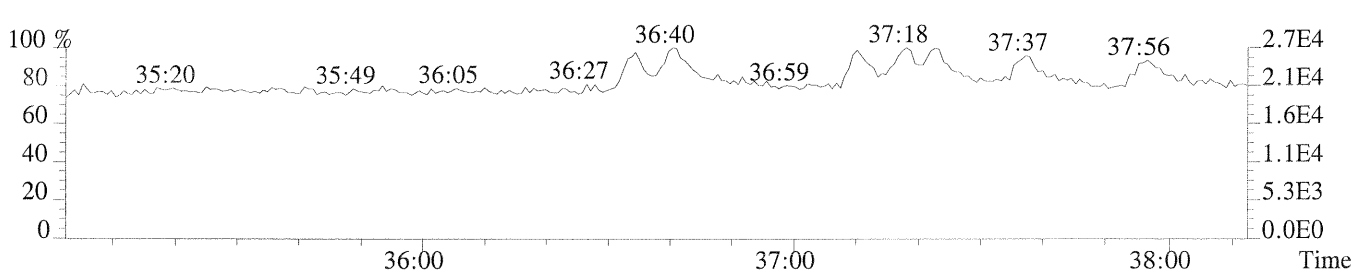
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.40%,F,T)



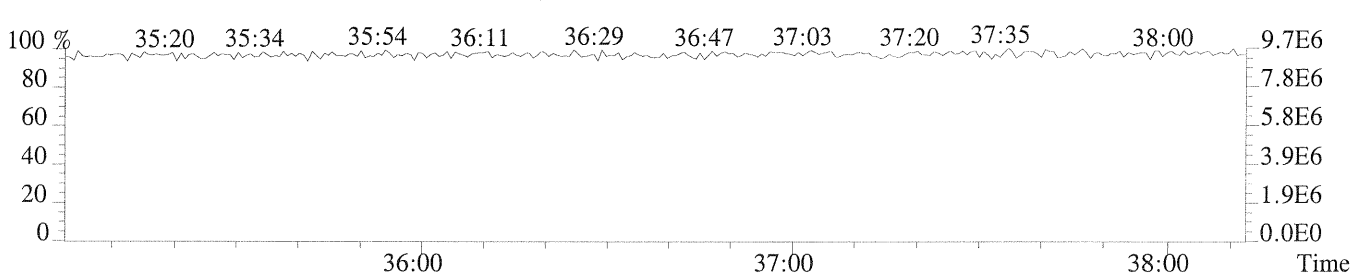
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1304.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

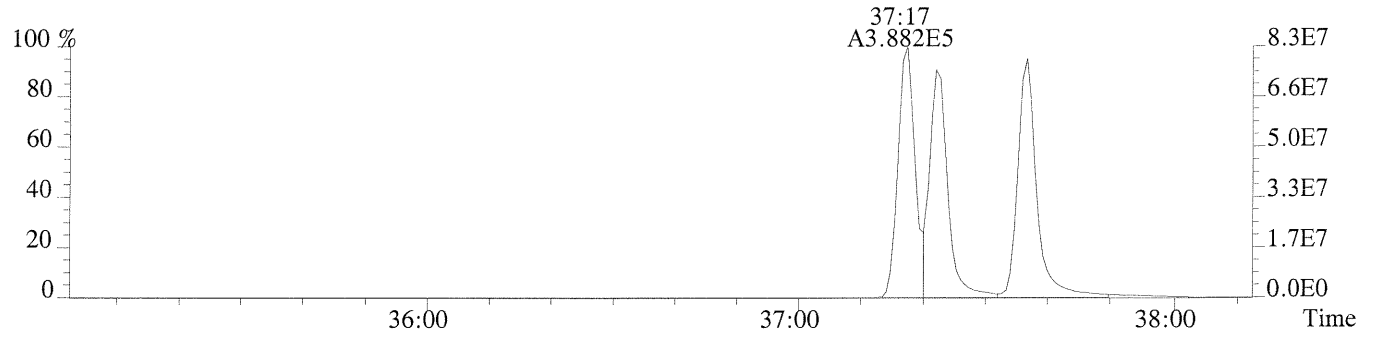


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

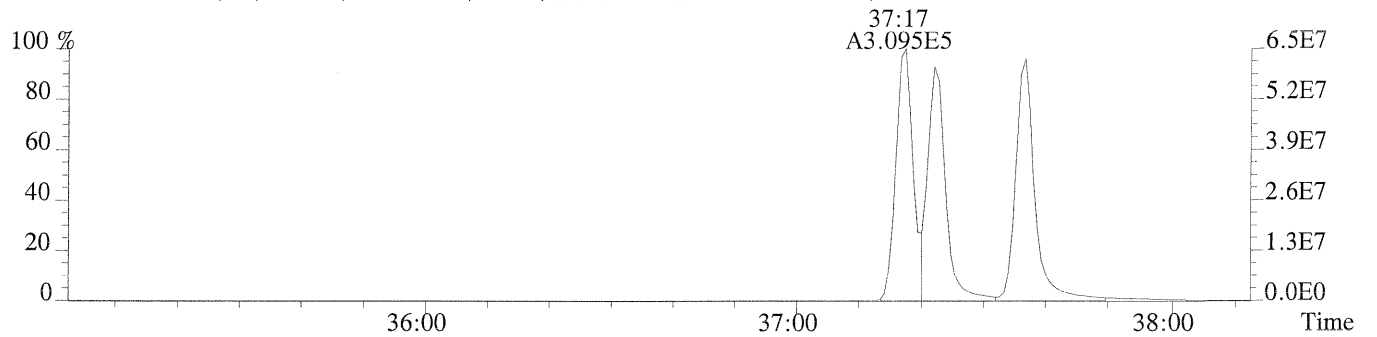


Sample#1 Exp:CS5

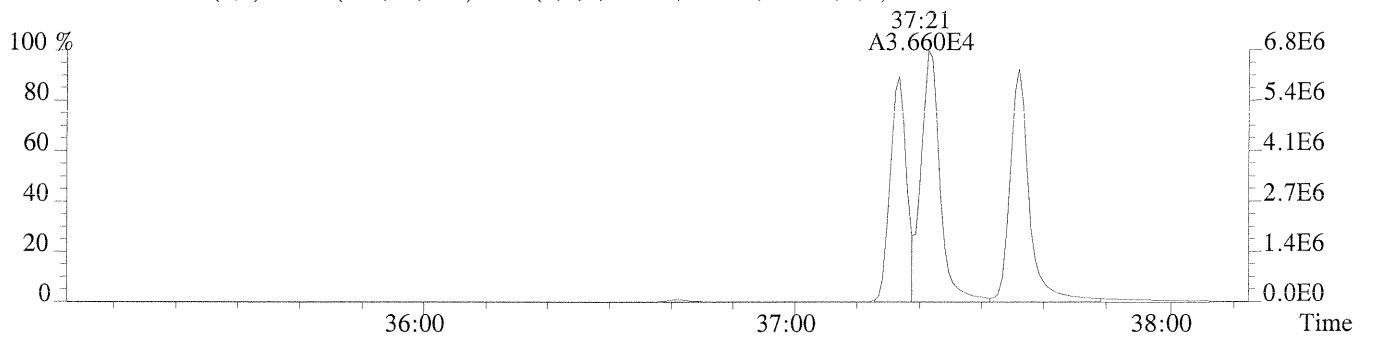
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,920.0,0.40%,F,T)



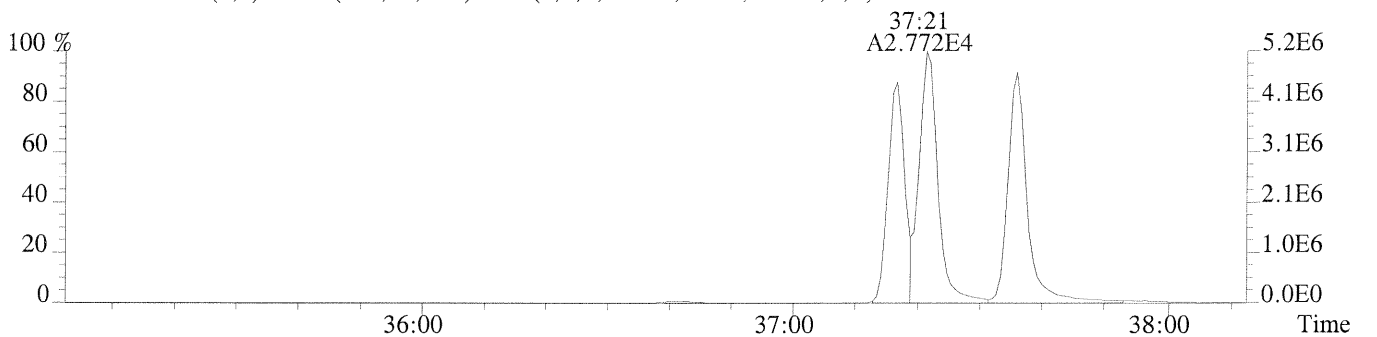
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.40%,F,T)



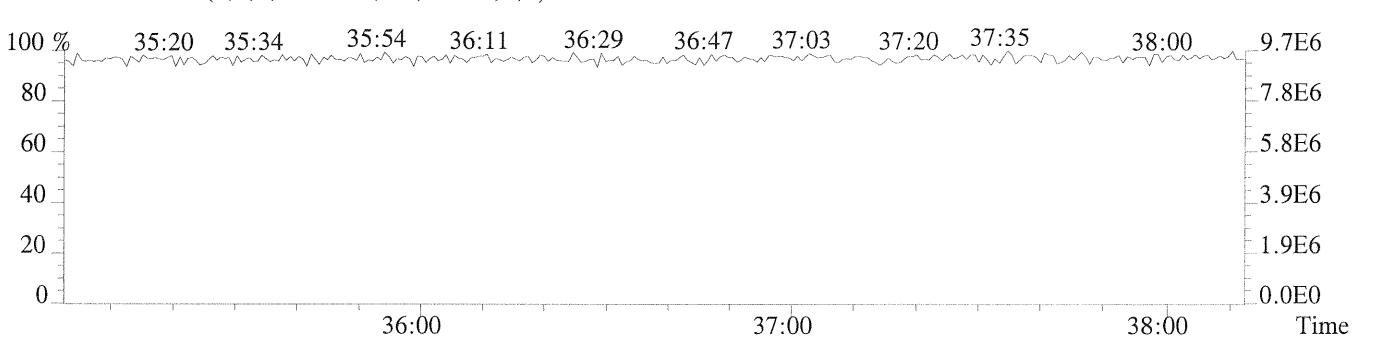
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1580.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)

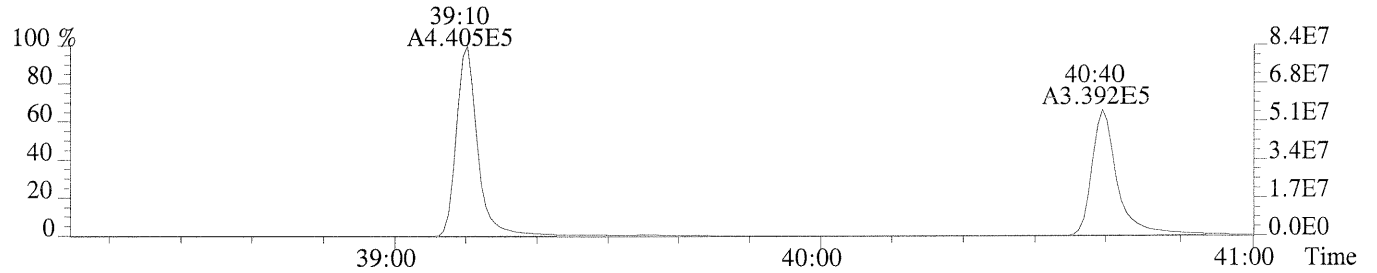


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

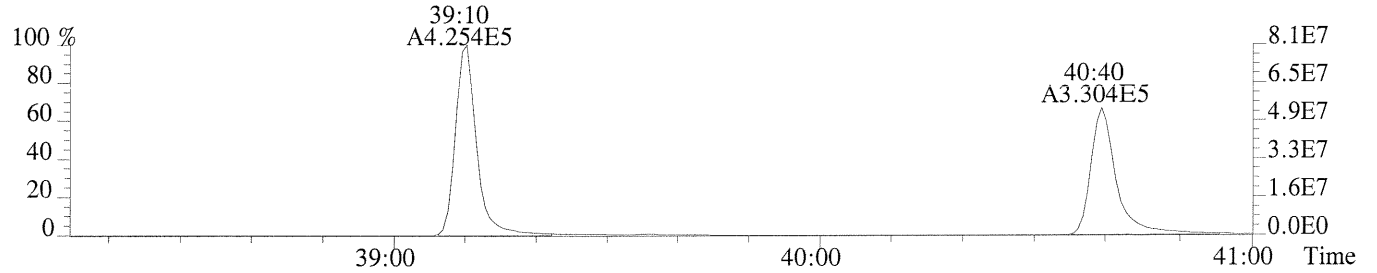




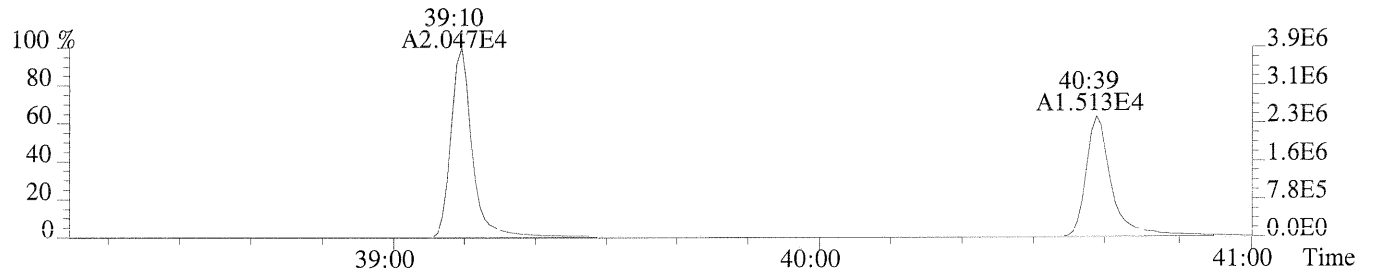
File:U150164 #1-251 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS5  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.50%,F,T)



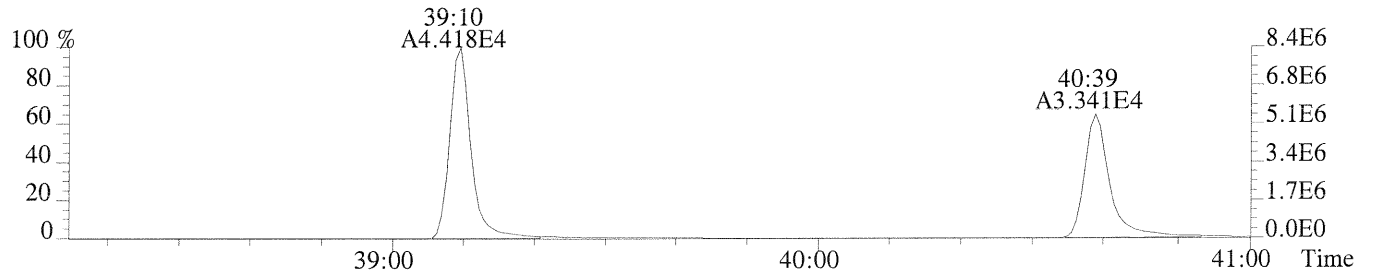
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.50%,F,T)



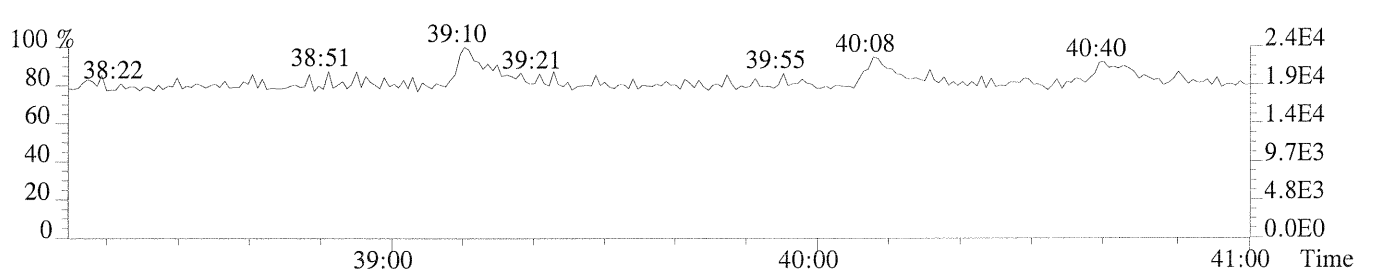
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.50%,F,T)



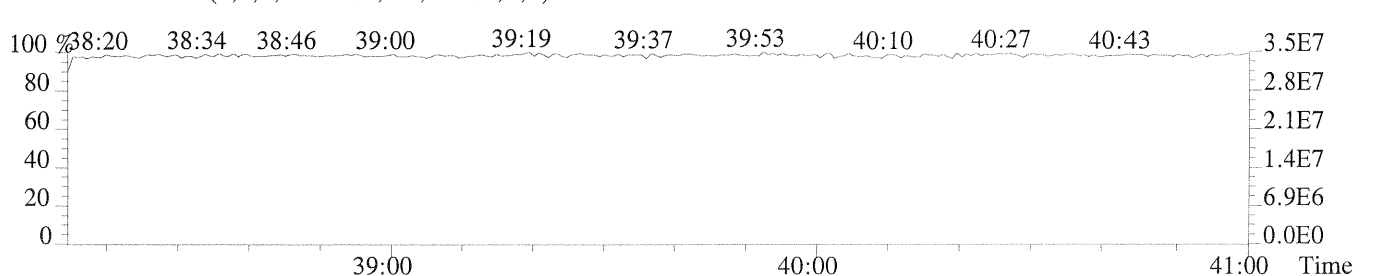
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.50%,F,T)



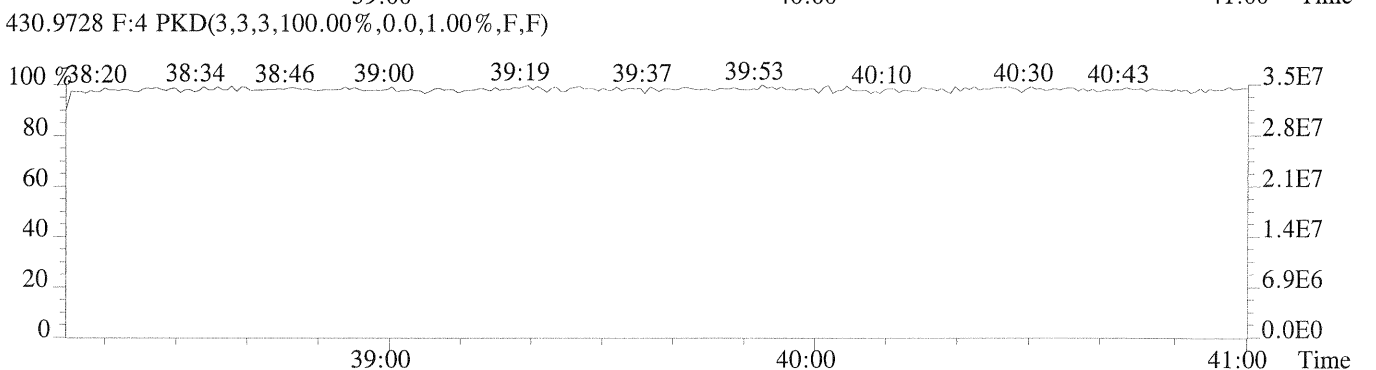
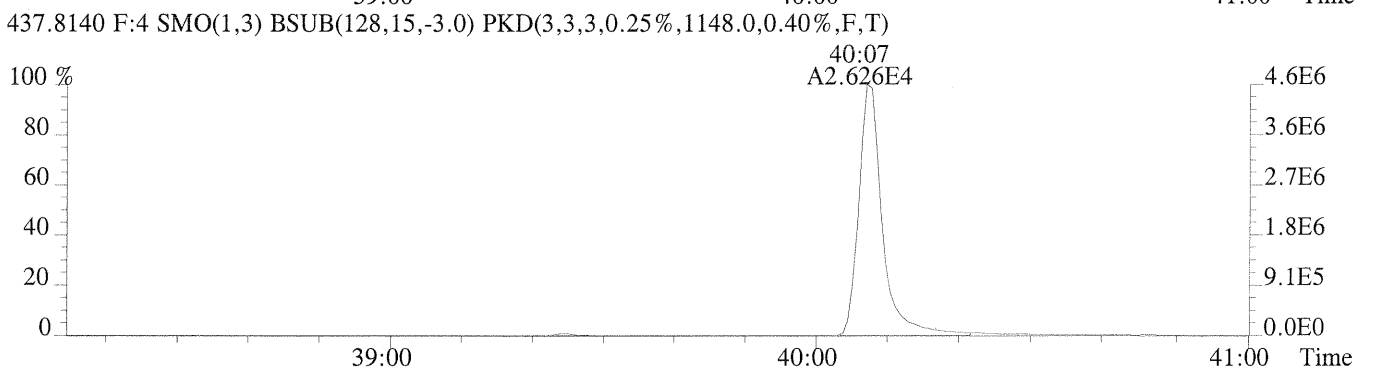
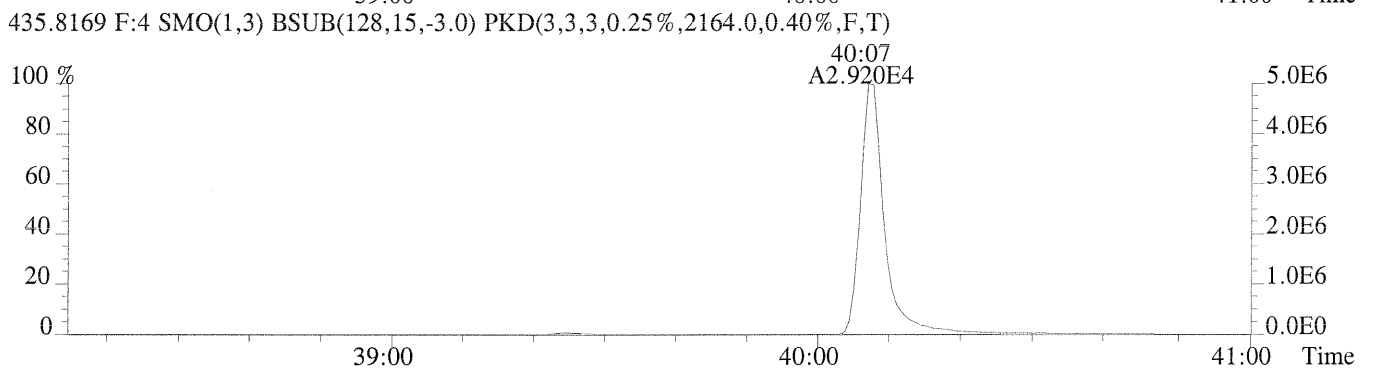
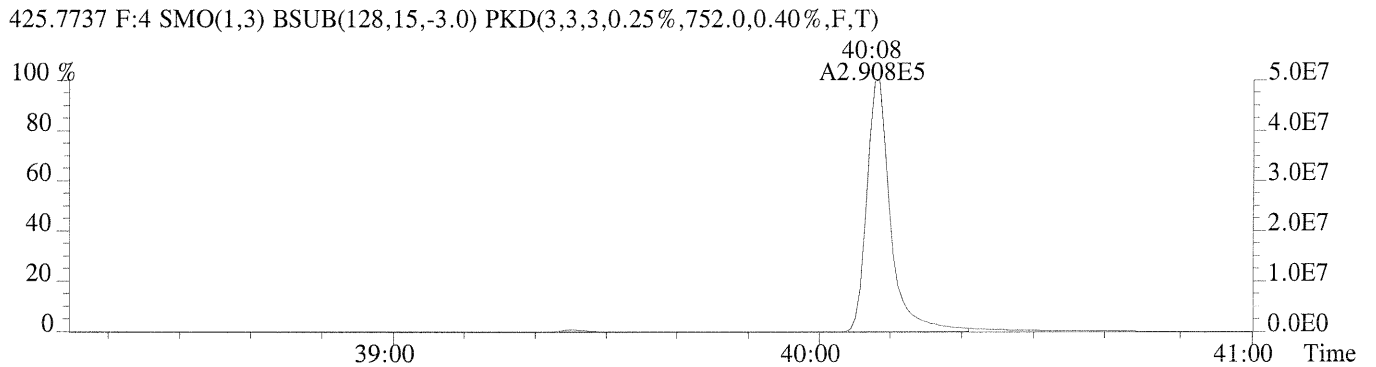
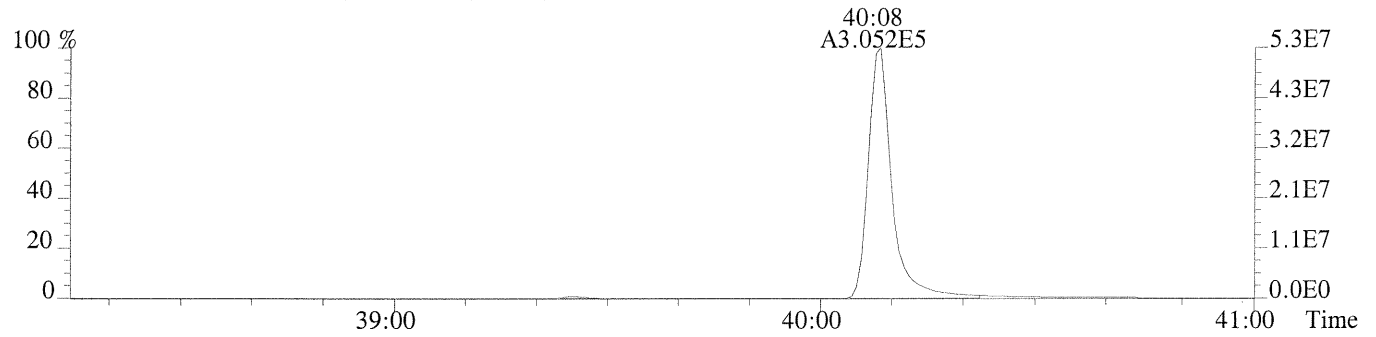
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



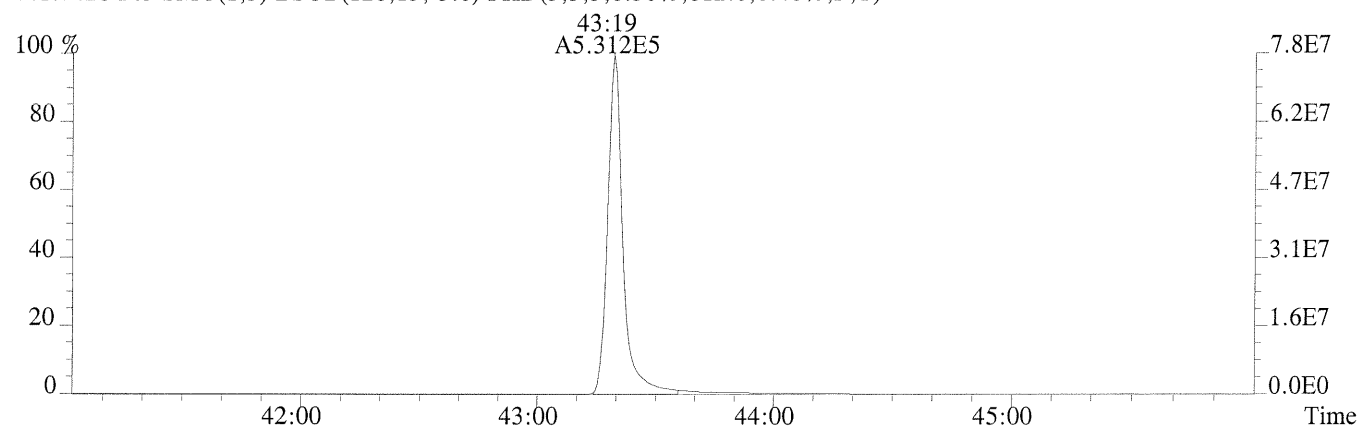
File:U150164 #1-251 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS5  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,T)



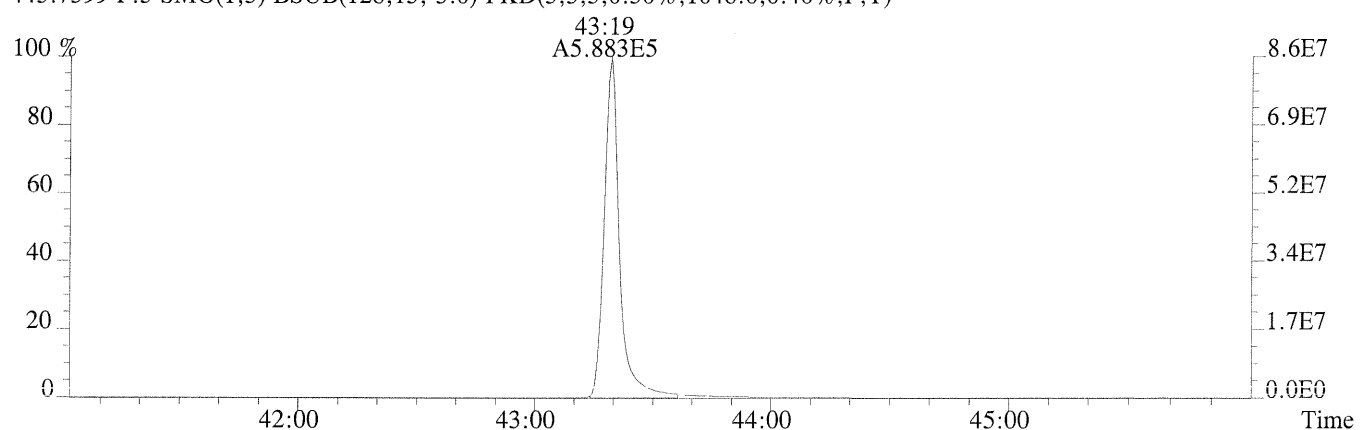
File:U150164 #1-451 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:CS5

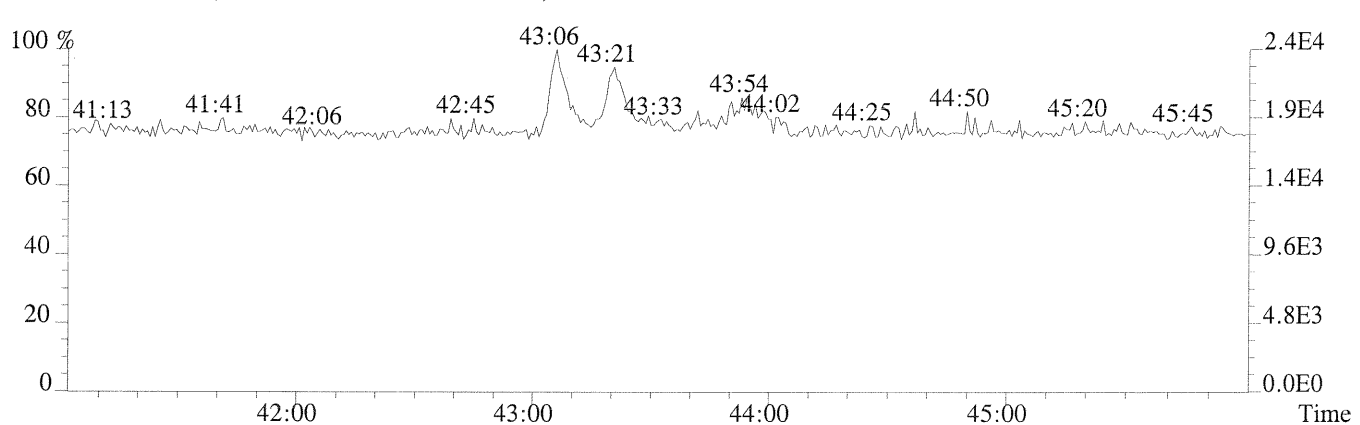
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



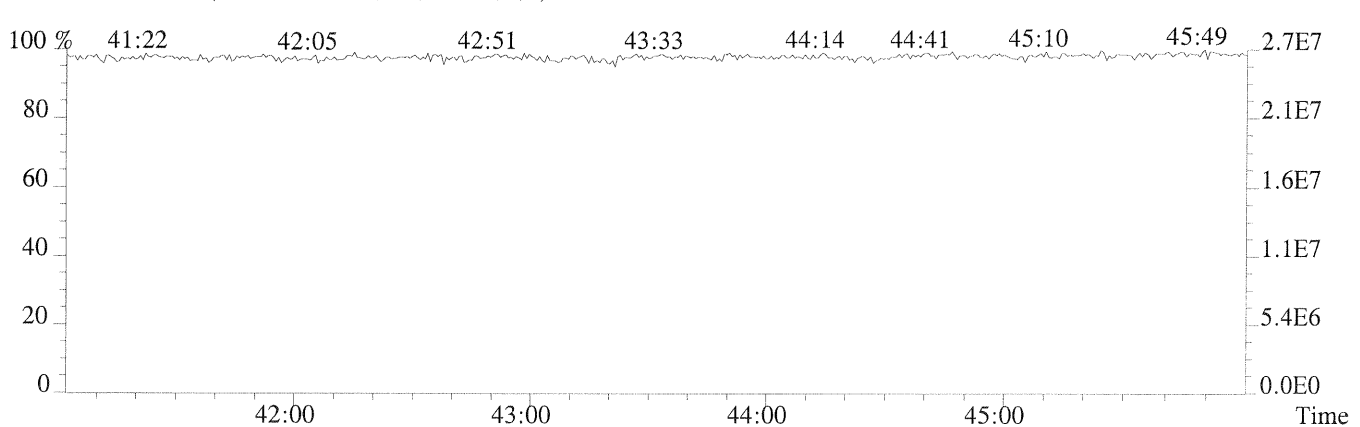
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1048.0,0.40%,F,T)



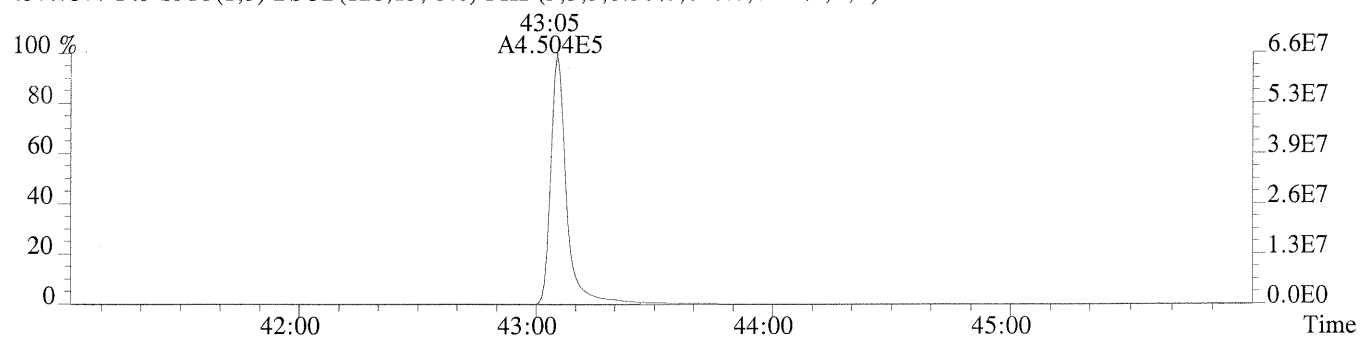
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



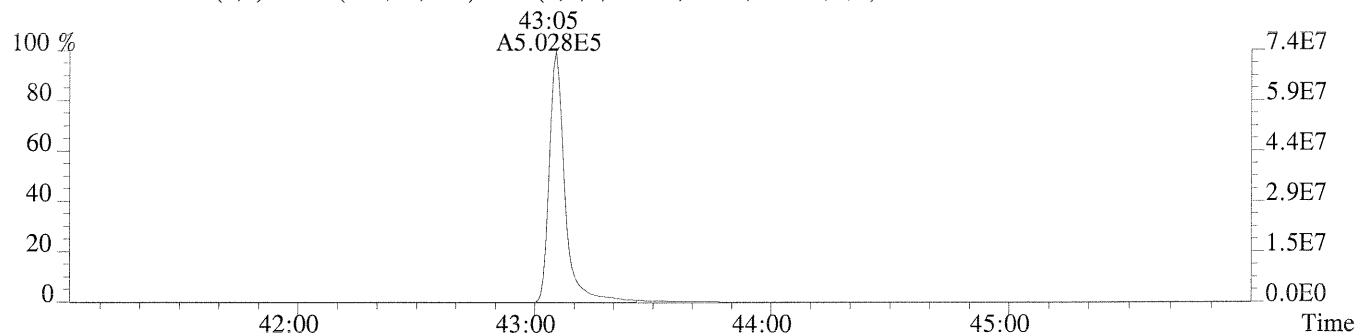
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



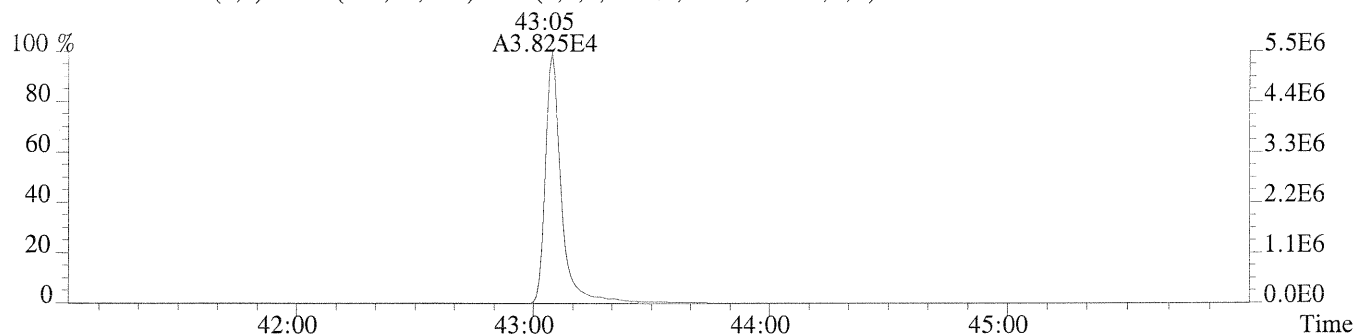
File:U150164 #1-451 Acq:31-JUL-2014 16:07:05 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:CS5  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,620.0,0.40%,F,T)



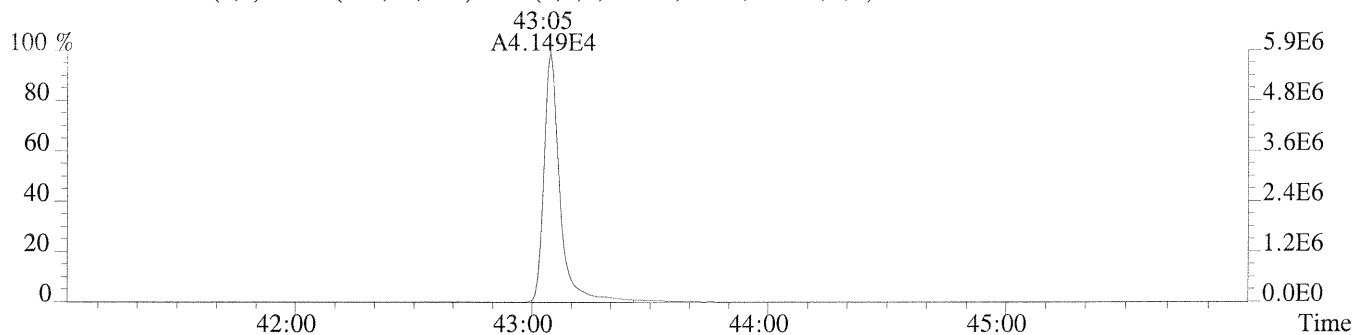
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



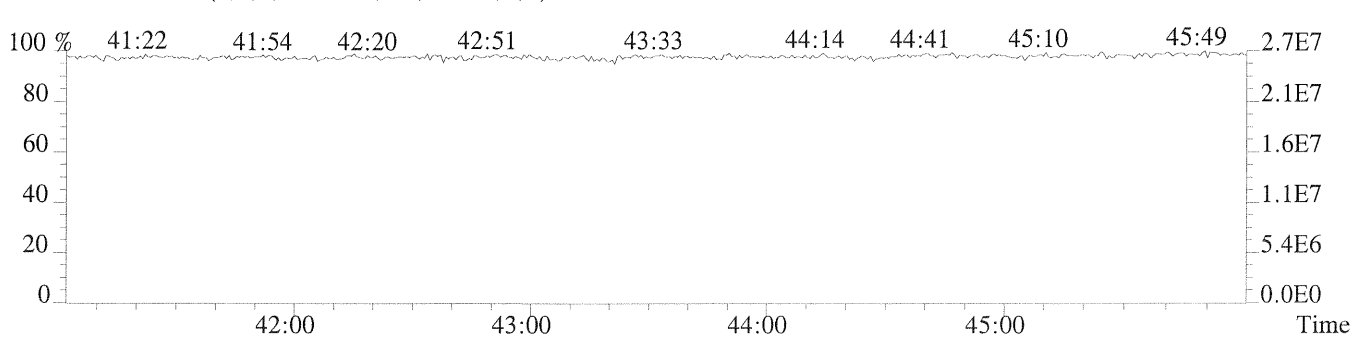
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,820.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,984.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150167

Analysis Date: 31-JUL-14 Time: 19:57:38

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (4)
2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	9.8	7.8 - 12.9	-2.4
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	47	39 - 65	-5.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	50	39 - 64	-0.2
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	44	39 - 64	-11.5
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	48	41 - 61	-3.5
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	48	43 - 58	-4.1
OCDD	M+2/M+4	0.89	0.76-1.02	86	79 - 126	-13.7
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	9.6	8.4 - 12.0	-4.2
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	45	41 - 60	-9.3
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	50	41 - 61	0.7
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	47	45 - 56	-6.8
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	50	44 - 57	-0.4
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	47	45 - 56	-6.4
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	47	44 - 57	-5.9
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	48	45 - 55	-3.9
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	51	43 - 58	2.1
OCDF	M+2/M+4	0.94	0.76-1.02	85	63 - 159	-14.8

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %D for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

1613F4A.FRM

USEPA - ITD  
FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION  
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 07/31/14

Instrument ID: E-HRMS-01

GC Column ID: DB5MSUI

VER Data Filename: U150167

Analysis Date: 31-JUL-14 Time: 19:57:38

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	100	82 - 121	-0.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	99	62 - 160	-0.7
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	101	85 - 117	0.8
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	109	85 - 118	8.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.11	0.88-1.20	103	72 - 138	2.5
13C-OCDD	M+2/M+4	0.92	0.76-1.02	216	96 - 415	8.1
13C-2,3,7,8-TCDF	M/M+2	0.84	0.65-0.89	98	71 - 140	-1.9
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	98	76 - 130	-2.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	94	77 - 130	-5.7
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	104	76 - 131	4.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	98	70 - 143	-1.6
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	99	74 - 135	-1.3
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	73 - 137	0.9
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	100	78 - 129	0.4
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	94	77 - 129	-5.9
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.9	7.8 - 12.7	-0.9

(1) See Table 8, Method 1613B, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

(5) The beginning CCAL %D for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

1613F4B.FRM

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Sample Response Summary

CLIENT ID.  
 ICV 2ND SOURCE

Run #7 Filename U150167 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-14 19:57:38  
 Processed: 4-AUG-14 10:52:25 LAB. ID: 54819

Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRT	
1	Unk	2,3,7,8-TCDF	29:02	2.879e+03	3.688e+03	0.78	yes	no	1.001
2	Unk	1,2,3,7,8-PeCDF	33:03	2.424e+04	1.546e+04	1.57	yes	no	1.001
3	Unk	2,3,4,7,8-PeCDF	33:56	2.498e+04	1.631e+04	1.53	yes	no	1.000
4	Unk	1,2,3,4,7,8-HxCDF	36:33	1.936e+04	1.580e+04	1.23	yes	no	1.000
5	Unk	1,2,3,6,7,8-HxCDF	36:40	2.327e+04	1.885e+04	1.23	yes	no	1.000
6	Unk	2,3,4,6,7,8-HxCDF	37:10	2.023e+04	1.632e+04	1.24	yes	no	1.000
7	Unk	1,2,3,7,8,9-HxCDF	37:55	1.544e+04	1.263e+04	1.22	yes	no	1.000
8	Unk	1,2,3,4,6,7,8-HpCDF	39:10	1.647e+04	1.629e+04	1.01	yes	no	1.000
9	Unk	1,2,3,4,7,8,9-HpCDF	40:40	1.169e+04	1.124e+04	1.04	yes	no	1.000
10	Unk	OCDF	43:19	1.625e+04	1.726e+04	0.94	yes	no	1.005
11	Unk	2,3,7,8-TCDD	29:46	1.963e+03	2.399e+03	0.82	yes	no	1.001
12	Unk	1,2,3,7,8-PeCDD	34:12	1.653e+04	1.006e+04	1.64	yes	no	1.000
13	Unk	1,2,3,4,7,8-HxCDD	37:17	1.417e+04	1.143e+04	1.24	yes	no	1.000
14	Unk	1,2,3,6,7,8-HxCDD	37:22	1.625e+04	1.276e+04	1.27	yes	no	1.000
15	Unk	1,2,3,7,8,9-HxCDD	37:37	1.696e+04	1.365e+04	1.24	yes	no	1.007
16	Unk	1,2,3,4,6,7,8-HpCDD	40:08	1.161e+04	1.104e+04	1.05	yes	no	1.000
17	Unk	OCDD	43:05	1.448e+04	1.627e+04	0.89	yes	no	1.000
18	IS	13C-2,3,7,8-TCDF	29:01	2.969e+04	3.516e+04	0.84	yes	no	0.994
19	IS	13C-1,2,3,7,8-PeCDF	33:02	5.292e+04	3.288e+04	1.61	yes	no	1.132
20	IS	13C-2,3,4,7,8-PeCDF	33:55	5.135e+04	3.241e+04	1.58	yes	no	1.162
21	IS	13C-1,2,3,4,7,8-HxCDF	36:33	2.104e+04	3.995e+04	0.53	yes	no	0.972
22	IS	13C-1,2,3,6,7,8-HxCDF	36:39	2.526e+04	4.831e+04	0.52	yes	no	0.975
23	IS	13C-2,3,4,6,7,8-HxCDF	37:09	2.295e+04	4.427e+04	0.52	yes	no	0.988
24	IS	13C-1,2,3,7,8,9-HxCDF	37:55	1.736e+04	3.346e+04	0.52	yes	no	1.008
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:09	1.572e+04	3.424e+04	0.46	yes	no	1.041
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:39	1.037e+04	2.376e+04	0.44	yes	no	1.081
27	IS	13C-2,3,7,8-TCDD	29:44	2.006e+04	2.593e+04	0.77	yes	no	1.019
28	IS	13C-1,2,3,7,8-PeCDD	34:11	3.074e+04	1.948e+04	1.58	yes	no	1.171
29	IS	13C-1,2,3,4,7,8-HxCDD	37:16	2.167e+04	1.692e+04	1.28	yes	no	0.991
30	IS	13C-1,2,3,6,7,8-HxCDD	37:21	2.962e+04	2.283e+04	1.30	yes	no	0.993
31	IS	13C-1,2,3,4,6,7,8-HpCDD	40:07	2.258e+04	2.031e+04	1.11	yes	no	1.067
32	IS	13C-OCDD	43:05	2.572e+04	2.791e+04	0.92	yes	no	1.146
33	RS/RT	13C-1,2,3,4-TCDD	29:11	2.045e+04	2.660e+04	0.77	yes	no	*
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	2.800e+04	2.149e+04	1.30	yes	no	*
35	C/Up	37Cl-2,3,7,8-TCDD	29:46	4.454e+03				no	1.020

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XLRESP

ALS ENVIRONMENTAL  
 METHOD 1613B/8290A  
 Signal/Noise Height Ratio Summary

CLIENT ID.  
 ICV 2ND SOURCE

Run #7 Filename U150167 Samp: 1 Inj: 1 Acquired: 31-JUL-14 19:57:38  
 Processed: 4-AUG-14 10:52:251 LAB. ID: 54819

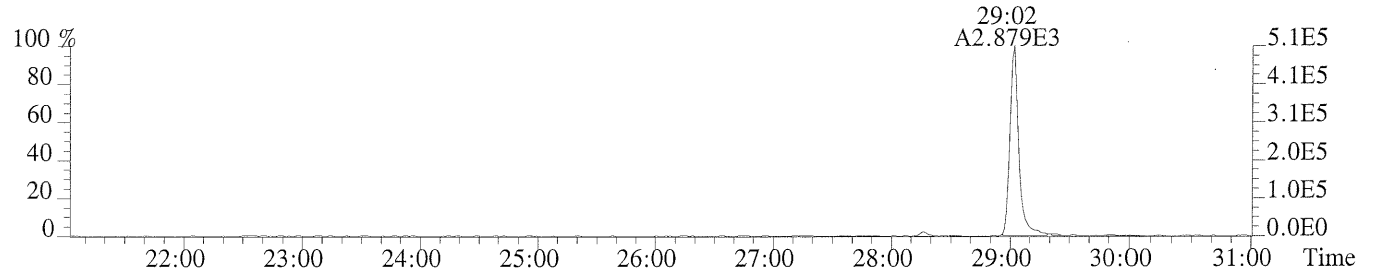
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.11e+05	9.04e+02	5.7e+02	6.56e+05	2.02e+03	3.3e+02
2	1,2,3,7,8-PeCDF	3.91e+06	1.06e+03	3.7e+03	2.50e+06	1.75e+03	1.4e+03
3	2,3,4,7,8-PeCDF	4.25e+06	1.06e+03	4.0e+03	2.77e+06	1.75e+03	1.6e+03
4	1,2,3,4,7,8-HxCDF	3.94e+06	1.05e+03	3.8e+03	3.25e+06	1.20e+03	2.7e+03
5	1,2,3,6,7,8-HxCDF	4.09e+06	1.05e+03	3.9e+03	3.30e+06	1.20e+03	2.7e+03
6	2,3,4,6,7,8-HxCDF	3.80e+06	1.05e+03	3.6e+03	3.10e+06	1.20e+03	2.6e+03
7	1,2,3,7,8,9-HxCDF	2.62e+06	1.05e+03	2.5e+03	2.18e+06	1.20e+03	1.8e+03
8	1,2,3,4,6,7,8-HpCDF	2.89e+06	8.24e+02	3.5e+03	2.89e+06	7.72e+02	3.7e+03
9	1,2,3,4,7,8,9-HpCDF	1.75e+06	8.24e+02	2.1e+03	1.67e+06	7.72e+02	2.2e+03
10	OCDF	2.15e+06	6.08e+02	3.5e+03	2.28e+06	1.20e+03	1.9e+03
11	2,3,7,8-TCDD	3.59e+05	8.04e+02	4.5e+02	4.33e+05	7.44e+02	5.8e+02
12	1,2,3,7,8-PeCDD	2.79e+06	1.11e+03	2.5e+03	1.72e+06	1.08e+03	1.6e+03
13	1,2,3,4,7,8-HxCDD	3.02e+06	7.60e+02	4.0e+03	2.45e+06	7.24e+02	3.4e+03
14	1,2,3,6,7,8-HxCDD	2.85e+06	7.60e+02	3.8e+03	2.24e+06	7.24e+02	3.1e+03
15	1,2,3,7,8,9-HxCDD	2.82e+06	7.60e+02	3.7e+03	2.23e+06	7.24e+02	3.1e+03
16	1,2,3,4,6,7,8-HpCDD	1.83e+06	1.02e+03	1.8e+03	1.79e+06	7.72e+02	2.3e+03
17	OCDD	1.77e+06	7.40e+02	2.4e+03	1.99e+06	9.24e+02	2.2e+03
18	13C-2,3,7,8-TCDF	5.19e+06	2.00e+03	2.6e+03	6.07e+06	1.30e+03	4.7e+03
19	13C-1,2,3,7,8-PeCDF	8.65e+06	1.11e+03	7.8e+03	5.41e+06	9.44e+02	5.7e+03
20	13C-2,3,4,7,8-PeCDF	8.94e+06	1.11e+03	8.0e+03	5.65e+06	9.44e+02	6.0e+03
21	13C-1,2,3,4,7,8-HxCDF	4.36e+06	1.30e+03	3.4e+03	8.16e+06	2.23e+03	3.7e+03
22	13C-1,2,3,6,7,8-HxCDF	4.47e+06	1.30e+03	3.4e+03	8.48e+06	2.23e+03	3.8e+03
23	13C-2,3,4,6,7,8-HxCDF	4.27e+06	1.30e+03	3.3e+03	8.31e+06	2.23e+03	3.7e+03
24	13C-1,2,3,7,8,9-HxCDF	2.98e+06	1.30e+03	2.3e+03	5.78e+06	2.23e+03	2.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.73e+06	7.88e+02	3.5e+03	6.03e+06	8.08e+02	7.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.55e+06	7.88e+02	2.0e+03	3.48e+06	8.08e+02	4.3e+03
27	13C-2,3,7,8-TCDD	3.67e+06	3.24e+03	1.1e+03	4.75e+06	2.35e+03	2.0e+03
28	13C-1,2,3,7,8-PeCDD	5.31e+06	1.19e+03	4.5e+03	3.34e+06	1.01e+03	3.3e+03
29	13C-1,2,3,4,7,8-HxCDD	4.66e+06	1.39e+03	3.4e+03	3.61e+06	1.18e+03	3.0e+03
30	13C-1,2,3,6,7,8-HxCDD	5.28e+06	1.39e+03	3.8e+03	4.13e+06	1.18e+03	3.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.64e+06	1.33e+03	2.7e+03	3.31e+06	8.24e+02	4.0e+03
32	13C-OCDD	3.21e+06	7.40e+02	4.3e+03	3.48e+06	6.08e+02	5.7e+03
33	13C-1,2,3,4-TCDD	4.07e+06	3.24e+03	1.3e+03	5.31e+06	2.35e+03	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	4.67e+06	1.39e+03	3.4e+03	3.56e+06	1.18e+03	3.0e+03
35	37Cl-2,3,7,8-TCDD	8.00e+05	1.24e+03	6.4e+02			

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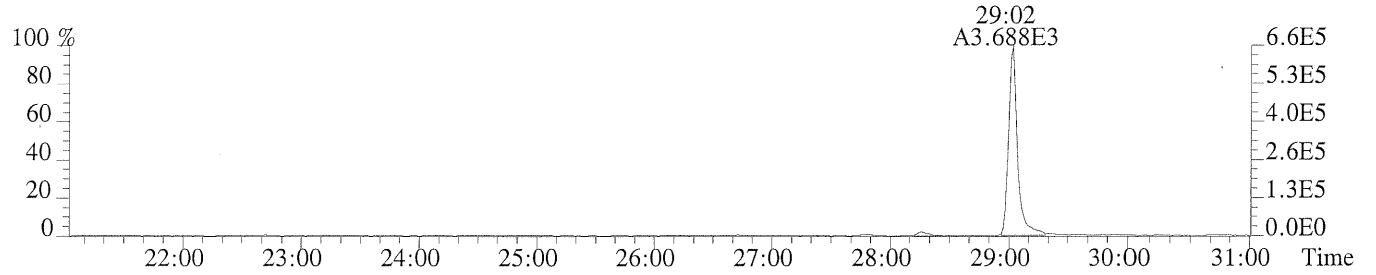
XLSN



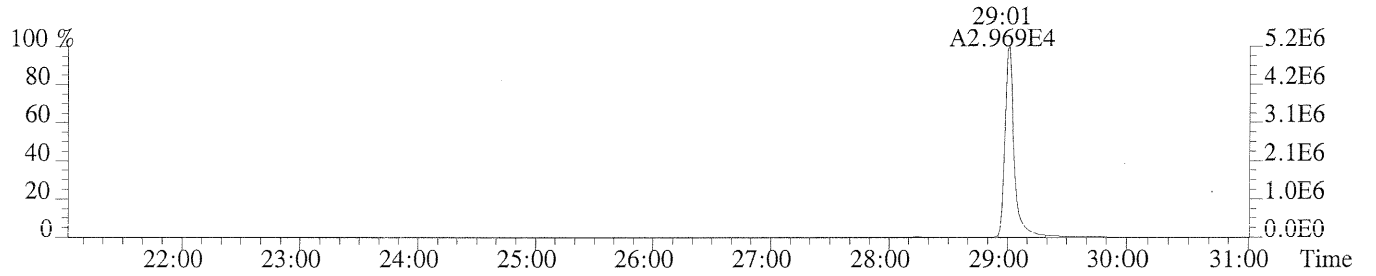
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Sample#1 Exp:2ND SOURCE CCV  
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



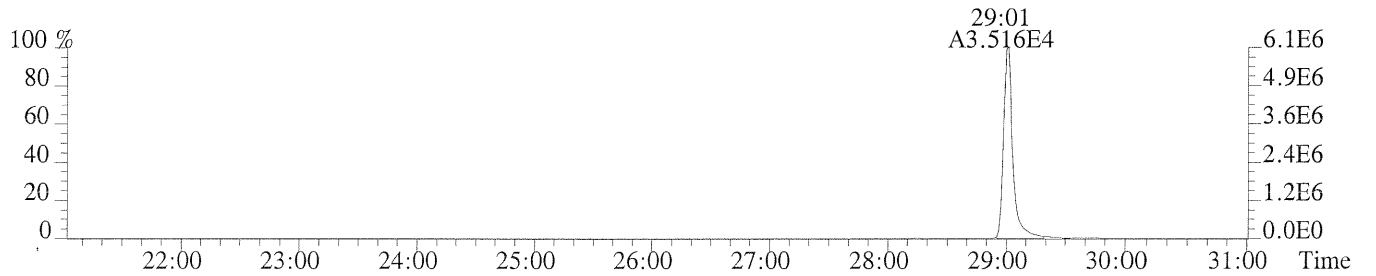
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2016.0,1.00%,F,T)



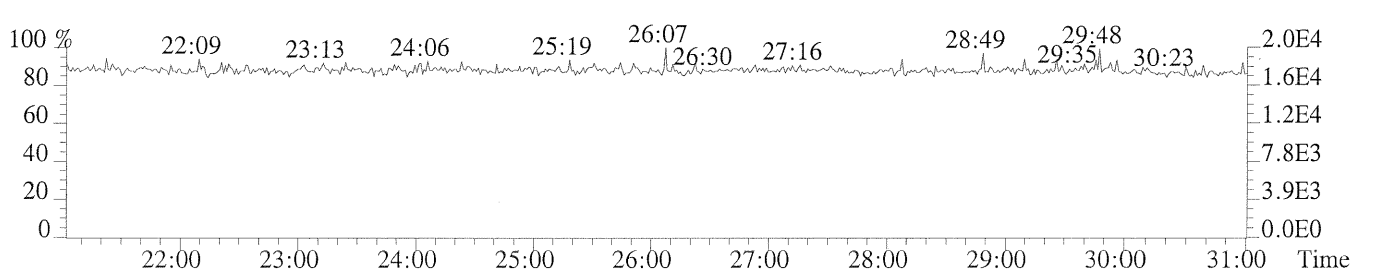
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1996.0,1.00%,F,T)



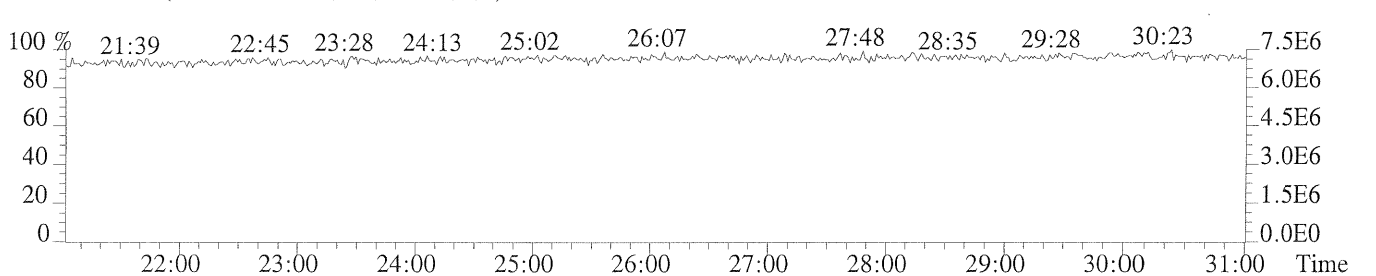
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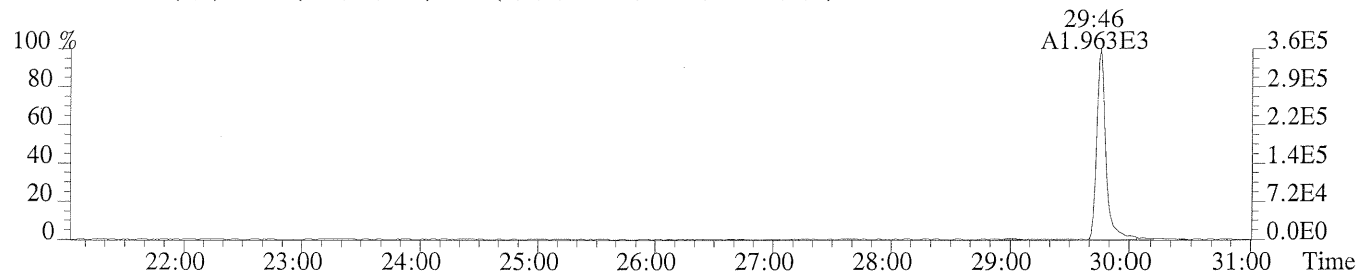
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



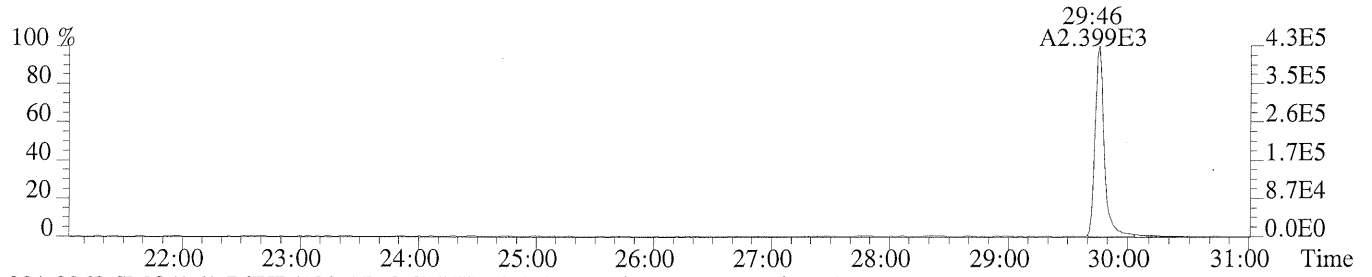
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



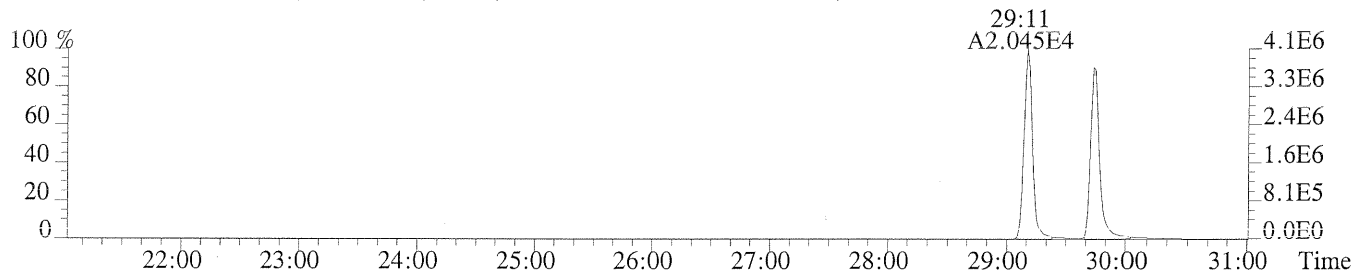
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Sample#1 Exp:2ND SOURCE CCV  
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



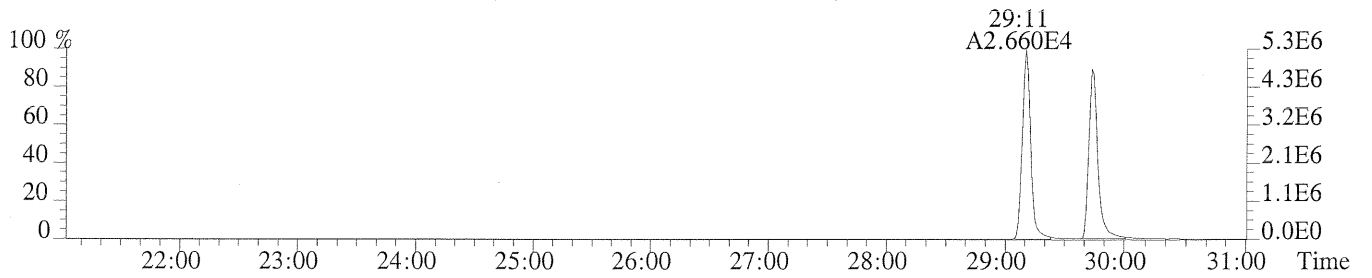
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



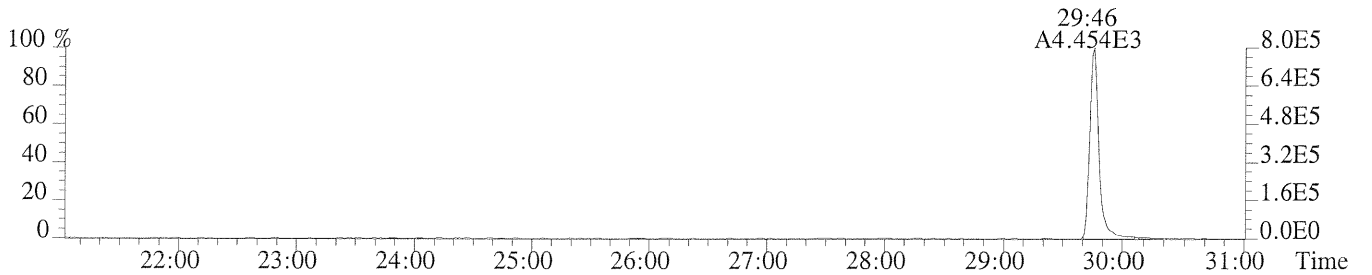
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3236.0,1.00%,F,T)



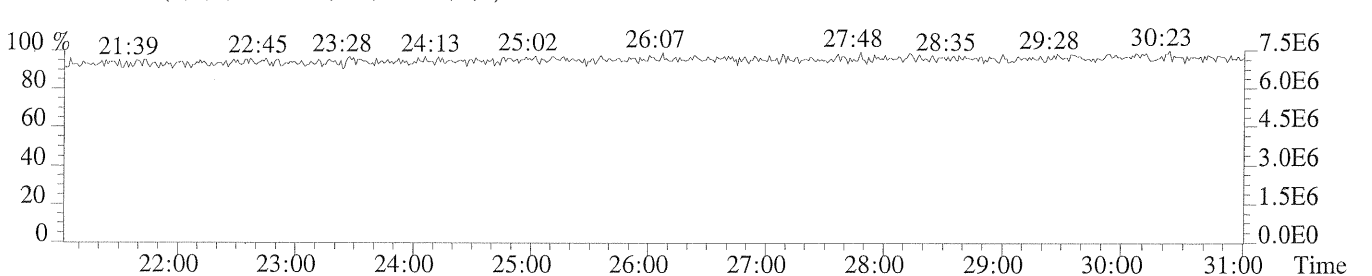
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2348.0,1.00%,F,T)



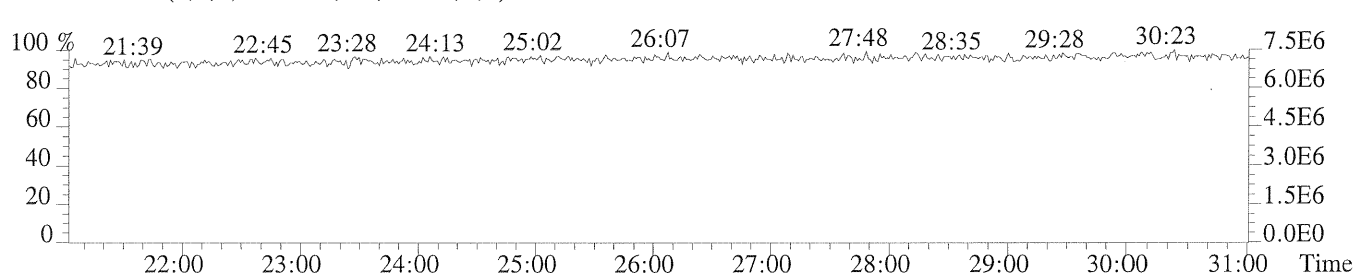
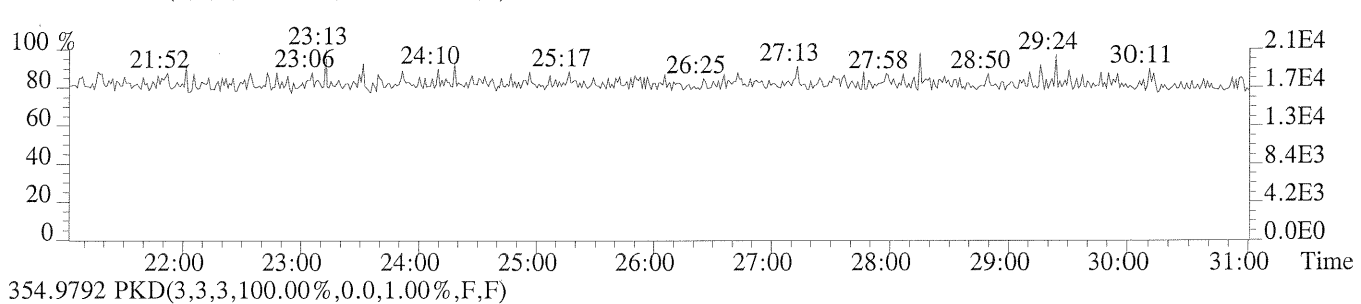
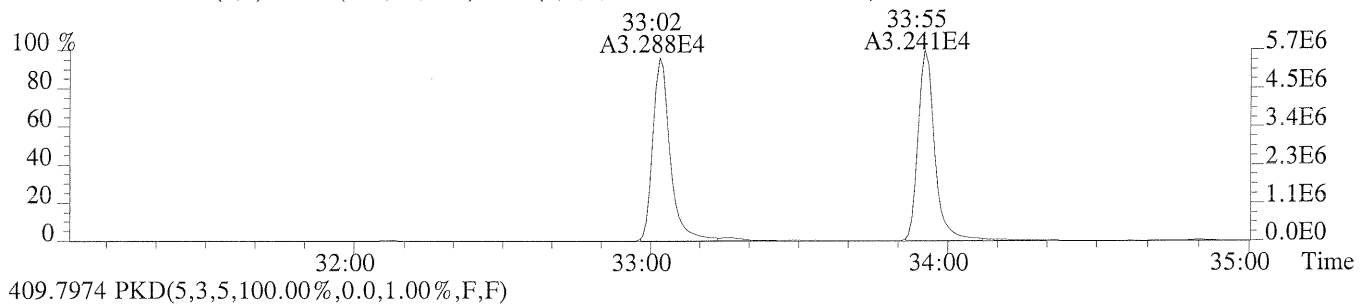
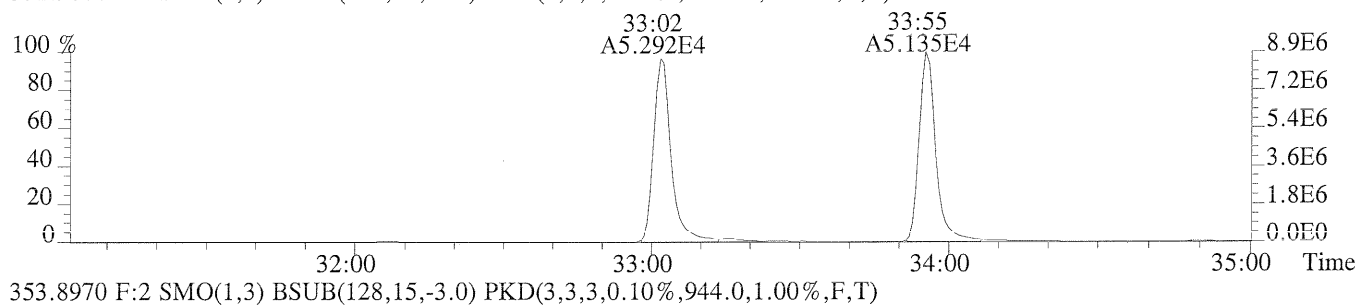
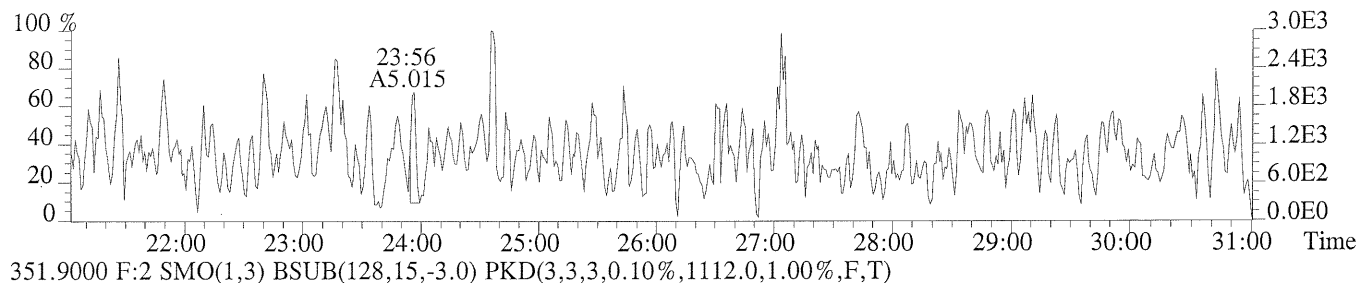
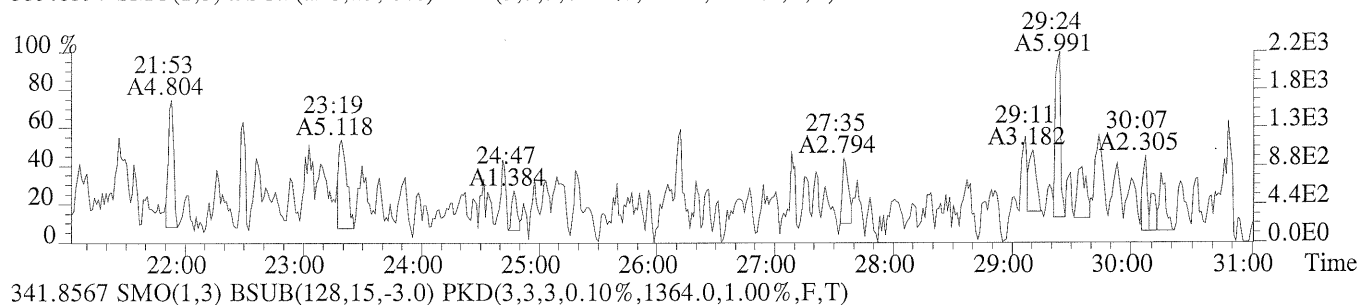
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



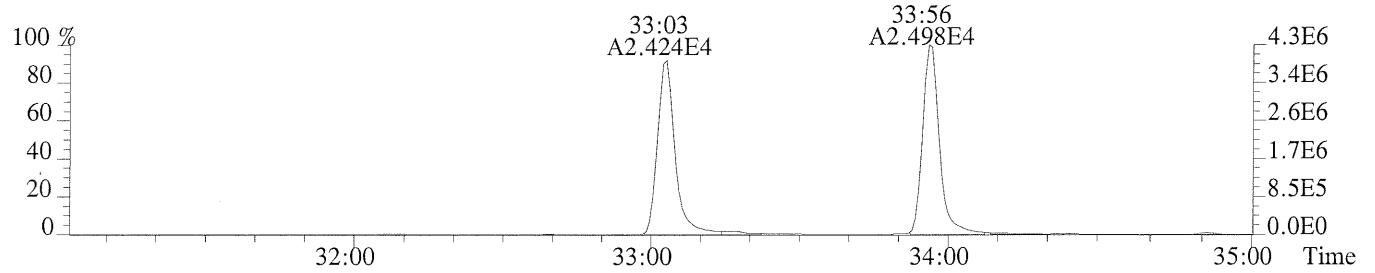
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Sample#1 Exp:2ND SOURCE CCV  
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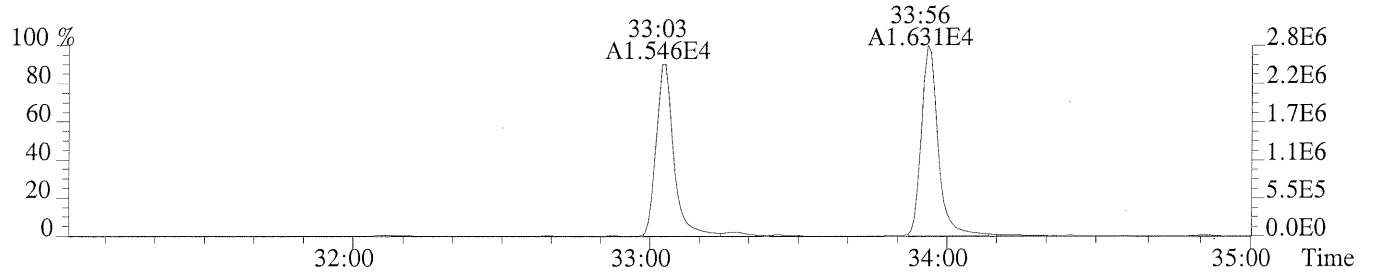
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Sample#1 Exp:2ND SOURCE CCV

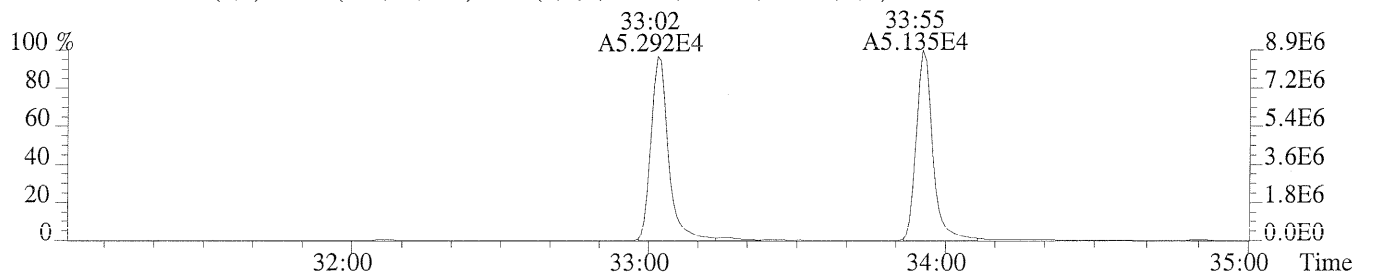
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



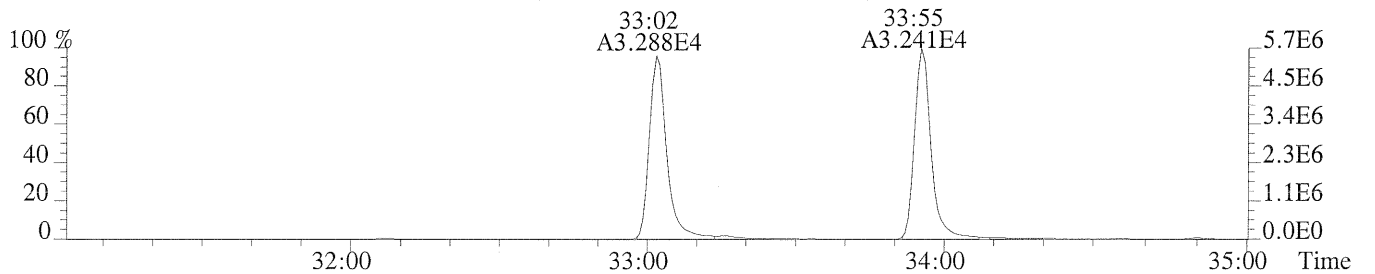
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



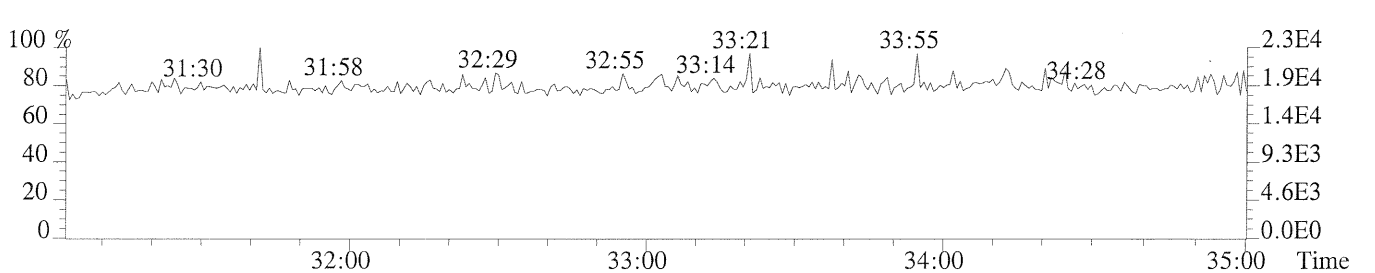
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1112.0,1.00%,F,T)



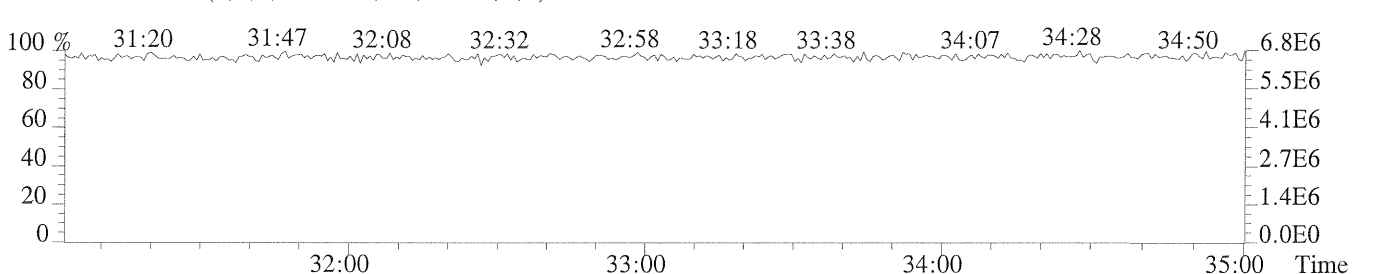
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



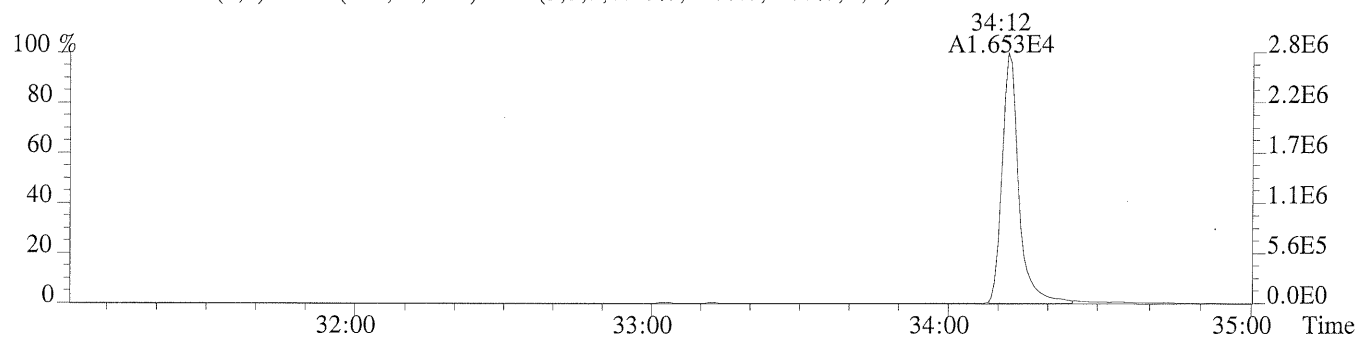
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



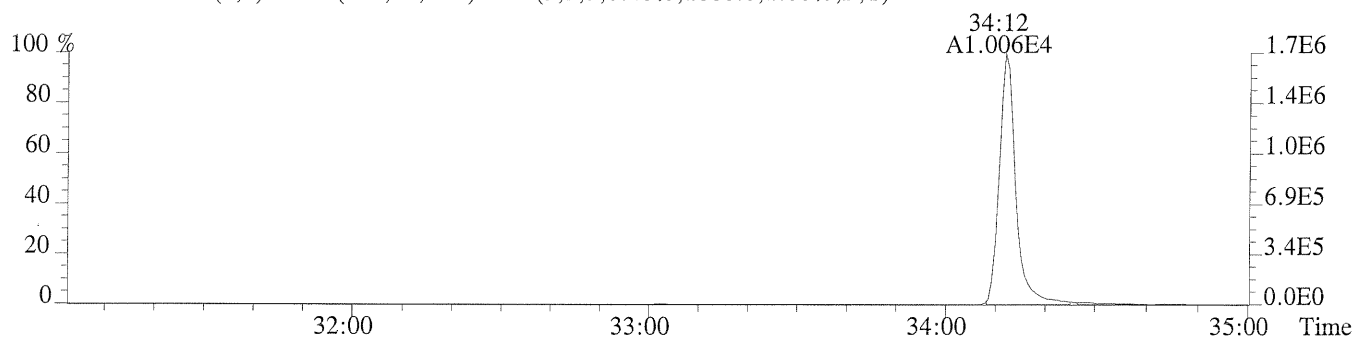
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



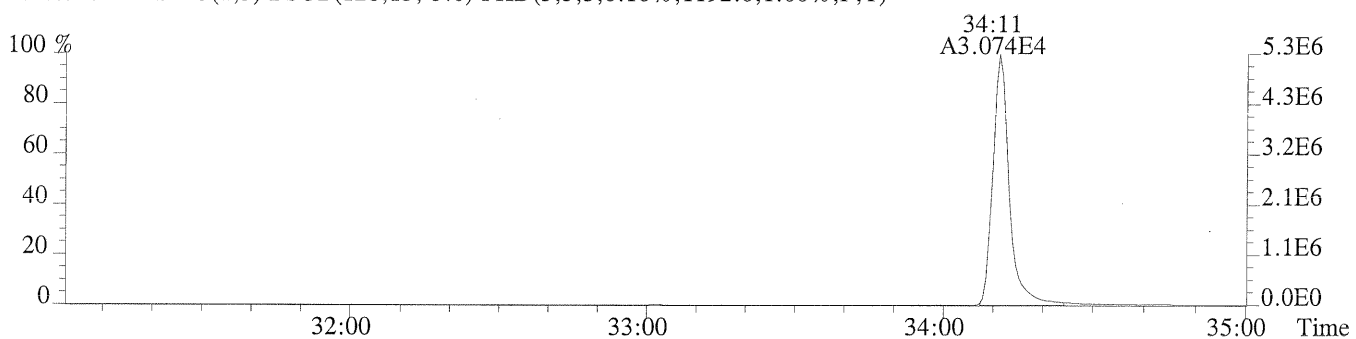
File:U150167 #1-360 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,T)



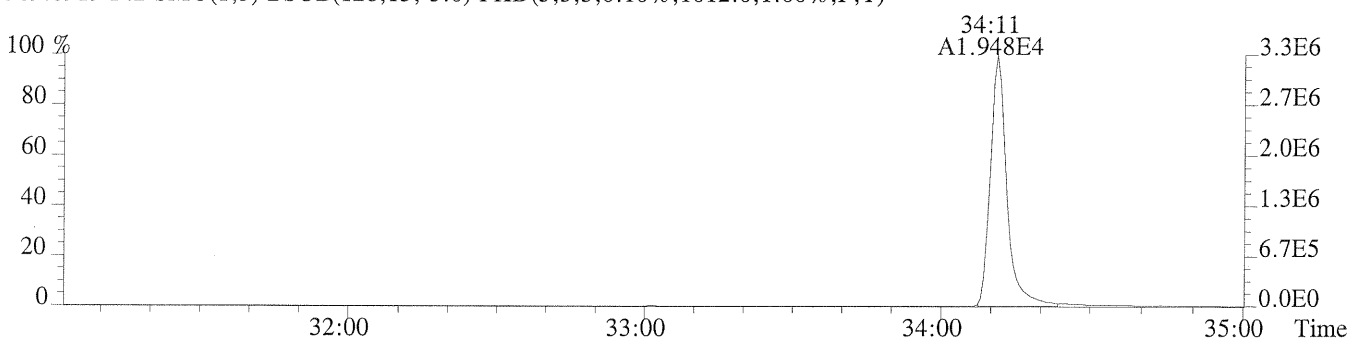
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1080.0,1.00%,F,T)



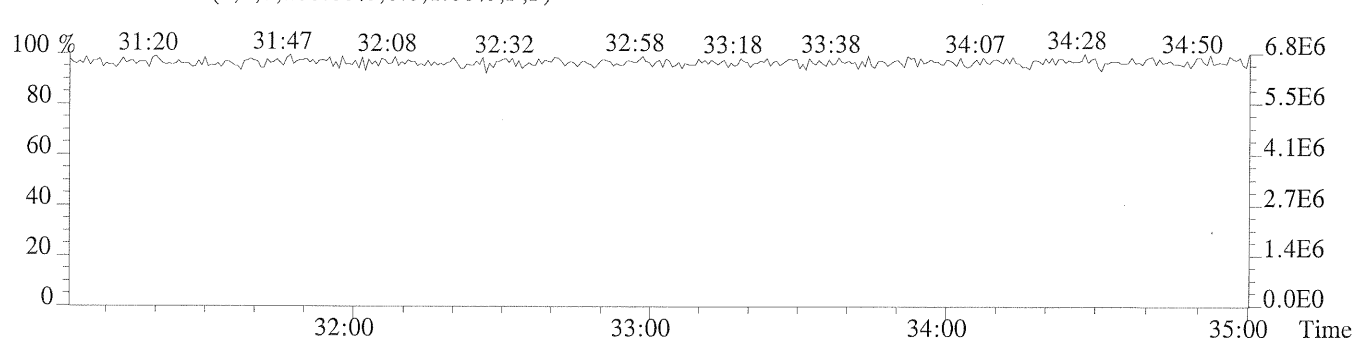
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1192.0,1.00%,F,T)



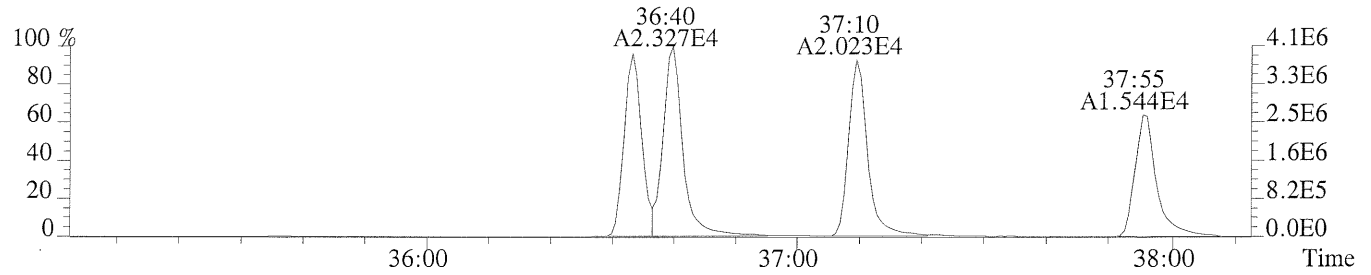
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



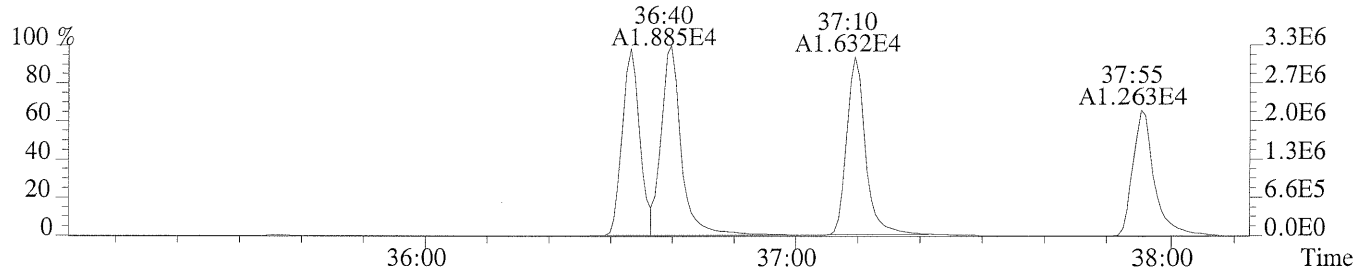
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



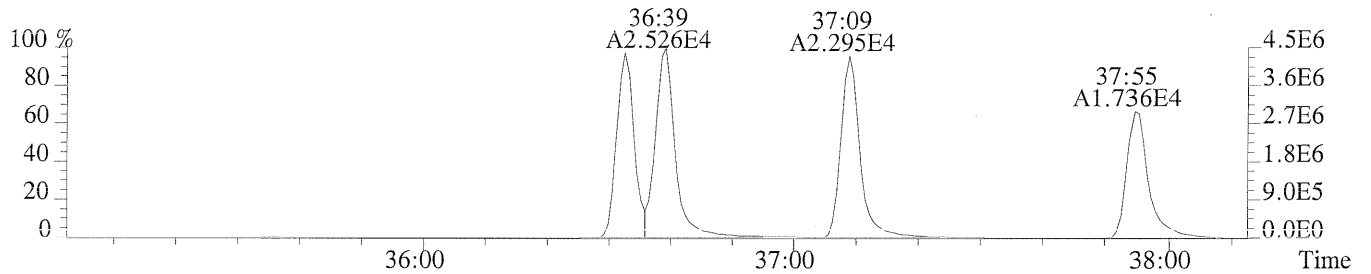
File:U150167 #1-288 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



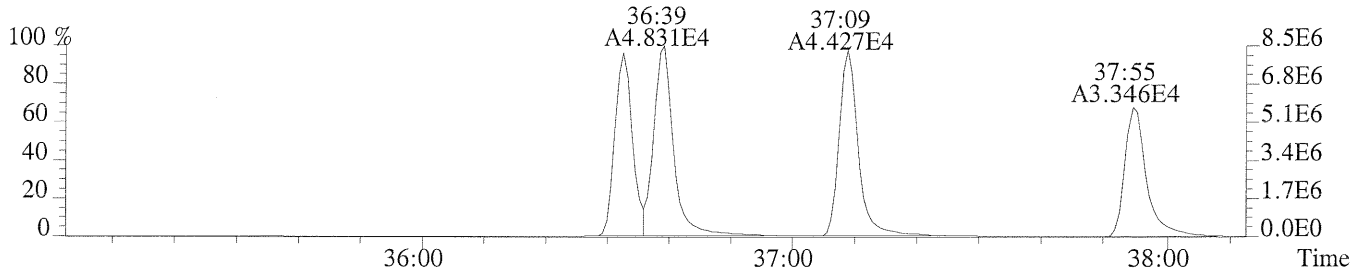
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1204.0,0.40%,F,T)



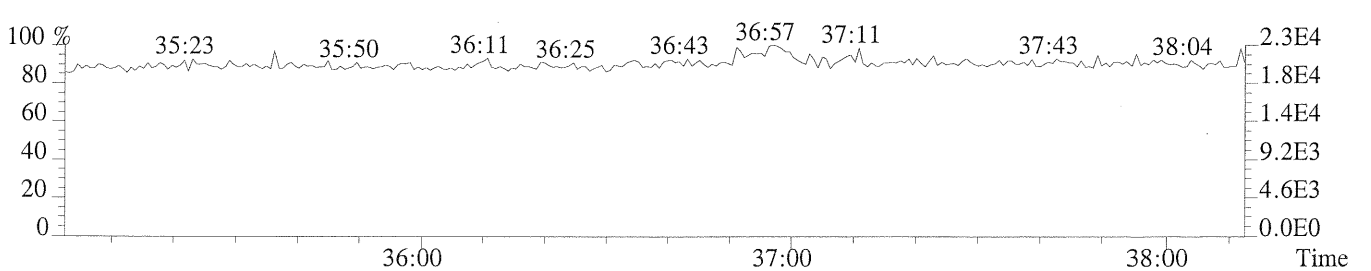
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



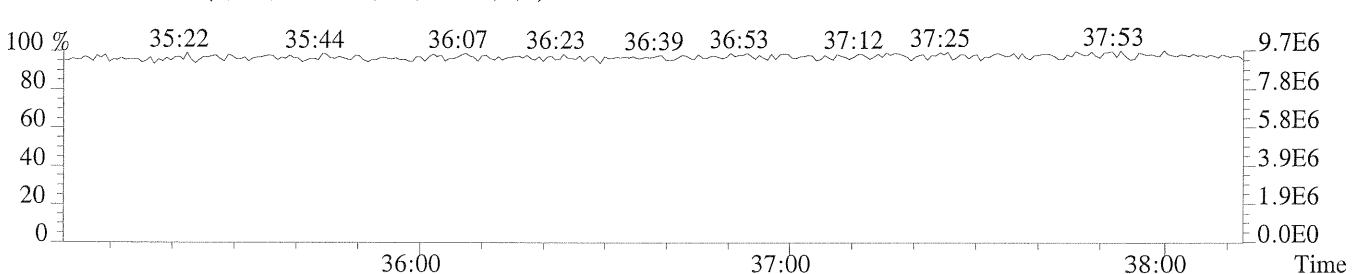
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2228.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



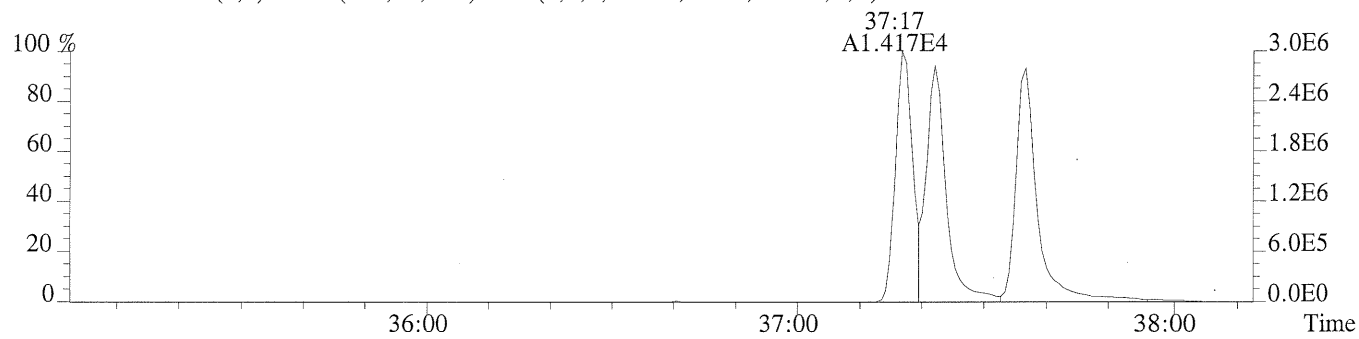
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



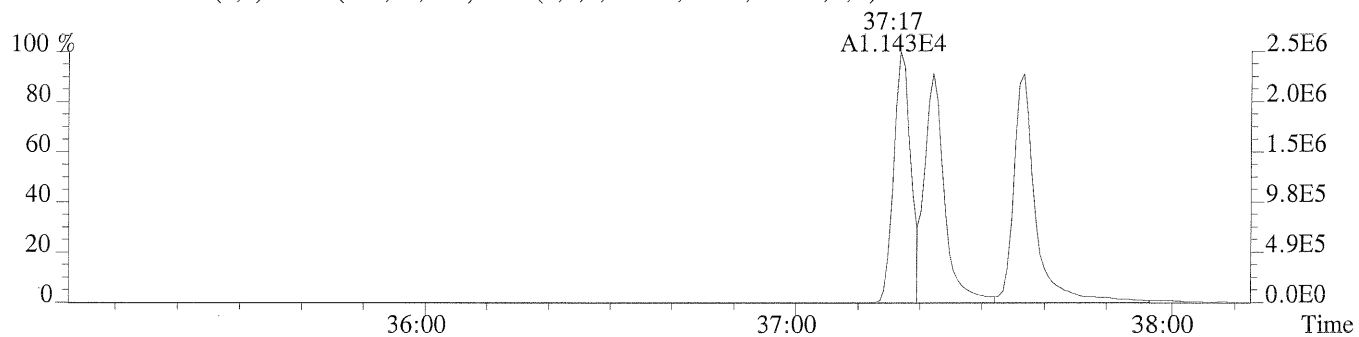
File:U150167 #1-288 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf

Sample#1 Exp:2ND SOURCE CCV

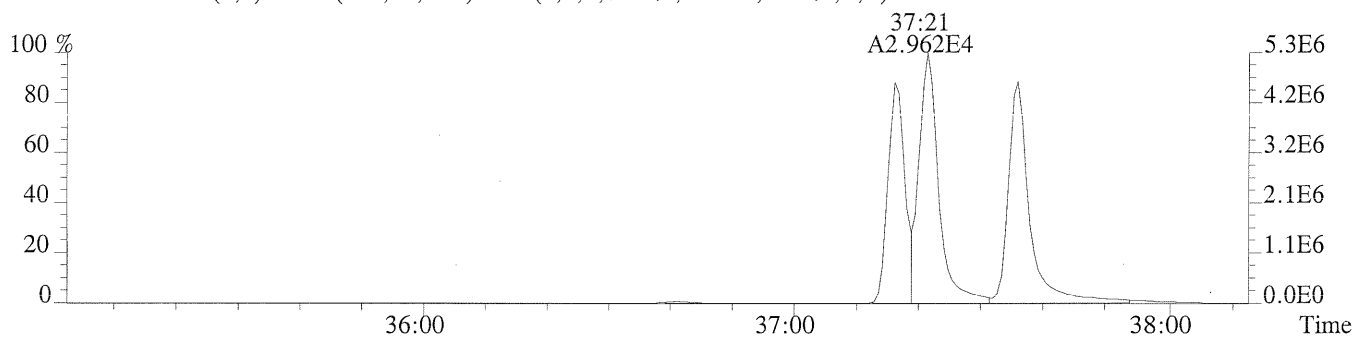
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,760.0,0.40%,F,T)



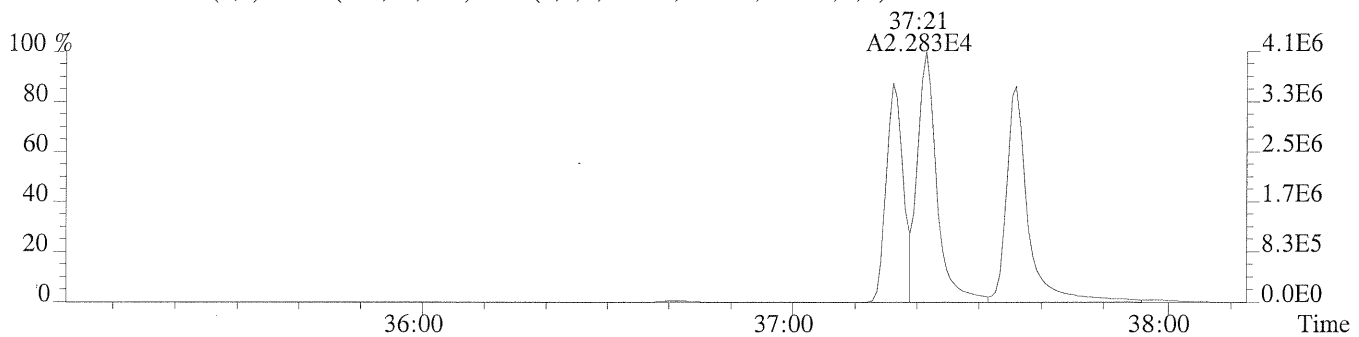
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



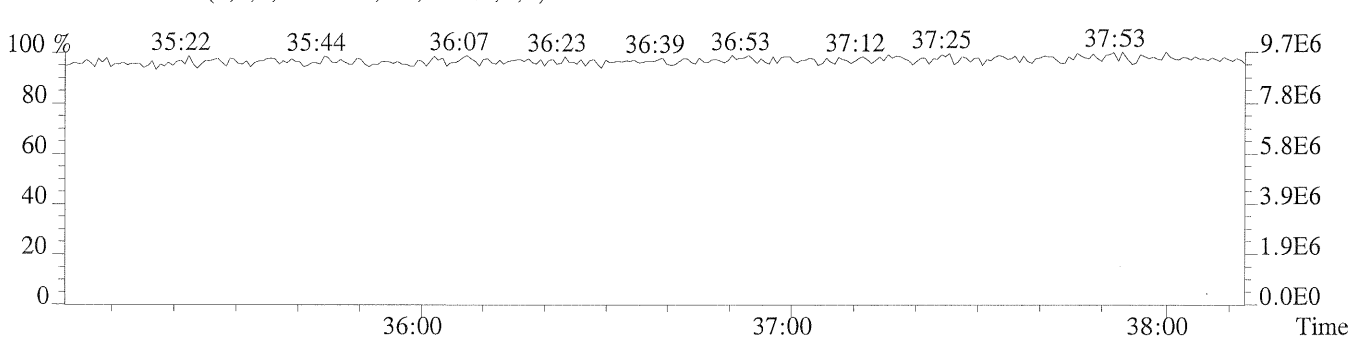
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1388.0,0.40%,F,T)



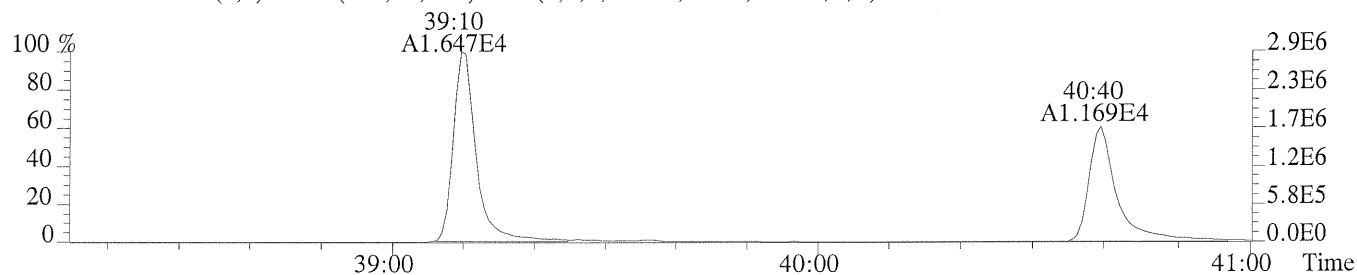
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.40%,F,T)



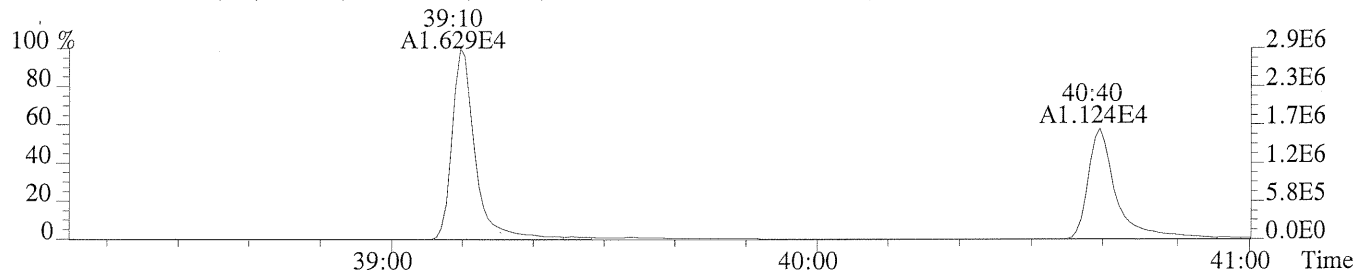
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



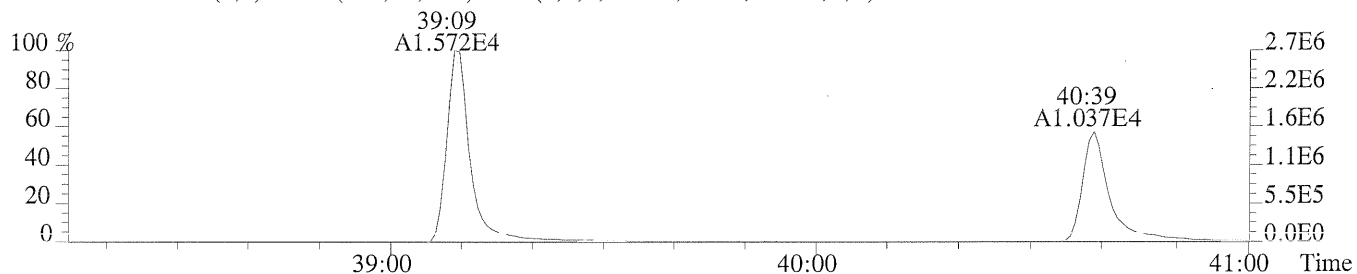
File:U150167 #1-251 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.50%,F,T)



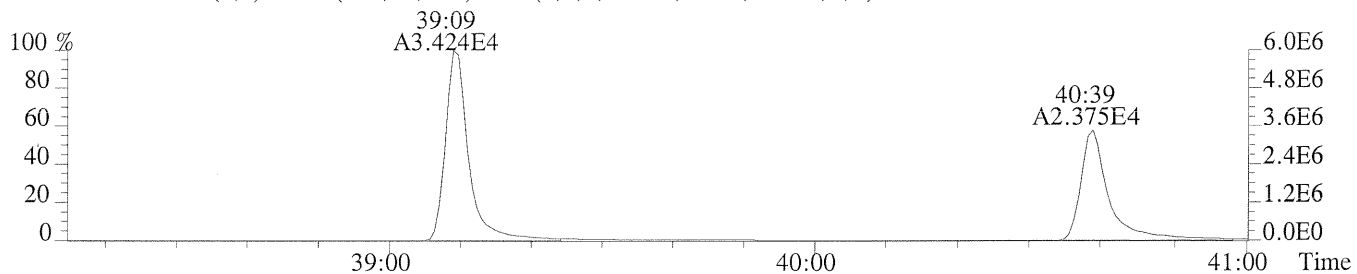
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.50%,F,T)



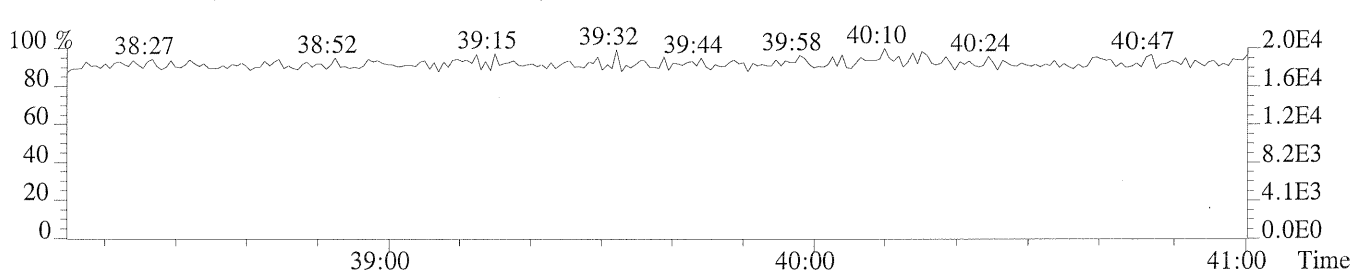
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,788.0,0.50%,F,T)



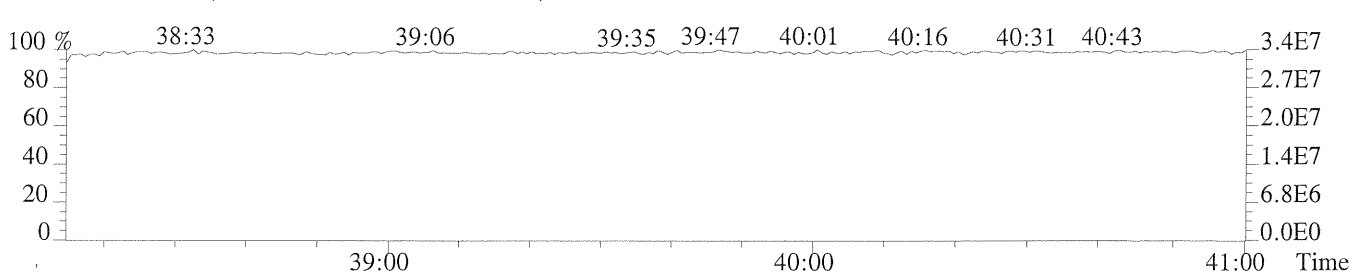
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,808.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

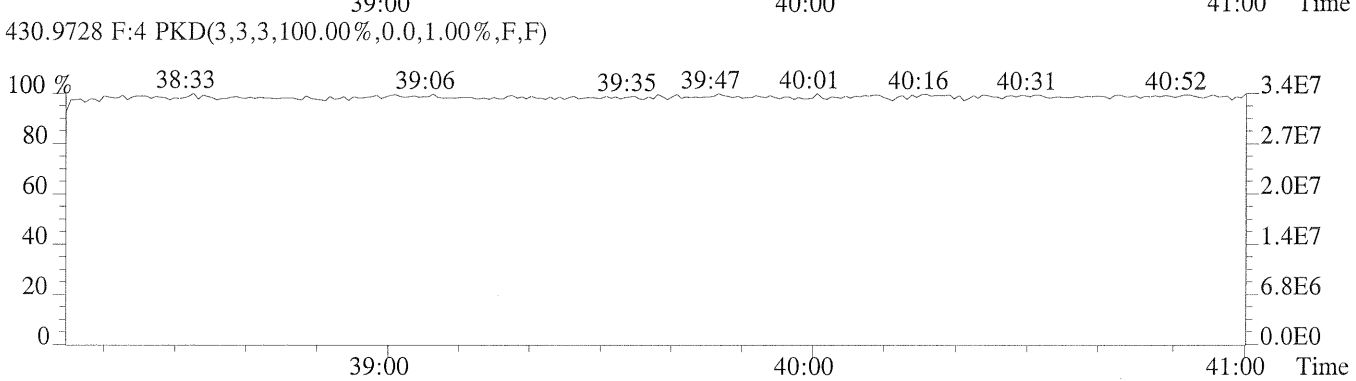
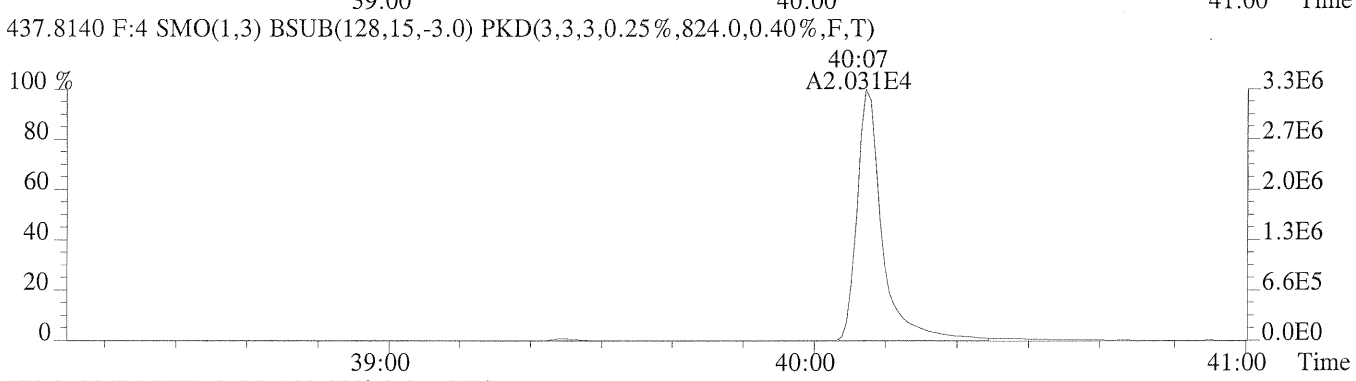
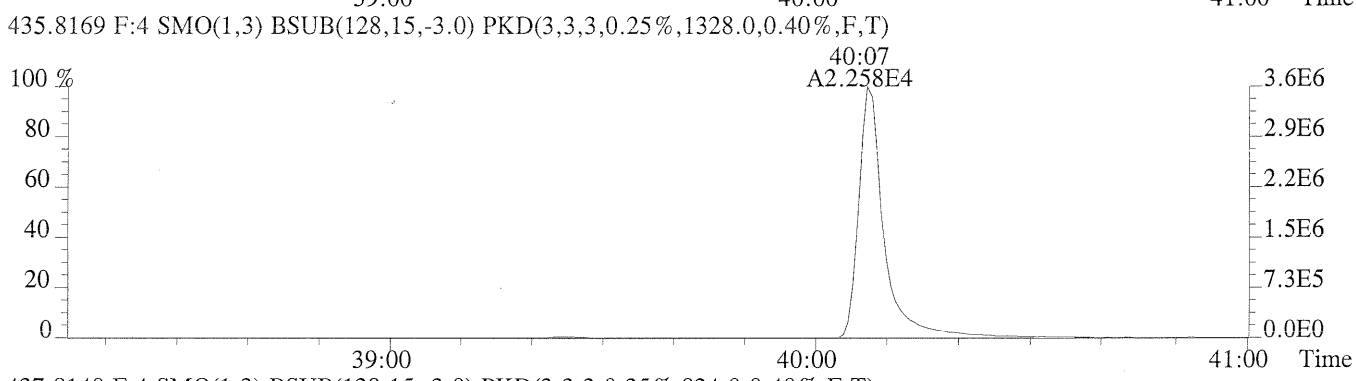
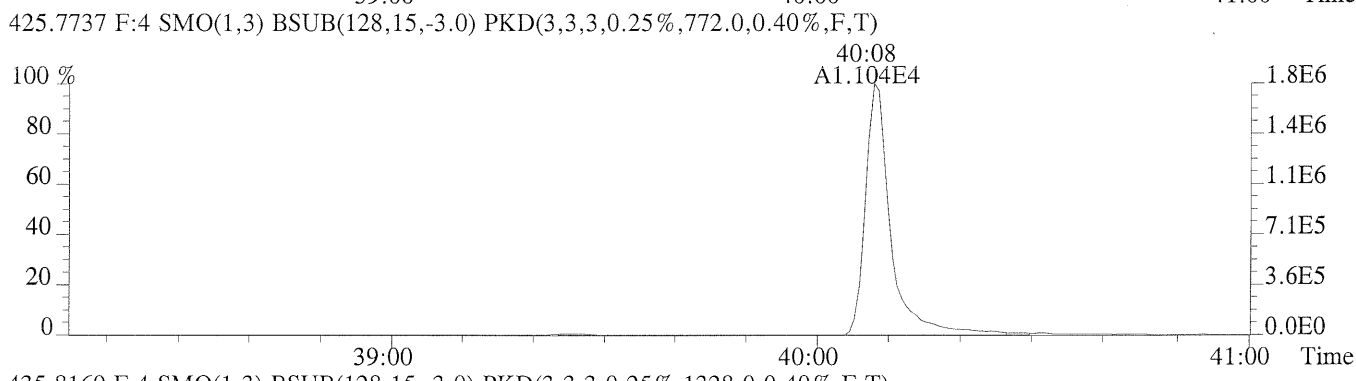
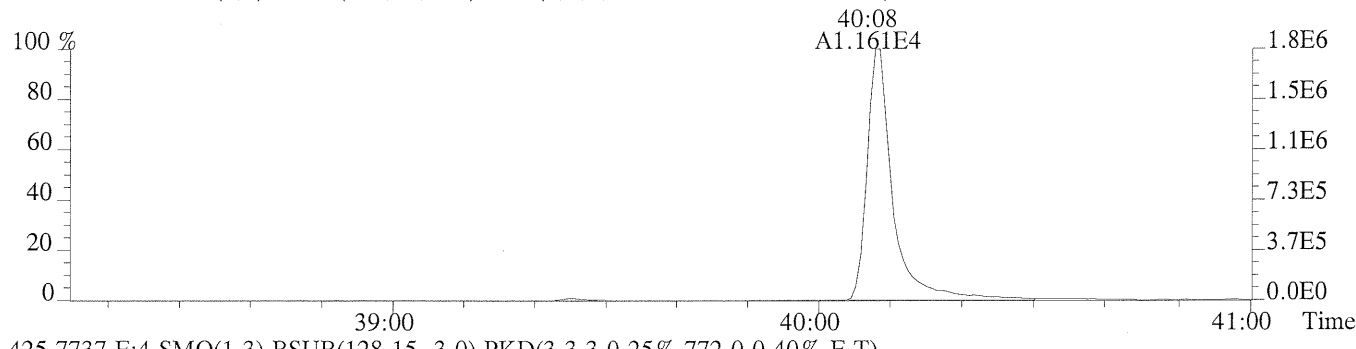


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

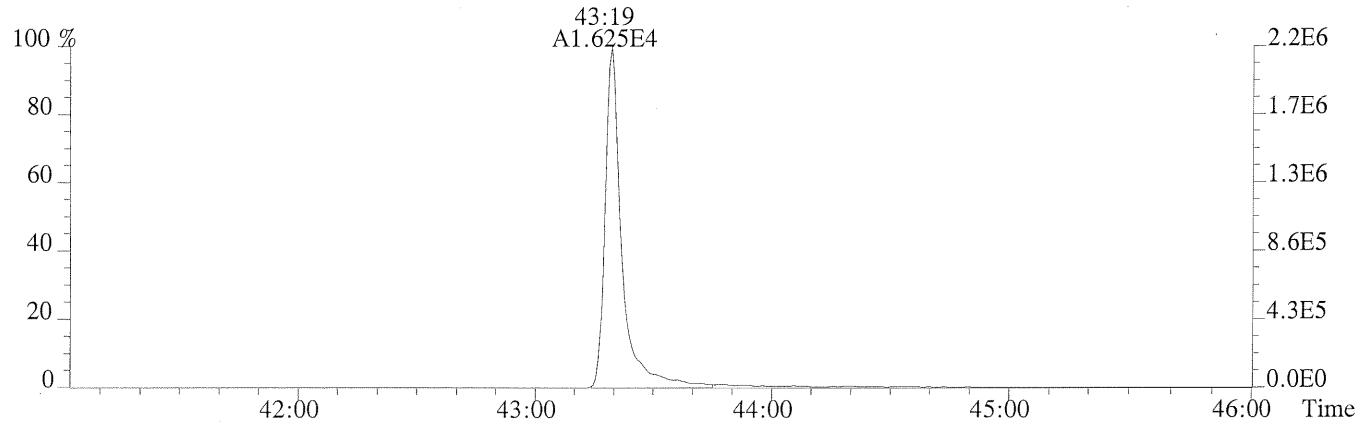




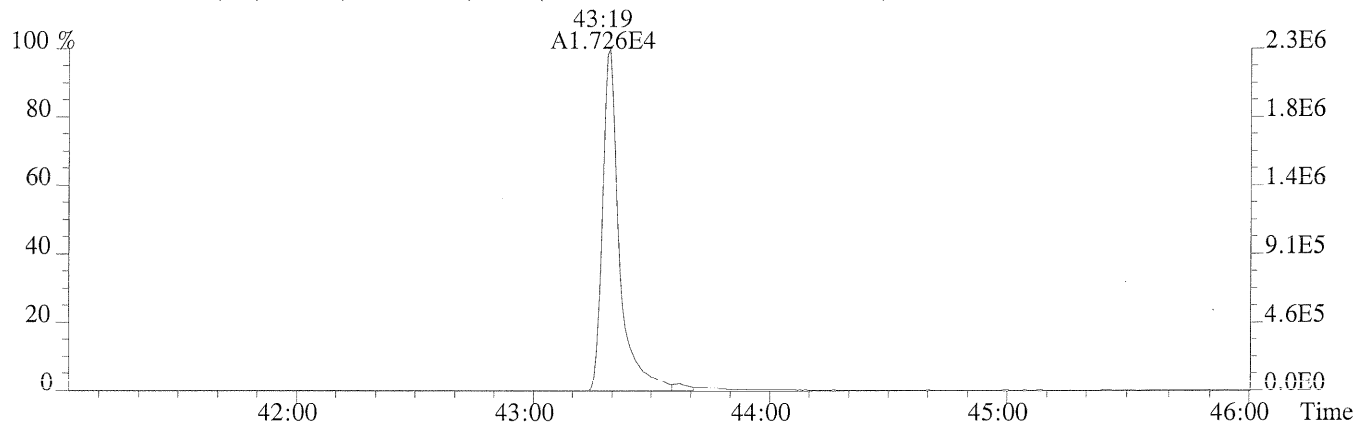
File:U150167 #1-251 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1020.0,0.40%,F,T)



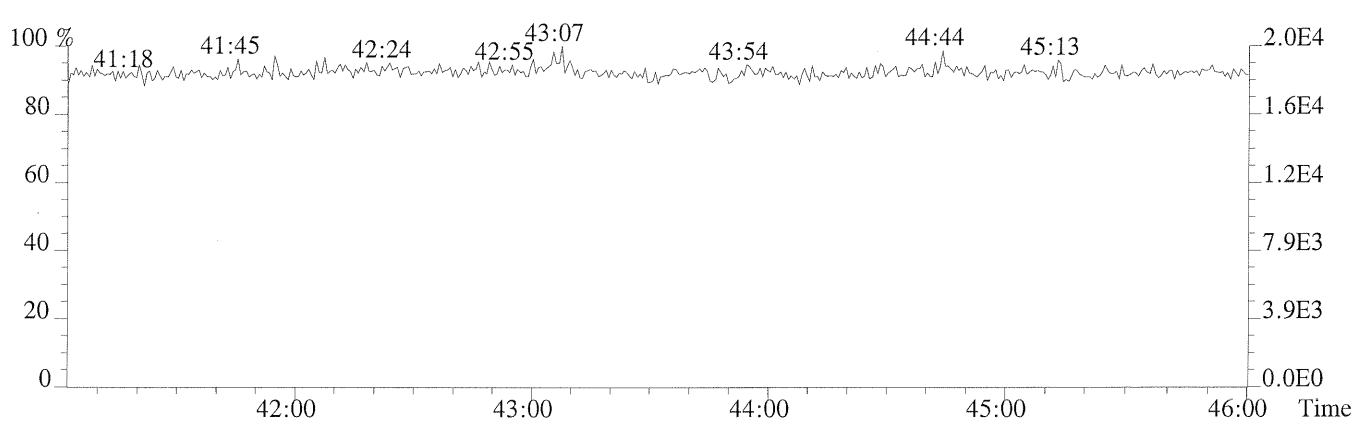
File:U150167 #1-451 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,608.0,0.40%,F,T)



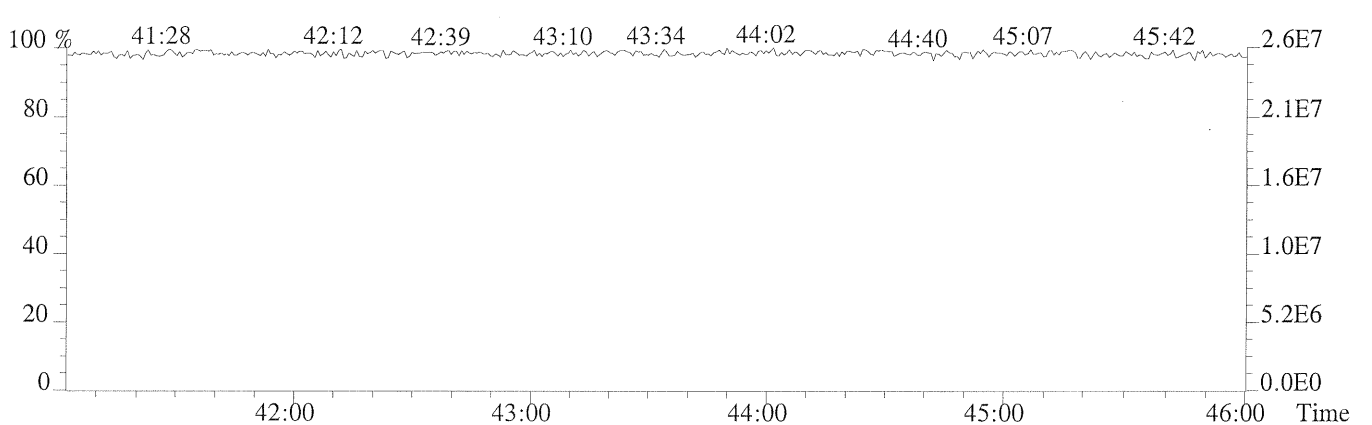
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1200.0,0.40%,F,T)



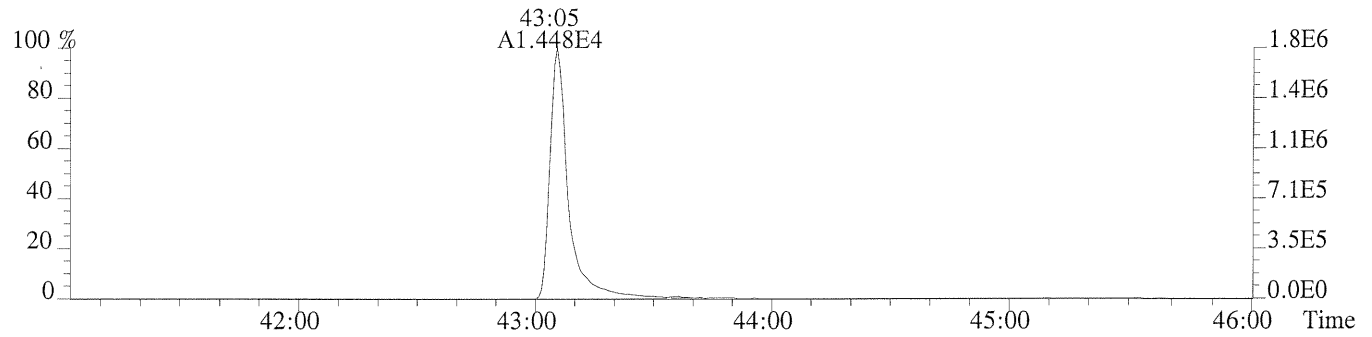
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



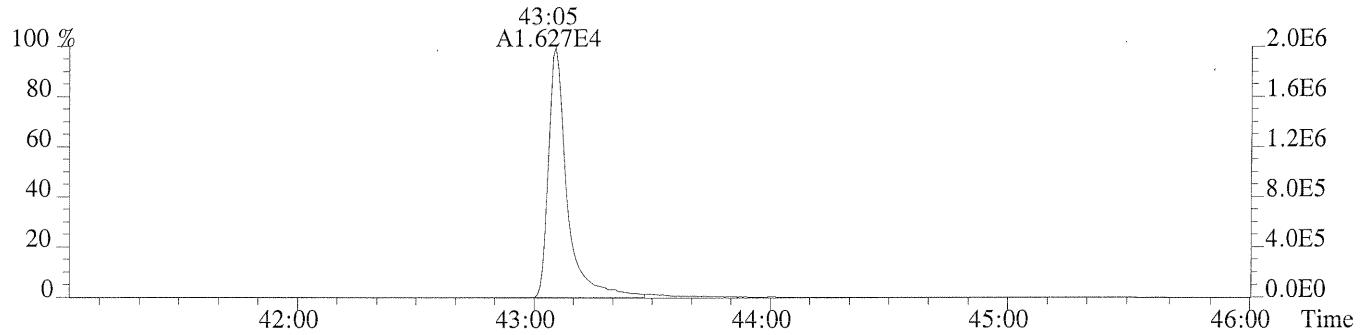
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



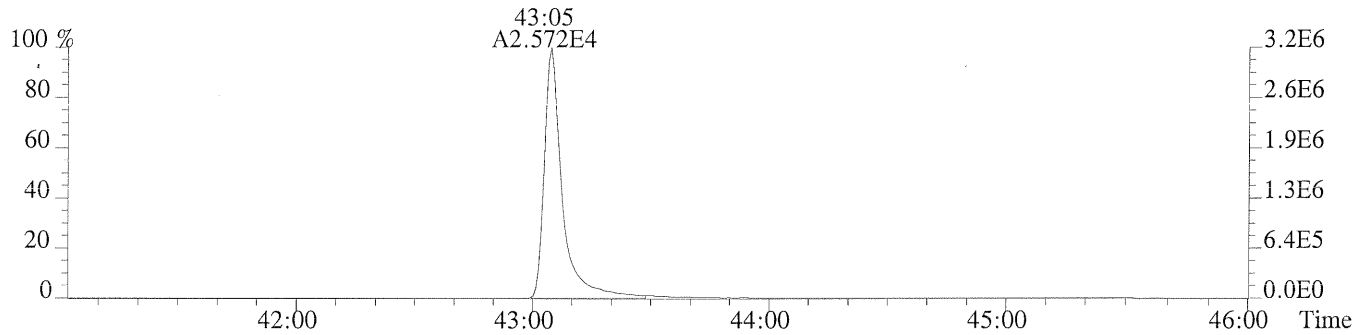
File:U150167 #1-451 Acq:31-JUL-2014 19:57:38 Probe EI+ Magnet SIR VG BioTech Mass spectf  
Sample#1 Exp:2ND SOURCE CCV  
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,740.0,0.40%,F,T)



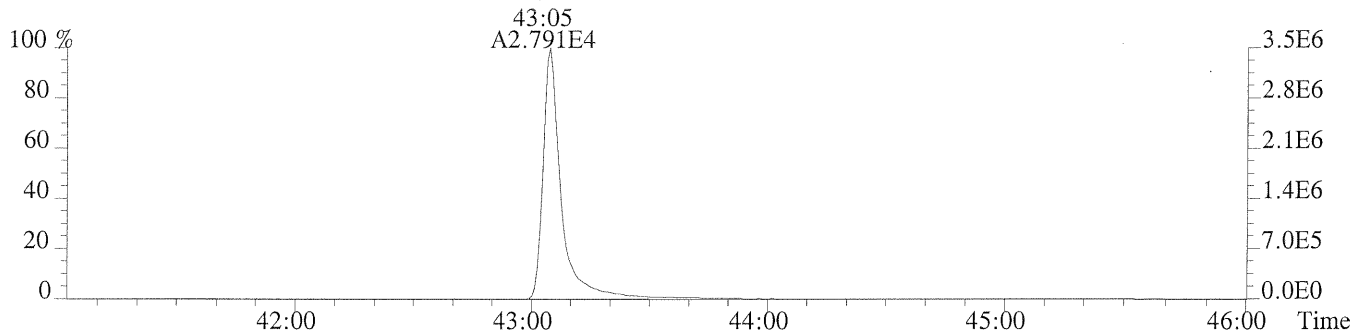
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,924.0,0.40%,F,T)



469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,740.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,608.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

