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July 1, 2014 Analytical Report for Service Request No: K1405833

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

RE: Shipyard Creek MPRSA S103

Dear Paul:

Enclosed are the results of the samples submitted to our laboratory on June 11, 2014. For your reference, these analyses have been assigned our service request number K1405833.

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. 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.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Shar Samy, Ph.D.
Project Manager

SS/mj

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

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	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 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/anlayte is offered by that state.

Case Narrative

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ALS ENVIRONMENTAL

Client:	Anamar Environmental Consulting, Inc.	**Service Request No.:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Received:**	06/11/14
Sample Matrix:	Sediment		

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

Five sediment samples were received for analysis at ALS Environmental on 06/11/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry

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

Organotins

Calibration Verification Exceptions:
The analysis of Butyltins by Krone requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for n-Butyltin. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

The upper control criterion was exceeded for n-Butyltin in Continuing Calibration Verification (CCV) 0620F002, 0620F015, 0620F027, and 0620F039. The field samples analyzed in this sequence did not contain the analytes in question above the method reporting limit (MRL). Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

Elevated Detection Limits:
The detection limit was elevated for n-Butyltin in sample SYC14-AC. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The result was flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of n-Butyltin Cation for sample SYC14-AC 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 bias in this matrix. No further corrective action was appropriate.
The control criteria for the matrix spike recovery of Tri-n-butyltin Cation for sample SYC14-ACwere not applicable. The chromatogram indicated non-target matrix background components contributed to the reported matrix spike concentrations. Thus, the reported recoveries contained a high bias. Based on the magnitude of background contribution, the interference appeared to be minimal.

Approved by_____

Polycyclic Aromatic Hydrocarbons by EPA Method 8270D SIM

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Fluoranthene for sample SYC14-ACDMS 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 bias in this matrix. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for the replicate analysis of numerous analytes in sample SYC14-TB was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Elevated Detection Limits:
The detection limits for samples SYC14-AC and SYC14-TB were elevated due to less than optimal sample mass extracted for analysis. The samples contained low percent solids which prevented extraction of the sample mass necessary to achieve target detection limits.

Sample Notes and Discussion:
The advisory criterion was exceeded for Fluorene and Benzo(a)pyrene in Standard Reference Material (SRM) KWG1405687-7. 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.

PBDE by EPA Method 8270D

Calibration Verification Exceptions:
The upper control criterion was exceeded for PBDE 17 in Continuing Calibration Verification (CCV) MS14\0624F018.D. The field samples analyzed in this sequence did not contain the analyte in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS14\0625F002.D: PBDE 209. In accordance with the EPA Method, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. No further corrective action was required.

Surrogate Exceptions:
The control criteria were exceeded for PBDE 47C13 in sample SYC14-TB due to matrix interference. A duplicate extraction and analysis was performed, but produced similar results. No further corrective action was required.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of PBDE 28, PBDE 190, PBDE 203, PBDE 206, and PBDE 209 for sample SYC14-AC was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

Approved by 

PBDE by EPA Method 8270D (continued)

Lab Control Sample Exceptions:
The recovery of most analytes in Lab Control Sample (LCS) KWG1405686 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

Elevated Detection Limits:
The detection limits for samples SYC14-AC and SYC14-TB were elevated due to less than optimal sample mass extracted for analysis. The samples contained low percent solids which prevented extraction of the sample mass necessary to achieve target detection limits.

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

Dioxins by 8290A

This analysis was performed at the ALS – Houston laboratory. Additional narrative is provided in the associated section.

Approved by_____

Chain of Custody

ALS Environmental—Kelso Laboratory
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K1405832

ANAMAR
Environmental Consulting, Inc.

PROJECT: SHIPYARD CREEK MPRSA §103

Shipped via Fed Ex to ALS

Chain-of-Custody

	Station ID	Sample Date	Sample Time	Sample Matrix	Sample Containers	Number of Containers	Analyses Requested	Comments
1	SYC14-AC	06/04/14	0711	Sediment	Teflon bag	1	TOC, Ammonia, Oil and Grease, PBDEs, PAHs, Dioxins, Organotins (see attached for complete list)	Please let Shar Samy know as soon as these arrive before logging in
2	SYC14-TB	06/02/14	0858	Sediment	Teflon bag	1		
3	SYC14-REF	06/03/14	0745	Sediment	Teflon bag	1		

Samples Relinquished by: Paul Bem

Date: 6/10/14 Time: 1500

Received by: SW

Date: 6/11/14 Time: 0940

Custody seals intact (Y/N) _____

Samples Relinquished by: _____

Date: _____ Time: _____

Received by: _____

Date: _____ Time: _____

Samples Relinquished by: _____

Date: _____ Time: _____

Received by: _____

Date: _____ Time: _____

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K1405833

ANAMAR
Environmental Consulting, Inc.

PROJECT: SHIPYARD CREEK MPRSA §103

Shipped via Fed Ex to ALS

Chain-of-Custody

Page 2 of 2

Station ID	Sample Date	Sample Time	Sample Matrix	Sample Containers	Number of Containers	Analyses Requested	Comments
SYC14-AC	06/04/14	0711	Sediment	Teflon bag	1	For elutriate prep, then analyze for ammonia, metals, and pesticides (see attached list)	Please let Shar Samy know as soon as these arrive before logging in
SYC14-TB1	06/02/14	0858	Sediment	Teflon bag	1		
SYC14-TB2	06/03/14	1136	Sediment	Teflon bag	1		

Samples Relinquished by: _____ Received by: _____ Custody seals intact (Y/N) _____

Date: 6/10/14 Time: 1508 Date: 6/11/14 Time: 0940

Samples Relinquished by: _____ Received by: _____ ANAMAR Environmental Consulting, Inc.

Date: _____ Time: _____ Date: _____ Time: _____ 2106 NW 67th Place, Suite 5

Samples Relinquished by: _____ Received by: _____ Gainesville, FL 32653

Date: _____ Time: _____ Date: _____ Time: _____ (352) 377-5770 FAX (352) 378-1500

PC Shar

Cooler Receipt and Preservation Form

Client / Project: Anamar Service Request K14 05833

Received: 6/11/14 Opened: 6/11/14 By: [illegible] Unloaded: 6/11/14 By: [illegible]

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? Tape, front + back
   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 NA	Tracking Number NA	Filed
-0.7	-0.5	—	—	-0.3	327		7702 5568 4500	
-0.3	-0.3	—	—	0	298		" " 4316	
-0.3	-0.3	—	—	0	356		" " 4327	
-0.5	-0.5	—	—	0	304		" " 4073	

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
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 Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Butyltins

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Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

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

Sample Name	Lab Code	Date Collected	Date Received
SYC14-AC	K1405833-001	06/04/2014	06/11/2014
SYC14-TB	K1405833-002	06/02/2014	06/11/2014
SYC14-REF	K1405833-003	06/03/2014	06/11/2014
SYC14-ACMS	KWG1406086-3	06/04/2014	06/11/2014
SYC14-ACDMS	KWG1406086-4	06/04/2014	06/11/2014

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Butyltins (as cation)

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	Ui	2.5	1.8	1	06/13/14	06/26/14	KWG1406086	
Di-n-butyltin Cation	**0.99**	J	2.5	0.47	1	06/13/14	06/20/14	KWG1406086	
Tri-n-butyltin Cation	ND	Ui	2.6	2.6	1	06/13/14	06/20/14	KWG1406086	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	98	20-150	06/20/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Butyltins (as cation)

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	**6.1**		3.6	0.92	1	06/13/14	06/26/14	KWG1406086	
Di-n-butyltin Cation	**3.7**		3.6	0.68	1	06/13/14	06/20/14	KWG1406086	
Tri-n-butyltin Cation	**4.1**		3.6	1.6	1	06/13/14	06/20/14	KWG1406086	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	105	20-150	06/20/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/03/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Butyltins (as cation)

Sample Name:	SYC14-REF	**Units:**	ug/Kg
Lab Code:	K1405833-003	**Basis:**	Dry
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	1.3	0.33	1	06/13/14	06/20/14	KWG1406086	
Di-n-butyltin Cation	ND	U	1.3	0.24	1	06/13/14	06/20/14	KWG1406086	
Tri-n-butyltin Cation	ND	U	1.3	0.55	1	06/13/14	06/20/14	KWG1406086	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	84	20-150	06/20/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Butyltins (as cation)

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1406086-6	**Basis:**	Dry
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
n-Butyltin Cation	ND	U	0.98	0.26	1	06/13/14	06/20/14	KWG1406086	
Di-n-butyltin Cation	ND	U	0.98	0.19	1	06/13/14	06/20/14	KWG1406086	
Tri-n-butyltin Cation	ND	U	0.98	0.43	1	06/13/14	06/20/14	KWG1406086	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	90	20-150	06/20/14	Acceptable

Comments:

QA/QC Report

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103
Sample Matrix: Soil

Surrogate Recovery Summary
Butyltins (as cation)

Extraction Method: Method **Units:** Percent
Analysis Method: Krone **Level:** Low

Sample Name	Lab Code	Sur1
SYC14-AC	K1405833-001	98
SYC14-TB	K1405833-002	105
SYC14-REF	K1405833-003	84
Method Blank	KWG1406086-6	90
SYC14-ACMS	KWG1406086-3	91
SYC14-ACDMS	KWG1406086-4	93
Lab Control Sample	KWG1406086-5	79

Surrogate Recovery Control Limits (%)

Sur1	= Tri-n-propyltin	20-150

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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/13/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/20/2014

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

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone	**Extraction Lot:**	KWG1406086

		SYC14-ACMS KWG1406086-3 Matrix Spike				SYC14-ACDMS KWG1406086-4 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
n-Butyltin Cation	ND	14.1	38.6	37	*	18.2	38.4	47	*	70-130	25	40
Di-n-butyltin Cation	0.99	41.2	47.5	85		37.6	47.3	77		70-130	9	40
Tri-n-butyltin Cation	ND	46.8	54.9	85	#	46.3	54.7	85	#	70-130	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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/13/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/20/2014

Lab Control Spike Summary
Butyltins (as cation)

Extraction Method:	Method	**Units:**	ug/Kg
Analysis Method:	Krone	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1406086

Lab Control Sample
KWG1406086-5
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
n-Butyltin Cation	12.3	15.6	79	70-130
Di-n-butyltin Cation	15.9	19.2	83	70-130
Tri-n-butyltin Cation	17.2	22.2	77	70-130

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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Matrix:	Sediment	**Date Received:**	NA
		Date Extracted:	6/13/2014
		Date Analyzed:	6/20/2014

Standard Reference Material
Butyltins

Sample Name: NRC PACS-2 Units: ug/Kg
Lab Code: KWG1406086-7
Test Notes:

Analyte	Prep Method	Analysis Method	Certified Value	Result	Advisory Limits	Result Notes
Tri-n-butyltin Cation	Method	Krone	2030 ± 230	1040	1000-3000	
Di-n-butyltin Cation	Method	Krone	2160 ± 260	1280	1100-3200	

Analyte	Prep Method	Analysis Method	Information Value	Result	Advisory Limits	Result Notes
n-Butyltin Cation	Method	Krone	1000	656	500-1500	

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/13/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/20/2014
		Time Analyzed:	16:15

Method Blank Summary
Butyltins (as cation)

Sample Name:	Method Blank	**Instrument ID:**	GC26
Lab Code:	KWG1406086-6	**File ID:**	J:\GC26\DATA\062014\0620F005.D
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone	**Extraction Lot:**	KWG1406086

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1406086-5	J:\GC26\DATA\062014\0620F004.D	06/20/14	15:59
SYC14-AC	K1405833-001	J:\GC26\DATA\062014\0620F024.D	06/20/14	21:24
SYC14-ACMS	KWG1406086-3	J:\GC26\DATA\062014\0620F025.D	06/20/14	21:41
SYC14-ACDMS	KWG1406086-4	J:\GC26\DATA\062014\0620F026.D	06/20/14	21:57
SYC14-TB	K1405833-002	J:\GC26\DATA\062014\0620F029.D	06/20/14	22:46
SYC14-REF	K1405833-003	J:\GC26\DATA\062014\0620F030.D	06/20/14	23:02
Standard Reference Material	KWG1406086-7	J:\GC26\DATA\062014\0620F031.D	06/20/14	23:18
SYC14-AC	K1405833-001	J:\GC26\DATA\062614\0626F004.D	06/26/14	14:03
SYC14-TB	K1405833-002	J:\GC26\DATA\062614\0626F005.D	06/26/14	14:20

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/13/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/20/2014
		Time Analyzed:	15:59

Lab Control Sample Summary
Butyltins (as cation)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC26
Lab Code:	KWG1406086-5	**File ID:**	J:\GC26\DATA\062014\0620F004.D
Extraction Method:	Method	**Level:**	Low
Analysis Method:	Krone	**Extraction Lot:**	KWG1406086

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1406086-6	J:\GC26\DATA\062014\0620F005.D	06/20/14	16:15
SYC14-AC	K1405833-001	J:\GC26\DATA\062014\0620F024.D	06/20/14	21:24
SYC14-ACMS	KWG1406086-3	J:\GC26\DATA\062014\0620F025.D	06/20/14	21:41
SYC14-ACDMS	KWG1406086-4	J:\GC26\DATA\062014\0620F026.D	06/20/14	21:57
SYC14-TB	K1405833-002	J:\GC26\DATA\062014\0620F029.D	06/20/14	22:46
SYC14-REF	K1405833-003	J:\GC26\DATA\062014\0620F030.D	06/20/14	23:02
Standard Reference Material	KWG1406086-7	J:\GC26\DATA\062014\0620F031.D	06/20/14	23:18
SYC14-AC	K1405833-001	J:\GC26\DATA\062614\0626F004.D	06/26/14	14:03
SYC14-TB	K1405833-002	J:\GC26\DATA\062614\0626F005.D	06/26/14	14:20

QA/QC Results

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/09/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13378 **Column:** RTX-1
Instrument ID: GC26

Level ID	File ID
A	J:\GC26\DATA\060914\0609F004.D
B	J:\GC26\DATA\060914\0609F005.D
C	J:\GC26\DATA\060914\0609F006.D
D	J:\GC26\DATA\060914\0609F007.D
E	J:\GC26\DATA\060914\0609F008.D
F	J:\GC26\DATA\060914\0609F009.D
G	J:\GC26\DATA\060914\0609F010.D
H	J:\GC26\DATA\060914\0609F011.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
n-Butyltin Cation	A	1.2	1.33E+5	B	3.1	1.21E+5	C	6.2	1.27E+5	D	12	1.44E+5	E	31	1.43E+5
	F	120	1.53E+5	G	310	1.52E+5	H	620	1.41E+5						
Di-n-butyltin Cation	A	1.5	1.35E+5	B	3.8	1.30E+5	C	7.7	1.24E+5	D	15	1.36E+5	E	38	1.47E+5
	F	150	1.55E+5	G	380	1.52E+5	H	770	1.44E+5						
Tri-n-butyltin Cation	A	1.8	88600	B	4.5	80300	C	8.9	81300	D	18	92300	E	45	95800
	F	180	98300	G	450	96500	H	890	90700						
Tri-n-propyltin	A	2.0	75300	B	5.0	77300	C	10	70500	D	20	85200	E	50	87500
	F	200	94600	G	500	93300	H	1000	88600						

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/09/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13378 **Column:** RTX-1
Instrument ID: GC26

Analyte Name	Compound Type	Calibration Evaluation: Fit Type	Eval.	Eval. Result	Q	Control Criteria
n-Butyltin Cation	MS	AverageRF	% RSD	8.2		≤ 20
Di-n-butyltin Cation	MS	AverageRF	% RSD	7.6		≤ 20
Tri-n-butyltin Cation	MS	AverageRF	% RSD	7.5		≤ 20
Tri-n-propyltin	SURR	AverageRF	% RSD	10.4		≤ 20

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Calibration Date: 06/09/2014
Date Analyzed: 06/09/2014

Second Source Calibration Verification
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration ID: CAL13378
Units: ng/mL

File ID: J:\GC26\DATA\060914\0609F012.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	31	139000	138000	-1	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	32	140000	117000	-16	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	49	90500	98400	9	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. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/09/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13378 **Column:** RTX-35
Instrument ID: GC26

Level ID	File ID
A	J:\GC26\DATA\060914\0609F004.D\0609F004c.d
B	J:\GC26\DATA\060914\0609F005.D\0609F005c.d
C	J:\GC26\DATA\060914\0609F006.D\0609F006c.d
D	J:\GC26\DATA\060914\0609F007.D\0609F007c.d
E	J:\GC26\DATA\060914\0609F008.D\0609F008c.d
F	J:\GC26\DATA\060914\0609F009.D\0609F009c.d
G	J:\GC26\DATA\060914\0609F010.D\0609F010c.d
H	J:\GC26\DATA\060914\0609F011.D\0609F011c.d

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
n-Butyltin Cation	A	1.2	61200	B	3.1	47300	C	6.2	49800	D	12	51600	E	31	50300
	F	120	55100	G	310	53000	H	620	49500						
Di-n-butyltin Cation	A	1.5	50000	B	3.8	46100	C	7.7	45400	D	15	46400	E	38	53300
	F	150	55300	G	380	54300	H	770	50300						
Tri-n-butyltin Cation	A	1.8	32700	B	4.5	30800	C	8.9	31600	D	18	31200	E	45	34900
	F	180	35100	G	450	34500	H	890	32400						
Tri-n-propyltin	A	2.0	24800	B	5.0	24300	C	10	28000	D	20	30300	E	50	32100
	F	200	32800	G	500	32200	H	1000	30500						

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/09/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13378 **Column:** RTX-35
Instrument ID: GC26

Analyte Name	Compound Type	Calibration Evaluation: Fit Type	Eval.	Eval. Result	Q	Control Criteria
n-Butyltin Cation	MS	AverageRF	% RSD	8.3		≤ 20
Di-n-butyltin Cation	MS	AverageRF	% RSD	7.8		≤ 20
Tri-n-butyltin Cation	MS	AverageRF	% RSD	5.2		≤ 20
Tri-n-propyltin	SURR	AverageRF	% RSD	11.4		≤ 20

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Calibration Date: 06/09/2014
Date Analyzed: 06/09/2014

Second Source Calibration Verification
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration ID: CAL13378
Units: ng/mL

File ID: J:\GC26\DATA\060914\0609F012.D\0609F012c.d

Column ID: RTX-35

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	29	52200	48000	-8	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	33	50100	43400	-13	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	50	32900	36700	11	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. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/23/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13394 **Column:** RTX-1
Instrument ID: GC26

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 ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level 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.

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/23/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13394 **Column:** RTX-1
Instrument ID: GC26

Analyte Name	Compound Type	Calibration Evaluation: Fit Type	Eval.	Eval. Result	Q	Control Criteria
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 MPRSA S103

Service Request: K1405833
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**

QA/QC Results

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/23/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13394 **Column:** RTX-35
Instrument ID: GC26

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

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level 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.

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/23/2014

Initial Calibration Summary
Butyltins (as cation)

Calibration ID: CAL13394 **Column:** RTX-35
Instrument ID: GC26

Analyte Name	Compound Type	Calibration Evaluation: Fit Type	Eval.	Eval. Result	Q	Control Criteria
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 MPRSA S103

Service Request: K1405833
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 MPRSA S103

Service Request: K1405833
Date Analyzed: 06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/09/2014
Calibration ID: CAL13378
Analysis Lot: KWG1406328
Units: ng/mL

File ID: J:\GC26\DATA\062014\0620F002.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	41	139000	184000	32	*	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	46	140000	169000	21		NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	47	90500	94800	5		NA	± 25 %	AverageRF
Tri-n-propyltin	50	57	84100	96600	15		NA	± 25 %	AverageRF

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

QA/QC Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type:	External Standard	**Calibration Date:**	06/09/2014
Analysis Method:	Krone	**Calibration ID:**	CAL13378
		Analysis Lot:	KWG1406328
		Units:	ng/mL
File ID:	J:\GC26\DATA\062014\0620F002.D\0620F002C.D	**Column ID:**	RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	34	52200	57100	9	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	43	50100	56600	13	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	44	32900	32200	-2	NA	± 25 %	AverageRF
Tri-n-propyltin	50	54	29400	31700	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 MPRSA S103

Service Request: K1405833
Date Analyzed: 06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/09/2014
Calibration ID: CAL13378
Analysis Lot: KWG1406328
Units: ng/mL

File ID: J:\GC26\DATA\062014\0620F015.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	40	139000	181000	30	*	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	46	140000	168000	20		NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	49	90500	98900	9		NA	± 25 %	AverageRF
Tri-n-propyltin	50	60	84100	101000	20		NA	± 25 %	AverageRF

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/09/2014
Calibration ID: CAL13378
Analysis Lot: KWG1406328
Units: ng/mL

File ID: J:\GC26\DATA\062014\0620F015.D\0620F015C.D

Column ID: RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	35	52200	57900	11	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	42	50100	54500	9	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	44	32900	32500	-1	NA	± 25 %	AverageRF
Tri-n-propyltin	50	53	29400	31300	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 MPRSA S103

Service Request: K1405833
Date Analyzed: 06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/09/2014
Calibration ID: CAL13378
Analysis Lot: KWG1406328
Units: ng/mL

File ID: J:\GC26\DATA\062014\0620F027.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	43	139000	190000	37	*	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	48	140000	175000	25		NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	50	90500	102000	12		NA	± 25 %	AverageRF
Tri-n-propyltin	50	60	84100	101000	21		NA	± 25 %	AverageRF

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

QA/QC Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/20/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type:	External Standard	**Calibration Date:**	06/09/2014
Analysis Method:	Krone	**Calibration ID:**	CAL13378
		Analysis Lot:	KWG1406328
		Units:	ng/mL
File ID:	J:\GC26\DATA\062014\0620F027.D\0620F027C.D	**Column ID:**	RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	35	52200	58600	12	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	43	50100	56400	12	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	45	32900	33500	2	NA	± 25 %	AverageRF
Tri-n-propyltin	50	55	29400	32600	11	NA	± 25 %	AverageRF

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/21/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/09/2014
Calibration ID: CAL13378
Analysis Lot: KWG1406328
Units: ng/mL

File ID: J:\GC26\DATA\062014\0620F039.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	41	139000	181000	30	*	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	48	140000	176000	25		NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	50	90500	101000	11		NA	± 25 %	AverageRF
Tri-n-propyltin	50	59	84100	98600	17		NA	± 25 %	AverageRF

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

QA/QC Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/21/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type:	External Standard	**Calibration Date:**	06/09/2014
Analysis Method:	Krone	**Calibration ID:**	CAL13378
		Analysis Lot:	KWG1406328
		Units:	ng/mL
File ID:	J:\GC26\DATA\062014\0620F039.D\0620F039C.D	**Column ID:**	RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	34	52200	57100	9	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	42	50100	55000	10	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	46	32900	33900	3	NA	± 25 %	AverageRF
Tri-n-propyltin	50	55	29400	32100	9	NA	± 25 %	AverageRF

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/26/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/23/2014
Calibration ID: CAL13394
Analysis Lot: KWG1406872
Units: ng/mL

File ID: J:\GC26\DATA\062614\0626F002.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	33	173000	181000	5	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	41	155000	167000	8	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	46	93900	96700	3	NA	± 25 %	AverageRF
Tri-n-propyltin	50	52	91100	95600	5	NA	± 25 %	AverageRF

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/26/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/23/2014
Calibration ID: CAL13394
Analysis Lot: KWG1406872
Units: ng/mL

File ID: J:\GC26\DATA\062614\0626F002.D\0626F002C.D

Column ID: RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	31	55500	55300	0	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	40	52700	54700	4	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	49	29900	32700	9	NA	± 25 %	AverageRF
Tri-n-propyltin	50	54	29800	31900	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 MPRSA S103

Service Request: K1405833
Date Analyzed: 06/26/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/23/2014
Calibration ID: CAL13394
Analysis Lot: KWG1406872
Units: ng/mL

File ID: J:\GC26\DATA\062614\0626F006.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	33	173000	181000	5	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	42	155000	170000	9	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	47	93900	98400	5	NA	± 25 %	AverageRF
Tri-n-propyltin	50	53	91100	95900	5	NA	± 25 %	AverageRF

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/26/2014

Continuing Calibration Verification Summary
Butyltins (as cation)

Calibration Type: External Standard
Analysis Method: Krone

Calibration Date: 06/23/2014
Calibration ID: CAL13394
Analysis Lot: KWG1406872
Units: ng/mL

File ID: J:\GC26\DATA\062614\0626F006.D\0626F006C.D

Column ID: RTX-35

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
n-Butyltin Cation	31	31	55500	56000	1	NA	± 25 %	AverageRF
Di-n-butyltin Cation	38	38	52700	52500	0	NA	± 25 %	AverageRF
Tri-n-butyltin Cation	45	48	29900	32100	7	NA	± 25 %	AverageRF
Tri-n-propyltin	50	51	29800	30700	3	NA	± 25 %	AverageRF

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Butyltins (as cation)

Analysis Method: Krone **Analysis Lot:** KWG1406328
Instrument ID: GC26
Column: RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0620F002.D	Continuing Calibration Verification	KWG1406328-1	6/20/2014	15:26		6/20/2014	15:37
0620F003.D	Instrument Blank	KWG1406328-2	6/20/2014	15:42		6/20/2014	15:53
0620F004.D	Lab Control Sample	KWG1406086-5	6/20/2014	15:59		6/20/2014	16:10
0620F005.D	Method Blank	KWG1406086-6	6/20/2014	16:15		6/20/2014	16:26
0620F006.D	ZZZZZZ	ZZZZZZ	6/20/2014	16:31		6/20/2014	16:42
0620F007.D	ZZZZZZ	ZZZZZZ	6/20/2014	16:47		6/20/2014	16:58
0620F008.D	ZZZZZZ	ZZZZZZ	6/20/2014	17:04		6/20/2014	17:15
0620F009.D	ZZZZZZ	ZZZZZZ	6/20/2014	17:20		6/20/2014	17:31
0620F010.D	ZZZZZZ	ZZZZZZ	6/20/2014	17:36		6/20/2014	17:47
0620F011.D	ZZZZZZ	ZZZZZZ	6/20/2014	17:53		6/20/2014	18:04
0620F012.D	ZZZZZZ	ZZZZZZ	6/20/2014	18:09		6/20/2014	18:20
0620F013.D	ZZZZZZ	ZZZZZZ	6/20/2014	18:25		6/20/2014	18:36
0620F014.D	ZZZZZZ	ZZZZZZ	6/20/2014	18:42		6/20/2014	18:53
0620F015.D	Continuing Calibration Verification	KWG1406328-3	6/20/2014	18:58		6/20/2014	19:09
0620F016.D	Instrument Blank	KWG1406328-4	6/20/2014	19:14		6/20/2014	19:25
0620F017.D	ZZZZZZ	ZZZZZZ	6/20/2014	19:31		6/20/2014	19:42
0620F018.D	ZZZZZZ	ZZZZZZ	6/20/2014	19:47		6/20/2014	19:58
0620F019.D	ZZZZZZ	ZZZZZZ	6/20/2014	20:03		6/20/2014	20:14
0620F020.D	ZZZZZZ	ZZZZZZ	6/20/2014	20:19		6/20/2014	20:30
0620F021.D	ZZZZZZ	ZZZZZZ	6/20/2014	20:36		6/20/2014	20:47
0620F022.D	ZZZZZZ	ZZZZZZ	6/20/2014	20:52		6/20/2014	21:03
0620F023.D	ZZZZZZ	ZZZZZZ	6/20/2014	21:08		6/20/2014	21:19
0620F024.D	SYC14-AC	K1405833-001	6/20/2014	21:24		6/20/2014	21:35
0620F025.D	SYC14-ACMS	KWG1406086-3	6/20/2014	21:41		6/20/2014	21:52
0620F026.D	SYC14-ACDMS	KWG1406086-4	6/20/2014	21:57		6/20/2014	22:08
0620F027.D	Continuing Calibration Verification	KWG1406328-5	6/20/2014	22:13		6/20/2014	22:24
0620F028.D	Instrument Blank	KWG1406328-6	6/20/2014	22:29		6/20/2014	22:40
0620F029.D	SYC14-TB	K1405833-002	6/20/2014	22:46		6/20/2014	22:57
0620F030.D	SYC14-REF	K1405833-003	6/20/2014	23:02		6/20/2014	23:13
0620F031.D	Standard Reference Material	KWG1406086-7	6/20/2014	23:18		6/20/2014	23:29
0620F032.D	ZZZZZZ	ZZZZZZ	6/20/2014	23:35		6/20/2014	23:46
0620F033.D	ZZZZZZ	ZZZZZZ	6/20/2014	23:51		6/21/2014	00:02
0620F034.D	ZZZZZZ	ZZZZZZ	6/21/2014	00:07		6/21/2014	00:18
0620F035.D	ZZZZZZ	ZZZZZZ	6/21/2014	00:24		6/21/2014	00:35

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Butyltins (as cation)

Analysis Method: Krone **Analysis Lot:** KWG1406328
Instrument ID: GC26
Column: RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0620F036.D	ZZZZZZ	ZZZZZZ	6/21/2014	00:40		6/21/2014	00:51
0620F037.D	ZZZZZZ	ZZZZZZ	6/21/2014	00:56		6/21/2014	01:07
0620F038.D	ZZZZZZ	ZZZZZZ	6/21/2014	01:13		6/21/2014	01:24
0620F039.D	Continuing Calibration Verification	KWG1406328-7	6/21/2014	01:29		6/21/2014	01:40
0620F040.D	Instrument Blank	KWG1406328-8	6/21/2014	01:45		6/21/2014	01:56
0620F041.D	ZZZZZZ	ZZZZZZ	6/21/2014	02:01		6/21/2014	02:12
0620F042.D	ZZZZZZ	ZZZZZZ	6/21/2014	02:18		6/21/2014	02:29
0620F043.D	ZZZZZZ	ZZZZZZ	6/21/2014	02:35		6/21/2014	02:46
0620F044.D	ZZZZZZ	ZZZZZZ	6/21/2014	02:52		6/21/2014	03:03
0620F045.D	ZZZZZZ	ZZZZZZ	6/21/2014	03:09		6/21/2014	03:20
0620F046.D	ZZZZZZ	ZZZZZZ	6/21/2014	03:25		6/21/2014	03:36
0620F047.D	ZZZZZZ	ZZZZZZ	6/21/2014	03:42		6/21/2014	03:53
0620F048.D	ZZZZZZ	ZZZZZZ	6/21/2014	03:59		6/21/2014	04:10
0620F049.D	ZZZZZZ	ZZZZZZ	6/21/2014	04:16		6/21/2014	04:27
0620F050.D	Continuing Calibration Verification	KWG1406328-9	6/21/2014	04:33		6/21/2014	04:44
0620F051.D	Instrument Blank	KWG1406328-10	6/21/2014	04:50		6/21/2014	05:01
0620F052.D	ZZZZZZ	ZZZZZZ	6/21/2014	05:07		6/21/2014	05:18
0620F053.D	ZZZZZZ	ZZZZZZ	6/21/2014	05:25		6/21/2014	05:36
0620F054.D	ZZZZZZ	ZZZZZZ	6/21/2014	05:42		6/21/2014	05:53
0620F055.D	ZZZZZZ	ZZZZZZ	6/21/2014	05:59		6/21/2014	06:10
0620F056.D	ZZZZZZ	ZZZZZZ	6/21/2014	06:17		6/21/2014	06:28
0620F057.D	ZZZZZZ	ZZZZZZ	6/21/2014	06:34		6/21/2014	06:45
0620F058.D	ZZZZZZ	ZZZZZZ	6/21/2014	06:52		6/21/2014	07:03
0620F059.D	ZZZZZZ	ZZZZZZ	6/21/2014	07:10		6/21/2014	07:21
0620F060.D	Continuing Calibration Verification	KWG1406328-11	6/21/2014	07:29		6/21/2014	07:40
0620F061.D	Instrument Blank	KWG1406328-12	6/21/2014	07:47		6/21/2014	07:58

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

QA/QC Results

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Butyltins (as cation)

Analysis Method: Krone

Analysis Lot: KWG1406872
Instrument ID: GC26
Column: RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0626F002.D	Continuing Calibration Verification	KWG1406872-1	6/26/2014	12:31		6/26/2014	12:42
0626F003.D	Instrument Blank	KWG1406872-2	6/26/2014	12:47		6/26/2014	12:58
0626F004.D	SYC14-AC	K1405833-001	6/26/2014	14:03		6/26/2014	14:14
0626F005.D	SYC14-TB	K1405833-002	6/26/2014	14:20		6/26/2014	14:31
0626F006.D	Continuing Calibration Verification	KWG1406872-3	6/26/2014	14:36		6/26/2014	14:47
0626F007.D	Instrument Blank	KWG1406872-4	6/26/2014	14:52		6/26/2014	15:03

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 MPRSA S103
Sample Matrix: Soil

Service Request: K1405833
Date Extracted: 06/13/2014

Extraction Prep Log
Butyltins (as cation)

Extraction Method: Method
Analysis Method: Krone

Extraction Lot: KWG1406086
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SYC14-AC	K1405833-001	06/04/14	06/11/14	20.032g	4mL	40.4	
SYC14-ACRE	K1405833-001	06/04/14	06/11/14	20.032g	4mL	40.4	
SYC14-TB	K1405833-002	06/02/14	06/11/14	20.009g	4mL	28.3	
SYC14-TBRE	K1405833-002	06/02/14	06/11/14	20.009g	4mL	28.3	
SYC14-REF	K1405833-003	06/03/14	06/11/14	20.370g	4mL	78.0	
Method Blank	KWG1406086-6	NA	NA	20.470g	4mL	NA	
SYC14-ACMS	KWG1406086-3	06/04/14	06/11/14	20.025g	4mL	40.4	
SYC14-ACDMS	KWG1406086-4	06/04/14	06/11/14	20.104g	4mL	40.4	
Lab Control Sample	KWG1406086-5	NA	NA	20.000g	4mL	NA	

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

Confirmation Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014
		Date Extracted:	06/13/2014

Butyltins (as cation)

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
		Level:	Low
Extraction Method:	Method		
Analysis Method:	Krone		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	2.5	0.47	0.99	1.1	10.5	J	1	06/20/14

Confirmation Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014
		Date Extracted:	06/13/2014

Butyltins (as cation)

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
		Level:	Low
Extraction Method:	Method		
Analysis Method:	Krone		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	3.6	0.92	6.1	6.2	1.6		1	06/26/14
Di-n-butyltin Cation	3.6	0.68	3.7	4.1	10.3		1	06/20/14
Tri-n-butyltin Cation	3.6	1.6	4.1	4.1	0.0		1	06/20/14

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/14 - 06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
Analysis Method:	9071B	**Units:**	mg/Kg
Prep Method:	Method	**Basis:**	Dry

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
SYC14-AC	K1405833-001	**250 J**	250	200	1	06/24/14 13:30	6/24/14	
SYC14-TB	K1405833-002	**720**	350	290	1	06/24/14 13:30	6/24/14	
SYC14-REF	K1405833-003	ND U	130	110	1	06/24/14 13:30	6/24/14	
Method Blank	K1405833-MB	ND U	100	80	1	06/24/14 13:30	6/24/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/24/14

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	SYC14-AC	**Units:**	mg/Kg
Lab Code:	K1405833-001	**Basis:**	Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1405833-001DUP Result	Average	RPD	RPD Limit
Oil and Grease, Total (HEM)	9071B	250	200	250	250	248	<1	30

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

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/24/14
		Date Extracted:	06/24/14

Duplicate Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	SYC14-AC	**Units:**	mg/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Analysis Method:	9071B		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1405833-001MS			K1405833-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	250 J	8210	7430	107	8120	7430	106	78-114	1	30

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

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/24/14
Sample Matrix:	Soil	**Date Extracted:**	06/24/14

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	9071B	**Units:**	mg/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	398623

	Lab Control Sample K1405833-LCS2			Duplicate Lab Control Sample K1405833-DLCS2					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	2990	3000	100	2900	3000	96	78-114	3	30

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/14 - 06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
Analysis Method:	ASTM D4129-05 Modified	**Units:**	Percent
Prep Method:	CAS SOP	**Basis:**	Dry, per Method

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
SYC14-AC	K1405833-001	**2.33**	0.050	0.020	1	06/27/14 10:00	6/26/14	
SYC14-TB	K1405833-002	**3.34**	0.050	0.020	1	06/27/14 10:00	6/26/14	
SYC14-REF	K1405833-003	**0.084**	0.050	0.020	1	06/27/14 10:00	6/26/14	
Method Blank	K1405833-MB	ND U	0.050	0.020	1	06/27/14 10:00	6/26/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/27/14

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	K1405833-001	**Basis:**	Dry, per Method

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1405833-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic (TOC)	ASTM D4129-05 Modified	0.050	0.020	2.33	2.25	2.29	4	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.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/27/14
		Date Extracted:	06/26/14

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	K1405833-001	**Basis:**	Dry, per Method
Analysis Method:	ASTM D4129-05 Modified		
Prep Method:	CAS SOP		

		Matrix Spike K1405833-001MS			Duplicate Matrix Spike K1405833-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	2.33	5.85	3.52	100	6.35	4.17	97	70-122	3	20

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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

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/27/14
Sample Matrix:	Soil	**Date Extracted:**	06/26/14

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method:	ASTM D4129-05 Modified	**Units:**	Percent
Prep Method:	CAS SOP	**Basis:**	Dry, per Method
		Analysis Lot:	399350

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405833-LCS1	0.265	0.275	96	72-122

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: ASTM D4129-05 Modified **Units:** Percent

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	399350	KQ1407223-01	06/27/14 10:00	20.0	19.7	98	90-110
CCV2	399350	KQ1407223-02	06/27/14 10:00	20.0	19.8	99	90-110

Client: Anamar Environmental Consulting, Inc. **Service Request:**K1405833
Project: Shipyard Creek MPRSA S103

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: ASTM D4129-05 Modified **Units:**Percent

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	399350	KQ1407223-03	06/27/14 10:00	0.050	0.020	ND	U
CCB2	399350	KQ1407223-04	06/27/14 10:00	0.050	0.020	ND	U

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/14 - 06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
Analysis Method:	SM 4500-NH3 G Modified	**Units:**	mg/Kg
Prep Method:	CAS SOP	**Basis:**	Dry

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
SYC14-AC	K1405833-001	**300**	30	3	25	06/19/14 11:52	6/18/14	
SYC14-TB	K1405833-002	**763**	44	4	25	06/19/14 11:52	6/18/14	
SYC14-REF	K1405833-003	**4.63**	0.63	0.06	1	06/19/14 11:52	6/18/14	
Method Blank	K1405833-MB	ND U	0.50	0.04	1	06/19/14 11:52	6/18/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/19/14

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	SYC14-AC	**Units:**	mg/Kg
Lab Code:	K1405833-001	**Basis:**	Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1405833-001DUP Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	SM 4500-NH3 G Modified	30	3	300	325	313	8	32

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

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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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/19/14
		Date Extracted:	06/18/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	SYC14-AC	**Units:**	mg/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Analysis Method:	SM 4500-NH3 G Modified		
Prep Method:	CAS SOP		

		Matrix Spike			**Duplicate Matrix Spike**					
		K1405833-001MS			K1405833-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	300	1570	1240	103	1470	1210	97	55-135	6	20

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dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/19/14
Sample Matrix:	Soil	**Date Extracted:**	06/18/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 G Modified	**Units:**	mg/Kg
Prep Method:	CAS SOP	**Basis:**	Dry
		Analysis Lot:	397973

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405833-LCS1	11.7	10.8	109	58-131

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G Modified **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	397973	KQ1406864-01	06/19/14 11:52	2.00	2.03	101	90-110
CCV2	397973	KQ1406864-02	06/19/14 11:52	2.00	2.02	101	90-110
CCV3	397973	KQ1406864-03	06/19/14 11:52	2.00	2.01	100	90-110

Client: Anamar Environmental Consulting, Inc. **Service Request:**K1405833
Project: Shipyard Creek MPRSA S103

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G Modified **Units:**mg/Kg

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	397973	KQ1406864-04	06/19/14 11:52	0.50	0.04	ND	U
CCB2	397973	KQ1406864-05	06/19/14 11:52	0.50	0.04	ND	U
CCB3	397973	KQ1406864-06	06/19/14 11:52	0.50	0.04	ND	U

ALS Group USA, Corp.
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Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/14 - 06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
SYC14-AC	K1405833-001	**40.4**	-	-	1	06/25/14 19:35	
SYC14-TB	K1405833-002	**28.3**	-	-	1	06/25/14 19:35	
SYC14-REF	K1405833-003	**78.0**	-	-	1	06/25/14 19:35	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/14
Sample Matrix:	Soil	**Date Received:**	06/11/14
		Date Analyzed:	06/25/14

Replicate Sample Summary

Total Solids

Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	K1405833-001	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ1407102-02 Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	-	40.4	40.3	40.4	<1	10

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

Polybrominated Diphenyl Ethers

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Cover Page - Organic Analysis Data Package
Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name	Lab Code	Date Collected	Date Received
SYC14-AC	K1405833-001	06/04/2014	06/11/2014
SYC14-TB	K1405833-002	06/02/2014	06/11/2014
SYC14-REF	K1405833-003	06/03/2014	06/11/2014
SYC14-ACMS	KWG1405686-1	06/04/2014	06/11/2014
SYC14-ACDMS	KWG1405686-2	06/04/2014	06/11/2014
SYC14-TB	KWG1405686-6	06/02/2014	06/11/2014

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
PBDE 17	ND	U	0.13	0.028	1	06/16/14	06/24/14	KWG1405686	*
PBDE 28	ND	U	0.13	0.030	1	06/16/14	06/24/14	KWG1405686	*
PBDE 71	ND	U	0.13	0.019	1	06/16/14	06/24/14	KWG1405686	*
PBDE 47	ND	U	0.13	0.036	1	06/16/14	06/24/14	KWG1405686	*
PBDE 66	ND	U	0.13	0.024	1	06/16/14	06/24/14	KWG1405686	*
PBDE 100	ND	U	0.13	0.017	1	06/16/14	06/24/14	KWG1405686	*
PBDE 99	ND	U	0.13	0.037	1	06/16/14	06/24/14	KWG1405686	*
PBDE 85	ND	U	0.13	0.049	1	06/16/14	06/24/14	KWG1405686	*
PBDE 154	ND	U	0.13	0.0095	1	06/16/14	06/24/14	KWG1405686	*
PBDE 153	ND	U	0.13	0.011	1	06/16/14	06/24/14	KWG1405686	*
PBDE 138	ND	U	0.13	0.020	1	06/16/14	06/24/14	KWG1405686	*
PBDE 128	ND	U	0.13	0.013	1	06/16/14	06/24/14	KWG1405686	*
PBDE 183	ND	U	0.13	0.016	1	06/16/14	06/24/14	KWG1405686	*
PBDE 190	ND	U	0.13	0.025	1	06/16/14	06/24/14	KWG1405686	
PBDE 203	ND	U	0.13	0.036	1	06/16/14	06/24/14	KWG1405686	*
PBDE 206	ND	U	1.3	0.038	1	06/16/14	06/24/14	KWG1405686	*
PBDE 209	ND	U	1.3	0.032	1	06/16/14	06/24/14	KWG1405686	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
PBDE 47C13	102	70-130	06/24/14	Acceptable
PBDE 99C13	87	70-130	06/24/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
PBDE 17	ND	U	0.18	0.041	1	06/16/14	06/24/14	KWG1405686	*
PBDE 28	ND	U	0.18	0.043	1	06/16/14	06/24/14	KWG1405686	*
PBDE 71	ND	U	0.18	0.027	1	06/16/14	06/24/14	KWG1405686	*
PBDE 47	ND	U	0.18	0.051	1	06/16/14	06/24/14	KWG1405686	*
PBDE 66	ND	U	0.18	0.034	1	06/16/14	06/24/14	KWG1405686	*
PBDE 100	ND	U	0.18	0.025	1	06/16/14	06/24/14	KWG1405686	*
PBDE 99	ND	U	0.18	0.053	1	06/16/14	06/24/14	KWG1405686	*
PBDE 85	ND	U	0.18	0.071	1	06/16/14	06/24/14	KWG1405686	*
PBDE 154	ND	U	0.18	0.014	1	06/16/14	06/24/14	KWG1405686	*
PBDE 153	ND	U	0.18	0.016	1	06/16/14	06/24/14	KWG1405686	*
PBDE 138	ND	U	0.18	0.029	1	06/16/14	06/24/14	KWG1405686	*
PBDE 128	ND	U	0.18	0.018	1	06/16/14	06/24/14	KWG1405686	*
PBDE 183	ND	U	0.18	0.023	1	06/16/14	06/24/14	KWG1405686	*
PBDE 190	ND	U	0.18	0.036	1	06/16/14	06/24/14	KWG1405686	
PBDE 203	ND	U	0.18	0.051	1	06/16/14	06/24/14	KWG1405686	*
PBDE 206	ND	U	1.8	0.055	1	06/16/14	06/24/14	KWG1405686	*
PBDE 209	ND	U	1.8	0.046	1	06/16/14	06/24/14	KWG1405686	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
PBDE 47C13	136	70-130	06/24/14	Outside Control Limits
PBDE 99C13	92	70-130	06/24/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/03/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	SYC14-REF	**Units:**	ug/Kg
Lab Code:	K1405833-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
PBDE 17	ND	U	0.064	0.023	1	06/16/14	06/24/14	KWG1405686	*
PBDE 28	ND	U	0.064	0.024	1	06/16/14	06/24/14	KWG1405686	*
PBDE 71	ND	U	0.064	0.015	1	06/16/14	06/24/14	KWG1405686	*
PBDE 47	ND	U	0.064	0.029	1	06/16/14	06/24/14	KWG1405686	*
PBDE 66	ND	U	0.064	0.019	1	06/16/14	06/24/14	KWG1405686	*
PBDE 100	ND	U	0.064	0.014	1	06/16/14	06/24/14	KWG1405686	*
PBDE 99	ND	U	0.064	0.030	1	06/16/14	06/24/14	KWG1405686	*
PBDE 85	ND	U	0.080	0.040	1	06/16/14	06/24/14	KWG1405686	*
PBDE 154	ND	U	0.064	0.0078	1	06/16/14	06/24/14	KWG1405686	*
PBDE 153	ND	U	0.064	0.0087	1	06/16/14	06/24/14	KWG1405686	*
PBDE 138	ND	U	0.064	0.016	1	06/16/14	06/24/14	KWG1405686	*
PBDE 128	ND	U	0.064	0.0099	1	06/16/14	06/24/14	KWG1405686	*
PBDE 183	ND	U	0.064	0.013	1	06/16/14	06/24/14	KWG1405686	*
PBDE 190	ND	U	0.064	0.020	1	06/16/14	06/24/14	KWG1405686	
PBDE 203	ND	U	0.064	0.029	1	06/16/14	06/24/14	KWG1405686	*
PBDE 206	ND	U	0.64	0.031	1	06/16/14	06/24/14	KWG1405686	*
PBDE 209	ND	U	0.64	0.026	1	06/16/14	06/24/14	KWG1405686	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
PBDE 47C13	100	70-130	06/24/14	Acceptable
PBDE 99C13	99	70-130	06/24/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1405686-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
PBDE 17	ND	U	0.050	0.023	1	06/16/14	06/24/14	KWG1405686	*
PBDE 28	ND	U	0.050	0.024	1	06/16/14	06/24/14	KWG1405686	*
PBDE 71	ND	U	0.050	0.015	1	06/16/14	06/24/14	KWG1405686	*
PBDE 47	ND	U	0.050	0.029	1	06/16/14	06/24/14	KWG1405686	*
PBDE 66	ND	U	0.050	0.019	1	06/16/14	06/24/14	KWG1405686	*
PBDE 100	ND	U	0.050	0.014	1	06/16/14	06/24/14	KWG1405686	*
PBDE 99	ND	U	0.050	0.030	1	06/16/14	06/24/14	KWG1405686	*
PBDE 85	ND	U	0.080	0.040	1	06/16/14	06/24/14	KWG1405686	*
PBDE 154	ND	U	0.050	0.0078	1	06/16/14	06/24/14	KWG1405686	*
PBDE 153	ND	U	0.050	0.0087	1	06/16/14	06/24/14	KWG1405686	*
PBDE 138	ND	U	0.050	0.016	1	06/16/14	06/24/14	KWG1405686	*
PBDE 128	ND	U	0.050	0.0099	1	06/16/14	06/24/14	KWG1405686	*
PBDE 183	ND	U	0.050	0.013	1	06/16/14	06/24/14	KWG1405686	*
PBDE 190	ND	U	0.050	0.020	1	06/16/14	06/24/14	KWG1405686	
PBDE 203	ND	U	0.050	0.029	1	06/16/14	06/24/14	KWG1405686	*
PBDE 206	ND	U	0.50	0.031	1	06/16/14	06/24/14	KWG1405686	*
PBDE 209	ND	U	0.50	0.026	1	06/16/14	06/24/14	KWG1405686	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
PBDE 47C13	85	70-130	06/24/14	Acceptable
PBDE 99C13	84	70-130	06/24/14	Acceptable

Comments:

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103
Sample Matrix: Soil

Surrogate Recovery Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1		Sur2
SYC14-AC	K1405833-001	102 D		87
SYC14-TB	K1405833-002	136	*	92
SYC14-REF	K1405833-003	100		99
SYC14-TBDUP	KWG1405686-6	139	*	90
Method Blank	KWG1405686-5	85		84
SYC14-ACMS	KWG1405686-1	107 D		77
SYC14-ACDMS	KWG1405686-2	102 D		79
Lab Control Sample	KWG1405686-3	81		79
Duplicate Lab Control Sample	KWG1405686-4	94		88

Surrogate Recovery Control Limits (%)

Sur1	=	PBDE 47C13	70-130
Sur2	=	PBDE 99C13	70-130

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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/24/2014
		Time Analyzed:	16:17

Internal Standard Area and RT Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

File ID:	J:\MS14\DATA\062414\0624F018.D	**Lab Code:**	KWG1406646-2
Instrument ID:	MS14	**Analysis Lot:**	KWG1406646
Analysis Method:	8270D SIM		

		PCB 207	
		Area	**RT**
	Results ==>	59,946	8.21
	Upper Limit ==>	119,892	8.71
	Lower Limit ==>	29,973	7.71
	ICAL Result ==>	66,113	8.21
Associated Analyses			
Method Blank	KWG1405686-5	61,455	8.21
SYC14-ACDL	K1405833-001	57,763	8.22
Lab Control Sample	KWG1405686-3	57,466	8.21
Duplicate Lab Control Sample	KWG1405686-4	56,361	8.21
SYC14-ACMS	KWG1405686-1	42,217	8.27
SYC14-ACDMS	KWG1405686-2	41,198	8.27
SYC14-AC	K1405833-001	43,283	8.27
SYC14-TBDUP	KWG1405686-6	47,209	8.25
SYC14-TB	K1405833-002	45,344	8.26
SYC14-REF	K1405833-003	57,337	8.23

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

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	06/25/2014
		Time Analyzed:	10:45

Internal Standard Area and RT Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

File ID:	J:\MS14\DATA\062514\0625F002.D	**Lab Code:**	KWG1406653-2
Instrument ID:	MS14	**Analysis Lot:**	KWG1406653
Analysis Method:	8270D SIM		

		PCB 207	
		Area	**RT**
	Results ==>	55,676	8.23
	Upper Limit ==>	111,352	8.73
	Lower Limit ==>	27,838	7.73
	ICAL Result ==>	66,113	8.21
Associated Analyses			
SYC14-ACMS	KWG1405686-1	56,989	8.23
SYC14-ACDMS	KWG1405686-2	58,471	8.23

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

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/24/2014 - 06/25/2014

Matrix Spike/Duplicate Matrix Spike Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405686

		SYC14-ACMS KWG1405686-1 Matrix Spike			SYC14-ACDMS KWG1405686-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
PBDE 17	ND	4.73	6.09	78	5.53	6.10	91	70-130	16	40
PBDE 28	ND	2.87	6.09	47 *	3.11	6.10	51 *	70-130	8	40
PBDE 71	ND	5.72	6.09	94	5.95	6.10	98	70-130	4	40
PBDE 47	ND	6.06	6.09	100	6.53	6.10	107	70-130	7	40
PBDE 66	ND	5.99	6.09	98	5.58	6.10	92	70-130	7	40
PBDE 100	ND	7.08	6.09	116	7.21	6.10	118	70-130	2	40
PBDE 99	ND	5.55	6.09	91	4.94	6.10	81	70-130	12	40
PBDE 85	ND	5.99	6.09	98	6.18	6.10	101	70-130	3	40
PBDE 154	ND	5.29	6.09	87	5.33	6.10	88	70-130	1	40
PBDE 153	ND	5.96	6.09	98	5.97	6.10	98	70-130	0	40
PBDE 138	ND	6.85	6.09	112	6.05	6.10	99	70-130	12	40
PBDE 128	ND	7.04	6.09	116	6.66	6.10	109	70-130	6	40
PBDE 183	ND	5.04	6.09	83	5.20	6.10	85	70-130	3	40
PBDE 190	ND	4.01	6.09	66 *	3.65	6.10	60 *	70-130	9	40
PBDE 203	ND	2.28	6.09	38 *	2.08	6.10	34 *	70-130	9	40
PBDE 206	ND	ND	6.09	0 *	ND	6.10	0 *	70-130	NC	40
PBDE 209	ND	ND	6.09	0 *	ND	6.10	0 *	70-130	NC	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/24/2014

Duplicate Sample Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405686

Analyte Name	MRL	MDL	Sample Result	SYC14-TBDUP KWG1405686-6 Duplicate Sample Result	Average	Relative Percent Difference	RPD Limit
PBDE 17	0.18	0.041	ND	ND	ND	-	40
PBDE 28	0.18	0.043	ND	ND	ND	-	40
PBDE 71	0.18	0.027	ND	ND	ND	-	40
PBDE 47	0.18	0.051	ND	ND	ND	-	40
PBDE 66	0.18	0.034	ND	ND	ND	-	40
PBDE 100	0.18	0.025	ND	ND	ND	-	40
PBDE 99	0.18	0.053	ND	ND	ND	-	40
PBDE 85	0.18	0.071	ND	ND	ND	-	40
PBDE 154	0.18	0.014	ND	ND	ND	-	40
PBDE 153	0.18	0.016	ND	ND	ND	-	40
PBDE 138	0.18	0.029	ND	ND	ND	-	40
PBDE 128	0.18	0.018	ND	ND	ND	-	40
PBDE 183	0.18	0.023	ND	ND	ND	-	40
PBDE 190	0.18	0.036	ND	ND	ND	-	40
PBDE 203	0.18	0.051	ND	ND	ND	-	40
PBDE 206	1.8	0.055	ND	ND	ND	-	40
PBDE 209	1.8	0.046	ND	ND	ND	-	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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/24/2014

Lab Control Spike/Duplicate Lab Control Spike Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1405686

	Lab Control Sample KWG1405686-3 Lab Control Spike			Duplicate Lab Control Sample KWG1405686-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
PBDE 17	3.18	5.00	64 *	4.09	5.00	82	70-130	25	40
PBDE 28	3.23	5.00	65 *	4.24	5.00	85	70-130	27	40
PBDE 71	3.33	5.00	67 *	4.30	5.00	86	70-130	25	40
PBDE 47	3.44	5.00	69 *	4.29	5.00	86	70-130	22	40
PBDE 66	3.34	5.00	67 *	4.38	5.00	88	70-130	27	40
PBDE 100	3.22	5.00	64 *	4.24	5.00	85	70-130	27	40
PBDE 99	3.20	5.00	64 *	4.07	5.00	81	70-130	24	40
PBDE 85	3.38	5.00	68 *	4.34	5.00	87	70-130	25	40
PBDE 154	3.18	5.00	64 *	4.12	5.00	82	70-130	26	40
PBDE 153	3.25	5.00	65 *	4.35	5.00	87	70-130	29	40
PBDE 138	3.29	5.00	66 *	4.33	5.00	87	70-130	27	40
PBDE 128	3.40	5.00	68 *	4.45	5.00	89	70-130	27	40
PBDE 183	3.32	5.00	66 *	4.55	5.00	91	70-130	31	40
PBDE 190	3.50	5.00	70	4.50	5.00	90	70-130	25	40
PBDE 203	3.45	5.00	69 *	4.74	5.00	95	70-130	31	40
PBDE 206	3.40	5.00	68 *	4.39	5.00	88	70-130	26	40
PBDE 209	3.27	5.00	65 *	4.31	5.00	86	70-130	27	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.

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/24/2014
		Time Analyzed:	16:38

Method Blank Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	Method Blank	**Instrument ID:**	MS14
Lab Code:	KWG1405686-5	**File ID:**	J:\MS14\DATA\062414\0624F019.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405686

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F020.D	06/24/14	16:57
Lab Control Sample	KWG1405686-3	J:\MS14\DATA\062414\0624F021.D	06/24/14	17:15
Duplicate Lab Control Sample	KWG1405686-4	J:\MS14\DATA\062414\0624F022.D	06/24/14	17:33
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062414\0624F023.D	06/24/14	17:51
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062414\0624F024.D	06/24/14	18:10
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F025.D	06/24/14	18:28
SYC14-TBDUP	KWG1405686-6	J:\MS14\DATA\062414\0624F026.D	06/24/14	18:46
SYC14-TB	K1405833-002	J:\MS14\DATA\062414\0624F027.D	06/24/14	19:04
SYC14-REF	K1405833-003	J:\MS14\DATA\062414\0624F028.D	06/24/14	19:23
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062514\0625F004.D	06/25/14	11:23
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062514\0625F005.D	06/25/14	11:41

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/24/2014
		Time Analyzed:	17:15

Lab Control Sample Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Sample Name:	Lab Control Sample	**Instrument ID:**	MS14
Lab Code:	KWG1405686-3	**File ID:**	J:\MS14\DATA\062414\0624F021.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405686

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1405686-5	J:\MS14\DATA\062414\0624F019.D	06/24/14	16:38
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F020.D	06/24/14	16:57
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062414\0624F023.D	06/24/14	17:51
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062414\0624F024.D	06/24/14	18:10
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F025.D	06/24/14	18:28
SYC14-TBDUP	KWG1405686-6	J:\MS14\DATA\062414\0624F026.D	06/24/14	18:46
SYC14-TB	K1405833-002	J:\MS14\DATA\062414\0624F027.D	06/24/14	19:04
SYC14-REF	K1405833-003	J:\MS14\DATA\062414\0624F028.D	06/24/14	19:23
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062514\0625F004.D	06/25/14	11:23
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062514\0625F005.D	06/25/14	11:41

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/24/2014
Time Analyzed: 15:55

Tune Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

File ID: J:\MS14\DATA\062414\0624F017.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1406646

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	37.4	353920	PASS
68	69	0	2	1.5	5562	PASS
69	198	0	100	39.3	372490	PASS
70	69	0	2	0.7	2653	PASS
127	198	10	80	50.2	475477	PASS
197	198	0	2	0.3	2395	PASS
198	442	30	100	55.4	947008	PASS
199	198	5	9	6.7	63136	PASS
275	198	10	60	37.3	352960	PASS
365	442	1	50	3.1	53720	PASS
441	443	0	100	72.7	246400	PASS
442	442	100	100	100.0	1708032	PASS
443	442	15	24	19.8	338752	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1406646-2	J:\MS14\DATA\062414\0624F018.D	06/24/2014	16:17	
Method Blank	KWG1405686-5	J:\MS14\DATA\062414\0624F019.D	06/24/2014	16:38	
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F020.D	06/24/2014	16:57	
Lab Control Sample	KWG1405686-3	J:\MS14\DATA\062414\0624F021.D	06/24/2014	17:15	
Duplicate Lab Control Sample	KWG1405686-4	J:\MS14\DATA\062414\0624F022.D	06/24/2014	17:33	
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062414\0624F023.D	06/24/2014	17:51	
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062414\0624F024.D	06/24/2014	18:10	
SYC14-AC	K1405833-001	J:\MS14\DATA\062414\0624F025.D	06/24/2014	18:28	
SYC14-TBDUP	KWG1405686-6	J:\MS14\DATA\062414\0624F026.D	06/24/2014	18:46	
SYC14-TB	K1405833-002	J:\MS14\DATA\062414\0624F027.D	06/24/2014	19:04	
SYC14-REF	K1405833-003	J:\MS14\DATA\062414\0624F028.D	06/24/2014	19:23	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/25/2014
Time Analyzed: 10:22

Tune Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

File ID: J:\MS14\DATA\062514\0625F001.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1406653

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	48.6	356908	PASS
68	69	0	2	1.7	6155	PASS
69	198	0	100	49.1	360110	PASS
70	69	0	2	0.3	1071	PASS
127	198	10	80	54.2	397696	PASS
197	198	0	2	0.5	3638	PASS
198	442	30	100	57.7	734041	PASS
199	198	5	9	7.0	51573	PASS
275	198	10	60	35.9	263787	PASS
365	442	1	50	2.8	35680	PASS
441	443	0	100	70.2	173760	PASS
442	442	100	100	100.0	1271808	PASS
443	442	15	24	19.5	247680	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1406653-2	J:\MS14\DATA\062514\0625F002.D	06/25/2014	10:45	
SYC14-ACMS	KWG1405686-1	J:\MS14\DATA\062514\0625F004.D	06/25/2014	11:23	
SYC14-ACDMS	KWG1405686-2	J:\MS14\DATA\062514\0625F005.D	06/25/2014	11:41	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/24/2014

Initial Calibration Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration ID: CAL13399 **Column:** MS
Instrument ID: MS14

Level ID	File ID	Level ID	File ID
A	J:\MS14\DATA\062414\0624F004.D	G	J:\MS14\DATA\062414\0624F010.D
B	J:\MS14\DATA\062414\0624F005.D	H	J:\MS14\DATA\062414\0624F011.D
C	J:\MS14\DATA\062414\0624F006.D	I	J:\MS14\DATA\062414\0624F012.D
D	J:\MS14\DATA\062414\0624F007.D	J	J:\MS14\DATA\062414\0624F013.D
E	J:\MS14\DATA\062414\0624F008.D	K	J:\MS14\DATA\062414\0624F014.D
F	J:\MS14\DATA\062414\0624F009.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
PBDE 47C13	A	0.50	0.644	B	1.0	0.552	C	5.0	0.527	D	10	0.558	E	15	0.554
	F	20	0.581	G	25	0.550	H	30	0.567	I	40	0.538	J	50	0.531
	K	60	0.524												
PBDE 99C13	A	0.50	0.439	B	1.0	0.416	C	5.0	0.418	D	10	0.468	E	15	0.467
	F	20	0.491	G	25	0.470	H	30	0.469	I	40	0.468	J	50	0.468
	K	60	0.461												
PBDE 17	A	0.50	0.849	B	1.0	0.740	C	5.0	0.695	D	10	0.567	E	15	0.571
	F	20	0.574	G	25	0.546	H	30	0.629	I	40	0.547	J	50	0.526
	K	60	0.483												
PBDE 28	A	0.50	0.807	B	1.0	0.637	C	5.0	0.617	D	10	0.588	E	15	0.563
	F	20	0.571	G	25	0.535	H	30	0.594	I	40	0.545	J	50	0.534
PBDE 71	A	0.50	0.830	B	1.0	0.861	C	5.0	0.784	D	10	0.799	E	15	0.825
	F	20	0.817	G	25	0.781	H	30	0.830	I	40	0.804	J	50	0.779
	K	60	0.772												
PBDE 47	A	0.50	0.627	B	1.0	0.600	C	5.0	0.601	D	10	0.622	E	15	0.611
	F	20	0.640	G	25	0.607	H	30	0.625	I	40	0.594	J	50	0.593
	K	60	0.569												
PBDE 66	A	0.50	0.735	B	1.0	0.650	C	5.0	0.666	D	10	0.742	E	15	0.730
	F	20	0.714	G	25	0.706	H	30	0.711	I	40	0.712	J	50	0.692
	K	60	0.671												
PBDE 100	A	0.50	0.440	B	1.0	0.374	C	5.0	0.413	D	10	0.453	E	15	0.453
	F	20	0.449	G	25	0.431	H	30	0.443	I	40	0.442	J	50	0.434
	K	60	0.421												
PBDE 99	A	0.50	0.564	B	1.0	0.447	C	5.0	0.453	D	10	0.521	E	15	0.502
	F	20	0.530	G	25	0.510	H	30	0.521	I	40	0.512	J	50	0.505
	K	60	0.508												
PBDE 85	A	0.50	0.462	B	1.0	0.496	C	5.0	0.435	D	10	0.485	E	15	0.490
	F	20	0.504	G	25	0.488	H	30	0.506	I	40	0.515	J	50	0.512
	K	60	0.506												

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/24/2014

Initial Calibration Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration ID: CAL13399 **Column:** MS
Instrument ID: MS14

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
PBDE 154	A	0.50	0.471	B	1.0	0.456	C	5.0	0.435	D	10	0.507	E	15	0.509
	F	20	0.513	G	25	0.495	H	30	0.519	I	40	0.526	J	50	0.509
	K	60	0.507												
PBDE 153	A	0.50	0.416	B	1.0	0.447	C	5.0	0.417	D	10	0.504	E	15	0.504
	F	20	0.517	G	25	0.483	H	30	0.506	I	40	0.528	J	50	0.530
	K	60	0.522												
PBDE 138	A	0.50	0.385	B	1.0	0.371	C	5.0	0.381	D	10	0.454	E	15	0.452
	F	20	0.480	G	25	0.445	H	30	0.466	I	40	0.499	J	50	0.494
	K	60	0.485												
PBDE 128	A	0.50	0.347	B	1.0	0.336	C	5.0	0.382	D	10	0.450	E	15	0.455
	F	20	0.473	G	25	0.448	H	30	0.481	I	40	0.505	J	50	0.501
	K	60	0.507												
PBDE 183	A	0.50	0.315	B	1.0	0.302	C	5.0	0.319	D	10	0.380	E	15	0.407
	F	20	0.421	G	25	0.393	H	30	0.409	I	40	0.425	J	50	0.419
	K	60	0.423												
PBDE 190	A	0.50	0.288	B	1.0	0.252	C	5.0	0.264	D	10	0.333	E	15	0.334
	F	20	0.346	G	25	0.339	H	30	0.350	I	40	0.386	J	50	0.385
	K	60	0.387												
PBDE 203	A	0.50	0.264	B	1.0	0.241	C	5.0	0.250	D	10	0.325	E	15	0.336
	F	20	0.346	G	25	0.335	H	30	0.360	I	40	0.397	J	50	0.397
	K	60	0.401												
PBDE 206							C	5.0	0.153	D	10	0.198	E	15	0.220
	F	20	0.233	G	25	0.226	H	30	0.241	I	40	0.277	J	50	0.276
	K	60	0.289												
PBDE 209							C	5.0	0.102	D	10	0.127	E	15	0.147
	F	20	0.164	G	25	0.165	H	30	0.174	I	40	0.203	J	50	0.204
	K	60	0.218												

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/24/2014

Initial Calibration Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration ID: CAL13399 **Column:** MS
Instrument ID: MS14

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
PBDE 47C13	SURR	AverageRF	% RSD	6.0		≤ 20	0.557		0.01
PBDE 99C13	SURR	AverageRF	% RSD	5.1		≤ 20	0.458		0.01
PBDE 17	MS	Quadratic(0,0)	COD	0.995		≥ 0.990	0.612		0.01
PBDE 28	MS	Quadratic	COD	0.997		≥ 0.990	0.599		0.01
PBDE 71	MS	AverageRF	% RSD	3.4		≤ 20	0.807		0.01
PBDE 47	MS	AverageRF	% RSD	3.3		≤ 20	0.608		0.01
PBDE 66	MS	AverageRF	% RSD	4.2		≤ 20	0.703		0.01
PBDE 100	MS	AverageRF	% RSD	5.3		≤ 20	0.432		0.01
PBDE 99	MS	AverageRF	% RSD	6.5		≤ 20	0.507		0.01
PBDE 85	MS	AverageRF	% RSD	4.9		≤ 20	0.491		0.01
PBDE 154	MS	AverageRF	% RSD	5.8		≤ 20	0.495		0.01
PBDE 153	MS	AverageRF	% RSD	8.7		≤ 20	0.489		0.01
PBDE 138	MS	AverageRF	% RSD	10.5		≤ 20	0.447		0.01
PBDE 128	MS	AverageRF	% RSD	13.9		≤ 20	0.444		0.01
PBDE 183	MS	AverageRF	% RSD	12.4		≤ 20	0.383		0.01
PBDE 190	MS	AverageRF	% RSD	14.2		≤ 20	0.333		0.01
PBDE 203	MS	AverageRF	% RSD	17.5		≤ 20	0.332		0.01
PBDE 206	MS	Quadratic	COD	0.998		≥ 0.990	0.235		0.01
PBDE 209	MS	Quadratic	COD	0.998		≥ 0.990	0.167		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 MPRSA S103

Service Request: K1405833
Calibration Date: 06/24/2014
Date Analyzed: 06/24/2014

Second Source Calibration Verification
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL13399
Units: ng/ml

File ID: J:\MS14\DATA\062414\0624F015.D
J:\MS14\DATA\062414\0624F016.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
PBDE 17	25	30	0.612	0.690	NA	21	± 30 %	Quadratic(0,0)
PBDE 28	25	29	0.599	0.656	NA	17	± 30 %	Quadratic
PBDE 71	25	27	0.807	0.871	8	NA	± 30 %	AverageRF
PBDE 47	25	26	0.608	0.626	3	NA	± 30 %	AverageRF
PBDE 66	25	26	0.703	0.730	4	NA	± 30 %	AverageRF
PBDE 100	25	26	0.432	0.442	2	NA	± 30 %	AverageRF
PBDE 99	25	25	0.507	0.509	0	NA	± 30 %	AverageRF
PBDE 85	25	26	0.491	0.517	5	NA	± 30 %	AverageRF
PBDE 154	25	25	0.495	0.492	-1	NA	± 30 %	AverageRF
PBDE 153	25	28	0.489	0.546	12	NA	± 30 %	AverageRF
PBDE 138	38	40	0.447	0.472	6	NA	± 30 %	AverageRF
PBDE 183	25	26	0.383	0.395	3	NA	± 30 %	AverageRF
PBDE 190	25	28	0.333	0.380	14	NA	± 30 %	AverageRF
PBDE 203	25	25	0.332	0.337	1	NA	± 30 %	AverageRF
PBDE 206	25	26	0.235	0.247	NA	2	± 30 %	Quadratic
PBDE 209	25	22	0.167	0.148	NA	-11	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/24/2014

Continuing Calibration Verification Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 06/24/2014
Calibration ID: CAL13399
Analysis Lot: KWG1406646
Units: ng/ml

File ID: J:\MS14\DATA\062414\0624F018.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
PBDE 47C13	25	26	0.01	0.557	0.576	3	NA		± 20 %	AverageRF
PBDE 99C13	25	24	0.01	0.458	0.442	-3	NA		± 20 %	AverageRF
PBDE 17	25	30	0.01	0.612	0.694	NA	22	*	± 20 %	Quadratic(0,0)
PBDE 28	25	27	0.01	0.599	0.614	NA	9		± 20 %	Quadratic
PBDE 71	25	27	0.01	0.807	0.857	6	NA		± 20 %	AverageRF
PBDE 47	25	26	0.01	0.608	0.635	4	NA		± 20 %	AverageRF
PBDE 66	25	26	0.01	0.703	0.743	6	NA		± 20 %	AverageRF
PBDE 100	25	26	0.01	0.432	0.443	2	NA		± 20 %	AverageRF
PBDE 99	25	24	0.01	0.507	0.487	-4	NA		± 20 %	AverageRF
PBDE 85	25	25	0.01	0.491	0.497	1	NA		± 20 %	AverageRF
PBDE 154	25	25	0.01	0.495	0.497	0	NA		± 20 %	AverageRF
PBDE 153	25	26	0.01	0.489	0.502	3	NA		± 20 %	AverageRF
PBDE 138	25	25	0.01	0.447	0.454	2	NA		± 20 %	AverageRF
PBDE 128	25	26	0.01	0.444	0.462	4	NA		± 20 %	AverageRF
PBDE 183	25	25	0.01	0.383	0.389	1	NA		± 20 %	AverageRF
PBDE 190	25	25	0.01	0.333	0.337	1	NA		± 20 %	AverageRF
PBDE 203	25	26	0.01	0.332	0.347	5	NA		± 20 %	AverageRF
PBDE 206	25	24	0.01	0.235	0.230	NA	-4		± 20 %	Quadratic
PBDE 209	25	24	0.01	0.167	0.159	NA	-6		± 20 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/25/2014

Continuing Calibration Verification Summary
Polybrominated Diphenyl Ethers by 8270C-SIM

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 06/24/2014
Calibration ID: CAL13399
Analysis Lot: KWG1406653
Units: ng/ml

File ID: J:\MS14\DATA\062514\0625F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
PBDE 47C13	25	26	0.01	0.557	0.570	2	NA		± 20 %	AverageRF
PBDE 99C13	25	24	0.01	0.458	0.447	-2	NA		± 20 %	AverageRF
PBDE 17	25	29	0.01	0.612	0.667	NA	16		± 20 %	Quadratic(0,0)
PBDE 28	25	28	0.01	0.599	0.630	NA	12		± 20 %	Quadratic
PBDE 71	25	26	0.01	0.807	0.849	5	NA		± 20 %	AverageRF
PBDE 47	25	25	0.01	0.608	0.615	1	NA		± 20 %	AverageRF
PBDE 66	25	25	0.01	0.703	0.711	1	NA		± 20 %	AverageRF
PBDE 100	25	24	0.01	0.432	0.422	-2	NA		± 20 %	AverageRF
PBDE 99	25	24	0.01	0.507	0.484	-4	NA		± 20 %	AverageRF
PBDE 85	25	25	0.01	0.491	0.491	0	NA		± 20 %	AverageRF
PBDE 154	25	23	0.01	0.495	0.461	-7	NA		± 20 %	AverageRF
PBDE 153	25	24	0.01	0.489	0.471	-4	NA		± 20 %	AverageRF
PBDE 138	25	25	0.01	0.447	0.446	0	NA		± 20 %	AverageRF
PBDE 128	25	28	0.01	0.444	0.499	12	NA		± 20 %	AverageRF
PBDE 183	25	25	0.01	0.383	0.388	1	NA		± 20 %	AverageRF
PBDE 190	25	26	0.01	0.333	0.343	3	NA		± 20 %	AverageRF
PBDE 203	25	22	0.01	0.332	0.299	-10	NA		± 20 %	AverageRF
PBDE 206	25	20	0.01	0.235	0.188	NA	-18		± 20 %	Quadratic
PBDE 209	25	19	0.01	0.167	0.120	NA	-25	*	± 20 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Polybrominated Diphenyl Ethers by 8270C-SIM

Analysis Method: 8270D SIM **Analysis Lot:** KWG1406646
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0624F017.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1406646-1	6/24/2014	15:55		6/24/2014	16:09
0624F018.D	Continuing Calibration Verification	KWG1406646-2	6/24/2014	16:17		6/24/2014	16:29
0624F019.D	Method Blank	KWG1405686-5	6/24/2014	16:38		6/24/2014	16:50
0624F020.D	SYC14-AC	K1405833-001	6/24/2014	16:57		6/24/2014	17:09
0624F021.D	Lab Control Sample	KWG1405686-3	6/24/2014	17:15		6/24/2014	17:27
0624F022.D	Duplicate Lab Control Sample	KWG1405686-4	6/24/2014	17:33		6/24/2014	17:45
0624F023.D	SYC14-ACMS	KWG1405686-1	6/24/2014	17:51		6/24/2014	18:03
0624F024.D	SYC14-ACDMS	KWG1405686-2	6/24/2014	18:10		6/24/2014	18:22
0624F025.D	SYC14-AC	K1405833-001	6/24/2014	18:28		6/24/2014	18:40
0624F026.D	SYC14-TBDUP	KWG1405686-6	6/24/2014	18:46		6/24/2014	18:58
0624F027.D	SYC14-TB	K1405833-002	6/24/2014	19:04		6/24/2014	19:16
0624F028.D	SYC14-REF	K1405833-003	6/24/2014	19:23		6/24/2014	19:35

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Polybrominated Diphenyl Ethers by 8270C-SIM

Analysis Method: 8270D SIM **Analysis Lot:** KWG1406653
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0625F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1406653-1	6/25/2014	10:22		6/25/2014	10:36
0625F002.D	Continuing Calibration Verification	KWG1406653-2	6/25/2014	10:45		6/25/2014	10:57
0625F004.D	SYC14-ACMS	KWG1405686-1	6/25/2014	11:23		6/25/2014	11:35
0625F005.D	SYC14-ACDMS	KWG1405686-2	6/25/2014	11:41		6/25/2014	11:53

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

QA/QC Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil		

Extraction Prep Log
Polybrominated Diphenyl Ethers by 8270C-SIM

Extraction Method:	EPA 3541	**Extraction Lot:**	KWG1405686
Analysis Method:	8270D SIM	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SYC14-AC	K1405833-001	06/04/14	06/11/14	20.392g	2ml	40.4	
SYC14-ACDL	K1405833-001	06/04/14	06/11/14	20.392g	2ml	40.4	
SYC14-TB	K1405833-002	06/02/14	06/11/14	20.138g	2ml	28.3	
SYC14-REF	K1405833-003	06/03/14	06/11/14	20.270g	2ml	78	
SYC14-TBDUP	KWG1405686-6	06/02/14	06/11/14	20.172g	2ml	28.3	
Method Blank	KWG1405686-5	NA	NA	20.392g	2ml	NA	
SYC14-ACMS	KWG1405686-1	06/04/14	06/11/14	20.332g	2ml	40.4	
SYC14-ACDMS	KWG1405686-2	06/04/14	06/11/14	20.304g	2ml	40.4	
Lab Control Sample	KWG1405686-3	NA	NA	10.000g	2ml	NA	
Duplicate Lab Control Sample	KWG1405686-4	NA	NA	10.000g	2ml	NA	

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

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

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
SYC14-AC	K1405833-001	06/04/2014	06/11/2014
SYC14-TB	K1405833-002	06/02/2014	06/11/2014
SYC14-REF	K1405833-003	06/03/2014	06/11/2014
SYC14-ACMS	KWG1405687-1	06/04/2014	06/11/2014
SYC14-ACDMS	KWG1405687-2	06/04/2014	06/11/2014
SYC14-TB	KWG1405687-6	06/02/2014	06/11/2014

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/04/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polynuclear Aromatic Hydrocarbons

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	**3.1**	J	6.2	0.64	1	06/16/14	06/30/14	KWG1405687	
2-Methylnaphthalene	**5.2**	J	6.2	0.49	1	06/16/14	06/30/14	KWG1405687	
Acenaphthene	**9.1**		6.2	0.94	1	06/16/14	06/30/14	KWG1405687	
Acenaphthylene	**22**		6.2	0.73	1	06/16/14	06/30/14	KWG1405687	
Anthracene	**34**		6.2	0.72	1	06/16/14	06/30/14	KWG1405687	
Benz(a)anthracene	**170**		6.2	0.89	1	06/16/14	06/30/14	KWG1405687	
Benzo(a)pyrene	**130**		6.2	0.94	1	06/16/14	06/30/14	KWG1405687	
Benzo(b)fluoranthene	**210**		6.2	1.2	1	06/16/14	06/30/14	KWG1405687	
Benzo(g,h,i)perylene	**62**		6.2	1.1	1	06/16/14	06/30/14	KWG1405687	
Benzo(k)fluoranthene	**75**		6.2	1.1	1	06/16/14	06/30/14	KWG1405687	
Chrysene	**130**		6.2	0.99	1	06/16/14	06/30/14	KWG1405687	
Dibenz(a,h)anthracene	**16**		6.2	0.99	1	06/16/14	06/30/14	KWG1405687	
Fluoranthene	**310**		6.2	1.3	1	06/16/14	06/30/14	KWG1405687	
Fluorene	**8.3**		6.2	0.76	1	06/16/14	06/30/14	KWG1405687	
Indeno(1,2,3-cd)pyrene	**72**		6.2	1.1	1	06/16/14	06/30/14	KWG1405687	
Naphthalene	**13**		6.2	0.75	1	06/16/14	06/30/14	KWG1405687	
Phenanthrene	**23**		6.2	1.8	1	06/16/14	06/30/14	KWG1405687	
Pyrene	**310**		6.2	0.94	1	06/16/14	06/30/14	KWG1405687	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	61	17-104	06/30/14	Acceptable
Fluoranthene-d10	74	27-106	06/30/14	Acceptable
Terphenyl-d14	70	35-109	06/30/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/02/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polynuclear Aromatic Hydrocarbons

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	**2.3**	J	8.8	0.90	1	06/16/14	06/30/14	KWG1405687	
2-Methylnaphthalene	**3.7**	J	8.8	0.69	1	06/16/14	06/30/14	KWG1405687	
Acenaphthene	**2.7**	J	8.8	1.4	1	06/16/14	06/30/14	KWG1405687	
Acenaphthylene	**24**		8.8	1.1	1	06/16/14	06/30/14	KWG1405687	
Anthracene	**41**		8.8	1.1	1	06/16/14	06/30/14	KWG1405687	
Benz(a)anthracene	**81**		8.8	1.3	1	06/16/14	06/30/14	KWG1405687	
Benzo(a)pyrene	**96**		8.8	1.4	1	06/16/14	06/30/14	KWG1405687	
Benzo(b)fluoranthene	**150**		8.8	1.7	1	06/16/14	06/30/14	KWG1405687	
Benzo(g,h,i)perylene	**57**		8.8	1.5	1	06/16/14	06/30/14	KWG1405687	
Benzo(k)fluoranthene	**56**		8.8	1.6	1	06/16/14	06/30/14	KWG1405687	
Chrysene	**110**		8.8	1.5	1	06/16/14	06/30/14	KWG1405687	
Dibenz(a,h)anthracene	**15**		8.8	1.5	1	06/16/14	06/30/14	KWG1405687	
Fluoranthene	**130**		8.8	1.8	1	06/16/14	06/30/14	KWG1405687	
Fluorene	**6.8**	J	8.8	1.1	1	06/16/14	06/30/14	KWG1405687	
Indeno(1,2,3-cd)pyrene	**61**		8.8	1.6	1	06/16/14	06/30/14	KWG1405687	
Naphthalene	**5.6**	J	8.8	1.1	1	06/16/14	06/30/14	KWG1405687	
Phenanthrene	**16**		8.8	2.5	1	06/16/14	06/30/14	KWG1405687	
Pyrene	**140**		8.8	1.4	1	06/16/14	06/30/14	KWG1405687	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	54	17-104	06/30/14	Acceptable
Fluoranthene-d10	62	27-106	06/30/14	Acceptable
Terphenyl-d14	68	35-109	06/30/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	06/03/2014
Sample Matrix:	Soil	**Date Received:**	06/11/2014

Polynuclear Aromatic Hydrocarbons

Sample Name:	SYC14-REF	**Units:**	ug/Kg
Lab Code:	K1405833-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	3.2	0.51	1	06/16/14	06/30/14	KWG1405687	
2-Methylnaphthalene	ND	U	3.2	0.39	1	06/16/14	06/30/14	KWG1405687	
Acenaphthene	ND	U	3.2	0.76	1	06/16/14	06/30/14	KWG1405687	
Acenaphthylene	ND	U	3.2	0.59	1	06/16/14	06/30/14	KWG1405687	
Anthracene	ND	U	3.2	0.58	1	06/16/14	06/30/14	KWG1405687	
Benz(a)anthracene	ND	U	3.2	0.72	1	06/16/14	06/30/14	KWG1405687	
Benzo(a)pyrene	ND	U	3.2	0.76	1	06/16/14	06/30/14	KWG1405687	
Benzo(b)fluoranthene	ND	U	3.2	0.92	1	06/16/14	06/30/14	KWG1405687	
Benzo(g,h,i)perylene	**1.1**	J	3.2	0.85	1	06/16/14	06/30/14	KWG1405687	
Benzo(k)fluoranthene	ND	U	3.2	0.87	1	06/16/14	06/30/14	KWG1405687	
Chrysene	ND	U	3.2	0.80	1	06/16/14	06/30/14	KWG1405687	
Dibenz(a,h)anthracene	ND	U	3.2	0.80	1	06/16/14	06/30/14	KWG1405687	
Fluoranthene	ND	U	3.2	0.98	1	06/16/14	06/30/14	KWG1405687	
Fluorene	ND	U	3.2	0.61	1	06/16/14	06/30/14	KWG1405687	
Indeno(1,2,3-cd)pyrene	ND	U	3.2	0.87	1	06/16/14	06/30/14	KWG1405687	
Naphthalene	**1.6**	J	3.2	0.60	1	06/16/14	06/30/14	KWG1405687	
Phenanthrene	ND	U	3.2	1.4	1	06/16/14	06/30/14	KWG1405687	
Pyrene	ND	U	3.2	0.76	1	06/16/14	06/30/14	KWG1405687	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	60	17-104	06/30/14	Acceptable
Fluoranthene-d10	64	27-106	06/30/14	Acceptable
Terphenyl-d14	74	35-109	06/30/14	Acceptable

Comments:

Analytical Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1405687-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1-Methylnaphthalene	ND	U	2.5	0.51	1	06/16/14	06/30/14	KWG1405687	
2-Methylnaphthalene	ND	U	2.5	0.39	1	06/16/14	06/30/14	KWG1405687	
Acenaphthene	ND	U	2.5	0.76	1	06/16/14	06/30/14	KWG1405687	
Acenaphthylene	ND	U	2.5	0.59	1	06/16/14	06/30/14	KWG1405687	
Anthracene	ND	U	2.5	0.58	1	06/16/14	06/30/14	KWG1405687	
Benz(a)anthracene	ND	U	2.5	0.72	1	06/16/14	06/30/14	KWG1405687	
Benzo(a)pyrene	ND	U	2.5	0.76	1	06/16/14	06/30/14	KWG1405687	
Benzo(b)fluoranthene	ND	U	2.5	0.92	1	06/16/14	06/30/14	KWG1405687	
Benzo(g,h,i)perylene	**1.1**	J	2.5	0.85	1	06/16/14	06/30/14	KWG1405687	
Benzo(k)fluoranthene	ND	U	2.5	0.87	1	06/16/14	06/30/14	KWG1405687	
Chrysene	ND	U	2.5	0.80	1	06/16/14	06/30/14	KWG1405687	
Dibenz(a,h)anthracene	ND	U	2.5	0.80	1	06/16/14	06/30/14	KWG1405687	
Fluoranthene	ND	U	2.5	0.98	1	06/16/14	06/30/14	KWG1405687	
Fluorene	ND	U	2.5	0.61	1	06/16/14	06/30/14	KWG1405687	
Indeno(1,2,3-cd)pyrene	ND	U	2.5	0.87	1	06/16/14	06/30/14	KWG1405687	
Naphthalene	**0.94**	J	2.5	0.60	1	06/16/14	06/30/14	KWG1405687	
Phenanthrene	ND	U	2.5	1.4	1	06/16/14	06/30/14	KWG1405687	
Pyrene	ND	U	2.5	0.76	1	06/16/14	06/30/14	KWG1405687	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	17-104	06/30/14	Acceptable
Fluoranthene-d10	71	27-106	06/30/14	Acceptable
Terphenyl-d14	87	35-109	06/30/14	Acceptable

Comments:

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103
Sample Matrix: Soil

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
SYC14-AC	K1405833-001	61	74	70
SYC14-TB	K1405833-002	54	62	68
SYC14-REF	K1405833-003	60	64	74
SYC14-TBDUP	KWG1405687-6	48	57	59
Method Blank	KWG1405687-5	70	71	87
SYC14-ACMS	KWG1405687-1	59	75	69
SYC14-ACDMS	KWG1405687-2	54	63	60
Lab Control Sample	KWG1405687-3	66	70	71
Duplicate Lab Control Sample	KWG1405687-4	60	68	65

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	17-104
Sur2	=	Fluoranthene-d10	27-106
Sur3	=	Terphenyl-d14	35-109

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 MPRSA S103

Service Request: K1405833
Date Analyzed: 06/30/2014
Time Analyzed: 07:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\063014A\0630F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1407242-2
Analysis Lot: KWG1407242

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	38,188	4.92	20,257	6.33	39,952	7.56
	Upper Limit ==>	76,376	5.42	40,514	6.83	79,904	8.06
	Lower Limit ==>	19,094	4.42	10,129	5.83	19,976	7.06
	ICAL Result ==>	41,863	4.92	22,664	6.33	44,207	7.56
Associated Analyses							
Method Blank	KWG1405687-5	36,873	4.91	18,697	6.32	36,456	7.56
SYC14-TB	K1405833-002	35,868	4.91	21,170	6.33	41,832	7.56
SYC14-TBDUP	KWG1405687-6	34,860	4.91	21,932	6.32	42,103	7.56
SYC14-REF	K1405833-003	35,828	4.91	20,675	6.33	39,480	7.56
SYC14-AC	K1405833-001	33,513	4.91	21,382	6.33	41,885	7.56
Lab Control Sample	KWG1405687-3	35,324	4.91	20,416	6.33	40,940	7.56
Duplicate Lab Control Sample	KWG1405687-4	34,781	4.91	20,601	6.32	39,185	7.56
SYC14-ACMS	KWG1405687-1	33,638	4.91	20,321	6.33	39,324	7.56
SYC14-ACDMS	KWG1405687-2	33,576	4.91	20,132	6.33	39,457	7.56

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

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/30/2014
Time Analyzed: 07:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\063014A\0630F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1407242-2
Analysis Lot: KWG1407242

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	46,318	10.31	43,701	13.94
	Upper Limit ==>	92,636	10.81	87,402	14.44
	Lower Limit ==>	23,159	9.81	21,851	13.44
	ICAL Result ==>	50,386	10.31	49,796	13.95
Associated Analyses					
Method Blank	KWG1405687-5	36,778	10.31	28,955	13.93
SYC14-TB	K1405833-002	46,214	10.31	42,619	13.95
SYC14-TBDUP	KWG1405687-6	48,544	10.31	44,375	13.94
SYC14-REF	K1405833-003	41,277	10.31	36,139	13.94
SYC14-AC	K1405833-001	51,420	10.31	50,412	13.95
Lab Control Sample	KWG1405687-3	46,051	10.31	43,827	13.95
Duplicate Lab Control Sample	KWG1405687-4	47,992	10.31	47,184	13.95
SYC14-ACMS	KWG1405687-1	50,413	10.31	48,852	13.96
SYC14-ACDMS	KWG1405687-2	48,573	10.31	47,173	13.96

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

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/30/2014

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	SYC14-AC	**Units:**	ug/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405687

		SYC14-ACMS KWG1405687-1 Matrix Spike			SYC14-ACDMS KWG1405687-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1-Methylnaphthalene	3.1	425	616	69	381	619	61	26-133	11	40
2-Methylnaphthalene	5.2	429	616	69	392	619	62	24-115	9	40
Acenaphthene	9.1	398	616	63	367	619	58	33-118	8	40
Acenaphthylene	22	406	616	62	375	619	57	32-117	8	40
Anthracene	34	458	616	69	394	619	58	30-127	15	40
Benz(a)anthracene	170	543	616	61	444	619	45	35-122	20	40
Benzo(a)pyrene	130	529	616	65	455	619	53	37-123	15	40
Benzo(b)fluoranthene	210	585	616	62	499	619	48	35-124	16	40
Benzo(g,h,i)perylene	62	466	616	66	416	619	57	33-128	11	40
Benzo(k)fluoranthene	75	488	616	67	432	619	58	38-124	12	40
Chrysene	130	517	616	62	455	619	52	36-126	13	40
Dibenz(a,h)anthracene	16	445	616	70	397	619	61	32-125	12	40
Fluoranthene	310	630	616	51	505	619	31 *	35-139	22	40
Fluorene	8.3	424	616	68	379	619	60	33-125	11	40
Indeno(1,2,3-cd)pyrene	72	505	616	70	443	619	60	28-133	13	40
Naphthalene	13	380	616	60	345	619	54	23-114	10	40
Phenanthrene	23	440	616	68	389	619	59	29-125	12	40
Pyrene	310	614	616	49	513	619	32	27-134	18	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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/30/2014

Duplicate Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	SYC14-TB	**Units:**	ug/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405687

Analyte Name	MRL	MDL	Sample Result	SYC14-TBDUP KWG1405687-6 Duplicate Sample Result	Average	Relative Percent Difference		RPD Limit
1-Methylnaphthalene	8.7	0.89	2.3	3.1	2.7	29	#	40
2-Methylnaphthalene	8.7	0.68	3.7	5.2	4.5	33	#	40
Acenaphthene	8.7	1.4	2.7	2.7	2.7	0	#	40
Acenaphthylene	8.7	1.1	24	21	23	15		40
Anthracene	8.7	1.1	41	41	41	1		40
Benz(a)anthracene	8.7	1.3	81	78	80	4		40
Benzo(a)pyrene	8.7	1.4	96	93	94	3		40
Benzo(b)fluoranthene	8.7	1.6	150	150	150	0		40
Benzo(g,h,i)perylene	8.7	1.5	57	59	58	4		40
Benzo(k)fluoranthene	8.7	1.6	56	55	56	2		40
Chrysene	8.7	1.4	110	130	120	15		40
Dibenz(a,h)anthracene	8.7	1.4	15	15	15	0	#	40
Fluoranthene	8.7	1.8	130	130	130	2		40
Fluorene	8.7	1.1	6.8	6.2	6.5	10	#	40
Indeno(1,2,3-cd)pyrene	8.7	1.6	61	62	61	1		40
Naphthalene	8.7	1.1	5.6	14	9.7	83	#	40
Phenanthrene	8.7	2.5	16	15	16	5	#	40
Pyrene	8.7	1.4	140	140	140	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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/30/2014

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1405687

	Lab Control Sample KWG1405687-3 Lab Control Spike			Duplicate Lab Control Sample KWG1405687-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1-Methylnaphthalene	346	500	69	333	500	67	37-129	4	40
2-Methylnaphthalene	354	500	71	336	500	67	27-126	5	40
Acenaphthene	332	500	66	310	500	62	39-124	7	40
Acenaphthylene	336	500	67	314	500	63	38-126	7	40
Anthracene	337	500	67	331	500	66	38-130	2	40
Benz(a)anthracene	354	500	71	347	500	69	46-120	2	40
Benzo(a)pyrene	359	500	72	346	500	69	49-122	4	40
Benzo(b)fluoranthene	369	500	74	355	500	71	51-121	4	40
Benzo(g,h,i)perylene	363	500	73	362	500	72	49-122	0	40
Benzo(k)fluoranthene	377	500	75	364	500	73	55-120	4	40
Chrysene	361	500	72	349	500	70	49-120	3	40
Dibenz(a,h)anthracene	361	500	72	348	500	70	43-125	4	40
Fluoranthene	358	500	72	366	500	73	39-135	2	40
Fluorene	344	500	69	324	500	65	39-129	6	40
Indeno(1,2,3-cd)pyrene	371	500	74	374	500	75	40-128	1	40
Naphthalene	310	500	62	297	500	59	32-124	4	40
Phenanthrene	325	500	65	332	500	66	39-123	2	40
Pyrene	357	500	71	350	500	70	39-134	2	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA 103	**Date Collected:**	NA
SRM Matrix:	Sediment	**Date Received:**	NA
		Date Extracted:	6/16/2014
		Date Analyzed:	6/30/2014

Standard Reference Material 1941b
Polynuclear Aromatic Hydrocarbons

Sample Name:	Standard Reference Material	Units:	ug/Kg (ppb)
Lab Code:	KWG1405687-7	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	Certified Value**	Result	ALS Advisory Limits	Result Notes
Naphthalene	EPA 3541	8270D SIM	848 ± 95	394	376-1410	
Fluorene	EPA 3541	8270D SIM	85 ± 15	27.2	35.0-150	*
Phenanthrene	EPA 3541	8270D SIM	406 ± 44	240	181-675	
Anthracene	EPA 3541	8270D SIM	184 ± 18	86.0	83.0-303	
Fluoranthene	EPA 3541	8270D SIM	651 ± 50	400	300-1050	
Pyrene	EPA 3541	8270D SIM	581 ± 39	468	271-930	
Benz(a)anthracene	EPA 3541	8270D SIM	335 ± 25	196	155-540	
Chrysene	EPA 3541	8270D SIM	291 ± 31	252	130-483	
Benzo(b)fluoranthene	EPA 3541	8270D SIM	453 ± 21	400	216-711	
Benzo(k)fluoranthene	EPA 3541	8270D SIM	225 ± 18	170	104-365	
Benzo(a)pyrene	EPA 3541	8270D SIM	358 ± 17	159	170-563	*
Indeno(1,2,3-cd)pyrene	EPA 3541	8270D SIM	341 ± 57	190	142-597	
Dibenz(a,h)anthracene	EPA 3541	8270D SIM	53 ± 10	49.9	21.5-94.5	
Benzo(g,h,i)perylene	EPA 3541	8270D SIM	307 ± 45	175	131-528	

Surrogate	Percent Recovery	Acceptance Limits
Fluorene-d10	58	17-104
Fluoranthene-d10	67	27-106
Terphenyl-d14	76	35-109

* See case narrative

** Certified values derived from surrogate corrected results. Surrogate correction was not used when reporting final results.

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/30/2014
		Time Analyzed:	09:49

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1405687-5	**File ID:**	J:\MS11\DATA\063014A\0630F009.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405687

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
SYC14-TB	K1405833-002	J:\MS11\DATA\063014A\0630F010.D	06/30/14	10:16
SYC14-TBDUP	KWG1405687-6	J:\MS11\DATA\063014A\0630F011.D	06/30/14	10:43
SYC14-REF	K1405833-003	J:\MS11\DATA\063014A\0630F012.D	06/30/14	11:10
SYC14-AC	K1405833-001	J:\MS11\DATA\063014A\0630F013.D	06/30/14	11:36
Lab Control Sample	KWG1405687-3	J:\MS11\DATA\063014A\0630F016.D	06/30/14	12:57
Duplicate Lab Control Sample	KWG1405687-4	J:\MS11\DATA\063014A\0630F017.D	06/30/14	13:25
SYC14-ACMS	KWG1405687-1	J:\MS11\DATA\063014A\0630F018.D	06/30/14	13:51
SYC14-ACDMS	KWG1405687-2	J:\MS11\DATA\063014A\0630F019.D	06/30/14	14:18

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil	**Date Analyzed:**	06/30/2014
		Time Analyzed:	12:57

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1405687-3	**File ID:**	J:\MS11\DATA\063014A\0630F016.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1405687

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1405687-5	J:\MS11\DATA\063014A\0630F009.D	06/30/14	09:49
SYC14-TB	K1405833-002	J:\MS11\DATA\063014A\0630F010.D	06/30/14	10:16
SYC14-TBDUP	KWG1405687-6	J:\MS11\DATA\063014A\0630F011.D	06/30/14	10:43
SYC14-REF	K1405833-003	J:\MS11\DATA\063014A\0630F012.D	06/30/14	11:10
SYC14-AC	K1405833-001	J:\MS11\DATA\063014A\0630F013.D	06/30/14	11:36
SYC14-ACMS	KWG1405687-1	J:\MS11\DATA\063014A\0630F018.D	06/30/14	13:51
SYC14-ACDMS	KWG1405687-2	J:\MS11\DATA\063014A\0630F019.D	06/30/14	14:18

QA/QC Results

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/30/2014
Time Analyzed: 05:55

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\063014A\0630F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1407242

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	55.1	20994	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	47.3	18028	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	50.6	19286	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.1	38128	PASS
199	198	5	9	6.9	2633	PASS
275	198	10	60	36.4	13887	PASS
365	442	1	50	3.4	3004	PASS
441	443	0	100	75.2	12758	PASS
442	442	100	100	100.0	88447	PASS
443	442	15	24	19.2	16969	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1407242-2	J:\MS11\DATA\063014A\0630F004.D	06/30/2014	07:33	
Method Blank	KWG1405687-5	J:\MS11\DATA\063014A\0630F009.D	06/30/2014	09:49	
SYC14-TB	K1405833-002	J:\MS11\DATA\063014A\0630F010.D	06/30/2014	10:16	
SYC14-TBDUP	KWG1405687-6	J:\MS11\DATA\063014A\0630F011.D	06/30/2014	10:43	
SYC14-REF	K1405833-003	J:\MS11\DATA\063014A\0630F012.D	06/30/2014	11:10	
SYC14-AC	K1405833-001	J:\MS11\DATA\063014A\0630F013.D	06/30/2014	11:36	
Lab Control Sample	KWG1405687-3	J:\MS11\DATA\063014A\0630F016.D	06/30/2014	12:57	
Duplicate Lab Control Sample	KWG1405687-4	J:\MS11\DATA\063014A\0630F017.D	06/30/2014	13:25	
SYC14-ACMS	KWG1405687-1	J:\MS11\DATA\063014A\0630F018.D	06/30/2014	13:51	
SYC14-ACDMS	KWG1405687-2	J:\MS11\DATA\063014A\0630F019.D	06/30/2014	14:18	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/29/2014

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL13411 **Column:** MS
Instrument ID: MS11

Level ID	File ID
A	J:\MS11\DATA\062914\0629F006.D
B	J:\MS11\DATA\062914\0629F008.D
C	J:\MS11\DATA\062914\0629F009.D
D	J:\MS11\DATA\062914\0629F010.D
E	J:\MS11\DATA\062914\0629F011.D
F	J:\MS11\DATA\062914\0629F012.D
G	J:\MS11\DATA\062914\0629F013.D
H	J:\MS11\DATA\062914\0629F014.D
I	J:\MS11\DATA\062914\0629F015.D
J	J:\MS11\DATA\063014\0630F003.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
1-Methylnaphthalene	A	2.0	0.763	B	8.0	0.721	C	20	0.687	D	100	0.679	E	200	0.683
	F	400	0.694	G	1000	0.640	H	1600	0.630	I	2000	0.621	J	4.0	0.604
2-Methylnaphthalene	A	2.0	0.809	B	8.0	0.807	C	20	0.788	D	100	0.759	E	200	0.771
	F	400	0.785	G	1000	0.721	H	1600	0.706	I	2000	0.703	J	4.0	0.664
Acenaphthene	A	2.0	1.29	B	8.0	1.23	C	20	1.25	D	100	1.18	E	200	1.18
	F	400	1.22	G	1000	1.17	H	1600	1.16	I	2000	1.13	J	4.0	1.17
Acenaphthylene	A	2.0	2.06	B	8.0	2.05	C	20	1.94	D	100	1.93	E	200	1.98
	F	400	2.11	G	1000	2.03	H	1600	1.99	I	2000	1.94	J	4.0	1.73
Anthracene	A	2.0	1.29	B	8.0	1.08	C	20	1.12	D	100	1.07	E	200	1.10
	F	400	1.12	G	1000	1.06	H	1600	1.07	I	2000	1.09	J	4.0	1.15
Benz(a)anthracene				B	8.0	1.22	C	20	1.17	D	100	1.04	E	200	1.07
	F	400	1.16	G	1000	1.15	H	1600	1.13	I	2000	1.15	J	4.0	1.25
Benzo(a)pyrene	A	2.0	1.28	B	8.0	1.11	C	20	1.09	D	100	1.02	E	200	1.06
	F	400	1.13	G	1000	1.10	H	1600	1.10	I	2000	1.09	J	4.0	1.08
Benzo(b)fluoranthene	A	2.0	1.51	B	8.0	1.22	C	20	1.23	D	100	1.17	E	200	1.20
	F	400	1.28	G	1000	1.24	H	1600	1.24	I	2000	1.22	J	4.0	1.29
Benzo(g,h,i)perylene	A	2.0	1.35	B	8.0	1.36	C	20	1.23	D	100	1.22	E	200	1.23
	F	400	1.27	G	1000	1.18	H	1600	1.12	I	2000	1.10	J	4.0	1.34
Benzo(k)fluoranthene	A	2.0	1.40	B	8.0	1.22	C	20	1.20	D	100	1.16	E	200	1.19
	F	400	1.25	G	1000	1.17	H	1600	1.15	I	2000	1.15	J	4.0	1.14
Chrysene	A	2.0	1.33	B	8.0	1.09	C	20	1.11	D	100	1.03	E	200	1.04
	F	400	1.05	G	1000	1.03	H	1600	1.02	I	2000	1.02	J	4.0	1.12
Dibenz(a,h)anthracene	A	2.0	1.27	B	8.0	1.19	C	20	0.986	D	100	1.05	E	200	1.09
	F	400	1.12	G	1000	1.09	H	1600	1.08	I	2000	1.05	J	4.0	0.913
Fluoranthene	A	2.0	1.48	B	8.0	1.30	C	20	1.30	D	100	1.20	E	200	1.22
	F	400	1.29	G	1000	1.24	H	1600	1.20	I	2000	1.18	J	4.0	1.29
Fluorene	A	2.0	1.49	B	8.0	1.51	C	20	1.47	D	100	1.45	E	200	1.45
	F	400	1.49	G	1000	1.43	H	1600	1.42	I	2000	1.40	J	4.0	1.42

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

† **SPCC Compound** ‡ **CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/29/2014

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL13411 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	2.0	1.11	B	8.0	1.13	C	20	0.947	D	100	1.01	E	200	1.02
	F	400	1.10	G	1000	1.06	H	1600	1.04	I	2000	1.02	J	4.0	0.942
Naphthalene	A	2.0	1.26	B	8.0	1.16	C	20	1.16	D	100	1.09	E	200	1.11
	F	400	1.13	G	1000	1.04	H	1600	1.02	I	2000	1.01	J	4.0	1.11
Phenanthrene	A	2.0	1.46	B	8.0	1.18	C	20	1.13	D	100	1.07	E	200	1.11
	F	400	1.15	G	1000	1.09	H	1600	1.06	I	2000	1.02	J	4.0	1.22
Pyrene	A	2.0	1.33	B	8.0	1.11	C	20	1.11	D	100	1.07	E	200	1.12
	F	400	1.17	G	1000	1.15	H	1600	1.14	I	2000	1.13	J	4.0	1.19
Fluorene-d10	A	2.0	1.53	B	8.0	1.45	C	20	1.39	D	100	1.28	E	200	1.30
	F	400	1.34	G	1000	1.28	H	1600	1.30	I	2000	1.27	J	4.0	1.19
Fluoranthene-d10	A	2.0	1.59	B	8.0	1.38	C	20	1.34	D	100	1.13	E	200	1.17
	F	400	1.24	G	1000	1.23	H	1600	1.26	I	2000	1.24	J	4.0	1.18
Terphenyl-d14	A	2.0	1.08	B	8.0	0.964	C	20	0.950	D	100	0.892	E	200	0.921
	F	400	0.954	G	1000	0.940	H	1600	0.942	I	2000	0.929	J	4.0	0.991

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103 **Calibration Date:** 06/29/2014

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL13411 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
1-Methylnaphthalene	MS	AverageRF	% RSD	7.3		≤ 20	0.672		0.01
2-Methylnaphthalene	MS	AverageRF	% RSD	6.6		≤ 20	0.751		0.40
Acenaphthene	MS	AverageRF	% RSD	3.9		≤ 20	1.20		0.90
Acenaphthylene	MS	AverageRF	% RSD	5.2		≤ 20	1.98		0.90
Anthracene	MS	AverageRF	% RSD	6.2		≤ 20	1.11		0.70
Benz(a)anthracene	MS	AverageRF	% RSD	5.5		≤ 20	1.15		0.80
Benzo(a)pyrene	MS	AverageRF	% RSD	6.2		≤ 20	1.11		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	7.4		≤ 20	1.26		0.70
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.4		≤ 20	1.24		0.50
Benzo(k)fluoranthene	MS	AverageRF	% RSD	6.5		≤ 20	1.20		0.70
Chrysene	MS	AverageRF	% RSD	8.7		≤ 20	1.08		0.70
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	9.2		≤ 20	1.08		0.40
Fluoranthene	MS	AverageRF	% RSD	6.9		≤ 20	1.27		0.60
Fluorene	MS	AverageRF	% RSD	2.6		≤ 20	1.45		0.90
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	6.1		≤ 20	1.04		0.50
Naphthalene	MS	AverageRF	% RSD	6.9		≤ 20	1.11		0.70
Phenanthrene	MS	AverageRF	% RSD	10.8		≤ 20	1.15		0.70
Pyrene	MS	AverageRF	% RSD	6.2		≤ 20	1.15		0.60
Fluorene-d10	SURR	AverageRF	% RSD	7.4		≤ 20	1.33		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	10.5		≤ 20	1.28		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	5.4		≤ 20	0.957		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 MPRSA S103

Service Request: K1405833
Calibration Date: 06/29/2014
Date Analyzed: 06/30/2014

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL13411
Units: ng/ml

File ID: J:\MS11\DATA\063014\0630F004.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	380	0.672	0.641	-5	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	360	0.751	0.681	-9	NA	± 30 %	AverageRF
Acenaphthene	400	380	1.20	1.14	-5	NA	± 30 %	AverageRF
Acenaphthylene	400	400	1.98	1.96	-1	NA	± 30 %	AverageRF
Anthracene	400	360	1.11	1.02	-9	NA	± 30 %	AverageRF
Benz(a)anthracene	400	360	1.15	1.02	-11	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	370	1.11	1.03	-7	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	370	1.26	1.15	-8	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	350	1.24	1.08	-13	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	370	1.20	1.13	-6	NA	± 30 %	AverageRF
Chrysene	400	360	1.08	0.984	-9	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	380	1.08	1.02	-6	NA	± 30 %	AverageRF
Fluoranthene	400	370	1.27	1.17	-8	NA	± 30 %	AverageRF
Fluorene	400	380	1.45	1.40	-4	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	1.04	0.976	-6	NA	± 30 %	AverageRF
Naphthalene	400	370	1.11	1.02	-8	NA	± 30 %	AverageRF
Phenanthrene	400	370	1.15	1.05	-9	NA	± 30 %	AverageRF
Pyrene	400	350	1.15	1.01	-13	NA	± 30 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc.
Project: Shipyard Creek MPRSA S103

Service Request: K1405833
Date Analyzed: 06/30/2014

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 06/29/2014
Calibration ID: CAL13411
Analysis Lot: KWG1407242
Units: ng/ml

File ID: J:\MS11\DATA\063014A\0630F004.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	380	0.01	0.672	0.641	-5	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	360	0.40	0.751	0.681	-9	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.90	1.20	1.14	-5	NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.90	1.98	1.96	-1	NA	± 20 %	AverageRF
Anthracene	400	370	0.70	1.11	1.02	-9	NA	± 20 %	AverageRF
Benz(a)anthracene	400	360	0.80	1.15	1.02	-11	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	370	0.70	1.11	1.03	-7	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	370	0.70	1.26	1.15	-8	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.50	1.24	1.08	-13	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	370	0.70	1.20	1.13	-6	NA	± 20 %	AverageRF
Chrysene	400	360	0.70	1.08	0.984	-9	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	380	0.40	1.08	1.02	-6	NA	± 20 %	AverageRF
Fluoranthene	400	370	0.60	1.27	1.17	-8	NA	± 20 %	AverageRF
Fluorene	400	380	0.90	1.45	1.40	-4	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	380	0.50	1.04	0.976	-6	NA	± 20 %	AverageRF
Naphthalene	400	370	0.70	1.11	1.02	-8	NA	± 20 %	AverageRF
Phenanthrene	400	370	0.70	1.15	1.05	-9	NA	± 20 %	AverageRF
Pyrene	400	350	0.60	1.15	1.01	-13	NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.33	1.28	-4	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.28	1.15	-10	NA	± 20 %	AverageRF
Terphenyl-d14	400	360	0.01	0.957	0.861	-10	NA	± 20 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1407242
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0630F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1407242-1	6/30/2014	05:55		6/30/2014	06:14
0630F004.D	Continuing Calibration Verification	KWG1407242-2	6/30/2014	07:33		6/30/2014	07:52
0630F009.D	Method Blank	KWG1405687-5	6/30/2014	09:49		6/30/2014	10:09
0630F010.D	SYC14-TB	K1405833-002	6/30/2014	10:16		6/30/2014	10:35
0630F011.D	SYC14-TBDUP	KWG1405687-6	6/30/2014	10:43		6/30/2014	11:02
0630F012.D	SYC14-REF	K1405833-003	6/30/2014	11:10		6/30/2014	11:30
0630F013.D	SYC14-AC	K1405833-001	6/30/2014	11:36		6/30/2014	11:56
0630F014.D	ZZZZZZ	ZZZZZZ	6/30/2014	12:04		6/30/2014	12:24
0630F015.D	ZZZZZZ	ZZZZZZ	6/30/2014	12:30		6/30/2014	12:50
0630F016.D	Lab Control Sample	KWG1405687-3	6/30/2014	12:57		6/30/2014	13:17
0630F017.D	Duplicate Lab Control Sample	KWG1405687-4	6/30/2014	13:25		6/30/2014	13:44
0630F018.D	SYC14-ACMS	KWG1405687-1	6/30/2014	13:51		6/30/2014	14:11
0630F019.D	SYC14-ACDMS	KWG1405687-2	6/30/2014	14:18		6/30/2014	14:38

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

QA/QC Results

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Extracted:**	06/16/2014
Sample Matrix:	Soil		

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Extraction Lot:**	KWG1405687
Analysis Method:	8270D SIM	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SYC14-AC	K1405833-001	06/04/14	06/11/14	20.034g	10ml	40.4	
SYC14-TB	K1405833-002	06/02/14	06/11/14	20.149g	10ml	28.3	
SYC14-REF	K1405833-003	06/03/14	06/11/14	20.383g	10ml	78	
SYC14-TBDUP	KWG1405687-6	06/02/14	06/11/14	20.352g	10ml	28.3	
Method Blank	KWG1405687-5	NA	NA	20.383g	10ml	NA	
SYC14-ACMS	KWG1405687-1	06/04/14	06/11/14	20.102g	10ml	40.4	
SYC14-ACDMS	KWG1405687-2	06/04/14	06/11/14	20.008g	10ml	40.4	
Lab Control Sample	KWG1405687-3	NA	NA	10.000g	10ml	NA	
Duplicate Lab Control Sample	KWG1405687-4	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

10450 Stancliff Rd., Suite 210
Houston, TX 77099
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June 26, 2014 Service Request No: K1405833

Shar Samy, Ph.D.

ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Anamar Environmental Consulting, Inc.

Dear Shar:

Enclosed are the results of the sample(s) submitted to our laboratory on June 13, 2014. For Your reference, these analyses have been assigned our service request number: **K1405833**.

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.
All results are intended to be considered in their entirety, and 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. In accordance to the NELAC 2003 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

Respectfully submitted,

ALS Group USA Corp., dba ALS Environmental

Arthi Kodur
Project Manager

For a specific list of NELAP-accredited analytes, refer to the certifications section at 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

ALS ENVIRONMENTAL

Client:	Anamar Environmental Consulting, Inc.	**Service Request No.:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Received:**	6/13/14
Sample Matrix:	Water		

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 II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three soil samples were received for analysis at ALS Environmental on 6/13/14.

Please note the reporting forms are currently referencing the date ALS Environmental-Kelso received the samples (6/11/14) and not the date ALS Environmental-Houston received the samples (6/13/14.).

The samples were received at 0°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ1400321-01 contained low levels of 1234678-HpCDD, OCDD and 1234678-HpCDF at or below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags.

MS/MSD/DUPLICATE

EQ1400321: Laboratory Control Spike (LCS) sample was analyzed and reported in lieu of an MS/MSD/Duplicate for this extraction batch. For batch EQ1400298, the recovery for 12378-PeCDF, 123478-HxCDF and 1234678-HxCDF in the LCS were slightly above the flagging limits. Control charting of the standard indicates that the standard is trending high but within the laboratory's process control limits. This bias has been determined to be due to a concentration of the spiking standard, has been removed from use and addressed in the laboratory's corrective action system(HE0219). Since this spike is only used to fortify control samples, the associated sample results should not be impacted.

Duplicate sample EQ1400321-05 had several analytes outside the RPD. This is likely due to the homogenization of the sample.

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 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.

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'

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.

Service Request Summary

Folder #: **K1405833**
Client Name: Anamar Environmental Consulting, Inc.
Project Name: Shipyard Creek MPRSA S103
Project Number:

Report To: Paul Berman
Anamar Environmental Consulting, Inc.
2106 NW 67th Place, Suite 5
Gainesville, FL 32653
Phone Number: 352-377-5770 Ext. 106
Cell Number:
Fax Number: 352-378-7620
E-mail: pberman@anamarinc.com

Project Chemist: Arthi Kodur
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 6/11/14
Internal Due Date: 6/27/14
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: Anamar

40 - 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
20 - 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
17 - 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
15 - 32 oz-Glass Jar WM AMBER Unpreserved
5 - 1 each-Plastic Bag Ziplock Unpreserved

Location: K-SAM-50, EHRMS-WIC 2E, K-METALS

					KELSO			KELSO		KELSO	KELSO		KELSO	SVM
Lab Samp No.	**Client Samp No.**	**Matrix**	**Collected**		9071B/ HEM	ASTM D4129-05 Modified/ TOC	SM 4500-NH3 G Modified/ Ammonia	Composite/ Composite	SET/ SET	Butyltins/ BUTYLTINS	8270D/ PAH SIM	8270D/ PBDE	TS-MET/ Total Solids	8290A/ PCDD PCDF
K1405833-001	SYC14-AC	Soil	6/4/14	0711	V	V	V	V	V	V	V	V	V	V
K1405833-002	SYC14-TB	Soil	6/2/14	0858	V	V	V	V		V	V	V	V	V
K1405833-003	SYC14-REF	Soil	6/3/14	0745	V	V	V	V		V	V	V	V	V
K1405833-004	SYC14-TB1	Soil	6/3/14	0858				V	V					
K1405833-005	SYC14-TB2	Soil	6/3/14	1136				V	V					

Run QC on sample K1405833-001 for 8270D/PAH SIM, PBDE, 8290A/PCDD PCDF, 9071B/HEM, ASTM D4129-05 Modified/TOC, Butyltins/BUTYLTINS, Composite/Composite, SM 4500-NH3 G Modified/Ammonia, TS-MET/Total Solids

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Composite/Composite	1-5	Homogenize sample and aliquot into glass jars.
Semivoa GCMS	PCDD PCDF/8290A	1-3	run a MS/MSD and DUPLICATE for sample 001 full list (ak 6/13/14)

Client: Anamar Environmental Consulting, Inc. **Service Request:** K1405833
Project: Shipyard Creek MPRSA S103

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1405833-001	SYC14-AC	6/4/14	07:11
K1405833-002	SYC14-TB	6/2/14	08:58
K1405833-003	SYC14-REF	6/3/14	07:45
K1405833-004	SYC14-TB1	6/3/14	08:58
K1405833-005	SYC14-TB2	6/3/14	11:36

Superset Summary

Service Request: K1405833 **SuperSet Reference:** 14-0000293060 rev 00

8290A/PCDD PCDF

Calibrations: 03/25/14 05/21/2014

Data Files:

Raw Data	*Begin CCAL*	*Method Blank*	*Lab ID*
P171751	P171748	U149688	EQ1400321-05
P171752	P171748	U149688	EQ1400321-03
P171753	P171748	U149688	EQ1400321-04
U149683	U149679	U149688	K1405833-001
U149684	U149679	U149688	K1405833-002
U149685	U149679	U149688	K1405833-003
U149688	U149686	U149688	EQ1400321-01
U149695	U149686	U149688	EQ1400321-02

Laboratory Certifications
2014-2015

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
ARIZONA	AZ-DHS	AZ0725	05/27/14	Yes
ARKANSAS	ADEQ	12-035-0	06/16/14	Yes
CALIFORNIA	CA-ELAP	2452	02/28/15	Yes
DOD ELAP	A2LA	2897.01	11/30/14	Yes
FLORIDA/NELAP	FL-DOHS	E87611	06/30/14	Yes
HAWAII	HI-DOH	N/A	06/30/14	Yes
ILLINOIS/NELAP	IL-EPA	003004	10/06/14	Yes
ISO 17025	A2LA	2897.01	01/31/14	Yes
KANSAS	KS-DHE	E-10406	11/30/14	Yes
LOUISIANA/NELAP	LELAP	03048	06/30/14	Yes
LOUISIANA/NELAP	LDHH	LA120014	12/31/14	Yes
MAINE	ME-DOHS	2012017	06/05/14	Yes
MARYLAND	MDE	343	06/30/14	Yes
MICHIGAN	MIDEQ	9971	06/30/14	Yes
MINNESOTA	MDH	048-999-427	12/31/14	Yes
NEVADA	NDEP	TX014112013A	07/31/14	Yes
NEW JERSEY	NJDEP	TX008	06/30/14	Yes
NEW MEXICO	NMED-DWB	N/A	06/30/14	Yes
NEW YORK/NELAP	NY-DOH	11707	04/01/14	Yes
OKLAHOMA	OKDEQ	2012-133	08/31/14	Yes
OREGON/NELAP	ORELAP	TX200002-009	03/24/14	Yes
PENNSYLVANIA/NELAP	PLAP	68-03441	06/30/14	Yes
SOIL IMPORT PERMIT	USDA	P330-12-00002	01/13/15	Yes
TENNESSEE	TNDEC	TN04016	06/30/14	Yes
TEXAS/NELAP	TCEQ	T104704216-12-3	06/30/14	Yes
UTAH/NELAP	UTELCP	TX014112013-2	06/30/14	Yes
WASHINGTON/NELAP	WA-Ecology	C819-12	11/14/14	Yes
WEST VIRGINIA	WVDEP	347	07/31/14	Yes

Abbreviations, Acronyms & Definitions

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

Data Qualifier Flags – Dioxin/Furans

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 ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: K1405833 | DB-5 | (DB-5MSUI) | DB-225 | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 06/24/14 Analyst: JC Samples: 001-003

Second Level - Data Review – to be filled by person doing peer review

Date: 06/24/14 Analyst: VA Samples: 001-003

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: K1405833 | DB-5 | (DB-5MSU) | DB-225 | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 06/25/14 Analyst: QC Samples: EQ1400321-05, EQ1400321-03, EQ1400321-04

Second Level - Data Review – to be filled by person doing peer review

Date: 06/28/14 Analyst: VA Samples: EQ321: 03, 04, 05

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	K1405833-001	**Basis:**	Dry
		Percent Solids:	40.4

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	0.814	1.22			1	6/23/14	1249	6/17/14
1,2,3,7,8-PeCDD	**0.866**	J	0.406	6.10	1.42	1.000	1	6/23/14	1249	6/17/14
1,2,3,6,7,8-HxCDD	**3.31**	J	0.673	6.10	1.33	1.000	1	6/23/14	1249	6/17/14
1,2,3,4,7,8-HxCDD	**1.38**	J	0.699	6.10	1.11	1.000	1	6/23/14	1249	6/17/14
1,2,3,7,8,9-HxCDD	**4.34**	J	0.630	6.10	1.28	1.007	1	6/23/14	1249	6/17/14
1,2,3,4,6,7,8-HpCDD	**98.1**		1.44	6.10	1.14	1.000	1	6/23/14	1249	6/17/14
OCDD	**1350**		0.949	12.2	0.89	1.000	1	6/23/14	1249	6/17/14
2,3,7,8-TCDF	ND	U	0.448	1.22			1	6/23/14	1249	6/17/14
1,2,3,7,8-PeCDF	ND	U	0.344	6.10			1	6/23/14	1249	6/17/14
2,3,4,7,8-PeCDF	ND	U	0.346	6.10			1	6/23/14	1249	6/17/14
1,2,3,6,7,8-HxCDF	**0.450**	J	0.352	6.10	1.16	1.001	1	6/23/14	1249	6/17/14
1,2,3,7,8,9-HxCDF	ND	U	0.430	6.10			1	6/23/14	1249	6/17/14
1,2,3,4,7,8-HxCDF	**0.521**	JK	0.406	6.10	0.94	1.000	1	6/23/14	1249	6/17/14
2,3,4,6,7,8-HxCDF	**0.434**	J	0.391	6.10	1.15	1.000	1	6/23/14	1249	6/17/14
1,2,3,4,6,7,8-HpCDF	**7.42**		0.454	6.10	0.97	1.000	1	6/23/14	1249	6/17/14
1,2,3,4,7,8,9-HpCDF	**0.704**	JK	0.594	6.10	0.77	1.000	1	6/23/14	1249	6/17/14
OCDF	**24.3**		0.870	12.2	0.85	1.005	1	6/23/14	1249	6/17/14
Total Tetra-Dioxins	**9.03**		0.814	1.22	0.76		1	6/23/14	1249	6/17/14
Total Penta-Dioxins	**15.0**		0.406	6.10	1.45		1	6/23/14	1249	6/17/14
Total Hexa-Dioxins	**144**		0.665	6.10	1.28		1	6/23/14	1249	6/17/14
Total Hepta-Dioxins	**506**		1.44	6.10	1.02		1	6/23/14	1249	6/17/14
Total Tetra-Furans	ND	U	0.448	1.22			1	6/23/14	1249	6/17/14
Total Penta-Furans	**2.39**	J	0.386	6.10	1.59		1	6/23/14	1249	6/17/14
Total Hexa-Furans	**7.44**		0.392	6.10	1.33		1	6/23/14	1249	6/17/14
Total Hepta-Furans	**22.9**		0.519	6.10	0.97		1	6/23/14	1249	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	K1405833-001	**Basis:**	Dry
		Percent Solids:	40.4

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	1121.884	56		40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1587.601	79		40-135	1.61	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1290.002	65		40-135	1.29	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1386.270	69		40-135	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1306.755	65		40-135	1.11	1.067
13C-OCDD	4000	1948.190	49		40-135	0.90	1.144
13C-2,3,7,8-TCDF	2000	1257.571	63		40-135	0.81	0.994
13C-1,2,3,7,8-PeCDF	2000	1454.006	73		40-135	1.60	1.137
13C-2,3,4,7,8-PeCDF	2000	1433.845	72		40-135	1.62	1.168
13C-1,2,3,4,7,8-HxCDF	2000	1346.451	67		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1557.716	78		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1462.626	73		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1419.954	71		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1419.547	71		40-135	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1410.109	71		40-135	0.45	1.080
37Cl-2,3,7,8-TCDD	800	391.692	49		40-135	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	K1405833-001	**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	0.814	1.22	1	1	
1,2,3,7,8-PeCDD	**0.866**	0.406	6.10	1	1	0.866
1,2,3,6,7,8-HxCDD	**3.31**	0.673	6.10	1	0.1	0.331
1,2,3,4,7,8-HxCDD	**1.38**	0.699	6.10	1	0.1	0.138
1,2,3,7,8,9-HxCDD	**4.34**	0.630	6.10	1	0.1	0.434
1,2,3,4,6,7,8-HpCDD	**98.1**	1.44	6.10	1	0.01	0.981
OCDD	**1350**	0.949	12.2	1	0.0003	0.405
2,3,7,8-TCDF	ND	0.448	1.22	1	0.1	
1,2,3,7,8-PeCDF	ND	0.344	6.10	1	0.03	
2,3,4,7,8-PeCDF	ND	0.346	6.10	1	0.3	
1,2,3,6,7,8-HxCDF	**0.450**	0.352	6.10	1	0.1	0.0450
1,2,3,7,8,9-HxCDF	ND	0.430	6.10	1	0.1	
1,2,3,4,7,8-HxCDF	**0.521**	0.406	6.10	1	0.1	0.0521
2,3,4,6,7,8-HxCDF	**0.434**	0.391	6.10	1	0.1	0.0434
1,2,3,4,6,7,8-HpCDF	**7.42**	0.454	6.10	1	0.01	0.0742
1,2,3,4,7,8,9-HpCDF	**0.704**	0.594	6.10	1	0.01	0.00704
OCDF	**24.3**	0.870	12.2	1	0.0003	0.00729
		Total TEQ				3.38

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 2/14 0858
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-TB	**Units:**	ng/Kg
Lab Code:	K1405833-002	**Basis:**	Dry
		Percent Solids:	28.3

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	0.702	1.74			1	6/23/14	1338	6/17/14
1,2,3,7,8-PeCDD	**1.99**	JK	0.660	8.71	2.37	1.000	1	6/23/14	1338	6/17/14
1,2,3,6,7,8-HxCDD	**10.0**		1.04	8.71	1.31	1.000	1	6/23/14	1338	6/17/14
1,2,3,4,7,8-HxCDD	**4.83**	J	1.01	8.71	1.19	1.000	1	6/23/14	1338	6/17/14
1,2,3,7,8,9-HxCDD	**14.3**		0.940	8.71	1.10	1.007	1	6/23/14	1338	6/17/14
1,2,3,4,6,7,8-HpCDD	**403**		0.586	8.71	1.03	1.000	1	6/23/14	1338	6/17/14
OCDD	**5150**		1.13	17.4	0.90	1.000	1	6/23/14	1338	6/17/14
2,3,7,8-TCDF	**1.10**	JK	0.540	1.74	0.62	1.001	1	6/23/14	1338	6/17/14
1,2,3,7,8-PeCDF	**0.931**	J	0.640	8.71	1.77	1.001	1	6/23/14	1338	6/17/14
2,3,4,7,8-PeCDF	**1.01**	J	0.616	8.71	1.36	1.000	1	6/23/14	1338	6/17/14
1,2,3,6,7,8-HxCDF	**1.55**	JK	0.490	8.71	1.84	1.000	1	6/23/14	1338	6/17/14
1,2,3,7,8,9-HxCDF	ND	U	0.588	8.71			1	6/23/14	1338	6/17/14
1,2,3,4,7,8-HxCDF	**1.47**	J	0.588	8.71	1.07	1.000	1	6/23/14	1338	6/17/14
2,3,4,6,7,8-HxCDF	**2.10**	JK	0.495	8.71	1.45	1.000	1	6/23/14	1338	6/17/14
1,2,3,4,6,7,8-HpCDF	**20.3**	P	1.04	8.71	0.97	1.000	1	6/23/14	1338	6/17/14
1,2,3,4,7,8,9-HpCDF	**2.49**	JK	1.30	8.71	1.42	1.000	1	6/23/14	1338	6/17/14
OCDF	**77.3**		1.08	17.4	0.92	1.005	1	6/23/14	1338	6/17/14
Total Tetra-Dioxins	**34.4**		0.702	1.74	0.81		1	6/23/14	1338	6/17/14
Total Penta-Dioxins	**24.6**		0.660	8.71	1.58		1	6/23/14	1338	6/17/14
Total Hexa-Dioxins	**480**		0.994	8.71	1.26		1	6/23/14	1338	6/17/14
Total Hepta-Dioxins	**2050**		0.586	8.71	1.03		1	6/23/14	1338	6/17/14
Total Tetra-Furans	ND	U	0.540	1.74			1	6/23/14	1338	6/17/14
Total Penta-Furans	**8.65**	J	0.498	8.71			1	6/23/14	1338	6/17/14
Total Hexa-Furans	**12.6**		0.536	8.71	1.29		1	6/23/14	1338	6/17/14
Total Hepta-Furans	**68.0**		1.16	8.71	0.97		1	6/23/14	1338	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 2/14 0858
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-TB	**Units:**	Percent
Lab Code:	K1405833-002	**Basis:**	Dry
		Percent Solids:	28.3

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	1187.960	59		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1476.902	74		40-135	1.62	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1433.379	72		40-135	1.39	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1358.429	68		40-135	1.22	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1387.527	69		40-135	1.08	1.067
13C-OCDD	4000	2232.187	56		40-135	0.92	1.144
13C-2,3,7,8-TCDF	2000	1328.399	66		40-135	0.84	0.993
13C-1,2,3,7,8-PeCDF	2000	1415.097	71		40-135	1.59	1.136
13C-2,3,4,7,8-PeCDF	2000	1444.326	72		40-135	1.59	1.168
13C-1,2,3,4,7,8-HxCDF	2000	1366.194	68		40-135	0.53	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1587.063	79		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1581.363	79		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1637.235	82		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1448.891	72		40-135	0.46	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1517.855	76		40-135	0.47	1.080
37Cl-2,3,7,8-TCDD	800	400.427	50		40-135	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 2/14 0858
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-TB	**Units:**	ng/Kg
Lab Code:	K1405833-002	**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	0.702	1.74	1	1	
1,2,3,7,8-PeCDD	**1.99**	0.660	8.71	1	1	1.99
1,2,3,6,7,8-HxCDD	**10.0**	1.04	8.71	1	0.1	1.00
1,2,3,4,7,8-HxCDD	**4.83**	1.01	8.71	1	0.1	0.483
1,2,3,7,8,9-HxCDD	**14.3**	0.940	8.71	1	0.1	1.43
1,2,3,4,6,7,8-HpCDD	**403**	0.586	8.71	1	0.01	4.03
OCDD	**5150**	1.13	17.4	1	0.0003	1.55
2,3,7,8-TCDF	**1.10**	0.540	1.74	1	0.1	0.110
1,2,3,7,8-PeCDF	**0.931**	0.640	8.71	1	0.03	0.0279
2,3,4,7,8-PeCDF	**1.01**	0.616	8.71	1	0.3	0.303
1,2,3,6,7,8-HxCDF	**1.55**	0.490	8.71	1	0.1	0.155
1,2,3,7,8,9-HxCDF	ND	0.588	8.71	1	0.1	
1,2,3,4,7,8-HxCDF	**1.47**	0.588	8.71	1	0.1	0.147
2,3,4,6,7,8-HxCDF	**2.10**	0.495	8.71	1	0.1	0.210
1,2,3,4,6,7,8-HpCDF	**20.3**	1.04	8.71	1	0.01	0.203
1,2,3,4,7,8,9-HpCDF	**2.49**	1.30	8.71	1	0.01	0.0249
OCDF	**77.3**	1.08	17.4	1	0.0003	0.0232
		Total TEQ				11.7

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 3/14 0745
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-REF	**Units:**	ng/Kg
Lab Code:	K1405833-003	**Basis:**	Dry
		Percent Solids:	78.0

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	0.381	0.631			1	6/23/14	1427	6/17/14
1,2,3,7,8-PeCDD	ND	U	0.285	3.16			1	6/23/14	1427	6/17/14
1,2,3,6,7,8-HxCDD	ND	U	0.235	3.16			1	6/23/14	1427	6/17/14
1,2,3,4,7,8-HxCDD	ND	U	0.220	3.16			1	6/23/14	1427	6/17/14
1,2,3,7,8,9-HxCDD	ND	U	0.209	3.16			1	6/23/14	1427	6/17/14
1,2,3,4,6,7,8-HpCDD	**1.09**	BJ	0.260	3.16	1.20	1.000	1	6/23/14	1427	6/17/14
OCDD	**11.8**		0.484	6.31	0.86	1.000	1	6/23/14	1427	6/17/14
2,3,7,8-TCDF	ND	U	0.265	0.631			1	6/23/14	1427	6/17/14
1,2,3,7,8-PeCDF	ND	U	0.230	3.16			1	6/23/14	1427	6/17/14
2,3,4,7,8-PeCDF	ND	U	0.228	3.16			1	6/23/14	1427	6/17/14
1,2,3,6,7,8-HxCDF	ND	U	0.158	3.16			1	6/23/14	1427	6/17/14
1,2,3,7,8,9-HxCDF	ND	U	0.192	3.16			1	6/23/14	1427	6/17/14
1,2,3,4,7,8-HxCDF	ND	U	0.186	3.16			1	6/23/14	1427	6/17/14
2,3,4,6,7,8-HxCDF	ND	U	0.164	3.16			1	6/23/14	1427	6/17/14
1,2,3,4,6,7,8-HpCDF	ND	U	0.190	3.16			1	6/23/14	1427	6/17/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.244	3.16			1	6/23/14	1427	6/17/14
OCDF	ND	U	0.510	6.31			1	6/23/14	1427	6/17/14
Total Tetra-Dioxins	ND	U	0.381	0.631			1	6/23/14	1427	6/17/14
Total Penta-Dioxins	ND	U	0.285	3.16			1	6/23/14	1427	6/17/14
Total Hexa-Dioxins	**0.406**	J	0.221	3.16	1.33		1	6/23/14	1427	6/17/14
Total Hepta-Dioxins	**3.81**		0.260	3.16	1.08		1	6/23/14	1427	6/17/14
Total Tetra-Furans	ND	U	0.265	0.631			1	6/23/14	1427	6/17/14
Total Penta-Furans	ND	U	0.210	3.16			1	6/23/14	1427	6/17/14
Total Hexa-Furans	ND	U	0.173	3.16			1	6/23/14	1427	6/17/14
Total Hepta-Furans	ND	U	0.215	3.16			1	6/23/14	1427	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 3/14 0745
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-REF	**Units:**	Percent
Lab Code:	K1405833-003	**Basis:**	Dry
		Percent Solids:	78.0

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	1030.717	52		40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1374.874	69		40-135	1.58	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1393.632	70		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1359.560	68		40-135	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1319.488	66		40-135	1.13	1.067
13C-OCDD	4000	1974.501	49		40-135	0.91	1.144
13C-2,3,7,8-TCDF	2000	1129.713	56		40-135	0.82	0.993
13C-1,2,3,7,8-PeCDF	2000	1259.107	63		40-135	1.58	1.136
13C-2,3,4,7,8-PeCDF	2000	1322.509	66		40-135	1.63	1.168
13C-1,2,3,4,7,8-HxCDF	2000	1308.867	65		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1518.711	76		40-135	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1487.287	74		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1580.413	79		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1392.991	70		40-135	0.46	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1455.960	73		40-135	0.45	1.080
37Cl-2,3,7,8-TCDD	800	343.994	43		40-135	NA	1.020

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 3/14 0745
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-REF	**Units:**	ng/Kg
Lab Code:	K1405833-003	**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	0.381	0.631	1	1	
1,2,3,7,8-PeCDD	ND	0.285	3.16	1	1	
1,2,3,6,7,8-HxCDD	ND	0.235	3.16	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.220	3.16	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.209	3.16	1	0.1	
1,2,3,4,6,7,8-HpCDD	**1.09**	0.260	3.16	1	0.01	0.0109
OCDD	**11.8**	0.484	6.31	1	0.0003	0.00354
2,3,7,8-TCDF	ND	0.265	0.631	1	0.1	
1,2,3,7,8-PeCDF	ND	0.230	3.16	1	0.03	
2,3,4,7,8-PeCDF	ND	0.228	3.16	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.158	3.16	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.192	3.16	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.186	3.16	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.164	3.16	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.190	3.16	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.244	3.16	1	0.01	
OCDF	ND	0.510	6.31	1	0.0003	
		Total TEQ				0.0144

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1400321-01	**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	0.327	0.496			1	6/23/14	1725	6/17/14
1,2,3,7,8-PeCDD	ND	U	0.180	2.48			1	6/23/14	1725	6/17/14
1,2,3,6,7,8-HxCDD	ND	U	0.213	2.48			1	6/23/14	1725	6/17/14
1,2,3,4,7,8-HxCDD	ND	U	0.202	2.48			1	6/23/14	1725	6/17/14
1,2,3,7,8,9-HxCDD	ND	U	0.191	2.48			1	6/23/14	1725	6/17/14
1,2,3,4,6,7,8-HpCDD	**0.259**	JK	0.221	2.48	1.34	1.000	1	6/23/14	1725	6/17/14
OCDD	**0.517**	J	0.325	4.96	0.81	1.000	1	6/23/14	1725	6/17/14
2,3,7,8-TCDF	ND	U	0.201	0.496			1	6/23/14	1725	6/17/14
1,2,3,7,8-PeCDF	ND	U	0.134	2.48			1	6/23/14	1725	6/17/14
2,3,4,7,8-PeCDF	ND	U	0.134	2.48			1	6/23/14	1725	6/17/14
1,2,3,6,7,8-HxCDF	ND	U	0.123	2.48			1	6/23/14	1725	6/17/14
1,2,3,7,8,9-HxCDF	ND	U	0.148	2.48			1	6/23/14	1725	6/17/14
1,2,3,4,7,8-HxCDF	ND	U	0.145	2.48			1	6/23/14	1725	6/17/14
2,3,4,6,7,8-HxCDF	ND	U	0.130	2.48			1	6/23/14	1725	6/17/14
1,2,3,4,6,7,8-HpCDF	**0.207**	J	0.0937	2.48	1.11	1.000	1	6/23/14	1725	6/17/14
1,2,3,4,7,8,9-HpCDF	ND	U	0.114	2.48			1	6/23/14	1725	6/17/14
OCDF	ND	U	0.332	4.96			1	6/23/14	1725	6/17/14
Total Tetra-Dioxins	ND	U	0.327	0.496			1	6/23/14	1725	6/17/14
Total Penta-Dioxins	ND	U	0.180	2.48			1	6/23/14	1725	6/17/14
Total Hexa-Dioxins	ND	U	0.202	2.48			1	6/23/14	1725	6/17/14
Total Hepta-Dioxins	ND	U	0.221	2.48			1	6/23/14	1725	6/17/14
Total Tetra-Furans	ND	U	0.201	0.496			1	6/23/14	1725	6/17/14
Total Penta-Furans	ND	U	0.154	2.48			1	6/23/14	1725	6/17/14
Total Hexa-Furans	ND	U	0.136	2.48			1	6/23/14	1725	6/17/14
Total Hepta-Furans	**0.207**	J	0.104	2.48	1.11		1	6/23/14	1725	6/17/14

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1400321-01	**Basis:**	Dry

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	1121.551	56		40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1427.574	71		40-135	1.54	1.178
13C-1,2,3,4,7,8-HxCDD	2000	1375.361	69		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1363.229	68		40-135	1.29	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1323.039	66		40-135	1.08	1.067
13C-OCDD	4000	2130.944	53		40-135	0.91	1.144
13C-2,3,7,8-TCDF	2000	1225.319	61		40-135	0.82	0.994
13C-1,2,3,7,8-PeCDF	2000	1368.256	68		40-135	1.59	1.137
13C-2,3,4,7,8-PeCDF	2000	1371.531	69		40-135	1.59	1.169
13C-1,2,3,4,7,8-HxCDF	2000	1308.916	65		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1538.610	77		40-135	0.54	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1553.692	78		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1578.001	79		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1409.685	70		40-135	0.45	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1542.064	77		40-135	0.45	1.080
37Cl-2,3,7,8-TCDD	800	376.877	47		40-135	NA	1.021

Accuracy & Precision

ALS Environmental - Houston HRMS
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Analyzed:**	6/23/14
Sample Matrix:	Soil		

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290A	**Units:**	ng/Kg
Prep Method:	Method	**Basis:**	Dry
		Extraction Lot:	210955

Lab Control Sample
EQ1400321-02

Analyte Name	Result	Spike Amount	% Rec		% Rec Limits
2,3,7,8-TCDD	25.7	19.9	129		70 - 130
1,2,3,7,8-PeCDD	116	99.6	116		70 - 130
1,2,3,6,7,8-HxCDD	122	99.6	122		70 - 130
1,2,3,4,7,8-HxCDD	122	99.6	123		70 - 130
1,2,3,7,8,9-HxCDD	125	99.6	125		70 - 130
1,2,3,4,6,7,8-HpCDD	117	99.6	118		70 - 130
OCDD	242	199	121		70 - 130
2,3,7,8-TCDF	26.4	19.9	132	*	70 - 130
1,2,3,7,8-PeCDF	137	99.6	138	*	70 - 130
2,3,4,7,8-PeCDF	129	99.6	129		70 - 130
1,2,3,6,7,8-HxCDF	114	99.6	114		70 - 130
1,2,3,7,8,9-HxCDF	126	99.6	126		70 - 130
1,2,3,4,7,8-HxCDF	128	99.6	128		70 - 130
2,3,4,6,7,8-HxCDF	116	99.6	116		70 - 130
1,2,3,4,6,7,8-HpCDF	118	99.6	119		70 - 130
1,2,3,4,7,8,9-HpCDF	120	99.6	120		70 - 130
OCDF	263	199	132	*	70 - 130

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

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1400321-02	**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	**25.7**		0.287	0.498	0.80	1.001	1	6/23/14	2305	6/17/14
1,2,3,7,8-PeCDD	**116**		0.165	2.49	1.60	1.001	1	6/23/14	2305	6/17/14
1,2,3,6,7,8-HxCDD	**122**		0.182	2.49	1.26	1.000	1	6/23/14	2305	6/17/14
1,2,3,4,7,8-HxCDD	**122**		0.188	2.49	1.26	1.000	1	6/23/14	2305	6/17/14
1,2,3,7,8,9-HxCDD	**125**		0.170	2.49	1.25	1.006	1	6/23/14	2305	6/17/14
1,2,3,4,6,7,8-HpCDD	**117**		0.227	2.49	1.04	1.000	1	6/23/14	2305	6/17/14
OCDD	**242**		0.374	4.98	0.90	1.000	1	6/23/14	2305	6/17/14
2,3,7,8-TCDF	**26.4**		0.209	0.498	0.78	1.001	1	6/23/14	2305	6/17/14
1,2,3,7,8-PeCDF	**137**		0.125	2.49	1.58	1.001	1	6/23/14	2305	6/17/14
2,3,4,7,8-PeCDF	**129**		0.120	2.49	1.59	1.000	1	6/23/14	2305	6/17/14
1,2,3,6,7,8-HxCDF	**114**		0.0851	2.49	1.25	1.000	1	6/23/14	2305	6/17/14
1,2,3,7,8,9-HxCDF	**126**		0.108	2.49	1.29	1.000	1	6/23/14	2305	6/17/14
1,2,3,4,7,8-HxCDF	**128**		0.0986	2.49	1.28	1.000	1	6/23/14	2305	6/17/14
2,3,4,6,7,8-HxCDF	**116**		0.0828	2.49	1.30	1.000	1	6/23/14	2305	6/17/14
1,2,3,4,6,7,8-HpCDF	**118**		0.214	2.49	1.06	1.000	1	6/23/14	2305	6/17/14
1,2,3,4,7,8,9-HpCDF	**120**		0.282	2.49	1.03	1.000	1	6/23/14	2305	6/17/14
OCDF	**263**		0.352	4.98	0.90	1.006	1	6/23/14	2305	6/17/14
Total Tetra-Dioxins	**25.7**		0.287	0.498	0.80		1	6/23/14	2305	6/17/14
Total Penta-Dioxins	**116**		0.165	2.49	1.60		1	6/23/14	2305	6/17/14
Total Hexa-Dioxins	**369**		0.180	2.49	1.26		1	6/23/14	2305	6/17/14
Total Hepta-Dioxins	**117**		0.227	2.49	1.04		1	6/23/14	2305	6/17/14
Total Tetra-Furans	**26.4**		0.209	0.498	0.78		1	6/23/14	2305	6/17/14
Total Penta-Furans	**267**		0.129	2.49			1	6/23/14	2305	6/17/14
Total Hexa-Furans	**484**		0.0924	2.49	1.28		1	6/23/14	2305	6/17/14
Total Hepta-Furans	**238**		0.245	2.49	1.06		1	6/23/14	2305	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1400321-02	**Basis:**	Dry

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	1153.880	58		40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1630.871	82		40-135	1.60	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1406.811	70		40-135	1.30	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1468.339	73		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1307.716	65		40-135	1.08	1.067
13C-OCDD	4000	1903.598	48		40-135	0.91	1.144
13C-2,3,7,8-TCDF	2000	1309.972	65		40-135	0.83	0.994
13C-1,2,3,7,8-PeCDF	2000	1468.860	73		40-135	1.59	1.137
13C-2,3,4,7,8-PeCDF	2000	1503.196	75		40-135	1.60	1.169
13C-1,2,3,4,7,8-HxCDF	2000	1372.924	69		40-135	0.54	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1568.796	78		40-135	0.54	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1495.139	75		40-135	0.51	1.009
13C-2,3,4,6,7,8-HxCDF	2000	1685.700	84		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1469.722	73		40-135	0.45	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1417.980	71		40-135	0.44	1.081
37Cl-2,3,7,8-TCDD	800	387.407	48		40-135	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/4/14
Sample Matrix:	Soil	**Date Received:**	6/11/14
		Date Analyzed:	6/24/14

Matrix Spike Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	K1405833-001	**Basis:**	Dry

Analytical Method: 8290A
Prep Method: Method

		SYC14-ACMS				SYC14-ACDMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ1400321-03				EQ1400321-04					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	ND	60.1	49.5	121		58.8	48.6	121		70 - 130	2	25
1,2,3,7,8-PeCDD	0.866	286	247	115		289	243	119		70 - 130	<1	25
1,2,3,6,7,8-HxCDD	3.31	304	247	121		300	243	122		70 - 130	1	25
1,2,3,4,7,8-HxCDD	1.38	286	247	115		282	243	116		70 - 130	1	25
1,2,3,7,8,9-HxCDD	4.34	305	247	121		300	243	121		70 - 130	2	25
1,2,3,4,6,7,8-HpCDD	98.1	434	247	136	*	464	243	150	*	70 - 130	6	25
OCDD	1350	2370	495	206	*	2810	486	300	*	70 - 130	17	25
2,3,7,8-TCDF	ND	58.8	49.5	119		57.2	48.6	118		70 - 130	3	25
1,2,3,7,8-PeCDF	ND	334	247	135	*	331	243	136	*	70 - 130	1	25
2,3,4,7,8-PeCDF	ND	322	247	130		318	243	131	*	70 - 130	1	25
1,2,3,6,7,8-HxCDF	0.450	282	247	114		288	243	118		70 - 130	2	25
1,2,3,7,8,9-HxCDF	ND	314	247	127		308	243	127		70 - 130	2	25
1,2,3,4,7,8-HxCDF	0.521	339	247	137	*	322	243	132	*	70 - 130	5	25
2,3,4,6,7,8-HxCDF	0.434	288	247	116		287	243	118		70 - 130	<1	25
1,2,3,4,6,7,8-HpCDF	7.42	308	247	122		310	243	125		70 - 130	<1	25
1,2,3,4,7,8,9-HpCDF	0.704	312	247	126		311	243	128		70 - 130	<1	25
OCDF	24.3	681	495	133	*	679	486	135	*	70 - 130	<1	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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	EQ1400321-03	**Basis:**	Dry
Run Type:	Matrix Spike	**Percent Solids:**	40.4

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	**60.1**		0.289	1.24	0.76	1.001	1	6/24/14	0703	6/17/14
1,2,3,7,8-PeCDD	**286**		0.245	6.18	1.59	1.001	1	6/24/14	0703	6/17/14
1,2,3,6,7,8-HxCDD	**304**		0.713	6.18	1.30	1.000	1	6/24/14	0703	6/17/14
1,2,3,4,7,8-HxCDD	**286**		0.646	6.18	1.23	1.000	1	6/24/14	0703	6/17/14
1,2,3,7,8,9-HxCDD	**305**		0.631	6.18	1.25	1.007	1	6/24/14	0703	6/17/14
1,2,3,4,6,7,8-HpCDD	**434**		1.36	6.18	1.02	1.000	1	6/24/14	0703	6/17/14
OCDD	**2370**		1.08	12.4	0.89	1.000	1	6/24/14	0703	6/17/14
2,3,7,8-TCDF	**58.8**		0.221	1.24	0.72	1.001	1	6/24/14	0703	6/17/14
1,2,3,7,8-PeCDF	**334**		0.518	6.18	1.61	1.001	1	6/24/14	0703	6/17/14
2,3,4,7,8-PeCDF	**322**		0.525	6.18	1.54	1.000	1	6/24/14	0703	6/17/14
1,2,3,6,7,8-HxCDF	**282**		0.405	6.18	1.20	1.000	1	6/24/14	0703	6/17/14
1,2,3,7,8,9-HxCDF	**314**		0.546	6.18	1.21	1.000	1	6/24/14	0703	6/17/14
1,2,3,4,7,8-HxCDF	**339**		0.490	6.18	1.22	1.000	1	6/24/14	0703	6/17/14
2,3,4,6,7,8-HxCDF	**288**		0.425	6.18	1.22	1.000	1	6/24/14	0703	6/17/14
1,2,3,4,6,7,8-HpCDF	**308**		0.747	6.18	1.03	1.000	1	6/24/14	0703	6/17/14
1,2,3,4,7,8,9-HpCDF	**312**		0.944	6.18	1.04	1.000	1	6/24/14	0703	6/17/14
OCDF	**681**		0.628	12.4	0.91	1.005	1	6/24/14	0703	6/17/14
Total Tetra-Dioxins	**61.8**		0.289	1.24	0.87		1	6/24/14	0703	6/17/14
Total Penta-Dioxins	**313**		0.245	6.18	1.76		1	6/24/14	0703	6/17/14
Total Hexa-Dioxins	**1060**		0.663	6.18	1.35		1	6/24/14	0703	6/17/14
Total Hepta-Dioxins	**979**		1.36	6.18	1.06		1	6/24/14	0703	6/17/14
Total Tetra-Furans	**58.8**		0.221	1.24	0.72		1	6/24/14	0703	6/17/14
Total Penta-Furans	**662**		0.159	6.18			1	6/24/14	0703	6/17/14
Total Hexa-Furans	**1230**		0.460	6.18	1.12		1	6/24/14	0703	6/17/14
Total Hepta-Furans	**638**		0.840	6.18	1.03		1	6/24/14	0703	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	EQ1400321-03	**Basis:**	Dry
Run Type:	Matrix Spike	**Percent Solids:**	40.4

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	1064.151	53		40-135	0.78	1.018
13C-1,2,3,7,8-PeCDD	2000	1291.857	65		40-135	1.61	1.168
13C-1,2,3,4,7,8-HxCDD	2000	1477.923	74		40-135	1.21	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1394.665	70		40-135	1.23	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1356.873	68		40-135	1.06	1.066
13C-OCDD	4000	2157.906	54		40-135	0.91	1.142
13C-2,3,7,8-TCDF	2000	1073.849	54		40-135	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	1139.058	57		40-135	1.55	1.130
13C-2,3,4,7,8-PeCDF	2000	1165.038	58		40-135	1.54	1.160
13C-1,2,3,4,7,8-HxCDF	2000	1377.723	69		40-135	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1563.237	78		40-135	0.52	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1422.920	71		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1577.569	79		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1373.588	69		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1443.990	72		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	346.400	43		40-135	NA	1.019

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	EQ1400321-04	**Basis:**	Dry
Run Type:	Duplicate Matrix Spike	**Percent Solids:**	40.4

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	**58.8**		0.216	1.22	0.75	1.001	1	6/24/14	0751	6/17/14
1,2,3,7,8-PeCDD	**289**		0.227	6.08	1.59	1.000	1	6/24/14	0751	6/17/14
1,2,3,6,7,8-HxCDD	**300**		0.529	6.08	1.29	1.000	1	6/24/14	0751	6/17/14
1,2,3,4,7,8-HxCDD	**282**		0.480	6.08	1.28	1.000	1	6/24/14	0751	6/17/14
1,2,3,7,8,9-HxCDD	**300**		0.468	6.08	1.24	1.007	1	6/24/14	0751	6/17/14
1,2,3,4,6,7,8-HpCDD	**464**		0.796	6.08	1.04	1.000	1	6/24/14	0751	6/17/14
OCDD	**2810**		0.776	12.2	0.90	1.000	1	6/24/14	0751	6/17/14
2,3,7,8-TCDF	**57.2**		0.280	1.22	0.76	1.001	1	6/24/14	0751	6/17/14
1,2,3,7,8-PeCDF	**331**		0.394	6.08	1.59	1.001	1	6/24/14	0751	6/17/14
2,3,4,7,8-PeCDF	**318**		0.390	6.08	1.61	1.000	1	6/24/14	0751	6/17/14
1,2,3,6,7,8-HxCDF	**288**		0.232	6.08	1.22	1.000	1	6/24/14	0751	6/17/14
1,2,3,7,8,9-HxCDF	**308**		0.313	6.08	1.20	1.000	1	6/24/14	0751	6/17/14
1,2,3,4,7,8-HxCDF	**322**		0.282	6.08	1.24	1.000	1	6/24/14	0751	6/17/14
2,3,4,6,7,8-HxCDF	**287**		0.243	6.08	1.22	1.000	1	6/24/14	0751	6/17/14
1,2,3,4,6,7,8-HpCDF	**310**		0.313	6.08	1.04	1.000	1	6/24/14	0751	6/17/14
1,2,3,4,7,8,9-HpCDF	**311**		0.396	6.08	1.04	1.000	1	6/24/14	0751	6/17/14
OCDF	**679**		0.579	12.2	0.92	1.005	1	6/24/14	0751	6/17/14
Total Tetra-Dioxins	**72.2**		0.216	1.22	0.72		1	6/24/14	0751	6/17/14
Total Penta-Dioxins	**298**		0.227	6.08	1.48		1	6/24/14	0751	6/17/14
Total Hexa-Dioxins	**1070**		0.492	6.08	1.22		1	6/24/14	0751	6/17/14
Total Hepta-Dioxins	**1110**		0.796	6.08	1.05		1	6/24/14	0751	6/17/14
Total Tetra-Furans	**57.2**		0.280	1.22	0.76		1	6/24/14	0751	6/17/14
Total Penta-Furans	**651**		0.129	6.08	1.49		1	6/24/14	0751	6/17/14
Total Hexa-Furans	**1210**		0.264	6.08	1.09		1	6/24/14	0751	6/17/14
Total Hepta-Furans	**645**		0.352	6.08	1.04		1	6/24/14	0751	6/17/14

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	EQ1400321-04	**Basis:**	Dry
Run Type:	Duplicate Matrix Spike	**Percent Solids:**	40.4

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	1011.139	51		40-135	0.78	1.018
13C-1,2,3,7,8-PeCDD	2000	1271.929	64		40-135	1.57	1.169
13C-1,2,3,4,7,8-HxCDD	2000	1553.846	78		40-135	1.28	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1320.137	66		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1334.677	67		40-135	1.07	1.066
13C-OCDD	4000	2055.940	51		40-135	0.88	1.142
13C-2,3,7,8-TCDF	2000	1050.485	53		40-135	0.75	0.993
13C-1,2,3,7,8-PeCDF	2000	1125.755	56		40-135	1.58	1.130
13C-2,3,4,7,8-PeCDF	2000	1152.866	58		40-135	1.58	1.160
13C-1,2,3,4,7,8-HxCDF	2000	1397.170	70		40-135	0.52	0.973
13C-1,2,3,6,7,8-HxCDF	2000	1547.551	77		40-135	0.52	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1414.131	71		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1567.417	78		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1328.187	66		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1391.181	70		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	337.660	42		40-135	NA	1.019

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/4/14
Sample Matrix:	Soil	**Date Received:**	6/11/14
		Date Analyzed:	6/24/14

Replicate Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	K1405833-001	**Basis:**	Dry

Analytical Method: 8290A
Prep Method: Method

				SYC14-ACDUP				
				Duplicate Sample				
			Sample	EQ1400321-05				**RPD**
Analyte Name	**EDL**	**MRL**	**Result**	**Result**	**Average**	**RPD**		**Limit**
2,3,7,8-TCDD	0.317	1.22	ND U	ND U	NC	NC		25
1,2,3,7,8-PeCDD	0.365	6.09	0.866 J	0.789 J	0.828	9		25
1,2,3,6,7,8-HxCDD	0.689	6.09	3.31 J	3.70 J	3.51	11		25
1,2,3,4,7,8-HxCDD	0.597	6.09	1.38 J	1.49 J	1.44	8		25
1,2,3,7,8,9-HxCDD	0.596	6.09	4.34 J	3.72 J	4.03	15		25
1,2,3,4,6,7,8-HpCDD	0.972	6.09	98.1	134	116	31	*	25
OCDD	0.791	12.2	1350	1870	1610	32	*	25
Total TEQ			3.38	3.90	3.64	14		25
2,3,7,8-TCDF	0.266	1.22	ND U	ND U	NC	NC		25
1,2,3,7,8-PeCDF	0.290	6.09	ND U	ND U	NC	NC		25
2,3,4,7,8-PeCDF	0.279	6.09	ND U	ND U	NC	NC		25
1,2,3,6,7,8-HxCDF	0.407	6.09	0.450 J	0.728 JK	0.589	47	*	25
1,2,3,7,8,9-HxCDF	0.568	6.09	ND U	ND U	NC	NC		25
1,2,3,4,7,8-HxCDF	0.487	6.09	0.521 JK	0.807 JK	0.664	43	*	25
2,3,4,6,7,8-HxCDF	0.425	6.09	0.434 J	0.728 J	0.581	51	*	25
1,2,3,4,6,7,8-HpCDF	0.778	6.09	7.42	8.14 K	7.78	9		25
1,2,3,4,7,8,9-HpCDF	1.01	6.09	0.704 JK	ND U	NC	NC		25
OCDF	0.730	12.2	24.3	34.9	29.6	36	*	25
Total Tetra-Dioxins	0.317	1.22	9.03	2.31	5.67	118	*	25
Total Penta-Dioxins	0.365	6.09	15.0	18.5	16.7	20		25
Total Hexa-Dioxins	0.626	6.09	144	167	155	14		25
Total Hepta-Dioxins	0.972	6.09	506	789	648	44	*	25
Total Tetra-Furans	0.266	1.22	ND U	ND U	NC	NC		25
Total Penta-Furans	0.0803	6.09	2.39 J	1.47 J	1.93	48	*	25
Total Hexa-Furans	0.464	6.09	7.44	7.83	7.64	5		25
Total Hepta-Furans	0.882	6.09	22.9	20.5	21.7	11		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.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	ng/Kg
Lab Code:	EQ1400321-05	**Basis:**	Dry
Run Type:	Duplicate Sample	**Percent Solids:**	40.4

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	0.317	1.22			1	6/24/14	0615	6/17/14
1,2,3,7,8-PeCDD	**0.789**	J	0.365	6.09	1.35	1.000	1	6/24/14	0615	6/17/14
1,2,3,6,7,8-HxCDD	**3.70**	J	0.689	6.09	1.24	1.000	1	6/24/14	0615	6/17/14
1,2,3,4,7,8-HxCDD	**1.49**	J	0.597	6.09	1.35	1.000	1	6/24/14	0615	6/17/14
1,2,3,7,8,9-HxCDD	**3.72**	J	0.596	6.09	1.36	1.007	1	6/24/14	0615	6/17/14
1,2,3,4,6,7,8-HpCDD	**134**		0.972	6.09	1.09	1.000	1	6/24/14	0615	6/17/14
OCDD	**1870**		0.791	12.2	0.88	1.000	1	6/24/14	0615	6/17/14
2,3,7,8-TCDF	ND	U	0.266	1.22			1	6/24/14	0615	6/17/14
1,2,3,7,8-PeCDF	ND	U	0.290	6.09			1	6/24/14	0615	6/17/14
2,3,4,7,8-PeCDF	ND	U	0.279	6.09			1	6/24/14	0615	6/17/14
1,2,3,6,7,8-HxCDF	**0.728**	JK	0.407	6.09	1.04	1.000	1	6/24/14	0615	6/17/14
1,2,3,7,8,9-HxCDF	ND	U	0.568	6.09			1	6/24/14	0615	6/17/14
1,2,3,4,7,8-HxCDF	**0.807**	JK	0.487	6.09	1.81	1.001	1	6/24/14	0615	6/17/14
2,3,4,6,7,8-HxCDF	**0.728**	J	0.425	6.09	1.36	1.001	1	6/24/14	0615	6/17/14
1,2,3,4,6,7,8-HpCDF	**8.14**	K	0.778	6.09	1.30	1.000	1	6/24/14	0615	6/17/14
1,2,3,4,7,8,9-HpCDF	ND	U	1.01	6.09			1	6/24/14	0615	6/17/14
OCDF	**34.9**		0.730	12.2	0.91	1.005	1	6/24/14	0615	6/17/14
Total Tetra-Dioxins	**2.31**		0.317	1.22	0.67		1	6/24/14	0615	6/17/14
Total Penta-Dioxins	**18.5**		0.365	6.09	1.67		1	6/24/14	0615	6/17/14
Total Hexa-Dioxins	**167**		0.626	6.09	1.32		1	6/24/14	0615	6/17/14
Total Hepta-Dioxins	**789**		0.972	6.09	1.04		1	6/24/14	0615	6/17/14
Total Tetra-Furans	ND	U	0.266	1.22			1	6/24/14	0615	6/17/14
Total Penta-Furans	**1.47**	J	0.0803	6.09			1	6/24/14	0615	6/17/14
Total Hexa-Furans	**7.83**		0.464	6.09	1.27		1	6/24/14	0615	6/17/14
Total Hepta-Furans	**20.5**		0.882	6.09	1.05		1	6/24/14	0615	6/17/14

Client:	Anamar Environmental Consulting, Inc.	**Service Request:**	K1405833
Project:	Shipyard Creek MPRSA S103	**Date Collected:**	6/ 4/14 0711
Sample Matrix:	Soil	**Date Received:**	6/11/14
Sample Name:	SYC14-AC	**Units:**	Percent
Lab Code:	EQ1400321-05	**Basis:**	Dry
Run Type:	Duplicate Sample	**Percent Solids:**	40.4

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	1071.977	54		40-135	0.78	1.018
13C-1,2,3,7,8-PeCDD	2000	1280.246	64		40-135	1.58	1.169
13C-1,2,3,4,7,8-HxCDD	2000	1501.415	75		40-135	1.25	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1327.331	66		40-135	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1310.738	66		40-135	1.07	1.065
13C-OCDD	4000	2004.374	50		40-135	0.88	1.142
13C-2,3,7,8-TCDF	2000	1102.565	55		40-135	0.76	0.993
13C-1,2,3,7,8-PeCDF	2000	1104.579	55		40-135	1.57	1.130
13C-2,3,4,7,8-PeCDF	2000	1159.880	58		40-135	1.57	1.160
13C-1,2,3,4,7,8-HxCDF	2000	1358.574	68		40-135	0.53	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1512.985	76		40-135	0.49	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1314.285	66		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1545.553	77		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1262.774	63		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1309.085	65		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	392.067	49		40-135	NA	1.019

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

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 MPRSA S103
Project Number:
Project Manager: Paul Berman
Company: Anamar Environmental Consulting, Inc.

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290A
K1405833-001	SYC14-AC	1	Soil	6/4/14	0711	6/11/14	HOUSTON	V (H*
K1405833-002	SYC14-TB	1	Soil	6/2/14	0858	6/11/14	HOUSTON	V (H*
K1405833-003	SYC14-REF	1	Soil	6/3/14	0745	6/11/14	HOUSTON	V (H*

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

MS/DMS Required

pH Checked _____

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
✓ **STANDARD**
Requested FAX Date: _____
Requested Report Date: 06/27/14

Report Requirements
____ I. Results Only
____ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
✓ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y

Invoice Information
PO# K1405833
Bill to

Relinquished By: _____ 6/12/14 1155 Received By: _____ 6/13/14 Airbill Number: _____

Cooler Receipt Form

ALS Environmental

Project Chemist AK

Client/Project Anamar Environmental

Thermometer ID SM6

Date/Time Received: 6/13/14 1000 Initials: AC

Date/Time Logged in: 6/13/14 Initials AC

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

Were they intact? ~~● Yes~~ ○ No ○ N/A

Were they signed and dated? ~~● Yes~~ ○ No ○ N/A

If yes, how many and where? 1 seal

4. Packing Material: ○ Inserts ○ Baggies ~~● Bubble Wrap~~ ~~● Gel Packs~~ ○ Wet Ice ○ Sleeves ○ Other

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 9734 3144		6/13/14	1023	AC	0/0	☐
						☐
						☐
						☐

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:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

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 sampleThe 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 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ 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

Raw Data

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

General Chemistry

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

Work Request = Original (5741) 5833

Tier: I V

Date Analyzed: 6/24/14

Analyst: MS

Analysis: Oil & Grease soils (HEM & SGT) Run # 398623

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/(NA)
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes)/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes)/no/NA
9.	Are results for methods blanks all ND?	(yes)/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
11.	Are all exceptions explained?	(yes)/no/NA
12.	Have all applicable service requests been reviewed?	(yes)/no/NA
13.	Are all samples labeled correctly?	(yes)/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	(yes)/no/NA
15.	Are detection limits and units reported correctly?	(yes)/no/NA
16.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

5741 - Due 6/26/14
5833 - Due 6/27/14

Final Approved by: [signature] Date: 6/26/14

DQREPORT

Analytical Results Summary

Instrument Name: K-Balance-15 **Analyst:** MSPECHT **Analysis Lot:** 398623 **Method/Testcode:** 9071B Modified/HEM SGT

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1405741-014	Hexane Extractable Material, Silica Gel Treated	N/A		Soil	100.00 mg/Kg	20.0000 g	130 mg/Kg U	1		130			6/24/14 13:30:00	N	II
1405741-014	Oil and Grease, Total (HEM)	N/A		Soil	265.00 mg/Kg	20.0000 g	340 mg/Kg	1	110	130			6/24/14 13:30:00	N	II
1405833-001	Oil and Grease, Total (HEM)	N/A		Soil	100.00 mg/Kg	20.0000 g	250 mg/Kg J	1	200	250			6/24/14 13:30:00	Y	V
1405833-002	Oil and Grease, Total (HEM)	N/A		Soil	205.00 mg/Kg	20.0000 g	720 mg/Kg	1	290	350			6/24/14 13:30:00	N	V
1405833-003	Oil and Grease, Total (HEM)	N/A		Soil	-10.00 mg/Kg	20.0000 g	130 mg/Kg U	1	110	130			6/24/14 13:30:00	N	V
Q1406986-01	Oil and Grease, Total (HEM)	DUP	K1405833-001	Soil	100.00 mg/Kg	20.0000 g	250 mg/Kg J	1	200	250		<1	6/24/14 13:30:00	N	V
Q1406986-02	Oil and Grease, Total (HEM)	MS	K1405833-001	Soil	3315.00 mg/Kg	20.0000 g	8210 mg/Kg	1	200	250	107		6/24/14 13:30:00	N	V
Q1406986-03	Oil and Grease, Total (HEM)	DMS	K1405833-001	Soil	3280.00 mg/Kg	20.0000 g	8120 mg/Kg	1	200	250	106	1	6/24/14 13:30:00	N	V
Q1406986-04	Hexane Extractable Material, Silica Gel Treated	MB		Soil	-20.00 mg/Kg	20.0000 g	100 mg/Kg U	1		100			6/24/14 13:30:00	N	II
Q1406986-04	Oil and Grease, Total (HEM)	MB		Soil	-25.00 mg/Kg	20.0000 g	100 mg/Kg U	1	80	100			6/24/14 13:30:00	N	II
Q1406986-05	Hexane Extractable Material, Silica Gel Treated	LCS		Soil	1110.00 mg/Kg	20.0000 g	1110 mg/Kg	1		100	74		6/24/14 13:30:00	N	II
Q1406986-05	Oil and Grease, Total (HEM)	LCS		Soil	2995.00 mg/Kg	20.0000 g	2990 mg/Kg	1	80	100	100		6/24/14 13:30:00	N	II
Q1406986-06	Hexane Extractable Material, Silica Gel Treated	DLCS		Soil	1055.00 mg/Kg	20.0000 g	1060 mg/Kg	1		100	70	5	6/24/14 13:30:00	N	II
Q1406986-06	Oil and Grease, Total (HEM)	DLCS		Soil	2895.00 mg/Kg	20.0000 g	2900 mg/Kg	1	80	100	96	3	6/24/14 13:30:00	N	II

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ndicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K1405741, 5833 Method: EPA 9071 Modified

Analysis: Oil and Grease by Gravimetric in Soil and Sediment Run: 398623

Sample #	Sample Amount (grams)	Wt. of Dish and Oil (g)-1	Wt. of Dish and Oil (g)-2	Wt. of Dish (g)	R= Wt. of Oil and Grease (g)	Oil and Grease (mg/Kg) As Received	Silic Gel Yes/No
MB	20.0000	2.5487	2.5488	2.5492	-0.0005	-25.00	No
LCS	20.0000	2.5900	2.5900	2.5301	0.0599	2995.00	No
DLCS	20.0000	2.6198	2.6197	2.5618	0.0579	2895.00	No
K1405741-014	20.0000	2.5563	2.5562	2.5509	0.0053	265.00	No
K1405833-001	20.0000	2.5371	2.5371	2.5351	0.0020	100.00	No
K1405833-001D	20.0000	2.5450	2.5449	2.5429	0.0020	100.00	No
K1405833-001MS	20.0000	2.6151	2.6149	2.5486	0.0663	3315.00	No
K1405833-001MSD	20.0000	2.5940	2.5939	2.5283	0.0656	3280.00	No
K1405833-002	20.0000	2.5488	2.5488	2.5447	0.0041	205.00	No
K1405833-003	20.0000	2.5476	2.5477	2.5478	-0.0002	-10.00	No
					0.0000	#DIV/0!	No
SGT:					0.0000	#DIV/0!	No
MB	20.0000	2.5447	2.5447	2.5451	-0.0004	-20.00	No
LCS	20.0000	2.5829	2.5829	2.5607	0.0222	1110.00	No
DLCS	20.0000	2.5582	2.5582	2.5371	0.0211	1055.00	No
K1405741-014	20.0000	2.5482	2.5483	2.5462	0.0020	100.00	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No

LCS ID# 11GEN/HEM001-48J (15ml spike)	Sart Date 6/24/2014
LCS= 2 mg/l Hexadecane and	Extraction Start Date: 6-24-14 Time: 13:30
2 mg/l Stearic Acid in Acetone	Extraction Stop Date: 6-24-14 Time: 17:30
Matrix ID# 11GEN/HEM001-48J (15ml spike)	Na2SO4 ID#: J241003 Hexane ID# 78258
Matrix= 2 mg/l Hexadecane and	Hotplate Temp. N/A Balance ID# 33
2 mg/l Stearic Acid in Acetone	Thermometer ID# N/A
Analyzed By: MS	Date Analyzed: 6/24/2014 Time: 13:30
Reviewed By:	Date Reviewed: 6/26/14

Revision 2- R:\WET\ANALYSES\Oil&Grease\Template\Oil&Grease Sediment and Soil 9071(HEM)

Work Ord See first page
Analysis: Oil and Grease by Gravimetric in Water

Method: EPA 1664, Revision A
Run: 398623

CCV Verification				
	1.0000 g	≤ 0.5% (+ 0.05 g)	0.0020 g	≤ 10% (+/- 0.0002g)
CCV1	1.0000	100.00	0.0020	100.0
CCV2	1.0000	100.00	0.0020	100.0
CCV3	1.0001	100.01	0.0021	105.0
CCV4	1.0001	100.01	0.0020	100.0

CCV Verification				
	1.0000 g	≤ 0.5% (+ 0.05 g)	0.0020 g	≤ 10% (+/- 0.0002g)
CCV1	1.0000	100.00	0.0020	100.0
CCV2	1.0000	100.00	0.0020	100.0
CCV3	1.0000	100.00	0.0021	105.0
CCV4	1.0000	100.00	0.0020	100.0

Analyzed B	PF	Date Analyz	6/24/2014 Time: 1:30:00 PM
Reviewed By:		Date Reviewed:	6/26/14

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: K1405741, 5833 Method: EPA 9071 Modified

Analysis: Oil and Grease by Gravimetric in Soil and Sediment Run:

Sample #	Sample Amount (grams)	Wt. of Dish and Oil (g)-1	Wt. of Dish and Oil (g)-2	Wt. of Dish (g)	R= Wt. of Oil and Grease (g)	Oil and Grease (mg/Kg) As Received	Silic Gel Yes/No
MB	20.00				0.0000	#DIV/0!	No
LCS	20.00				0.0000	#DIV/0!	No
DLCS	20.00				0.0000	#DIV/0!	No
K1405741-014	20.00				0.0000	#DIV/0!	No
K1405833-001	20.00				0.0000	#DIV/0!	No
K1405833-001D	20.00				0.0000	#DIV/0!	No
K1405833-001MS	20.00				0.0000	#DIV/0!	No
K1405833-001MSD	20.00				0.0000	#DIV/0!	No
K1405833-002	20.00				0.0000	#DIV/0!	No
K1405833-003	20.00				0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No
					0.0000	#DIV/0!	No

LCS ID# 11GEN/HEM001-48J (15ml spike)	Sart Date 6/24/2014
LCS= 2 mg/l Hexadecane and 2 mg/l Stearic Acid in Acetone	Extraction Start Date: 6-24-14 Time:
Matrix ID# 11GEN/HEM001-48J (15ml spike)	Extraction Stop Date: 6-24-14 Time:
Matrix= 2 mg/l Hexadecane and 2 mg/l Stearic Acid in Acetone	Na2SO4 ID#: J241003 Hexane ID# 78258
	Hotplate Temp. N/A Balance ID# 33
	Thermometer ID# N/A
Analyzed By: MS	Date Analyzed: 6/24/2014 Time:
Reviewed By:	Date Reviewed: 6/26/14

Revision 2- R:\WET\ANALYSES\Oil&Grease\Template\Oil&Grease Sediment and Soil 9071(HEM)

Work Request # (Original) K1405833

Tier: V

Date Analyzed: 6/27/14

Analyst: AB

Analysis: TOC Soil / ASTM

Run # 399350

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA Due 6/27/14

COMMENTS:

Final Approved by: [signature] Date: 6/27/14

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-02 **Analyst:** DBRADBURY **Analysis Lot:** 399350 **Method/Testcode:** ASTM D4129-05 Modified/TOC

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1405833-001	Carbon, Total Organic (TOC)	N/A		Soil	2.33 Percent	1 mg	2.33 Percent	1	0.020	0.050			6/27/14 10:00	Y	V
1405833-002	Carbon, Total Organic (TOC)	N/A		Soil	3.34 Percent	1 mg	3.34 Percent	1	0.020	0.050			6/27/14 10:00	N	V
1405833-003	Carbon, Total Organic (TOC)	N/A		Soil	0.08 Percent	1 mg	0.084 Percent	1	0.020	0.050			6/27/14 10:00	N	V
Q1407222-01	Carbon, Total Organic (TOC)	DUP	K1405833-001	Soil	2.25 Percent	1 mg	2.25 Percent	1	0.020	0.050		4	6/27/14 10:00	N	V
Q1407222-02	Carbon, Total Organic (TOC)	MS	K1405833-001	Soil	5.85 Percent	1 mg	5.85 Percent	1	0.020	0.050	100		6/27/14 10:00	N	V
Q1407222-03	Carbon, Total Organic (TOC)	DMS	K1405833-001	Soil	6.35 Percent	1 mg	6.35 Percent	1	0.020	0.050	97	3	6/27/14 10:00	N	V
Q1407222-04	Carbon, Total Organic (TOC)	LCS		Soil	0.26 Percent	1 mg	0.265 Percent	1	0.020	0.050	96		6/27/14 10:00	N	V
Q1407222-05	Carbon, Total Organic (TOC)	MB		Soil	0.00 Percent	1 mg	0.050 Percent U	1	0.020	0.050			6/27/14 10:00	N	V
Q1407222-06	Carbon, Total Organic (TOC)	SRM		Soil	3.02 Percent	1 mg	3.02 Percent	1	0.020	0.050	101		6/27/14 10:00	N	V
Q1407223-01	Carbon, Total Organic (TOC)	CCV		Soil	19.67 Percent	1 mg	19.7 Percent	1			98		6/27/14 10:00	N	V
Q1407223-02	Carbon, Total Organic (TOC)	CCV		Soil	19.78 Percent	1 mg	19.8 Percent	1			99		6/27/14 10:00	N	V
Q1407223-03	Carbon, Total Organic (TOC)	CCB		Soil	0.00 Percent	1 mg	0.050 Percent U	1	0.020	0.050			6/27/14 10:00	N	V
Q1407223-04	Carbon, Total Organic (TOC)	CCB		Soil	0.00 Percent	1 mg	0.050 Percent U	1	0.020	0.050			6/27/14 10:00	N	V

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AB 6/27/14

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Columbia Analytical Services, Inc.

Run # 399350

Service Request #: K1405833 Method: ASTM D4129-82M/EPA Lkahn/ PSEP (Combustion/Coulometric)

Analysis For: Total Organic Carbon (TOC) Matrix: Soil / Dry Weight Basis

Sample Number	mg Sample Injected	Sample Reading, ug C	Baseline Reading, ug C	Net µg C	% Carbon	% Carbon Reported
CCV-1	11.2	2213.3	10.6	2202.7	19.667	19.7
CCB-1	50.0	10.8	10.6	0.2	0.000	<0.02
LCS-1	41.6	120.7	10.6	110.1	0.265	0.265
MB-1	50.0	10.6	10.6	0.0	0.000	<0.02
SRM	41.2	1253.6	10.6	1243.0	3.017	3.02
K1405833-001	49.6	1168.0	10.6	1157.4	2.333	2.33
K1405833-001d	49.7	1127.5	10.6	1116.9	2.247	2.25
K1405833-001ms	29.0	1705.7	10.6	1695.1	5.845	5.85
K1405833-001msd	28.8	1840.7	10.6	1830.1	6.355	6.35
K1405833-002	48.6	1634.9	10.6	1624.3	3.342	3.34
K1405833-003	50.3	52.8	10.6	42.2	0.084	0.084
CCV-2	11.3	2245.3	10.6	2234.7	19.776	19.8
CCB-2	50.0	11.8	10.6	1.2	0.002	<0.02

R:\WET\ANALYSES\TOC\TEMPLATE\TOCsoil_LIMS 011612

Revision 2

Acid Purge Time: 1 minute **Reading Time:** 5 minutes **TOC % =** $\frac{\text{(Net Reading)(µg 0.1)}}{\text{mg Sample Injected}}$

LCS: ERA Cat#: 542 Lot#: D076-542 ID#: TOCS/1-17-D TV = 0.275%C %REC = 96

CCV : Urea EMD (lot #3229B230) ID#: TOCS/1-11-M TV = 20.0%C

CCV1 = 98 CCV2 = 99 CCV3 = 0

HCl: 10% ID#Toc/2-80-P **Balance**: K-Balance-33

Oven ID# K-OVEN-01 **Thermometer** ID# K31316

K1405833-001ms = 5.1mg x 20 / 29.0 = 3.52 % REC = 100 RSD = 3

K1405833-001msd = 6.0mg x 20 / 28.8 = 4.17 % REC = 96

SRM: TOC/1-17-C NIST Lot 1941b TV 2.99% (2.152-3.828%) %REC = 101

			date	time
Analyzed By:	AB	Date:	6/27/14	10:00
Reveiwed By:		Date:	6/27/14	

R:\WET\ANALYSES\TOC\DATA\SOIL\2014\6-14\6-27-14 5833

TOC Soil Benchsheet

Sample #	mg Sample	Reading	Date Baked	Baseline
CCV-1	11.2	2213.3	%REC=98	10.4
CCB-1	50.0	10.8		10.9
LCS-1	41.6	120.7	%REC=96	10.5
MB-1	50.0	10.6		**AVG**
SRM	41.2	1253.6	%REC=101	10.6
K1405833-001	49.6	1168.0	6/19/2014	
K1405833-001d	49.7	1127.5	6/19/2014	
K1405833-001ms	29.0	1705.7	6/19/2014	
K1405833-001msd	28.8	1840.7	6/19/2014	
K1405833-002	48.6	1634.9	6/19/2014	
K1405833-003	50.3	52.8	6/19/2014	
CCV-2	11.3	2245.3	%REC=99	
CCB-2	50.0	11.8		

6/20/14

Sample ID:	LCS	MB			
Wgt. mg:	41.6				
Sample ID:	SRM	5833-1			
Wgt. mg:	41.2	49.6			
Sample ID:	-1d	-1MS			
Wgt. mg:	49.7	29.0			
Sample ID:	-1MSD	-2			
Wgt. mg:	28.8	48.6			
Sample ID:	-3				
Wgt. mg:	50.3				
Sample ID:					
Wgt. mg:					
Sample ID:					
Wgt. mg:					
Sample ID:					
Wgt. mg:					
Sample ID:					
Wgt. mg:					
Sample ID:					
Wgt. mg:					
Sample ID:					
Wgt. mg:					

Big dish

Date weighed: 6/26/14 AB

Prep Run #211910

Run # 399350

Sample ID:			
Wgt. mg:			
Sample ID:			
Wgt. mg:			
Sample ID:			
Wgt. mg:			
Sample ID:			
Wgt. mg:			

little dish

This form is intended to work as a map for sample layout
The wgts may not correspond to final weights on the run
Wgts can change due to boat breakage, machine problems etc...

Work Request # (K5901, K6025, K 5833

Tier: I I V

Date Analyzed: 6/19/14

Analyst:

Analysis: 350.1 M, Sm KSTN NH3-G

RUN # 397973

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: Date: 06/20/14

DQREPORT

Analytical Results Summary

Instrument Name: K-FIA-01 **Analyst:** IFRANKS **Analysis Lot:** 397973 **Method/Testcode:** SM 4500-NH3 G Modified/Ammon

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tie
K1405833-001	Ammonia as Nitrogen	N/A		Soil	0.99 mg/L	121.37	121 mg/Kg #	25	1	12			6/19/14 11:52:00	Y	\
K1405833-002	Ammonia as Nitrogen	N/A		Soil	1.75 mg/L	216.01	216 mg/Kg #	25	1	12			6/19/14 11:52:00	N	\
K1405833-003	Ammonia as Nitrogen	N/A		Soil	0.73 mg/L	3.61	3.61 mg/Kg #	1	0.04	0.49			6/19/14 11:52:00	N	\
K1405901-001	Ammonia as Nitrogen	N/A		Soil	1.61 mg/L	8.00	8.00 mg/Kg #	1	0.04	0.50			6/19/14 11:52:00	N	\
K1406025-002	Ammonia as Nitrogen	N/A		Sludge, Solid	0.96 mg/L	23.95	23.9 mg/Kg #	5	0.2	2.5			6/19/14 11:52:00	N	\
K1406025-004	Ammonia as Nitrogen	N/A		Sludge, Solid	1.41 mg/L	34.83	34.8 mg/Kg #	5	0.2	2.5			6/19/14 11:52:00	N	\
KQ1406817-01	Ammonia as Nitrogen	MS	K1405833-001	Soil	2.54 mg/L	634.60	635 mg/Kg #	50	2	25	103		6/19/14 11:52:00	N	\
KQ1406817-02	Ammonia as Nitrogen	DMS	K1405833-001	Soil	2.43 mg/L	595.89	596 mg/Kg #	50	2	24	97	6	6/19/14 11:52:00	N	\
KQ1406817-03	Ammonia as Nitrogen	LCS		Soil	2.35 mg/L	11.73	11.7 mg/Kg	1	0.04	0.50	109		6/19/14 11:52:00	N	\
KQ1406817-03	Ammonia as Nitrogen	LCS		Soil	2.35 mg/L	11.73	11.7 mg/Kg	1	0.04	0.50	109		6/19/14 11:52:00	N	\
KQ1406817-04	Ammonia as Nitrogen	MB		Soil	-0.02 mg/L	-0.10	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406817-04	Ammonia as Nitrogen	MB		Soil	-0.02 mg/L	-0.10	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406817-05	Ammonia as Nitrogen	MS	K1406025-002	Sludge, Solid	2.11 ~~2.09~~ mg/L	519.80	~~524~~ ~~520~~ mg/Kg #	50	2	25	100		6/19/14 11:52:00	N	\
KQ1406817-06	Ammonia as Nitrogen	DMS	K1406025-002	Sludge, Solid	2.07 mg/L	517.88	518 mg/Kg #	50	2	25	99	<1	6/19/14 11:52:00	N	\
KQ1406817-07	Ammonia as Nitrogen	DUP	K1406025-002	Sludge, Solid	1.04 mg/L	25.42	25.4 mg/Kg #	5	0.2	2.5		6	6/19/14 11:52:00	N	\
KQ1406817-08	Ammonia as Nitrogen	DUP	K1405833-001	Soil	1.07 mg/L	131.19	131 mg/Kg #	25	1	12		8	6/19/14 11:52:00	N	\
KQ1406864-01	Ammonia as Nitrogen	CCV		Soil	2.03 mg/L	2.03	2.03 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-01	Ammonia as Nitrogen	CCV		Soil	2.03 mg/L	2.03	2.03 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-02	Ammonia as Nitrogen	CCV		Soil	2.02 mg/L	2.02	2.02 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-02	Ammonia as Nitrogen	CCV		Soil	2.02 mg/L	2.02	2.02 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-03	Ammonia as Nitrogen	CCV		Soil	2.01 mg/L	2.01	2.01 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-03	Ammonia as Nitrogen	CCV		Soil	2.01 mg/L	2.01	2.01 mg/L	1					6/19/14 11:52:00	N	\
KQ1406864-04	Ammonia as Nitrogen	CCB		Soil	-0.02 mg/L	-0.02	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406864-04	Ammonia as Nitrogen	CCB		Soil	-0.02 mg/L	-0.02	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406864-05	Ammonia as Nitrogen	CCB		Soil	-0.01 mg/L	-0.01	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406864-05	Ammonia as Nitrogen	CCB		Soil	-0.01 mg/L	-0.01	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406864-06	Ammonia as Nitrogen	CCB		Soil	-0.01 mg/L	-0.01	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\
KQ1406864-06	Ammonia as Nitrogen	CCB		Soil	-0.01 mg/L	-0.01	0.50 mg/Kg U	1	0.04	0.50			6/19/14 11:52:00	N	\

6/20/14

6/20/14

* Not adjusted for changes in units
# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

SEAL Analytical

Application Lab

Name of Run	: 140619A	Name of Analysis	:NH3.ANL
Date of Report	: 6/19/2014	System No.	:1
Date of Run	: 6/19/2014	Type of System	:AA3 HR
Operator	:	Start/Stop time	:11:52 - 12:38
Comment	:		

Channel	:	2
Method	:	Method 2
Unit	:	mg/L
Calibr. Fit	:	Linear
Corr. Coeff.(r)	:	1.0000
Base	:	-9628
Gain	:	17
Sensitivity	:	0.4630
Sample Limit 1	:	
Sample Limit 2	:	

CURVE, CCV ID#: 11-CCV-010-X-0
CCV TV = 2 PPM
LCS TV = 10.8 PPM
SYRINGE #: 3324260
FILTER # 125063

Pk	Cup		Sample ID	Value	
0	0	B	Baseline	-0.0395	
1	1	P	Primer	5.0753	
2	1	D	Drift	5.0122	
3	1	C	5.0	5.0065	
4	2	C	2.0	1.9840	
5	3	C	0.50	0.4926	
6	4	C	0.05	0.0800	
7	5	C	0	-0.0131	
8	1	H1	High	5.0430	
9	5	L1	Low	-0.0163	
10	5	L1	Low	-0.0154	
11	2	QC1	CCV1	2.0263	
12	5	QC2	CCB1	-0.0182	
13	6	QC1	MB1	-0.0202	
14	10	QC3	LCS	2.3468	
15	11	S	MBMS	2.0252	101% TV = 2 PPM
16	12	S	K1405901-001	1.5395	NR - RERUN - NOT ACIDIFIED
17	13	S	K1406025-002*5	0.9607	
18	14	S	K1406025-002D*5	1.0370	
19	15	S	K1406025-002MS*50	2.1059	
20	16	S	K1406025-002MSD*50	2.0736	
21	17	S	K1406025-004*5	1.4059	
22	18	S	K1405833-001*25	0.9894	
23	2	QC1	CCV2	2.0204	
24	5	QC2	CCB2	-0.0051	
25	19	S	K1405833-001D*25	1.0653	
26	20	S	K1405833-001MS*50	2.5384	
27	21	S	K1405833-001MSD*50	2.4336	
28	22	S	K1405833-002*25	1.7523	
29	23	S	K1405833-003	0.7312	
30	24	S	K1405901-001	1.6114	
31	2	QC1	CCV3	2.0077	

06/20/14

6/19/14

32	5	QC2	CCB3	-0.0099
33	1	D	Drift	5.0122
34	0	B	Baseline	-0.0395
35	0	B	Final Base	-0.0395

CORRECTIONS

Channel	:	2
Baseline	:	Yes
Drift	:	Yes
Carryover	:	Yes
%:		1.3

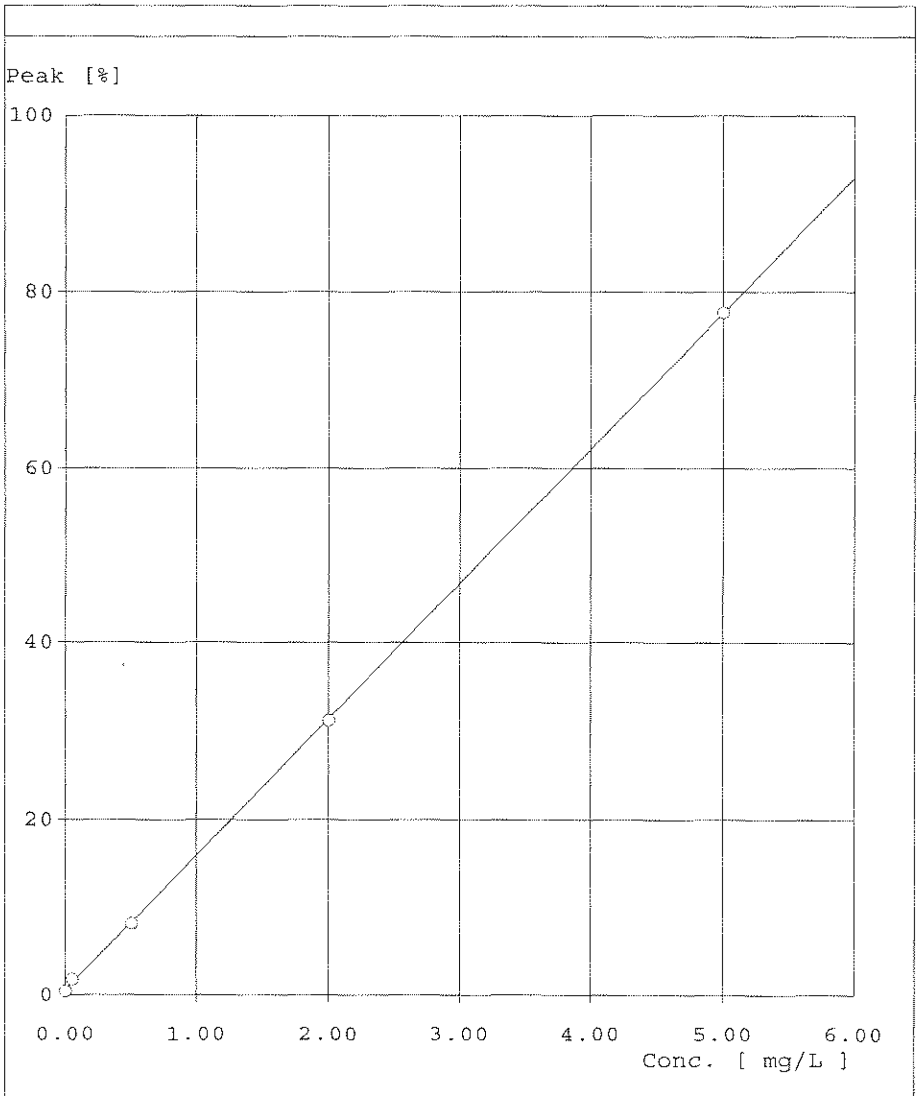
** <END OF REPORT> **

06/20/14

SEAL Analytical
Application Lab

Name of run :140619A.run
Comment :

Name of analysis :NH3.ANL
Date of report :6/19/2014



Channel :2 Date of run :6/19/2014
Method :Method 2
Curve fit :Linear
Corr.coeff.(r) :1.0000

Equation :y = bx + a

y = conc. in
x = peak height in digital units
a = -3.5052E-001
b = 9.9144E-005

Corrections
Baseline Corr. done
Drift Correction done
Carryover Corr. done 1.29 %

Calibrant Values

Type	Calculated	Target	Diff.[mg/L]	Diff. (%
1C	5.0065	5.0000	0.0065	0.13
2C	1.9840	2.0000	-0.0160	-0.80
3C	0.4926	0.5000	-0.0074	-1.48
4C	0.0800	0.0500	0.0300	59.92
5C	-0.0131	0.0000	-0.0131	---

06/20/14

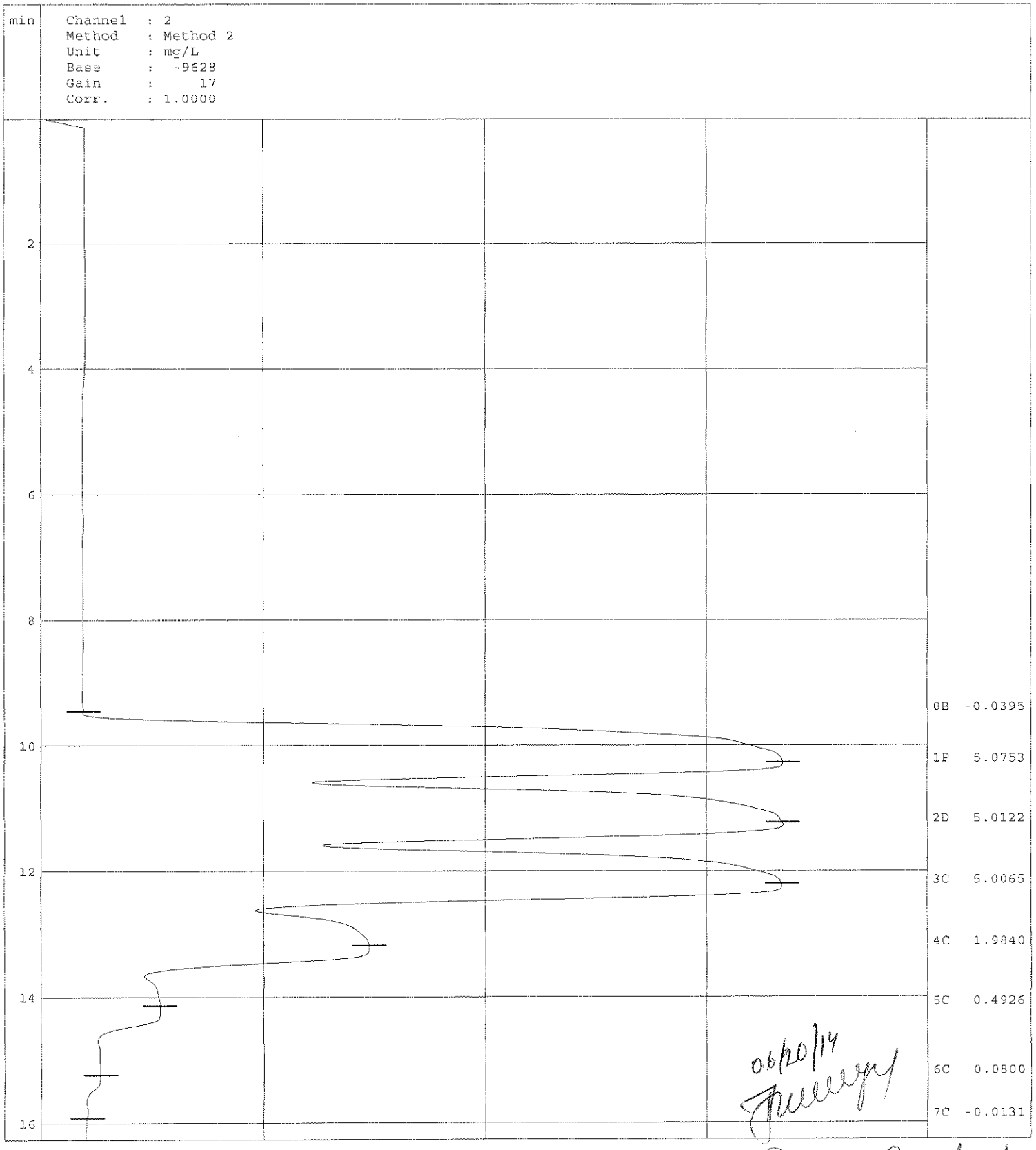
6/19/14

SEAL Analytical

Application Lab

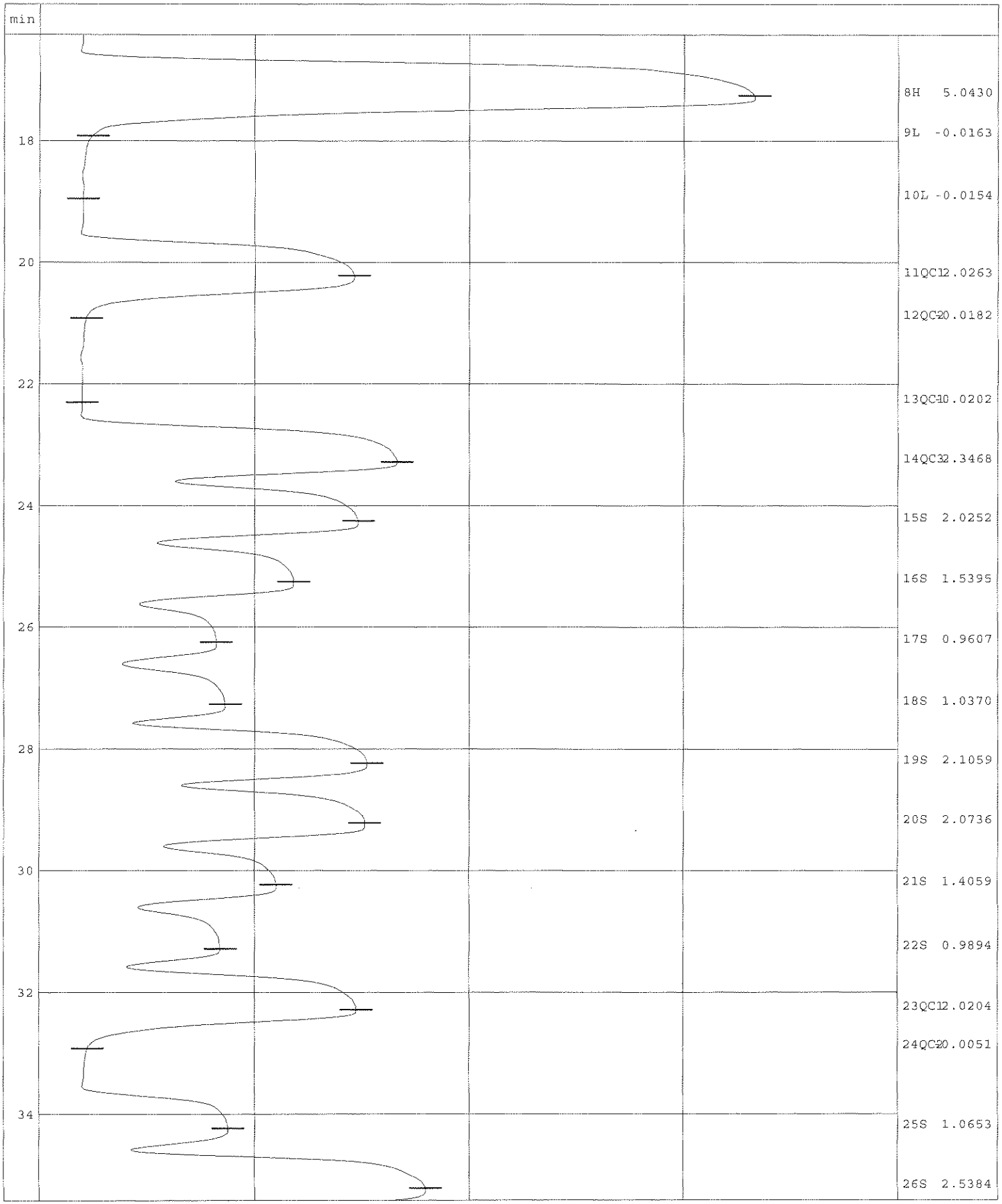
Name of run :140619A.RUN
Comment :

Name of analysis :NH3.ANL



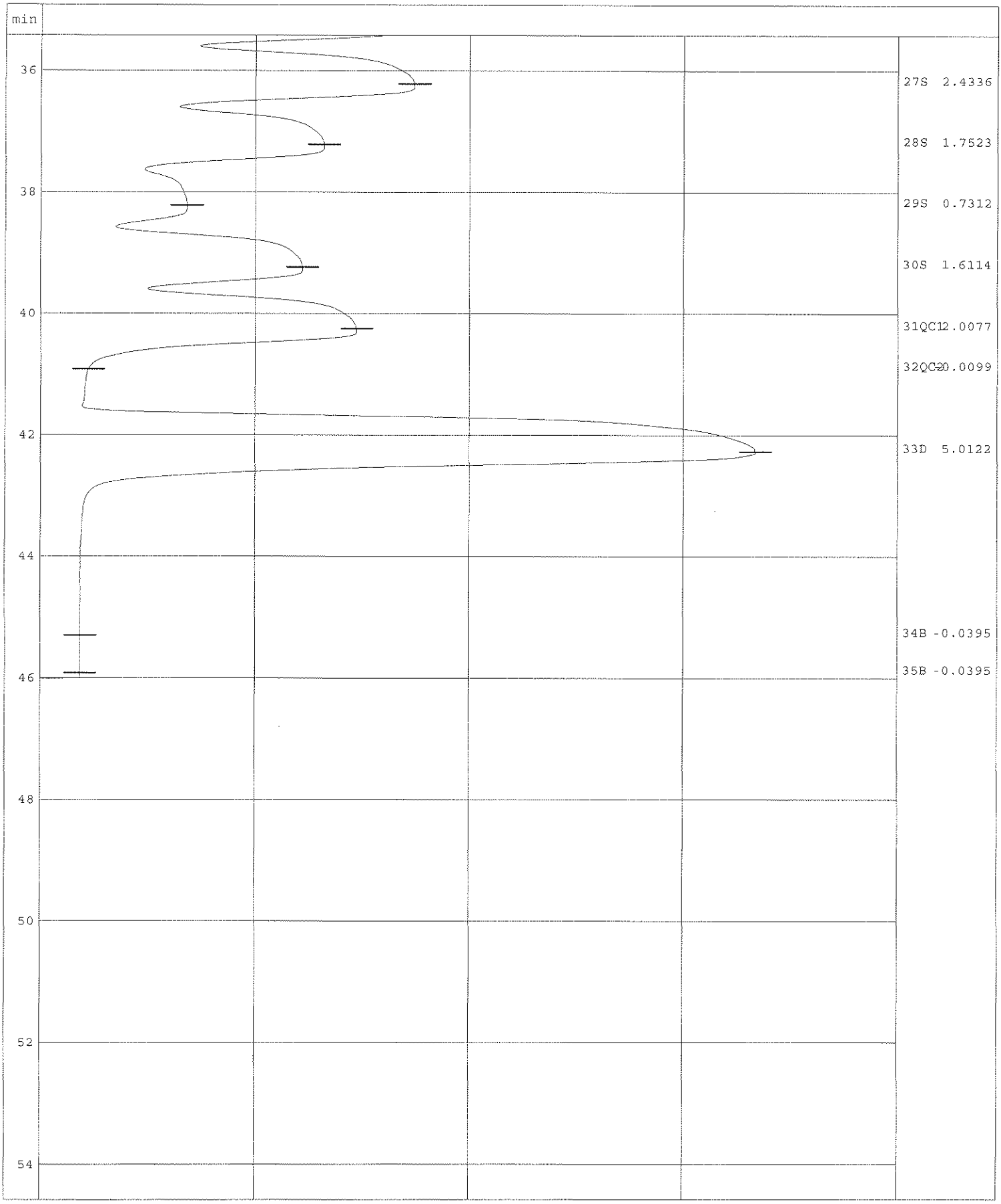
Name of run :140619A.RUN
Comment :

Name of analysis :NH3.ANL



Name of run :140619A.RUN
Comment :

Name of analysis :NH3.ANL



Preparation Information Benchsheet

Prep Run: 211242 **Prep Workflow**: GenExt7Day **Status**: Prepped **Prep Date**: 06/18/2014 09:00
Team: GenChem **Prep Method**: CAS SOP **Current Step**: Extraction **Due Date**: 06/28/2014
Analyst: IFRANKS **Rush/NPDES**: NPDES **Hold Date**: 07/09/2014

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	Comments
KQ1406817-04	Method Blank		10.00 g	50 mL			
KQ1406817-03	Lab Control Sample		10.00 g	50 mL	10 mL	70692	
K1405833-001	SYC14-AC	.04	10.19 g	50 mL			
K1405833-001: KQ1406817-08	Duplicate	.04	10.15 g	50 mL			
K1405833-001: KQ1406817-01	Matrix Spike	.04	10.00 g	50 mL	0.5 mL	69177	
K1405833-001: KQ1406817-02	Duplicate Matrix Spike	.04	10.21 g	50 mL	0.5 mL	69177	
K1405833-002	SYC14-TB	.10	10.14 g	50 mL			
K1405833-003	SYC14-REF	.06	10.13 g	50 mL			
K1405901-001	Wallula Compost	.01	10.07 g	50 mL			
K1406025-002	RAS	.03	10.03 g	50 mL			
K1406025-002: KQ1406817-07	Duplicate	.03	10.20 g	50 mL			
K1406025-002: KQ1406817-05	Matrix Spike	.03	10.05 g	50 mL	0.5 mL	69177	
K1406025-002: KQ1406817-06	Duplicate Matrix Spike	.03	10.01 g	50 mL	0.5 mL	69177	
K1406025-004	Digester	.03	10.09 g	50 mL			

14 Total Samples consisting of 6 Client Samples, 6 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Ammonia 10,000ppm N (10 mg/mL N) NH3	Spike	69177	10/4/2014	NH3, NO3 LCS	Spike	70692	11/14/2014

Preparation Materials

Preparation Hardware / Equipment

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Extraction	18-JUN-14 09:00	18-JUN-14 10:00	IFRANKS		N	

Comments

Review

Reviewed by: Hayner Date: 06/20/14

Benchsheet

Service Request #:	K1405733, K1405735, K1405741, K1405833, KQ1407102, K1405919	**Run #:**	398971
Test:	Total Solids	**Balance ID:**	K-Balance-16
Method:	TS-MET		

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1405733-001	1.28	11.62	6.27	4.99	42.9	
	K1405733-002	1.29	9.76	7.77	6.48	66.4	
	K1405733-003	1.29	10.72	4.41	3.12	29.1	
	K1405735-001	1.31	10.62	3.49	2.18	20.5	
	K1405741-021	1.30	17.17	16.23	14.9	87.0	
	K1405741-022	1.29	11.56	12.02	10.7	92.8	
	K1405741-023	1.31	10.72	11.30	9.99	93.2	
	K1405741-024	1.30	11.94	12.03	10.7	89.9	
	K1405741-025	1.31	10.92	11.12	9.81	89.8	
	K1405741-026	1.31	10.36	10.23	8.92	86.1	
	K1405833-001	1.32	10.27	5.47	4.15	40.4	
	K1405833-001DUP	1.30	12.00	6.14	4.84	40.3	<1
	K1405833-002	1.31	10.83	4.37	3.06	28.3	
	K1405833-003	1.31	11.48	10.26	8.95	78.0	
	K1405919-001	1.31	10.57	5.07	3.76	35.6	
	K1405919-002	1.30	10.13	6.55	5.25	51.8	
	K1405919-003	1.30	10.86	6.31	5.01	46.1	
	K1405919-004	1.32	15.67	13.20	11.9	75.8	
	K1405919-005	1.30	11.36	7.13	5.83	51.3	
	K1405919-005DUP	1.29	11.66	7.40	6.11	52.4	2

	Oven ID	Temp In	Temp Out	Date In	Time In	Date Out	Time Out	Thermometer ID
Oven1	K-OVEN-07	105	105	6/25/2014	19:35	6/26/2014	10:06	

	Cal EQID	Cal Start Value	Cal End Value	Start Date	Start Time	End Date	End Time
Calibration1	K-Balance-16	1.00, 99.99	1.00, 99.99	6/25/2014	19:05	6/25/2014	19:32
Calibration2	K-Balance-16	1.00, 100.00	1.00, 99.99	6/26/2014	10:25	6/26/2014	10:32

Comments: DJM, JW

Analytical Results Summary

Instrument Name: K-Balance-16 **Analyst:** DMADDEN **Analysis Lot:** 398971 **Method/Testcode:** TS-MET/Total Solids

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1405733-001	Solids, Total	N/A		Soil	42.90 Percent	11.62 g	42.9 Percent	1					6/25/14 19:35	N	II
1405733-002	Solids, Total	N/A		Soil	66.40 Percent	9.76 g	66.4 Percent	1					6/25/14 19:35	N	II
1405733-003	Solids, Total	N/A		Soil	29.10 Percent	10.72 g	29.1 Percent	1					6/25/14 19:35	N	II
1405735-001	Solids, Total	N/A		Soil	20.50 Percent	10.62 g	20.5 Percent	1					6/25/14 19:35	N	II
1405741-021	Solids, Total	N/A		Soil	87.00 Percent	17.17 g	87.0 Percent	1					6/25/14 19:35	N	II
1405741-022	Solids, Total	N/A		Soil	92.80 Percent	11.56 g	92.8 Percent	1					6/25/14 19:35	N	II
1405741-023	Solids, Total	N/A		Soil	93.20 Percent	10.72 g	93.2 Percent	1					6/25/14 19:35	N	II
1405741-024	Solids, Total	N/A		Soil	89.90 Percent	11.94 g	89.9 Percent	1					6/25/14 19:35	N	II
1405741-025	Solids, Total	N/A		Soil	89.80 Percent	10.92 g	89.8 Percent	1					6/25/14 19:35	N	II
1405741-026	Solids, Total	N/A		Soil	86.10 Percent	10.36 g	86.1 Percent	1					6/25/14 19:35	N	II
1405833-001	Solids, Total	N/A		Soil	40.40 Percent	10.27 g	40.4 Percent	1					6/25/14 19:35	Y	V
1405833-002	Solids, Total	N/A		Soil	28.30 Percent	10.83 g	28.3 Percent	1					6/25/14 19:35	N	V
1405833-003	Solids, Total	N/A		Soil	78.00 Percent	11.48 g	78.0 Percent	1					6/25/14 19:35	N	V
1405919-001	Solids, Total	N/A		Sediment	35.60 Percent	10.57 g	35.6 Percent	1					6/25/14 19:35	N	IV
1405919-002	Solids, Total	N/A		Sediment	51.80 Percent	10.13 g	51.8 Percent	1					6/25/14 19:35	N	IV
1405919-003	Solids, Total	N/A		Sediment	46.10 Percent	10.86 g	46.1 Percent	1					6/25/14 19:35	N	IV
1405919-004	Solids, Total	N/A		Sediment	75.80 Percent	15.67 g	75.8 Percent	1					6/25/14 19:35	N	IV
1405919-005	Solids, Total	N/A		Sediment	51.30 Percent	11.36 g	51.3 Percent	1					6/25/14 19:35	N	IV
Q1407102-01	Solids, Total	DUP	K1405919-005	Sediment	52.40 Percent	11.66 g	52.4 Percent	1				2	6/25/14 19:35	N	IV
Q1407102-02	Solids, Total	DUP	K1405833-001	Soil	40.30 Percent	12.00 g	40.3 Percent	1				<1	6/25/14 19:35	N	V

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indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Butyltins

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

Exception Report

Data File: J:\GC26\DATA\062614\0626F004.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/26/2014 14:03
Date Quantitated: 06/26/2014 14:40
Batch ID: KWG1406872
Analysis Method: Krone
ListJoinID: LJ13400

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: 6/26/14

Secondary Review:

Printed: 06/26/2014 15:47:45
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062614\0626F004.D\0626F004C.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/26/2014 14:03
Date Quantitated: 06/26/2014 14:40
Batch ID: KWG1406872
Analysis Method: Krone
ListJoinID: LJ13400

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: 6/26/14

Secondary Review: 6/26/14

Printed: 06/26/2014 15:47:48
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F004.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F004.D\0626F004c.d			**Vial:**	19
Acqu Date:	06/26/2014 14:03	**Quant Date:**	06/26/2014 14:40	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1405833-001				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**	06/04/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406872	**Prep Lot:**	KWG1406086	**Report Group:**	K1405833
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348789	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:	Butyltins (as cation)	**Report List ID:**	LJ13400
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.01	6.94 -0.01	10162542	3379664	111.52	113.38			NR
			%Recovery =		89 OK	91 OK	**Limits =**	20-150	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	8.59 +0.09	8.43 +0.06	278402m	173286m	2.97	5.80	1.5J	2.9	NR
Di-n-butyltin Cation	9.68 -0.01	9.53 -0.01	296468	76490	1.91	1.45	0.94J	0.72J	NR
n-Butyltin Cation	10.68	10.56 -0.02	604985m	664330m	3.50	11.97	0.65Ui	0.65Ui	0.65Ui

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.032 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38:04 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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	6.94	10162542	3379664	111.522	113.383
		Target Compounds						
3)		Tri-n-butyltin	8.59f	8.43f	278402	173286	2.965m	5.800m#
4)		Di-n-butyltin	9.68	9.53	296468	76490	1.909	1.452
5)		n-Butyltin	10.68	10.56	604985	664330	3.501m	11.966m#

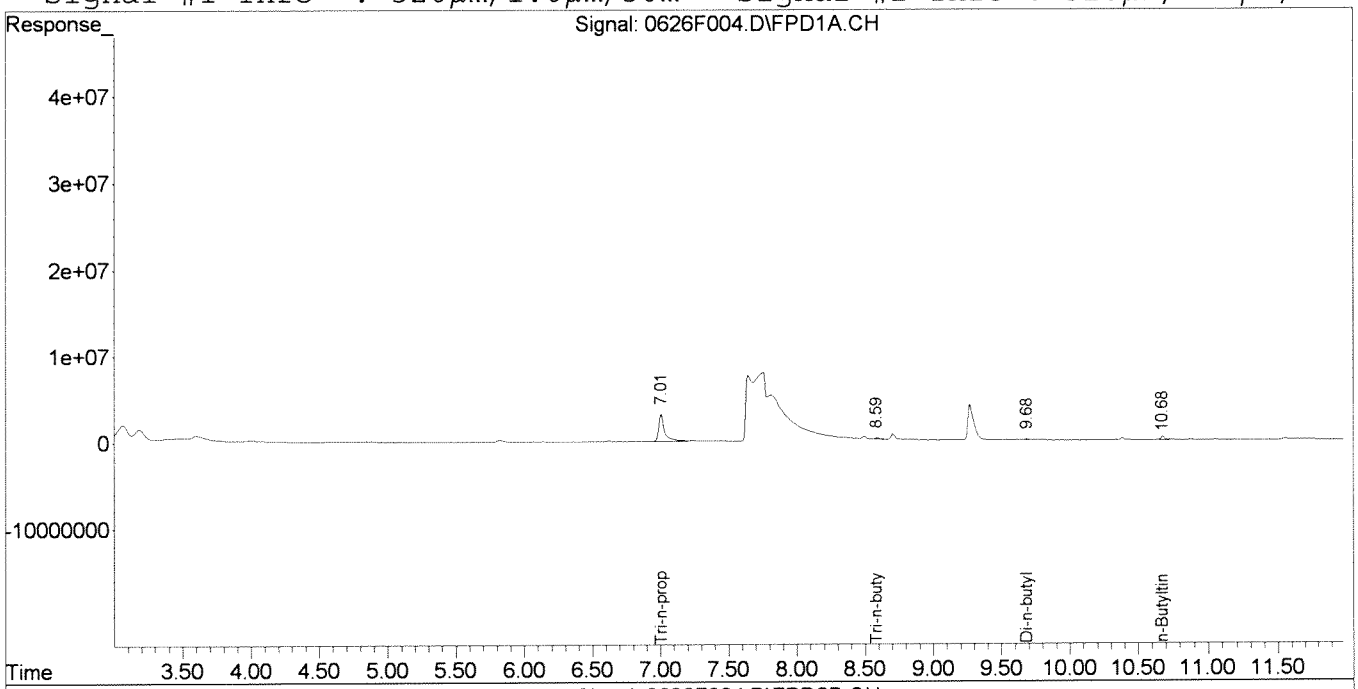
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

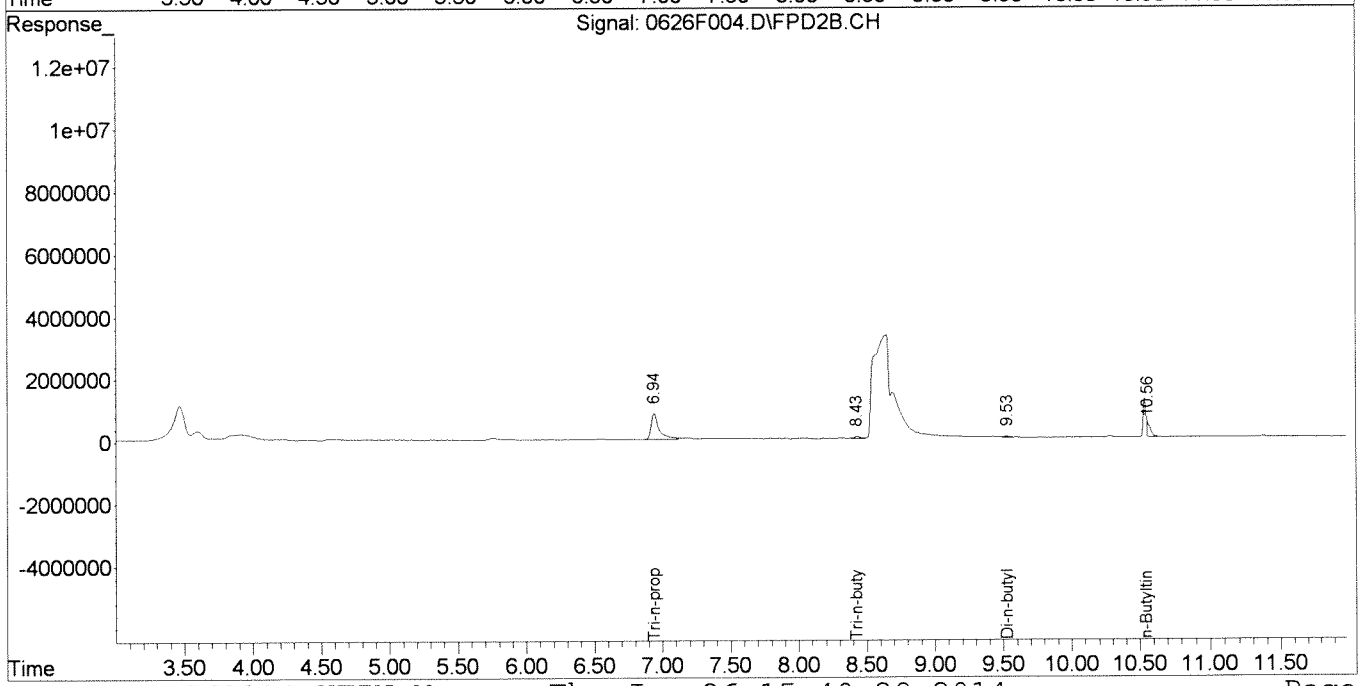
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:40 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

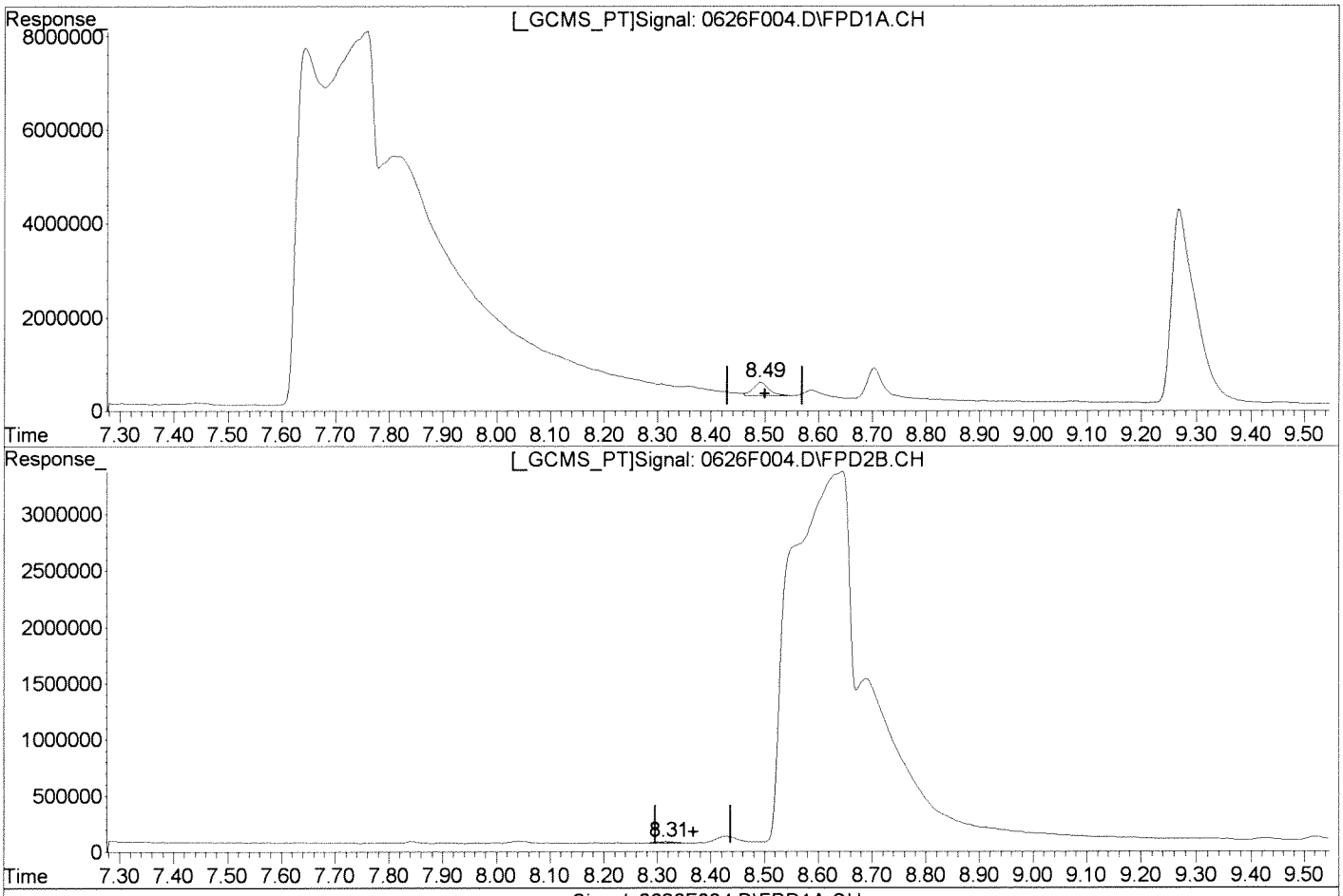




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration



Signal: 0626F004.D\FPD1A.CH

(3) Tri-n-butyltin

8.49min 6.034ng/mL

response 566552

(3) Tri-n-butyltin #2

8.31min 1.168ng/mL

response 34894

Manual Integration:

Before

06/26/14

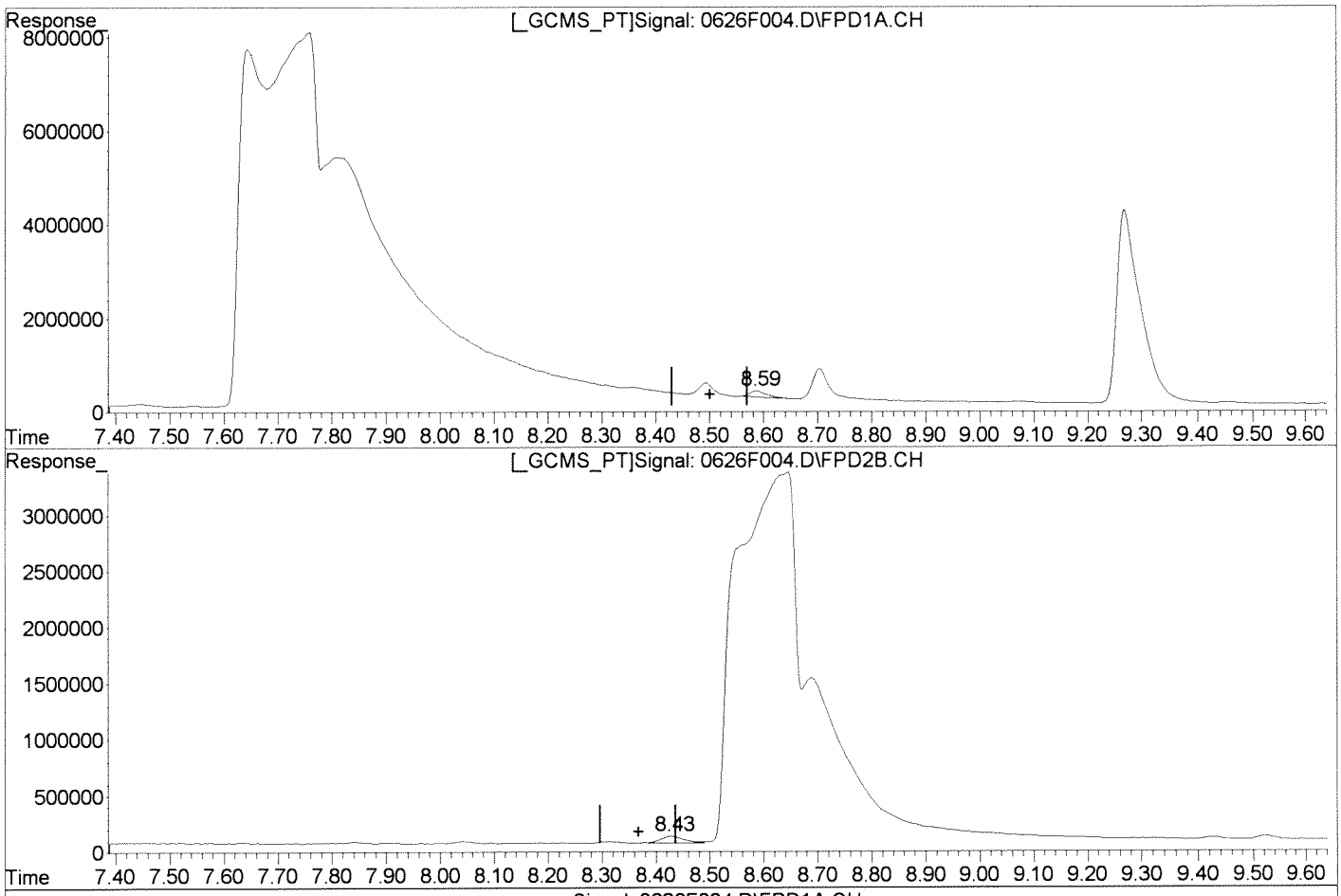
(+) = Expected Retention Time

0626F004.D 062314-HTIN.M Thu Jun 26 14:38:48 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration



Signal: 0626F004.D\FPD1A.CH

(3) Tri-n-butyltin

8.59min 2.965ng/mL m

response 278402

(3) Tri-n-butyltin #2

8.43min 5.800ng/mL m

response 173286

Manual Integration:

After

Wrong Peak

06/26/14

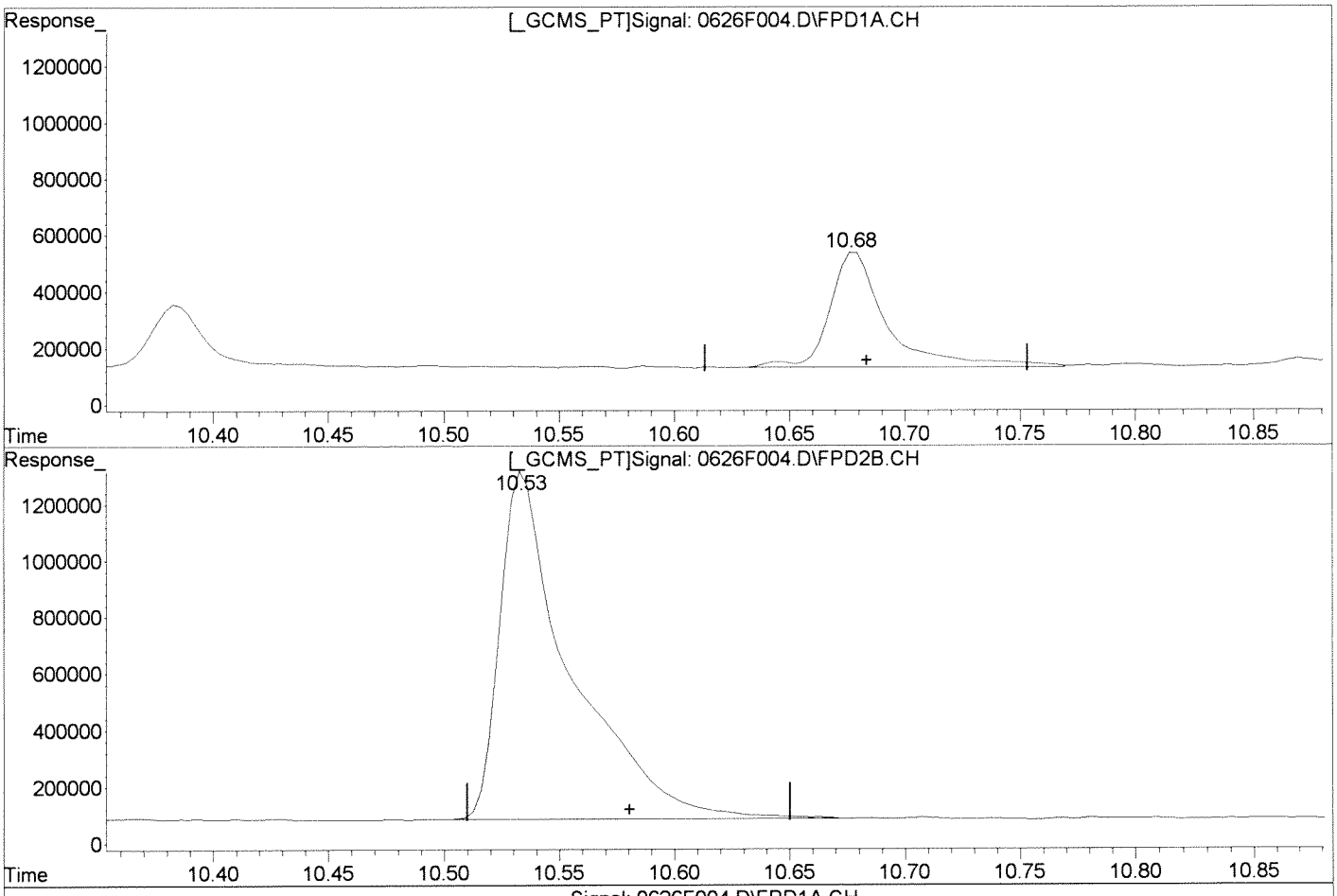
(+) = Expected Retention Time

0626F004.D 062314-HTIN.M Thu Jun 26 14:39:23 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration



Signal: 0626F004.D\FPD1A.CH

(5) n-Butyltin

10.68min 4.046ng/mL

response 699129

(5) n-Butyltin #2

10.53min 47.774ng/mL

response 2652242

Manual Integration:

Before

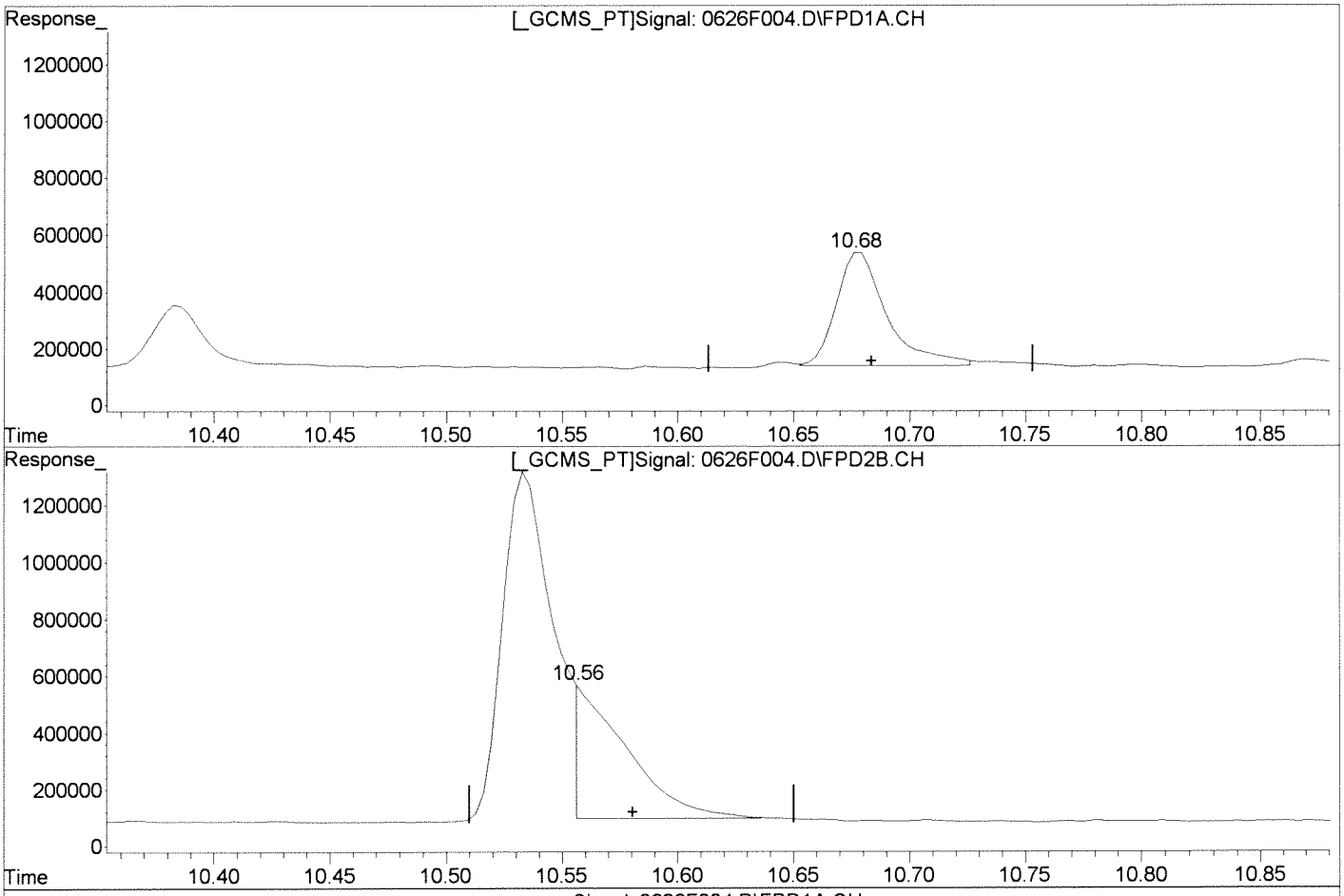
06/26/14

(+) = Expected Retention Time
0626F004.D 062314-HTIN.M Thu Jun 26 14:39:44 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F004.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062614\0626F004.D\FPD2B.CH
Acq On : 26 Jun 2014 2:03 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration



Signal: 0626F004.D\FPD1A.CH

(5) n-Butyltin

10.68min 3.501ng/mL m

response 604985

(5) n-Butyltin #2

10.56min 11.966ng/mL m

response 664330

Manual Integration:

After

Baseline/Shoulder - Wrong Peak

06/26/14

(+) = Expected Retention Time
0626F004.D 062314-HTIN.M Thu Jun 26 14:40:28 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F024.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 21:24
Date Quantitated: 06/23/2014 11:11
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	29.8	NA	25	Rerun
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	36.5	NA	25	1

Primary Review: 6/26/14

Secondary Review: 06/26/14

Printed: 06/26/2014 12:40:26
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062014\0620F024.D\0620F024C.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 21:24
Date Quantitated: 06/23/2014 11:11
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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: 55 6/20/14

Secondary Review: SW 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F024.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F024.D\0620F024c.d			**Vial:**	19
Acqu Date:	06/20/2014 21:24	**Quant Date:**	06/23/2014 11:11	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1405833-001				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**	06/04/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	K1405833
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348789	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:	Butyltins (as cation)	**Report List ID:**	LJ13400
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	7.04 +0.01	6.99 +0.02	10248778	3432758	121.93	116.88	98 OK
			%Recovery =		98 OK	94 OK	**Limits =** 20-150

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	8.53 +0.01	8.47 +0.08	678239	172095m	7.50	5.23	3.7	2.6	**2.6**
Di-n-butyltin Cation	9.73 +0.01	9.58 +0.01	305611	99973	2.18	1.99	1.1J	0.99J	**0.99J**
n-Butyltin Cation	10.70 +0.01	10.56 -0.03	570473m	2541317	4.10	48.66	2.0J	24	NR

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.032 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:17 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.99	10248778	3432758	121.928	116.882
	Target Compounds						
2)	Tetrabutyltin	7.27f	0.00	206834	0	2.385	N.D. #
3)	Tri-n-butyltin	8.53	8.47f	678239	172095	7.496	5.230m#
4)	Di-n-butyltin	9.73	9.58	305611	99973	2.181	1.994
5)	n-Butyltin	10.70	10.56	570473	2541317	4.097m	48.657 #

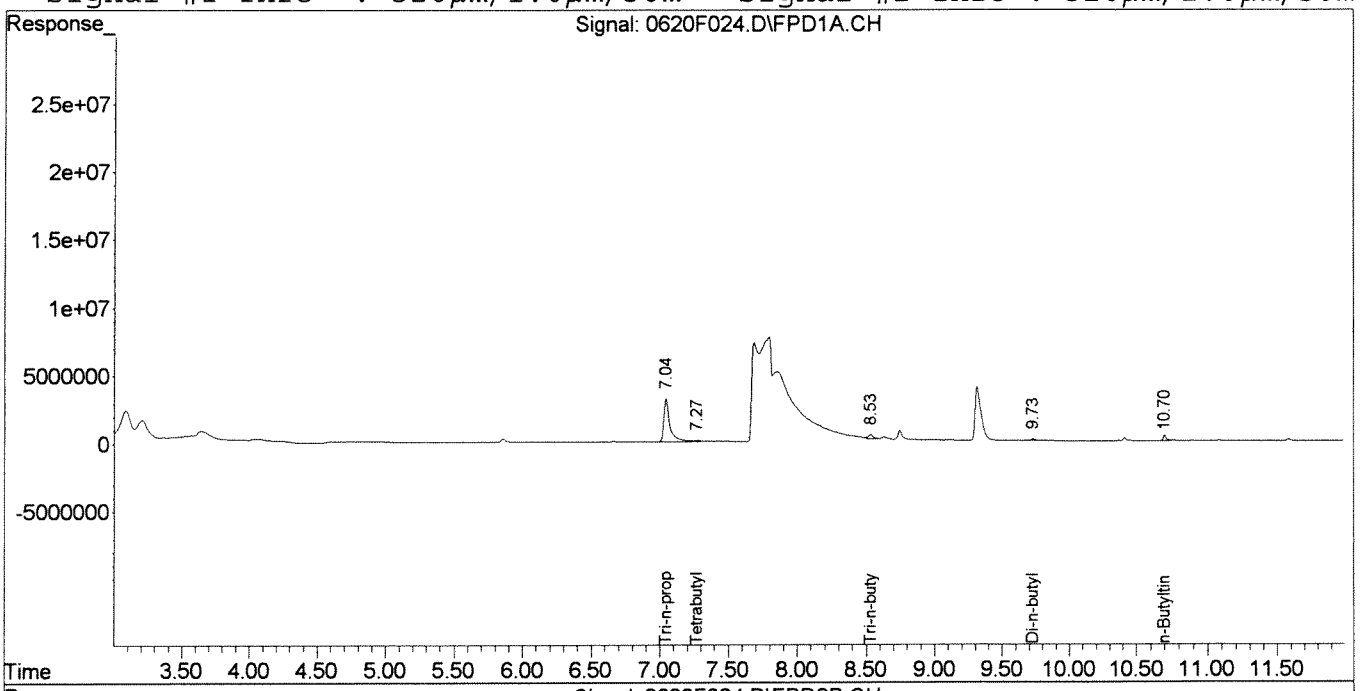
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

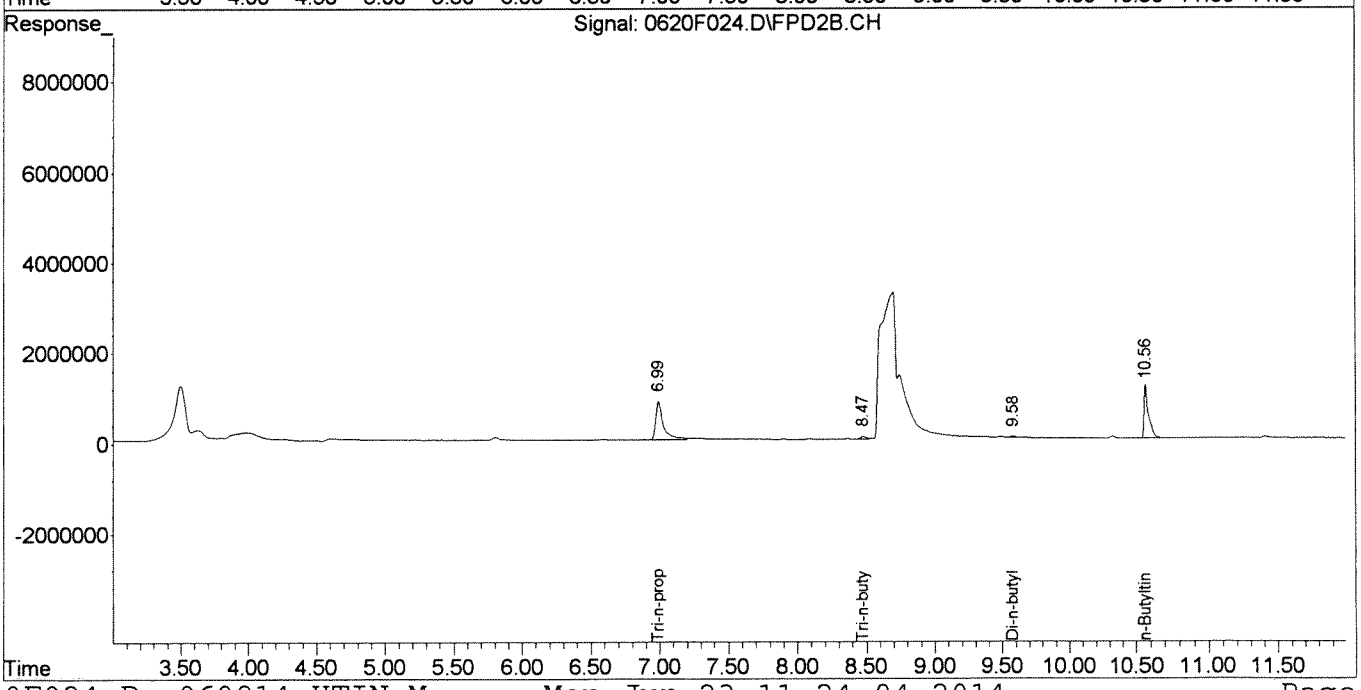
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:11 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

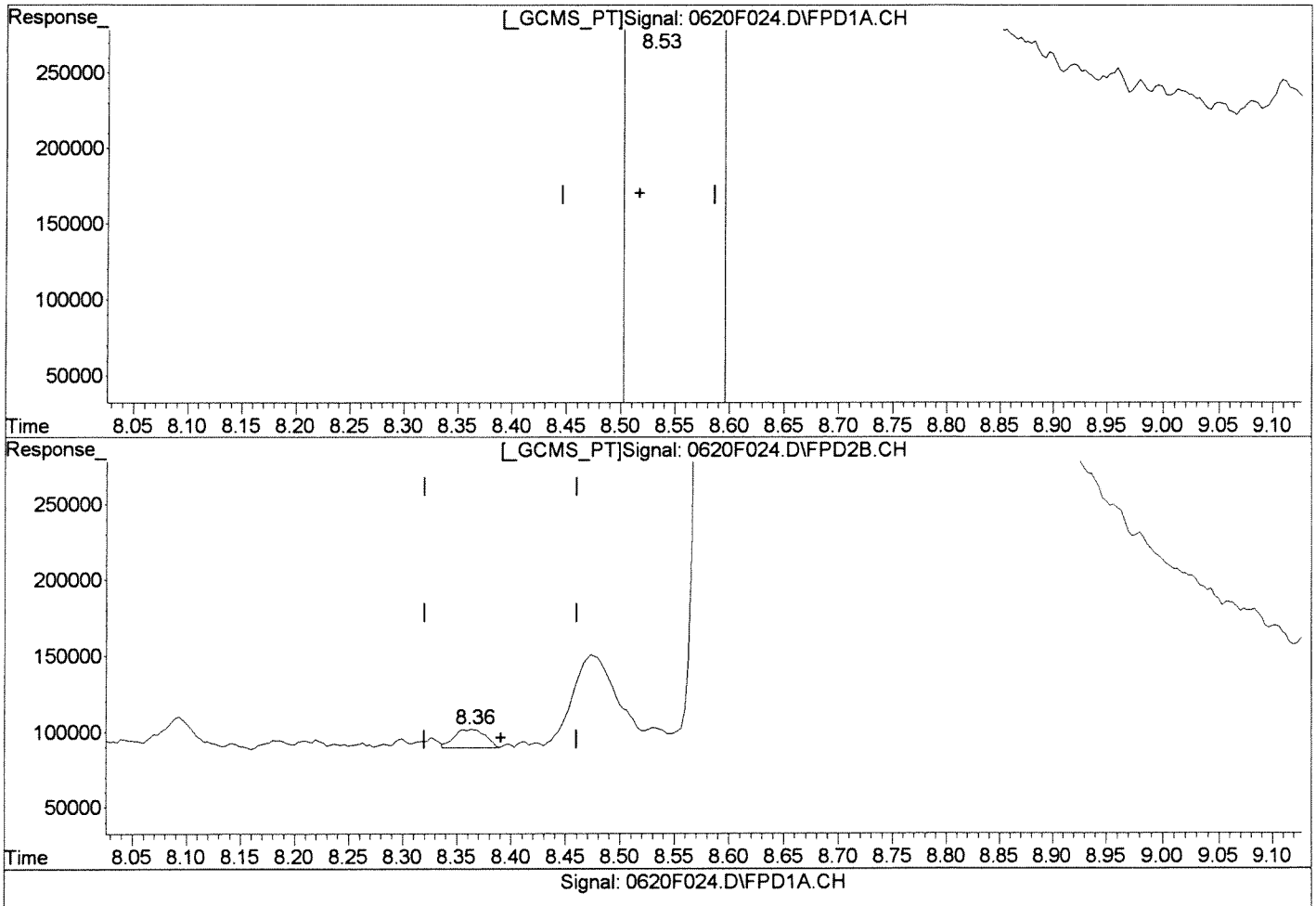




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F024.D\FPD1A.CH

(3) Tri-n-butyltin

8.53min 7.496ng/mL

response 678239

(3) Tri-n-butyltin #2

8.36min 0.720ng/mL

response 23694

Manual Integration:

Before

06/23/14

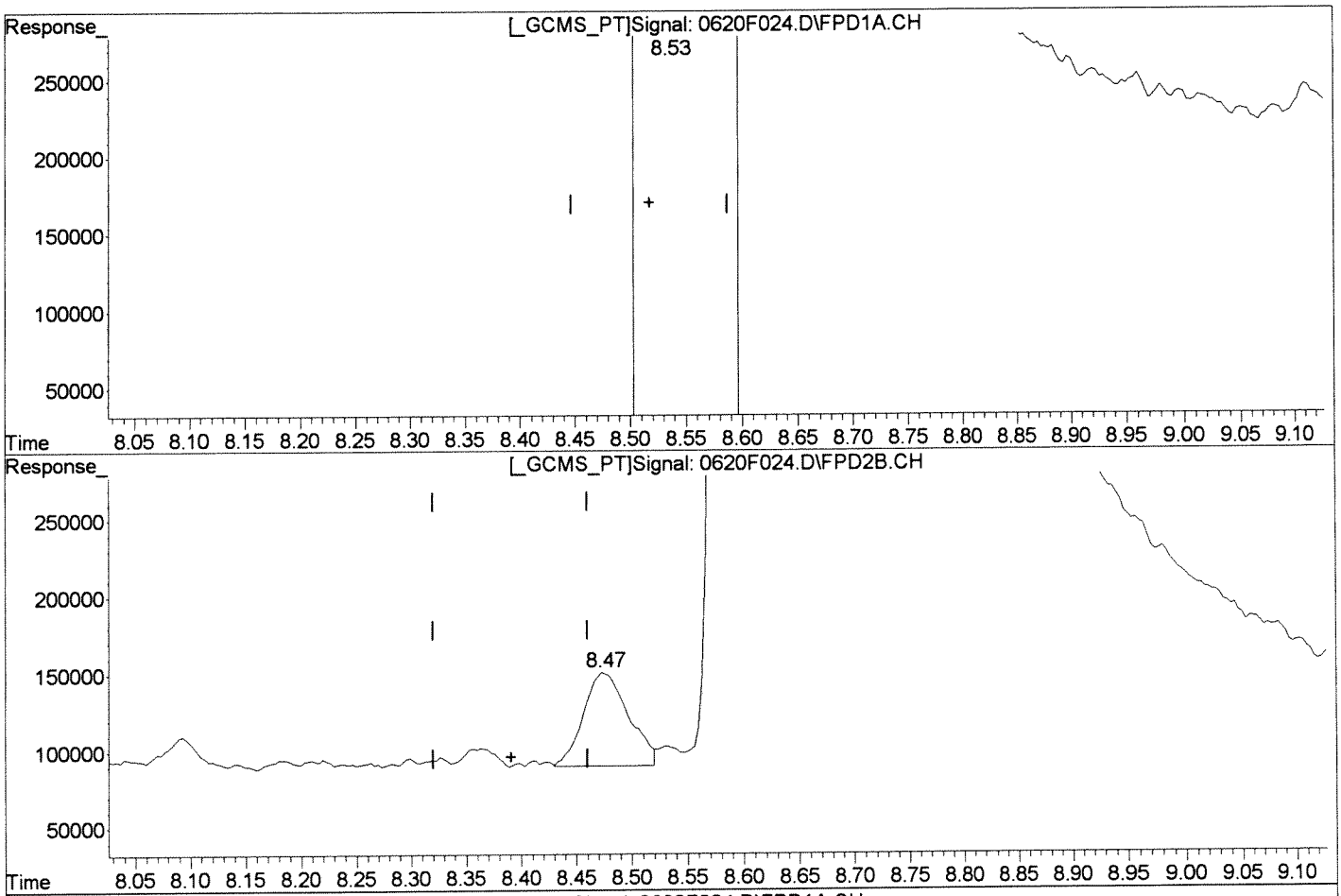
(+) = Expected Retention Time

0620F024.D 060914-HTIN.M Mon Jun 23 11:10:05 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F024.D\FPD1A.CH

(3) Tri-n-butyltin

8.53min 7.496ng/mL

response 678239

Manual Integration:

After

Wrong Peak

06/23/14

(3) Tri-n-butyltin #2

8.47min 5.230ng/mL m

response 172095

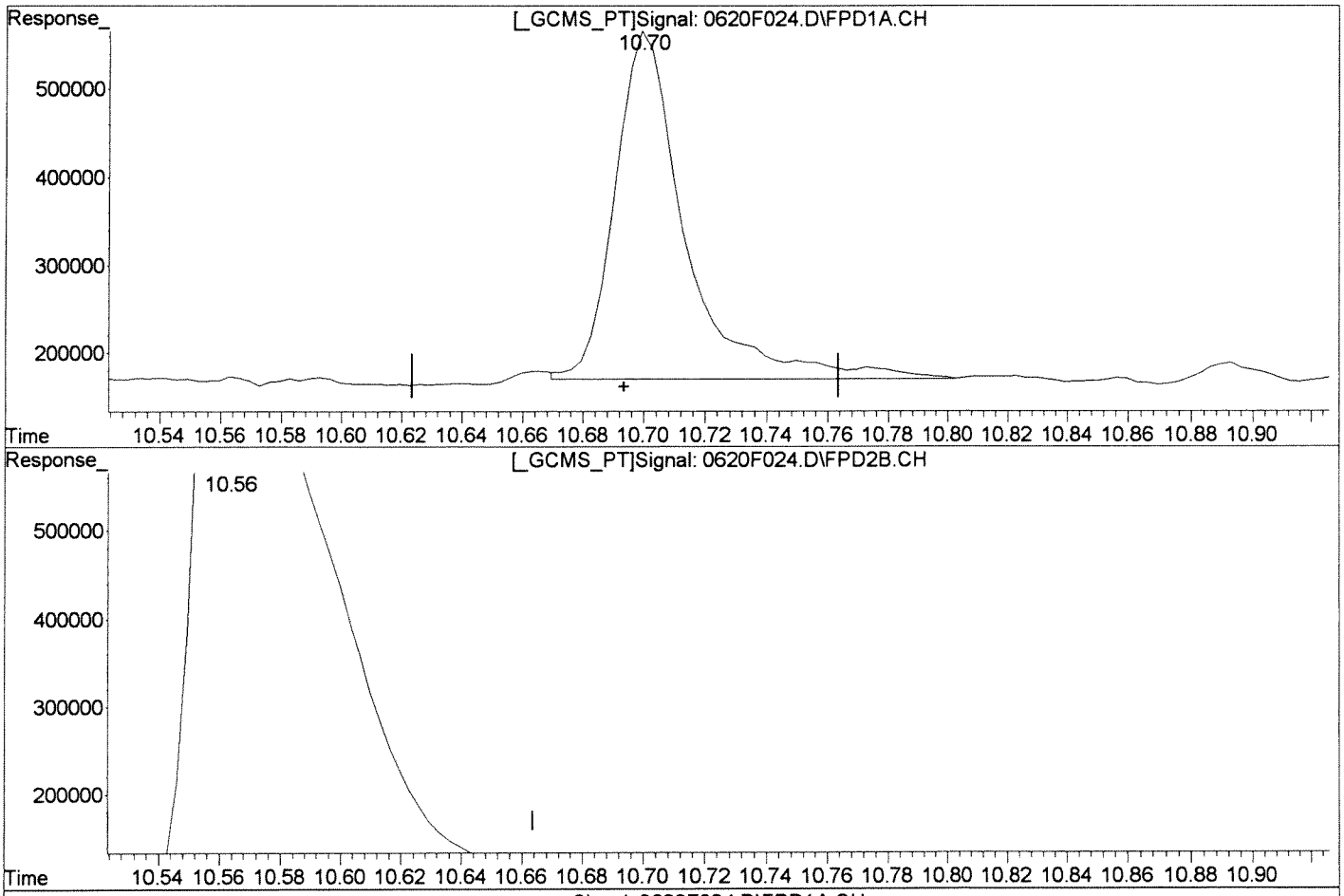
(+) = Expected Retention Time

0620F024.D 060914-HTIN.M Mon Jun 23 11:10:13 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:10 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F024.D\FPD1A.CH

(5) n-Butyltin

10.70min 4.566ng/mL

response 635829

(5) n-Butyltin #2

10.56min 48.657ng/mL

response 2541317

Manual Integration:

Before

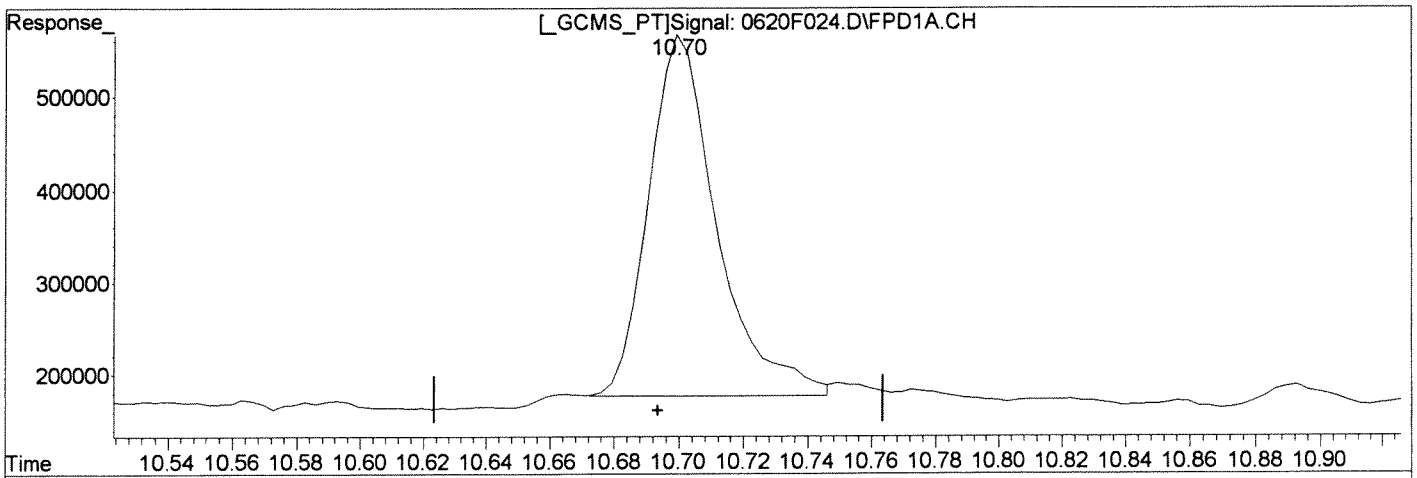
06/23/14

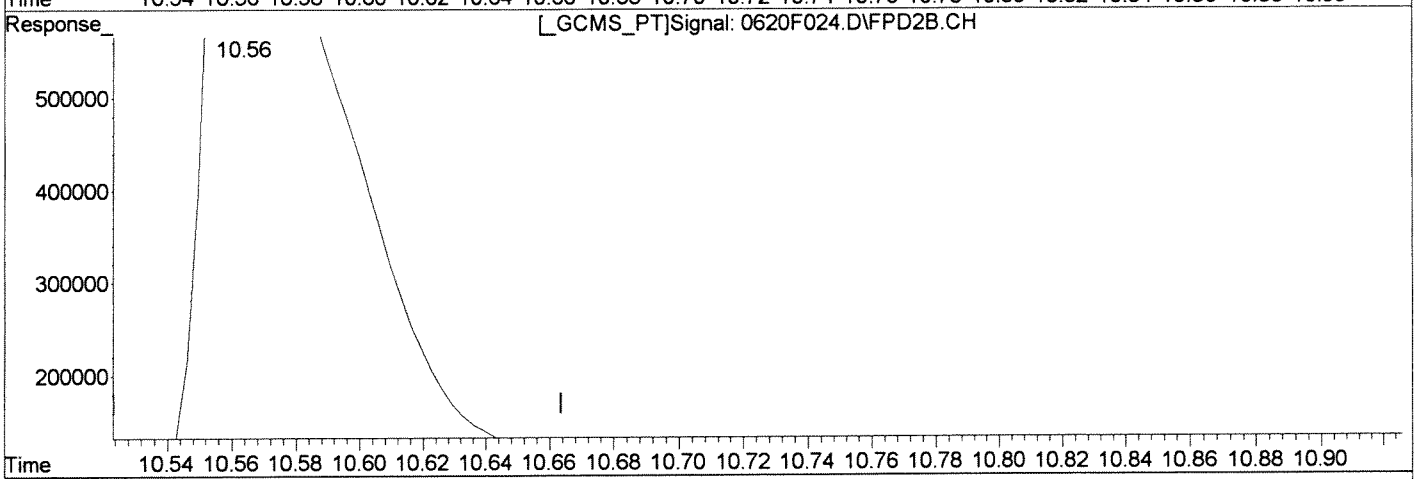
(+) = Expected Retention Time
0620F024.D 060914-HTIN.M Mon Jun 23 11:11:06 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F024.D\FPD1A.CH Vial: 19
Signal #2 : J:\GC26\DATA\062014\0620F024.D\FPD2B.CH
Acq On : 20 Jun 2014 9:24 pm Operator: SSULLIVAN
Sample : K1405833-001 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:10 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration





Signal: 0620F024.D\FPD1A.CH

(5) n-Butyltin

10.70min 4.097ng/mL m

response 570473

(5) n-Butyltin #2

10.56min 48.657ng/mL

response 2541317

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = Expected Retention Time
0620F024.D 060914-HTIN.M Mon Jun 23 11:11:23 2014

Exception Report

Data File: J:\GC26\DATA\062614\0626F005.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/26/2014 14:20
Date Quantitated: 06/26/2014 14:41
Batch ID: KWG1406872
Analysis Method: Krone
ListJoinID: LJ13400

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: 6/26/14

Secondary Review:

Printed: 06/26/2014 15:47:51
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062614\0626F005.D\0626F005C.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/26/2014 14:20
Date Quantitated: 06/26/2014 14:41
Batch ID: KWG1406872
Analysis Method: Krone
ListJoinID: LJ13400

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 6/26/14

Secondary Review: JMB 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F005.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F005.D\0626F005c.d			**Vial:**	20
Acqu Date:	06/26/2014 14:20	**Quant Date:**	06/26/2014 14:41	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1405833-002				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**	06/02/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406872	**Prep Lot:**	KWG1406086	**Report Group:**	K1405833
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348790	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:	Butyltins (as cation)	**Report List ID:**	LJ13400
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2				Rpt
Tri-n-propyltin	7.01	6.95	10690878	3510607	117.32	117.78				NR
			%Recovery =		94	OK	94	OK	**Limits =**	20-150

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	8.49 -0.01	8.37	530931	171050	5.65	5.73	4.0	4.0	NR
Di-n-butyltin Cation	9.69	9.53 -0.01	771240	253121	4.97	4.80	3.5J	3.4J	NR
n-Butyltin Cation	10.68	10.58	1515477	482822m	8.77	8.70	6.2	6.1	**6.1**

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.009 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F005.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062614\0626F005.D\FPD2B.CH
Acq On : 26 Jun 2014 2:20 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38:05 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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	6.95	10690878	3510607	117.319	117.776
		Target Compounds						
3)		Tri-n-butyltin	8.49	8.37	530931	171050	5.654	5.725
4)		Di-n-butyltin	9.69	9.53	771240	253121	4.966	4.804
5)		n-Butyltin	10.68	10.58	1515477	482822	8.770	8.697m

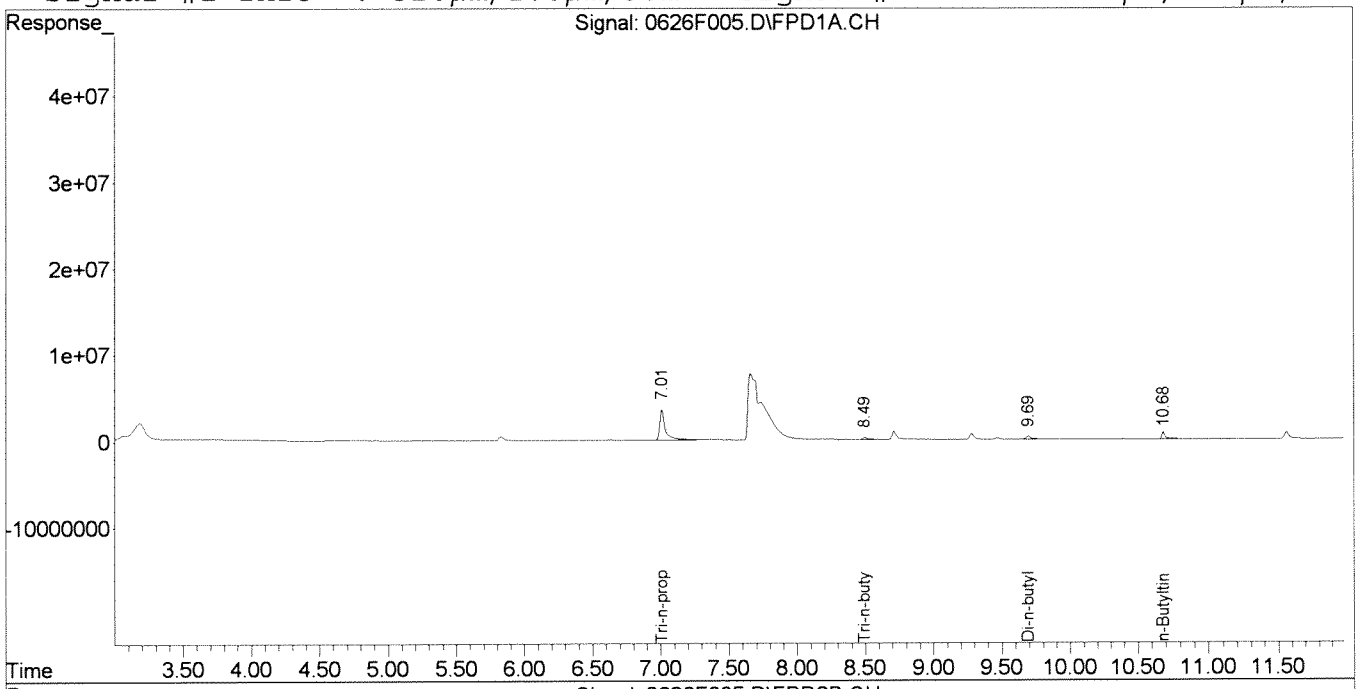
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

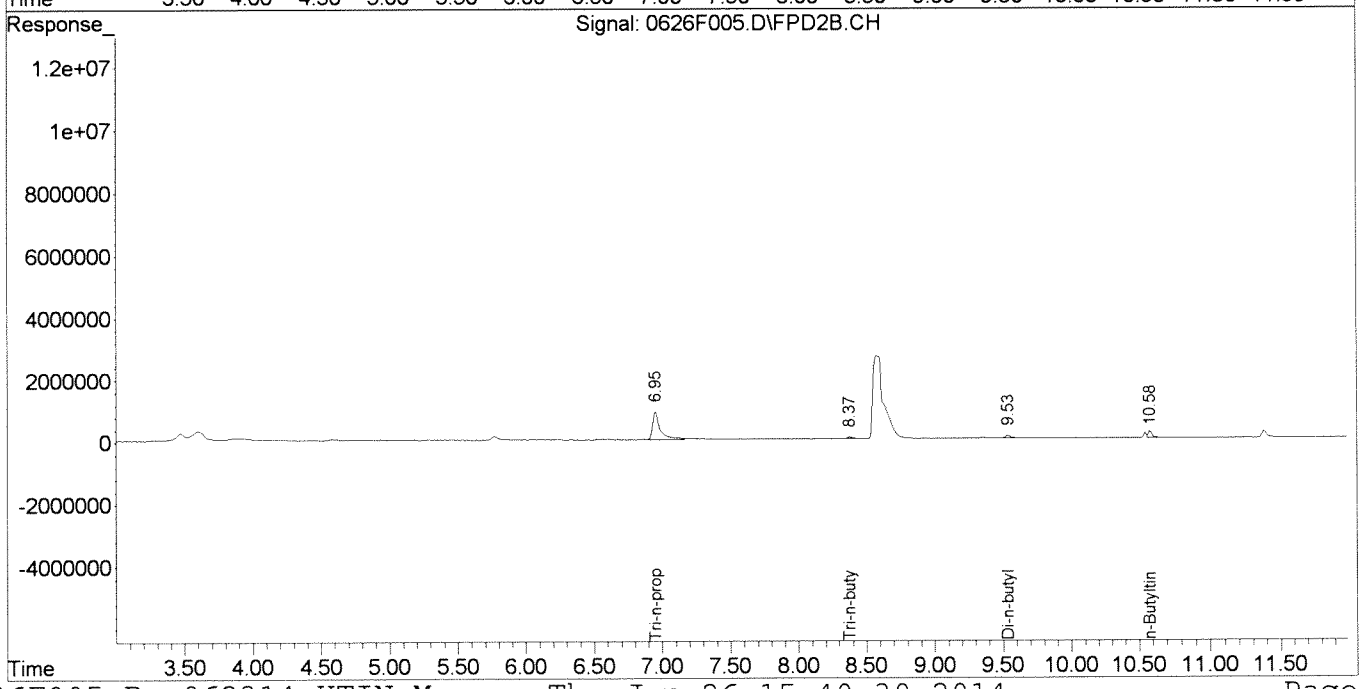
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F005.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062614\0626F005.D\FPD2B.CH
Acq On : 26 Jun 2014 2:20 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:41 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

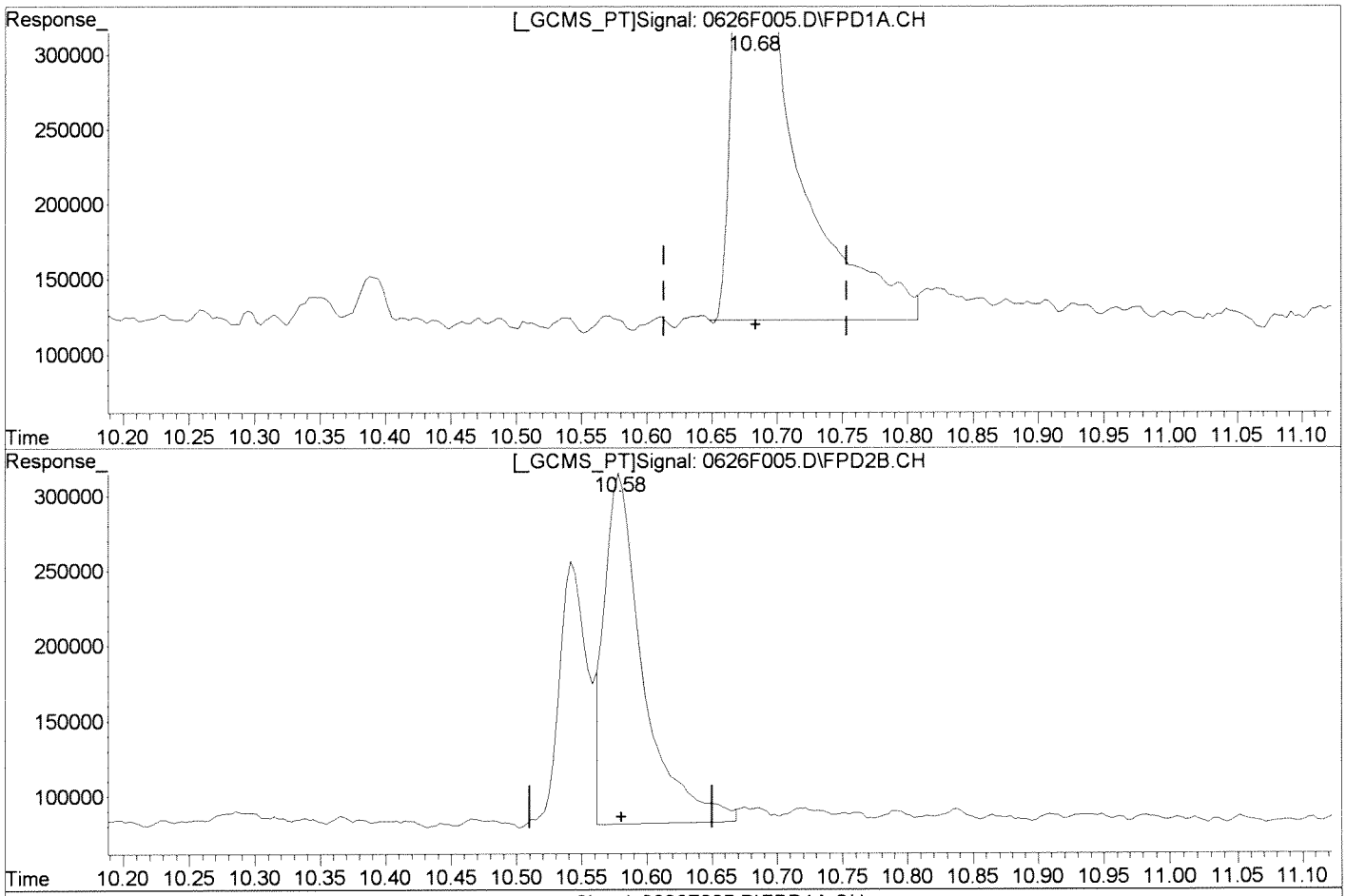




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F005.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062614\0626F005.D\FPD2B.CH
Acq On : 26 Jun 2014 2:20 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration



Signal: 0626F005.D\FPD1A.CH

(5) n-Butyltin

10.68min 8.770ng/mL

response 1515477

(5) n-Butyltin #2

10.58min 8.567ng/mL

response 475630

Manual Integration:

Before

06/26/14

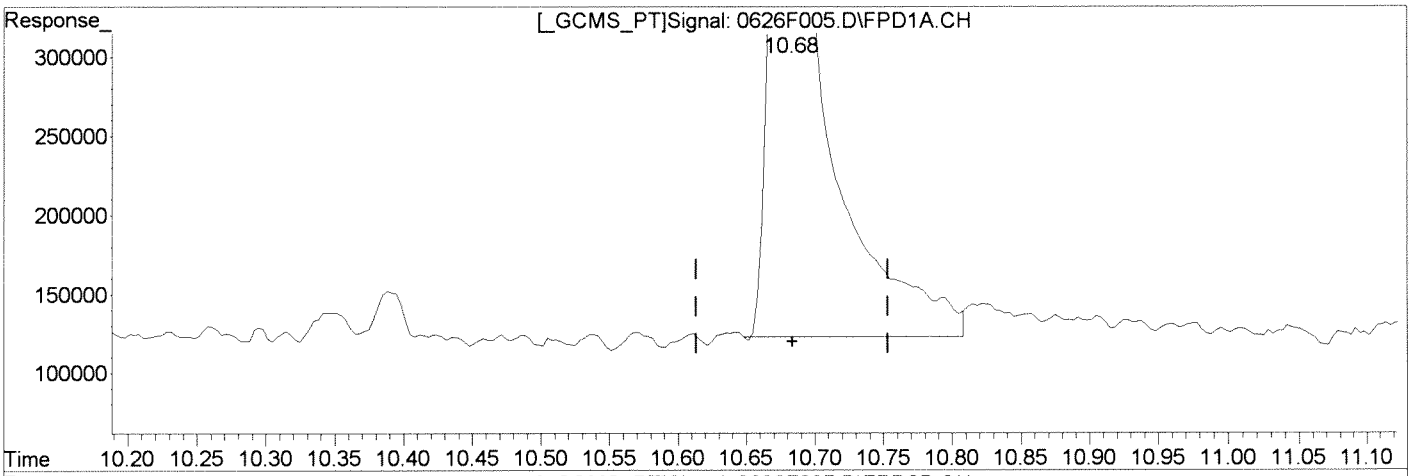
(+) = Expected Retention Time

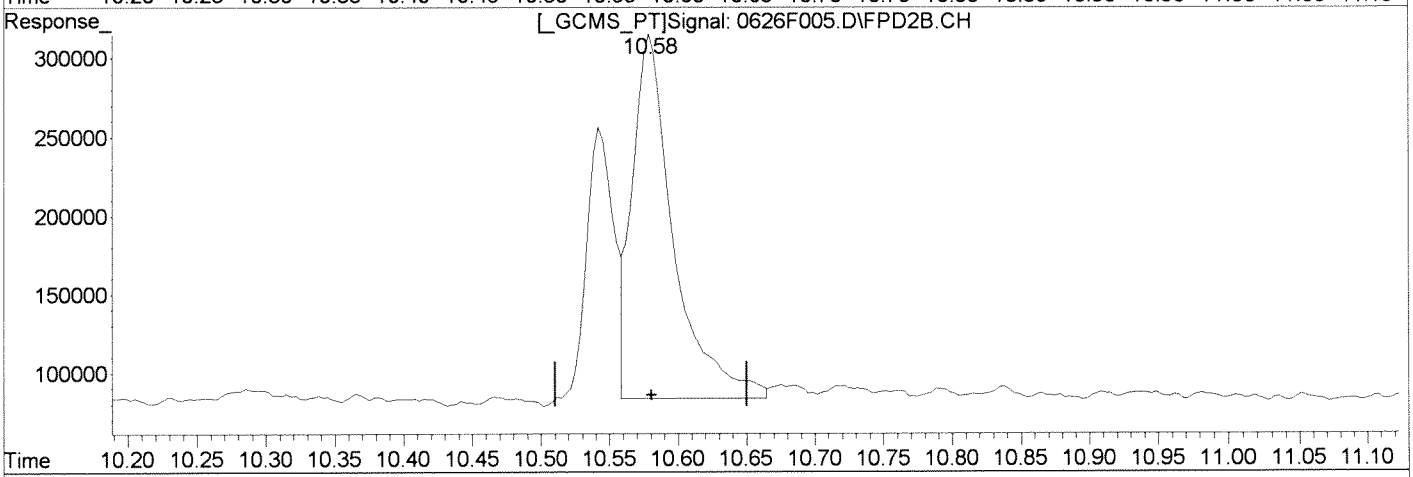
0626F005.D 062314-HTIN.M Thu Jun 26 14:40:54 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062614\0626F005.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062614\0626F005.D\FPD2B.CH
Acq On : 26 Jun 2014 2:20 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 2014
Response via : Multiple Level Calibration





Signal: 0626F005.D\FPD1A.CH

(5) n-Butyltin

10.68min 8.770ng/mL

response 1515477

(5) n-Butyltin #2

10.58min 8.697ng/mL m

response 482822

Manual Integration:

After

Baseline/Shoulder

06/26/14

(+) = Expected Retention Time

0626F005.D 062314-HTIN.M Thu Jun 26 14:41:39 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F029.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 22:46
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	36.5	NA	25	CC VDUAL
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	30.3	NA	25	5

Primary Review: 6/26/2014

Secondary Review:

Printed: 06/26/2014 12:40:56
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062014\0620F029.D\0620F029C.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 22:46
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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 6/26/14

Secondary Review: 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F029.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F029.D\0620F029c.d			**Vial:**	22
Acqu Date:	06/20/2014 22:46	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1405833-002				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**	06/02/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	K1405833
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348790	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:	Butyltins (as cation)	**Report List ID:**	LJ13400
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt	
Tri-n-propyltin	7.04	+0.01	6.99	+0.01	11068349	3627353	131.68	123.51			105	OK
						%Recovery =	105 OK	99 OK	**Limits =**	20-150		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	8.53		8.41	+0.01	530944	193061	5.87	5.87	4.1	4.1	**4.1**
Di-n-butyltin Cation	9.73	+0.01	9.57		818746	264806	5.84	5.28	4.1	3.7	**3.7**
n-Butyltin Cation	10.70		10.60		1480928	469948	10.64 (CCV)	9.00	7.5	6.4	NR

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.009 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F029.D\FPD1A.CH Vial: 22
Signal #2 : J:\GC26\DATA\062014\0620F029.D\FPD2B.CH
Acq On : 20 Jun 2014 10:46 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:21 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.99	11068349	3627353	131.679	123.508
		Target Compounds						
3)		Tri-n-butyltin	8.53	8.41	530944	193061	5.868	5.867
4)		Di-n-butyltin	9.73	9.57	818746	264806	5.843	5.281
5)		n-Butyltin	10.70	10.60	1480928	469948	10.635	8.998

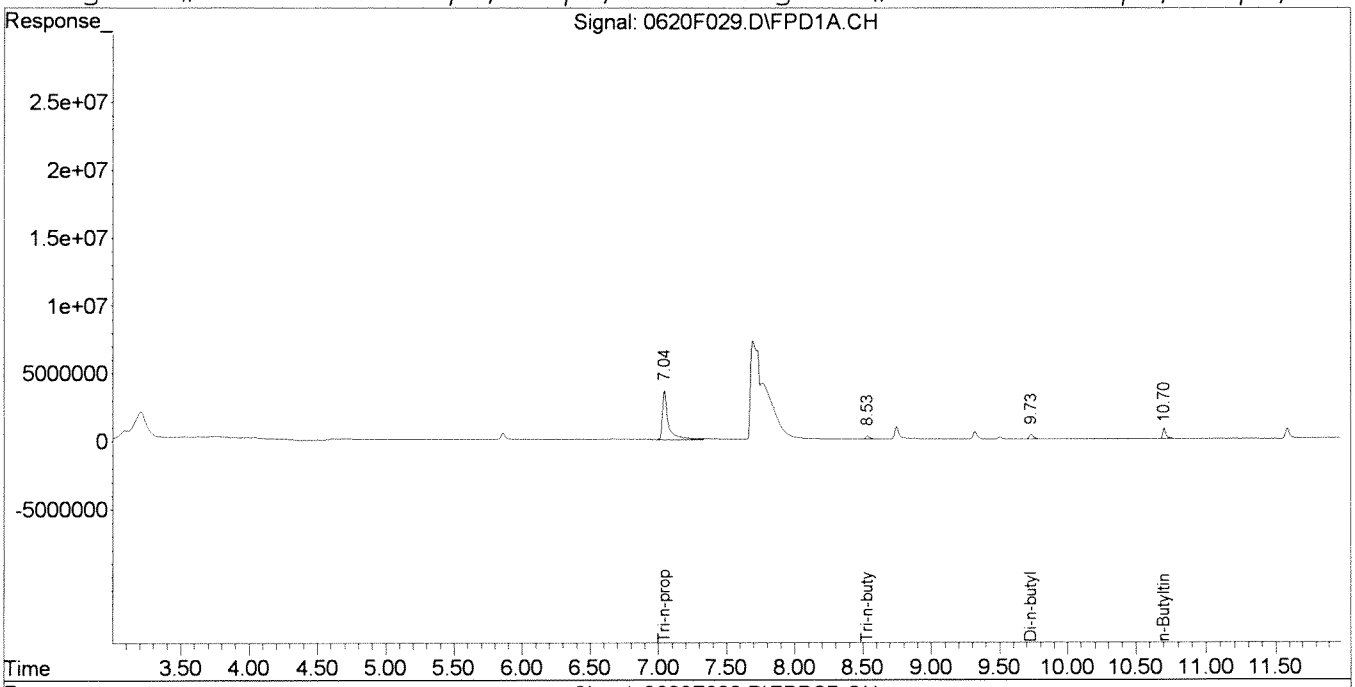
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

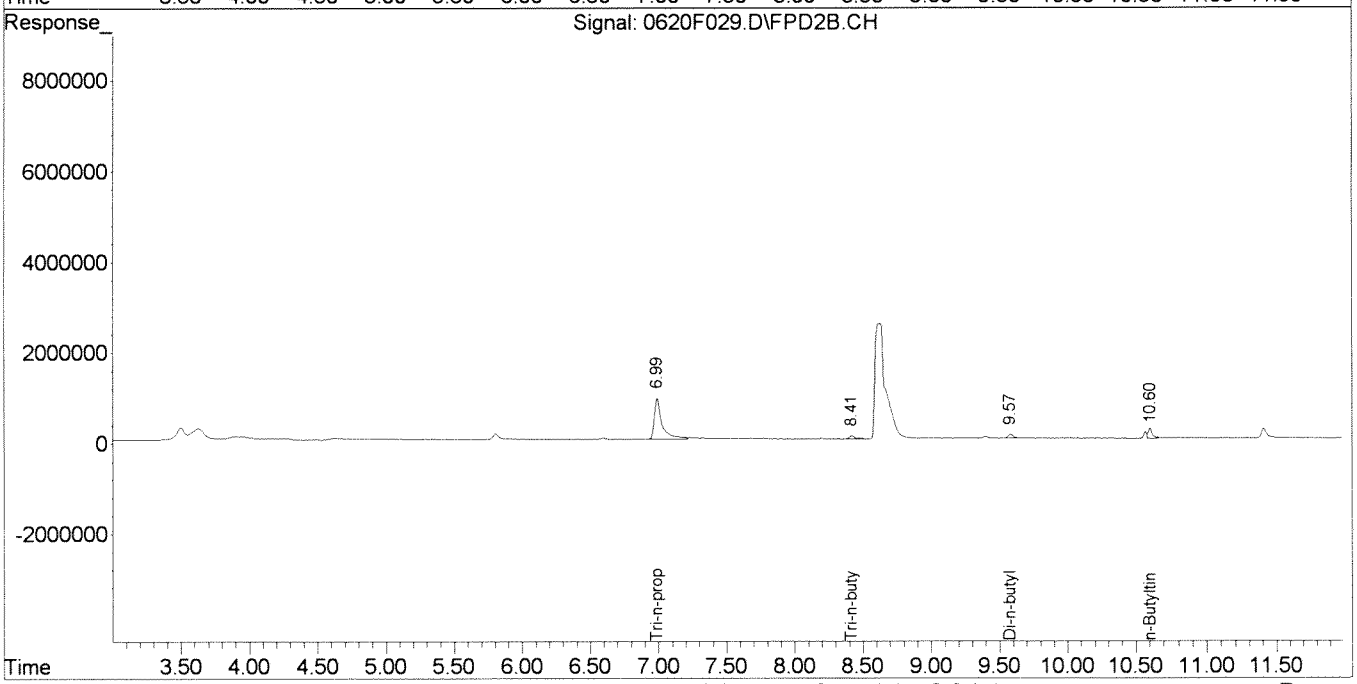
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F029.D\FPD1A.CH Vial: 22
Signal #2 : J:\GC26\DATA\062014\0620F029.D\FPD2B.CH
Acq On : 20 Jun 2014 10:46 pm Operator: SSULLIVAN
Sample : K1405833-002 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File: J:\GC26\DATA\062014\0620F030.D
Lab ID: K1405833-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 23:02
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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: 6/26/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062014\0620F030.D\0620F030C.D
Lab ID: K1405833-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/20/2014 23:02
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
ListJoinID: LJ13400

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 6/26/14

Secondary Review: [signature] 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F030.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F030.D\0620F030c.d			**Vial:**	23
Acqu Date:	06/20/2014 23:02	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1405833-003				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**	06/03/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	K1405833
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348791	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:	Butyltins (as cation)	**Report List ID:**	LJ13400
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.04 +0.01	6.99 +0.01	8811653	2889700	104.83	98.39			84 OK
			%Recovery =		84 OK	79 OK	**Limits =**	20-150	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	0.55U	0.55U	0.55U
Di-n-butyltin Cation			0	0	0.0000	0.0000	0.24U	0.24U	0.24U
n-Butyltin Cation	10.70		37192	0	0.2670	0.0000	0.33U	0.33U	0.33U

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.370 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	78.0 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F030.D\FPD1A.CH Vial: 23
Signal #2 : J:\GC26\DATA\062014\0620F030.D\FPD2B.CH
Acq On : 20 Jun 2014 11:02 pm Operator: SSULLIVAN
Sample : K1405833-003 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:21 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.99	8811653	2889700	104.831	98.392	
		Target Compounds							
5)		n-Butyltin	10.70	0.00	37192	0	0.267	N.D.	#

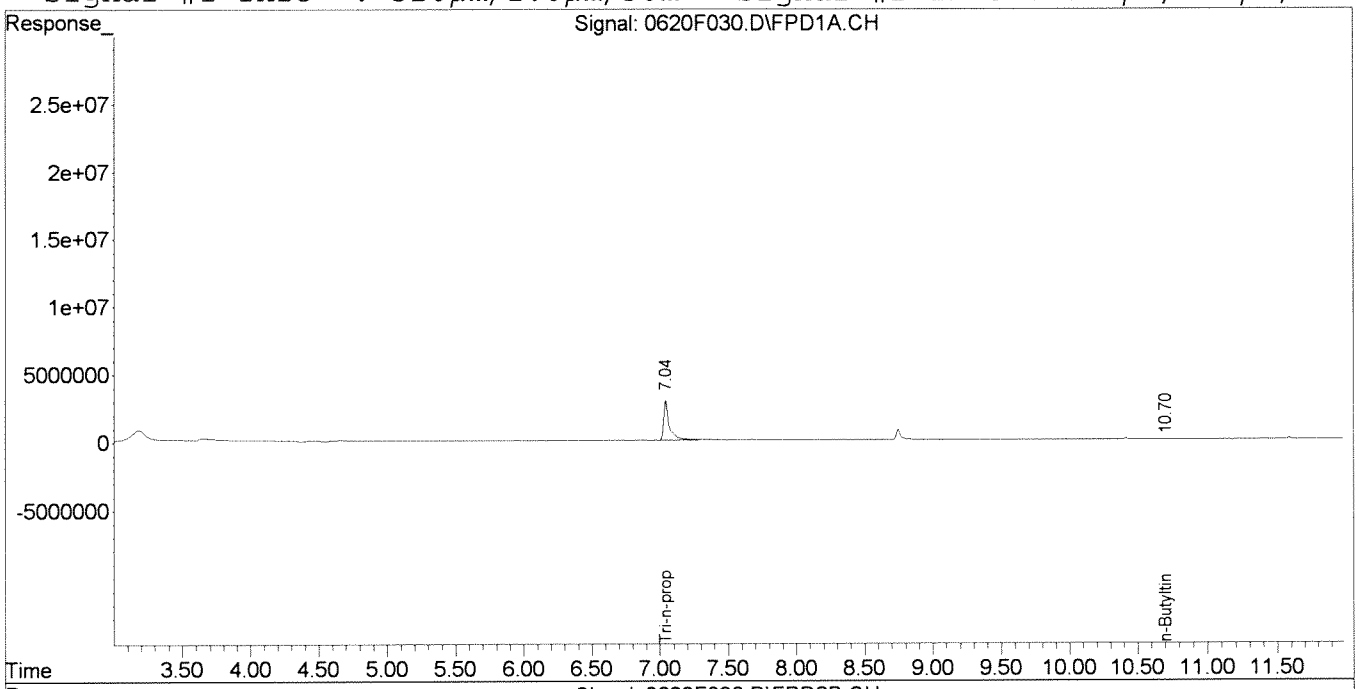
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

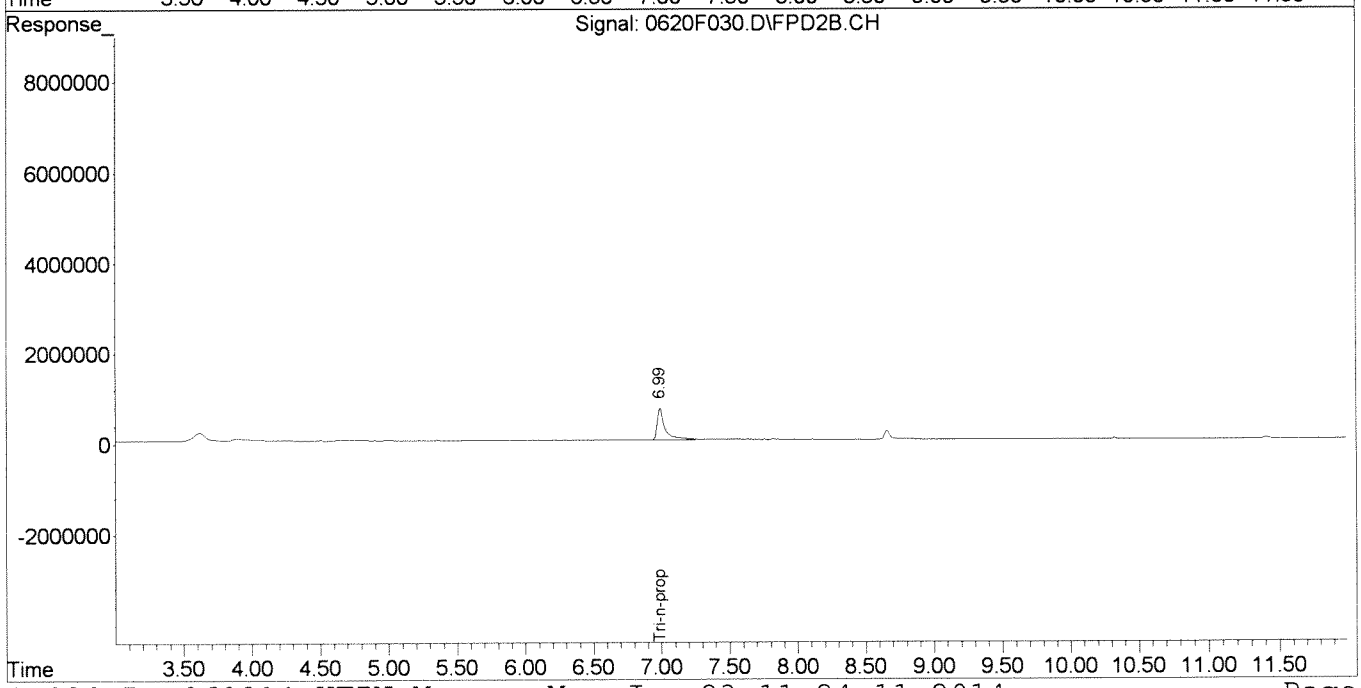
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F030.D\FPD1A.CH Vial: 23
Signal #2 : J:\GC26\DATA\062014\0620F030.D\FPD2B.CH
Acq On : 20 Jun 2014 11:02 pm Operator: SSULLIVAN
Sample : K1405833-003 Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File: J:\GC26\DATA\062014\0620F005.D
Lab ID: KWG1406086-6
RunType: MB
Matrix: SOIL

Date Acquired: 06/20/2014 16:15
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062014\0620F005.D\0620F005C.D
Lab ID: KWG1406086-6
RunType: MB
Matrix: SOIL

Date Acquired: 06/20/2014 16:15
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F005.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F005.D\0620F005c.d			**Vial:**	2
Acqu Date:	06/20/2014 16:15	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406086-6				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/17/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348797	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt	
Tri-n-propyltin	7.03	+0.02	6.97	+0.02	9157535	3297214	108.95	112.27			90	OK
						%Recovery =	87 OK	90 OK	Limits =	10-120		

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

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	0.44U	0.44U	0.44U
Tri-n-butyltin Cation			0	0	0.0000	0.0000	0.43U	0.43U	0.43U
Di-n-butyltin Cation			0	0	0.0000	0.0000	0.19U	0.19U	0.19U
n-Butyltin Cation	10.69	10.59	40620	21834	0.2920	0.4180	0.26U	0.26U	0.26U

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.470 g	**Dilution:**	1.0
Prep Final Vol:	4 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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F005.D\FPD1A.CH Vial: 2
Signal #2 : J:\GC26\DATA\062014\0620F005.D\FPD2B.CH
Acq On : 20 Jun 2014 4:15 pm Operator: SSULLIVAN
Sample : KWG1406086-6 MB Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:03 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

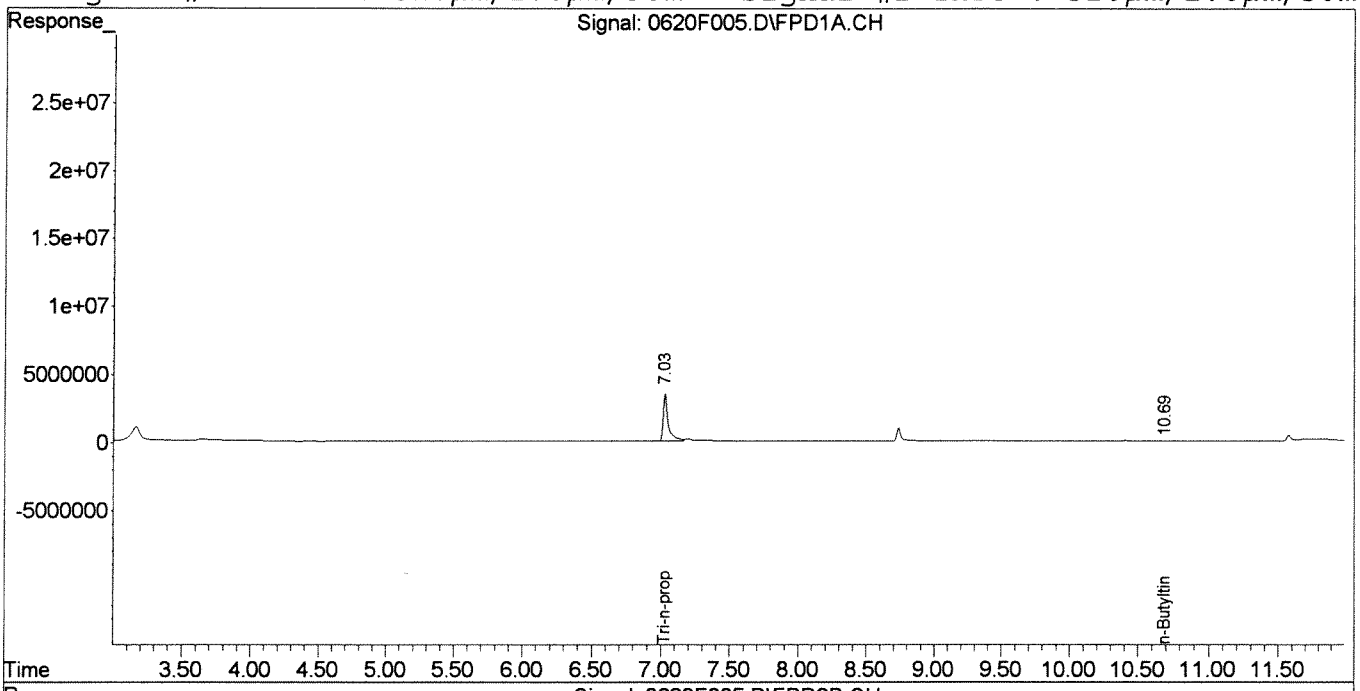
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
1)	S Tri-n-propyltin	7.03	6.97	9157535	3297214	108.946	112.267	
	Target Compounds							
5)	n-Butyltin	10.69	10.59	40620	21834	0.292	0.418	#

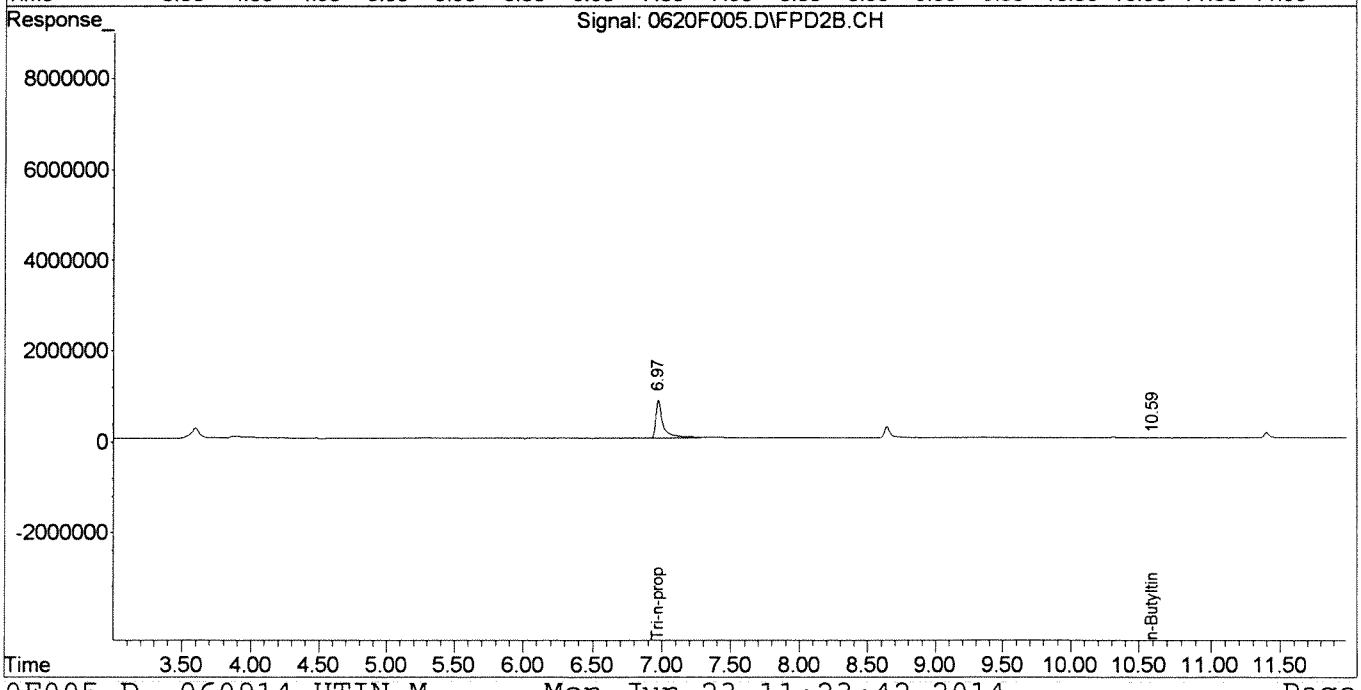
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : J:\GC26\DATA\062014\0620F005.D\FPD1A.CH Vial: 2
Signal #2 : J:\GC26\DATA\062014\0620F005.D\FPD2B.CH
Acq On : 20 Jun 2014 4:15 pm Operator: SSULLIVAN
Sample : KWG1406086-6 MB Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File: J:\GC26\DATA\062014\0620F025.D
Lab ID: KWG1406086-3 -- K1405833-001MS
RunType: MS
Matrix: SOIL

Date Acquired: 06/20/2014 21:41
Date Quantitated: 06/23/2014 11:11
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	29.8	NA	25	CCVDUAL
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	36.5	NA	25	

Primary Review: 55 06/26/14

Secondary Review:

Printed: 06/26/2014 12:40:32
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062014\0620F025.D\0620F025C.D
Lab ID: KWG1406086-3 -- K1405833-001MS
RunType: MS
Matrix: SOIL

Date Acquired: 06/20/2014 21:41
Date Quantitated: 06/23/2014 11:11
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/26/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F025.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F025.D\0620F025c.d			**Vial:**	20
Acqu Date:	06/20/2014 21:41	**Quant Date:**	06/23/2014 11:11	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406086-3 -- K1405833-001MS				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348794	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.04	+0.01	6.98	+0.01	9586033	3108583	114.04	105.84			91 OK
					%Recovery =		91 OK	85 OK	**Limits =**	10-120	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	+0.01	7.23	+0.01	9285862	2968538m	107.09	97.90	53.0	48.4	**48.4**
Tri-n-butyltin Cation	8.53	+0.01	8.41	+0.02	9708485	3114497	107.30	94.65	53.1	46.8	**46.8**
Di-n-butyltin Cation	9.72		9.57		12667779	4180499	90.41	83.38	44.7	41.2	**41.2**
n-Butyltin Cation	10.70	+0.01	10.60	+0.01	4531477	1491154	32.54 CCV	28.55	16.1	14.1	**14.1**

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.025 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F025.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062014\0620F025.D\FPD2B.CH
Acq On : 20 Jun 2014 9:41 pm Operator: SSULLIVAN
Sample : K1405833-001 MS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:18 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.98	9586033	3108583	114.044	105.844
	Target Compounds						
2)	Tetrabutyltin	7.34	7.23	9285862	2968538	107.094	97.904m
3)	Tri-n-butyltin	8.53	8.41	9708485	3114497	107.298	94.645
4)	Di-n-butyltin	9.72	9.57	12667779	4180499	90.412	83.379
5)	n-Butyltin	10.70	10.60	4531477	1491154	32.541	28.550

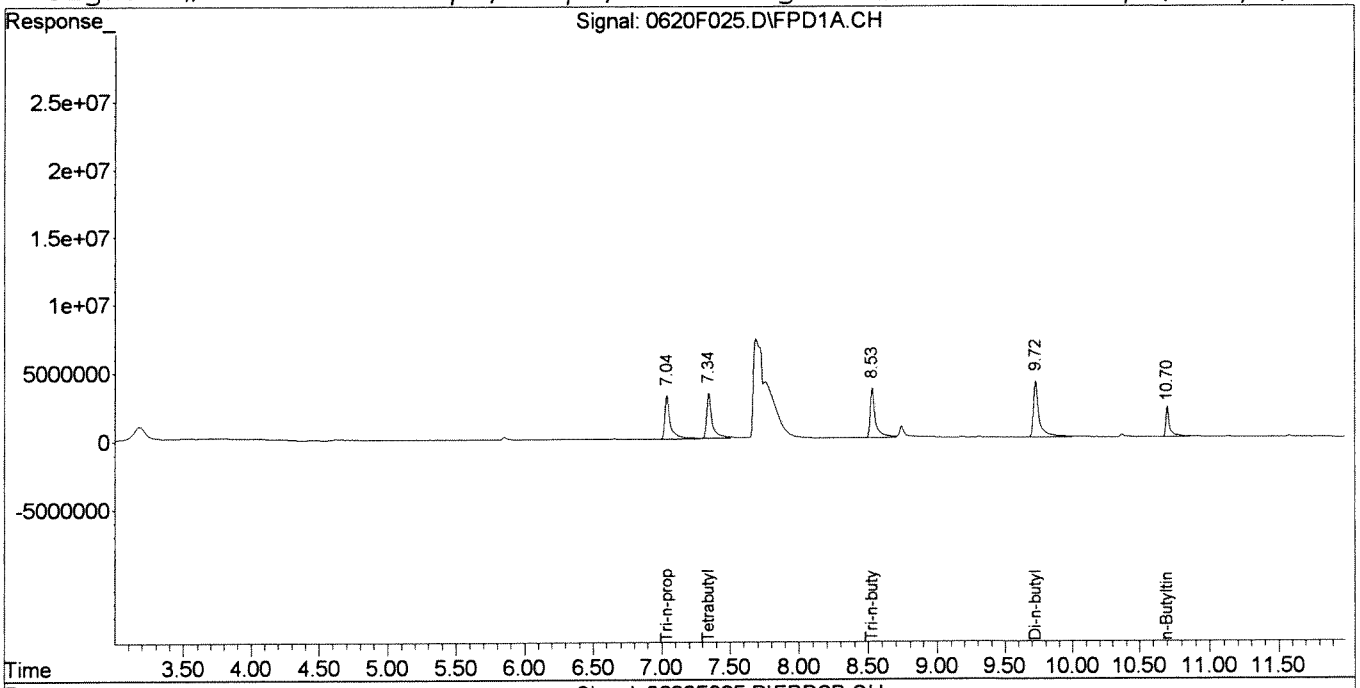
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

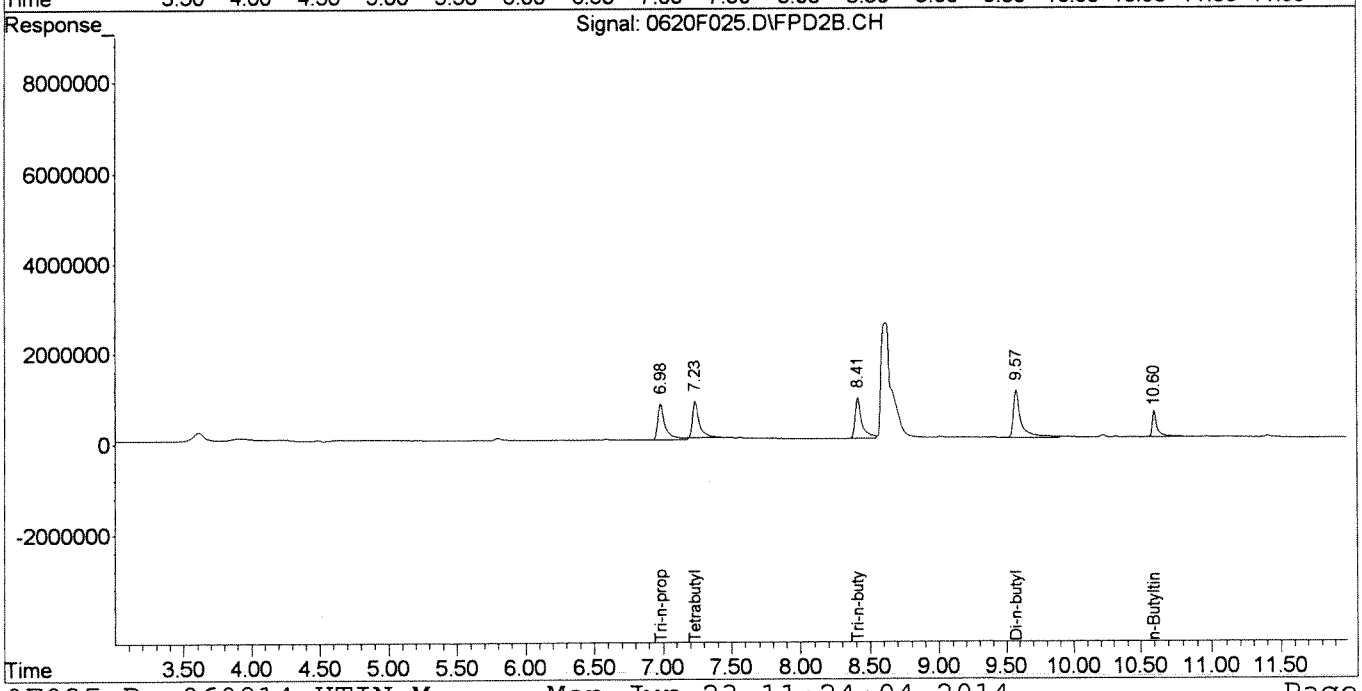
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F025.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062014\0620F025.D\FPD2B.CH
Acq On : 20 Jun 2014 9:41 pm Operator: SSULLIVAN
Sample : K1405833-001 MS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:11 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

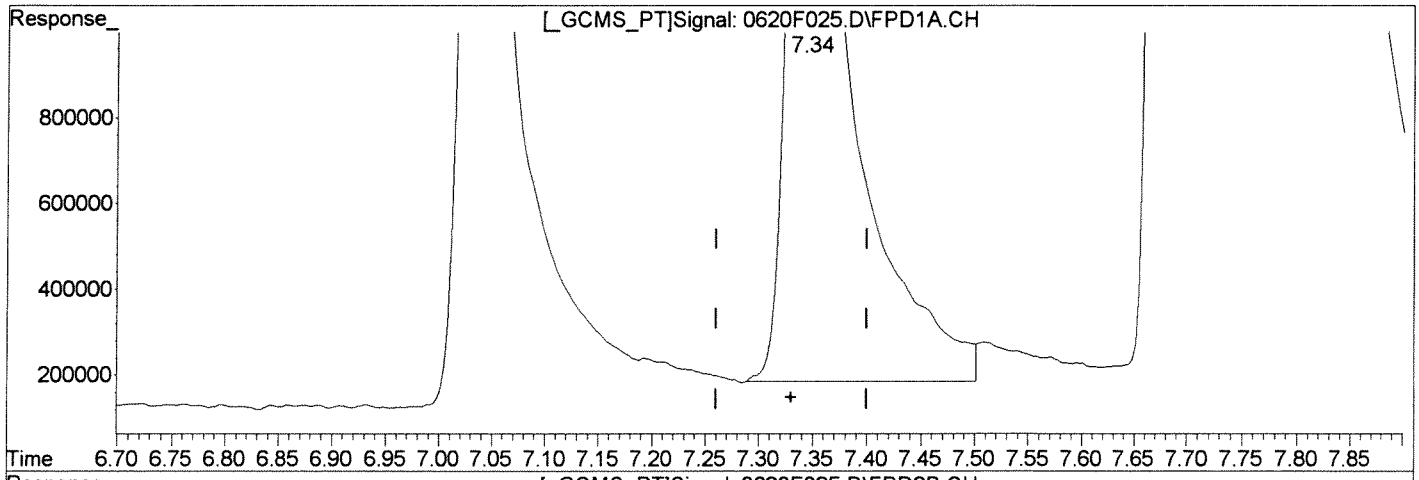


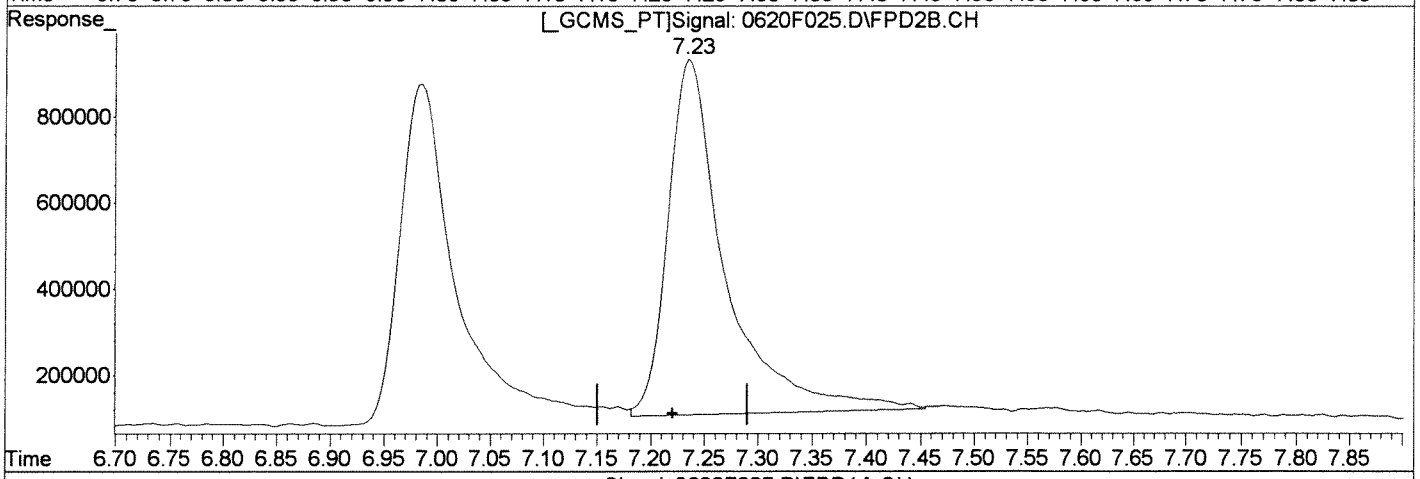


Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F025.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062014\0620F025.D\FPD2B.CH
Acq On : 20 Jun 2014 9:41 pm Operator: SSULLIVAN
Sample : K1405833-001 MS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration





Signal: 0620F025.D\FPD1A.CH

(2) Tetrabutyltin

7.34min 107.094ng/mL

response 9285862

(2) Tetrabutyltin #2

7.23min 101.627ng/mL

response 3081412

Manual Integration:

Before

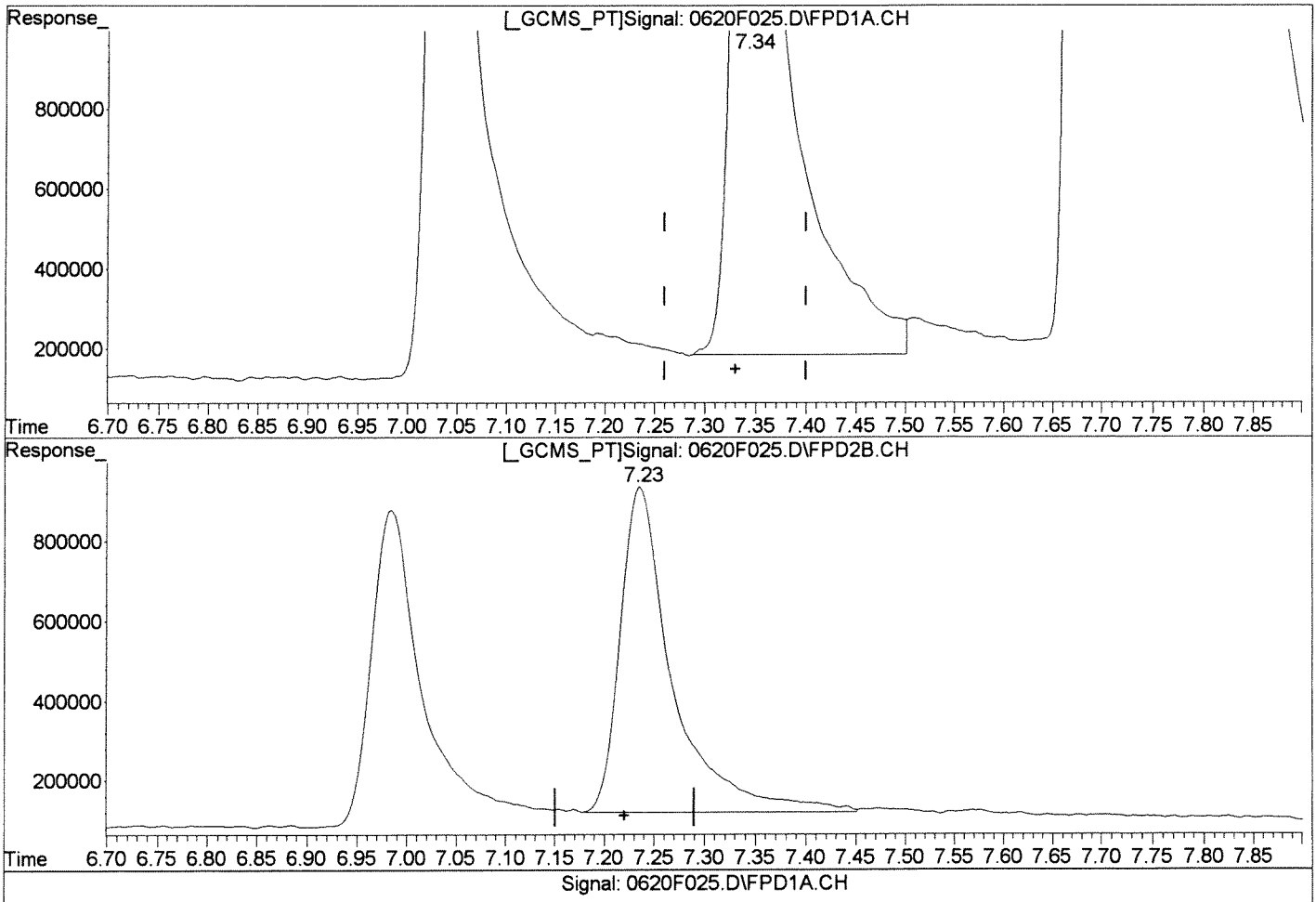
06/23/14

(+) = Expected Retention Time
0620F025.D 060914-HTIN.M Mon Jun 23 11:11:45 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F025.D\FPD1A.CH Vial: 20
Signal #2 : J:\GC26\DATA\062014\0620F025.D\FPD2B.CH
Acq On : 20 Jun 2014 9:41 pm Operator: SSULLIVAN
Sample : K1405833-001 MS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F025.D\FPD1A.CH

(2) Tetrabutyltin

7.34min 107.094ng/mL

response 9285862

(2) Tetrabutyltin #2

7.23min 97.904ng/mL m

response 2968538

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = Expected Retention Time

0620F025.D 060914-HTIN.M Mon Jun 23 11:11:58 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F026.D
Lab ID: KWG1406086-4 -- K1405833-001DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 06/20/2014 21:57
Date Quantitated: 06/23/2014 11:12
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	29.8	NA	25	CCVDUAL
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	36.5	NA	25	

Primary Review: 6/26/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062014\0620F026.D\0620F026C.D
Lab ID: KWG1406086-4 -- K1405833-001DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 06/20/2014 21:57
Date Quantitated: 06/23/2014 11:12
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/26/14

Secondary Review:

Printed: 06/26/2014 12:40:41
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F026.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F026.D\0620F026c.d			**Vial:**	21
Acqu Date:	06/20/2014 21:57	**Quant Date:**	06/23/2014 11:12	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406086-4 -- K1405833-001DMS				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	
Analysis Method:	Krone	**Prep Method:**	Method		
		Prep Date:	06/13/2014		
Prep Ref:	1348795				

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.04	+0.01	6.99	+0.02	9809115	3163483	116.70	107.71			93 OK
						%Recovery =	93 OK	86 OK	Limits =	10-120	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

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	+0.01	7.24	+0.02	8450401	2723769m	97.46	89.83	48.0	44.2	**44.2**
Tri-n-butyltin Cation	8.53	+0.01	8.41	+0.02	9891949	3094207	109.33	94.03	53.8	46.3	**46.3**
Di-n-butyltin Cation	9.72		9.57		12303945	3823848	87.82	76.27	43.2	37.6	**37.6**
n-Butyltin Cation	10.70	+0.01	10.60	+0.01	6709662	1931214	48.18 CCV	36.98	23.7	18.2	**18.2**

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.104 g	**Dilution:**	1.0
Prep Final Vol:	4 mL	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F026.D\FPD1A.CH Vial: 21
Signal #2 : J:\GC26\DATA\062014\0620F026.D\FPD2B.CH
Acq On : 20 Jun 2014 9:57 pm Operator: SSULLIVAN
Sample : K1405833-001 DMS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.99	9809115	3163483	116.698	107.714
		Target Compounds						
2)		Tetrabutyltin	7.34	7.24	8450401	2723769	97.458	89.832m
3)		Tri-n-butyltin	8.53	8.41	9891949	3094207	109.326	94.028
4)		Di-n-butyltin	9.72	9.57	12303945	3823848	87.815	76.266
5)		n-Butyltin	10.70	10.60	6709662	1931214	48.183	36.976

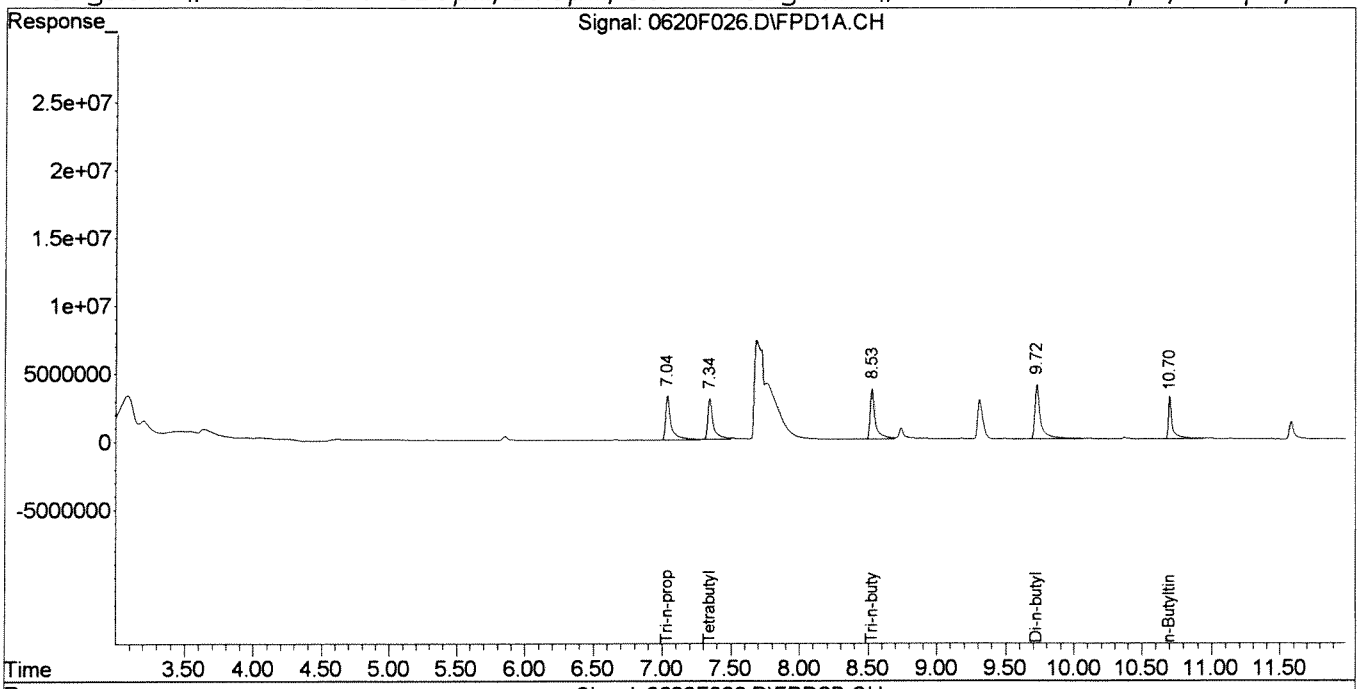
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

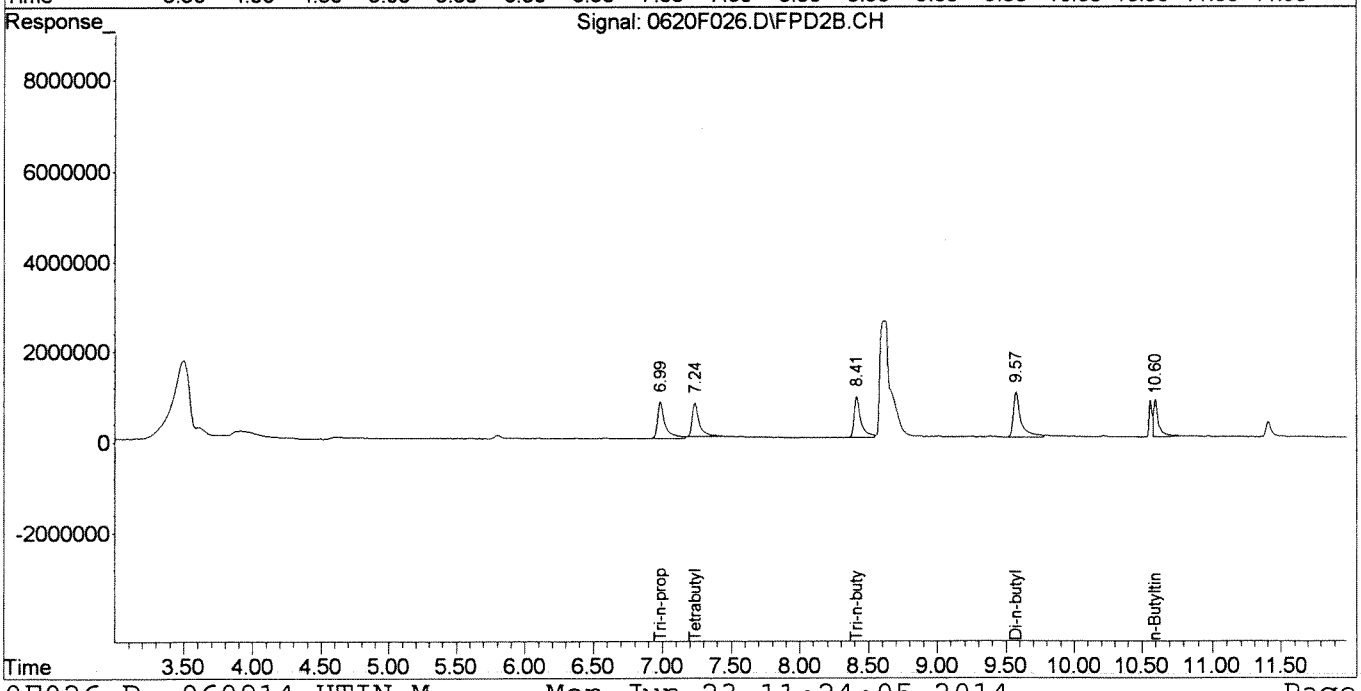
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F026.D\FPD1A.CH Vial: 21
Signal #2 : J:\GC26\DATA\062014\0620F026.D\FPD2B.CH
Acq On : 20 Jun 2014 9:57 pm Operator: SSULLIVAN
Sample : K1405833-001 DMS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:12 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

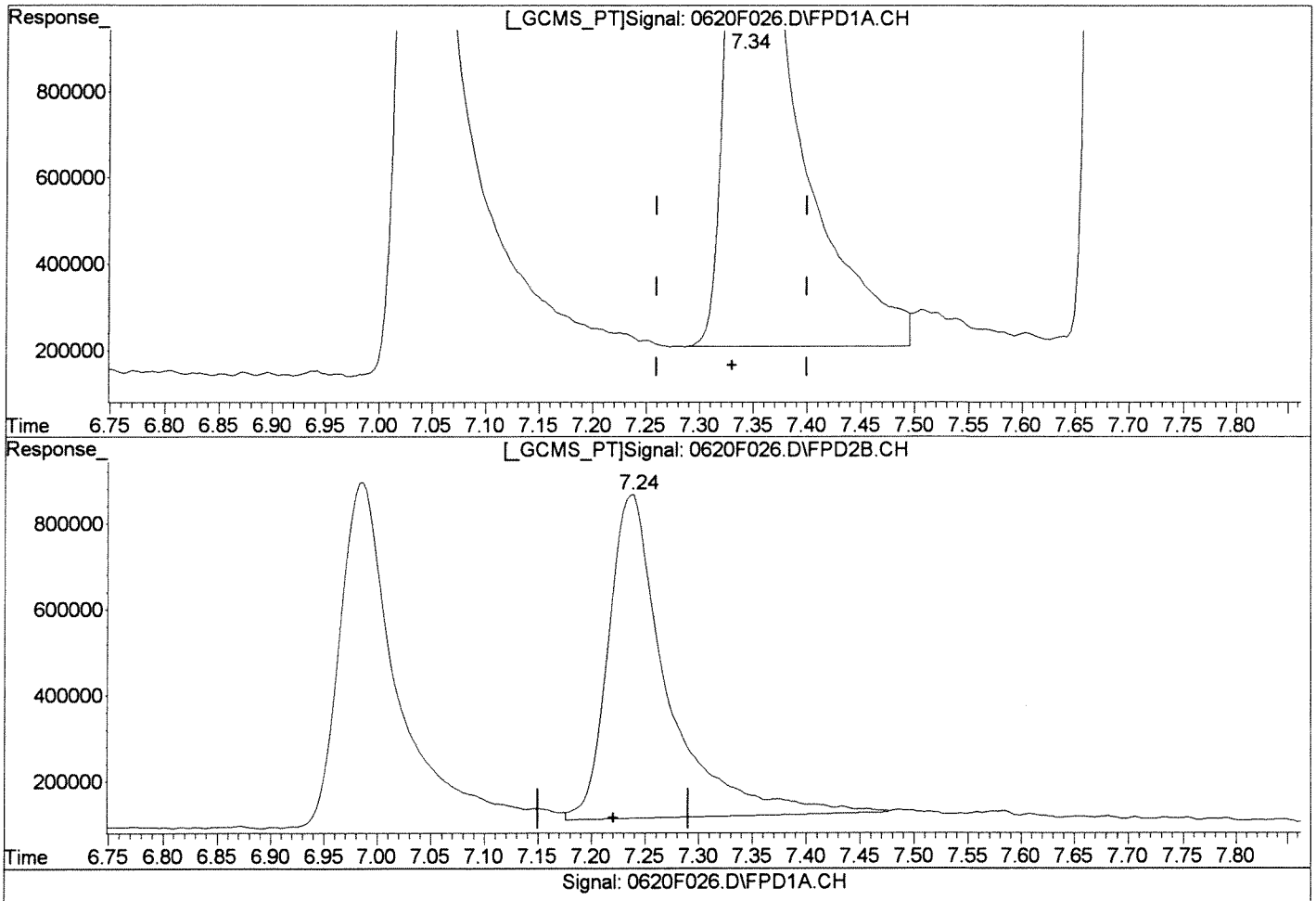




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F026.D\FPD1A.CH Vial: 21
Signal #2 : J:\GC26\DATA\062014\0620F026.D\FPD2B.CH
Acq On : 20 Jun 2014 9:57 pm Operator: SSULLIVAN
Sample : K1405833-001 DMS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F026.D\FPD1A.CH

(2) Tetrabutyltin

7.34min 97.458ng/mL

response 8450401

(2) Tetrabutyltin #2

7.24min 95.739ng/mL

response 2902895

Manual Integration:

Before

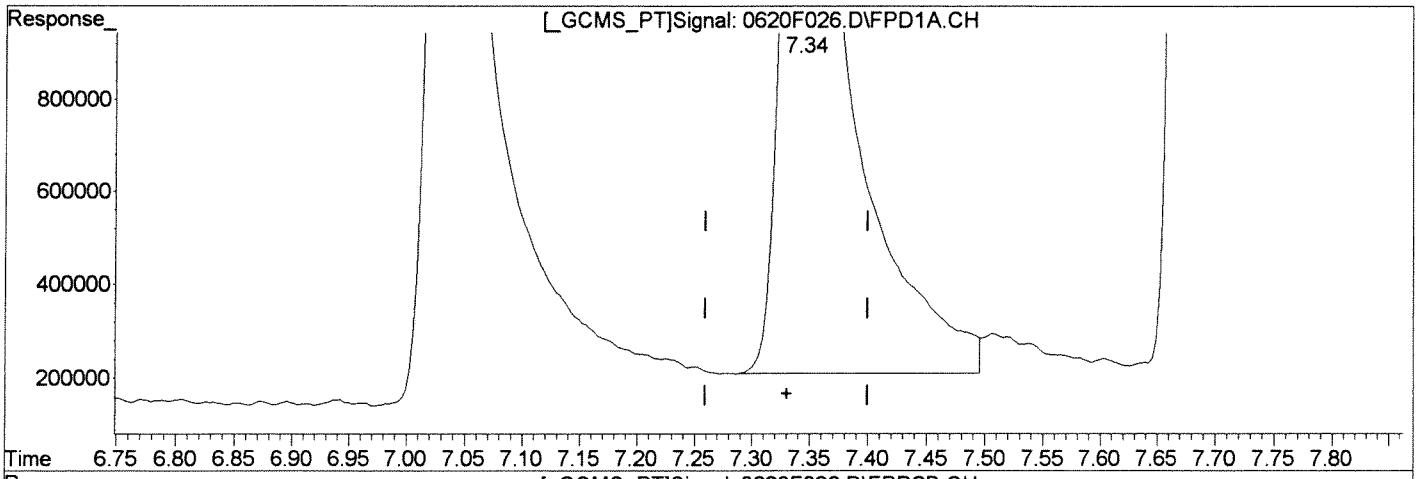
06/23/14

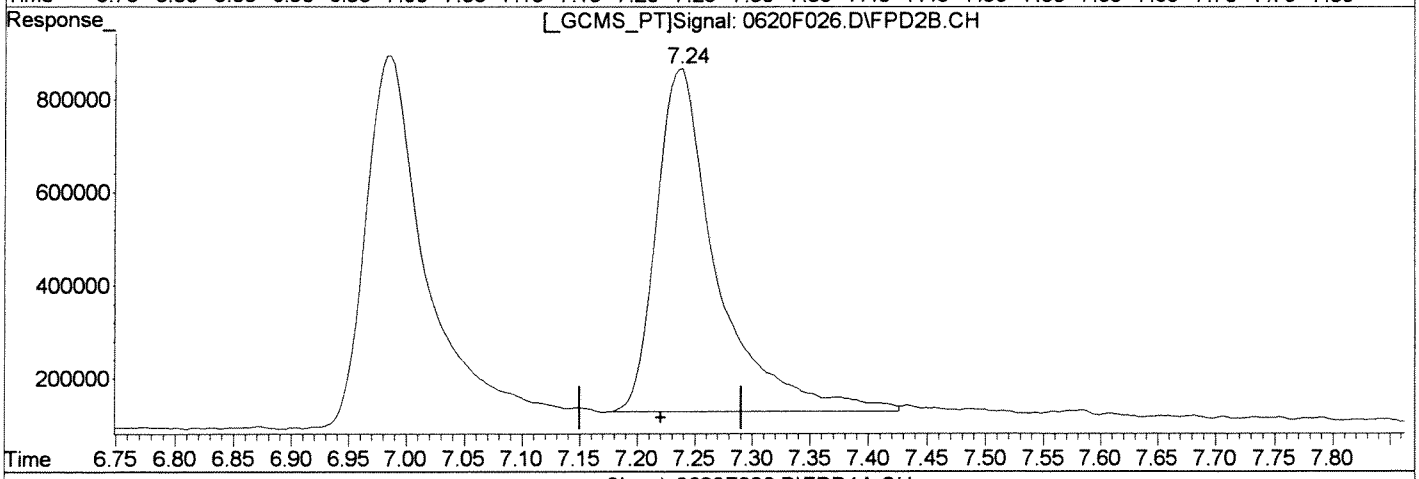
(+) = Expected Retention Time
0620F026.D 060914-HTIN.M Mon Jun 23 11:12:19 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F026.D\FPD1A.CH Vial: 21
Signal #2 : J:\GC26\DATA\062014\0620F026.D\FPD2B.CH
Acq On : 20 Jun 2014 9:57 pm Operator: SSULLIVAN
Sample : K1405833-001 DMS Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration





Signal: 0620F026.D\FPD1A.CH

(2) Tetrabutyltin

7.34min 97.458ng/mL

response 8450401

(2) Tetrabutyltin #2

7.24min 89.832ng/mL m

response 2723769

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = Expected Retention Time

0620F026.D 060914-HTIN.M Mon Jun 23 11:12:33 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F004.D
Lab ID: KWG1406086-5
RunType: LCS
Matrix: SOIL

Date Acquired: 06/20/2014 15:59
Date Quantitated: 06/23/2014 11:15
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	31.8	NA	25	CCVDUAL
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	29.8	NA	25	C

Primary Review: SS 6/25/14

Secondary Review: [illegible]

Exception Report

Data File: J:\GC26\DATA\062014\0620F004.D\0620F004C.D
Lab ID: KWG1406086-5
RunType: LCS
Matrix: SOIL

Date Acquired: 06/20/2014 15:59
Date Quantitated: 06/23/2014 11:15
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Printed: 06/25/2014 16:42:23
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F004.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F004.D\0620F004c.d			**Vial:**	1
Acqu Date:	06/20/2014 15:59	**Quant Date:**	06/23/2014 11:15	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406086-5				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/17/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348796	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ133
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	7.03 +0.02	6.97 +0.02	8250683	2836897	98.16	96.59	79 OK
			%Recovery =		79 OK	77 OK	**Limits =** 10-120

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

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 +0.01	7.22 +0.01	7720304m	2598962m	89.04	85.72	17.8	17.1	**17.1**
Tri-n-butyltin Cation	8.52 +0.02	8.39 +0.02	8560871	2825658	94.62	85.87	18.9	17.2	**17.2**
Di-n-butyltin Cation	9.71 +0.01	9.57 +0.02	13280031	3979394	94.78	79.37	19.0	15.9	**15.9**
n-Butyltin Cation	10.69	10.59	10414637	3210632	74.79 CCV	61.47	15.0	12.3	**12.3**

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	20.000 g	**Dilution:**	1.0
Prep Final Vol:	4 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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F004.D\FPD1A.CH Vial: 1
Signal #2 : J:\GC26\DATA\062014\0620F004.D\FPD2B.CH
Acq On : 20 Jun 2014 3:59 pm Operator: SSULLIVAN
Sample : KWG1406086-5 LCS Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:03 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	6.97	8250683	2836897	98.157	96.594
		Target Compounds						
2)		Tetrabutyltin	7.33	7.22	7720304	2598962	89.038m	85.715m
3)		Tri-n-butyltin	8.52	8.39	8560871	2825658	94.615	85.867
4)		Di-n-butyltin	9.71	9.57	13280031	3979394	94.781	79.368
5)		n-Butyltin	10.69	10.59	10414637	3210632	74.788	61.472

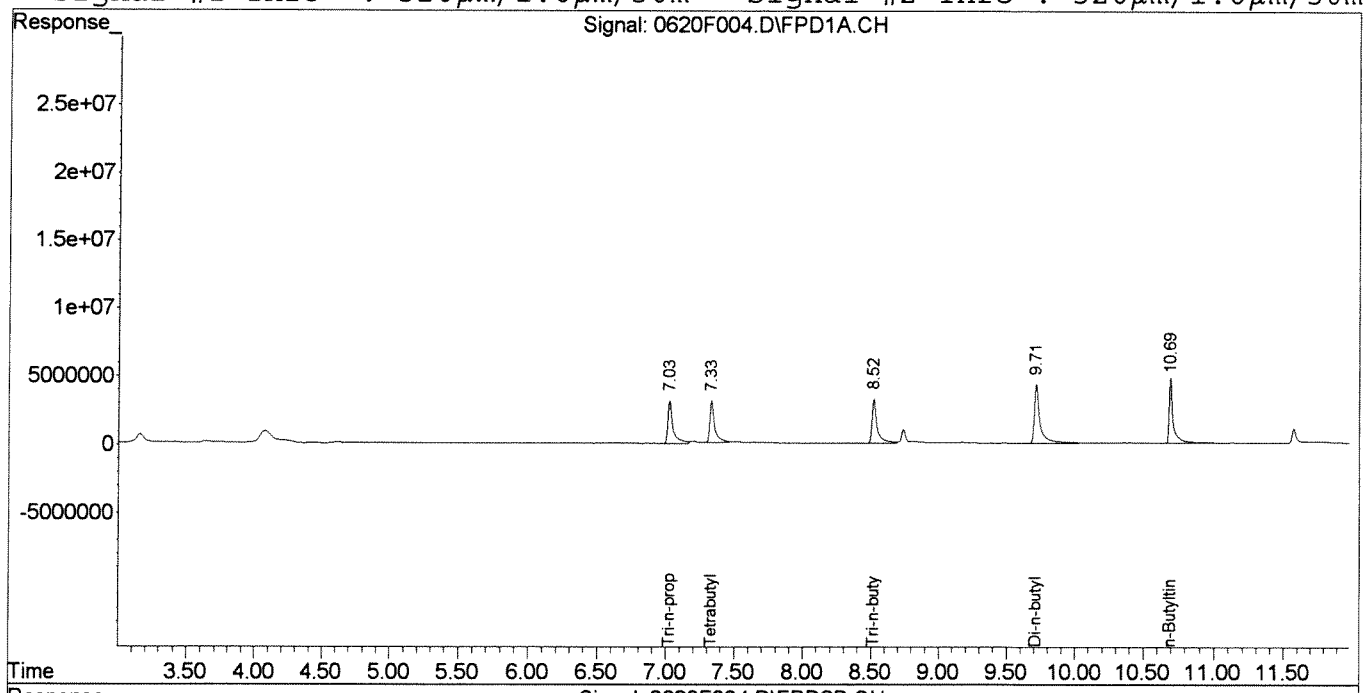
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

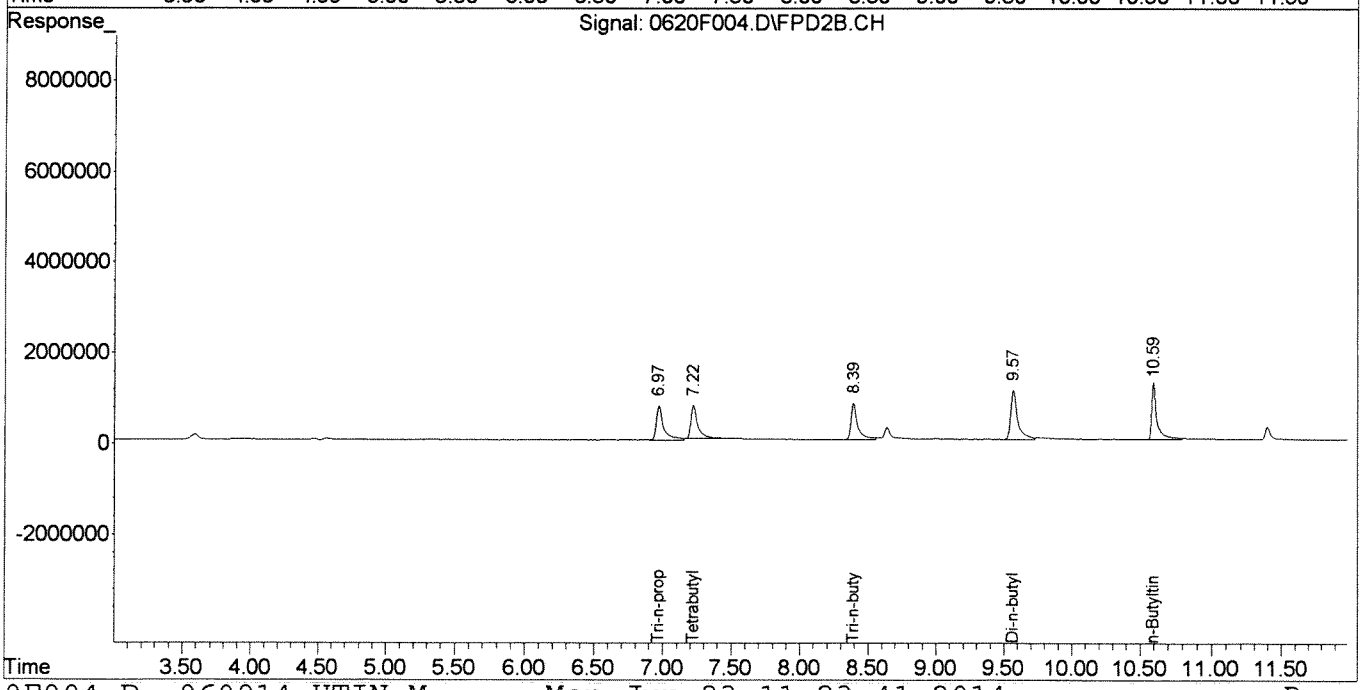
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F004.D\FPD1A.CH Vial: 1
Signal #2 : J:\GC26\DATA\062014\0620F004.D\FPD2B.CH
Acq On : 20 Jun 2014 3:59 pm Operator: SSULLIVAN
Sample : KWG1406086-5 LCS Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:15 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

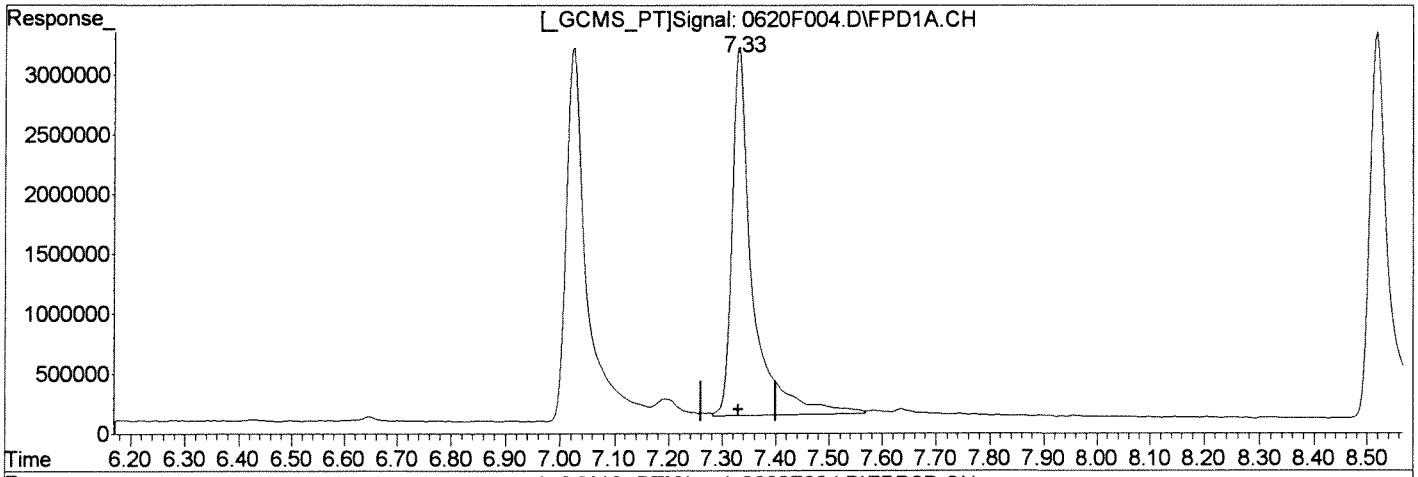


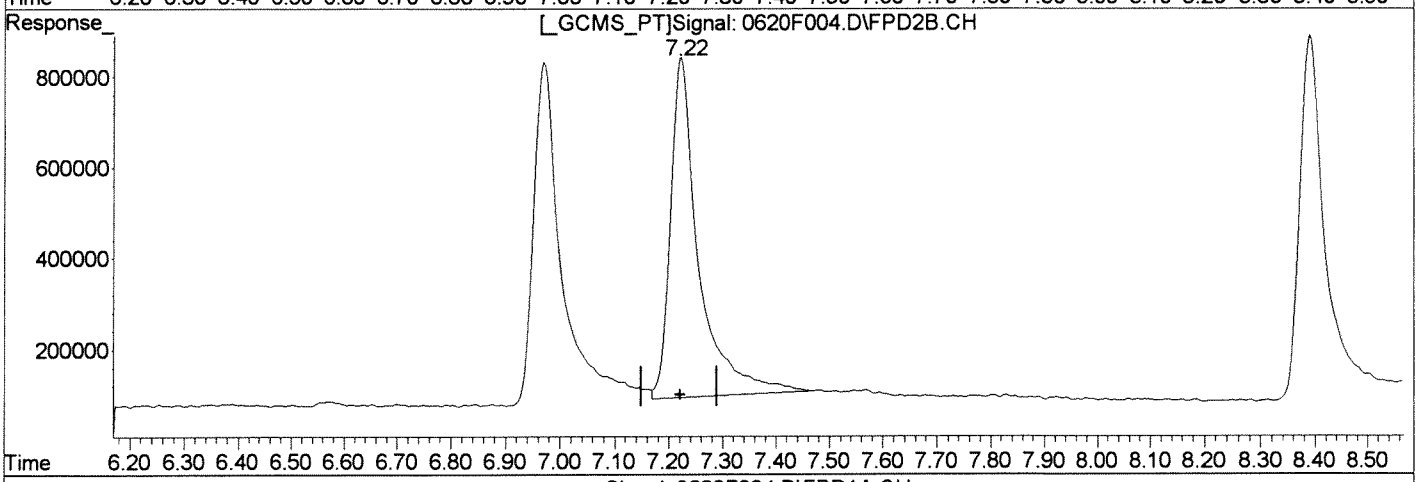


Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F004.D\FPD1A.CH Vial: 1
Signal #2 : J:\GC26\DATA\062014\0620F004.D\FPD2B.CH
Acq On : 20 Jun 2014 3:59 pm Operator: SSULLIVAN
Sample : KWG1406086-5 LCS Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration





Signal: 0620F004.D\FPD1A.CH

(2) Tetrabutyltin

7.33min 95.097ng/mL

response 8245660

(2) Tetrabutyltin #2

7.22min 90.371ng/mL

response 2740136

Manual Integration:

Before

06/23/14

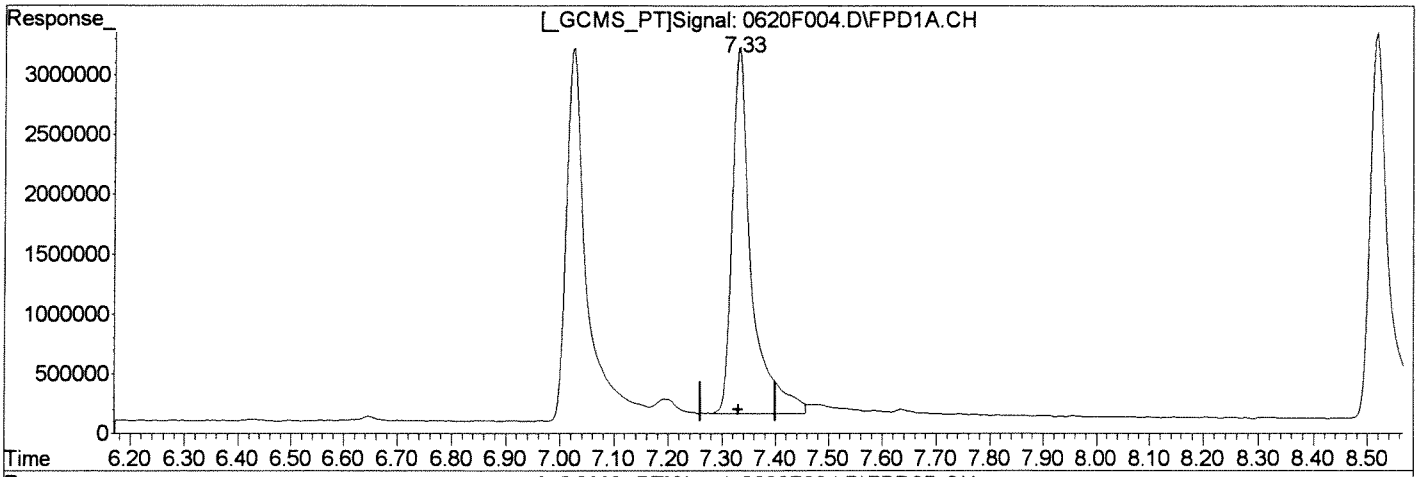
(+) = Expected Retention Time

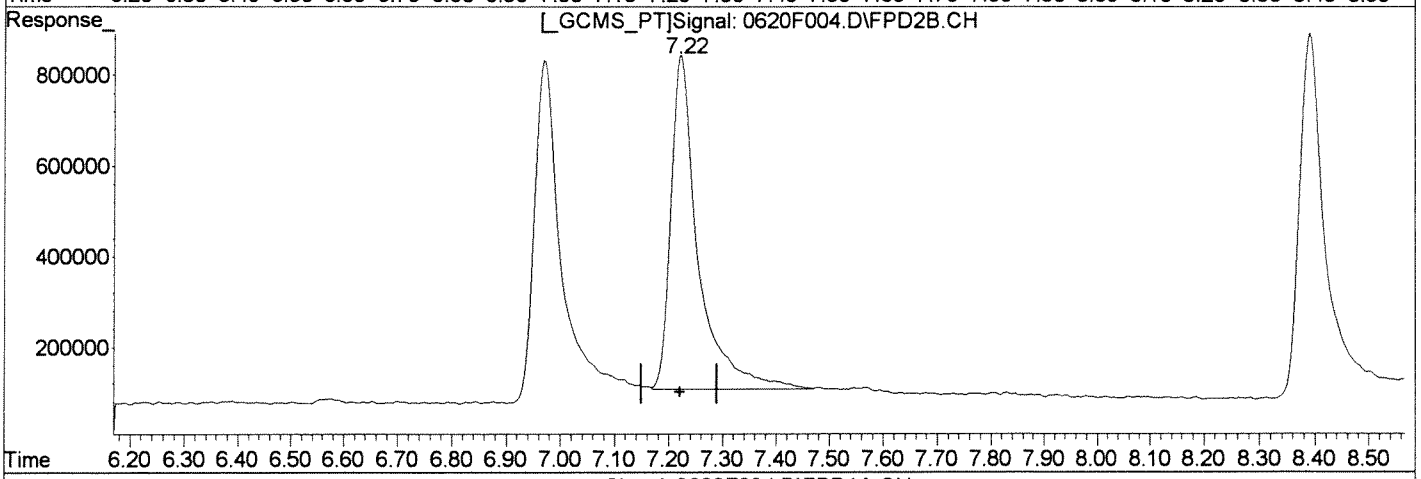
0620F004.D 060914-HTIN.M Mon Jun 23 11:15:08 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F004.D\FPD1A.CH Vial: 1
Signal #2 : J:\GC26\DATA\062014\0620F004.D\FPD2B.CH
Acq On : 20 Jun 2014 3:59 pm Operator: SSULLIVAN
Sample : KWG1406086-5 LCS Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration





Signal: 0620F004.D\FPD1A.CH

(2) Tetrabutyltin

7.33min 89.038ng/mL m

response 7720304

(2) Tetrabutyltin #2

7.22min 85.715ng/mL m

response 2598962

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = Expected Retention Time

0620F004.D 060914-HTIN.M Mon Jun 23 11:15:50 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F031.D
Lab ID: KWG1406086-7
RunType: SRM
Matrix: SOIL

Date Acquired: 06/20/2014 23:18
Date Quantitated: 06/23/2014 11:13
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	n-Butyltin Cation	36.5	NA	25	CCVDUAL
Continuing Calibration Recovery (Closing)	n-Butyltin Cation	30.3	NA	25	

Primary Review: SS 6/26/14

Secondary Review: JMW 6/26/14

Printed: 06/26/2014 12:41:08
u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062014\0620F031.D\0620F031C.D
Lab ID: KWG1406086-7
RunType: SRM
Matrix: SOIL

Date Acquired: 06/20/2014 23:18
Date Quantitated: 06/23/2014 11:13
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/26/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F031.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F031.D\0620F031c.d			**Vial:**	24
Acqu Date:	06/20/2014 23:18	**Quant Date:**	06/23/2014 11:13	**Dilution:**	1.0
Run Type:	SRM			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406086-7				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1406328	**Prep Lot:**	KWG1406086	**Report Group:**	
Analysis Method:	Krone	**Prep Method:**	Method		
Prep Ref:	1348798	**Prep Date:**	06/13/2014		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:	J:\GC26\DATA\062014\0620F005.D	**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.04	+0.01	6.99	+0.01	10285498	3200683	122.37	108.98			98 OK
						%Recovery =	98 OK	87 OK	Limits =	10-120	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

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	8.7U	8.7U	8.7U
Tri-n-butyltin Cation	8.53		8.41	+0.01	26070821	8701901	288.14	264.44	1140	1040	**1040**
Di-n-butyltin Cation	9.73	+0.01	9.58	+0.01	49119983	16286440	350.58	324.83	1380	1280	**1280**
n-Butyltin Cation	10.70		10.60		26788552	8678400	192.37 CCV	166.16	760	656	**656**

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1.013 g	**Dilution:**	1.0
Prep Final Vol:	4 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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F031.D\FPD1A.CH Vial: 24
Signal #2 : J:\GC26\DATA\062014\0620F031.D\FPD2B.CH
Acq On : 20 Jun 2014 11:18 pm Operator: SSULLIVAN
Sample : KWG1406086-7 SRM Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:22 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

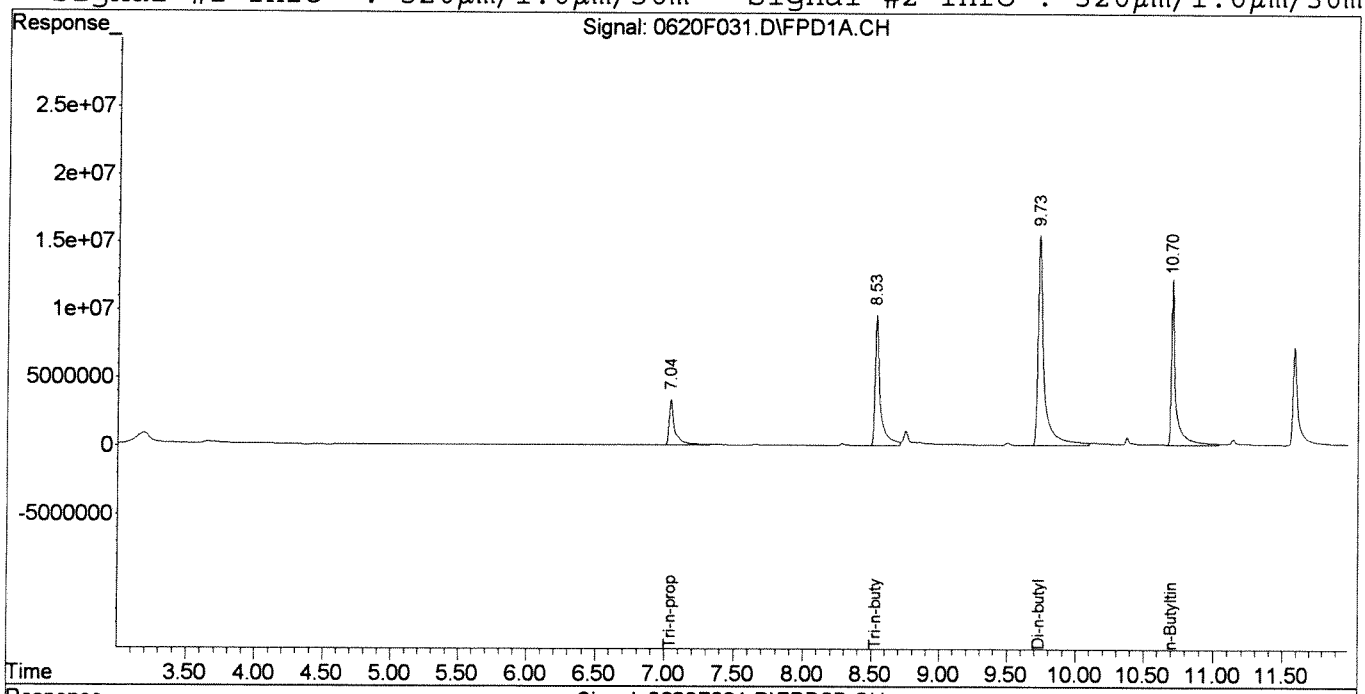
		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
		System Monitoring Compounds						
1)	S	Tri-n-propyltin	7.04	6.99	10285498	3200683	122.365	108.980
		Target Compounds						
3)		Tri-n-butyltin	8.53	8.41	26070821	8701901	288.135	264.437
4)		Di-n-butyltin	9.73	9.58	49119983	16286440	350.576	324.829
5)		n-Butyltin	10.70	10.60	26788552	8678400	192.370	166.159

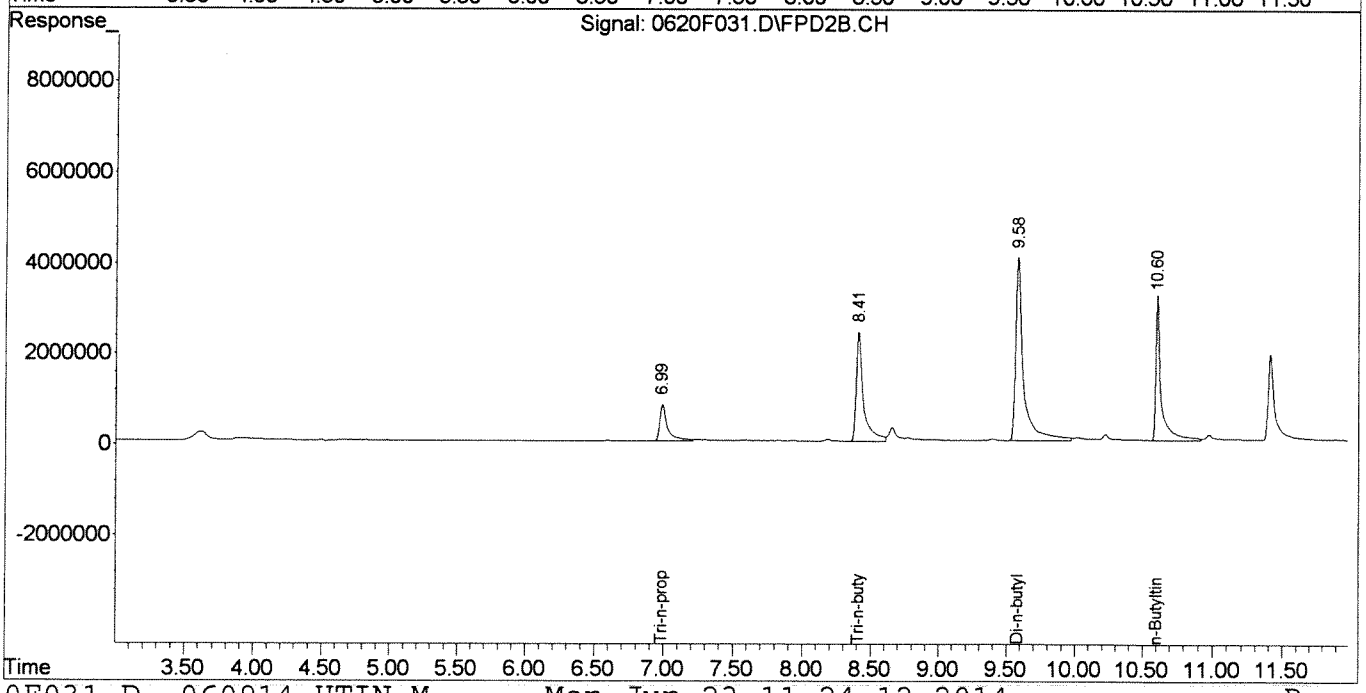
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : J:\GC26\DATA\062014\0620F031.D\FPD1A.CH Vial: 24
Signal #2 : J:\GC26\DATA\062014\0620F031.D\FPD2B.CH
Acq On : 20 Jun 2014 11:18 pm Operator: SSULLIVAN
Sample : KWG1406086-7 SRM Inst : GC26
Misc : KQ1406420 Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:13 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Injection Log

Directory: J:\GC26\DATA\060914

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	95	0609F001.D	1.	PRIMER SOLN KWG1405030-6 SRM	KQ1405933	06/09/22014 1:29
2	95	0609F002.D	1.	PRIMER SOLN KWG1405030-6 SRM	KQ1405933	06/09/22014 2:33
3	100	0609F003.D	1.	IB		06/09/22014 2:5C
4	86	0609F004.D	1.	O'TINS @ 2ppb OT5-01I		06/09/22014 3:0E
5	87	0609F005.D	1.	O'TINS @ 5ppb OT5-01J		06/09/22014 3:24
6	88	0609F006.D	1.	O'TINS @ 10ppb OT5-01K		06/09/22014 3:4C
7	89	0609F007.D	1.	O'TINS @ 20ppb OT5-01L		06/09/22014 3:5E
8	90	0609F008.D	1.	O'TINS @ 50ppb OT5-01H		06/09/22014 4:14
9	91	0609F009.D	1.	O'TINS @ 200ppb OT5-01M		06/09/22014 4:31
10	92	0609F010.D	1.	O'TINS @ 500ppb OT5-01N		06/09/22014 4:47
11	93	0609F011.D	1.	O'TINS @ 1000ppb OT5-02A		06/09/22014 5:03
12	94	0609F012.D	1.	O'TINS ICV @ 50ppb OT5-02B		06/09/22014 5:2C
13	100	0609F013.D	1.	IB		06/09/22014 5:3E
14	90	0609F014.D	1.	O'TINS @ 50ppb OT5-01H		06/09/22014 5:52
15	100	0609F015.D	1.	IB		06/09/22014 6:0E
16	1	0609F016.D	1.	KWG1405287-4 LCS		06/09/22014 6:25
17	2	0609F017.D	1.	KWG1405287-5 MB		06/09/22014 6:42
18	3	0609F018.D	1.	K1405342-001		06/09/22014 6:5E
19	4	0609F019.D	1.	K1405342-002		06/09/22014 7:15
20	5	0609F020.D	1.	K1405342-003		06/09/22014 7:31
21	6	0609F021.D	1.	K1405342-004		06/09/22014 7:4E
22	7	0609F022.D	1.	K1405342-005		06/09/22014 8:05
23	8	0609F023.D	1.	K1405342-006		06/09/22014 8:21
24	9	0609F024.D	1.	K1405342-007		06/09/22014 8:3E
25	10	0609F025.D	1.	K1405342-007 DUP		06/09/22014 8:5E
26	11	0609F026.D	1.	K1405342-007 MS		06/09/22014 9:11
27	12	0609F027.D	1.	K1405342-007 DMS		06/09/22014 9:2E
28	96	0609F028.D	1.	O'TINS @ 50ppb OT5-01H		06/09/22014 9:45
29	100	0609F029.D	1.	IB		06/09/22014 10:0
30	13	0609F030.D	1.	K1405450-001		06/09/22014 10:1
31	14	0609F031.D	1.	K1405450-002		06/09/22014 10:3
32	15	0609F032.D	1.	K1405450-003		06/09/22014 10:5
33	16	0609F033.D	1.	KQ1406062-06 SRM		06/09/22014 11:1
34	96	0609F034.D	1.	O'TINS @ 50ppb OT5-01H		06/09/22014 11:2
35	100	0609F035.D	1.	IB		06/09/22014 11:4

CAL 13378

6/10/14

6/10/14

Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 09:39:35 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	6.99	6.92	150690	49581	1.706m	1.735m
		Target Compounds						
2)		Tetrabutyltin	7.30	7.18	191537	64377	2.392	2.550
3)		Tri-n-butyltin	8.49	8.36	157942	58227	1.533	1.714m
4)		Di-n-butyltin	9.69	9.54	206457	76580	1.617	1.894
5)		n-Butyltin	10.68	10.58	165790	76231	1.092	1.577 #

SS 06/10/14

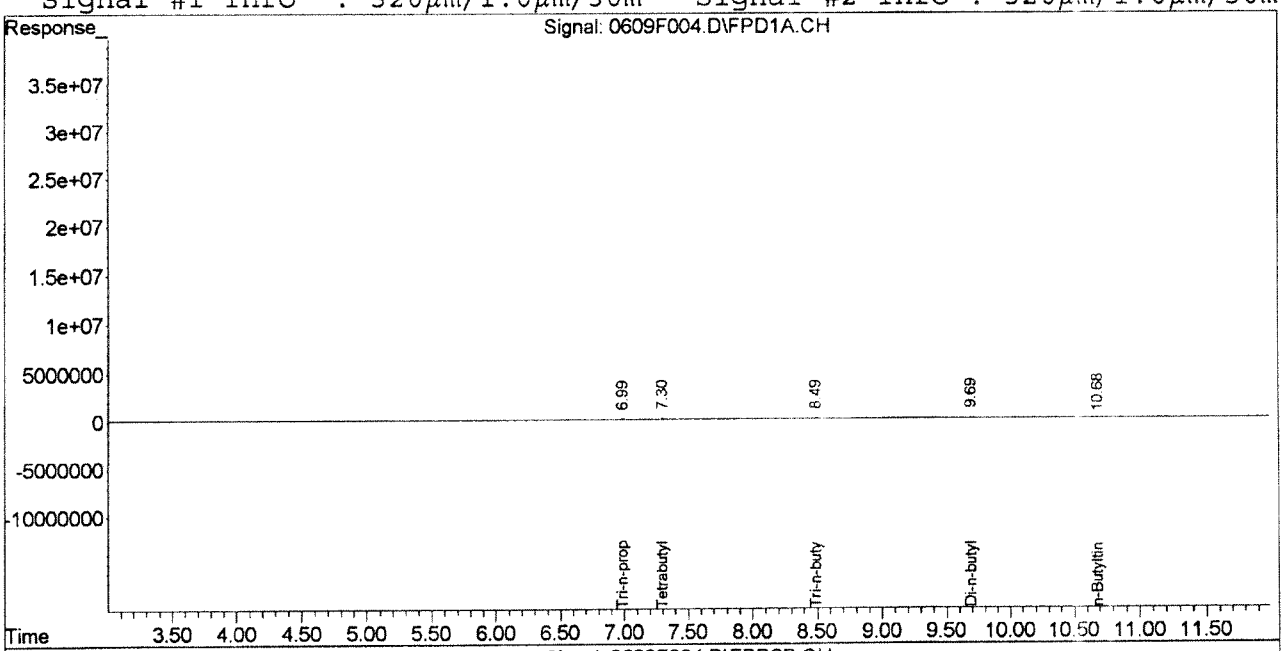
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

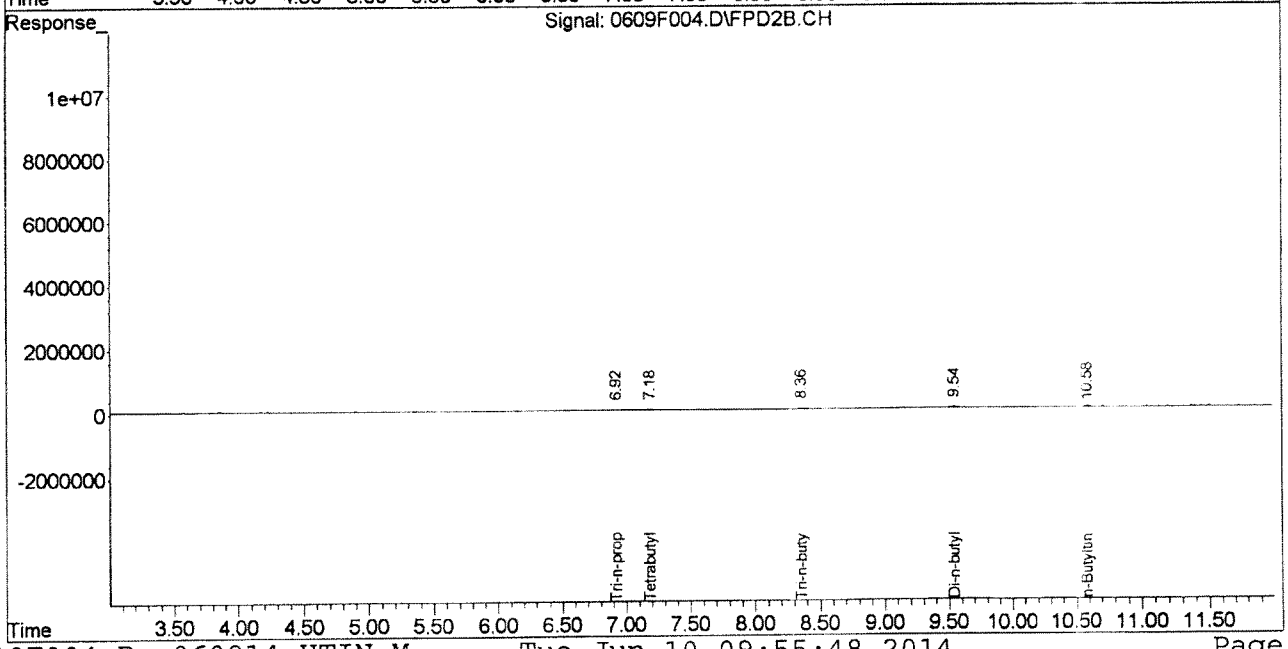
Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 9:44 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

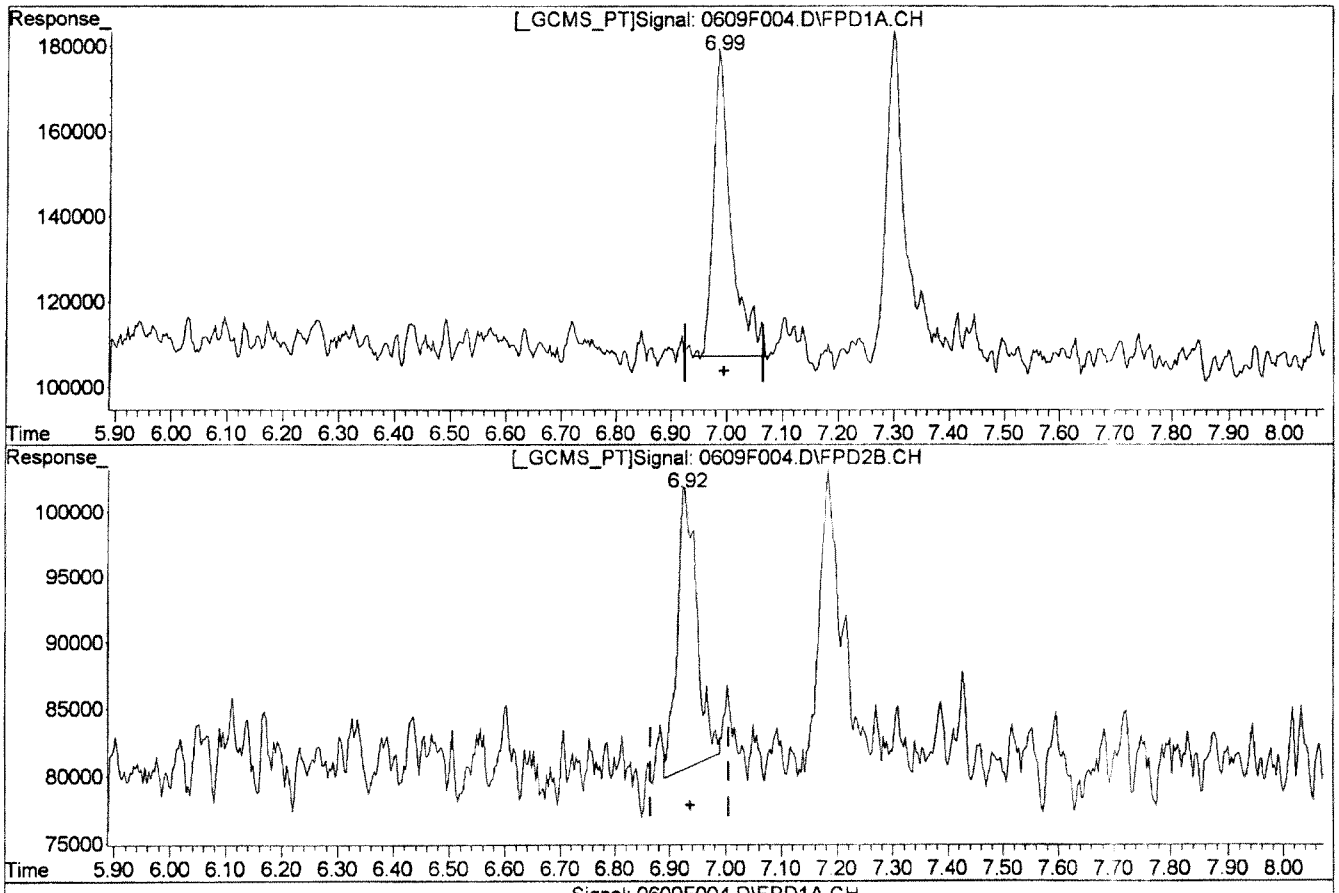




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F004.D\FPD1A.CH

(1) Tri-n-propyltin (S)

6.99min 1.801ng/mL

response 159054

(1) Tri-n-propyltin #2 (S)

6.92min 1.817ng/mL

response 51936

Manual Integration:

Before

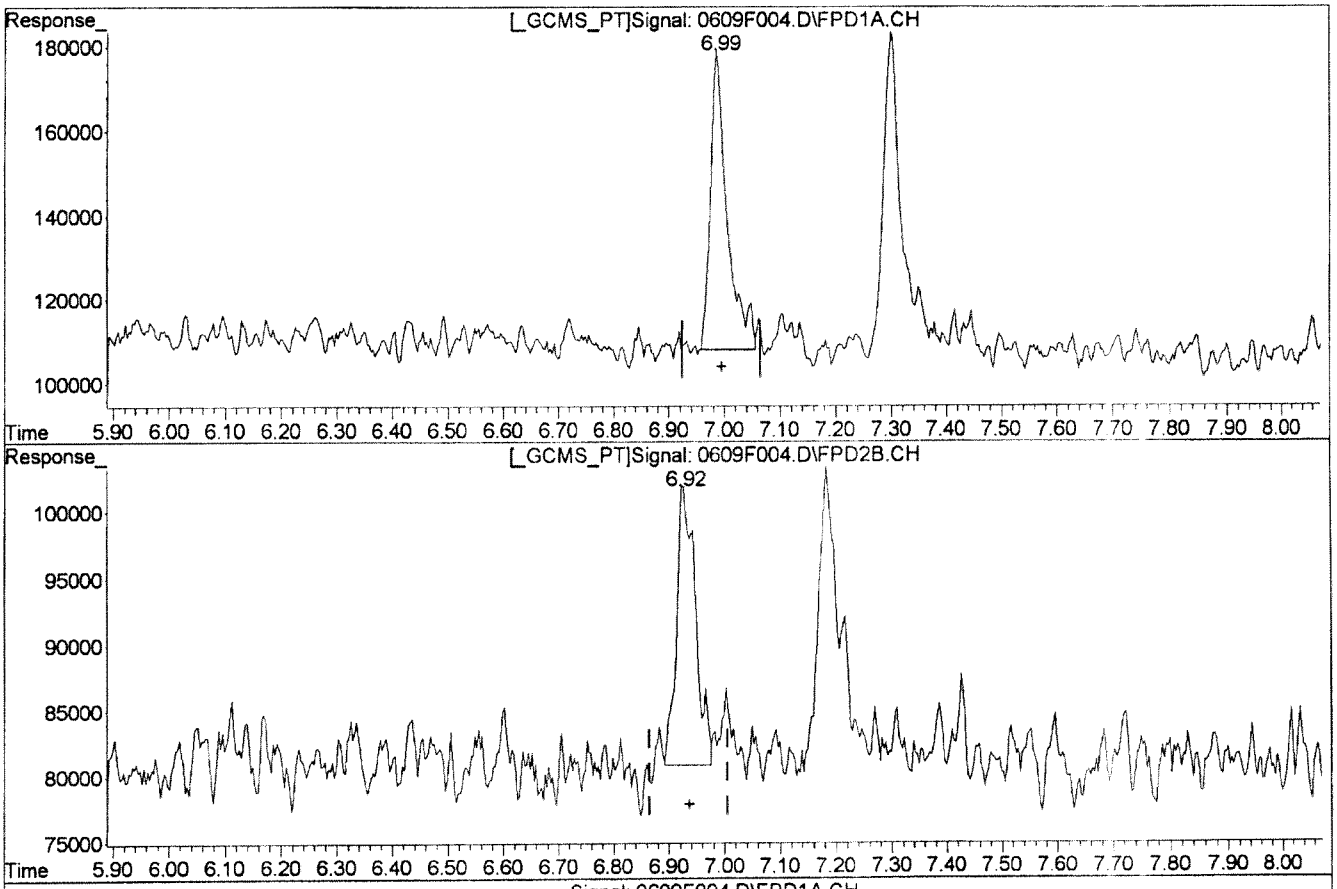
06/10/14

(+) = Expected Retention Time
0609F004.D 060914-HTIN.M Tue Jun 10 09:42:56 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F004.D\FPD1A.CH

(1) Tri-n-propyltin (S)

6.99min 1.706ng/mL m

response 150690

(1) Tri-n-propyltin #2 (S)

6.92min 1.735ng/mL m

response 49581

Manual Integration:

After

Baseline/Shoulder

06/10/14

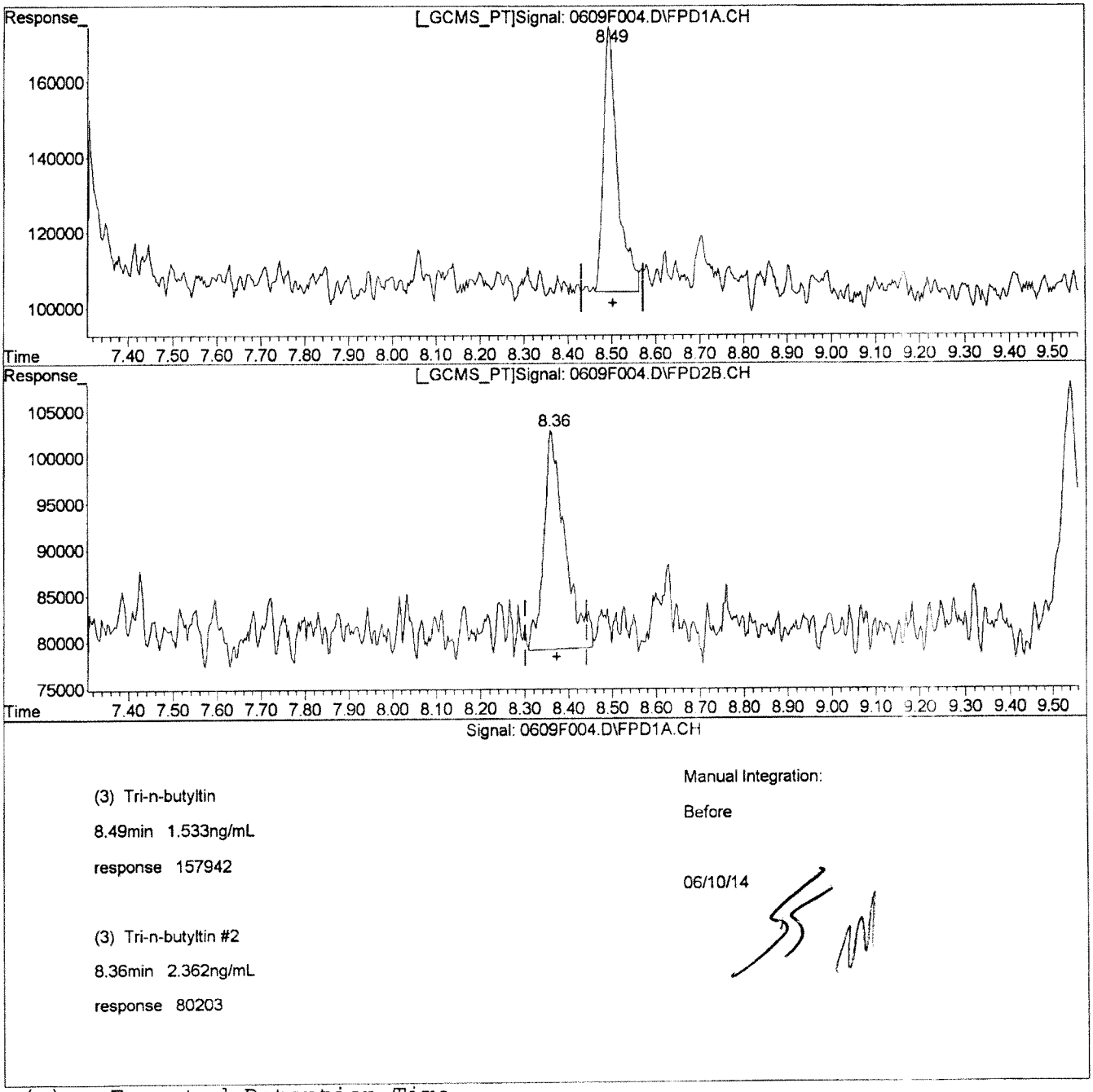
SSN

(+) = Expected Retention Time
0609F004.D 060914-HTIN.M Tue Jun 10 09:43:36 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

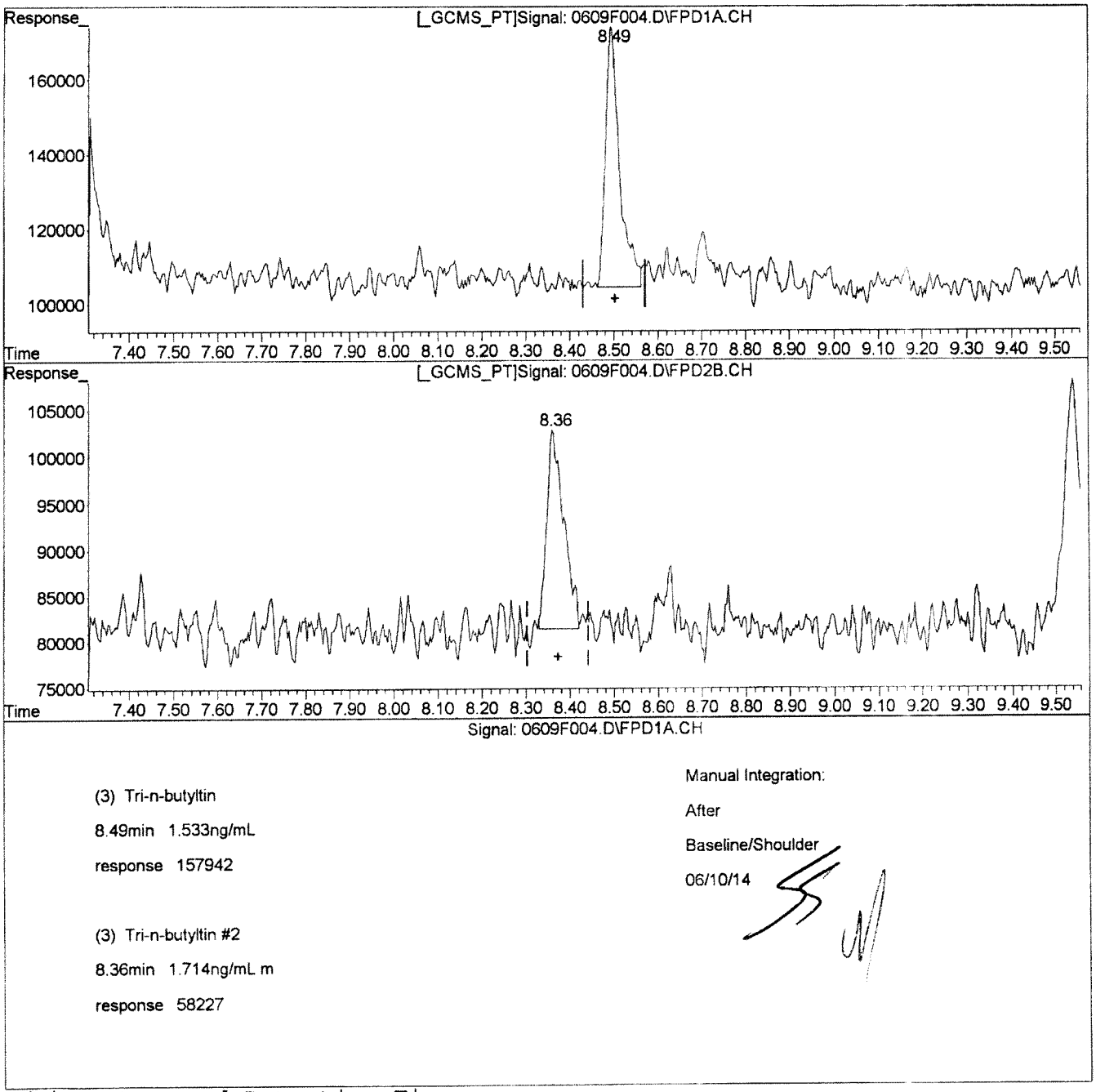


(+) = Expected Retention Time
0609F004.D 060914-HTIN.M Tue Jun 10 09:44:00 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F004.D\FPD1A.CH Vial: 86
Signal #2 : J:\GC26\DATA\060914\0609F004.D\FPD2B.CH
Acq On : 09 Jun 2014 3:06 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F004.D 060914-HTIN.M Tue Jun 10 09:44:17 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 09:39:36 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	6.93	386575	121457	4.377m	4.249m
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	396426	143960	4.951m	5.702
3)		Tri-n-butyltin	8.50	8.38	357606	137248	3.470m	4.041
4)		Di-n-butyltin	9.71	9.56	499343	176752	3.910	4.371m
5)		n-Butyltin	10.69	10.59	376071	147251	2.478m	3.045m

SS 6/10/24

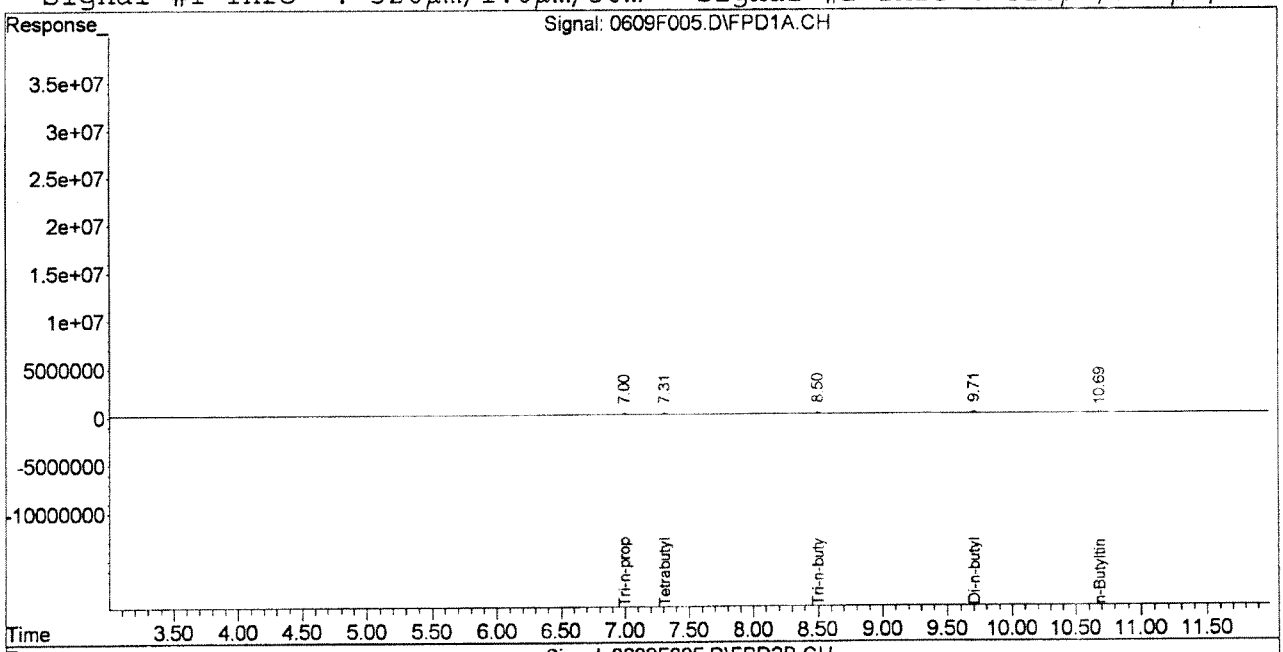
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

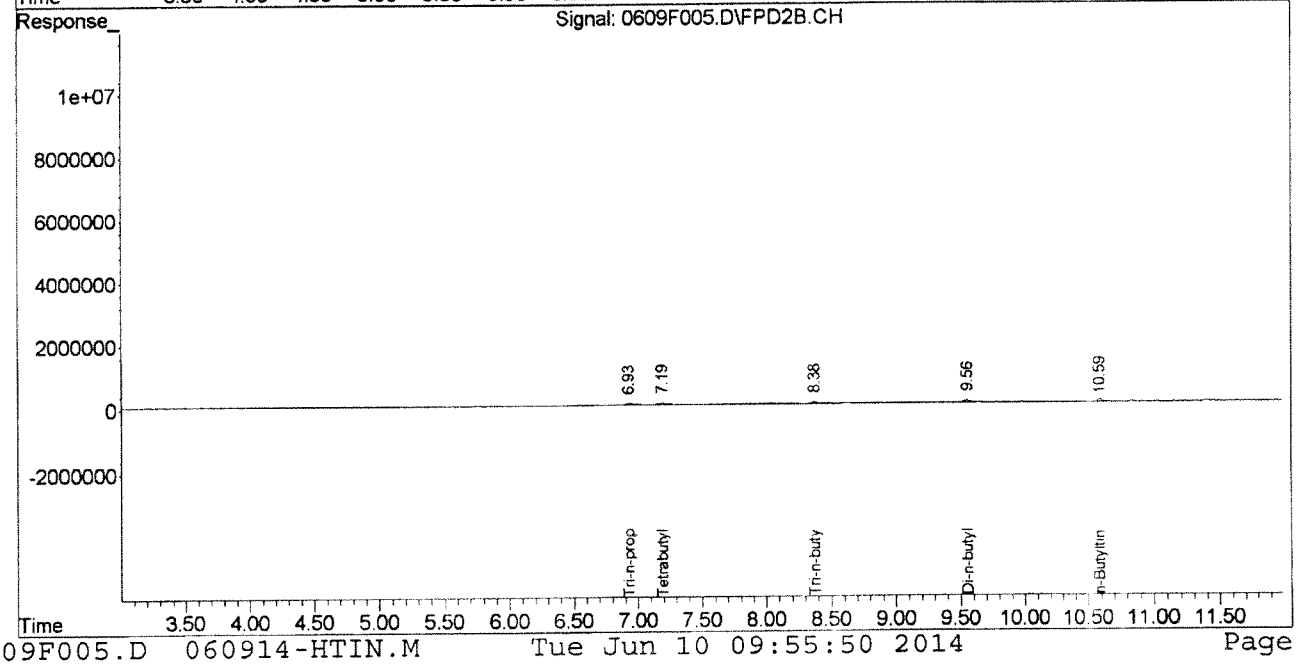
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:48 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

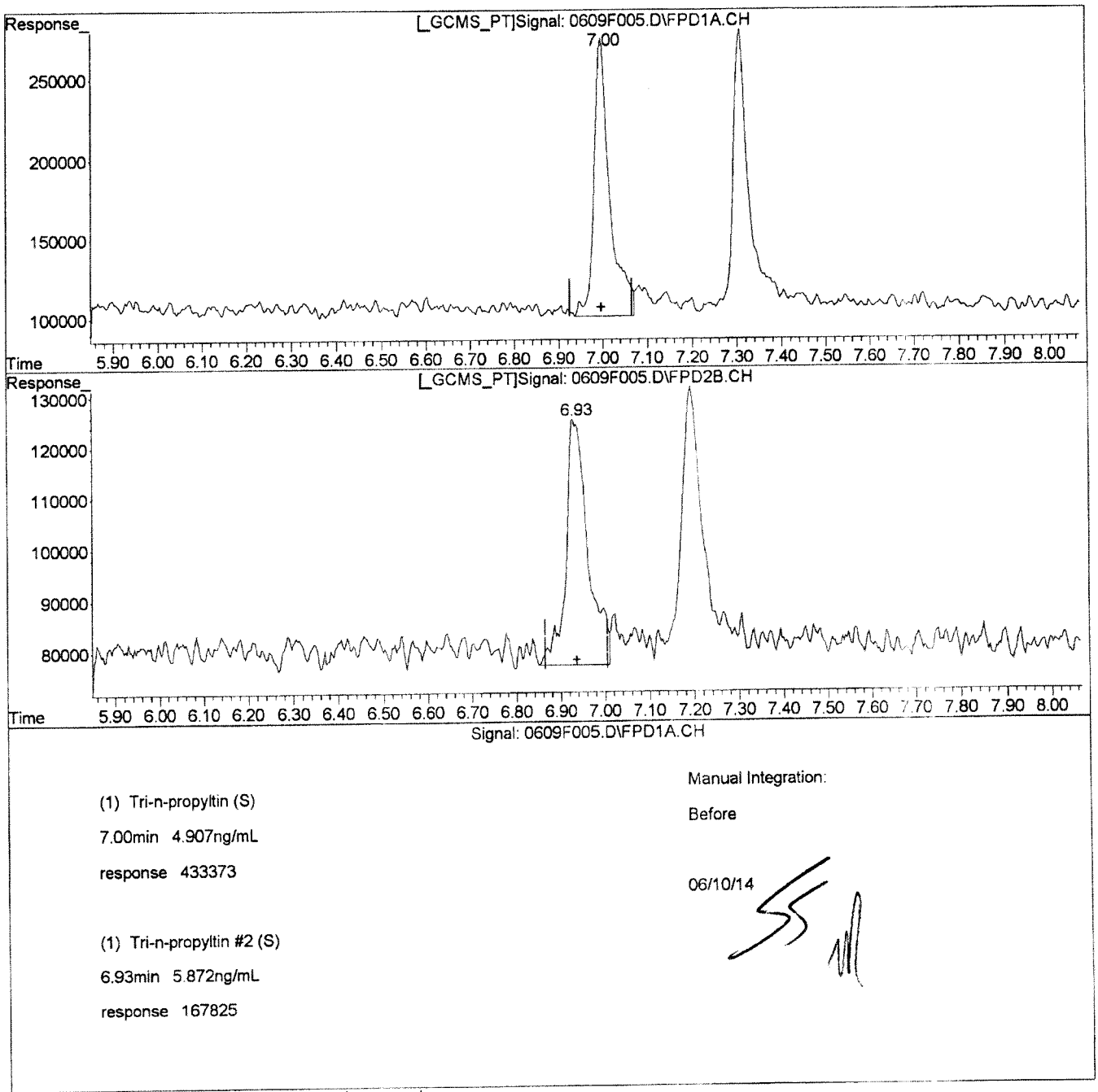




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

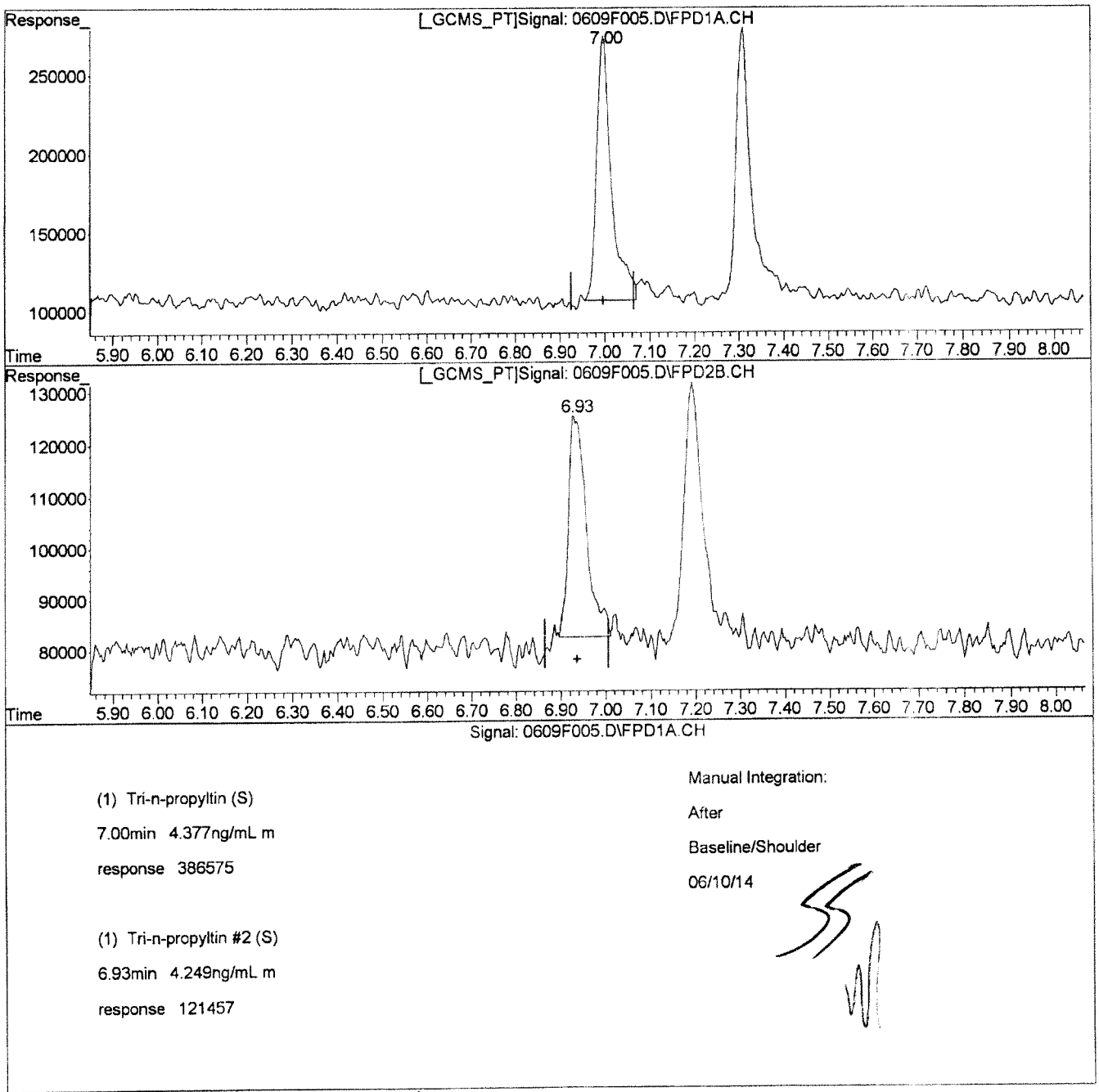


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:46:35 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

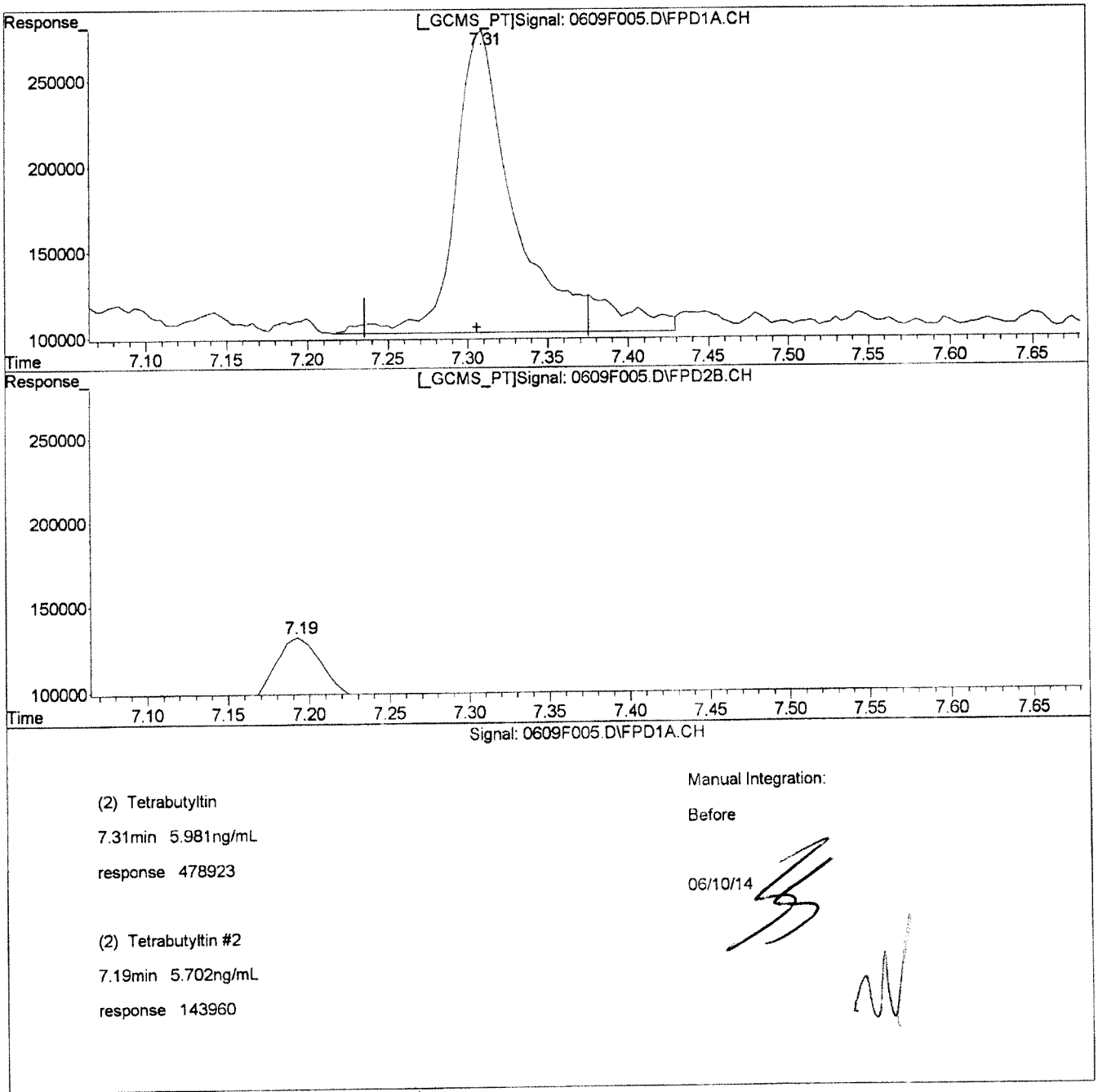


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:08 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

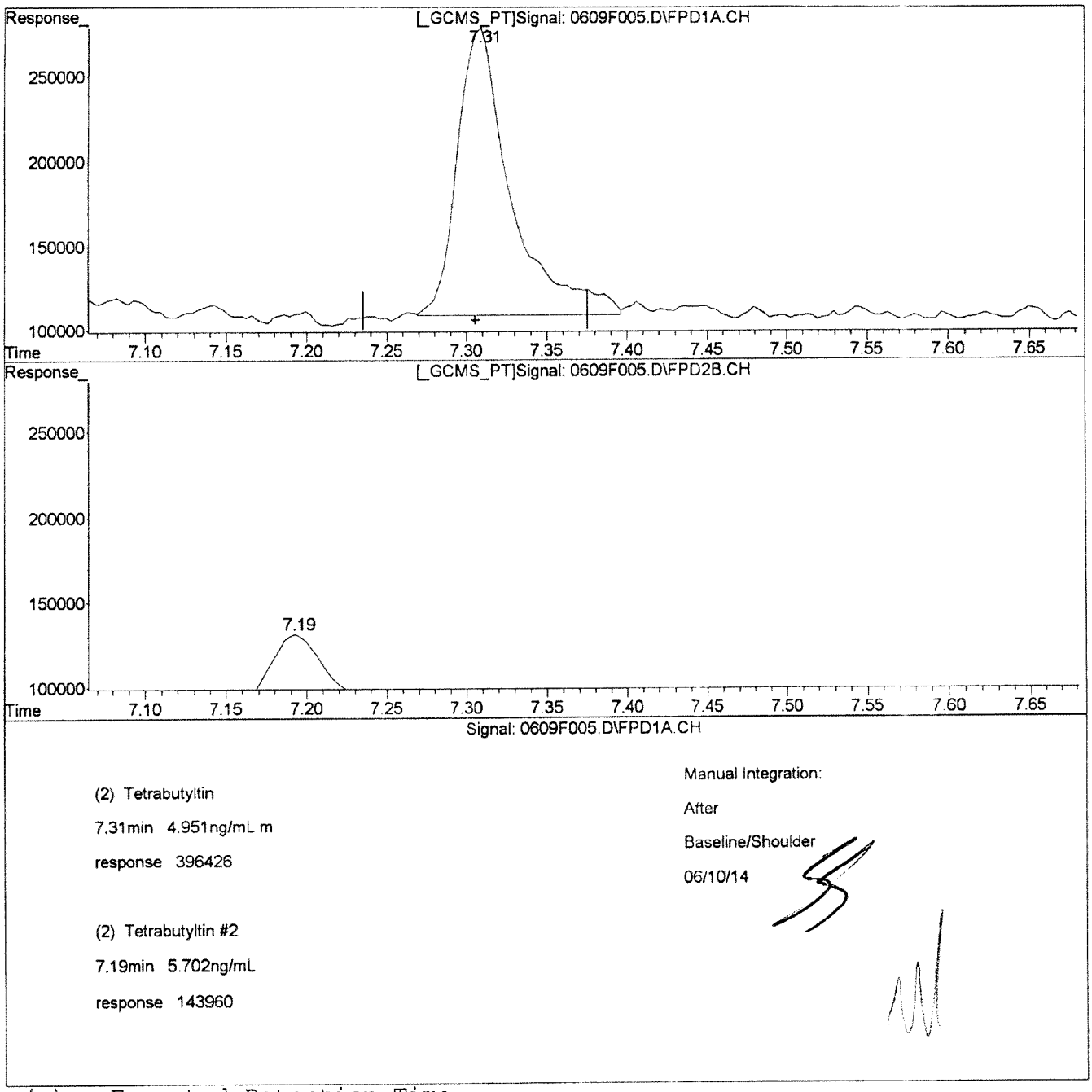


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:18 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

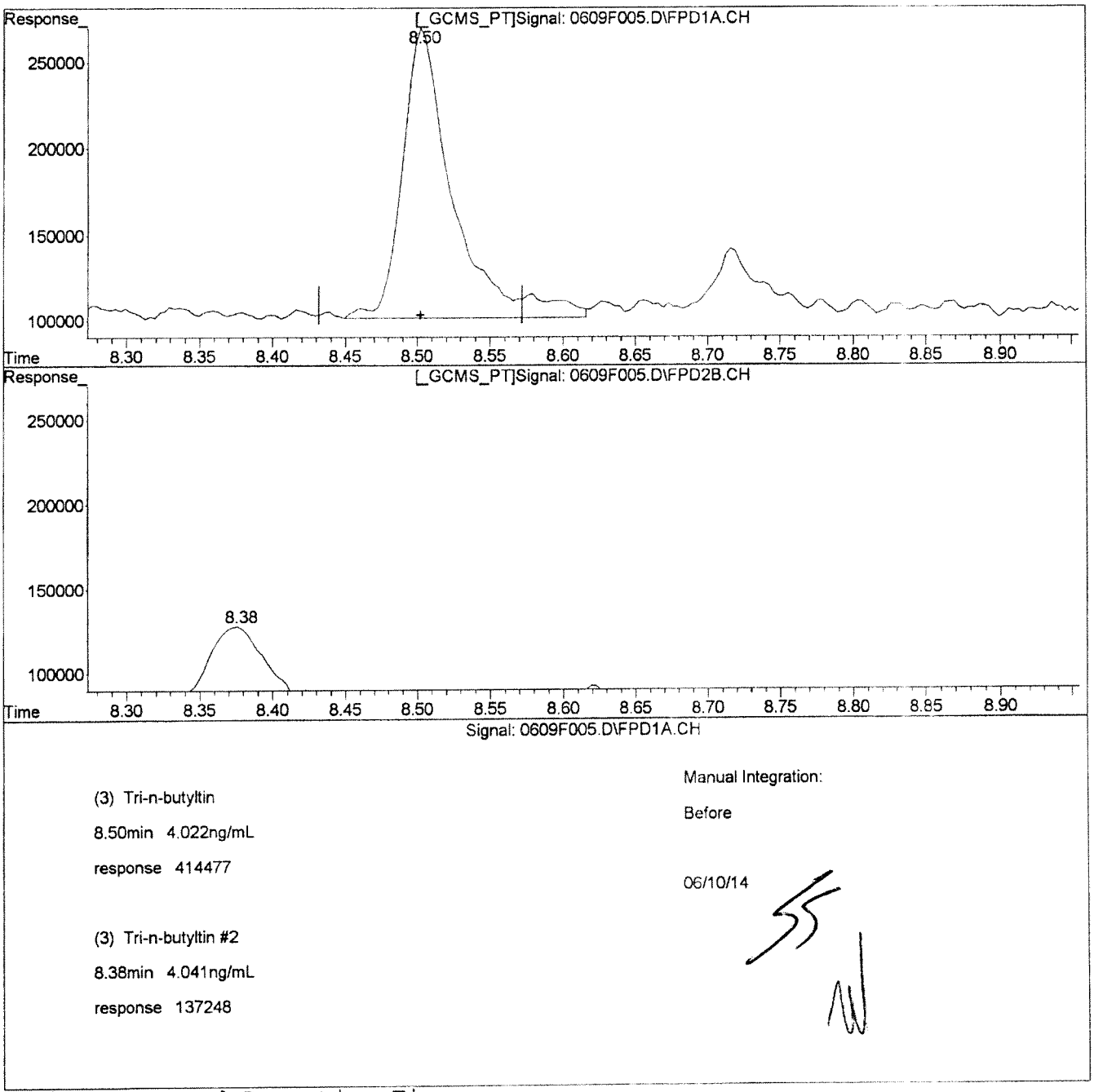


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:27 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

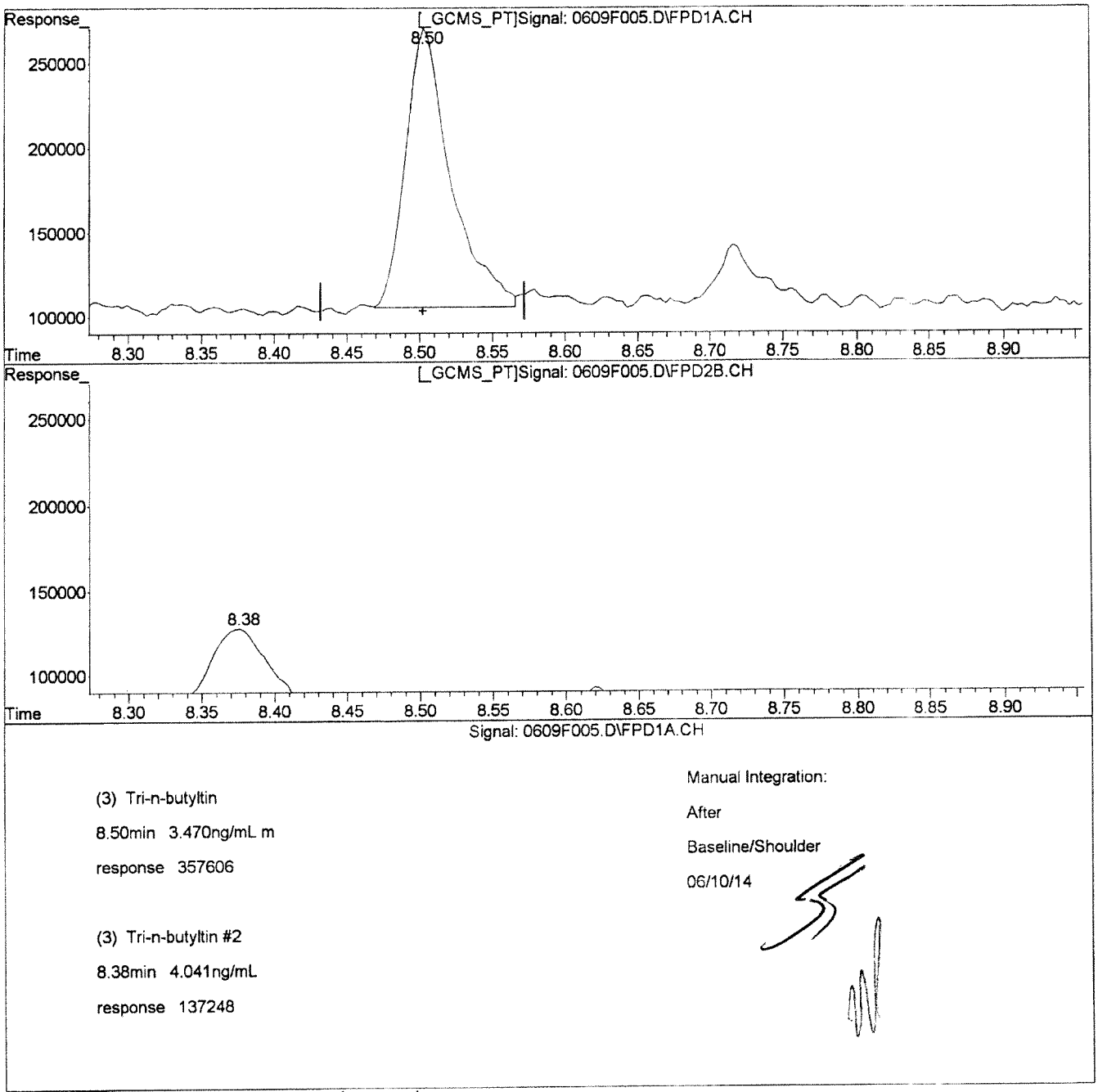


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:38 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

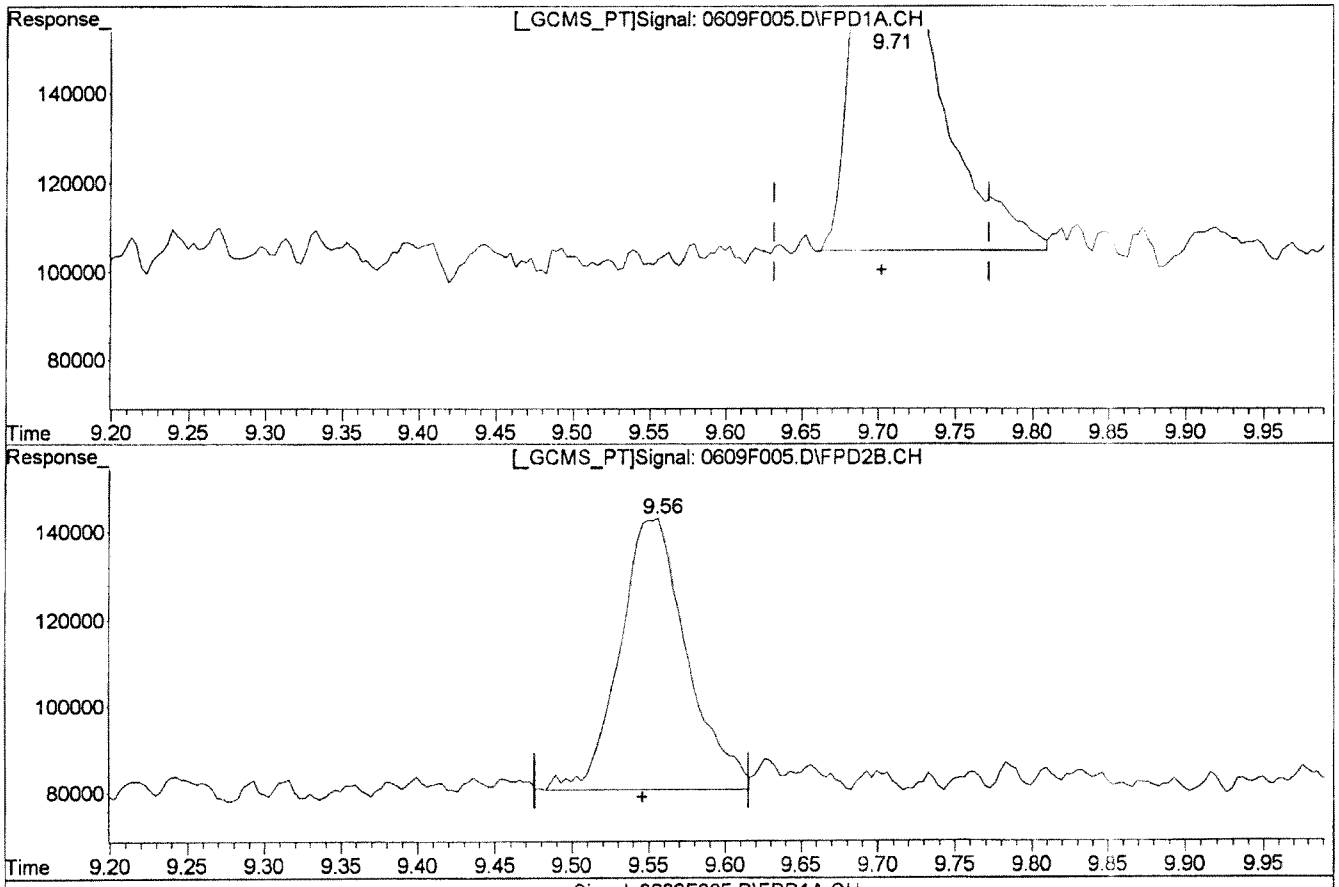


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:50 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F005.D\FPD1A.CH

(4) Di-n-butyltin

9.71min 3.910ng/mL

response 499343

(4) Di-n-butyltin #2

9.56min 4.725ng/mL

response 191088

Manual Integration:

Before

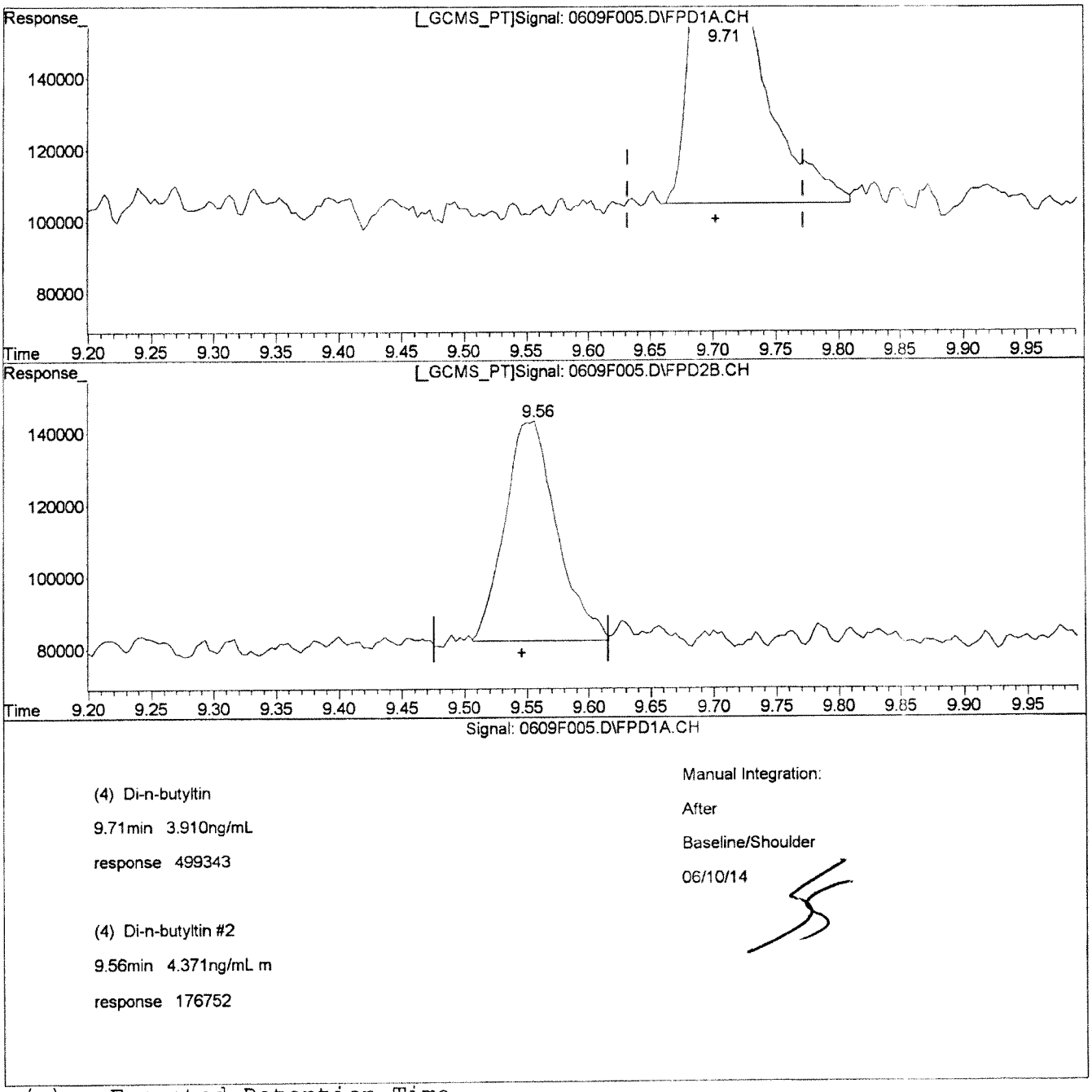
06/10/14

(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:47:59 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

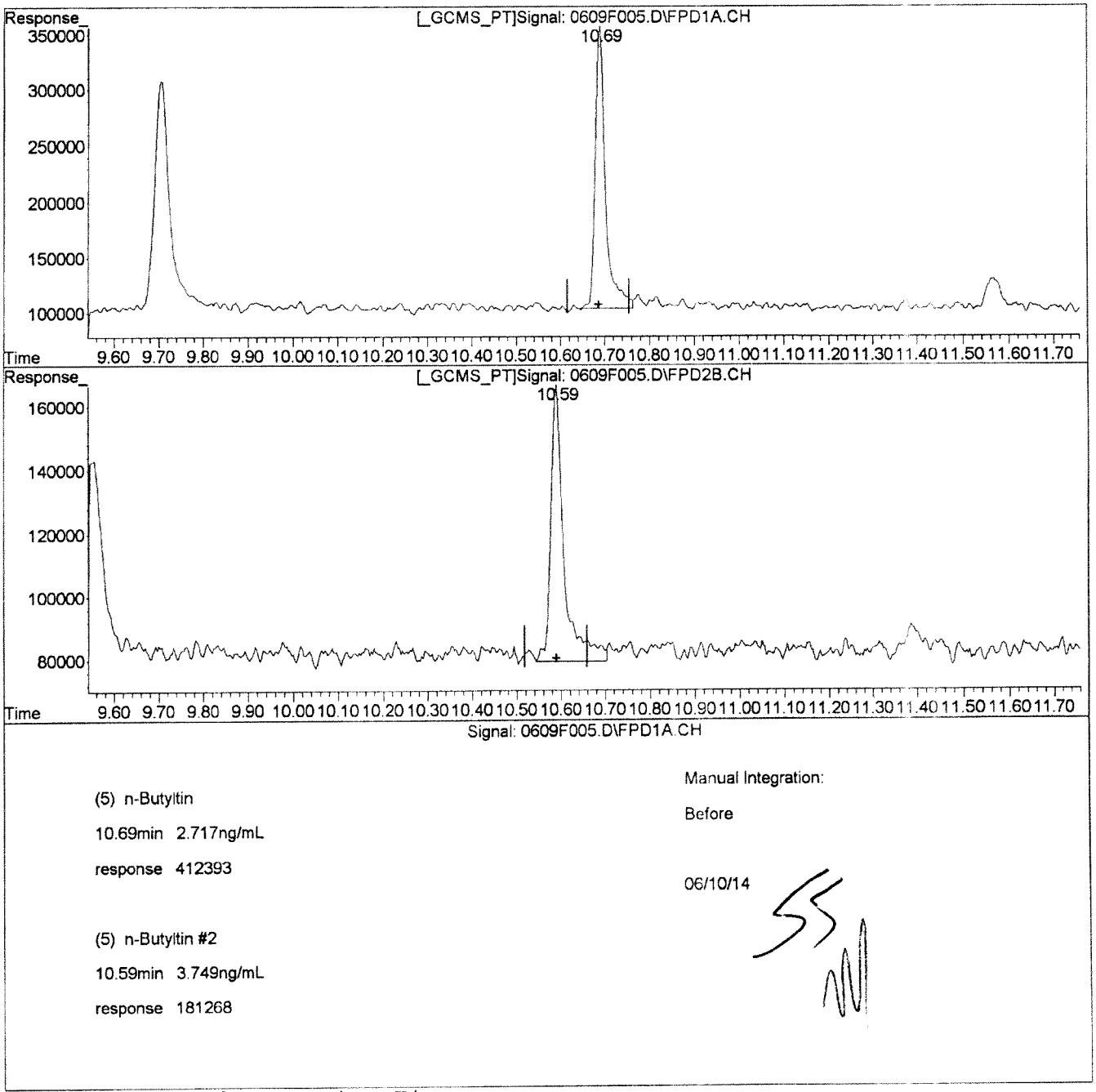


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:48:08 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

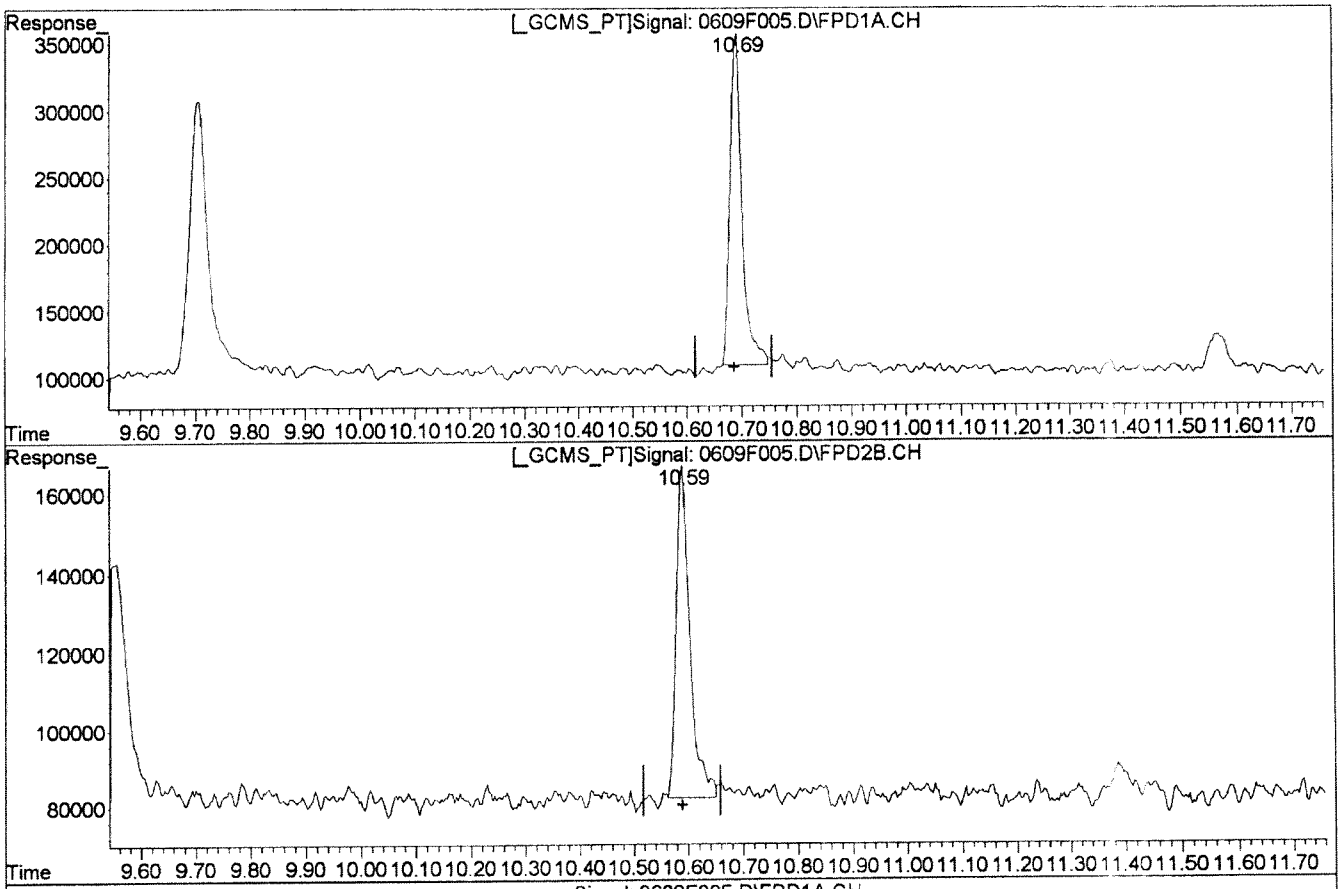


(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:48:22 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F005.D\FPD1A.CH Vial: 87
Signal #2 : J:\GC26\DATA\060914\0609F005.D\FPD2B.CH
Acq On : 09 Jun 2014 3:24 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F005.D\FPD1A.CH

(5) n-Butyltin

10.69min 2.478ng/mL m

response 376071

(5) n-Butyltin #2

10.59min 3.045ng/mL m

response 147251

Manual Integration:

After

Baseline/Shoulder

06/10/14

(+) = Expected Retention Time
0609F005.D 060914-HTIN.M Tue Jun 10 09:48:52 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 09:39:36 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	705375	279986	7.986m	9.796
		Target Compounds						
2)		Tetrabutyltin	7.31	7.20	767226	266261	9.582	10.545
3)		Tri-n-butyltin	8.51	8.37	724707	281413	7.033m	8.286
4)		Di-n-butyltin	9.70	9.55	950065	348373	7.439	8.615
5)		n-Butyltin	10.69	10.59	790242	310400	5.207	6.419m

SS 6/10/14

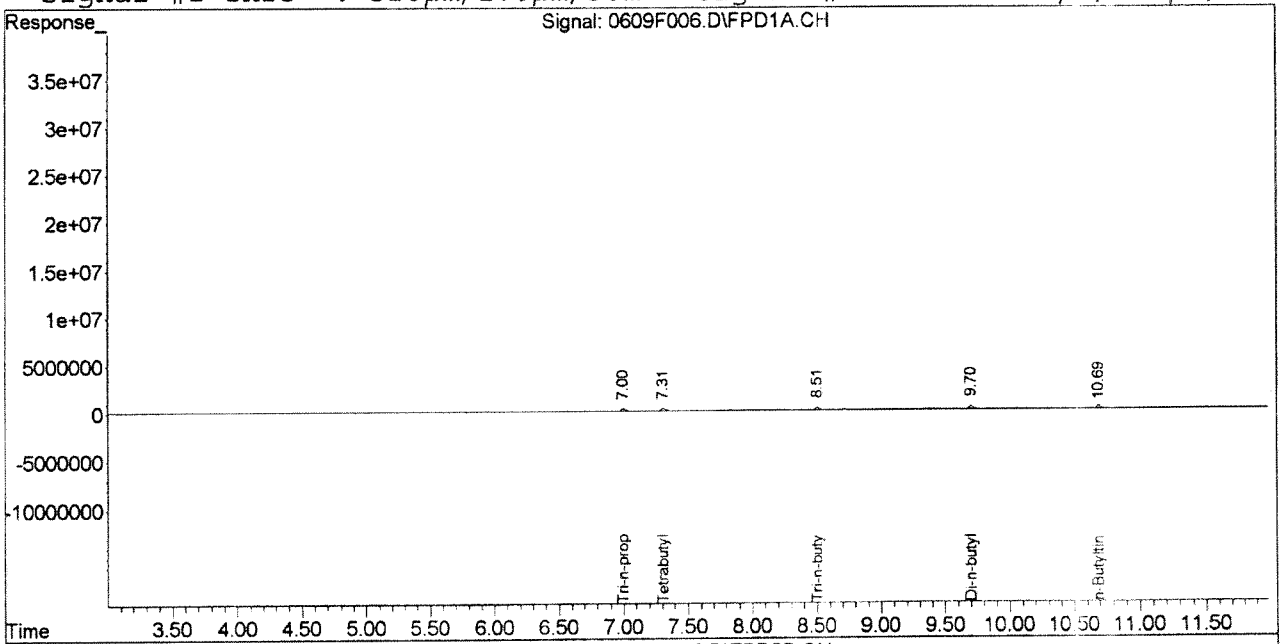
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0609F006.D 060914-HTIN.M Tue Jun 10 09:55:52 2014 Page 1

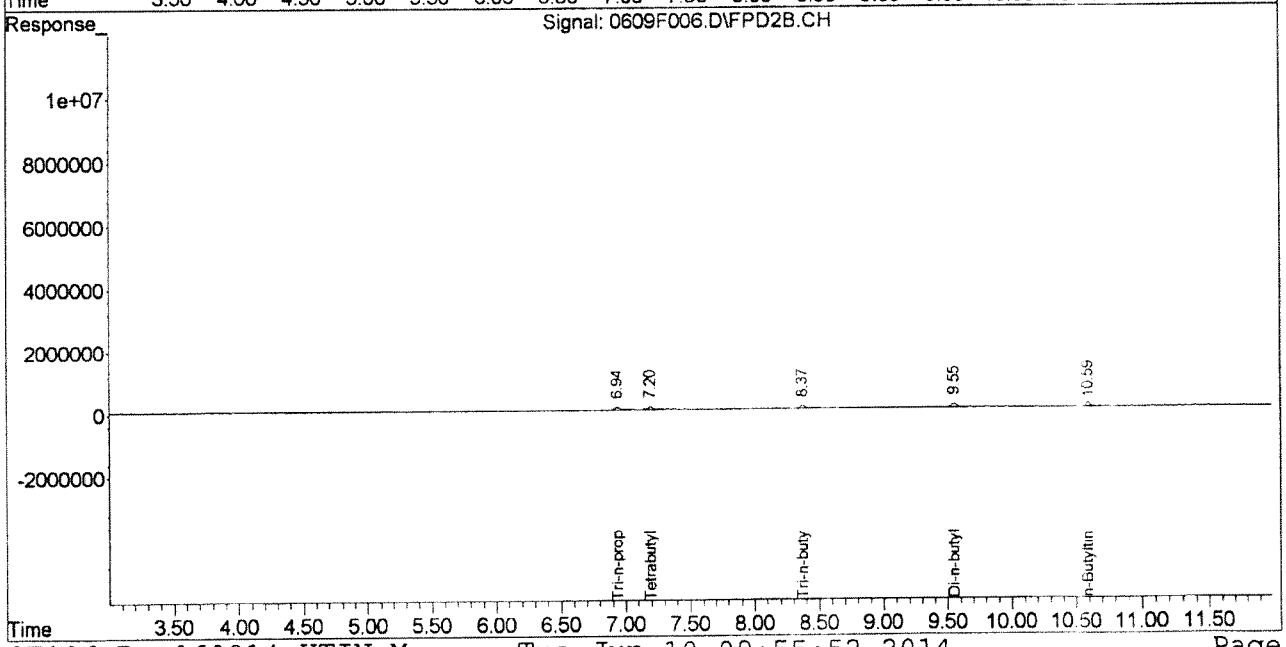
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:50 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

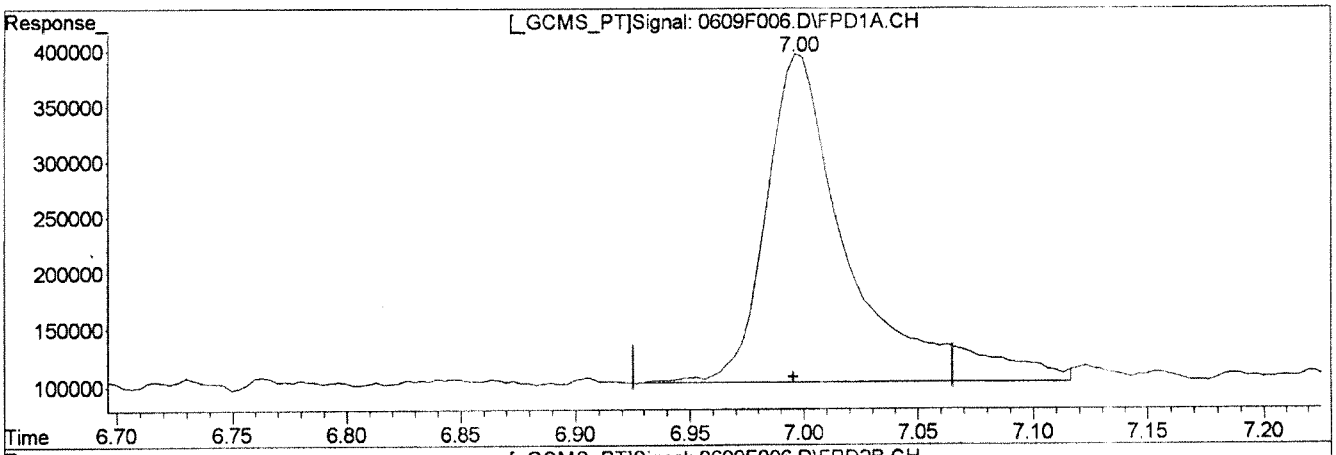


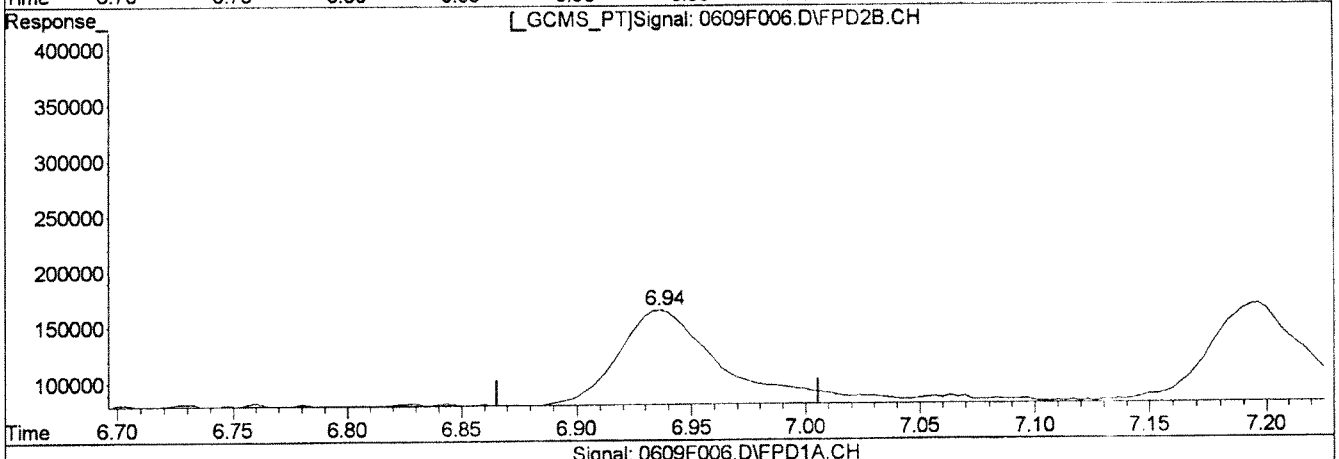


Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration





Signal: 0609F006.D\FPD1A.CH

(1) Tri-n-propyltin (S)

7.00min 8.373ng/mL

response 739519

(1) Tri-n-propyltin #2 (S)

6.94min 9.796ng/mL

response 279986

Manual Integration:

Before

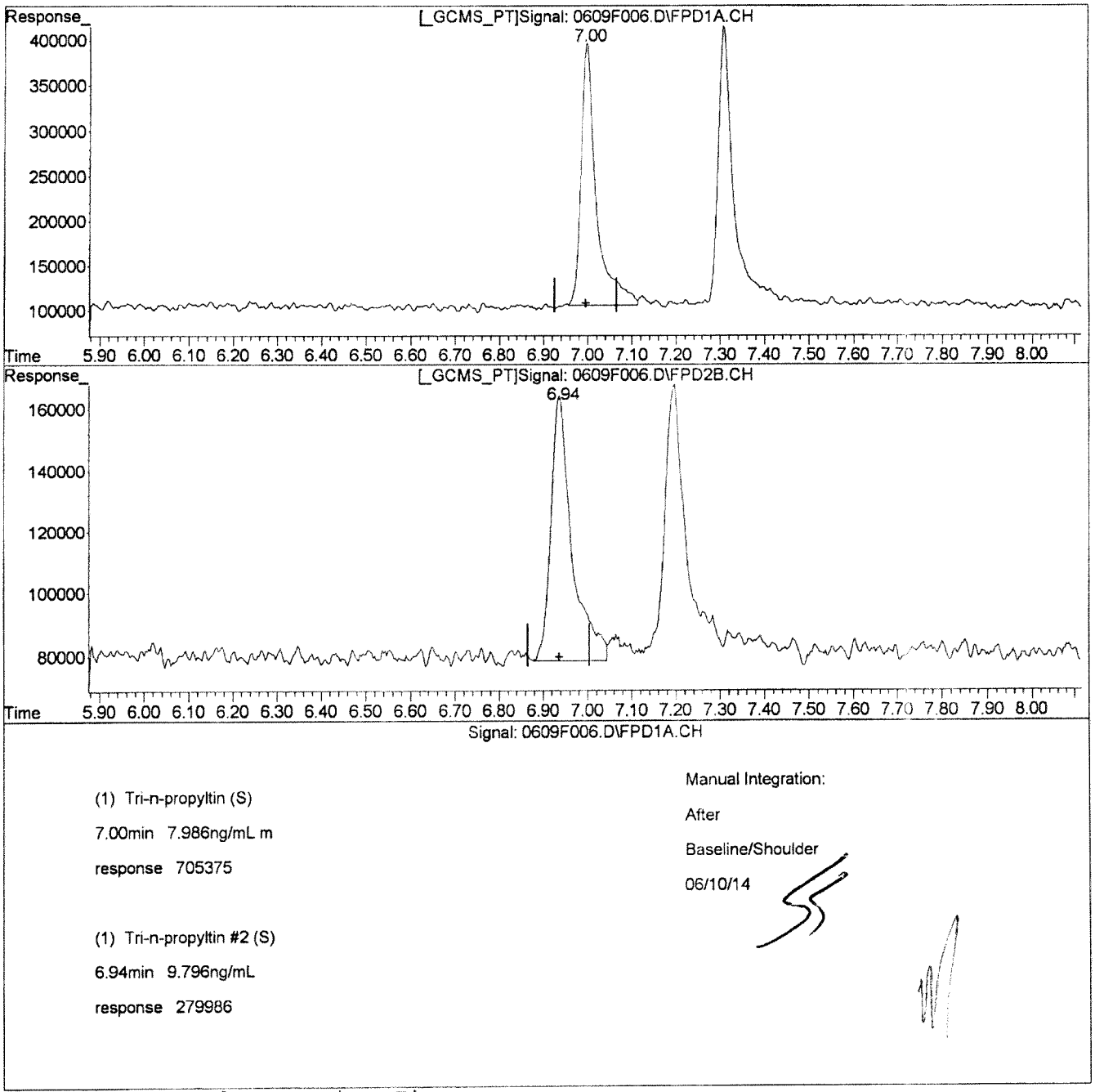
06/10/14

(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:49:08 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

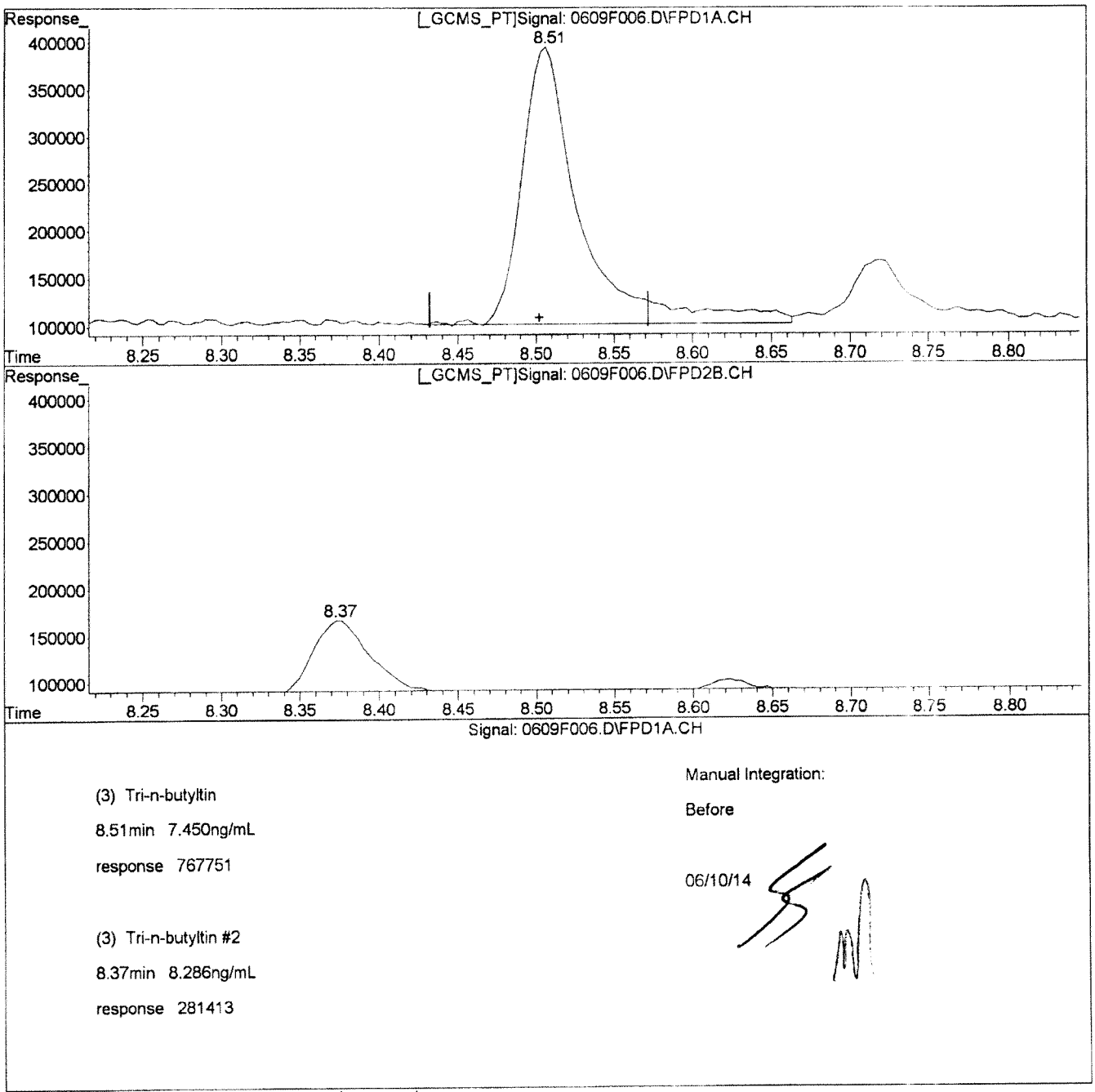


(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:49:23 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

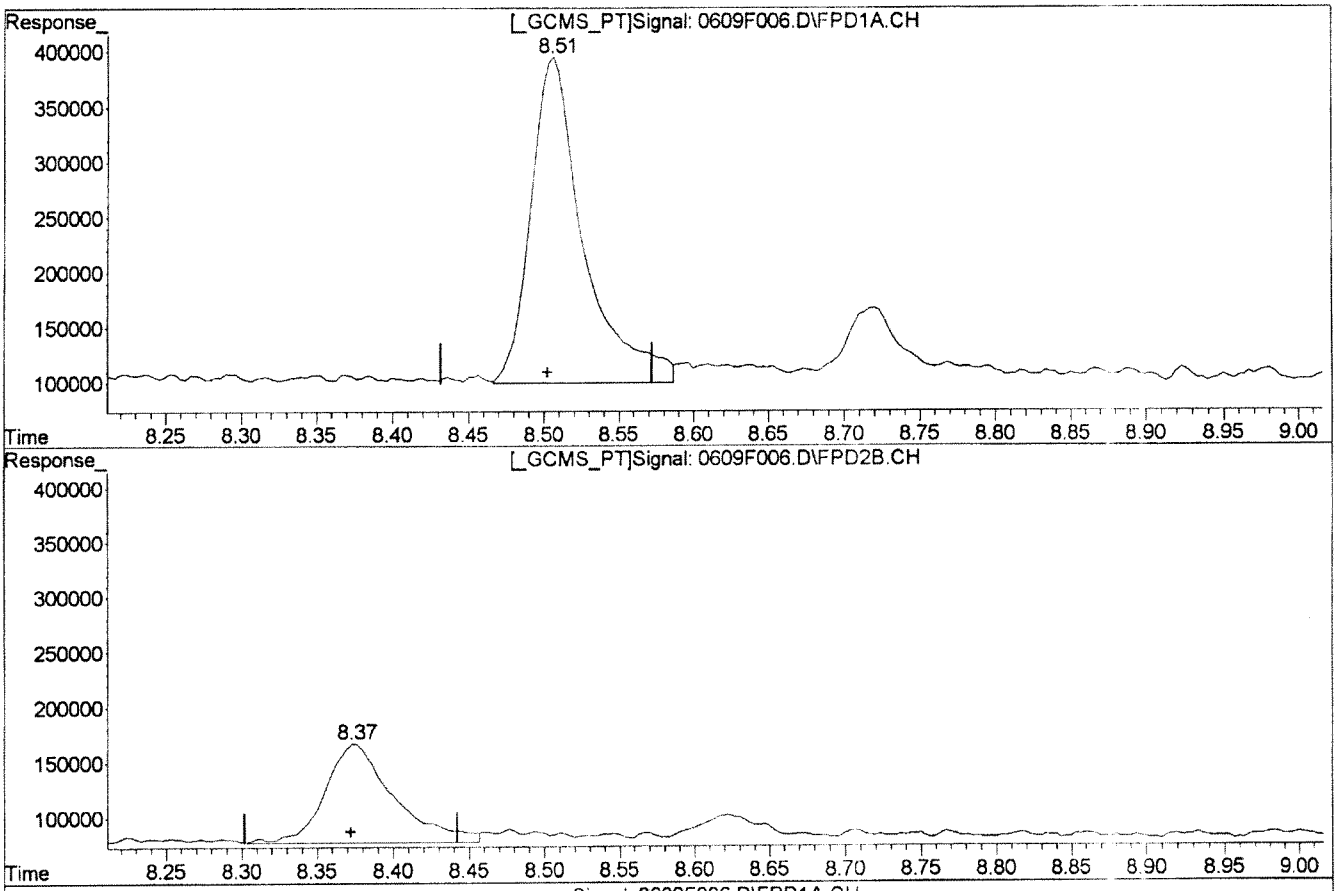


(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:49:36 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F006.D\FPD1A.CH

(3) Tri-n-butyltin

8.51min 7.033ng/mL m

response 724707

(3) Tri-n-butyltin #2

8.37min 8.286ng/mL

response 281413

Manual Integration:

After

Baseline/Shoulder

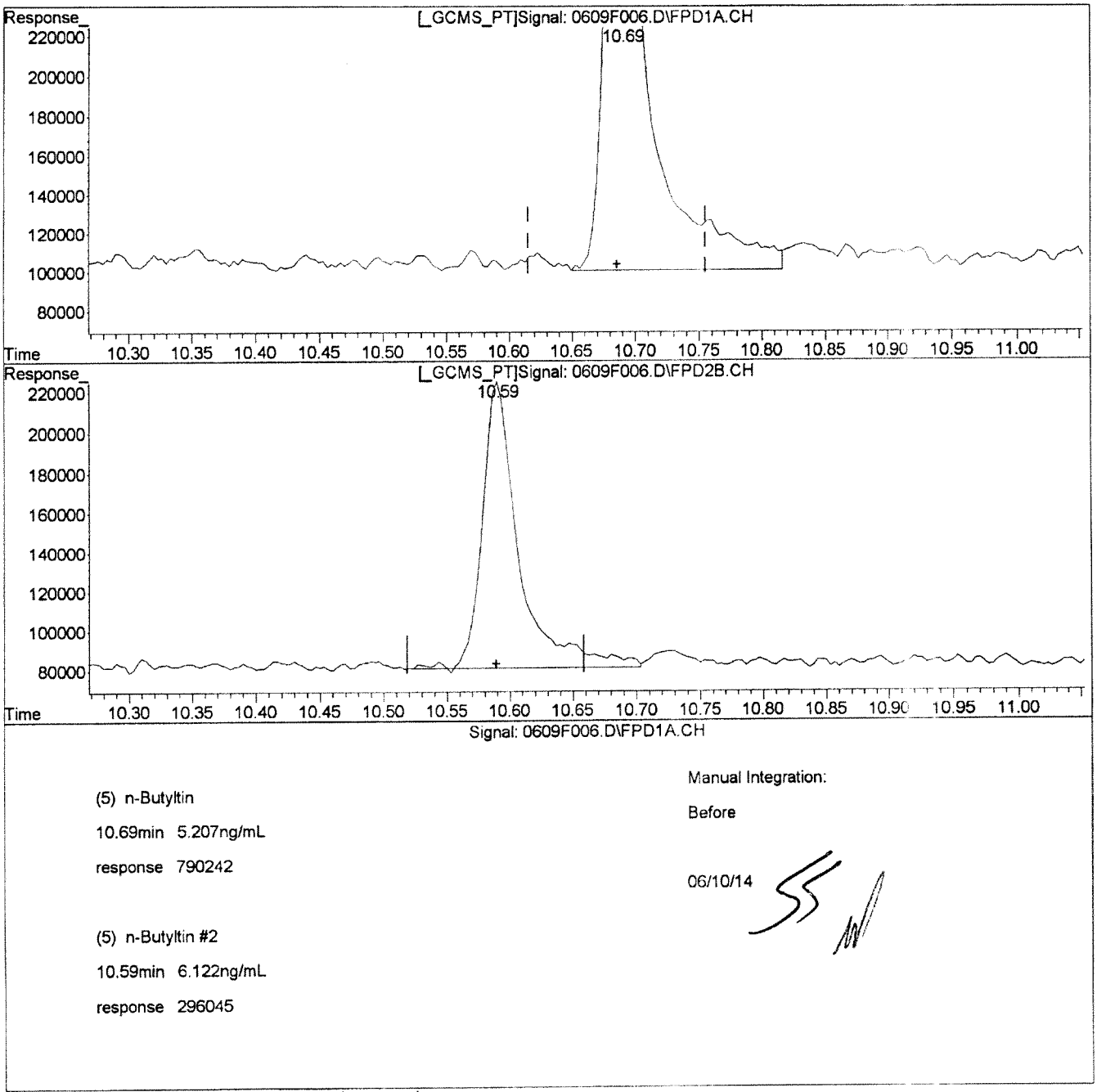
06/10/14

(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:49:49 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

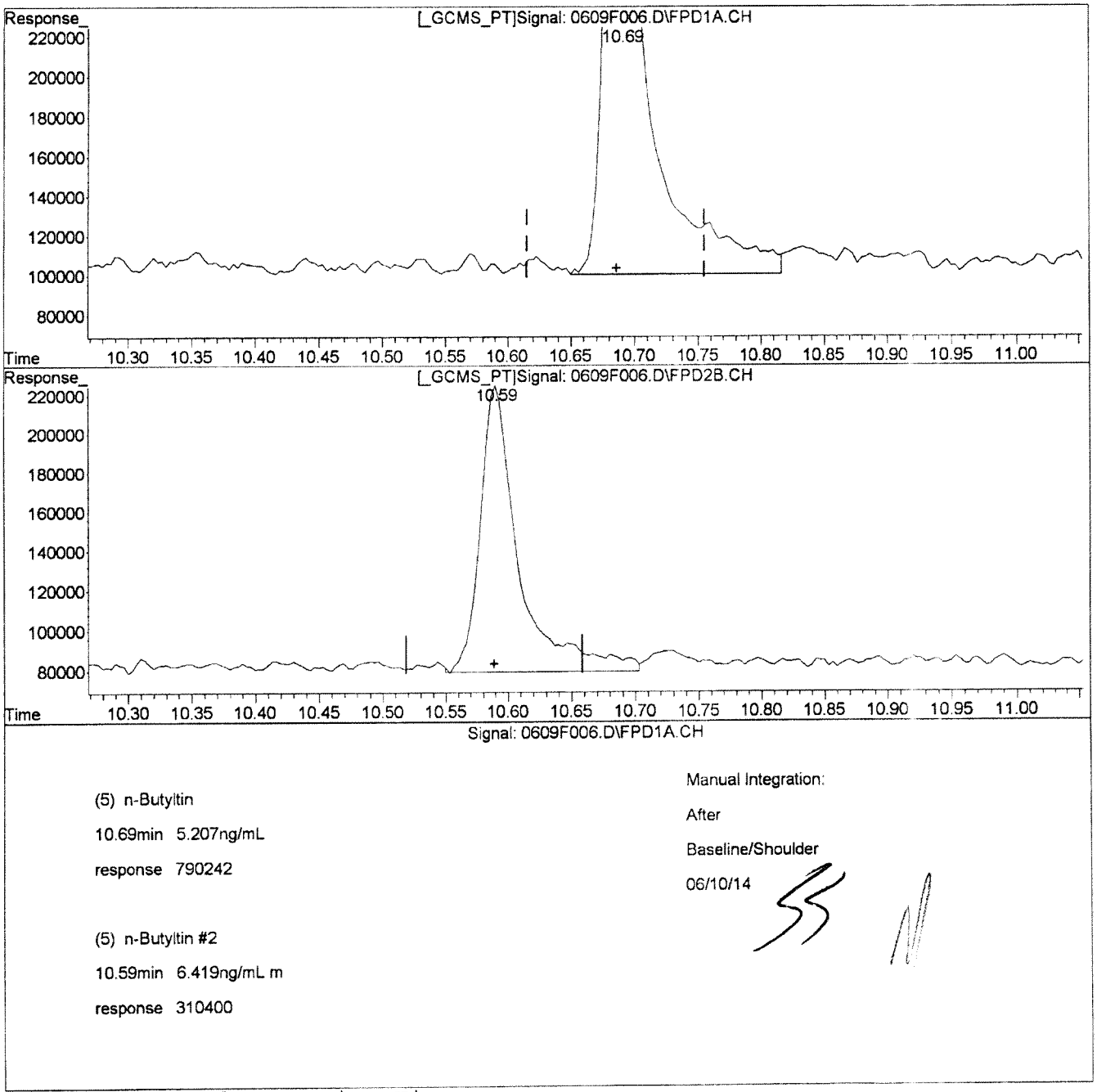


(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:50:02 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F006.D\FPD1A.CH Vial: 88
Signal #2 : J:\GC26\DATA\060914\0609F006.D\FPD2B.CH
Acq On : 09 Jun 2014 3:40 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F006.D 060914-HTIN.M Tue Jun 10 09:50:25 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F007.D\FPD1A.CH Vial: 89
Signal #2 : J:\GC26\DATA\060914\0609F007.D\FPD2B.CH
Acq On : 09 Jun 2014 3:58 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 10 09:39:37 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	1703105	605069	19.283	21.170
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	1650785	591243	20.617	23.417
3)		Tri-n-butyltin	8.50	8.37	1644441	556719	15.958	16.393
4)		Di-n-butyltin	9.70	9.55	2079358	710864	16.281	17.578
5)		n-Butyltin	10.69	10.59	1795353	642364	11.829	13.285

6/10/14

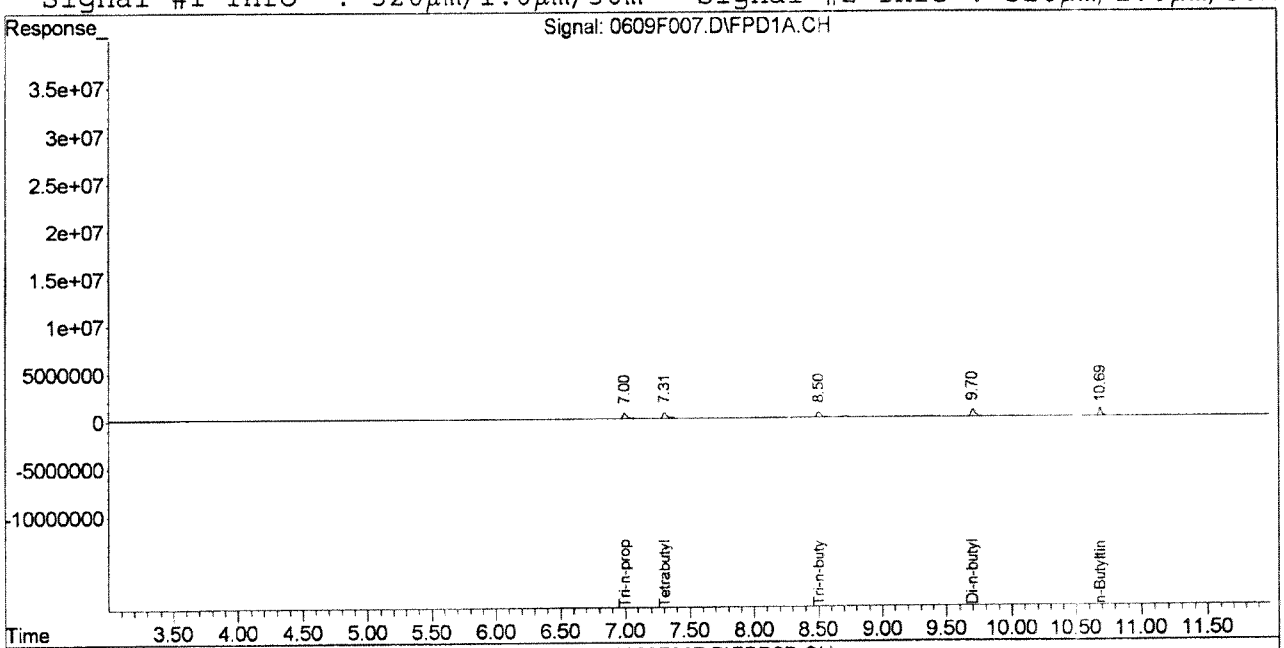
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int!
0609F007.D 060914-HTIN.M Tue Jun 10 09:55:54 2014 Page 1

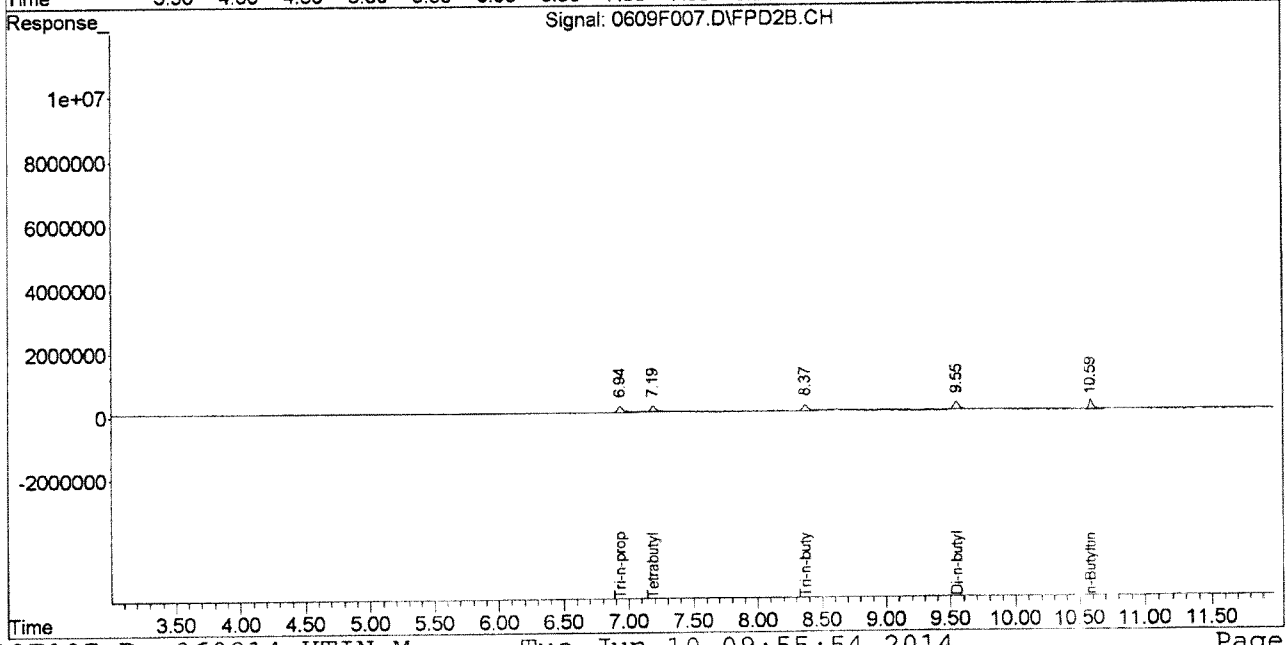
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F007.D\FPD1A.CH Vial: 89
Signal #2 : J:\GC26\DATA\060914\0609F007.D\FPD2B.CH
Acq On : 09 Jun 2014 3:58 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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\060914\0609F008.D\FPD1A.CH Vial: 90
Signal #2 : J:\GC26\DATA\060914\0609F008.D\FPD2B.CH
Acq On : 09 Jun 2014 4:14 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 10 09:39:38 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	4375459	1602605	49.539	56.071
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	4286982	1548463	53.542	61.328m
3)		Tri-n-butyltin	8.50	8.37	4269941	1553258	41.436	45.736
4)		Di-n-butyltin	9.70	9.55	5616114	2041660	43.974	50.486
5)		n-Butyltin	10.69	10.59	4469572	1567804	29.448	32.423

SS 6/10/14

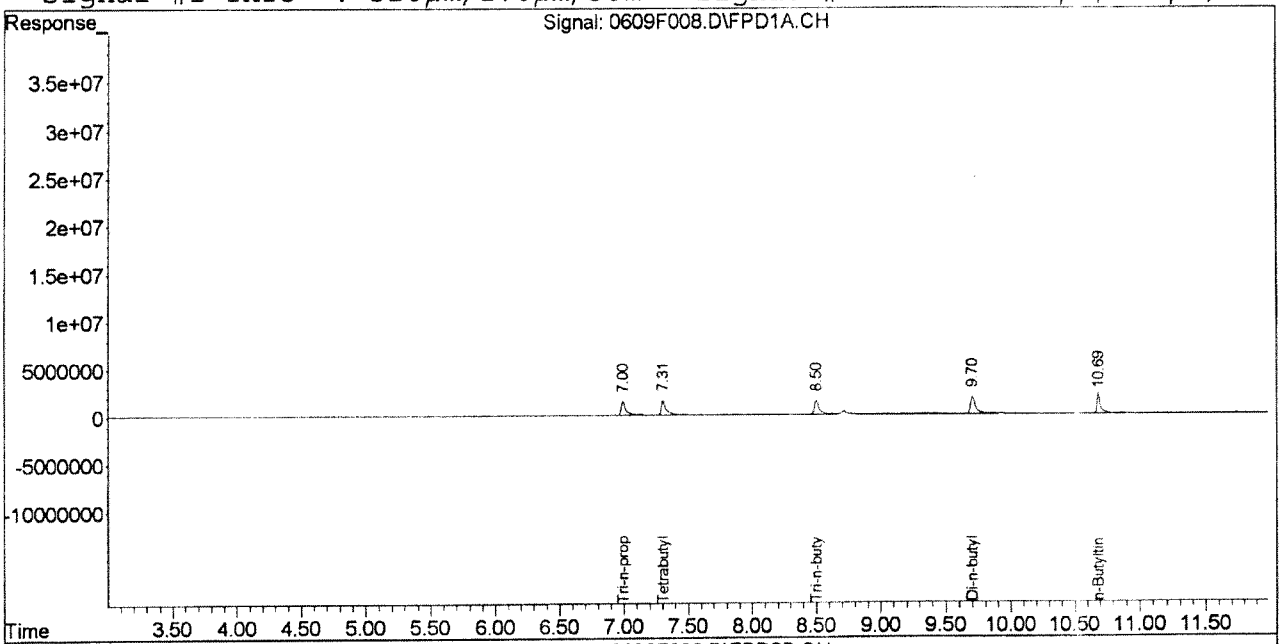
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

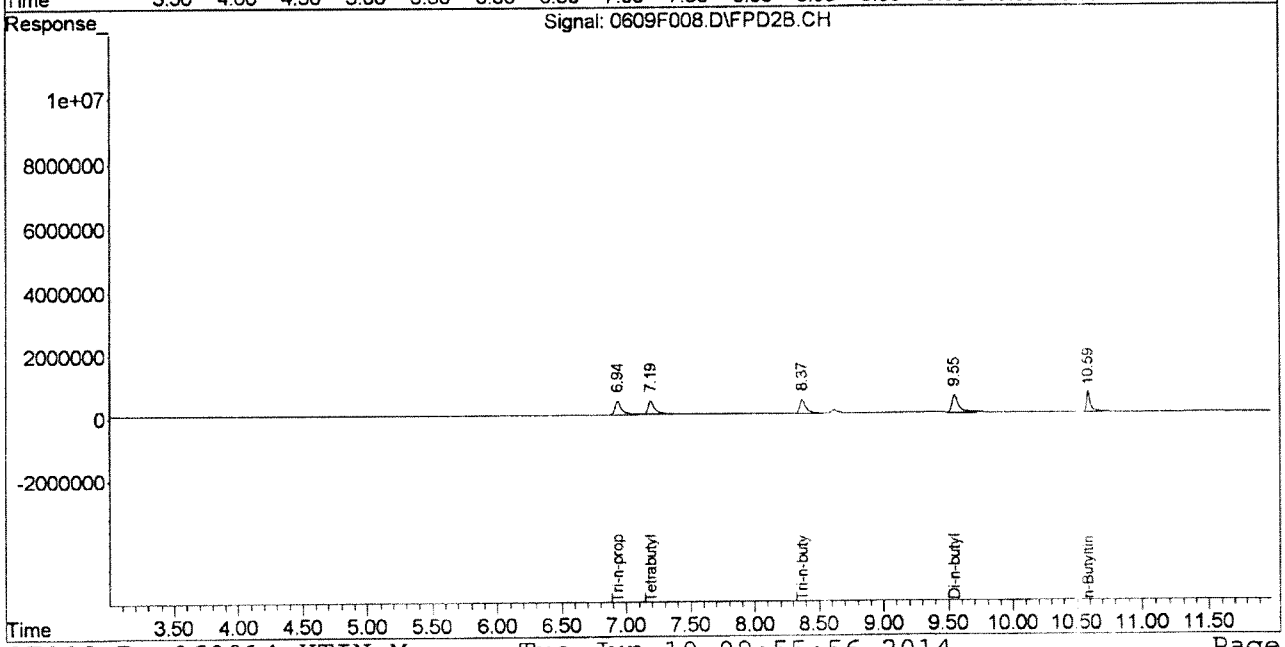
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F008.D\FPD1A.CH Vial: 90
Signal #2 : J:\GC26\DATA\060914\0609F008.D\FPD2B.CH
Acq On : 09 Jun 2014 4:14 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 10 9:51 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

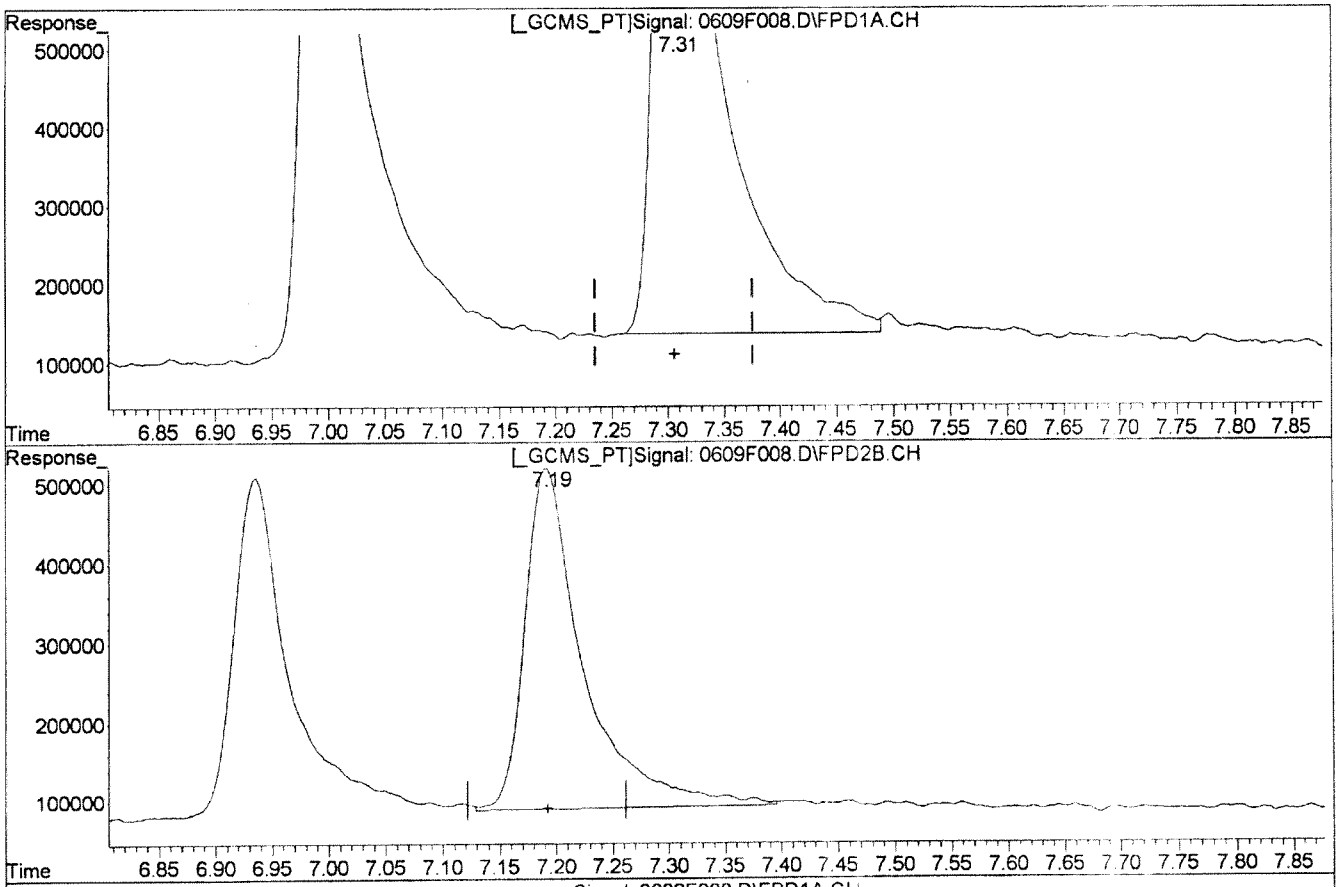




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F008.D\FPD1A.CH Vial: 90
Signal #2 : J:\GC26\DATA\060914\0609F008.D\FPD2B.CH
Acq On : 09 Jun 2014 4:14 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F008.D\FPD1A.CH

(2) Tetrabutyltin

7.31min 53.542ng/mL

response 4286982

(2) Tetrabutyltin #2

7.19min 62.278ng/mL

response 1572447

Manual Integration:

Before

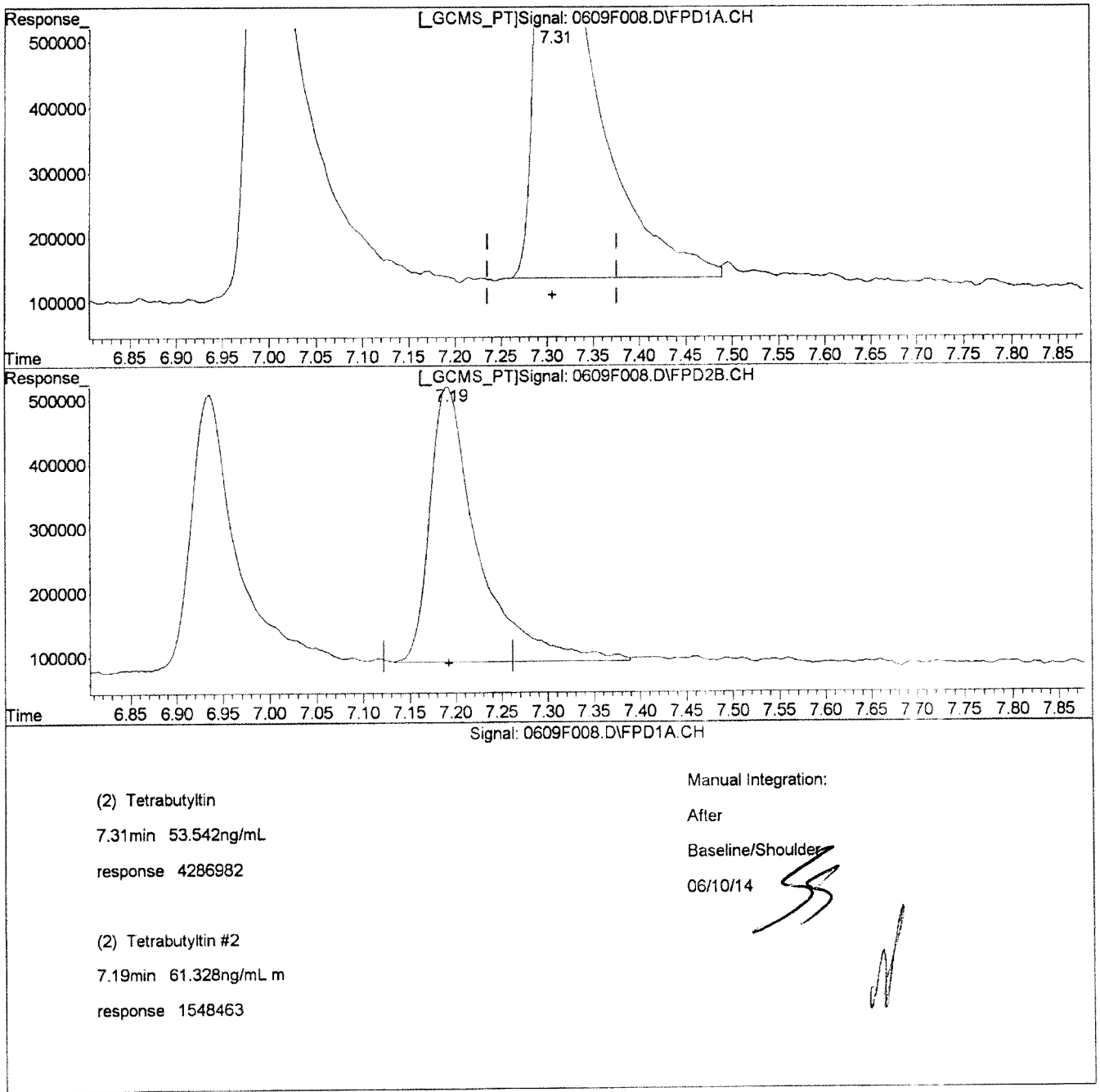
06/10/14

(+) = Expected Retention Time
0609F008.D 060914-HTIN.M Tue Jun 10 09:50:57 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F008.D\FPD1A.CH Vial: 90
Signal #2 : J:\GC26\DATA\060914\0609F008.D\FPD2B.CH
Acq On : 09 Jun 2014 4:14 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F008.D 060914-HTIN.M Tue Jun 10 09:51:13 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F009.D\FPD1A.CH Vial: 91
Signal #2 : J:\GC26\DATA\060914\0609F009.D\FPD2B.CH
Acq On : 09 Jun 2014 4:31 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 10 09:39:39 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	18917139	6566405	214.181	229.740
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	18965550	6508723	236.867m	257.782m
3)		Tri-n-butyltin	8.50	8.37	17521902	6259318	170.035	184.306
4)		Di-n-butyltin	9.70	9.55	23715977	8478307	185.694	209.652
5)		n-Butyltin	10.69	10.59	19052297	6866779	125.526	142.010

6/10/14

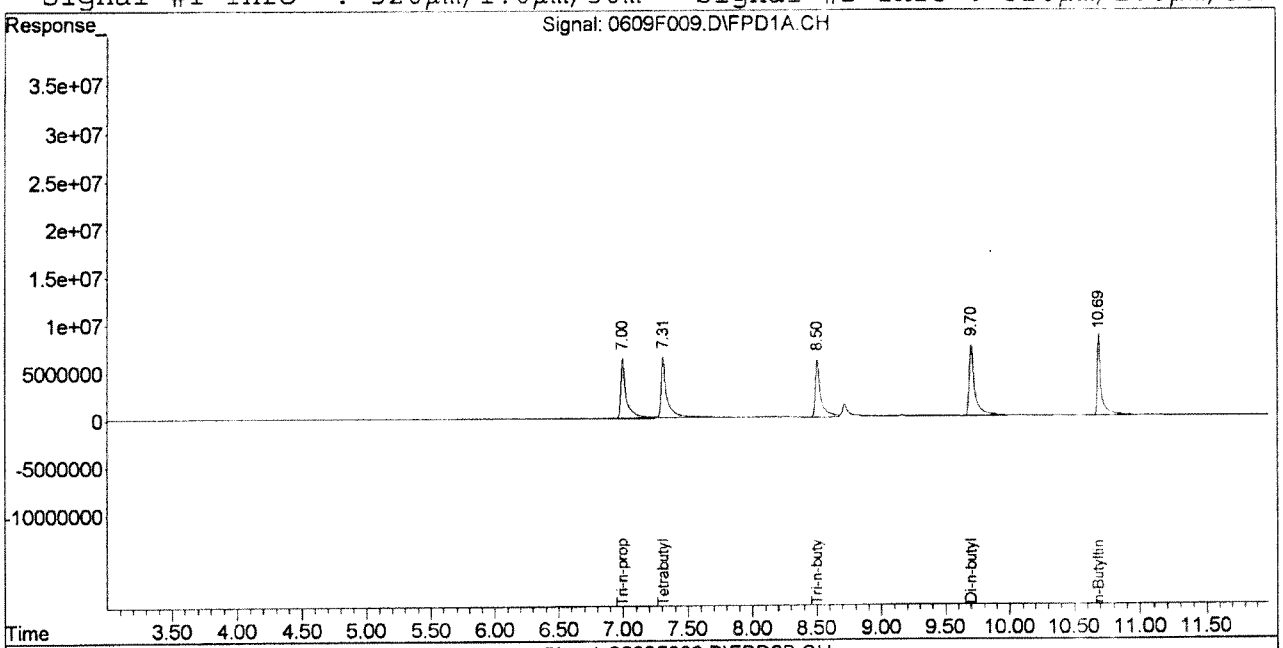
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0609F009.D 060914-HTIN.M Tue Jun 10 09:55:58 2014 Page 1

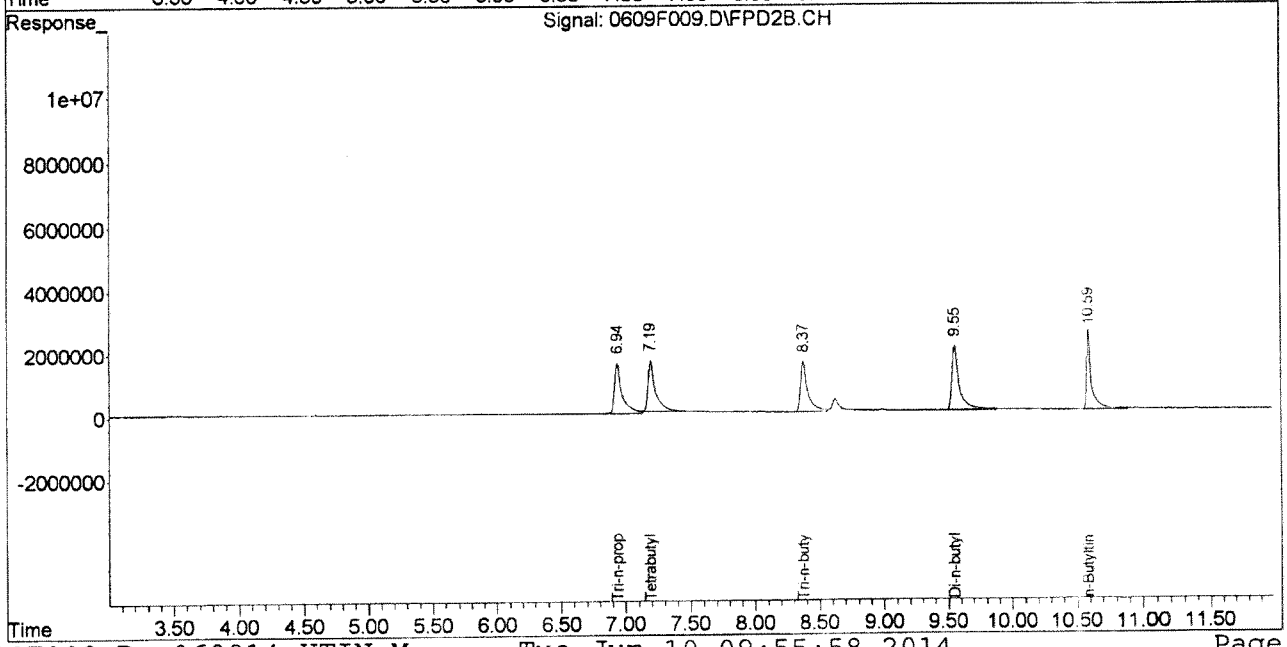
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F009.D\FPD1A.CH Vial: 91
Signal #2 : J:\GC26\DATA\060914\0609F009.D\FPD2B.CH
Acq On : 09 Jun 2014 4:31 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 10 9:51 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

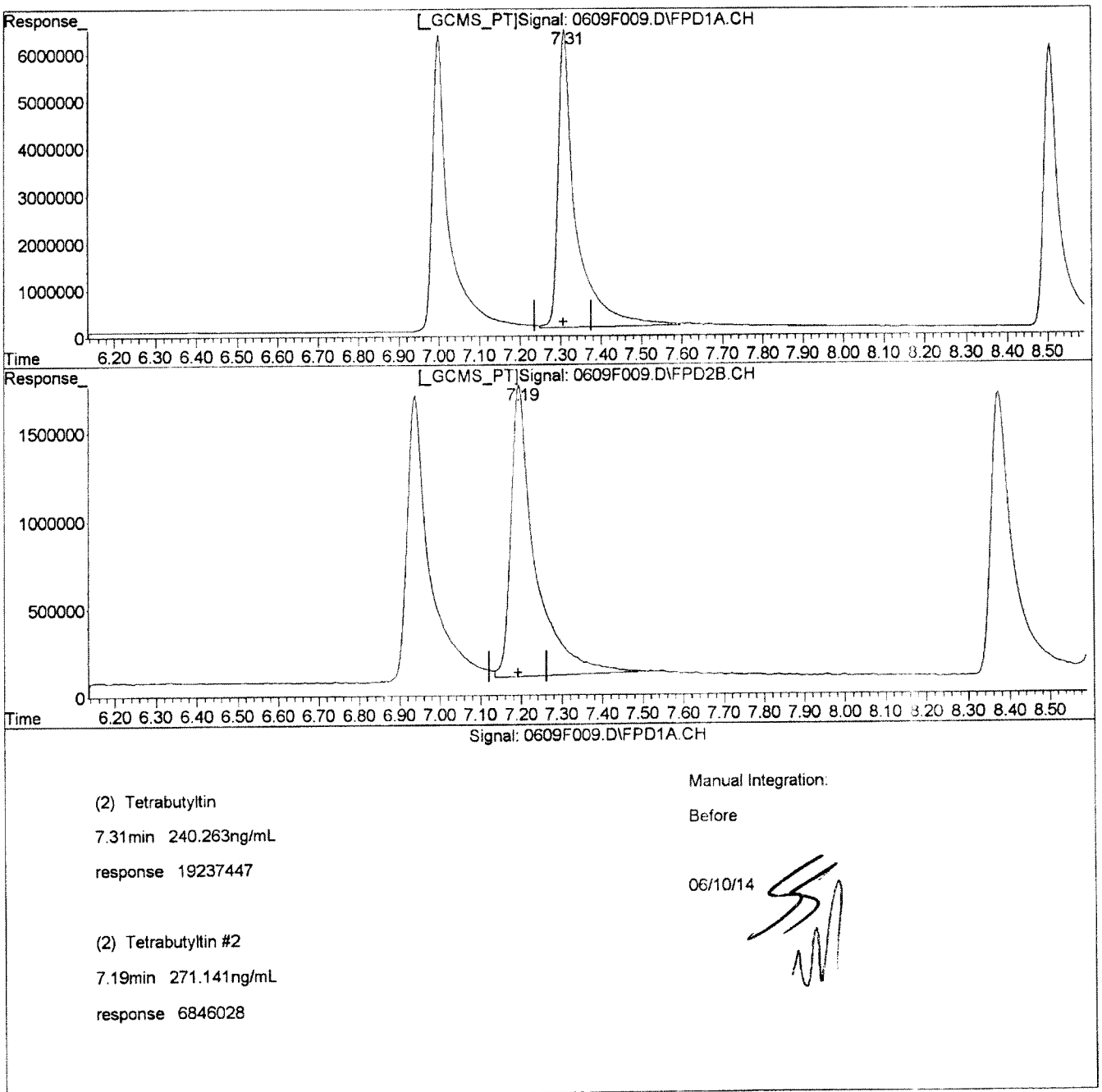




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F009.D\FPD1A.CH Vial: 91
Signal #2 : J:\GC26\DATA\060914\0609F009.D\FPD2B.CH
Acq On : 09 Jun 2014 4:31 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

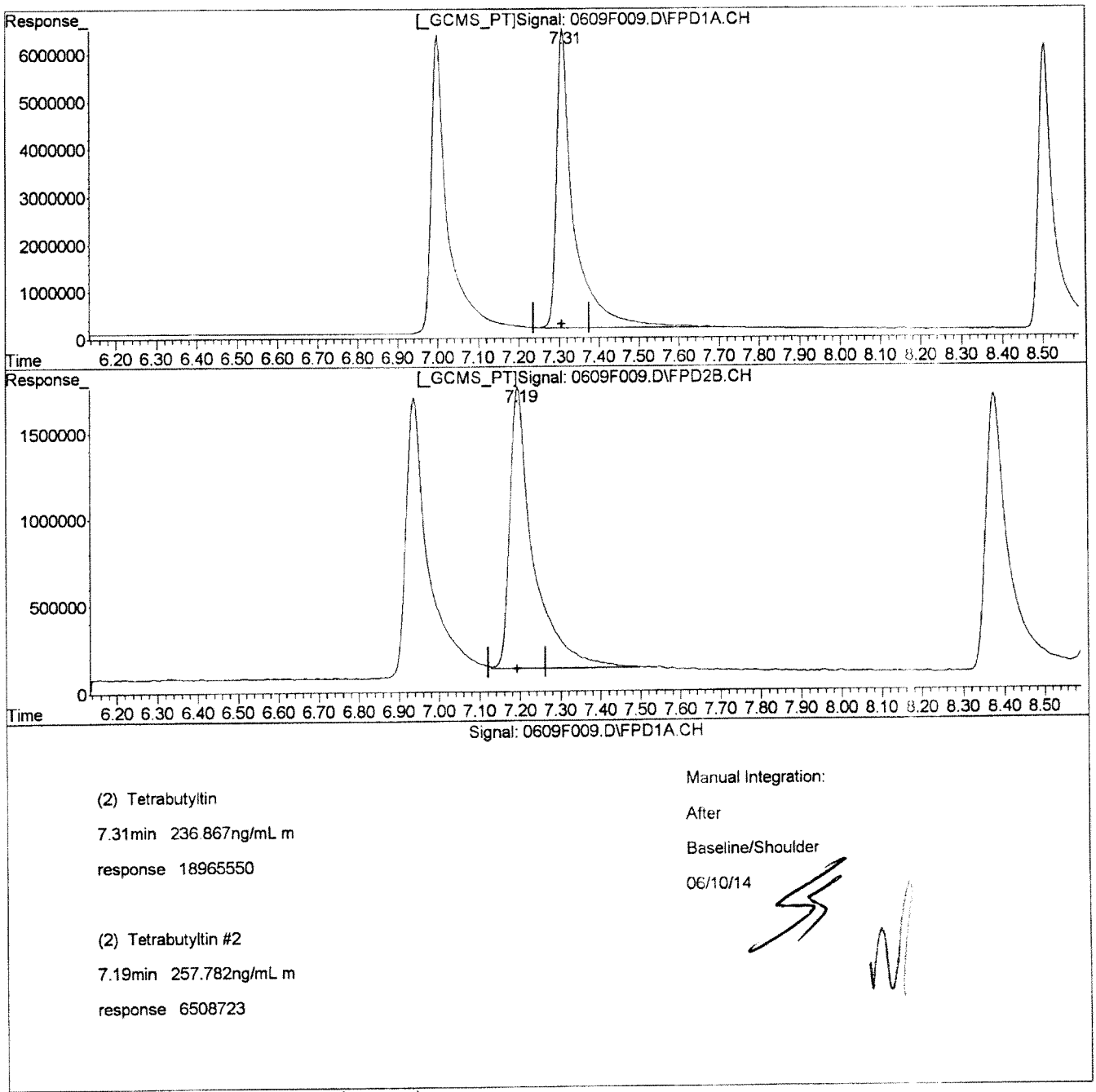


(+) = Expected Retention Time
0609F009.D 060914-HTIN.M Tue Jun 10 09:51:30 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F009.D\FPD1A.CH Vial: 91
Signal #2 : J:\GC26\DATA\060914\0609F009.D\FPD2B.CH
Acq On : 09 Jun 2014 4:31 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F009.D 060914-HTIN.M Tue Jun 10 09:52:02 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F010.D\FPD1A.CH Vial: 92
Signal #2 : J:\GC26\DATA\060914\0609F010.D\FPD2B.CH
Acq On : 09 Jun 2014 4:47 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 10 09:39:39 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	46674379	16108279	528.451	563.584
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	46059461	15915826	575.252m	630.357m
3)		Tri-n-butyltin	8.50	8.37	42989419	15374955	417.174	452.717
4)		Di-n-butyltin	9.70	9.55	58068468	20809871	454.670	514.589
5)		n-Butyltin	10.68	10.59	47239202	16515370	311.235	341.549

6/10/14

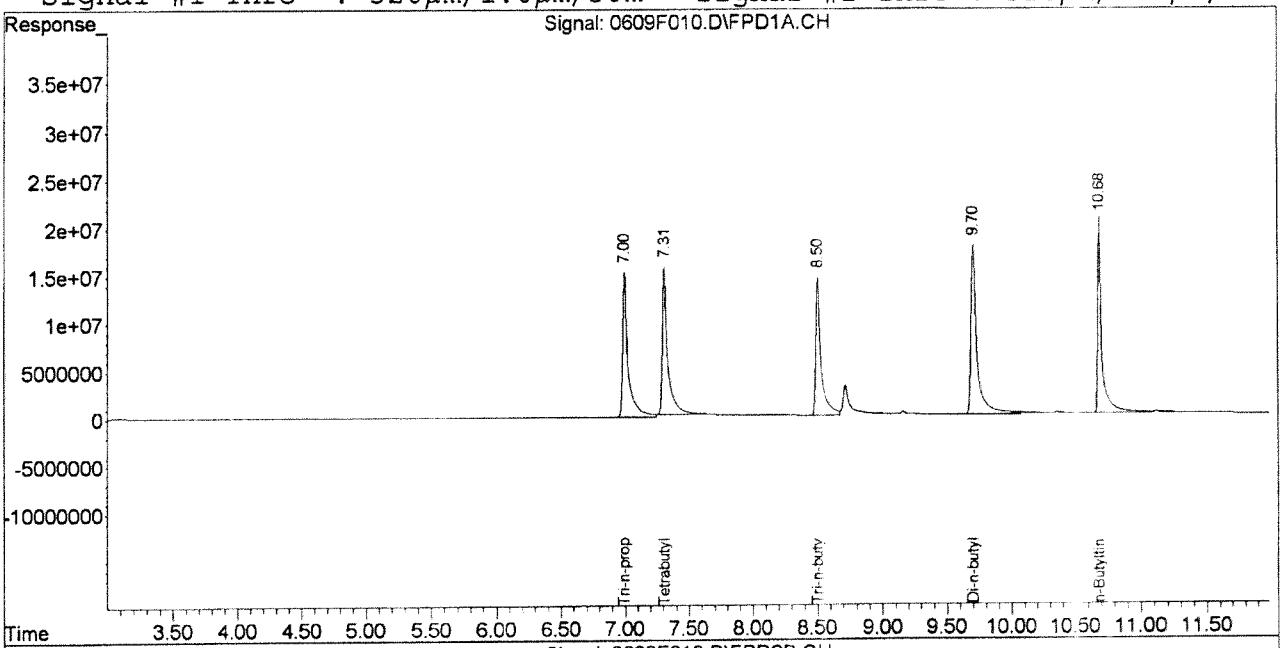
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

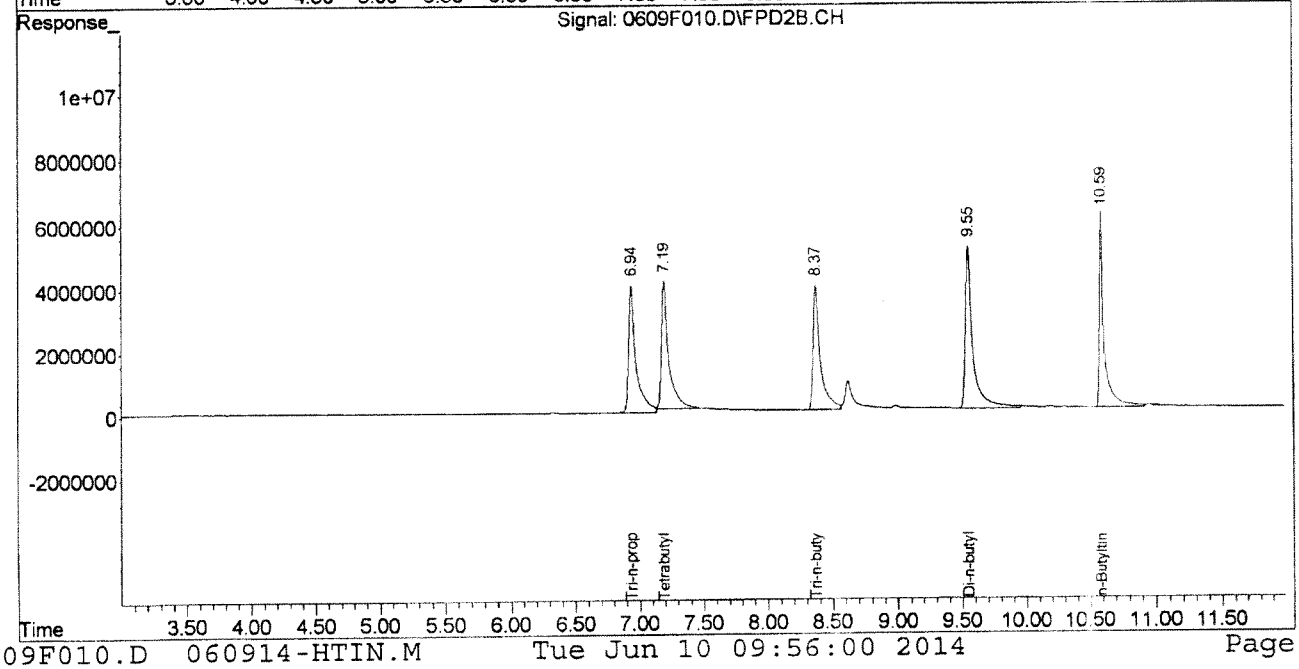
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F010.D\FPD1A.CH Vial: 92
Signal #2 : J:\GC26\DATA\060914\0609F010.D\FPD2B.CH
Acq On : 09 Jun 2014 4:47 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 10 9:52 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

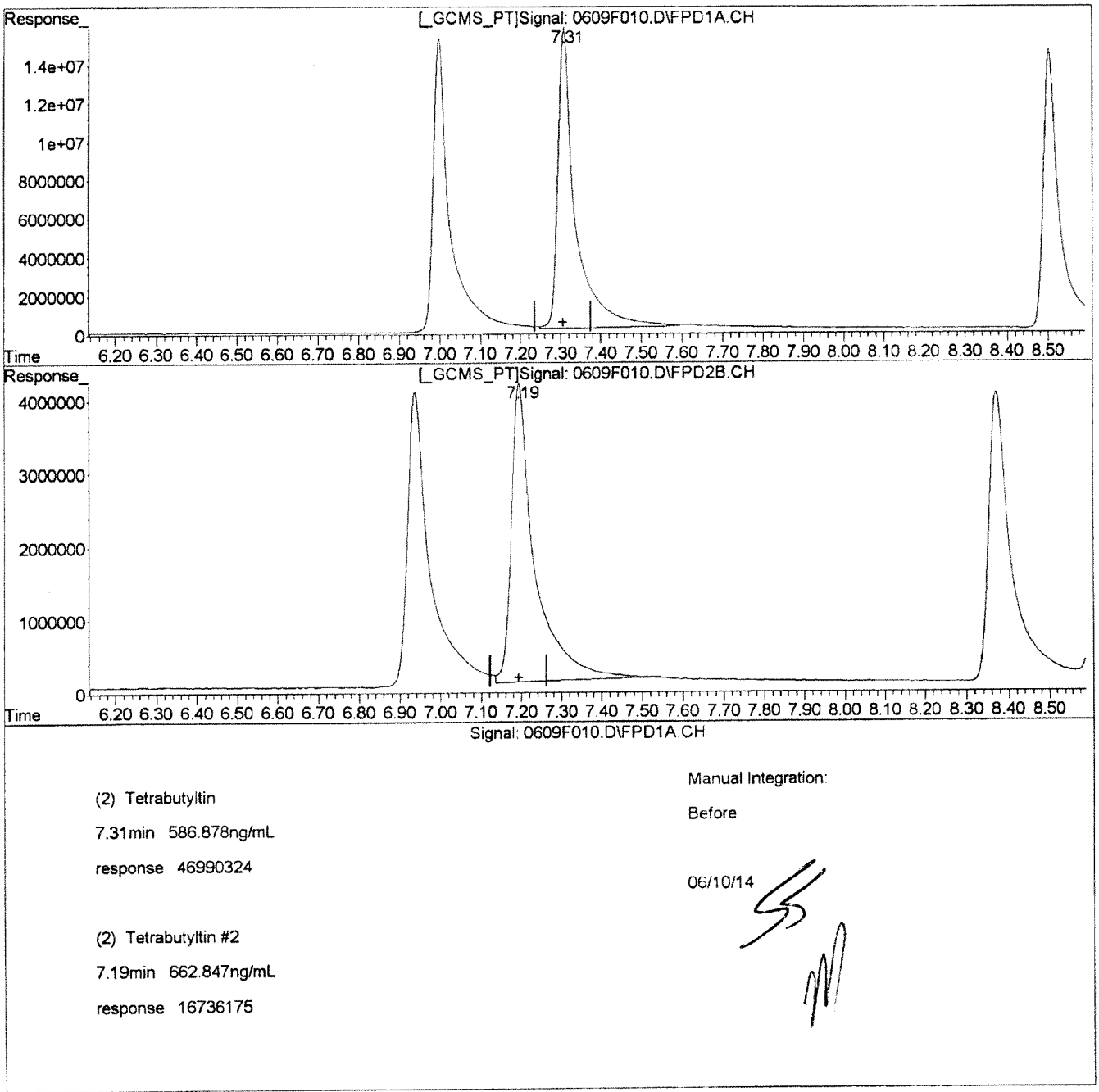




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F010.D\FPD1A.CH Vial: 92
Signal #2 : J:\GC26\DATA\060914\0609F010.D\FPD2B.CH
Acq On : 09 Jun 2014 4:47 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration

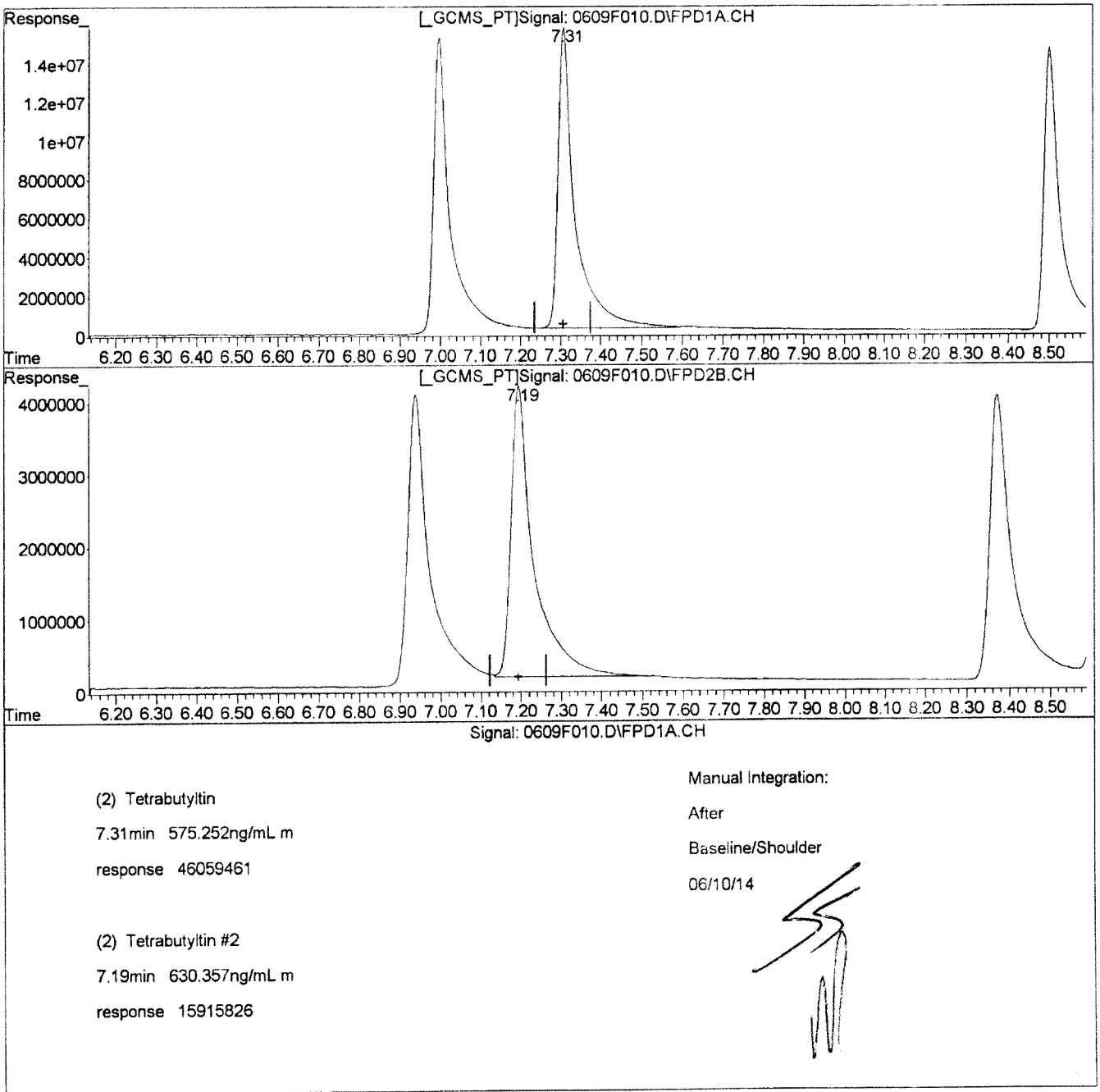


(+) = Expected Retention Time
0609F010.D 060914-HTIN.M Tue Jun 10 09:52:18 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F010.D\FPD1A.CH Vial: 92
Signal #2 : J:\GC26\DATA\060914\0609F010.D\FPD2B.CH
Acq On : 09 Jun 2014 4:47 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F010.D 060914-HTIN.M Tue Jun 10 09:52:46 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F011.D\FPD1A.CH Vial: 93
Signal #2 : J:\GC26\DATA\060914\0609F011.D\FPD2B.CH
Acq On : 09 Jun 2014 5:03 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 10 09:39:40 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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	6.99	6.94	88649782	30520567	1003.699	1067.830
		Target Compounds						
2)		Tetrabutyltin	7.31	7.19	86660044	30053275	1082.327m	1190.280m
3)		Tri-n-butyltin	8.50	8.37	80778863	28911286	783.887	851.295
4)		Di-n-butyltin	9.70	9.55	110.1E6	38583483	861.745	954.096
5)		n-Butyltin	10.69	10.59	88015142	30866816	579.887	638.346

SS 6/10/14

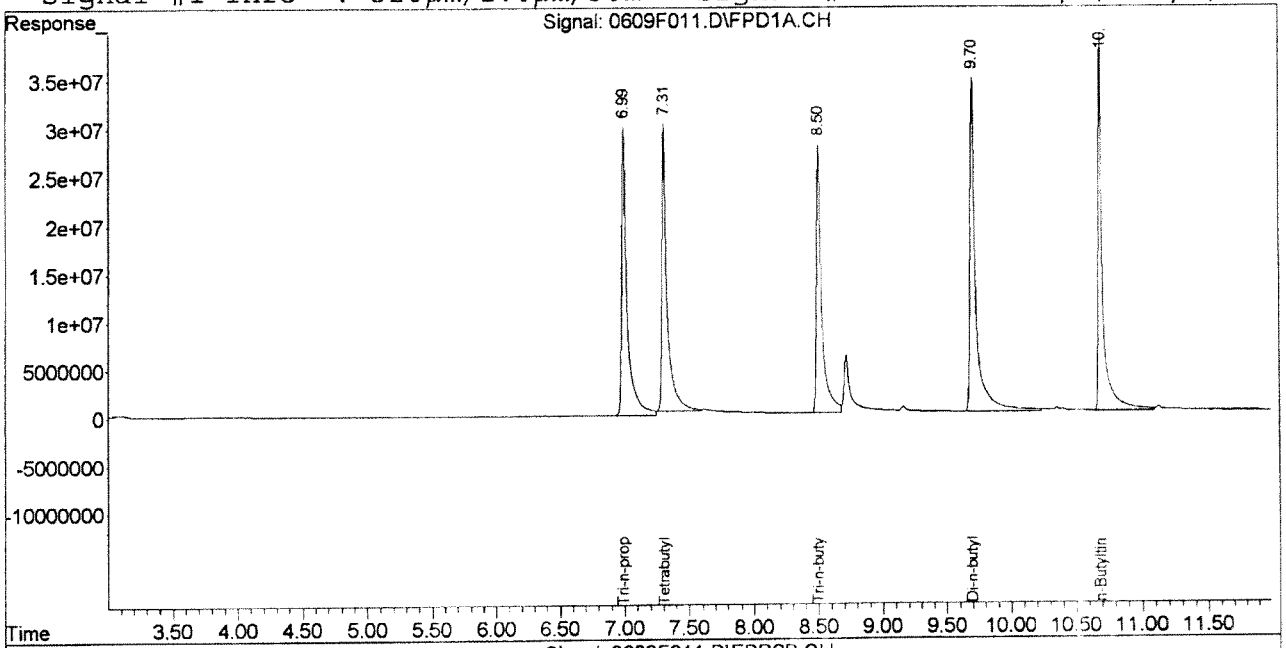
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0609F011.D 060914-HTIN.M Tue Jun 10 09:56:02 2014 Page 1

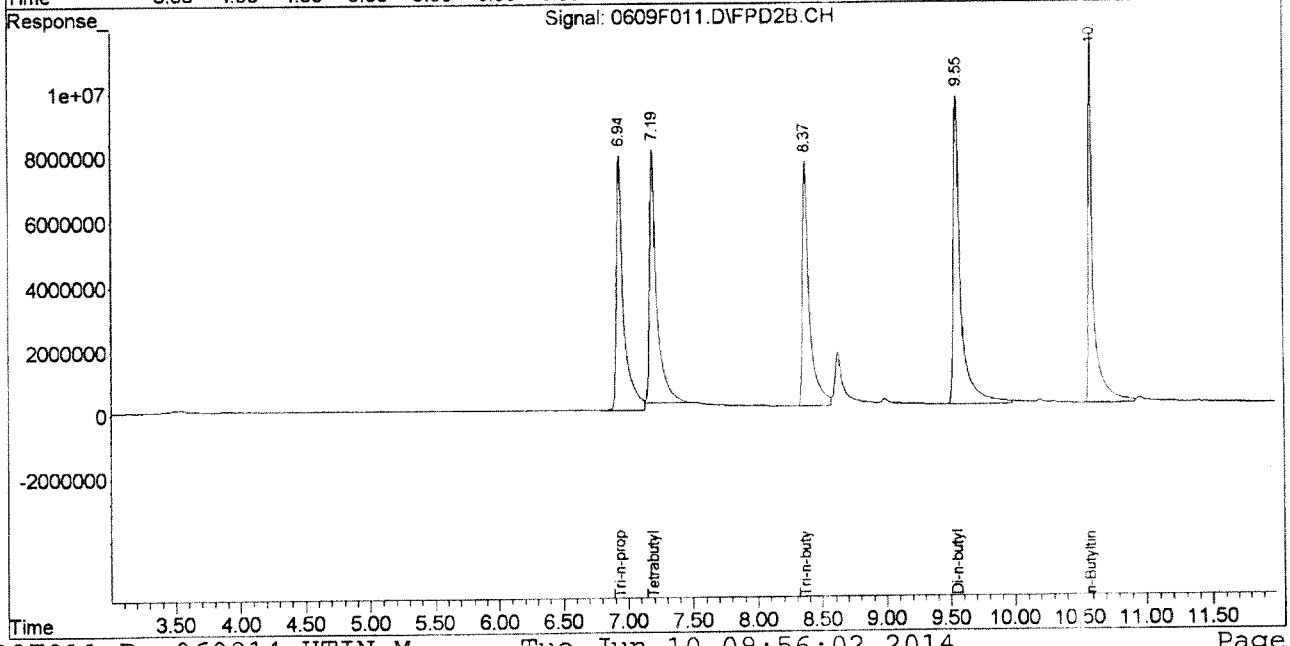
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F011.D\FPD1A.CH Vial: 93
Signal #2 : J:\GC26\DATA\060914\0609F011.D\FPD2B.CH
Acq On : 09 Jun 2014 5:03 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 10 9:53 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 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

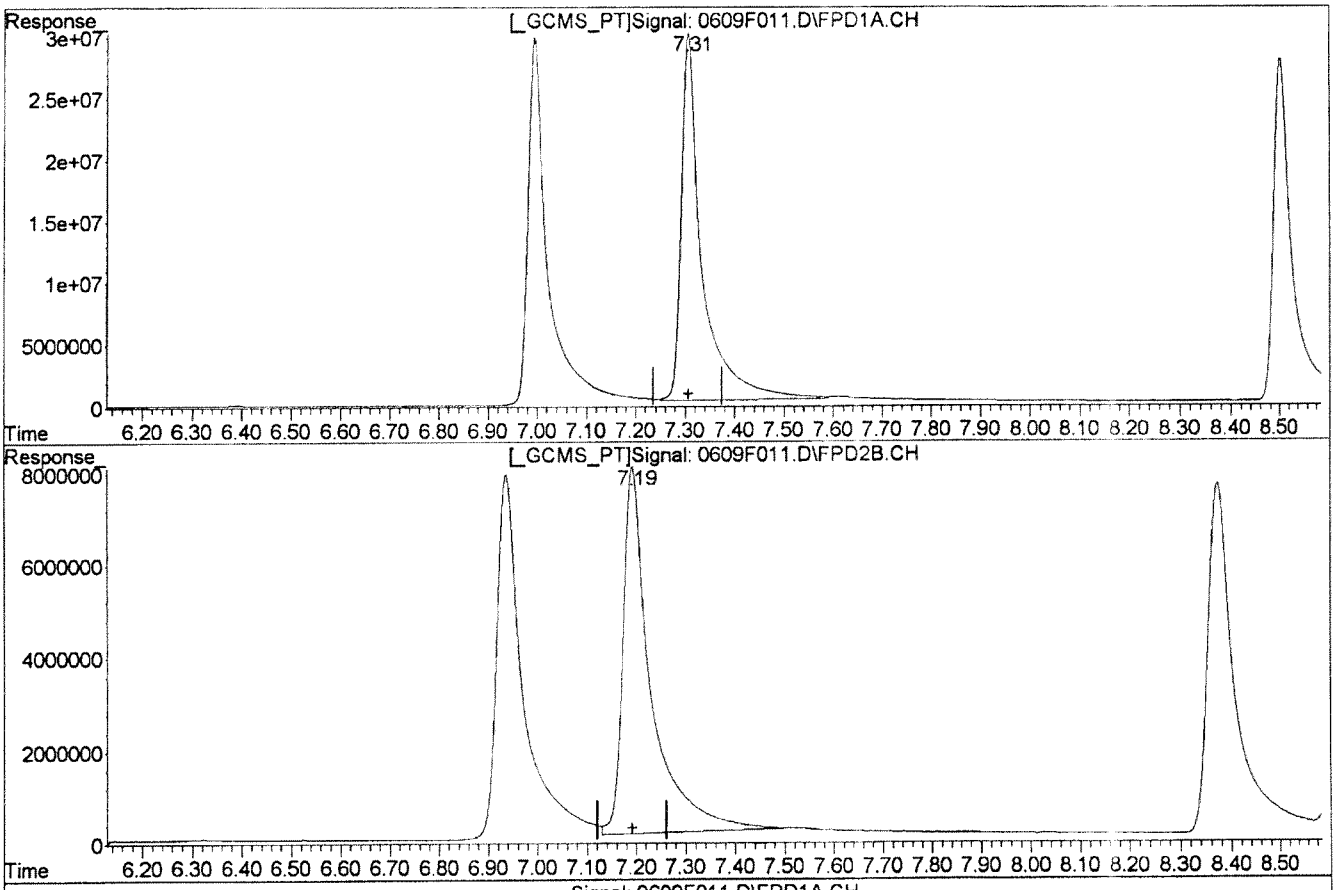




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F011.D\FPD1A.CH Vial: 93
Signal #2 : J:\GC26\DATA\060914\0609F011.D\FPD2B.CH
Acq On : 09 Jun 2014 5:03 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



Signal: 0609F011.D\FPD1A.CH

(2) Tetrabutyltin

7.31min 1092.208ng/mL

response 87451217

(2) Tetrabutyltin #2

7.19min 1245.471ng/mL

response 31446791

Manual Integration:

Before

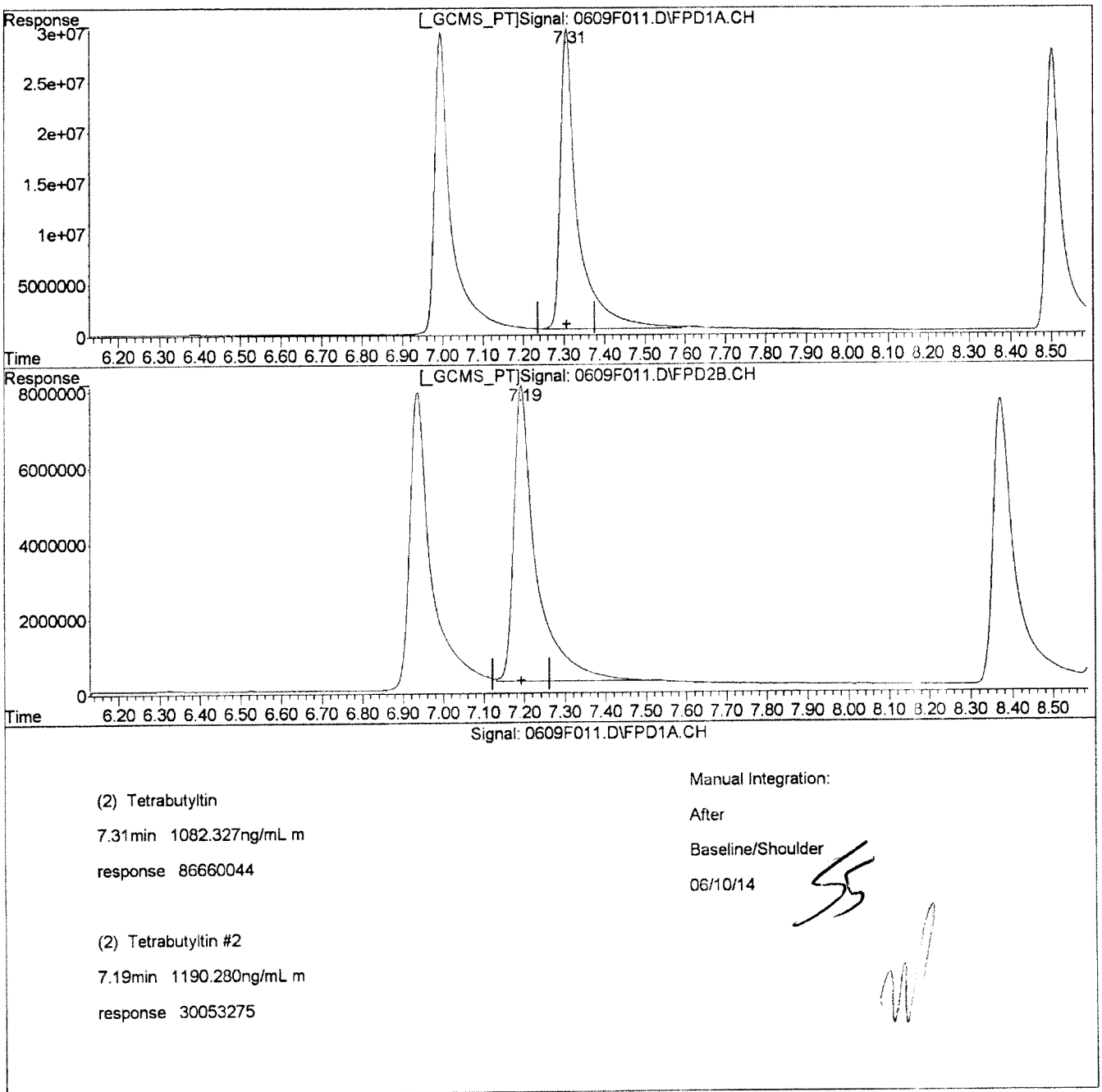
06/10/14

(+) = Expected Retention Time
0609F011.D 060914-HTIN.M Tue Jun 10 09:53:03 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\060914\0609F011.D\FPD1A.CH Vial: 93
Signal #2 : J:\GC26\DATA\060914\0609F011.D\FPD2B.CH
Acq On : 09 Jun 2014 5:03 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 10 9:39 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:39:15 2014
Response via : Multiple Level Calibration



(+) = Expected Retention Time
0609F011.D 060914-HTIN.M Tue Jun 10 09:53:28 2014

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F012.D\FPD1A.CH Vial: 94
Signal #2 : J:\GC26\DATA\060914\0609F012.D\FPD2B.CH
Acq On : 09 Jun 2014 5:20 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 10 09:55:02 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:54:26 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	7.30	7.19	3592348	1312272	41.431	43.280
3)	Tri-n-butyltin	8.50	8.37	4389799	1636081	48.516	49.718
4)	Di-n-butyltin	9.70	9.55	4482439	1661800	31.992	33.144
5)	n-Butyltin	10.69	10.59	4293399	1497729	30.831	28.676

6/10/14

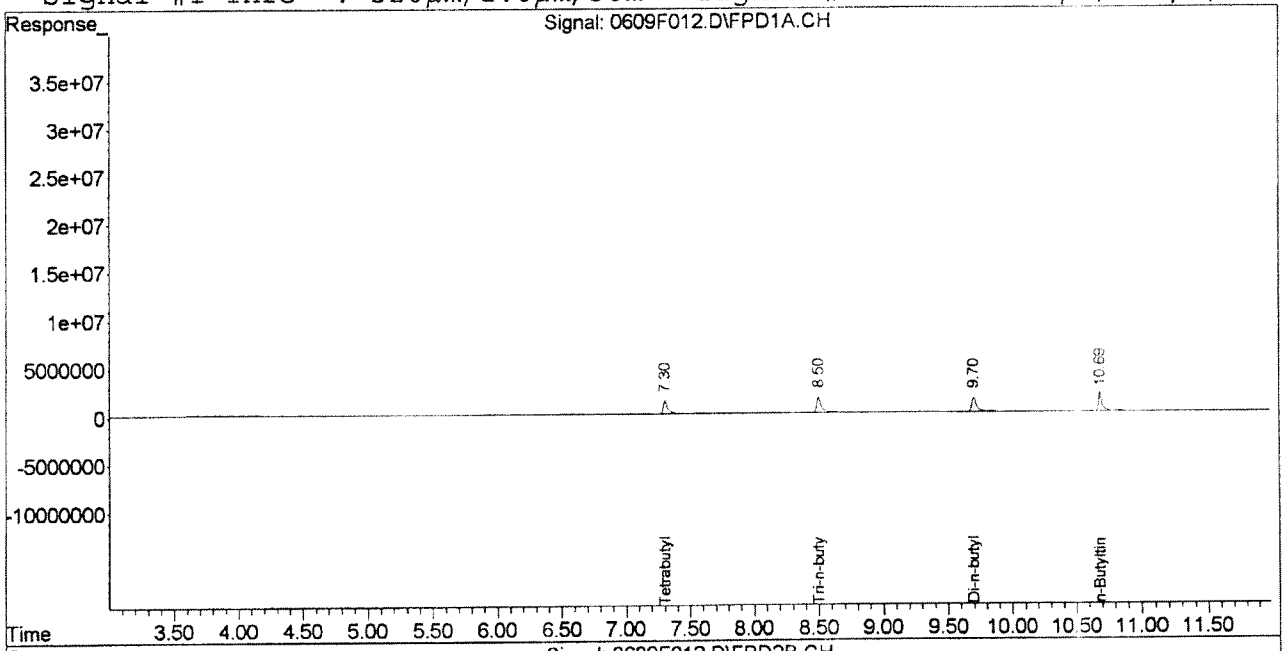
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0609F012.D 060914-HTIN.M Tue Jun 10 09:56:02 2014 Page 1

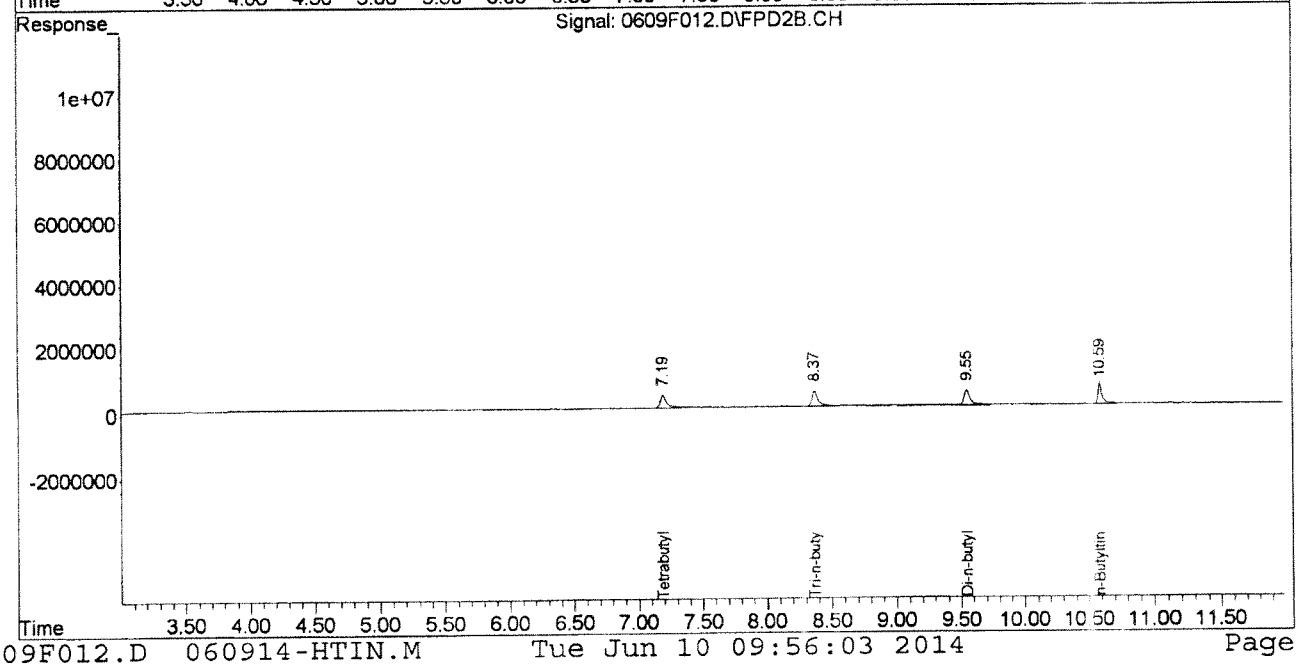
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F012.D\FPD1A.CH Vial: 94
Signal #2 : J:\GC26\DATA\060914\0609F012.D\FPD2B.CH
Acq On : 09 Jun 2014 5:20 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 10 9:55 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13146
Last Update : Tue Jun 10 09:54:26 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\060914\0609F013.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\060914\0609F013.D\FPD2B.CH
Acq On : 09 Jun 2014 5:36 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 10 10:07:41 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Tue Jun 10 09:54:26 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

SS 6/10/14

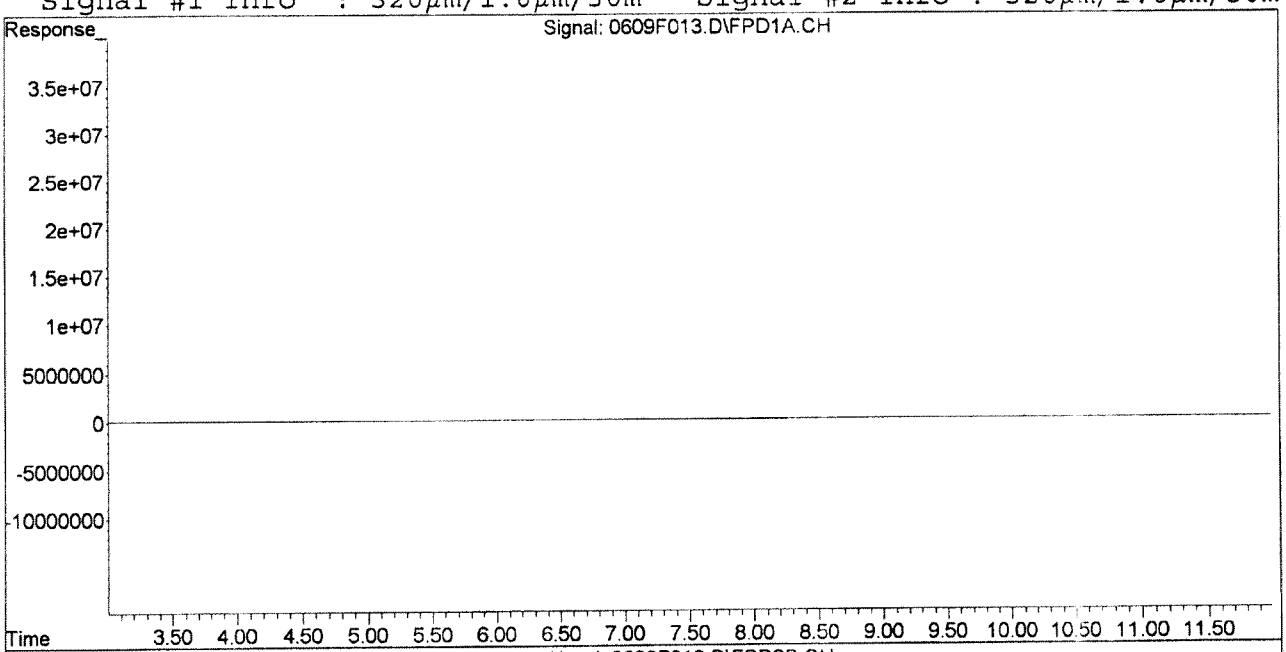
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

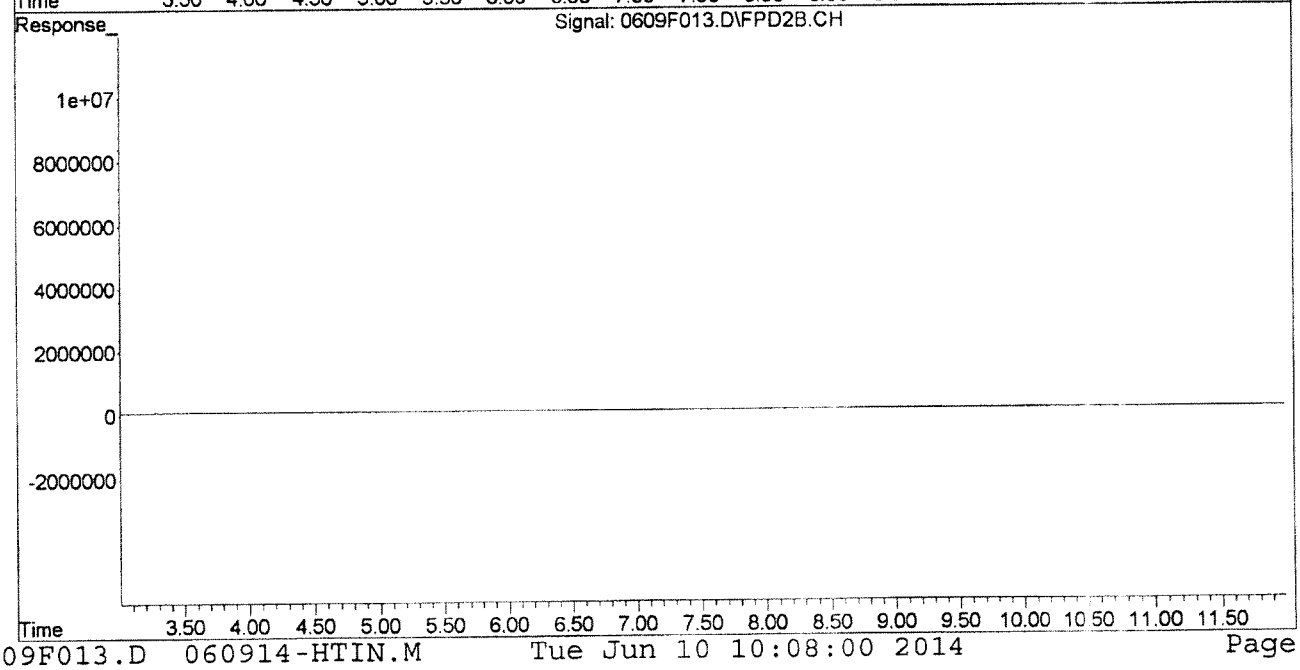
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\060914\0609F013.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\060914\0609F013.D\FPD2B.CH
Acq On : 09 Jun 2014 5:36 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 10 10:07 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Tue Jun 10 09:54:26 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\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 1:0
4	93	0623F004.D	1.	O'TINS @ 10ppb OT5-01K		06/23/22014 1:1
5	94	0623F005.D	1.	O'TINS @ 20ppb OT5-01L		06/23/22014 1:3
6	95	0623F006.D	1.	O'TINS @ 50ppb OT5-01H		06/23/22014 1:4
7	96	0623F007.D	1.	O'TINS @ 200ppb OT5-01M		06/23/22014 2:0
8	97	0623F008.D	1.	O'TINS @ 500ppb OT5-01N		06/23/22014 2:2
9	98	0623F009.D	1.	O'TINS @ 1000ppb OT5-02A		06/23/22014 2:3
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

CAL 13394

Jean Fallin 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

55 6/23/14

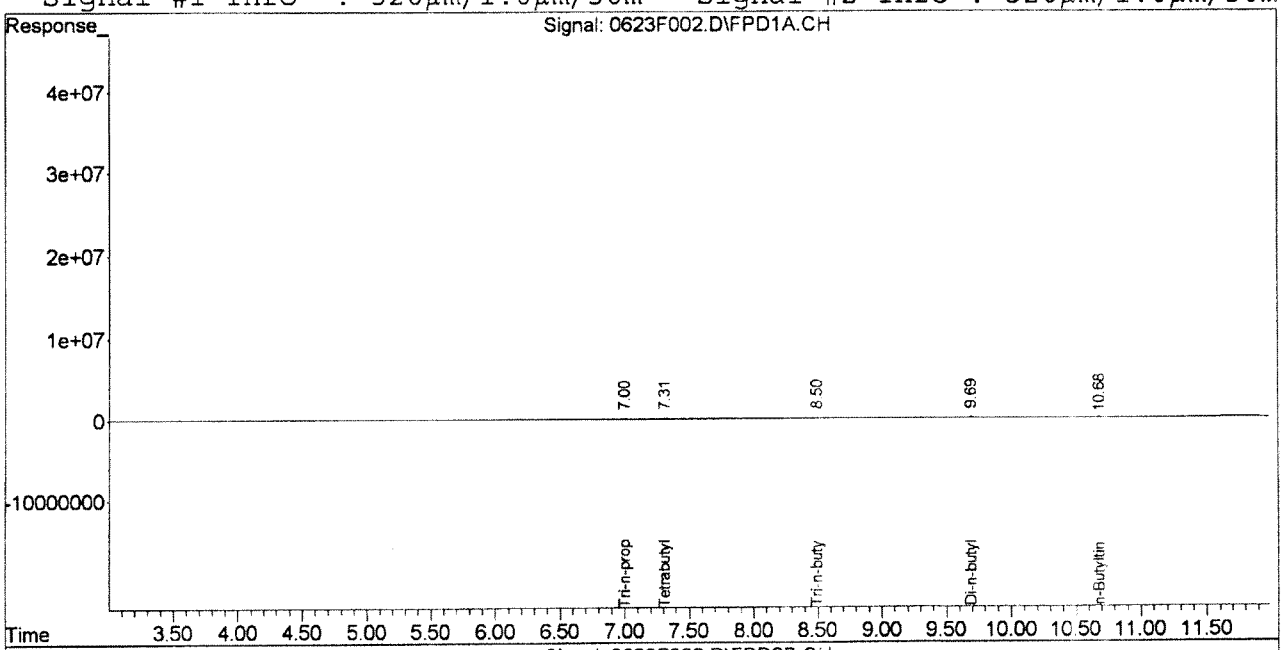
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F002.D 062314-HTIN.M Mon Jun 23 15:31:00 2014 Page 1

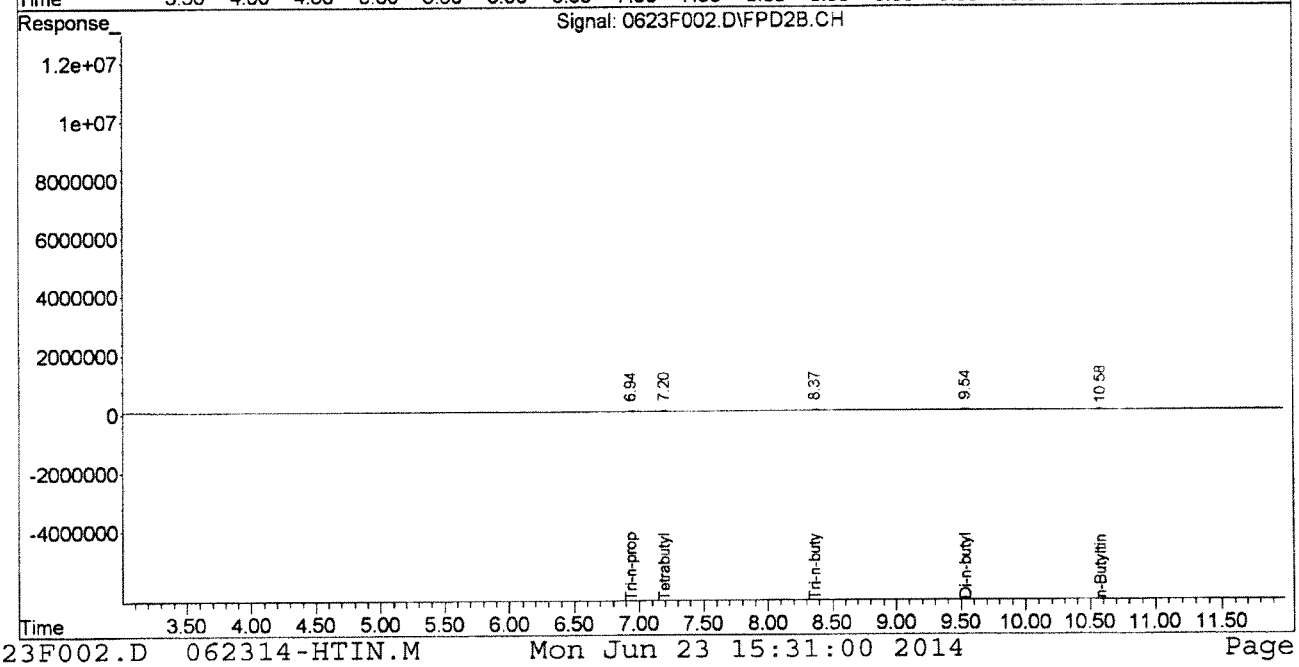
Quantitation Report (Not Reviewed)

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

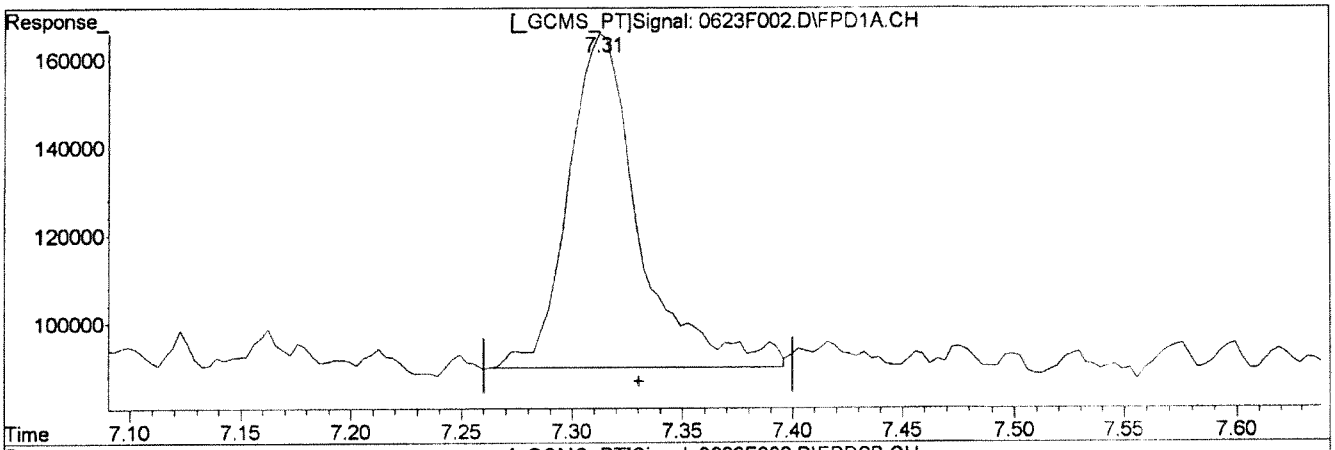


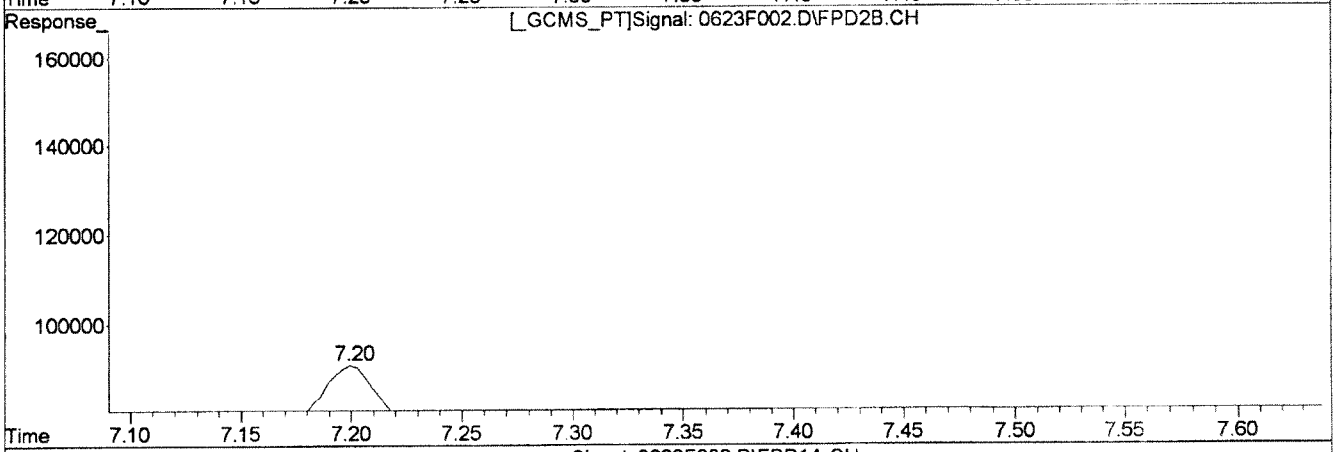


Quantitation Report (Qedit)

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

7.31min 1.980ng/mL

response 171682

(2) Tetrabutyltin #2

7.20min 1.806ng/mL

response 54761

Manual Integration:

Before

06/23/14

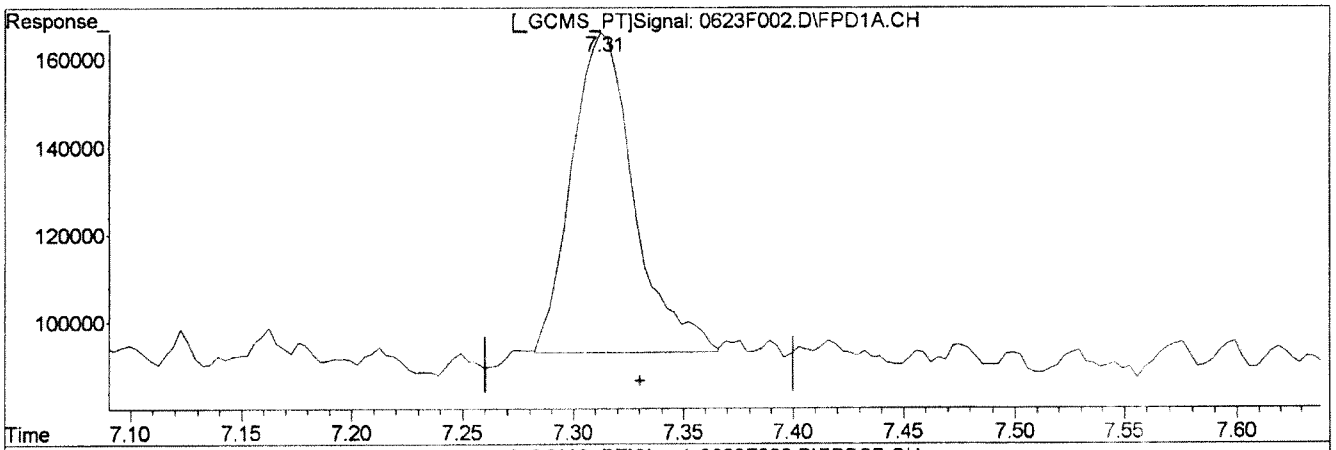
(+) = Expected Retention Time

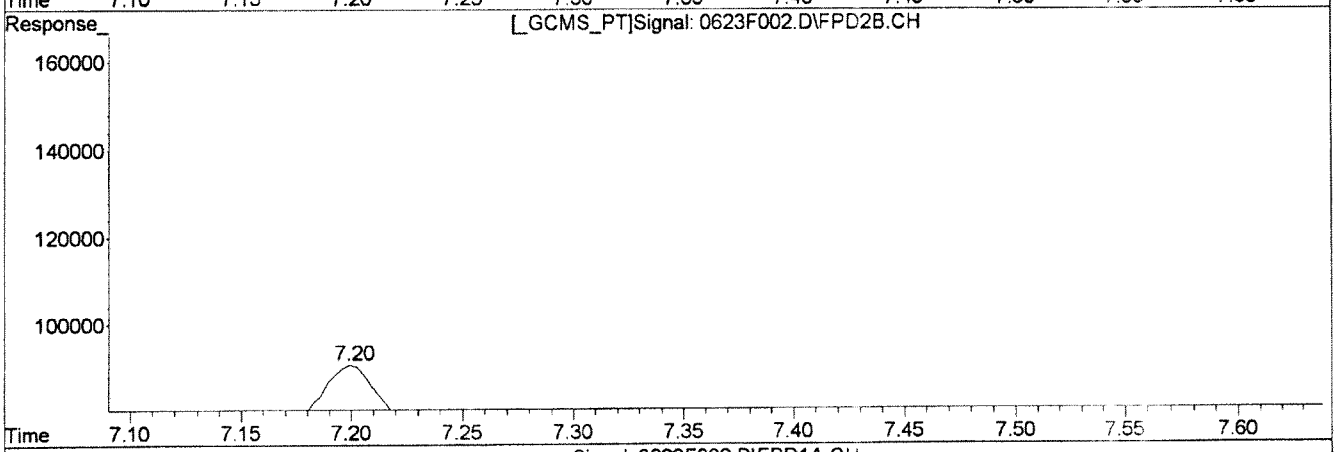
0623F002.D 062314-HTIN.M Mon Jun 23 15:21:25 2014

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





Signal: 0623F002.D\FPD1A.CH

(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

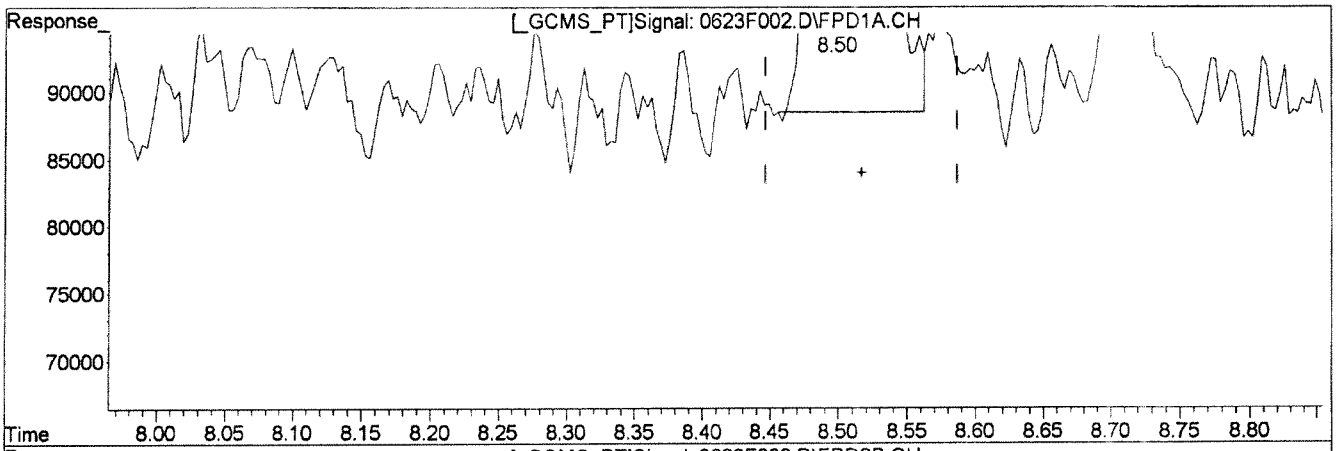
06/23/14

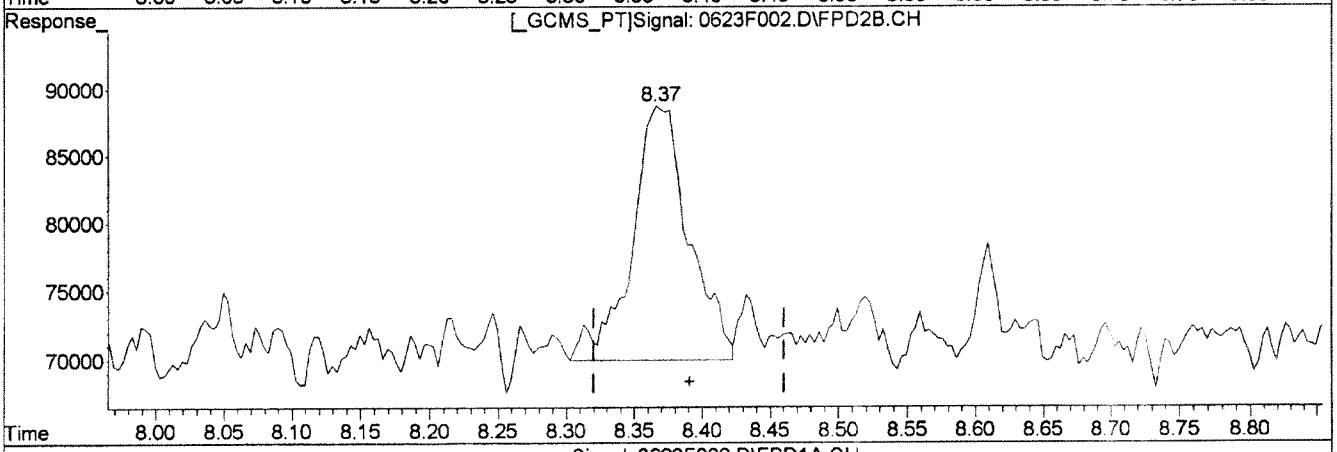
(+) = Expected Retention Time
0623F002.D 062314-HTIN.M Mon Jun 23 15:21:34 2014

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

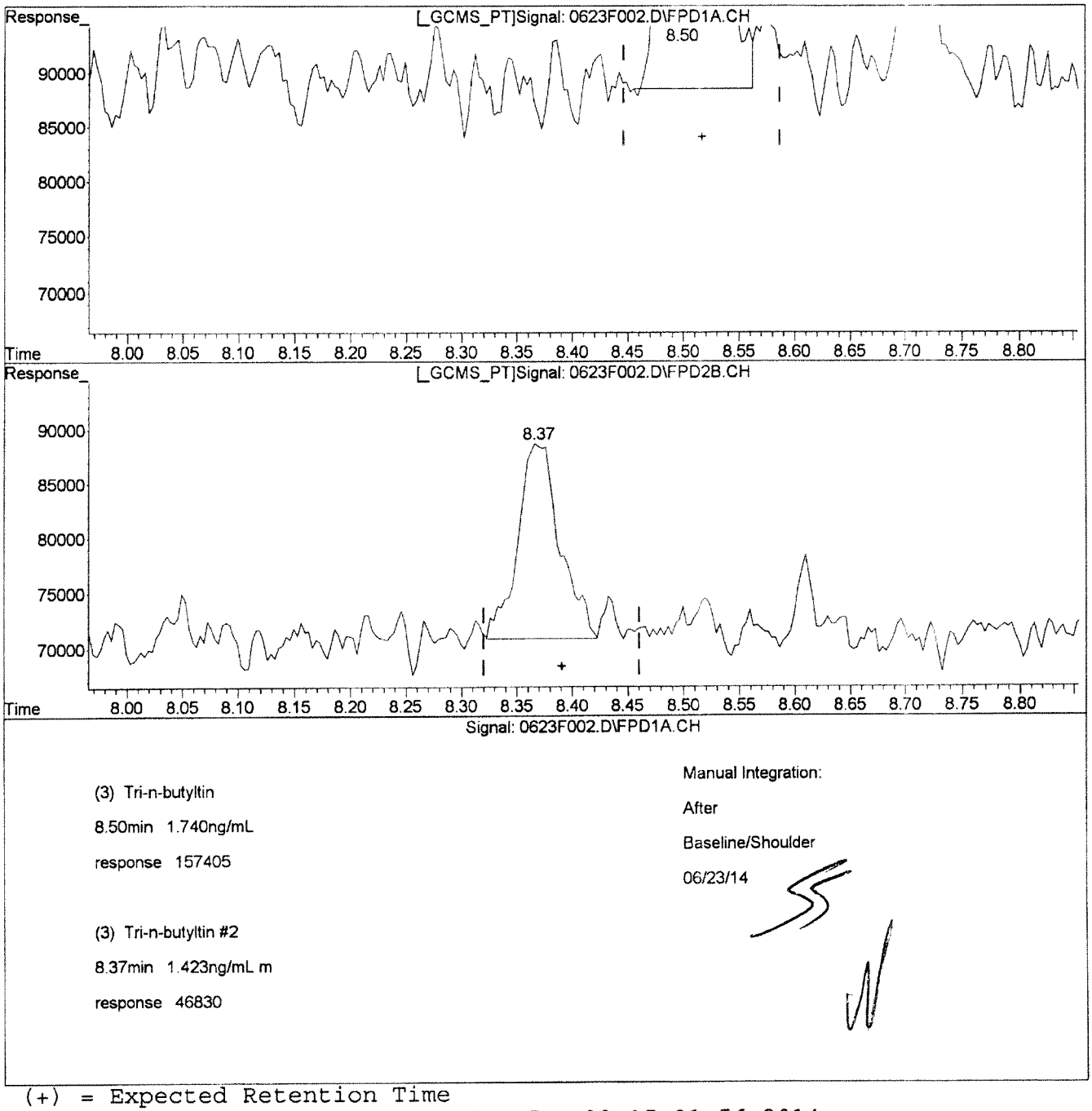
(+) = Expected Retention Time

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

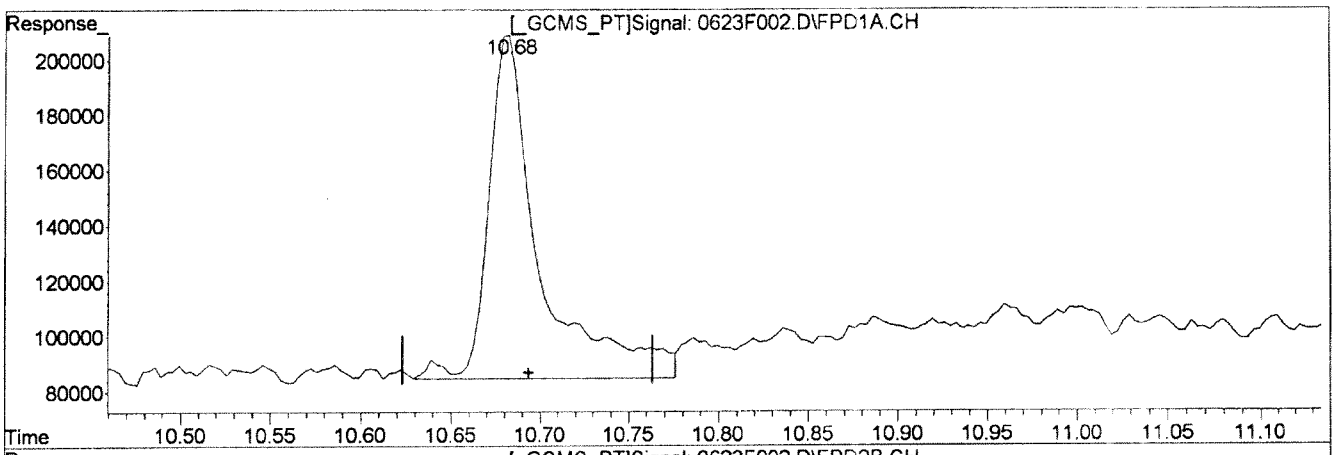


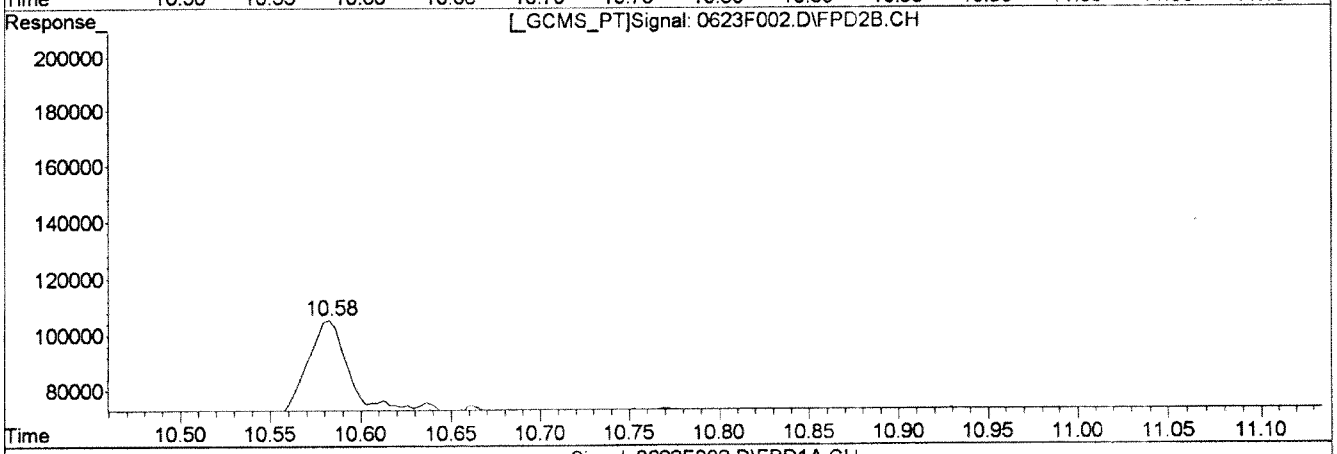
(+) = Expected Retention Time
0623F002.D 062314-HTIN.M Mon Jun 23 15:21:56 2014

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

(5) n-Butyltin

10.68min 1.788ng/mL

response 249056

(5) n-Butyltin #2

10.58min 1.194ng/mL

response 62366

Manual Integration:

Before

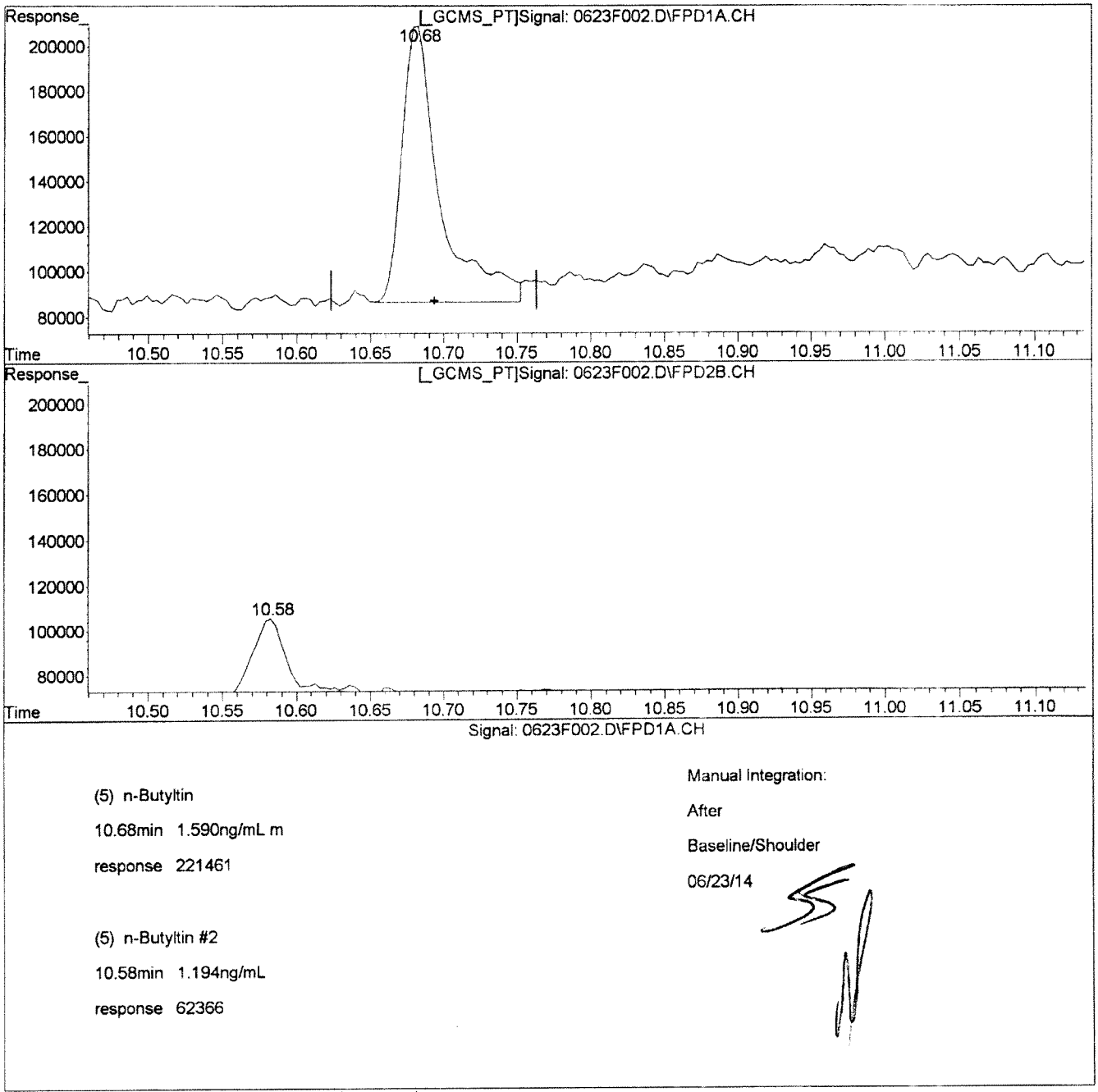
06/23/14

(+) = 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



(+) = 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

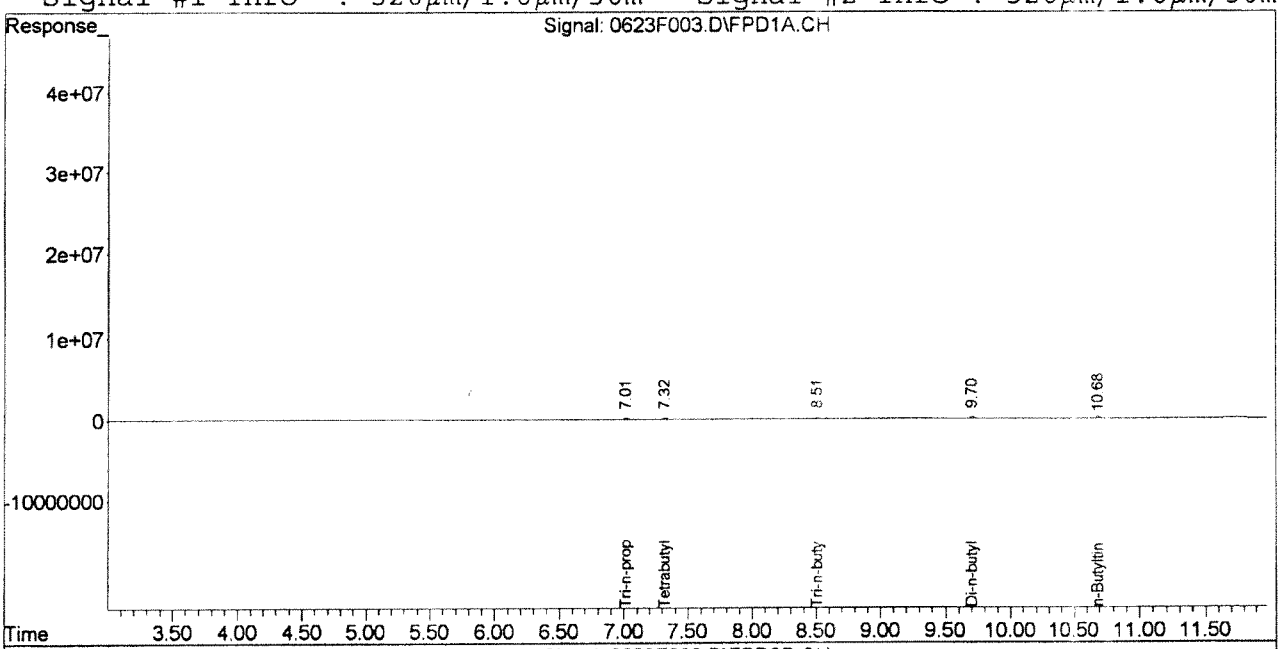
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

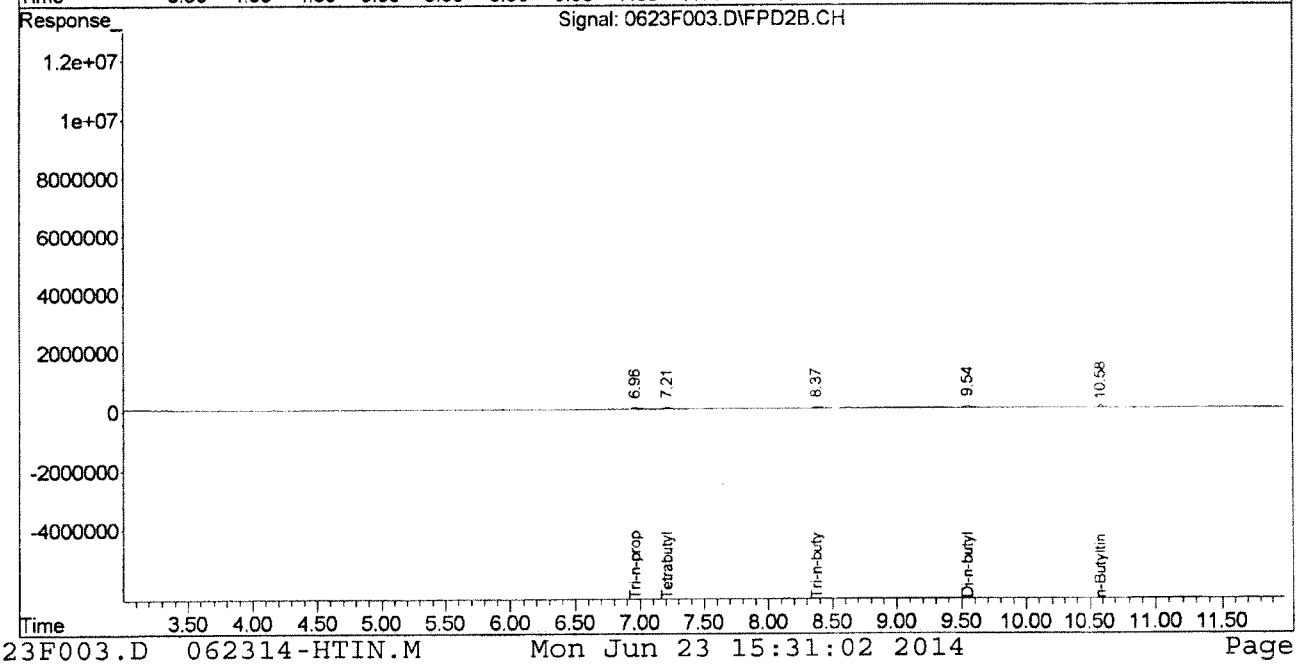
Quantitation Report (QT Reviewed)

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

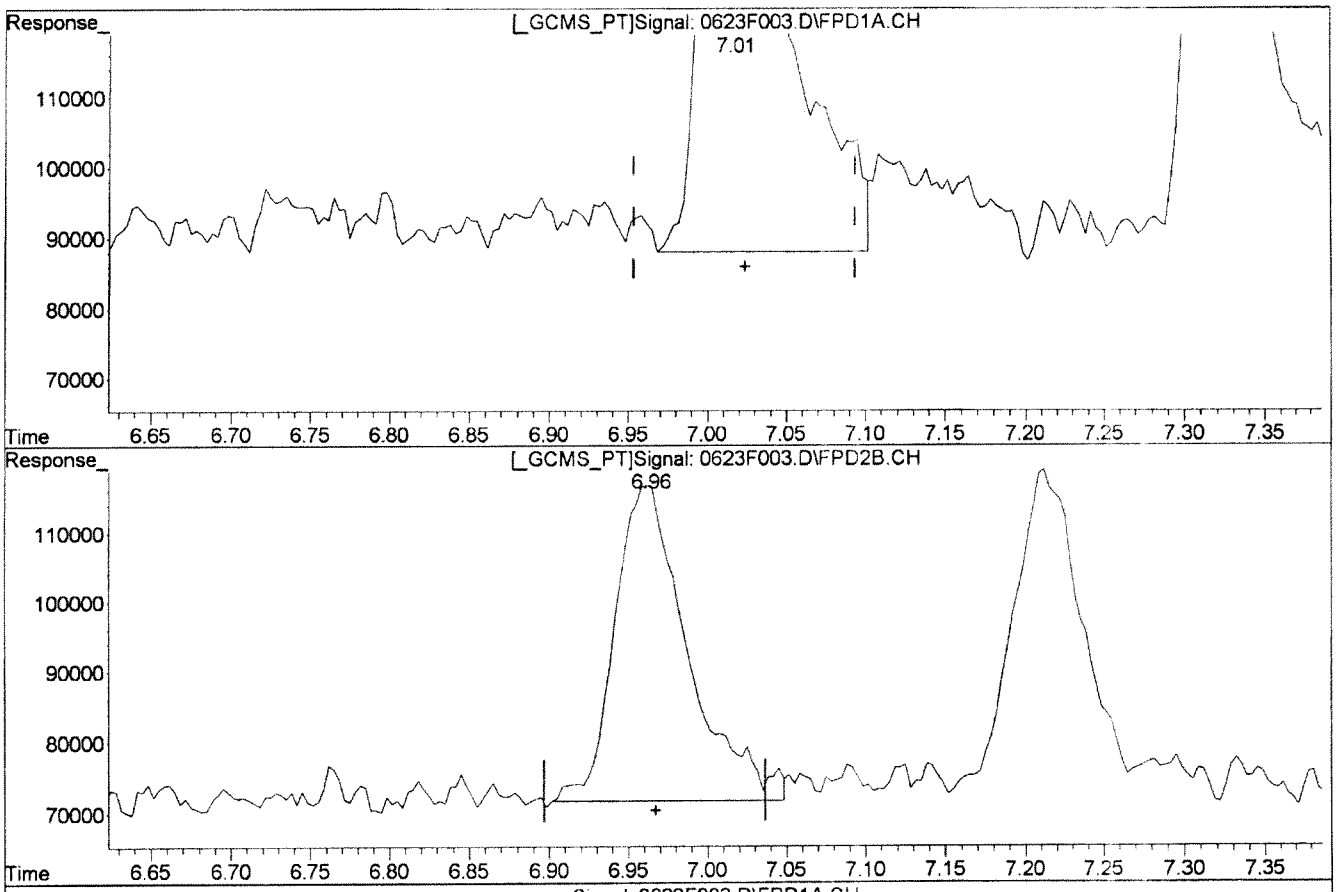




Quantitation Report (Qedit)

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)

7.01min 5.300ng/mL

response 445506

(1) Tri-n-propyltin #2 (S)

6.96min 4.894ng/mL

response 143726

Manual Integration:

Before

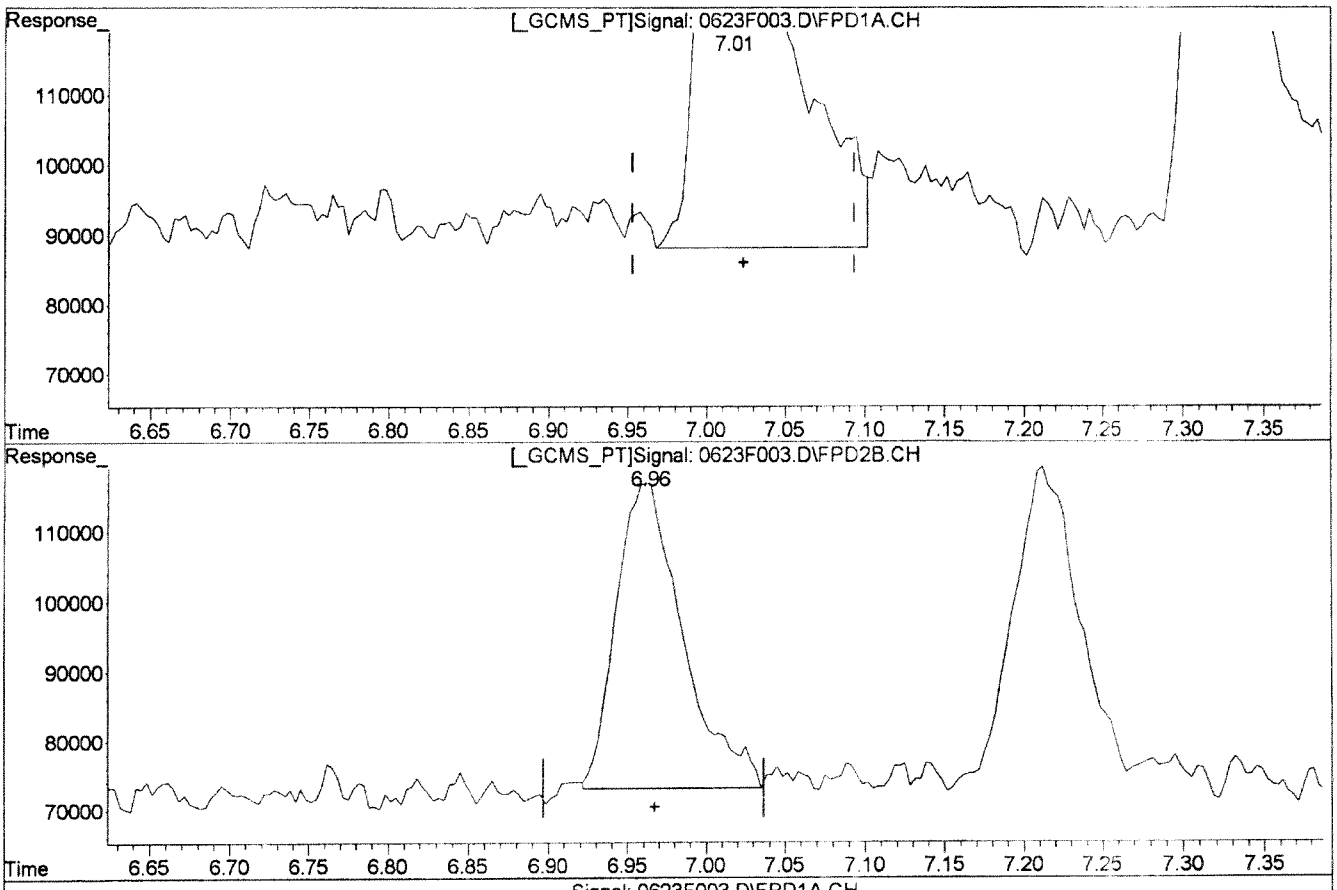
06/23/14

(+) = 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

6/23/14

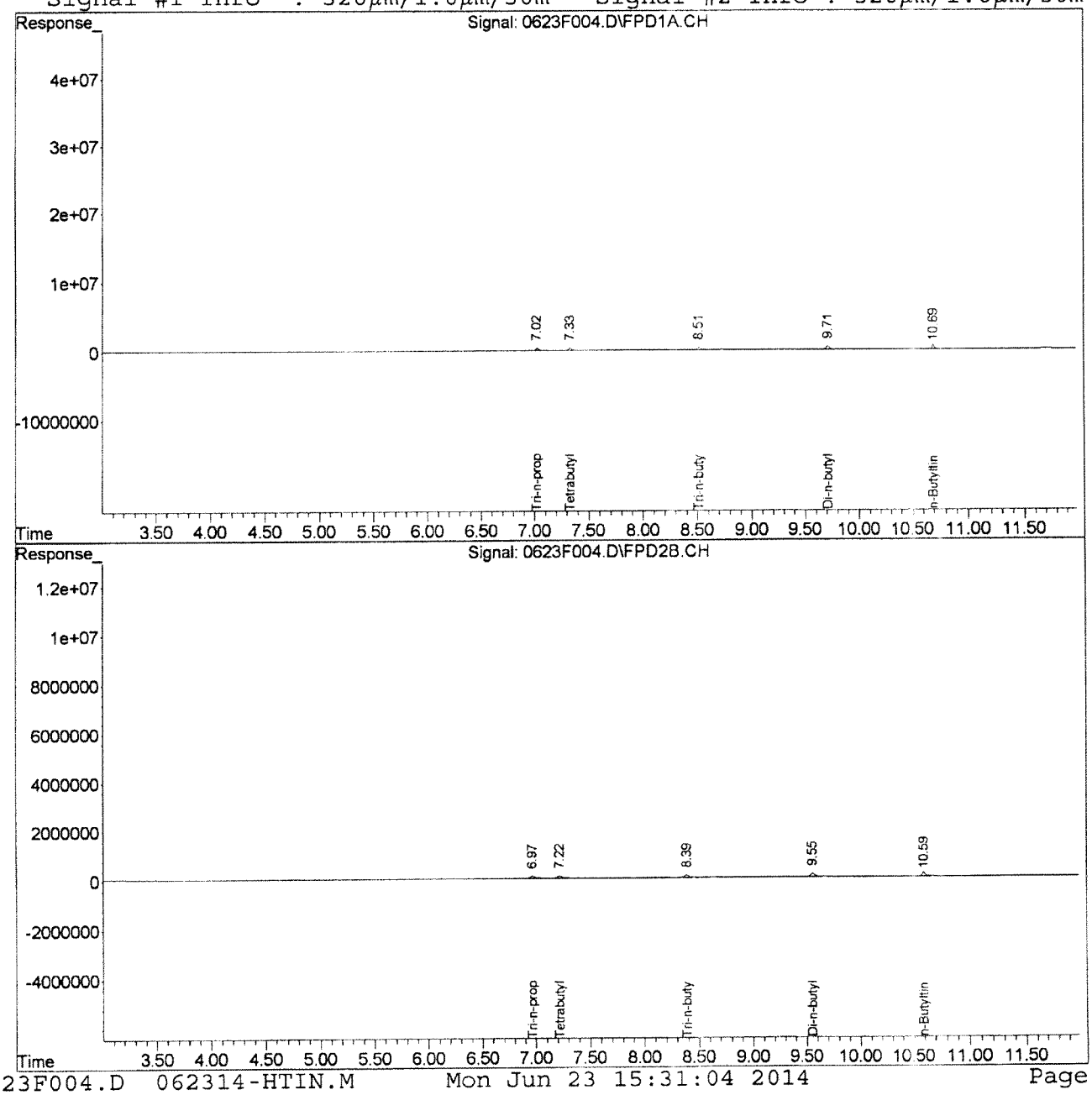
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F004.D 062314-HTIN.M Mon Jun 23 15:31:04 2014 Page 1

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

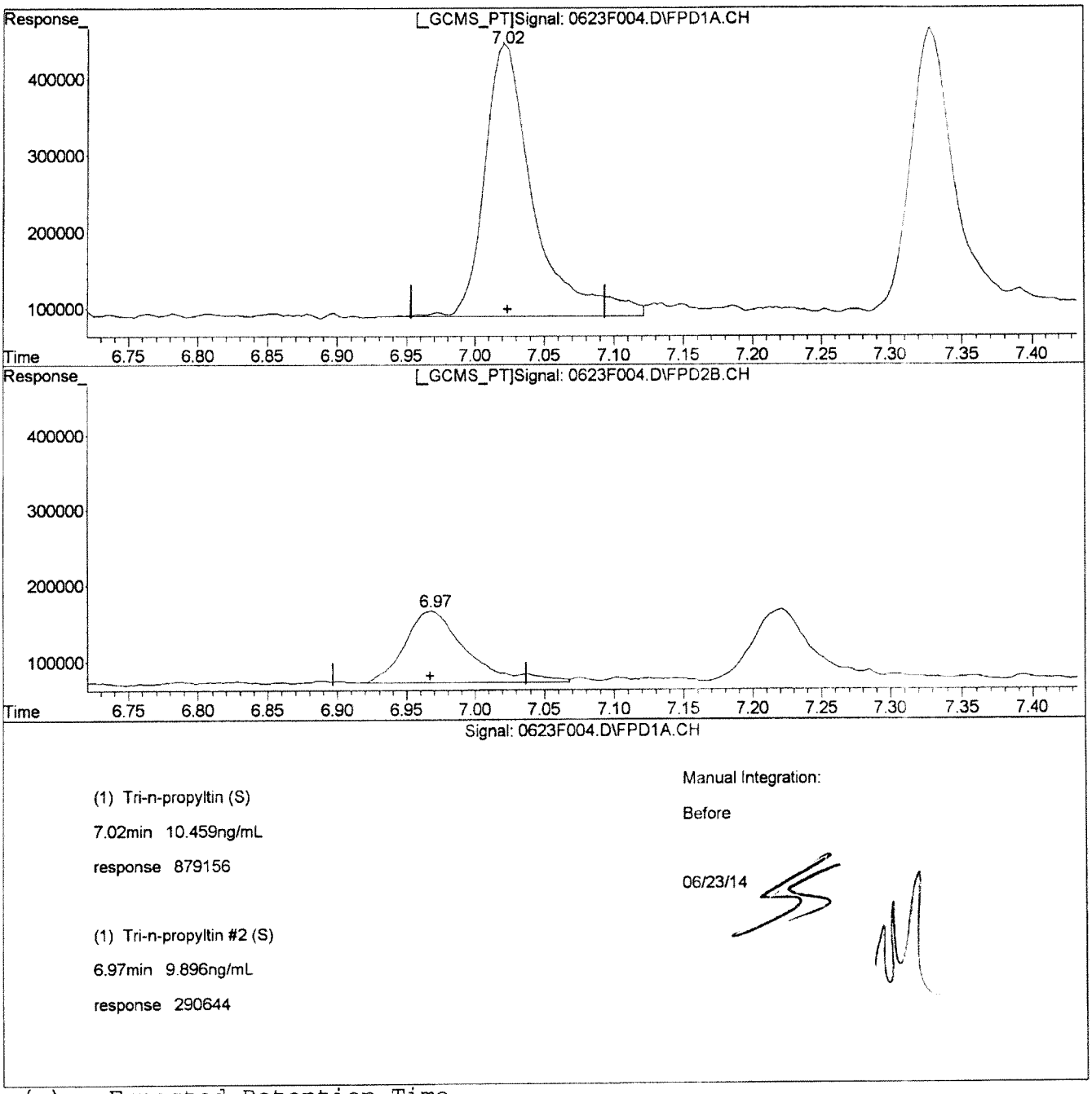
Volume Inj. : 25 µL
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



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

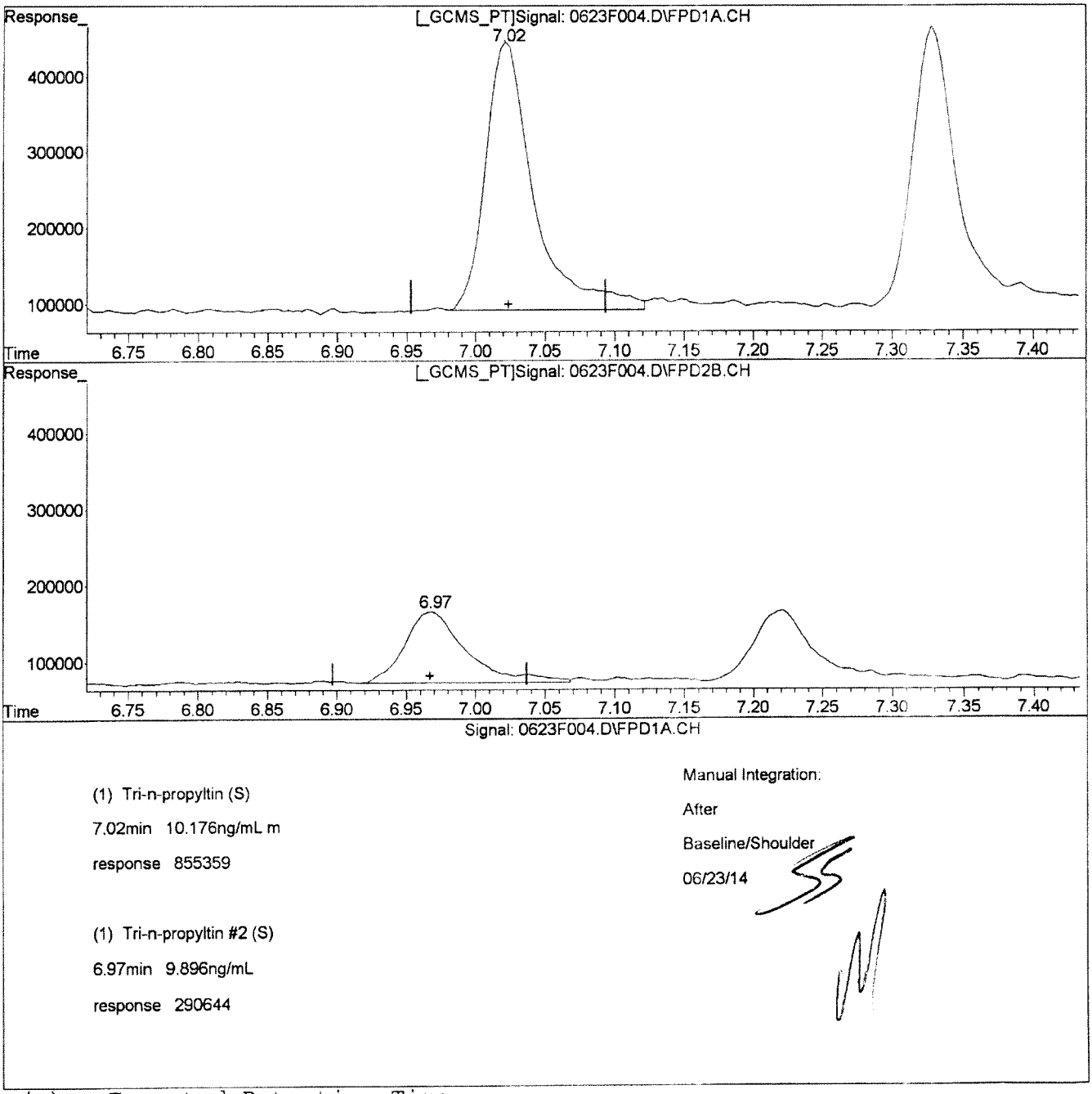


(+) = Expected Retention Time
0623F004.D 062314-HTIN.M Mon Jun 23 15:23:15 2014

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

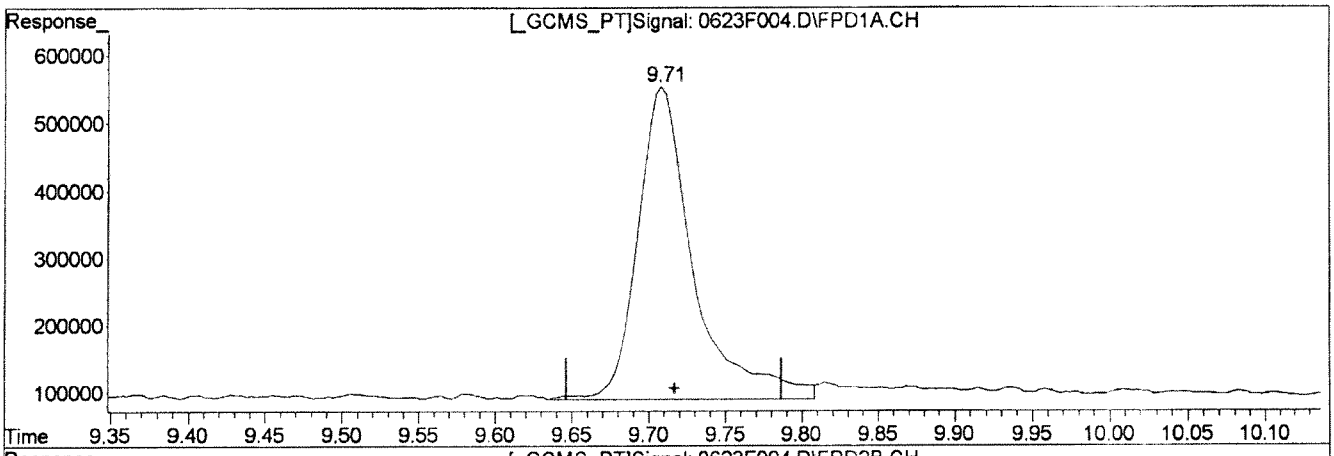


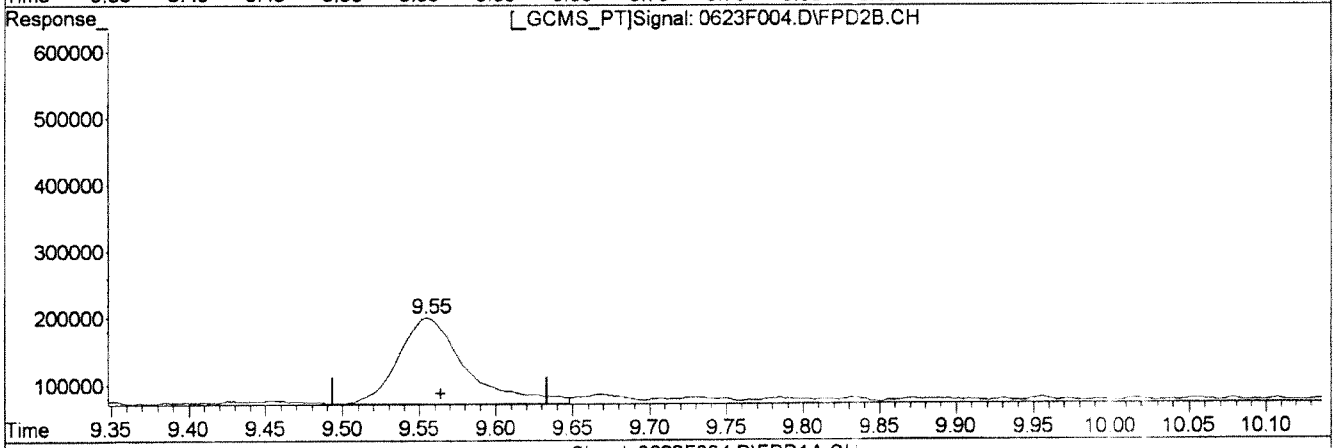
(+) = Expected Retention Time
0623F004.D 062314-HTIN.M Mon Jun 23 15:23:29 2014

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

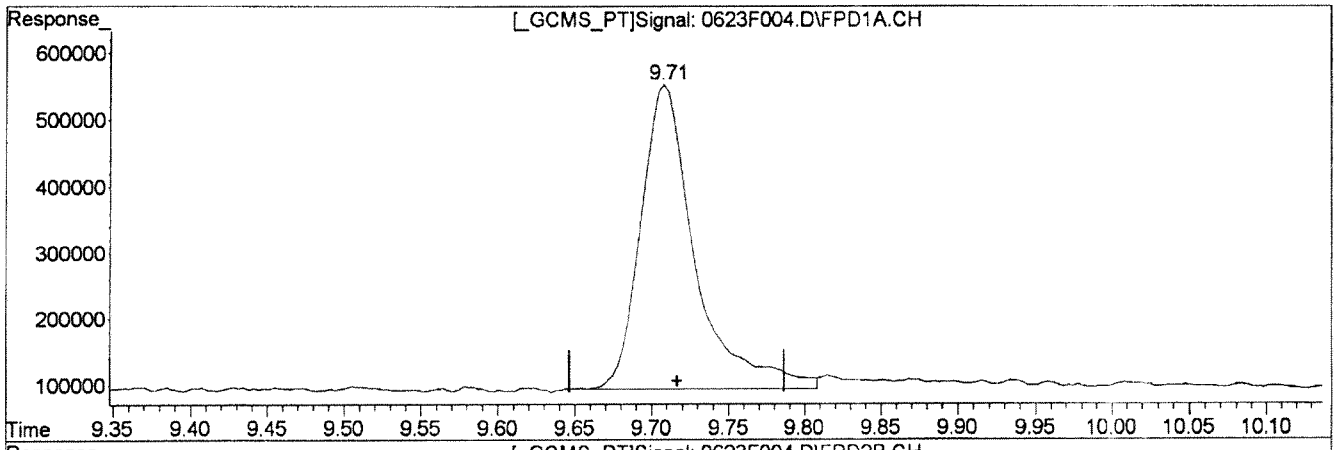
(+) = Expected Retention Time

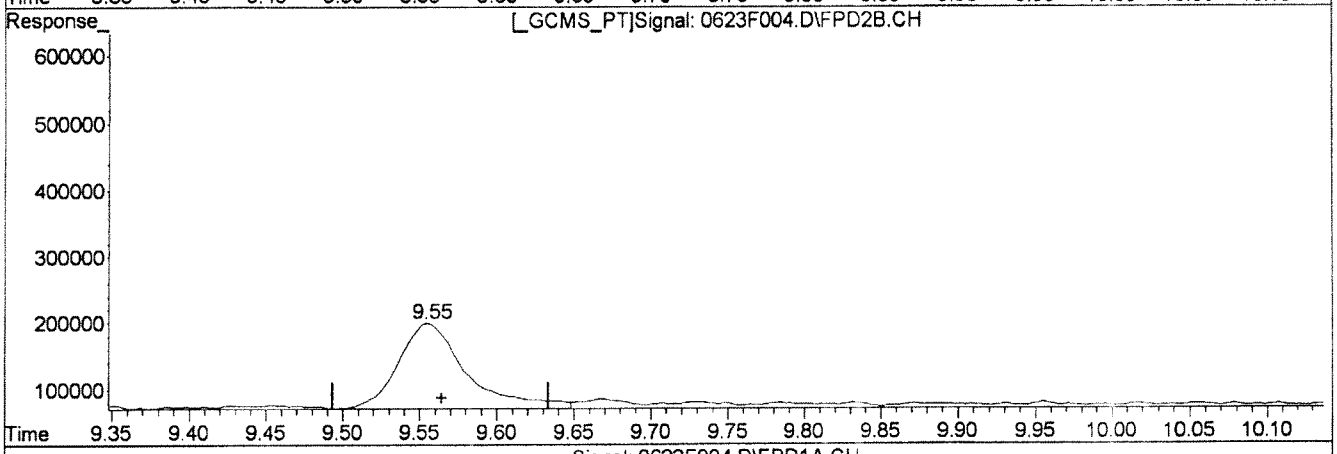
0623F004.D 062314-HTIN.M Mon Jun 23 15:23:39 2014

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
9.71min 8.073ng/mL m
response 1131167

(4) Di-n-butyltin #2
9.55min 7.893ng/mL
response 395748

Manual Integration:
After
Baseline/Shoulder
06/23/14

(+) = 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

6/23/14

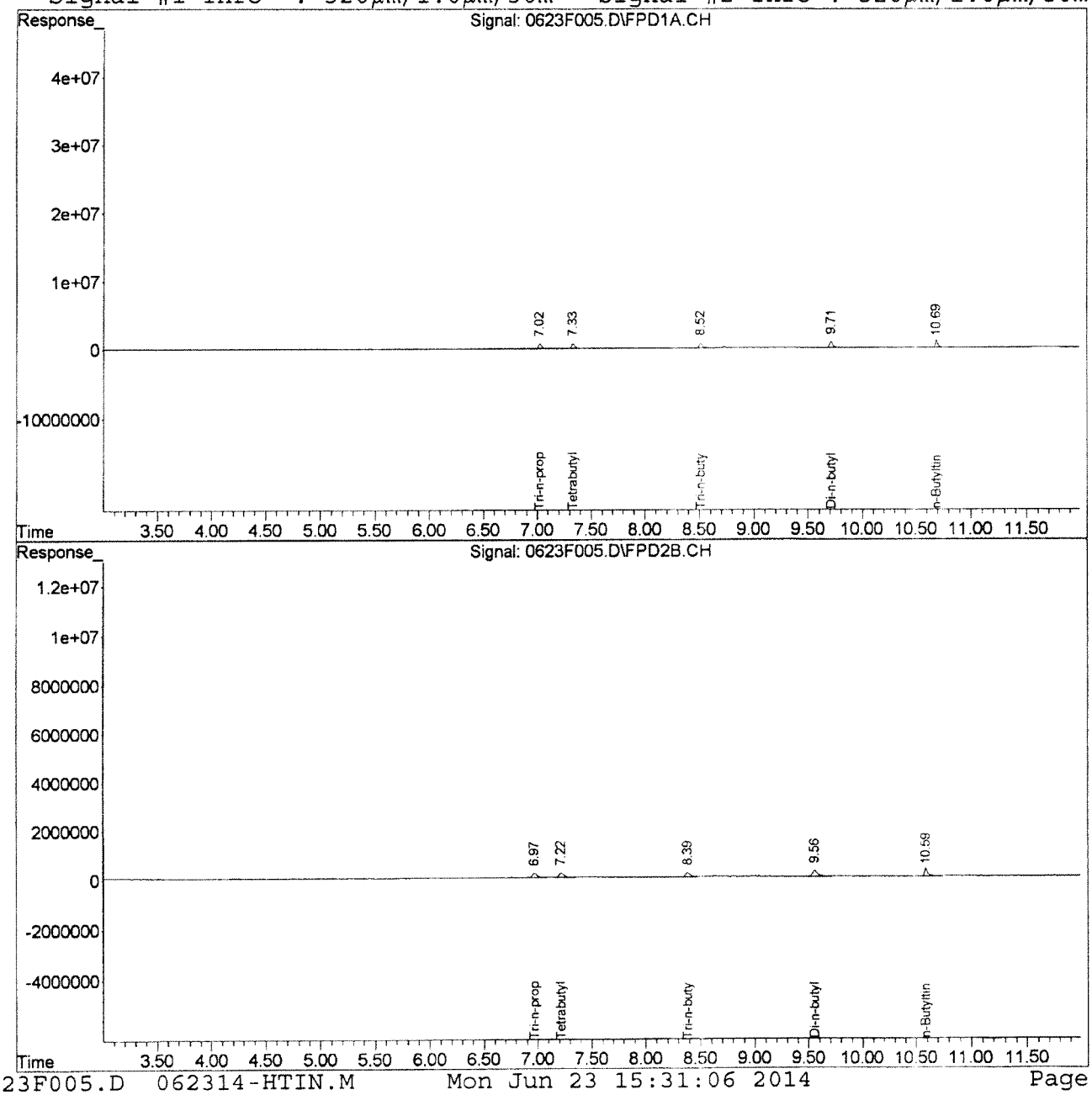
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F005.D 062314-HTIN.M Mon Jun 23 15:31:06 2014 Page 1

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

6/23/14

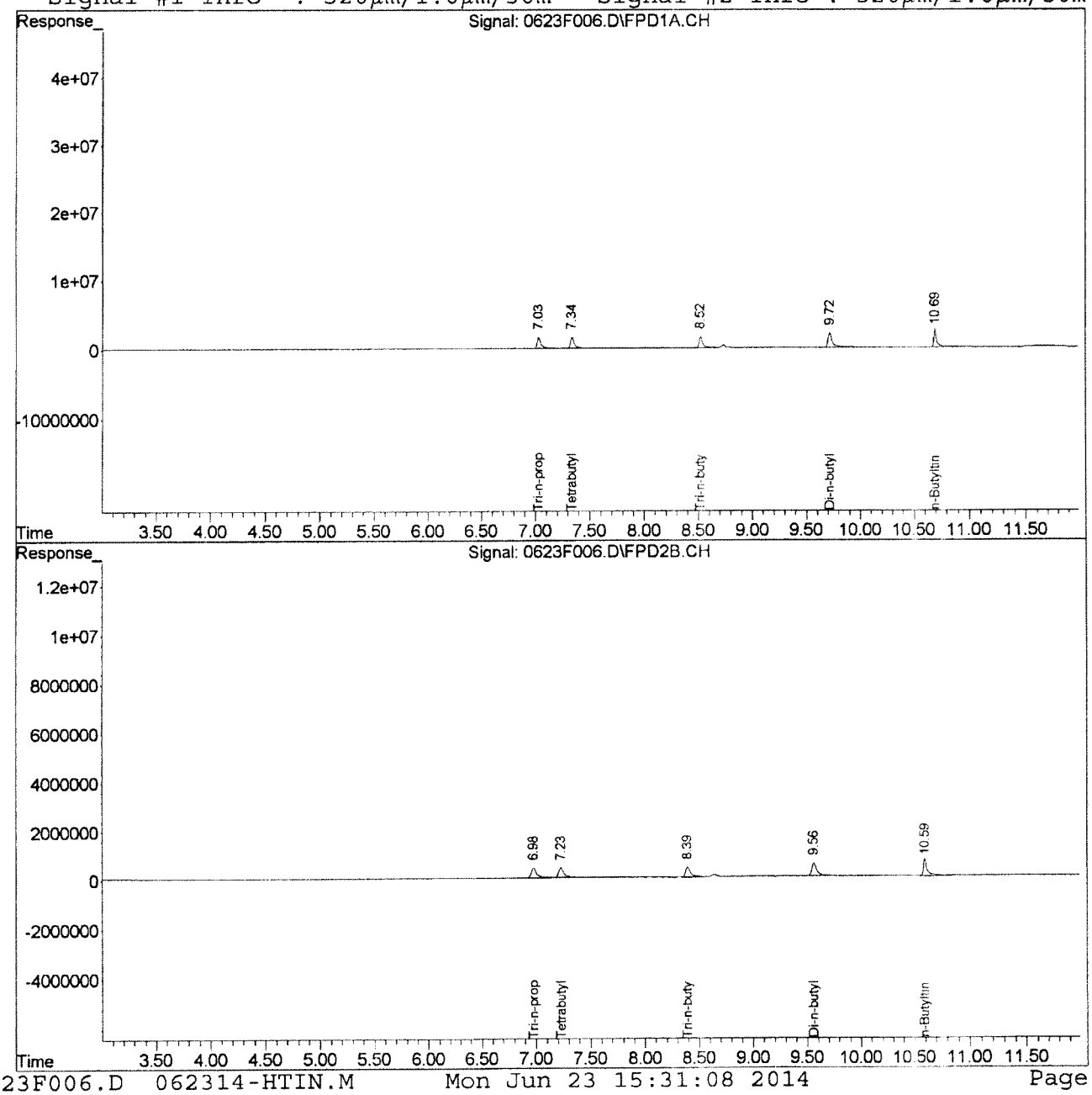
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F006.D 062314-HTIN.M Mon Jun 23 15:31:08 2014 Page 1

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

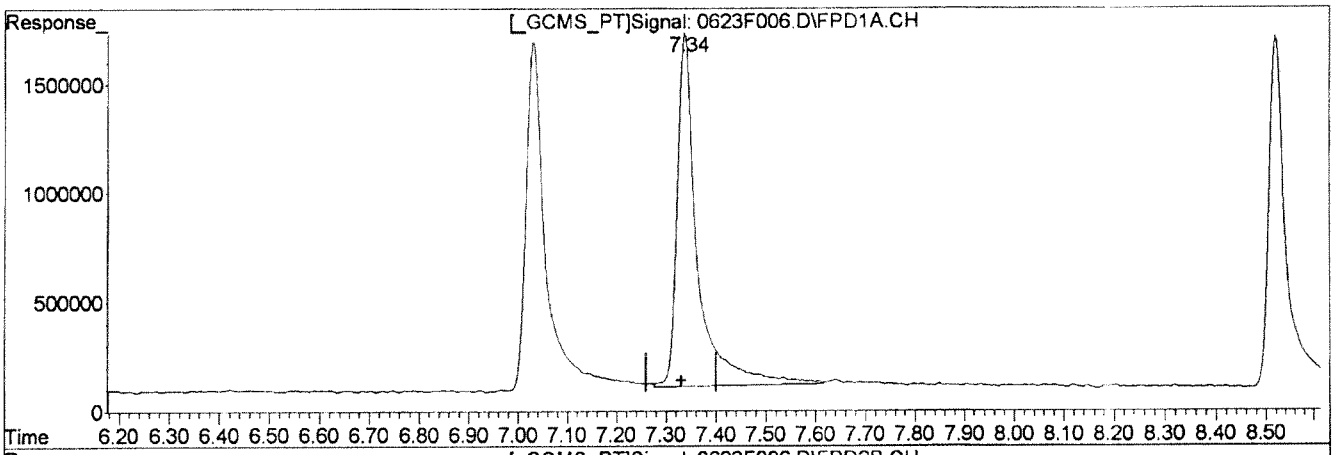
Volume Inj. : 25 µL
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m

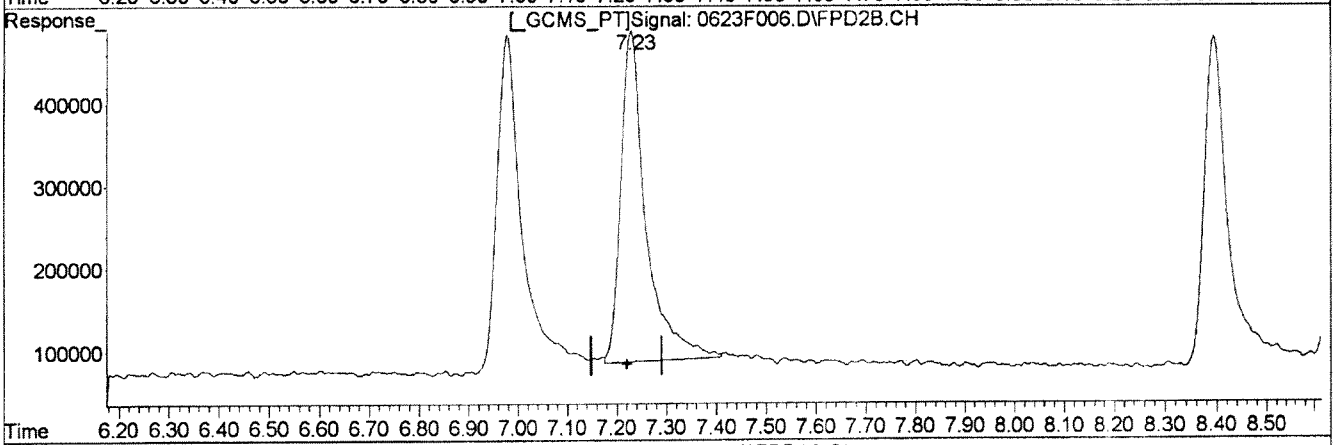


Quantitation Report (Qedit)

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

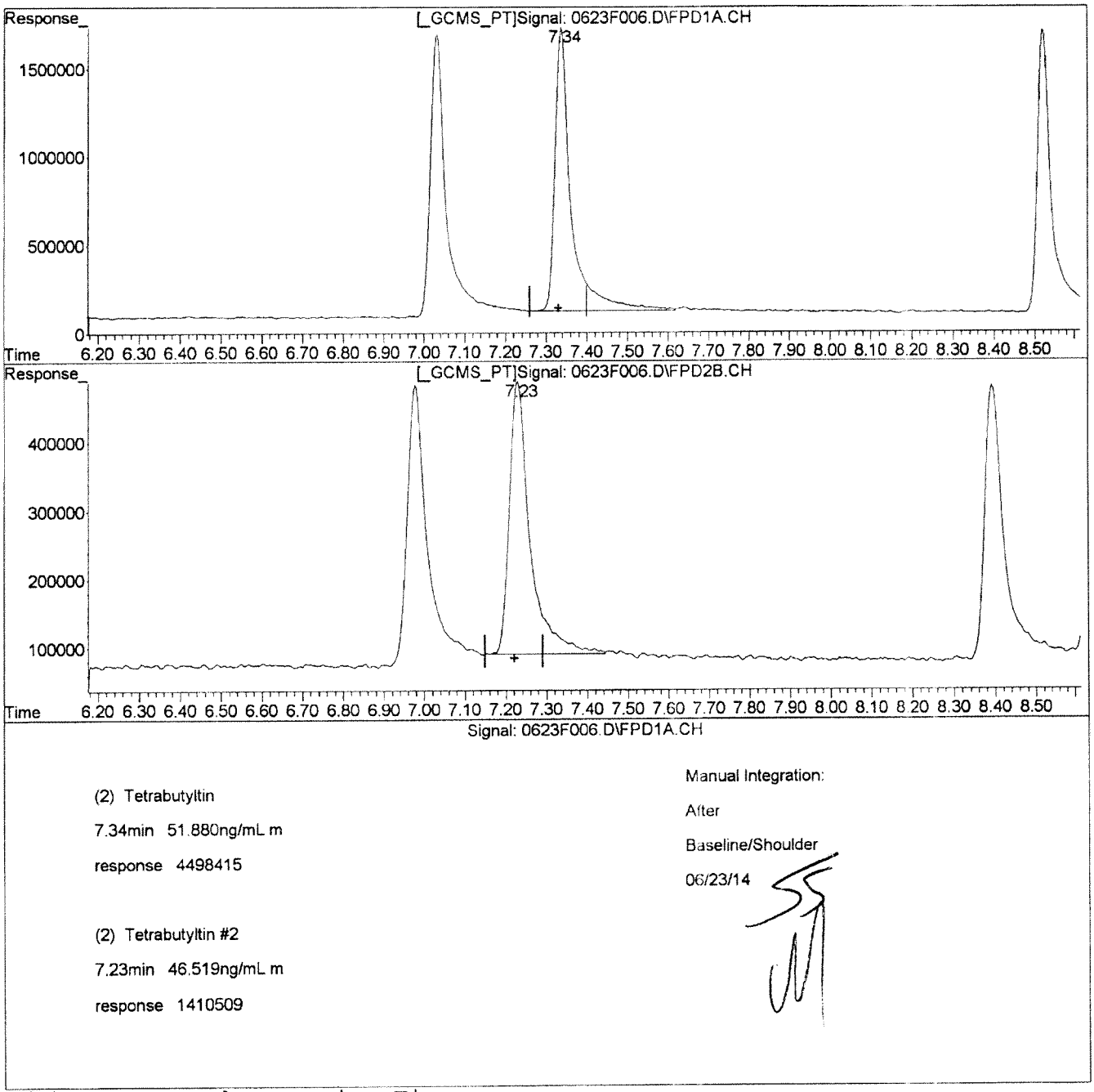
06/23/14

(+) = 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



(+) = 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

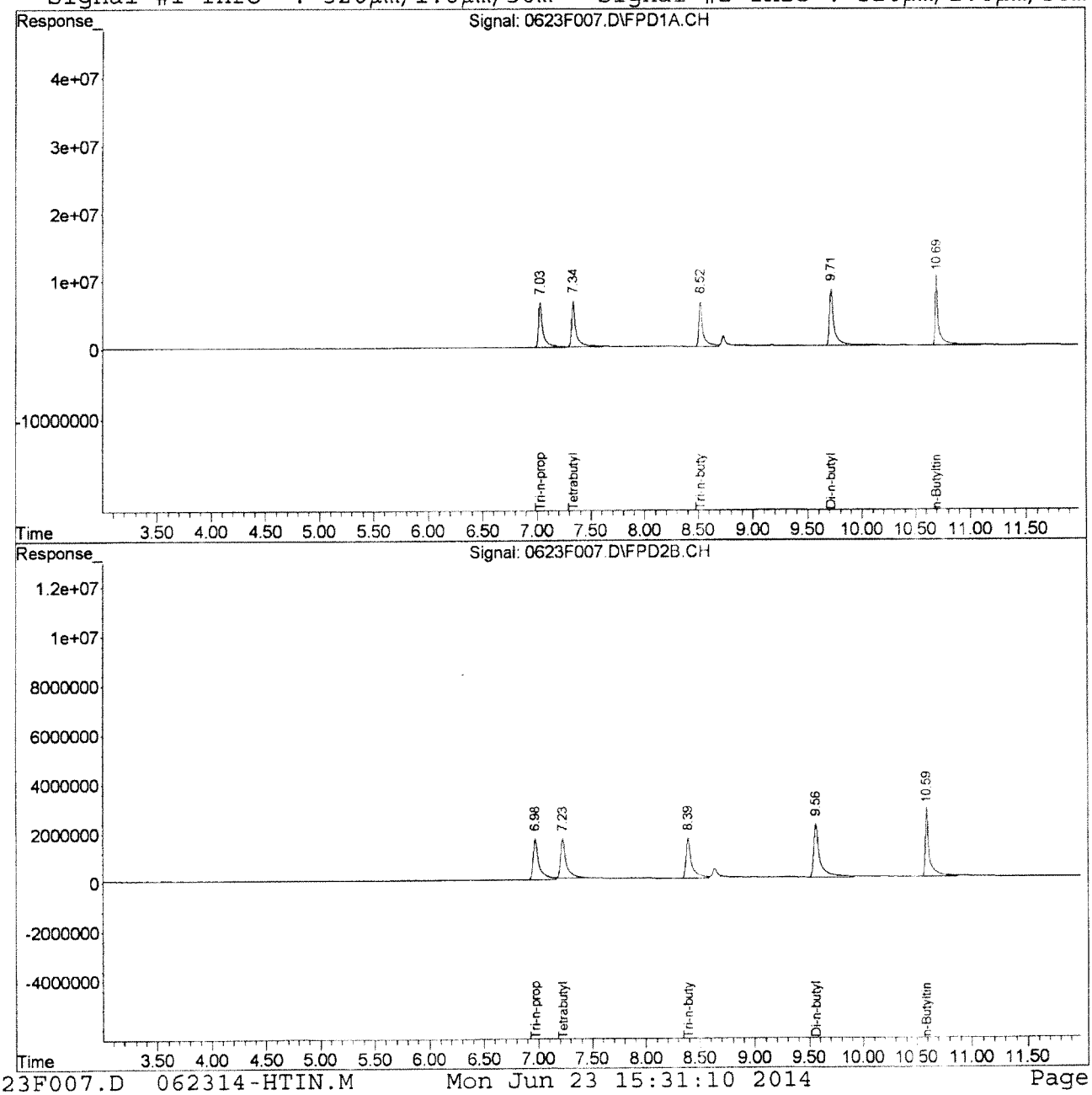
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F007.D 062314-HTIN.M Mon Jun 23 15:31:10 2014 Page 1

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

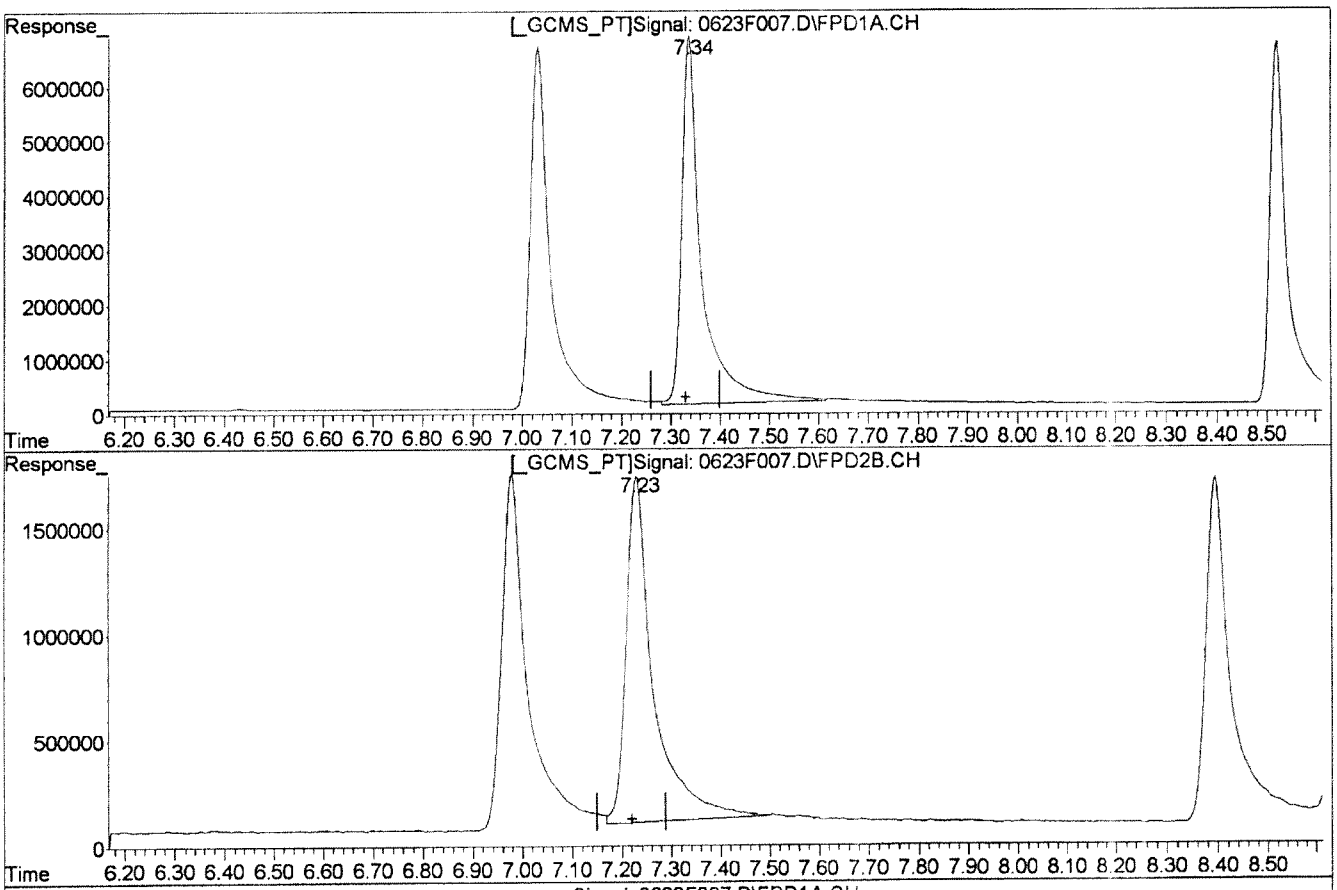
Volume Inj. : 25 µL
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



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

(2) Tetrabutyltin

7.34min 222.711ng/mL

response 19310738

(2) Tetrabutyltin #2

7.23min 208.070ng/mL

response 6308844

Manual Integration:

Before

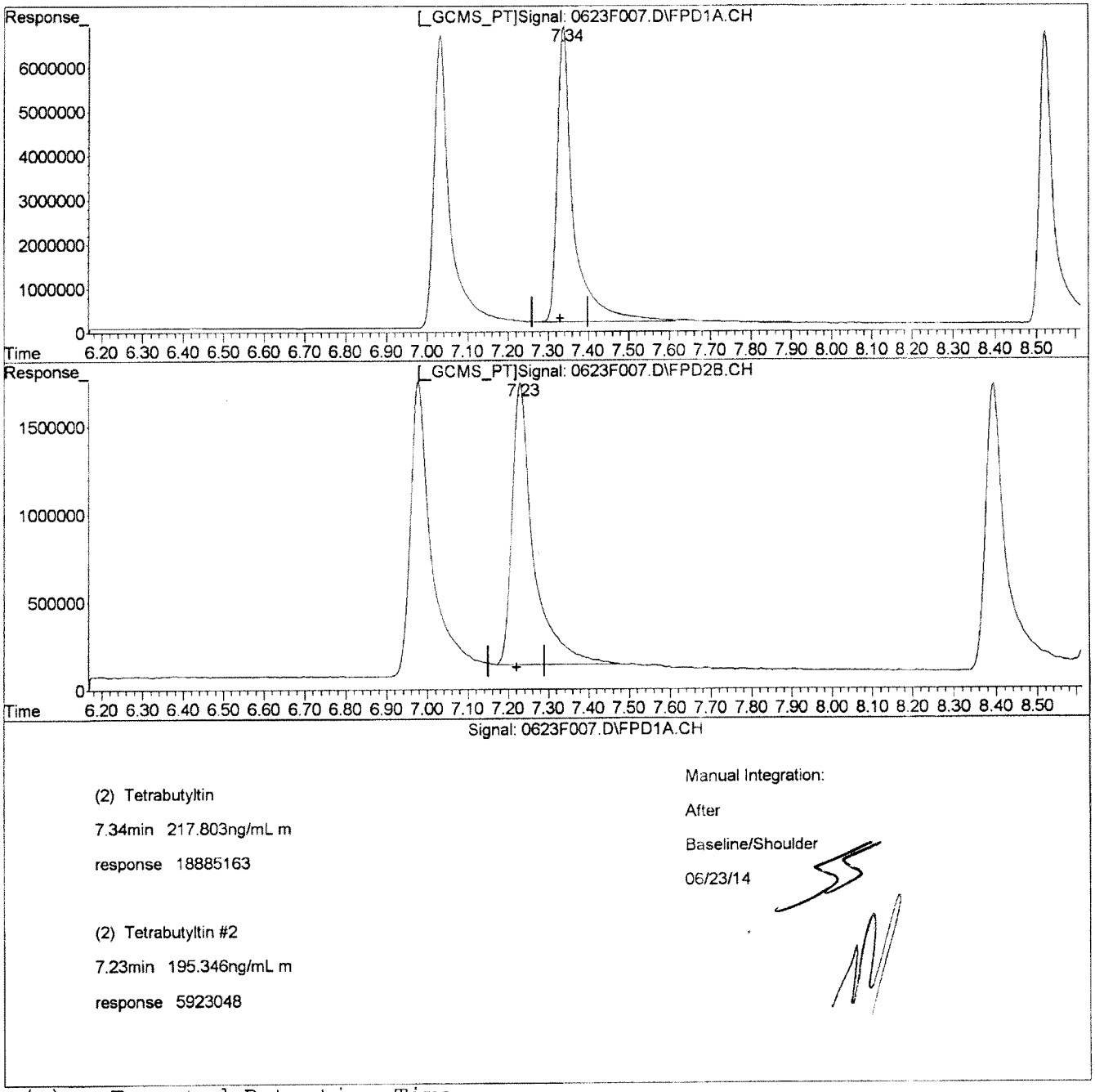
06/23/14

(+) = 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



(+) = 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

6/23/14

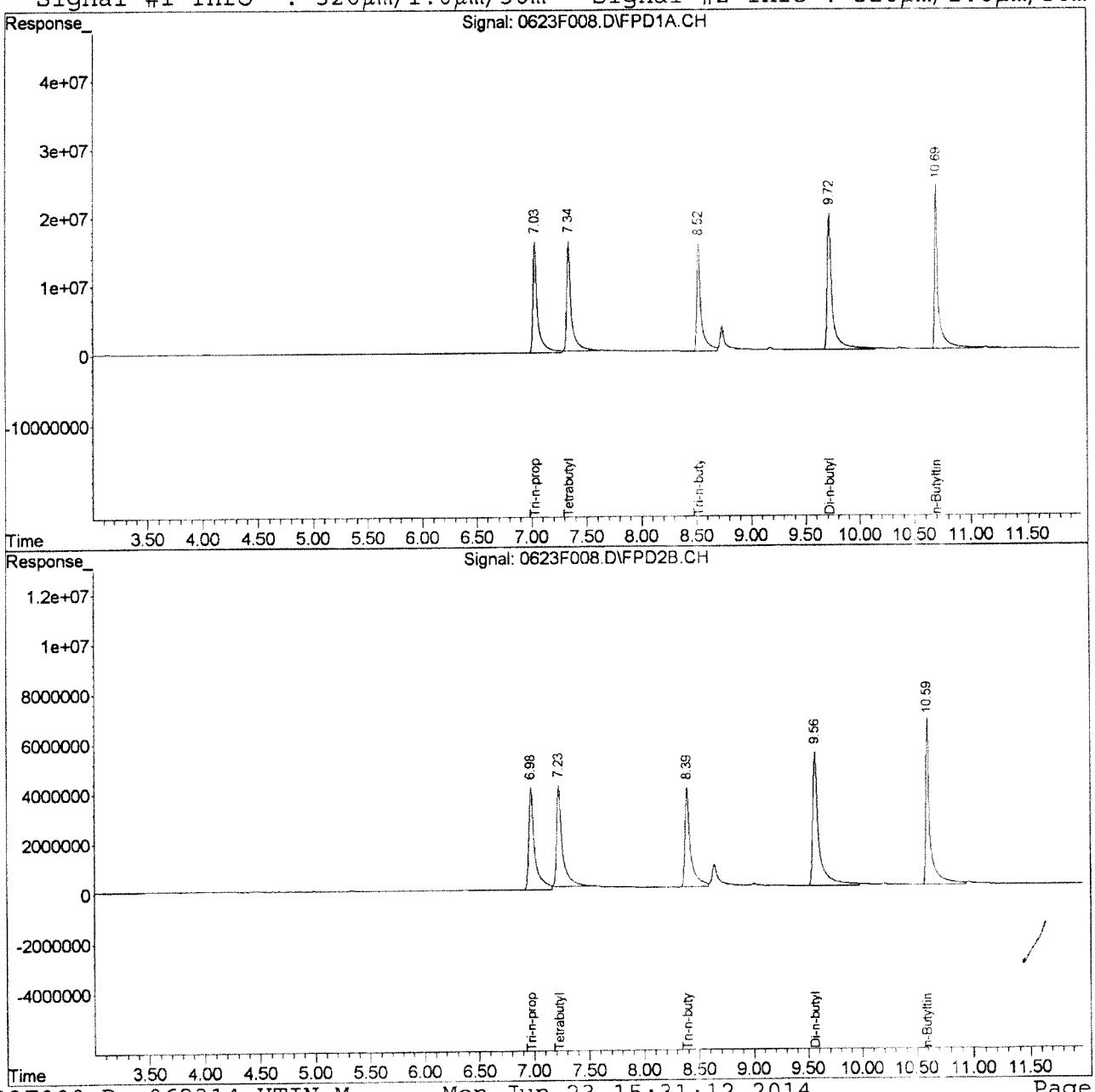
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F008.D 062314-HTIN.M Mon Jun 23 15:31:12 2014 Page 1

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

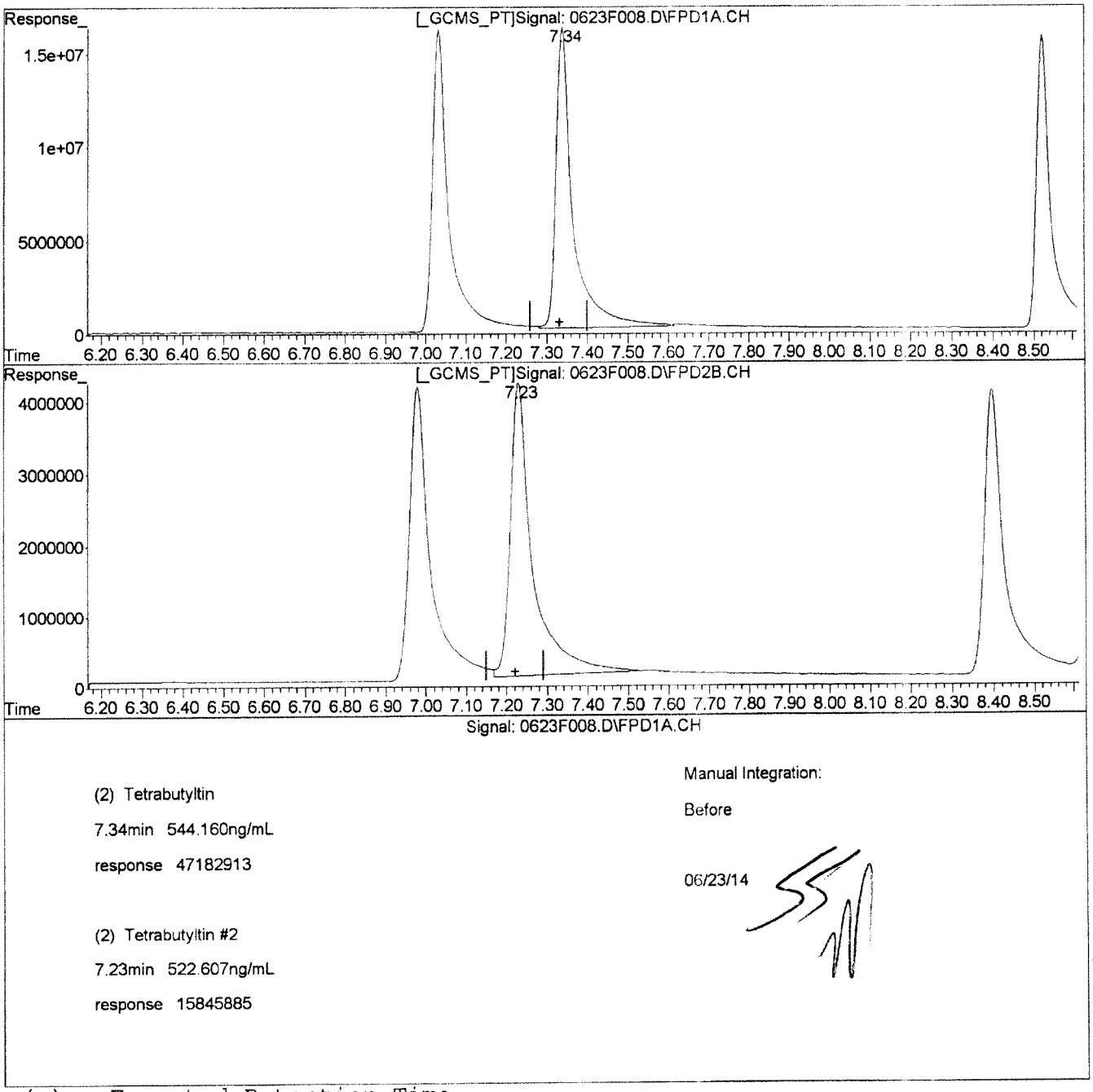
Volume Inj. : 25 µL
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



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

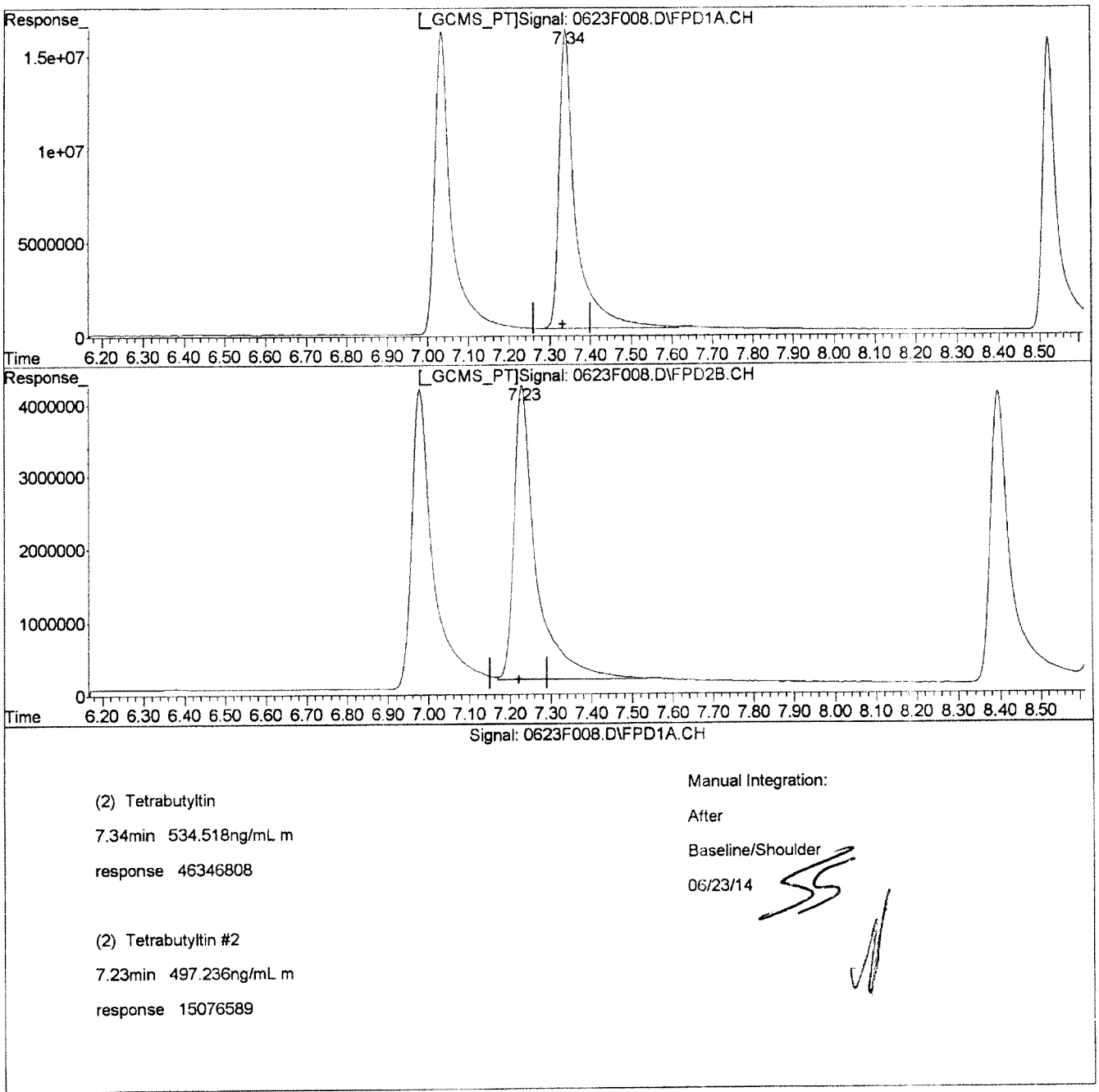
06/23/14

(+) = 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

(2) Tetrabutyltin

7.34min 534.518ng/mL m

response 46346808

(2) Tetrabutyltin #2

7.23min 497.236ng/mL m

response 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

SS 6/23/14

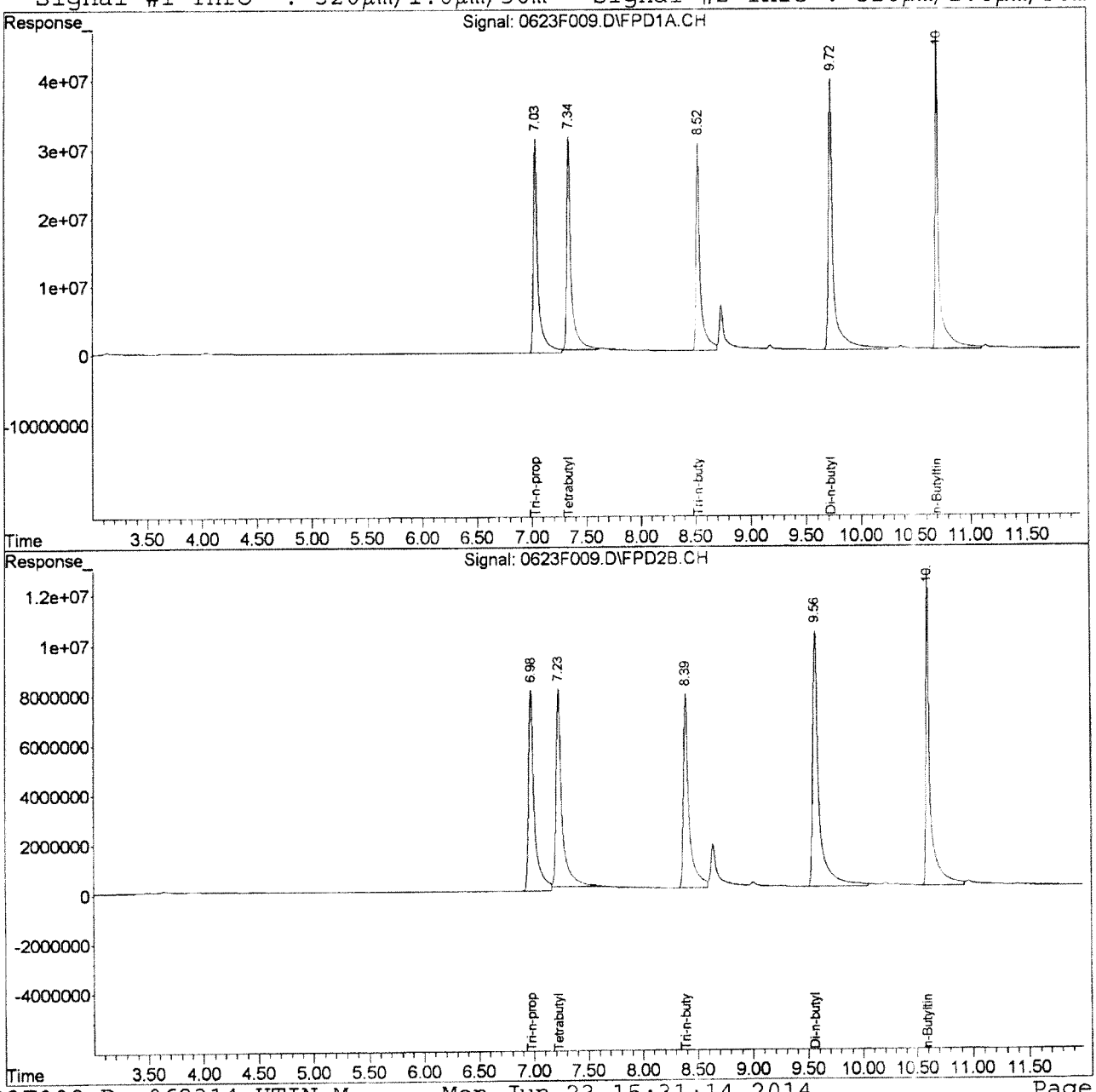
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F009.D 062314-HTIN.M Mon Jun 23 15:31:14 2014 Page 1

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

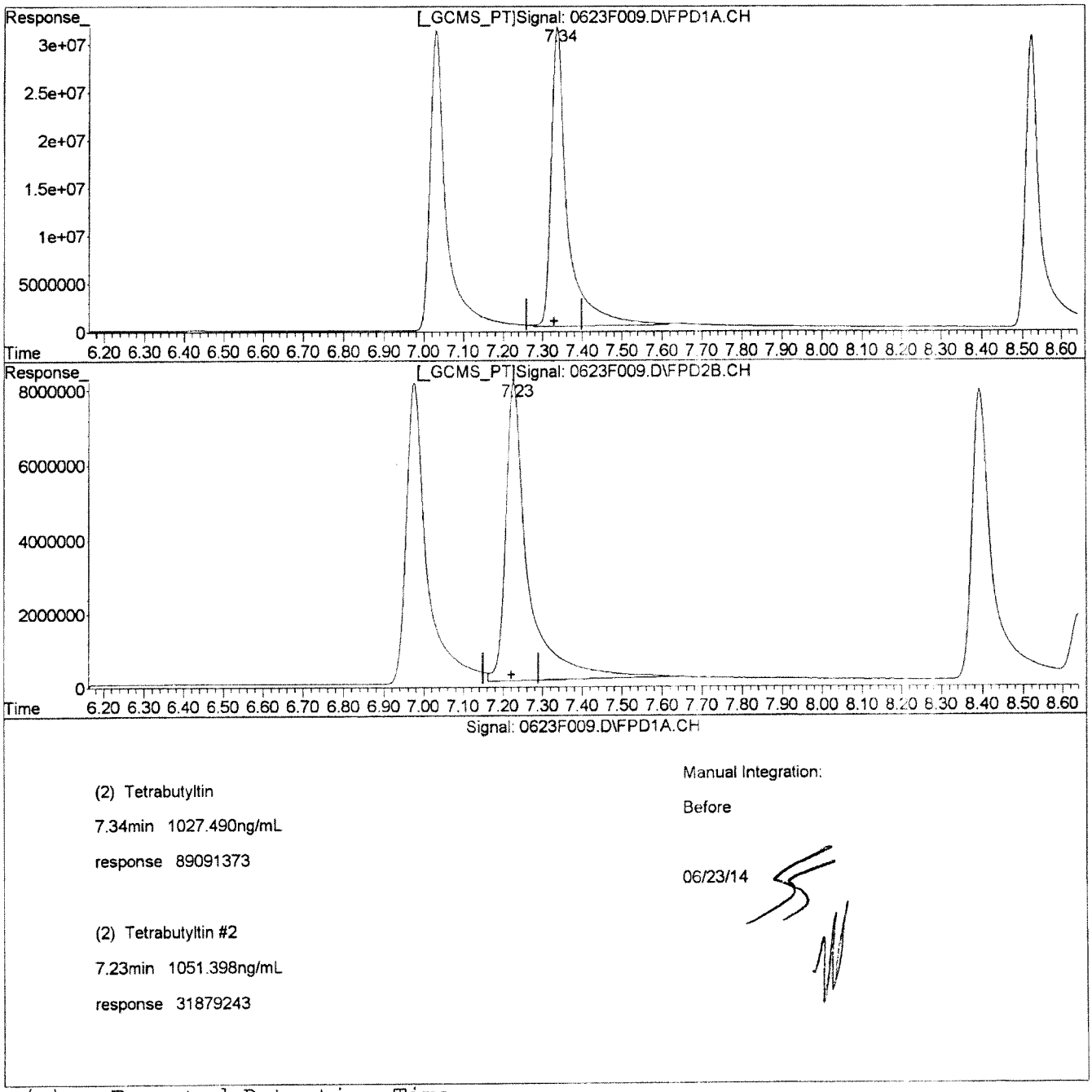
Volume Inj. : 25 µL
Signal #1 Phase : RTX-1 Signal #2 Phase: RTX-35
Signal #1 Info : 320µm/1.0µm/30m Signal #2 Info : 320µm/1.0µm/30m



Quantitation Report (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

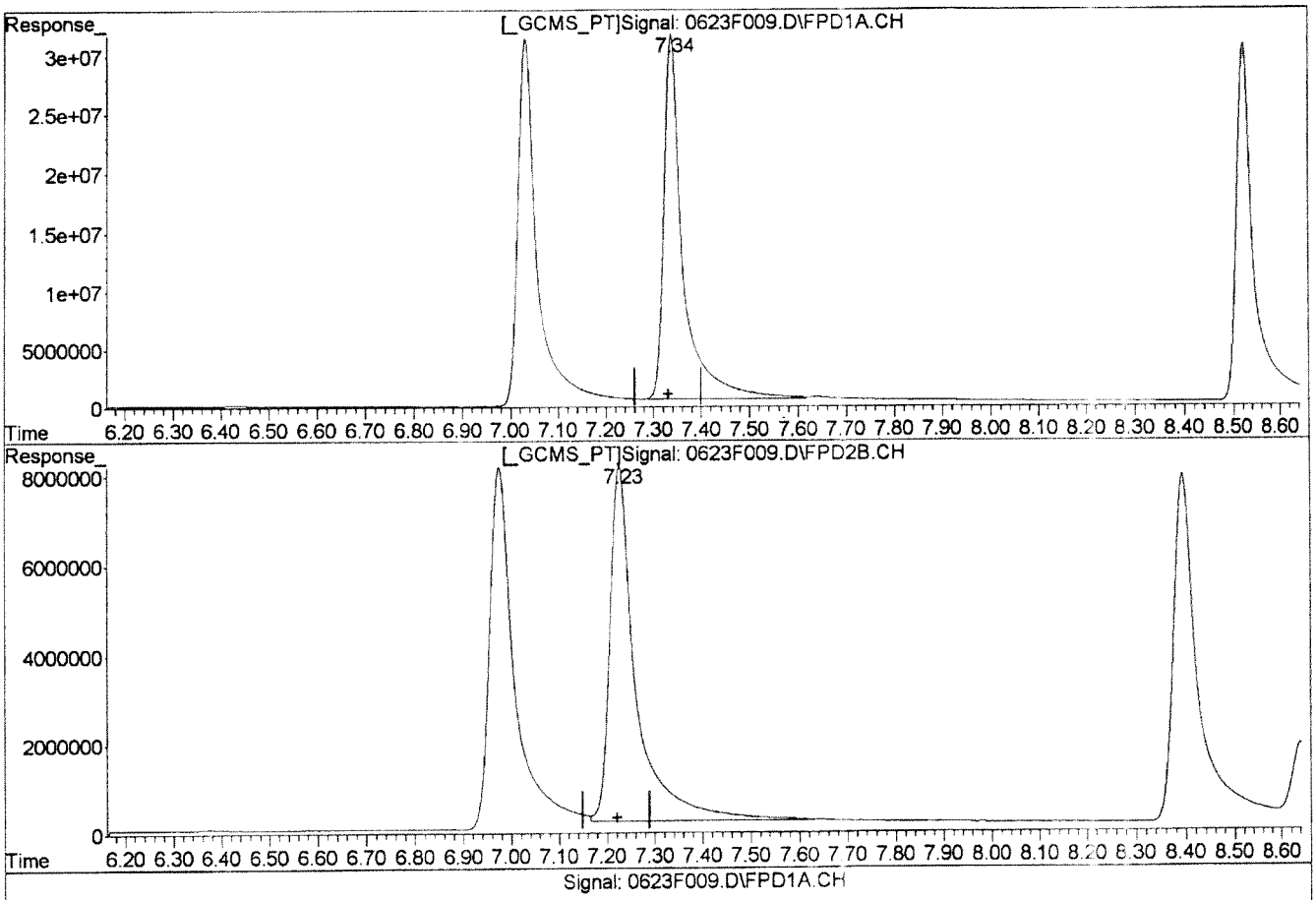


(+) = Expected Retention Time
0623F009.D 062314-HTIN.M Mon Jun 23 15:26:27 2014

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

(2) Tetrabutyltin

7.34min 1014.780ng/mL m

response 87989274

(2) Tetrabutyltin #2

7.23min 998.505ng/mL m

response 30275489

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = 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 15:18:18 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

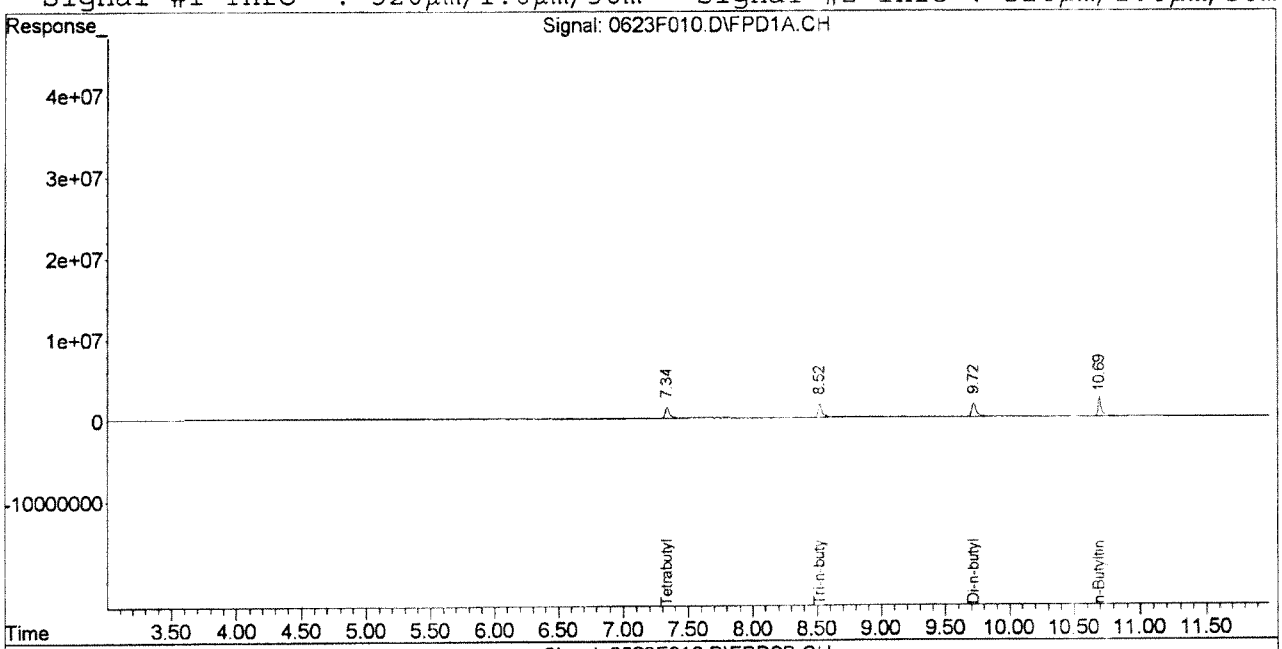
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

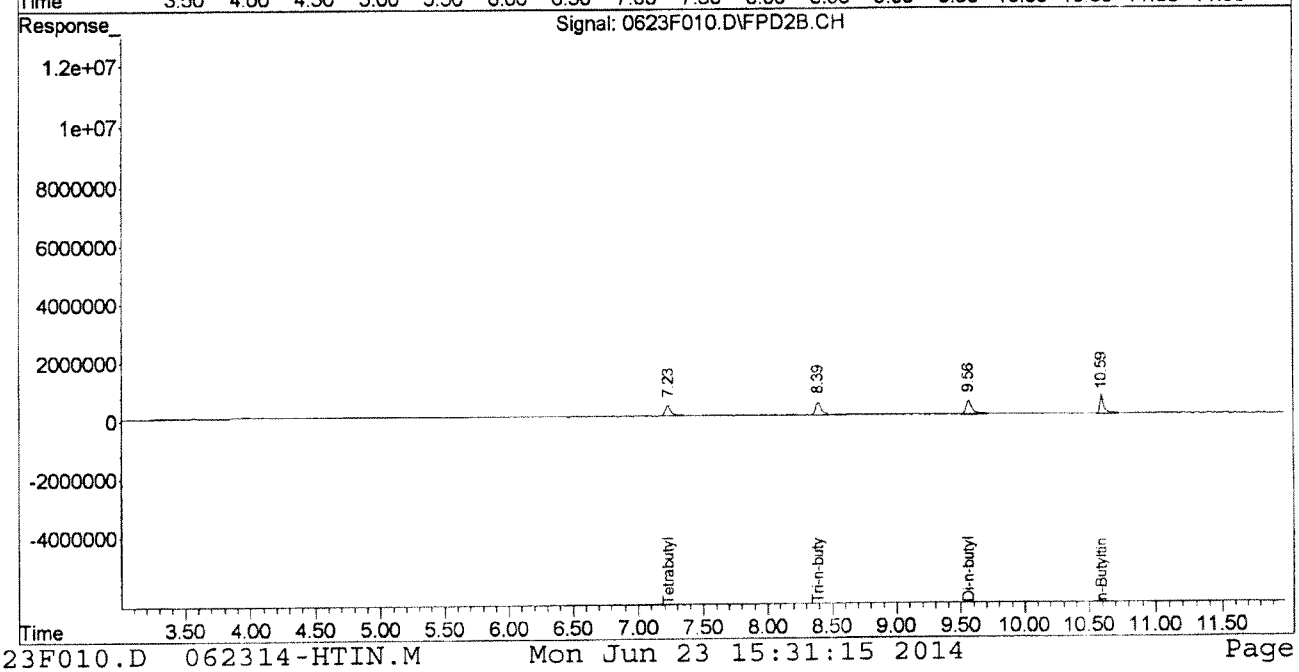
Quantitation Report (QT Reviewed)

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
	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

SS 6/23/14

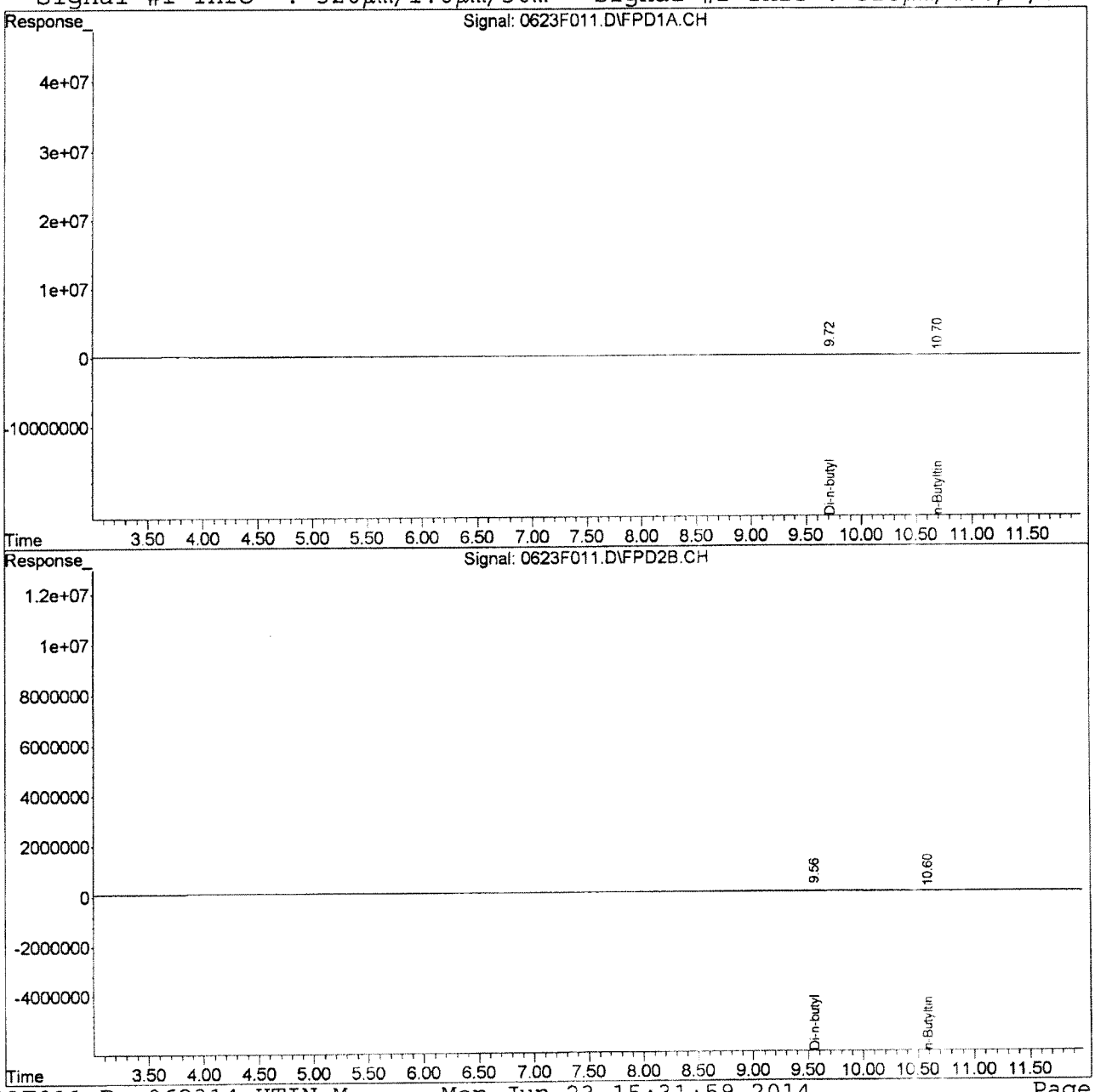
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0623F011.D 062314-HTIN.M Mon Jun 23 15:31:59 2014 Page 1

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



Sequence Name: C:\GC26\SEQUENCE\062014.S
Comment: Butyltins by Krone
Operator: SSULLIVAN
Data Path: C:\GC26\DATA\062014\
Pre-Seq Cmd:
Post-Seq Cmd:

KWG1406328
SS 6/23/14 ~~KWG1406378~~
CAL 13378
Run # 3987326

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	IB	100	0620F001	OTIN	PRIMER BLANK
2	CCV	96	0620F002	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
3	IB	100	0620F003	OTIN	IB
4	LCS	1	0620F004	OTIN	KWG1406086-5 LCS
5	MB	2	0620F005	OTIN	KWG1406086-6 MB
6	SMPL	3	0620F006	OTIN	K1405696-001
7	SMPL	4	0620F007	OTIN	K1405696-002
8	SMPL	5	0620F008	OTIN	K1405696-003
9	SMPL	6	0620F009	OTIN	K1405696-004
10	SMPL	7	0620F010	OTIN	K1405696-005
11	SMPL	8	0620F011	OTIN	K1405696-006
12	SMPL	9	0620F012	OTIN	K1405696-007
13	SMPL	10	0620F013	OTIN	K1405696-008
14	SMPL	11	0620F014	OTIN	K1405696-009
15	CCV	96	0620F015	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
16	IB	100	0620F016	OTIN	IB
17	SMPL	12	0620F017	OTIN	K1405696-010
18	SMPL	13	0620F018	OTIN	K1405733-001 Rerun for mono.
19	SMPL	14	0620F019	OTIN	K1405733-002
20	SMPL	15	0620F020	OTIN	K1405733-003
21	SMPL	16	0620F021	OTIN	K1405735-001
22	MS	17	0620F022	OTIN	K1405735-001 MS
23	DMS	18	0620F023	OTIN	K1405735-001 DMS
24	SMPL	19	0620F024	OTIN	K1405833-001
25	MS	20	0620F025	OTIN	K1405833-001 MS
26	DMS	21	0620F026	OTIN	K1405833-001 DMS
27	CCV	96	0620F027	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
28	IB	100	0620F028	OTIN	IB
29	SMPL	22	0620F029	OTIN	K1405833-002
30	SMPL	23	0620F030	OTIN	K1405833-003
31	SMPL	24	0620F031	OTIN	KWG1406086-7 SRM
32	LCS	25	0620F032	OTIN	KWG1406275-3 LCS
33	MB	26	0620F033	OTIN	KWG1406275-4 MB
34	SMPL	27	0620F034	OTIN	K1405686-001
35	SMPL	28	0620F035	OTIN	K1405686-002
36	SMPL	29	0620F036	OTIN	K1405686-003
37	SMPL	30	0620F037	OTIN	K1405686-004
38	SMPL	31	0620F038	OTIN	K1405686-005
39	CCV	97	0620F039	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
40	IB	99	0620F040	OTIN	IB
41	SMPL	32	0620F041	OTIN	K1405686-006
42	SMPL	33	0620F042	OTIN	K1405686-007
43	SMPL	34	0620F043	OTIN	K1405686-008

OK SS 6/23/14

OK SS 6/23/14

Last Modified: Fri Jun 20 15:06:22 2014

Sequence Name: C:\GC26\SEQUENCE\062014.S

Line	Type	Vial	DataFile	Method	Sample Name
44	SMPL	35	0620F044	OTIN	K1405686-009
45	SMPL	36	0620F045	OTIN	K1405686-010
46	SMPL	37	0620F046	OTIN	K1405686-011
47	MS	38	0620F047	OTIN	K1405686-011 MS
48	DMS	39	0620F048	OTIN	K1405686-011 DMS
49	SMPL	40	0620F049	OTIN	K1405686-012
50	CCV	97	0620F050	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
51	IB	99	0620F051	OTIN	IB
52	SMPL	41	0620F052	OTIN	K1405686-013
53	SMPL	42	0620F053	OTIN	K1405686-014
54	SMPL	43	0620F054	OTIN	K1405686-015
55	SMPL	44	0620F055	OTIN	K1405686-016
56	SMPL	45	0620F056	OTIN	K1405686-017
57	SMPL	46	0620F057	OTIN	K1405686-018
58	SMPL	47	0620F058	OTIN	K1405686-019
59	SMPL	48	0620F059	OTIN	K1405686-020
60	CCV	97	0620F060	OTIN	O'TINS @ 50ppb OT5-01H mono↑, OK
61	IB	99	0620F061	OTIN	IB

Exception Report

Data File: J:\GC26\DATA\062014\0620F002.D
Lab ID: KWG1406328-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 15:26
Date Quantitated: 06/23/2014 11:14
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review: [signature]

Printed: 06/25/2014 16:42:08

u:\Stealth\Crystal.rpt\except2.rpt

Exception Report

Data File: J:\GC26\DATA\062014\0620F002.D\0620F002C.D
Lab ID: KWG1406328-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 15:26
Date Quantitated: 06/23/2014 11:14
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F002.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F002.D\0620F002c.d			**Vial:**	96
Acqu Date:	06/20/2014 15:26	**Quant Date:**	06/23/2014 11:14	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-1				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.01	6.95	4830760	1583092	57.47	53.90			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	7.32	7.21	4668778	1491786m	53.85	49.20			
Tri-n-butyltin Cation	8.50	8.37	4222600	1433734	46.67	43.57			
Di-n-butyltin Cation	9.70	9.55	6489093	2168830	46.31	43.26			
n-Butyltin Cation	10.69	10.59	5716686	1777658	41.05	34.04			

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

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091
DataFile: J:\GC26\DATA\062014\0620F002.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		8.4E+4	9.7E+4	15			
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.3E+4	8			
Tri-n-butyltin Cation		MS	AverageRF	25		9.0E+4	9.5E+4	5			
Di-n-butyltin Cation		MS	AverageRF	25		1.4E+5	1.7E+5	21			
n-Butyltin Cation		MS	AverageRF	25		1.4E+5	1.8E+5	32 *			

1 Compounds Failed CCV Criteria (20.00 Percent)

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091

DataFile: J:\GC26\DATA\062014\0620F002.D\0620F002C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		2.9E+4	3.2E+4	8			
Tetra-n-butyltin		MS	AverageRF	25		3.0E+4	3.0E+4	-2			
Tri-n-butyltin Cation		MS	AverageRF	25		3.3E+4	3.2E+4	-2			
Di-n-butyltin Cation		MS	AverageRF	25		5.0E+4	5.7E+4	13			
n-Butyltin Cation		MS	AverageRF	25		5.2E+4	5.7E+4	9			

Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F002.D\FPD2B.CH
Acq On : 20 Jun 2014 3:26 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 10:19:02 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	6.95	4830760	1583092	57.471	53.903
		Target Compounds						
2)		Tetrabutyltin	7.32	7.21	4668778	1491786	53.845	49.200m
3)		Tri-n-butyltin	8.50	8.37	4222600	1433734	46.668	43.569
4)		Di-n-butyltin	9.70	9.55	6489093	2168830	46.314	43.257
5)		n-Butyltin	10.69	10.59	5716686	1777658	41.052	34.036

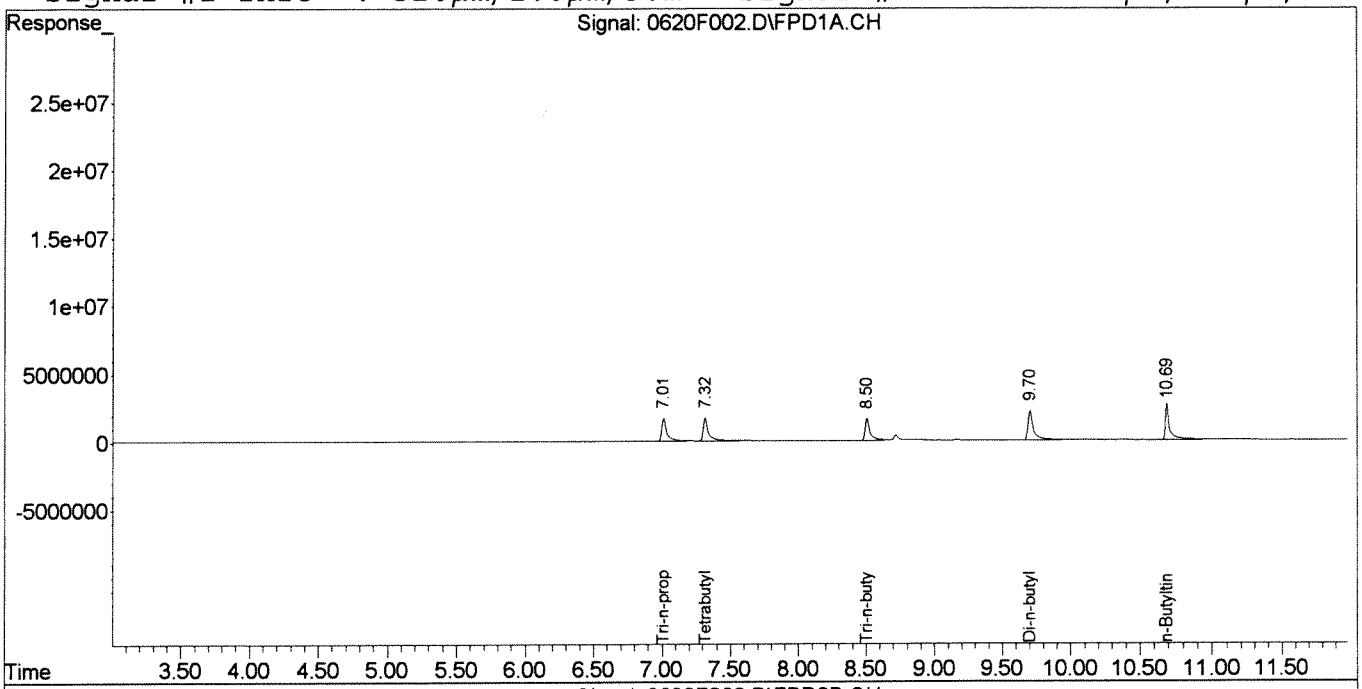
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

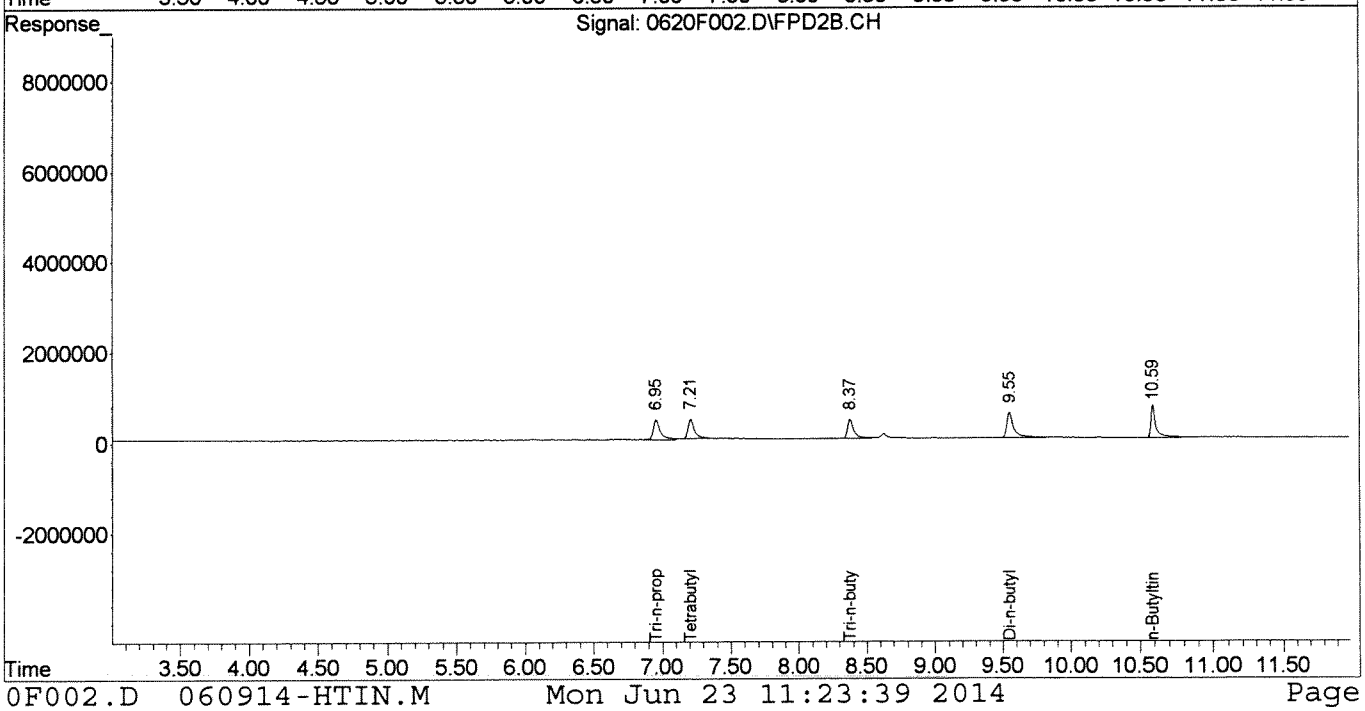
Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F002.D\FPD2B.CH
Acq On : 20 Jun 2014 3:26 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 11:14 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

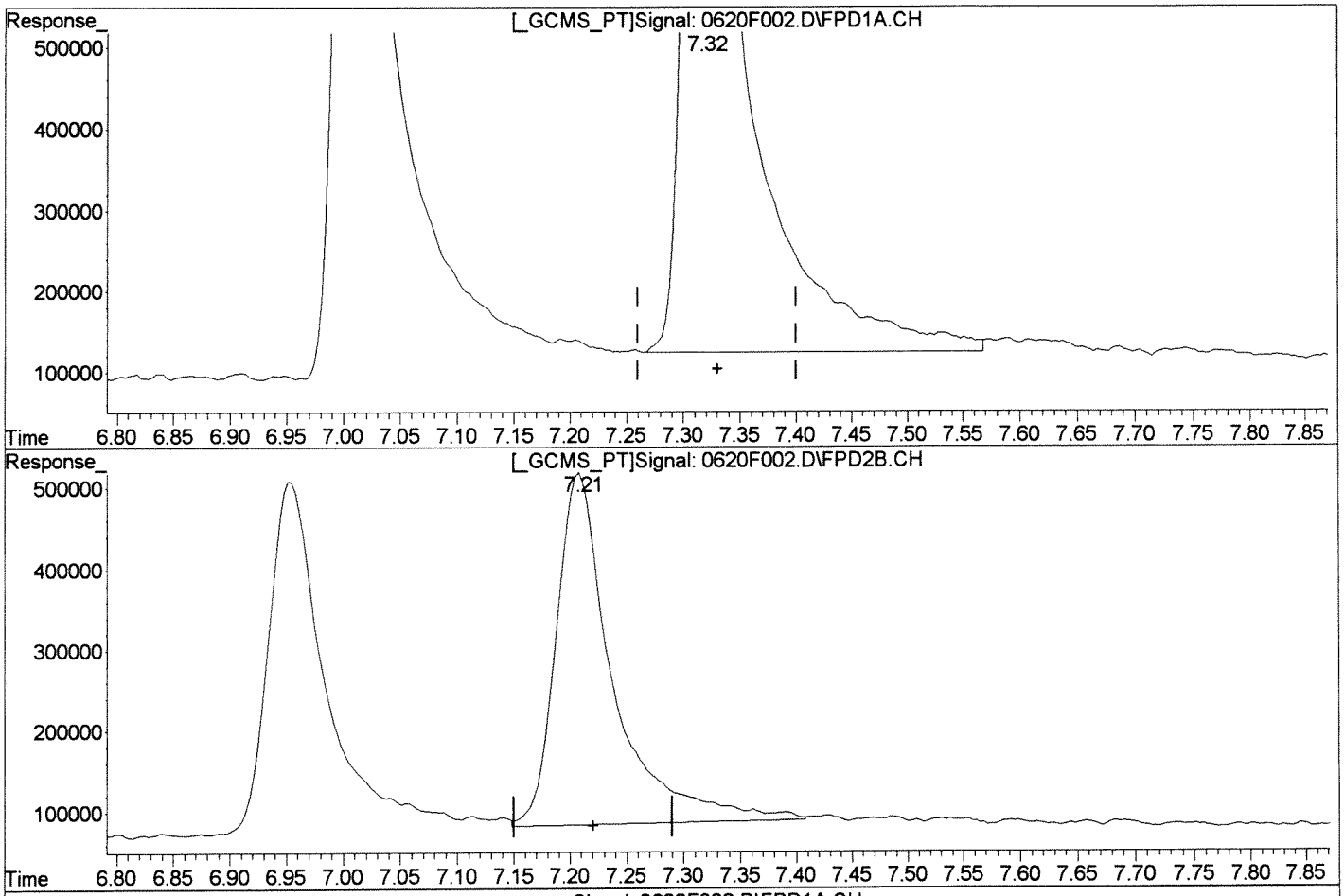




Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F002.D\FPD2B.CH
Acq On : 20 Jun 2014 3:26 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 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F002.D\FPD1A.CH

(2) Tetrabutyltin

7.32min 53.845ng/mL

response 4668778

(2) Tetrabutyltin #2

7.21min 50.745ng/mL

response 1538615

Manual Integration:

Before

06/23/14

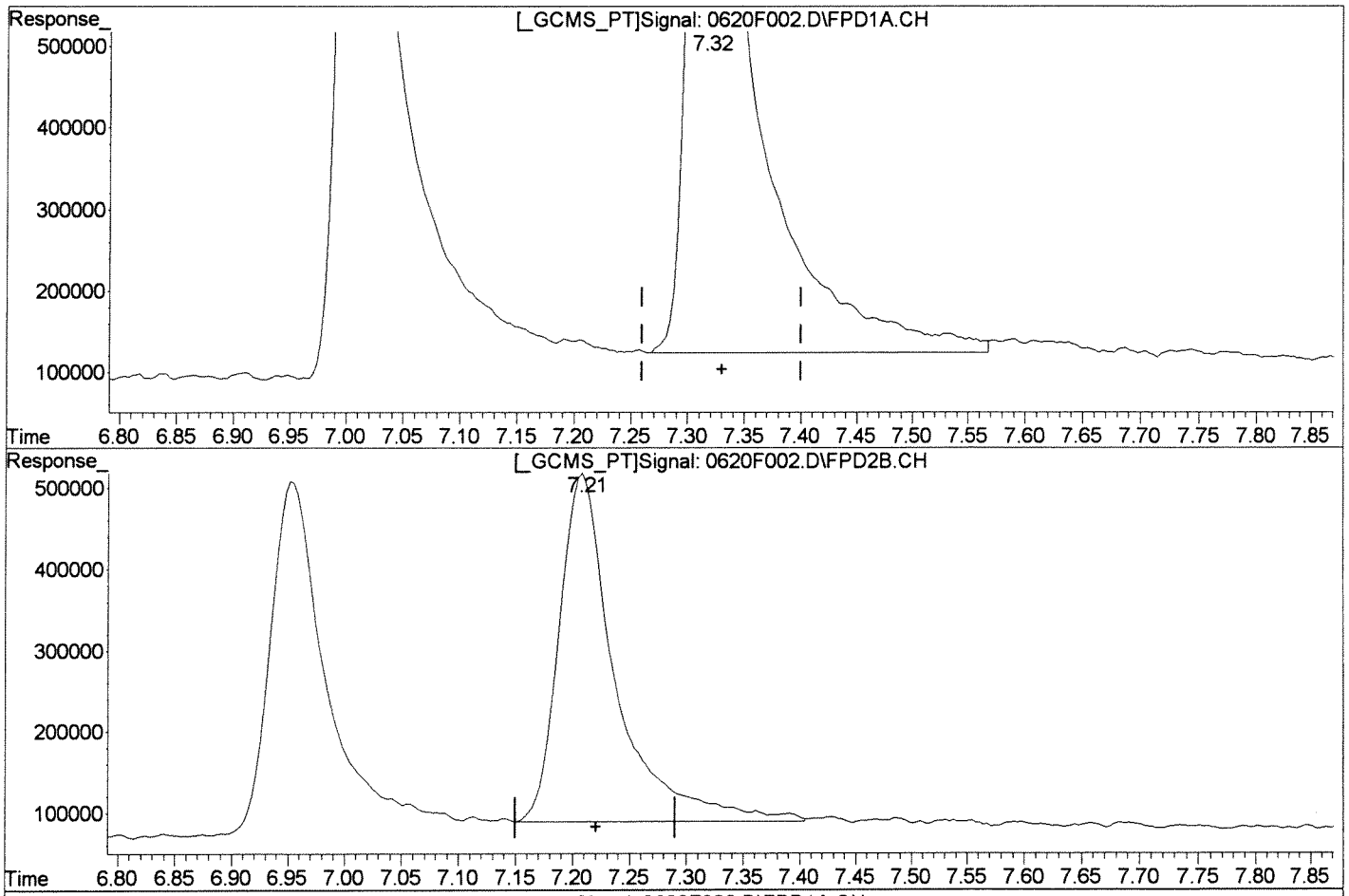
(+) = Expected Retention Time

0620F002.D 060914-HTIN.M Mon Jun 23 11:14:33 2014

Quantitation Report (Qedit)

Signal #1 : J:\GC26\DATA\062014\0620F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F002.D\FPD2B.CH
Acq On : 20 Jun 2014 3:26 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 10:19 2014 Quant Results File: 060914-HTIN.RES

Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
Last Update : Fri Jun 20 09:17:03 2014
Response via : Multiple Level Calibration



Signal: 0620F002.D\FPD1A.CH

(2) Tetrabutyltin

7.32min 53.845ng/mL

response 4668778

(2) Tetrabutyltin #2

7.21min 49.200ng/mL m

response 1491786

Manual Integration:

After

Baseline/Shoulder

06/23/14

(+) = Expected Retention Time

0620F002.D 060914-HTIN.M Mon Jun 23 11:14:45 2014

Exception Report

Data File: J:\GC26\DATA\062014\0620F003.D
Lab ID: KWG1406328-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 15:42
Date Quantitated: 06/23/2014 11:14
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062014\0620F003.D\0620F003C.D
Lab ID: KWG1406328-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 15:42
Date Quantitated: 06/23/2014 11:14
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F003.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F003.D\0620F003c.d			**Vial:**	100
Acqu Date:	06/20/2014 15:42	**Quant Date:**	06/23/2014 11:14	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-2				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**
Analysis Method:	Krone	**Prep Method:**		
Prep Ref:		**Prep Date:**		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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			0d	0	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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F003.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F003.D\FPD2B.CH
Acq On : 20 Jun 2014 3:42 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 10:19:02 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

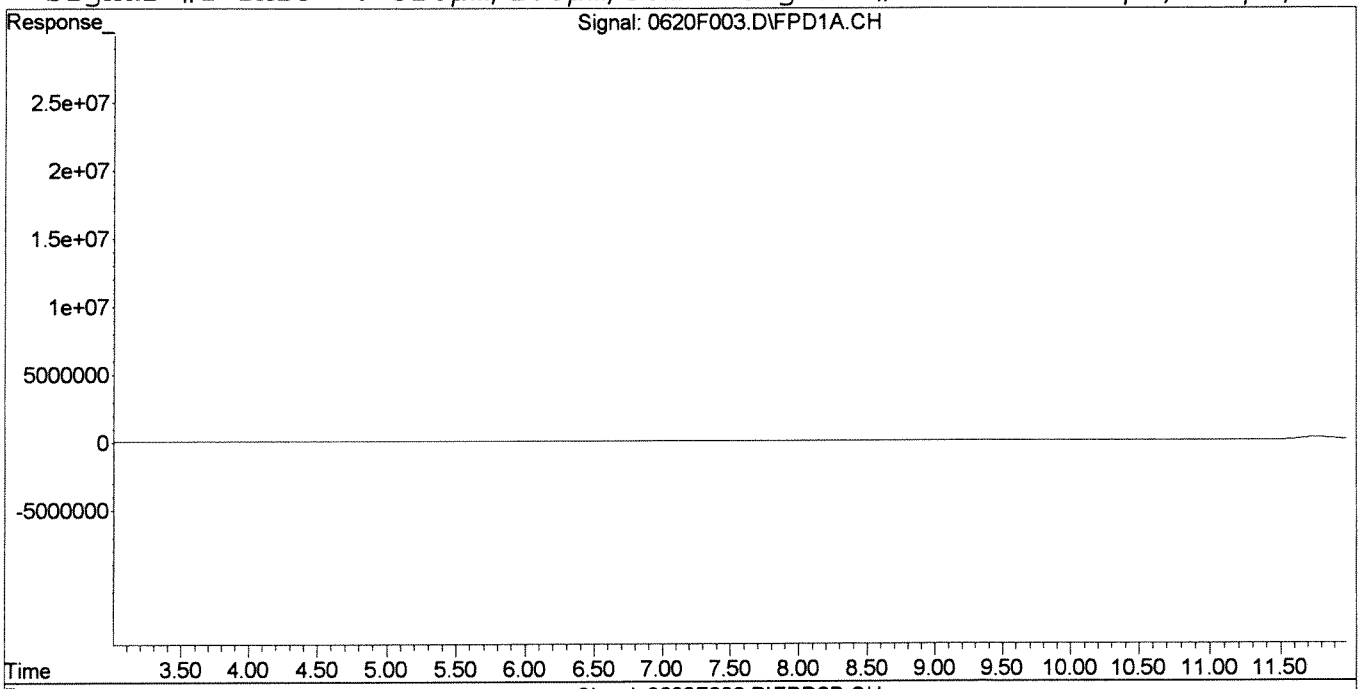
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

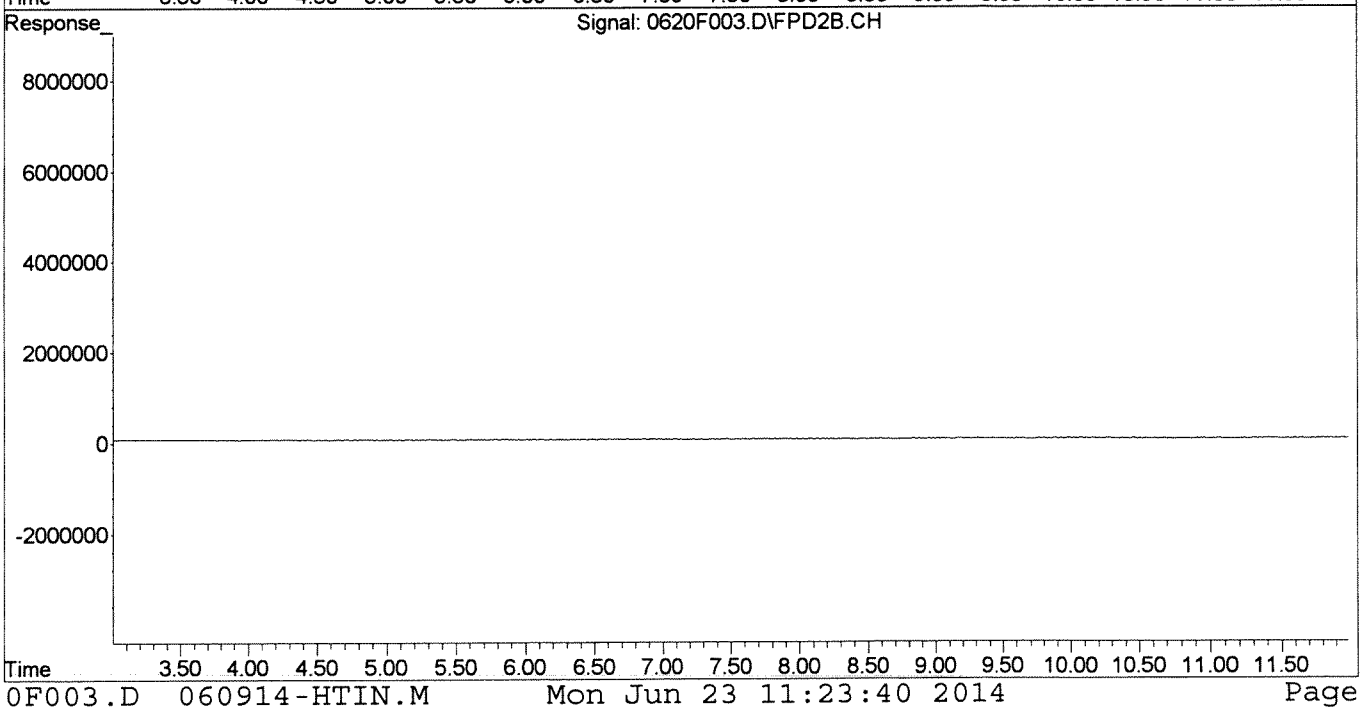
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F003.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F003.D\FPD2B.CH
Acq On : 20 Jun 2014 3:42 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 11:14 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File:	J:\GC26\DATA\062014\0620F015.D	**Date Acquired:**	06/20/2014 18:58
Lab ID:	KWG1406328-3	**Date Quantitated:**	06/23/2014 10:19
RunType:	CCV	**Batch ID:**	KWG1406328
Matrix:	NOT APPLICABLE	**Analysis Method:**	Krone
		MethodJoinID:	MJ1091

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 6/25/14

Secondary Review: MW 6/26/14

Exception Report

Data File: J:\GC26\DATA\062014\0620F015.D\0620F015C.D
Lab ID: KWG1406328-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 18:58
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review: DW 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F015.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F015.D\0620F015c.d			**Vial:**	96
Acqu Date:	06/20/2014 18:58	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-3				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.03	6.97	5046038	1565356	60.03	53.30			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	4831446	1428388	55.72	47.11			
Tri-n-butyltin Cation	8.52	8.39	4406052	1448003	48.70	44.00			
Di-n-butyltin Cation	9.72	9.57	6434386	2088078	45.92	41.65			
n-Butyltin Cation	10.69	10.59	5630932	1802667	40.44	34.51			

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

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091

DataFile: J:\GC26\DATA\062014\0620F015.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff		Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		8.4E+4	1.0E+5	20				
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.7E+4	11				
Tri-n-butyltin Cation		MS	AverageRF	25		9.0E+4	9.9E+4	9				
Di-n-butyltin Cation		MS	AverageRF	25		1.4E+5	1.7E+5	20				
n-Butyltin Cation		MS	AverageRF	25		1.4E+5	1.8E+5	30	*			

1 Compounds Failed CCV Criteria (20.00 Percent)

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091
DataFile: J:\GC26\DATA\062014\0620F015.D\0620F015C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		2.9E+4	3.1E+4	7			
Tetra-n-butyltin		MS	AverageRF	25		3.0E+4	2.9E+4	-6			
Tri-n-butyltin Cation		MS	AverageRF	25		3.3E+4	3.3E+4	-1			
Di-n-butyltin Cation		MS	AverageRF	25		5.0E+4	5.4E+4	9			
n-Butyltin Cation		MS	AverageRF	25		5.2E+4	5.8E+4	11			

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F015.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F015.D\FPD2B.CH
Acq On : 20 Jun 2014 6:58 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 10:19:10 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

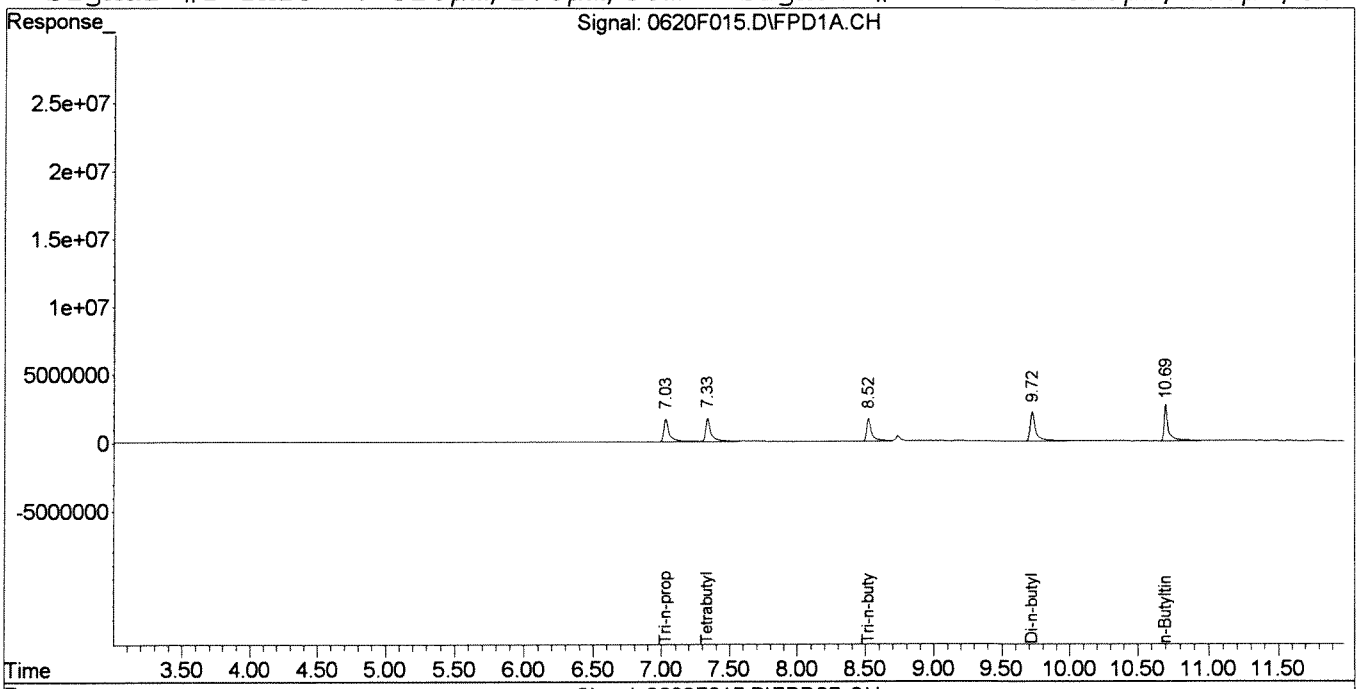
		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
		System Monitoring Compounds						
1)	S	Tri-n-propyltin	7.03	6.97	5046038	1565356	60.032	53.299
		Target Compounds						
2)		Tetrabutyltin	7.33	7.22	4831446	1428388	55.721	47.109
3)		Tri-n-butyltin	8.52	8.39	4406052	1448003	48.696	44.002
4)		Di-n-butyltin	9.72	9.57	6434386	2088078	45.923	41.646
5)		n-Butyltin	10.69	10.59	5630932	1802667	40.436	34.514

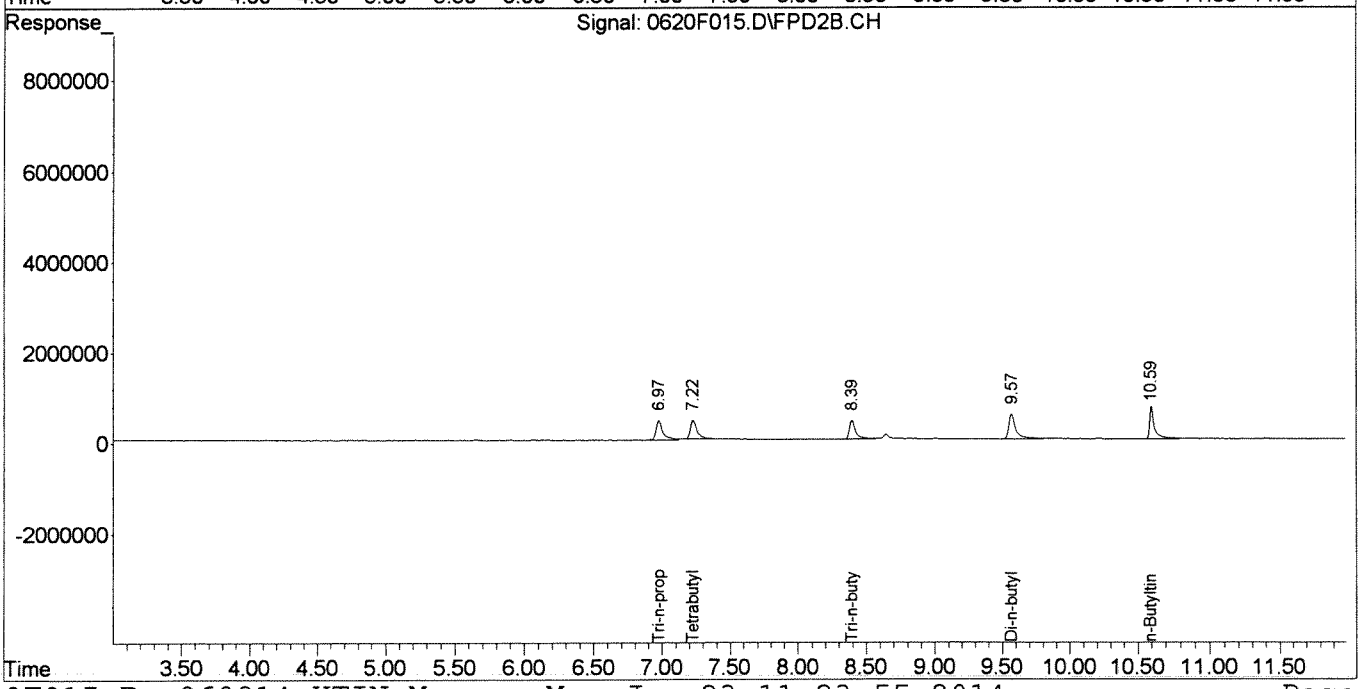
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : J:\GC26\DATA\062014\0620F015.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F015.D\FPD2B.CH
Acq On : 20 Jun 2014 6:58 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 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File:	J:\GC26\DATA\062014\0620F016.D	**Date Acquired:**	06/20/2014 19:14
Lab ID:	KWG1406328-4	**Date Quantitated:**	06/23/2014 11:17
RunType:	IB	**Batch ID:**	KWG1406328
Matrix:	NOT APPLICABLE	**Analysis Method:**	Krone
		MethodJoinID:	MJ1091

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 6/25/14

Secondary Review: MW 6/25/14

Exception Report

Data File: J:\GC26\DATA\062014\0620F016.D\0620F016C.D
Lab ID: KWG1406328-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 19:14
Date Quantitated: 06/23/2014 11:17
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F016.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F016.D\0620F016c.d			**Vial:**	100
Acqu Date:	06/20/2014 19:14	**Quant Date:**	06/23/2014 11:17	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-4				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

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 =**	10-120	

Target Compounds

Final Conc. Units:

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	0d	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			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\062014\0620F016.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F016.D\FPD2B.CH
Acq On : 20 Jun 2014 7:14 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 10:19:11 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

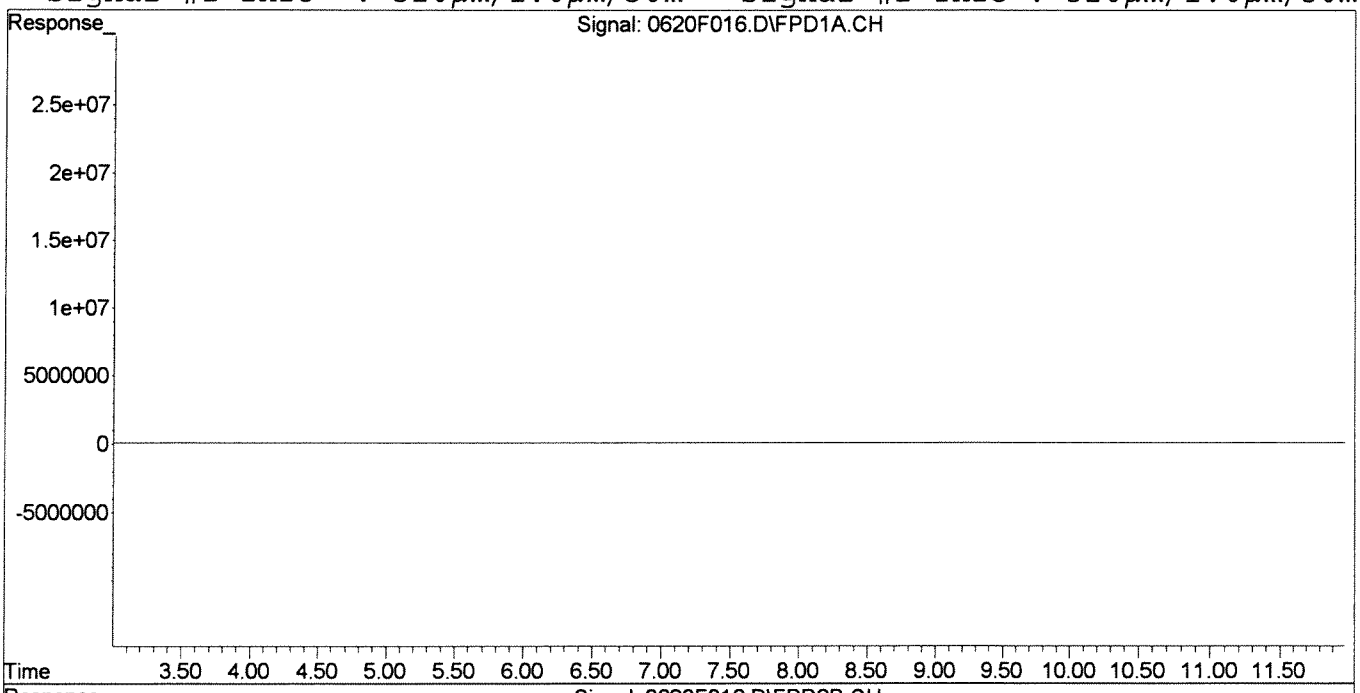
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

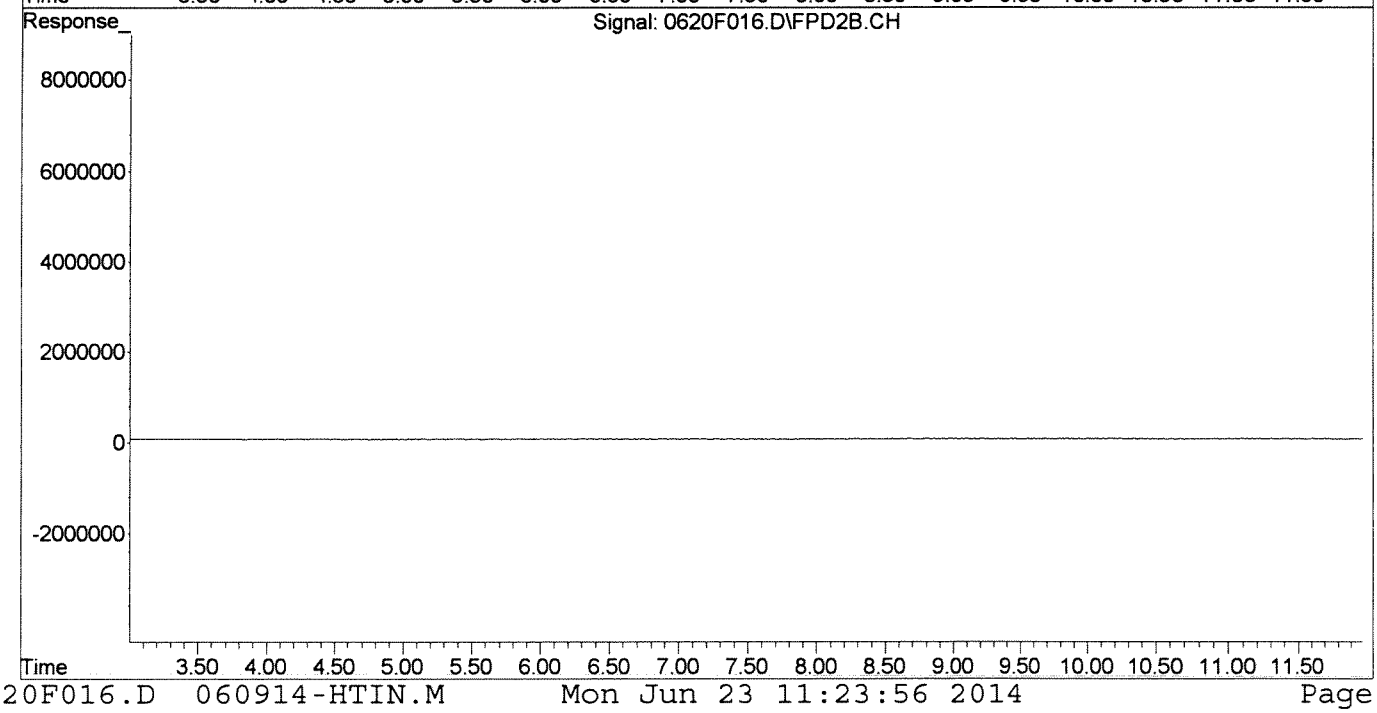
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F016.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F016.D\FPD2B.CH
Acq On : 20 Jun 2014 7:14 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 11:17 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File:	J:\GC26\DATA\062014\0620F027.D	**Date Acquired:**	06/20/2014 22:13
Lab ID:	KWG1406328-5	**Date Quantitated:**	06/23/2014 10:19
RunType:	CCV	**Batch ID:**	KWG1406328
Matrix:	NOT APPLICABLE	**Analysis Method:**	Krone
		MethodJoinID:	MJ1091

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: 6/25/14

Secondary Review: 6/26/14

Exception Report

Data File: J:\GC26\DATA\062014\0620F027.D\0620F027C.D
Lab ID: KWG1406328-5
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 22:13
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review:

Printed: 06/25/2014 16:48:33
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F027.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F027.D\0620F027c.d			**Vial:**	96
Acqu Date:	06/20/2014 22:13	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-5				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.			**Calibration ID:**	CAL13378
Title:					
MB Ref:				**Method ID:**	MJ1091
				Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.03	6.98	5073624	1628197	60.36	55.44			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	4922110	1508023	56.77	49.74			
Tri-n-butyltin Cation	8.53	8.40	4529398	1491859	50.06	45.34			
Di-n-butyltin Cation	9.72	9.57	6723870	2160810	47.99	43.10			
n-Butyltin Cation	10.70	10.60	5922570	1825466	42.53	34.95			

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

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091
DataFile: J:\GC26\DATA\062014\0620F027.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		8.4E+4	1.0E+5	21			
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.8E+4	14			
Tri-n-butyltin Cation		MS	AverageRF	25		9.0E+4	1.0E+5	12			
Di-n-butyltin Cation		MS	AverageRF	25		1.4E+5	1.8E+5	25			
n-Butyltin Cation		MS	AverageRF	25		1.4E+5	1.9E+5	37 *			

1 Compounds Failed CCV Criteria (20.00 Percent)

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091

DataFile: J:\GC26\DATA\062014\0620F027.D\0620F027C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		2.9E+4	3.3E+4	11			
Tetra-n-butyltin		MS	AverageRF	25		3.0E+4	3.0E+4	-1			
Tri-n-butyltin Cation		MS	AverageRF	25		3.3E+4	3.3E+4	2			
Di-n-butyltin Cation		MS	AverageRF	25		5.0E+4	5.6E+4	12			
n-Butyltin Cation		MS	AverageRF	25		5.2E+4	5.9E+4	12			

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F027.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F027.D\FPD2B.CH
Acq On : 20 Jun 2014 10:13 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 10:19:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	5073624	1628197	60.360	55.439
		Target Compounds						
2)		Tetrabutyltin	7.34	7.23	4922110	1508023	56.767	49.736
3)		Tri-n-butyltin	8.53	8.40	4529398	1491859	50.059	45.335
4)		Di-n-butyltin	9.72	9.57	6723870	2160810	47.989	43.097
5)		n-Butyltin	10.70	10.60	5922570	1825466	42.530	34.951

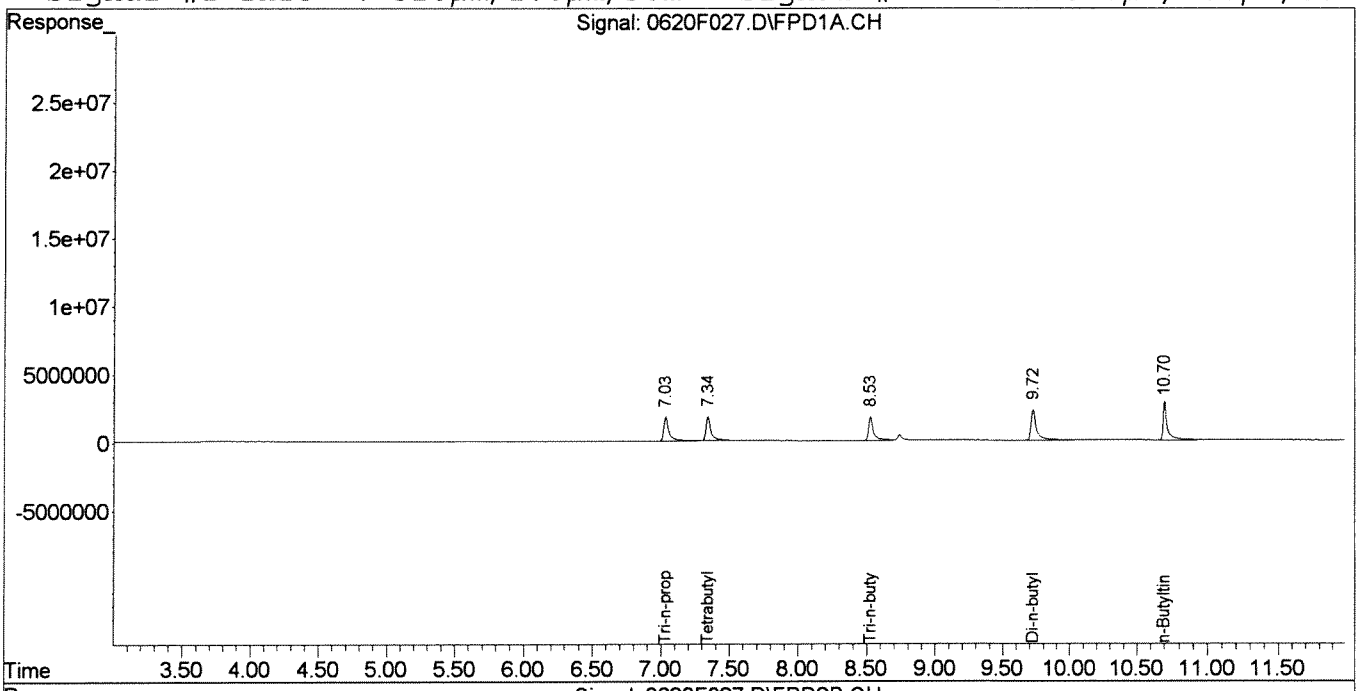
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

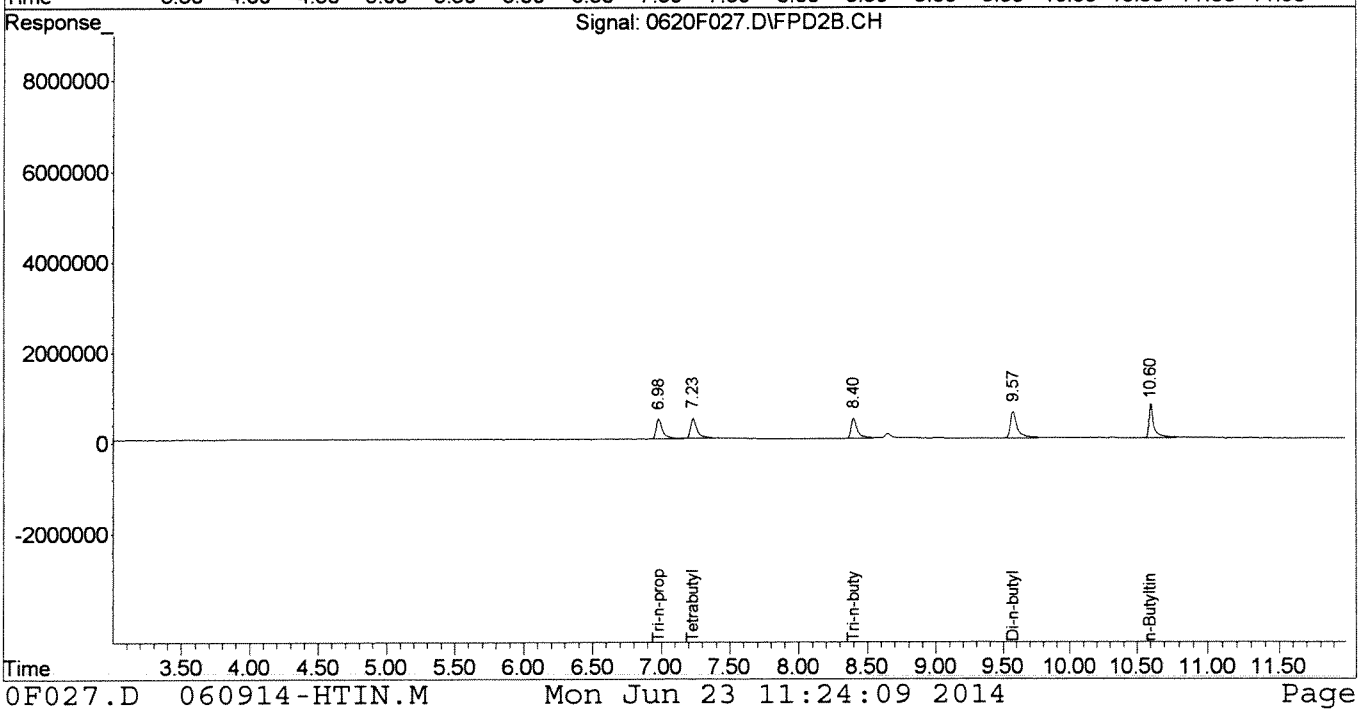
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F027.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062014\0620F027.D\FPD2B.CH
Acq On : 20 Jun 2014 10:13 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 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File: J:\GC26\DATA\062014\0620F028.D
Lab ID: KWG1406328-6
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 22:29
Date Quantitated: 06/23/2014 11:13
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review: MWD 6/25/14

Exception Report

Data File: J:\GC26\DATA\062014\0620F028.D\0620F028C.D
Lab ID: KWG1406328-6
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/20/2014 22:29
Date Quantitated: 06/23/2014 11:13
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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: 6/25/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F028.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F028.D\0620F028c.d			**Vial:**	100
Acqu Date:	06/20/2014 22:29	**Quant Date:**	06/23/2014 11:13	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-6				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.			**Calibration ID:**	CAL13378
Title:					
MB Ref:				**Method ID:**	MJ133
				Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	0.00		0	0d		0.0000			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	0d	0.0000	0.0000			
Tri-n-butyltin Cation			0	0d	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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F028.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F028.D\FPD2B.CH
Acq On : 20 Jun 2014 10:29 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 10:19:20 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

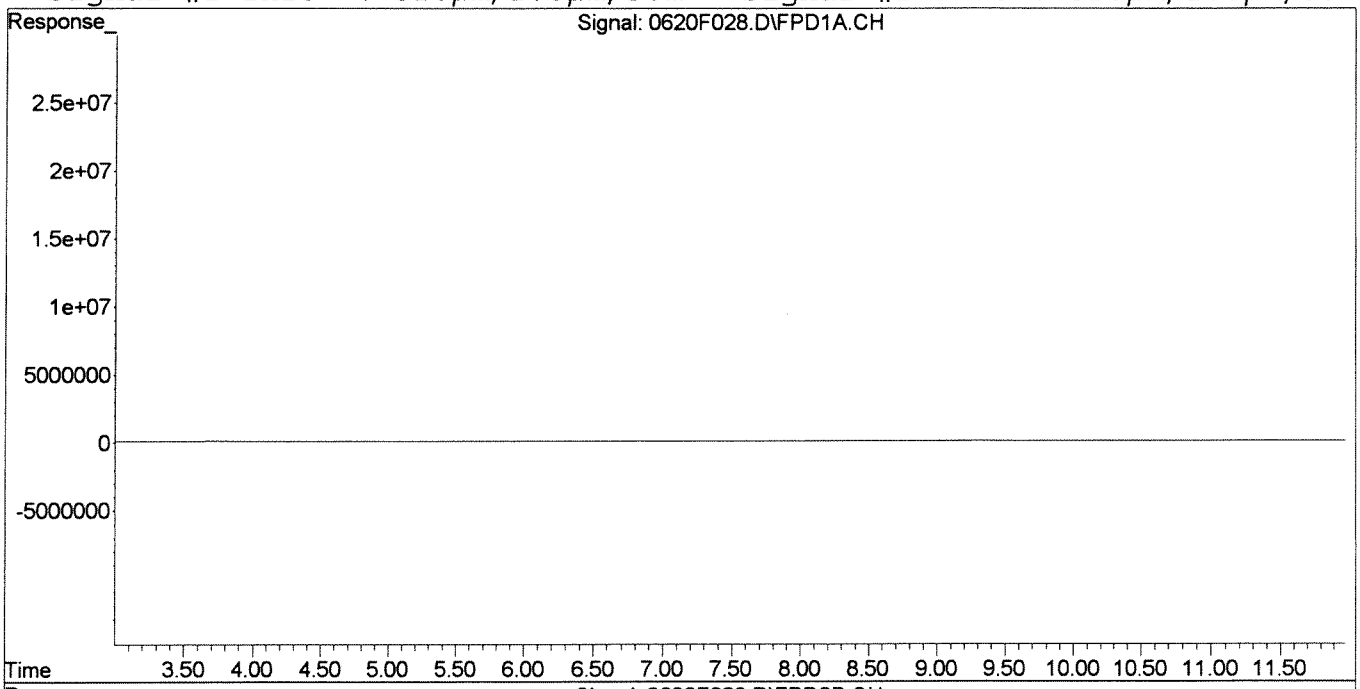
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

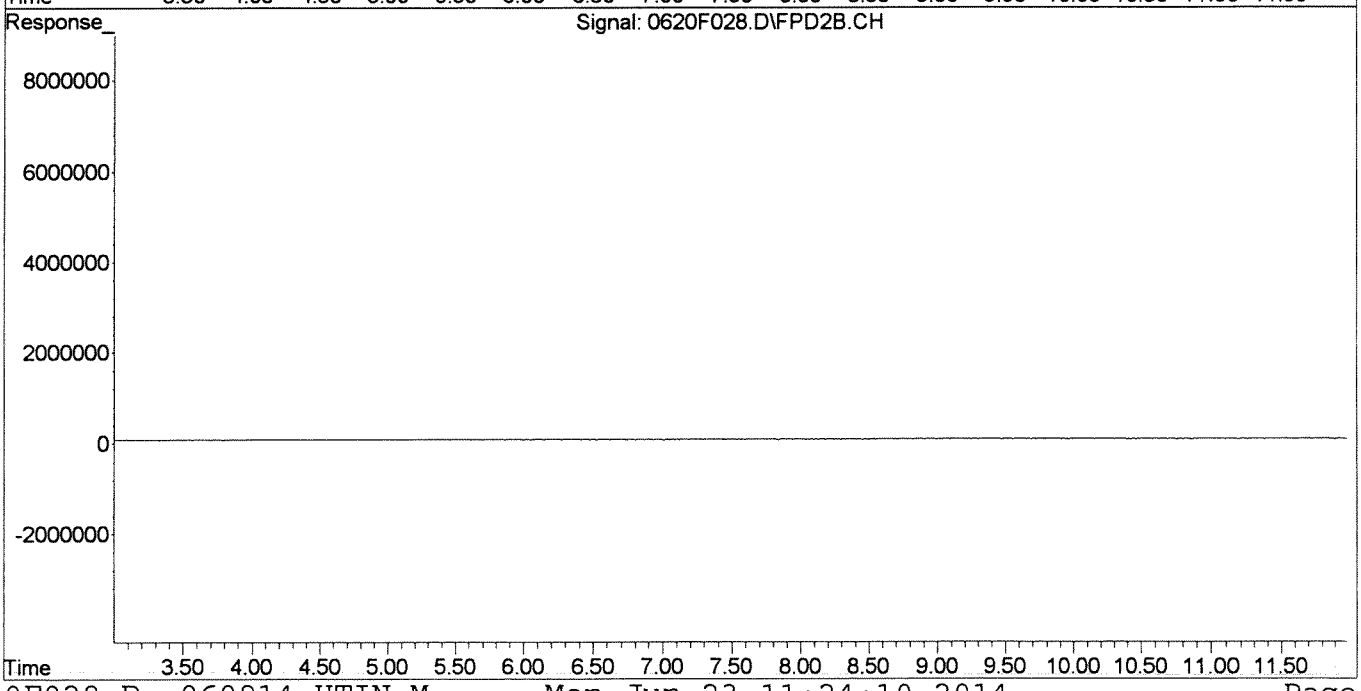
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F028.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062014\0620F028.D\FPD2B.CH
Acq On : 20 Jun 2014 10:29 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 11:13 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File: J:\GC26\DATA\062014\0620F039.D
Lab ID: KWG1406328-7
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/21/2014 01:29
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062014\0620F039.D\0620F039C.D
Lab ID: KWG1406328-7
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/21/2014 01:29
Date Quantitated: 06/23/2014 10:19
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review: JW 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F039.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F039.D\0620F039c.d			**Vial:**	97
Acqu Date:	06/21/2014 01:29	**Quant Date:**	06/23/2014 10:19	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-7				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ1091
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2	Rpt
Tri-n-propyltin	7.04	6.98	4931529	1603782	58.67	54.61	NA
			%Recovery =		NA	NA	**Limits =** 10-120

Target Compounds

Final Conc. Units:

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	4691407	1508772	54.11	49.76			
Tri-n-butyltin Cation	8.53	8.40	4489498	1509769	49.62	45.88			
Di-n-butyltin Cation	9.73	9.58	6736201	2108647	48.08	42.06			
n-Butyltin Cation	10.70	10.60	5652471	1777579	40.59	34.03			

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

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091
DataFile: J:\GC26\DATA\062014\0620F039.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		8.4E+4	9.9E+4	17			
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.4E+4	8			
Tri-n-butyltin Cation		MS	AverageRF	25		9.0E+4	1.0E+5	11			
Di-n-butyltin Cation		MS	AverageRF	25		1.4E+5	1.8E+5	25			
n-Butyltin Cation		MS	AverageRF	25		1.4E+5	1.8E+5	30 *			

1 Compounds Failed CCV Criteria (20.00 Percent)

Calibration Verification Report

Calibration ID: CAL13378
Method ID: MJ1091

DataFile: J:\GC26\DATA\062014\0620F039.D\0620F039C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		2.9E+4	3.2E+4	9			
Tetra-n-butyltin		MS	AverageRF	25		3.0E+4	3.0E+4	0			
Tri-n-butyltin Cation		MS	AverageRF	25		3.3E+4	3.4E+4	3			
Di-n-butyltin Cation		MS	AverageRF	25		5.0E+4	5.5E+4	10			
n-Butyltin Cation		MS	AverageRF	25		5.2E+4	5.7E+4	9			

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F039.D\FPD1A.CH Vial: 97
Signal #2 : J:\GC26\DATA\062014\0620F039.D\FPD2B.CH
Acq On : 21 Jun 2014 1:29 am 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 10:19:27 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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	7.04	6.98	4931529	1603782	58.670	54.607
		Target Compounds						
2)		Tetrabutyltin	7.34	7.23	4691407	1508772	54.106	49.760
3)		Tri-n-butyltin	8.53	8.40	4489498	1509769	49.618	45.879
4)		Di-n-butyltin	9.73	9.58	6736201	2108647	48.077	42.057
5)		n-Butyltin	10.70	10.60	5652471	1777579	40.591	34.034

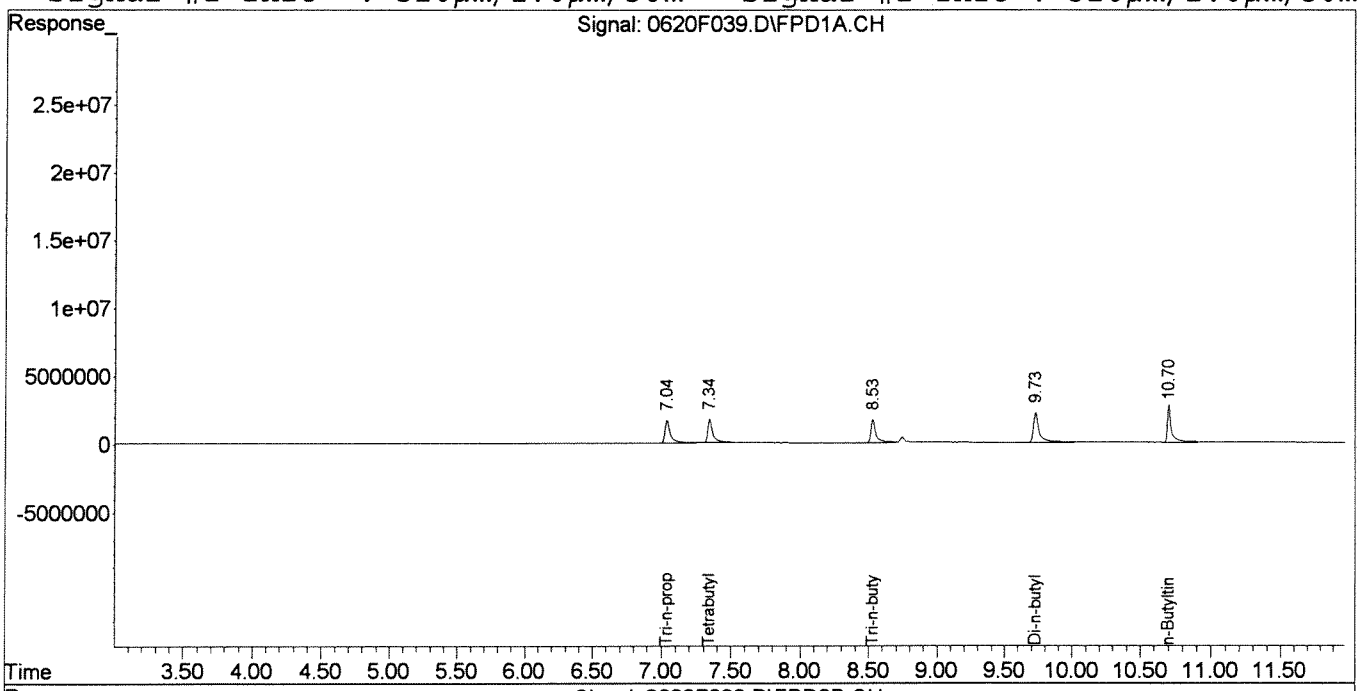
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

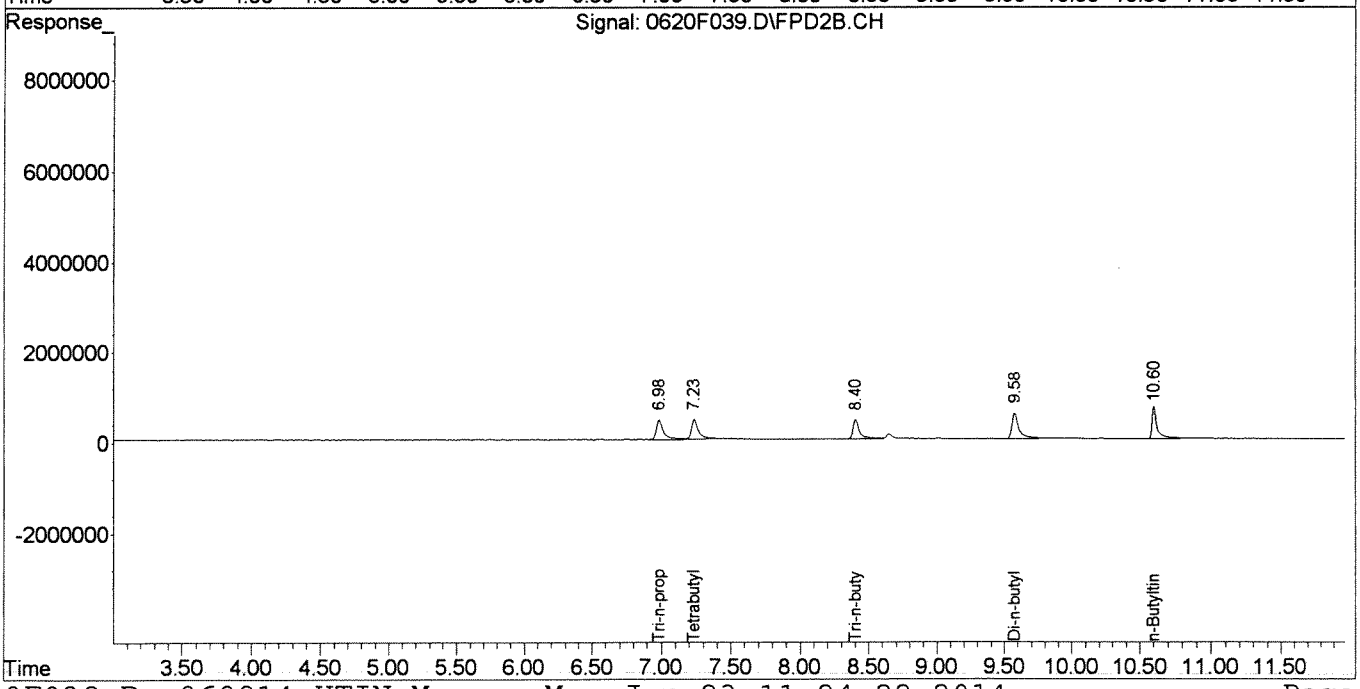
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F039.D\FPD1A.CH Vial: 97
Signal #2 : J:\GC26\DATA\062014\0620F039.D\FPD2B.CH
Acq On : 21 Jun 2014 1:29 am 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 10:19 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Exception Report

Data File:	J:\GC26\DATA\062014\0620F040.D	**Date Acquired:**	06/21/2014 01:45
Lab ID:	KWG1406328-8	**Date Quantitated:**	06/23/2014 11:20
RunType:	IB	**Batch ID:**	KWG1406328
Matrix:	NOT APPLICABLE	**Analysis Method:**	Krone
		MethodJoinID:	MJ1091

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 6/25/14

Secondary Review: [signature] 6/26/14

Exception Report

Data File: J:\GC26\DATA\062014\0620F040.D\0620F040C.D
Lab ID: KWG1406328-8
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/21/2014 01:45
Date Quantitated: 06/23/2014 11:20
Batch ID: KWG1406328
Analysis Method: Krone
MethodJoinID: MJ1091

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 6/25/14

Secondary Review: [signature] 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062014\0620F040.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062014\0620F040.D\0620F040c.d			**Vial:**	99
Acqu Date:	06/21/2014 01:45	**Quant Date:**	06/23/2014 11:20	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406328-8				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLI
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/23/2014

Analysis Lot:	KWG1406328	**Prep Lot:**		**Report Group:**
Analysis Method:	Krone	**Prep Method:**		
Prep Ref:		**Prep Date:**		

Quant Method:	J:\GC26\METHODS\060914-HTIN.	**Calibration ID:**	CAL13378
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

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	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	10-120	

Target Compounds

Final Conc. Units:

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			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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F040.D\FPD1A.CH Vial: 99
Signal #2 : J:\GC26\DATA\062014\0620F040.D\FPD2B.CH
Acq On : 21 Jun 2014 1:45 am Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 10:19:28 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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

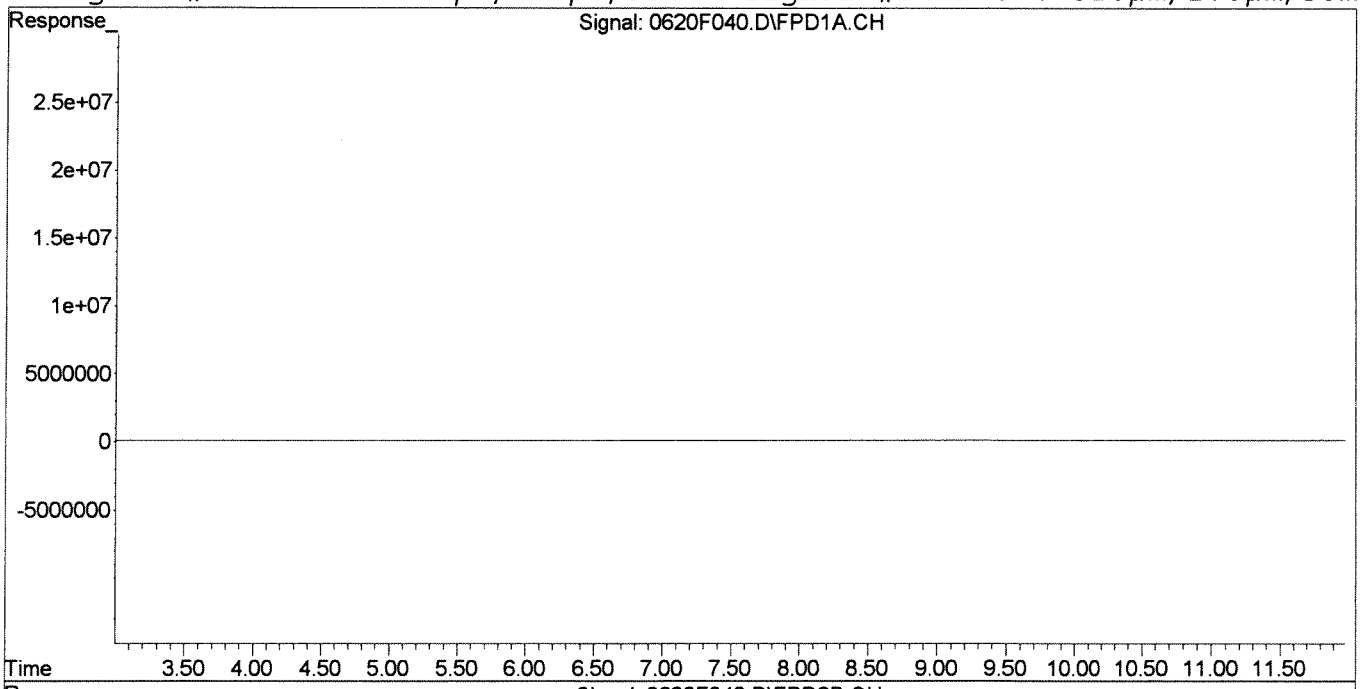
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

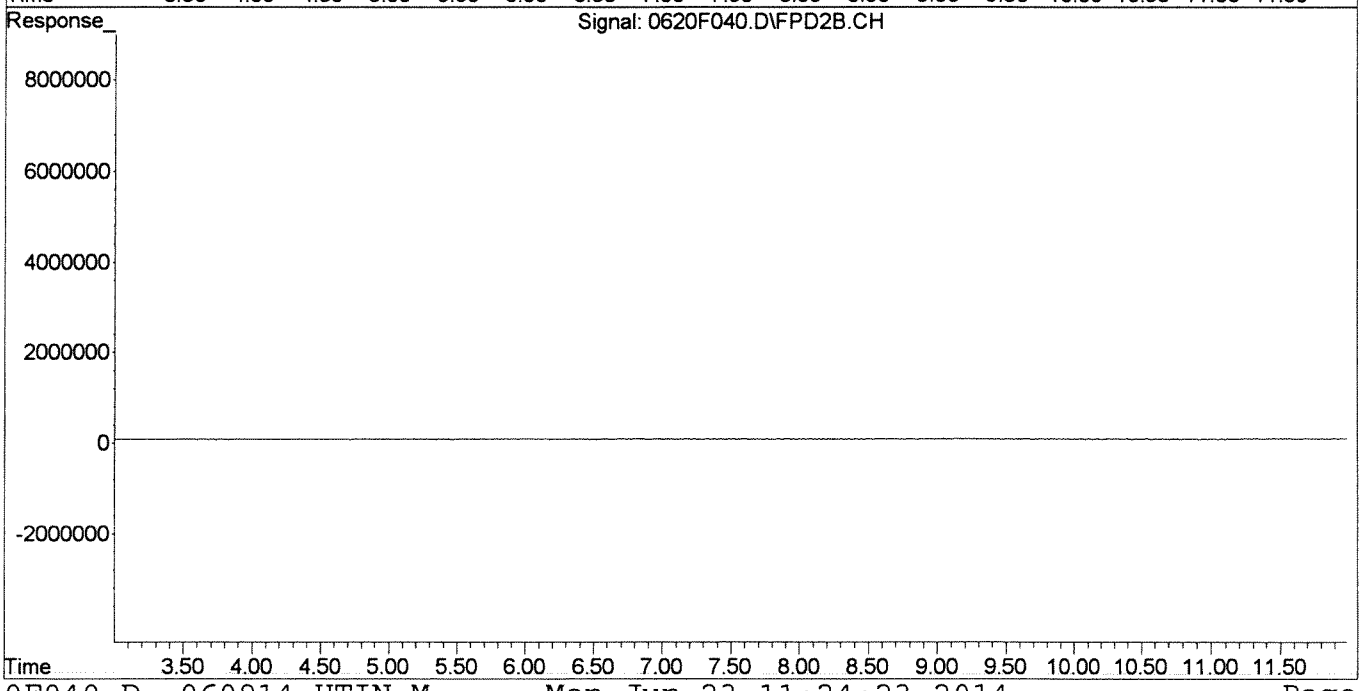
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062014\0620F040.D\FPD1A.CH Vial: 99
Signal #2 : J:\GC26\DATA\062014\0620F040.D\FPD2B.CH
Acq On : 21 Jun 2014 1:45 am Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 23 11:20 2014 Quant Results File: 060914-HTIN.RES

Quant Method : J:\GC26\METHODS\060914-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13378
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





Injection Log

Directory: J:\GC26\DATA\062614

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	0626F001.D	1.	PRIMER BLANK		06/26/22014 12:1
2	96	0626F002.D	1.	O'TINS @ 50ppb OT5-01H	OK 10K	06/26/22014 12:3
3	100	0626F003.D	1.	IB		06/26/22014 12:4
4	19	0626F004.D	1.	K1405833-001		06/26/22014 2:03
5	20	0626F005.D	1.	K1405833-002		06/26/22014 2:20
6	96	0626F006.D	1.	O'TINS @ 50ppb OT5-01H	OK, OK	06/26/22014 2:36
7	100	0626F007.D	1.	IB		06/26/22014 2:52

KWG1406872

CAL 13394

Exception Report

Data File: J:\GC26\DATA\062614\0626F002.D
Lab ID: KWG1406872-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 12:31
Date Quantitated: 06/26/2014 14:38
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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: 6/26/14

Secondary Review: 6/27/14

Exception Report

Data File: J:\GC26\DATA\062614\0626F002.D\0626F002C.D
Lab ID: KWG1406872-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 12:31
Date Quantitated: 06/26/2014 14:38
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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 6/26/14

Secondary Review

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F002.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F002.D\0626F002c.d			**Vial:**	96
Acqu Date:	06/26/2014 12:31	**Quant Date:**	06/26/2014 14:38	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406872-1				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406872	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.01	6.95	4777987	1596482	52.43	53.56			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	7.31	7.20	4511311	1490944	51.69	51.59			
Tri-n-butyltin Cation	8.50	8.37	4309431	1455137	45.90	48.70			
Di-n-butyltin Cation	9.69	9.54	6412404	2094601	41.29	39.75			
n-Butyltin Cation	10.68	10.58	5646531	1723187	32.68	31.04			

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

Calibration Verification Report

Calibration ID: CAL13394
Method ID: MJ133

DataFile: J:\GC26\DATA\062614\0626F002.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		9.1E+4	9.6E+4	5			
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.0E+4	3			
Tri-n-butyltin Cation		MS	AverageRF	25		9.4E+4	9.7E+4	3			
Di-n-butyltin Cation		MS	AverageRF	25		1.6E+5	1.7E+5	8			
n-Butyltin Cation		MS	AverageRF	25		1.7E+5	1.8E+5	5			

Calibration Verification Report

Calibration ID: CAL13394
Method ID: MJ133
DataFile: J:\GC26\DATA\062614\0626F002.D\0626F002C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		3.0E+4	3.2E+4	7			
Tetra-n-butyltin		MS	AverageRF	25		2.9E+4	3.0E+4	3			
Tri-n-butyltin Cation		MS	AverageRF	25		3.0E+4	3.3E+4	9			
Di-n-butyltin Cation		MS	AverageRF	25		5.3E+4	5.5E+4	4			
n-Butyltin Cation		MS	AverageRF	25		5.6E+4	5.5E+4	0			

Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062614\0626F002.D\FPD2B.CH
Acq On : 26 Jun 2014 12:31 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 26 14:38:03 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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	6.95	4777987	1596482	52.433	53.560
	Target Compounds						
2)	Tetrabutyltin	7.31	7.20	4511311	1490944	51.687	51.593
3)	Tri-n-butyltin	8.50	8.37	4309431	1455137	45.896	48.704
4)	Di-n-butyltin	9.69	9.54	6412404	2094601	41.292	39.750
5)	n-Butyltin	10.68	10.58	5646531	1723187	32.675	31.039

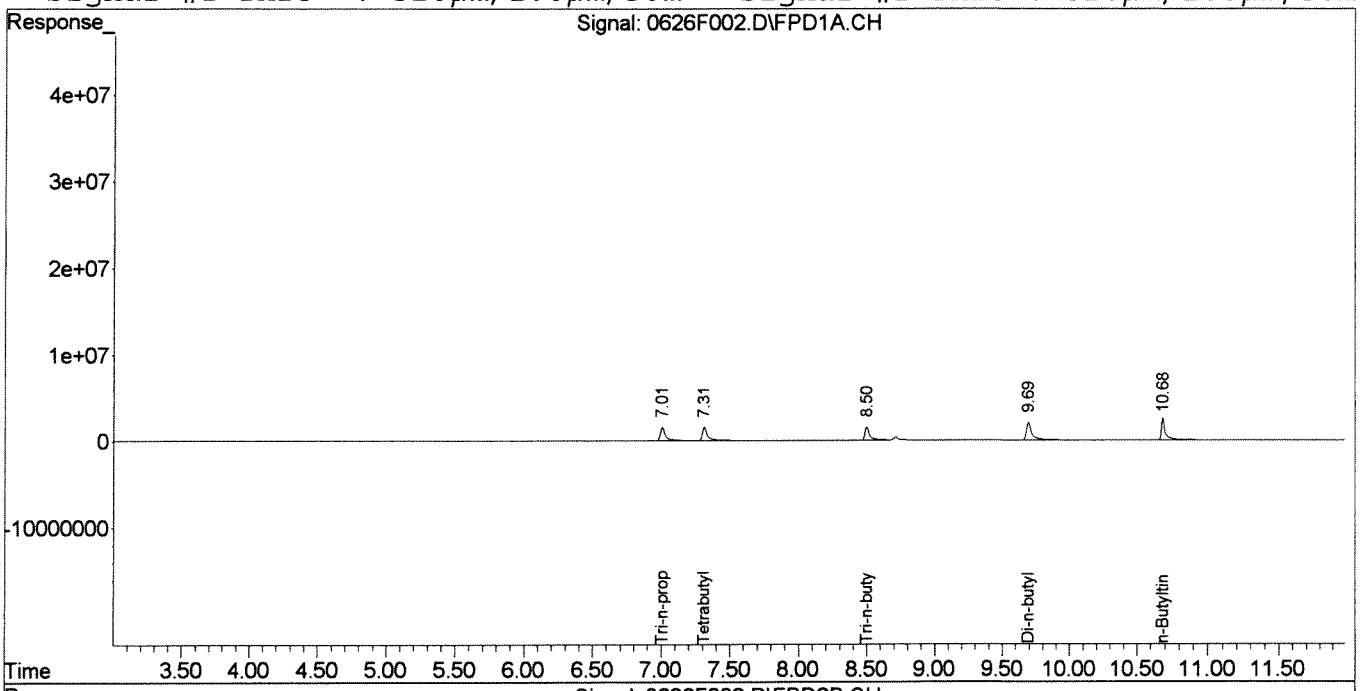
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

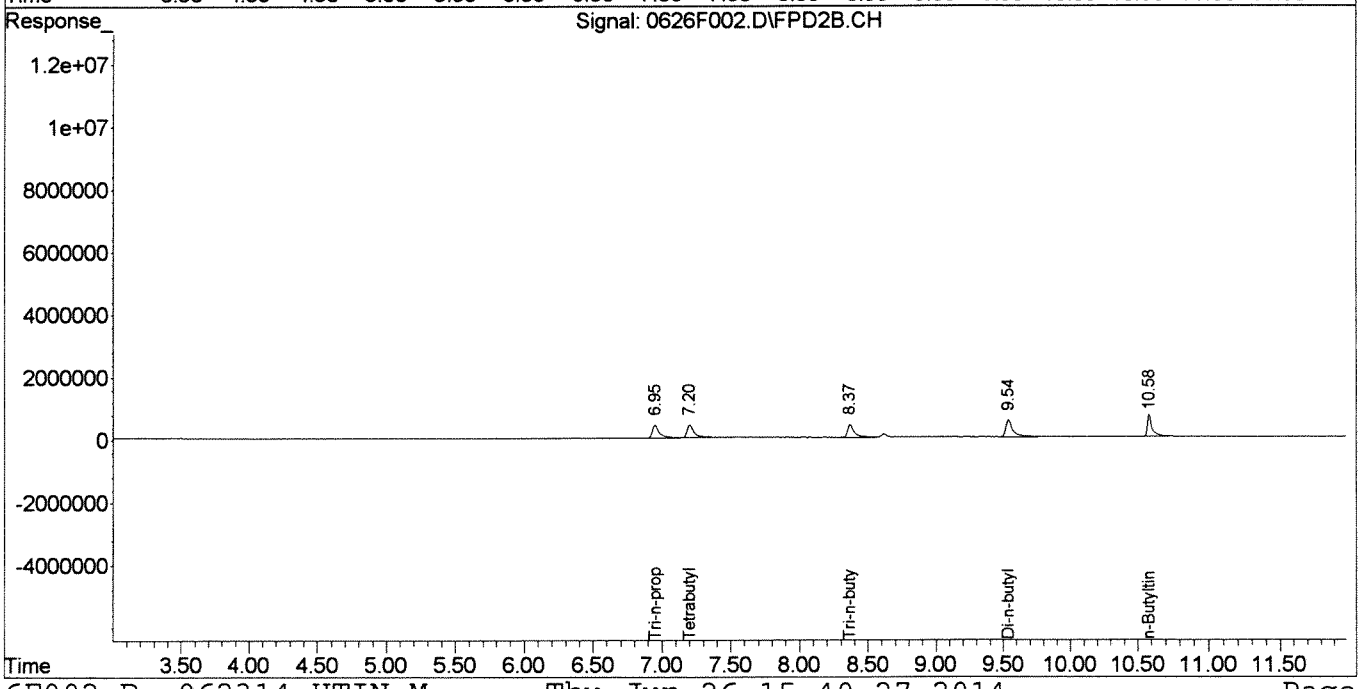
Quantitation Report (Not Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F002.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062614\0626F002.D\FPD2B.CH
Acq On : 26 Jun 2014 12:31 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 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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\062614\0626F003.D
Lab ID: KWG1406872-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 12:47
Date Quantitated: 06/26/2014 14:38
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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: 6/26/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062614\0626F003.D\0626F003C.D
Lab ID: KWG1406872-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 12:47
Date Quantitated: 06/26/2014 14:38
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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: 6/26/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F003.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F003.D\0626F003c.d			**Vial:**	100
Acqu Date:	06/26/2014 12:47	**Quant Date:**	06/26/2014 14:38	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406872-2				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406872	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	0.00		0	0d		0.0000			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	0d	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			0	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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F003.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062614\0626F003.D\FPD2B.CH
Acq On : 26 Jun 2014 12:47 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38:04 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

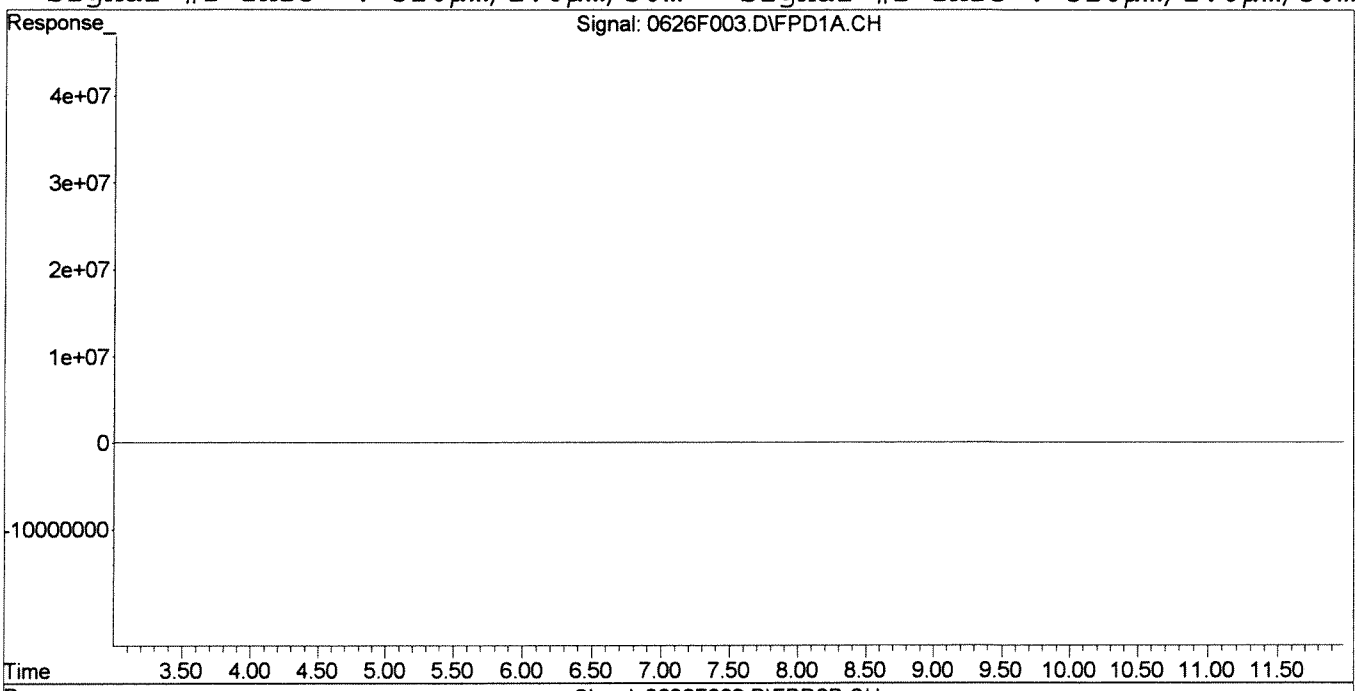
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

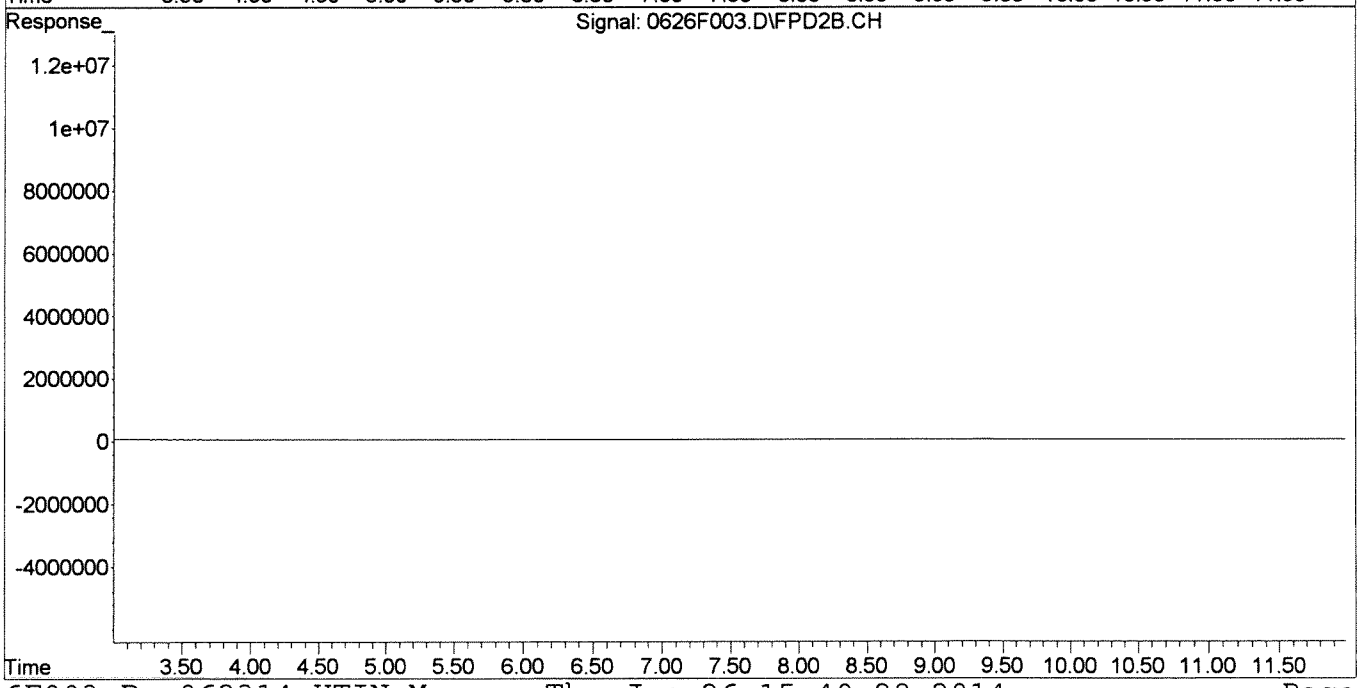
Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F003.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062614\0626F003.D\FPD2B.CH
Acq On : 26 Jun 2014 12:47 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 14:38 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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\062614\0626F006.D	**Date Acquired:**	06/26/2014 14:36
Lab ID:	KWG1406872-3	**Date Quantitated:**	06/26/2014 15:39
RunType:	CCV	**Batch ID:**	KWG1406872
Matrix:	NOT APPLICABLE	**Analysis Method:**	Krone
		MethodJoinID:	MJ133

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: 6/26/14

Secondary Review: 6/27/14

Exception Report

Data File: J:\GC26\DATA\062614\0626F006.D\0626F006C.D
Lab ID: KWG1406872-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 14:36
Date Quantitated: 06/26/2014 15:39
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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: 6/26/14

Secondary Review:

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F006.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F006.D\0626F006c.d			**Vial:**	96
Acqu Date:	06/26/2014 14:36	**Quant Date:**	06/26/2014 15:39	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406872-3				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406872	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tri-n-propyltin	7.01	6.96	4792614	1533149	52.59	51.44			NA
			%Recovery =		NA	NA	**Limits =**	10-120	

Target Compounds

Final Conc. Units:

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	7.32	7.21	4480144	1487961	51.33	51.49			
Tri-n-butyltin Cation	8.50	8.37	4385083	1428548	46.70	47.81			
Di-n-butyltin Cation	9.70	9.54	6503244	2012666	41.88	38.20			
n-Butyltin Cation	10.68	10.58	5635833	1745690	32.61	31.45			

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

Calibration Verification Report

Calibration ID: CAL13394
Method ID: MJ133
DataFile: J:\GC26\DATA\062614\0626F006.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		9.1E+4	9.6E+4	5			
Tetra-n-butyltin		MS	AverageRF	25		8.7E+4	9.0E+4	3			
Tri-n-butyltin Cation		MS	AverageRF	25		9.4E+4	9.8E+4	5			
Di-n-butyltin Cation		MS	AverageRF	25		1.6E+5	1.7E+5	9			
n-Butyltin Cation		MS	AverageRF	25		1.7E+5	1.8E+5	5			

Calibration Verification Report

Calibration ID: CAL13394
Method ID: MJ133
DataFile: J:\GC26\DATA\062614\0626F006.D\0626F006C.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Tri-n-propyltin		SURR	AverageRF	25		3.0E+4	3.1E+4	3			
Tetra-n-butyltin		MS	AverageRF	25		2.9E+4	3.0E+4	3			
Tri-n-butyltin Cation		MS	AverageRF	25		3.0E+4	3.2E+4	7			
Di-n-butyltin Cation		MS	AverageRF	25		5.3E+4	5.3E+4	0			
n-Butyltin Cation		MS	AverageRF	25		5.6E+4	5.6E+4	1			

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F006.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062614\0626F006.D\FPD2B.CH
Acq On : 26 Jun 2014 2:36 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 26 15:39:27 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

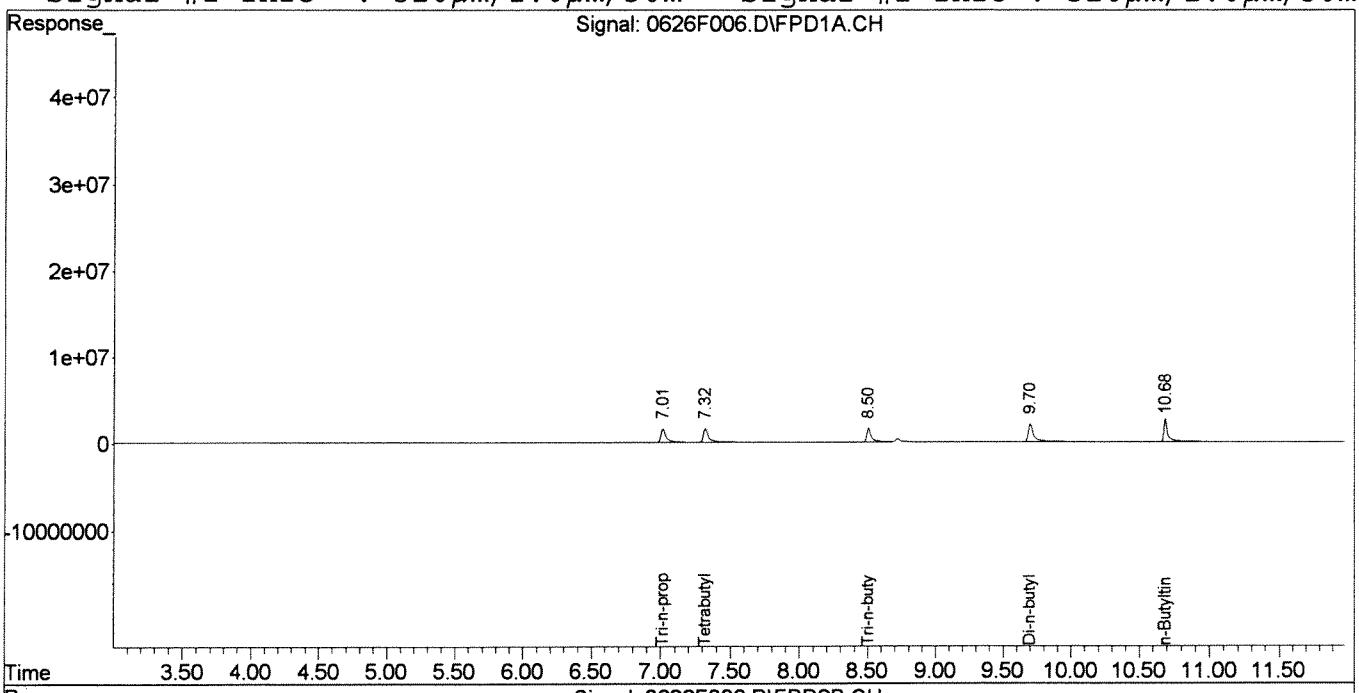
		Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
		System Monitoring Compounds						
1)	S	Tri-n-propyltin	7.01	6.96	4792614	1533149	52.593	51.435
		Target Compounds						
2)		Tetrabutyltin	7.32	7.21	4480144	1487961	51.330	51.490
3)		Tri-n-butyltin	8.50	8.37	4385083	1428548	46.702	47.814
4)		Di-n-butyltin	9.70	9.54	6503244	2012666	41.877	38.195
5)		n-Butyltin	10.68	10.58	5635833	1745690	32.613	31.445

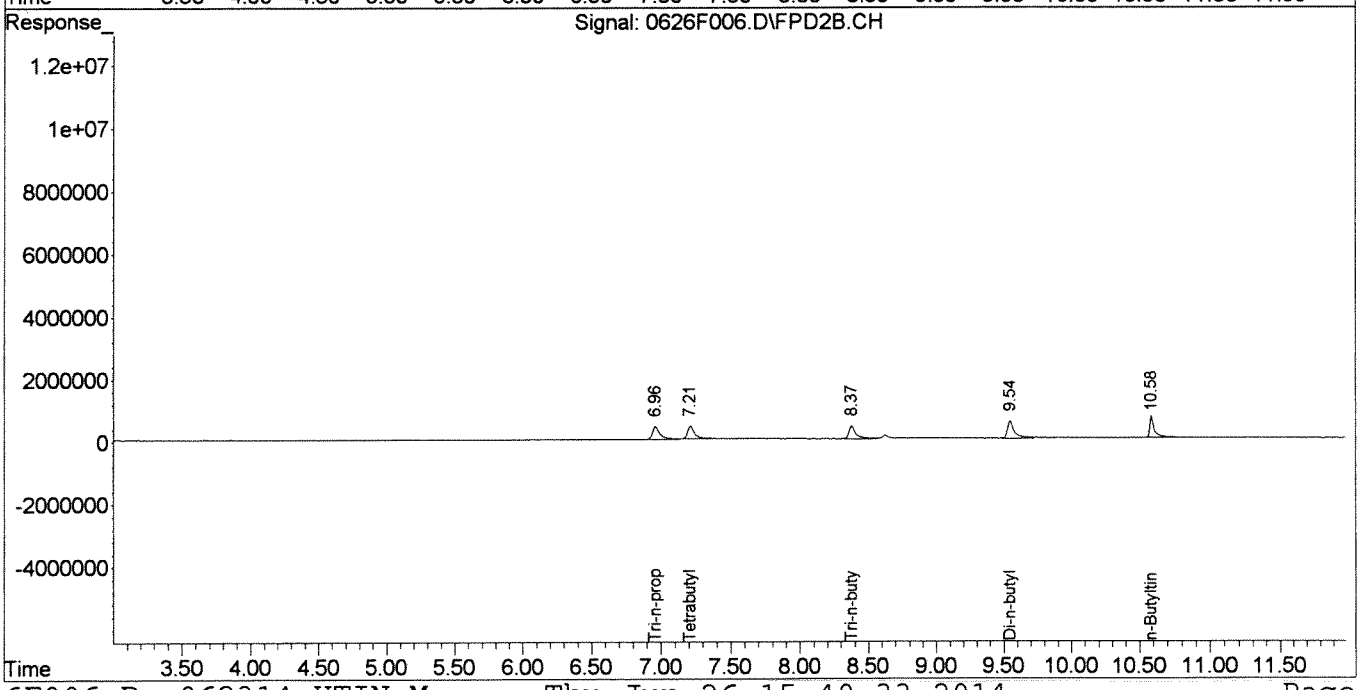
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : J:\GC26\DATA\062614\0626F006.D\FPD1A.CH Vial: 96
Signal #2 : J:\GC26\DATA\062614\0626F006.D\FPD2B.CH
Acq On : 26 Jun 2014 2:36 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 26 15:39 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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\062614\0626F007.D
Lab ID: KWG1406872-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 14:52
Date Quantitated: 06/26/2014 15:39
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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: 6/26/14

Secondary Review:

Exception Report

Data File: J:\GC26\DATA\062614\0626F007.D\0626F007C.D
Lab ID: KWG1406872-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 06/26/2014 14:52
Date Quantitated: 06/26/2014 15:39
Batch ID: KWG1406872
Analysis Method: Krone
MethodJoinID: MJ133

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 6/26/14

Secondary Review: JW 6/26/14

Quantitation Report

Data File #1:	J:\GC26\DATA\062614\0626F007.D			**Instrument:**	GC26
Data File #2:	J:\GC26\DATA\062614\0626F007.D\0626F007c.d			**Vial:**	100
Acqu Date:	06/26/2014 14:52	**Quant Date:**	06/26/2014 15:39	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1406872-4				
Signal #1:	RTX-1	**Signal #2:**	RTX-35		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	Butyltins BUTYL	**Collect Date:**		**Receive Date:**	06/26/2014

Analysis Lot:	KWG1406872	**Prep Lot:**		**Report Group:**	
Analysis Method:	Krone	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC26\METHODS\062314-HTIN.	**Calibration ID:**	CAL13394
Title:			
MB Ref:		**Method ID:**	MJ133
		Quant based on Method	

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 =	10-120	

Target Compounds

Final Conc. Units:

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			0d	0	0.0000	0.0000			
Di-n-butyltin Cation			0	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

Quantitation Report (QT Reviewed)

Signal #1 : J:\GC26\DATA\062614\0626F007.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062614\0626F007.D\FPD2B.CH
Acq On : 26 Jun 2014 2:52 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 15:39:28 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

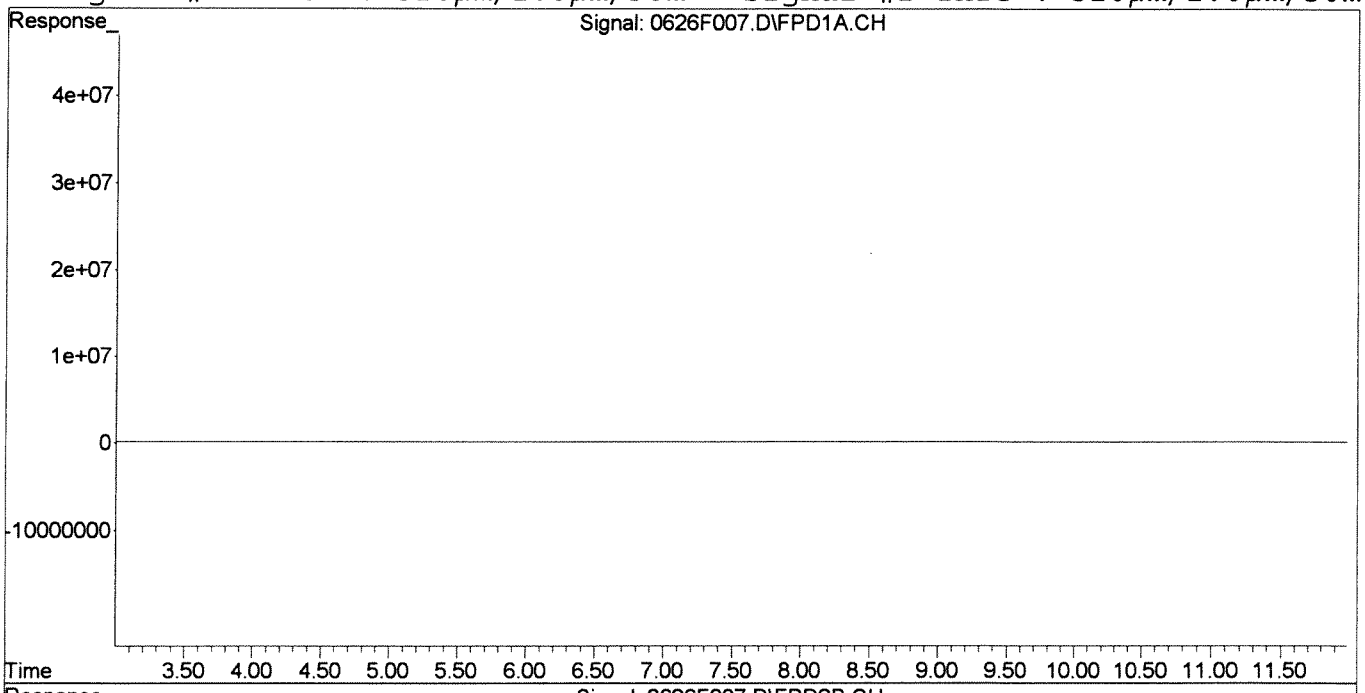
Target Compounds

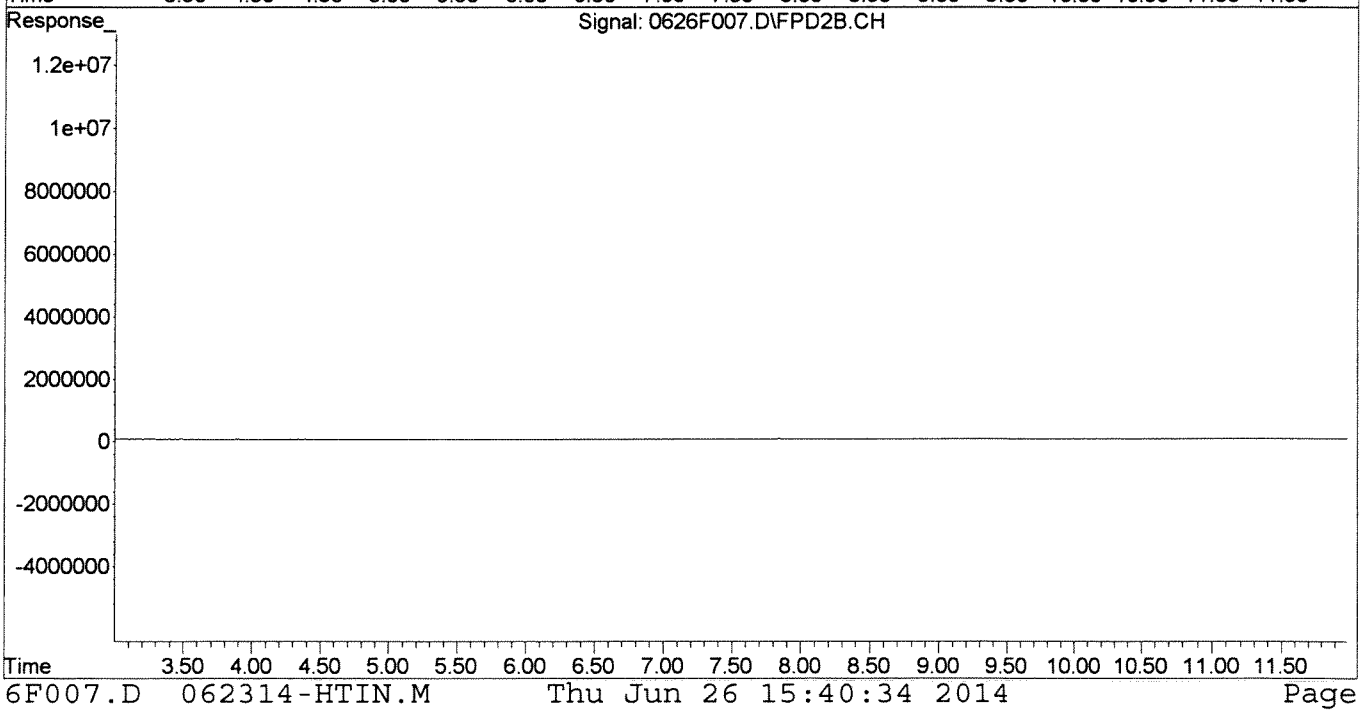
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : J:\GC26\DATA\062614\0626F007.D\FPD1A.CH Vial: 100
Signal #2 : J:\GC26\DATA\062614\0626F007.D\FPD2B.CH
Acq On : 26 Jun 2014 2:52 pm Operator: SSULLIVAN
Sample : IB Inst : GC26
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: RTEINT2.P
Quant Time: Jun 26 15:39 2014 Quant Results File: 062314-HTIN.RES

Quant Method : J:\GC26\METHODS\062314-HTIN.M (RTE Integrator)
Title : Hexylated Butyltins MJ132 CAL13394
Last Update : Thu Jun 26 14:37:52 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

Group ID:	KWG1406086	**Prep Method:**	Method	**Prep Date:**	06/13/14 17:45
Department:	Semivoa GC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K1405696-001	EW323	Butyltins BUTYLTINS_TBT	SOIL	20.103g	4mL	
K1405696-002	EW324	Butyltins BUTYLTINS_TBT	SOIL	20.179g	4mL	
K1405696-003	EW325	Butyltins BUTYLTINS_TBT	SOIL	20.412g	4mL	
K1405696-004	EW326	Butyltins BUTYLTINS_TBT	SOIL	20.287g	4mL	
K1405696-005	EW327	Butyltins BUTYLTINS_TBT	SOIL	20.157g	4mL	
K1405696-006	EW328	Butyltins BUTYLTINS_TBT	SOIL	20.076g	4mL	
K1405696-007	EW329	Butyltins BUTYLTINS_TBT	SOIL	20.439g	4mL	
K1405696-008	EW330	Butyltins BUTYLTINS_TBT	SOIL	20.470g	4mL	
K1405696-009	EW331	Butyltins BUTYLTINS_TBT	SOIL	20.373g	4mL	
K1405696-010	EW332	Butyltins BUTYLTINS_TBT	SOIL	20.235g	4mL	
K1405733-001	KM-NCT-3	Butyltins BUTYLTINS	SOIL	20.248g	4mL	
K1405733-002	KM-NCT-2	Butyltins BUTYLTINS	SOIL	20.377g	4mL	
K1405733-003	KM-NCT-1	Butyltins BUTYLTINS	SOIL	20.086g	4mL	
K1405735-001	SS-REF	Butyltins BUTYLTINS	SOIL	20.122g	4mL	
K1405833-001	SYC14-AC	Butyltins BUTYLTINS	SOIL	20.032g	4mL	
K1405833-002	SYC14-TB	Butyltins BUTYLTINS	SOIL	20.009g	4mL	
K1405833-003	SYC14-REF	Butyltins BUTYLTINS	SOIL	20.370g	4mL	
KWG1406086-1	Matrix Spike	Butyltins BUTYLTINS	SOIL	20.091g	4mL	
KWG1406086-2	Duplicate Matrix Spike	Butyltins BUTYLTINS	SOIL	20.150g	4mL	
KWG1406086-3	Matrix Spike	Butyltins BUTYLTINS	SOIL	20.020g ①	4mL	
KWG1406086-4	Duplicate Matrix Spike	Butyltins BUTYLTINS	SOIL	20.104g	4mL	
KWG1406086-5	Lab Control Sample	Butyltins BUTYLTINS_TBT	SOIL	20.000g	4mL	
KWG1406086-6	Method Blank	Butyltins BUTYLTINS_TBT	SOIL	20.470g	4mL	
KWG1406086-7	Standard Reference Material	Butyltins BUTYLTINS_TBT	SOIL	1.013 g	4mL	

① EE 6/19/14 EB

Lab Code	Parent Lab Code	Comments
KWG1406086-1	K1405735-001	KQ1406420-01
KWG1406086-2	K1405735-001	KQ1406420-02
KWG1406086-3	K1405833-001	KQ1406420-05
KWG1406086-4	K1405833-001	KQ1406420-06

Comments: 6/23 DVE

Started By: CVecchit Assisted By: _____ Training: Yes / No

Completed By: CVecchit Assisted By: _____ Yes / No

Reviewed By: EB Date: 6/19/14 Storage: _____

Chain of Custody

Relinquished By: CV Date: 6/17/14

Received By: Sullivan Date: 6/20/14 Extracts Examined: Yes / No

Group ID:	KWG1406086	**Prep Method:**	Method	**Prep Date:**	06/13/14 17:45
Department:	Semivoa GC				

Lab Code	Parent Lab Code	Comments
KWG1406086-5		KQ1406420-07
KWG1406086-6		KQ1406420-08
KWG1406086-7		KQ1406420-09

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1405696-001	1348775					RHayes
K1405696-002	1348776					RHayes
K1405696-003	1348777					RHayes
K1405696-004	1348778					RHayes
K1405696-005	1348779					RHayes
K1405696-006	1348780					RHayes
K1405696-007	1348781					RHayes
K1405696-008	1348782					RHayes
K1405696-009	1348783					RHayes
K1405696-010	1348784					RHayes
K1405733-001	1348785					RHayes
K1405733-002	1348786					RHayes
K1405733-003	1348787					RHayes
K1405735-001	1348788					RHayes
K1405833-001	1348789					RHayes
K1405833-002	1348790					RHayes
K1405833-003	1348791					RHayes
KWG1406086-1	1348792					RHayes
KWG1406086-2	1348793					RHayes
KWG1406086-3	1348794					RHayes
KWG1406086-4	1348795					RHayes
KWG1406086-5	1348796					RHayes
KWG1406086-6	1348797					RHayes
KWG1406086-7	1348798					RHayes

Comments:

Started By: CVecchit Assisted By:

Completed By: CVecchit Assisted By:

Training: Yes / No (No) — Yes / No

Reviewed By: EB Date: 6/19/14 Storage:

Chain of Custody

Relinquished By: 6/17/14 Date: CV

Received By: SSullivan Date: 6/20/14

Extracts Examined: Yes (Yes) / No

Preparation Information Benchsheet

Prep Run: 210558
Team: Semivoa
Analyst: EE 6/13/14 GC 6/14 EB ~~EBruno~~ CVecchitto
Prep Workflow: OrgExtTINS14
Prep Method: Method
Rush/NPDES: N/A
Status: Draft
Current Step: Extraction
Prep Date: 06/13/2014 00:00
Due Date: 06/13/2014
Hold Date: 06/16/2014

Lab Code	Client ID	Bottle #	✓	Target Amt	Initial Amount g	Inter. Volume mL	Final Volume mL	Surr Amt uL	Spike Amt uL	TestNo List
K1405696-001	EW323 R	.01	✓	20.00 g	20.103	4	4	40	NA	BUTYLTINS_TBT
K1405696-002	EW324 R,O	.01	✓	20.00 g	20.179	4	4			BUTYLTINS_TBT
K1405696-003	EW325 R	.01	✓	20.00 g	20.412	4	4			BUTYLTINS_TBT
K1405696-004	EW326 R	.01	✓	20.00 g	20.287	4	4			BUTYLTINS_TBT
K1405696-005	EW327 R,O	.01	✓	20.00 g	20.157	4	4			BUTYLTINS_TBT
K1405696-006	EW328 R	.01	✓	20.00 g	20.076	4	4			BUTYLTINS_TBT
K1405696-007	EW329 R	.01	✓	20.00 g	20.439	4	4			BUTYLTINS_TBT
K1405696-008	EW330 R,O	.01	✓	20.00 g	20.470	4	4			BUTYLTINS_TBT
K1405696-009	EW331 R	.01	✓	20.00 g	20.373	4	4			BUTYLTINS_TBT
K1405696-010	EW332 R	.01	✓	20.00 g	20.235	4	4			BUTYLTINS_TBT
K1405733-001	KM-NCT-3 W	.01	✓	20.00 g	20.248	4	4			BUTYLTINS
K1405733-002	KM-NCT-2 W,Sa,S	.01	✓	20.00 g	20.377	4	4			BUTYLTINS
K1405733-003	KM-NCT-1 W	.01	✓	20.00 g	20086	4	4			BUTYLTINS
K1405735-001	SS-REF W	.01	✓	20.00 g	20.122	4	4			BUTYLTINS
K1405833-001	SYC14-AC W	~~.02~~ 0.10	✓	20.00 g	20.032	4	4			BUTYLTINS
K1405833-002	SYC14-TB W	~~.02~~ 0.09	✓	20.00 g	20.009	4	4			BUTYLTINS
K1405833-003	SYC14-REF Sa	~~.00~~ 0.15	✓	20.00 g	20.370	4	4			BUTYLTINS
K1405735-001: KQ1406420-01	Matrix Spike W	.01	✓	20.00 g	20.091	4	4		100	BUTYLTINS
K1405735-001: KQ1406420-02	Duplicate Matrix Spike	.01	✓	20.00 g	20.150	4	4			BUTYLTINS
K1405833-001: KQ1406420-05	Matrix Spike	~~.02~~ 0.10	✓	20.00 g	20.029	4	4			BUTYLTINS
K1405833-001: KQ1406420-06	Duplicate Matrix Spike	~~.02~~ 0.10	✓	20.00 g	20.104	4	4			BUTYLTINS
KQ1406420-07	Lab Control Sample			20.00 g	20.000	4	4			BUTYLTINS, BUTYLTINS_TBT
KQ1406420-08	Method Blank			20.00 g	20.470	4	4		—	BUTYLTINS, BUTYLTINS_TBT
KQ1406420-09	Standard Reference Material			20.00 g	1.013	4	4		—	BUTYLTINS, BUTYLTINS_TBT

24 Total Samples consisting of 17 Client Samples, 4 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

Spiking Solutions **Witness:** R Hayes

Surr: OTS-dD 5ppm xp 7/6/14 100ul epp ZA

ms: OTS-dF 5ppm xp 11/28/14 100ul epp ZA

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Extraction	6/13/14		CV			
Final Volume	6/17/14		CV			

Comments

R = small rocks in sample, O = Organic matter in sample (roots), W = water visible in sample, Sa = Sandy matrix, S = Shell fragments in sample.

Additional Prep Information for Organotin Soil Extractions

Service Request #: K1405696, 5753, 5735, 5853 Workgroup #: 216555

Prep Information

Date/Time/Initials Weighed: 6-12-14/1800/JJ Balance ID: H-Bal-3 Calibration Verified ☒

Storage Location (if not extracted same day): _____

0.1% Tropolone in DCM Lot #: 2xt-CO2-11L 2p Na_2SO_4 Lot #: 132318

HCl Lot #: S2295

Tumbler (16hr.) Start (Time/Date/Initial): 1745 6/13/14 EB

Tumbler (16hr.) Stop (Time/Date/Initial): 1040 6/14/14 EB

Cleanup Information

S-Evap (Time/Date/Initial): 0900 6/17/14 MS Thermometer ID: X SUM-11

Temp as measured: 74 °C Correction factor: 0 °C Adjusted temp: — °C

Hexane Lot #: 167123

Water Wash (Time/Date/Initial): 1315 ~~1400~~ 6/17/14 MS Reagent Water Lot #: DI

Reset 6/17/14

Derivatization Started (Time/Date/Initial): 15:50 6/17/14 CV Grignard Lot #: SVOTin01-71C

Derivatization Stopped (Time/Date/Initial): 16:35 6/17/14 CV HCl lot#: S2295

DMD Cleanup (Time/Date/Initial): 6/17/14 19:00 CV DMD Lot #: DMD-26E

Alumina (3610)/Silica Gel (3630) (Time/Date/Initial): 19:25 6/17/14 CV Pentane Lot #: 530058

Alumina Lot #: 31106 Silica Gel Lot #: SVOTin01-71G

N-Evap (Time/Date/Initial): 20:10 6/17/14 CV

Vial: Blue Vial Storage: TinSGHIJ 1-4

CV 6/17/14 EG

Archived Extract Location: Dolphin Wrangler

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

Polybrominated Diphenyl Ethers

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

Exception Report

Data File: J:\MS14\DATA\062414\0624F025.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/24/2014 18:28
Date Quantitated: 06/25/2014 09:42
Batch ID: KWG1406646
Analysis Method: 8270D SIM
ListJoinID: LJ13014

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	PBDE 17	64	70	130	advisory limits
	PBDE 28	65	70	130	
	PBDE 71	67	70	130	
	PBDE 47	69	70	130	
	PBDE 66	67	70	130	
	PBDE 100	64	70	130	
	PBDE 99	64	70	130	

Primary Review: CAA JUN 25 2014

Secondary Review: 6/25/14

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	PBDE 85	68	70	130	advisory limits
	PBDE 154	64	70	130	
	PBDE 153	65	70	130	
	PBDE 138	66	70	130	
	PBDE 128	68	70	130	
	PBDE 183	66	70	130	
	PBDE 203	69	70	130	
	PBDE 206	68	70	130	
	PBDE 209	65	70	130	
Surrogates	PBDE 47C13	0	70	130	sm 10x

Primary Review: JUN 25 2014

Secondary Review: 6/29/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F025.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:28	**Quant Date:**	06/25/2014 09:42	**Vial:**	9
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-001			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**	06/04/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347924	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:	Polybrominated Diphenyl Ethers by 8270C-SIM	**Report List ID:**	LJ13014
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.27	0.06?	464	43283	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13			0.00	338	0d		0	70-130	*	NR
1	PBDE 99C13	8.53	0.16	0.01	418	8582m	21.66	87	70-130	OK	

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?
1	PBDE 17				246	0d		0.028	U	
1	PBDE 28				246	0d		0.030	U	
1	PBDE 71				326	0d		0.019	U	
1	PBDE 47				326	0d		0.036	U	
1	PBDE 66				326	0d		0.024	U	
1	PBDE 100				404	0d		0.017	U	
1	PBDE 99				404	0d		0.037	U	
1	PBDE 85				404	0d		0.049	U	
1	PBDE 154				484	0d		0.0095	U	
1	PBDE 153				484	0d		0.011	U	
1	PBDE 138				484	0d		0.020	U	
1	PBDE 128				484	0d		0.013	U	
1	PBDE 183				562	0d		0.016	U	
1	PBDE 190				562	0d		0.025	U	
1	PBDE 203				642	0d		0.036	U	
1	PBDE 206				719	0d		0.038	U	
1	PBDE 209				799	0d		0.032	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\062414\0624F025.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:28	**Quant Date:**	06/25/2014 09:42	**Vial:**	9
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-001			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.392 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F025.D Vial: 9
Acq On : 24 Jun 2014 6:28 pm Operator: CHart
Sample : K1405833-001 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:33 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.27	464	43283	50.00	ng/ml	0.05
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	8.53	418	8582m	21.66	ng/ml	0.16
Spiked Amount 25.000			Recovery =	86.64%		

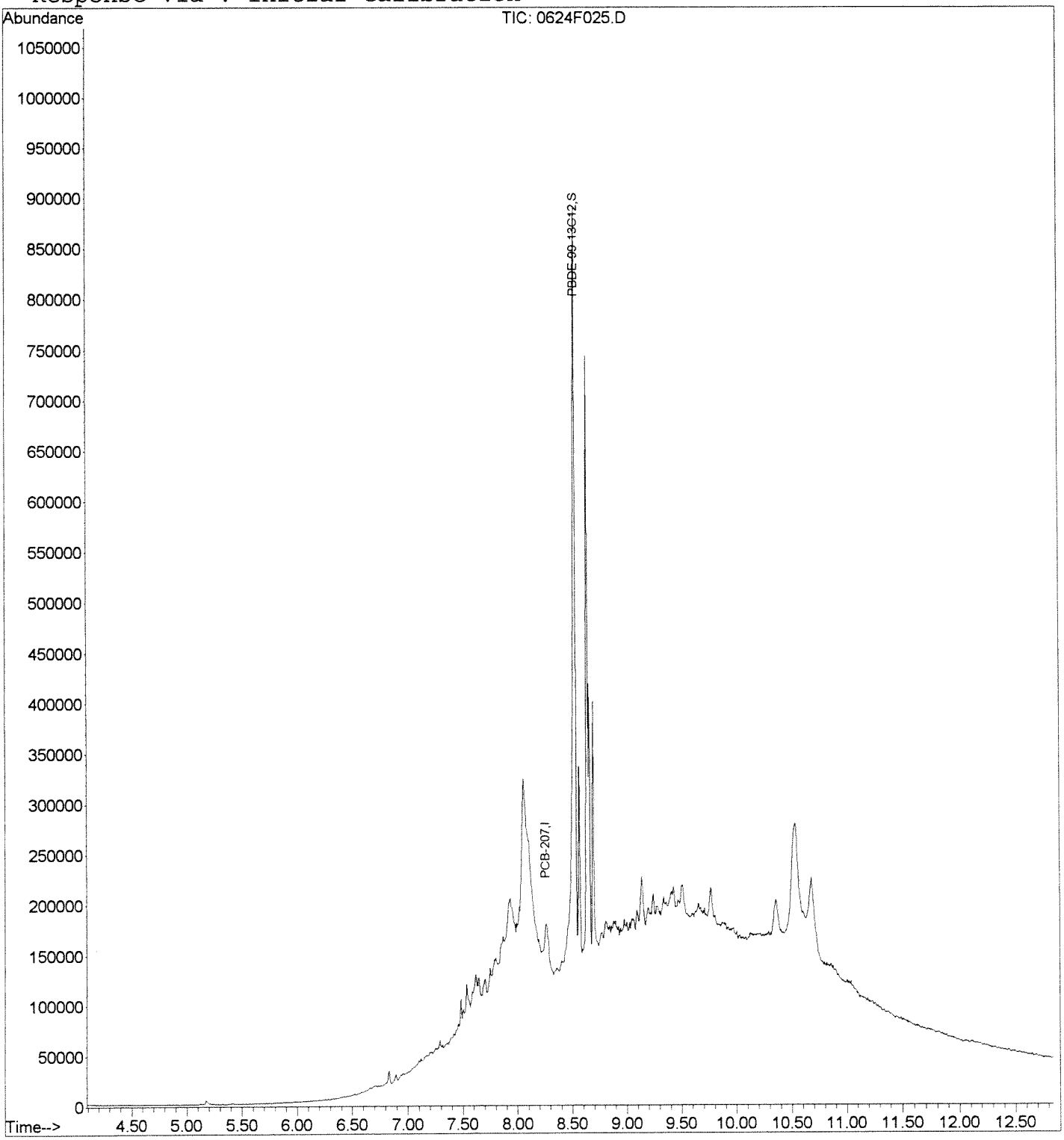
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0624F025.D BDE062414.M Wed Jun 25 09:48:14 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F025.D Vial: 9
Acq On : 24 Jun 2014 6:28 pm Operator: CHart
Sample : K1405833-001 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:42 2014 Quant Results File: BDE062414.RE

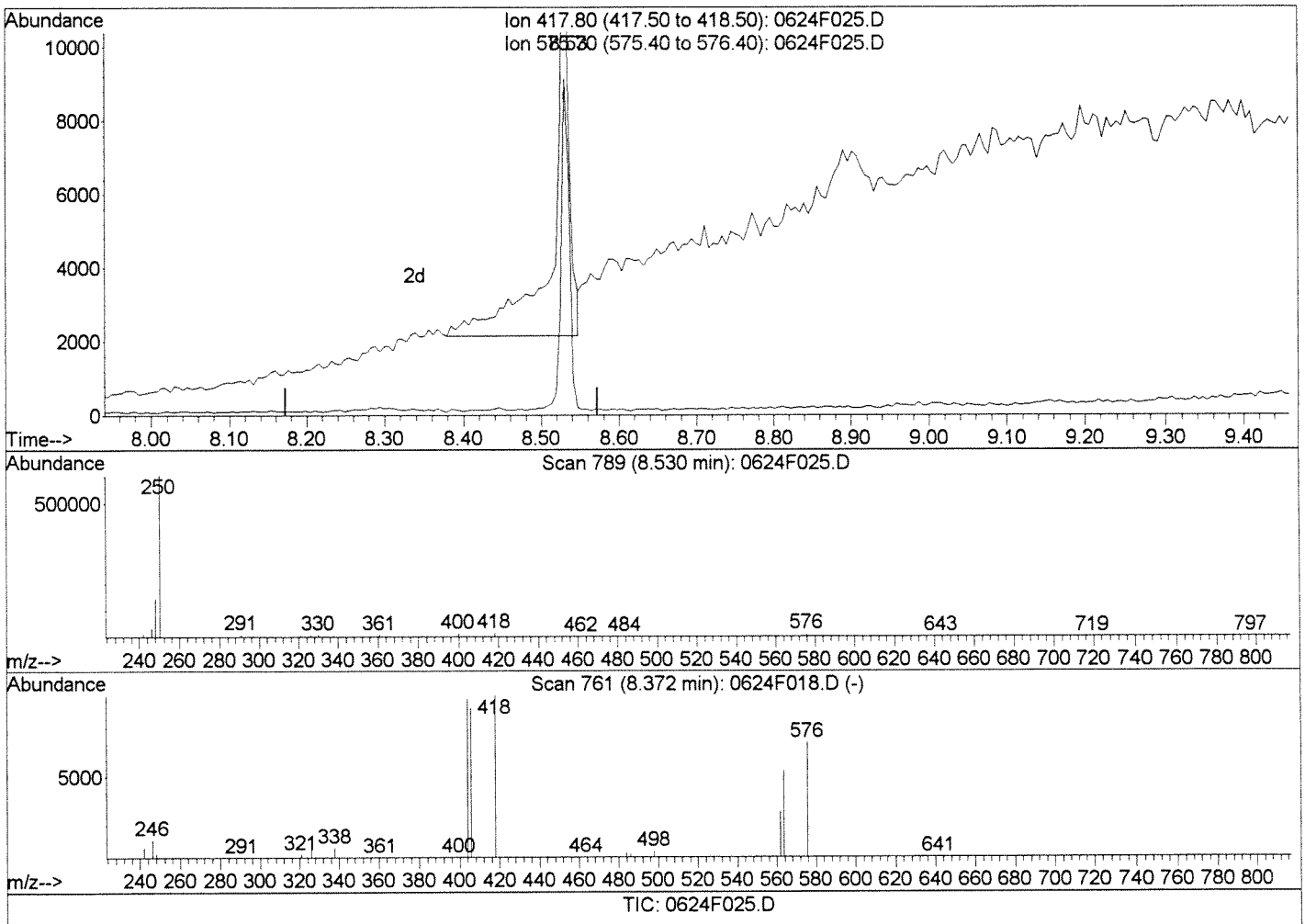
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F025.D Vial: 9
Acq On : 24 Jun 2014 6:28 pm Operator: CHart
Sample : K1405833-001 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:41 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F025.D

(9) PBDE-99-13C12 (S)

8.53min 41.35ng/ml

response 16385

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	68.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

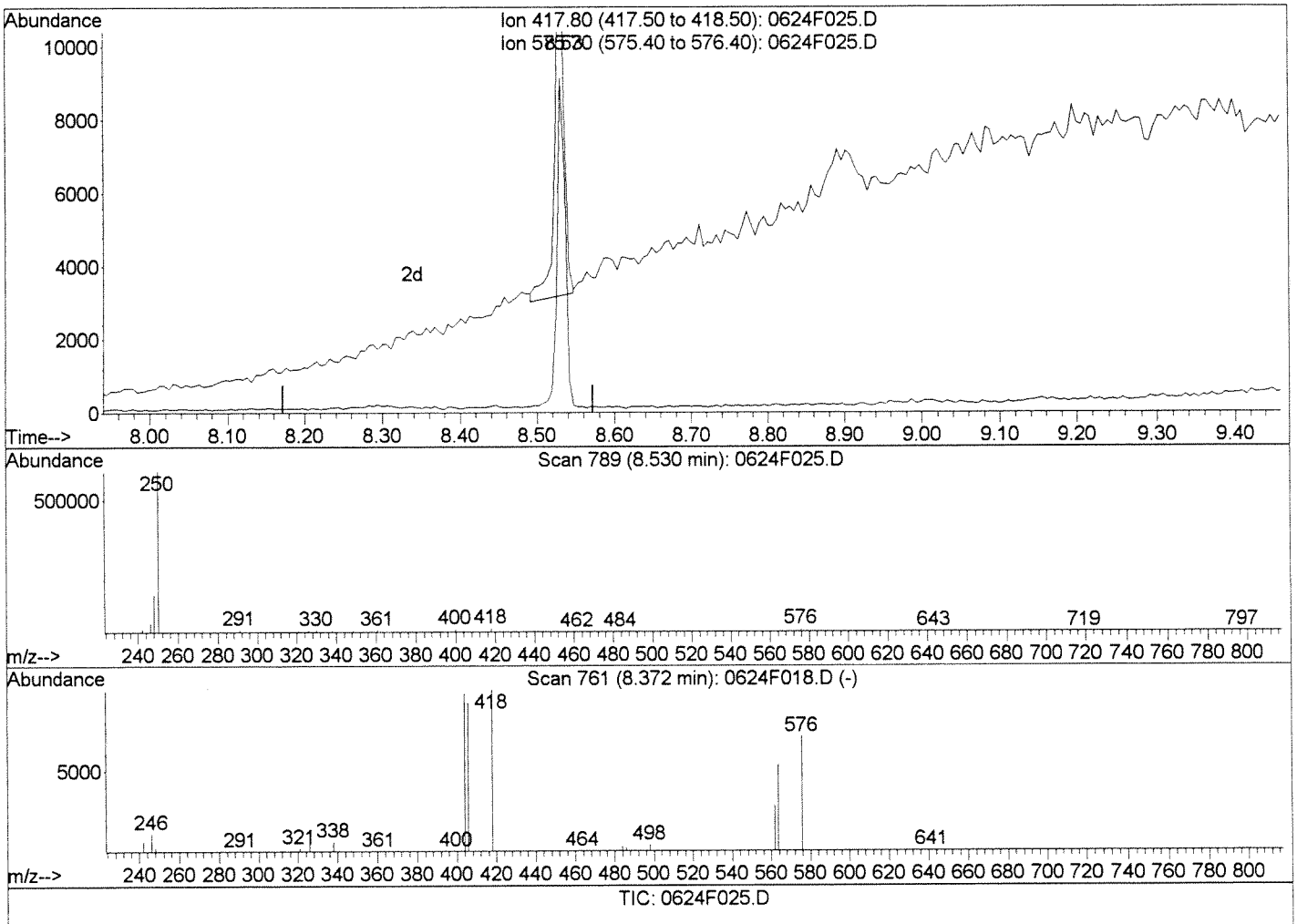
06/25/14

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F025.D
Acq On : 24 Jun 2014 6:28 pm
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:41 2014

Vial: 9
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F025.D

(9) PBDE-99-13C12 (S)
8.53min 21.66ng/ml m
response 8582

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	59.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
06/25/14

0624F025.D BDE062414.M Wed Jun 25 09:42:00 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F020.D
Lab ID: K1405833-001
RunType: DL
Matrix: SOIL

Date Acquired: 06/24/2014 16:57
Date Quantitated: 06/25/2014 09:41
Batch ID: KWG1406646
Analysis Method: 8270D SIM
ListJoinID: LJ13014

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
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		x

dil. for PBDE 47 C13

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	PBDE 17	64	70	130	outside limits
	PBDE 28	65	70	130	
	PBDE 71	67	70	130	
	PBDE 47	69	70	130	
	PBDE 66	67	70	130	
	PBDE 100	64	70	130	
	PBDE 99	64	70	130	
	PBDE 85	68	70	130	

Primary Review: CAA JUN 25 2014

Secondary Review: 6/25/14

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	PBDE 154	64	70	130	advisory limits
	PBDE 153	65	70	130	
	PBDE 138	66	70	130	
	PBDE 128	68	70	130	
	PBDE 183	66	70	130	
	PBDE 203	69	70	130	
	PBDE 206	68	70	130	
	PBDE 209	65	70	130	

Primary Review: JUN 2 5 2014

Secondary Review: 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F020.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 16:57	**Quant Date:**	06/25/2014 09:41	**Vial:**	4
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K1405833-001			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**	06/04/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347924	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:	Polybrominated Diphenyl Ethers by 8270C-SIM	**Report List ID:**	LJ13014
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.22	0.01?	464	57763	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.88	0.00	0.00	338	1647m	2.56	102	70-130	OK	
1	PBDE 99C13	8.38	0.01	0.00	418	1171m	2.21	88	70-130	OK	NR

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?
1	PBDE 17				246	0d		0.28	U	NR
1	PBDE 28				246	0d		0.30	U	NR
1	PBDE 71				326	0d		0.19	U	NR
1	PBDE 47				326	0d		0.36	U	NR
1	PBDE 66				326	0d		0.24	U	NR
1	PBDE 100				404	0d		0.17	U	NR
1	PBDE 99				404	0d		0.37	U	NR
1	PBDE 85				404	0d		0.49	U	NR
1	PBDE 154				484	0d		0.095	U	NR
1	PBDE 153				484	0d		0.11	U	NR
1	PBDE 138				484	0d		0.20	U	NR
1	PBDE 128				484	0d		0.13	U	NR
1	PBDE 183				562	0d		0.16	U	NR
1	PBDE 190				562	0d		0.25	U	NR
1	PBDE 203				642	0d		0.36	U	NR
1	PBDE 206				719	0d		0.38	U	NR
1	PBDE 209				799	0d		0.32	U	NR

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\062414\0624F020.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 16:57	**Quant Date:**	06/25/2014 09:41	**Vial:**	4
Run Type:	DL			**Dilution:**	10.0
Lab ID:	K1405833-001			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.392 g	**Dilution:**	10.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F020.D Vial: 4
Acq On : 24 Jun 2014 4:57 pm Operator: CHart
Sample : K1405833-001 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 17:10:47 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

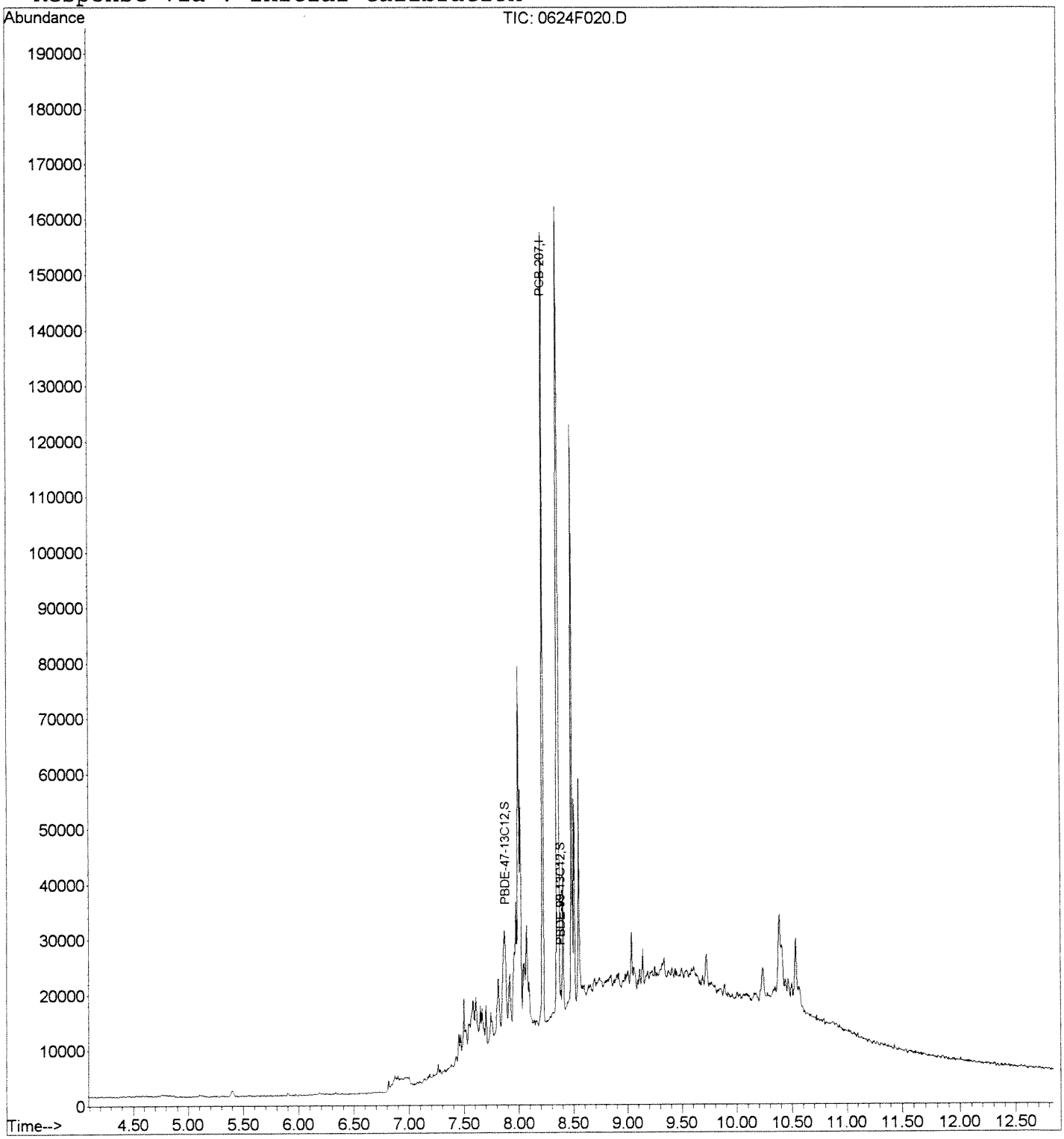
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.22	464	57763	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	1647m	2.56	ng/ml	0.00
Spiked Amount 25.000			Recovery = 10.24%			
9) PBDE-99-13C12	8.38	418	1171m	2.21	ng/ml	0.01
Spiked Amount 25.000			Recovery = 8.84%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
0624F020.D BDE062414.M Wed Jun 25 09:48:13 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F020.D Vial: 4
Acq On : 24 Jun 2014 4:57 pm Operator: CHart
Sample : K1405833-001 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:41 2014 Quant Results File: BDE062414.RE

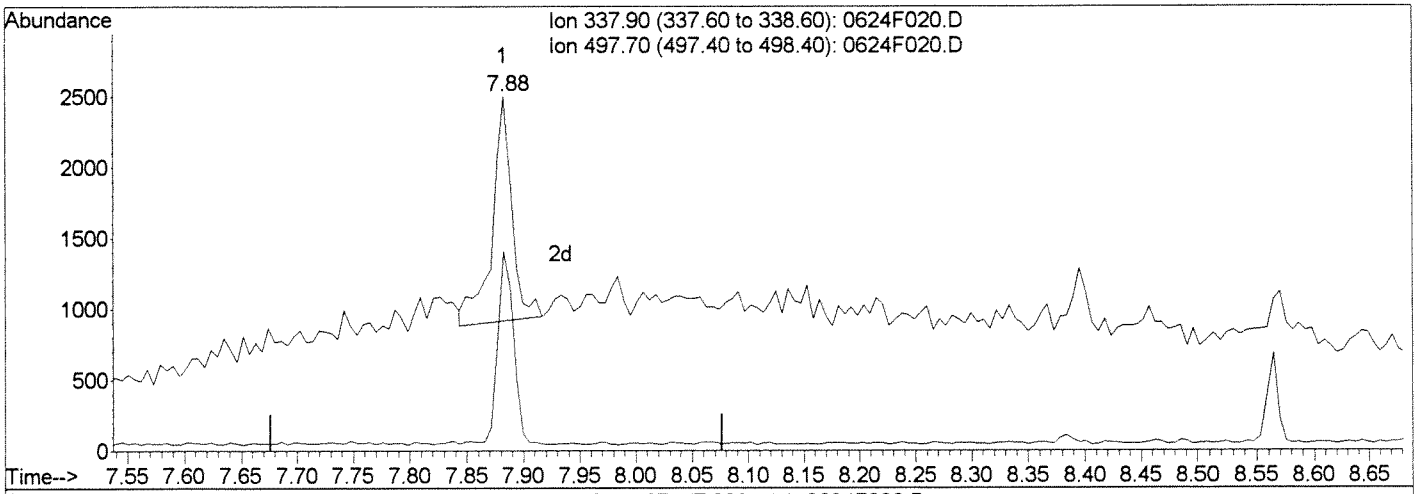
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration

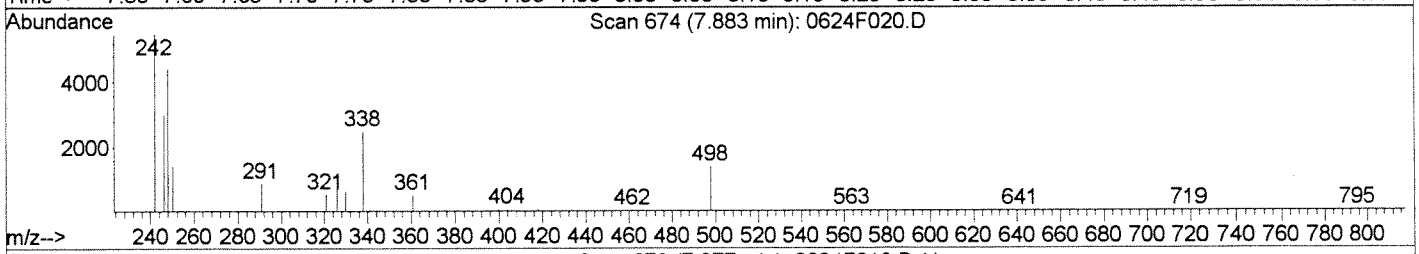


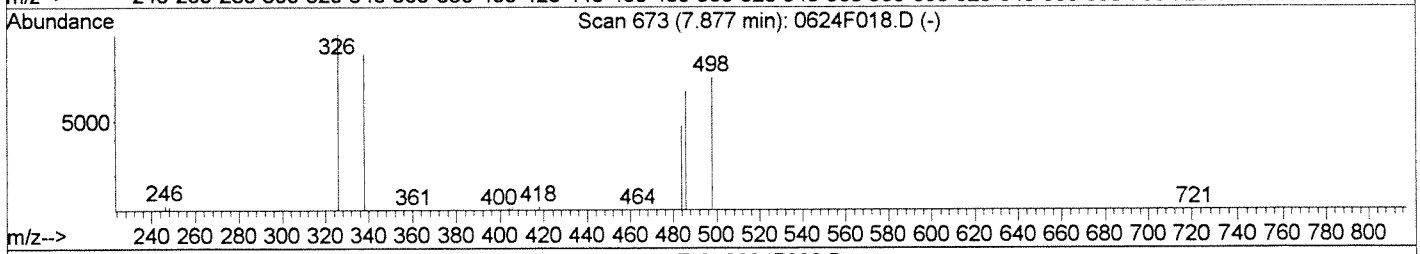
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F020.D Vial: 4
Acq On : 24 Jun 2014 4:57 pm Operator: CHart
Sample : K1405833-001 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:40 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F020.D

(5) PBDE-47-13C12 (S)

7.88min 3.00ng/ml

response 1930

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	87.46
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CH

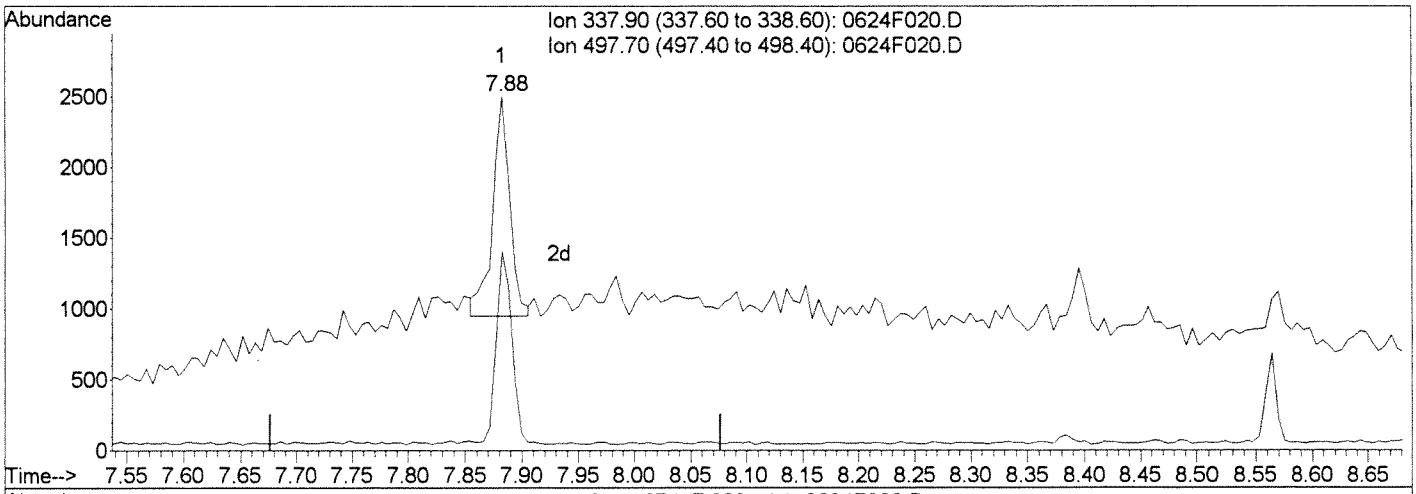
6/26/14

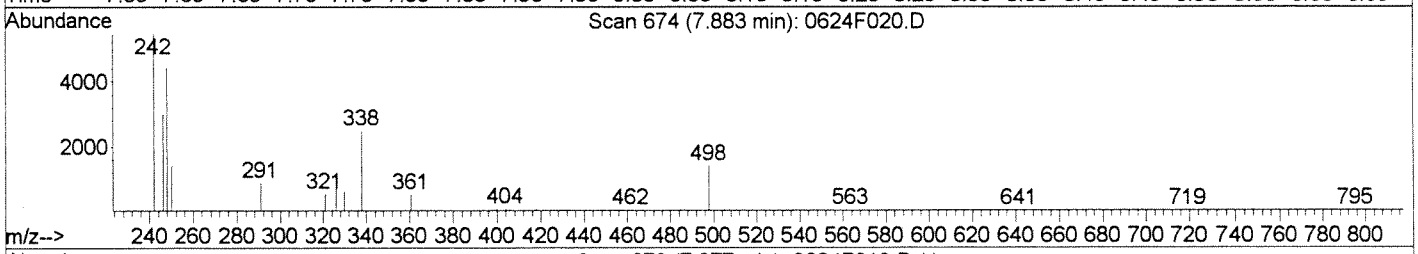
0624F020.D BDE062414.M Wed Jun 25 09:40:34 2014

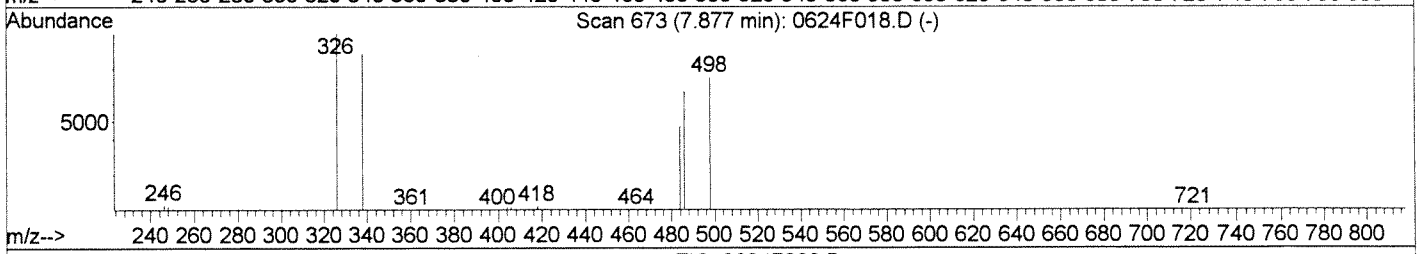
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F020.D Vial: 4
Acq On : 24 Jun 2014 4:57 pm Operator: CHart
Sample : K1405833-001 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:40 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F020.D

(5) PBDE-47-13C12 (S)

7.88min 2.56ng/ml m

response 1647

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	56.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/25/14

CA 6/29/14

0624F020.D BDE062414.M Wed Jun 25 09:40:43 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F027.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/24/2014 19:04
Date Quantitated: 06/25/2014 09:44
Batch ID: KWG1406646
Analysis Method: 8270D SIM
ListJoinID: LJ13014

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	PBDE 17	64	70	130	advisory limits
	PBDE 28	65	70	130	
	PBDE 71	67	70	130	
	PBDE 47	69	70	130	
	PBDE 66	67	70	130	
	PBDE 100	64	70	130	
	PBDE 99	64	70	130	

Primary Review: CAA JUN 25 2014

Secondary Review: [signature]

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	PBDE 85	68	70	130	advisory limits
	PBDE 154	64	70	130	
	PBDE 153	65	70	130	
	PBDE 138	66	70	130	
	PBDE 128	68	70	130	
	PBDE 183	66	70	130	
	PBDE 203	69	70	130	
	PBDE 206	68	70	130	
	PBDE 209	65	70	130	
Surrogates	PBDE 47C13	136	70	130	matrix

Primary Review: CA JUN 25 2014

Secondary Review: [signature]

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F027.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 19:04	**Quant Date:**	06/25/2014 09:44	**Vial:**	11
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-002			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**	06/02/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347925	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:	Polybrominated Diphenyl Ethers by 8270C-SIM	**Report List ID:**	LJ13014
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.26	0.05?	464	45344	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	8.02	0.14	0.01	338	17150**m**	33.96	136	70-130	*	
1	PBDE 99C13	8.61	0.24	0.02	418	9587**m**	23.10	92	70-130	OK	

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?
1	PBDE 17				246	0**d**		0.041	U	
1	PBDE 28				246	0**d**		0.043	U	
1	PBDE 71				326	0**d**		0.027	U	
1	PBDE 47				326	0**d**		0.051	U	
1	PBDE 66				326	0**d**		0.034	U	
1	PBDE 100				404	0**d**		0.025	U	
1	PBDE 99				404	0**d**		0.053	U	
1	PBDE 85				404	0**d**		0.071	U	
1	PBDE 154				484	0**d**		0.014	U	
1	PBDE 153				484	0**d**		0.016	U	
1	PBDE 138				484	0**d**		0.029	U	
1	PBDE 128				484	0**d**		0.018	U	
1	PBDE 183				562	0**d**		0.023	U	
1	PBDE 190				562	0**d**		0.036	U	
1	PBDE 203				642	0**d**		0.051	U	
1	PBDE 206				719	0**d**		0.055	U	
1	PBDE 209				799	0**d**		0.046	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\062414\0624F027.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 19:04	**Quant Date:**	06/25/2014 09:44	**Vial:**	11
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-002			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.138 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:35 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

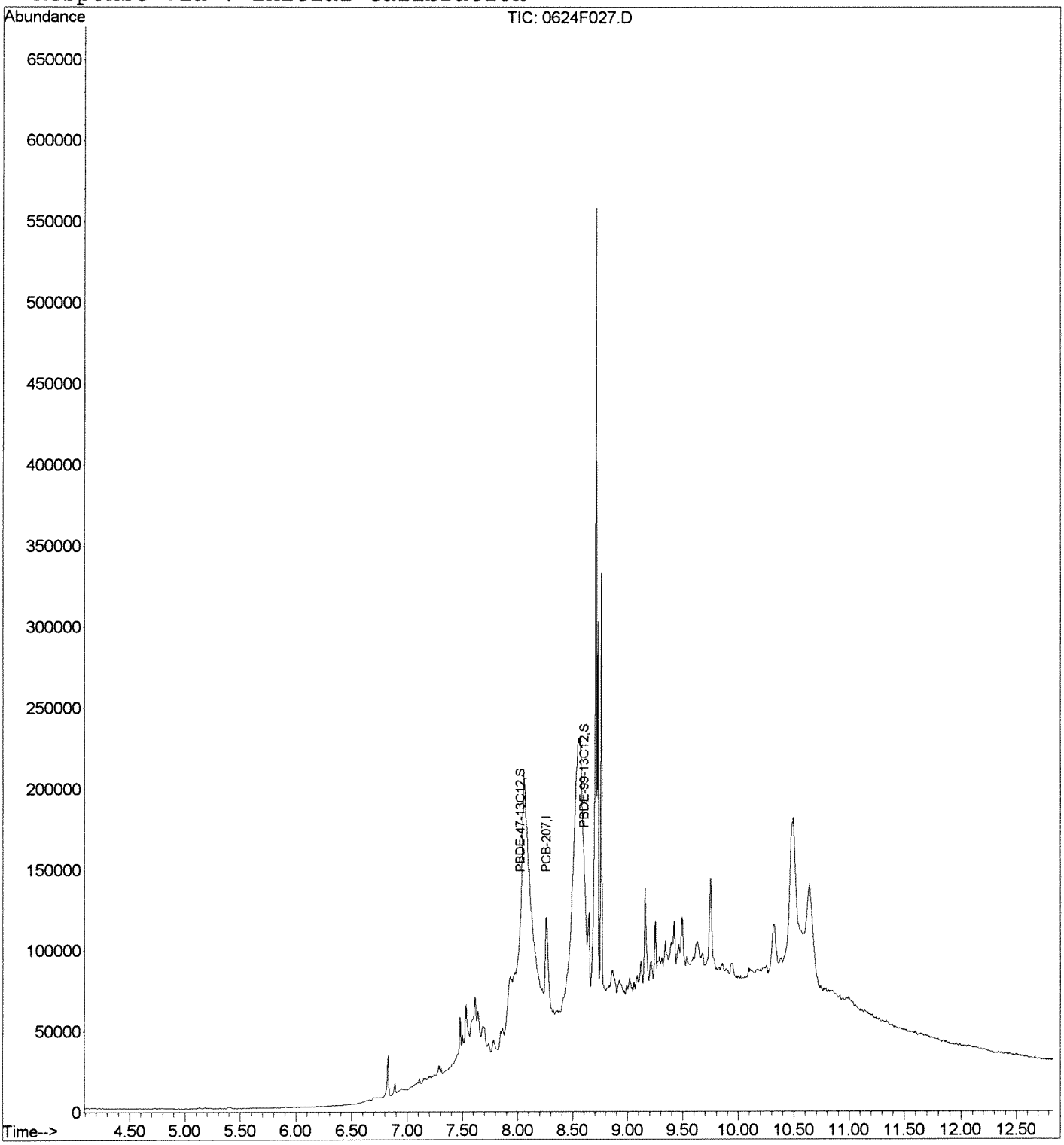
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.26	464	45344	50.00	ng/ml	0.04
System Monitoring Compounds						
5) PBDE-47-13C12	8.02	338	17150m	33.96	ng/ml	0.14
Spiked Amount 25.000			Recovery = 135.84%			
9) PBDE-99-13C12	8.61	418	9587m	23.10	ng/ml	0.24
Spiked Amount 25.000			Recovery = 92.40%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
0624F027.D BDE062414.M Wed Jun 25 09:48:15 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:44 2014 Quant Results File: BDE062414.RE

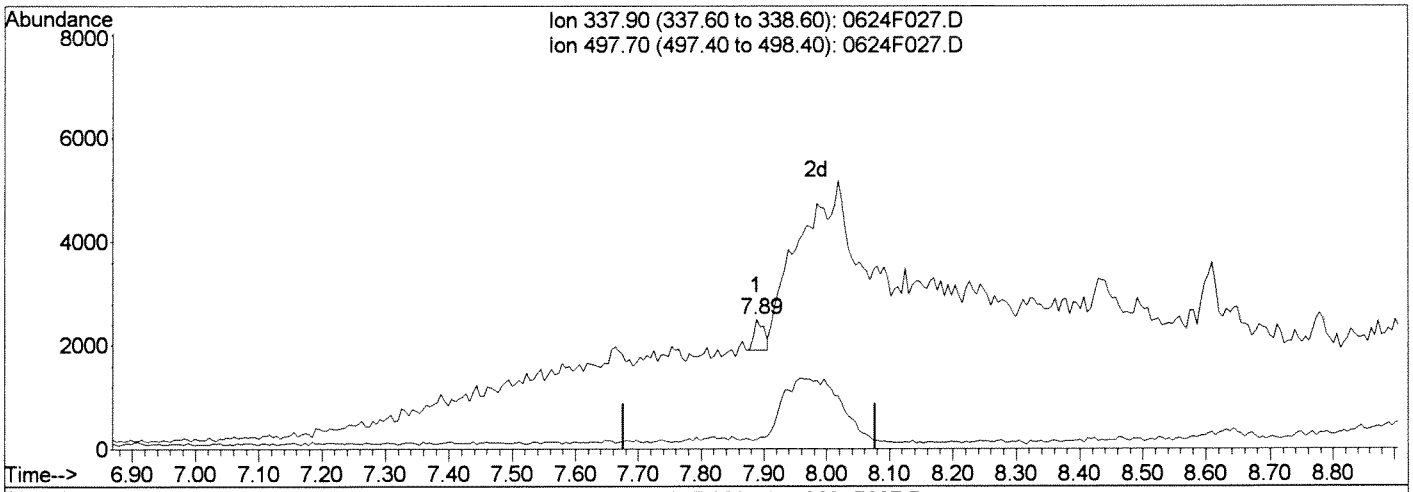
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration

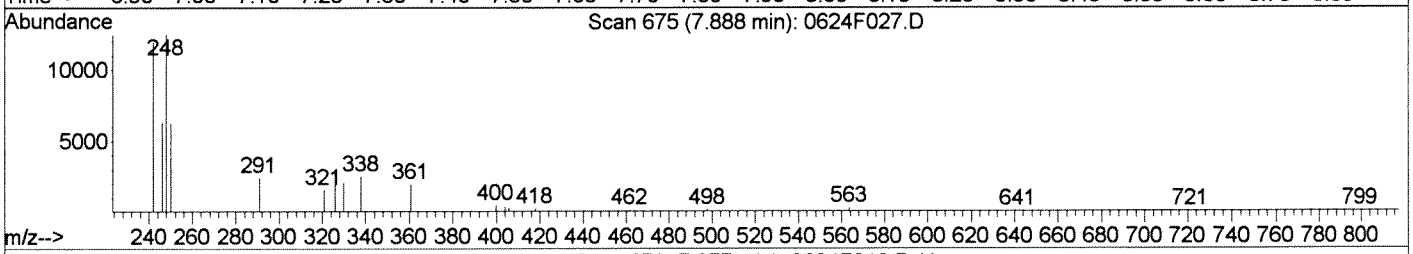


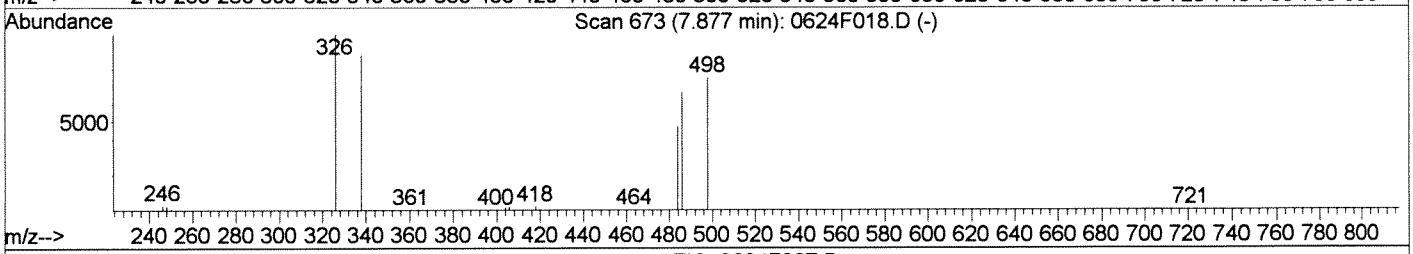
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:43 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F027.D

(5) PBDE-47-13C12 (S)

7.89min 1.31ng/ml

response 660

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CA

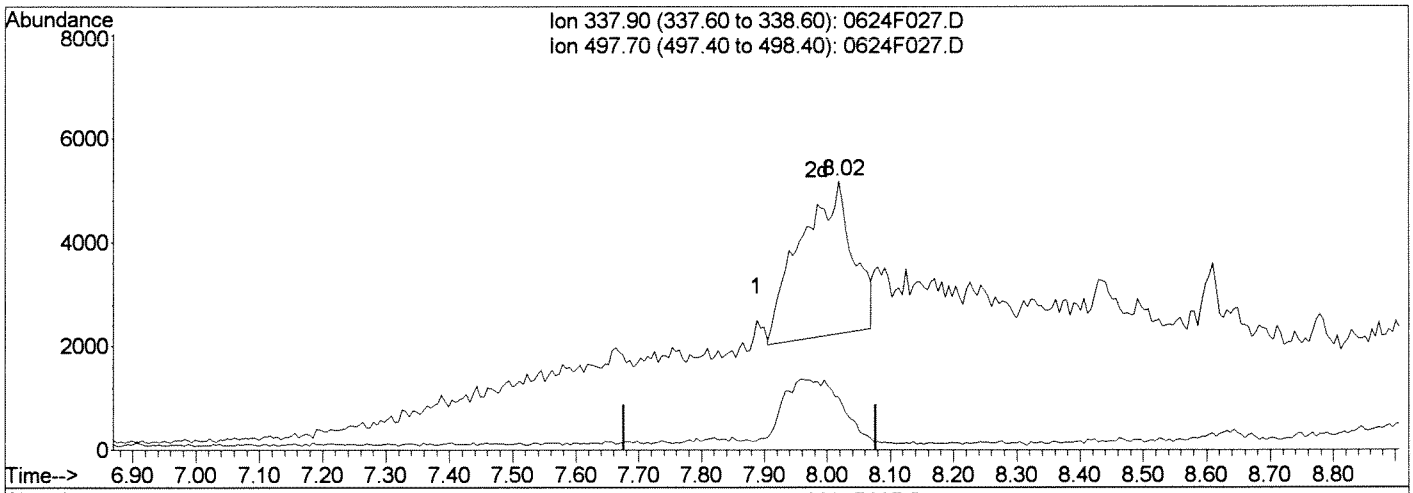
CHart 6/25

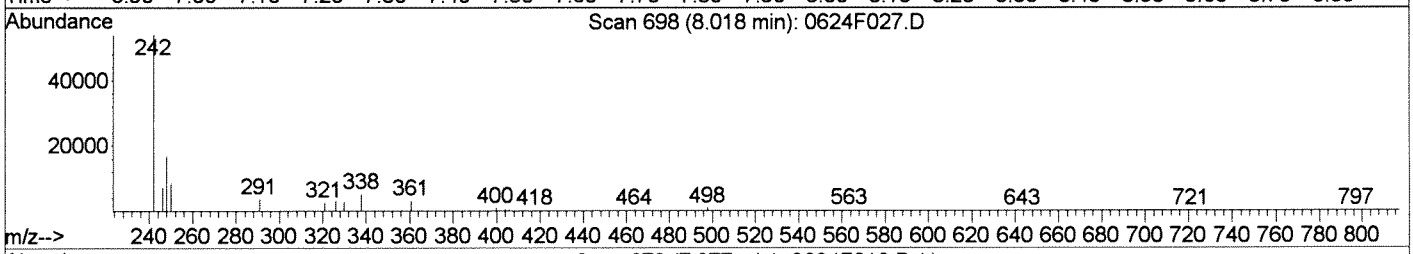
0624F027.D BDE062414.M Wed Jun 25 09:43:50 2014

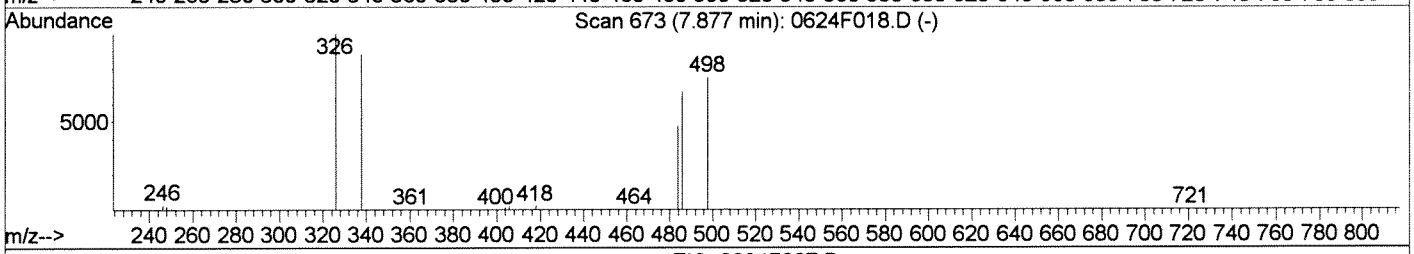
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:44 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F027.D

(5) PBDE-47-13C12 (S)

8.02min 33.96ng/ml m

response 17150

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	19.71#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

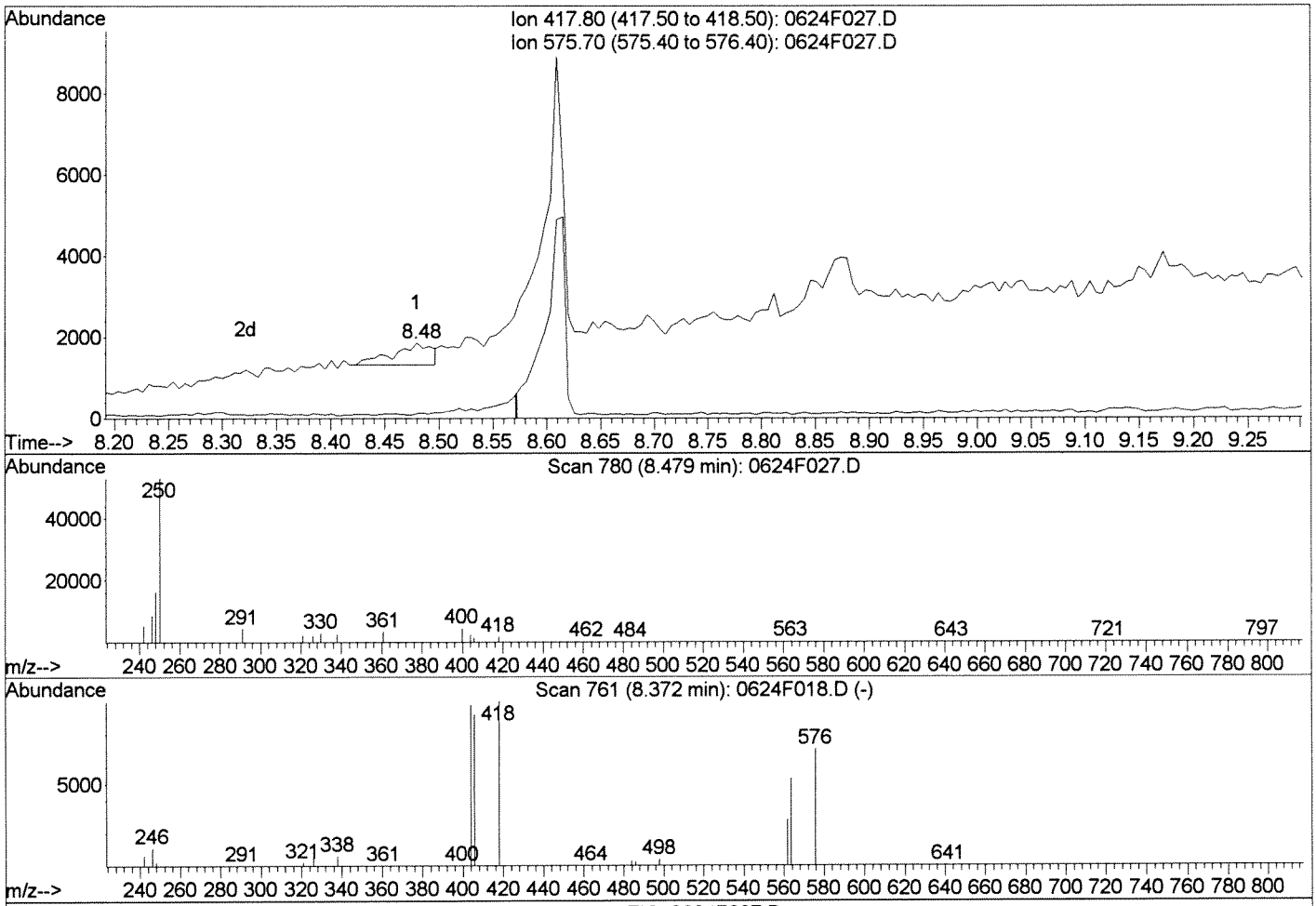
06/25/14

0624F027.D BDE062414.M Wed Jun 25 09:44:07 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:44 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F027.D

(9) PBDE-99-13C12 (S)

8.48min 3.16ng/ml

response 1313

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	3.55#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CAA

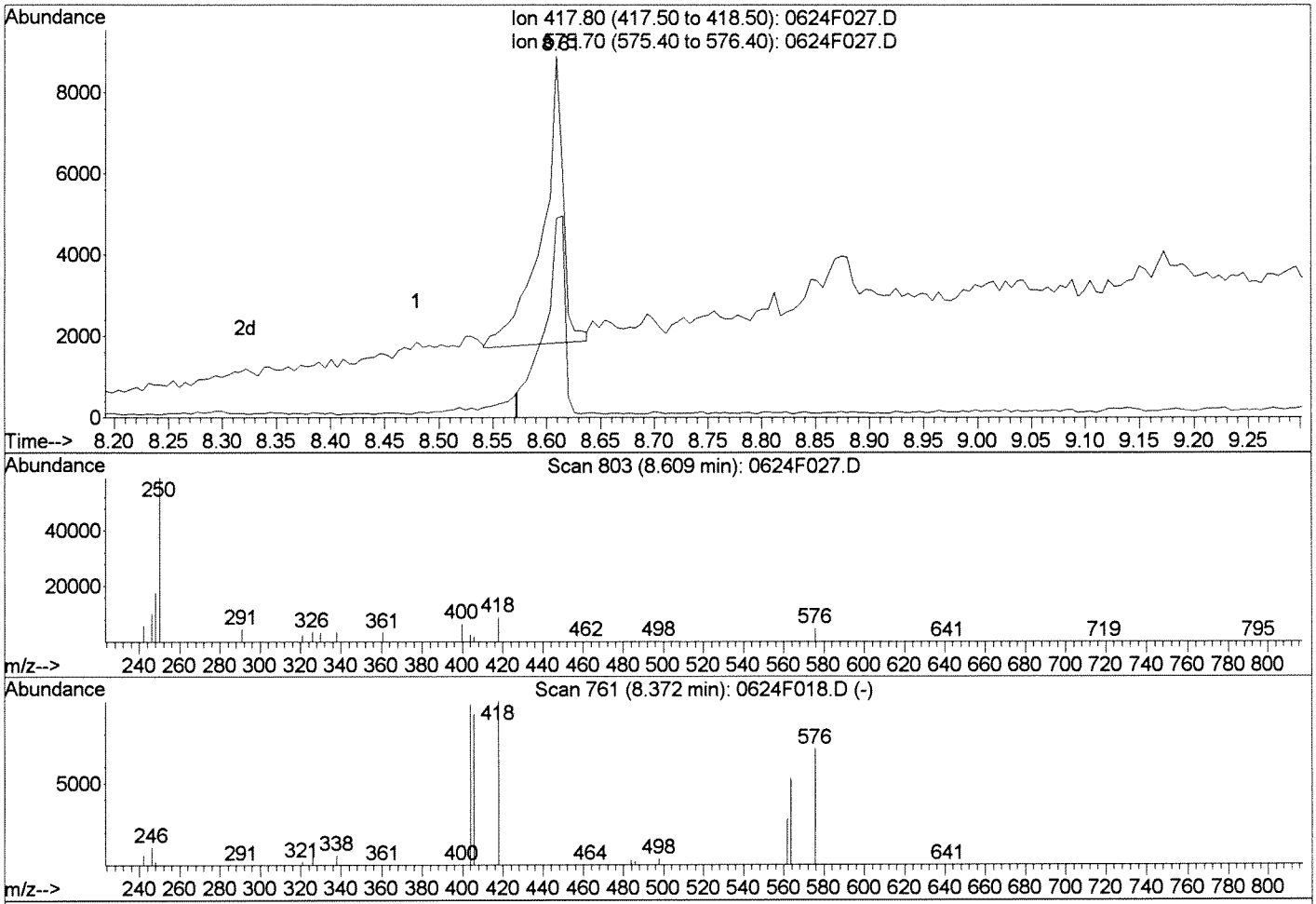
6/26/14

0624F027.D BDE062414.M Wed Jun 25 09:44:17 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F027.D Vial: 11
Acq On : 24 Jun 2014 7:04 pm Operator: CHart
Sample : K1405833-002 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:44 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F027.D

(9) PBDE-99-13C12 (S)

8.61min 23.10ng/ml m

response 9587

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	54.88
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

CA

6/25/14

5

0624F027.D BDE062414.M Wed Jun 25 09:44:28 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F028.D
Lab ID: K1405833-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/24/2014 19:23
Date Quantitated: 06/25/2014 09:45
Batch ID: KWG1406646
Analysis Method: 8270D SIM
ListJoinID: LJ13014

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	PBDE 17	64	70	130	advisory limits
	PBDE 28	65	70	130	
	PBDE 71	67	70	130	
	PBDE 47	69	70	130	
	PBDE 66	67	70	130	
	PBDE 100	64	70	130	
	PBDE 99	64	70	130	

Primary Review: CA JUN 25 2014

Secondary Review: a 6/26/14

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
	PBDE 85	68	70	130	advisory limits
	PBDE 154	64	70	130	
	PBDE 153	65	70	130	
	PBDE 138	66	70	130	
	PBDE 128	68	70	130	
	PBDE 183	66	70	130	
	PBDE 203	69	70	130	
	PBDE 206	68	70	130	
	PBDE 209	65	70	130	

Primary Review: CA JUN 25 2014

Secondary Review: _____

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F028.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 19:23	**Quant Date:**	06/25/2014 09:45	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-003			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**	06/03/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347923	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:	Polybrominated Diphenyl Ethers by 8270C-SIM	**Report List ID:**	LJ13014
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.23	0.02?	464	57337	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.89	0.01	0.00	338	16003	25.06	100	70-130	OK	
1	PBDE 99C13	8.39	0.02	0.00	418	12941	24.66	99	70-130	OK	

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?
1	PBDE 17				246	0d		0.023	U	
1	PBDE 28				246	0d		0.024	U	
1	PBDE 71				326	0d		0.015	U	
1	PBDE 47				326	0d		0.029	U	
1	PBDE 66				326	0d		0.019	U	
1	PBDE 100				404	0d		0.014	U	
1	PBDE 99				404	0d		0.030	U	
1	PBDE 85				404	0d		0.040	U	
1	PBDE 154				484	0d		0.0078	U	
1	PBDE 153				484	0d		0.0087	U	
1	PBDE 138				484	0d		0.016	U	
1	PBDE 128				484	0d		0.0099	U	
1	PBDE 183				562	0d		0.013	U	
1	PBDE 190				562	0d		0.020	U	
1	PBDE 203				642	0d		0.029	U	
1	PBDE 206				719	0d		0.031	U	
1	PBDE 209				799	0d		0.026	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\062414\0624F028.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 19:23	**Quant Date:**	06/25/2014 09:45	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-003			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.270 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	78 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F028.D Vial: 12
Acq On : 24 Jun 2014 7:23 pm Operator: CHart
Sample : K1405833-003 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:35 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.23	464	57337	50.00	ng/ml	0.01
System Monitoring Compounds						
5) PBDE-47-13C12	7.89	338	16003	25.06	ng/ml	0.02
Spiked Amount 25.000			Recovery = 100.24%			
9) PBDE-99-13C12	8.39	418	12941	24.66	ng/ml	0.02
Spiked Amount 25.000			Recovery = 98.64%			

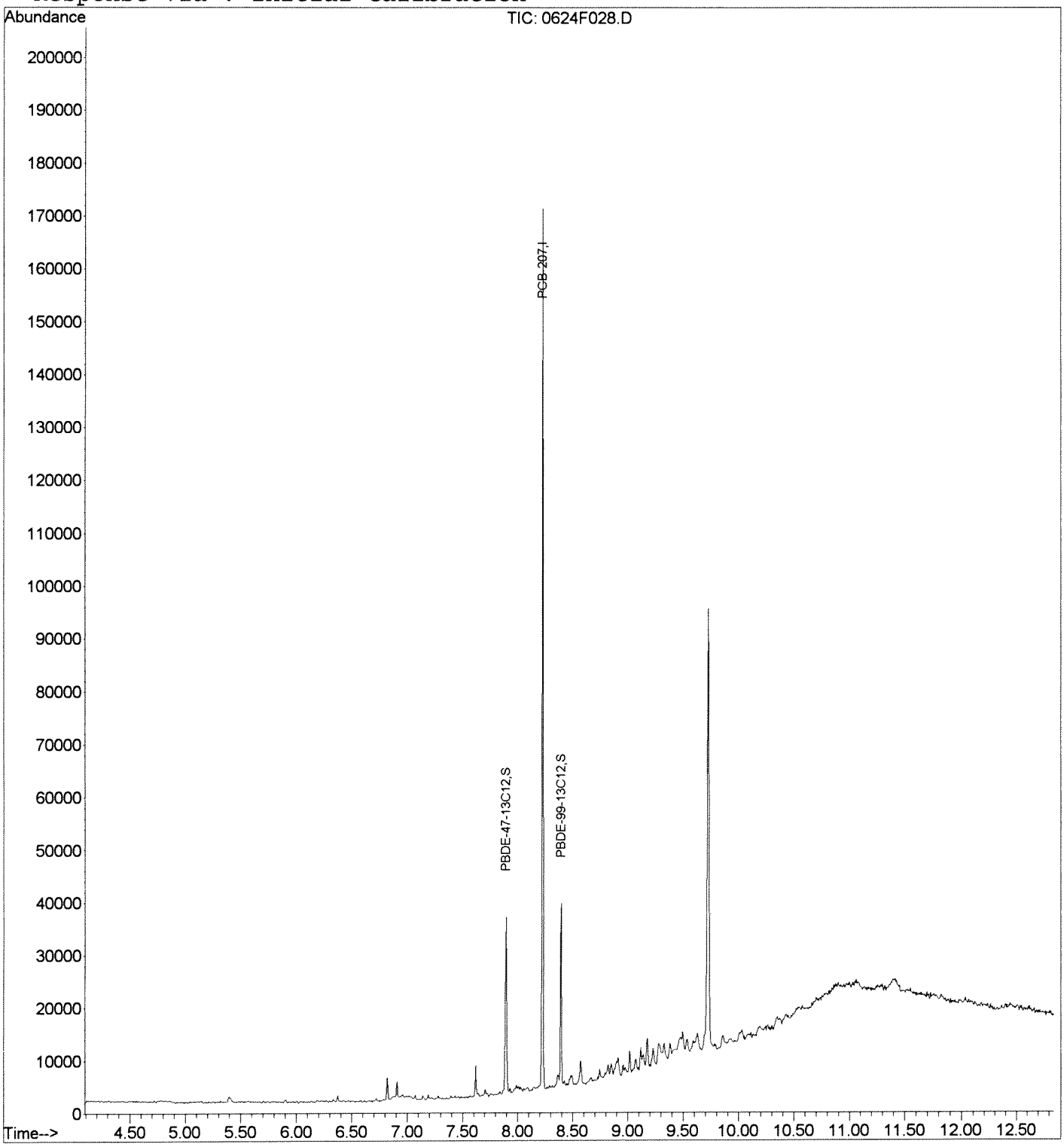
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0624F028.D BDE062414.M Wed Jun 25 09:48:16 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F028.D Vial: 12
Acq On : 24 Jun 2014 7:23 pm Operator: CHart
Sample : K1405833-003 Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:45 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration



Exception Report

Data File: J:\MS14\DATA\062414\0624F026.D
Lab ID: KWG1405686-6
RunType: DUP
Matrix: SOIL

Date Acquired: 06/24/2014 18:46
Date Quantitated: 06/25/2014 09:43
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

Sample Exceptions

K1405833-002DUP

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	PBDE 47C13	139	70	130	matrix

Primary Review: CA JUN 25 2014

Secondary Review: 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F026.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:46	**Quant Date:**	06/25/2014 09:43	**Vial:**	10
Run Type:	DUP			**Dilution:**	1.0
Lab ID:	KWG1405686-6			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347943	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.25	0.04?	464	47209	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	PBDE 47C13	7.94	0.06	0.00	338	18298m	34.80	139	70-130	*
1	PBDE 99C13	8.59	0.22	0.02	418	9698m	22.44	90	70-130	OK

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?
1	PBDE 17				246	0d		0.041	U	
1	PBDE 28				246	0d		0.043	U	
1	PBDE 71				326	0d		0.027	U	
1	PBDE 47				326	0d		0.051	U	
1	PBDE 66				326	0d		0.034	U	
1	PBDE 100				404	0d		0.025	U	
1	PBDE 99				404	0d		0.053	U	
1	PBDE 85				404	0d		0.071	U	
1	PBDE 154				484	0d		0.014	U	
1	PBDE 153				484	0d		0.016	U	
1	PBDE 138				484	0d		0.029	U	
1	PBDE 128				484	0d		0.018	U	
1	PBDE 183				562	0d		0.023	U	
1	PBDE 190				562	0d		0.036	U	
1	PBDE 203				642	0d		0.051	U	
1	PBDE 206				719	0d		0.055	U	
1	PBDE 209				799	0d		0.046	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\062414\0624F026.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:46	**Quant Date:**	06/25/2014 09:43	**Vial:**	10
Run Type:	DUP			**Dilution:**	1.0
Lab ID:	KWG1405686-6			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.172 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:34 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.25	464	47209	50.00	ng/ml	0.04
System Monitoring Compounds						
5) PBDE-47-13C12	7.94	338	18298m	34.80	ng/ml	0.06
Spiked Amount 25.000			Recovery = 139.20%			
9) PBDE-99-13C12	8.59	418	9698m	22.44	ng/ml	0.21
Spiked Amount 25.000			Recovery = 89.76%			

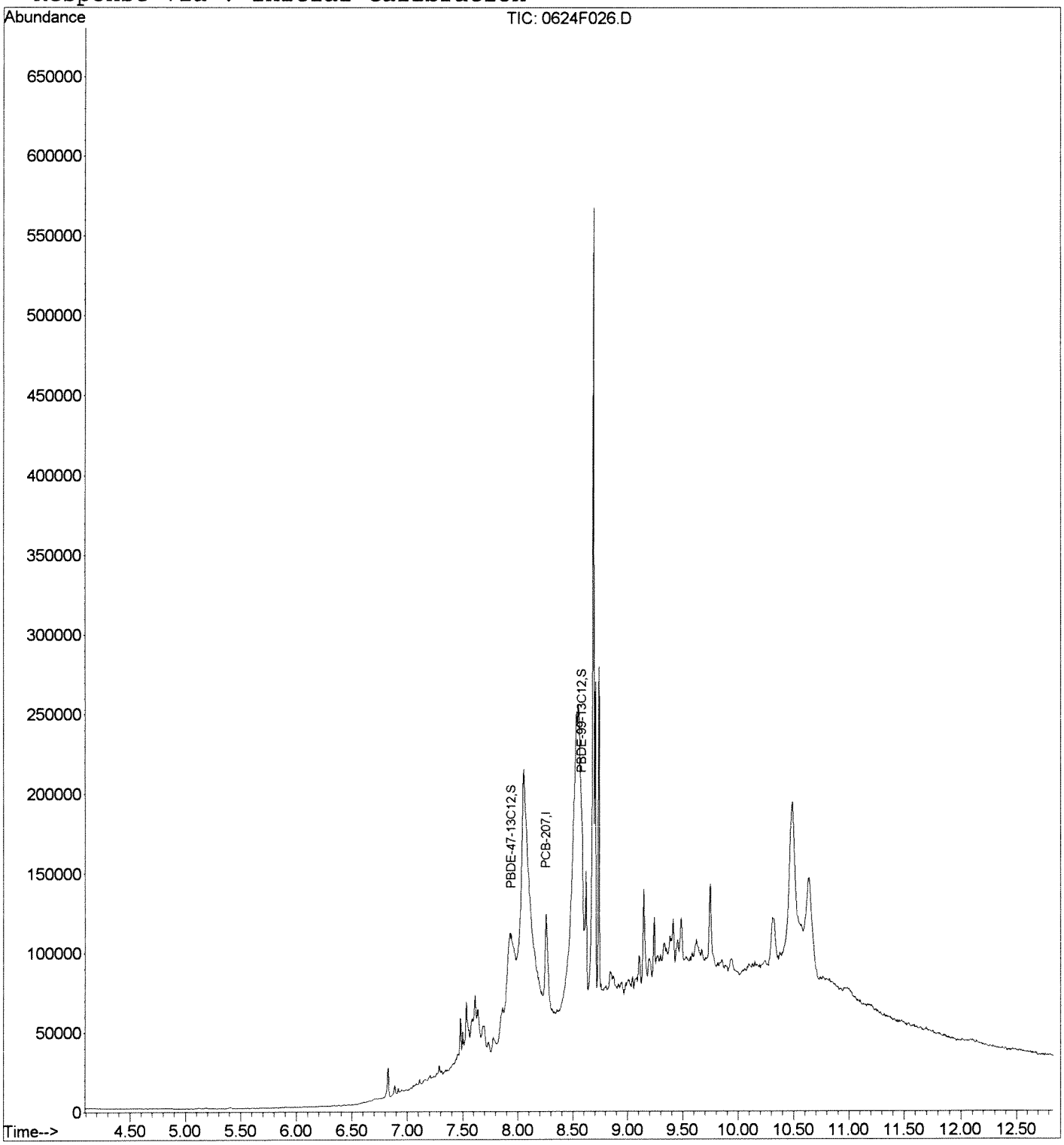
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0624F026.D BDE062414.M Wed Jun 25 09:48:14 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:43 2014 Quant Results File: BDE062414.RE

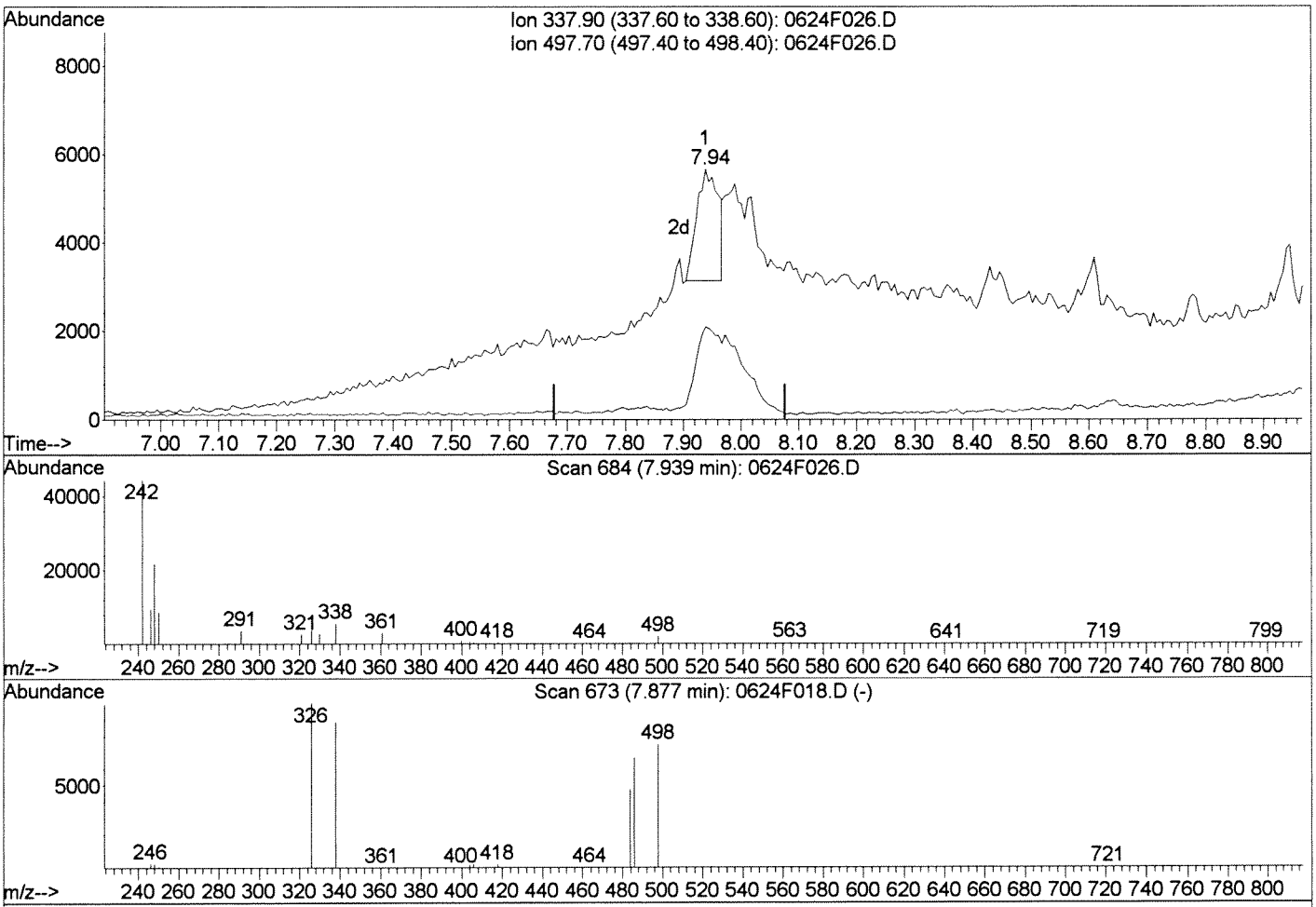
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:42 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F026.D

(5) PBDE-47-13C12 (S)

7.94min 12.66ng/ml

response 6656

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	68.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CA

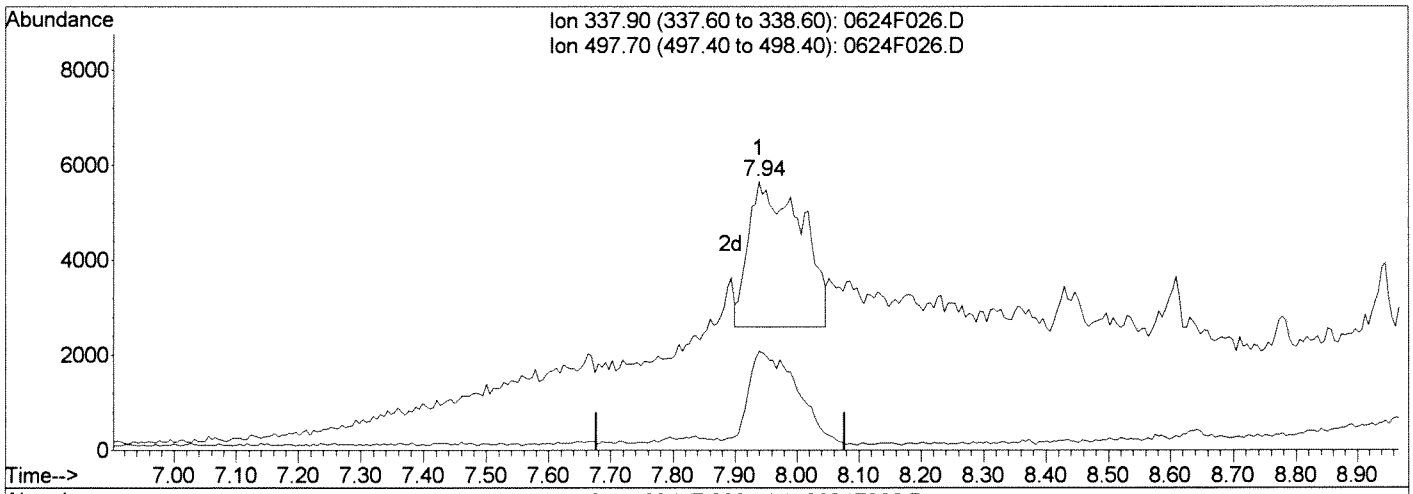
6/25/14

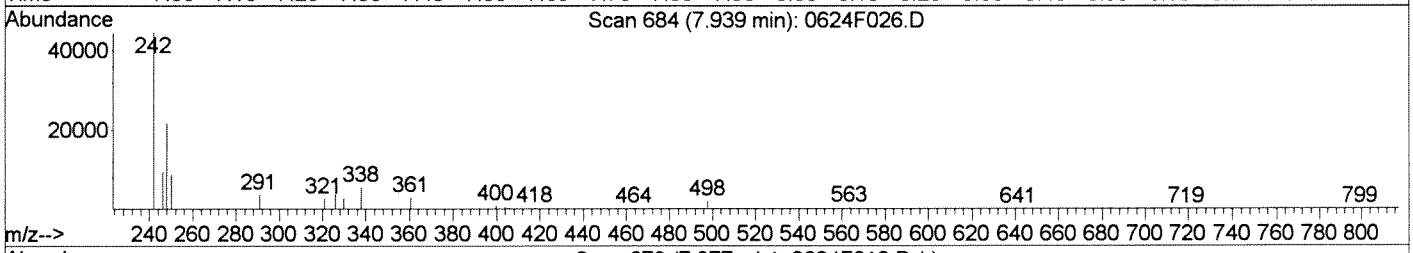
0624F026.D BDE062414.M Wed Jun 25 09:42:33 2014

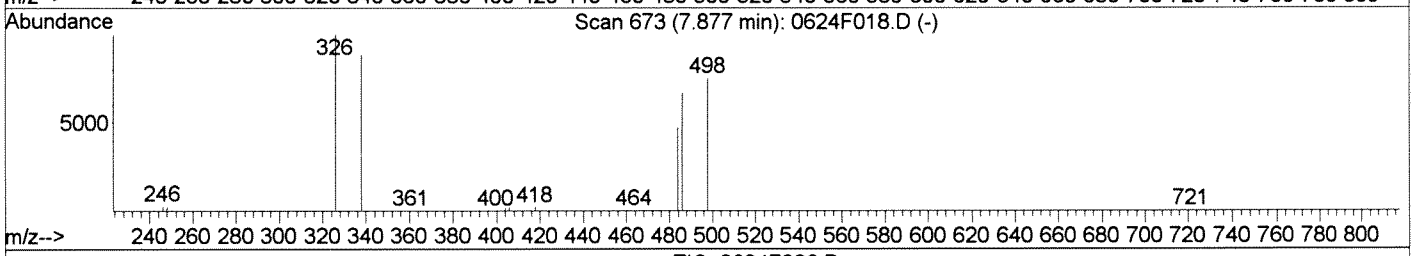
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:42 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F026.D

(5) PBDE-47-13C12 (S)

7.94min 34.80ng/ml m

response 18298

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	36.77#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

06/25/14

CH

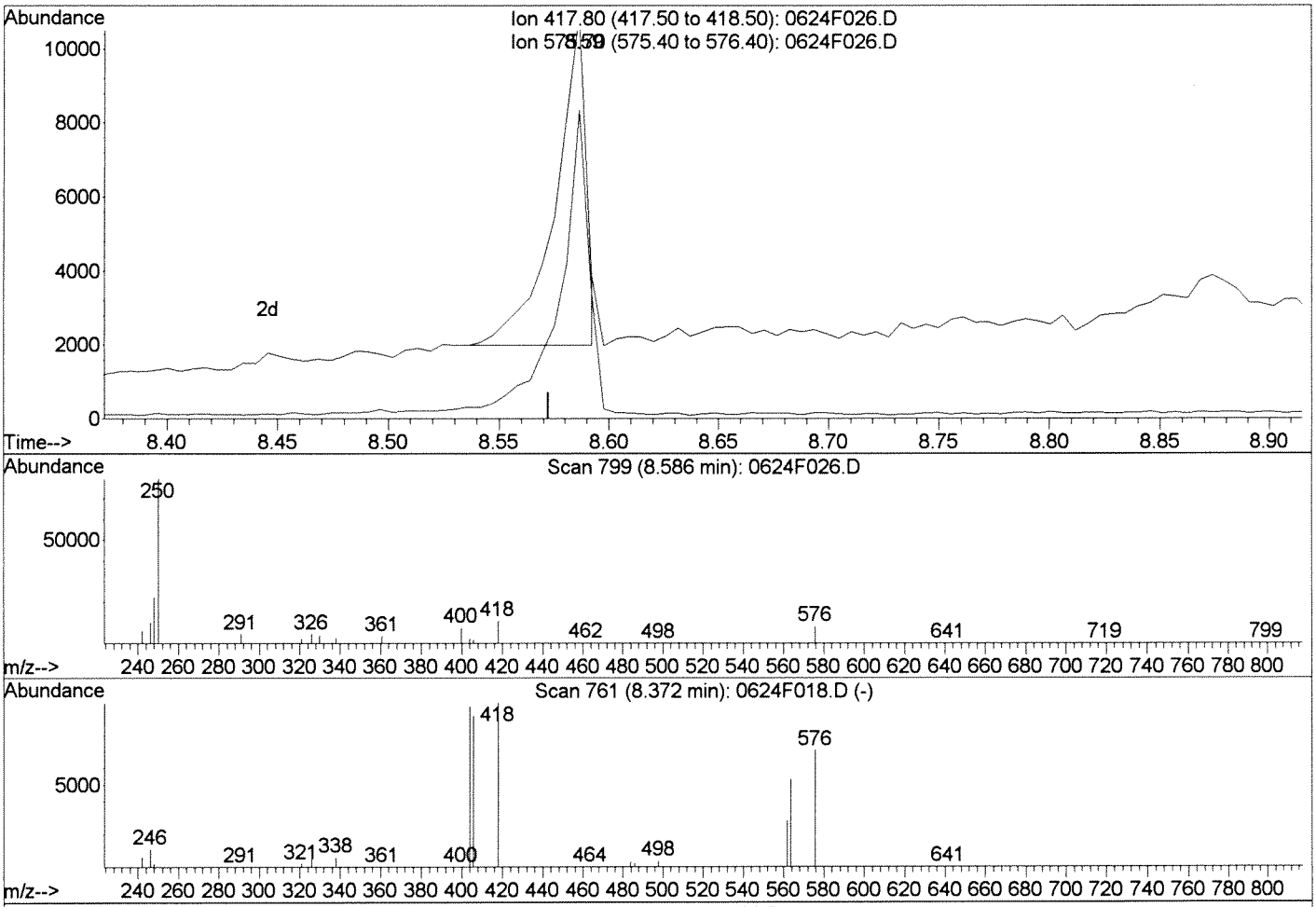
6/25/14

0624F026.D BDE062414.M Wed Jun 25 09:42:56 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:43 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F026.D

(9) PBDE-99-13C12 (S)

8.59min 20.34ng/ml

response 8788

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	90.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

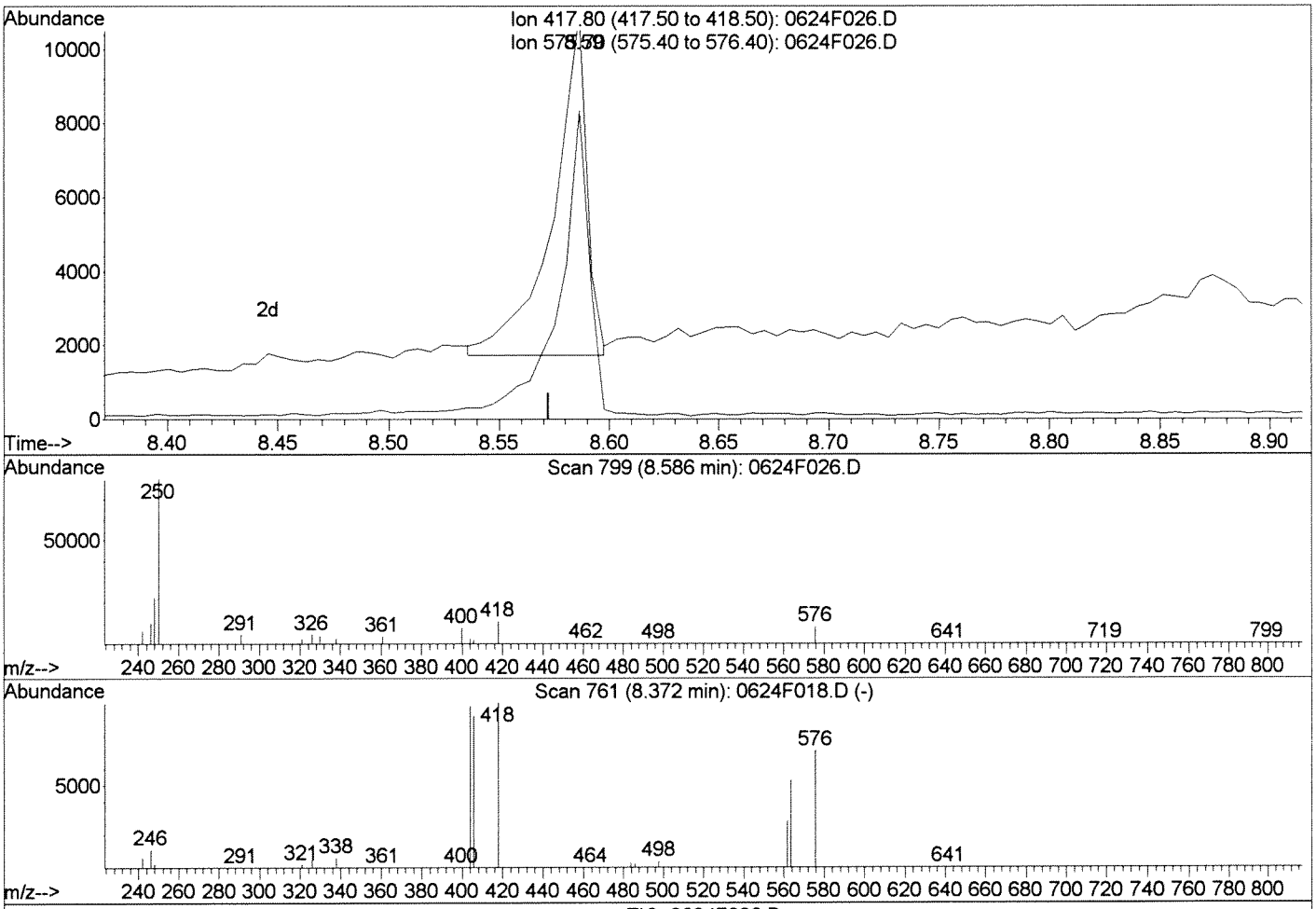
06/25/14 CA

0624F026.D BDE062414.M Wed Jun 25 09:43:09 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F026.D Vial: 10
Acq On : 24 Jun 2014 6:46 pm Operator: CHart
Sample : K1405833-002 | DUP Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:43 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F026.D

(9) PBDE-99-13C12 (S)

8.59min 22.44ng/ml m

response 9698

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	76.54
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

06/25/14

0624F026.D BDE062414.M Wed Jun 25 09:43:16 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F019.D
Lab ID: KWG1405686-5
RunType: MB
Matrix: SOIL

Date Acquired: 06/24/2014 16:38
Date Quantitated: 06/24/2014 16:56
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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	

K05833

Primary Review: CA JUN 25 2014

Secondary Review: a 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F019.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 16:38	**Quant Date:**	06/24/2014 16:56	**Vial:**	3
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1405686-5			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347930	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.21	0.00?	464	61455	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.88	0.00	0.00	338	14603	21.34	85	70-130	OK	
1	PBDE 99C13	8.37	0.00	0.00	418	11841	21.05	84	70-130	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	PBDE 17				246	0d		0.023	U	
1	PBDE 28				246	0d		0.024	U	
1	PBDE 71				326	0d		0.015	U	
1	PBDE 47				326	0d		0.029	U	
1	PBDE 66				326	0d		0.019	U	
1	PBDE 100				404	0d		0.014	U	
1	PBDE 99				404	0d		0.030	U	
1	PBDE 85				404	0d		0.040	U	
1	PBDE 154				484	0d		0.0078	U	
1	PBDE 153				484	0d		0.0087	U	
1	PBDE 138				484	0d		0.016	U	
1	PBDE 128				484	0d		0.0099	U	
1	PBDE 183				562	0d		0.013	U	
1	PBDE 190				562	0d		0.020	U	
1	PBDE 203				642	0d		0.029	U	
1	PBDE 206				719	0d		0.031	U	
1	PBDE 209				799	0d		0.026	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\062414\0624F019.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 16:38	**Quant Date:**	06/24/2014 16:56	**Vial:**	3
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1405686-5			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.392 g	**Dilution:**	1.0
Prep Final Vol:	2 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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F019.D Vial: 3
Acq On : 24 Jun 2014 4:38 pm Operator: CHart
Sample : KWG1405686-05 | MB Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:55:35 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	61455	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	14603	21.34	ng/ml	0.00
Spiked Amount 25.000			Recovery = 85.36%			
9) PBDE-99-13C12	8.37	418	11841	21.05	ng/ml	0.00
Spiked Amount 25.000			Recovery = 84.20%			

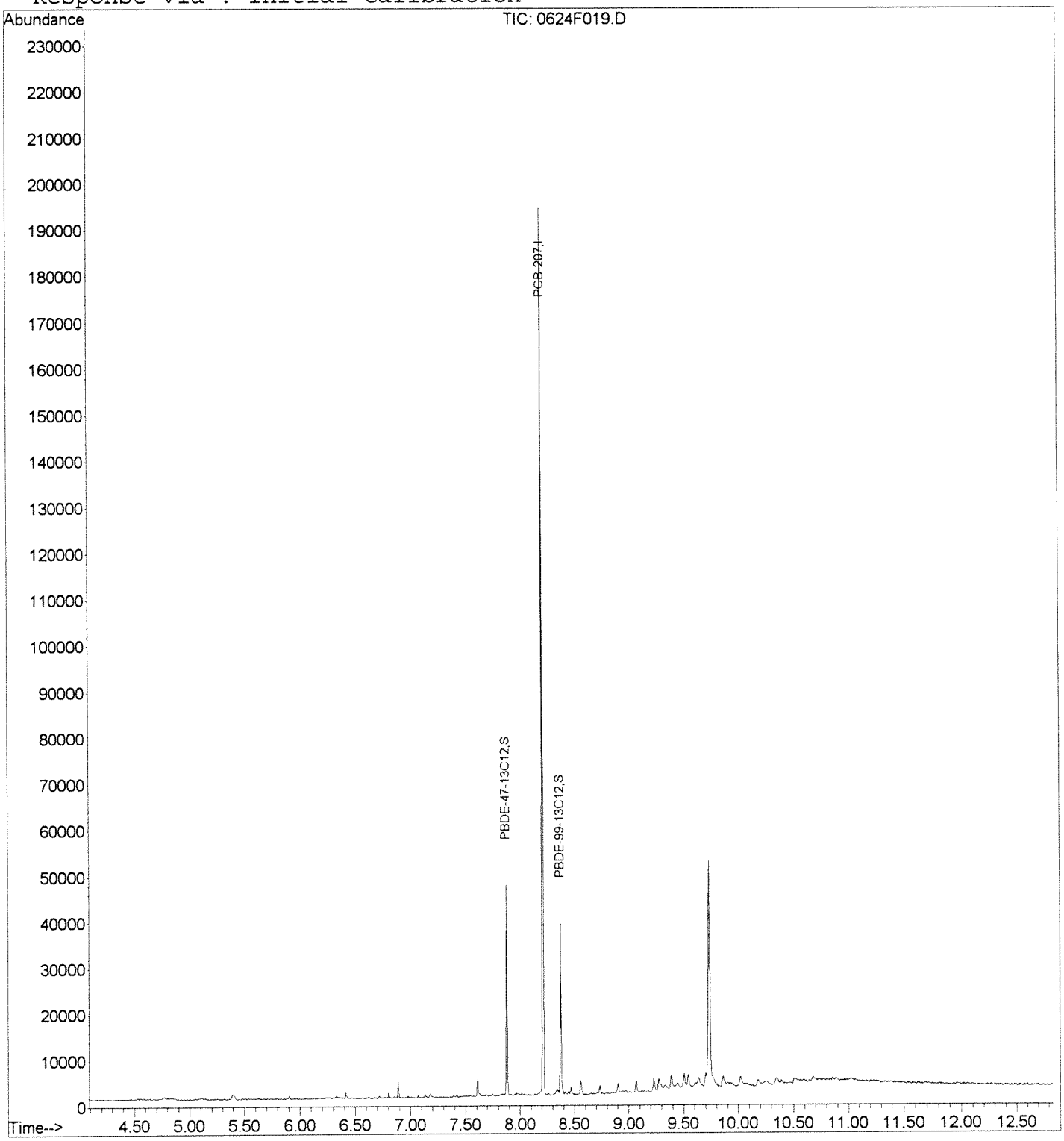
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0624F019.D BDE062414.M Wed Jun 25 09:48:12 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F019.D Vial: 3
Acq On : 24 Jun 2014 4:38 pm Operator: CHart
Sample : KWG1405686-05 | MB Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:56 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration



Exception Report

Data File: J:\MS14\DATA\062414\0624F023.D
Lab ID: KWG1405686-1 -- K1405833-001MS
RunType: MS
Matrix: SOIL

Date Acquired: 06/24/2014 17:51
Date Quantitated: 06/25/2014 09:40
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 17	21.6	NA	20	OK, <40%
Surrogates	PBDE 47C13	0	70	130	see 10x

Primary Review: CA JUN 25 2014

Secondary Review: 06/29/14

Printed: 06/25/2014 09:55:28
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F023.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:51	**Quant Date:**	06/25/2014 09:40	**Vial:**	7
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1405686-1 -- K1405833-001MS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347926	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.27	0.06?	464	42217	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13			0.00	338	0d		0	70-130	*	NR
1	PBDE 99C13	8.58	0.21	0.02	418	7449m	19.27	77	70-130	OK	

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?
1	PBDE 17	7.29	0.03	0.00	246	9842	19.44	4.73		
1	PBDE 28	7.36	0.02	0.00	246	5803	11.79	2.87		
1	PBDE 71				326	0d		0.019	U	NR
1	PBDE 47				326	0d		0.036	U	NR
1	PBDE 66				326	0d		0.024	U	NR
1	PBDE 100	8.50	0.23	0.02	404	10608m	29.07	7.08		
1	PBDE 99	8.58	0.21	0.02	404	9754m	22.80	5.55		
1	PBDE 85	8.73	0.15	0.01	404	10193m	24.59	5.99		
1	PBDE 154	8.81	0.13	0.01	484	9083m	21.73	5.29		
1	PBDE 153	8.94	0.11	0.01	484	10091m	24.46	5.96		
1	PBDE 138	9.12	0.09	0.00	484	10601m	28.12	6.85		
1	PBDE 128	9.31	0.06	0.00	484	10845m	28.92	7.04		
1	PBDE 183	9.34	0.07	0.00	562	6696	20.71	5.04		
1	PBDE 190	9.61	0.07	0.00	562	4628m	16.45	4.01		
1	PBDE 203	9.94	0.07	0.00	642	2629	9.38	2.28		
1	PBDE 206				719	0d		0.038	U	
1	PBDE 209				799	0d		0.032	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\062414\0624F023.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:51	**Quant Date:**	06/25/2014 09:40	**Vial:**	7
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1405686-1 -- K1405833-001MS			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.332 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:32 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

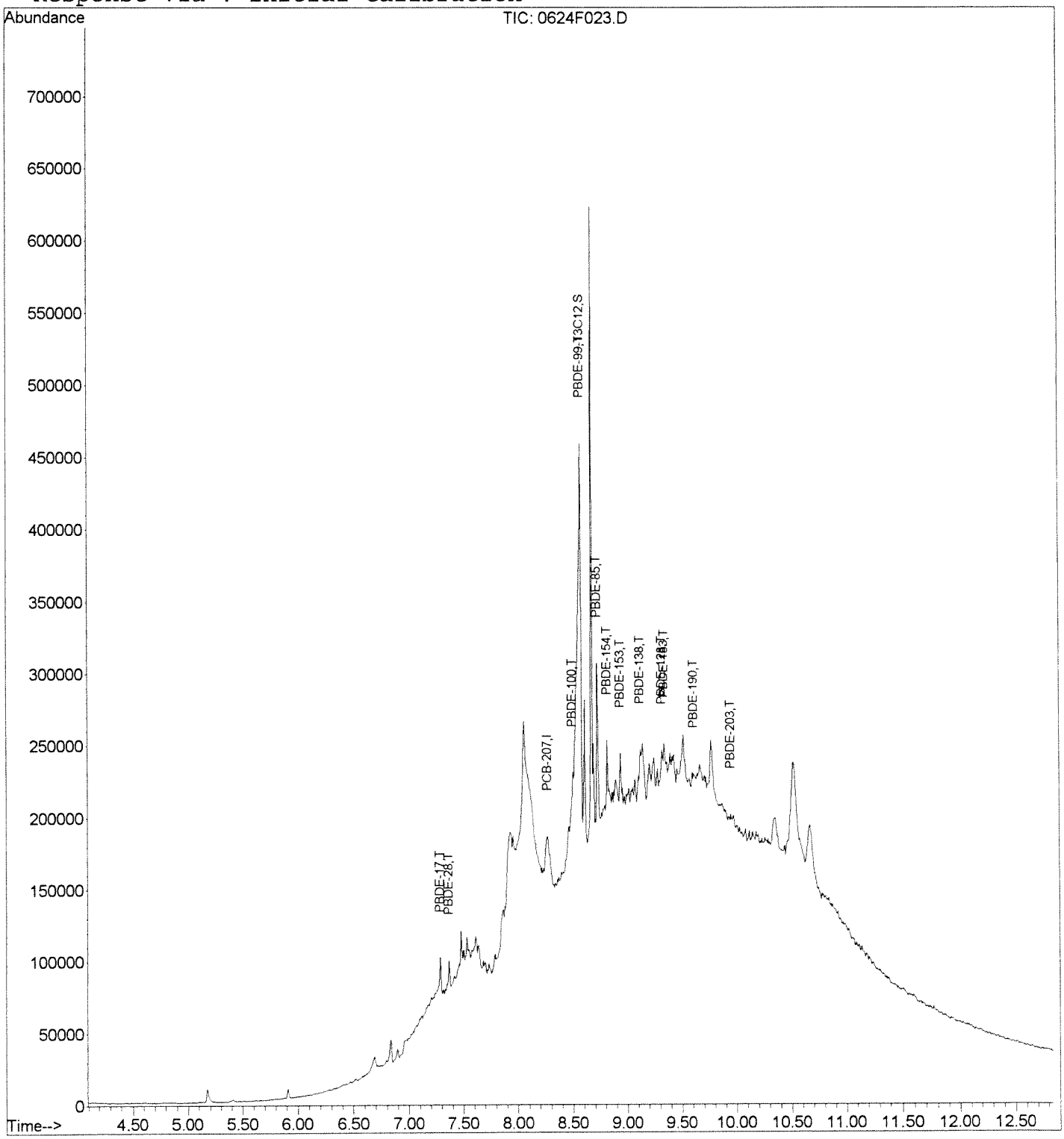
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.27	464	42217	50.00	ng/ml	0.05
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	8.58	418	7449m	19.27	ng/ml	0.20
Spiked Amount 25.000			Recovery =	77.08%		
Target Compounds						Qvalue
2) PBDE-17	7.29	246	9842	19.44	ng/ml	70
3) PBDE-28	7.36	246	5803	11.79	ng/ml	66
8) PBDE-100	8.50	404	10608m	29.07	ng/ml	
10) PBDE-99	8.58	404	9754m	22.80	ng/ml	
11) PBDE-85	8.73	404	10193m	24.59	ng/ml	
12) PBDE-154	8.81	484	9083m	21.73	ng/ml	
13) PBDE-153	8.94	484	10091m	24.46	ng/ml	
14) PBDE-138	9.12	484	10601m	28.12	ng/ml	
15) PBDE-128	9.31	484	10845m	28.92	ng/ml	
16) PBDE-183	9.34	562	6696	20.71	ng/ml	96
17) PBDE-190	9.61	562	4628m	16.45	ng/ml	
18) PBDE-203	9.94	642	2629	9.38	ng/ml	95

(#) = qualifier out of range (m) = manual integration
0624F023.D BDE062414.M Wed Jun 25 09:46:46 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:40 2014 Quant Results File: BDE062414.RE

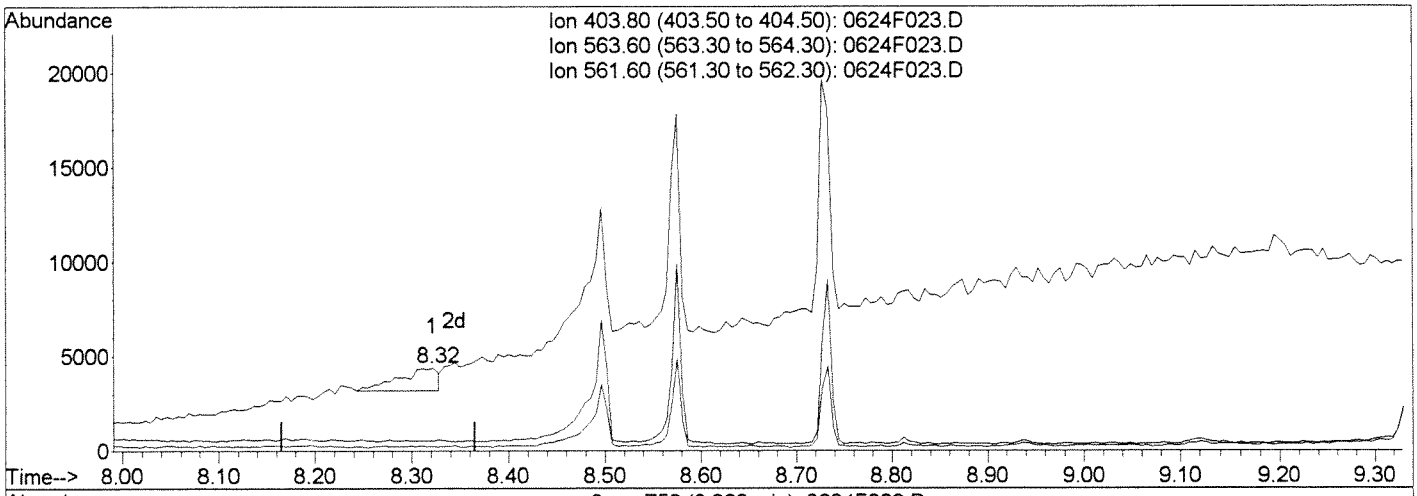
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration

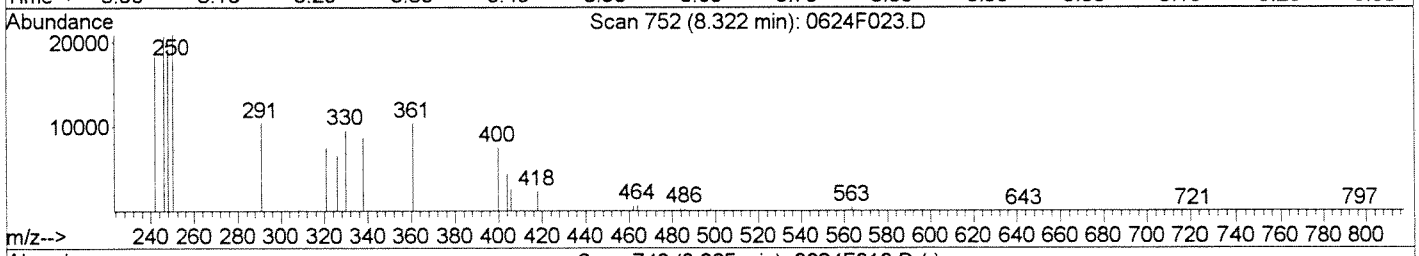


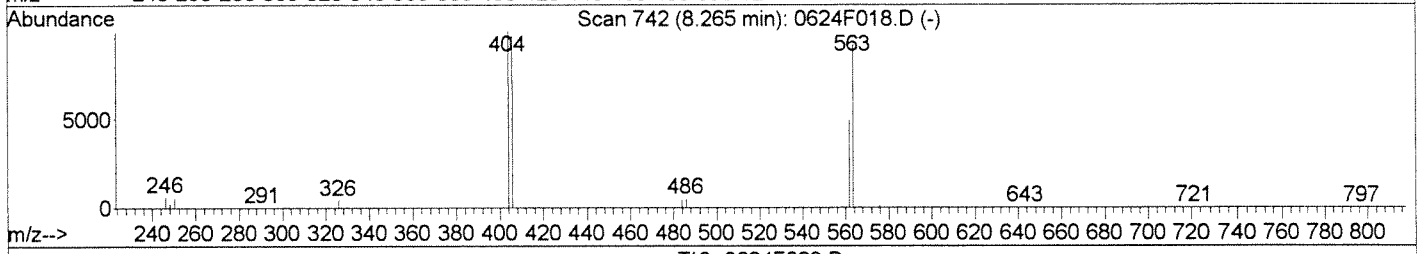
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(8) PBDE-100 (T)

8.32min 9.35ng/ml

response 3410

Ion	Exp%	Act%
403.80	100	100
563.60	82.80	0.00#
561.60	41.20	0.92#
0.00	0.00	0.00

Manual Integration:

Before

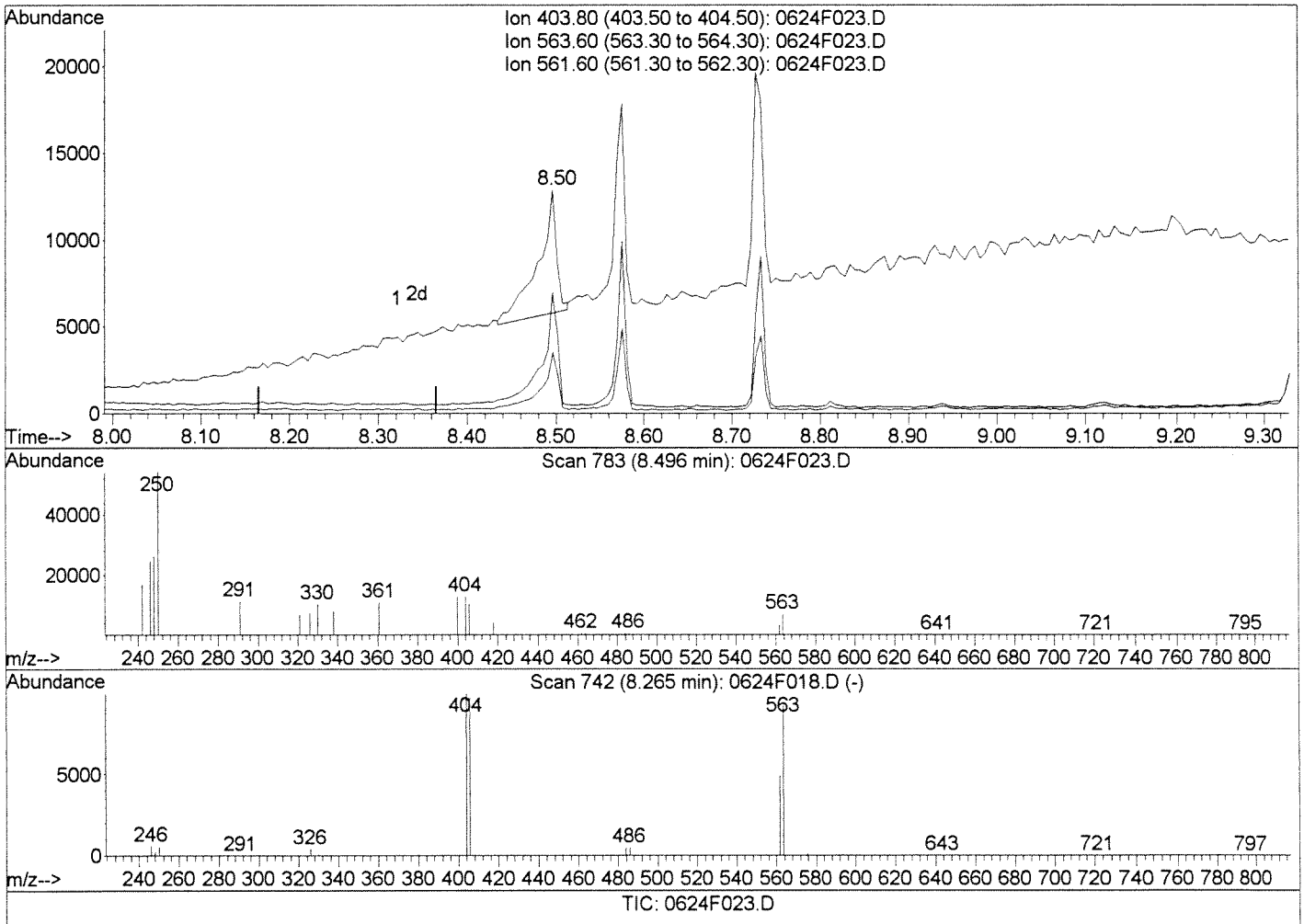
06/25/14

0624F023.D BDE062414.M Wed Jun 25 09:35:50 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F023.D

(8) PBDE-100 (T)

8.50min 29.07ng/ml m

response 10608

Ion	Exp%	Act%
403.80	100	100
563.60	82.80	54.02
561.60	41.20	27.43
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

GA

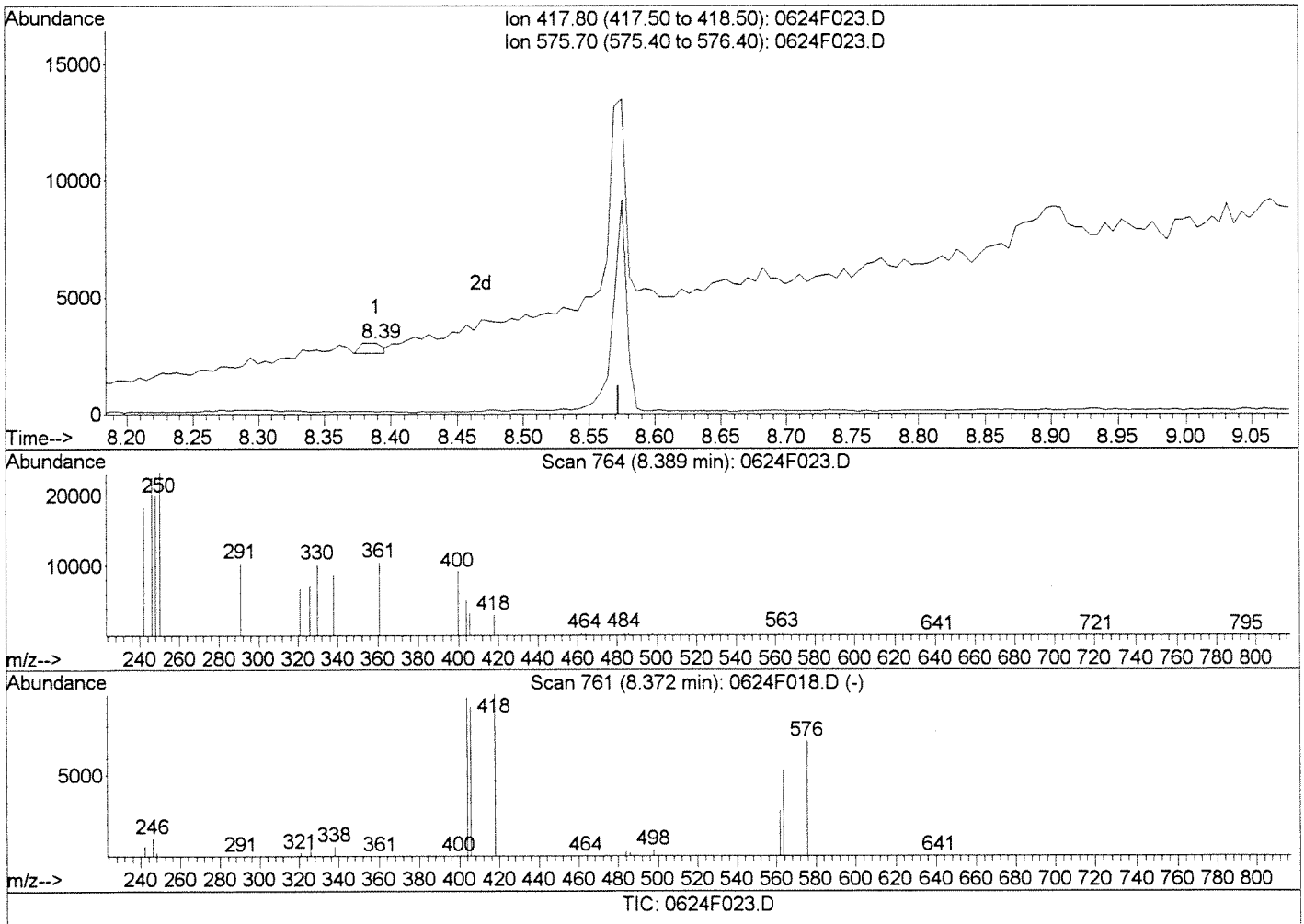
6/29/14

0624F023.D BDE062414.M Wed Jun 25 09:36:03 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F023.D

(9) PBDE-99-13C12 (S)

8.39min 1.34ng/ml

response 517

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CAA

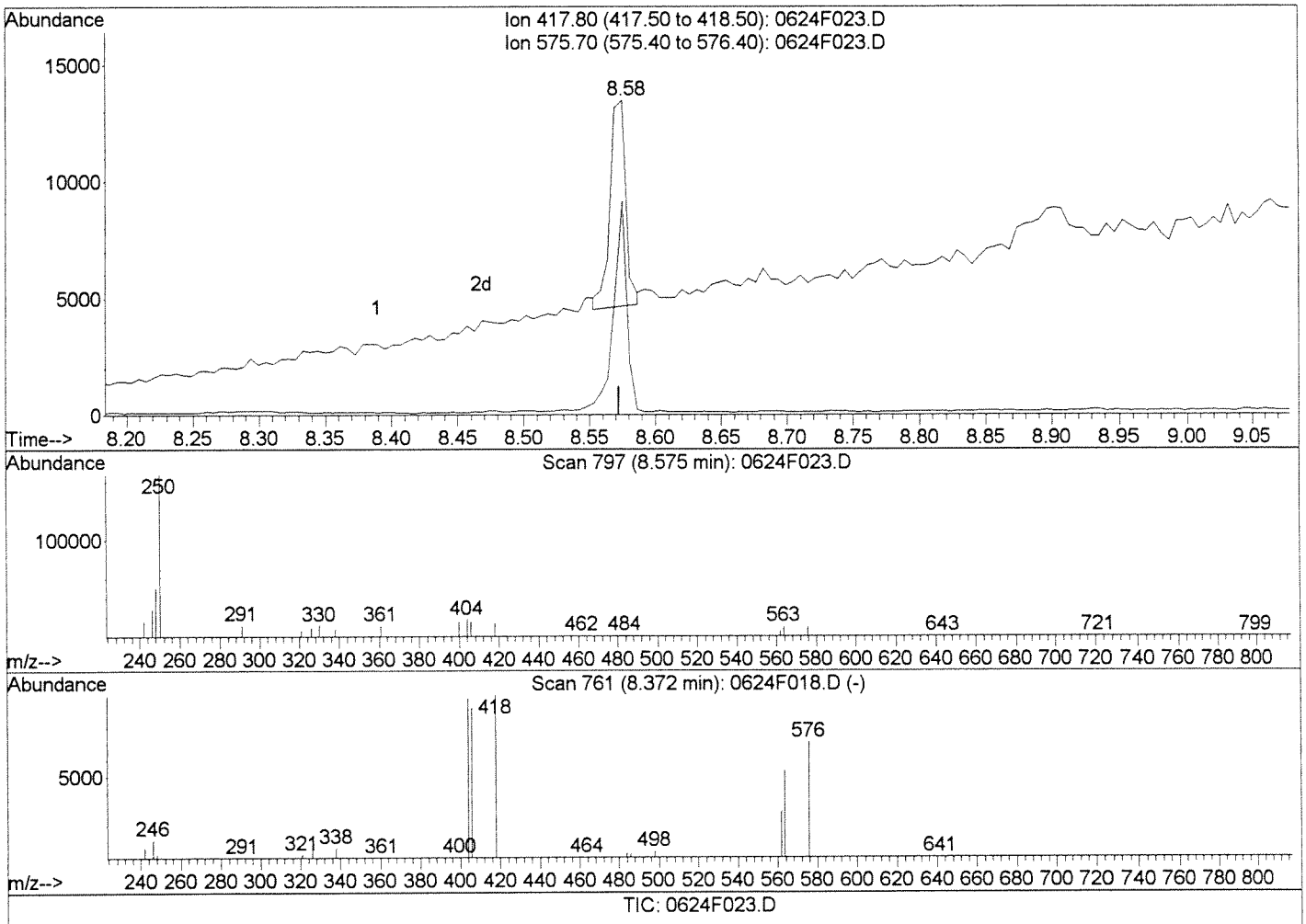
0624F023.D BDE062414.M Wed Jun 25 09:36:07 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F023.D

(9) PBDE-99-13C12 (S)

8.58min 19.27ng/ml m

response 7449

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	67.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

CHart
9

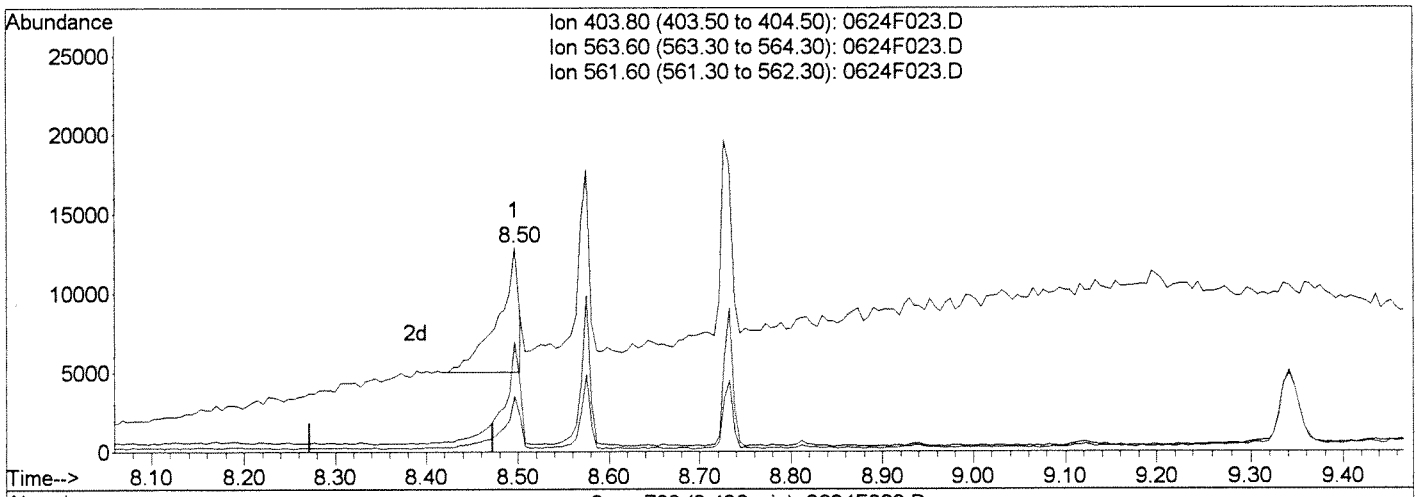
0624F023.D BDE062414.M Wed Jun 25 09:36:17 2014

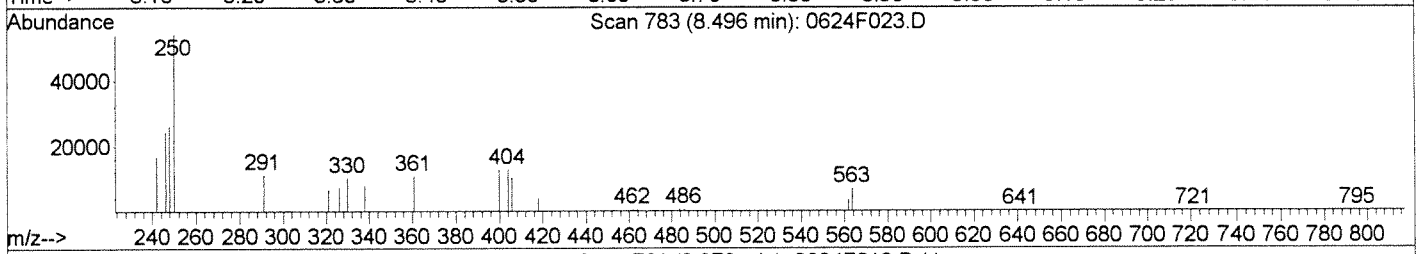
Quantitation Report (Qedit)

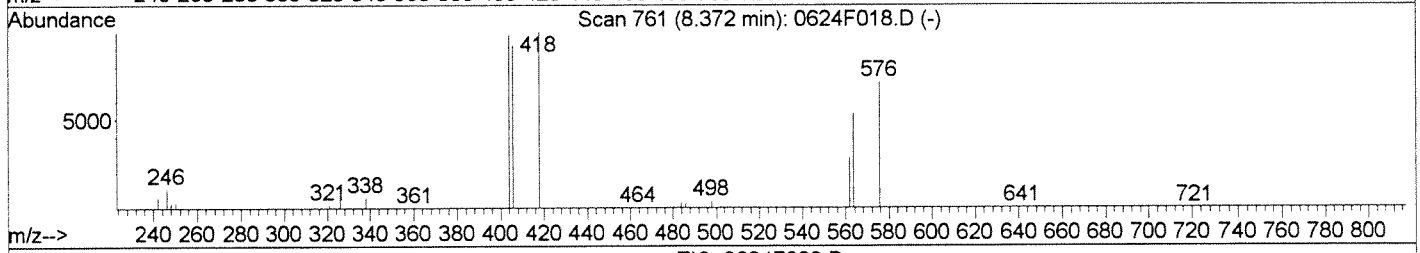
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(10) PBDE-99 (T)

8.50min 28.84ng/ml

response 12336

Ion	Exp%	Act%
403.80	100	100
563.60	52.30	79.97
561.60	26.40	41.29
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

GA

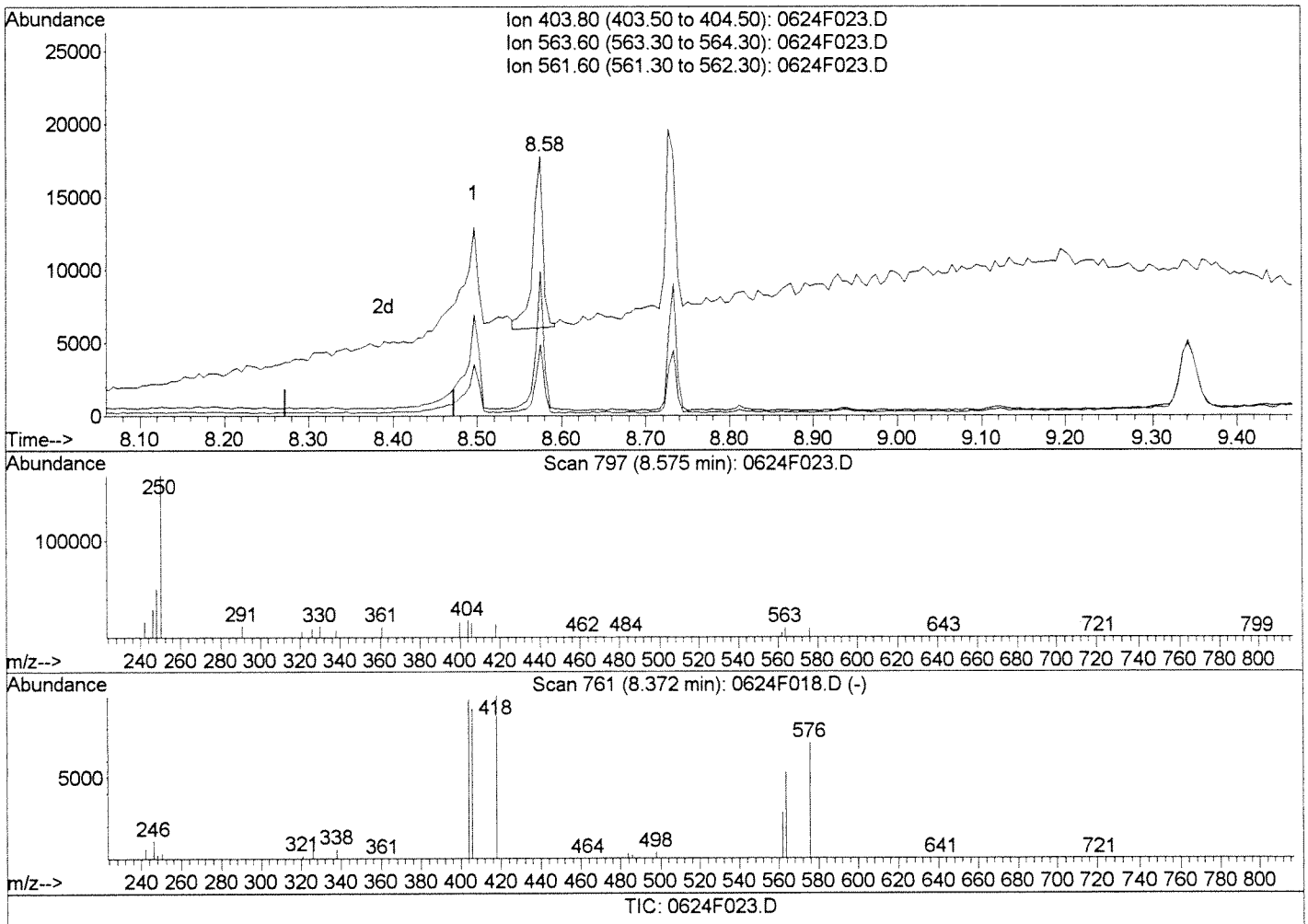
6/25/14

0624F023.D BDE062414.M Wed Jun 25 09:36:21 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F023.D

(10) PBDE-99 (T)

8.58min 22.80ng/ml m

response 9754

Ion	Exp%	Act%
403.80	100	100
563.60	52.30	55.58
561.60	26.40	27.45
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

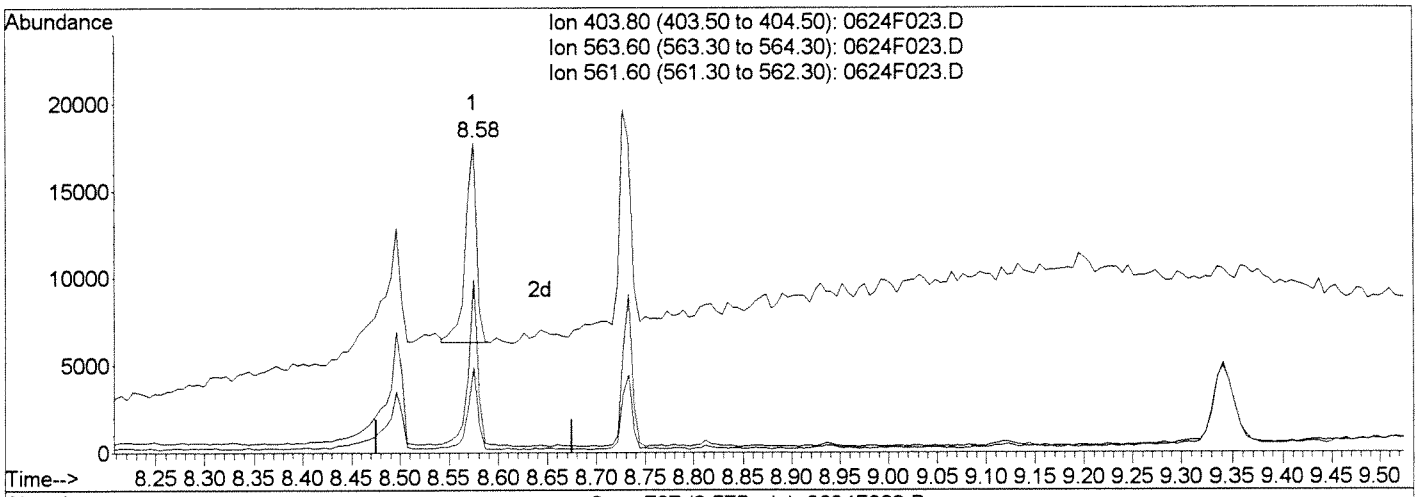
0624F023.D BDE062414.M Wed Jun 25 09:36:34 2014

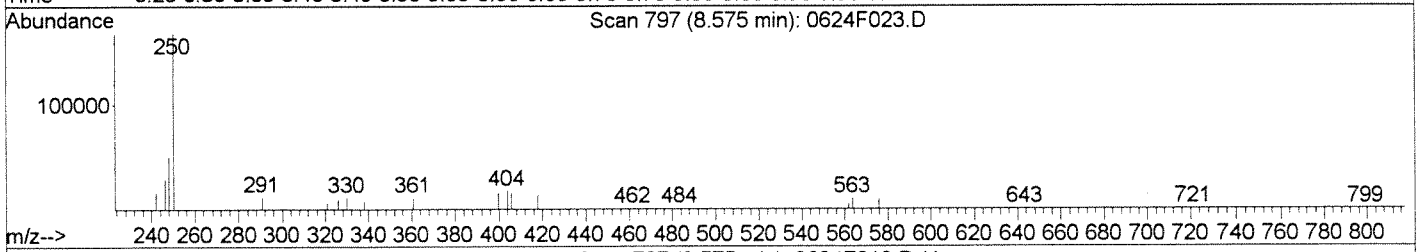
Quantitation Report (Qedit)

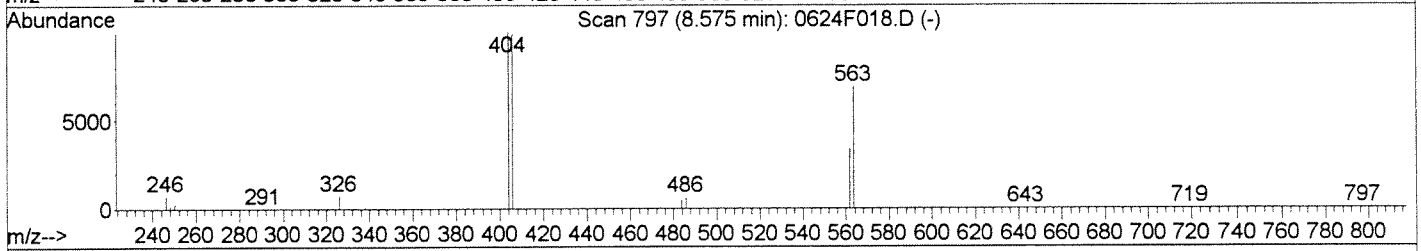
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(11) PBDE-85 (T)

8.58min 21.28ng/ml

response 8823

Ion	Exp%	Act%
403.80	100	100
563.60	63.90	81.99
561.60	32.60	40.64
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

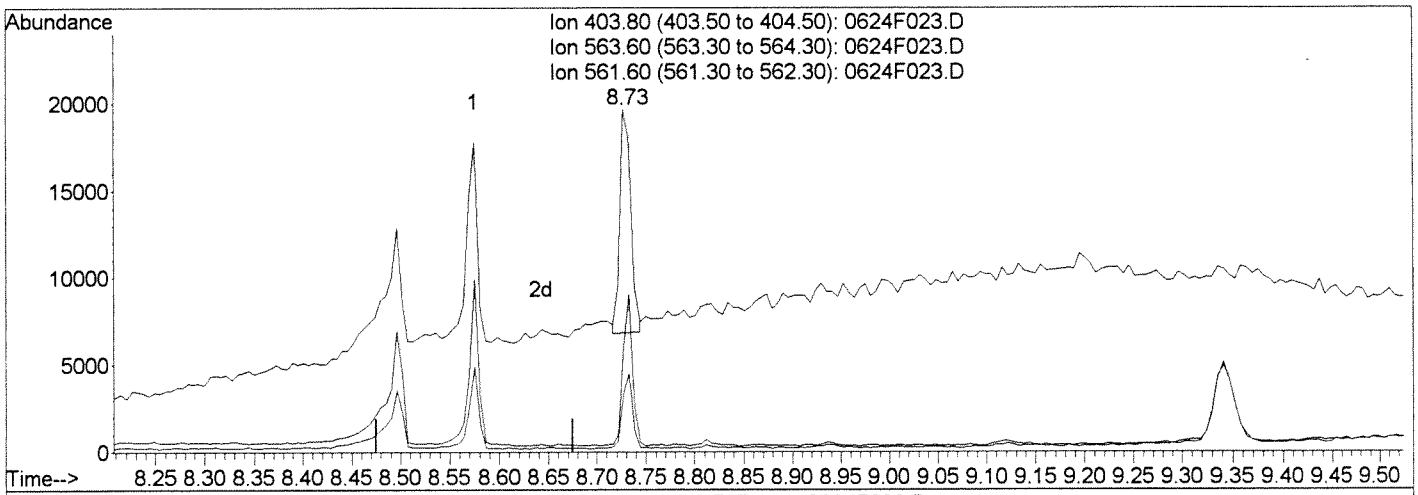
0624F023.D BDE062414.M Wed Jun 25 09:36:39 2014

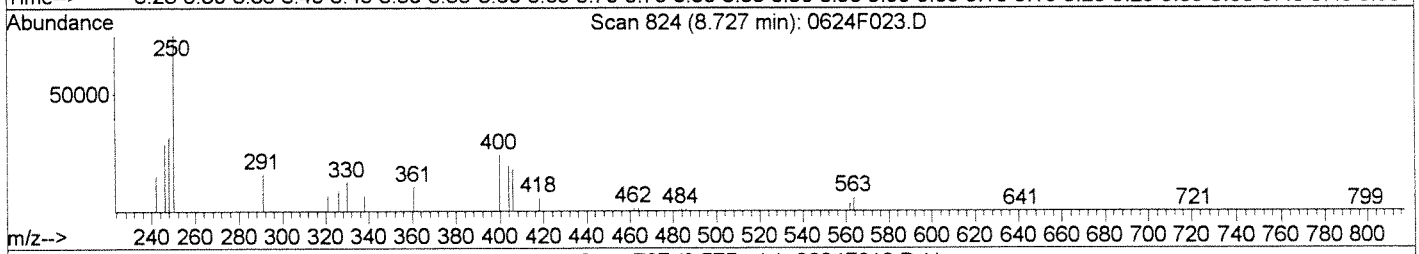
Quantitation Report (Qedit)

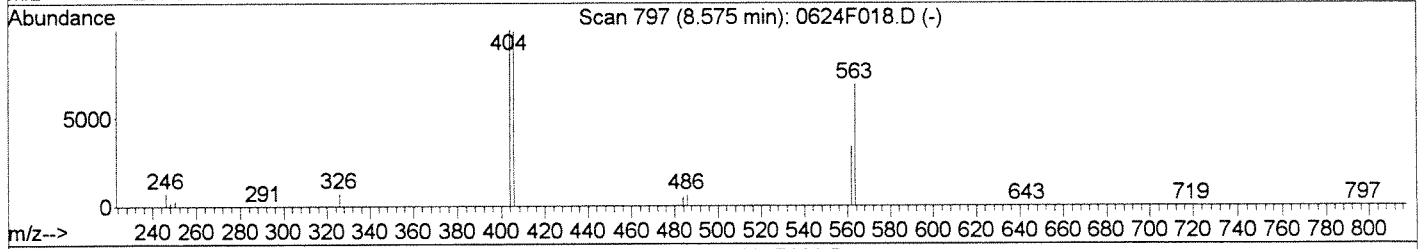
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(11) PBDE-85 (T)
8.73min 24.59ng/ml m
response 10193

Ion	Exp%	Act%
403.80	100	100
563.60	63.90	30.33#
561.60	32.60	17.26
0.00	0.00	0.00

Manual Integration:
After
WP
06/25/14

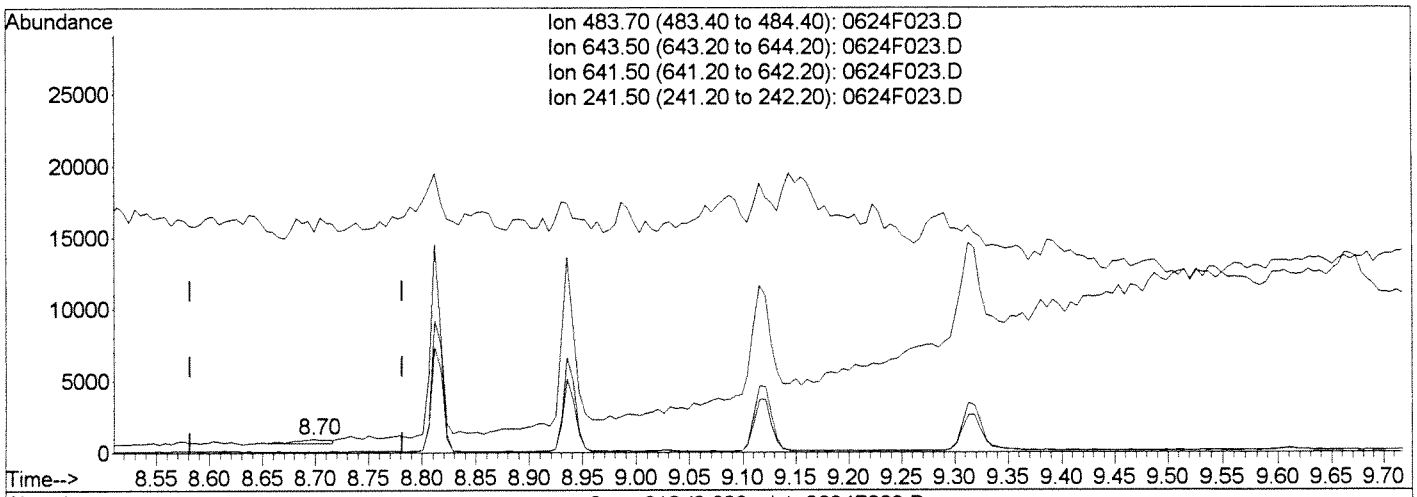
0624F023.D BDE062414.M Wed Jun 25 09:36:45 2014

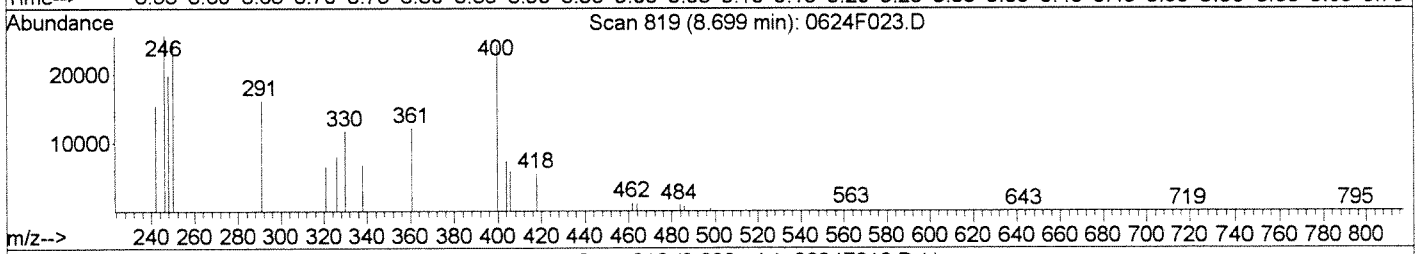
Quantitation Report (Qedit)

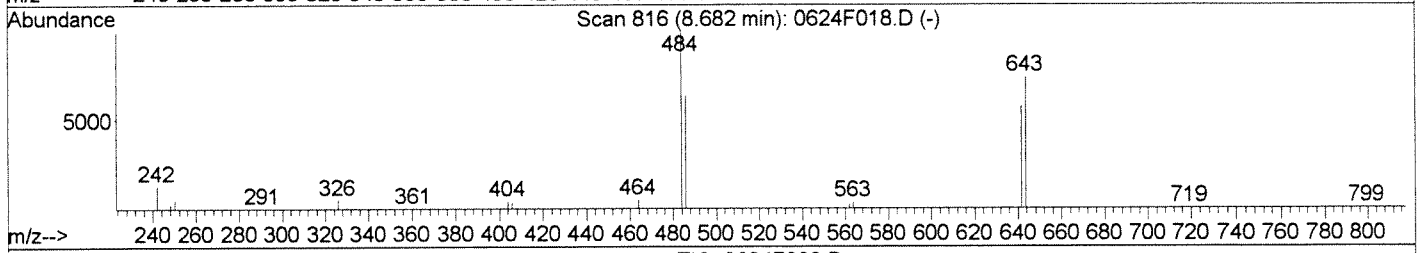
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(12) PBDE-154 (T)

8.70min 1.47ng/ml

response 616

Ion	Exp%	Act%
483.70	100	100
643.50	78.90	3.91#
641.50	60.90	2.14#
241.50	14.40	0.00

Manual Integration:

Before

06/25/14

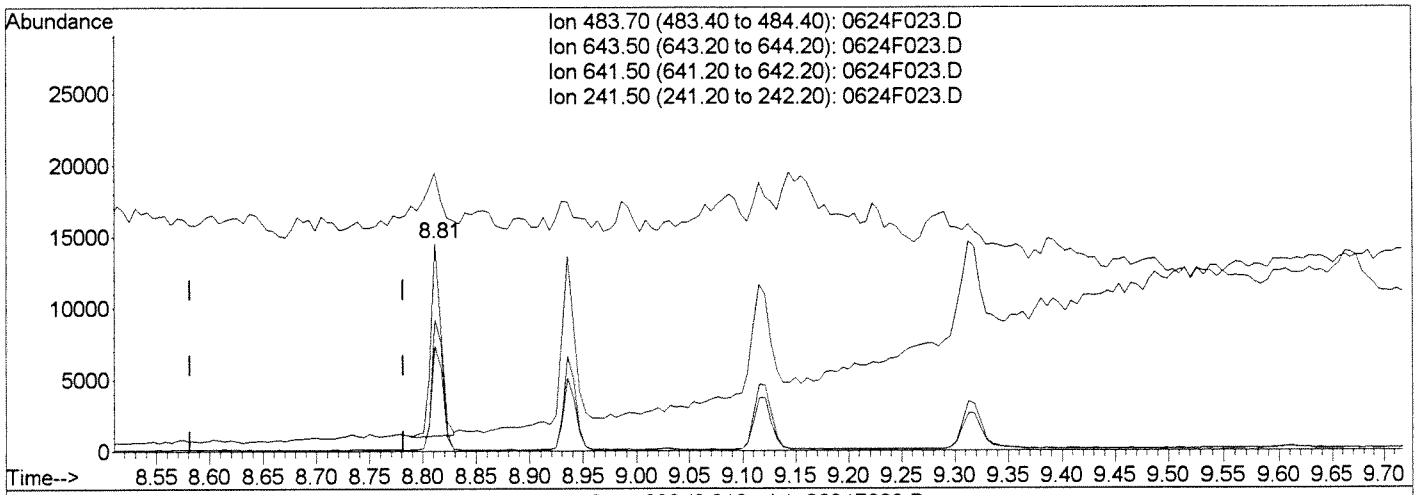
0624F023.D BDE062414.M Wed Jun 25 09:36:50 2014

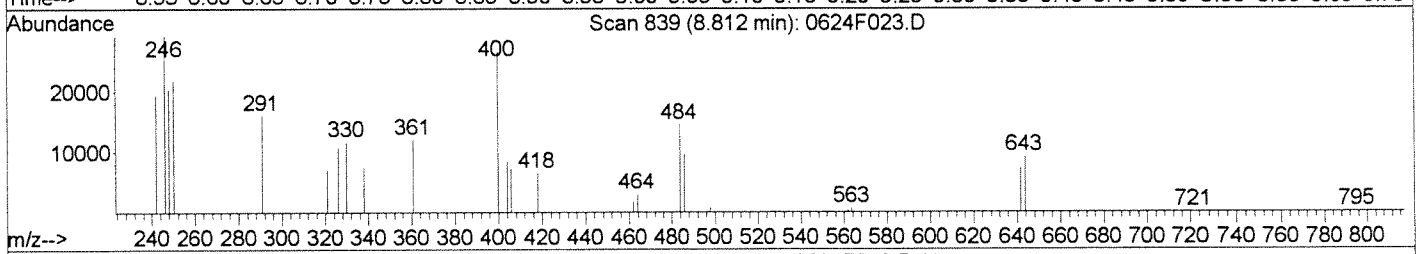
Quantitation Report (Qedit)

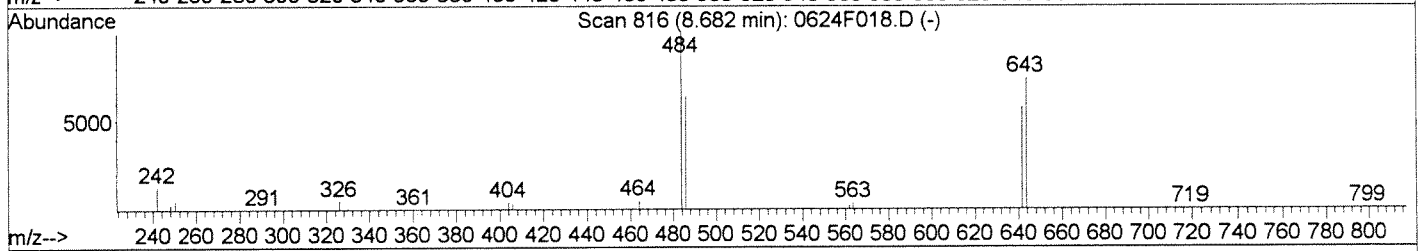
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(12) PBDE-154 (T)

8.81min 21.73ng/ml m

response 9083

Ion	Exp%	Act%
483.70	100	100
643.50	78.90	63.26
641.50	60.90	50.61
241.50	14.40	134.11#

Manual Integration:

After

WP

06/25/14

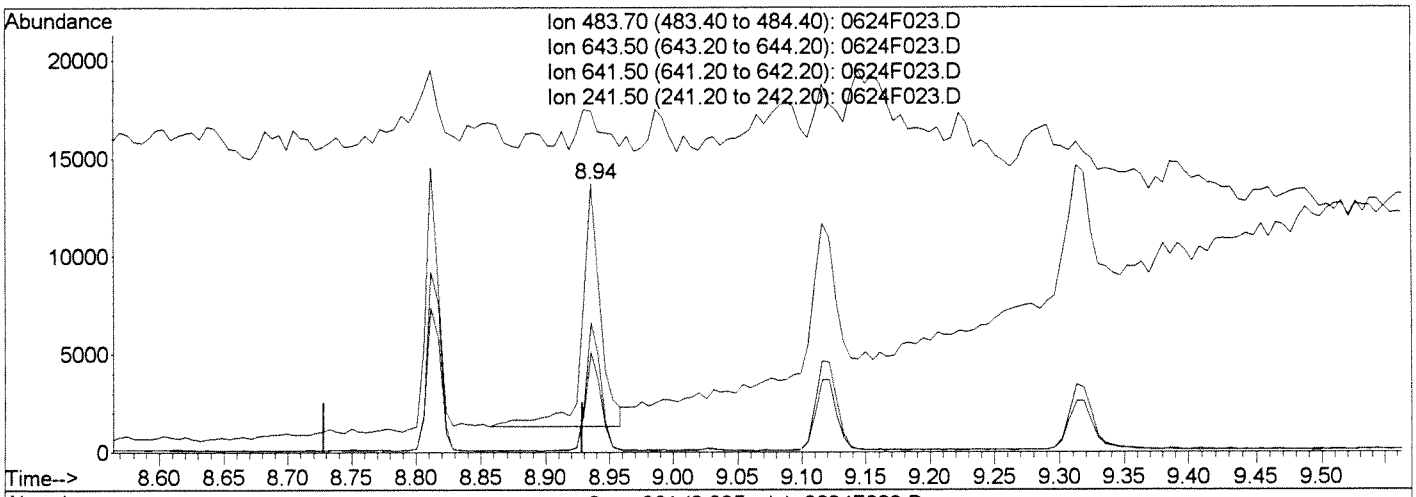
0624F023.D BDE062414.M Wed Jun 25 09:36:56 2014

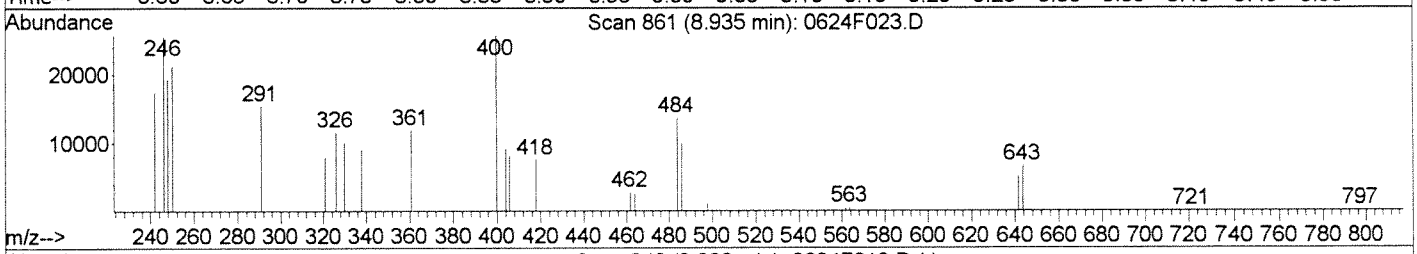
Quantitation Report (Qedit)

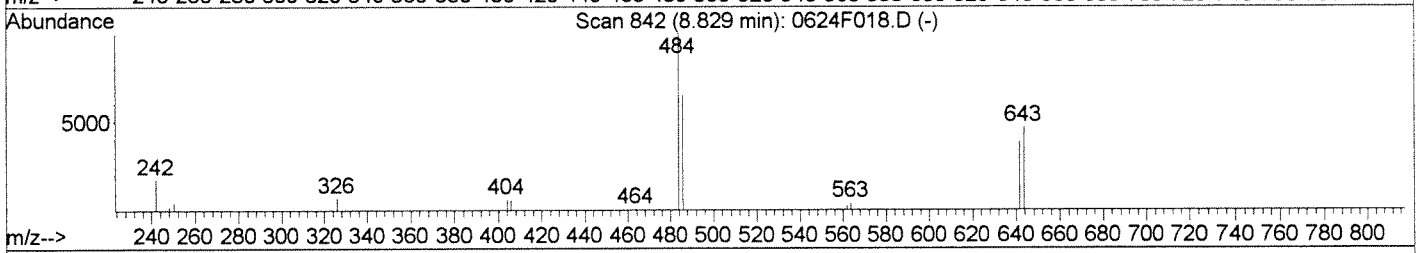
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:36 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(13) PBDE-153 (T)

8.94min 30.62ng/ml

response 12634

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	52.87
641.50	42.90	40.53
241.50	15.50	14.70

Manual Integration:

Before

06/25/14

CA

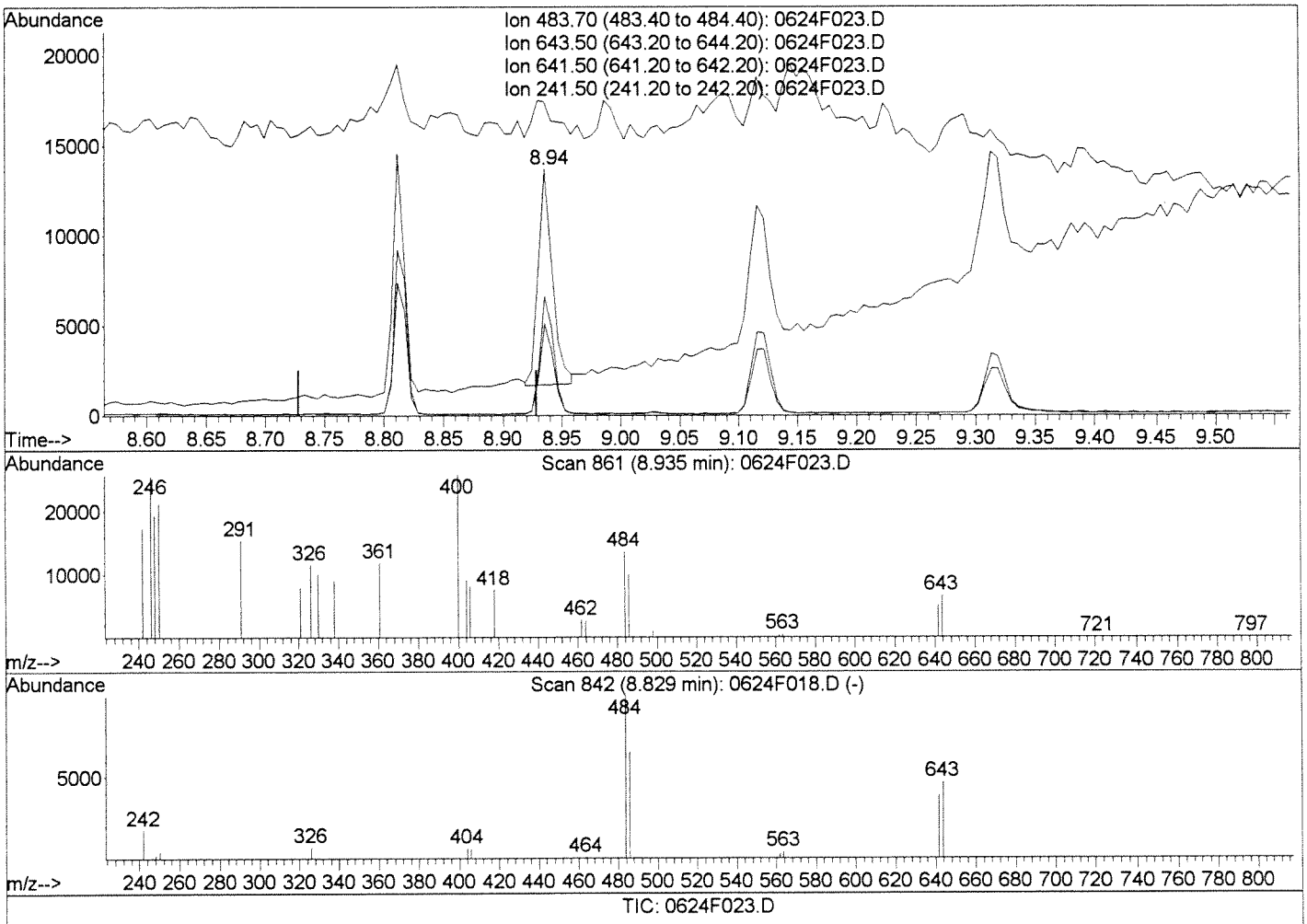
0624F023.D BDE062414.M Wed Jun 25 09:37:01 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F023.D

(13) PBDE-153 (T)

8.94min 24.46ng/ml m

response 10091

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	48.49
641.50	42.90	37.43
241.50	15.50	127.35#

Manual Integration:

After

BLC

06/25/14

CAA

6/29/14

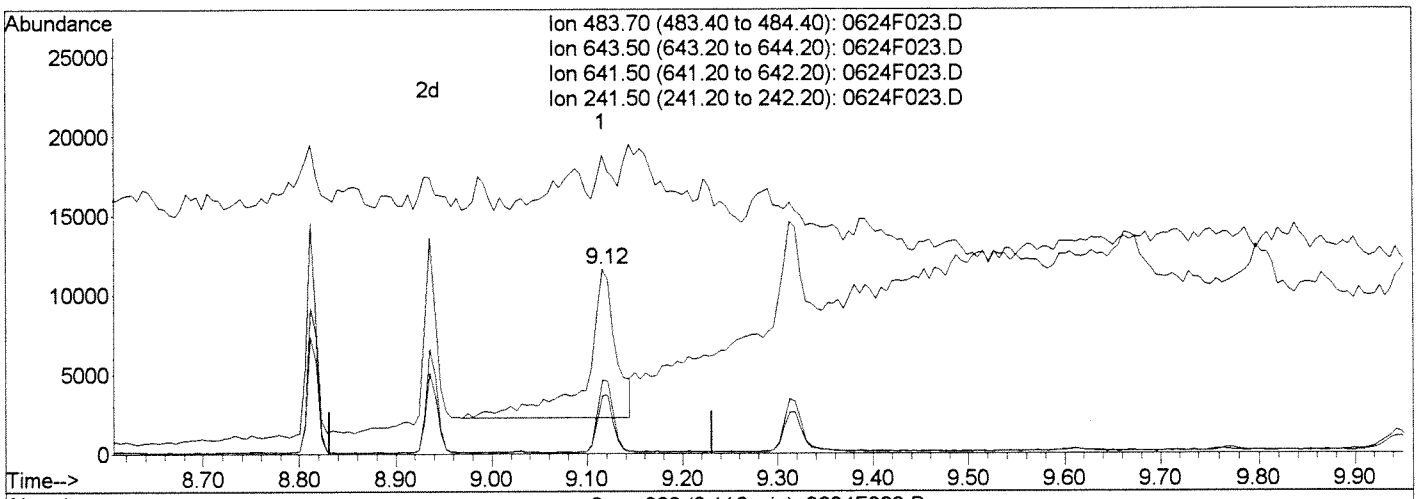
0624F023.D BDE062414.M Wed Jun 25 09:37:06 2014

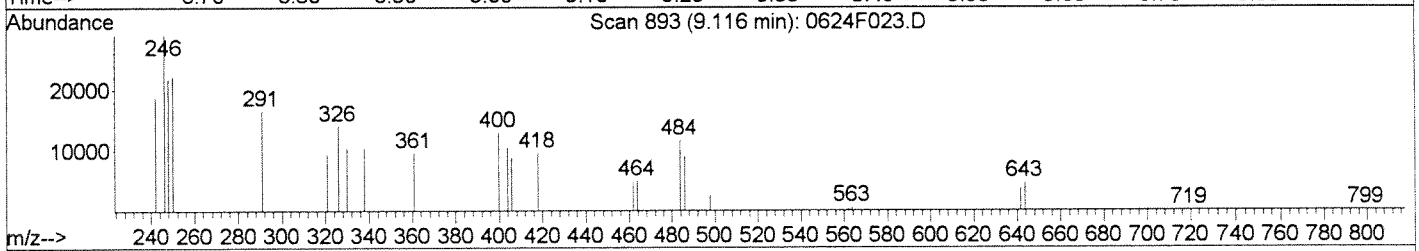
Quantitation Report (Qedit)

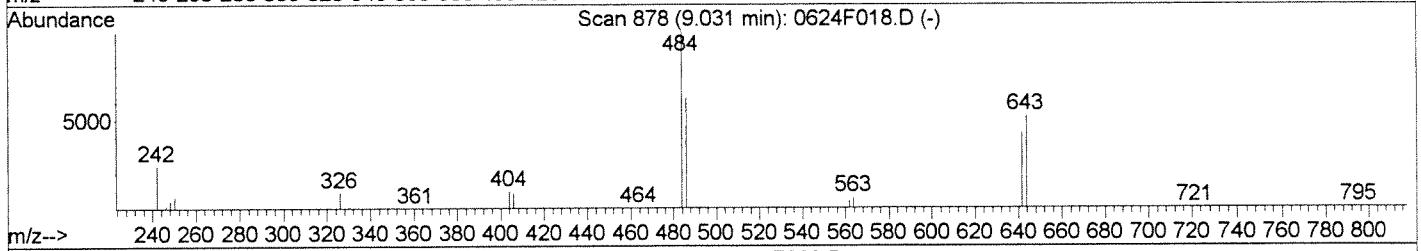
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(14) PBDE-138 (T)

9.12min 54.20ng/ml

response 20436

Ion	Exp%	Act%
483.70	100	100
643.50	71.80	48.22
641.50	54.70	37.78
241.50	11.10	36.63

Manual Integration:

Before

06/25/14

CAA

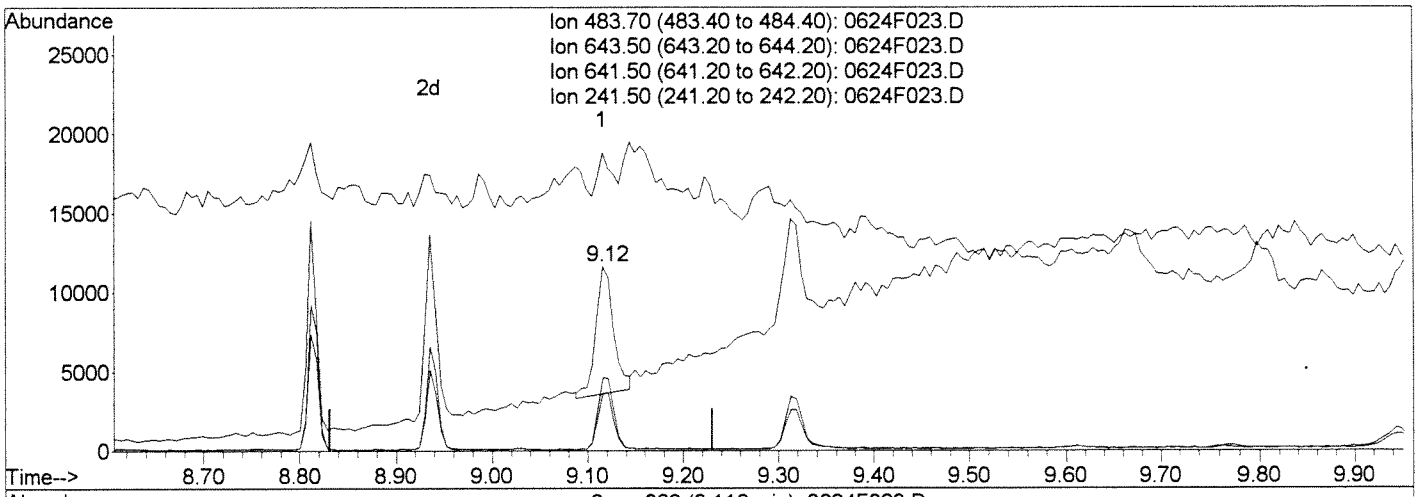
6/25/14

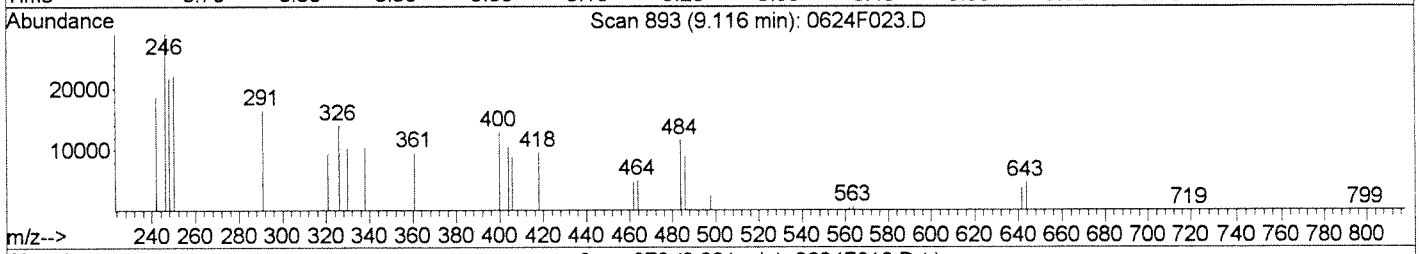
0624F023.D BDE062414.M Wed Jun 25 09:37:09 2014

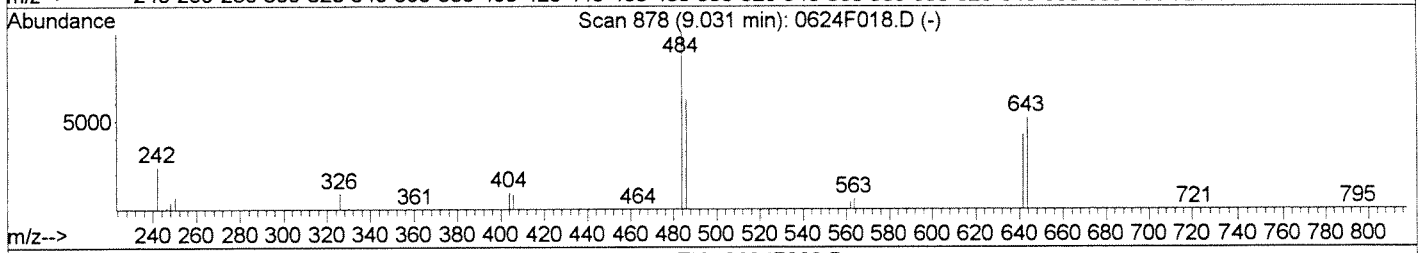
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(14) PBDE-138 (T)

9.12min 28.12ng/ml m

response 10601

Ion	Exp%	Act%
483.70	100	100
643.50	71.80	39.77#
641.50	54.70	31.42
241.50	11.10	161.19#

Manual Integration:
After
IC-Overintegrated
06/25/14

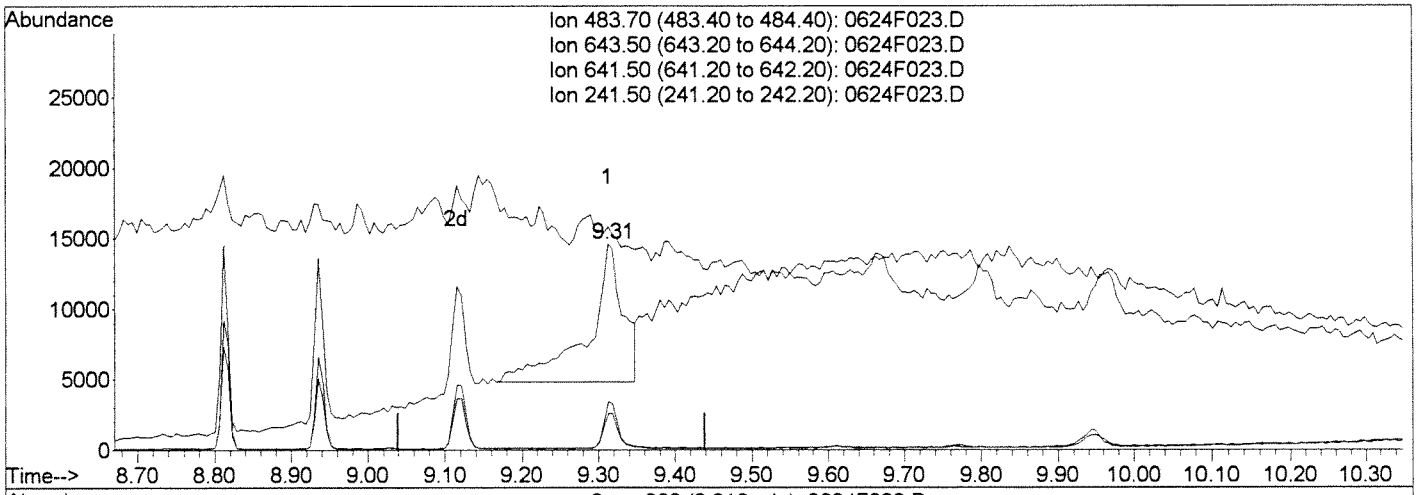
0624F023.D BDE062414.M Wed Jun 25 09:37:15 2014

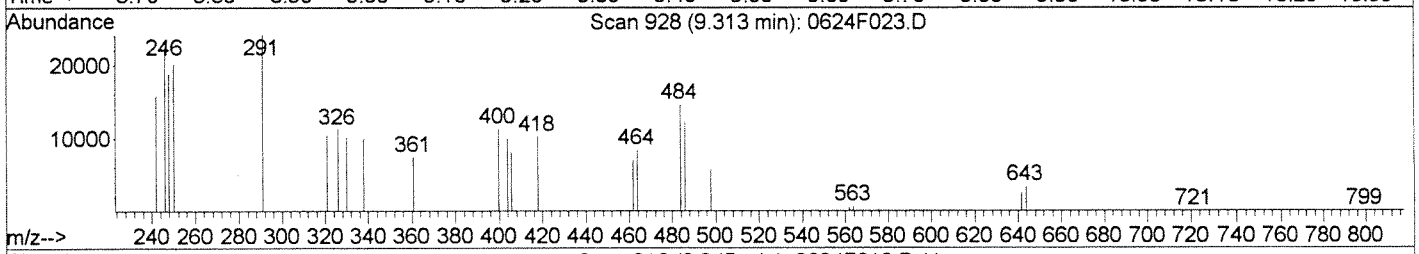
Quantitation Report (Qedit)

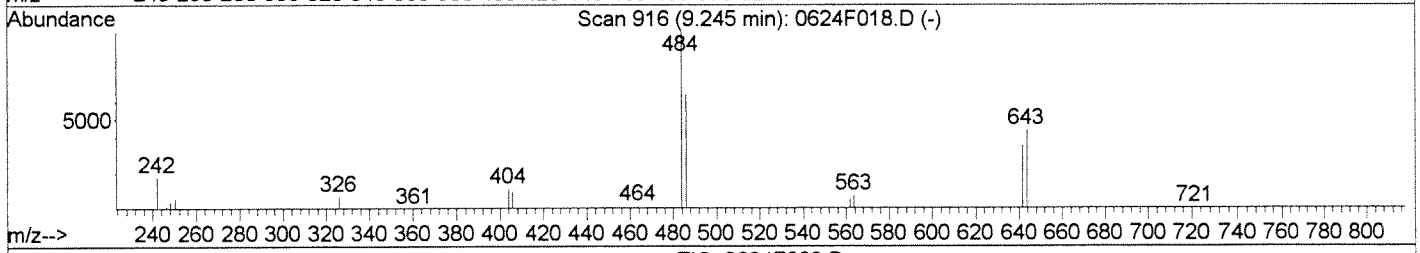
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(15) PBDE-128 (T)

9.31min 84.28ng/ml

response 31607

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	33.87
641.50	37.50	25.40
241.50	12.60	16.30

Manual Integration:

Before

06/25/14

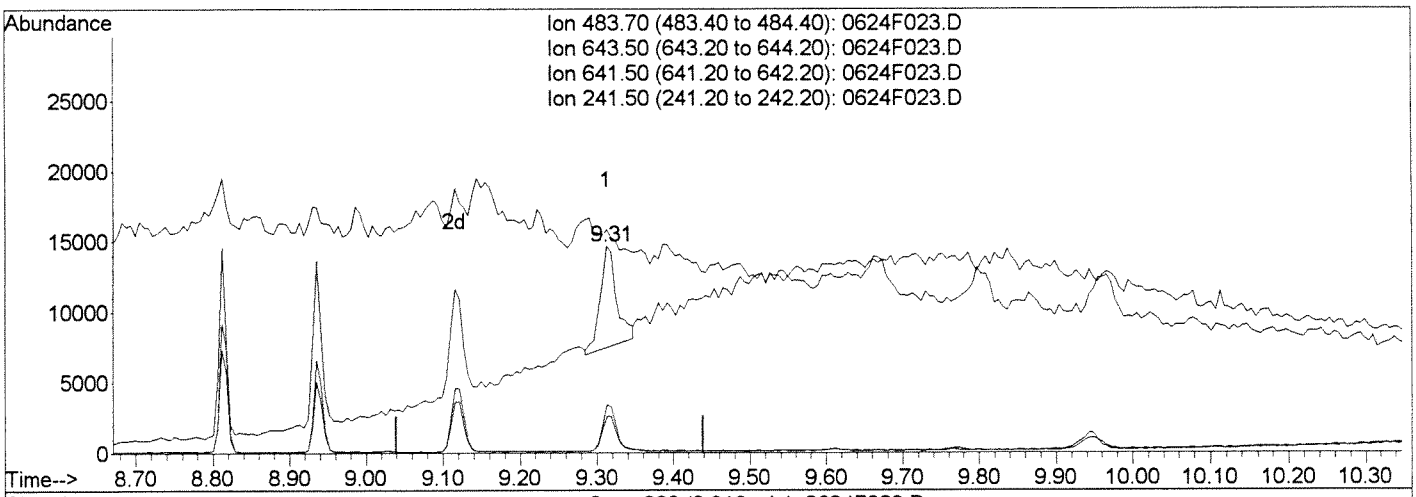
0624F023.D BDE062414.M Wed Jun 25 09:37:19 2014

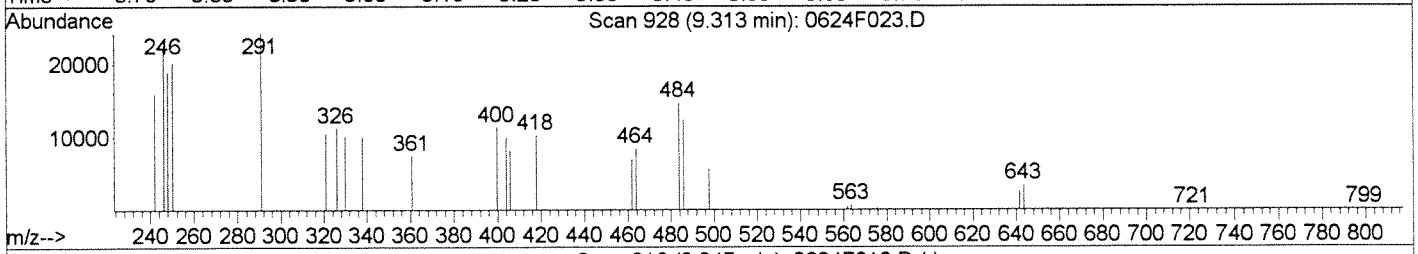
Quantitation Report (Qedit)

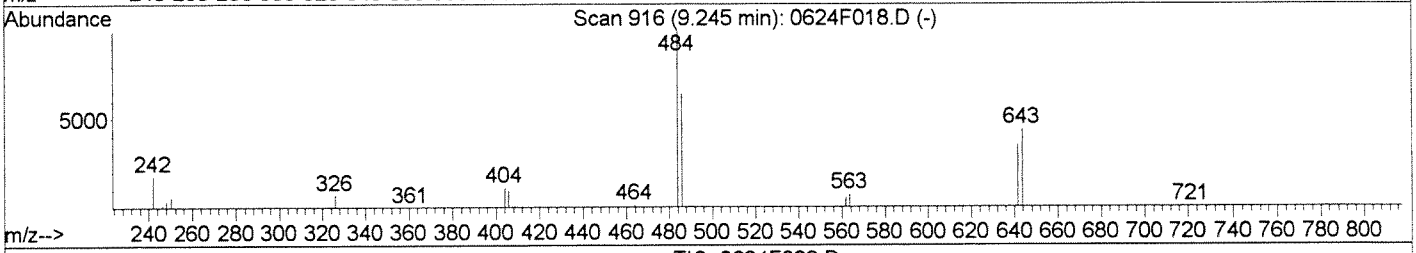
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(15) PBDE-128 (T)

9.31min 28.92ng/ml m

response 10845

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	23.53
641.50	37.50	17.70
241.50	12.60	108.21#

Manual Integration:

After

IC-Overintegrated

06/25/14

CAA

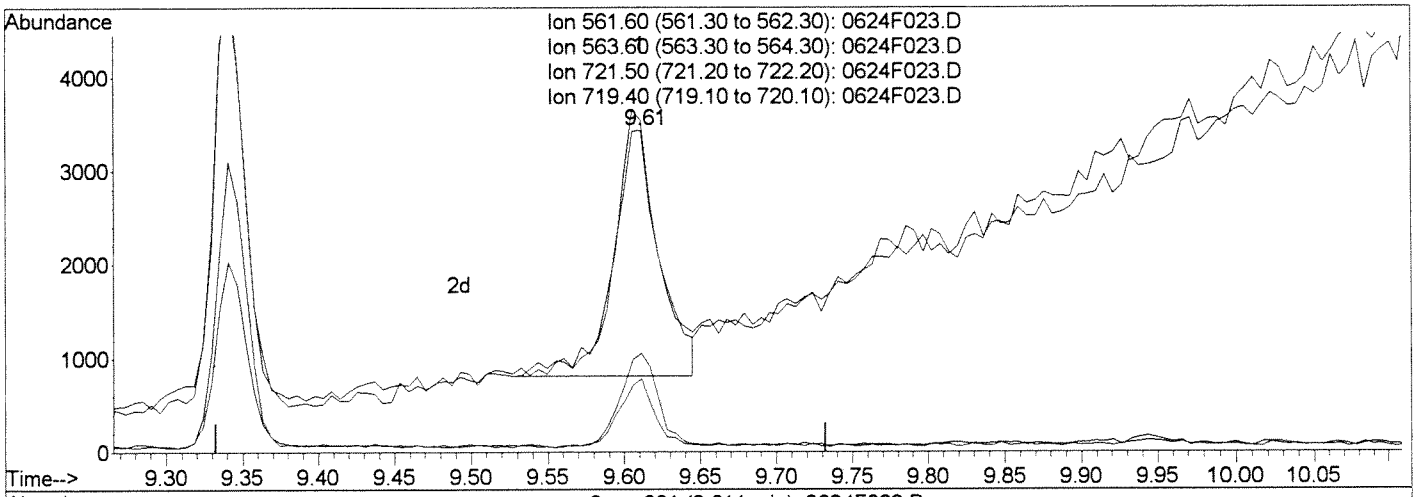
6/25/14

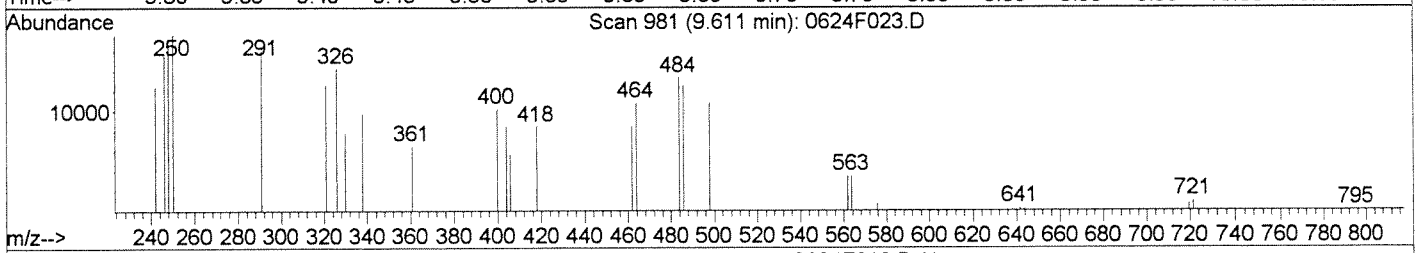
0624F023.D BDE062414.M Wed Jun 25 09:37:24 2014

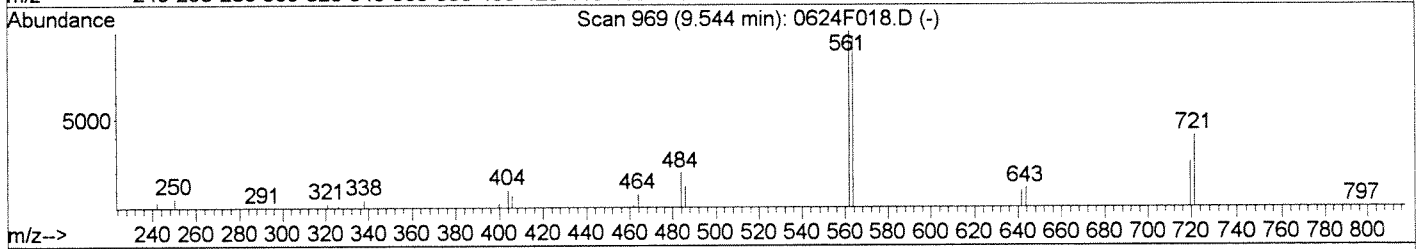
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F023.D Vial: 7
Acq On : 24 Jun 2014 5:51 pm Operator: CHart
Sample : K1405833-001 | MS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(17) PBDE-190 (T)

9.61min 19.63ng/ml

response 5521

Ion	Exp%	Act%
561.60	100	100
563.60	100.00	103.13
721.50	42.20	37.37
719.40	27.40	27.94

Manual Integration:

Before

06/25/14

CAA

6/25/14

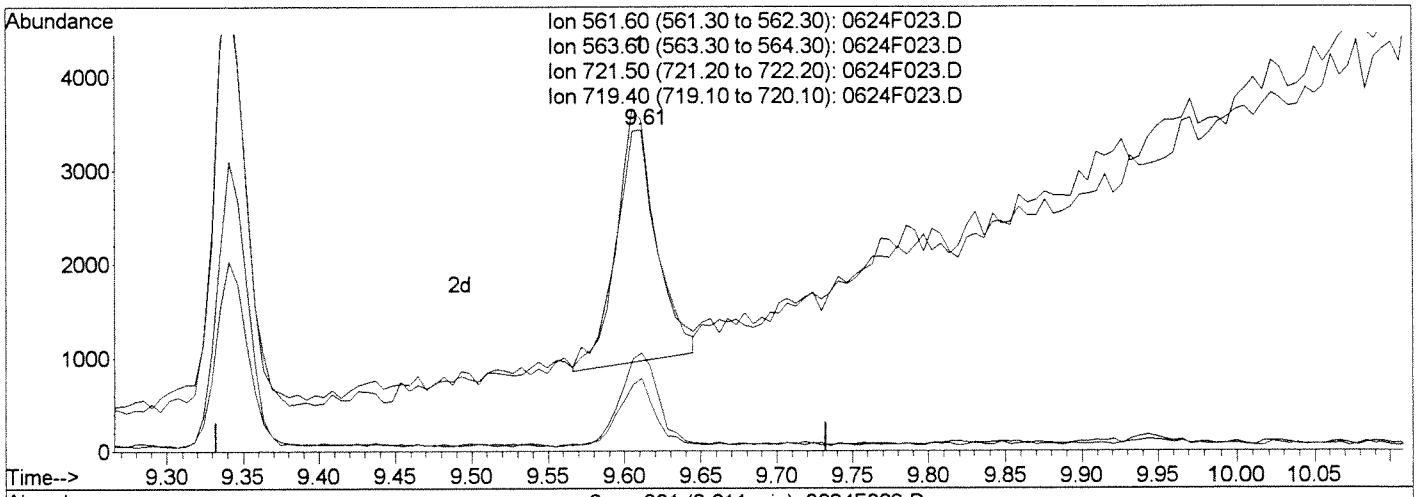
0624F023.D BDE062414.M Wed Jun 25 09:37:30 2014

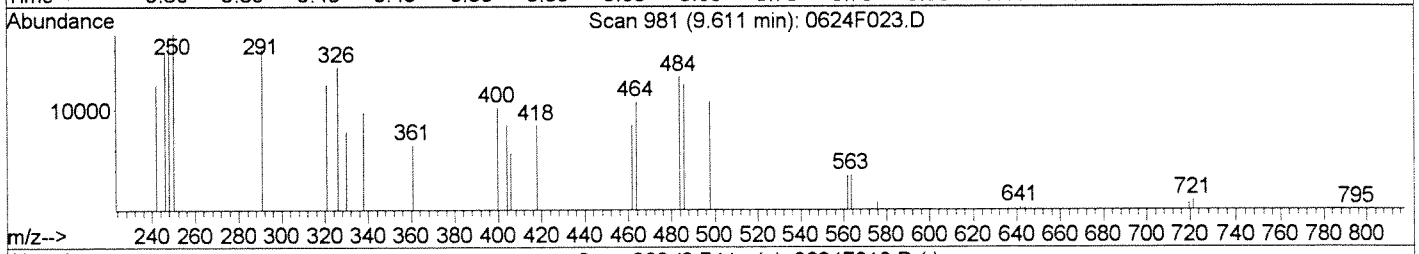
Quantitation Report (Qedit)

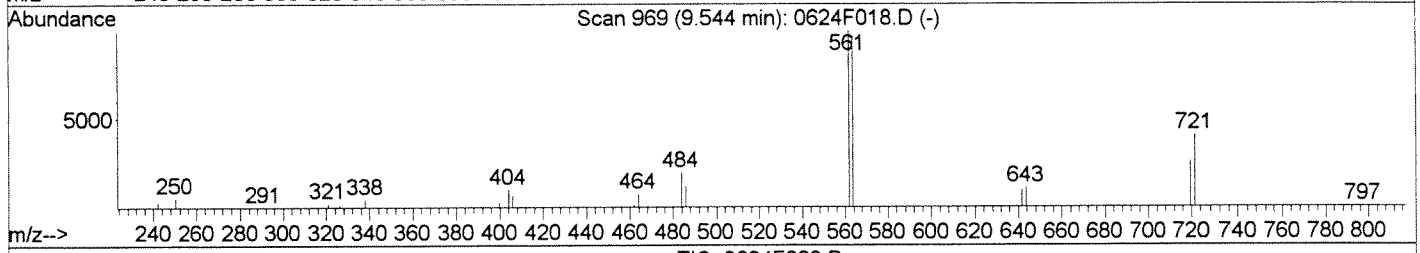
Data File : J:\MS14\DATA\062414\0624F023.D
Acq On : 24 Jun 2014 5:51 pm
Sample : K1405833-001 | MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:37 2014

Vial: 7
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F023.D

(17) PBDE-190 (T)

9.61min 16.45ng/ml m

response 4628

Ion	Exp%	Act%
561.60	100	100
563.60	100.00	103.06
721.50	42.20	30.67
719.40	27.40	22.81

Manual Integration:

After

BLC

06/25/14

CAA

6/29/14

0624F023.D BDE062414.M Wed Jun 25 09:37:35 2014

Exception Report

Data File: J:\MS14\DATA\062514\0625F004.D
Lab ID: KWG1405686-1 -- K1405833-001MS
RunType: MS
Matrix: SOIL

Date Acquired: 06/25/2014 11:23
Date Quantitated: 06/25/2014 11:53
Batch ID: KWG1406653
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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		x

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 209	-24.6	NA	20	Ok. <40%.

Primary Review: JUN 25 2014

Secondary Review: 6/25/14

Printed: 06/25/2014 12:18:40
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062514\0625F004.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 11:23	**Quant Date:**	06/25/2014 11:53	**Vial:**	4
Run Type:	MS			**Dilution:**	10.0
Lab ID:	KWG1405686-1 -- K1405833-001MS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406653	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347926	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M			**Calibration ID:**	CAL13399
Title:					
Tune Ref:	J:\MS14\DATA\062514\0625F001.D			**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.23	0.00?	464	56989	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.89	0.00	0.00	338	1694**m**	2.67	107	70-130	OK	
1	PBDE 99C13	8.40	0.01	0.00	418	992**m**	1.90	76	70-130	OK	NR

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?
1	PBDE 17	7.27		0.00	246	2216	3.02	7.35	D	NR
1	PBDE 28	7.35		0.00	246	1663	2.39	5.82	D	NR
1	PBDE 71	7.83		0.00	326	2162	2.35	5.72	D	
1	PBDE 47	7.89		0.00	326	1729	2.49	6.06	D	
1	PBDE 66	7.97	0.01	0.00	326	1968	2.46	5.99	D	
1	PBDE 100	8.29	0.01	0.00	404	1324	2.69	6.55	D	NR
1	PBDE 99	8.40	0.01	0.00	404	1112**m**	1.93	4.70	D	NR
1	PBDE 85	8.59		0.00	404	1224**m**	2.19	5.33	D	NR
1	PBDE 154	8.70	0.01	0.00	484	1129**m**	2.00	4.87	D	NR
1	PBDE 153	8.85		0.00	484	1078**m**	1.94	4.72	D	NR
1	PBDE 138	9.04	-0.01	0.00	484	1060**m**	2.08	5.06	D	NR
1	PBDE 128	9.25	-0.01	0.00	484	1256**m**	2.48	6.04	D	NR
1	PBDE 183	9.28	-0.01	0.00	562	774**m**	1.77	4.31	D	NR
1	PBDE 190	9.54	-0.02	0.00	562	797	2.10	5.11	D	NR
1	PBDE 203	9.87	-0.02	0.00	642	506	1.34	3.26	D	NR
1	PBDE 206				719	0**d**		0.38	U	NR
1	PBDE 209				799	0**d**		0.32	U	NR

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\062514\0625F004.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 11:23	**Quant Date:**	06/25/2014 11:53	**Vial:**	4
Run Type:	MS			**Dilution:**	10.0
Lab ID:	KWG1405686-1 -- K1405833-001MS			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.332 g	**Dilution:**	10.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062514\0625F004.D Vial: 4
Acq On : 25 Jun 2014 11:23 am Operator: CHart
Sample : K1405833-001 | MS 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:51:07 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.23	464	56989	50.00	ng/ml	0.01
System Monitoring Compounds						
5) PBDE-47-13C12	7.89	338	1694m	2.67	ng/ml	0.02
Spiked Amount 25.000			Recovery =	10.68%		
9) PBDE-99-13C12	8.40	418	992m	1.90	ng/ml	0.02
Spiked Amount 25.000			Recovery =	7.60%		
Target Compounds						Qvalue
2) PBDE-17	7.27	246	2216	3.02	ng/ml	87
3) PBDE-28	7.35	246	1663	2.39	ng/ml	97
4) PBDE-71	7.83	326	2162	2.35	ng/ml	88
6) PBDE-47	7.89	326	1729	2.49	ng/ml	85
7) PBDE-66	7.97	326	1968	2.46	ng/ml	94
8) PBDE-100	8.29	404	1324	2.69	ng/ml#	62
10) PBDE-99	8.40	404	1112m	1.93	ng/ml	
11) PBDE-85	8.59	404	1224m	2.19	ng/ml	
12) PBDE-154	8.70	484	1129m	2.00	ng/ml	
13) PBDE-153	8.85	484	1078m	1.94	ng/ml	
14) PBDE-138	9.04	484	1060m	2.08	ng/ml	
15) PBDE-128	9.25	484	1256m	2.48	ng/ml	
16) PBDE-183	9.28	562	774m	1.77	ng/ml	
17) PBDE-190	9.54	562	797	2.10	ng/ml	84
18) PBDE-203	9.87	642	506	1.34	ng/ml	90

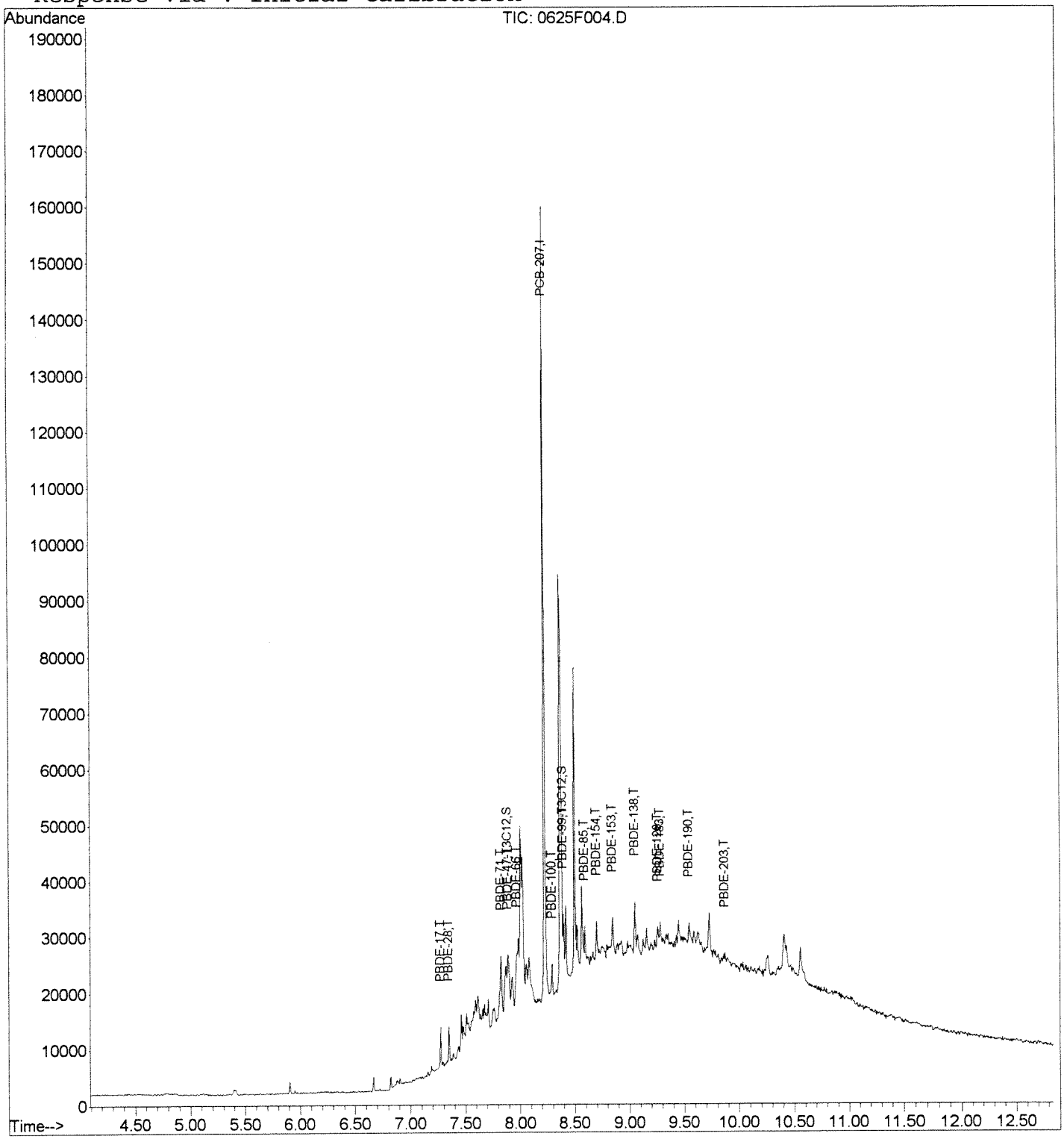
(#) = qualifier out of range (m) = manual integration
0625F004.D BDE062414.M Wed Jun 25 11:53:58 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062514\0625F004.D
Acq On : 25 Jun 2014 11:23 am
Sample : K1405833-001 | MS 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:53 2014

Vial: 4
Operator: CHart
Inst : MS14
Multiplr: 10.00
Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Initial Calibration

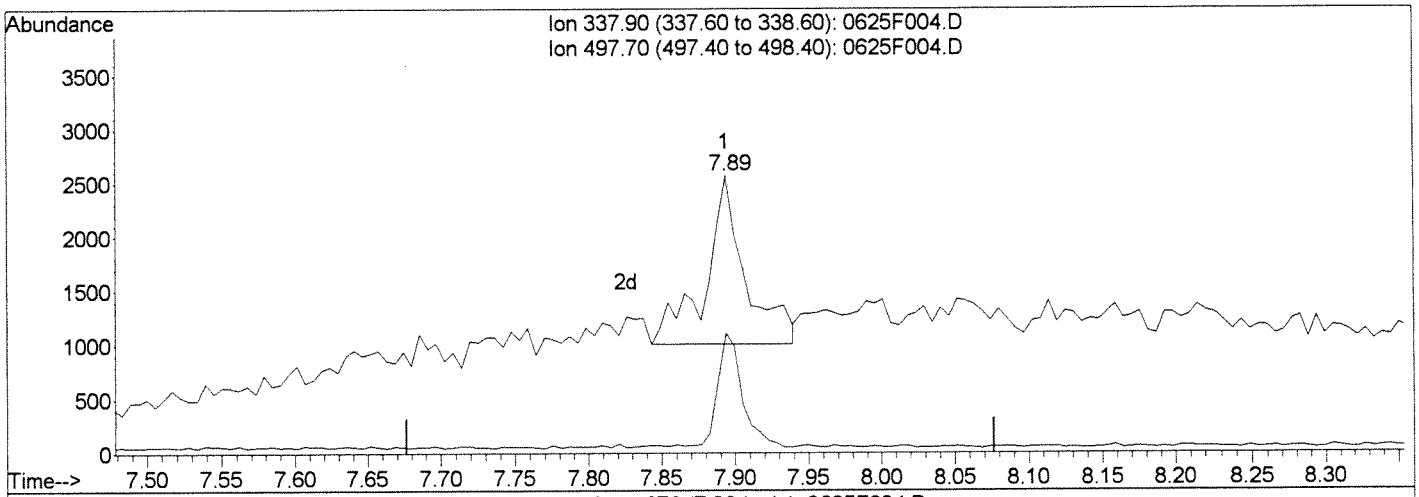


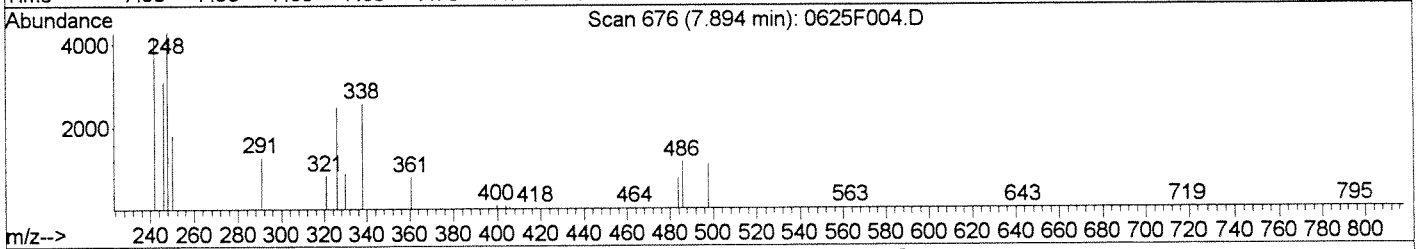
Quantitation Report (Qedit)

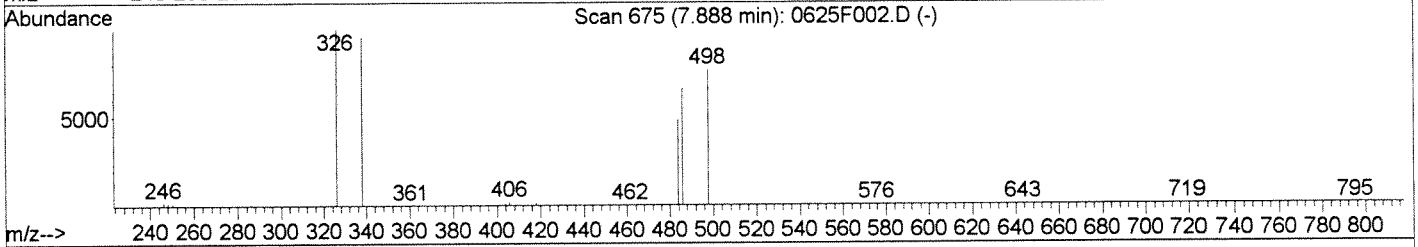
Data File : J:\MS14\DATA\062514\0625F004.D
Acq On : 25 Jun 2014 11:23 am
Sample : K1405833-001 | MS 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:51 2014

Vial: 4
Operator: CHart
Inst : MS14
Multiplr: 10.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Multiple Level Calibration







TIC: 0625F004.D

(5) PBDE-47-13C12 (S)

7.89min 4.65ng/ml

response 2949

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	67.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

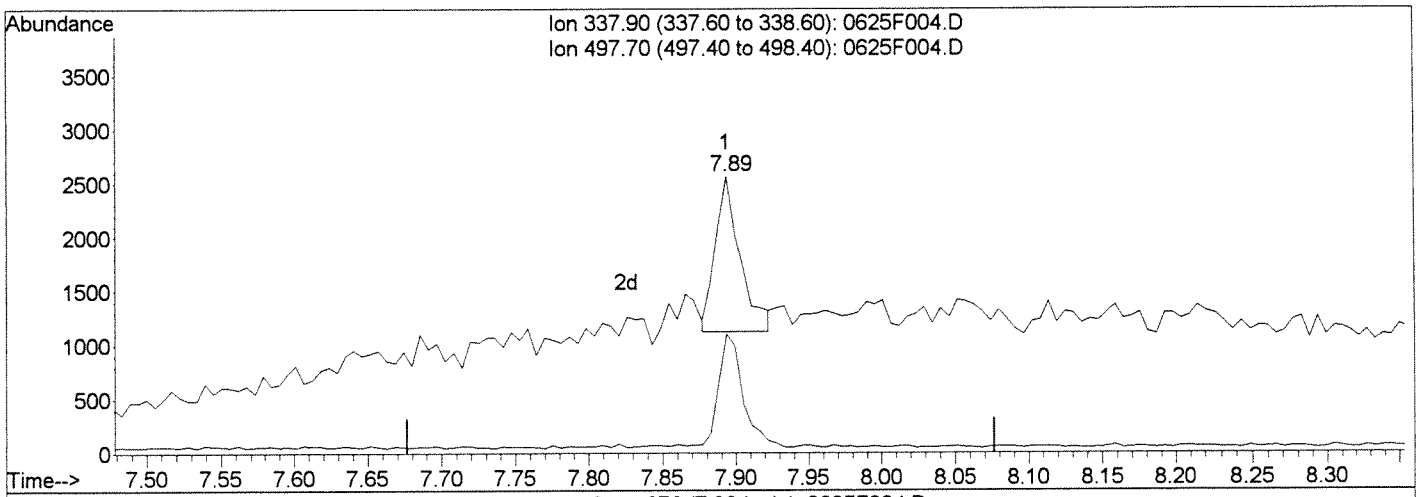
0625F004.D BDE062414.M Wed Jun 25 11:52:02 2014

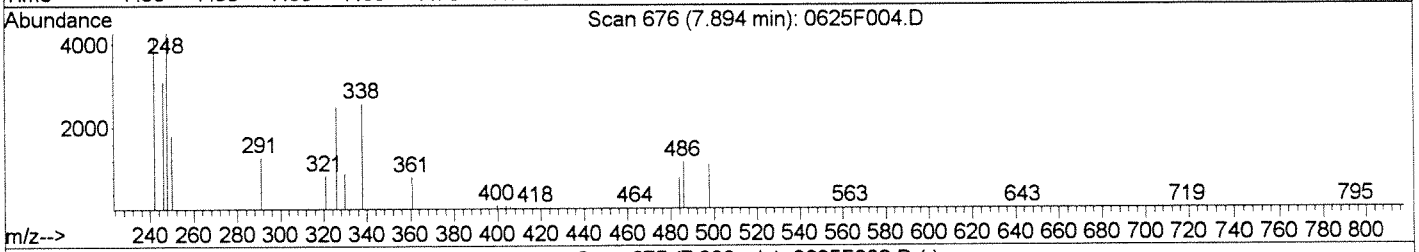
Quantitation Report (Qedit)

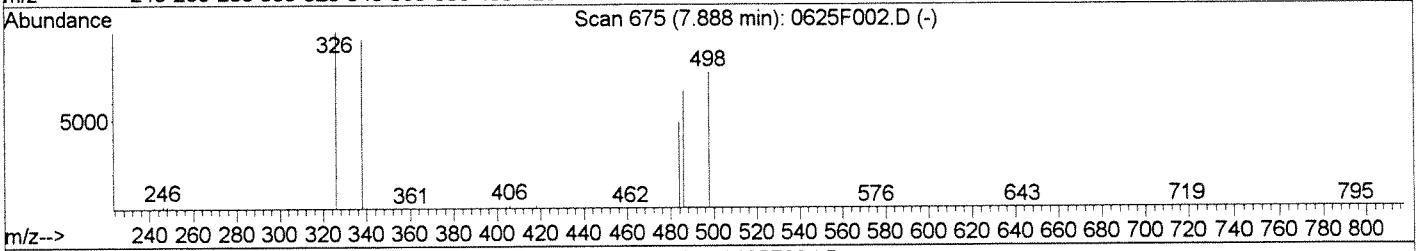
Data File : J:\MS14\DATA\062514\0625F004.D
Acq On : 25 Jun 2014 11:23 am
Sample : K1405833-001 | MS 10X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:52 2014

Vial: 4
Operator: CHart
Inst : MS14
Multiplr: 10.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Multiple Level Calibration







TIC: 0625F004.D

(5) PBDE-47-13C12 (S)

7.89min 2.67ng/ml m

response 1694

Ion	Exp%	Act%
337.90	100	100
497.70	81.40	43.16#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/25/14

0625F004.D BDE062414.M Wed Jun 25 11:52:06 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F024.D
Lab ID: KWG1405686-2 -- K1405833-001DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 06/24/2014 18:10
Date Quantitated: 06/25/2014 09:39
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 17	21.6	NA	20	OK, <40%
Surrogates	PBDE 47C13	0	70	130	SM IDX

Primary Review: CA JUN 25 2014

Secondary Review: 6/25/14

Printed: 06/25/2014 09:55:31
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F024.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:10	**Quant Date:**	06/25/2014 09:39	**Vial:**	8
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1405686-2 -- K1405833-001DMS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347927	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.27	0.06?	464	41198	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13			0.00	338	0d		0	70-130	*	NR
1	PBDE 99C13	8.56	0.19	0.02	418	7482m	19.84	79	70-130	OK	

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?
1	PBDE 17	7.29	0.03	0.00	246	11047	22.69	5.53		
1	PBDE 28	7.37	0.03	0.00	246	6117	12.77	3.11		
1	PBDE 71				326	0d		0.019	U	NR
1	PBDE 47				326	0d		0.036	U	NR
1	PBDE 66				326	0d		0.024	U	NR
1	PBDE 100	8.48	0.21	0.02	404	10524m	29.56	7.21		
1	PBDE 99	8.56	0.19	0.02	404	8457m	20.26	4.94		
1	PBDE 85	8.72	0.14	0.01	404	10253m	25.34	6.18		
1	PBDE 154	8.81	0.13	0.01	484	8926m	21.88	5.33		
1	PBDE 153	8.93	0.10	0.00	484	9853m	24.47	5.97		
1	PBDE 138	9.12	0.09	0.00	484	9125	24.80	6.05		
1	PBDE 128	9.31	0.06	0.00	484	10001m	27.33	6.66		
1	PBDE 183	9.34	0.07	0.00	562	6733	21.34	5.20		
1	PBDE 190	9.61	0.07	0.00	562	4114m	14.99	3.65		
1	PBDE 203	9.94	0.07	0.00	642	2334	8.53	2.08		
1	PBDE 206				719	0d		0.038	U	
1	PBDE 209				799	0d		0.032	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\062414\0624F024.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 18:10	**Quant Date:**	06/25/2014 09:39	**Vial:**	8
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1405686-2 -- K1405833-001DMS			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.304 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F024.D Vial: 8
Acq On : 24 Jun 2014 6:10 pm Operator: CHart
Sample : K1405833-001 | DMS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:33 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

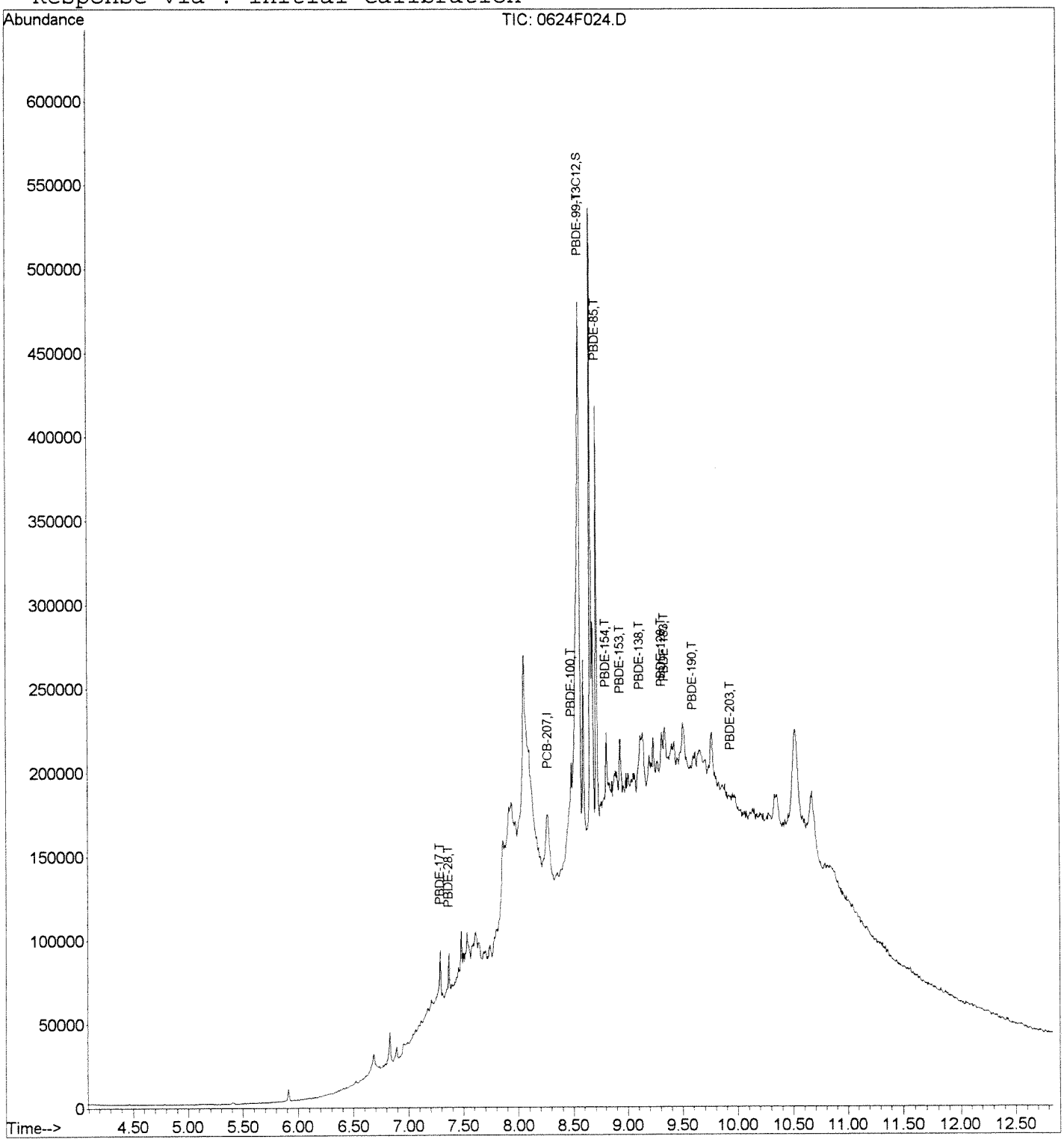
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.27	464	41198	50.00	ng/ml	0.06
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	8.56	418	7482m	19.84	ng/ml	0.19
Spiked Amount 25.000			Recovery =	79.36%		
Target Compounds						Qvalue
2) PBDE-17	7.29	246	11047	22.69	ng/ml	90
3) PBDE-28	7.37	246	6117	12.77	ng/ml#	46
8) PBDE-100	8.48	404	10524m	29.56	ng/ml	
10) PBDE-99	8.56	404	8457m	20.26	ng/ml	
11) PBDE-85	8.72	404	10253m	25.34	ng/ml	
12) PBDE-154	8.81	484	8926m	21.88	ng/ml	
13) PBDE-153	8.93	484	9853m	24.47	ng/ml	
14) PBDE-138	9.12	484	9125	24.80	ng/ml	87
15) PBDE-128	9.31	484	10001m	27.33	ng/ml	
16) PBDE-183	9.34	562	6733	21.34	ng/ml	96
17) PBDE-190	9.61	562	4114m	14.99	ng/ml	
18) PBDE-203	9.94	642	2334	8.53	ng/ml	96

(#) = qualifier out of range (m) = manual integration
0624F024.D BDE062414.M Wed Jun 25 09:46:48 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F024.D Vial: 8
Acq On : 24 Jun 2014 6:10 pm Operator: CHart
Sample : K1405833-001 | DMS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration

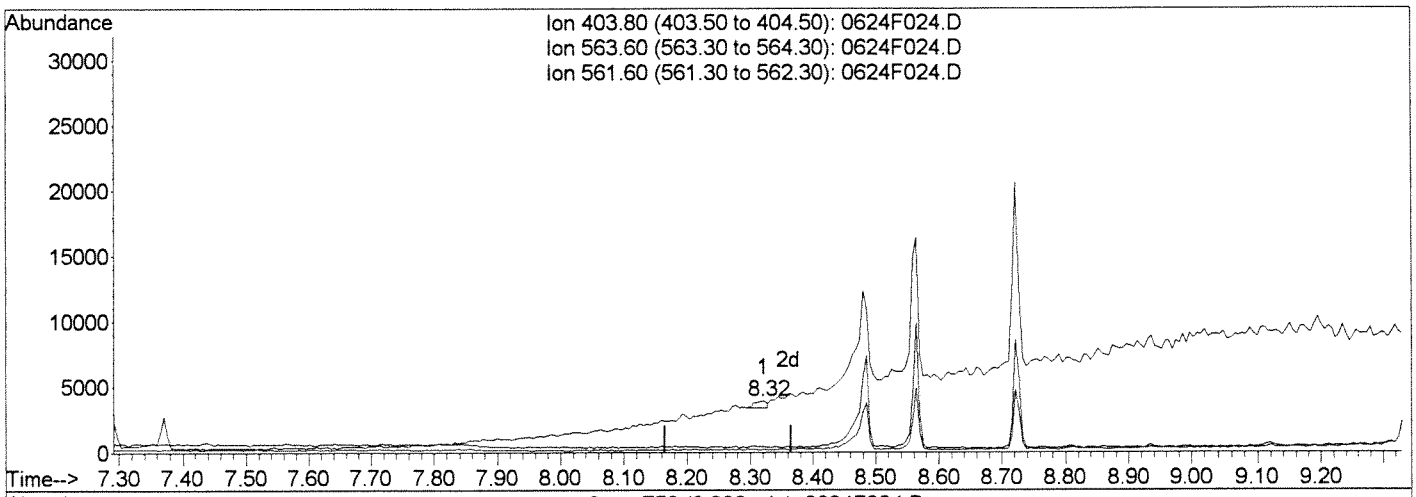


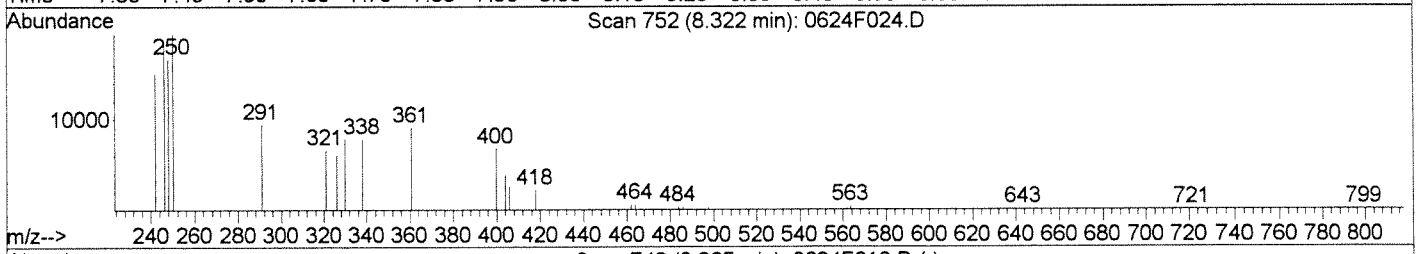
Quantitation Report (Qedit)

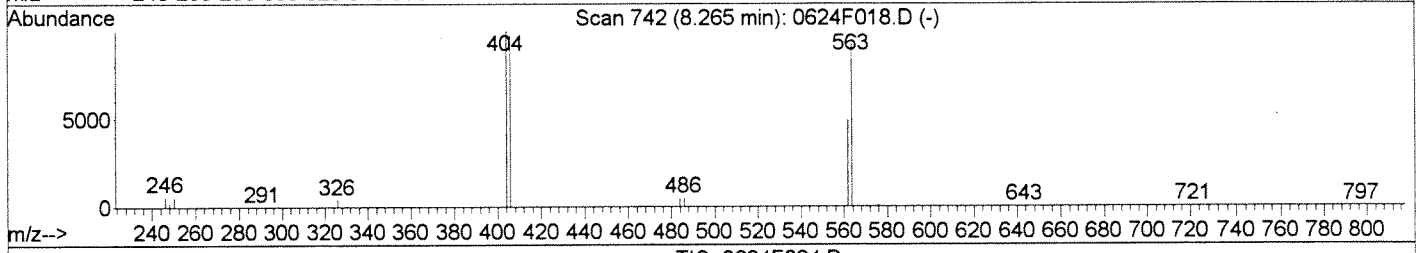
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(8) PBDE-100 (T)

8.32min 2.03ng/ml

response 723

Ion	Exp%	Act%
403.80	100	100
563.60	82.80	9.65#
561.60	41.20	1.54#
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CA

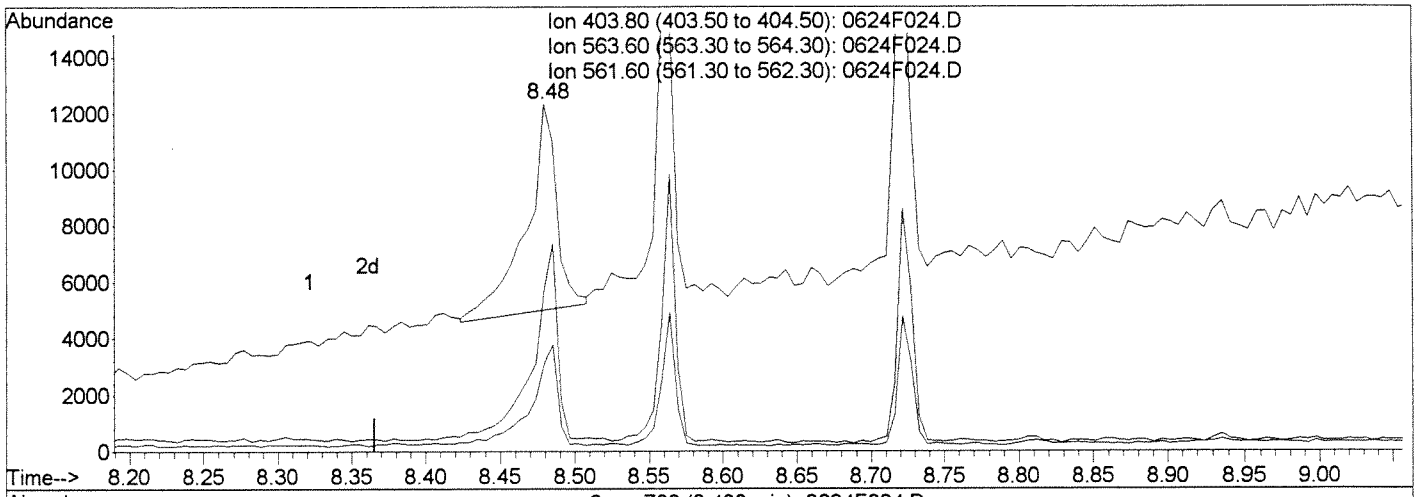
0624F024.D BDE062414.M Wed Jun 25 09:38:14 2014

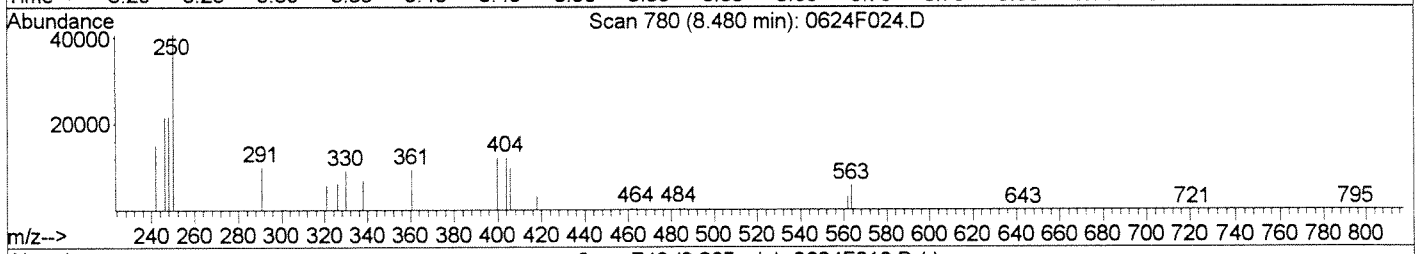
Quantitation Report (Qedit)

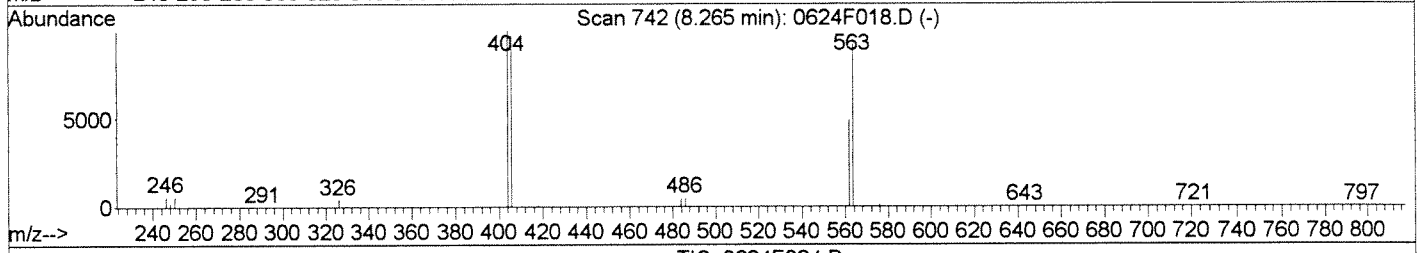
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(8) PBDE-100 (T)

8.48min 29.56ng/ml m

response 10524

Ion	Exp%	Act%
403.80	100	100
563.60	82.80	47.15#
561.60	41.20	25.68
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

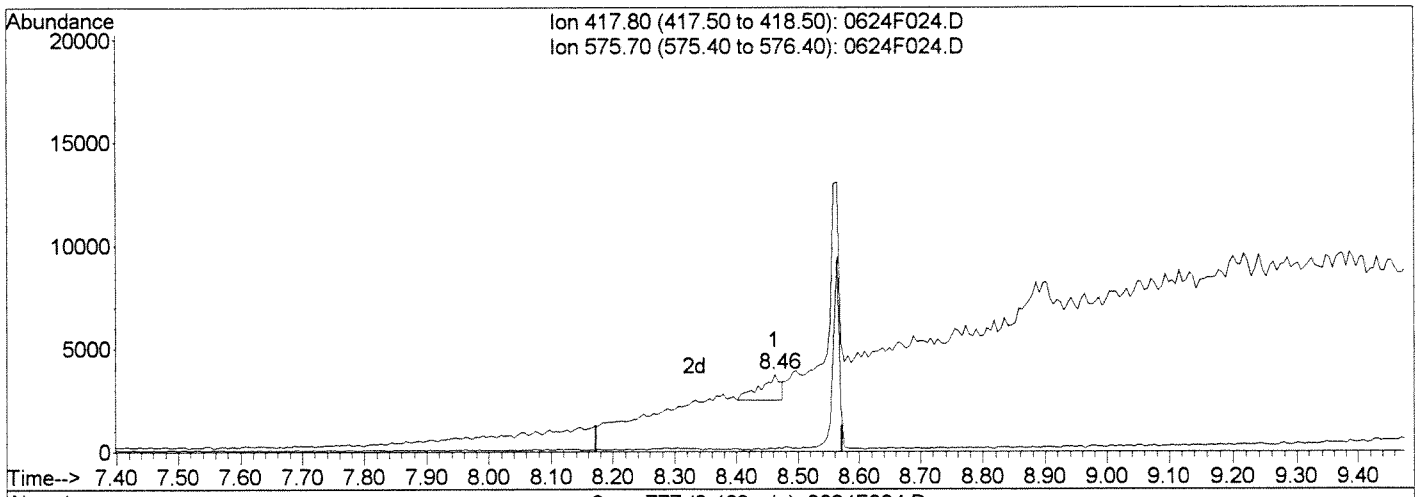
0624F024.D BDE062414.M Wed Jun 25 09:38:21 2014

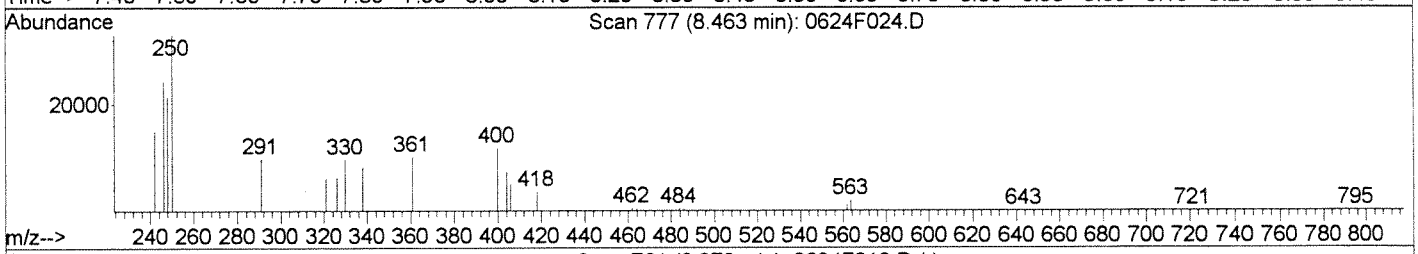
Quantitation Report (Qedit)

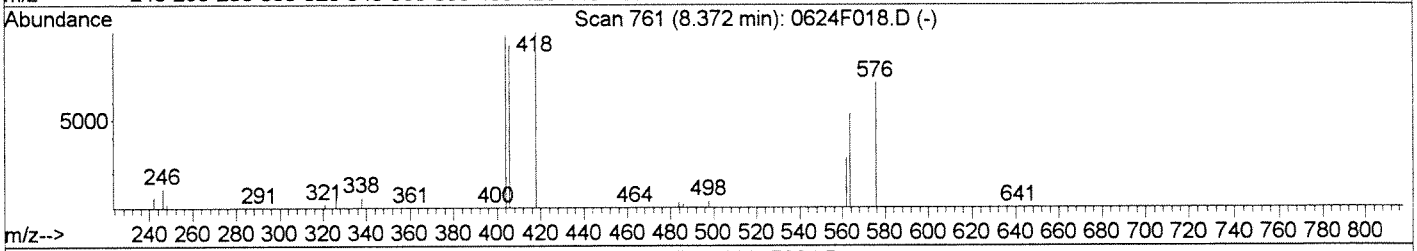
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(9) PBDE-99-13C12 (S)

8.46min 7.60ng/ml

response 2866

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CAA

6/25/14

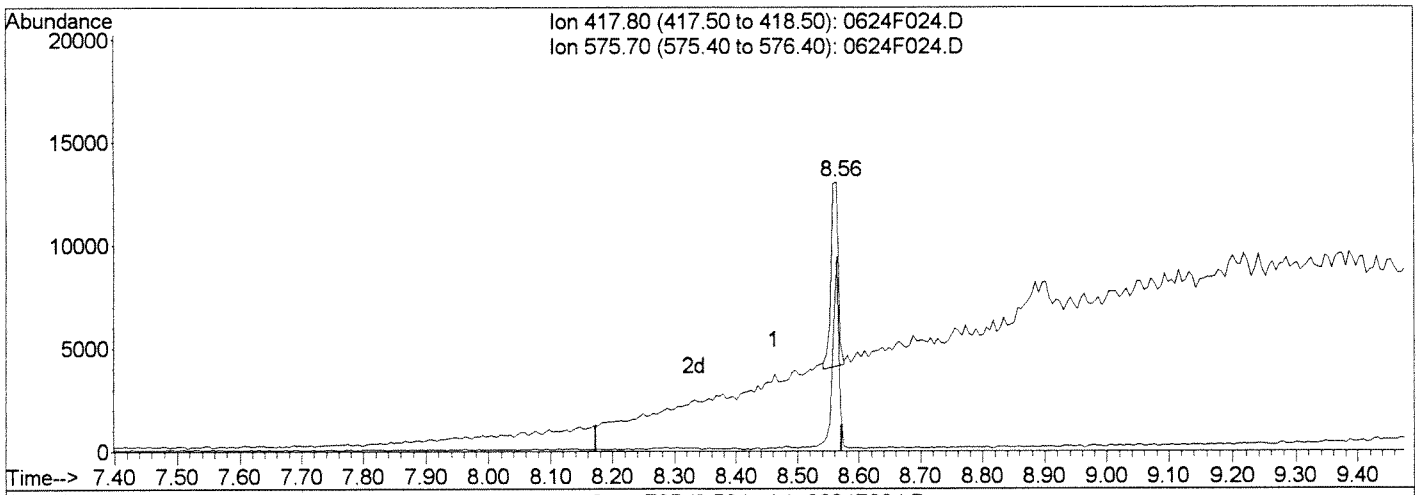
0624F024.D BDE062414.M Wed Jun 25 09:38:23 2014

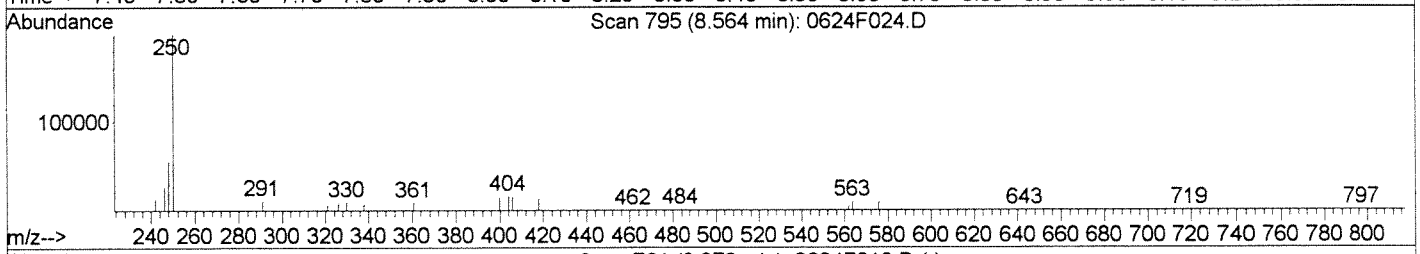
Quantitation Report (Qedit)

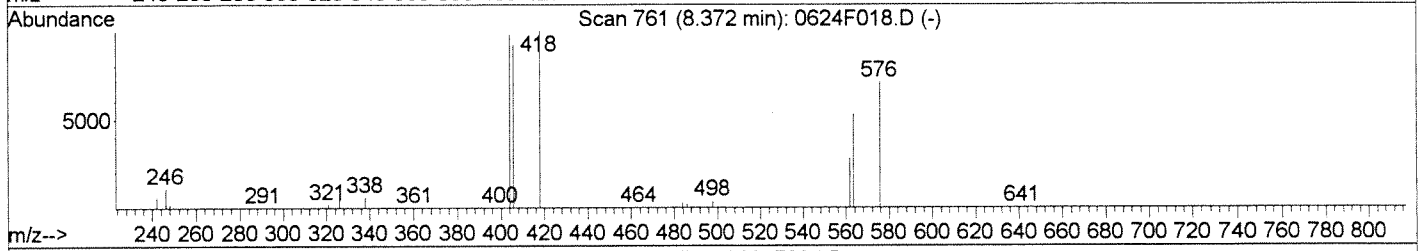
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(9) PBDE-99-13C12 (S)

8.56min 19.84ng/ml m

response 7482

ion	Exp%	Act%
417.80	100	100
575.70	63.20	71.99
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

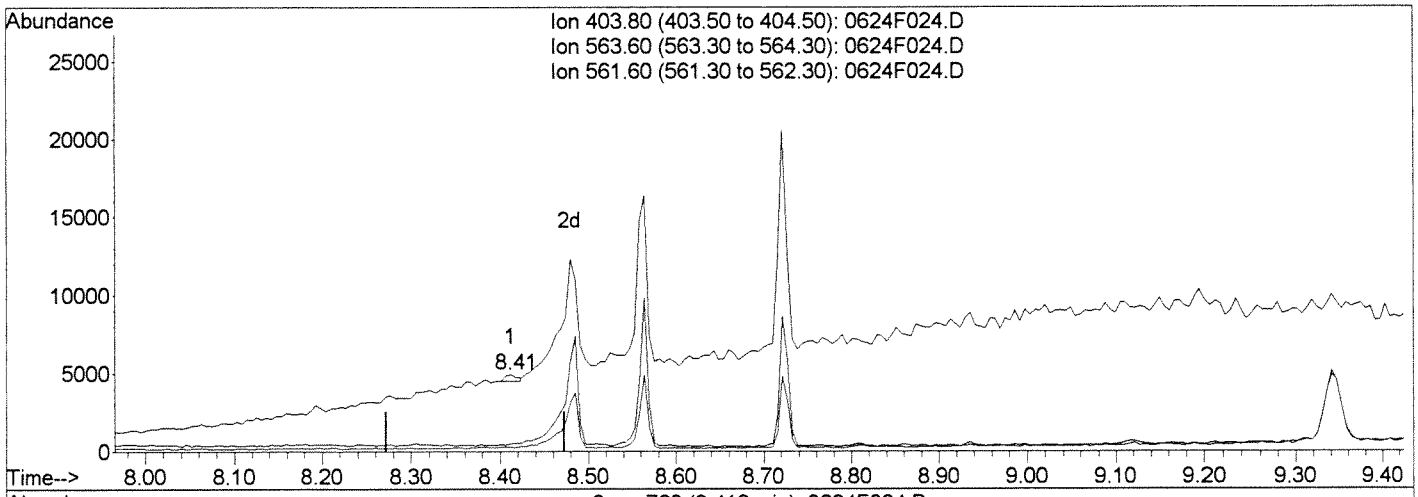
0624F024.D BDE062414.M Wed Jun 25 09:38:34 2014

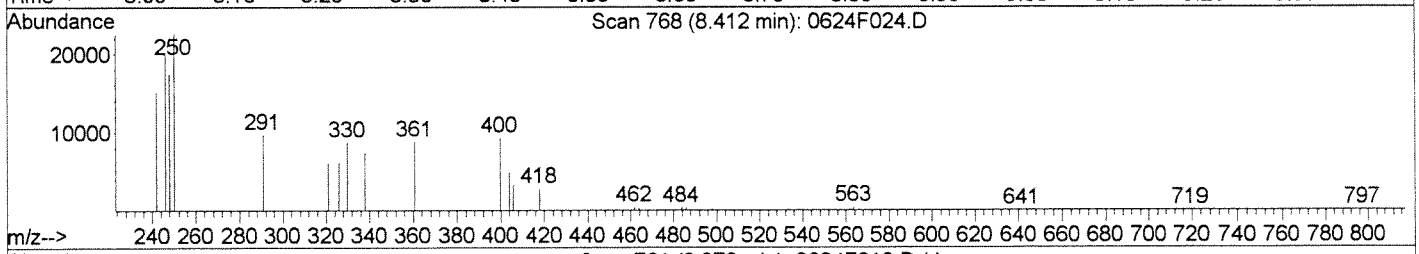
Quantitation Report (Qedit)

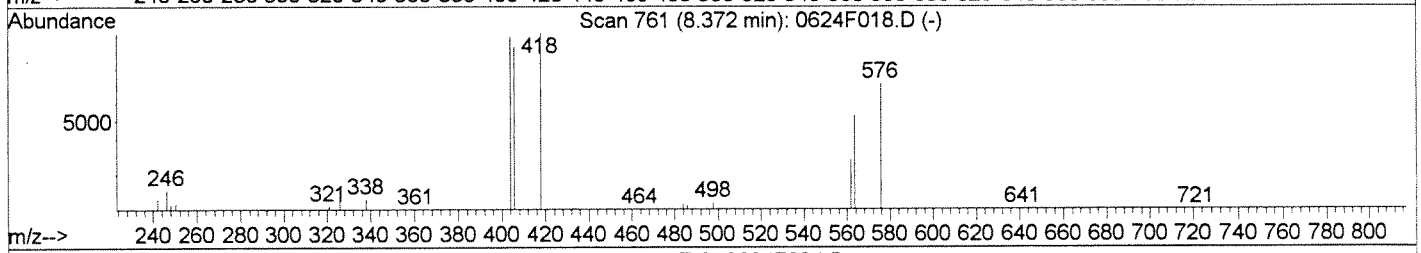
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(10) PBDE-99 (T)

8.41min 1.03ng/ml

response 430

Ion	Exp%	Act%
403.80	100	100
563.60	52.30	22.67
561.60	26.40	3.58
0.00	0.00	0.00

Manual Integration:

Before

06/25/14

CAA

6/25/14

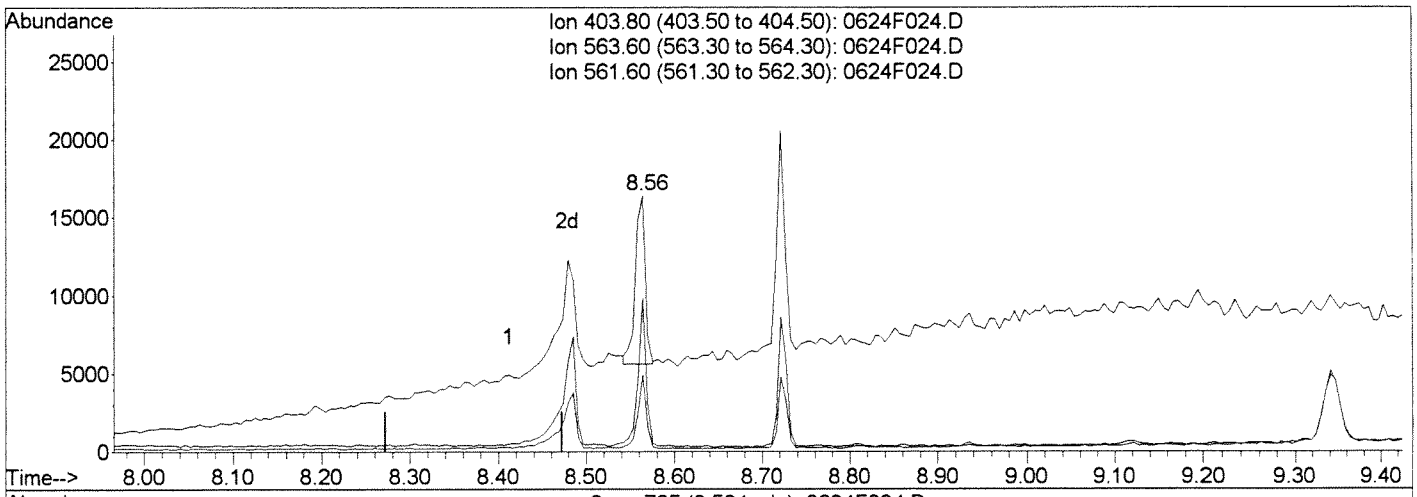
0624F024.D BDE062414.M Wed Jun 25 09:38:40 2014

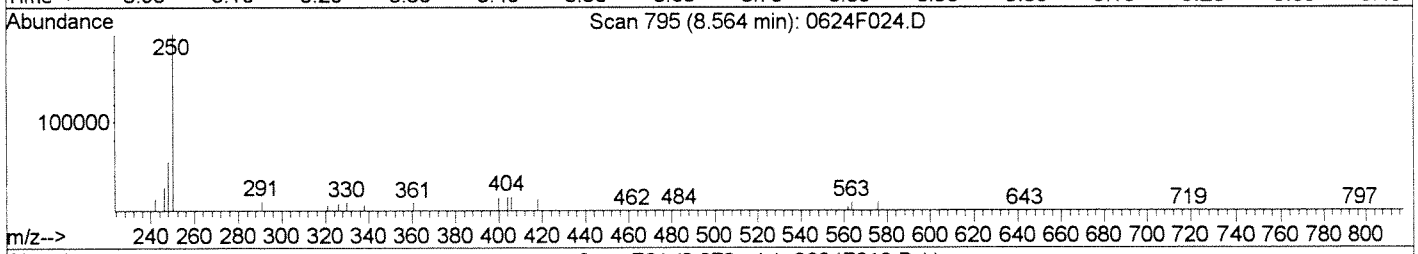
Quantitation Report (Qedit)

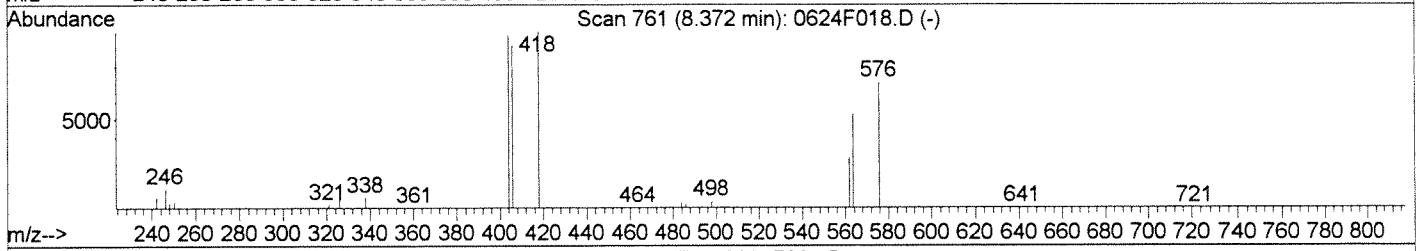
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(10) PBDE-99 (T)
8.56min 20.26ng/ml m
response 8457

Ion	Exp%	Act%
403.80	100	100
563.60	52.30	59.89
561.60	26.40	29.94
0.00	0.00	0.00

Manual Integration:
After
WP
06/25/14

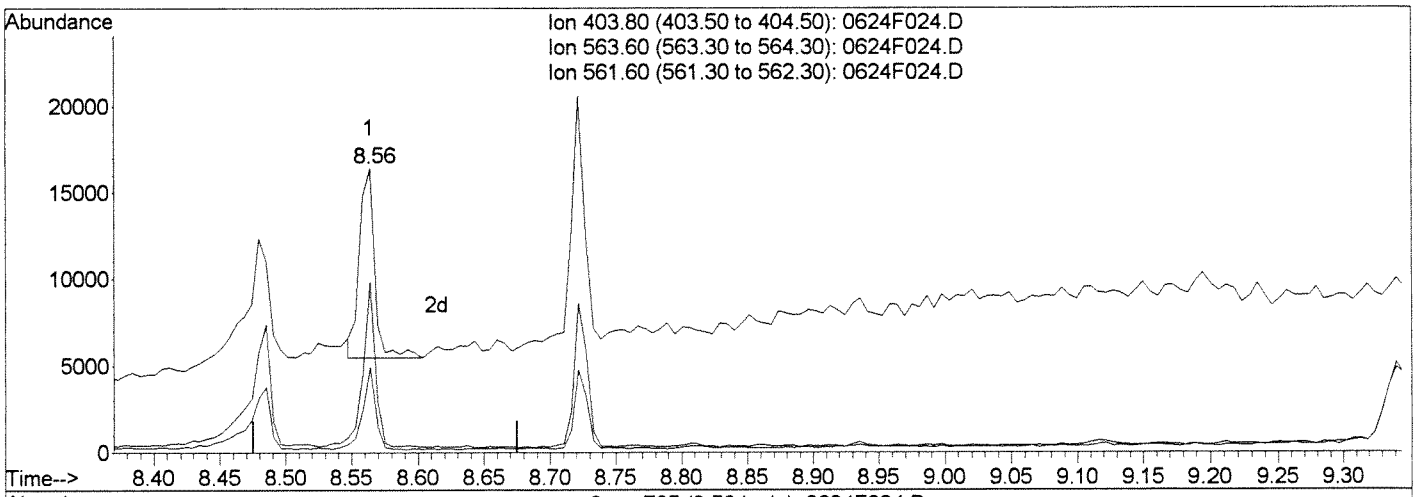
0624F024.D BDE062414.M Wed Jun 25 09:38:47 2014

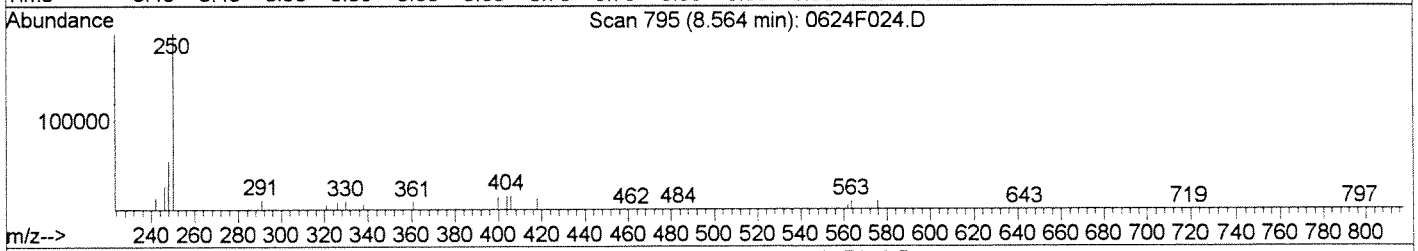
Quantitation Report (Qedit)

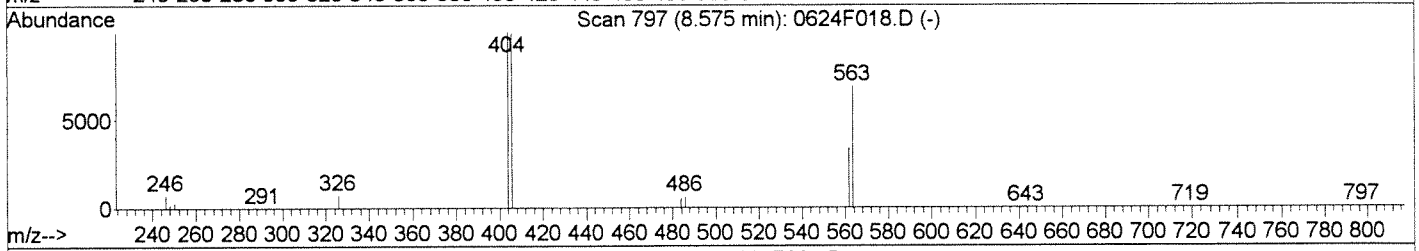
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(11) PBDE-85 (T)
8.56min 21.69ng/ml
response 8775

Ion	Exp%	Act%
403.80	100	100
563.60	63.90	86.91
561.60	32.60	43.15
0.00	0.00	0.00

Manual Integration:
Before

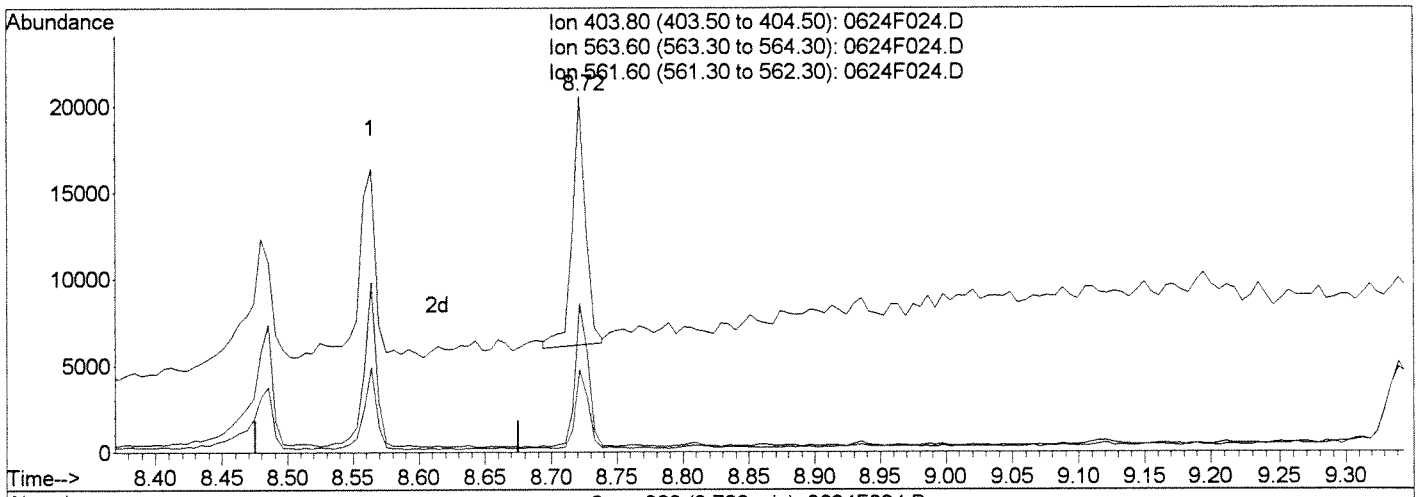
06/25/14

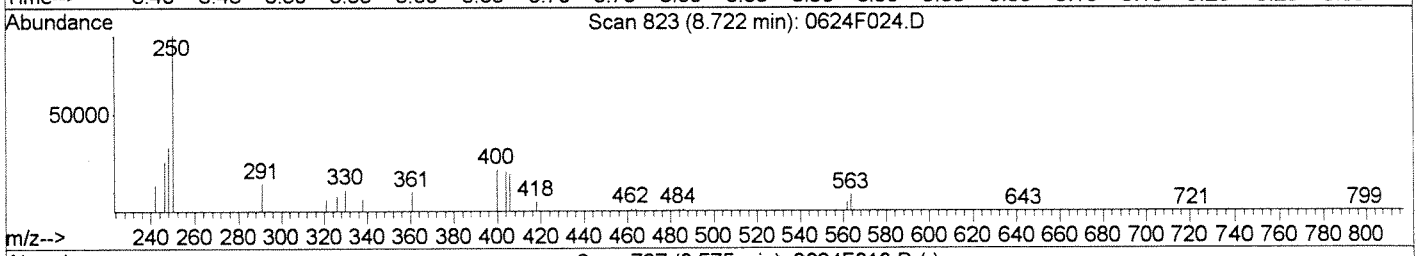
0624F024.D BDE062414.M Wed Jun 25 09:38:51 2014

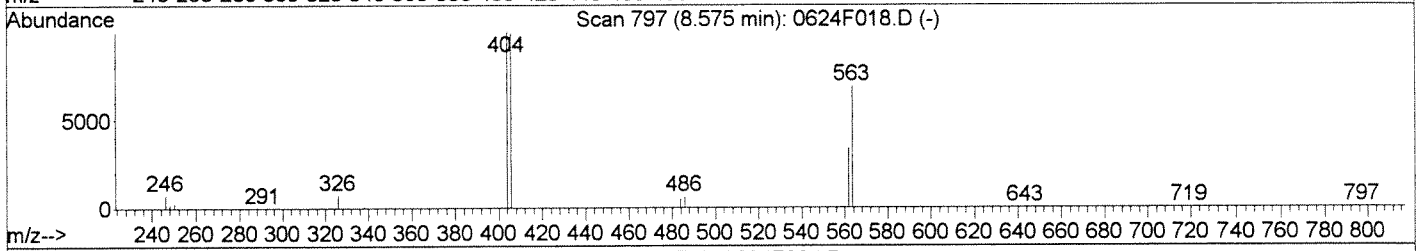
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F024.D Vial: 8
Acq On : 24 Jun 2014 6:10 pm Operator: CHart
Sample : K1405833-001 | DMS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(11) PBDE-85 (T)

8.72min 25.34ng/ml m

response 10253

Ion	Exp%	Act%
403.80	100	100
563.60	63.90	41.81
561.60	32.60	23.23
0.00	0.00	0.00

Manual Integration:

After

WP

06/25/14

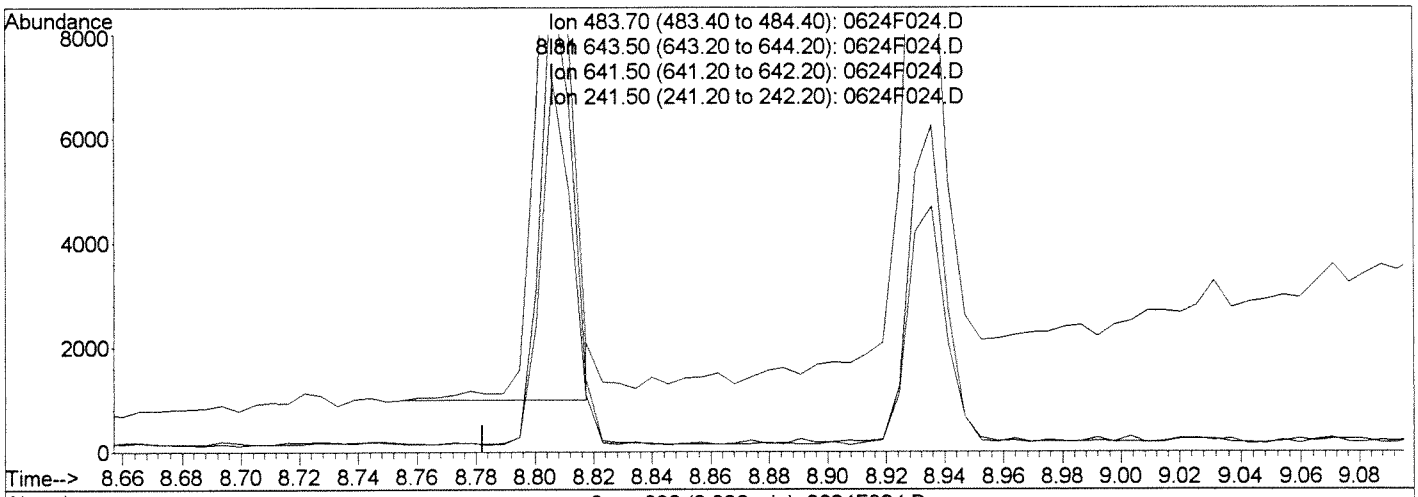
0624F024.D BDE062414.M Wed Jun 25 09:38:56 2014

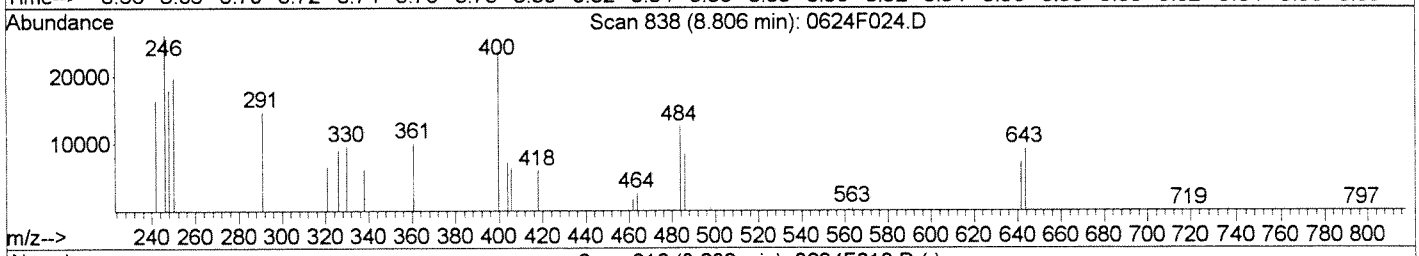
Quantitation Report (Qedit)

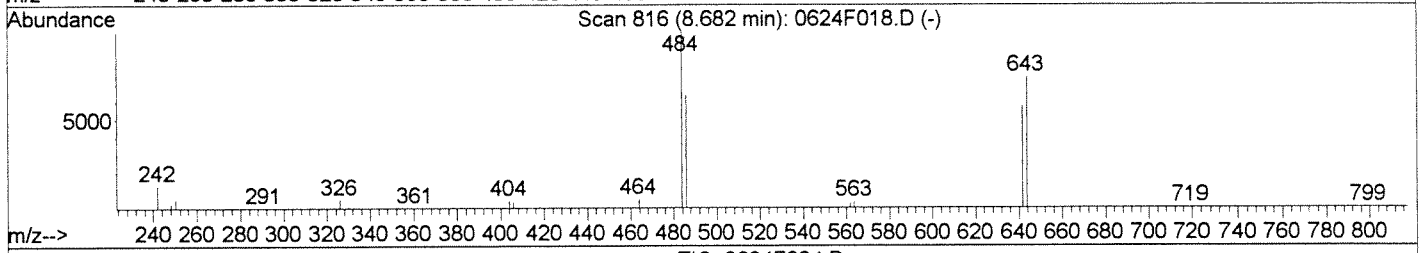
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:38 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(12) PBDE-154 (T)

8.81min 21.73ng/ml

response 8864

Ion	Exp%	Act%
483.70	100	100
643.50	78.90	78.29
641.50	60.90	60.96
241.50	14.40	20.50

Manual Integration:

Before

06/25/14

CAA

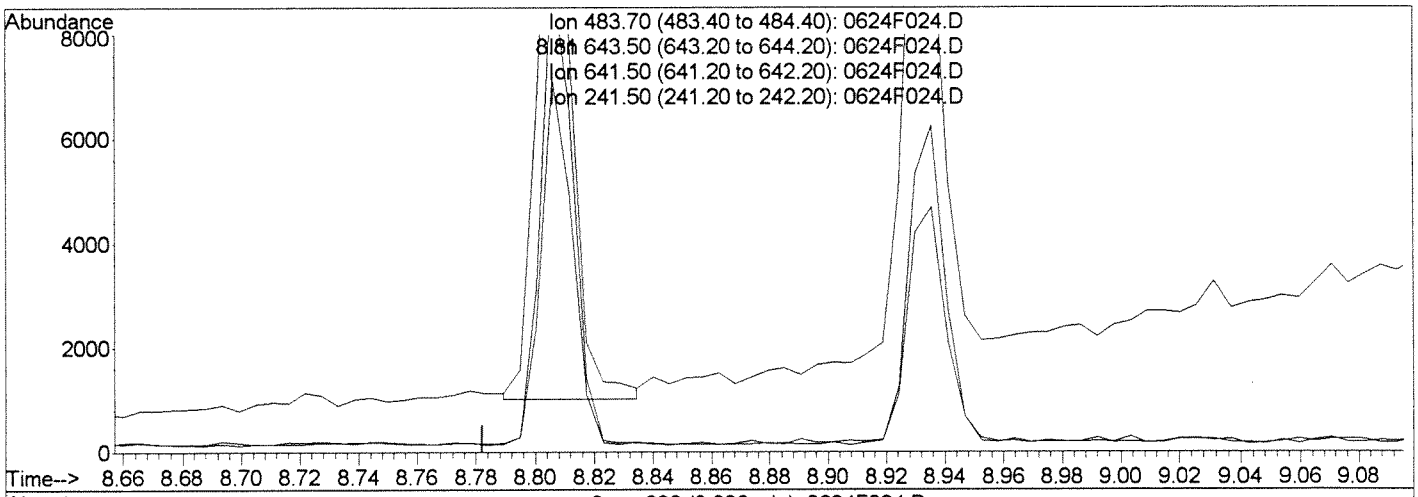
0624F024.D BDE062414.M Wed Jun 25 09:39:04 2014

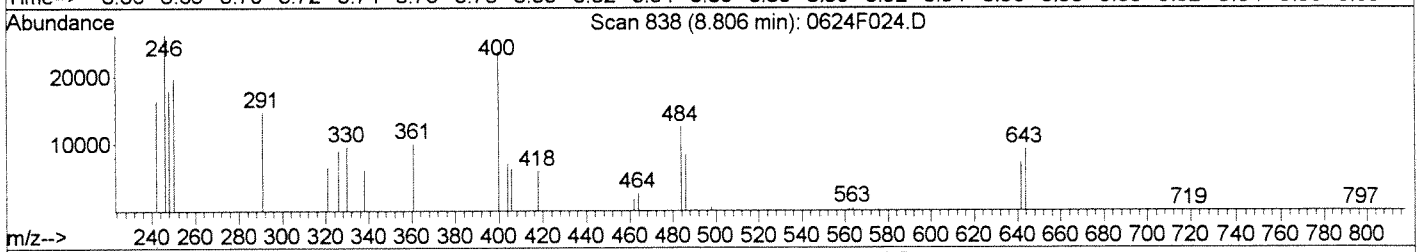
Quantitation Report (Qedit)

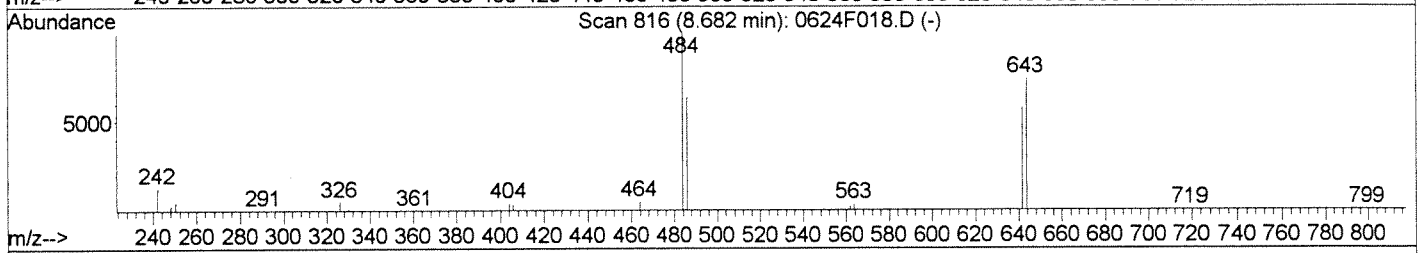
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(12) PBDE-154 (T)

8.81min 21.88ng/ml m

response 8926

Ion	Exp%	Act%
483.70	100	100
643.50	78.90	73.37
641.50	60.90	57.31
241.50	14.40	130.88#

Manual Integration:

After

BLC

06/25/14

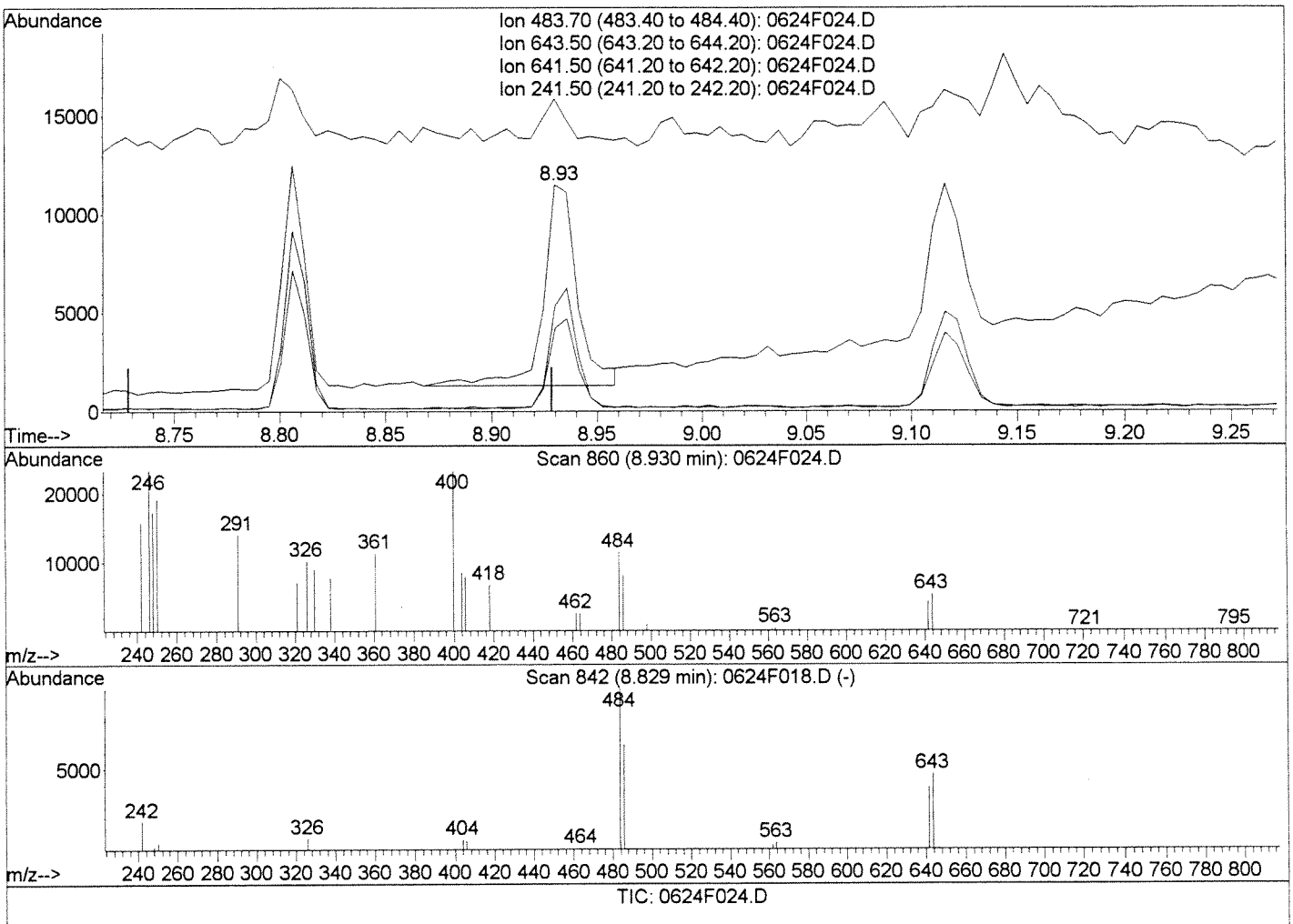
0624F024.D BDE062414.M Wed Jun 25 09:39:09 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration



TIC: 0624F024.D

(13) PBDE-153 (T)

8.93min 28.54ng/ml

response 11492

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	50.77
641.50	42.90	39.92
241.50	15.50	20.63

Manual Integration:

Before

06/25/14

CAA

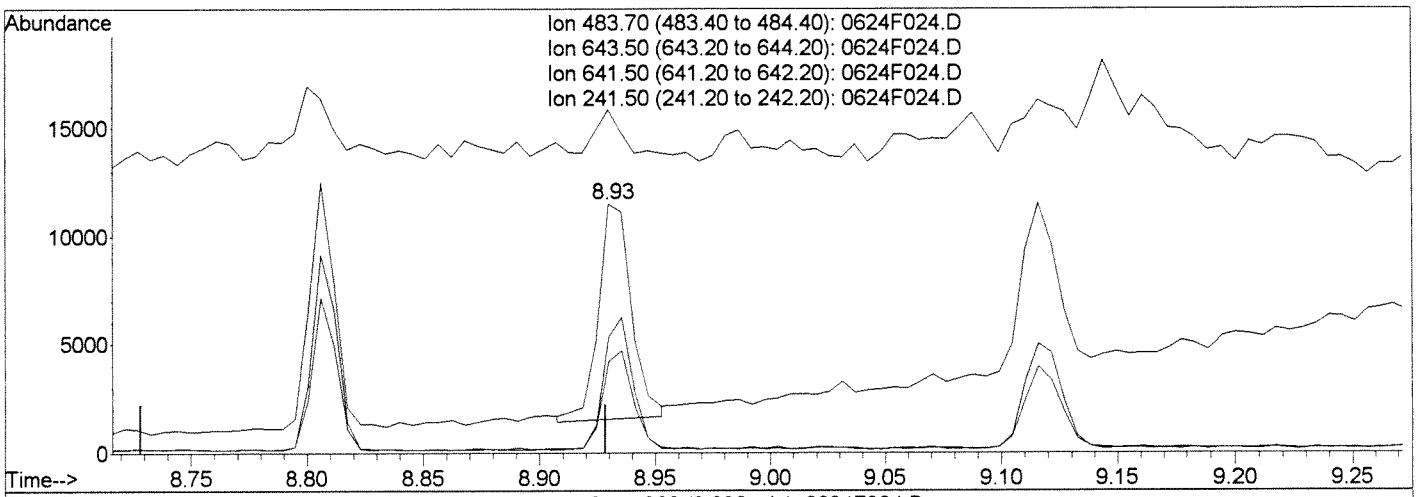
0624F024.D BDE062414.M Wed Jun 25 09:39:13 2014

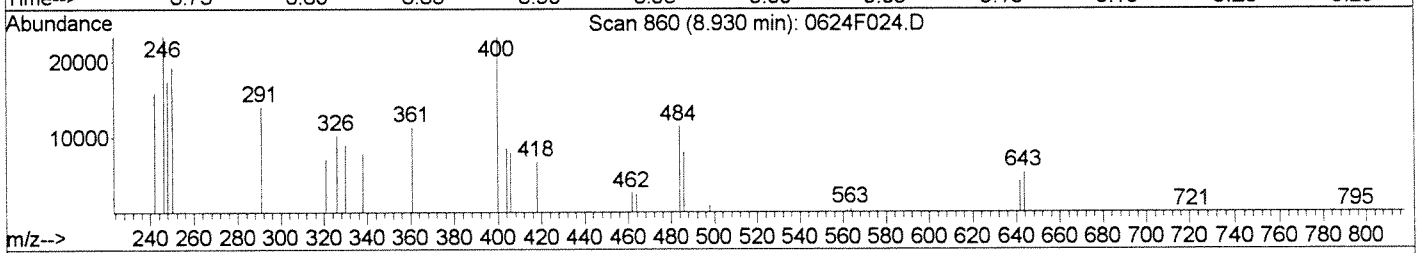
Quantitation Report (Qedit)

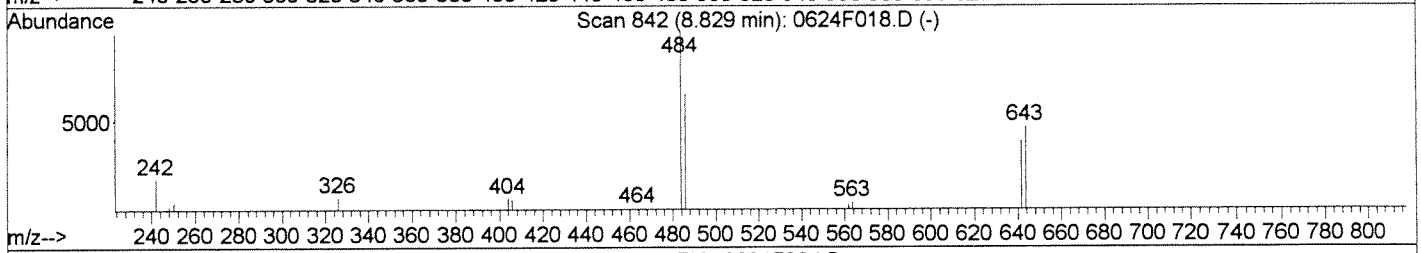
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(13) PBDE-153 (T)

8.93min 24.47ng/ml m

response 9853

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	46.44
641.50	42.90	36.69
241.50	15.50	137.91#

Manual Integration:

After

BLC

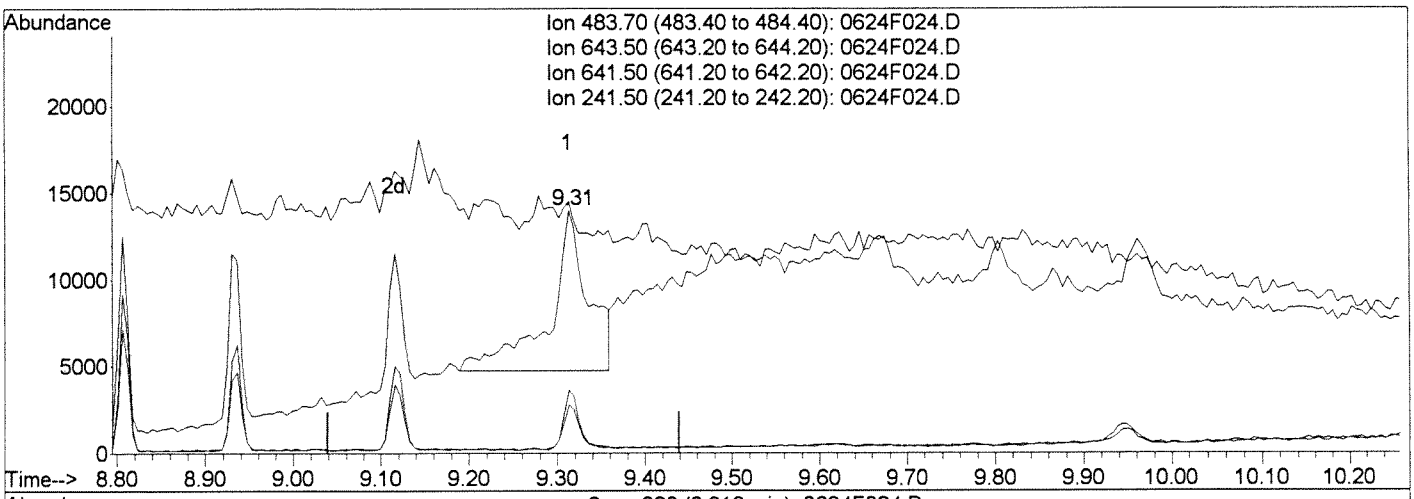
06/25/14

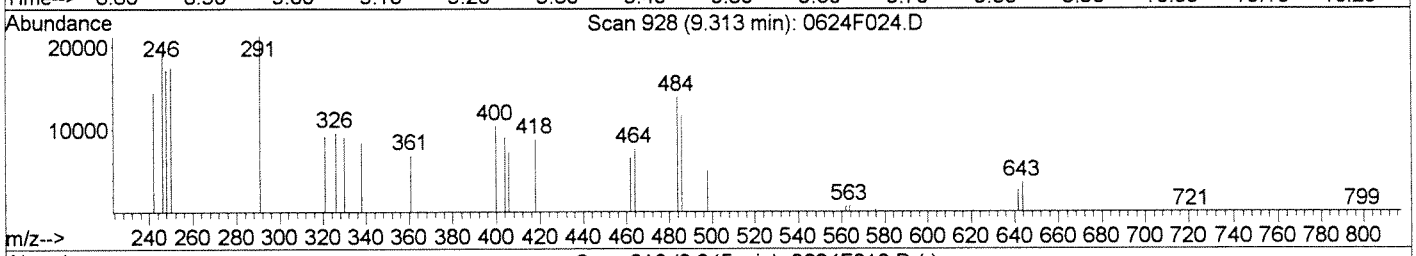
0624F024.D BDE062414.M Wed Jun 25 09:39:18 2014

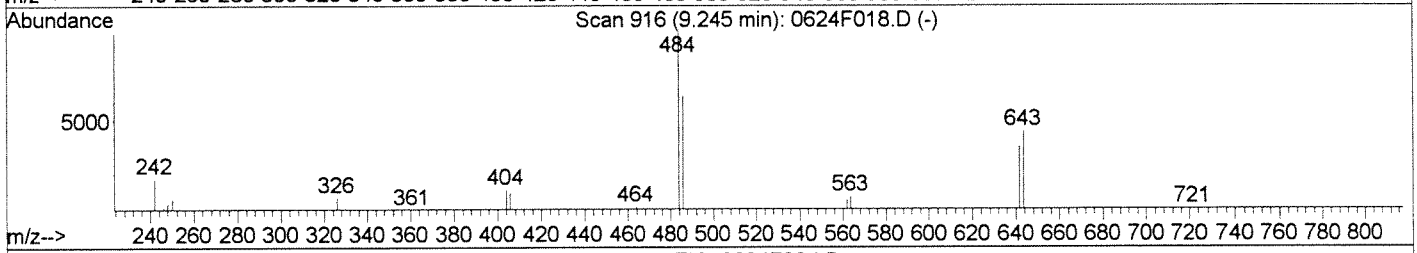
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F024.D Vial: 8
Acq On : 24 Jun 2014 6:10 pm Operator: CHart
Sample : K1405833-001 | DMS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(15) PBDE-128 (T)

9.31min 78.85ng/ml

response 28855

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	36.85
641.50	37.50	28.27
241.50	12.60	17.94

Manual Integration:

Before

06/25/14

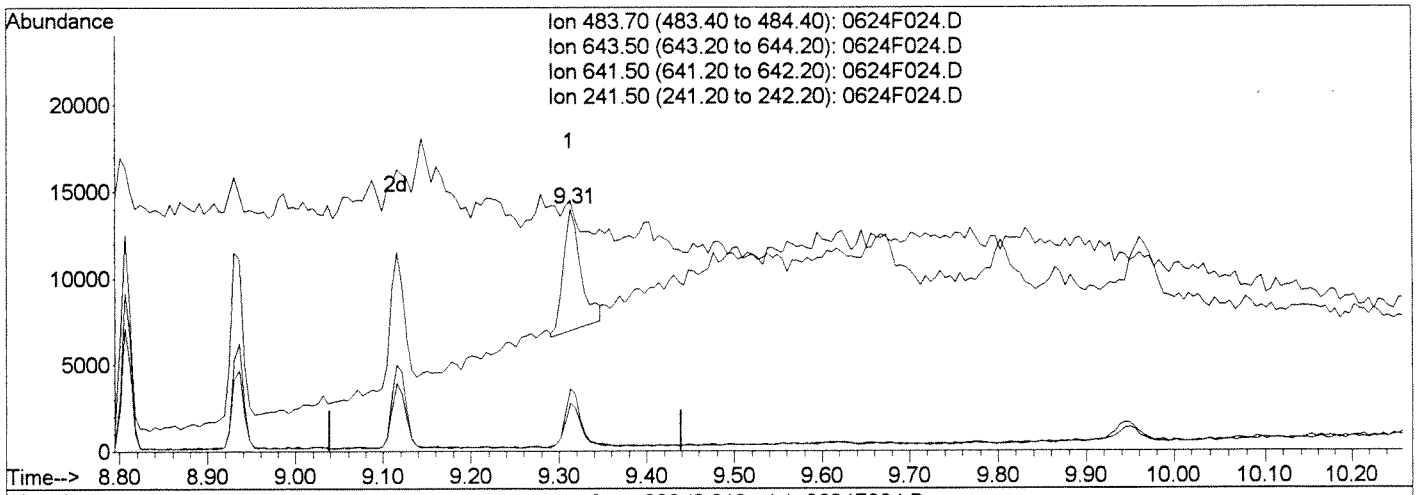
0624F024.D BDE062414.M Wed Jun 25 09:39:23 2014

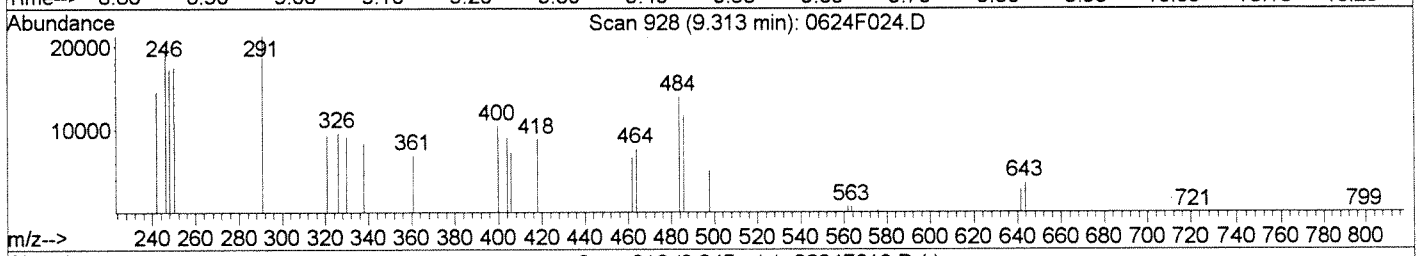
Quantitation Report (Qedit)

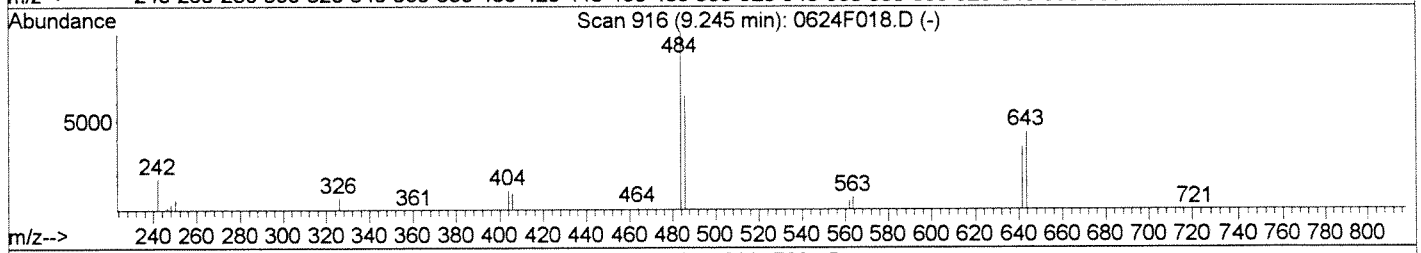
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(15) PBDE-128 (T)

9.31min 27.33ng/ml m

response 10001

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	25.94
641.50	37.50	20.02
241.50	12.60	103.72#

Manual Integration:

After

BLC

06/25/14

GA

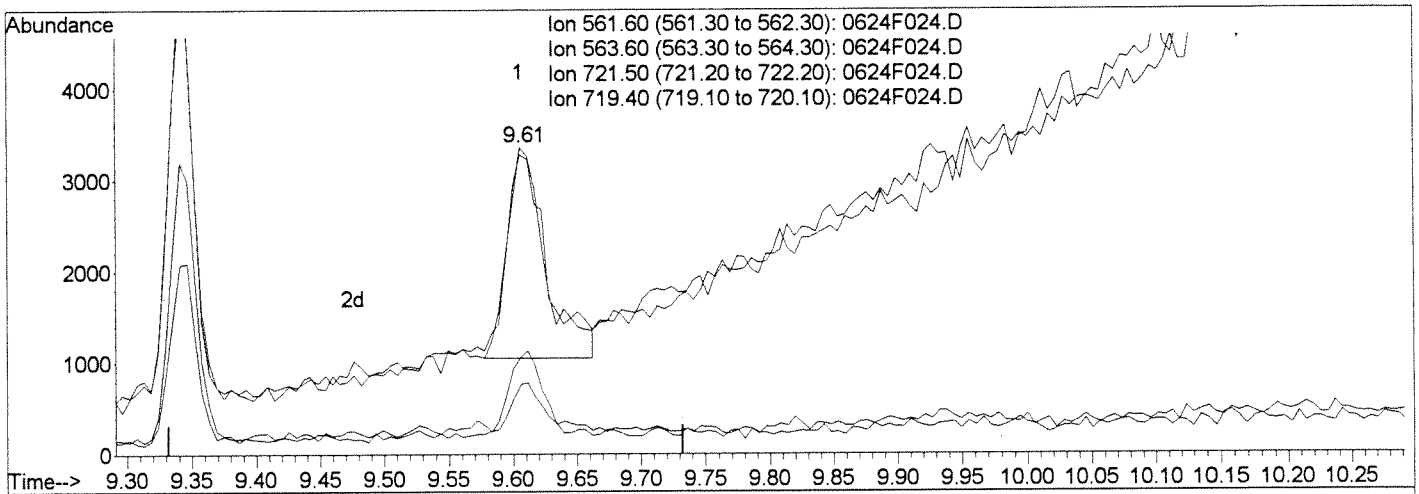
6/25/14

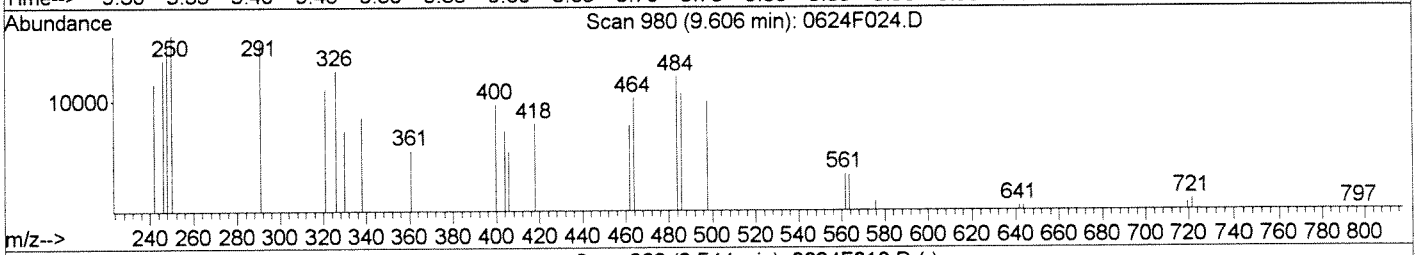
0624F024.D BDE062414.M Wed Jun 25 09:39:33 2014

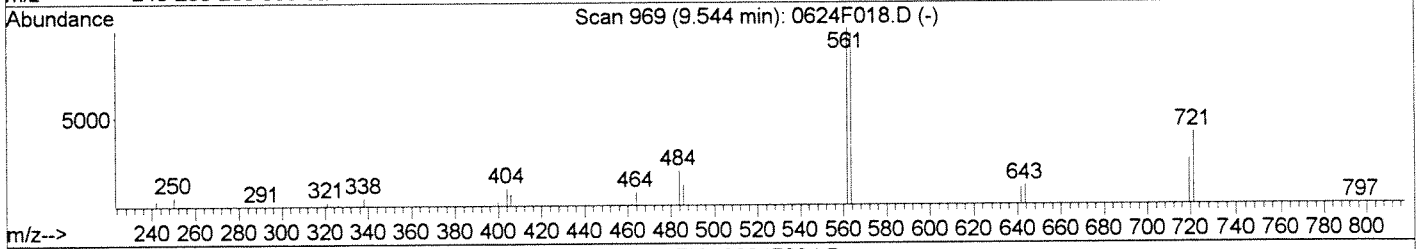
Data File : J:\MS14\DATA\062414\0624F024.D
Acq On : 24 Jun 2014 6:10 pm
Sample : K1405833-001 | DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014

Vial: 8
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(17) PBDE-190 (T)

9.61min 17.39ng/ml

response 4773

Ion	Exp%	Act%
561.60	100	100
563.60	100.00	93.20
721.50	42.20	34.69
719.40	27.40	24.30

Manual Integration:

Before

06/25/14

GA

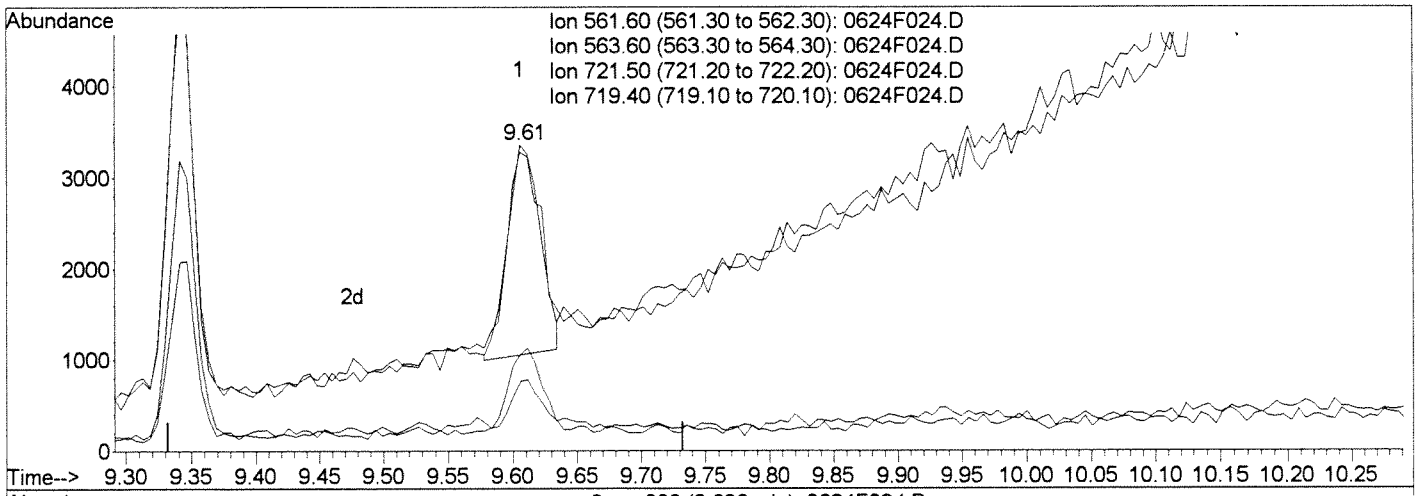
6/25/14

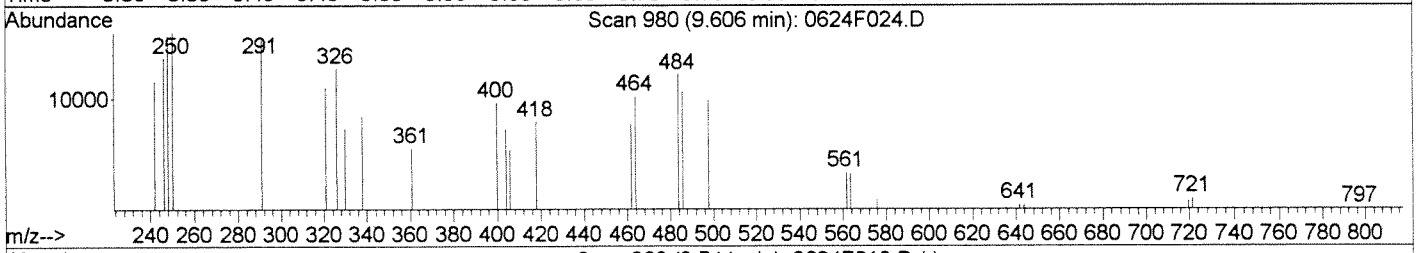
0624F024.D BDE062414.M Wed Jun 25 09:39:41 2014

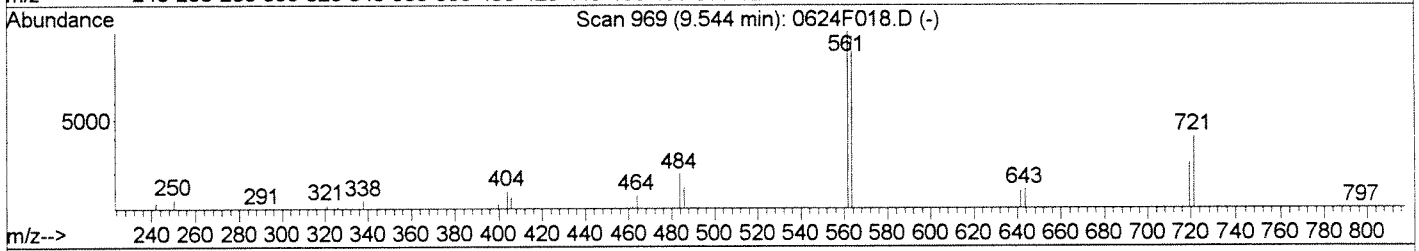
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F024.D Vial: 8
Acq On : 24 Jun 2014 6:10 pm Operator: CHart
Sample : K1405833-001 | DMS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:39 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F024.D

(17) PBDE-190 (T)

9.61min 14.99ng/ml m

response 4114

Ion	Exp%	Act%
561.60	100	100
563.60	100.00	97.68
721.50	42.20	31.61
719.40	27.40	22.75

Manual Integration:

After

IC-Overintegrated

06/25/14

CAA 6/29/14

0624F024.D BDE062414.M Wed Jun 25 09:39:47 2014

Exception Report

Data File: J:\MS14\DATA\062514\0625F005.D
Lab ID: KWG1405686-2 -- K1405833-001DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 06/25/2014 11:41
Date Quantitated: 06/25/2014 12:07
Batch ID: KWG1406653
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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		x

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 209	-24.6	NA	20	OK. -407.

Primary Review: JUN 25 2014

Secondary Review: 6/29/14

Printed: 06/25/2014 12:18:43
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062514\0625F005.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 11:41	**Quant Date:**	06/25/2014 12:07	**Vial:**	5
Run Type:	DMS			**Dilution:**	10.0
Lab ID:	KWG1405686-2 -- K1405833-001DMS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406653	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347927	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062514\0625F001.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.23	0.00?	464	58471	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.89	0.00	0.00	338	1654	2.54	102	70-130	OK	
1	PBDE 99C13	8.40	0.01	0.00	418	1006m	1.88	75	70-130	OK	NR

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?
1	PBDE 17	7.27		0.00	246	2124m	2.82	6.88	D	NR
1	PBDE 28	7.35		0.00	246	2121	3.00	7.31	D	NR
1	PBDE 71	7.83		0.00	326	2308	2.44	5.95	D	
1	PBDE 47	7.89		0.00	326	1903	2.68	6.53	D	
1	PBDE 66	7.97	0.01	0.00	326	1885	2.29	5.58	D	
1	PBDE 100	8.29	0.01	0.00	404	1056m	2.09	5.10	D	NR
1	PBDE 99	8.40	0.01	0.00	404	1175m	1.98	4.83	D	NR
1	PBDE 85	8.59		0.00	404	1379	2.40	5.85	D	NR
1	PBDE 154	8.69		0.00	484	1131m	1.95	4.75	D	NR
1	PBDE 153	8.84	-0.01	0.00	484	1117m	1.95	4.75	D	NR
1	PBDE 138	9.04	-0.01	0.00	484	1093	2.09	5.10	D	NR
1	PBDE 128	9.25	-0.01	0.00	484	1371	2.64	6.44	D	NR
1	PBDE 183	9.28	-0.01	0.00	562	887m	1.98	4.83	D	NR
1	PBDE 190	9.54	-0.02	0.00	562	795m	2.04	4.97	D	NR
1	PBDE 203	9.87	-0.02	0.00	642	637	1.64	4.00	D	NR
1	PBDE 206				719	0d		0.38	U	NR
1	PBDE 209				799	0d		0.32	U	NR

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\062514\0625F005.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 11:41	**Quant Date:**	06/25/2014 12:07	**Vial:**	5
Run Type:	DMS			**Dilution:**	10.0
Lab ID:	KWG1405686-2 -- K1405833-001DMS			**Soln Conc. Units:**	ng/ml

Prep Amount:	20.304 g	**Dilution:**	10.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062514\0625F005.D Vial: 5
Acq On : 25 Jun 2014 11:41 am Operator: CHart
Sample : K1405833-001 | DMS 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 12:06:20 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

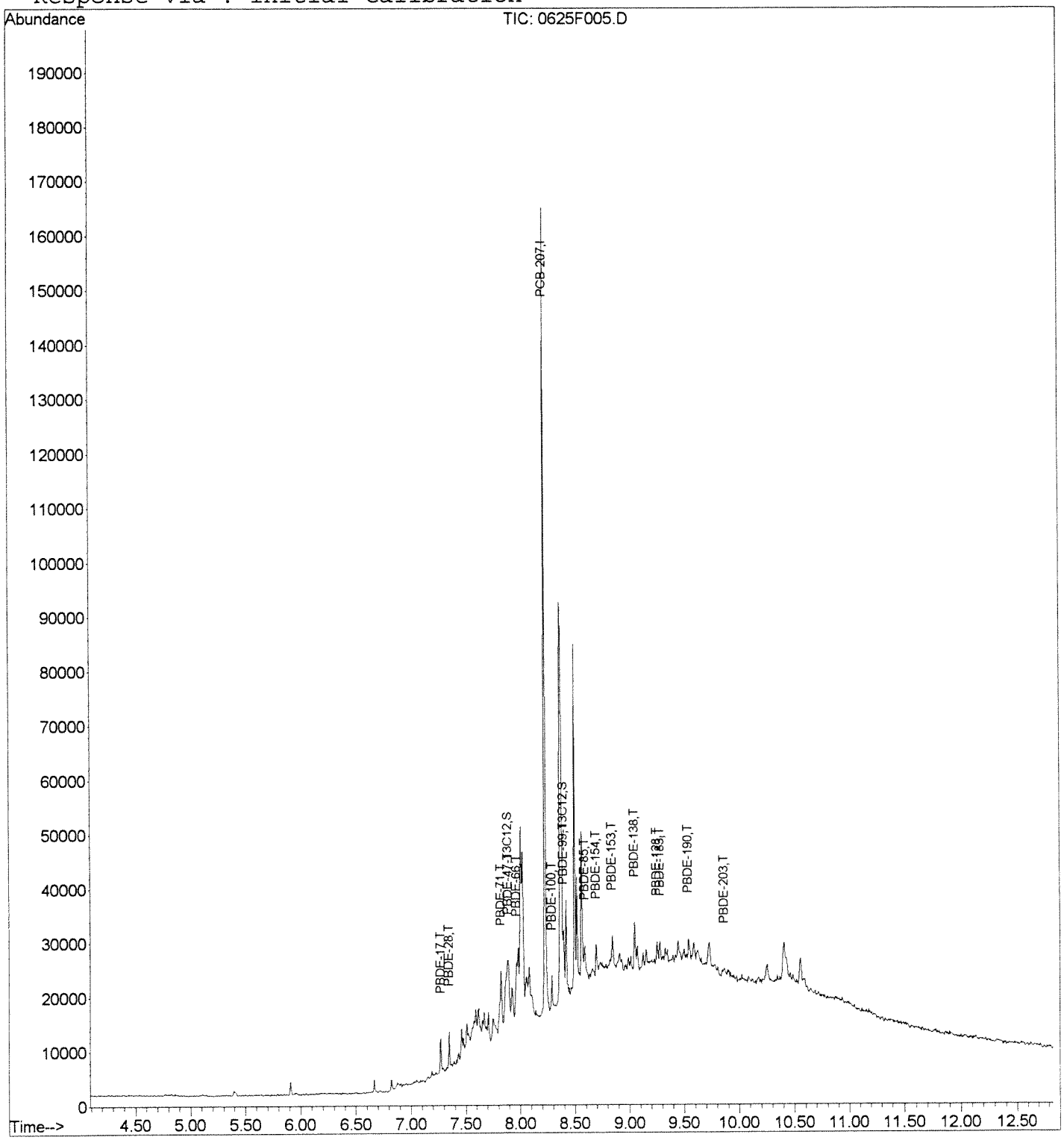
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.23	464	58471	50.00	ng/ml	0.01
System Monitoring Compounds						
5) PBDE-47-13C12	7.89	338	1654	2.54	ng/ml	0.02
Spiked Amount 25.000			Recovery =	10.16%		
9) PBDE-99-13C12	8.40	418	1006m	1.88	ng/ml	0.02
Spiked Amount 25.000			Recovery =	7.52%		
Target Compounds						Qvalue
2) PBDE-17	7.27	246	2124m	2.82	ng/ml	
3) PBDE-28	7.35	246	2121	3.00	ng/ml	78
4) PBDE-71	7.83	326	2308	2.44	ng/ml	90
6) PBDE-47	7.89	326	1903	2.68	ng/ml	83
7) PBDE-66	7.97	326	1885	2.29	ng/ml	89
8) PBDE-100	8.29	404	1056m	2.09	ng/ml	
10) PBDE-99	8.40	404	1175m	1.98	ng/ml	
11) PBDE-85	8.59	404	1379	2.40	ng/ml	95
12) PBDE-154	8.69	484	1131m	1.95	ng/ml	
13) PBDE-153	8.84	484	1117m	1.95	ng/ml	
14) PBDE-138	9.04	484	1093	2.09	ng/ml	89
15) PBDE-128	9.25	484	1371	2.64	ng/ml	90
16) PBDE-183	9.28	562	887m	1.98	ng/ml	
17) PBDE-190	9.54	562	795m	2.04	ng/ml	
18) PBDE-203	9.87	642	637	1.64	ng/ml	91

(#) = qualifier out of range (m) = manual integration
0625F005.D BDE062414.M Wed Jun 25 12:08:03 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062514\0625F005.D Vial: 5
Acq On : 25 Jun 2014 11:41 am Operator: CHart
Sample : K1405833-001 | DMS 10X Inst : MS14
Misc : Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 12:07 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 11:50:16 2014
Response via : Initial Calibration



Exception Report

Data File: J:\MS14\DATA\062414\0624F021.D
Lab ID: KWG1405686-3
RunType: LCS
Matrix: SOIL

Date Acquired: 06/24/2014 17:15
Date Quantitated: 06/25/2014 09:34
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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	

K058833

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 17	21.6	NA	20	OK, <40%

Primary Review: JUN 25 2014

Secondary Review: 6/25/14

Printed: 06/25/2014 09:55:22
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F021.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:15	**Quant Date:**	06/25/2014 09:34	**Vial:**	5
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1405686-3			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
		Prep Date:	06/16/2014		
Prep Ref:	1347928				

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M			**Calibration ID:**	CAL13399
Title:					
Tune Ref:	J:\MS14\DATA\062414\0624F017.D			**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.21	0.00?	464	57466	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	PBDE 47C13	7.88	0.00	0.00	338	12920	20.19	81	70-130 OK	
1	PBDE 99C13	8.37	0.00	0.00	418	10374	19.72	79	70-130 OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	PBDE 17	7.26		0.00	246	11125	15.89	3.18		
1	PBDE 28	7.34		0.00	246	10703	16.15	3.23		
1	PBDE 71	7.81		0.00	326	15470	16.67	3.33		
1	PBDE 47	7.88		0.00	326	12025	17.20	3.44		
1	PBDE 66	7.94	-0.01	0.00	326	13469	16.68	3.34		
1	PBDE 100	8.27		0.00	404	7990	16.09	3.22		
1	PBDE 99	8.37		0.00	404	9303	15.98	3.20		
1	PBDE 85	8.57	-0.01	0.00	404	9548	16.92	3.38		
1	PBDE 154	8.68		0.00	484	9055	15.91	3.18		
1	PBDE 153	8.82	-0.01	0.00	484	9137	16.27	3.25		
1	PBDE 138	9.03		0.00	484	8450	16.46	3.29		
1	PBDE 128	9.23	-0.02	0.00	484	8672	16.99	3.40		
1	PBDE 183	9.26	-0.01	0.00	562	7314**m**	16.62	3.32		
1	PBDE 190	9.52	-0.02	0.00	562	6697	17.49	3.50		
1	PBDE 203	9.85	-0.02	0.00	642	6589	17.27	3.45		
1	PBDE 206	10.53	-0.02	0.00	719	4337	16.99	3.40		
1	PBDE 209	11.14	-0.01	0.00	799	2879	16.36	3.27		

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\062414\0624F021.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:15	**Quant Date:**	06/25/2014 09:34	**Vial:**	5
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1405686-3			**Soln Conc. Units:**	ng/ml

Prep Amount:	10.000 g	**Dilution:**	1.0
Prep Final Vol:	2 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\062414\0624F021.D Vial: 5
Acq On : 24 Jun 2014 5:15 pm Operator: CHart
Sample : KWG1405686-03 | LCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:31 2014 Quant Results File: BDE062414.RES

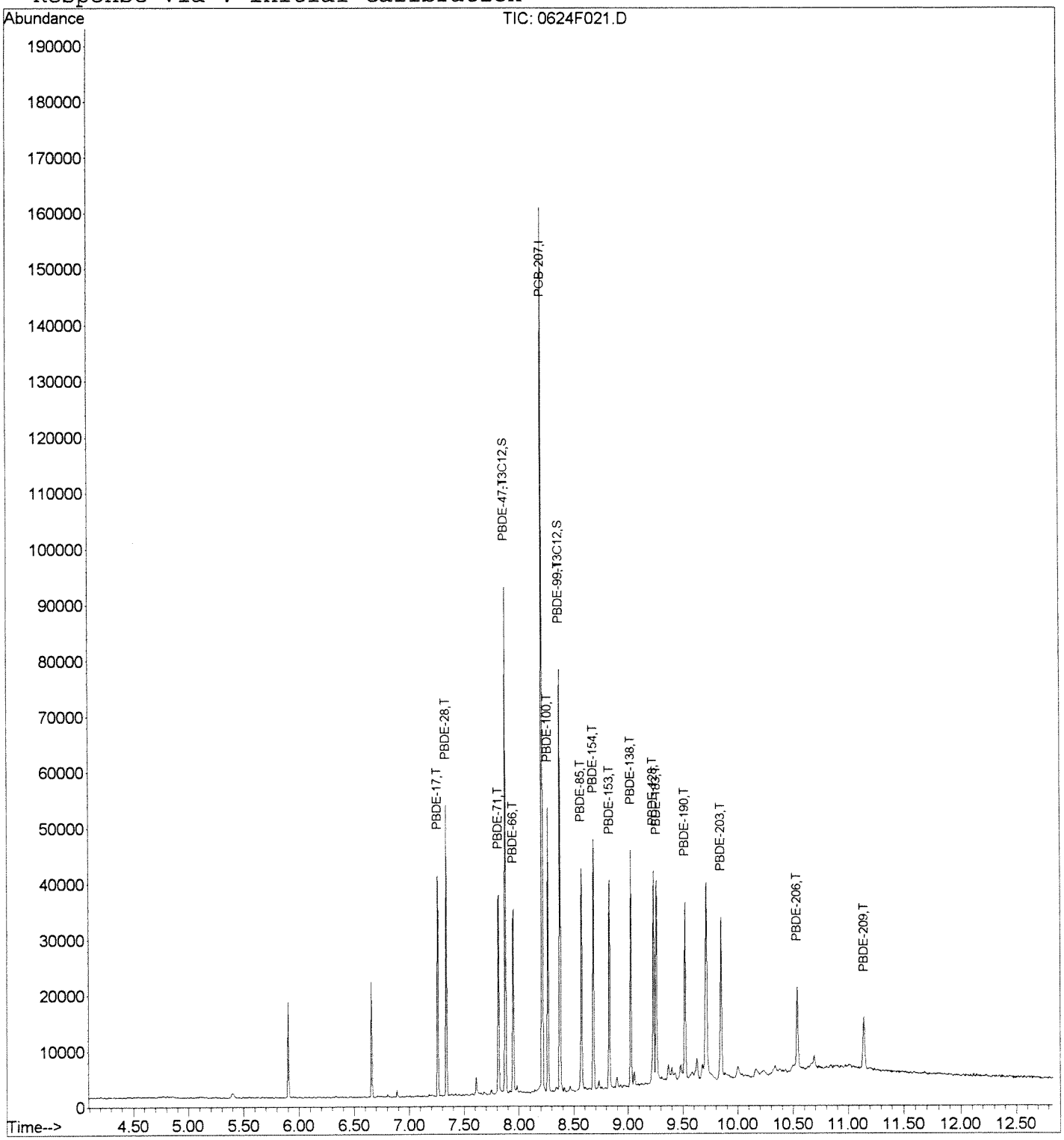
Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	57466	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	12920	20.19	ng/ml	0.00
Spiked Amount 25.000			Recovery = 80.76%			
9) PBDE-99-13C12	8.37	418	10374	19.72	ng/ml	0.00
Spiked Amount 25.000			Recovery = 78.88%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	11125	15.89	ng/ml#	62
3) PBDE-28	7.34	246	10703	16.15	ng/ml	82
4) PBDE-71	7.81	326	15470	16.67	ng/ml	70
6) PBDE-47	7.88	326	12025	17.20	ng/ml#	60
7) PBDE-66	7.94	326	13469	16.68	ng/ml	76
8) PBDE-100	8.27	404	7990	16.09	ng/ml	81
10) PBDE-99	8.37	404	9303	15.98	ng/ml	93
11) PBDE-85	8.57	404	9548	16.92	ng/ml	81
12) PBDE-154	8.68	484	9055	15.91	ng/ml	86
13) PBDE-153	8.82	484	9137	16.27	ng/ml	86
14) PBDE-138	9.03	484	8450	16.46	ng/ml	97
15) PBDE-128	9.23	484	8672	16.99	ng/ml	96
16) PBDE-183	9.26	562	7314m	16.62	ng/ml	
17) PBDE-190	9.52	562	6697	17.49	ng/ml	98
18) PBDE-203	9.85	642	6589	17.27	ng/ml	96
19) PBDE-206	10.53	719	4337	16.99	ng/ml	97
20) PBDE-209	11.14	799	2879	16.36	ng/ml	95

(#) = qualifier out of range (m) = manual integration

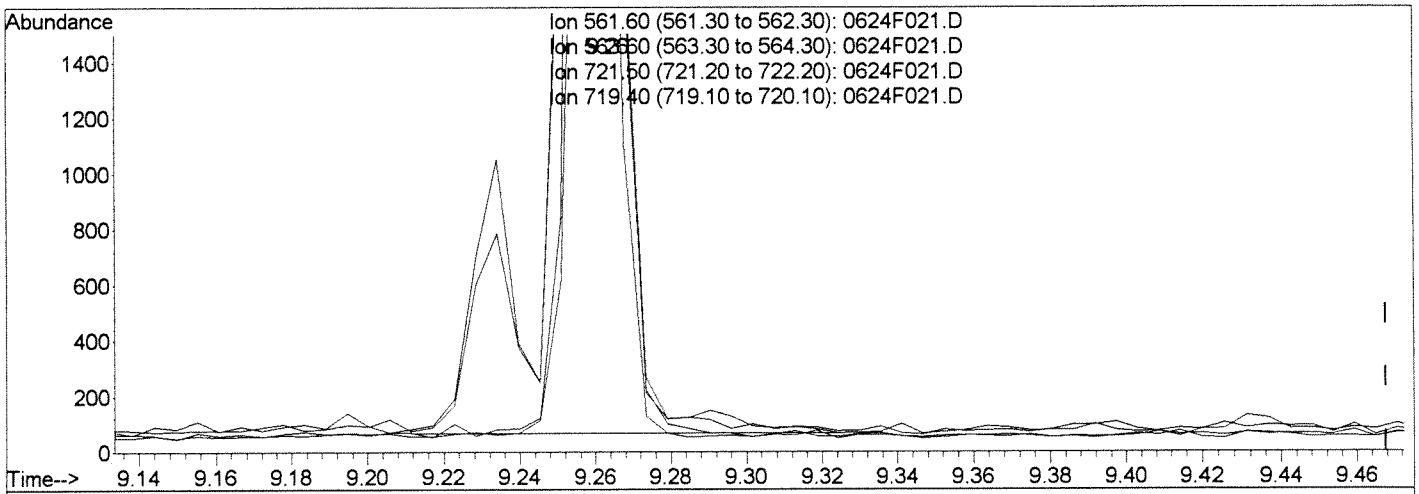
Data File : J:\MS14\DATA\062414\0624F021.D Vial: 5
Acq On : 24 Jun 2014 5:15 pm Operator: CHart
Sample : KWG1405686-03 | LCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:34 2014 Quant Results File: BDE062414.RE

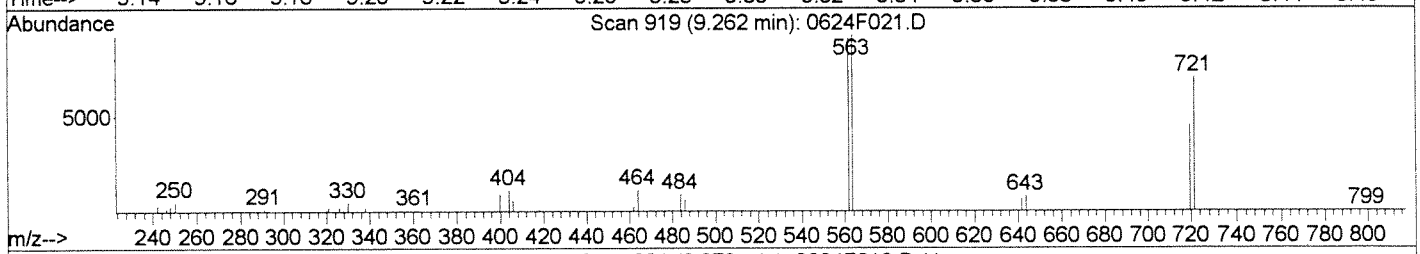
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration

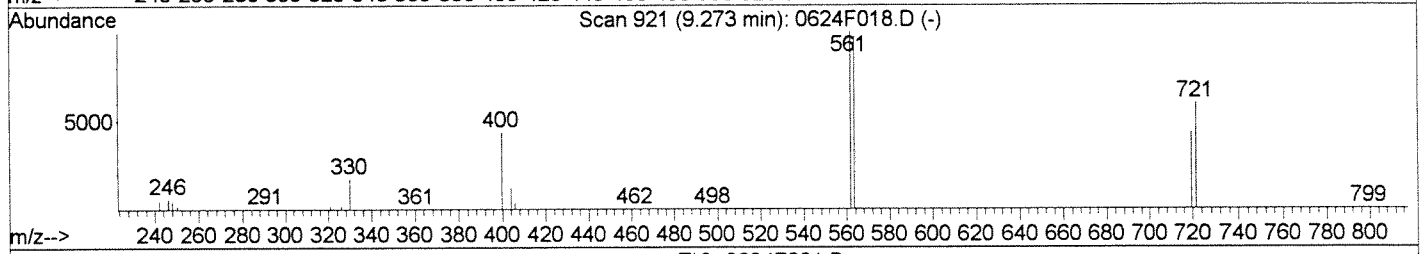


Data File : J:\MS14\DATA\062414\0624F021.D Vial: 5
Acq On : 24 Jun 2014 5:15 pm Operator: CHart
Sample : KWG1405686-03 | LCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:33 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F021.D

(16) PBDE-183 (T)

9.26min 18.19ng/ml

response 8005

Ion	Exp%	Act%
561.60	100	100
563.60	97.60	101.83
721.50	63.90	77.30
719.40	42.60	50.26

Manual Integration:

Before

06/25/14

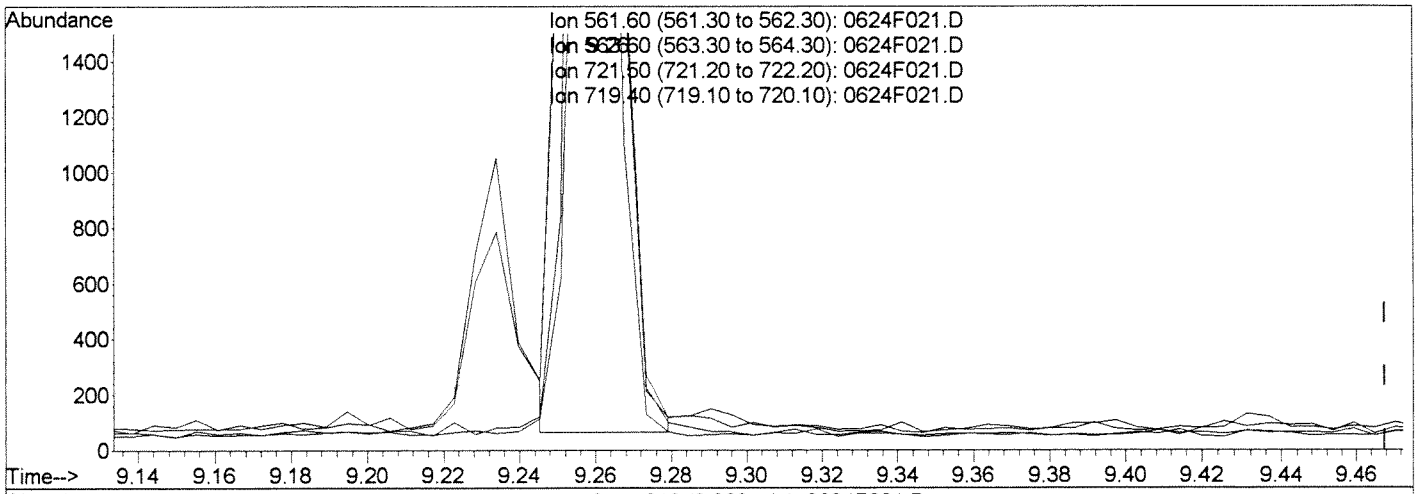
CH

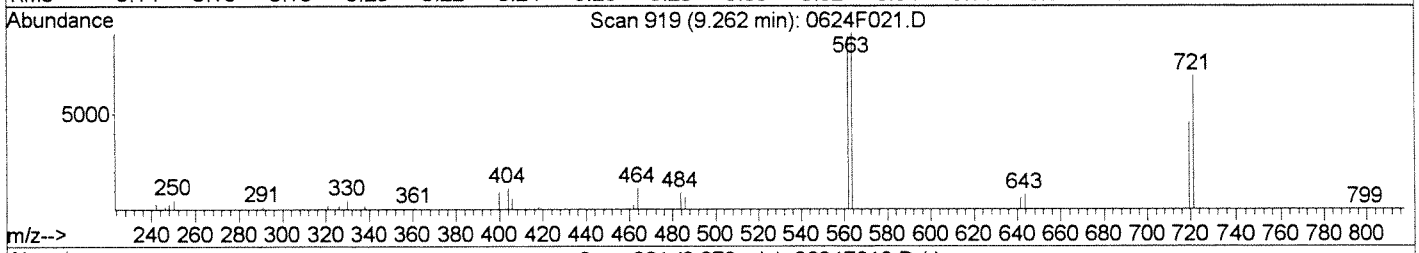
6/29/14

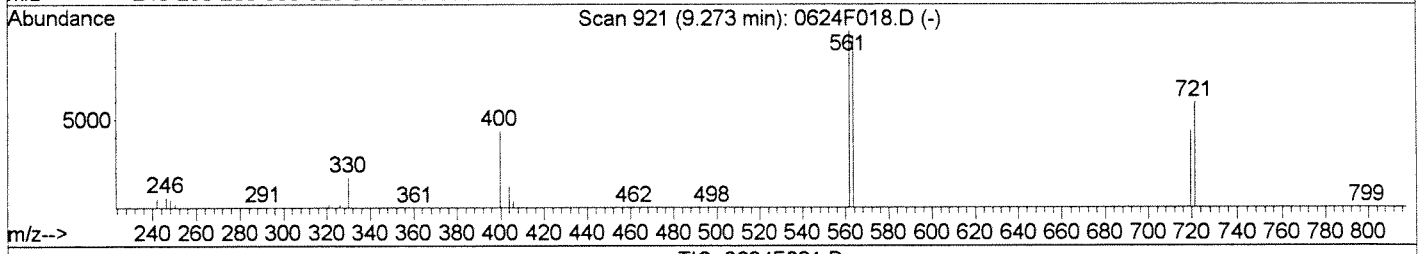
0624F021.D BDE062414.M Wed Jun 25 09:34:23 2014

Data File : J:\MS14\DATA\062414\0624F021.D Vial: 5
Acq On : 24 Jun 2014 5:15 pm Operator: CHart
Sample : KWG1405686-03 | LCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:34 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Multiple Level Calibration







TIC: 0624F021.D

(16) PBDE-183 (T)

9.26min 16.62ng/ml m

response 7314

Ion	Exp%	Act%
561.60	100	100
563.60	97.60	101.90
721.50	63.90	77.26
719.40	42.60	50.49

Manual Integration:

After

IC-Overintegrated

06/25/14

0624F021.D BDE062414.M Wed Jun 25 09:34:31 2014

Exception Report

Data File: J:\MS14\DATA\062414\0624F022.D
Lab ID: KWG1405686-4
RunType: DLCS
Matrix: SOIL

Date Acquired: 06/24/2014 17:33
Date Quantitated: 06/25/2014 09:33
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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	

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Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	PBDE 17	21.6	NA	20	OK. <40%.

Primary Review: JUN 25 2014

Secondary Review: 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F022.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:33	**Quant Date:**	06/25/2014 09:33	**Vial:**	6
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1405686-4			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/18/2014

Analysis Lot:	KWG1406646	**Prep Lot:**	KWG1405686	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347929	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:	J:\MS14\DATA\062414\0624F019.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.21	0.00?	464	56361	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	PBDE 47C13	7.88	0.00	0.00	338	14706	23.43	94	70-130 OK	
1	PBDE 99C13	8.37	0.00	0.00	418	11306	21.91	88	70-130 OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	PBDE 17	7.26		0.00	246	13748	20.43	4.09		
1	PBDE 28	7.34		0.00	246	13611	21.18	4.24		
1	PBDE 71	7.81		0.00	326	19570	21.50	4.30		
1	PBDE 47	7.88		0.00	326	14723	21.47	4.29		
1	PBDE 66	7.95		0.00	326	17360	21.92	4.38		
1	PBDE 100	8.27		0.00	404	10323	21.19	4.24		
1	PBDE 99	8.37		0.00	404	11621	20.35	4.07		
1	PBDE 85	8.58		0.00	404	12002	21.69	4.34		
1	PBDE 154	8.68		0.00	484	11495	20.59	4.12		
1	PBDE 153	8.83		0.00	484	11967	21.73	4.35		
1	PBDE 138	9.03		0.00	484	10906	21.67	4.33		
1	PBDE 128	9.23	-0.02	0.00	484	11144	22.26	4.45		
1	PBDE 183	9.26	-0.01	0.00	562	9831	22.77	4.55		
1	PBDE 190	9.52	-0.02	0.00	562	8455	22.52	4.50		
1	PBDE 203	9.85	-0.02	0.00	642	8867	23.70	4.74		
1	PBDE 206	10.54	-0.01	0.00	719	5786	21.96	4.39		
1	PBDE 209	11.15		0.00	799	4004	21.56	4.31		

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\062414\0624F022.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 17:33	**Quant Date:**	06/25/2014 09:33	**Vial:**	6
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1405686-4			**Soln Conc. Units:**	ng/ml

Prep Amount:	10.000 g	**Dilution:**	1.0
Prep Final Vol:	2 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\062414\0624F022.D Vial: 6
Acq On : 24 Jun 2014 5:33 pm Operator: CHart
Sample : KWG1405686-04 | DLCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 09:33:32 2014 Quant Results File: BDE062414.RES

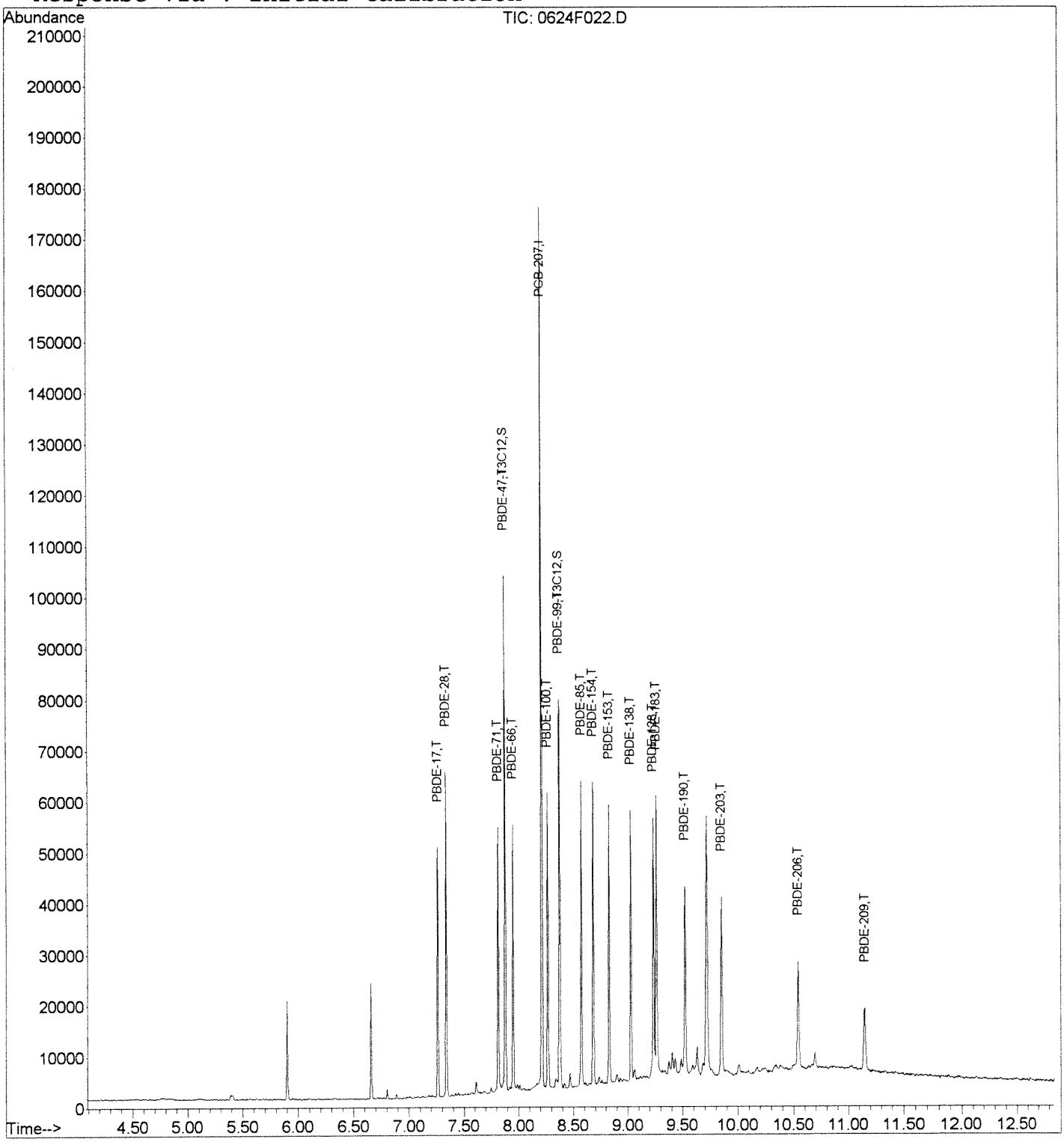
Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	56361	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	14706	23.43	ng/ml	0.00
Spiked Amount 25.000			Recovery = 93.72%			
9) PBDE-99-13C12	8.37	418	11306	21.91	ng/ml	0.00
Spiked Amount 25.000			Recovery = 87.64%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	13748	20.43	ng/ml#	61
3) PBDE-28	7.34	246	13611	21.18	ng/ml	87
4) PBDE-71	7.81	326	19570	21.50	ng/ml	96
6) PBDE-47	7.88	326	14723	21.47	ng/ml	86
7) PBDE-66	7.95	326	17360	21.92	ng/ml	97
8) PBDE-100	8.27	404	10323	21.19	ng/ml	88
10) PBDE-99	8.37	404	11621	20.35	ng/ml	93
11) PBDE-85	8.58	404	12002	21.69	ng/ml	92
12) PBDE-154	8.68	484	11495	20.59	ng/ml	91
13) PBDE-153	8.83	484	11967	21.73	ng/ml	90
14) PBDE-138	9.03	484	10906	21.67	ng/ml	84
15) PBDE-128	9.23	484	11144	22.26	ng/ml	98
16) PBDE-183	9.26	562	9831	22.77	ng/ml	98
17) PBDE-190	9.52	562	8455	22.52	ng/ml	92
18) PBDE-203	9.85	642	8867	23.70	ng/ml	96
19) PBDE-206	10.54	719	5786	21.96	ng/ml	97
20) PBDE-209	11.15	799	4004	21.56	ng/ml	95

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS14\DATA\062414\0624F022.D Vial: 6
Acq On : 24 Jun 2014 5:33 pm Operator: CHart
Sample : KWG1405686-04 | DLCS Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 9:33 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Wed Jun 25 09:33:00 2014
Response via : Initial Calibration



Injection Log

Directory: J:\MS14\DATA\062414

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0624F001.D	1.	~~DFTPP @ 2.5ppm | SVM46-84C~~ N2		24 Jun 2014 09:4
2	1	0624F002.D	1.	DFTPP @ 2.5ppm | SVM46-84C		24 Jun 2014 10:1
3	2	0624F003.D	1.	PBDE IB		24 Jun 2014 10:3
4	3	0624F004.D	1.	PBDE ICAL @ 0.5ng/mL | SVM46-7A		24 Jun 2014 11:0
5	4	0624F005.D	1.	PBDE ICAL @ 1.0ng/mL | SVM46-7B		24 Jun 2014 11:2
6	5	0624F006.D	1.	PBDE ICAL @ 5.0ng/mL | SVM46-7C		24 Jun 2014 11:3
7	6	0624F007.D	1.	PBDE ICAL @ 10ng/mL | SVM46-7D		24 Jun 2014 11:5
8	7	0624F008.D	1.	PBDE ICAL @ 15ng/mL | SVM46-7E		24 Jun 2014 12:1
9	8	0624F009.D	1.	PBDE ICAL @ 20ng/mL | SVM46-7F		24 Jun 2014 12:3
10	9	0624F010.D	1.	PBDE ICAL @ 25ng/mL | SVM46-7G		24 Jun 2014 12:5
11	10	0624F011.D	1.	PBDE ICAL @ 30ng/mL | SVM46-7H		24 Jun 2014 13:0
12	11	0624F012.D	1.	PBDE ICAL @ 40ng/mL | SVM46-7I		24 Jun 2014 13:2
13	12	0624F013.D	1.	PBDE ICAL @ 50ng/mL | SVM46-7J		24 Jun 2014 13:4
14	13	0624F014.D	1.	PBDE ICAL @ 60ng/mL | SVM46-7K		24 Jun 2014 14:0
15	14	0624F015.D	1.	PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7L		24 Jun 2014 14:2
16	15	0624F016.D	1.	PBDE ICV C @ 25ng/mL | SVM46-8B		24 Jun 2014 14:4

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CA

6/29/14

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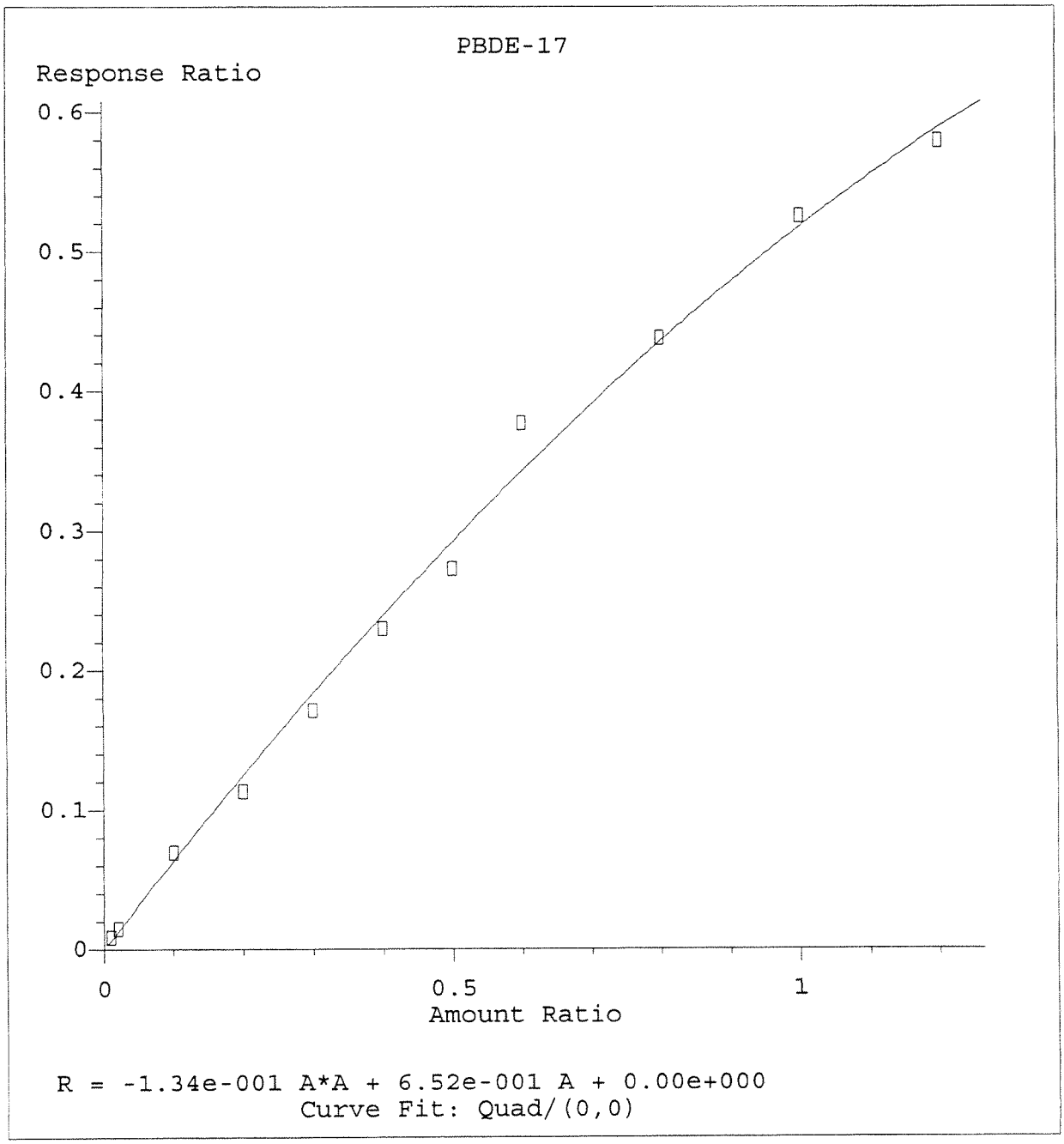
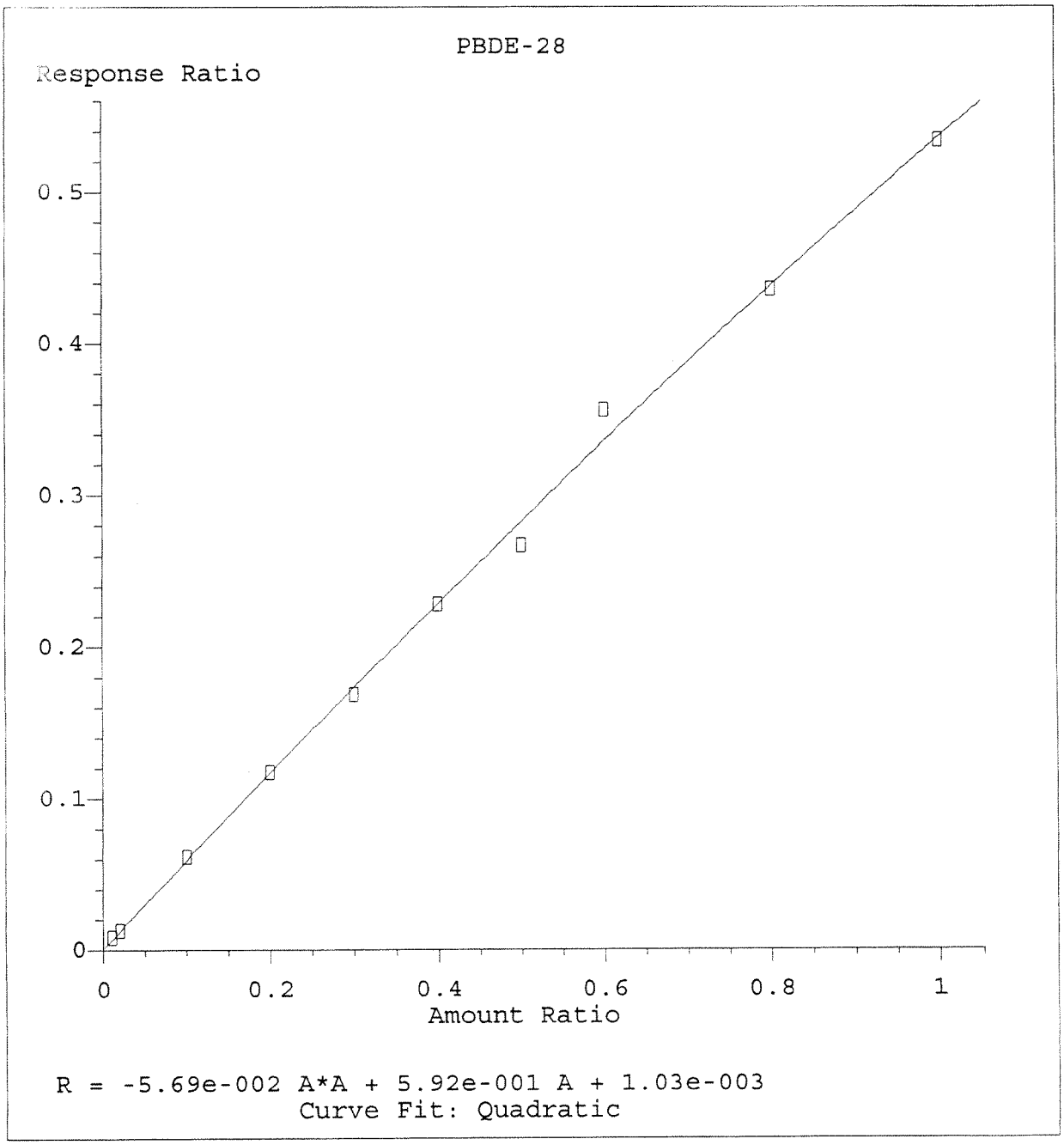


Method Name: J:\MS14\METHODS\SIM\BDE062414.M
Calibration Table Last Updated: Tue Jun 24 15:41:14 2014

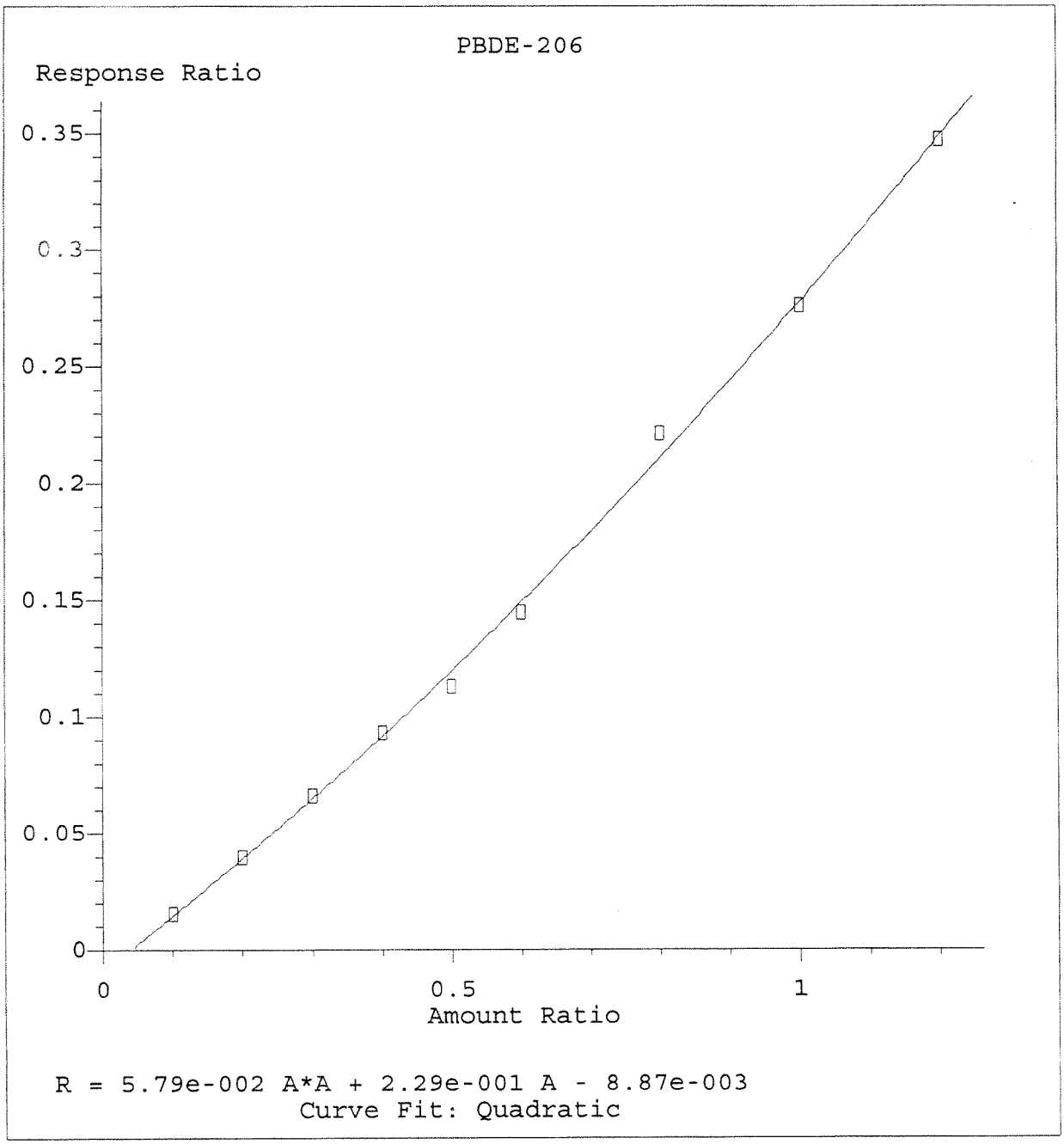
JUN 2 4 2014



Method Name: J:\MS14\METHODS\SIM\BDE062414.M
Calibration Table Last Updated: Tue Jun 24 15:49:30 2014

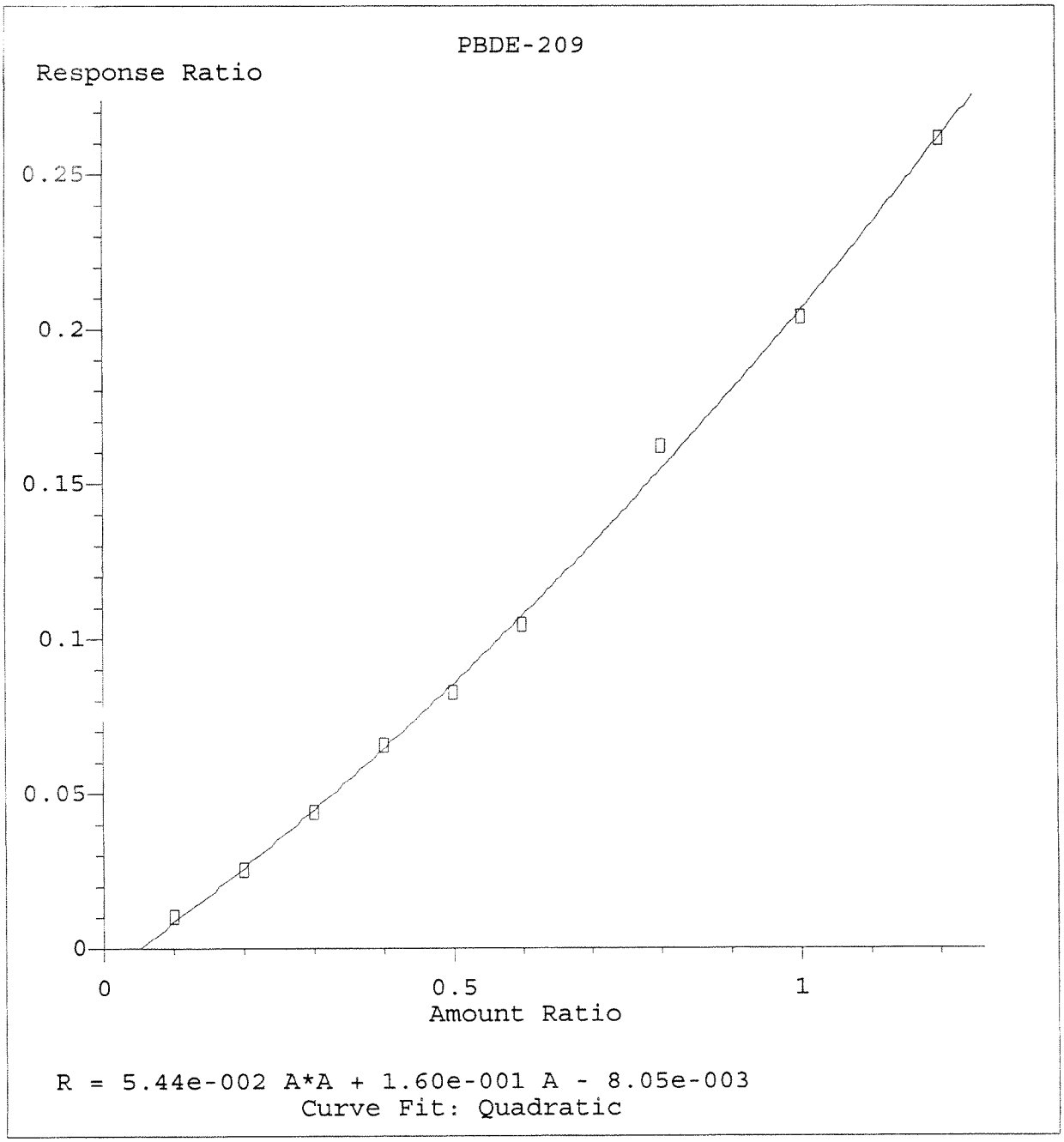
JUN 2 4 2014

CA
6/29/14



Method Name: J:\MS14\METHODS\SIM\BDE062414.M
Calibration Table Last Updated: Tue Jun 24 15:23:11 2014

JUN 2 4 2014



Method Name: J:\MS14\METHODS\SIM\BDE062414.M
Calibration Table Last Updated: Tue Jun 24 15:22:58 2014

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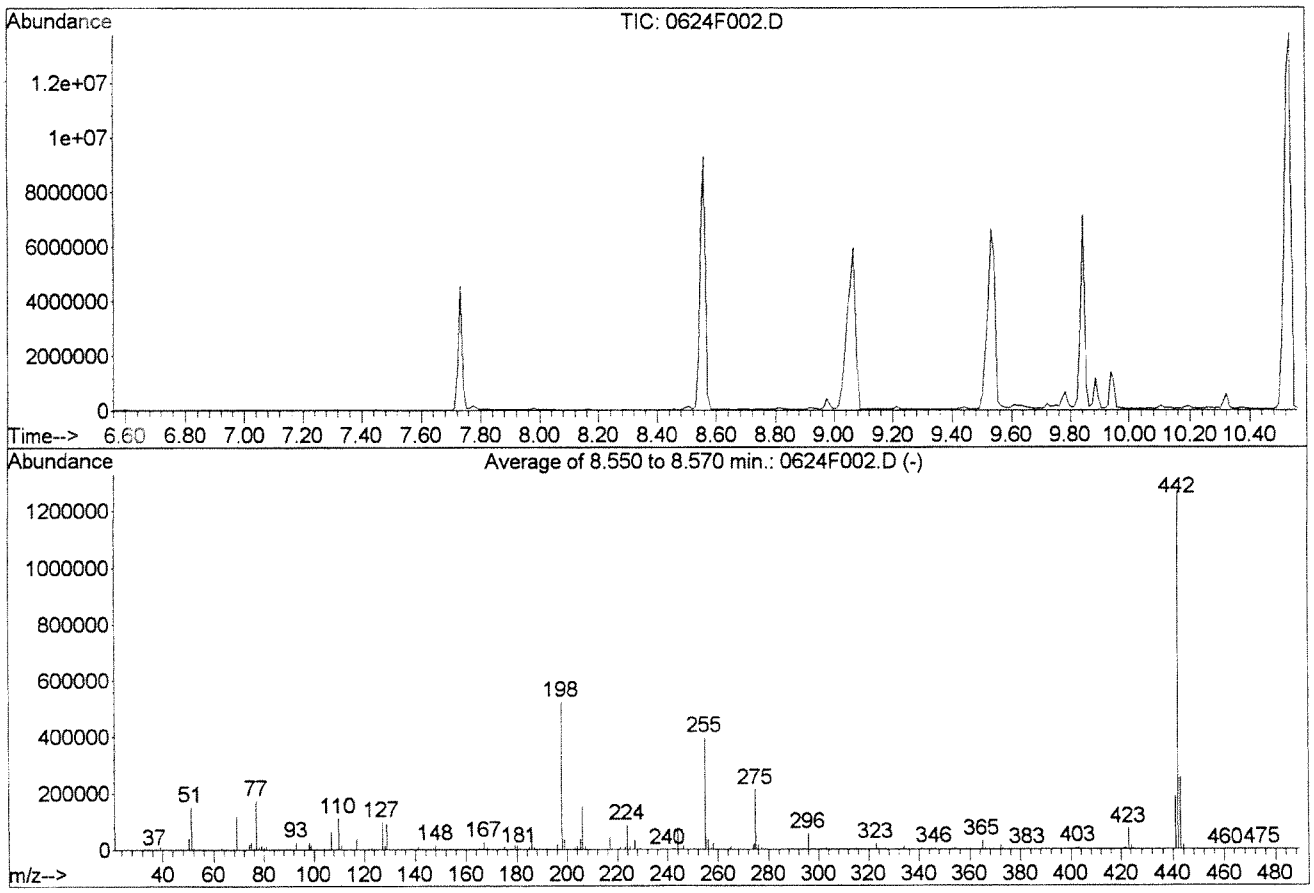
DFTPP

Data File : J:\MS14\DATA\062414\0624F002.D
Acq On : 24 Jun 2014 10:13 am
Sample : DFTPP @ 2.5ppm | SVM46-84C
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: Average of 8.550 to 8.570 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	29.1	152393	PASS
68	69	0.00	2	2.0	2331	PASS
69	198	0.00	100	22.4	117367	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	18.8	98198	PASS
197	198	0.00	2	0.3	1679	PASS
198	442	30	100	41.3	523328	PASS
199	198	5	9	6.7	34964	PASS
275	198	10	60	40.4	211302	PASS
365	442	1	50	2.6	33129	PASS
441	443	0.01	100	73.8	187189	PASS
442	442	30	100	100.0	1268629	PASS
443	442	15	24	20.0	253512	PASS

0624F002.D A_DFTPP.M Tue Jun 24 10:32:59 2014

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Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	213	47.00	88	55.05	785	63.95	402
36.90	1172	47.60	102	55.95	4582	65.05	2752
38.05	2876	48.40	708	57.10	2744	65.30	164
39.10	12045	48.90	1588	58.00	271	65.85	420
39.30	250	49.10	860	58.30	70	66.10	318
39.95	934	50.05	44040	58.85	288	66.30	174
41.90	212	51.10	152393	60.00	278	66.70	578
43.10	362	52.00	6197	60.20	84	67.10	735
44.90	485	52.20	2436	61.40	92	67.30	180
45.10	92	53.30	199	63.05	7623	67.90	2331
45.40	143	54.50	87	63.70	306	69.00	117367

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
71.20	318	80.00	11198	90.00	300	98.95	15844
72.10	111	80.20	112	91.50	83	99.80	1004
73.00	2397	81.05	13797	92.10	2479	100.00	53
73.95	21125	81.85	3002	92.95	28082	101.10	4561
74.80	181	82.95	2753	93.30	120	101.70	104
75.10	28626	84.05	852	94.00	1701	102.10	658
76.10	5774	84.90	967	94.95	40	103.00	1624
77.10	173418	86.00	5377	95.90	818	104.00	5724
78.10	11326	87.10	1472	96.20	745	104.80	1628
78.50	101	87.80	458	97.20	1091	105.00	112
79.05	15518	88.20	433	98.00	25150	105.80	1327

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
106.30	85	118.40	53	128.05	15943	136.90	1514
106.95	64974	119.05	770	129.00	91546	137.10	56
108.90	1950	119.90	1266	130.00	3048	138.00	1202
110.00	112896	120.70	140	131.10	1800	138.90	396
111.00	16914	121.00	105	131.70	67	139.20	9
111.80	920	122.00	3267	132.00	695	139.90	562
112.20	750	122.30	96	132.90	765	141.00	13769
113.00	978	123.00	8349	133.80	852	142.20	2068
114.00	136	124.10	3162	134.70	108	142.80	1632
115.90	1311	124.95	2609	135.30	163	143.05	1181
117.00	38064	127.10	98198	135.90	1593	143.90	691

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
144.20	758	152.80	58	160.90	2981	170.80	1148
145.00	656	153.10	4544	161.10	58	173.05	3218
145.95	2807	153.95	3476	161.95	548	174.00	3087
147.05	7603	155.00	64	163.00	729	175.10	12381
148.00	15973	156.20	5070	163.30	93	176.00	1623
148.90	1886	156.80	906	164.85	5483	176.40	53
149.90	497	157.20	931	165.40	183	177.00	2671
150.85	177	157.90	1555	165.95	5783	177.90	1861
151.20	1733	158.90	853	167.00	27165	178.95	19699
151.90	775	159.10	1214	168.00	10152	179.95	13213
152.20	281	160.05	3886	170.10	73	180.20	133

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Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
181.05	7298	189.00	6553	198.95	34964	210.00	1057
181.85	1033	190.00	552	200.10	1671	210.90	2741
182.30	713	191.10	1384	201.20	1270	212.30	92
182.80	55	192.05	6839	201.80	669	213.00	577
183.10	554	193.10	4109	202.95	5726	213.70	240
183.80	1931	193.80	1056	203.90	11197	214.10	122
184.90	8888	194.20	860	205.05	35949	214.90	998
185.60	104	194.90	1668	206.10	150549	216.00	2027
186.00	35877	196.00	18659	207.10	10332	217.00	43555
187.10	12078	196.75	1679	207.90	3474	217.90	3242
188.20	1310	198.00	523328	208.90	1899	218.10	2421

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
218.70	70	226.20	901	235.00	4157	244.10	74840
219.00	227	227.00	34559	235.80	916	245.00	6010
219.20	540	227.70	81	236.95	3147	246.00	15272
219.80	477	228.00	5332	238.20	56	247.00	2445
221.00	9543	228.80	2230	239.20	565	247.80	569
221.80	2922	229.10	4500	240.10	855	248.10	176
222.95	8301	229.80	845	240.90	798	248.80	1382
224.00	86692	232.00	90	241.10	1619	249.10	1610
224.90	10093	232.80	371	242.05	4871	250.05	1075
225.10	12082	233.10	557	242.95	5806	250.90	458
225.90	1300	234.00	1758	243.80	444	251.20	307

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
252.20	126	260.10	337	272.70	106	281.95	748
253.00	1824	261.00	524	273.90	12224	282.95	2656
253.30	745	262.80	188	274.10	20906	284.00	1222
253.70	1429	263.95	876	275.00	211302	284.20	75
253.90	1612	265.05	9589	276.00	16672	284.90	1418
254.95	396928	266.10	1182	276.80	106	285.10	2270
256.00	36426	267.05	144	277.10	6240	286.10	283
256.90	4650	270.00	993	277.90	1305	287.00	95
258.00	22803	270.80	970	278.30	123	288.90	504
258.90	1654	271.90	562	279.00	378	290.80	133
259.10	1692	272.10	868	281.05	390	291.30	63

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
292.10	467	301.90	471	310.30	365	319.40	301
292.95	3868	302.10	633	311.10	524	320.00	337
294.20	550	303.05	6527	311.90	283	320.90	679
295.10	1155	303.60	123	313.10	464	321.10	1870
295.95	57067	304.00	2249	314.00	3892	321.80	1014
296.90	2733	304.95	466	315.00	5826	322.20	272
297.10	5681	307.20	208	315.80	1259	323.05	21255
297.80	503	308.10	1446	316.05	4327	323.50	61
298.85	212	308.60	89	316.60	54	323.90	4091
300.00	88	309.00	492	317.05	1105	324.10	51
300.80	341	309.80	944	318.00	103	325.00	368

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Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
325.50	75	334.00	13242	344.80	86	354.10	6085
325.90	217	335.20	1378	346.05	5411	355.05	1745
326.85	4260	335.90	905	347.15	566	355.90	145
327.00	83	336.80	76	348.00	134	358.00	291
327.20	1196	338.20	53	349.80	160	358.90	839
328.90	225	338.90	444	351.00	213	360.15	296
329.20	85	339.90	469	351.80	141	362.65	225
329.90	109	340.30	82	352.10	2678	363.70	183
330.90	55	340.95	3298	352.30	107	364.95	33129
332.70	74	341.90	332	352.90	5269	366.05	4344
332.90	1861	343.90	57	353.10	239	367.10	408

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
368.40	75	388.95	146	402.00	6734	419.00	67
369.95	930	390.05	2431	403.00	7254	420.10	314
371.05	2872	390.90	747	403.90	3800	420.80	1142
372.15	15491	392.05	1739	404.10	468	421.10	8887
372.95	3912	393.10	241	405.00	55	422.00	7136
374.00	625	394.80	129	406.00	53	423.05	73717
377.70	145	395.10	59	409.70	180	424.10	14630
382.00	124	396.50	69	410.00	499	424.95	1803
382.90	1959	396.95	267	410.30	65	425.20	90
383.95	1514	400.05	154	415.00	801	426.25	118
385.00	428	401.00	1472	417.10	120	426.80	82

Average of 8.550 to 8.570 min.: 0624F002.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
435.60	121	456.30	52				
437.00	66	460.60	59				
437.95	458	472.80	50				
439.30	1111	474.10	83				
439.75	1353	474.85	142				
441.10	187189						
442.05	1268629						
443.05	253512						
444.00	14840						
445.00	974						
445.20	81						

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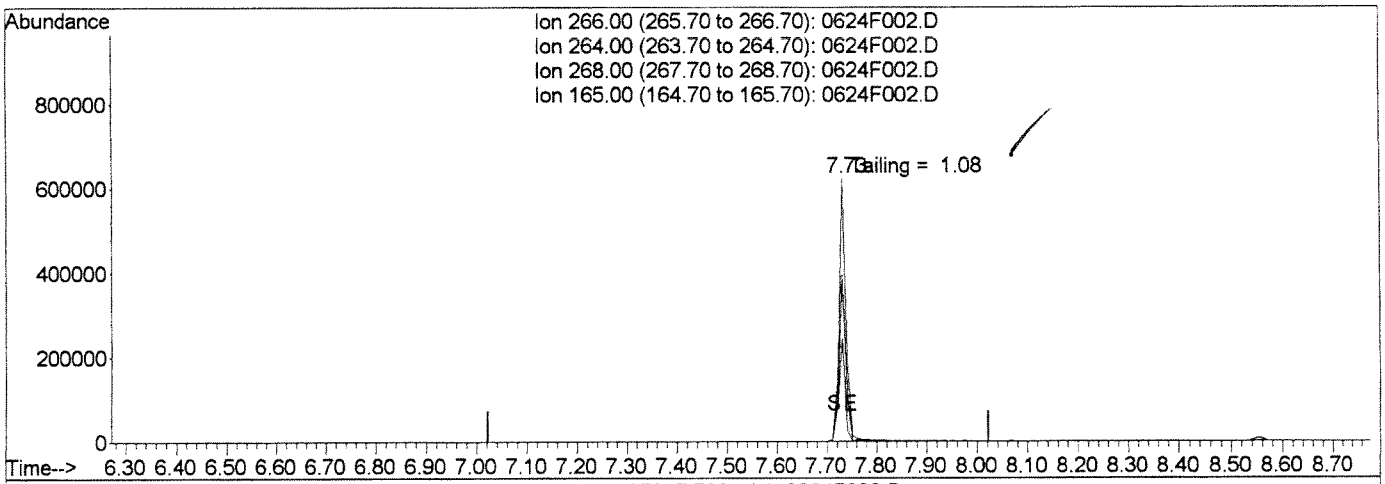
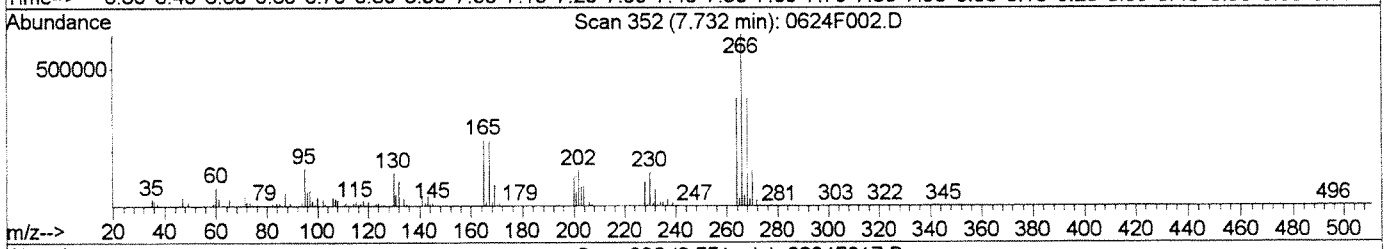
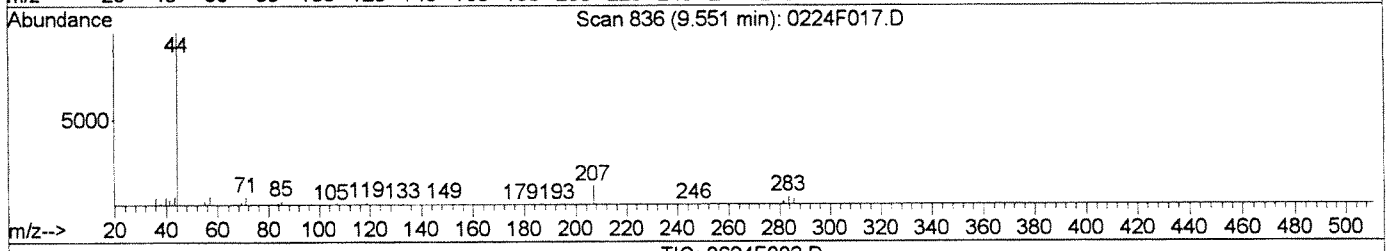
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F002.D Vial: 1
Acq On : 24 Jun 2014 10:13 am Operator: CHart
Sample : DFTPP @ 2.5ppm | SVM46-84C Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 24 17:14 2014 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: 0624F002.D

(1) Pentachlorophenol

7.73min 27.61ng/ml m

response 635474

Ion	Exp%	Act%
266.00	100	100
264.00	63.70	62.74
268.00	63.30	63.15
165.00	71.50	38.84#

6/27/14

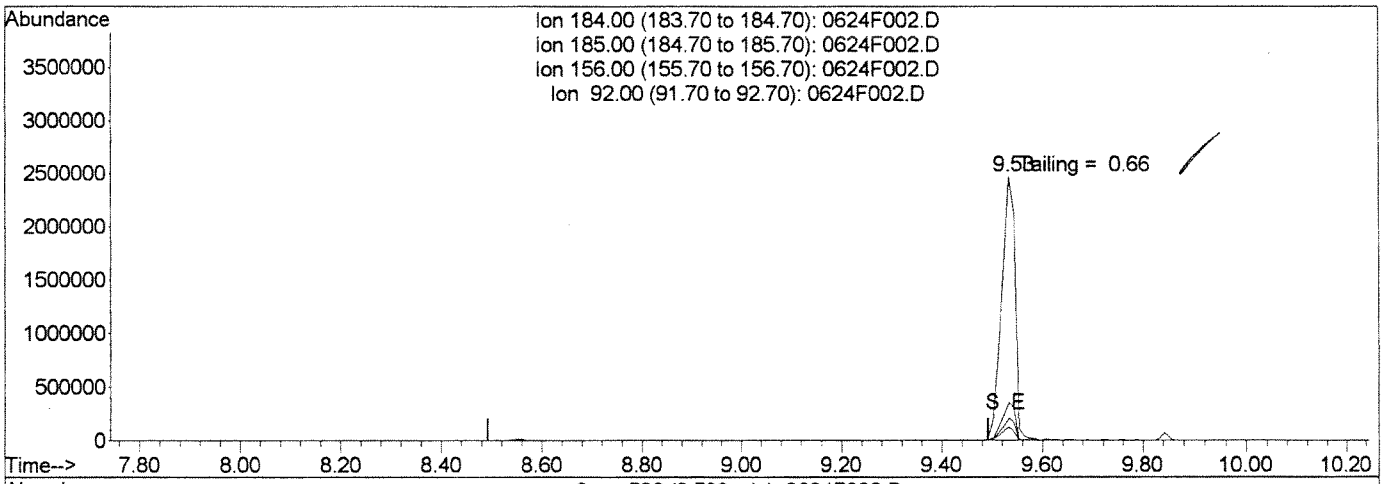
JUN 2 4 2014

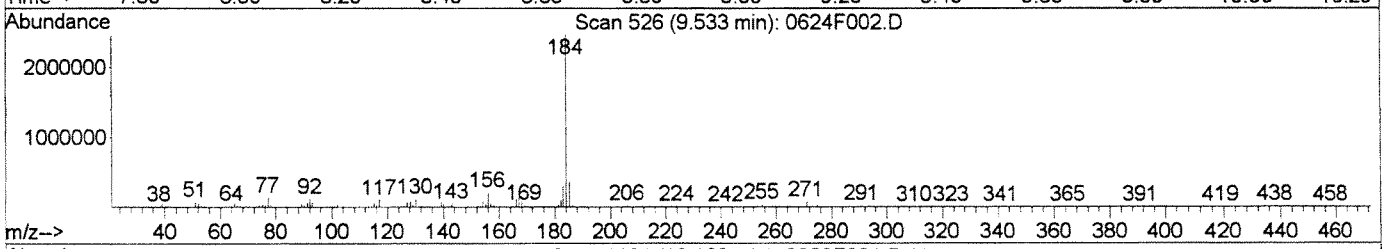
0624F002.D A_DFTPP.M Tue Jun 24 17:15:00 2014

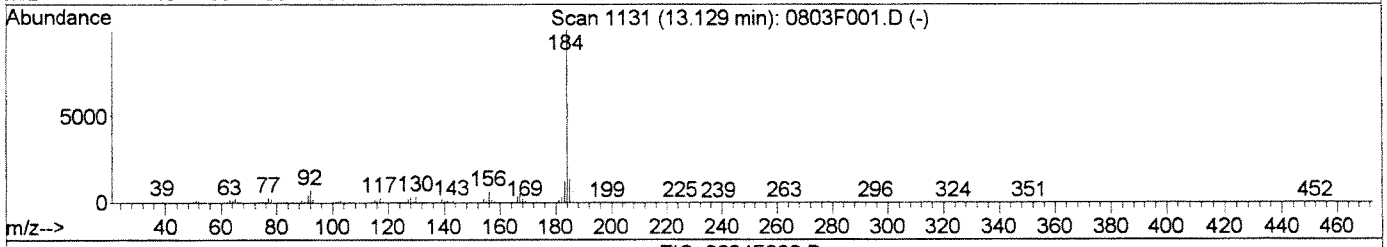
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F002.D Vial: 1
Acq On : 24 Jun 2014 10:13 am Operator: CHart
Sample : DFTPP @ 2.5ppm | SVM46-84C Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 24 17:15 2014 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: 0624F002.D

(3) Benzidine (T)

9.53min 82.01ug/ml m

response 4727309

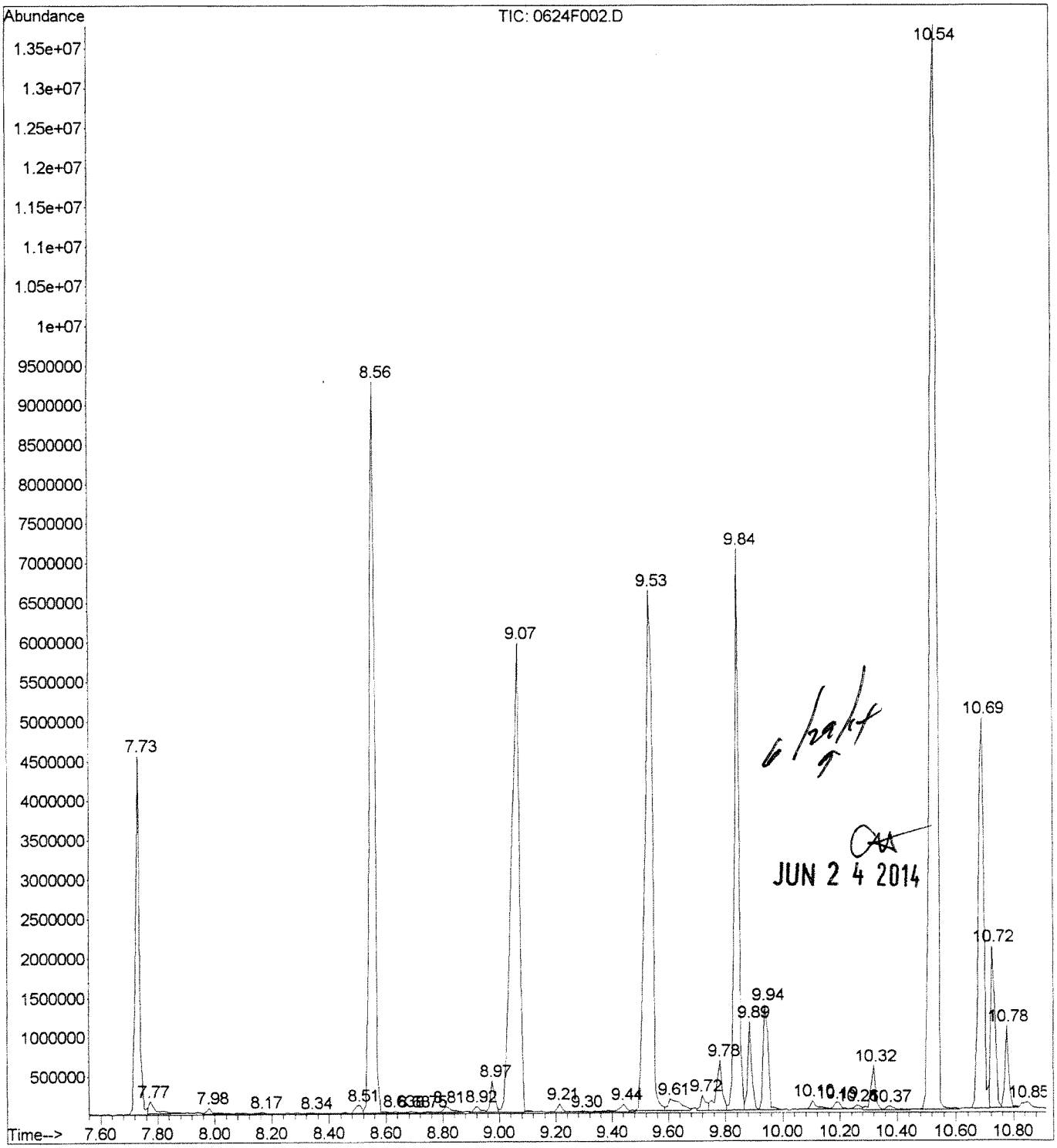
Ion	Exp%	Act%
184.00	100	100
185.00	28.30	14.46
156.00	6.00	8.46
92.00	5.30	5.05

6/24/14

JUN 2 4 2014

0624F002.D A_DFTPP.M Tue Jun 24 17:15:08 2014

File : J:\MS14\DATA\062414\0624F002.D
Operator : CHart
Acquired : 24 Jun 2014 10:13 am using AcqMethod TUNE15
Instrument : MS14
Sample Name: DFTPP @ 2.5ppm | SVM46-84C
Misc Info :
Vial Number: 1



1	4.232	rBV	0.083		32737	4.170	4.253
2	4.284	rBV	0.052		31577	4.253	4.304
3	4.625	rVB	0.072		21454	4.605	4.677
4	4.770	rBV	0.072		20111	4.729	4.801
5	4.853	rVB	0.083		23507	4.822	4.905
6	5.392	rVB	0.072		24170	5.350	5.423
7	5.454	rBV	0.052		31272	5.423	5.474
8	5.961	rBV	0.124		37156	5.930	6.054
9	6.158	rBV	0.093		91898	6.127	6.220
10	6.334	rVB	0.104		35007	6.303	6.406
11	6.541	rVV	0.093		22412	6.479	6.572
12	6.603	rVB	0.062		27715	6.572	6.634
13	6.717	rBV	0.052		25974	6.686	6.738
14	6.769	rVB	0.072		21106	6.738	6.810
15	6.883	rBV	0.093		48295	6.810	6.903
16	7.131	rBV	0.114		47349	7.069	7.183
17	7.214	rBV	0.083		25798	7.183	7.266
18	7.318	rBV	0.093		65050	7.266	7.359
19	7.442	rVB	0.083		27698	7.400	7.483
20	7.732	rBV	0.083		4336887	7.680	7.763
21	7.773	rVB	0.124		259551	7.763	7.887
22	7.980	rVB	0.104		121410	7.960	8.063
23	8.167	rVB	0.062		32473	8.136	8.198
24	8.343	rVB	0.062		23647	8.312	8.374
25	8.508	rBV	0.093		206927	8.425	8.519
26	8.560	rVV	0.093		11673183	8.519	8.612
27	8.633	rVV	0.052		31499	8.612	8.664
28	8.684	rVV	0.052		37675	8.664	8.715
29	8.746	rVV	0.052		32679	8.715	8.767
30	8.809	rVV	0.104		175466	8.767	8.871
31	8.922	rVV	0.062		130755	8.891	8.954
32	8.974	rVV	0.041		418032	8.954	8.995
33	9.067	rVV	0.135		11788693	8.995	9.130
34	9.212	rBV	0.083		120725	9.171	9.254
35	9.295	rVB	0.062		27305	9.264	9.326
36	9.440	rBV	0.155		241661	9.326	9.482
37	9.533	rVV	0.104		11963621	9.482	9.585
38	9.606	rVV	0.093		456446	9.585	9.678
39	9.720	rVV	0.041		262841	9.699	9.741
40	9.782	rVV	0.062		920099	9.741	9.803
41	9.844	rVV	0.062		7155246	9.803	9.865
42	9.885	rVV	0.052		1059666	9.865	9.917
43	9.937	rVB	0.083		1589322	9.917	9.999
44	10.103	rBV	0.083		178955	10.082	10.165
45	10.186	rVV	0.062	DDD	139571	10.165	10.227
46	10.258	rVV	0.052		74015	10.227	10.279
47	10.320	rVB	0.072		630017	10.279	10.351
48	10.372	rBV	0.093		96594	10.351	10.445
49	10.538	rBV	0.135	DDT	22029935	10.476	10.610
50	10.693	rBV	0.083		6835183	10.631	10.714
51	10.724	rVV	0.041		2076930	10.714	10.755
52	10.776	rVV	0.062		963366	10.755	10.817
53	10.848	rVB	0.114		196712	10.817	10.931
54	10.973	rBV	0.062		126270	10.931	10.993
55	11.118	rBV	0.093		1838596	11.066	11.159
56	11.242	rVB	0.062		38225	11.221	11.283
57	11.304	rBV	0.052		66690	11.283	11.335
58	11.356	rVV	0.041		82843	11.335	11.377
59	11.408	rVV	0.062		166171	11.377	11.439
60	11.501	rVV	0.124		3951392	11.439	11.563
61	11.584	rVB	0.041		34934	11.563	11.604

DDT Breakdown
= 0.63%

CAA
JUN 2 4 2014

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62	11.729	rBV	0.062	120688	11.677	11.739
63	11.760	rBV	0.031	55555	11.749	11.780
64	11.874	rBV	0.124	4838840	11.780	11.905
65	12.081	rBV	0.052	190569	12.050	12.101
66	12.122	rVB	0.041	98167	12.112	12.153
67	12.226	rVB	0.135	6018868	12.153	12.288
68	12.319	rBV	0.052	277659	12.288	12.339
69	12.360	rVB	0.052	253930	12.339	12.391
70	12.433	rBV	0.062	394627	12.391	12.453
71	12.464	rVB	0.041	112034	12.453	12.495
72	12.567	rVB	0.135	5499358	12.495	12.629
73	12.681	rBV	0.052	92248	12.640	12.692
74	12.723	rBV	0.052	216258	12.692	12.743
75	12.764	rBV	0.041	384384	12.743	12.785
76	12.909	rBV	0.104	6612009	12.837	12.940
77	12.971	rBV	0.072	207512	12.950	13.023
78	13.054	rBV	0.052	251952	13.023	13.075
79	13.095	rBV	0.041	486362	13.075	13.116
80	13.168	rVV	0.062	861897	13.126	13.189
81	13.220	rVB	0.093	7254638	13.189	13.282
82	13.416	rBV	0.052	424170	13.375	13.427
83	13.458	rVB	0.062	902548	13.427	13.489
84	13.541	rBV	0.093	5987810	13.489	13.582
85	13.634	rVB	0.041	174838	13.623	13.665
86	13.717	rBV	0.072	1187523	13.665	13.737
87	13.841	rBV	0.062	4627828	13.799	13.862
88	13.872	rVV	0.041	2283931	13.862	13.903
89	13.924	rVV	0.052	926378	13.903	13.955
90	13.975	rVB	0.083	1198661	13.955	14.038
91	14.131	rBV	0.114	3751403	14.089	14.203
92	14.255	rBV	0.072	908618	14.203	14.276
93	14.410	rBV	0.062	2420842	14.379	14.441

CA
JUN 2 4 2014

6/24/14
J

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F003.D Vial: 2
Acq On : 24 Jun 2014 10:35 am Operator: CHart
Sample : PBDE IB Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:20 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.22	464	63247	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	0.00	418	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		

Target Compounds Qvalue

JUN 2 4 2014

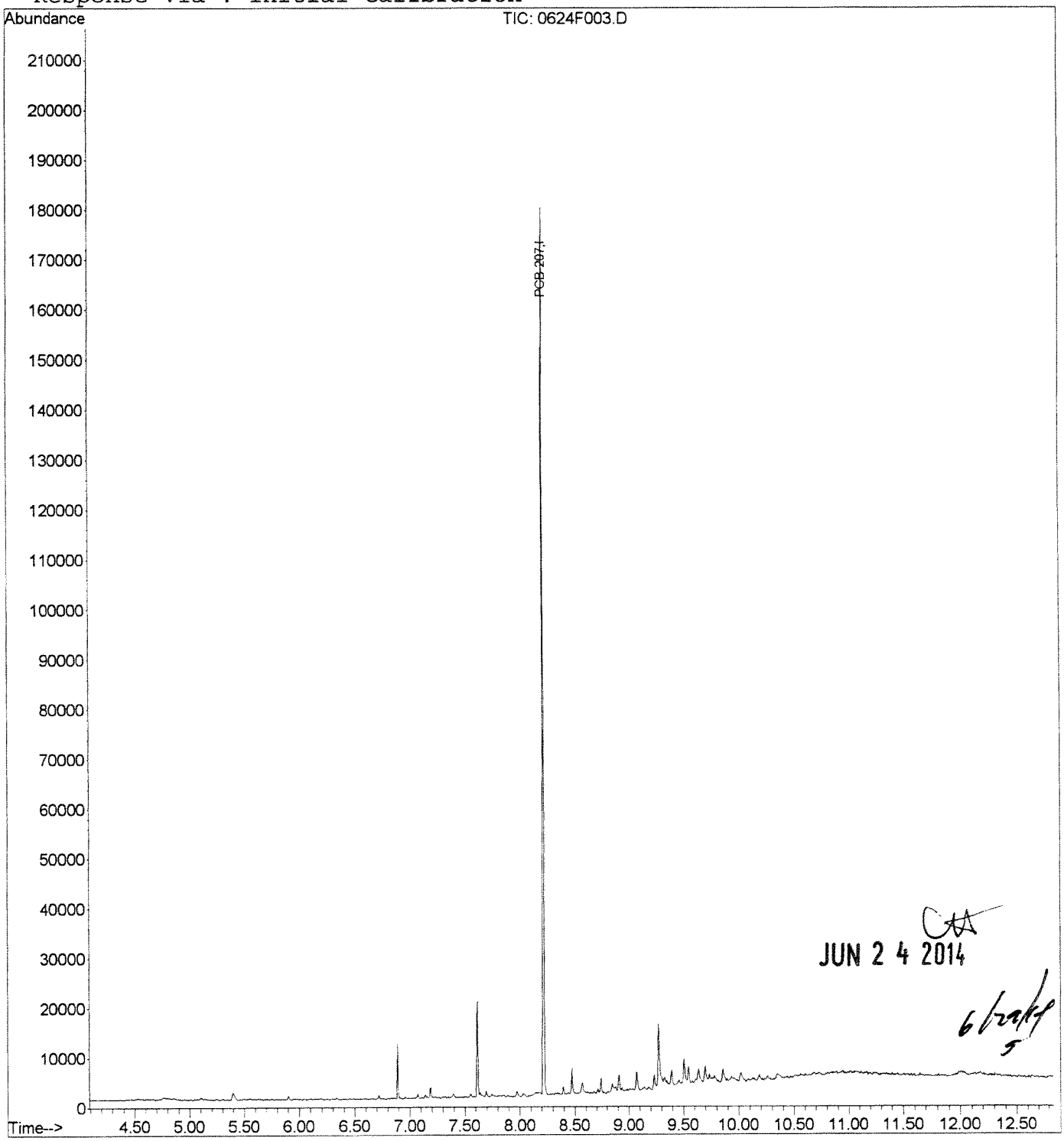
6/29/14

(#) = qualifier out of range (m) = manual integration
0624F003.D BDE062414.M Tue Jun 24 16:00:54 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F003.D Vial: 2
Acq On : 24 Jun 2014 10:35 am Operator: CHart
Sample : PBDE IB Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:14 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:20 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	66302	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	427	0.47	ng/ml	0.00
Spiked Amount 25.000			Recovery = 1.88%			
9) PBDE-99-13C12	8.38	418	291m	0.43	ng/ml	0.00
Spiked Amount 25.000			Recovery = 1.72%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	563m	0.48	ng/ml	
3) PBDE-28	7.34	246	535	0.55	ng/ml	65
4) PBDE-71	7.81	326	550m	0.42	ng/ml	
6) PBDE-47	7.88	326	416	0.44	ng/ml#	69
7) PBDE-66	7.95	326	487m	0.50	ng/ml	
8) PBDE-100	8.27	404	292	0.50	ng/ml#	50
10) PBDE-99	8.38	404	374	0.53	ng/ml	88
11) PBDE-85	8.58	404	306	0.49	ng/ml	76
12) PBDE-154	8.69	484	312	0.50	ng/ml	93
13) PBDE-153	8.83	484	276m	0.49	ng/ml	
14) PBDE-138	9.04	484	255	0.46	ng/ml	85
15) PBDE-128	9.25	484	230	0.47	ng/ml	91
16) PBDE-183	9.28	562	209	0.60	ng/ml	84
17) PBDE-190	9.55	562	191	0.61	ng/ml	92
18) PBDE-203	9.88	642	175	0.79	ng/ml#	75
19) PBDE-206	10.56	719	117m	1.27	ng/ml	

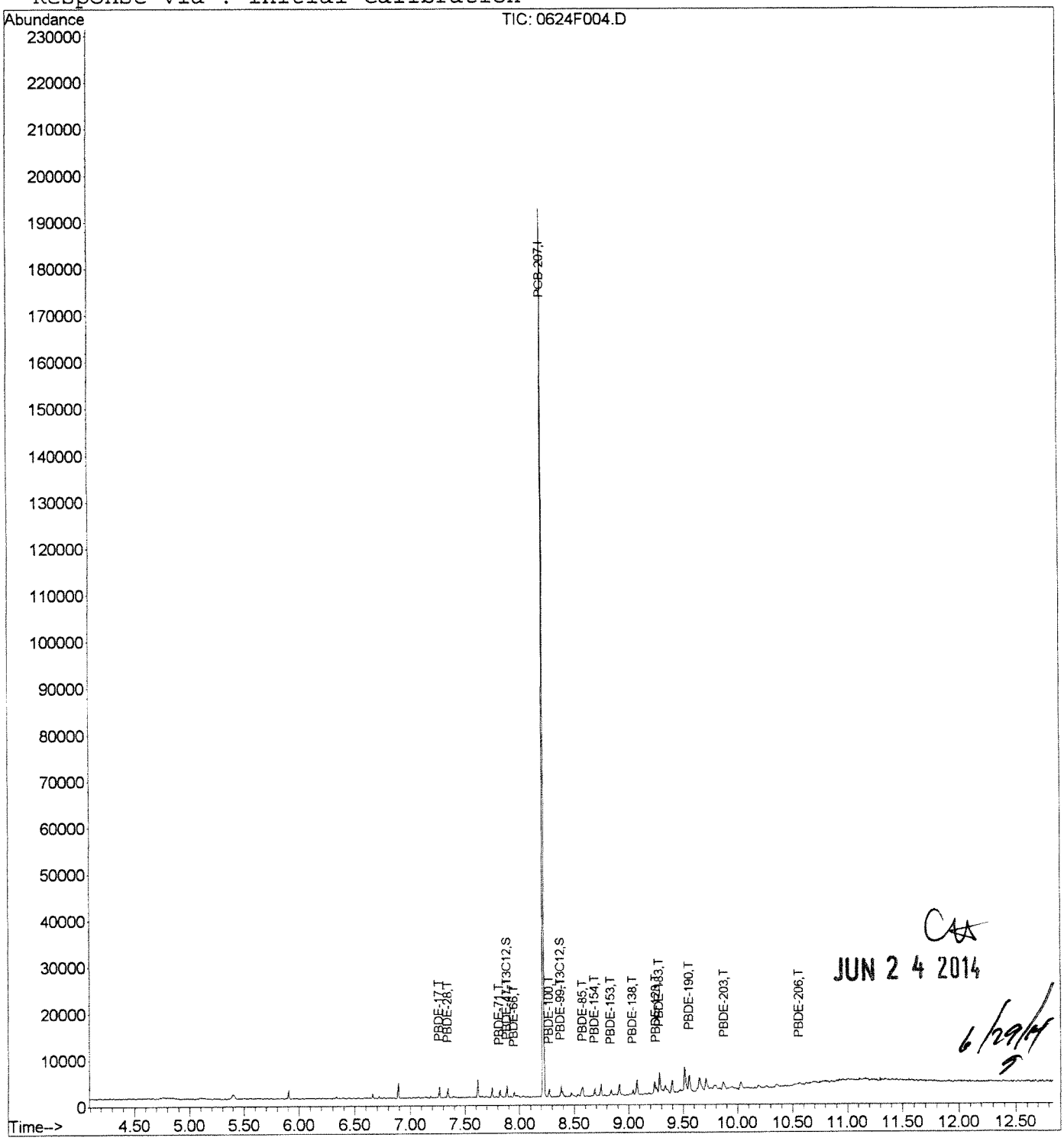
CA
JUN 2 4 2014
6/24/14

(#) = qualifier out of range (m) = manual integration
0624F004.D BDE062414.M Tue Jun 24 16:00:55 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

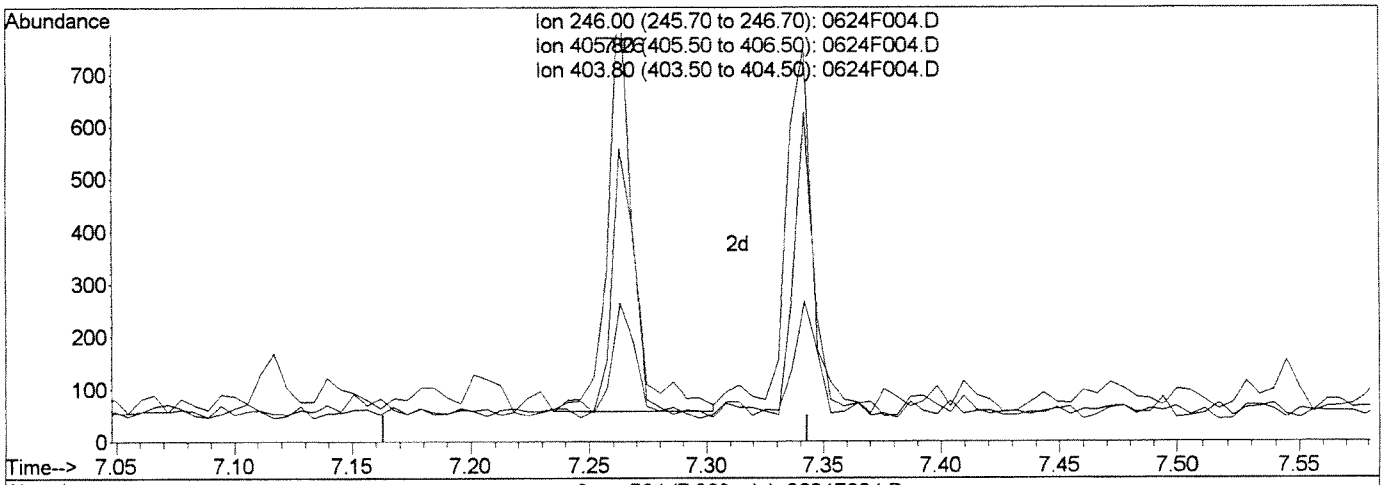
6/29/14

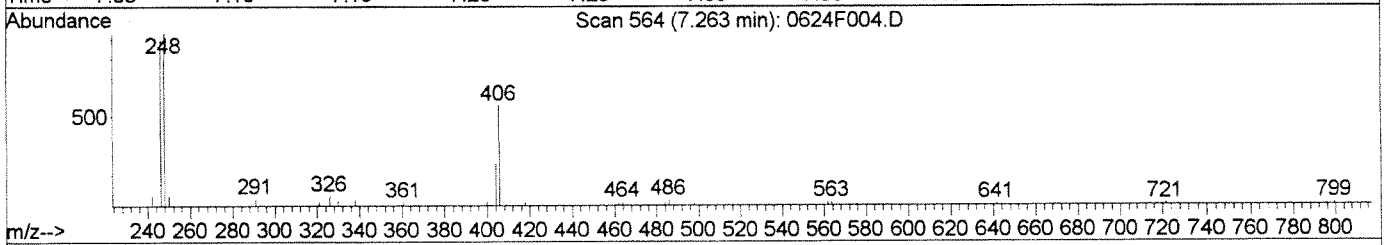
0624F004.D BDE062414.M Tue Jun 24 16:00:55 2014 Page 2

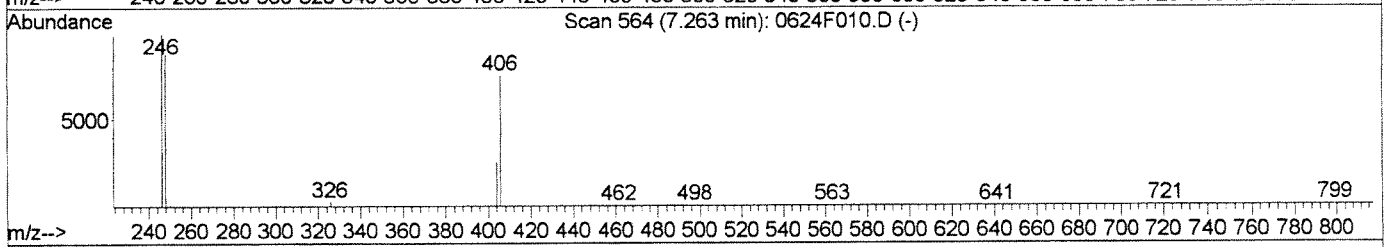
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(2) PBDE-17 (T)

7.26min 0.50ng/ml

response 593

Ion	Exp%	Act%
246.00	100	100
405.80	75.30	61.29
403.80	25.30	25.33
0.00	0.00	0.00

Manual Integration:

Before

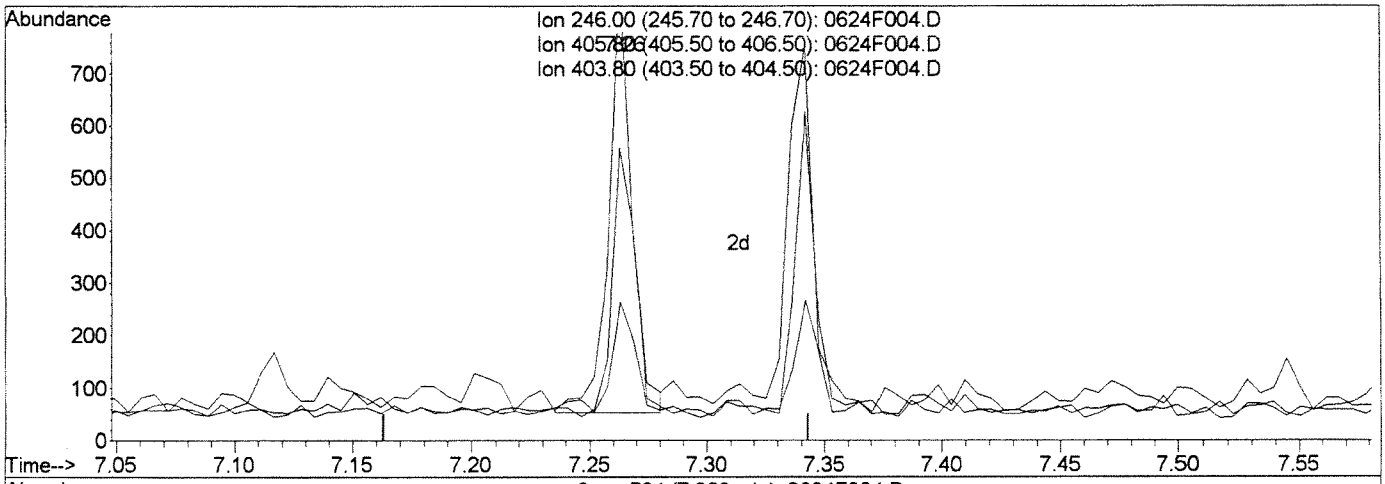
06/24/14

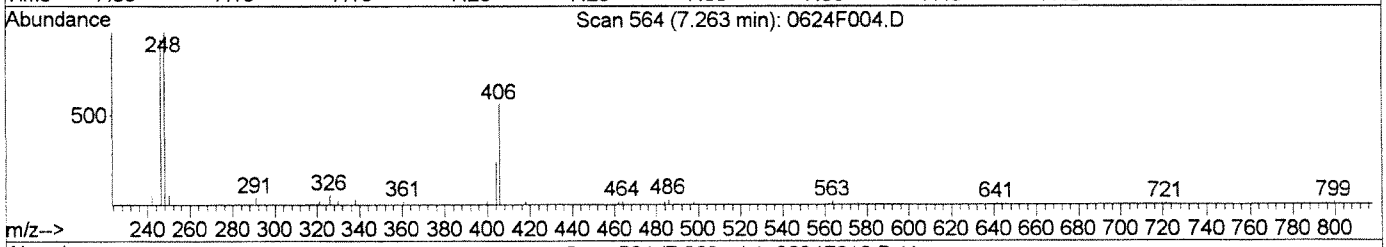
0624F004.D BDE062414.M Tue Jun 24 15:14:29 2014

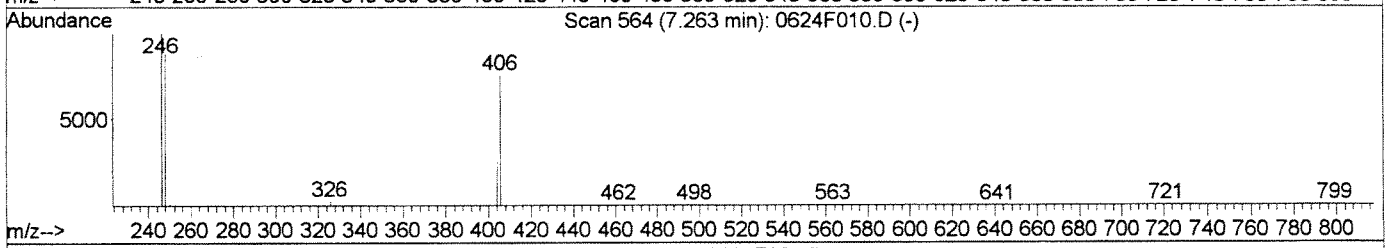
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:14 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(2) PBDE-17 (T)
7.26min 0.48ng/ml m
response 563

Ion	Exp%	Act%
246.00	100	100
405.80	75.30	62.53
403.80	25.30	29.53
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
06/24/14 CA

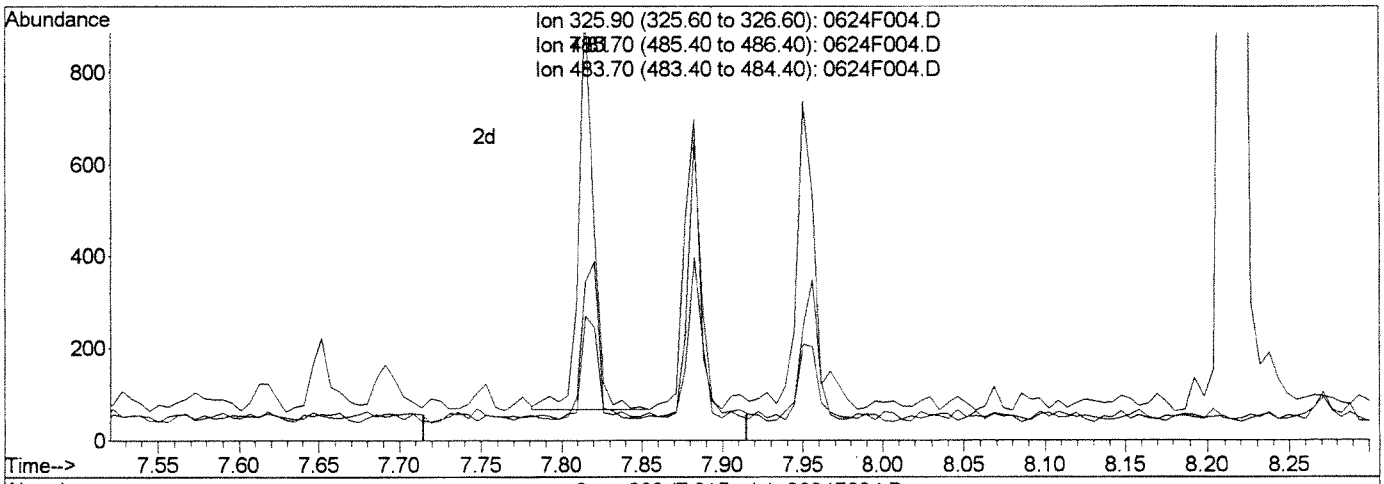
6/29/14

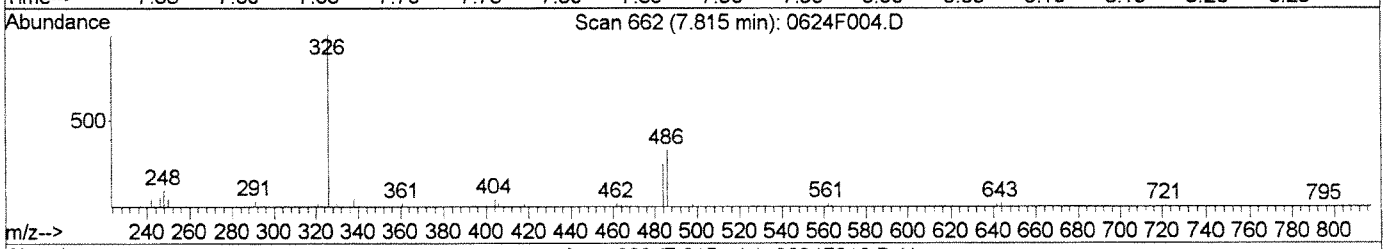
0624F004.D BDE062414.M Tue Jun 24 15:14:42 2014

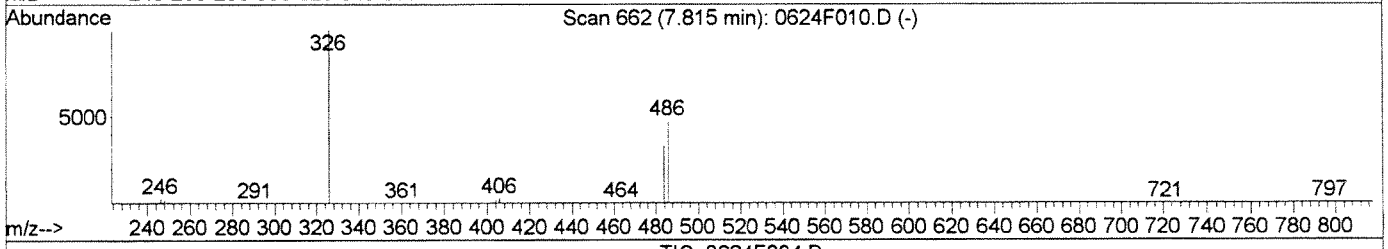
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:14 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(4) PBDE-71 (T)

7.81min 0.44ng/ml

response 576

Ion	Exp%	Act%
325.90	100	100
485.70	47.50	33.07
483.70	32.60	24.15
0.00	0.00	0.00

Manual Integration:

Before

06/24/14

CH

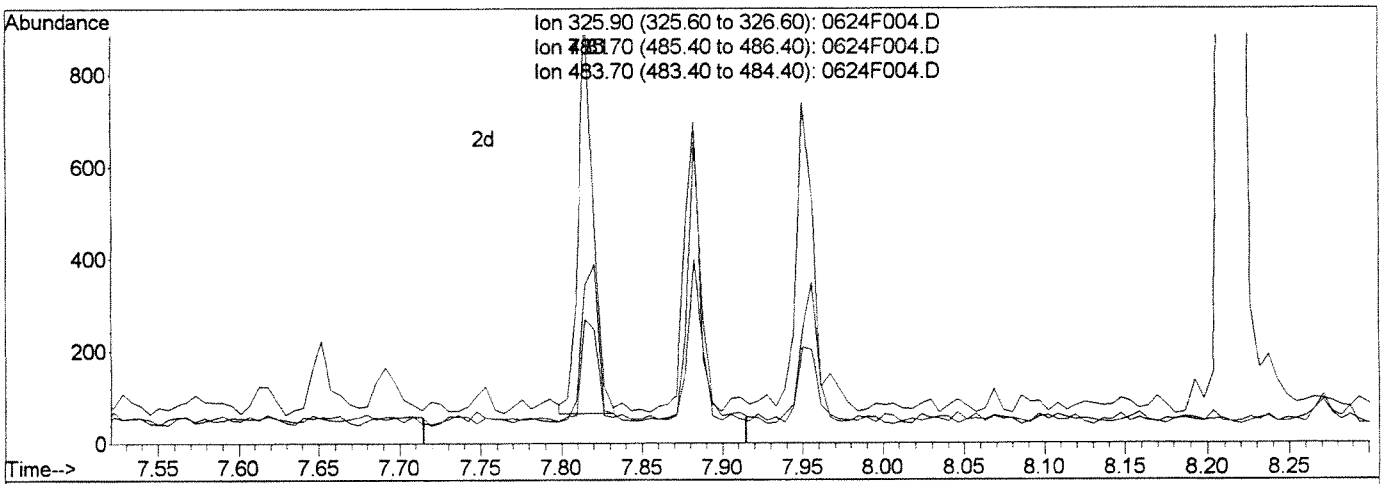
6/24/14

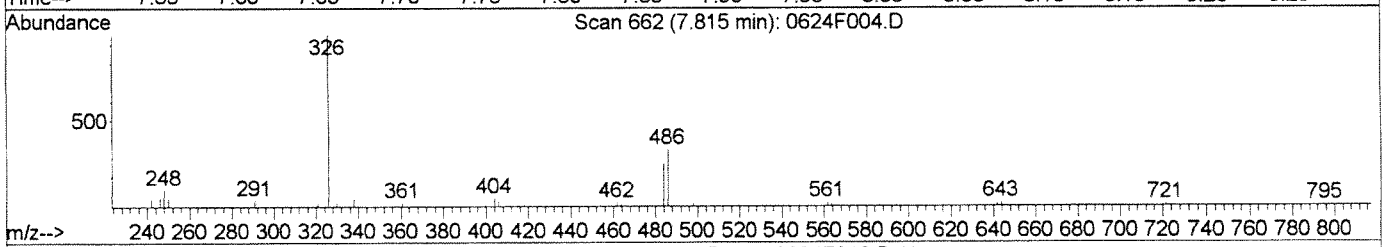
0624F004.D BDE062414.M Tue Jun 24 15:14:48 2014

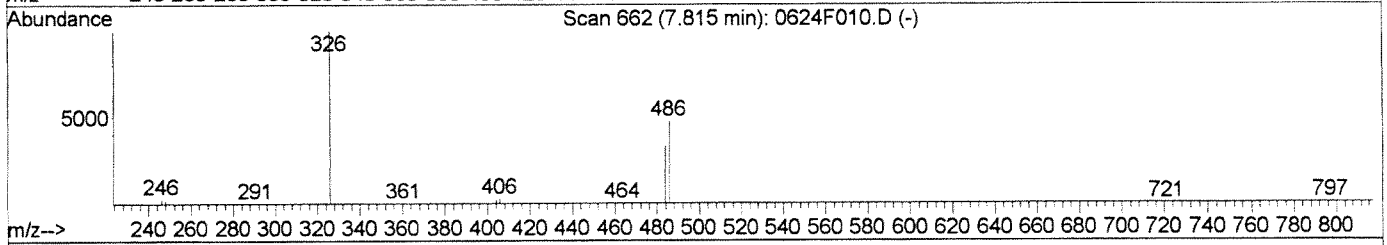
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:14 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(4) PBDE-71 (T)

7.81min 0.42ng/ml m

response 550

Ion	Exp%	Act%
325.90	100	100
485.70	47.50	36.20
483.70	32.60	28.23
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/24/14

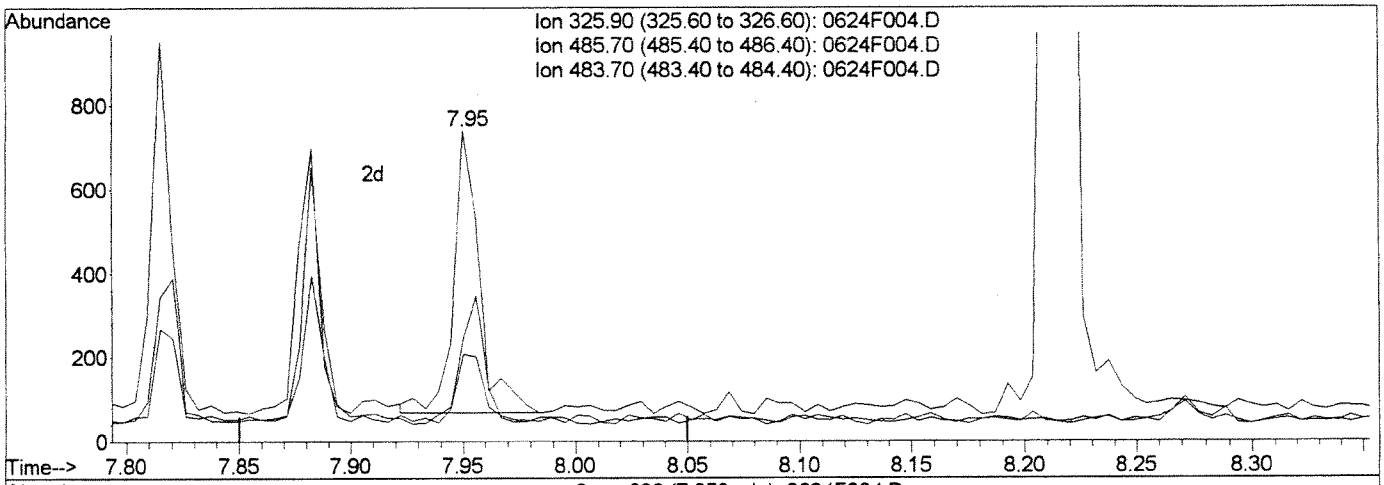
6/29/14

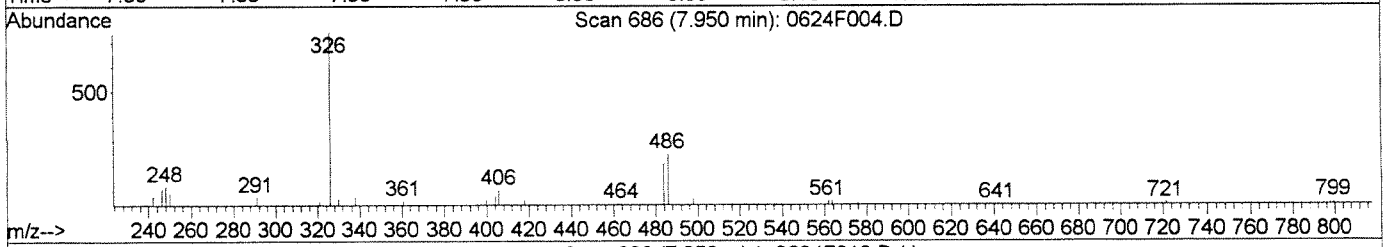
0624F004.D BDE062414.M Tue Jun 24 15:14:56 2014

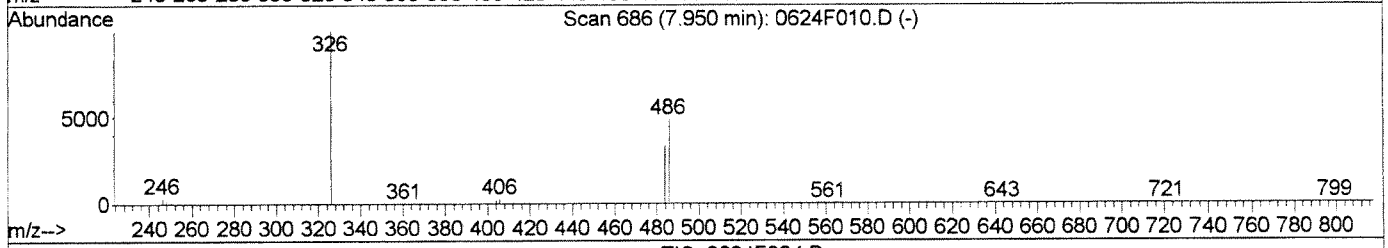
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:14 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(7) PBDE-66 (T)

7.95min 0.56ng/ml

response 544

Ion	Exp%	Act%
325.90	100	100
485.70	48.50	28.72
483.70	33.00	23.81
0.00	0.00	0.00

Manual Integration:

Before

06/24/14

CH

6/29/14

2

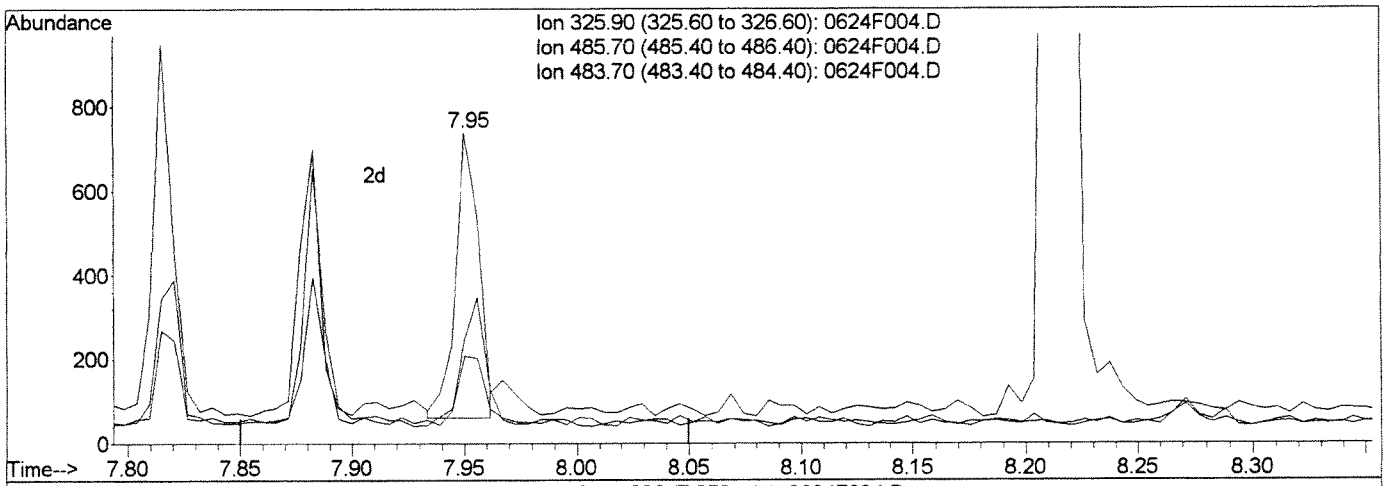
0624F004.D BDE062414.M Tue Jun 24 15:15:03 2014

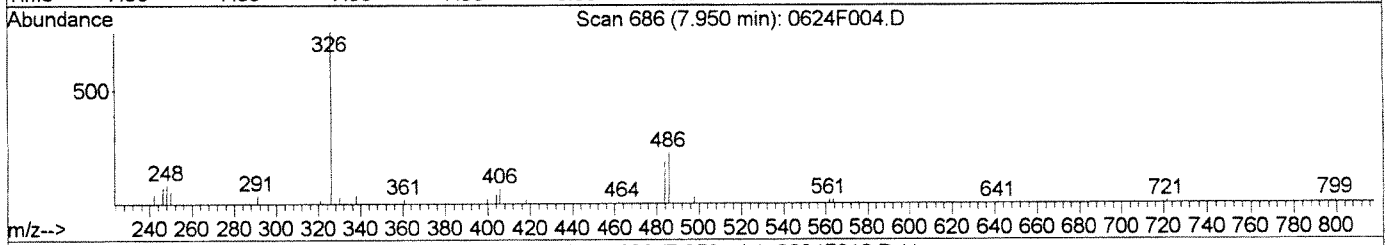
Quantitation Report (Qedit)

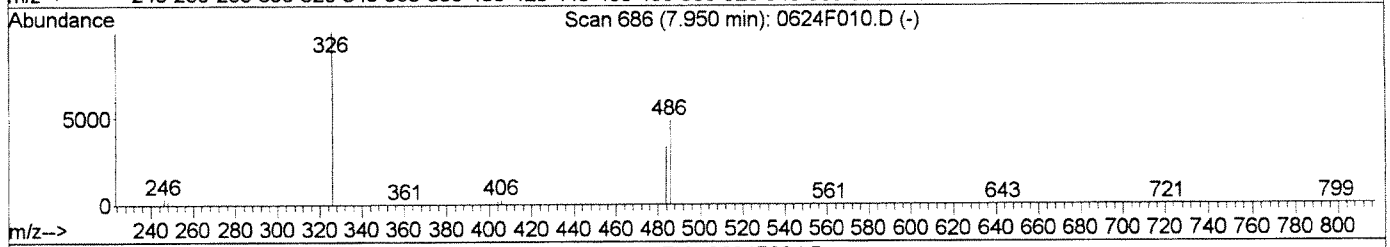
Data File : J:\MS14\DATA\062414\0624F004.D
Acq On : 24 Jun 2014 11:03 am
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014

Vial: 3
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(7) PBDE-66 (T)

7.95min 0.50ng/ml m

response 487

Ion	Exp%	Act%
325.90	100	100
485.70	48.50	33.51
483.70	33.00	28.11
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/24/14

CH

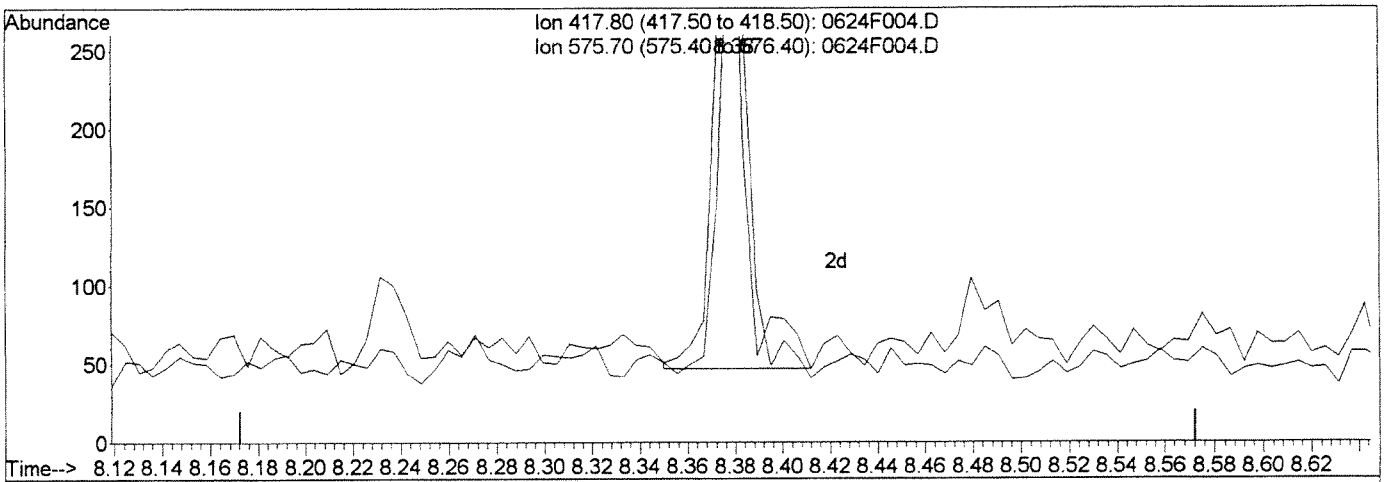
0624F004.D BDE062414.M Tue Jun 24 15:15:10 2014

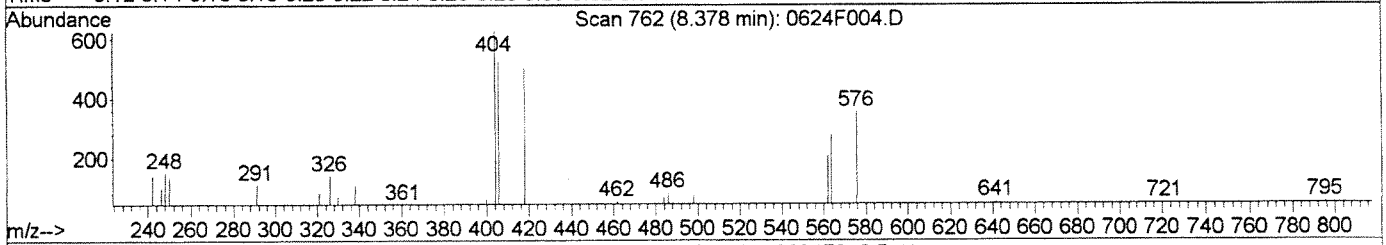
Quantitation Report (Qedit)

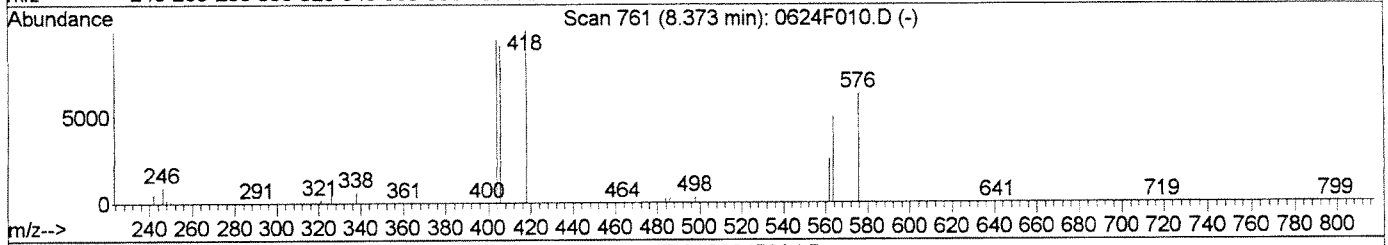
Data File : J:\MS14\DATA\062414\0624F004.D
Acq On : 24 Jun 2014 11:03 am
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014

Vial: 3
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(9) PBDE-99-13C12 (S)

8.38min 0.47ng/ml

response 318

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	68.78
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/24/14

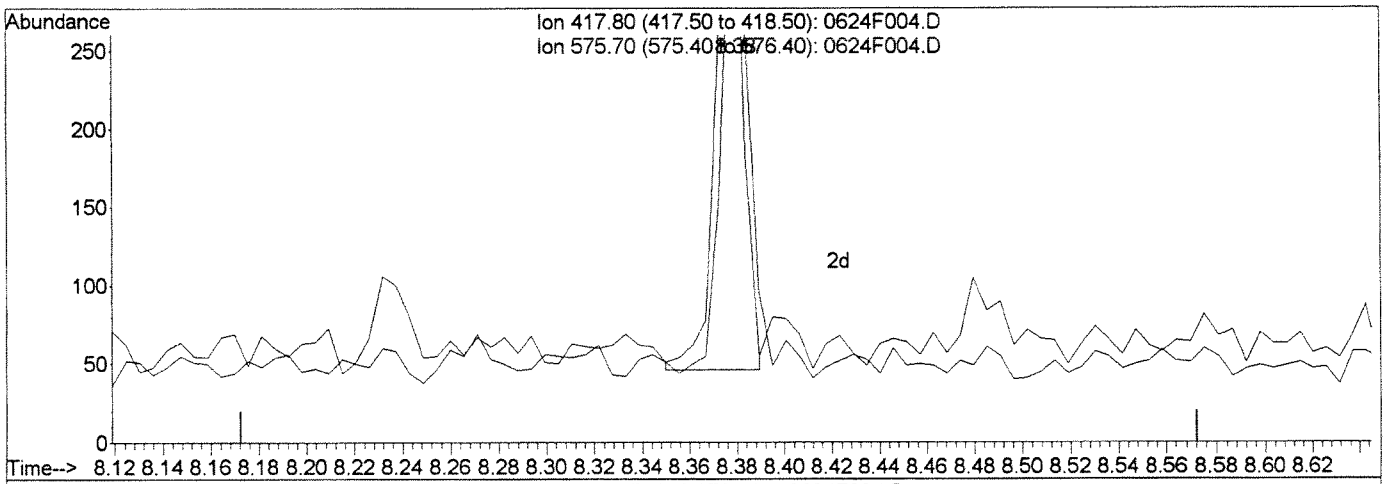
6/25/14

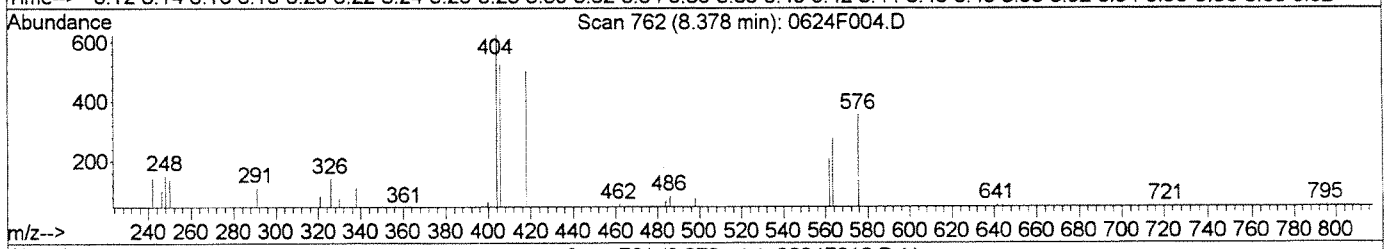
0624F004.D BDE062414.M Tue Jun 24 15:15:20 2014

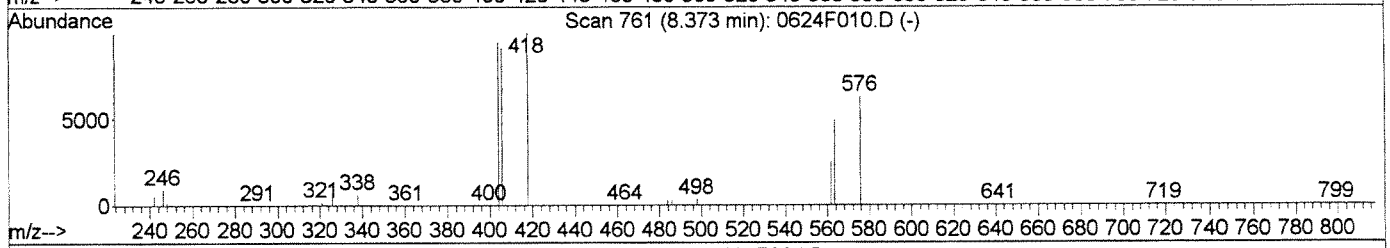
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(9) PBDE-99-13C12 (S)

8.38min 0.43ng/ml m

response 291

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	70.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/24/14

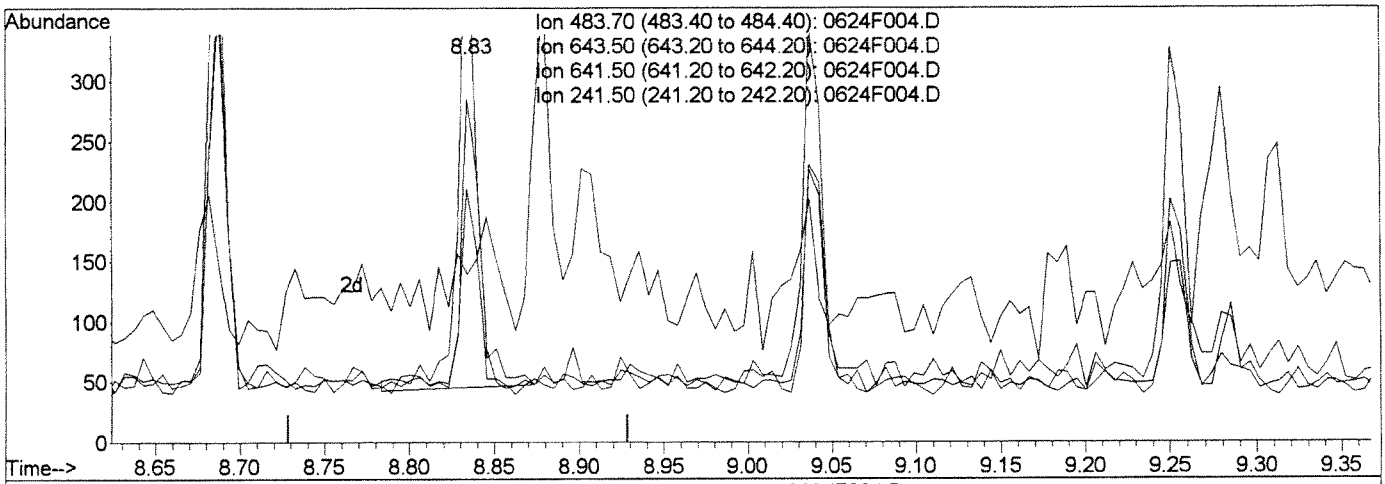
0624F004.D BDE062414.M Tue Jun 24 15:15:27 2014

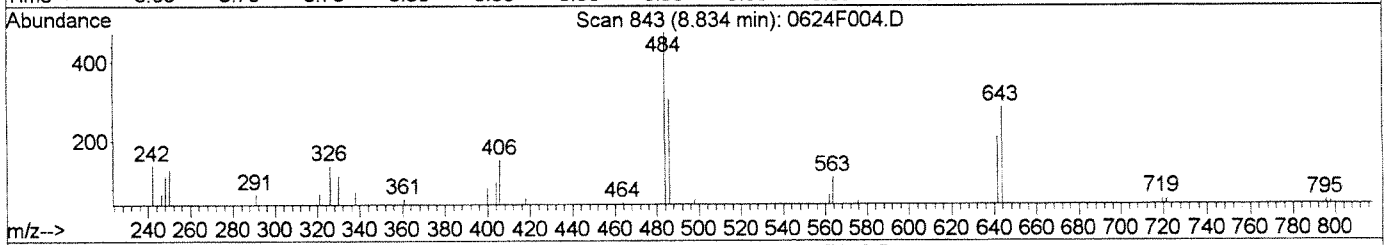
Quantitation Report (Qedit)

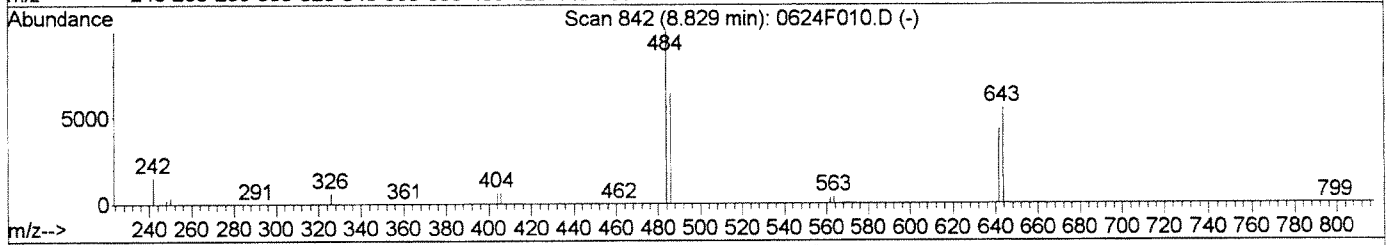
Data File : J:\MS14\DATA\062414\0624F004.D
Acq On : 24 Jun 2014 11:03 am
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014

Vial: 3
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(13) PBDE-153 (T)
8.83min 0.55ng/ml
response 312

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	55.97
641.50	42.90	38.64
241.50	15.50	2.58

Manual Integration:
Before

06/24/14

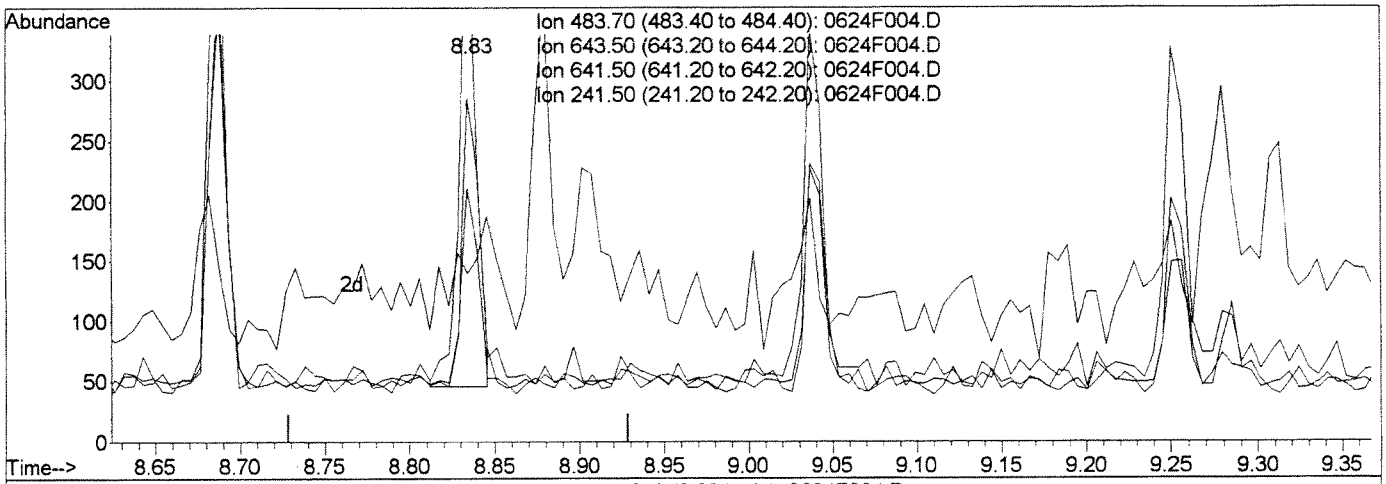
6/29/14

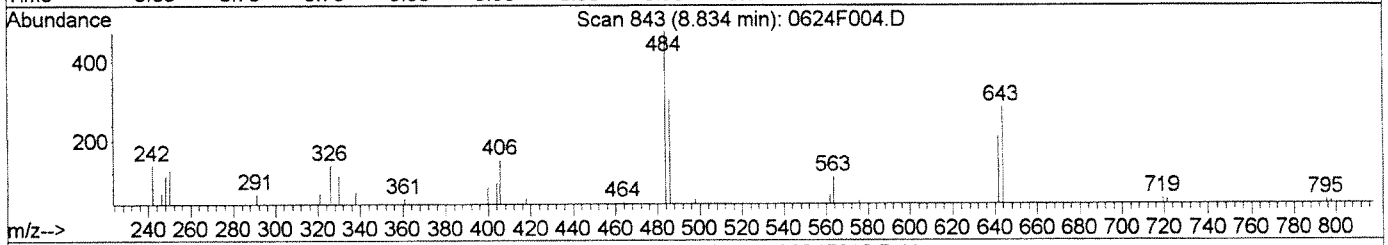
0624F004.D BDE062414.M Tue Jun 24 15:15:36 2014

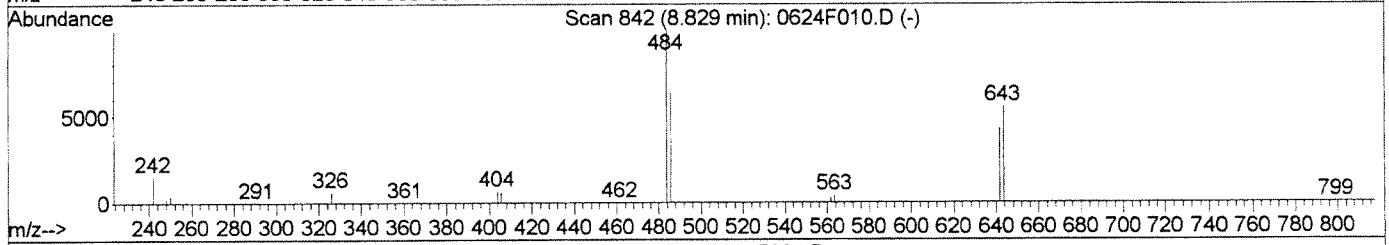
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F004.D

(13) PBDE-153 (T)

8.83min 0.49ng/ml m

response 276

Ion	Exp%	Act%
483.70	100	100
643.50	55.40	60.21
641.50	42.90	44.42
241.50	15.50	29.47

Manual Integration:

After

IC-Overintegrated

06/24/14

CH

6/29/14

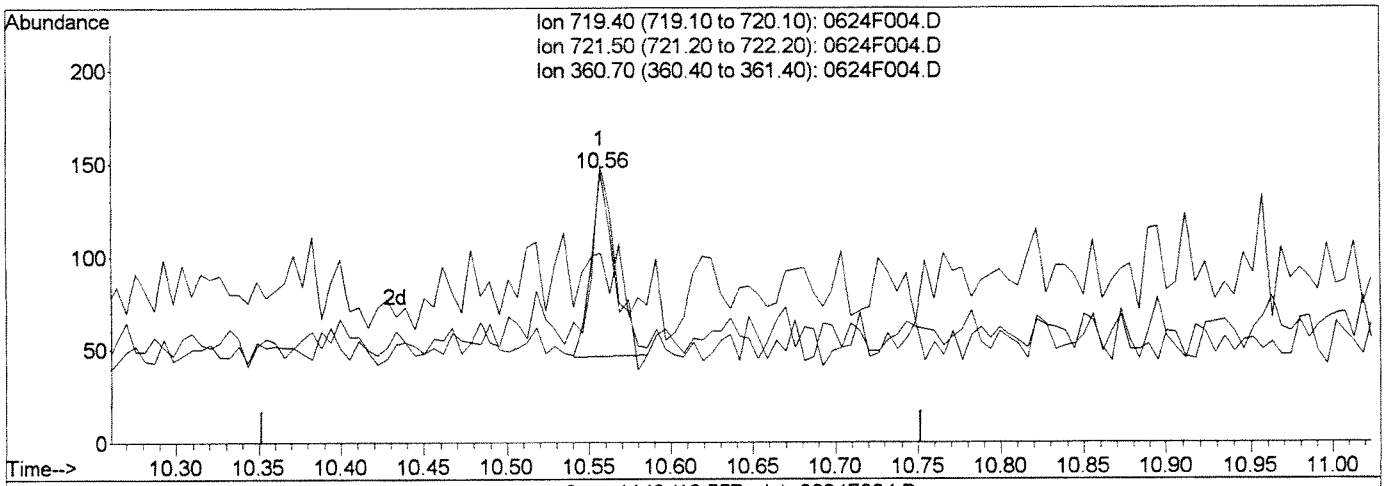
0624F004.D BDE062414.M Tue Jun 24 15:15:43 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D
Acq On : 24 Jun 2014 11:03 am
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:15 2014

Vial: 3
Operator: CHart
Inst : MS14
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration



TIC: 0624F004.D

(19) PBDE-206 (T)

10.56min 1.02ng/ml

response 94

Ion	Exp%	Act%
719.40	100	100
721.50	92.60	100.00
360.70	14.00	29.59
0.00	0.00	0.00

Manual Integration:

Before

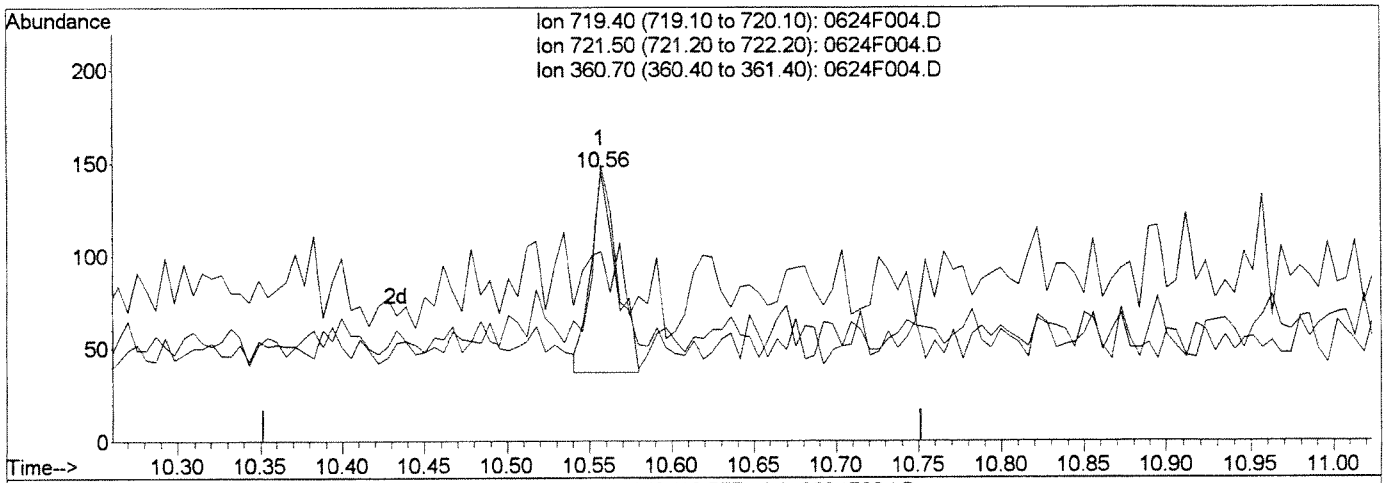
06/24/14

0624F004.D BDE062414.M Tue Jun 24 15:15:56 2014

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F004.D Vial: 3
Acq On : 24 Jun 2014 11:03 am Operator: CHart
Sample : PBDE ICAL @ 0.5ng/mL | SVM46-7A Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration



TIC: 0624F004.D

(19) PBDE-206 (T)
10.56min 1.27ng/ml m
response 117

Ion	Exp%	Act%
719.40	100	100
721.50	92.60	102.76
360.70	14.00	70.34#
0.00	0.00	0.00

Manual Integration:
After
BLC
06/24/14

0624F004.D BDE062414.M Tue Jun 24 15:16:02 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:21 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	69627	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	769	0.80	ng/ml	0.00
Spiked Amount 25.000			Recovery =	3.20%		
9) PBDE-99-13C12	8.37	418	579m	0.82	ng/ml	0.00
Spiked Amount 25.000			Recovery =	3.28%		
Target Compounds						Qvalue
2) PBDE-17	7.26	246	1030	0.83	ng/ml	90
3) PBDE-28	7.34	246	887	0.87	ng/ml	98
4) PBDE-71	7.82	326	1199	0.87	ng/ml	93
6) PBDE-47	7.88	326	836	0.85	ng/ml	82
7) PBDE-66	7.95	326	905m	0.88	ng/ml	
8) PBDE-100	8.27	404	521	0.84	ng/ml	81
10) PBDE-99	8.38	404	622	0.84	ng/ml	67
11) PBDE-85	8.58	404	691	1.05	ng/ml	93
12) PBDE-154	8.68	484	635	0.97	ng/ml	99
13) PBDE-153	8.82	484	622	1.05	ng/ml	71
14) PBDE-138	9.03	484	517	0.89	ng/ml	87
15) PBDE-128	9.23	484	468m	0.91	ng/ml	
16) PBDE-183	9.26	562	421	1.15	ng/ml	86
17) PBDE-190	9.52	562	351	1.06	ng/ml	93
18) PBDE-203	9.85	642	336	1.45	ng/ml	90
19) PBDE-206	10.53	719	216m	2.23	ng/ml	
20) PBDE-209	11.14	799	167	2.73	ng/ml	80

CH

JUN 2 4 2014

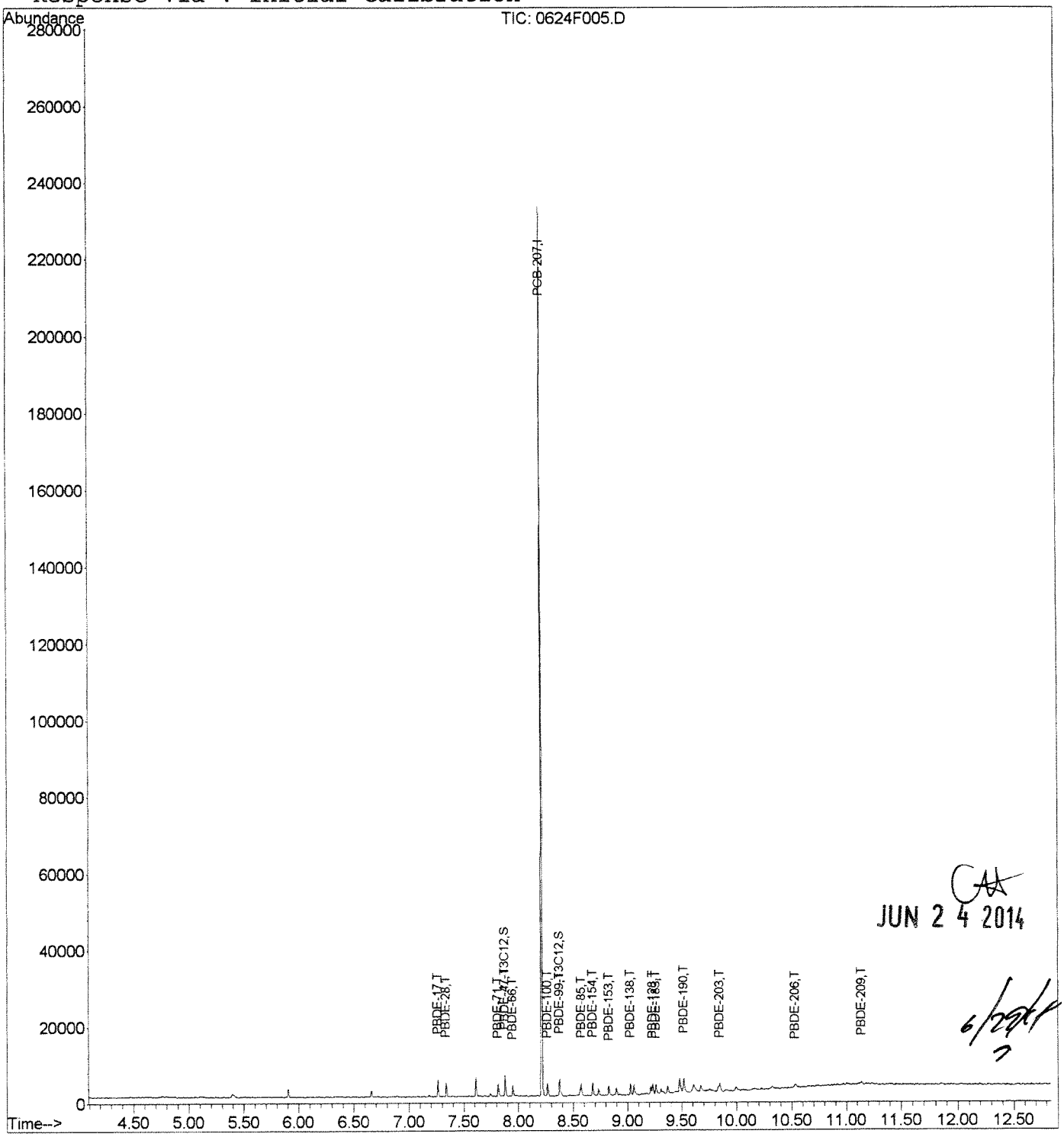
6/24/14

(#) = qualifier out of range (m) = manual integration
0624F005.D BDE062414.M Tue Jun 24 16:00:56 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



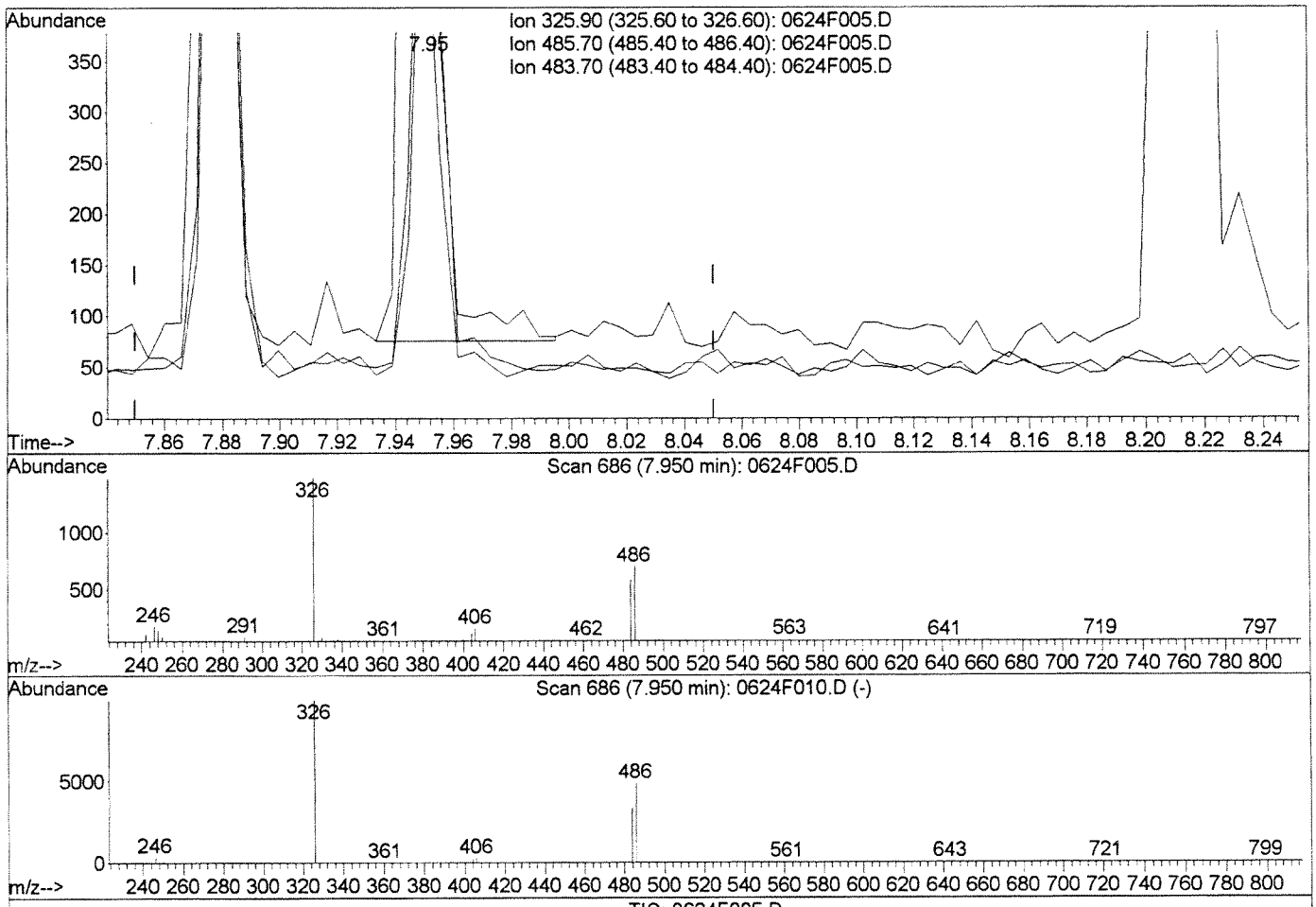
JUN 2 4 2014

0624F005.D BDE062414.M Tue Jun 24 16:00:56 2014 Page 2

Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration



TIC: 0624F005.D

(7) PBDE-66 (T)

7.95min 0.91ng/ml

response 932

Ion	Exp%	Act%
325.90	100	100
485.70	48.50	46.54
483.70	33.00	38.28
0.00	0.00	0.00

Manual Integration:

Before

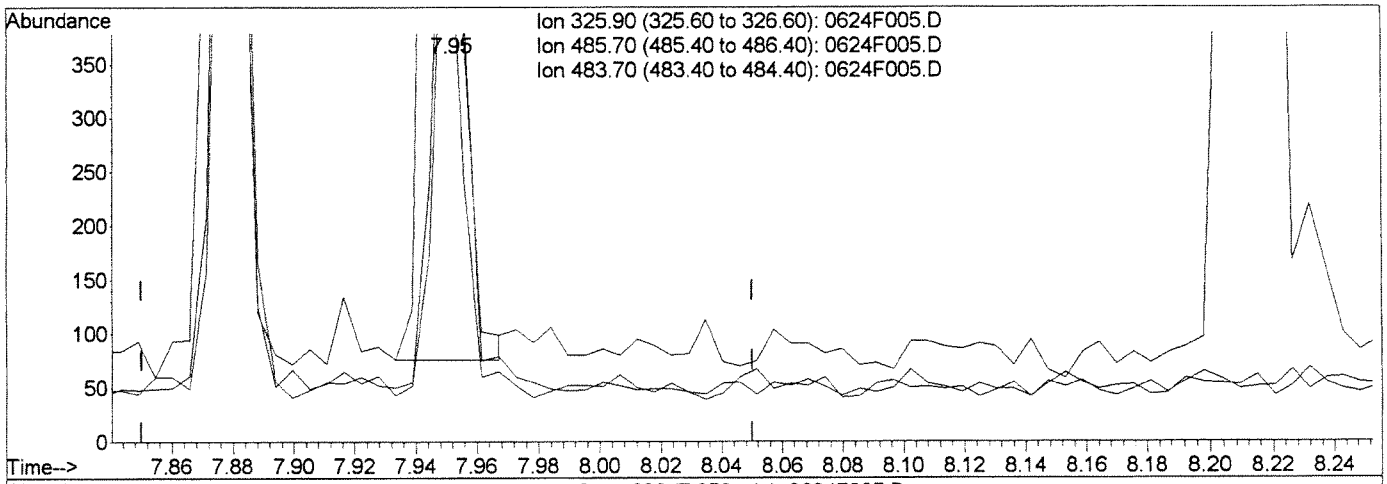
06/24/14

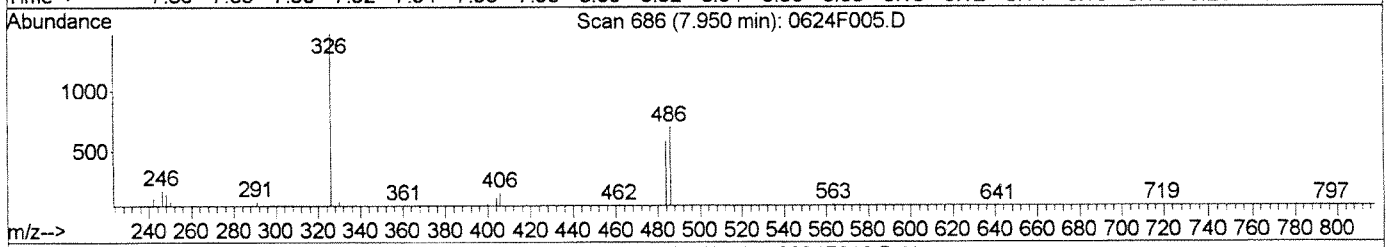
0624F005.D BDE062414.M Tue Jun 24 15:16:18 2014

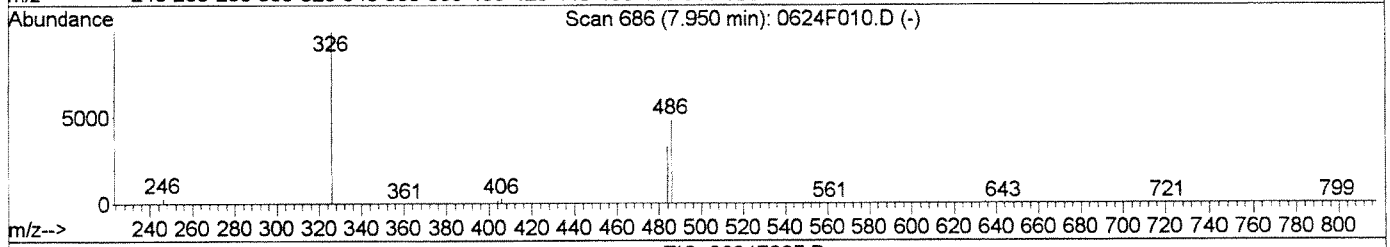
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(7) PBDE-66 (T)

7.95min 0.88ng/ml m

response 905

Ion	Exp%	Act%
325.90	100	100
485.70	48.50	47.40
483.70	33.00	39.22
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

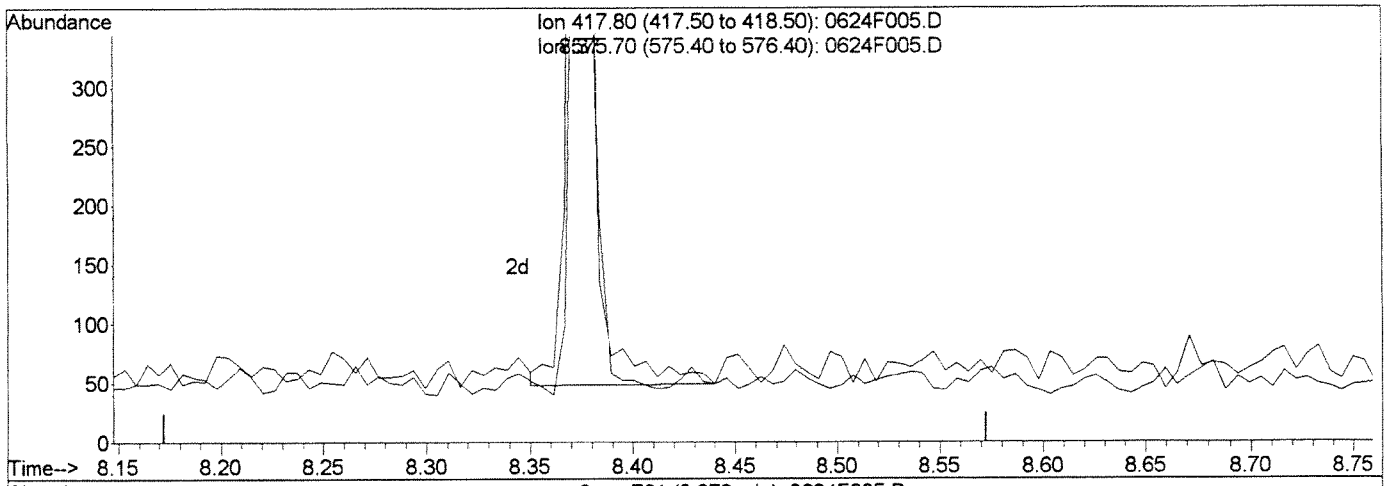
06/24/14

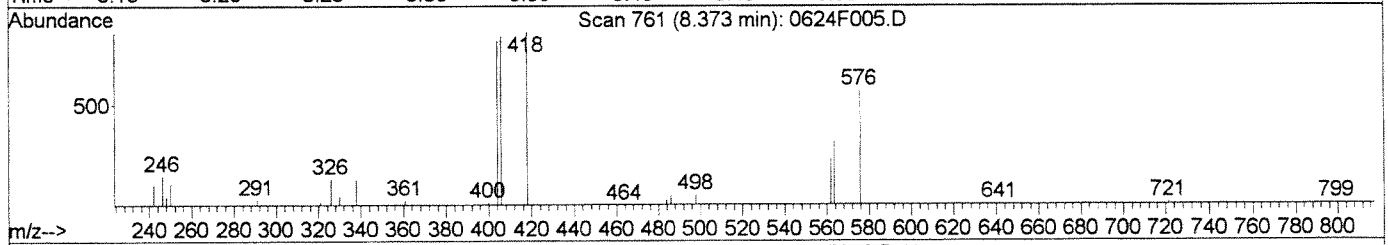
0624F005.D BDE062414.M Tue Jun 24 15:16:24 2014

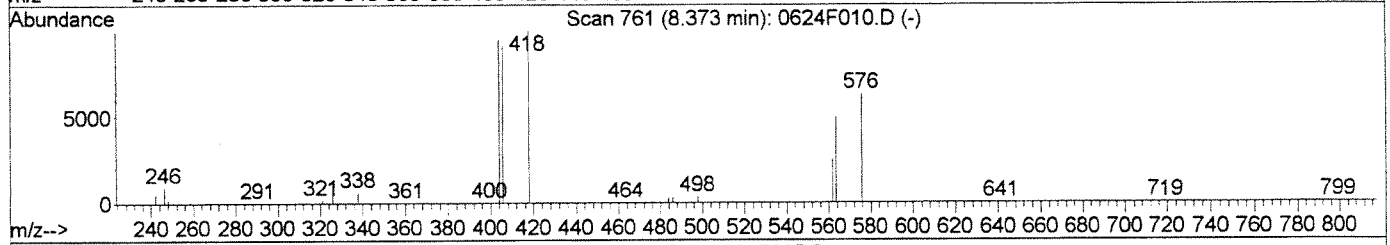
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(9) PBDE-99-13C12 (S)

8.37min 0.89ng/ml

response 628

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	66.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

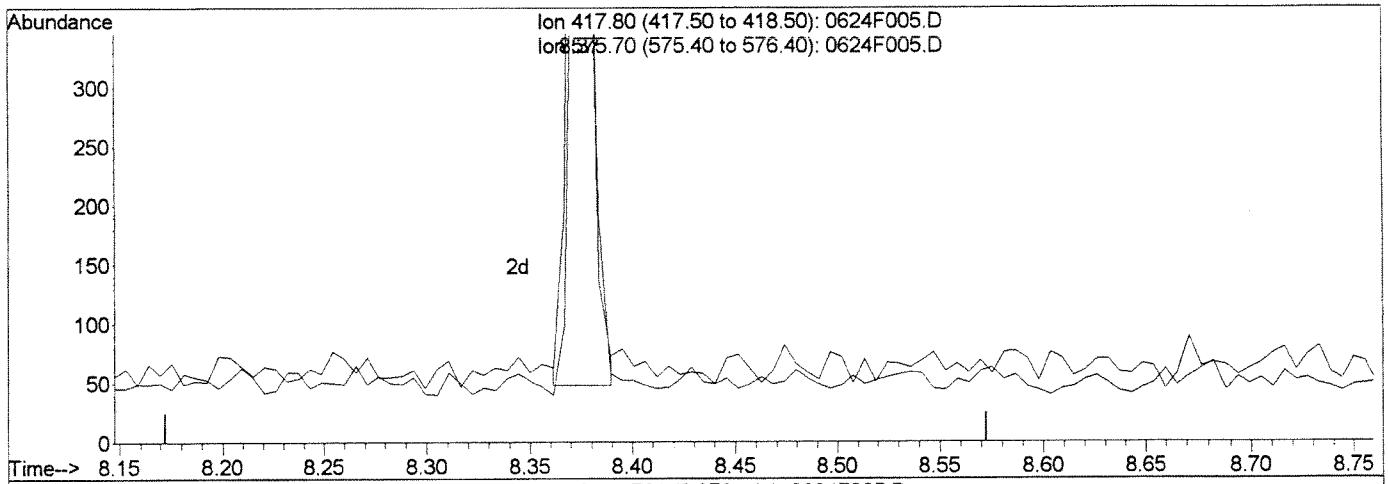
06/24/14

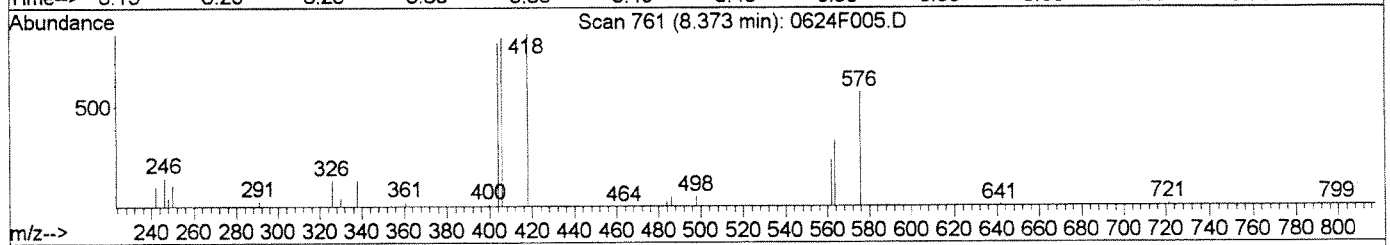
0624F005.D BDE062414.M Tue Jun 24 15:16:29 2014

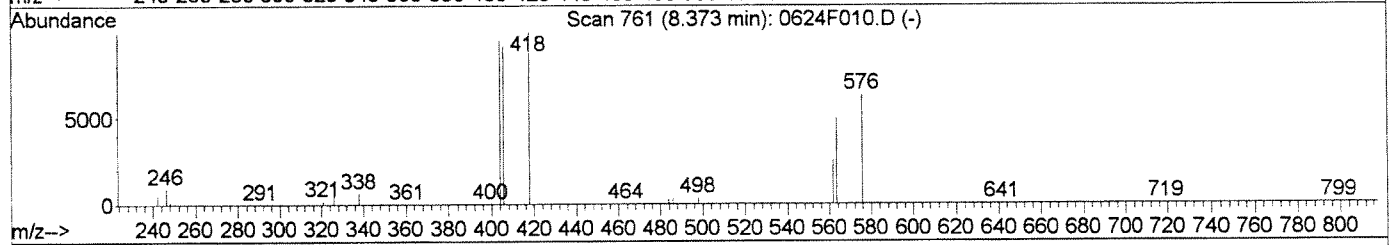
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(9) PBDE-99-13C12 (S)

8.37min 0.82ng/ml m

response 579

Ion	Exp%	Act%
417.80	100	100
575.70	63.20	68.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

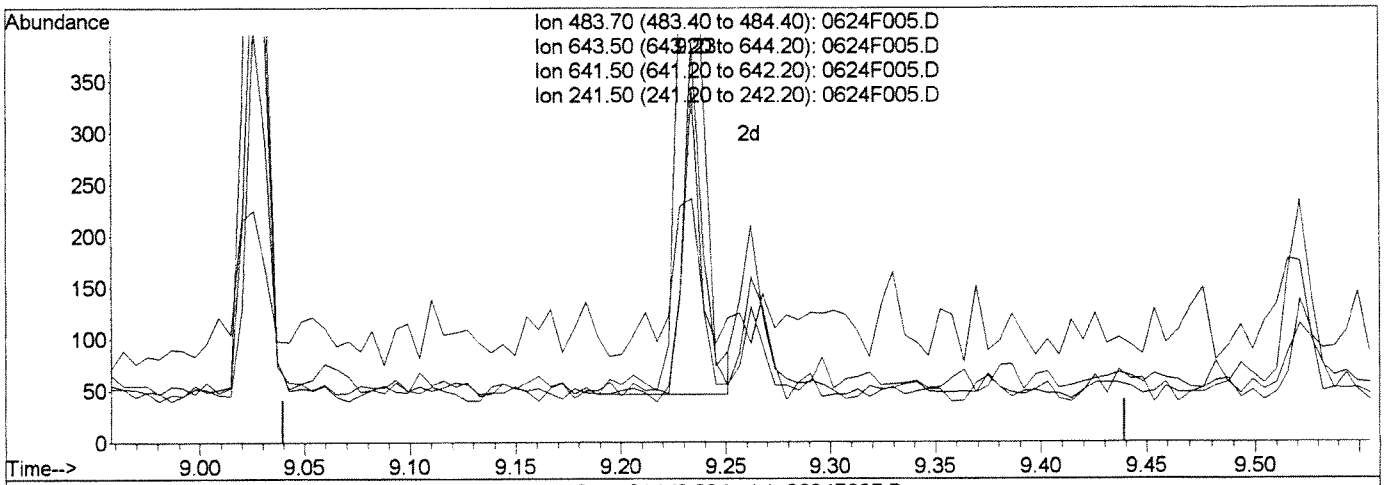
06/24/14

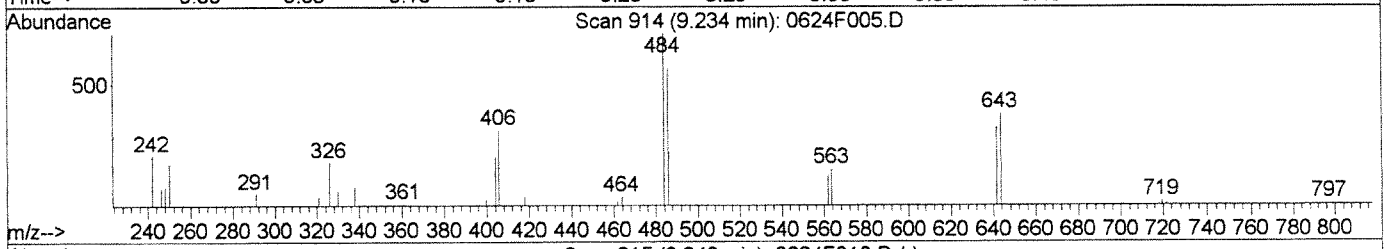
0624F005.D BDE062414.M Tue Jun 24 15:16:34 2014

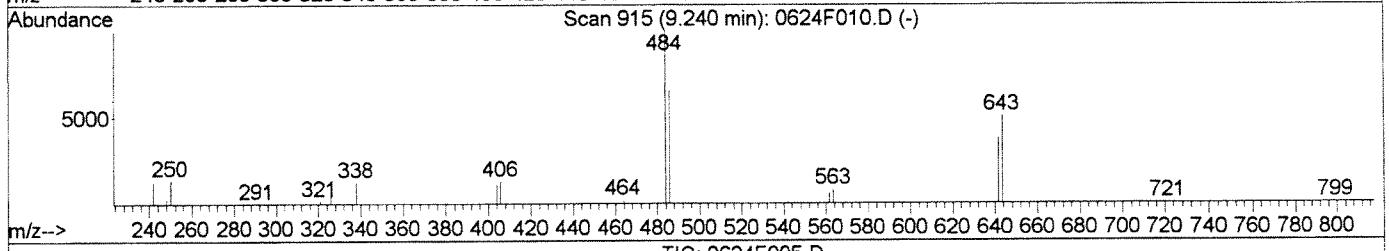
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(15) PBDE-128 (T)

9.23min 0.97ng/ml

response 500

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	53.12
641.50	37.50	45.17
241.50	12.60	20.87

Manual Integration:

Before

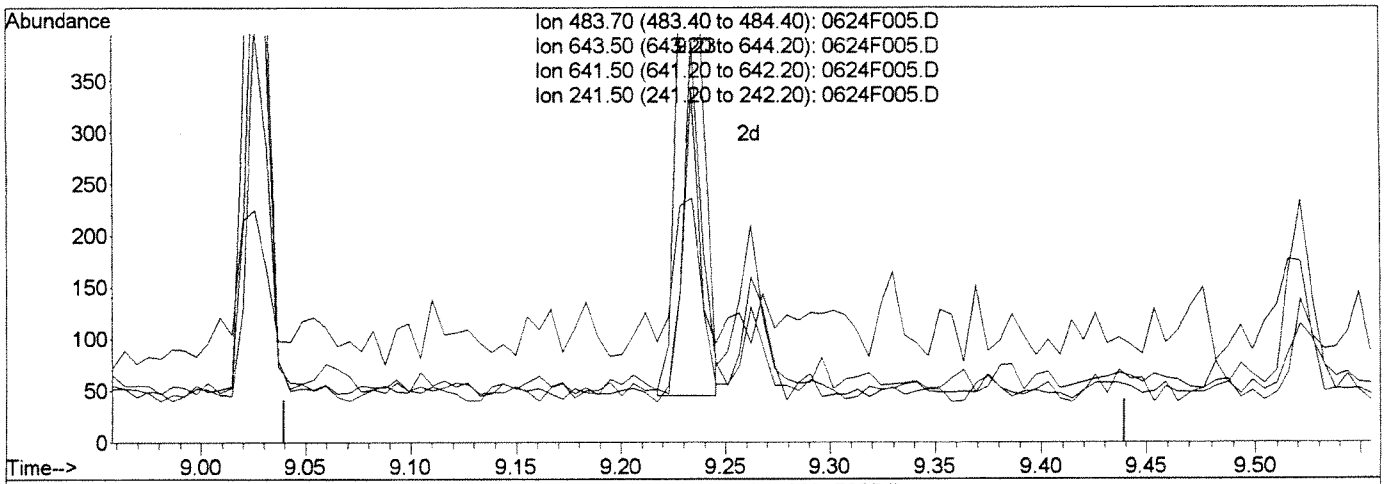
06/24/14

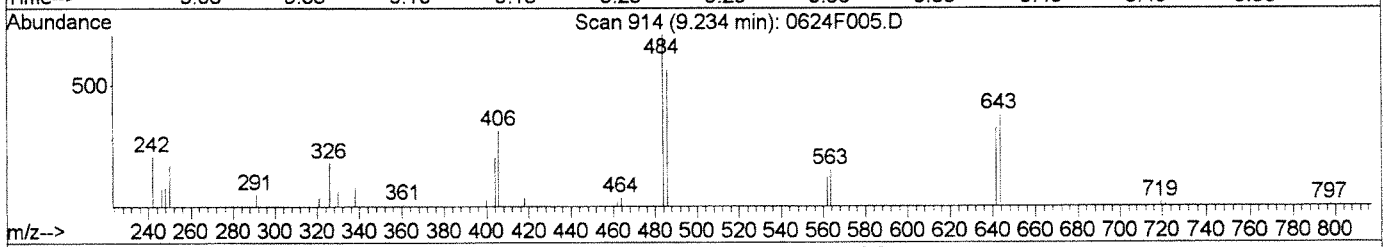
0624F005.D BDE062414.M Tue Jun 24 15:16:43 2014

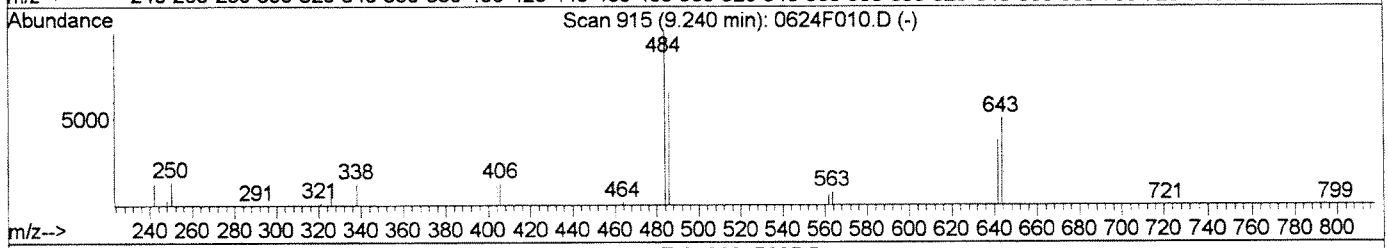
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(15) PBDE-128 (T)

9.23min 0.91ng/ml m

response 468

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	56.40
641.50	37.50	49.42
241.50	12.60	34.30

Manual Integration:

After

IC-Overintegrated

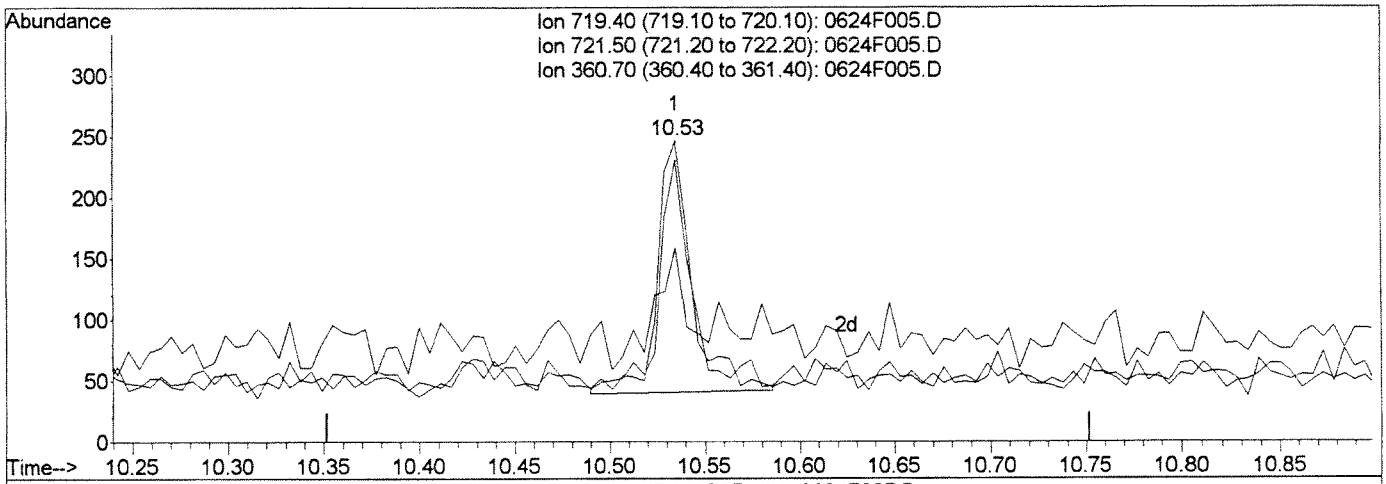
06/24/14

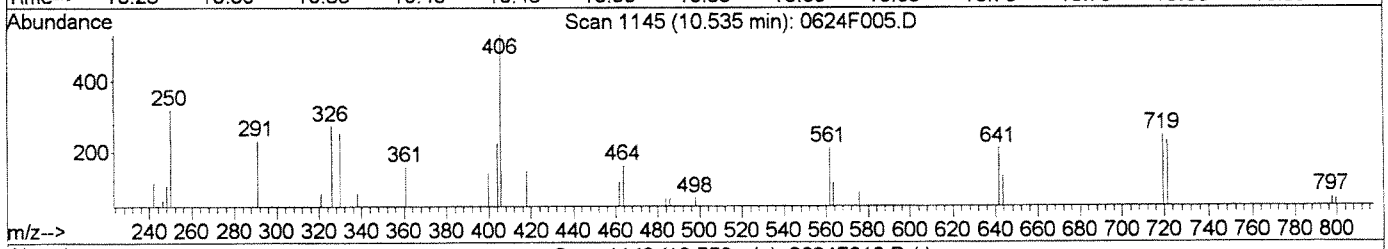
0624F005.D BDE062414.M Tue Jun 24 15:16:48 2014

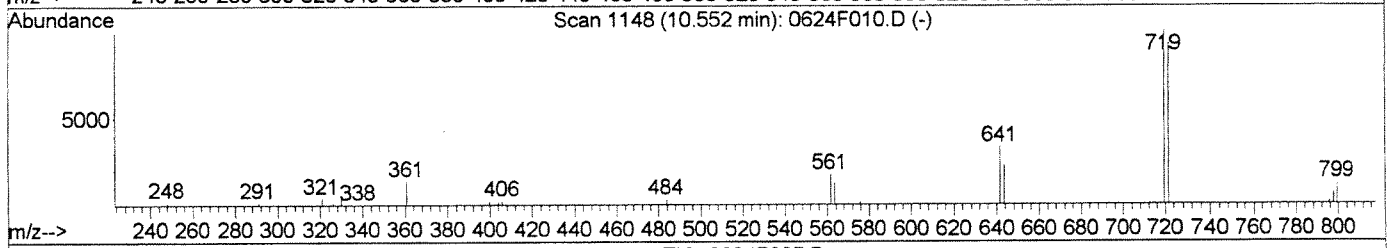
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(19) PBDE-206 (T)

10.53min 2.74ng/ml

response 265

Ion	Exp%	Act%
719.40	100	100
721.50	92.60	92.61
360.70	14.00	34.98
0.00	0.00	0.00

Manual Integration:

Before

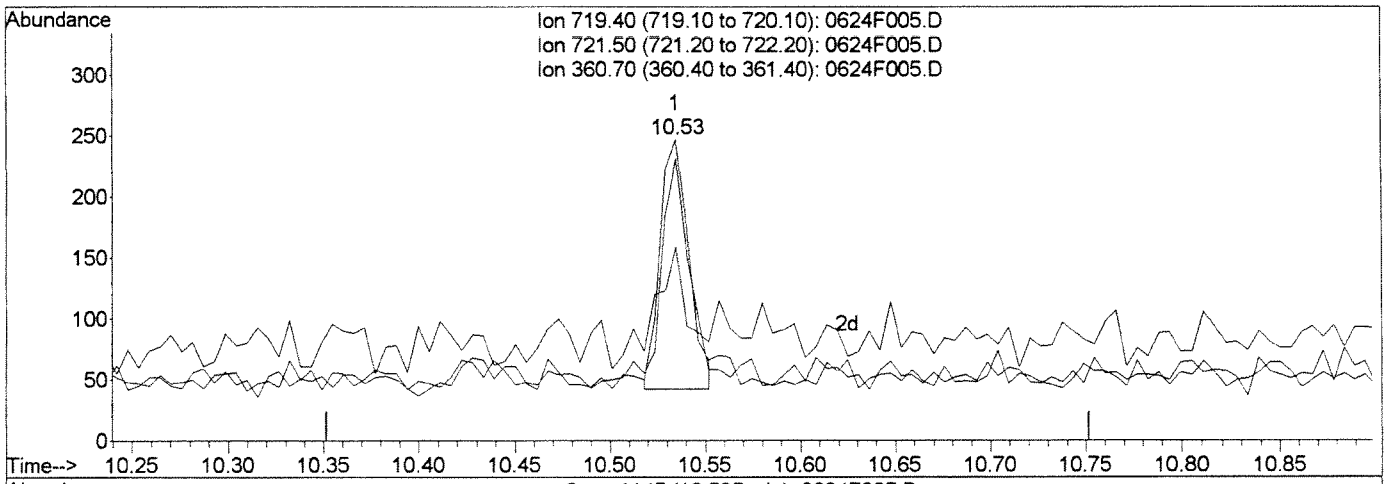
06/24/14

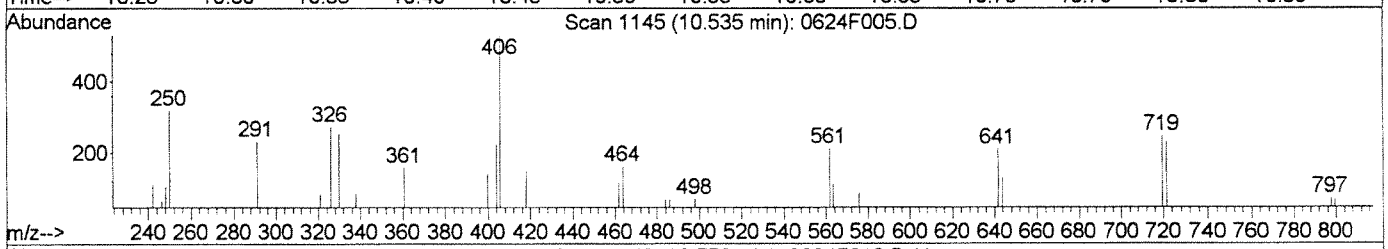
0624F005.D BDE062414.M Tue Jun 24 15:16:55 2014

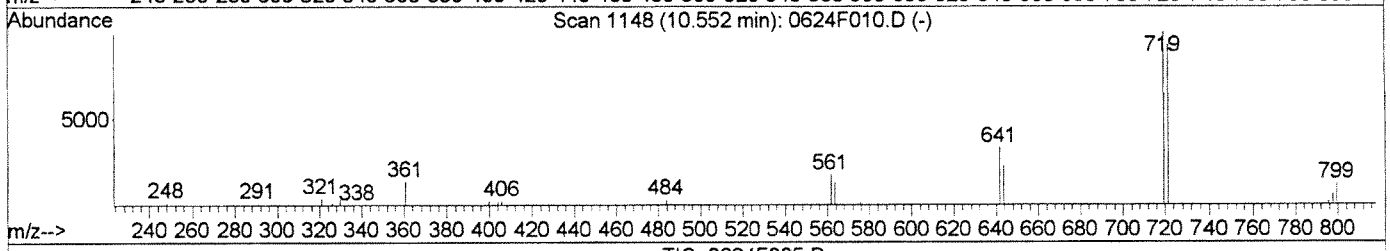
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F005.D Vial: 4
Acq On : 24 Jun 2014 11:21 am Operator: CHart
Sample : PBDE ICAL @ 1.0ng/mL | SVM46-7B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:16 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F005.D

(19) PBDE-206 (T)

10.53min 2.23ng/ml m

response 216

Ion	Exp%	Act%
719.40	100	100
721.50	92.60	93.52
360.70	14.00	64.37#
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/24/14

0624F005.D BDE062414.M Tue Jun 24 15:17:00 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F006.D Vial: 5
Acq On : 24 Jun 2014 11:39 am Operator: CHart
Sample : PBDE ICAL @ 5.0ng/mL | SVM46-7C Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:22 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	71881	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	3789	3.84	ng/ml	0.00
Spiked Amount 25.000			Recovery = 15.36%			
9) PBDE-99-13C12	8.37	418	3004	4.11	ng/ml	0.00
Spiked Amount 25.000			Recovery = 16.44%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	4998	3.92	ng/ml	89
3) PBDE-28	7.34	246	4436	4.20	ng/ml	96
4) PBDE-71	7.82	326	5637	3.95	ng/ml	95
6) PBDE-47	7.88	326	4319	4.25	ng/ml	99
7) PBDE-66	7.95	326	4788	4.52	ng/ml	98
8) PBDE-100	8.27	404	2966	4.65	ng/ml	96
10) PBDE-99	8.38	404	3258	4.26	ng/ml#	58
11) PBDE-85	8.58	404	3130	4.62	ng/ml	91
12) PBDE-154	8.68	484	3130	4.65	ng/ml	96
13) PBDE-153	8.83	484	2999	4.89	ng/ml	96
14) PBDE-138	9.03	484	2738	4.58	ng/ml	79
15) PBDE-128	9.23	484	2748	5.18	ng/ml	82
16) PBDE-183	9.26	562	2295	6.06	ng/ml	93
17) PBDE-190	9.53	562	1895	5.57	ng/ml	94
18) PBDE-203	9.85	642	1794	7.49	ng/ml	93
19) PBDE-206	10.54	719	1102	11.03	ng/ml	92
20) PBDE-209	11.14	799	735	11.63	ng/ml	69

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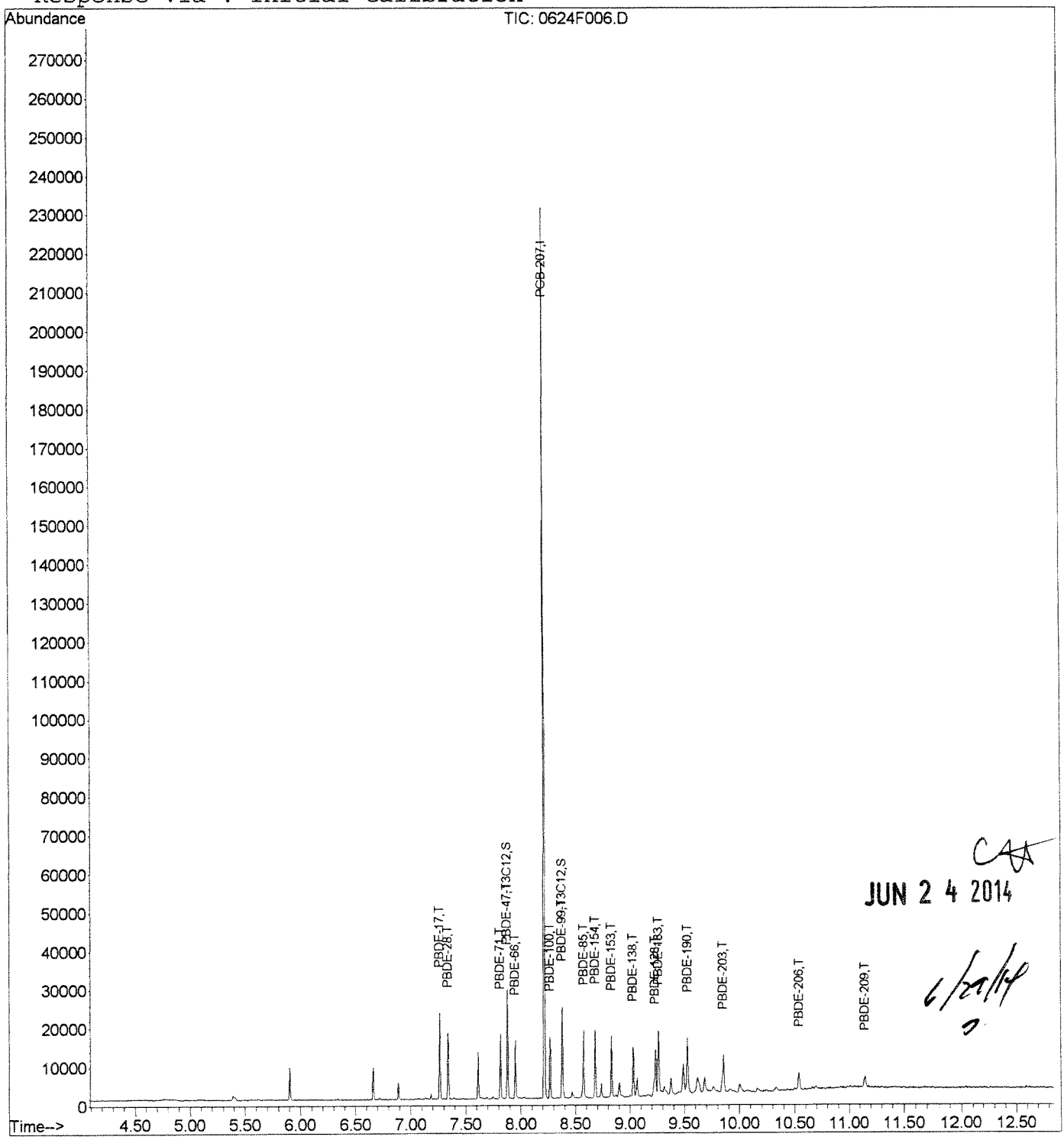
(#) = qualifier out of range (m) = manual integration
0624F006.D BDE062414.M Tue Jun 24 16:00:57 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F006.D Vial: 5
Acq On : 24 Jun 2014 11:39 am Operator: CHart
Sample : PBDE ICAL @ 5.0ng/mL | SVM46-7C Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

0624F006.D BDE062414.M Tue Jun 24 16:00:57 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F007.D Vial: 6
Acq On : 24 Jun 2014 11:57 am Operator: CHart
Sample : PBDE ICAL @ 10ng/mL | SVM46-7D Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:22 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	63382	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	7068	8.12	ng/ml	0.00
Spiked Amount 25.000			Recovery = 32.48%			
9) PBDE-99-13C12	8.38	418	5927	9.19	ng/ml	0.00
Spiked Amount 25.000			Recovery = 36.76%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	7185	6.39	ng/ml	96
3) PBDE-28	7.34	246	7451	8.01	ng/ml	92
4) PBDE-71	7.82	326	10131	8.06	ng/ml	88
6) PBDE-47	7.88	326	7891	8.81	ng/ml	96
7) PBDE-66	7.95	326	9400	10.07	ng/ml	94
8) PBDE-100	8.27	404	5740	10.21	ng/ml	96
10) PBDE-99	8.38	404	6601	9.79	ng/ml	68
11) PBDE-85	8.58	404	6153	10.30	ng/ml	98
12) PBDE-154	8.68	484	6430	10.84	ng/ml	97
13) PBDE-153	8.83	484	6394	11.83	ng/ml	94
14) PBDE-138	9.03	484	5753	10.92	ng/ml	82
15) PBDE-128	9.23	484	5706	12.19	ng/ml	91
16) PBDE-183	9.26	562	4814	14.43	ng/ml	97
17) PBDE-190	9.52	562	4227	14.08	ng/ml	92
18) PBDE-203	9.85	642	4118	19.50	ng/ml	94
19) PBDE-206	10.54	719	2510	28.49	ng/ml	99
20) PBDE-209	11.14	799	1608	28.86	ng/ml	90

CA
JUN 2 4 2014

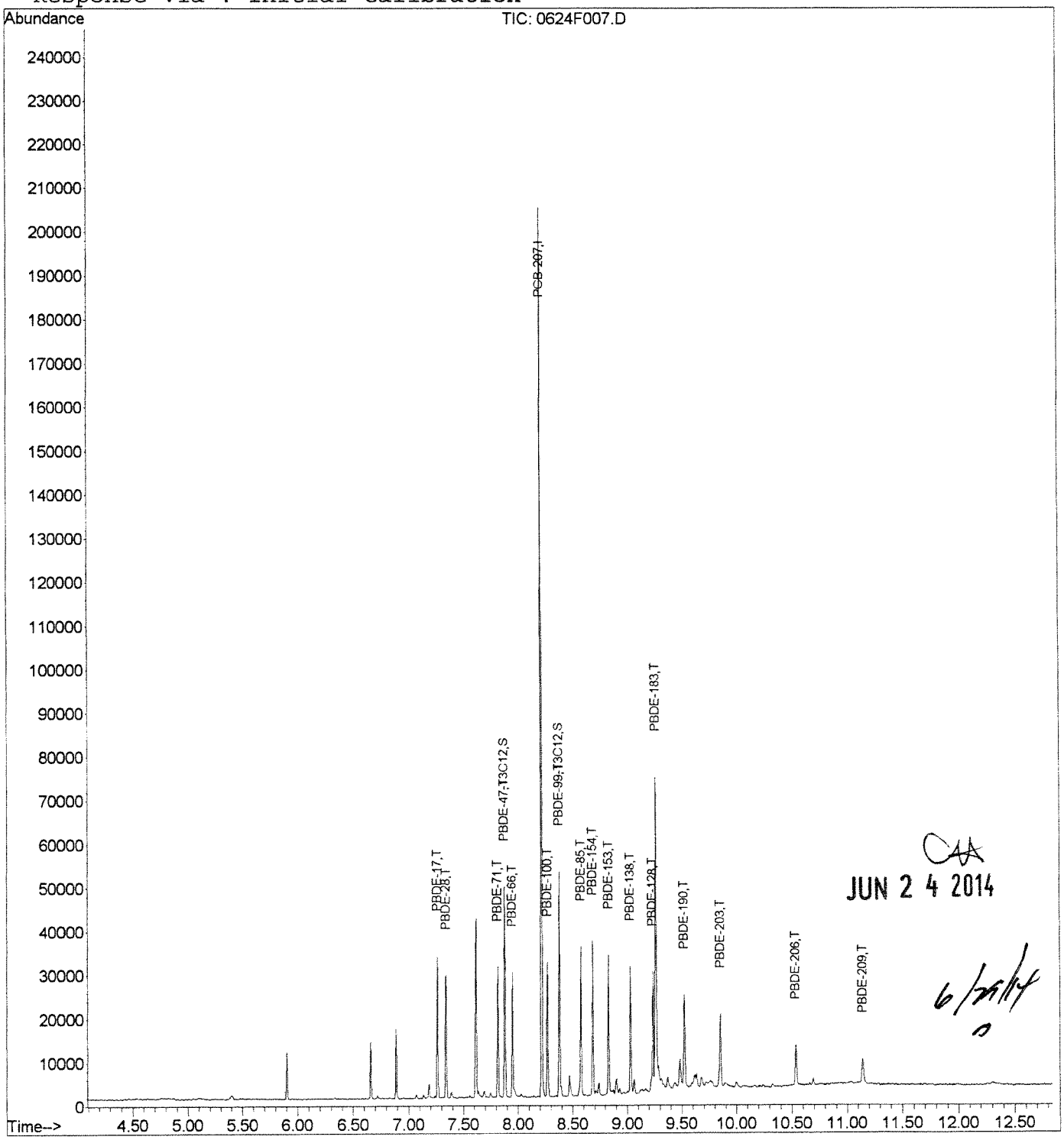
6/24/14

(#) = qualifier out of range (m) = manual integration
0624F007.D BDE062414.M Tue Jun 24 16:00:57 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F007.D Vial: 6
Acq On : 24 Jun 2014 11:57 am Operator: CHart
Sample : PBDE ICAL @ 10ng/mL | SVM46-7D Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

0624F007.D BDE062414.M Tue Jun 24 16:00:57 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F008.D Vial: 7
Acq On : 24 Jun 2014 12:15 pm Operator: CHart
Sample : PBDE ICAL @ 15ng/mL | SVM46-7E Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:23 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	65729	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	10921	12.10	ng/ml	0.00
Spiked Amount 25.000			Recovery = 48.40%			
9) PBDE-99-13C12	8.37	418	9209	13.76	ng/ml	0.00
Spiked Amount 25.000			Recovery = 55.04%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	11260	9.65	ng/ml	92
3) PBDE-28	7.34	246	11092	11.50	ng/ml	96
4) PBDE-71	7.81	326	16277	12.48	ng/ml	90
6) PBDE-47	7.88	326	12052	12.97	ng/ml	92
7) PBDE-66	7.95	326	14386	14.86	ng/ml	92
8) PBDE-100	8.27	404	8933	15.32	ng/ml	92
10) PBDE-99	8.38	404	9899	14.15	ng/ml	64
11) PBDE-85	8.57	404	9658	15.59	ng/ml	99
12) PBDE-154	8.68	484	10039	16.32	ng/ml	97
13) PBDE-153	8.83	484	9935	17.72	ng/ml	97
14) PBDE-138	9.03	484	8912	16.31	ng/ml	81
15) PBDE-128	9.23	484	8981	18.50	ng/ml	95
16) PBDE-183	9.26	562	8021	23.18	ng/ml	97
17) PBDE-190	9.52	562	6584	21.15	ng/ml	97
18) PBDE-203	9.85	642	6626	30.26	ng/ml	92
19) PBDE-206	10.53	719	4346	47.57	ng/ml	87
20) PBDE-209	11.14	799	2900	50.19	ng/ml	94

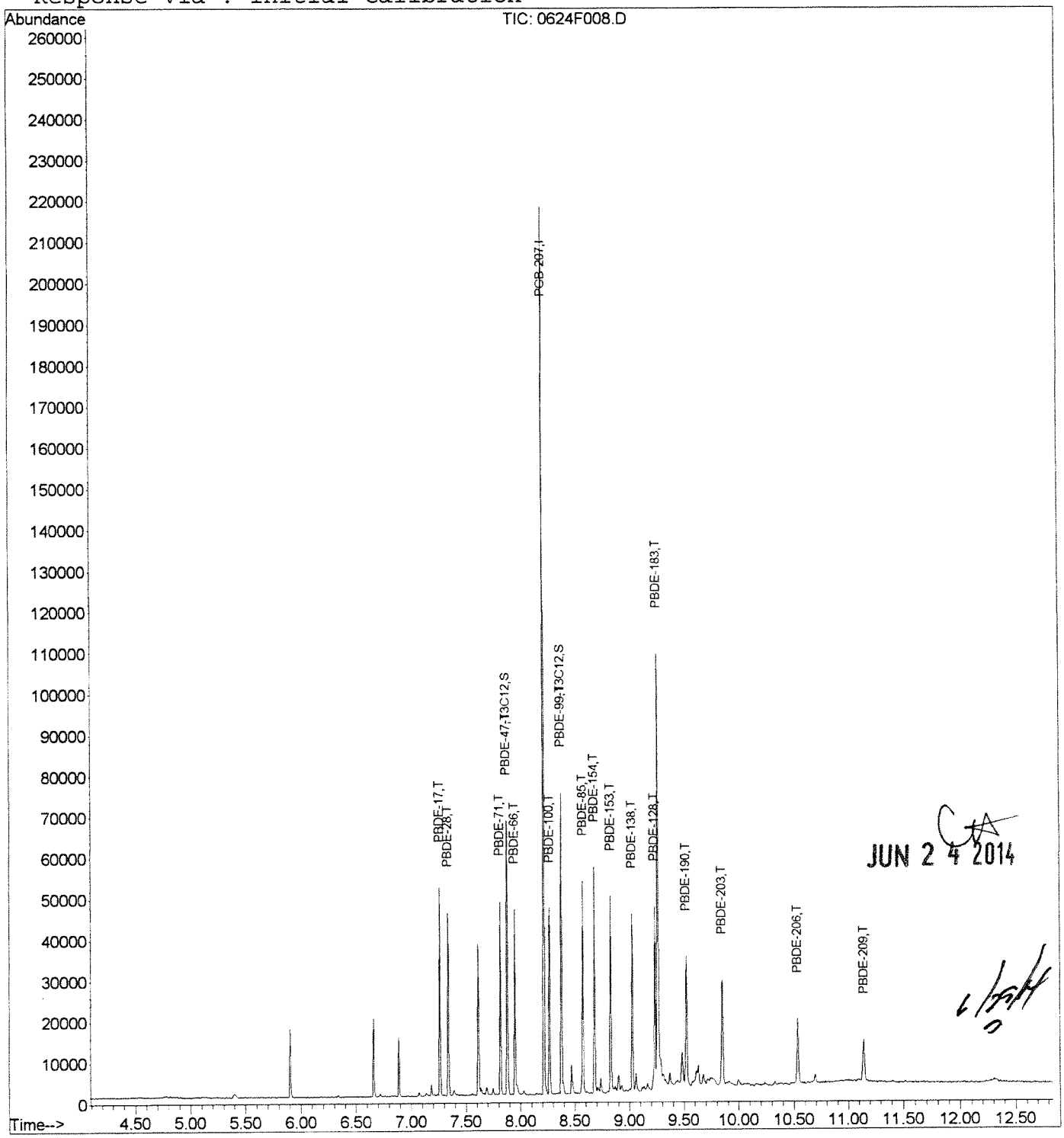
JUN 2 4 2014

(#) = qualifier out of range (m) = manual integration
0624F008.D BDE062414.M Tue Jun 24 16:00:58 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F008.D Vial: 7
Acq On : 24 Jun 2014 12:15 pm Operator: CHart
Sample : PBDE ICAL @ 15ng/mL | SVM46-7E Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 24 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F009.D Vial: 8
Acq On : 24 Jun 2014 12:33 pm Operator: CHart
Sample : PBDE ICAL @ 20ng/mL | SVM46-7F Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:23 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	63495	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	14750	16.92	ng/ml	0.00
Spiked Amount 25.000			Recovery = 67.68%			
9) PBDE-99-13C12	8.37	418	12482	19.31	ng/ml	0.00
Spiked Amount 25.000			Recovery = 77.24%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	14591	12.95	ng/ml	97
3) PBDE-28	7.34	246	14511	15.57	ng/ml	96
4) PBDE-71	7.81	326	20751	16.47	ng/ml	95
6) PBDE-47	7.88	326	16249	18.11	ng/ml	96
7) PBDE-66	7.95	326	18137	19.40	ng/ml	95
8) PBDE-100	8.27	404	11410	20.26	ng/ml	91
10) PBDE-99	8.37	404	13463	19.93	ng/ml	98
11) PBDE-85	8.58	404	12809	21.41	ng/ml	85
12) PBDE-154	8.68	484	13020	21.91	ng/ml	91
13) PBDE-153	8.83	484	13124	24.23	ng/ml	87
14) PBDE-138	9.03	484	12182	23.08	ng/ml	86
15) PBDE-128	9.23	484	12013	25.62	ng/ml	98
16) PBDE-183	9.26	562	10691	31.98	ng/ml	97
17) PBDE-190	9.52	562	8786	29.22	ng/ml	99
18) PBDE-203	9.85	642	8776	41.49	ng/ml	96
19) PBDE-206	10.53	719	5921	67.09	ng/ml	98
20) PBDE-209	11.14	799	4162	74.56	ng/ml	94

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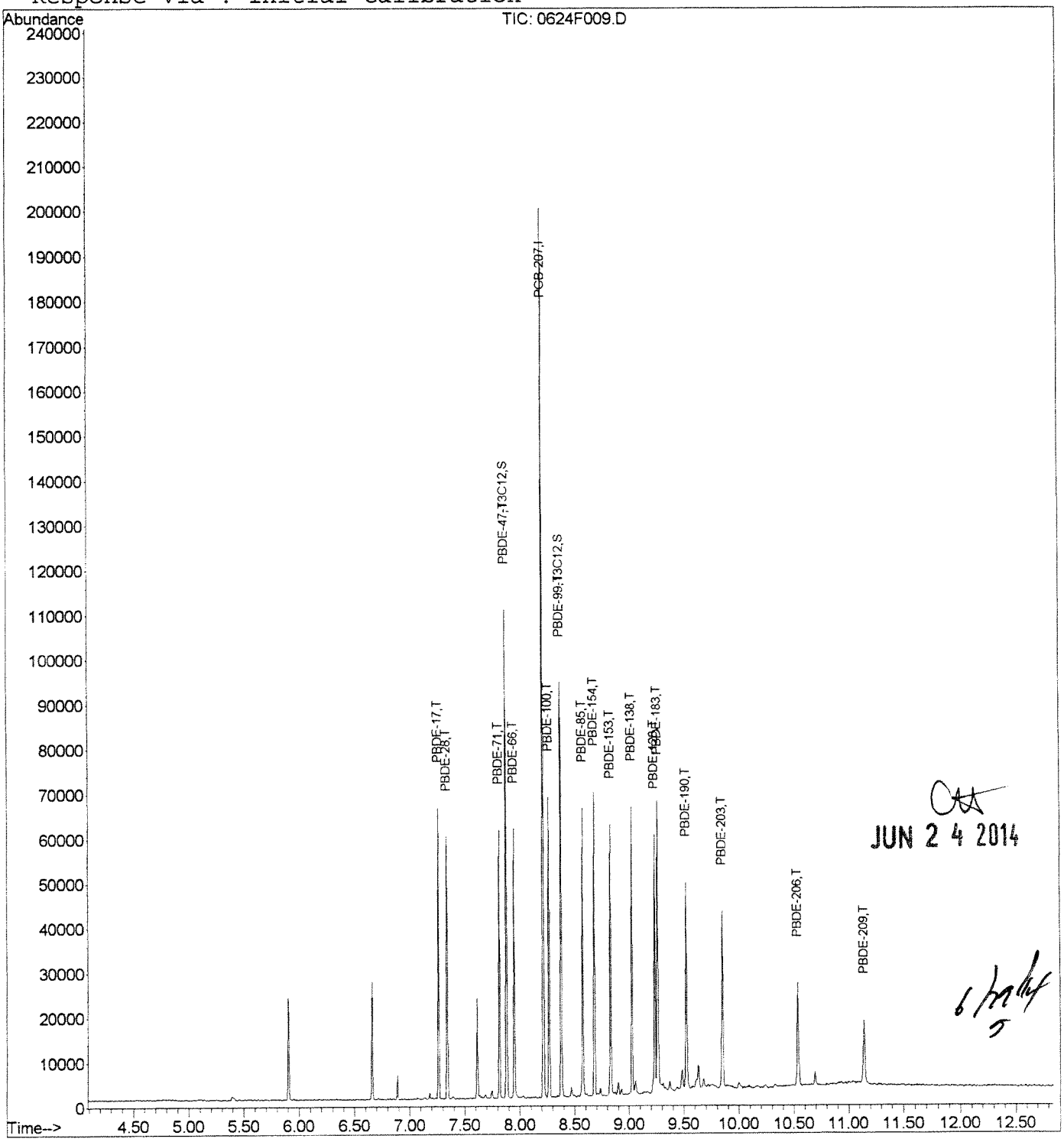
(#) = qualifier out of range (m) = manual integration
0624F009.D BDE062414.M Tue Jun 24 16:00:59 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F009.D Vial: 8
Acq On : 24 Jun 2014 12:33 pm Operator: CHart
Sample : PBDE ICAL @ 20ng/mL | SVM46-7F Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



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0624F009.D BDE062414.M Tue Jun 24 16:00:59 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F010.D Vial: 9
Acq On : 24 Jun 2014 12:51 pm Operator: CHart
Sample : PBDE ICAL @ 25ng/mL | SVM46-7G Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:24 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	66113	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	18179	20.03	ng/ml	0.00
Spiked Amount 25.000			Recovery = 80.12%			
9) PBDE-99-13C12	8.37	418	15538	23.09	ng/ml	0.00
Spiked Amount 25.000			Recovery = 92.36%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	18053	15.39	ng/ml	100
3) PBDE-28	7.34	246	17676	18.21	ng/ml	100
4) PBDE-71	7.82	326	25814	19.68	ng/ml	100
6) PBDE-47	7.88	326	20072	21.48	ng/ml	100
7) PBDE-66	7.95	326	23345	23.98	ng/ml	100
8) PBDE-100	8.27	404	14247	24.29	ng/ml	100
10) PBDE-99	8.37	404	16858	23.96	ng/ml	100
11) PBDE-85	8.58	404	16145	25.92	ng/ml	100
12) PBDE-154	8.68	484	16378	26.46	ng/ml	100
13) PBDE-153	8.83	484	15975	28.33	ng/ml	100
14) PBDE-138	9.03	484	14719	26.78	ng/ml	100
15) PBDE-128	9.24	484	14806	30.32	ng/ml	100
16) PBDE-183	9.27	562	12980	37.29	ng/ml	100
17) PBDE-190	9.53	562	11209	35.80	ng/ml	100
18) PBDE-203	9.86	642	11089	50.35	ng/ml	100
19) PBDE-206	10.55	719	7484	81.44	ng/ml	100
20) PBDE-209	11.15	799	5461	93.96	ng/ml	100

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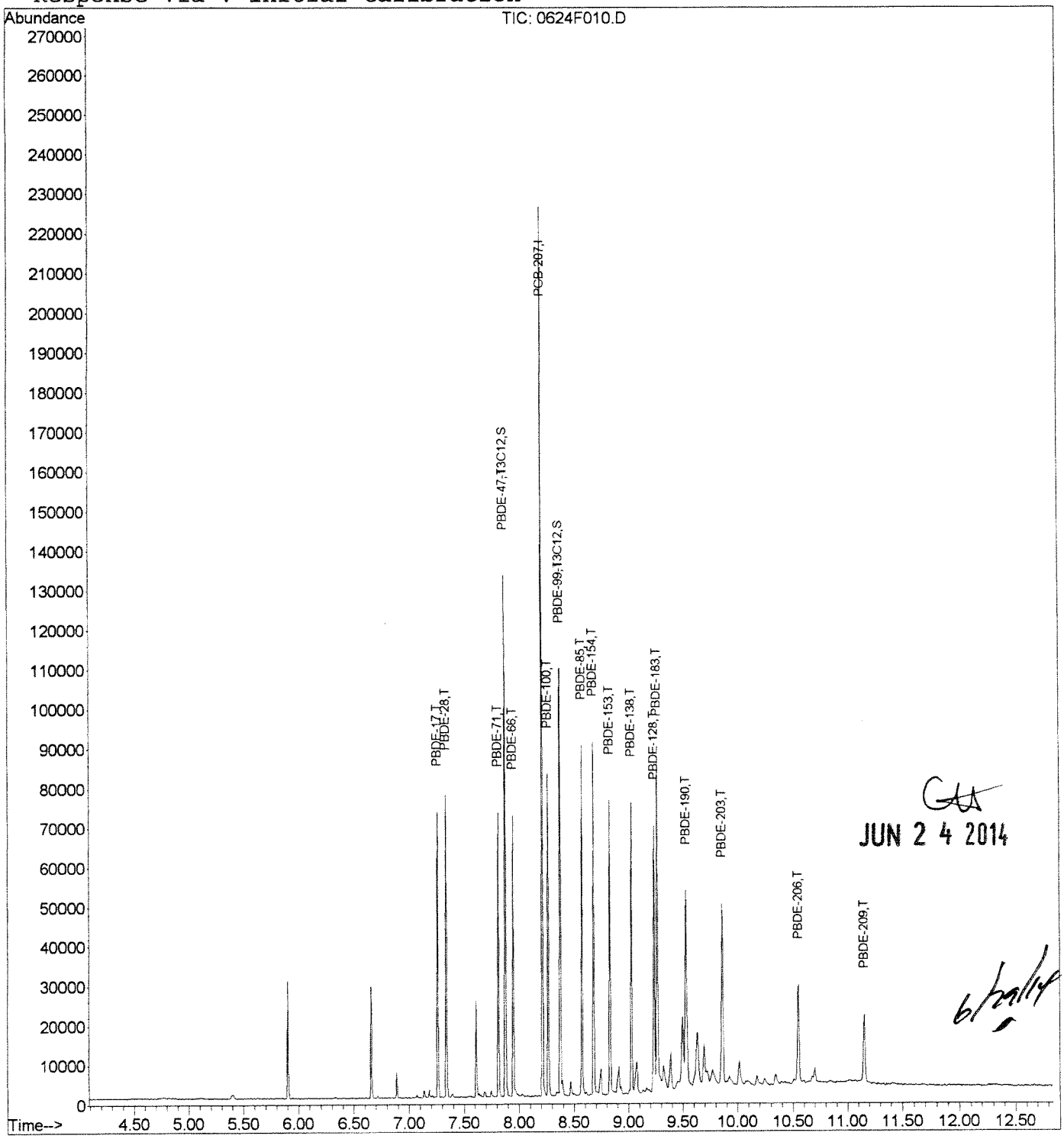
(#) = qualifier out of range (m) = manual integration
0624F010.D BDE062414.M Tue Jun 24 16:00:59 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F010.D Vial: 9
Acq On : 24 Jun 2014 12:51 pm Operator: CHart
Sample : PBDE ICAL @ 25ng/mL | SVM46-7G Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



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0624F010.D BDE062414.M Tue Jun 24 16:00:59 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F011.D Vial: 10
Acq On : 24 Jun 2014 1:09 pm Operator: CHart
Sample : PBDE ICAL @ 30ng/mL | SVM46-7H Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:24 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	63925	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	21746	24.78	ng/ml	0.00
Spiked Amount 25.000			Recovery = 99.12%			
9) PBDE-99-13C12	8.37	418	17976	27.63	ng/ml	0.00
Spiked Amount 25.000			Recovery = 110.52%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	24107	21.25	ng/ml	92
3) PBDE-28	7.34	246	22764	24.26	ng/ml	96
4) PBDE-71	7.81	326	31828	25.09	ng/ml	97
6) PBDE-47	7.88	326	23991	26.55	ng/ml	87
7) PBDE-66	7.95	326	27264	28.96	ng/ml	93
8) PBDE-100	8.27	404	17010	29.99	ng/ml	91
10) PBDE-99	8.37	404	19968	29.36	ng/ml	97
11) PBDE-85	8.58	404	19423	32.25	ng/ml	84
12) PBDE-154	8.68	484	19898	33.25	ng/ml	86
13) PBDE-153	8.82	484	19409	35.59	ng/ml	87
14) PBDE-138	9.03	484	17882	33.65	ng/ml	90
15) PBDE-128	9.23	484	18432	39.04	ng/ml	98
16) PBDE-183	9.26	562	15684	46.60	ng/ml	98
17) PBDE-190	9.52	562	13422	44.34	ng/ml	91
18) PBDE-203	9.85	642	13809	64.85	ng/ml	95
19) PBDE-206	10.53	719	9254	104.15	ng/ml	96
20) PBDE-209	11.14	799	6688	119.01	ng/ml	94

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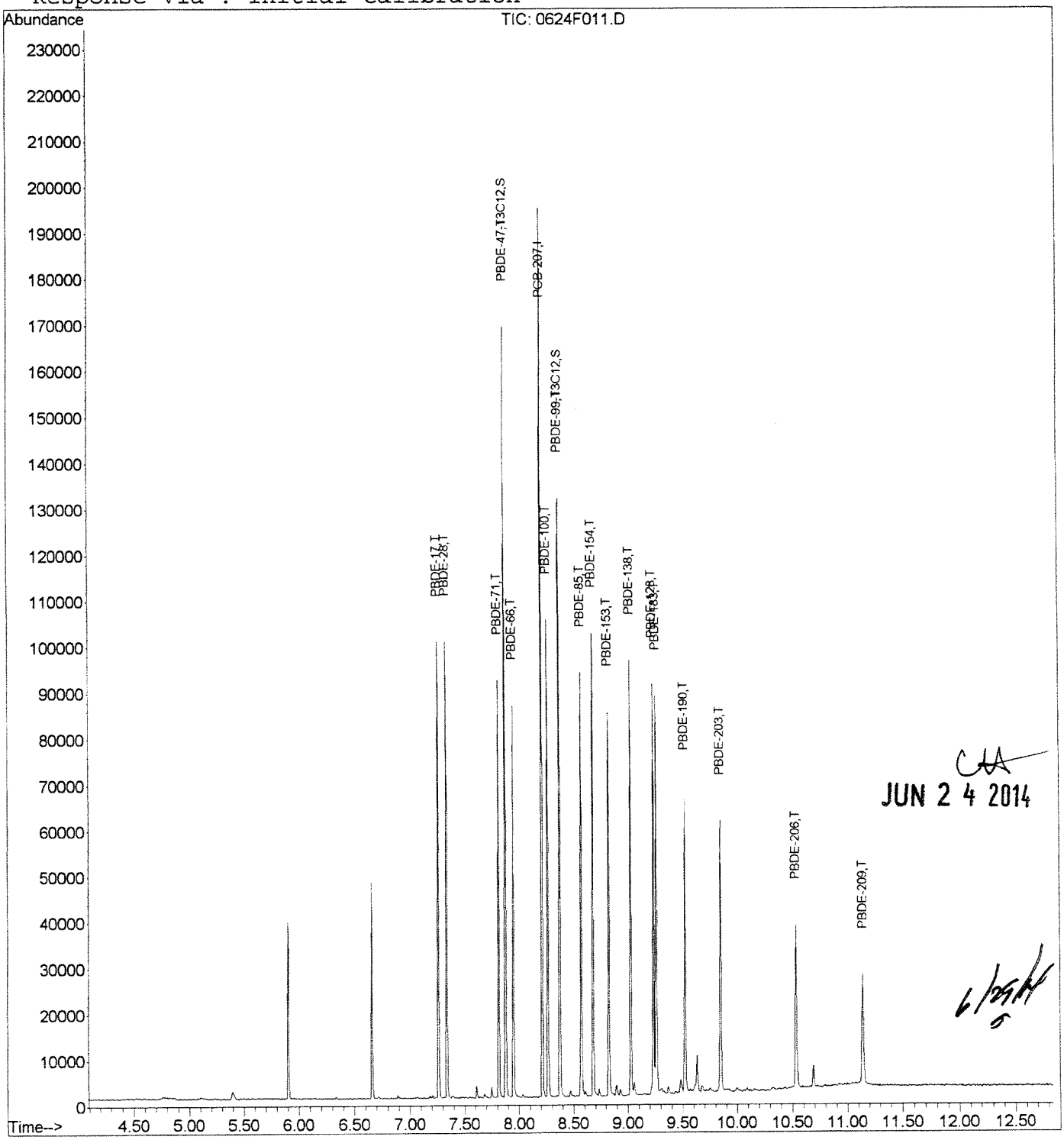
(#) = qualifier out of range (m) = manual integration
0624F011.D BDE062414.M Tue Jun 24 16:01:00 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F011.D Vial: 10
Acq On : 24 Jun 2014 1:09 pm Operator: CHart
Sample : PBDE ICAL @ 30ng/mL | SVM46-7H Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F012.D Vial: 11
Acq On : 24 Jun 2014 1:27 pm Operator: CHart
Sample : PBDE ICAL @ 40ng/mL | SVM46-7I Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:25 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	61486	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	26455	31.34	ng/ml	0.00
Spiked Amount 25.000			Recovery =	125.36%		
9) PBDE-99-13C12	8.37	418	23029	36.80	ng/ml	0.00
Spiked Amount 25.000			Recovery =	147.20%		
Target Compounds						Qvalue
2) PBDE-17	7.26	246	26927	24.68	ng/ml#	55
3) PBDE-28	7.34	246	26800	29.70	ng/ml	99
4) PBDE-71	7.82	326	39541	32.41	ng/ml	98
6) PBDE-47	7.88	326	29229	33.63	ng/ml	95
7) PBDE-66	7.95	326	35004	38.66	ng/ml	96
8) PBDE-100	8.27	404	21755	39.88	ng/ml	96
10) PBDE-99	8.38	404	25187	38.50	ng/ml#	54
11) PBDE-85	8.58	404	25344	43.75	ng/ml	93
12) PBDE-154	8.68	484	25868	44.94	ng/ml	95
13) PBDE-153	8.83	484	25972	49.52	ng/ml	96
14) PBDE-138	9.03	484	24540	48.01	ng/ml	77
15) PBDE-128	9.24	484	24860	54.74	ng/ml	95
16) PBDE-183	9.27	562	20919	64.62	ng/ml	97
17) PBDE-190	9.53	562	18998	65.25	ng/ml	94
18) PBDE-203	9.85	642	19529	95.35	ng/ml	96
19) PBDE-206	10.54	719	13601	159.15	ng/ml	97
20) PBDE-209	11.14	799	9967	184.40	ng/ml	93

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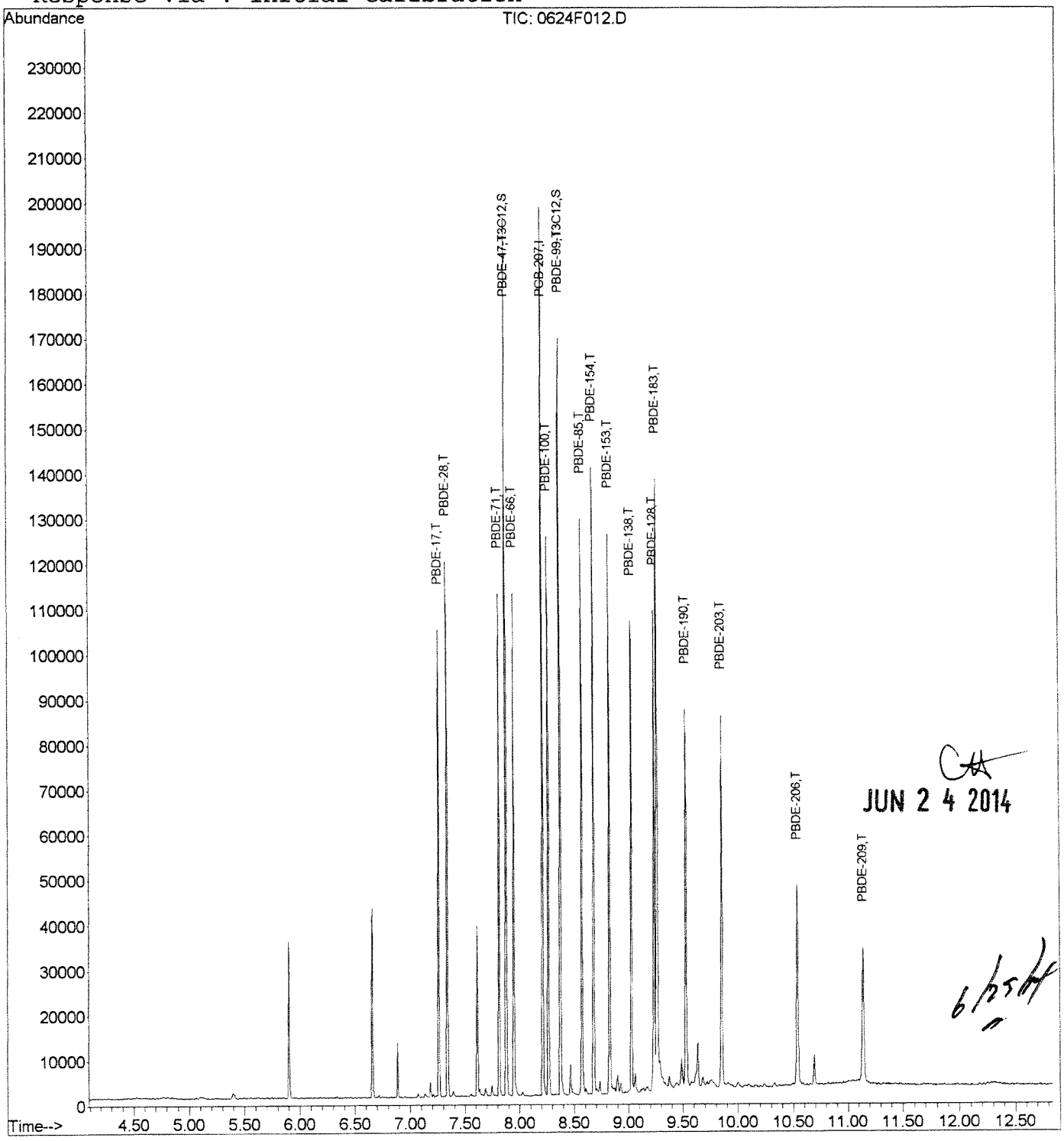
(#) = qualifier out of range (m) = manual integration
0624F012.D BDE062414.M Tue Jun 24 16:01:01 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F012.D Vial: 11
Acq On : 24 Jun 2014 1:27 pm Operator: CHart
Sample : PBDE ICAL @ 40ng/mL | SVM46-7I Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



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0624F012.D BDE062414.M Tue Jun 24 16:01:01 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F013.D Vial: 12
Acq On : 24 Jun 2014 1:46 pm Operator: CHart
Sample : PBDE ICAL @ 50ng/mL | SVM46-7J Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:25 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	62921	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	33421	38.69	ng/ml	0.00
Spiked Amount 25.000			Recovery = 154.76%			
9) PBDE-99-13C12	8.37	418	29433	45.96	ng/ml	0.00
Spiked Amount 25.000			Recovery = 183.84%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	33069	29.61	ng/ml	99
3) PBDE-28	7.34	246	33609	36.39	ng/ml	96
4) PBDE-71	7.81	326	49038	39.28	ng/ml	99
6) PBDE-47	7.88	326	37308	41.95	ng/ml	83
7) PBDE-66	7.95	326	43551	47.00	ng/ml	87
8) PBDE-100	8.27	404	27289	48.89	ng/ml	83
10) PBDE-99	8.37	404	31752	47.43	ng/ml	95
11) PBDE-85	8.58	404	32214	54.34	ng/ml	90
12) PBDE-154	8.68	484	32029	54.38	ng/ml	87
13) PBDE-153	8.82	484	33357	62.15	ng/ml	86
14) PBDE-138	9.03	484	31112	59.48	ng/ml	88
15) PBDE-128	9.23	484	31524	67.83	ng/ml	95
16) PBDE-183	9.26	562	26352	79.54	ng/ml	97
17) PBDE-190	9.52	562	24223	81.29	ng/ml	92
18) PBDE-203	9.85	642	24960	119.09	ng/ml	97
19) PBDE-206	10.53	719	17372	198.64	ng/ml	97
20) PBDE-209	11.14	799	12841	232.15	ng/ml	89

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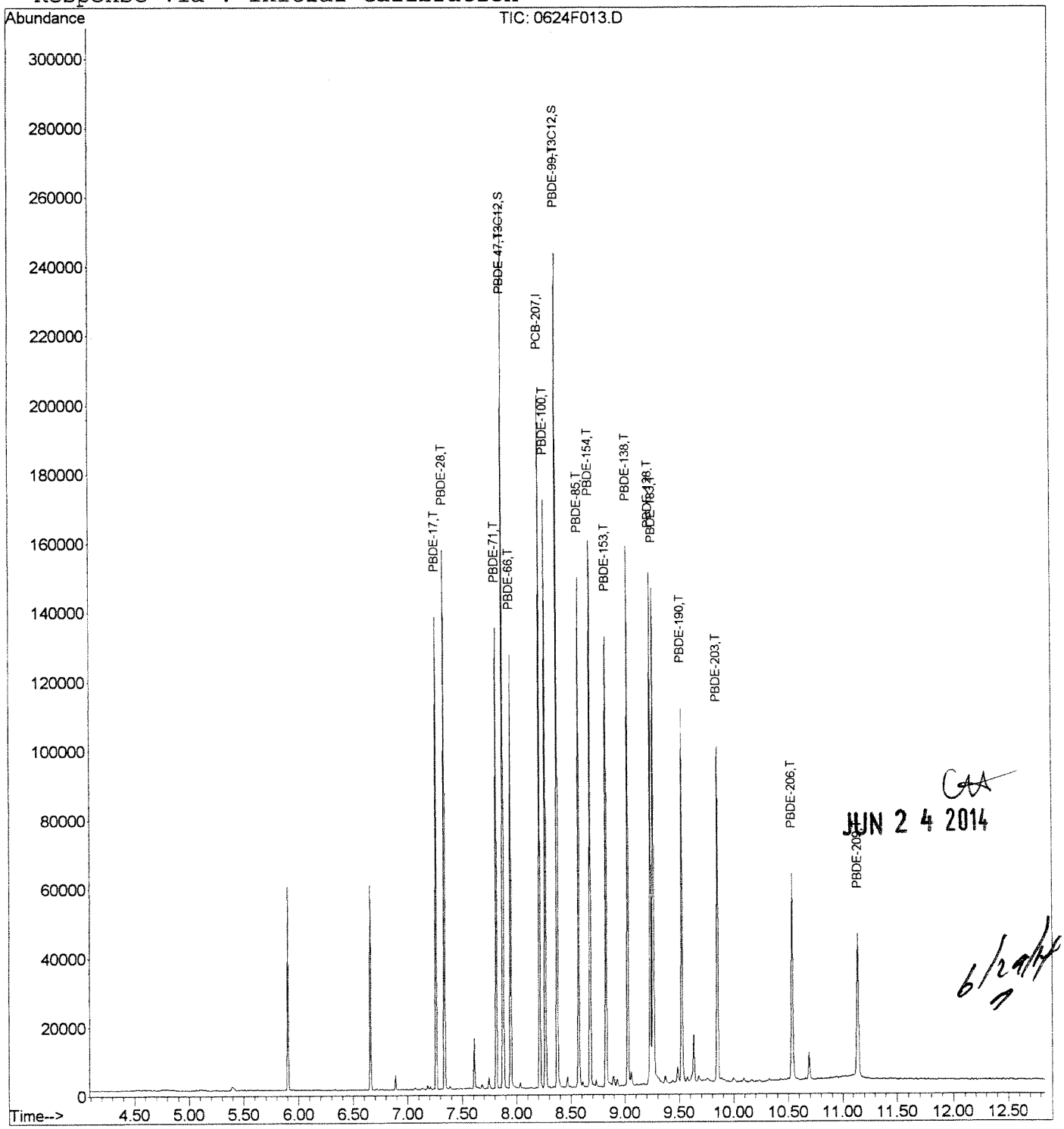
(#) = qualifier out of range (m) = manual integration
0624F013.D BDE062414.M Tue Jun 24 16:01:01 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F013.D Vial: 12
Acq On : 24 Jun 2014 1:46 pm Operator: CHart
Sample : PBDE ICAL @ 50ng/mL | SVM46-7J Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

0624F013.D BDE062414.M Tue Jun 24 16:01:02 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F014.D Vial: 13
Acq On : 24 Jun 2014 2:04 pm Operator: CHart
Sample : PBDE ICAL @ 60ng/mL | SVM46-7K Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13:26 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	61841	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	38885	45.80	ng/ml	0.00
Spiked Amount 25.000			Recovery =	183.20%		
9) PBDE-99-13C12	8.37	418	34247	54.41	ng/ml	0.00
Spiked Amount 25.000			Recovery =	217.64%		
Target Compounds						Qvalue
2) PBDE-17	7.26	246	35828	32.64	ng/ml#	61
3) PBDE-28	7.34	246	37530	41.35	ng/ml	98
4) PBDE-71	7.82	326	57279	46.68	ng/ml	100
6) PBDE-47	7.88	326	42201	48.28	ng/ml	98
7) PBDE-66	7.95	326	49798	54.69	ng/ml	92
8) PBDE-100	8.27	404	31244	56.95	ng/ml	87
10) PBDE-99	8.37	404	37717	57.32	ng/ml	97
11) PBDE-85	8.58	404	37562	64.46	ng/ml	88
12) PBDE-154	8.68	484	37597	64.95	ng/ml	93
13) PBDE-153	8.83	484	38754	73.46	ng/ml	91
14) PBDE-138	9.03	484	35993	70.01	ng/ml	83
15) PBDE-128	9.23	484	37624m	82.37	ng/ml	
16) PBDE-183	9.26	562	31377	96.37	ng/ml	98
17) PBDE-190	9.52	562	28718	98.06	ng/ml	94
18) PBDE-203	9.85	642	29778	144.56	ng/ml	94
19) PBDE-206	10.53	719	21481	249.91	ng/ml	98
20) PBDE-209	11.14	799	16183	297.68	ng/ml	86

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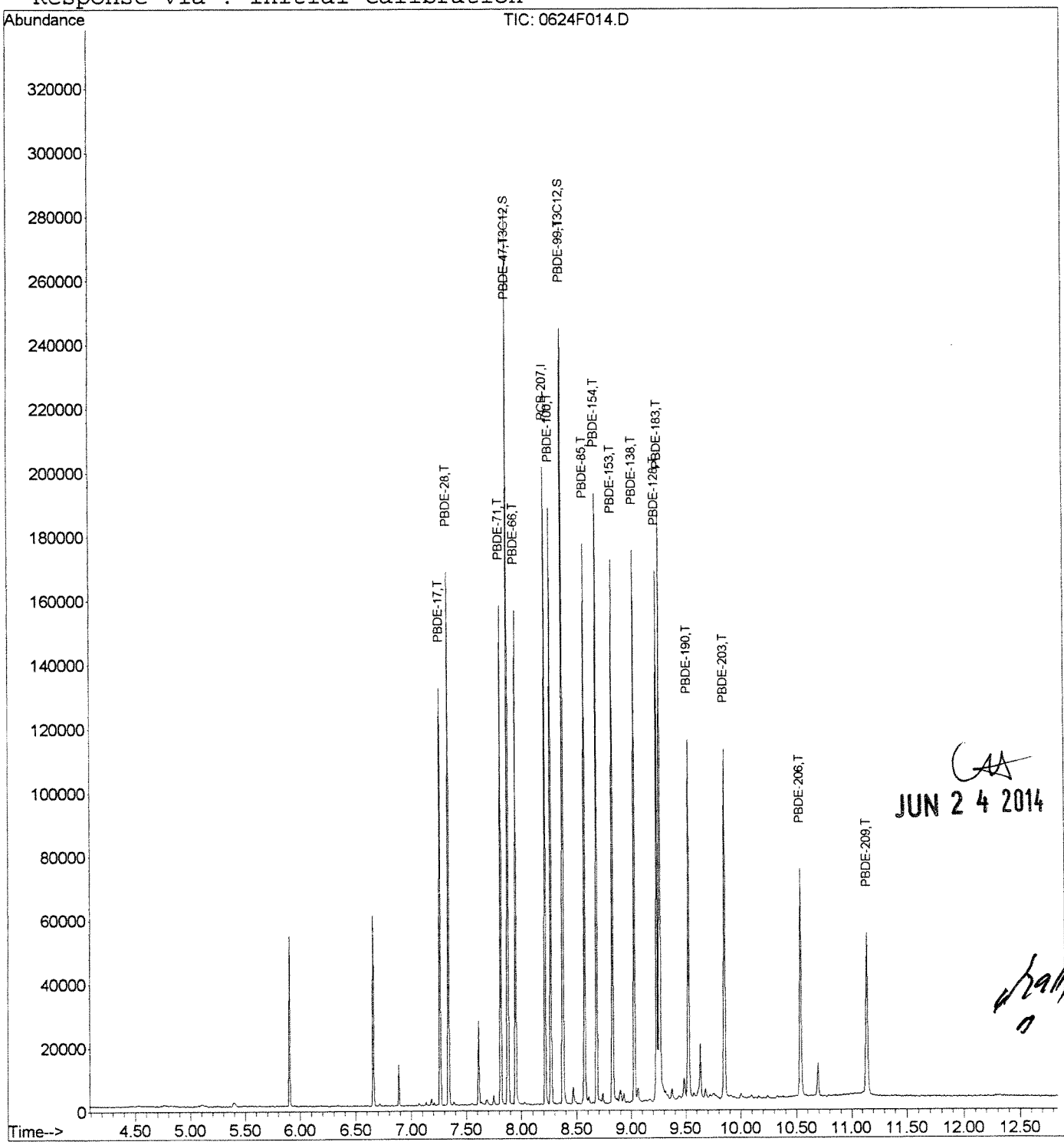
(#) = qualifier out of range (m) = manual integration
0624F014.D BDE062414.M Tue Jun 24 16:01:02 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F014.D Vial: 13
Acq On : 24 Jun 2014 2:04 pm Operator: CHart
Sample : PBDE ICAL @ 60ng/mL | SVM46-7K Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:20 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration

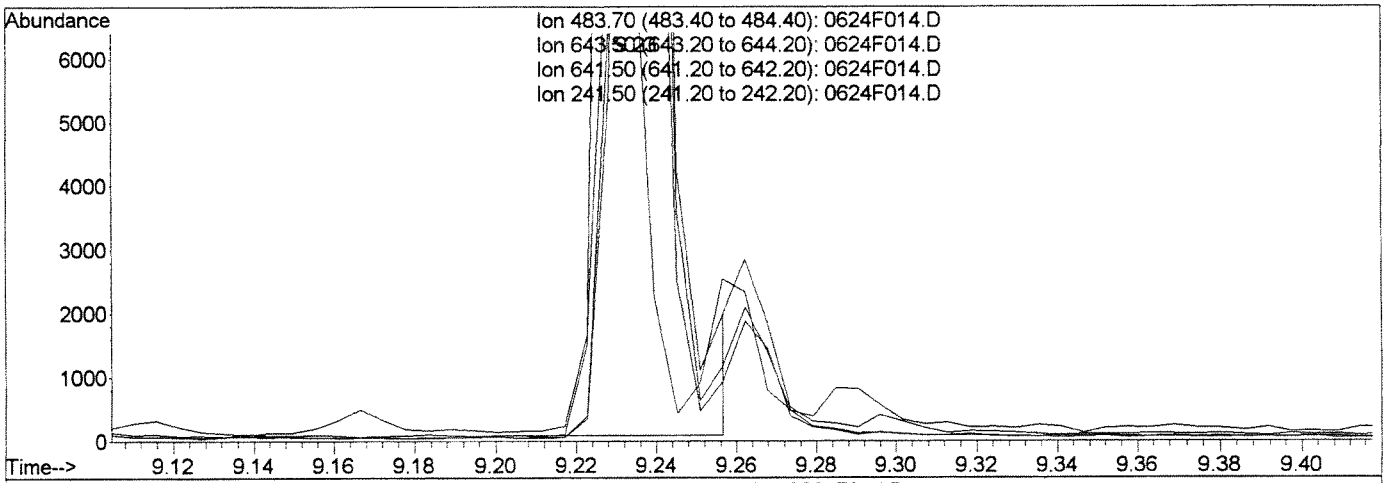


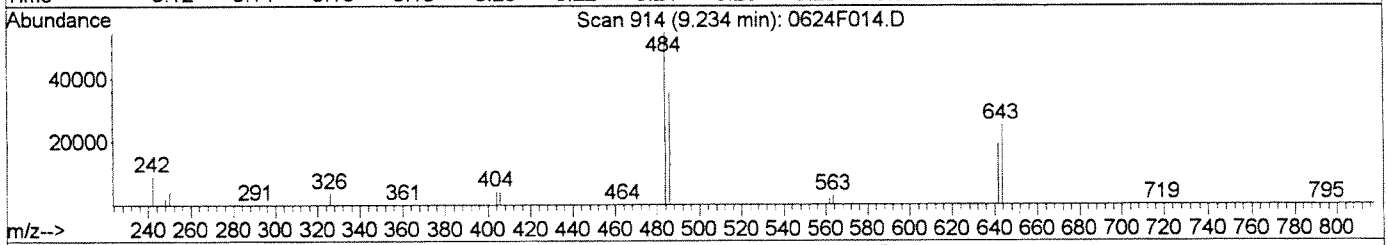
JUN 2 4 2014

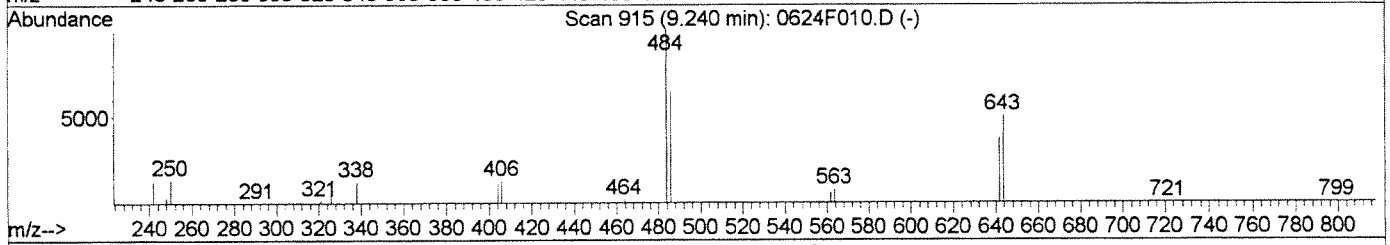
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F014.D Vial: 13
Acq On : 24 Jun 2014 2:04 pm Operator: CHart
Sample : PBDE ICAL @ 60ng/mL | SVM46-7K Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:13 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F014.D

(15) PBDE-128 (T)

9.23min 83.70ng/ml

response 38233

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	46.11
641.50	37.50	34.86
241.50	12.60	16.34

Manual Integration:

Before

CH

06/24/14

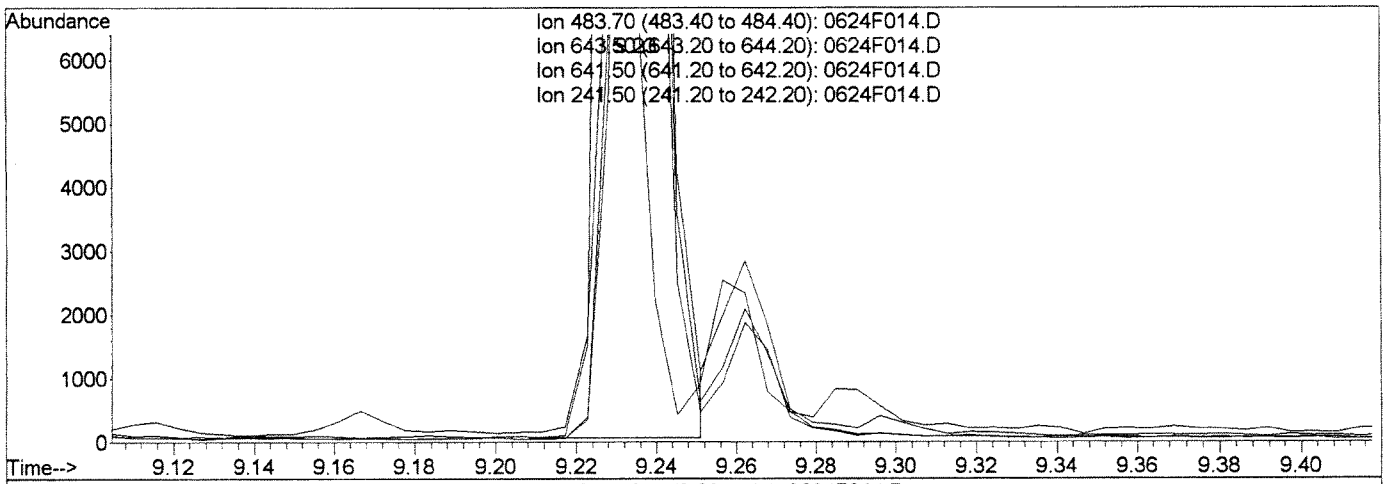
6/24/14

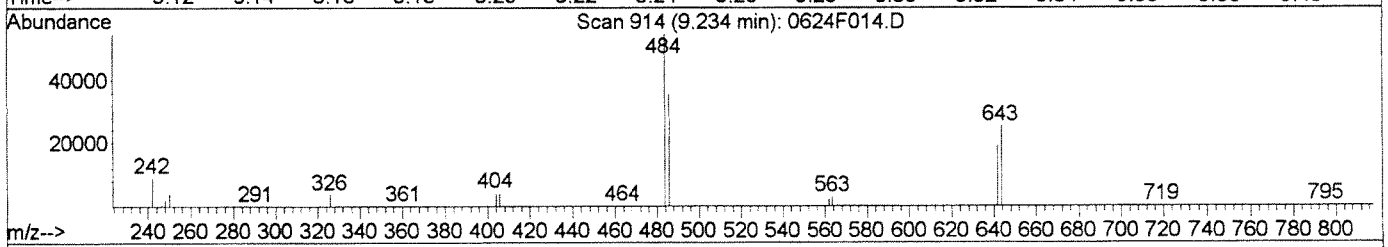
0624F014.D BDE062414.M Tue Jun 24 15:20:01 2014

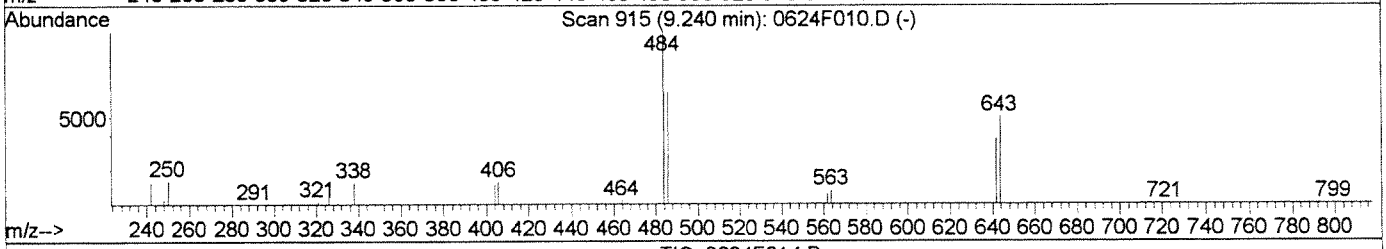
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F014.D Vial: 13
Acq On : 24 Jun 2014 2:04 pm Operator: CHart
Sample : PBDE ICAL @ 60ng/mL | SVM46-7K Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:20 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:12:58 2014
Response via : Multiple Level Calibration







TIC: 0624F014.D

(15) PBDE-128 (T)

9.23min 82.37ng/ml m

response 37624

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	46.18
641.50	37.50	34.94
241.50	12.60	16.57

Manual Integration:

After

IC-Overintegrated

06/24/14

CA

6/29/14

0624F014.D BDE062414.M Tue Jun 24 15:20:16 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F015.D Vial: 14
Acq On : 24 Jun 2014 2:22 pm Operator: CHart
Sample : PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7L Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:50:17 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	67985	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	0.00	418	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
Target Compounds						Qvalue
2) PBDE-17	7.26	246	23455	30.23	ng/ml#	63
3) PBDE-28	7.34	246	22284	29.25	ng/ml	87
4) PBDE-71	7.81	326	29600	26.96	ng/ml	74
6) PBDE-47	7.88	326	21270m	25.72	ng/ml	
7) PBDE-66	7.94	326	24805	25.97	ng/ml	82
8) PBDE-100	8.27	404	15010	25.54	ng/ml	78
10) PBDE-99	8.37	404	17302	25.12	ng/ml	84
11) PBDE-85	8.57	404	17559	26.30	ng/ml	83
12) PBDE-154	8.68	484	16741	24.87	ng/ml	88
13) PBDE-153	8.82	484	18545	27.91	ng/ml	91
14) PBDE-138	9.03	484	24047	39.60	ng/ml	94
16) PBDE-183	9.26	562	13425	25.78	ng/ml	95
17) PBDE-190	9.52	562	12907	28.50	ng/ml	98
20) PBDE-209	11.13	799	29489	86.82	ng/ml	87

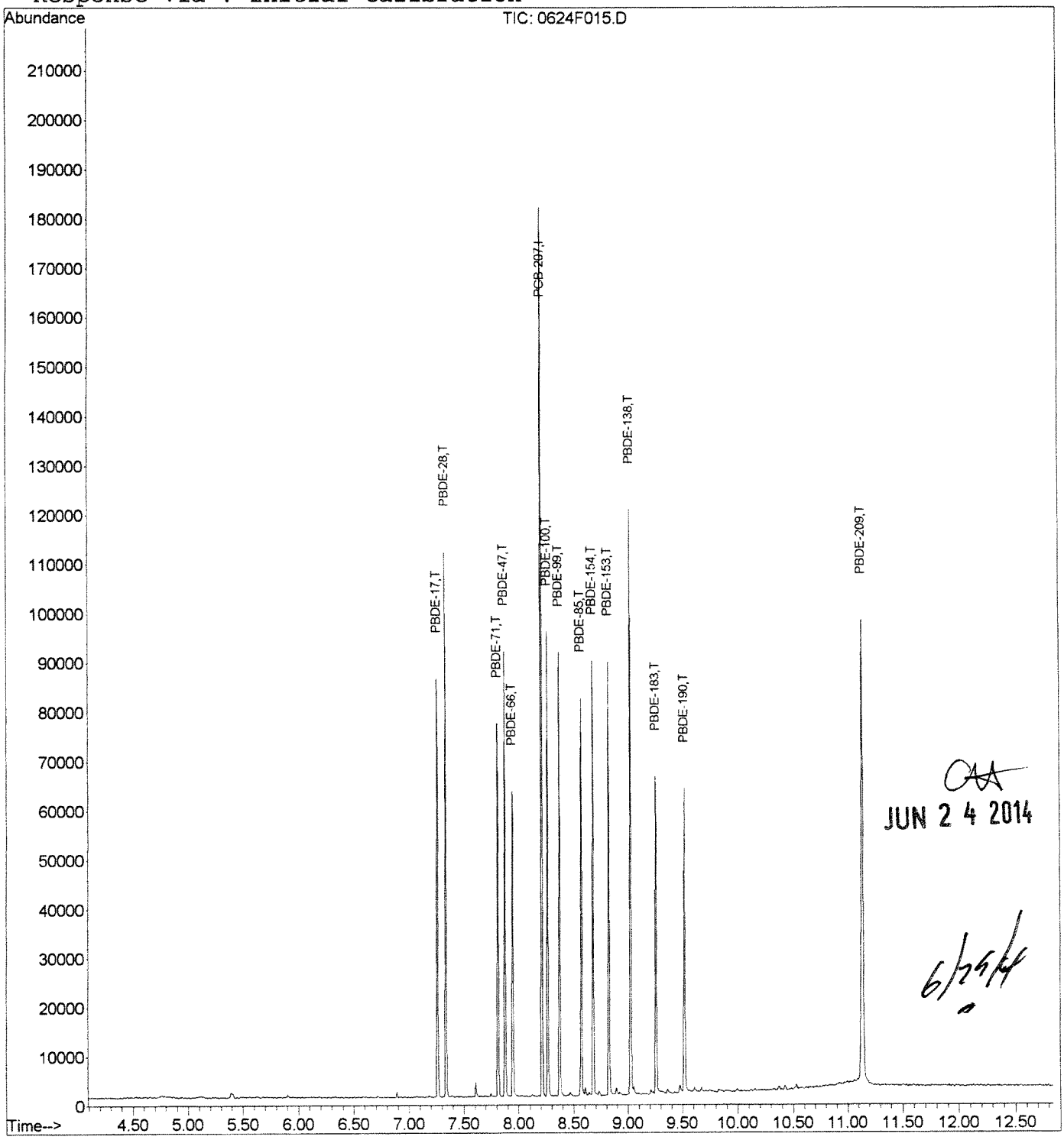
JUN 2 4 2014

(#) = qualifier out of range (m) = manual integration
0624F015.D BDE062414.M Tue Jun 24 16:01:03 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F015.D Vial: 14
Acq On : 24 Jun 2014 2:22 pm Operator: CHart
Sample : PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7L Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:51 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



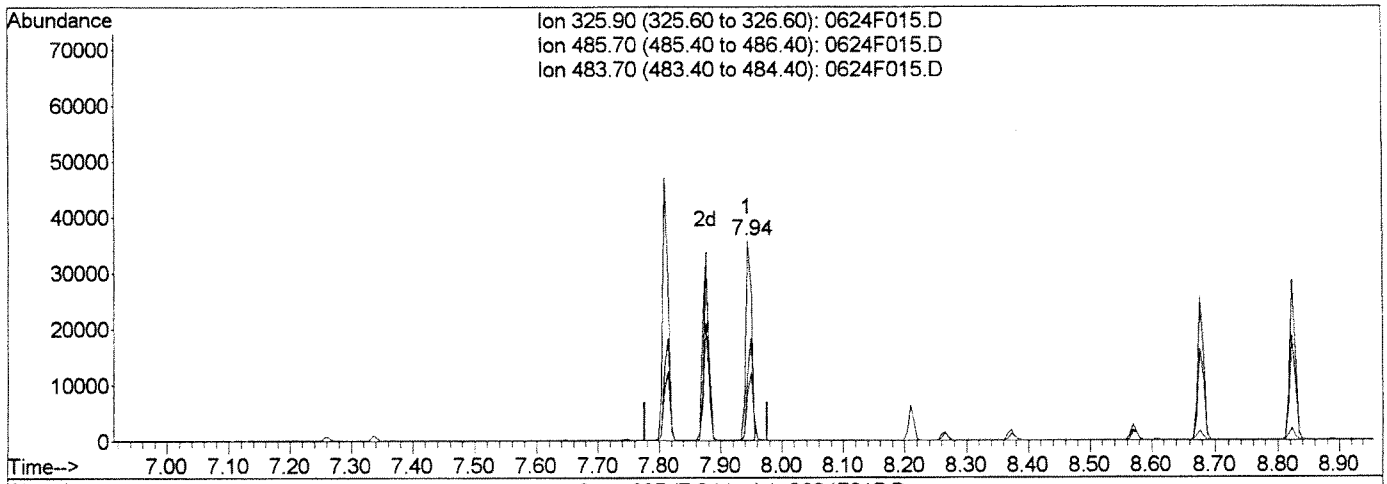
JUN 2 4 2014

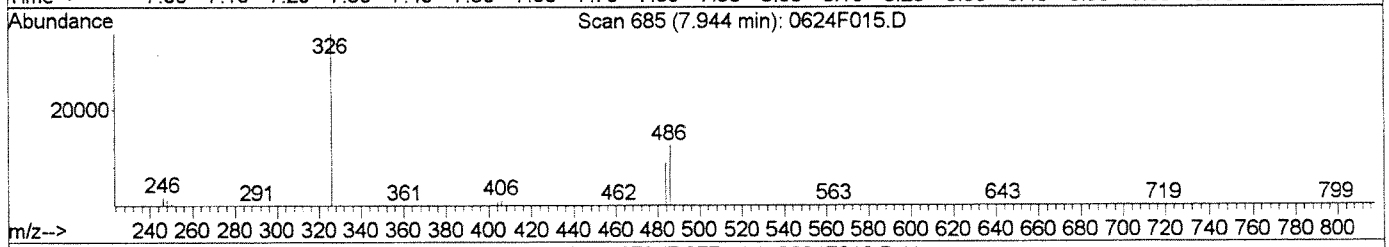
6/24/14

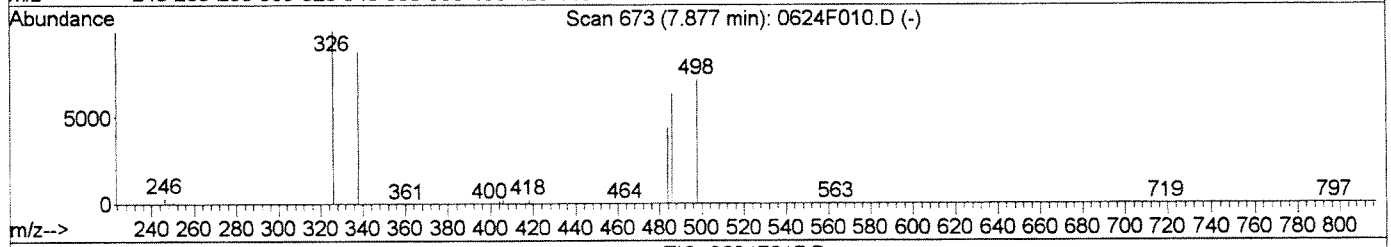
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F015.D Vial: 14
Acq On : 24 Jun 2014 2:22 pm Operator: CHart
Sample : PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7L Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:50 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F015.D

(6) PBDE-47 (T)

7.94min 29.77ng/ml

response 24618

Ion	Exp%	Act%
325.90	100	100
485.70	63.80	34.86
483.70	43.90	24.37
0.00	0.00	0.00

Manual Integration:

Before

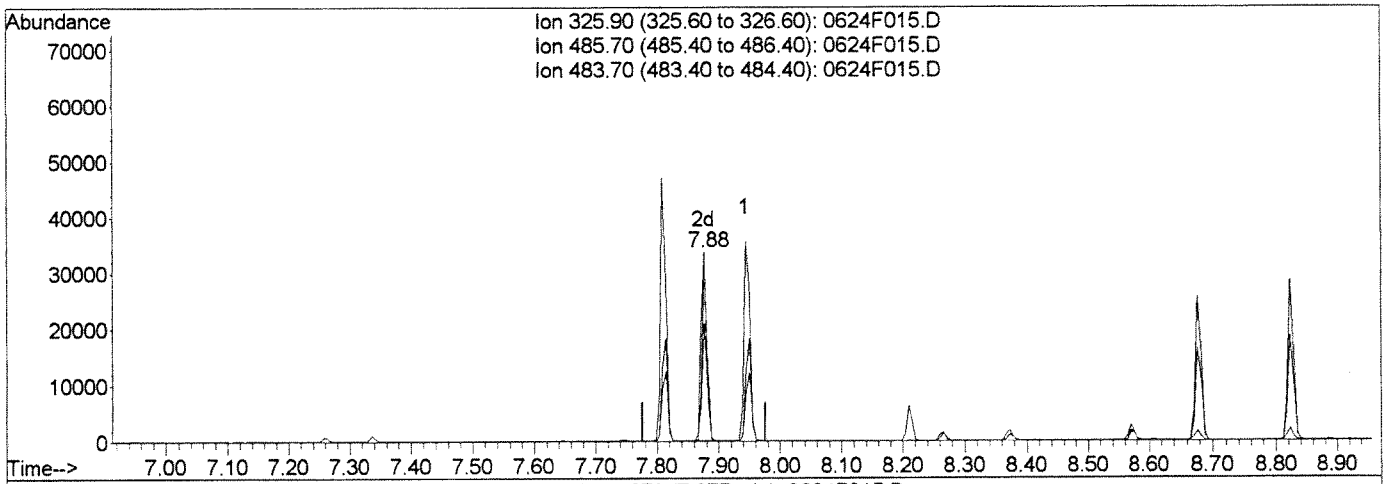
06/24/14

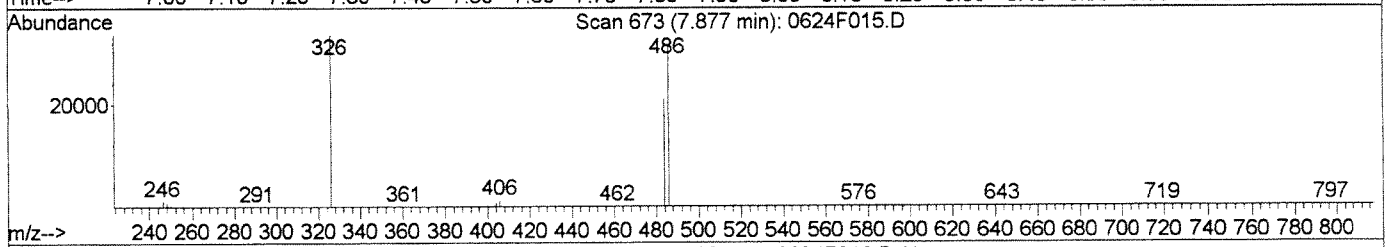
0624F015.D BDE062414.M Tue Jun 24 15:50:31 2014

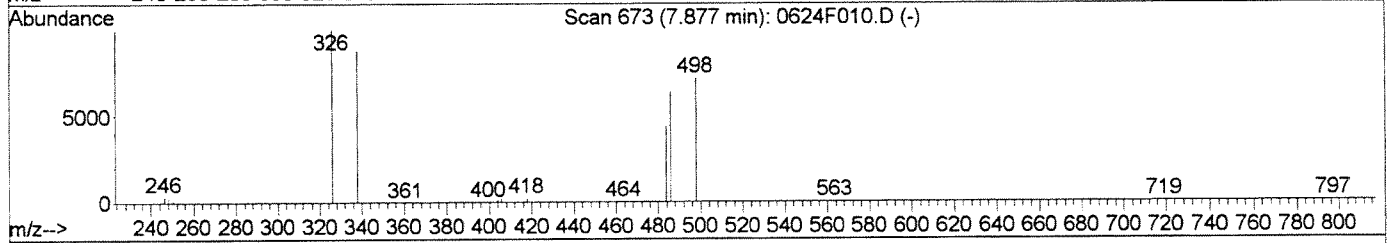
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F015.D Vial: 14
Acq On : 24 Jun 2014 2:22 pm Operator: CHart
Sample : PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7L Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:50 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F015.D

(6) PBDE-47 (T)

7.88min 25.72ng/ml m

response 21270

Ion	Exp%	Act%
325.90	100	100
485.70	63.80	93.88#
483.70	43.90	62.19
0.00	0.00	0.00

Manual Integration:

After

WP

06/24/14

6/24/14

0624F015.D BDE062414.M Tue Jun 24 15:50:44 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F016.D Vial: 15
Acq On : 24 Jun 2014 2:40 pm Operator: CHart
Sample : PBDE ICV C @ 25ng/mL | SVM46-8B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:51:30 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	63781	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	0.00	338	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
9) PBDE-99-13C12	0.00	418	0d	0.00	ng/ml	
Spiked Amount 25.000			Recovery =	0.00%		
Target Compounds						Qvalue
18) PBDE-203	9.85	642	10735	25.35	ng/ml	95
19) PBDE-206	10.53	719	7870	25.61	ng/ml	96
20) PBDE-209	11.13	799	4723	22.29	ng/ml	93

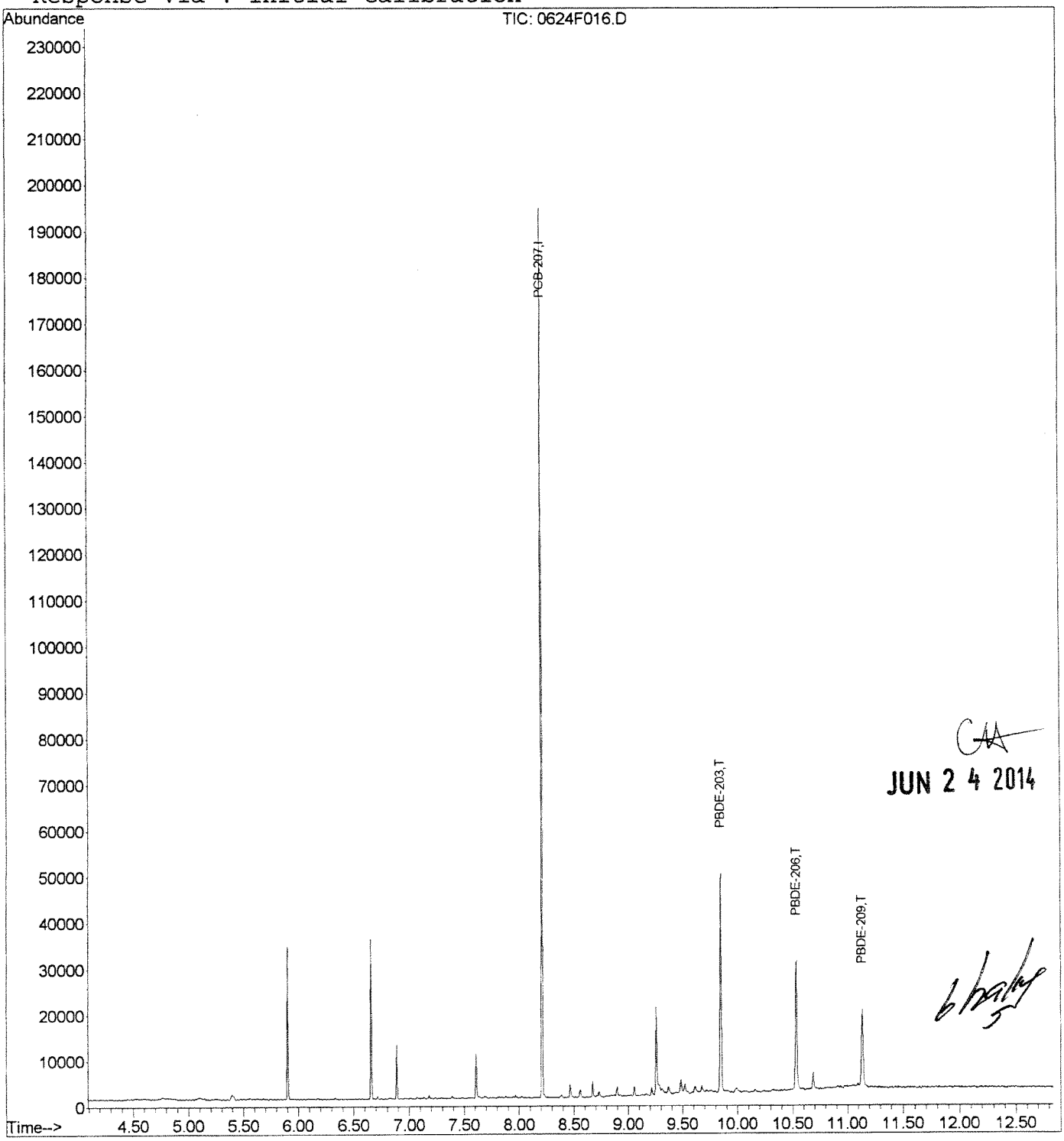
JUN 2 4 2014

(#) = qualifier out of range (m) = manual integration
0624F016.D BDE062414.M Tue Jun 24 16:01:04 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062414\0624F016.D Vial: 15
Acq On : 24 Jun 2014 2:40 pm Operator: CHart
Sample : PBDE ICV C @ 25ng/mL | SVM46-8B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 15:52 2014 Quant Results File: BDE062414.RE

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration



JUN 2 4 2014

Injection Log

Directory: J:\MS14\DATA\062414

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0624F001.D	1.	DFTPP @ 2.5ppm | SVM46-84C		24 Jun 2014 09:4
2	1	0624F002.D	1.	DFTPP @ 2.5ppm | SVM46-84C		24 Jun 2014 10:1
3	2	0624F003.D	1.	PBDE IB		24 Jun 2014 10:3
4	3	0624F004.D	1.	PBDE ICAL @ 0.5ng/mL | SVM46-7A		24 Jun 2014 11:0
5	4	0624F005.D	1.	PBDE ICAL @ 1.0ng/mL | SVM46-7B		24 Jun 2014 11:2
6	5	0624F006.D	1.	PBDE ICAL @ 5.0ng/mL | SVM46-7C		24 Jun 2014 11:3
7	6	0624F007.D	1.	PBDE ICAL @ 10ng/mL | SVM46-7D		24 Jun 2014 11:5
8	7	0624F008.D	1.	PBDE ICAL @ 15ng/mL | SVM46-7E		24 Jun 2014 12:1
9	8	0624F009.D	1.	PBDE ICAL @ 20ng/mL | SVM46-7F		24 Jun 2014 12:3
10	9	0624F010.D	1.	PBDE ICAL @ 25ng/mL | SVM46-7G		24 Jun 2014 12:5
11	10	0624F011.D	1.	PBDE ICAL @ 30ng/mL | SVM46-7H		24 Jun 2014 13:0
12	11	0624F012.D	1.	PBDE ICAL @ 40ng/mL | SVM46-7I		24 Jun 2014 13:2
13	12	0624F013.D	1.	PBDE ICAL @ 50ng/mL | SVM46-7J		24 Jun 2014 13:4
14	13	0624F014.D	1.	PBDE ICAL @ 60ng/mL | SVM46-7K		24 Jun 2014 14:0
15	14	0624F015.D	1.	PBDE ICV A @ 25/37.5/100ng/mL | SVM46-7		24 Jun 2014 14:2
16	15	0624F016.D	1.	PBDE ICV C @ 25ng/mL | SVM46-8B		24 Jun 2014 14:4
17	1	0624F017.D	1.	DFTPP @ 2.5ppm | SVM46-84C		24 Jun 2014 15:5
18	2	0624F018.D	1.	PBDE CCV @ 25ng/mL | SVM46-84B		24 Jun 2014 16:1
19	3	0624F019.D	1.	KWG1405686-05 | MB		24 Jun 2014 16:3
20	4	0624F020.D	10.	K1405833-001 10X		24 Jun 2014 16:5
21	5	0624F021.D	1.	KWG1405686-03 | LCS		24 Jun 2014 17:1
22	6	0624F022.D	1.	KWG1405686-04 | DLCS		24 Jun 2014 17:3
23	7	0624F023.D	1.	K1405833-001 | MS		24 Jun 2014 17:5
24	8	0624F024.D	1.	K1405833-001 | DMS		24 Jun 2014 18:1
25	9	0624F025.D	1.	K1405833-001		24 Jun 2014 18:2
26	10	0624F026.D	1.	K1405833-002 | DUP		24 Jun 2014 18:4
27	11	0624F027.D	1.	K1405833-002		24 Jun 2014 19:0
28	12	0624F028.D	1.	K1405833-003		24 Jun 2014 19:2

Cal 13399

Stanlims 391734

CA 06.25.14

6/29/14

DILUTION LOG MS 14

Date: 06-24-14 Prepared by: CHart Solvent Lot #: 53155

LAB ID.	ALIQUOT	FINAL VOLUME	DILUTION FACTOR	COMMENTS
K1405833-001	50µ	500µ	10X	suspect matrix

6/24/14

R:\SVM\DILUTION LOG.DOC

Exception Report

Data File: J:\MS14\DATA\062414\0624F017.D
Lab ID: KWG1406646-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 06/24/2014 15:55
Date Quantitated:
Batch ID: KWG1406646
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: CA JUN 25 2014

Secondary Review: a 6/29/14

Printed: 06/25/2014 09:55:10
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F017.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 15:55	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG1406646-1			**Soln Conc. Units:**	

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/25/2014

Analysis Lot:	KWG1406646	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS14\METHODS\SIM\A_DFTPP.M	**Calibration ID:**	CAL13399
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	37.4	353920	Pass
68	69	0	2	1.5	5562	Pass
69	198	0	100	39.3	372490	Pass
70	69	0	2	0.7	2653	Pass
127	198	10	80	50.2	475477	Pass
197	198	0	2	0.3	2395	Pass
198	442	30	100	55.4	947008	Pass
199	198	5	9	6.7	63136	Pass
275	198	10	60	37.3	352960	Pass
365	442	1	50	3.1	53720	Pass
441	443	0.01	100	72.7	246400	Pass
442	442	100	100	100.0	1708032	Pass
443	442	15	24	19.8	338752	Pass

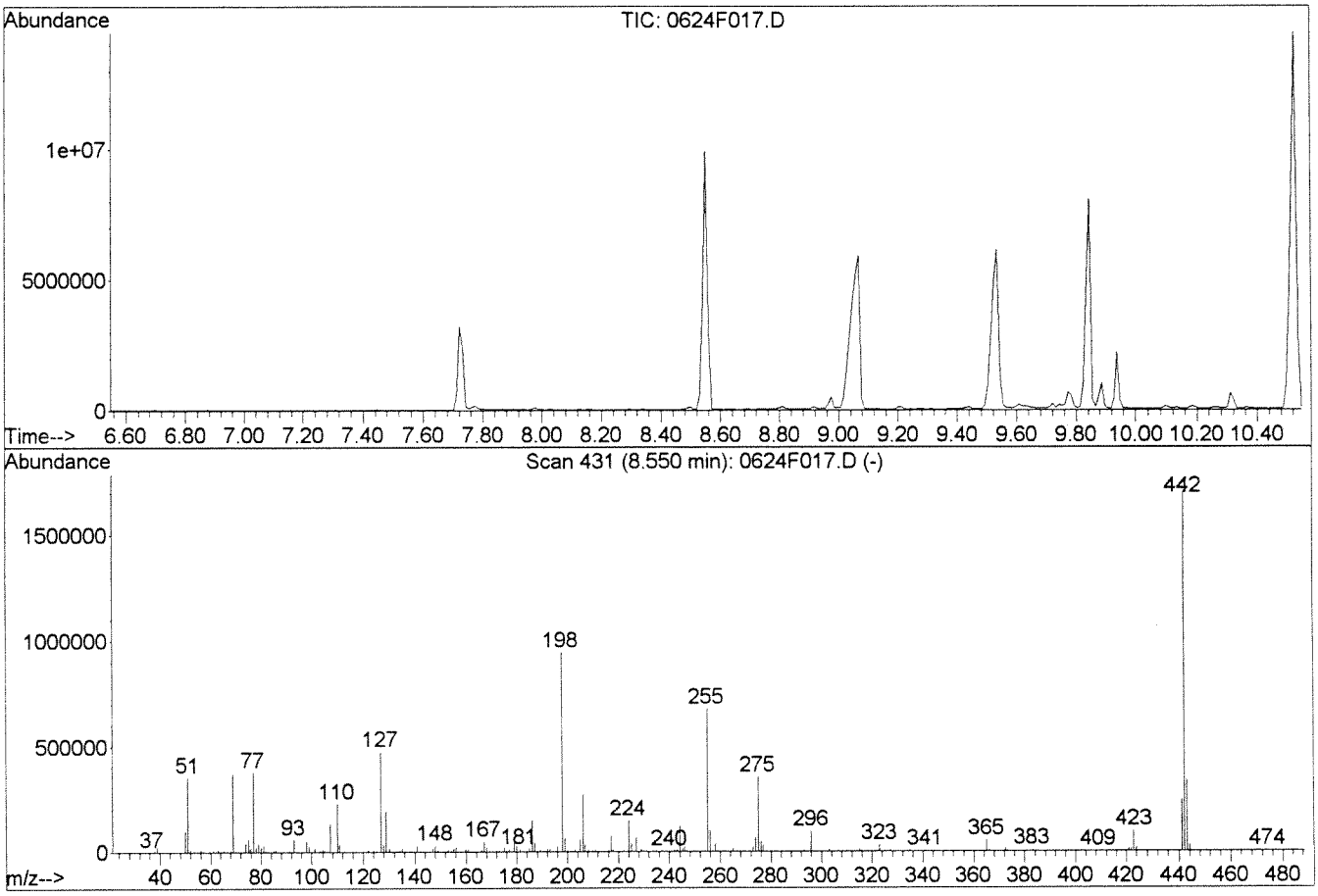
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

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

Data File : J:\MS14\DATA\062414\0624F017.D
Acq On : 24 Jun 2014 3:55 pm
Sample : DFTPP @ 2.5ppm | SVM46-84C
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 431

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.4	353920	PASS
68	69	0.00	2	1.5	5562	PASS
69	198	0.00	100	39.3	372490	PASS
70	69	0.00	2	0.7	2653	PASS
127	198	10	80	50.2	475477	PASS
197	198	0.00	2	0.3	2395	PASS
198	442	30	100	55.4	947008	PASS
199	198	5	9	6.7	63136	PASS
275	198	10	60	37.3	352960	PASS
365	442	1	50	3.1	53720	PASS
441	443	0.01	100	72.7	246400	PASS
442	442	30	100	100.0	1708032	PASS
443	442	15	24	19.8	338752	PASS

0624F017.D A_DFTPP.M Tue Jun 24 16:15:02 2014

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.20	392	50.00	100640	64.00	2543	74.00	41832
36.90	1648	51.10	353920	65.20	6063	75.10	59096
38.05	6762	52.10	16352	66.00	1198	75.90	18064
39.05	26653	53.00	1166	66.75	738	77.10	379328
40.10	2748	54.90	2249	67.30	1953	78.20	22080
41.15	1090	56.10	10885	67.90	5562	79.00	39936
43.05	184	57.80	1136	69.00	372490	80.00	21424
44.05	505	58.90	75	70.10	2653	81.05	29332
44.90	588	60.00	597	71.20	668	81.90	6971
47.80	485	61.00	6754	71.80	255	83.00	6850
48.40	404	63.10	13818	73.00	4436	85.05	5630

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
85.90	9952	99.00	29112	112.90	1819	131.10	3141
87.10	3906	101.10	17376	113.90	544	131.70	1099
87.90	1231	103.10	7385	115.90	5256	132.20	1180
88.70	612	104.00	14692	120.00	2415	134.10	7184
89.25	573	104.90	10287	122.00	10541	135.00	15535
91.10	8452	105.90	5144	123.90	7376	136.00	7031
92.95	59512	107.00	133696	124.95	6586	138.90	1612
94.10	3506	108.90	1877	127.00	475477	140.90	27360
96.20	2238	110.00	229599	127.90	32458	144.10	3033
96.90	1179	110.90	36977	128.90	195648	145.10	1075
98.00	51545	111.90	4059	130.05	15683	147.00	16150

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	31696	158.90	4714	170.90	2690	183.20	1288
149.00	8318	159.90	11609	172.00	6415	183.90	5230
149.95	1575	160.90	12608	173.00	5980	184.90	17496
150.90	3559	161.90	3693	175.10	19928	186.10	149184
151.90	2006	162.90	1604	176.00	7071	187.10	43880
152.95	9239	164.10	2514	176.90	12181	188.10	5551
154.10	5486	166.00	8716	178.00	4546	189.00	9083
155.10	15574	167.00	48538	179.00	42130	190.10	2049
156.10	21016	167.95	21657	180.00	26792	191.10	4560
156.80	3059	169.10	5002	181.10	14018	192.10	13472
158.10	4691	170.10	2307	182.10	1757	193.00	13014

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
194.20	3089	208.10	9076	225.10	40112	240.90	4136
196.10	26168	209.90	5392	225.80	3772	242.00	8056
196.80	2395	210.80	9074	227.00	65480	242.90	10420
198.00	947008	212.90	884	228.90	13781	244.10	121712
199.00	63136	214.00	346	229.90	2613	245.00	17640
200.00	6271	216.10	4492	231.10	6123	245.90	25856
201.30	2961	217.00	73248	231.90	1778	246.90	6802
203.00	9982	217.90	10862	233.00	1498	249.10	4612
205.00	57736	220.10	1806	235.00	4063	250.00	1275
206.10	271872	222.00	7499	237.00	5781	250.90	1846
207.05	35272	223.95	146821	240.00	4160	253.00	4359

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
253.90	4967	266.80	463	285.90	672	299.20	530
254.95	677976	272.20	2299	287.70	541	299.90	556
256.00	100952	272.90	21096	289.30	644	301.90	2363
256.90	5253	273.90	66472	290.00	1104	303.10	12305
258.00	37834	275.00	352960	291.10	1117	304.90	600
259.00	7707	276.10	46864	291.90	2494	308.90	1930
259.90	1949	276.90	30552	293.00	7560	311.00	574
262.10	423	278.10	4962	293.80	2211	315.00	11550
263.00	265	279.00	1233	294.80	1139	316.00	5743
263.80	709	280.95	592	296.00	95752	319.80	428
265.00	16856	282.10	827	297.90	782	321.10	3632

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
321.90	1980	342.20	1553	361.80	343	377.00	1304
322.90	32248	343.00	291	363.10	262	383.00	6289
325.20	1126	344.00	245	363.90	422	385.10	1218
327.00	7964	345.00	164	365.10	53720	392.20	1650
329.20	473	347.00	2572	365.90	8378	392.90	358
329.70	251	347.90	173	367.00	459	395.20	413
330.20	445	353.00	8364	370.00	1882	395.80	629
334.90	6200	356.20	157	370.90	4986	396.90	341
336.10	1254	356.80	507	372.10	20568	408.90	200
338.80	857	357.70	315	372.90	5487	409.90	1086
341.10	5819	360.90	472	374.00	655	415.00	580

Scan 431 (8.550 min): 0624F017.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
416.00	272	443.10	338752				
417.90	217	444.10	29712				
421.10	12668	445.15	1248				
422.00	12724	451.70	286				
423.10	98488	474.10	597				
423.90	17928						
425.90	176						
435.80	388						
437.80	818						
441.00	246400						
442.10	1708032						

Exception Report

Data File: J:\MS14\DATA\062414\0624F018.D
Lab ID: KWG1406646-2
RunType: CCV
Matrix: WATER

Date Acquired: 06/24/2014 16:17
Date Quantitated: 06/24/2014 16:35
Batch ID: KWG1406646
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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: JUN 25 2014

Secondary Review: 6/29/14

Quantitation Report

Data File:	J:\MS14\DATA\062414\0624F018.D			**Instrument:**	MS14
Acqu Date:	06/24/2014 16:17	**Quant Date:**	06/24/2014 16:35	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1406646-2			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/25/2014

Analysis Lot:	KWG1406646	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M	**Calibration ID:**	CAL13399
Title:			
Tune Ref:	J:\MS14\DATA\062414\0624F017.D	**Method ID:**	MJ1251
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.21	0.00?	464	59946	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.88			338	17252	25.84		70-130	NA	
1	PBDE 99C13	8.37			418	13252	24.15		70-130	NA	

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	PBDE 17	7.26			246	20788	30.41			
1	PBDE 28	7.34			246	18396	27.27			
1	PBDE 71	7.81			326	25695	26.54			
1	PBDE 47	7.88			326	19026	26.09			
1	PBDE 66	7.95			326	22257	26.43			
1	PBDE 100	8.27			404	13268	25.61			
1	PBDE 99	8.37			404	14597	24.03			
1	PBDE 85	8.58			404	14904	25.32			
1	PBDE 154	8.68			484	14889	25.08			
1	PBDE 153	8.83			484	15056	25.70			
1	PBDE 138	9.03			484	13614**m**	25.43			
1	PBDE 128	9.25			484	13841**m**	25.99			
1	PBDE 183	9.27			562	11651	25.37			
1	PBDE 190	9.54			562	10104	25.30			
1	PBDE 203	9.87			642	10411	26.16			
1	PBDE 206	10.55			719	6879	24.10			
1	PBDE 209	11.15			799	4759	23.56			

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)

Data File : J:\MS14\DATA\062414\0624F018.D Vial: 2
Acq On : 24 Jun 2014 4:17 pm Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35:25 2014 Quant Results File: BDE062414.RES

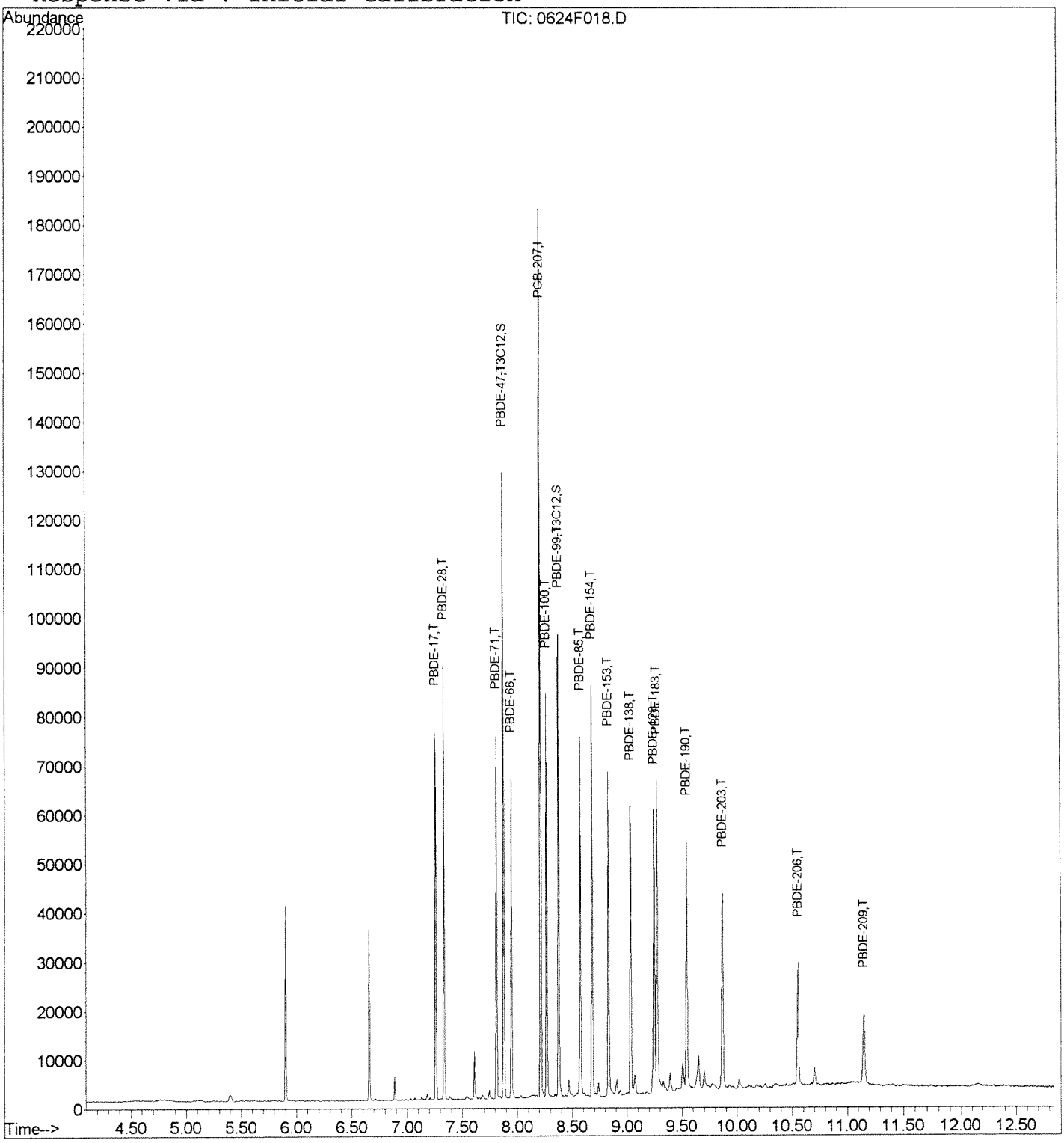
Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.21	464	59946	50.00	ng/ml	0.00
System Monitoring Compounds						
5) PBDE-47-13C12	7.88	338	17252	25.84	ng/ml	0.00
Spiked Amount 25.000			Recovery = 103.36%			
9) PBDE-99-13C12	8.37	418	13252	24.15	ng/ml	0.00
Spiked Amount 25.000			Recovery = 96.60%			
Target Compounds						Qvalue
2) PBDE-17	7.26	246	20788	30.41	ng/ml#	60
3) PBDE-28	7.34	246	18396	27.27	ng/ml	85
4) PBDE-71	7.81	326	25695	26.54	ng/ml	99
6) PBDE-47	7.88	326	19026	26.09	ng/ml	95
7) PBDE-66	7.95	326	22257	26.43	ng/ml	98
8) PBDE-100	8.27	404	13268	25.61	ng/ml	89
10) PBDE-99	8.37	404	14597	24.03	ng/ml	97
11) PBDE-85	8.58	404	14904	25.32	ng/ml	95
12) PBDE-154	8.68	484	14889	25.08	ng/ml	95
13) PBDE-153	8.83	484	15056	25.70	ng/ml	91
14) PBDE-138	9.03	484	13614m	25.43	ng/ml	
15) PBDE-128	9.25	484	13841m	25.99	ng/ml	
16) PBDE-183	9.27	562	11651	25.37	ng/ml	98
17) PBDE-190	9.54	562	10104	25.30	ng/ml	97
18) PBDE-203	9.87	642	10411	26.16	ng/ml	92
19) PBDE-206	10.55	719	6879	24.10	ng/ml	98
20) PBDE-209	11.15	799	4759	23.56	ng/ml	97

(#) = qualifier out of range (m) = manual integration
0624F018.D BDE062414.M Tue Jun 24 16:36:18 2014 Page 1

Data File : J:\MS14\DATA\062414\0624F018.D Vial: 2
Acq On : 24 Jun 2014 4:17 pm Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35 2014 Quant Results File: BDE062414.RE

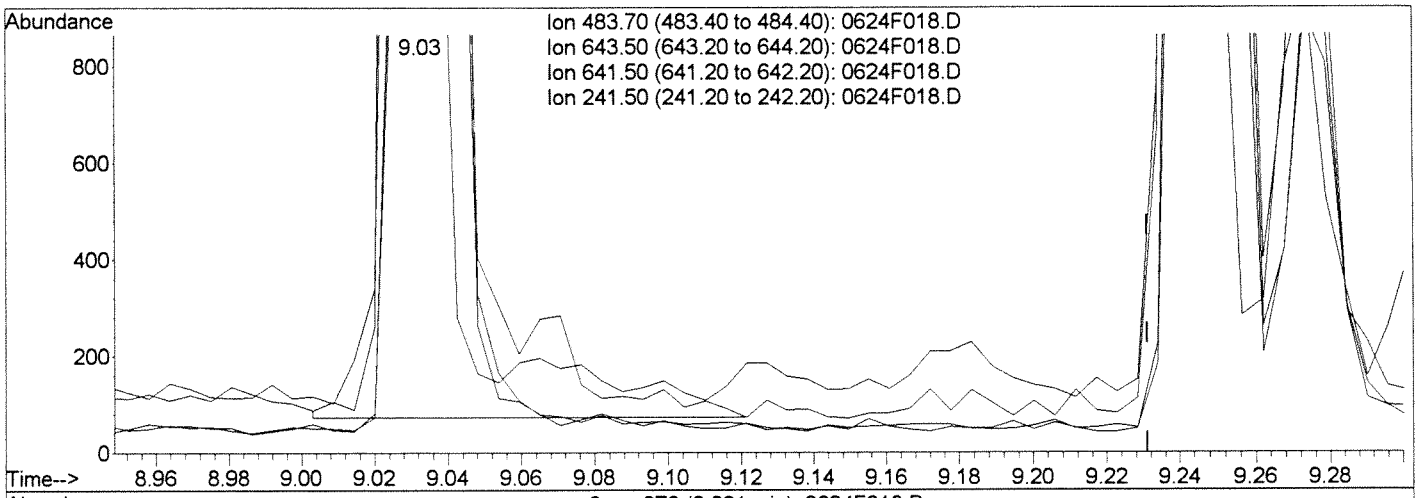
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration

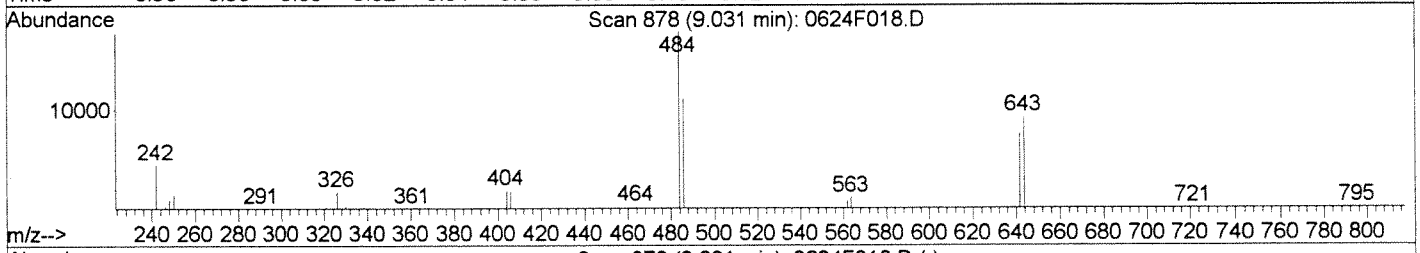


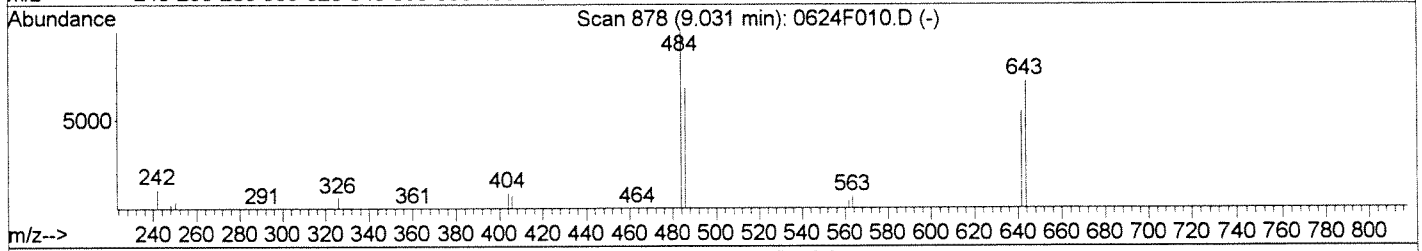
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062414\0624F018.D Vial: 2
Acq On : 24 Jun 2014 4:17 pm Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F018.D

(14) PBDE-138 (T)

9.03min 25.94ng/ml

response 13890

Ion	Exp%	Act%
483.70	100	100
643.50	71.80	51.79
641.50	54.70	42.27
241.50	11.10	24.71

Manual Integration:

Before

06/24/14

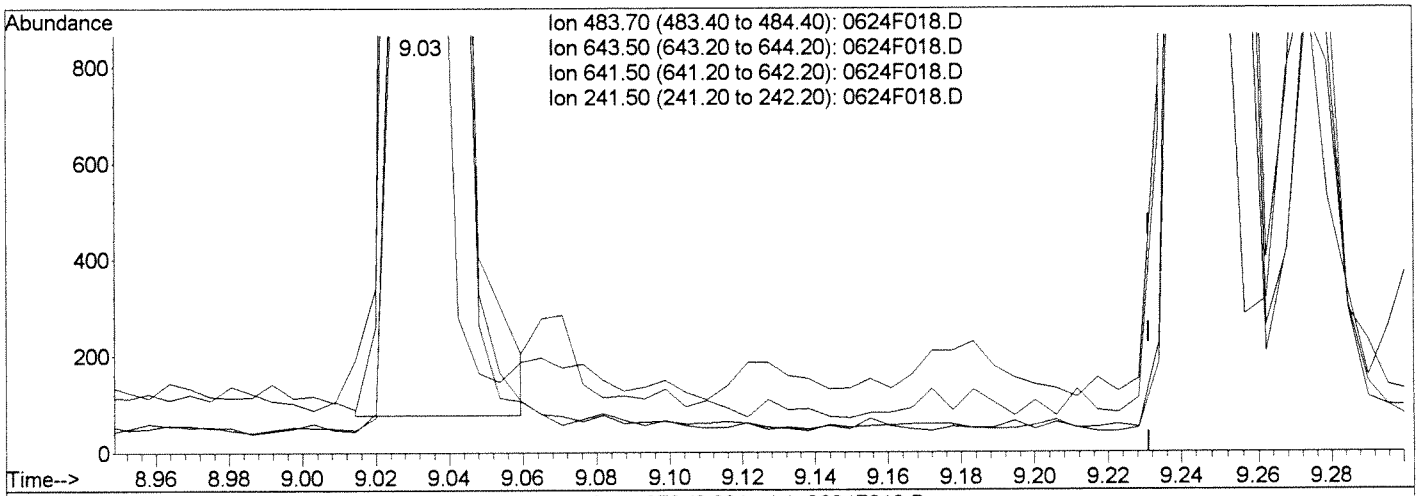
0624F018.D BDE062414.M Tue Jun 24 16:35:43 2014

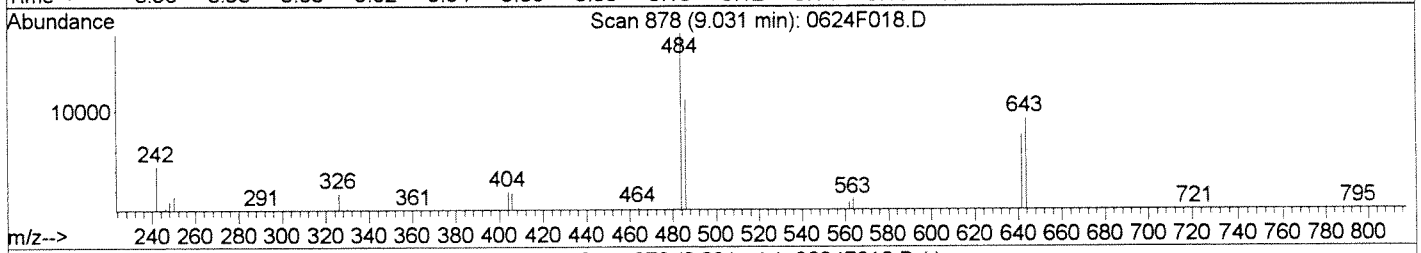
Data File : J:\MS14\DATA\062414\0624F018.D
Acq On : 24 Jun 2014 4:17 pm
Sample : PBDE CCV @ 25ng/mL | SVM46-84B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35 2014

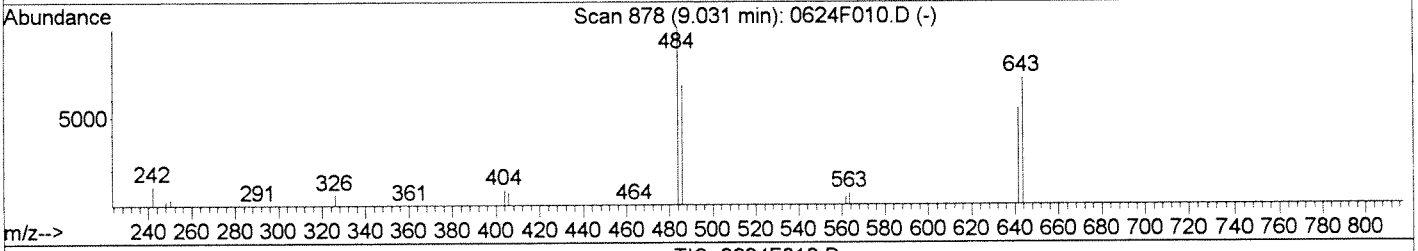
Vial: 2
Operator: CHart
Inst : MS14
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F018.D

(14) PBDE-138 (T)

9.03min 25.43ng/ml m

response 13614

Ion	Exp%	Act%
483.70	100	100
643.50	71.80	51.86
641.50	54.70	42.43
241.50	11.10	25.27

Manual Integration:

After

IC-Overintegrated

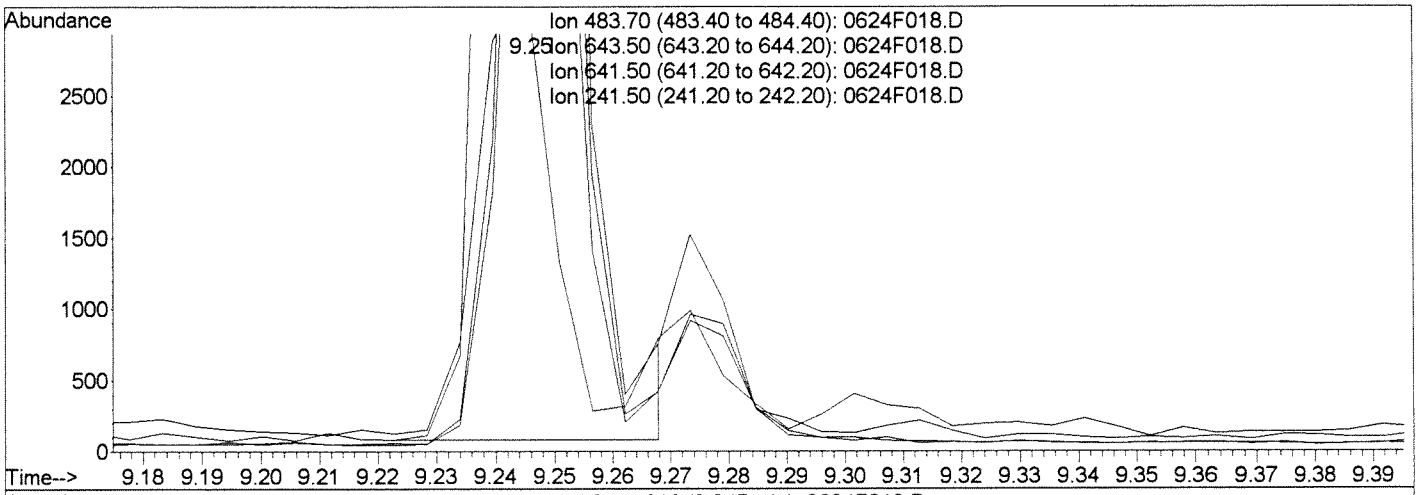
06/24/14

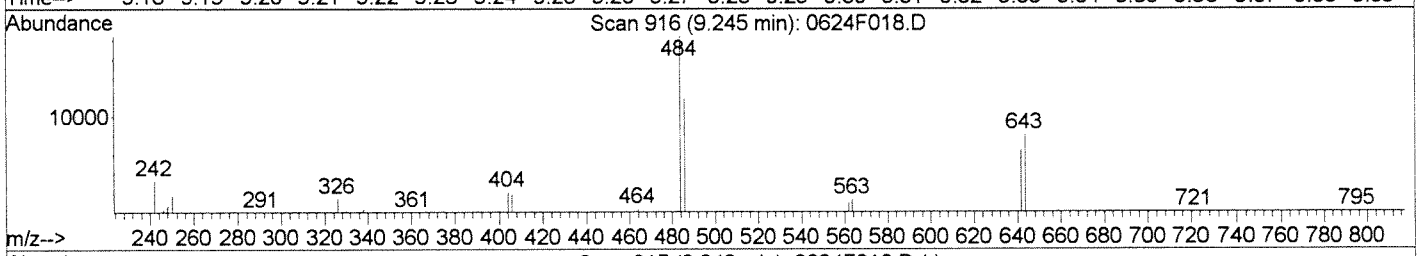
6/24/14

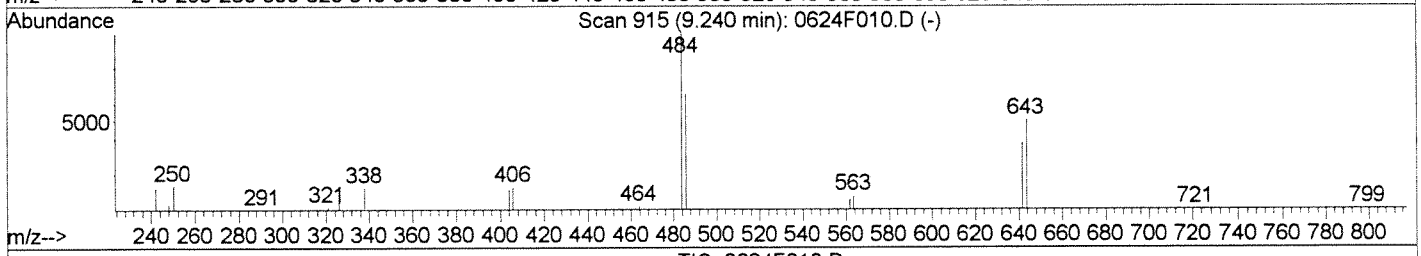
0624F018.D BDE062414.M Tue Jun 24 16:35:50 2014

Data File : J:\MS14\DATA\062414\0624F018.D Vial: 2
Acq On : 24 Jun 2014 4:17 pm Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F018.D

(15) PBDE-128 (T)

9.25min 26.39ng/ml

response 14054

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	43.73
641.50	37.50	34.94
241.50	12.60	17.60

Manual Integration:

Before

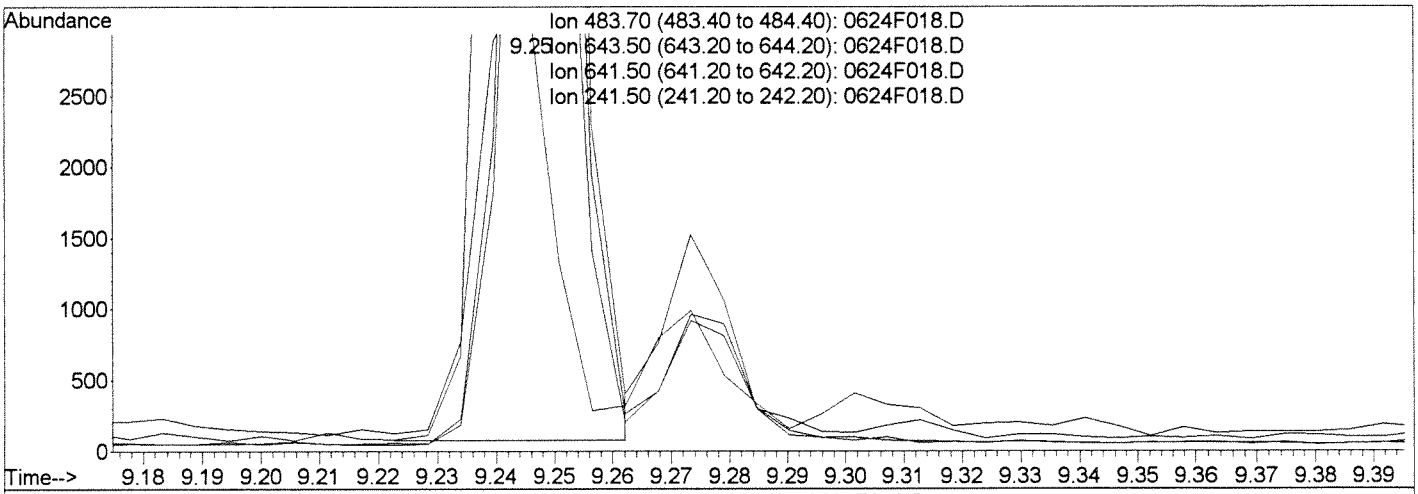
06/24/14

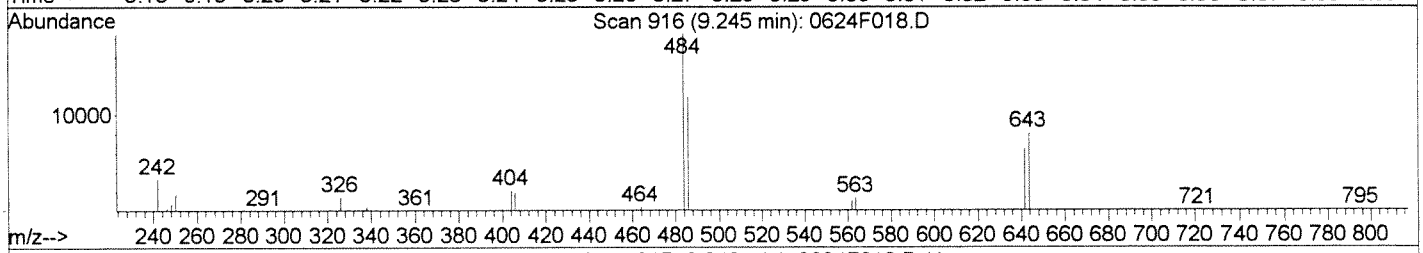
6/24/14

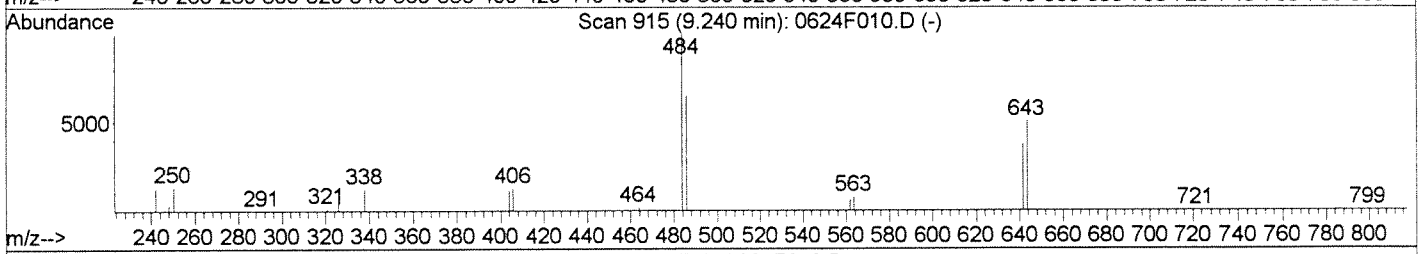
0624F018.D BDE062414.M Tue Jun 24 16:35:55 2014

Data File : J:\MS14\DATA\062414\0624F018.D Vial: 2
Acq On : 24 Jun 2014 4:17 pm Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 16:35 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0624F018.D

(15) PBDE-128 (T)

9.25min 25.99ng/ml m

response 13841

Ion	Exp%	Act%
483.70	100	100
643.50	50.50	43.85
641.50	37.50	35.02
241.50	12.60	18.21

Manual Integration:

After

IC-Overintegrated

06/24/14

6/29/14

0624F018.D BDE062414.M Tue Jun 24 16:36:00 2014

Injection Log

Directory: J:\MS14\DATA\062514

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0625F001.D	1.	DFTPP @ 2.5ppm | SVM46-84C		25 Jun 2014 10:2
2	2	0625F002.D	1.	PBDE CCV @ 25ng/mL | SVM46-84B		25 Jun 2014 10:4
3	3	0625F003.D	1.	IB		25 Jun 2014 11:0
4	4	0625F004.D	10.	K1405833-001 | MS 10X		25 Jun 2014 11:2
5	5	0625F005.D	10.	K1405833-001 | DMS 10X		25 Jun 2014 11:4

Cal 13399

CA 06.25.14

6/25/14

DILUTION LOG MS 14

Date: 06·25·14 Prepared by: CHart Solvent Lot #: 53155

LAB ID.	ALIQUOT	FINAL VOLUME	DILUTION FACTOR	COMMENTS
K1405833.001MS	50 µL	500 µL	10X	some cmpds observed
" .001DMS	"	"	"	by matrix in 1X

6/25/14

R:\SVM\DILUTION LOG.DOC

Exception Report

Data File: J:\MS14\DATA\062514\0625F001.D
Lab ID: KWG1406653-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 06/25/2014 10:22
Date Quantitated:
Batch ID: KWG1406653
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: JUN 25 2014

Secondary Review: 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062514\0625F001.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 10:22	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG1406653-1			**Soln Conc. Units:**	

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/25/2014

Analysis Lot:	KWG1406653	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS14\METHODS\SIM\A_DFTPP.M			**Calibration ID:**	CAL13399
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	48.6	356908	Pass
68	69	0	2	1.7	6155	Pass
69	198	0	100	49.1	360110	Pass
70	69	0	2	0.3	1071	Pass
127	198	10	80	54.2	397696	Pass
197	198	0	2	0.5	3638	Pass
198	442	30	100	57.7	734041	Pass
199	198	5	9	7.0	51573	Pass
275	198	10	60	35.9	263787	Pass
365	442	1	50	2.8	35680	Pass
441	443	0.01	100	70.2	173760	Pass
442	442	100	100	100.0	1271808	Pass
443	442	15	24	19.5	247680	Pass

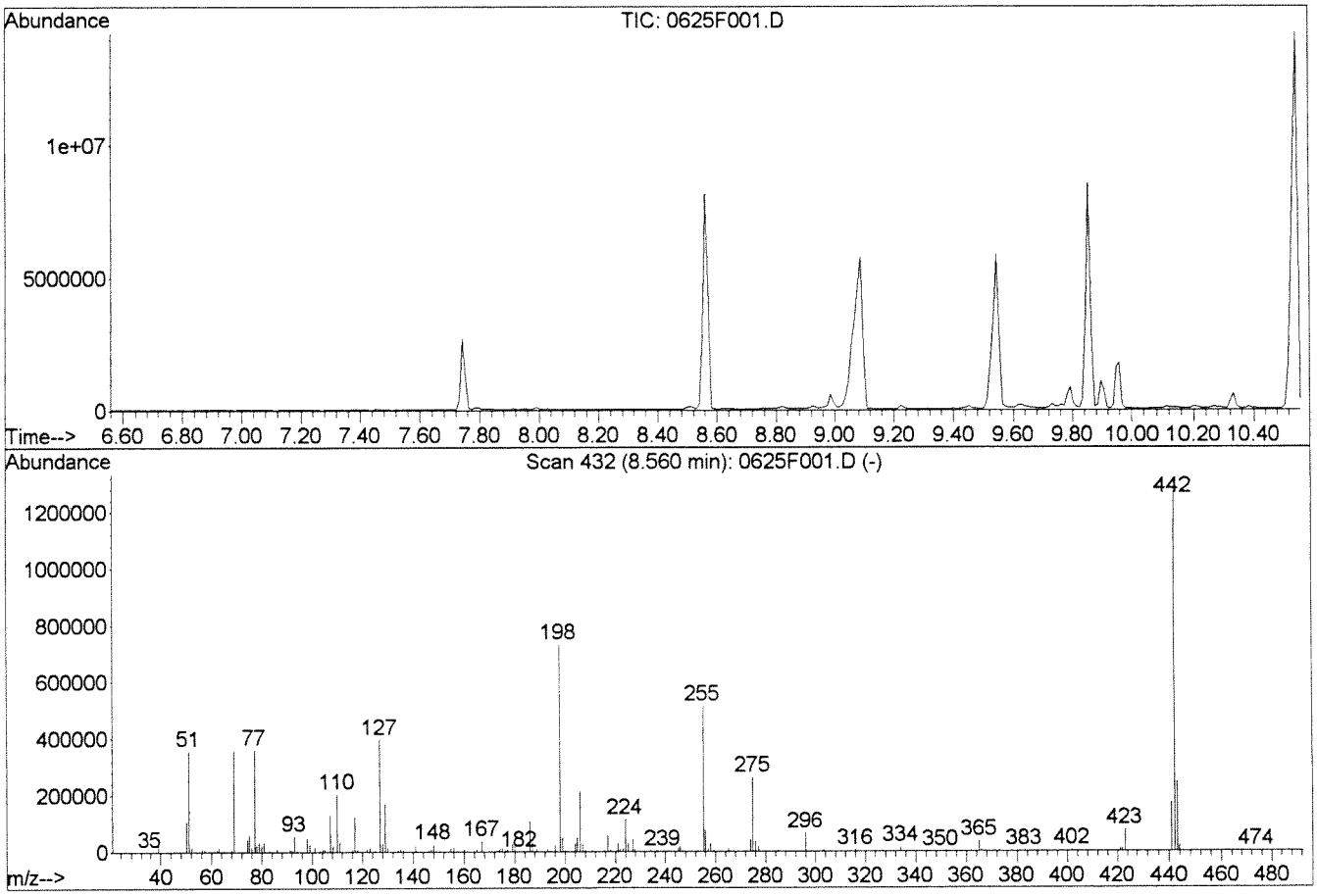
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

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

Data File : J:\MS14\DATA\062514\0625F001.D
Acq On : 25 Jun 2014 10:22 am
Sample : DFTPP @ 2.5ppm | SVM46-84C
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 432

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	48.6	356908	PASS
68	69	0.00	2	1.7	6155	PASS
69	198	0.00	100	49.1	360110	PASS
70	69	0.00	2	0.3	1071	PASS
127	198	10	80	54.2	397696	PASS
197	198	0.00	2	0.5	3638	PASS
198	442	30	100	57.7	734041	PASS
199	198	5	9	7.0	51573	PASS
275	198	10	60	35.9	263787	PASS
365	442	1	50	2.8	35680	PASS
441	443	0.01	100	70.2	173760	PASS
442	442	30	100	100.0	1271808	PASS
443	442	15	24	19.5	247680	PASS

0625F001.D A_DFTPP.M Wed Jun 25 11:09:32 2014

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.60	169	52.10	16928	66.90	288	81.00	34968
37.00	3734	53.20	885	67.90	6155	83.05	5701
38.05	4996	56.05	9227	69.00	360110	84.10	865
39.10	28320	57.10	8478	69.90	1071	85.95	11320
44.00	2256	57.80	601	74.10	45564	88.20	1182
44.95	1096	59.20	342	75.00	61813	89.00	633
47.60	269	59.90	600	76.00	16130	91.10	10004
48.20	964	61.10	5866	77.10	362081	92.05	7982
49.00	2792	62.10	7204	78.00	22976	92.90	57001
50.10	106688	63.00	15748	79.00	32601	93.80	2292
51.05	356908	65.00	5991	80.00	22512	94.20	3486

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.10	877	107.10	131264	117.05	124500	129.95	15453
96.00	3456	108.10	20231	117.95	9244	131.00	2699
97.95	48217	108.85	4378	119.10	1299	132.10	1934
99.00	28265	110.00	205376	119.80	1988	133.00	472
100.10	2748	111.00	34379	120.90	811	134.00	6098
100.90	19120	112.10	4364	121.85	10339	134.90	12490
102.90	5488	112.90	525	122.95	13127	136.00	6631
103.30	3378	113.70	564	125.10	4984	138.10	2192
104.10	10803	114.20	347	127.00	397696	141.05	22839
105.00	10394	115.20	1500	127.90	30235	143.90	1545
105.95	2876	115.90	6561	129.00	169279	146.00	5701

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
147.10	10795	167.10	38924	180.00	22256	196.80	3638
147.90	26845	168.90	3557	181.90	1641	198.00	734041
149.10	6420	170.10	2380	183.00	938	199.00	51573
151.00	3582	171.00	2754	183.90	4156	200.00	5490
154.90	11562	172.10	3969	186.00	110088	201.30	3400
156.10	17040	173.20	5012	187.10	33672	204.10	28736
157.10	3669	174.00	9660	188.00	3110	204.95	52222
160.00	10308	175.10	15795	188.90	8907	206.10	214784
162.90	823	176.00	4057	189.80	1130	207.10	26736
163.90	1443	177.10	8465	193.00	10686	208.10	7841
165.00	8503	178.95	27648	196.00	22336	209.20	1863

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
210.80	6878	225.80	3301	241.10	2893	257.90	29676
212.00	1625	227.00	45690	245.10	13371	259.10	5358
212.85	636	227.90	8638	246.00	20464	263.70	95
215.90	5207	232.10	1279	247.00	5216	265.10	11657
217.00	57848	233.10	1784	248.00	1491	265.90	2697
218.00	6648	234.00	5094	251.00	1536	267.10	257
221.10	28176	235.00	3903	252.90	3912	268.10	511
221.80	7664	237.05	2592	253.70	2323	269.20	309
223.10	10164	238.00	1248	255.10	514432	269.80	625
224.10	114984	239.10	2596	256.00	79650	271.00	1417
225.05	29345	239.90	1759	256.90	8410	272.00	1774

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
273.90	41552	290.80	620	304.80	599	325.10	416
275.00	263787	292.10	1767	308.00	978	325.70	726
276.00	37328	294.30	1150	310.10	617	326.20	795
277.10	19688	295.95	65692	311.20	384	327.00	4984
278.00	4039	298.20	1179	311.90	581	328.80	771
282.40	400	298.90	222	313.90	3532	330.90	204
283.00	2871	300.70	673	316.00	6228	332.00	2122
284.10	2382	301.20	1272	319.80	549	333.10	2986
284.90	4940	302.00	1554	321.70	947	334.10	17336
285.90	1051	303.10	7532	322.20	705	335.90	429
290.00	1152	304.10	3066	323.90	4225	338.80	379

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
342.00	1540	365.90	6101	390.20	2907	415.30	663
346.90	1246	367.00	475	391.10	1917	416.00	298
350.00	326	368.40	211	392.10	2506	419.80	349
352.00	6833	371.20	2123	392.90	623	421.10	10268
353.20	3313	373.10	4617	394.80	405	421.90	8600
355.00	2201	374.00	935	396.50	286	423.10	76600
356.30	208	376.80	1051	400.90	2401	425.90	343
359.00	594	378.80	174	401.90	6668	435.30	190
359.50	258	383.00	4442	404.00	3968	437.90	458
360.10	483	385.10	707	405.00	749	438.80	1169
365.10	35680	388.30	191	408.80	192	439.30	1671

Scan 432 (8.560 min): 0625F001.D
DFTPP @ 2.5ppm | SVM46-84C
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
439.70	2538						
441.00	173760						
442.10	1271808						
443.10	247680						
443.90	20896						
445.10	1896						
473.90	533						
475.20	215						
478.00	214						

Exception Report

Data File: J:\MS14\DATA\062514\0625F002.D
Lab ID: KWG1406653-2
RunType: CCV
Matrix: WATER

Date Acquired: 06/25/2014 10:45
Date Quantitated: 06/25/2014 11:02
Batch ID: KWG1406653
Analysis Method: 8270D SIM
MethodJoinID: MJ1251

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: JUN 25 2014

Secondary Review: 6/25/14

Quantitation Report

Data File:	J:\MS14\DATA\062514\0625F002.D			**Instrument:**	MS14
Acqu Date:	06/25/2014 10:45	**Quant Date:**	06/25/2014 11:02	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1406653-2			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PBDE	**Collect Date:**		**Receive Date:**	06/25/2014

Analysis Lot:	KWG1406653	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS14\METHODS\SIM\BDE062414.M			**Calibration ID:**	CAL13399
Title:					
Tune Ref:	J:\MS14\DATA\062514\0625F001.D			**Method ID:**	MJ1251
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	PCB 207	8.23	0.02?	464	55676	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	PBDE 47C13	7.89			338	15880	25.61		70-130	NA	
1	PBDE 99C13	8.39			418	12438	24.40		70-130	NA	

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	PBDE 17	7.27			246	18572	29.07			
1	PBDE 28	7.35			246	17534	28.03			
1	PBDE 71	7.83			326	23634	26.28			
1	PBDE 47	7.89			326	17119	25.28			
1	PBDE 66	7.96			326	19790	25.30			
1	PBDE 100	8.28			404	11743	24.40			
1	PBDE 99	8.39			404	13469	23.88			
1	PBDE 85	8.59			404	13661	24.99			
1	PBDE 154	8.69			484	12833	23.27			
1	PBDE 153	8.85			484	13100	24.08			
1	PBDE 138	9.05			484	12425	24.99			
1	PBDE 128	9.26			484	13883	28.07			
1	PBDE 183	9.29			562	10802**m**	25.33			
1	PBDE 190	9.56			562	9561	25.78			
1	PBDE 203	9.89			642	8315	22.49			
1	PBDE 206	10.58			719	5241	20.42			
1	PBDE 209	11.19			799	3342	18.86			

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)

Data File : J:\MS14\DATA\062514\0625F002.D Vial: 2
Acq On : 25 Jun 2014 10:45 am Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:01:38 2014 Quant Results File: BDE062414.RES

Quant Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration
DataAcq Meth : BDEACQ

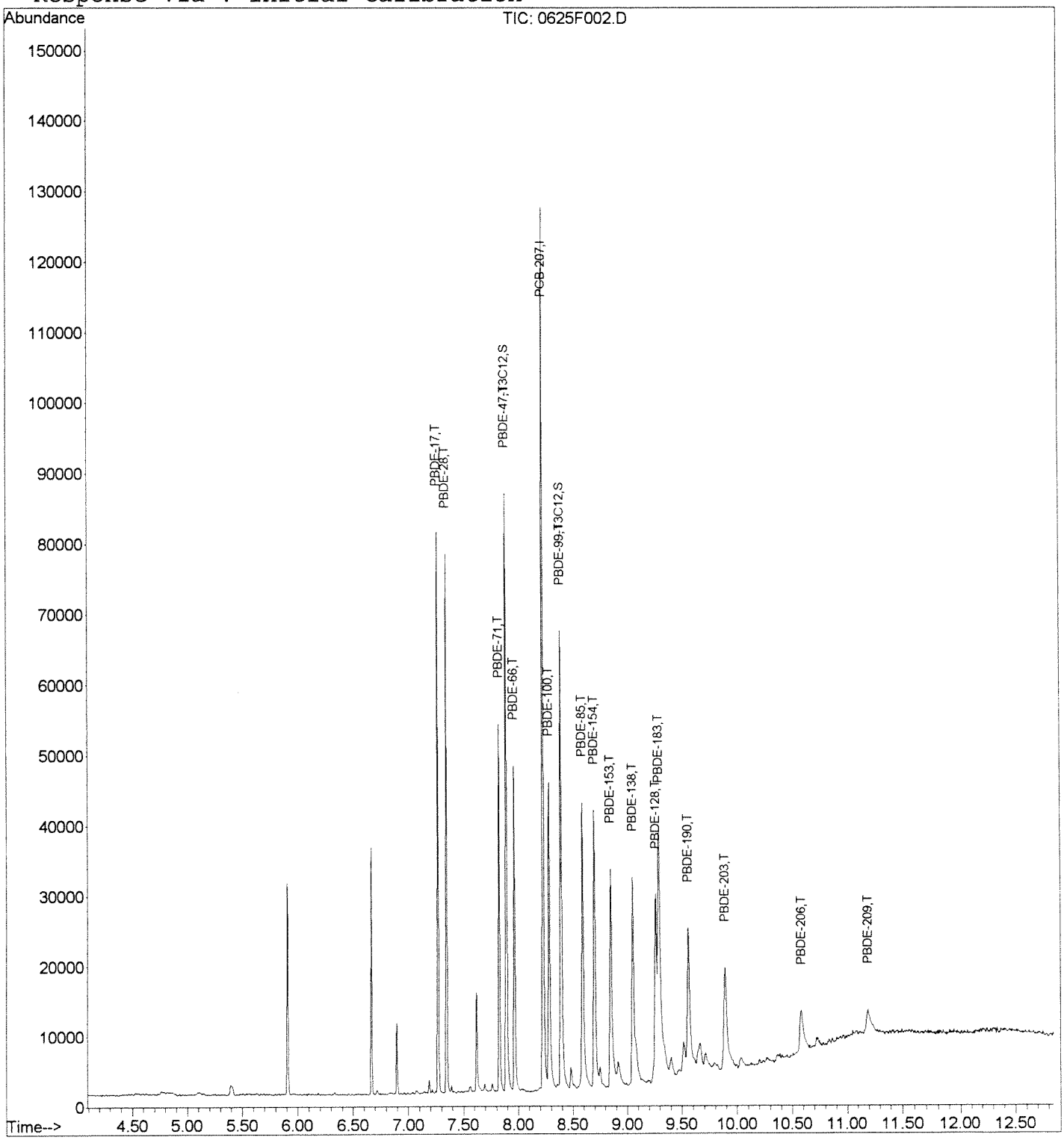
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) PCB-207	8.23	464	55676	50.00	ng/ml	0.01
System Monitoring Compounds						
5) PBDE-47-13C12	7.89	338	15880	25.61	ng/ml	0.01
Spiked Amount 25.000			Recovery = 102.44%			
9) PBDE-99-13C12	8.39	418	12438	24.40	ng/ml	0.02
Spiked Amount 25.000			Recovery = 97.60%			
Target Compounds						Qvalue
2) PBDE-17	7.27	246	18572	29.07	ng/ml	79
3) PBDE-28	7.35	246	17534	28.03	ng/ml	74
4) PBDE-71	7.83	326	23634	26.28	ng/ml	100
6) PBDE-47	7.89	326	17119	25.28	ng/ml	95
7) PBDE-66	7.96	326	19790	25.30	ng/ml	98
8) PBDE-100	8.28	404	11743	24.40	ng/ml	93
10) PBDE-99	8.39	404	13469	23.88	ng/ml	74
11) PBDE-85	8.59	404	13661	24.99	ng/ml	93
12) PBDE-154	8.69	484	12833	23.27	ng/ml	94
13) PBDE-153	8.85	484	13100	24.08	ng/ml	94
14) PBDE-138	9.05	484	12425	24.99	ng/ml	94
15) PBDE-128	9.26	484	13883	28.07	ng/ml	93
16) PBDE-183	9.29	562	10802m	25.33	ng/ml	
17) PBDE-190	9.56	562	9561	25.78	ng/ml	95
18) PBDE-203	9.89	642	8315	22.49	ng/ml	92
19) PBDE-206	10.58	719	5241	20.42	ng/ml	94
20) PBDE-209	11.19	799	3342	18.86	ng/ml	78

(#) = qualifier out of range (m) = manual integration
0625F002.D BDE062414.M Wed Jun 25 11:02:28 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS14\DATA\062514\0625F002.D Vial: 2
Acq On : 25 Jun 2014 10:45 am Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:02 2014 Quant Results File: BDE062414.RE

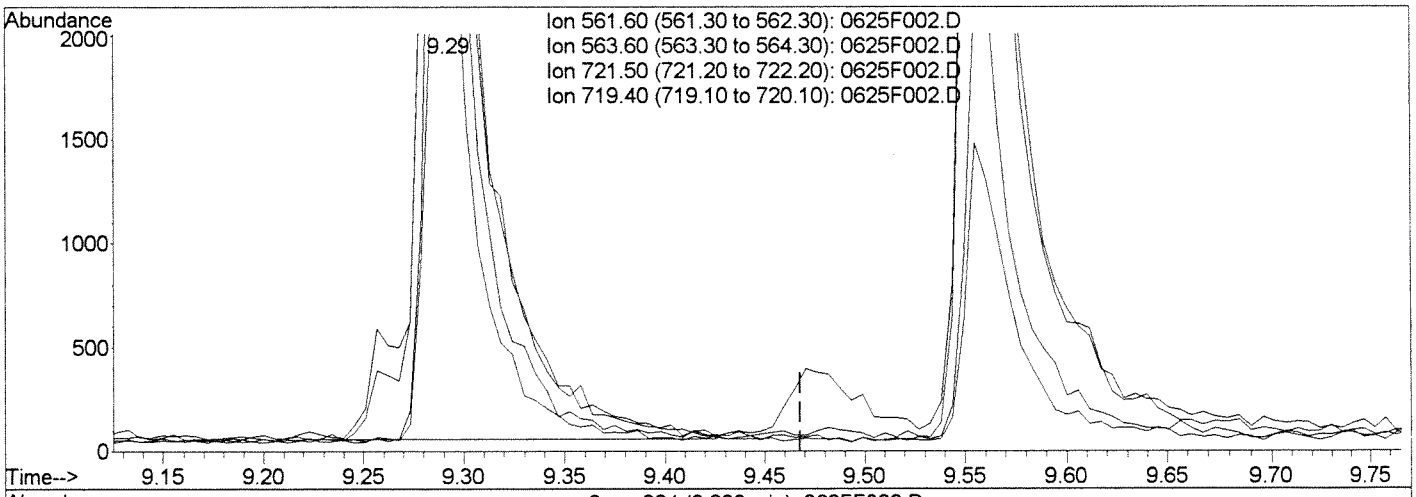
Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Initial Calibration

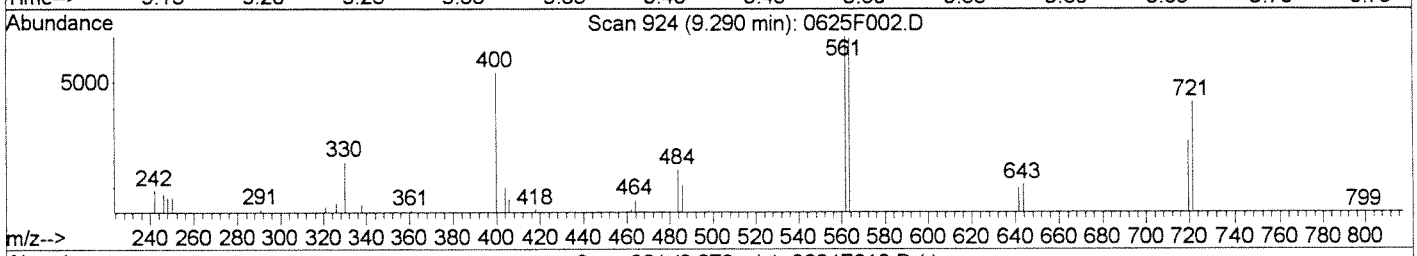


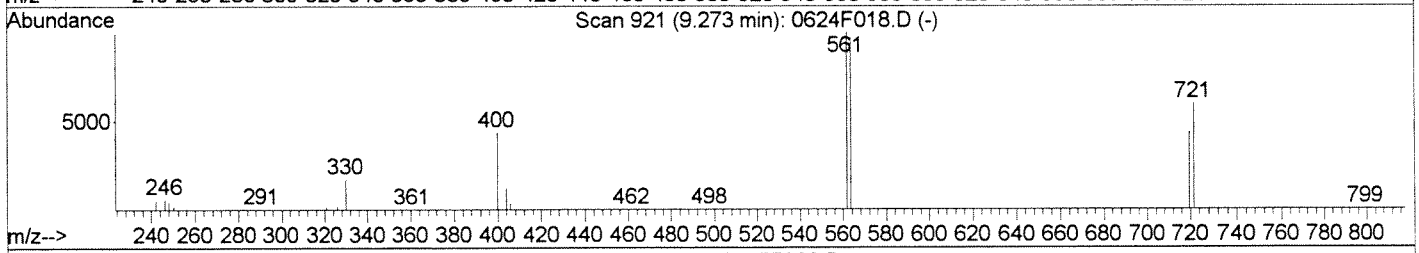
Quantitation Report (Qedit)

Data File : J:\MS14\DATA\062514\0625F002.D Vial: 2
Acq On : 25 Jun 2014 10:45 am Operator: CHart
Sample : PBDE CCV @ 25ng/mL | SVM46-84B Inst : MS14
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:01 2014 Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0625F002.D

(16) PBDE-183 (T)

9.29min 26.37ng/ml

response 11247

Ion	Exp%	Act%
561.60	100	100
563.60	97.60	98.48
721.50	63.90	62.88
719.40	42.60	40.37

Manual Integration:

Before

06/25/14

CAA 6/27/14

0625F002.D BDE062414.M Wed Jun 25 11:02:01 2014

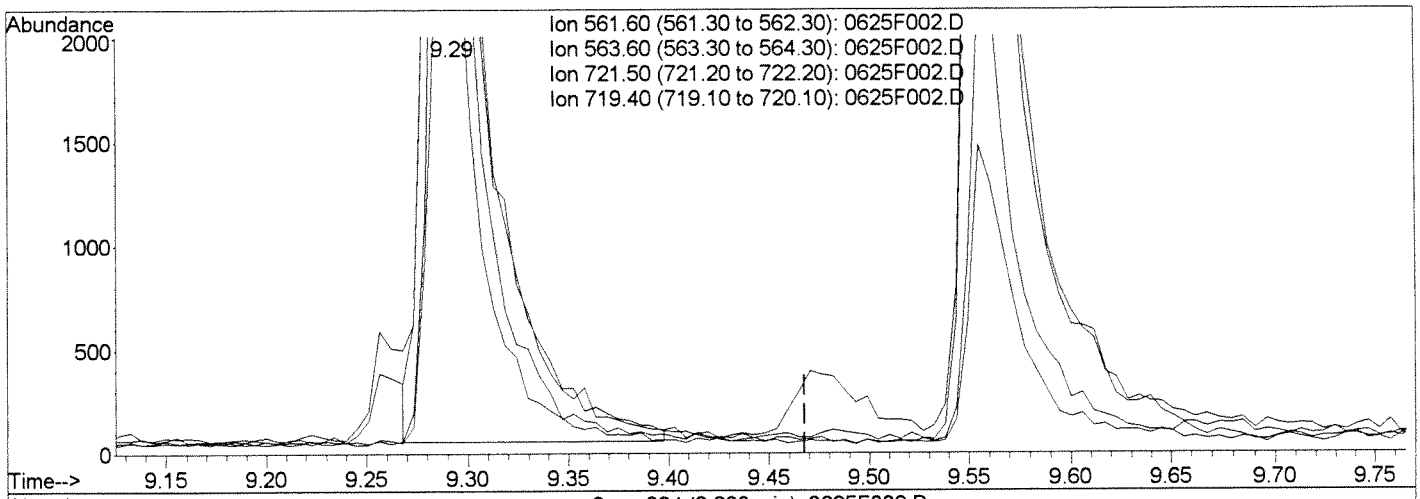
Quantitation Report (Qedit)

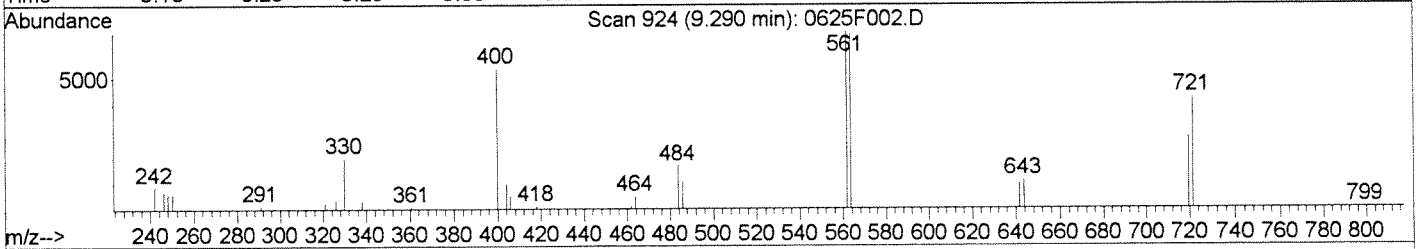
Data File : J:\MS14\DATA\062514\0625F002.D
Acq On : 25 Jun 2014 10:45 am
Sample : PBDE CCV @ 25ng/mL | SVM46-84B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:02 2014

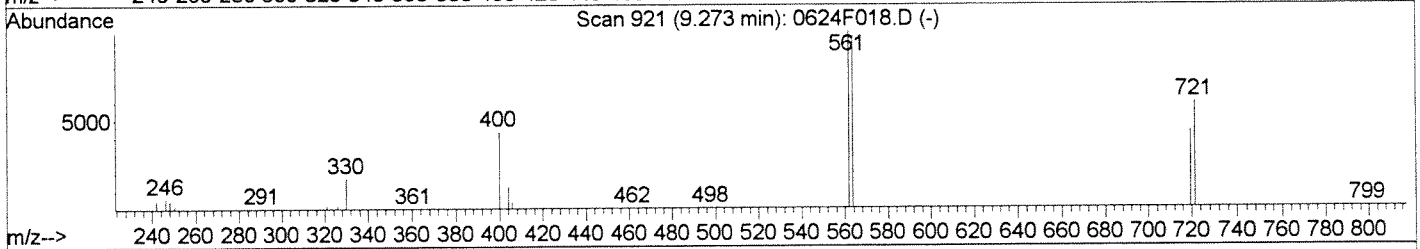
Vial: 2
Operator: CHart
Inst : MS14
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\BDE062414.M (RTE Integrator)
Title : PBDE Congeners
Last Update : Tue Jun 24 15:50:03 2014
Response via : Multiple Level Calibration







TIC: 0625F002.D

(16) PBDE-183 (T)

9.29min 25.33ng/ml m

response 10802

Ion	Exp%	Act%
561.60	100	100
563.60	97.60	98.82
721.50	63.90	63.02
719.40	42.60	40.97

Manual Integration:

After

IC-Overintegrated

06/25/14

6/29/14

0625F002.D BDE062414.M Wed Jun 25 11:02:09 2014

Preparation Information

Group ID:	KWG1405686	**Prep Method:**	EPA 3541	**Prep Date:**	06/16/14 12:30
Department:	Semivoa GCMS				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K1405833-001	SYC14-AC	8270D PBDE	SOIL	20.392g	2ml	
K1405833-002	SYC14-TB	8270D PBDE	SOIL	20.138g	2ml	
K1405833-003	SYC14-REF	8270D PBDE	SOIL	20.270g	2ml	
KWG1405686-1	Matrix Spike	8270D PBDE	SOIL	20.332g	2ml	
KWG1405686-2	Duplicate Matrix Spike	8270D PBDE	SOIL	20.304g	2ml	
KWG1405686-3	Lab Control Sample	8270D PBDE	SOIL	10.000g	2ml	
KWG1405686-4	Duplicate Lab Control Sampl	8270D PBDE	SOIL	10.000g	2ml	
KWG1405686-5	Method Blank	8270D PBDE	SOIL	20.392g	2ml	
KWG1405686-6	Duplicate Client Sample	8270D PBDE	SOIL	20.172g	2ml	

Lab Code	Parent Lab Code	Comments
KWG1405686-1	K1405833-001	
KWG1405686-2	K1405833-001	
KWG1405686-6	K1405833-002	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1405833-001	1347924	SVM46-9A	50uL			HSteele
K1405833-002	1347925	SVM46-9A	50uL			HSteele
K1405833-003	1347923	SVM46-9A	50uL			HSteele
KWG1405686-1	1347926	SVM46-9A	50uL	SVM46-9B	50uL	HSteele
KWG1405686-2	1347927	SVM46-9A	50uL	SVM46-9B	50uL	HSteele
KWG1405686-3	1347928	SVM46-9A	50uL	SVM46-9B	50uL	HSteele
KWG1405686-4	1347929	SVM46-9A	50uL	SVM46-9B	50uL	HSteele
KWG1405686-5	1347930	SVM46-9A	50uL			HSteele
KWG1405686-6	1347943	SVM46-9A	50uL			HSteele

Comments: IS: SVM46-5C

Started By: NCisney Assisted By: ~~_____~~

Completed By: AMeyers Assisted By: ~~_____~~

Training: Yes / No (No)

Yes / No (No)

Reviewed By: ABailey Date: 6-19-14 Storage: SVM LAB

Chain of Custody

Relinquished By: AMeyers Date: 6/17/14

Received By: Christi R Hart Date: 06.19.14

Extracts Examined: (Yes) / No

Preparation Information

Due 6/19/14

Group ID: KWG1405686 **Prep Method:** EPA 3541 **Prep Date:** 6/16/14
Department: Semivoa GCMS

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. g	pH	Int. Vol.	Final Vol. mL	Surr. Added	Spike Added
1	K1405833-001	SYC14-AC	10	✓	8270D PBDE	SOIL	20.392	N/A	NA	2	50uL	—
2	K1405833-002	SYC14-TB	9	✓	8270D PBDE	SOIL	20.138			2		—
3	K1405833-003S	SYC14-REF	12	✓	8270D PBDE	SOIL	20.270			2		—
4	KWG1405686-1	Matrix Spike K1405833-1	10	✓	8270D PBDE	SOIL	20.332			2		50uL
5	KWG1405686-2	Duplicate Matrix Spike K1405833-1	10	✓	8270D PBDE	SOIL	20.304			2		
6	KWG1405686-3	Lab Control Sample			8270D PBDE	SOIL	10.000			2		
7	KWG1405686-4	Duplicate Lab Control Sample			8270D PBDE	SOIL	10.000			2		
8	KWG1405686-5	Method Blank			8270D PBDE	SOIL	20.392			2		—
9	KWG1405686-6 K1405833-2	Duplicate Client Sample ~~K1405833-1~~ ①	9	✓	8270D PBDE	SOIL	20.172			2		—

Comments: DEE NC 6/16/14 S=sand in sample ~~DEE~~ ① #210923
✓ ABC(CE) 6-19-14

Surrogate ID: SVM46-9A 1ppm Ex 10.4.14 50uL (~~EPP1D~~)① (EPP2D)
Spike ID: SVM46-9B② 1ppm Ex 10.4.14 50uL (EPP2D) @ABC(WO) 6-19-14
Witness: [illegible] 6-16-14
Started By: [illegible] 6/16/14 Assisted By:
Completed By: [illegible] Assisted By:

Additional Prep Information for EPA 3541

PBDE

Service Request K1405833 **Workgroup** KWG1405686

Sulfate Lot # 132318 DCM (GC^2) Lot # DC494 Glass Wool Lot # 26911999

Date/Time/Initials Weighed: 6/16/14 0900 NC Balance ID: FBal-03 Calibration Verified ✓
Storage Location (if not extracted same day): _____

Soxtherm Start (Time/Date/Initial): 1230 / 6·16·14 / NC

Soxtherm Stop (Time/Date/Initial): 1535 / 6·16·14 / NC

N-Evap (Time/Date/Initial): 755 N-Evap Therm. ID: SVGP-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): 1110 6/17/14 AM
Hexane Lot # 67123 N-Evap Therm. ID: SVGP-006
Temp as measured: 30.0 °C Correction factor: 0.0 °C Adjusted temp: 30.0 °C
Silica Gel Clean-up (3630) (Time/Date/Initial): 1215 6/17/14 AM
Silica Column Lot # 23877 1:1 Hexane/DCM Reagent Lot # EXT002-30A

N-Evap (Time/Date/Initial): 1300 6/17/14 AM N-Evap Therm. ID: SVGP-006
Temp as measured: 30.0 °C Correction factor: 0.0 °C Adjusted temp: 30.0 °C
Sulfuric Acid Clean-up (Time/Date/Initial): 1610 6/17/14 AM Sulfuric Acid Lot # 52267
Extract Storage: _____
Completed (Time/Date/Initial): 1630 6/17/14 AM

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

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

Exception Report

Data File: J:\MS11\DATA\063014A\0630F013.D
Lab ID: K1405833-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/30/2014 11:36
Date Quantitated: 06/30/2014 12:33
Batch ID: KWG1407242
Analysis Method: 8270D SIM
ListJoinID: LJ13147

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	
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
K5819
K5949

Primary Review: JUN 30 2014

Secondary Review:

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F013.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 11:36	**Quant Date:**	06/30/2014 12:33	**Vial:**	6
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-001			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**	06/04/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347933	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ13147
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	33513m	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	21382	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	41885	200.00	OK
4	Chrysene-d12	10.31	0.00	240	51420	200.00	OK
5	Perylene-d12	13.95	0.01	264	50412	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	6.75	0.00	0.00	176	17284	121.30	61	17-104	OK	
3	Fluoranthene-d10	8.55	0.01	0.00	212	39468	147.73	74	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	34485	140.21	70	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	1987m	10.71	13		
1	2-Methylnaphthalene	5.48		0.00	142	532	4.23	5.2	J	
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	281	2.49	3.1	J	
2	Acenaphthylene	6.21		0.00	152	3688	17.46	22		
2	Acenaphthene	6.35	-0.01	0.00	154	939	7.33	9.1		
2	Fluorene	6.77		0.00	166	1040m	6.70	8.3		
3	Phenanthrene	7.58		0.00	178	4535	18.84	23		
3	Anthracene	7.62	0.01	0.00	178	6487m	27.78	34		
3	Fluoranthene	8.57	0.01	0.00	202	67408	253.35	310		
4	Pyrene	8.78	0.01	0.00	202	74930m	252.88	310		
4	Benz(a)anthracene	10.30	0.01	0.00	228	40255	136.22	170		
4	Chrysene	10.36	0.01	0.00	228	30342	108.88	130		
5	Benzo(b)fluoranthene	12.73	0.01	0.00	252	52825	166.42	210		

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:\MS11\DATA\063014A\0630F013.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 11:36	**Quant Date:**	06/30/2014 12:33	**Vial:**	6
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-001			**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(k)fluoranthene	12.81	0.01	0.00	252	18502	61.00	75		
5	Benzo(a)pyrene	13.75	0.02	0.00	252	28463	102.07	130		
5	Indeno(1,2,3-cd)pyrene	17.05	0.01	0.00	276	15163**m**	57.90	72		
5	Dibenz(a,h)anthracene	17.12		0.00	278	3633	13.29	16		
5	Benzo(g,h,i)perylene	17.47		0.00	276	15609	49.92	62		

Prep Amount:	20.034 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:33 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	33513m	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.33	164	21382	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	41885	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	51420	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	50412	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	17284	121.30	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.13%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.55	212	39468	147.73	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.77%			
43) Terphenyl-d14	8.93	244	34485	140.21	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.02%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	1987m	10.71	ng/ml	
3) 2-Methylnaphthalene	5.48	142	532	4.23	ng/ml	93
4) 1-Methylnaphthalene	5.56	142	281	2.49	ng/ml	98
5) Biphenyl	5.85	154	405	2.77	ng/ml	90
6) 2,6-Dimethylnaphthalene	5.98	156	420	3.99	ng/ml	100
11) Acenaphthylene	6.21	152	3688	17.46	ng/ml	98
12) Acenaphthene	6.35	154	939	7.33	ng/ml	95
13) Dibenzofuran	6.49	168	667	3.56	ng/ml	40
14) 2,3,5-Trimethylnaphthalene	6.66	170	348	2.88	ng/ml	68
16) Fluorene	6.77	166	1040m	6.70	ng/ml	
23) Dibenzothiophene	7.47	184	460	2.05	ng/ml	92
27) Phenanthrene	7.58	178	4535	18.84	ng/ml	100
28) Anthracene	7.62	178	6487m	27.78	ng/ml	
29) Carbazole	7.75	167	658m	3.17	ng/ml	
35) Fluoranthene	8.57	202	67408	253.35	ng/ml	87
38) Pyrene	8.78	202	74930m	252.88	ng/ml	
44) Benz(a)anthracene	10.30	228	40255	136.22	ng/ml	95
45) Chrysene	10.36	228	30342	108.88	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	52825	166.42	ng/ml	99
52) Benzo(k)fluoranthene	12.81	252	18502	61.00	ng/ml	97
53) Benzo(e)pyrene	13.57	252	22902	76.93	ng/ml	98
54) Benzo(a)pyrene	13.75	252	28463	102.07	ng/ml	98
55) Perylene	14.04	252	23005	81.91	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.05	276	15163m	57.90	ng/ml	
57) Dibenz(a,h)anthracene	17.12	278	3633	13.29	ng/ml	87

(#) = qualifier out of range (m) = manual integration
0630F013.D 062914ALK.M Mon Jun 30 12:33:45 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:33 2014 Quant Results File: 062914ALK.RES

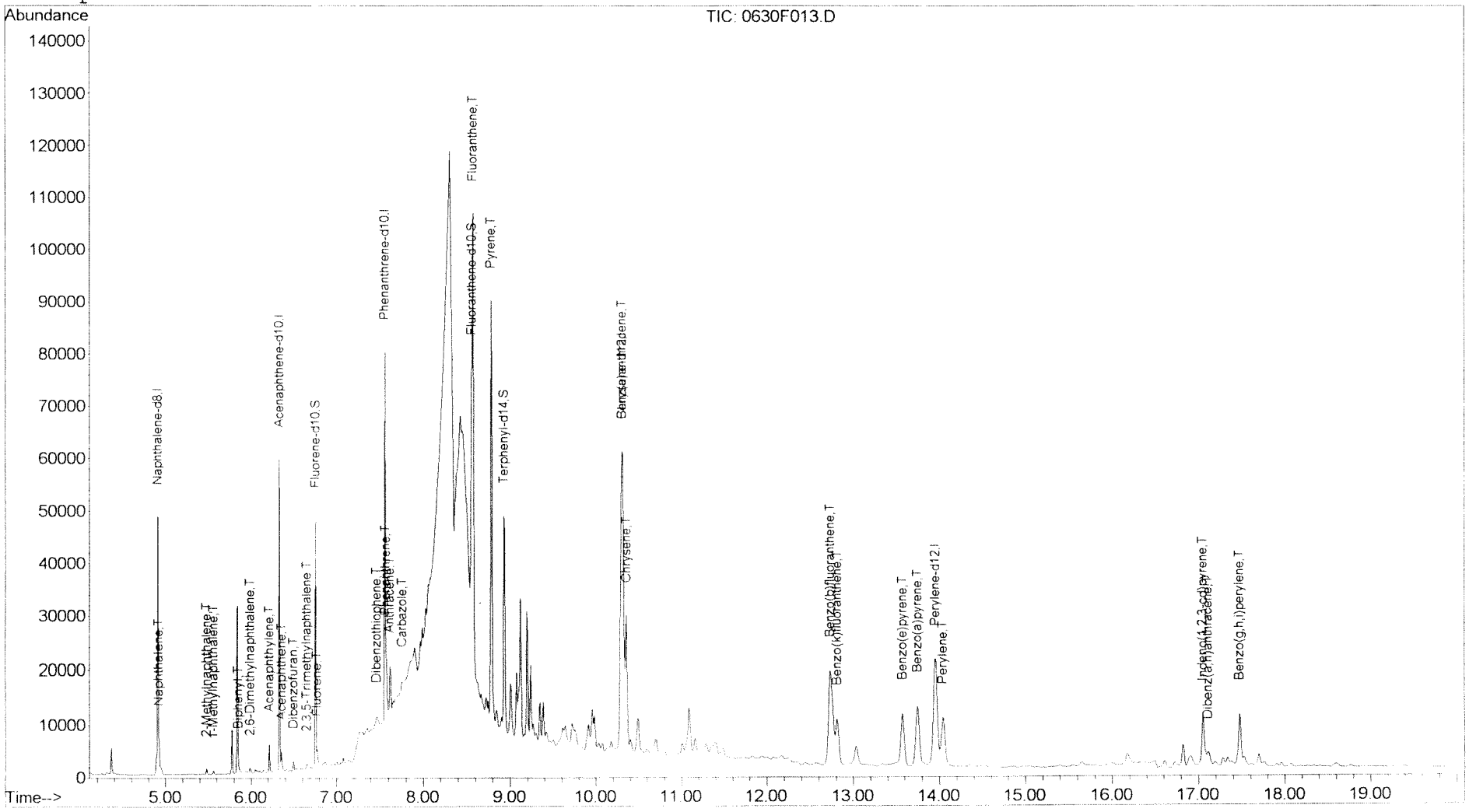
Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Benzo(g,h,i)perylene	17.47	276	15609	49.92	ng/ml	99

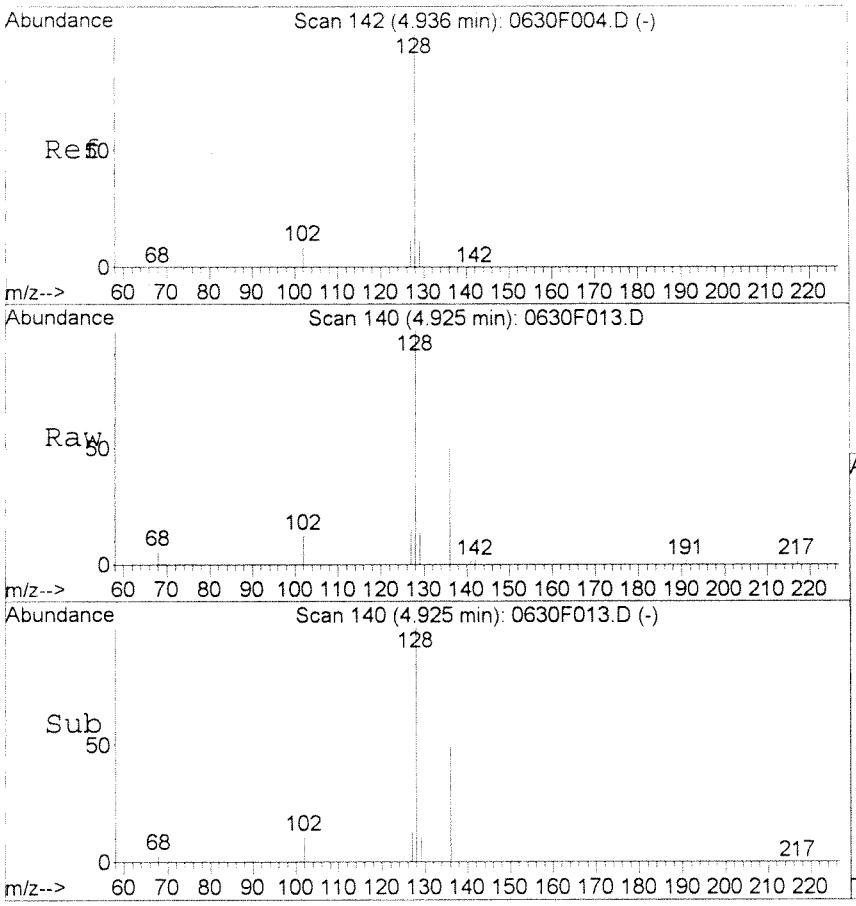
(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:33 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



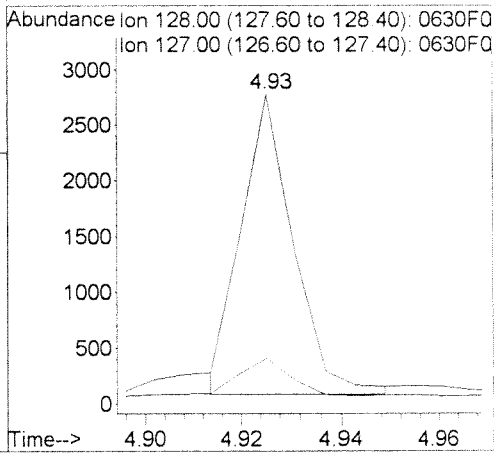
644

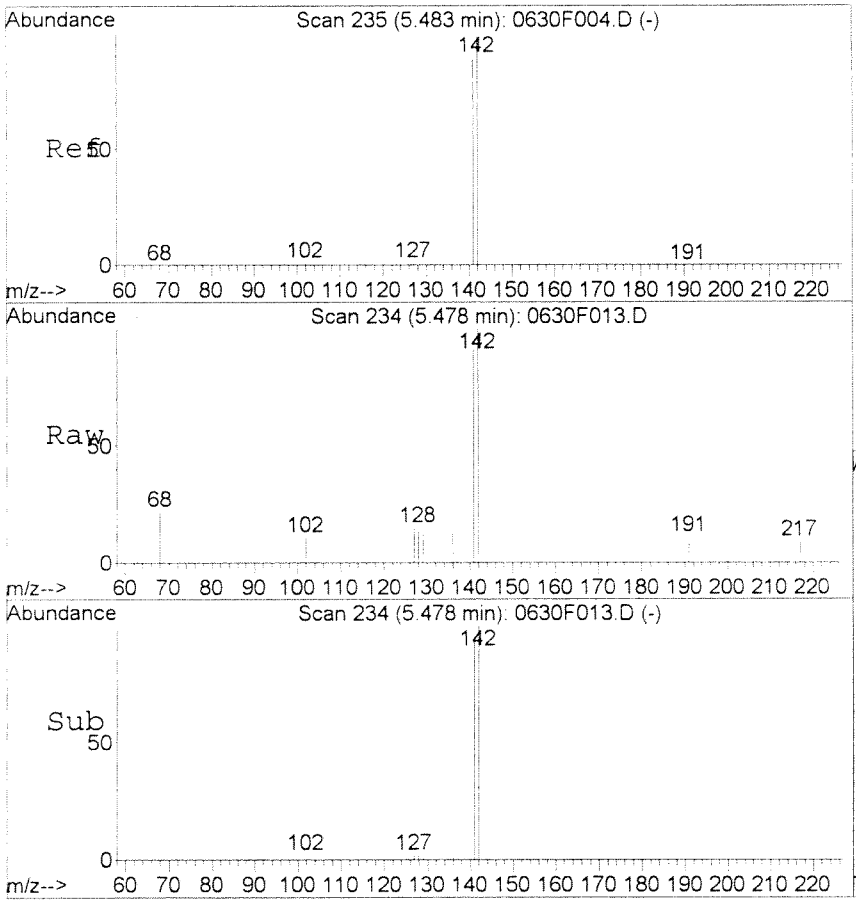


#2
Naphthalene
Concen: 10.71 ng/ml m
RT: 4.93 min Scan# 140
Delta R.T. -0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:128 Resp: 1987

Ion	Ratio	Lower	Upper
128	100		
127	14.6	0.0	43.1

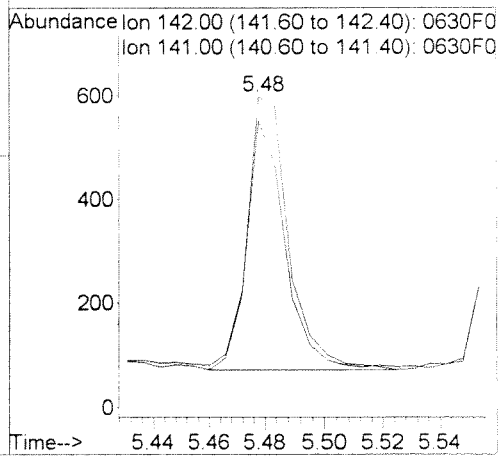


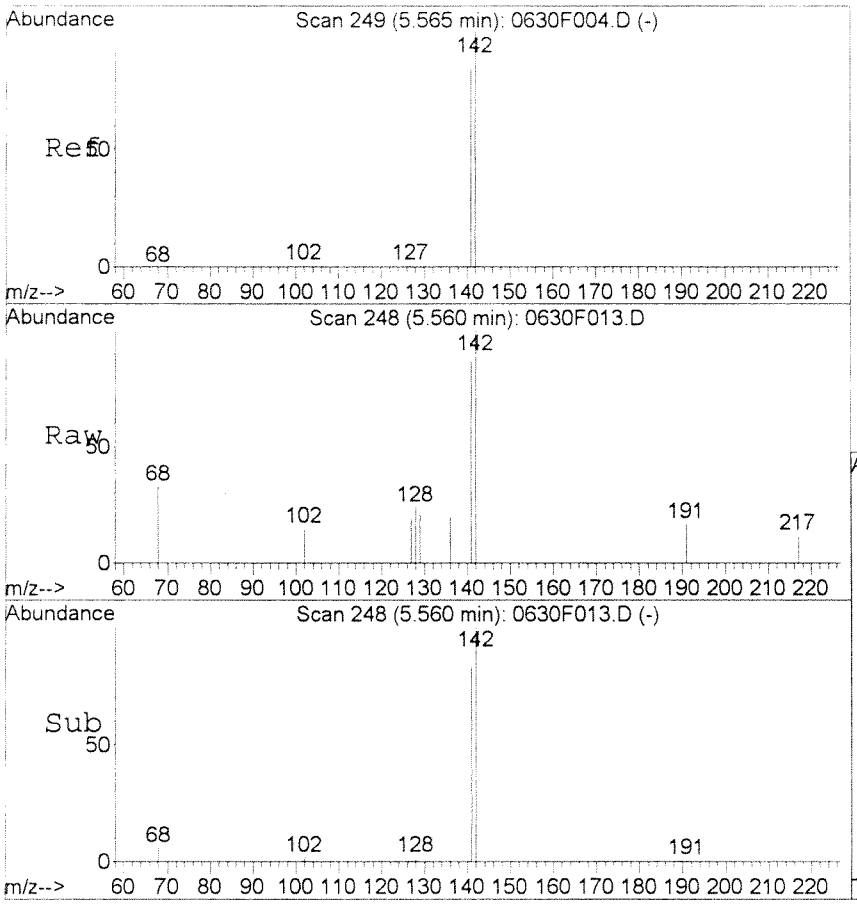


#3
2-Methylnaphthalene
Concen: 4.23 ng/ml
RT: 5.48 min Scan# 234
Delta R.T. -0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:142 Resp: 532

Ion	Ratio	Lower	Upper
142	100		
141	91.3	54.9	114.9

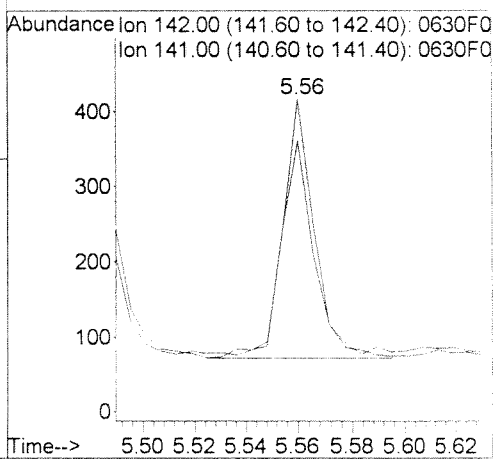


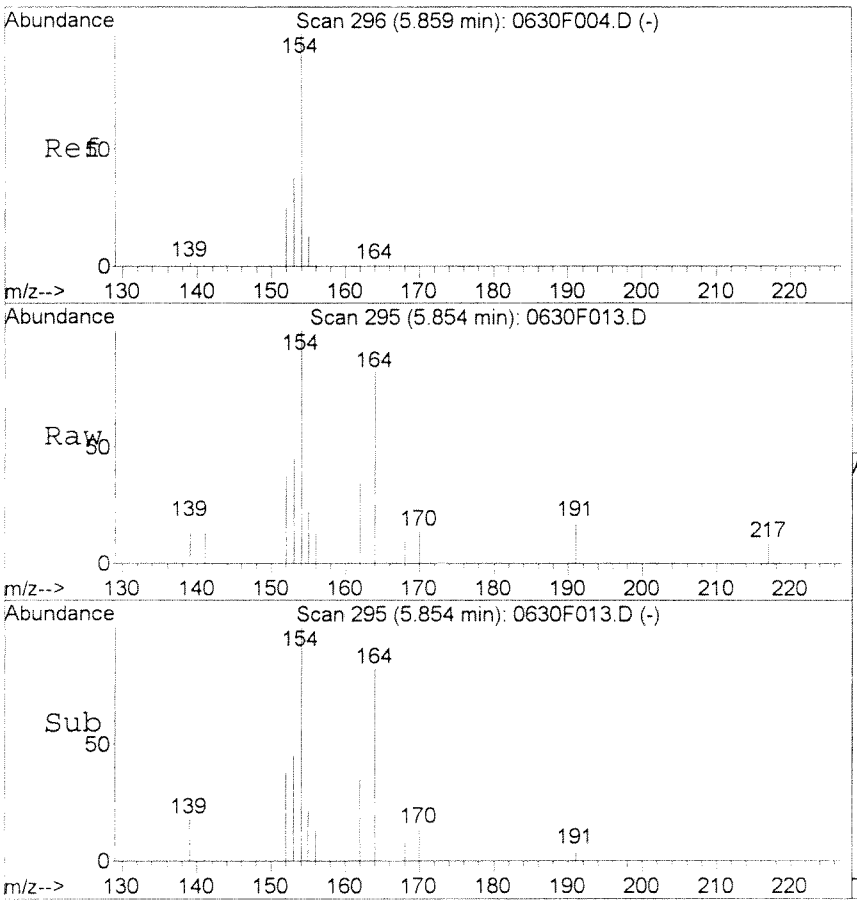


#4
1-Methylnaphthalene
Concen: 2.49 ng/ml
RT: 5.56 min Scan# 248
Delta R.T. -0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:142 Resp: 281

Ion	Ratio	Lower	Upper
142	100		
141	82.0	54.0	114.0

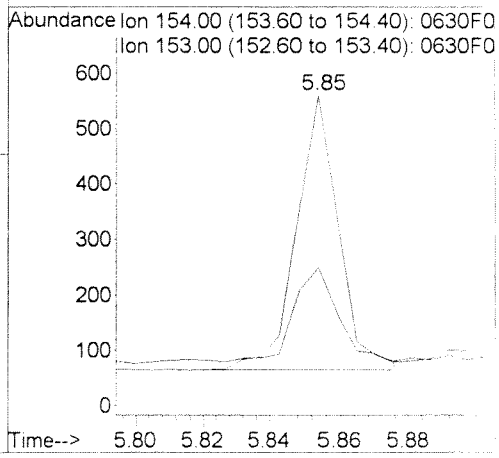


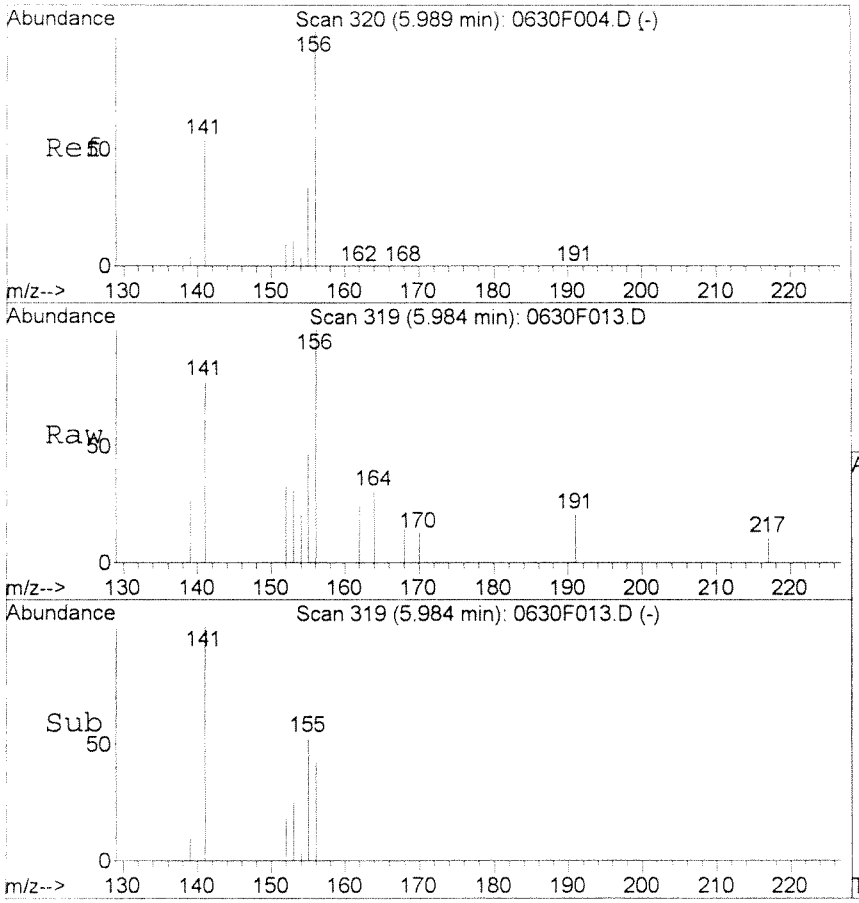


#5
Biphenyl
Concen: 2.77 ng/ml
RT: 5.85 min Scan# 295
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:154 Resp: 405

Ion	Ratio	Lower	Upper
154	100		
153	34.1	10.0	70.0

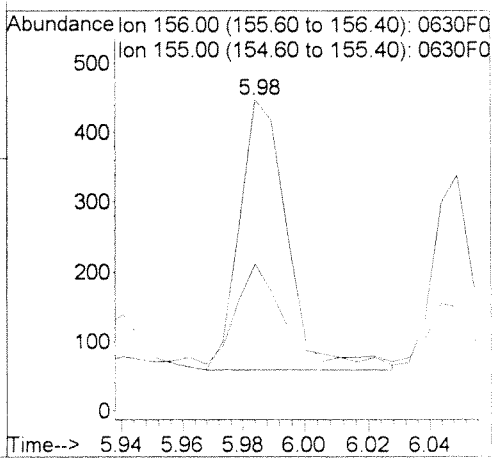


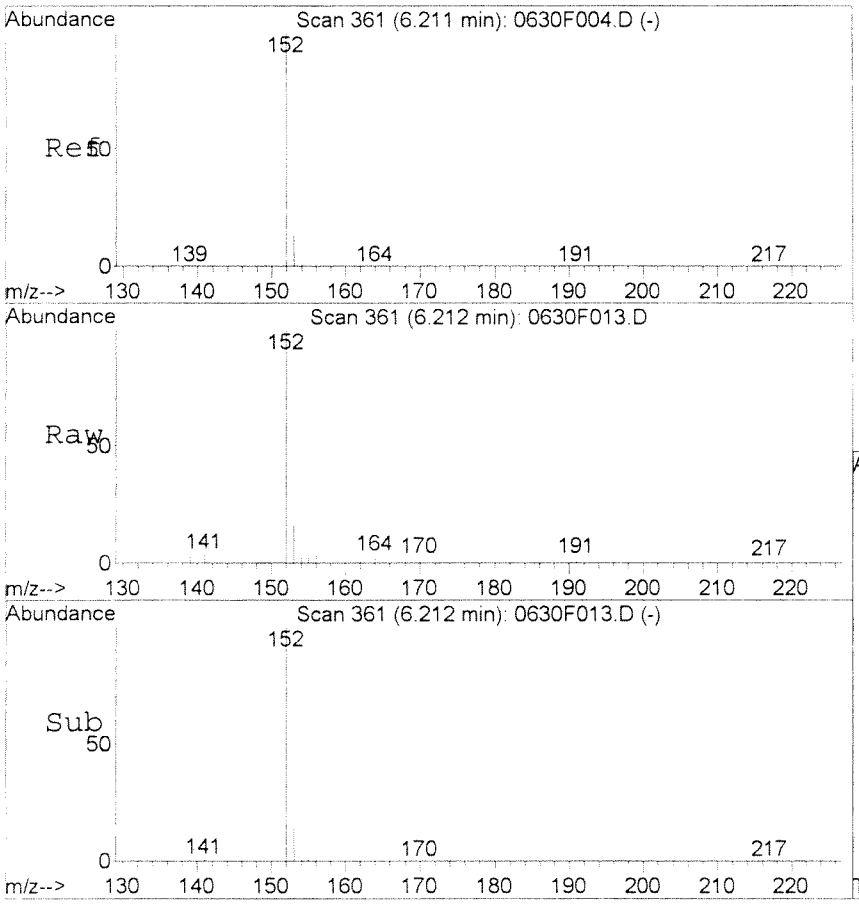


#6
2,6-Dimethylnaphthalene
Concen: 3.99 ng/ml
RT: 5.98 min Scan# 319
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:156 Resp: 420

Ion	Ratio	Lower	Upper
156	100		
155	37.3	7.5	67.5

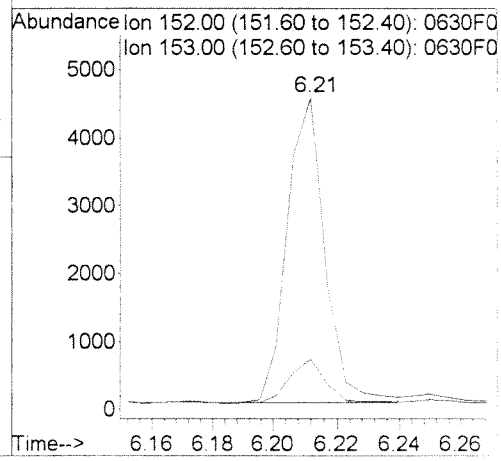


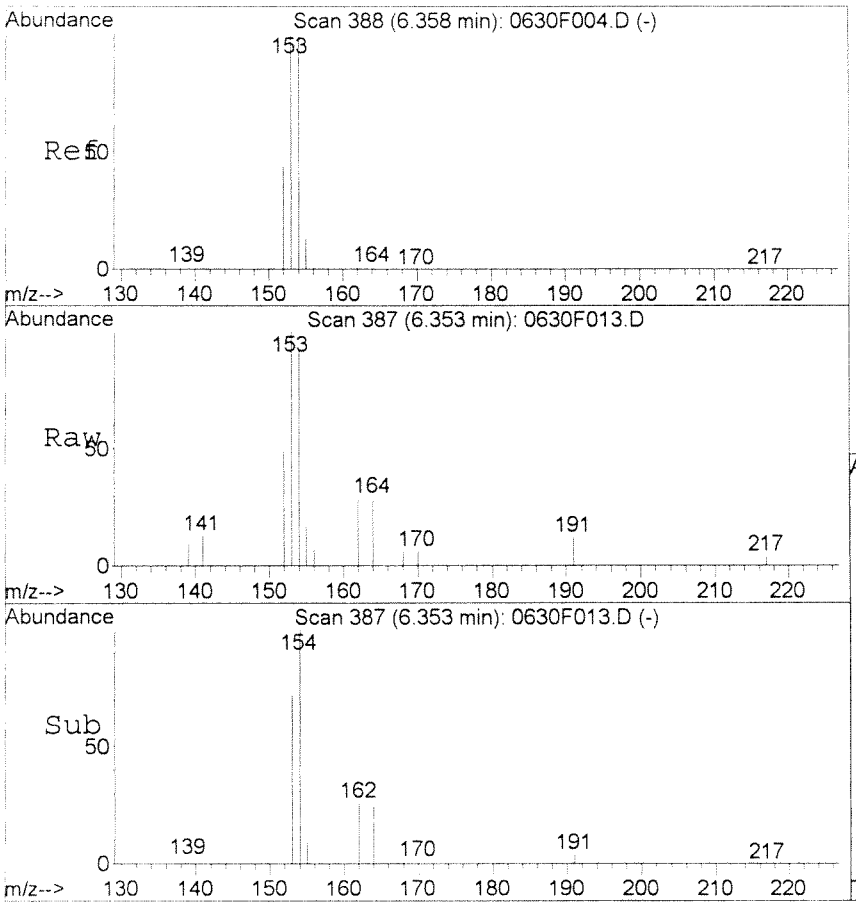


#11
Acenaphthylene
Concen: 17.46 ng/ml
RT: 6.21 min Scan# 361
Delta R.T. 0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:152 Resp: 3688

Ion	Ratio	Lower	Upper
152	100		
153	14.2	0.0	43.6

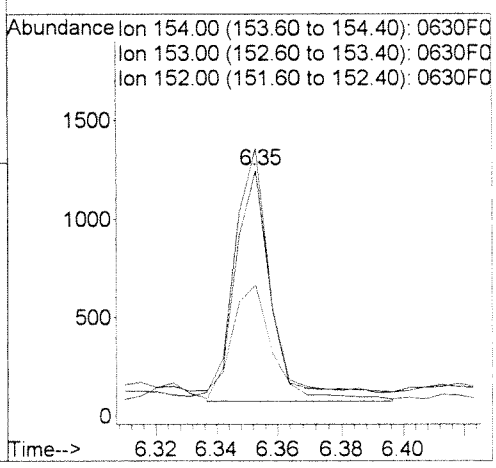


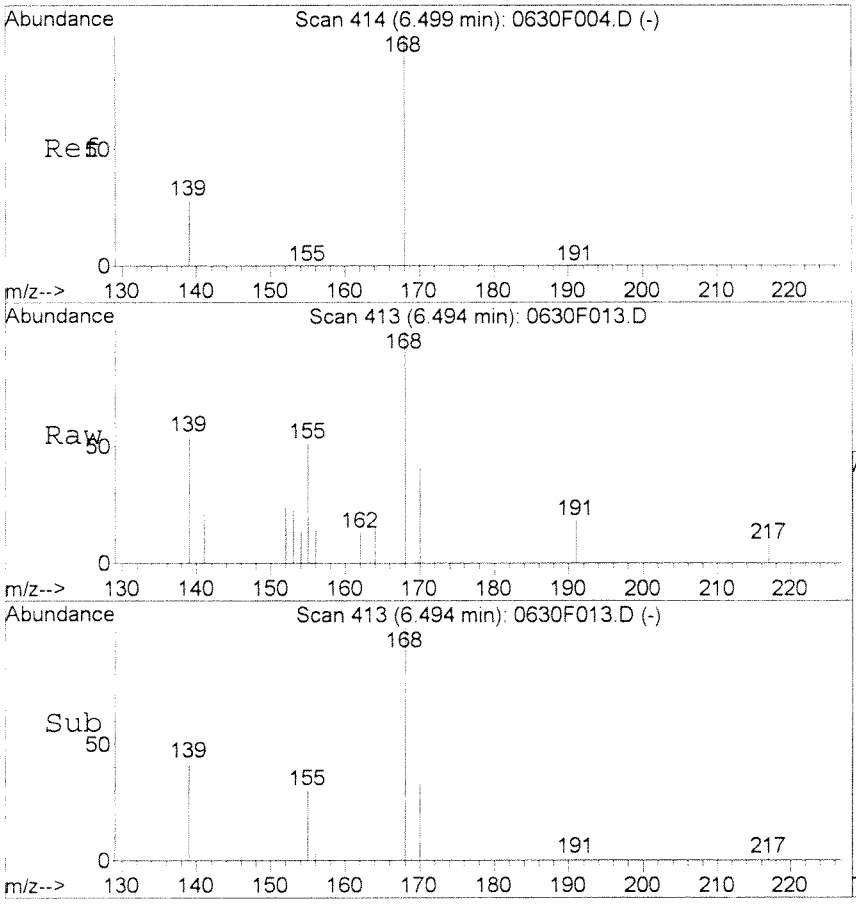


#12
Acenaphthene
Concen: 7.33 ng/ml
RT: 6.35 min Scan# 387
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:154 Resp: 939

Ion	Ratio	Lower	Upper
154	100		
153	106.7	79.5	139.5
152	46.5	22.9	82.9

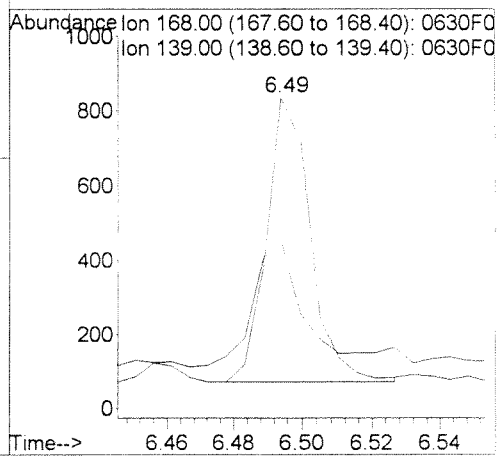


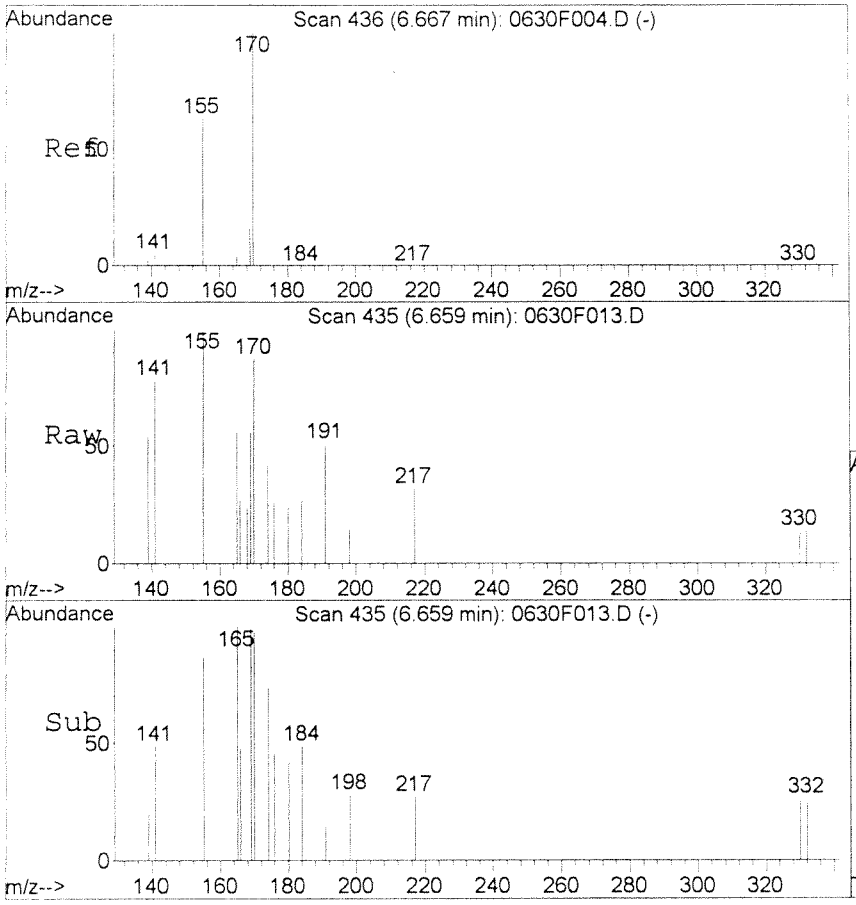


#13
Dibenzofuran
Concen: 3.56 ng/ml
RT: 6.49 min Scan# 413
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:168 Resp: 667

Ion	Ratio	Lower	Upper
168	100		
139	44.0	0.0	47.6

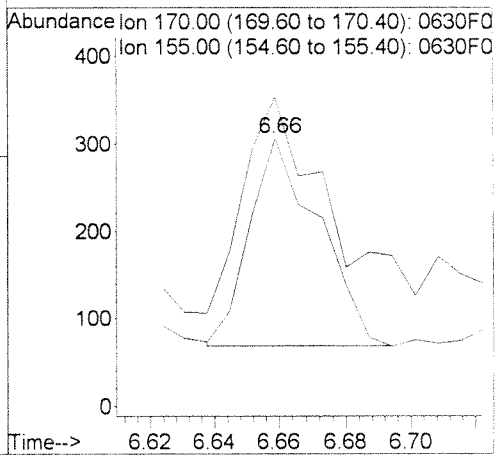


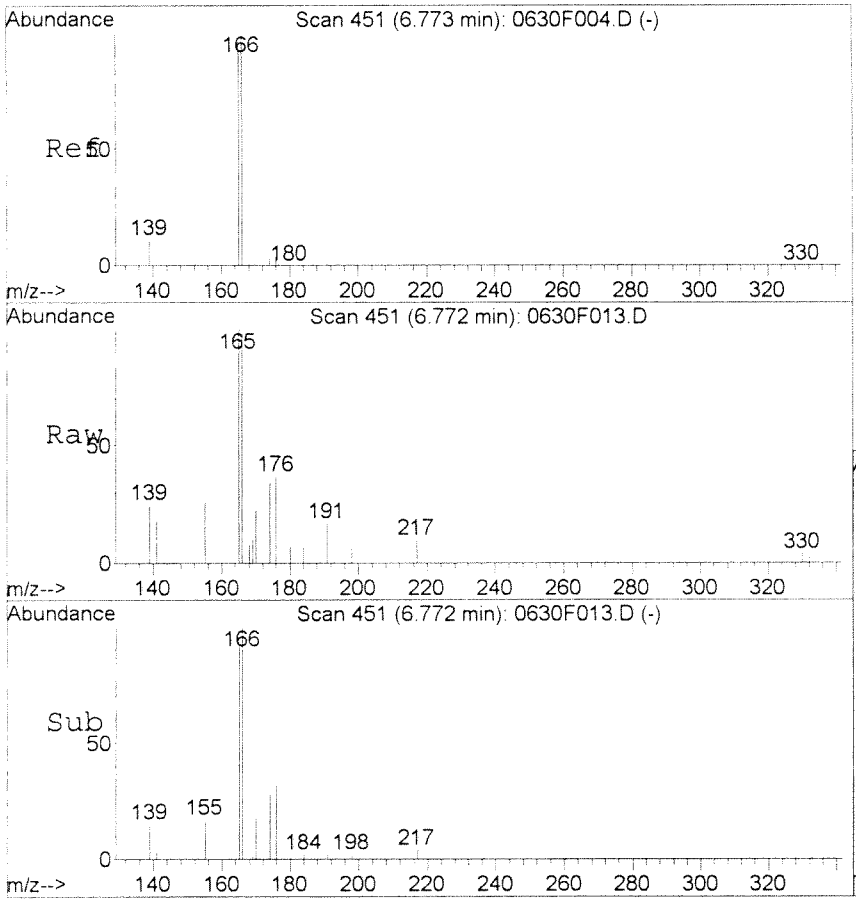


#14
2,3,5-Trimethylnaphthalene
Concen: 2.88 ng/ml
RT: 6.66 min Scan# 435
Delta R.T. -0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:170 Resp: 348

Ion	Ratio	Lower	Upper
170	100		
155	103.8	46.4	106.4

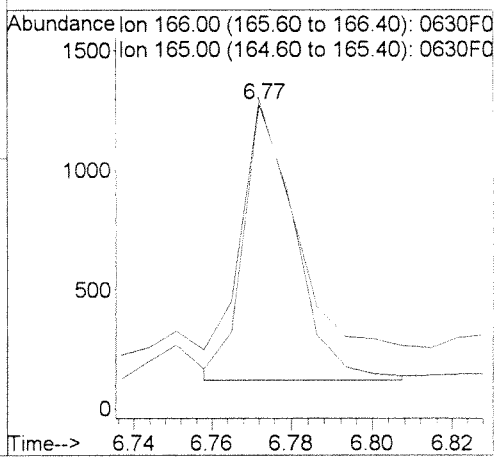


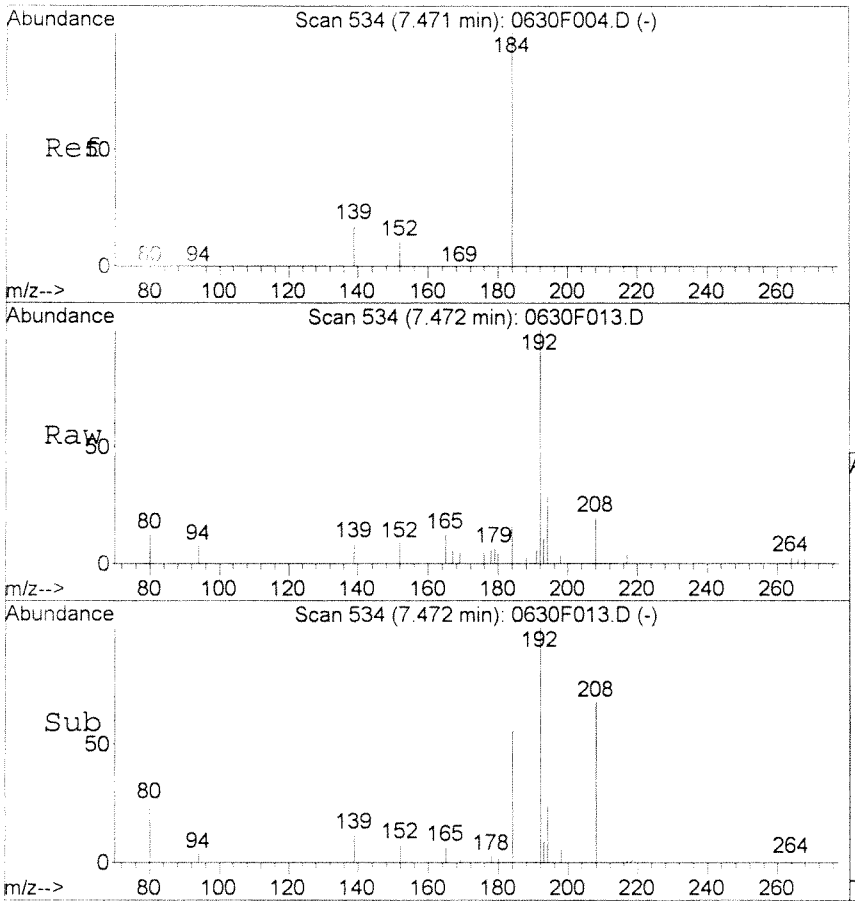


#16
Fluorene
Concen: 6.70 ng/ml m
RT: 6.77 min Scan# 451
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:166 Resp: 1040

Ion	Ratio	Lower	Upper
166	100		
165	101.6	56.1	116.1

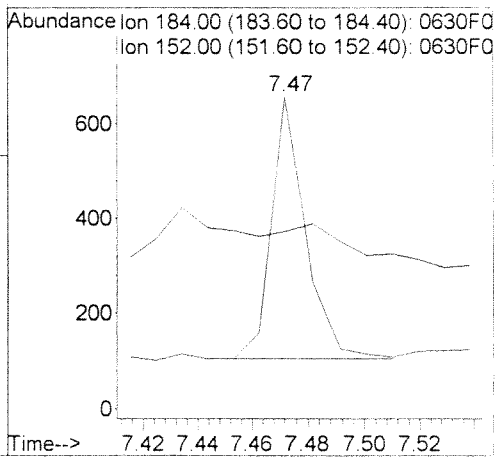


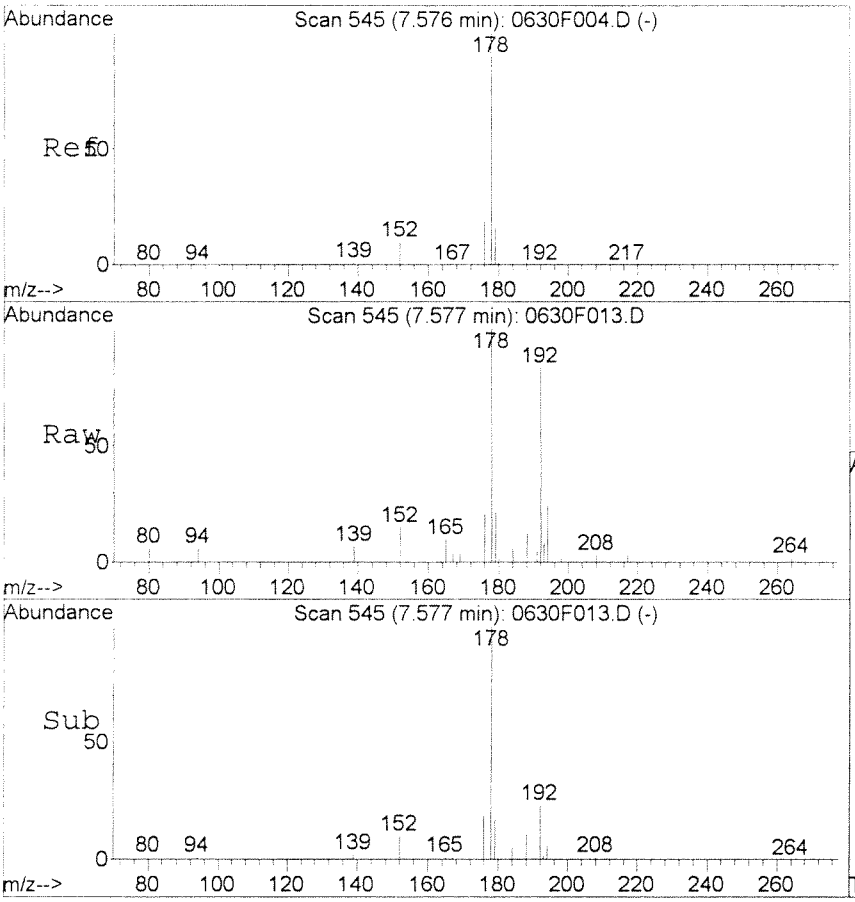


#23
Dibenzothiophene
Concen: 2.05 ng/ml
RT: 7.47 min Scan# 534
Delta R.T. 0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:184 Resp: 460

Ion	Ratio	Lower	Upper
184	100		
152	8.5	0.0	41.4

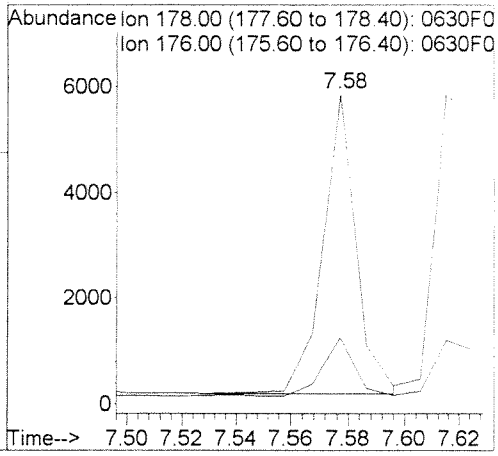


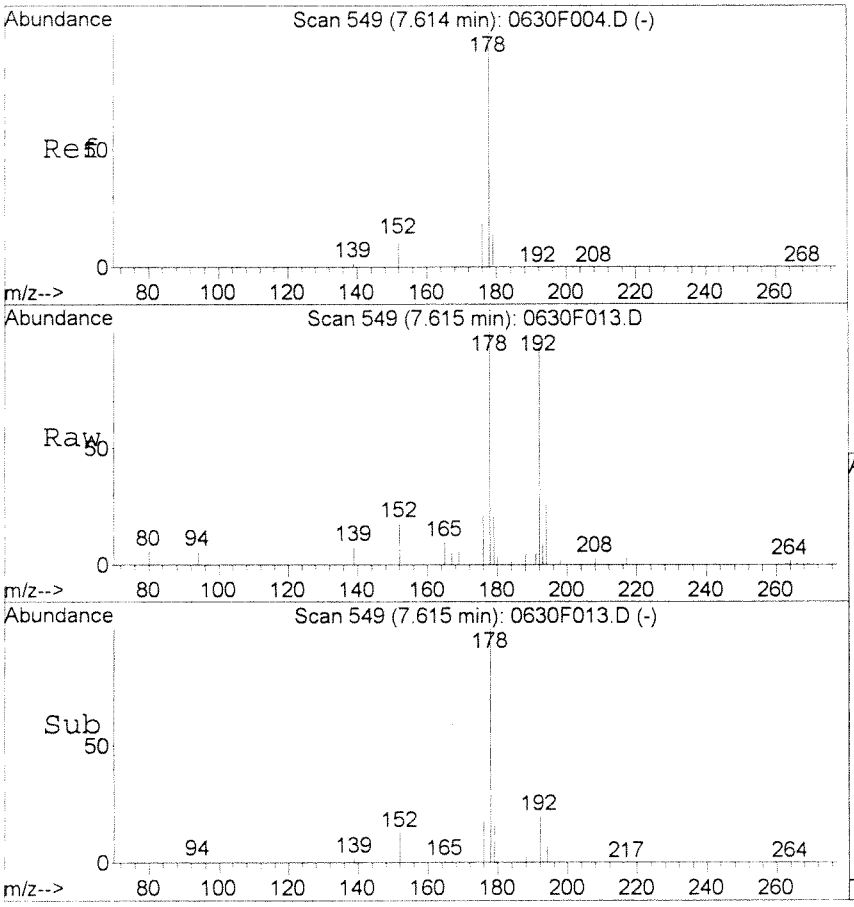


#27
Phenanthrene
Concen: 18.84 ng/ml
RT: 7.58 min Scan# 545
Delta R.T. 0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:178 Resp: 4535

Ion	Ratio	Lower	Upper
178	100		
176	19.1	0.0	49.3

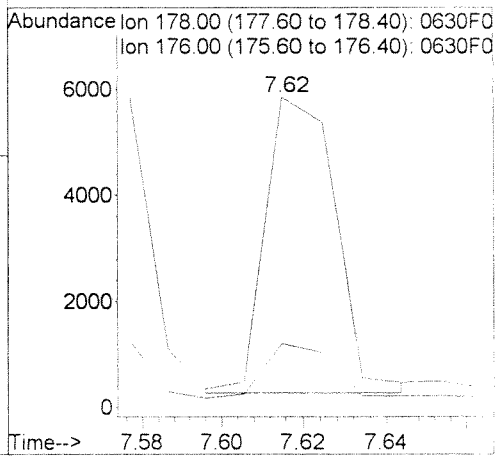


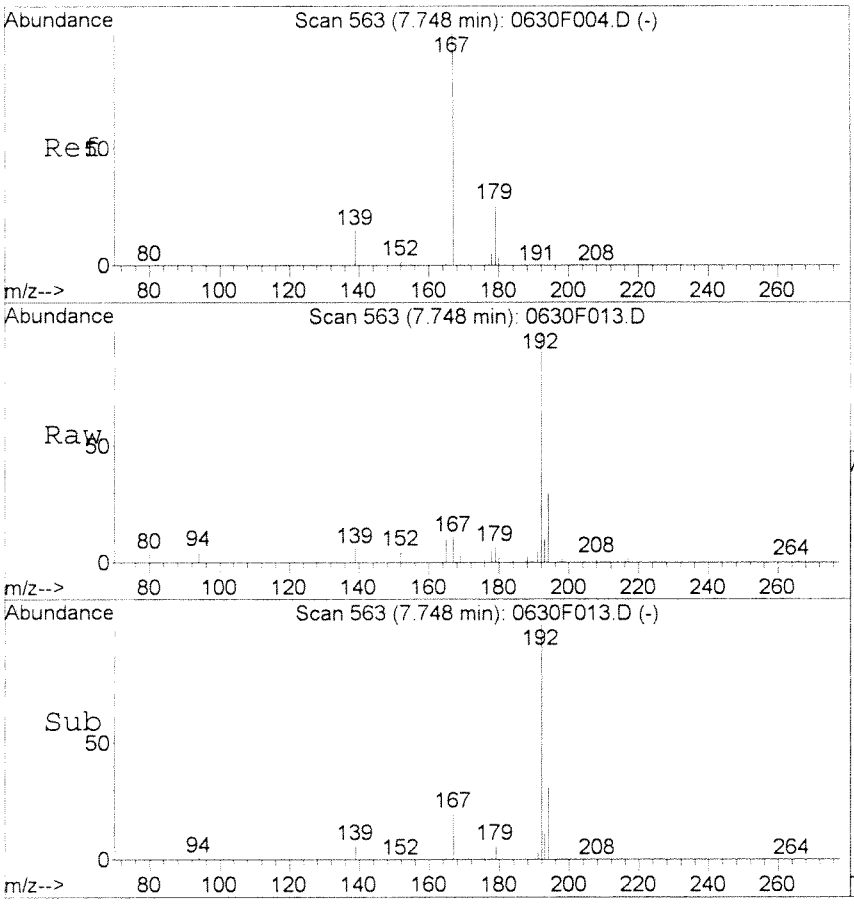


#28
Anthracene
Concen: 27.78 ng/ml m
RT: 7.62 min Scan# 549
Delta R.T. 0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:178 Resp: 6487

Ion	Ratio	Lower	Upper
178	100		
176	20.6	0.0	47.1

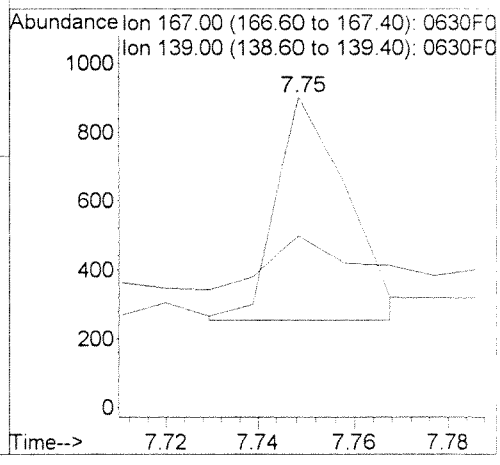


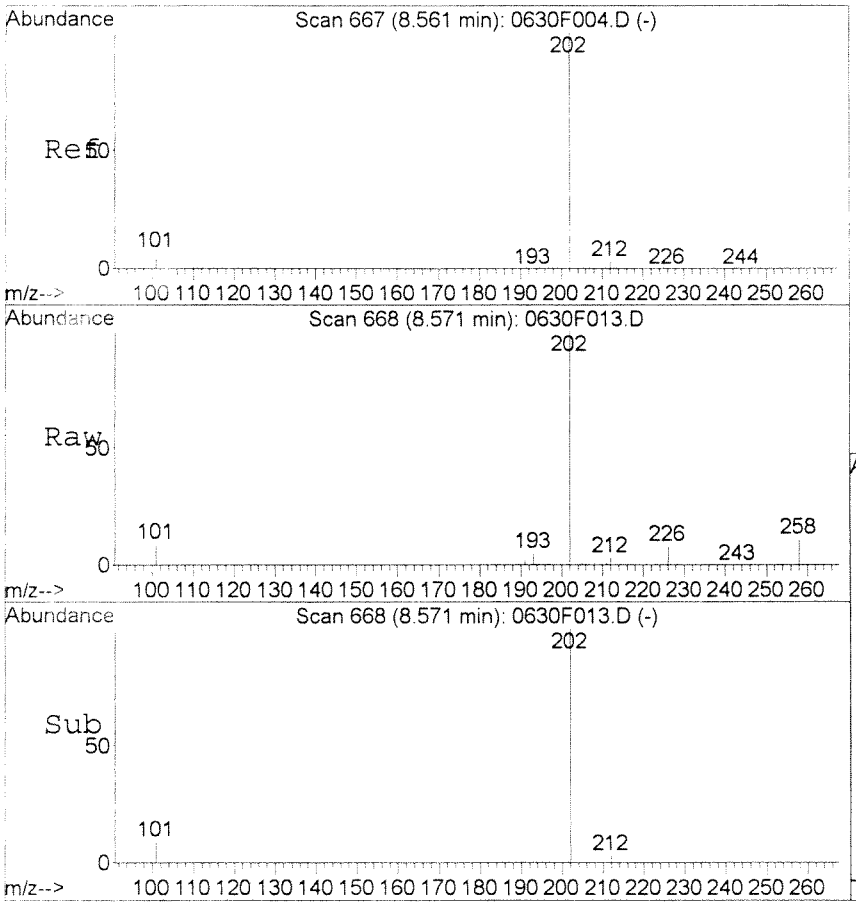


#29
Carbazole
Concen: 3.17 ng/ml m
RT: 7.75 min Scan# 563
Delta R.T. 0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:167 Resp: 658

Ion	Ratio	Lower	Upper
167	100		
139	55.1	0.0	39.5#

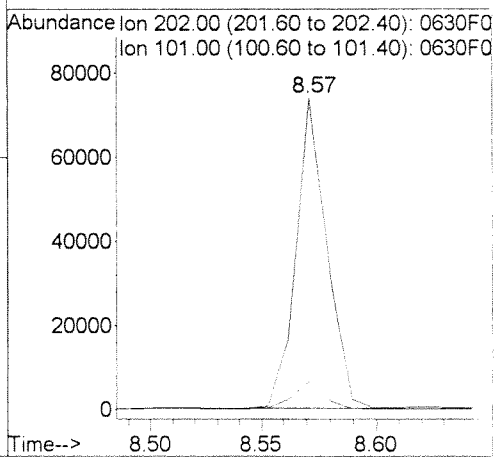


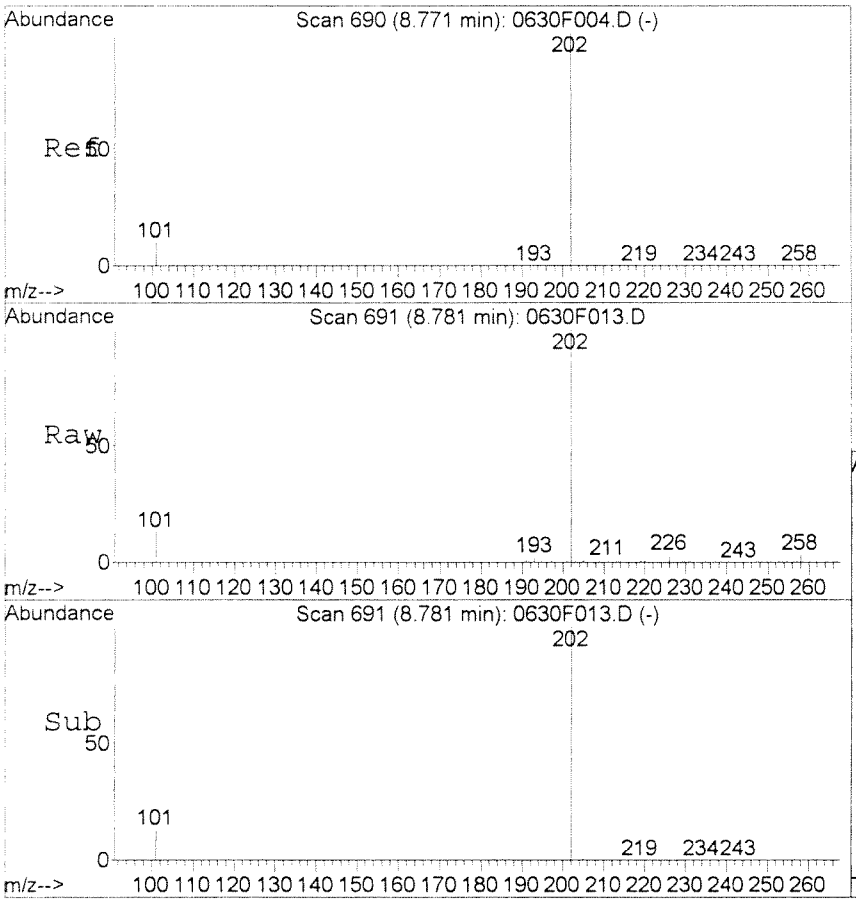


#35
Fluoranthene
Concen: 253.35 ng/ml
RT: 8.57 min Scan# 668
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:202 Resp: 67408

Ion	Ratio	Lower	Upper
202	100		
101	9.0	0.0	44.3

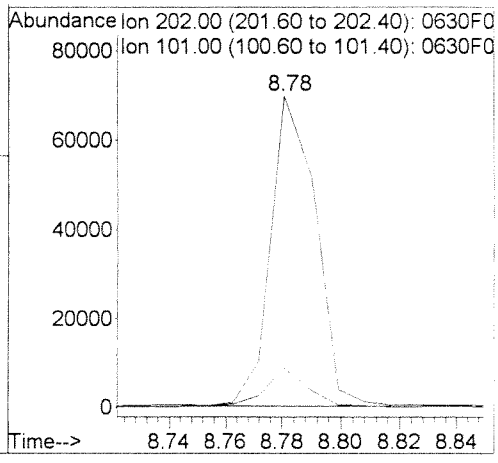


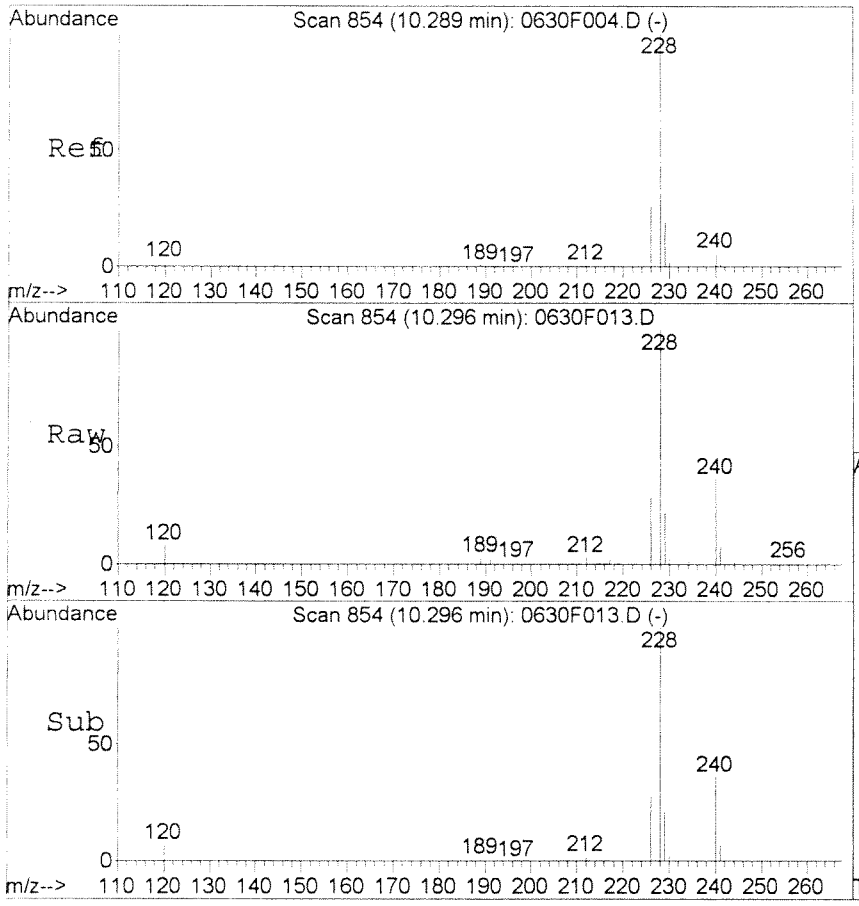


#38
Pyrene
Concen: 252.88 ng/ml m
RT: 8.78 min Scan# 691
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:202 Resp: 74930

Ion	Ratio	Lower	Upper
202	100		
101	12.8	0.0	46.7

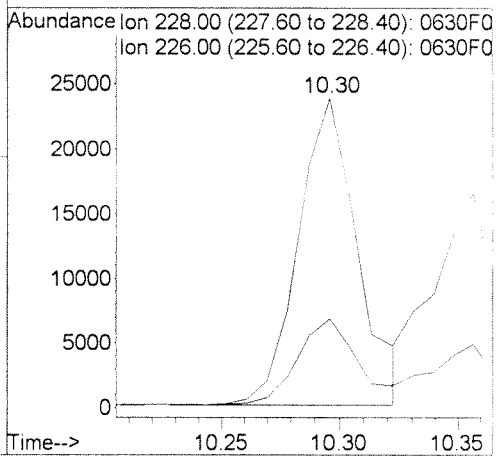


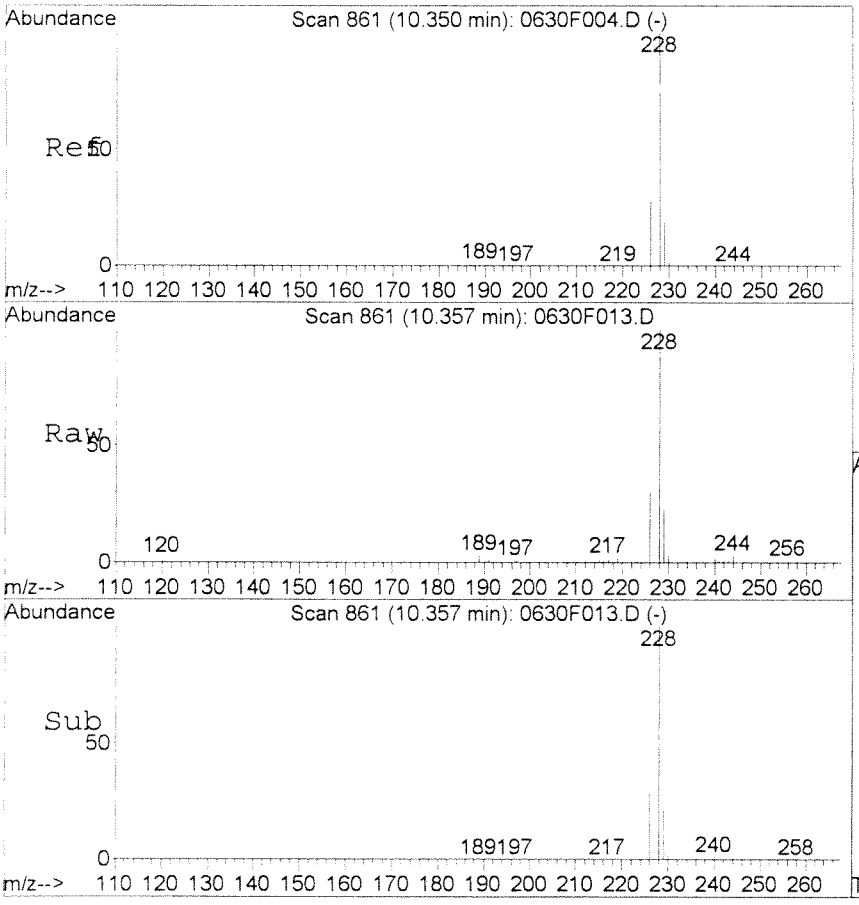


#44
Benz(a)anthracene
Concen: 136.22 ng/ml
RT: 10.30 min Scan# 854
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:228 Resp: 40255

Ion	Ratio	Lower	Upper
228	100		
226	28.1	0.0	55.7

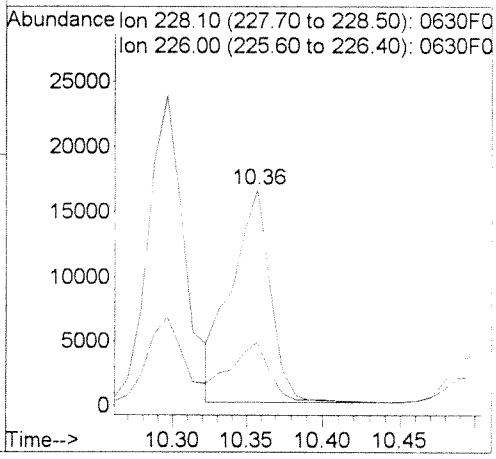


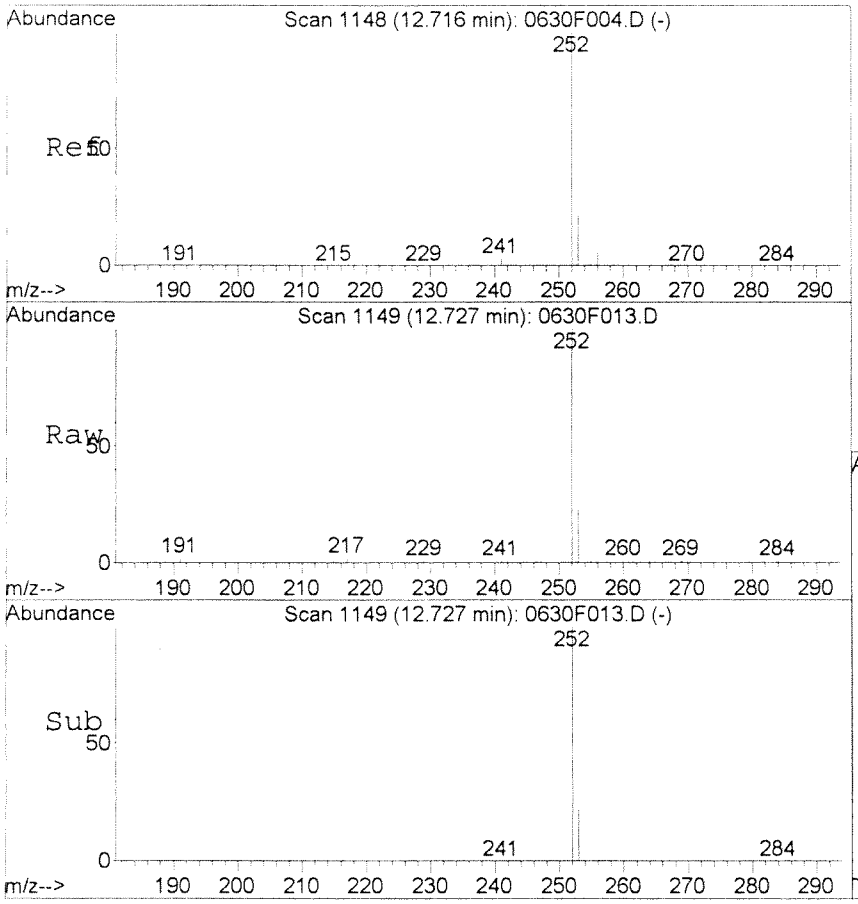


#45
Chrysene
Concen: 108.88 ng/ml
RT: 10.36 min Scan# 861
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:228 Resp: 30342

Ion	Ratio	Lower	Upper
228	100		
226	28.3	0.0	57.9

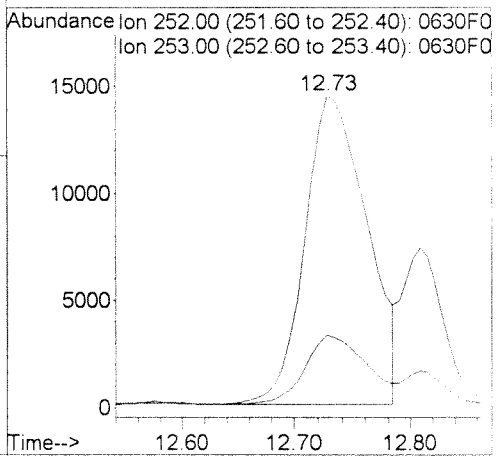


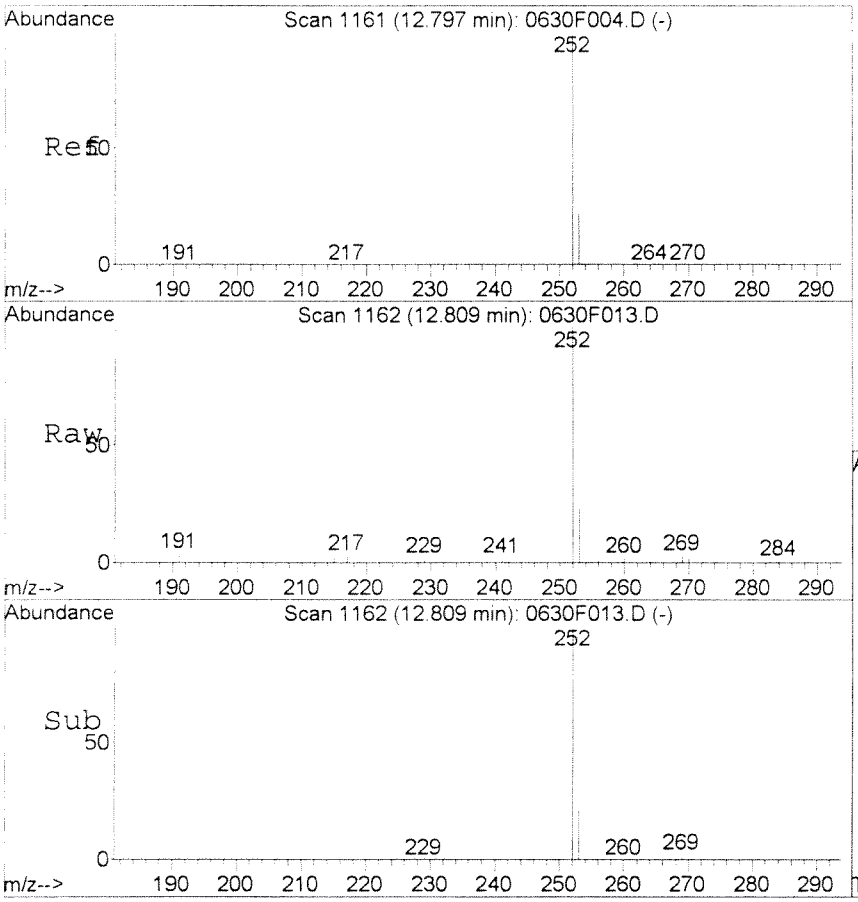


#51
Benzo(b)fluoranthene
Concen: 166.42 ng/ml
RT: 12.73 min Scan# 1149
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:252 Resp: 52825

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.5

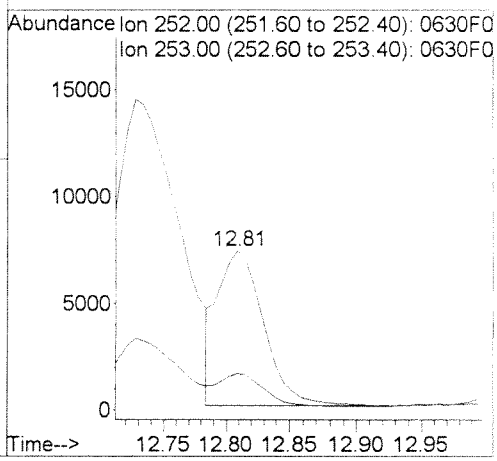


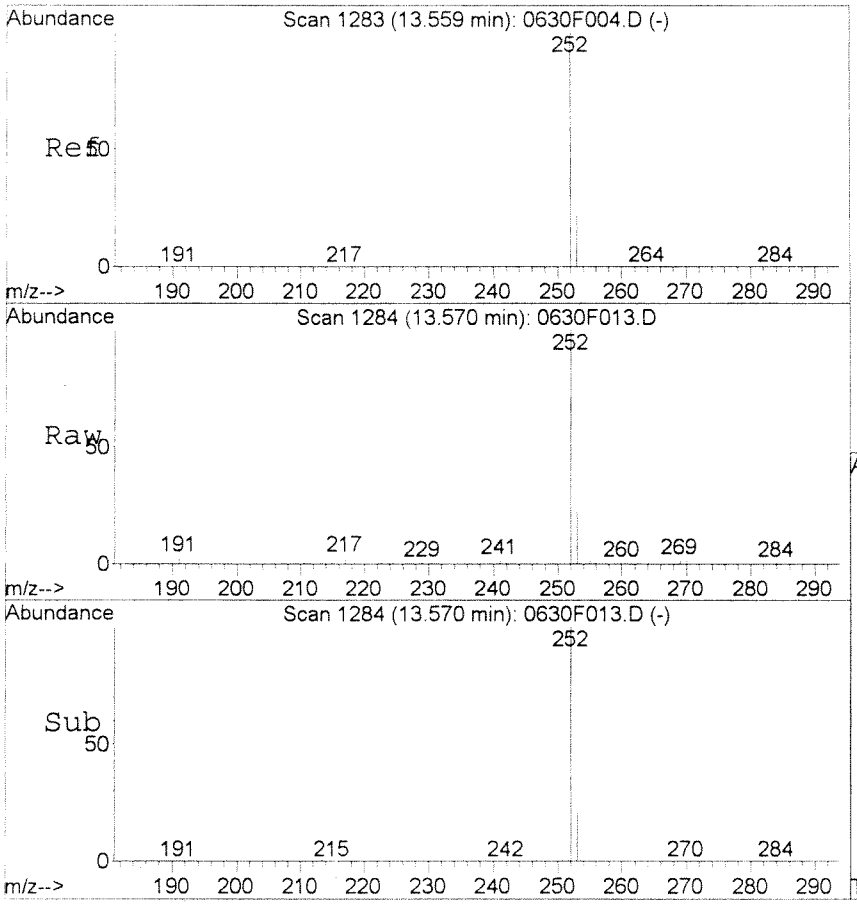


#52
Benzo(k)fluoranthene
Concen: 61.00 ng/ml
RT: 12.81 min Scan# 1162
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:252 Resp: 18502

Ion	Ratio	Lower	Upper
252	100		
253	20.9	0.0	52.3

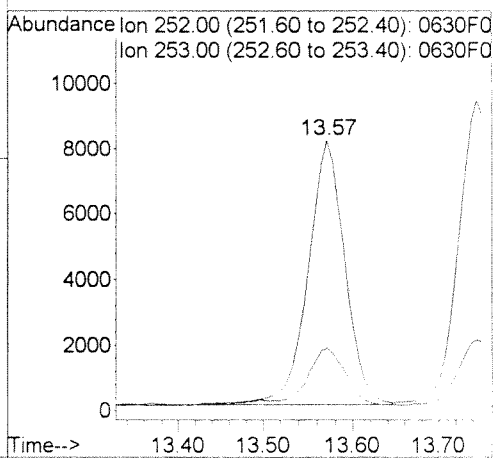


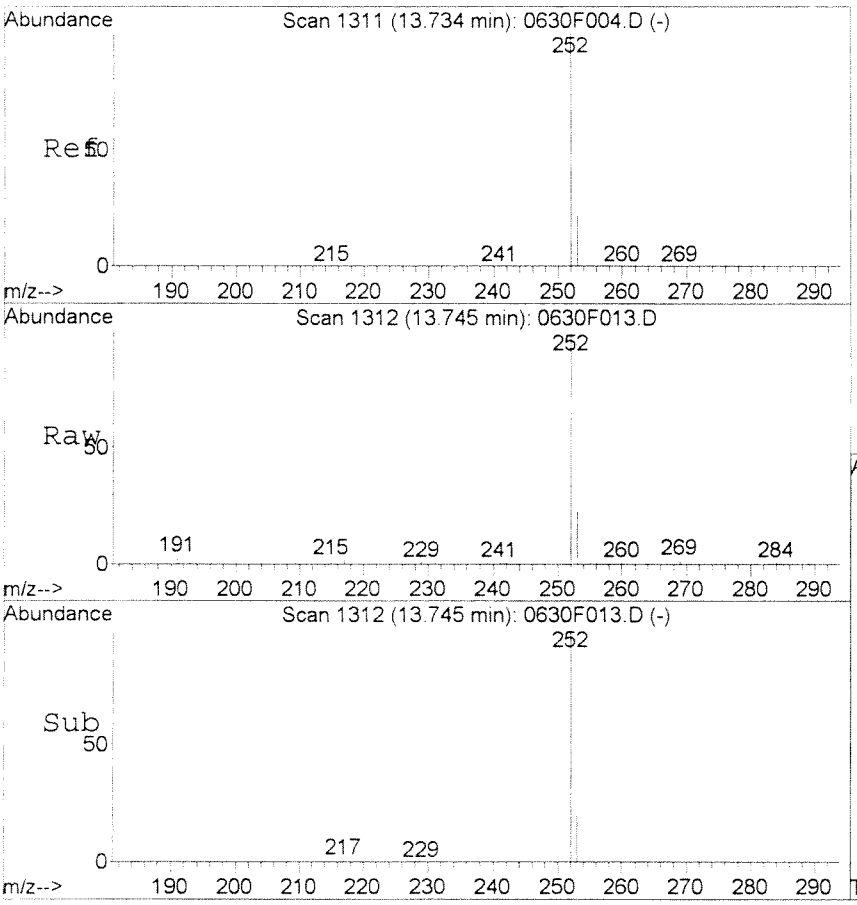


#53
Benzo(e)pyrene
Concen: 76.93 ng/ml
RT: 13.57 min Scan# 1284
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:252 Resp: 22902

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	52.1

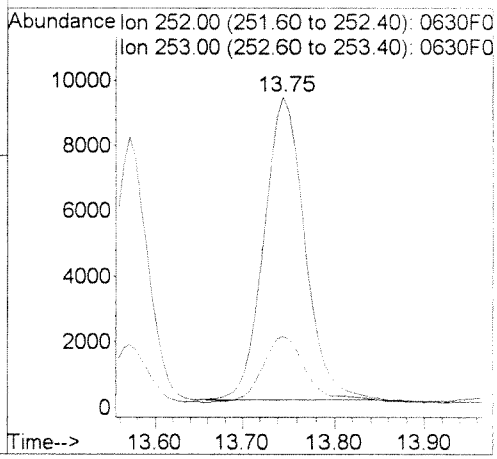


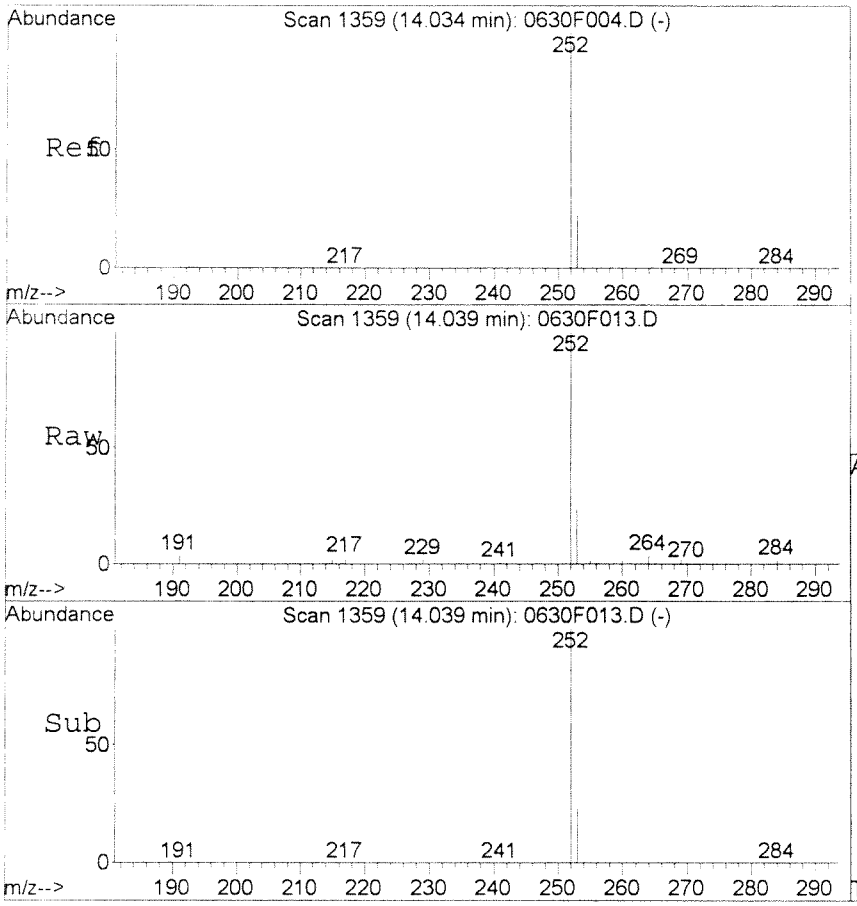


#54
Benzo(a)pyrene
Concen: 102.07 ng/ml
RT: 13.75 min Scan# 1312
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:252 Resp: 28463

Ion	Ratio	Lower	Upper
252	100		
253	21.6	0.0	52.5

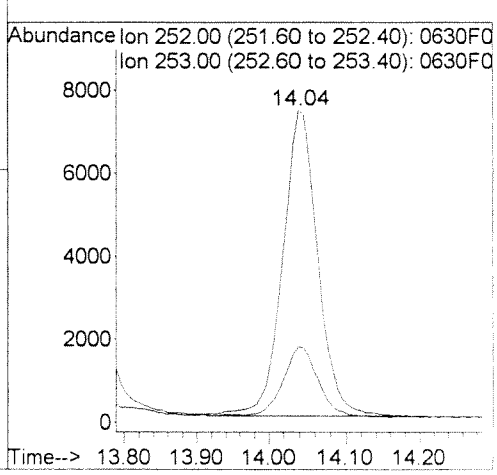


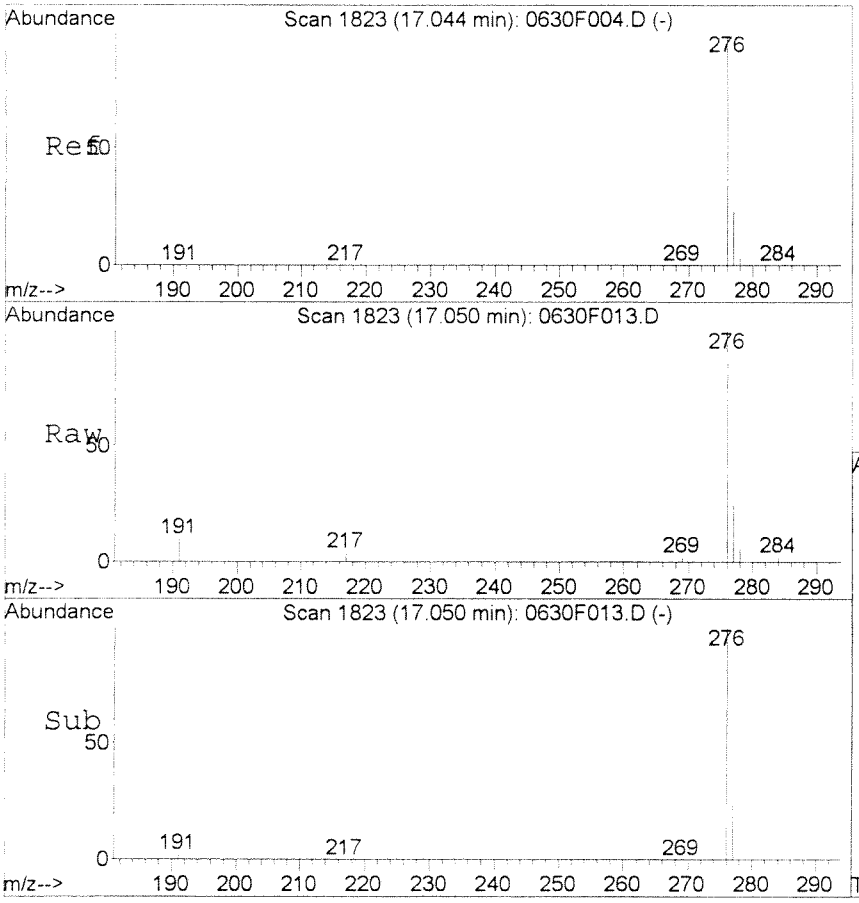


#55
Perylene
Concen: 81.91 ng/ml
RT: 14.04 min Scan# 1359
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:252 Resp: 23005

Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	52.3

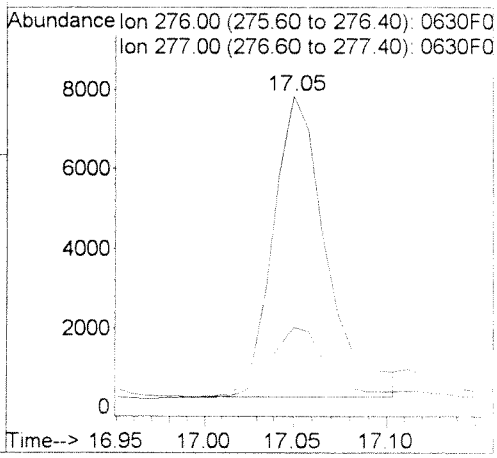


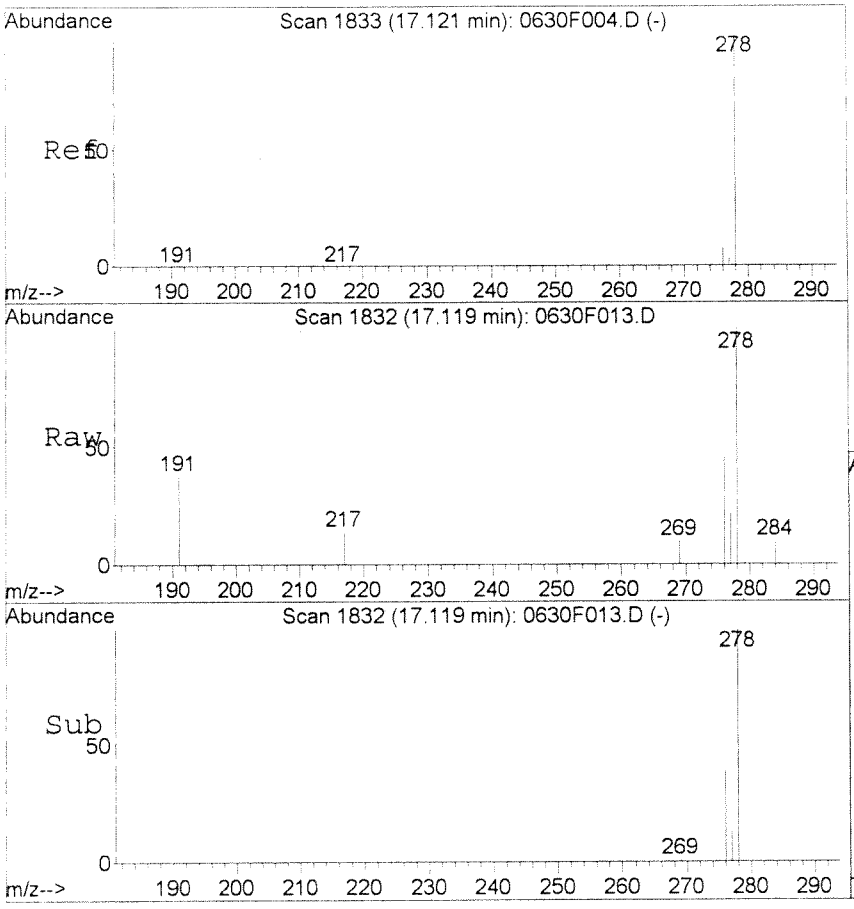


#56
Indeno(1,2,3-cd)pyrene
Concen: 57.90 ng/ml m
RT: 17.05 min Scan# 1823
Delta R.T. 0.01 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:276 Resp: 15163

Ion	Ratio	Lower	Upper
276	100		
277	25.8	0.0	54.0

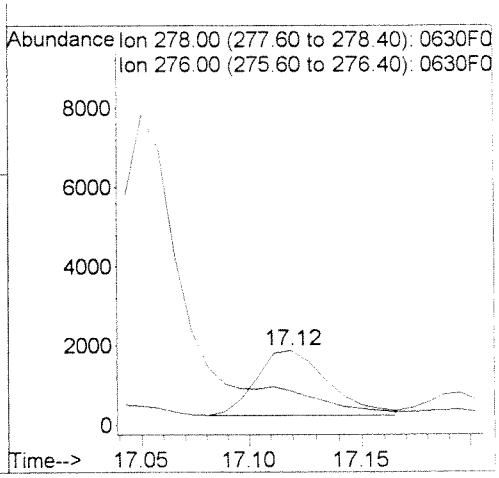


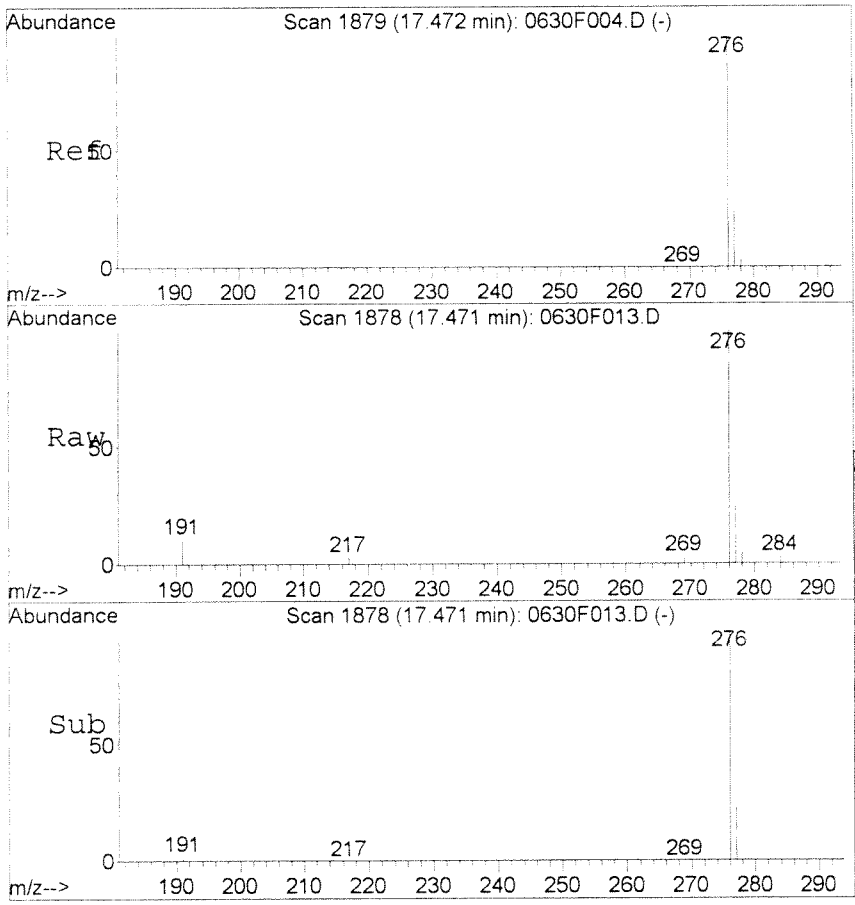


#57
Dibenz(a,h)anthracene
Concen: 13.29 ng/ml
RT: 17.12 min Scan# 1832
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:278 Resp: 3633

Ion	Ratio	Lower	Upper
278	100		
276	32.7	0.0	56.0

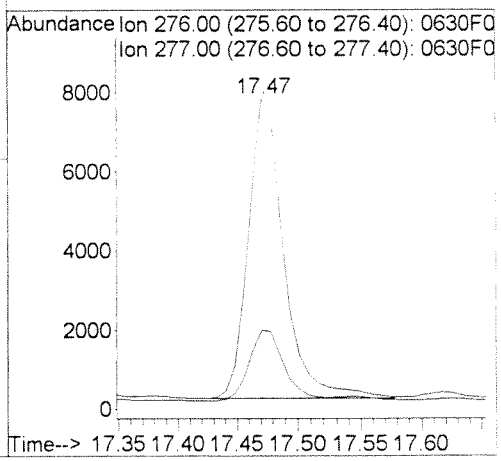




#58
Benzo(g,h,i)perylene
Concen: 49.92 ng/ml
RT: 17.47 min Scan# 1878
Delta R.T. -0.00 min
Lab File: 0630F013.D
Acq: 30 Jun 2014 11:36 am

Tgt Ion:276 Resp: 15609

Ion	Ratio	Lower	Upper
276	100		
277	23.5	0.0	54.1

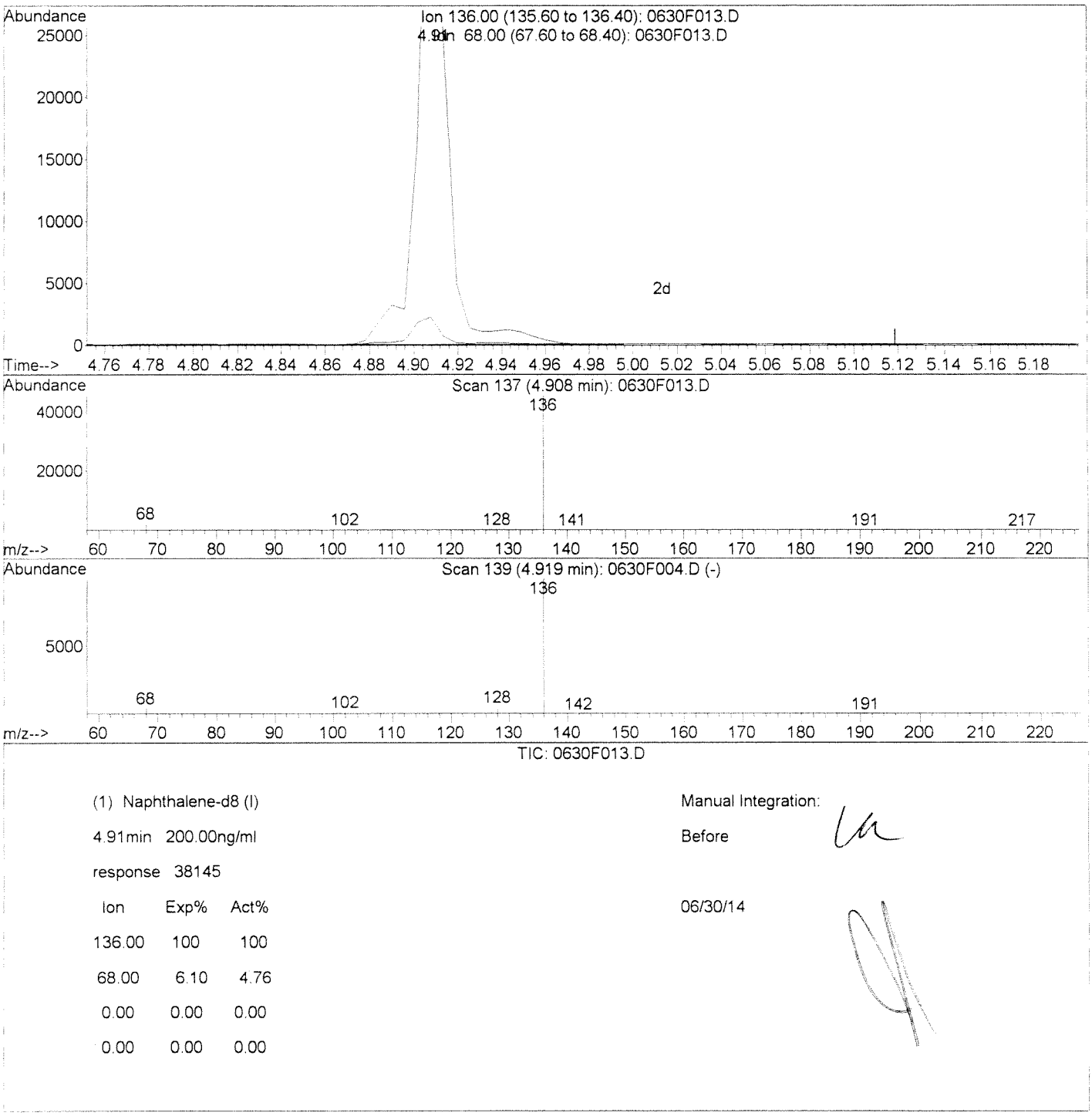


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 38145

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	4.76
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

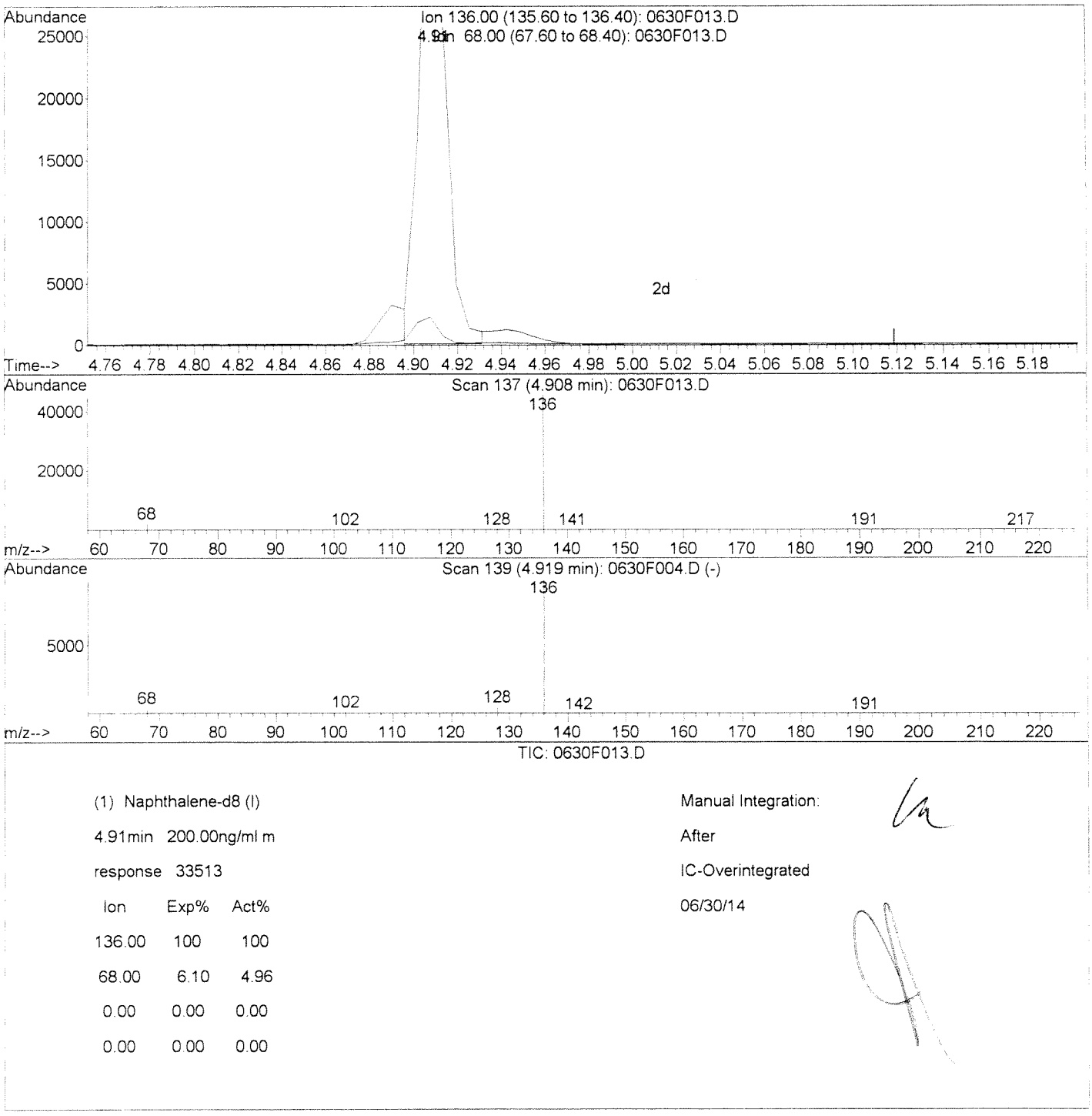
0630F013.D 062914ALK.M Mon Jun 30 12:32:10 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 33513

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	4.96
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

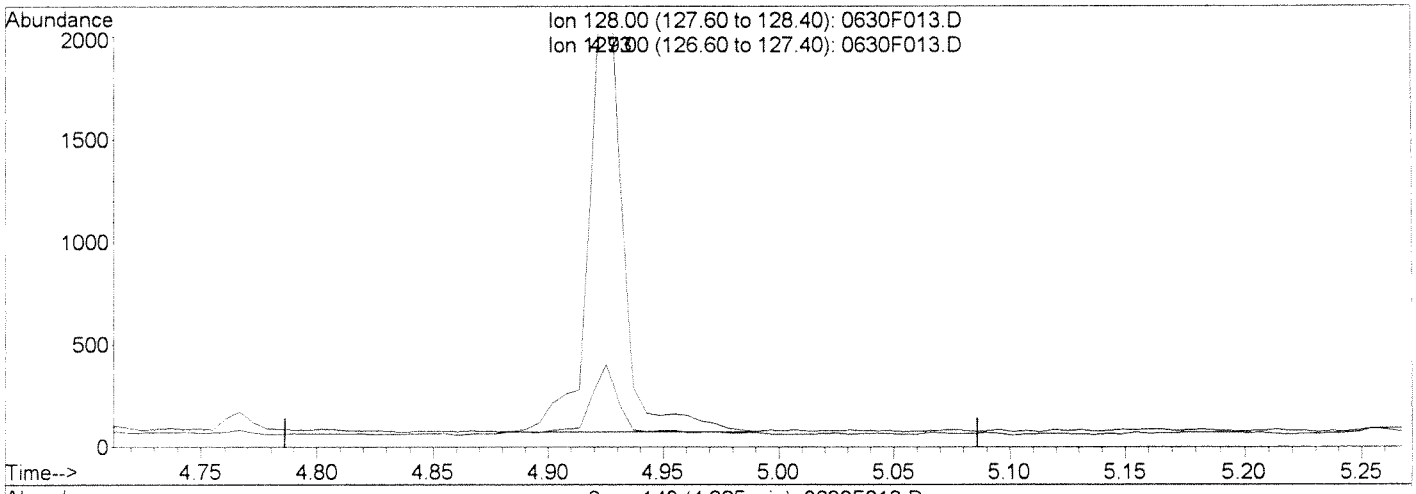
0630F013.D 062914ALK.M Mon Jun 30 12:32:15 2014

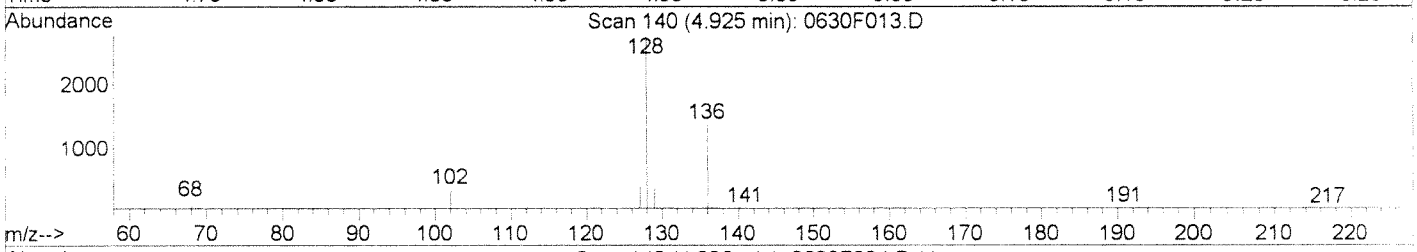
Quantitation Report (Qedit)

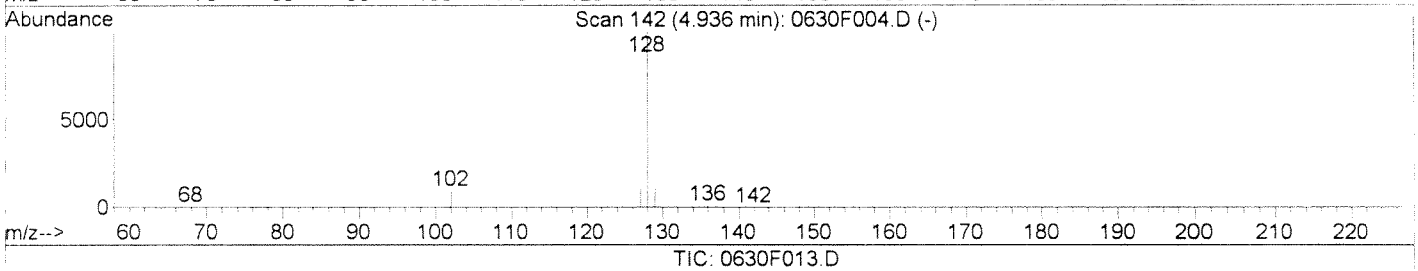
Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F013.D

(2) Naphthalene (T)

4.93min 12.48ng/ml

response 2316

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	12.55
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

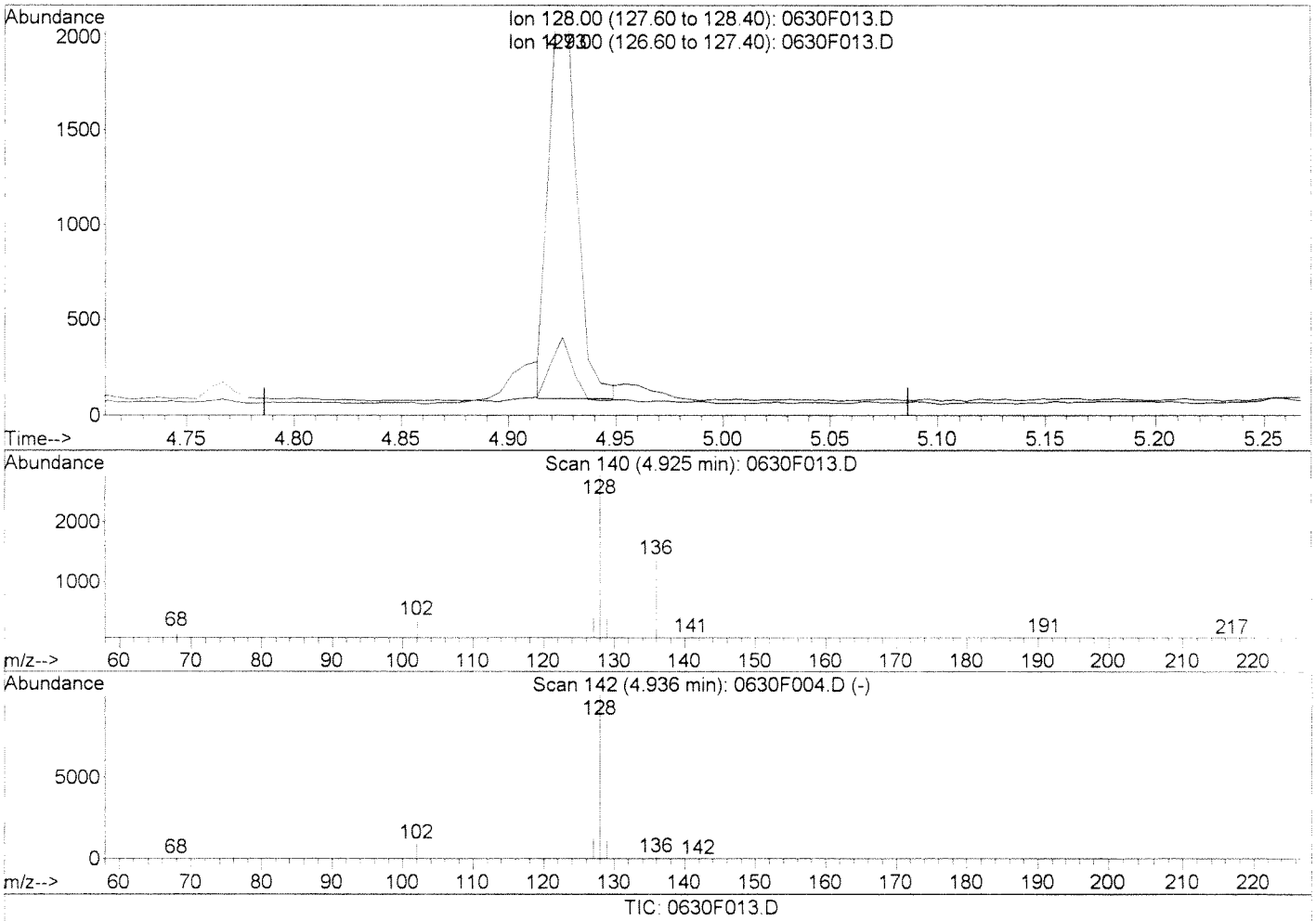
06/30/14

0630F013.D 062914ALK.M Mon Jun 30 12:32:19 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(2) Naphthalene (T)

4.93min 10.71ng/ml m

response 1987

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	14.61
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

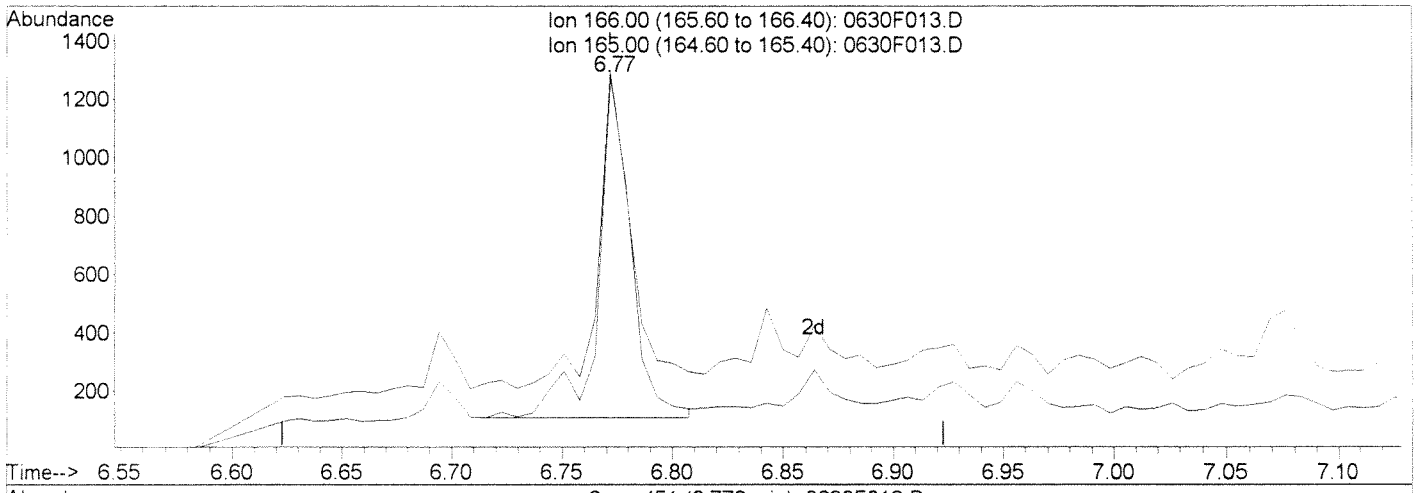
06/30/14

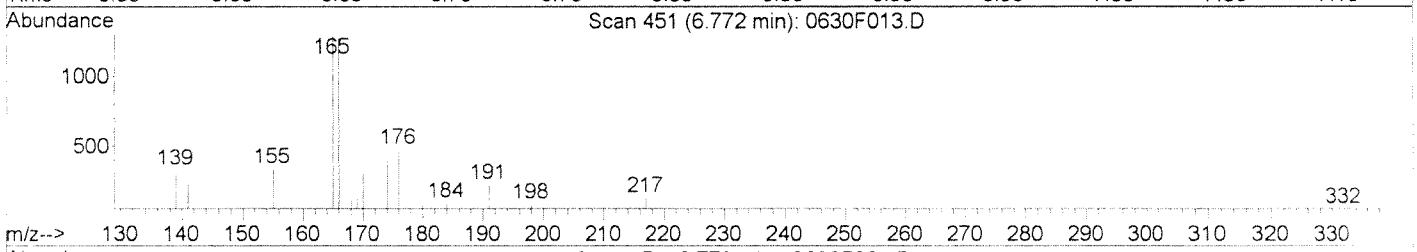
0630F013.D 062914ALK.M Mon Jun 30 12:32:24 2014

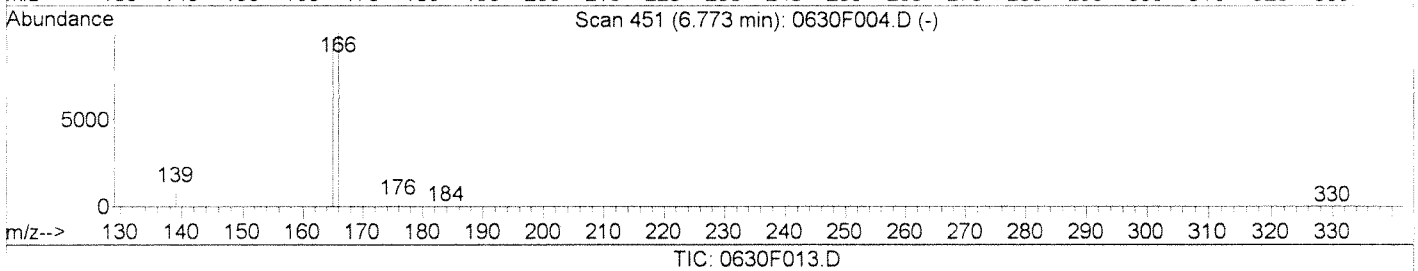
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F013.D

(16) Fluorene (T)

6.77min 7.86ng/ml

response 1221

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	91.70
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

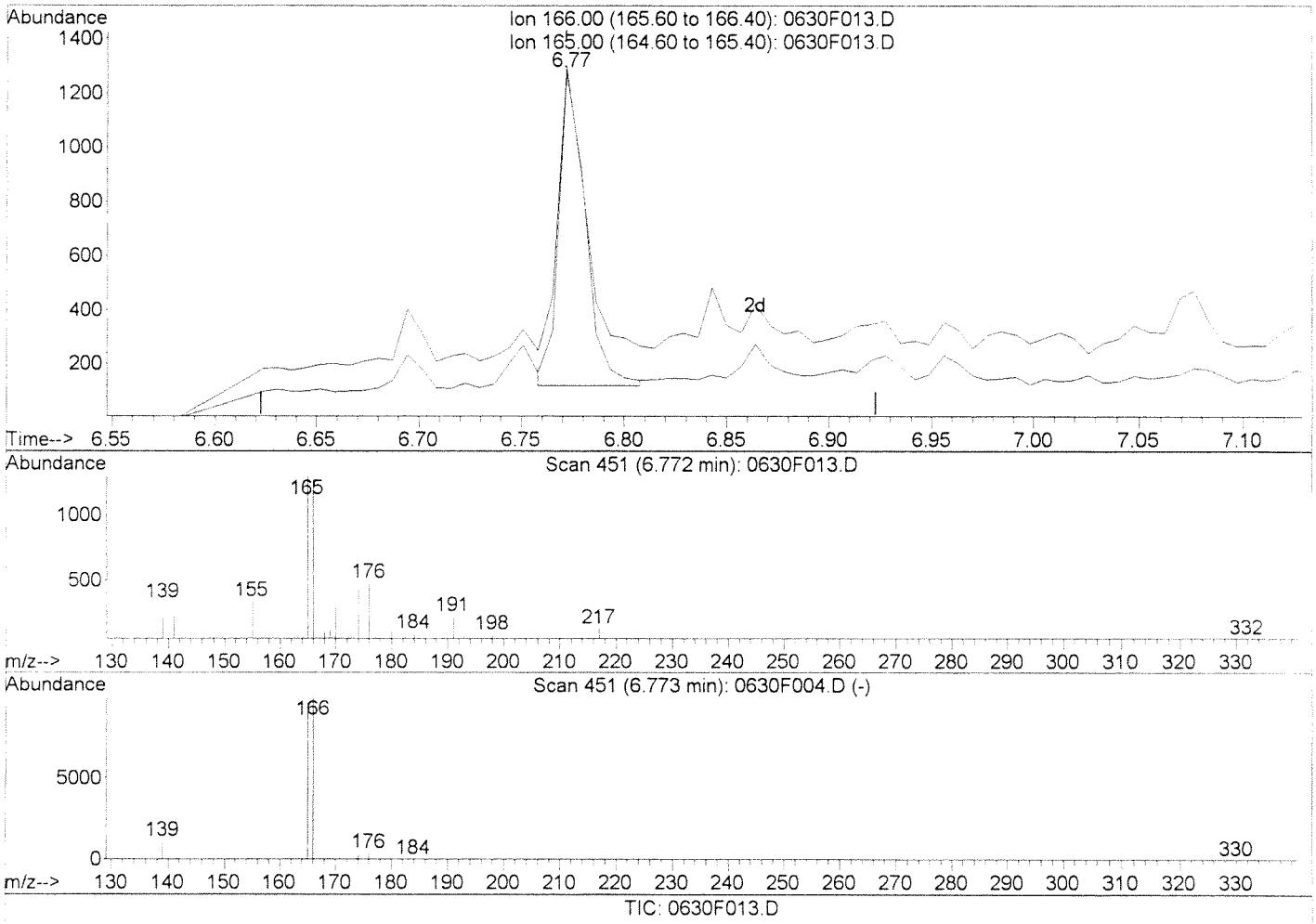
0630F013.D 062914ALK.M Mon Jun 30 12:32:35 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.77min 6.70ng/ml m

response 1040

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	101.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

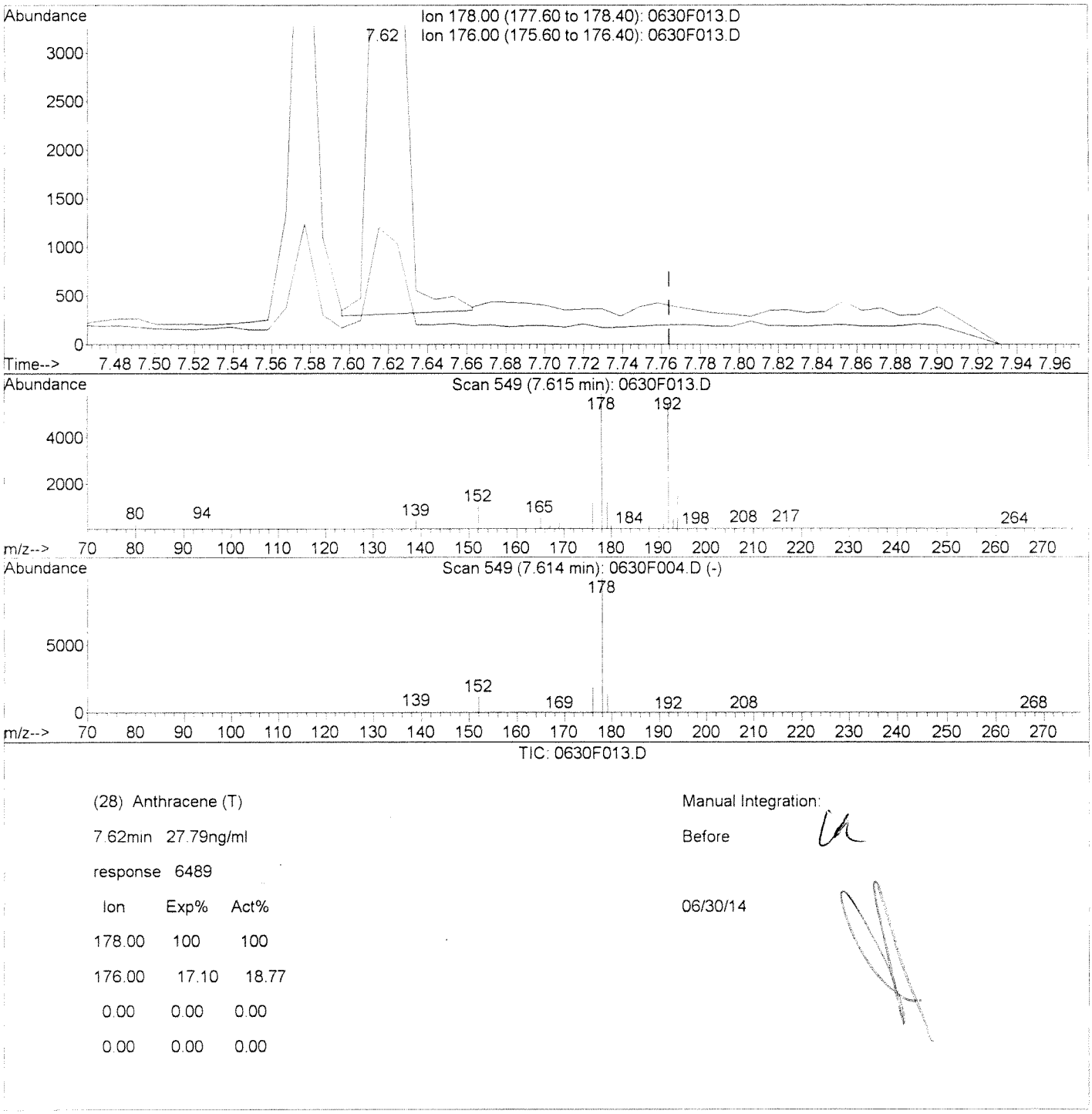
IC-Overintegrated

06/30/14

0630F013.D 062914ALK.M Mon Jun 30 12:32:39 2014

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(28) Anthracene (T)

7.62min 27.79ng/ml

response 6489

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

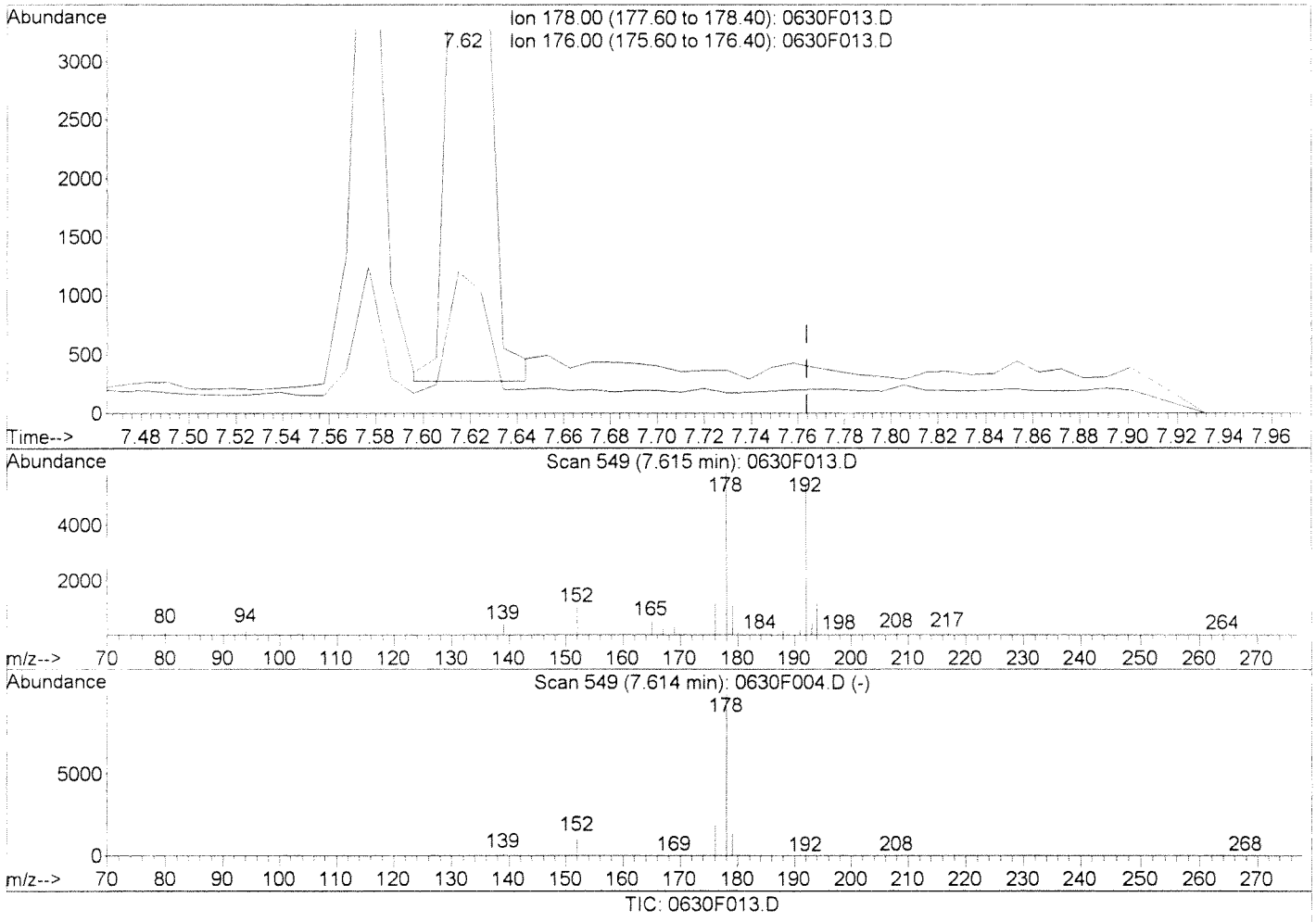
06/30/14

0630F013.D 062914ALK.M Mon Jun 30 12:32:47 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D Vial: 6
Acq On : 30 Jun 2014 11:36 am Operator: LWeiskopf
Sample : K1405833-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(28) Anthracene (T)

7.62min 27.78ng/ml m

response 6487

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	20.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration

After

BLC

06/30/14

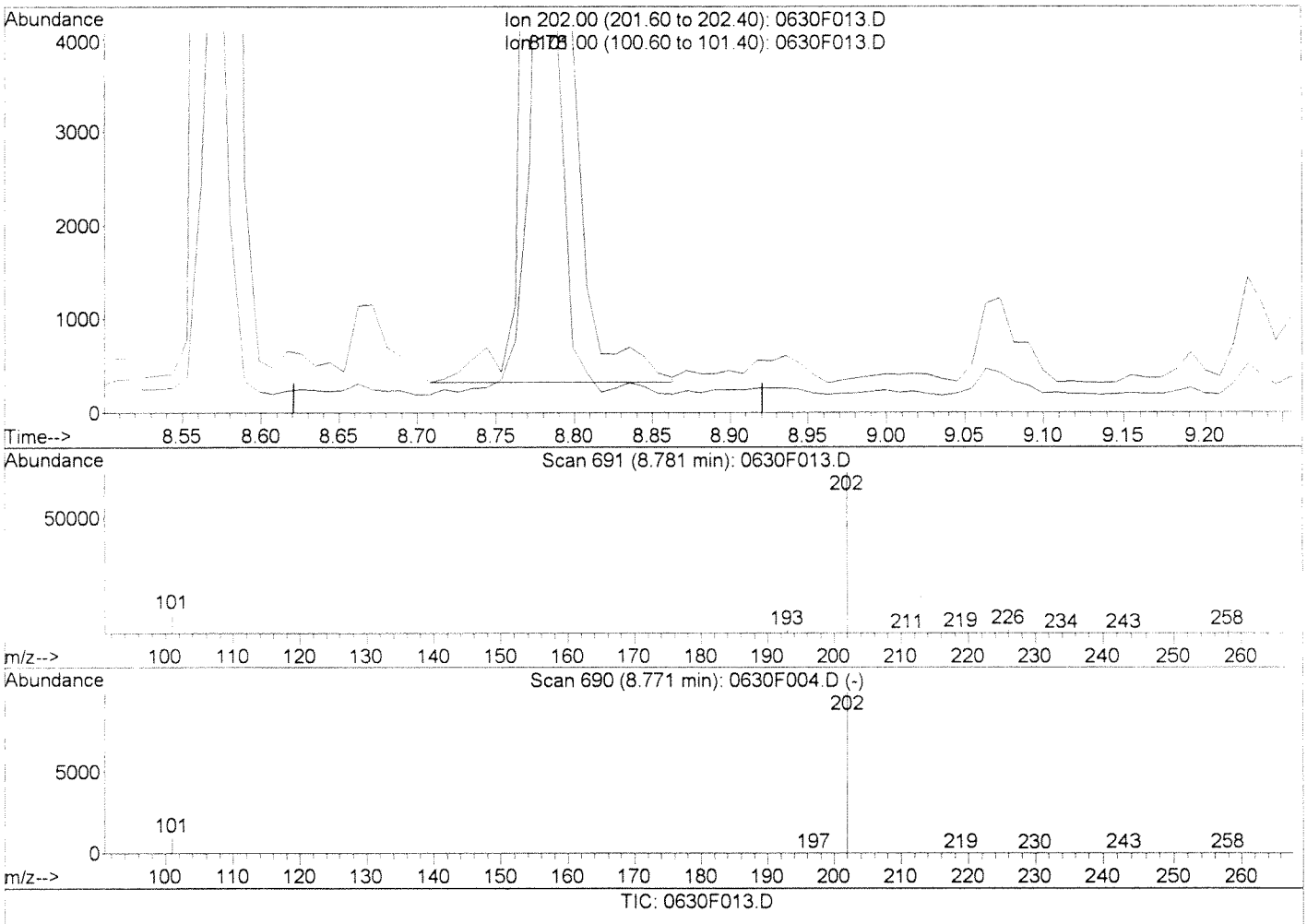
0630F013.D 062914ALK.M Mon Jun 30 12:32:51 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(38) Pyrene (T)

8.78min 256.99ng/ml

response 76149

Ion	Exp%	Act%
202.00	100	100
101.00	16.70	12.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

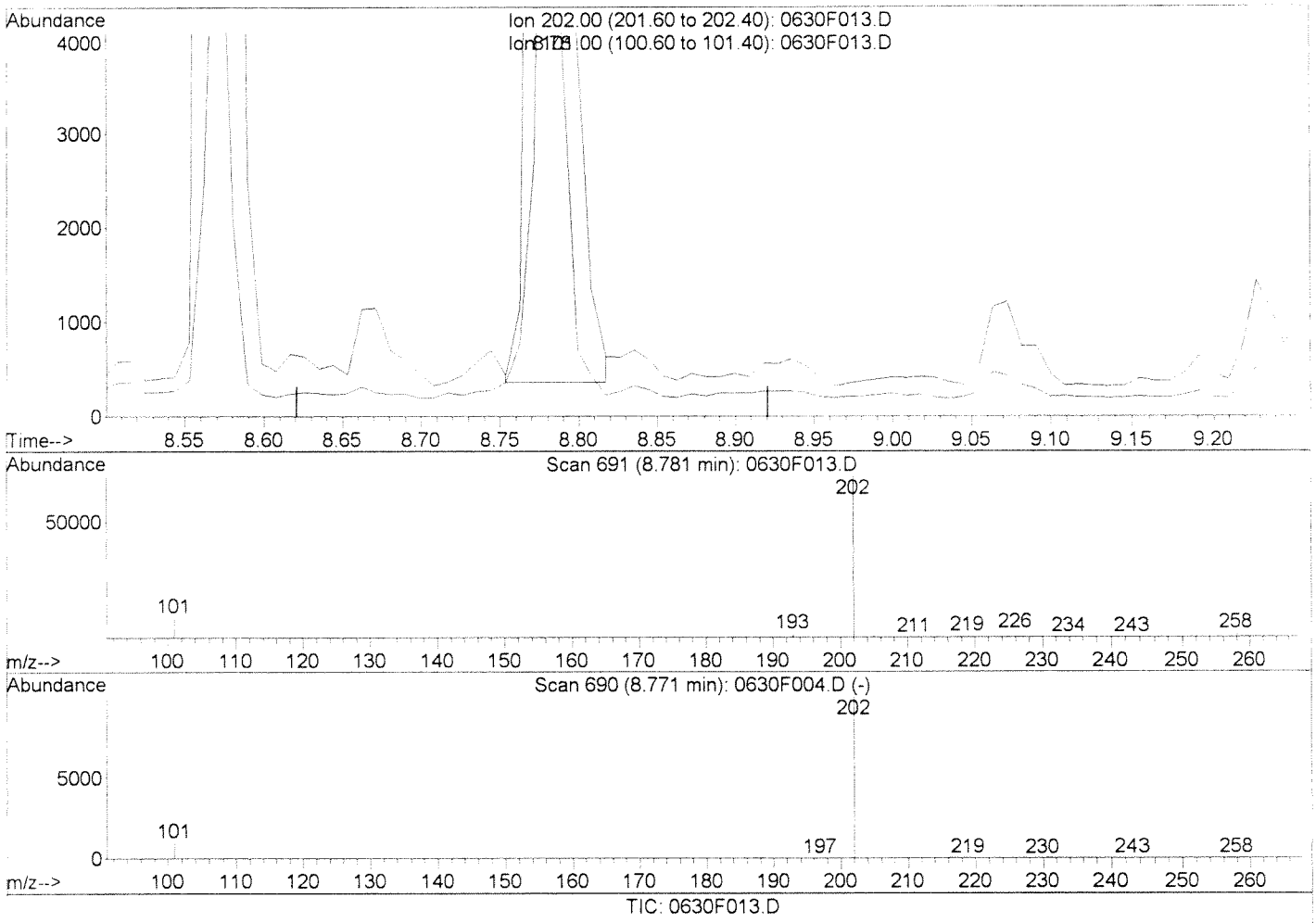
0630F013.D 062914ALK.M Mon Jun 30 12:33:07 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:33 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F013.D

(38) Pyrene (T)

8.78min 252.88ng/ml m

response 74930

Ion	Exp%	Act%
202.00	100	100
101.00	16.70	12.78
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

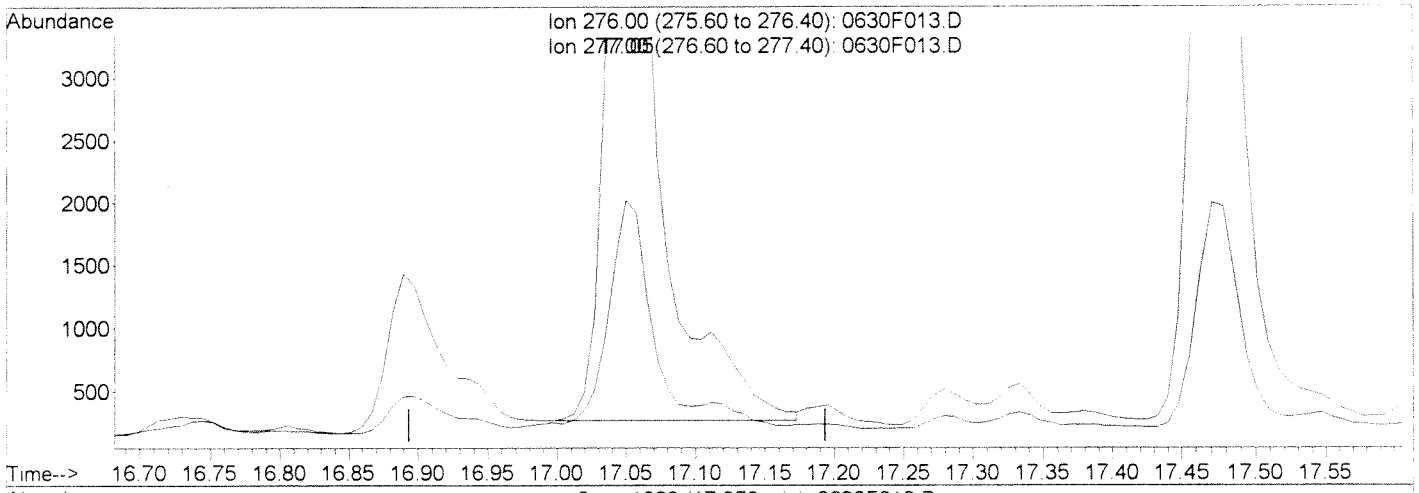
0630F013.D 062914ALK.M Mon Jun 30 12:33:11 2014

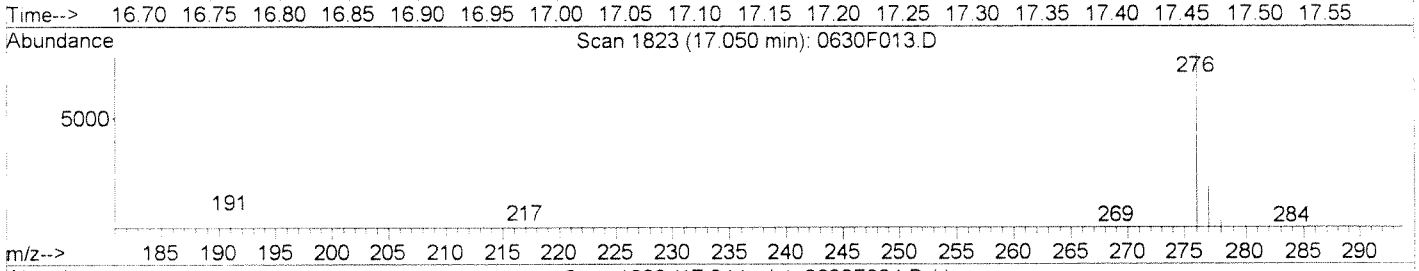
Quantitation Report (Qedit)

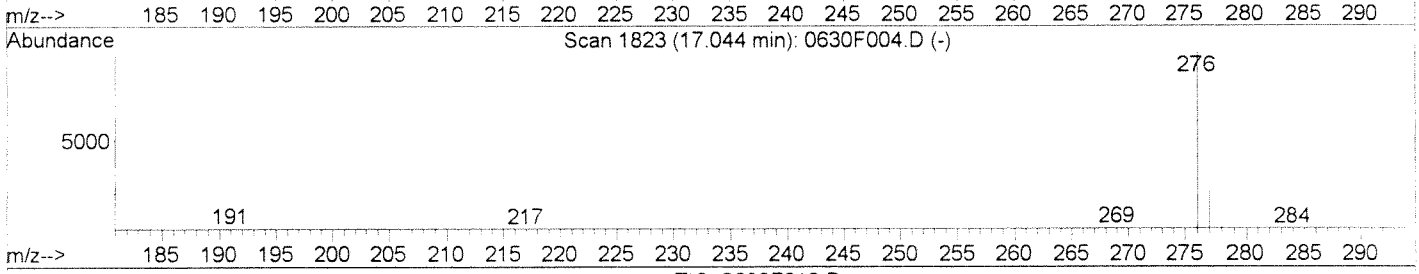
Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:33 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F013.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.05min 62.32ng/ml

response 16319

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	23.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

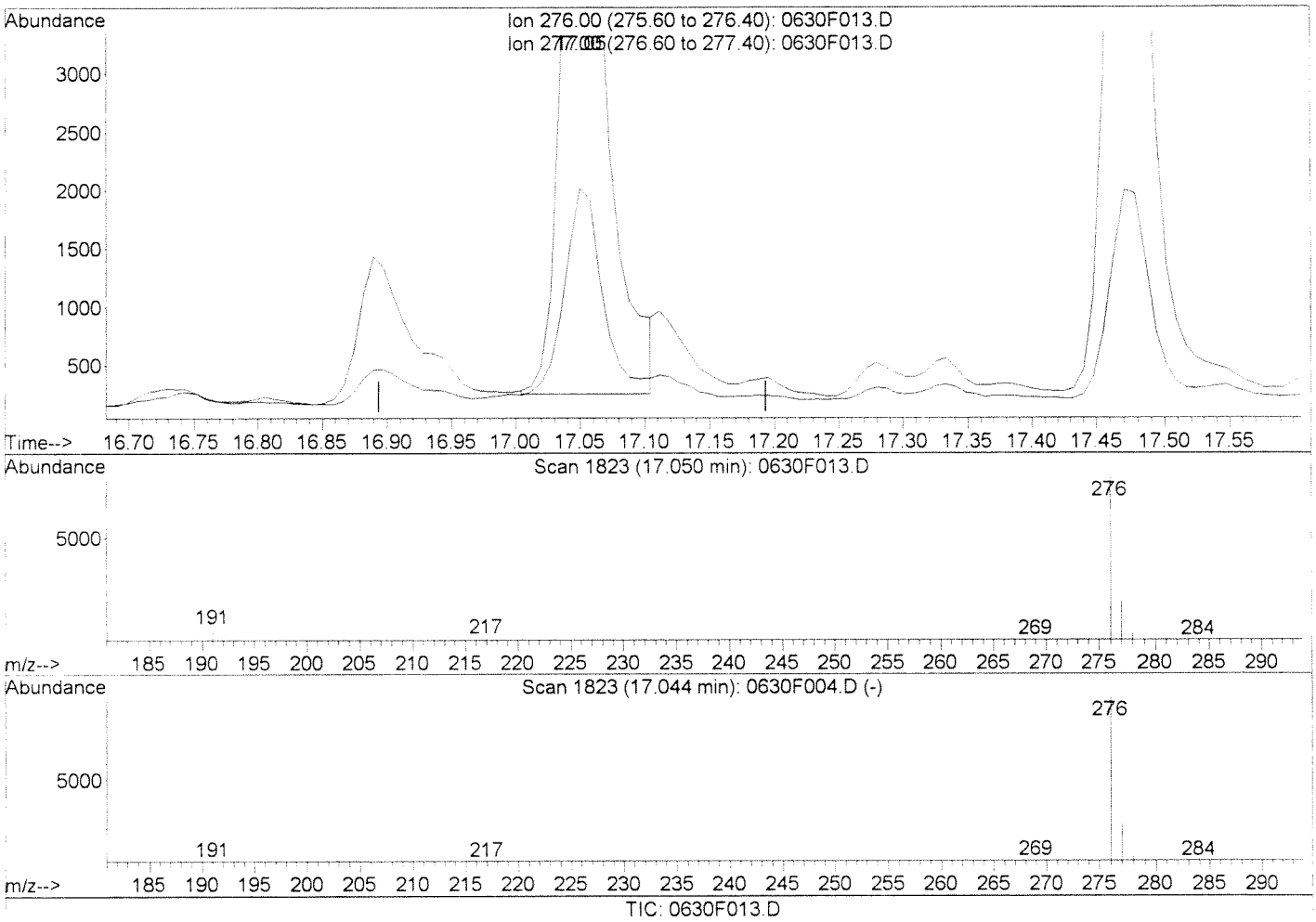
0630F013.D 062914ALK.M Mon Jun 30 12:33:21 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F013.D
Acq On : 30 Jun 2014 11:36 am
Sample : K1405833-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:33 2014

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(56) Indeno(1,2,3-cd)pyrene (T)

17.05min 57.90ng/ml m

response 15163

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	25.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F013.D 062914ALK.M Mon Jun 30 12:33:31 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F010.D
Lab ID: K1405833-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/30/2014 10:16
Date Quantitated: 06/30/2014 12:27
Batch ID: KWG1407242
Analysis Method: 8270D SIM
ListJoinID: LJ13147

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	
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	

JUN 30 2014

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F010.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 10:16	**Quant Date:**	06/30/2014 12:27	**Vial:**	3
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-002			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**	06/02/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347934	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ13147
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	35868	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	21170	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	41832	200.00	OK
4	Chrysene-d12	10.31	0.00	240	46214	200.00	OK
5	Perylene-d12	13.95	0.01	264	42619	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	6.75	0.00	0.00	176	15198	107.73	54	17-104	OK	
3	Fluoranthene-d10	8.55	0.01	0.00	212	33078	123.97	62	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	30055	135.97	68	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	639m	3.22	5.6	J	
1	2-Methylnaphthalene	5.48		0.00	142	287	2.13	3.7	J	
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	159	1.32	2.3	J	
2	Acenaphthylene	6.21		0.00	152	2882m	13.78	24		
2	Acenaphthene	6.35	-0.01	0.00	154	195	1.54	2.7	J	
2	Fluorene	6.77		0.00	166	598m	3.89	6.8	J	
3	Phenanthrene	7.58		0.00	178	2215	9.21	16		
3	Anthracene	7.62	0.01	0.00	178	5424m	23.26	41		
3	Fluoranthene	8.57	0.01	0.00	202	19231	72.37	130		
4	Pyrene	8.78	0.01	0.00	202	21527	80.84	140		
4	Benz(a)anthracene	10.29		0.00	228	12329	46.42	81		
4	Chrysene	10.35		0.00	228	15636	62.43	110		
5	Benzo(b)fluoranthene	12.72		0.00	252	23704	88.33	150		

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:\MS11\DATA\063014A\0630F010.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 10:16	**Quant Date:**	06/30/2014 12:27	**Vial:**	3
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-002			**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(k)fluoranthene	12.80		0.00	252	8232	32.10	56		
5	Benzo(a)pyrene	13.74	0.01	0.00	252	12912	54.77	96		
5	Indeno(1,2,3-cd)pyrene	17.04		0.00	276	7733**m**	34.93	61		
5	Dibenz(a,h)anthracene	17.11	-0.01	0.00	278	2021	8.75	15		
5	Benzo(g,h,i)perylene	17.46	-0.01	0.00	276	8582	32.46	57		

Prep Amount:	20.149 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:30 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	35868	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.33	164	21170	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	41832	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	46214	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	42619	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	15198	107.73	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 10.77%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.55	212	33078	123.97	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.40%			
43) Terphenyl-d14	8.93	244	30055	135.97	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 13.60%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	639m	3.22	ng/ml	
3) 2-Methylnaphthalene	5.48	142	287	2.13	ng/ml	100
4) 1-Methylnaphthalene	5.56	142	159	1.32	ng/ml	98
5) Biphenyl	5.85	154	242	1.54	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.99	156	188	1.67	ng/ml	94
11) Acenaphthylene	6.21	152	2882m	13.78	ng/ml	
12) Acenaphthene	6.35	154	195	1.54	ng/ml	95
13) Dibenzofuran	6.49	168	246m	1.33	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.66	170	141	1.18	ng/ml#	52
16) Fluorene	6.77	166	598m	3.89	ng/ml	
23) Dibenzothiophene	7.47	184	257	1.15	ng/ml	94
27) Phenanthrene	7.58	178	2215	9.21	ng/ml	99
28) Anthracene	7.62	178	5424m	23.26	ng/ml	
29) Carbazole	7.75	167	345m	1.67	ng/ml	
35) Fluoranthene	8.57	202	19231	72.37	ng/ml	88
38) Pyrene	8.78	202	21527	80.84	ng/ml	82
44) Benz(a)anthracene	10.29	228	12329	46.42	ng/ml	86
45) Chrysene	10.35	228	15636	62.43	ng/ml	100
51) Benzo(b)fluoranthene	12.72	252	23704	88.33	ng/ml	98
52) Benzo(k)fluoranthene	12.80	252	8232	32.10	ng/ml	100
53) Benzo(e)pyrene	13.56	252	10820	42.99	ng/ml	98
54) Benzo(a)pyrene	13.74	252	12912	54.77	ng/ml	97
55) Perylene	14.03	252	8203	34.55	ng/ml	96
56) Indeno(1,2,3-cd)pyrene	17.04	276	7733m	34.93	ng/ml	
57) Dibenz(a,h)anthracene	17.11	278	2021	8.75	ng/ml	78

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:30 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

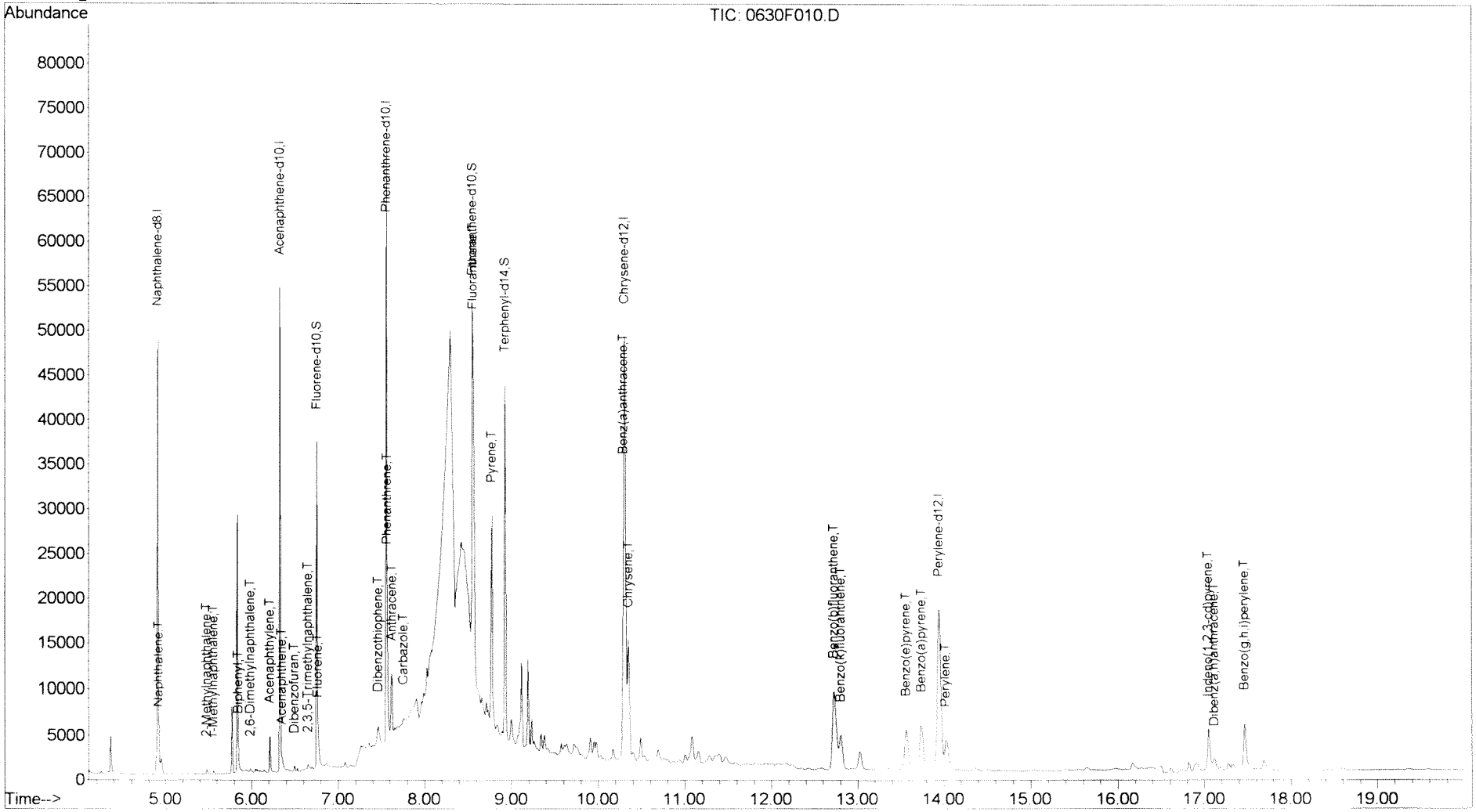
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Benzo(g,h,i)perylene	17.46	276	8582	32.46	ng/ml	98

(#) = qualifier out of range (m) = manual integration

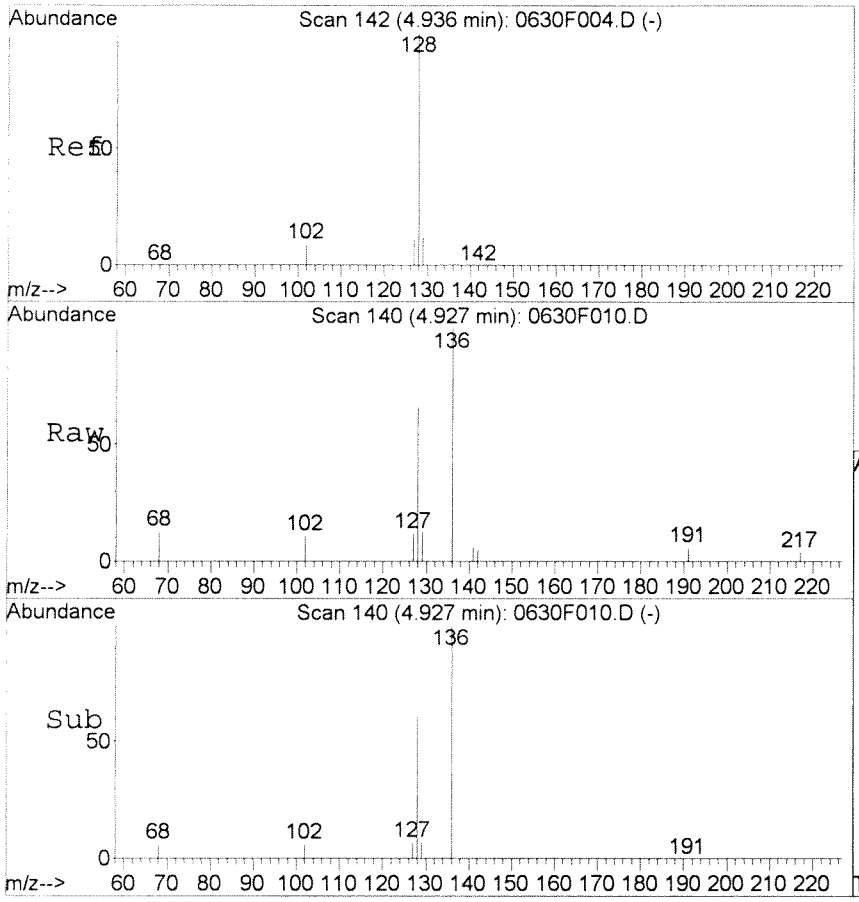
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



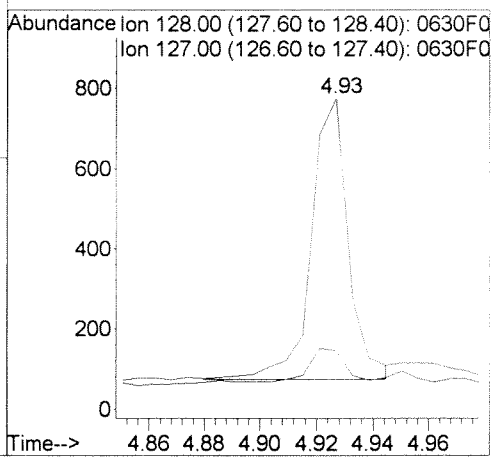
675

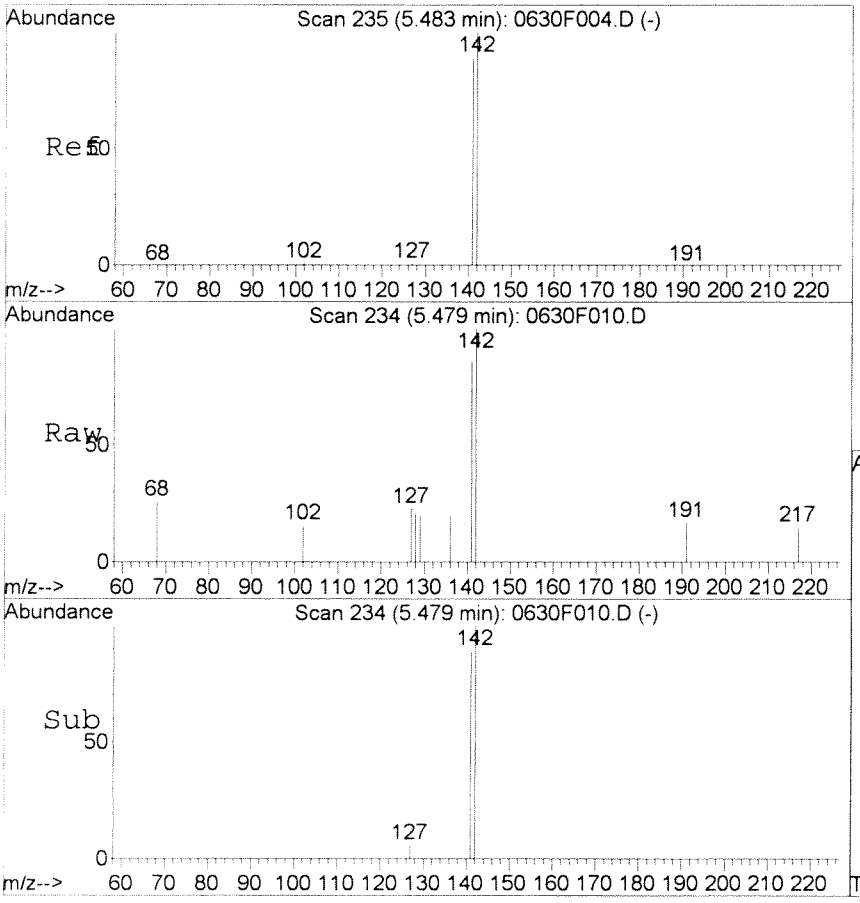


#2
Naphthalene
Concen: 3.22 ng/ml m
RT: 4.93 min Scan# 140
Delta R.T. -0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:128 Resp: 639

Ion	Ratio	Lower	Upper
128	100		
127	18.7	0.0	43.1

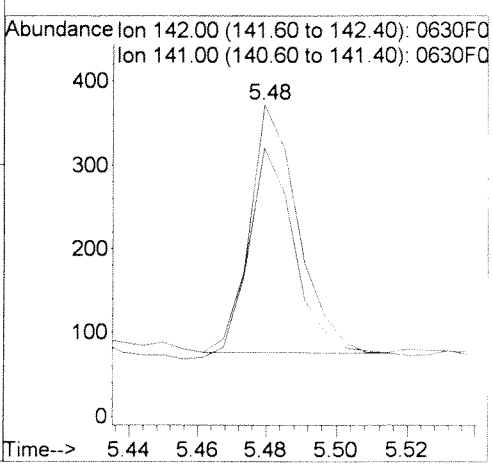


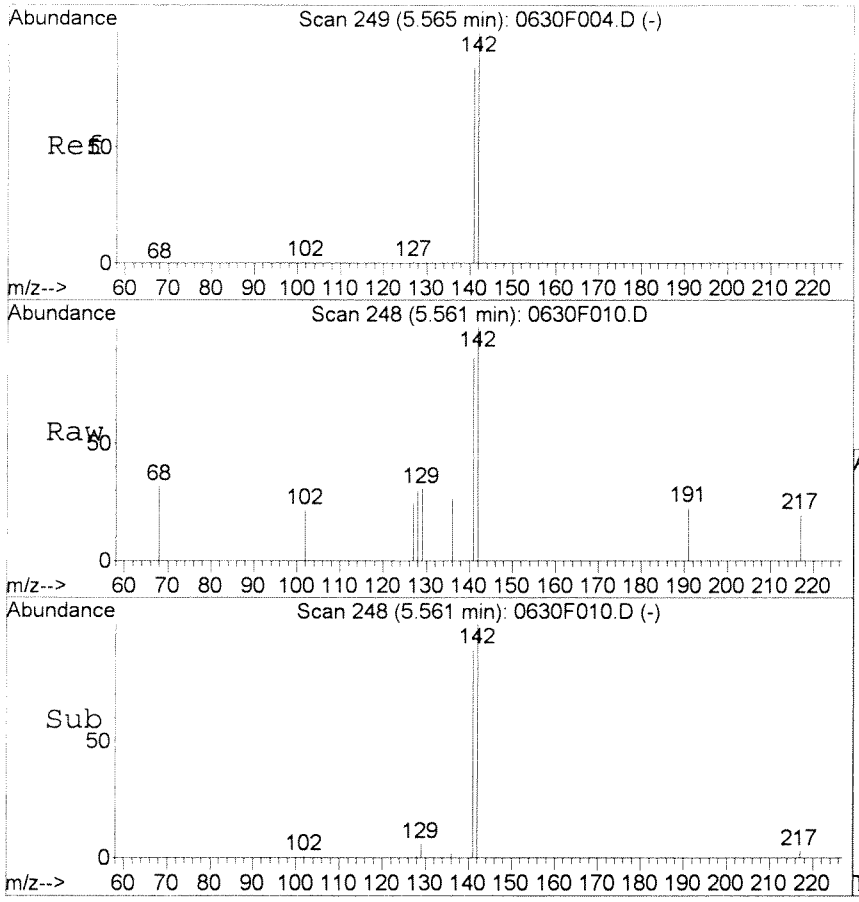


#3
2-Methylnaphthalene
Concen: 2.13 ng/ml
RT: 5.48 min Scan# 234
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:142 Resp: 287

Ion	Ratio	Lower	Upper
142	100		
141	84.8	54.9	114.9

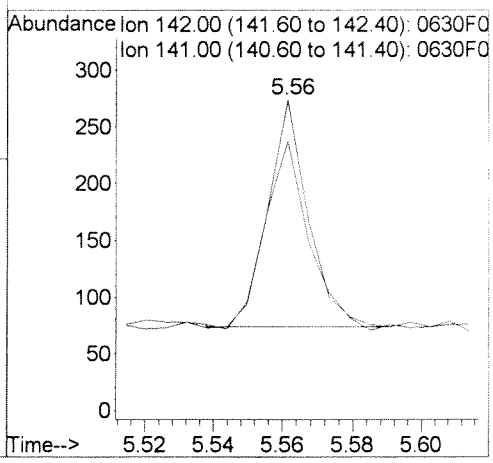


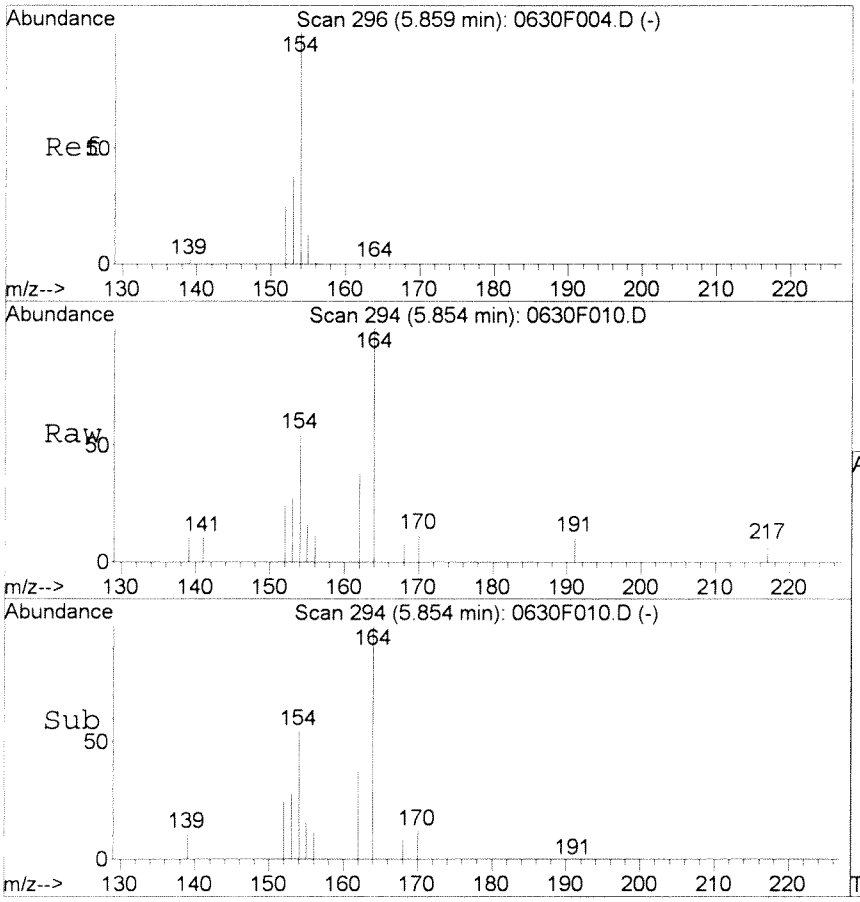


#4
1-Methylnaphthalene
Concen: 1.32 ng/ml
RT: 5.56 min Scan# 248
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:142 Resp: 159

Ion	Ratio	Lower	Upper
142	100		
141	82.5	54.0	114.0

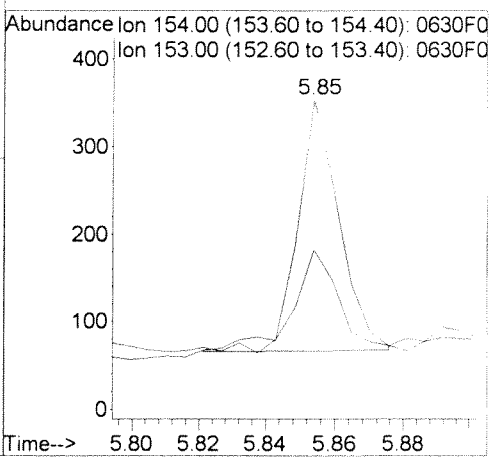


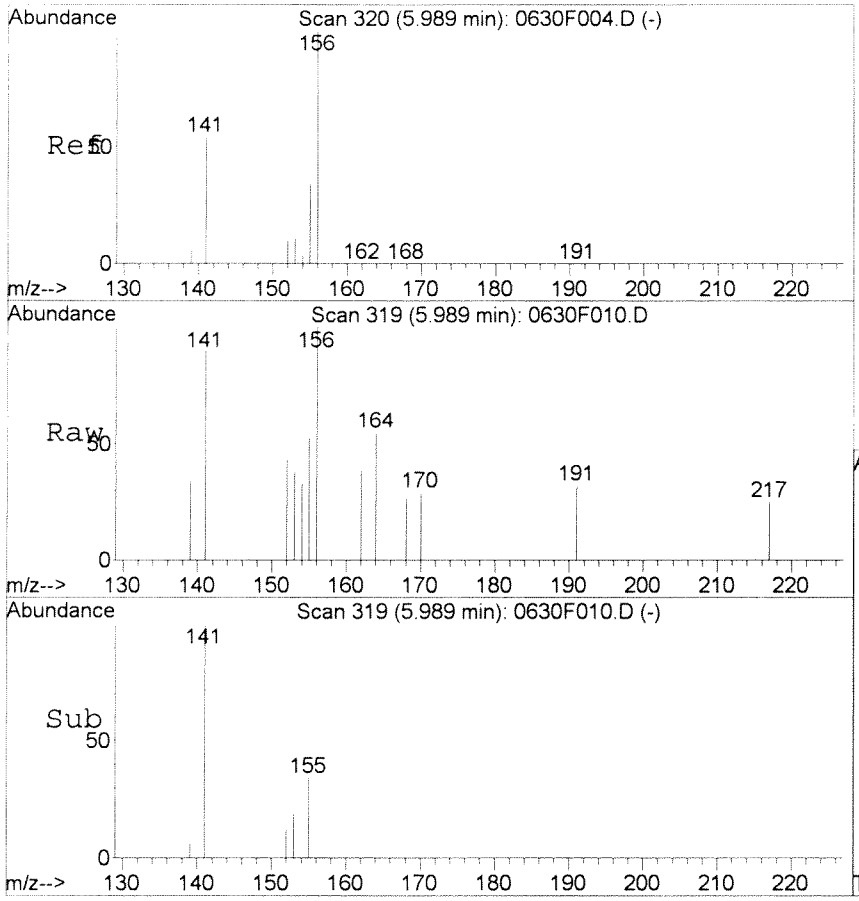


#5
Biphenyl
Concen: 1.54 ng/ml
RT: 5.85 min Scan# 294
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:154 Resp: 242

Ion	Ratio	Lower	Upper
154	100		
153	39.0	10.0	70.0

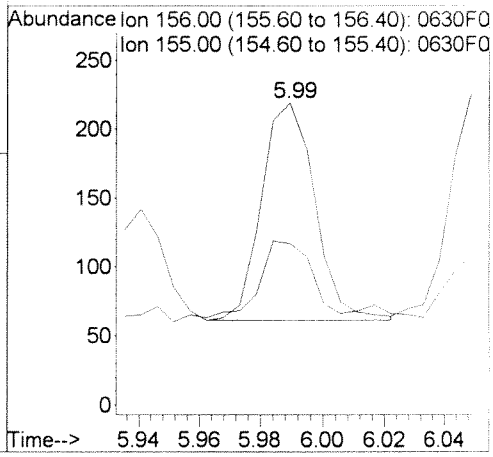


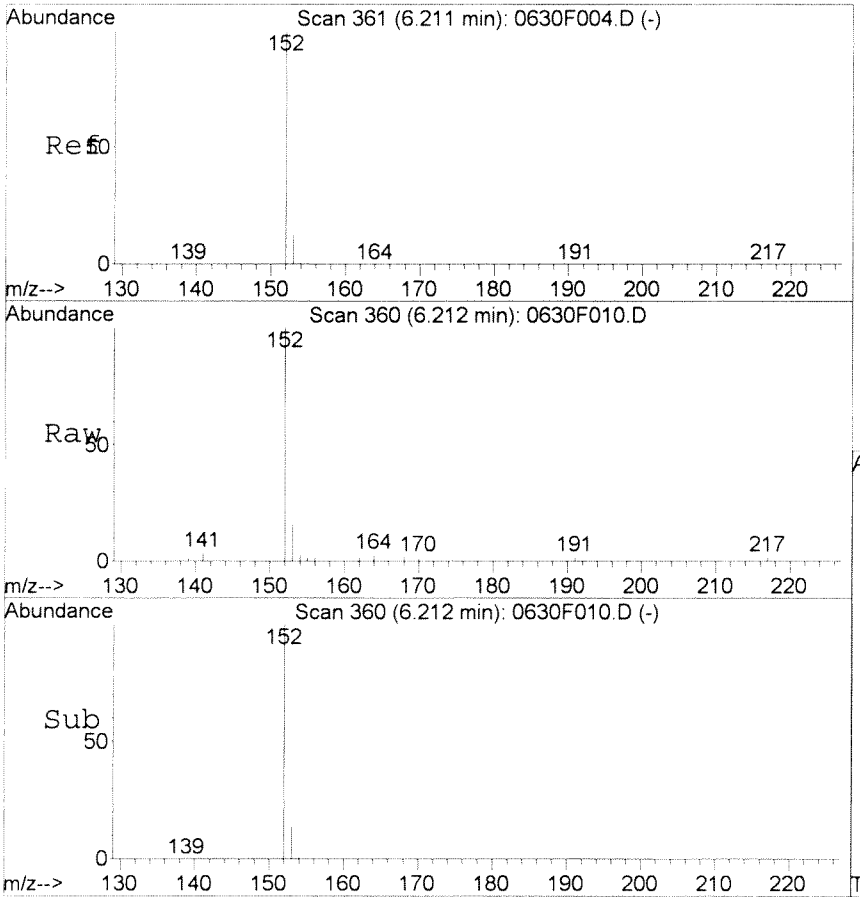


#6
2,6-Dimethylnaphthalene
Concen: 1.67 ng/ml
RT: 5.99 min Scan# 319
Delta R.T. 0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:156 Resp: 188

Ion	Ratio	Lower	Upper
156	100		
155	34.2	7.5	67.5

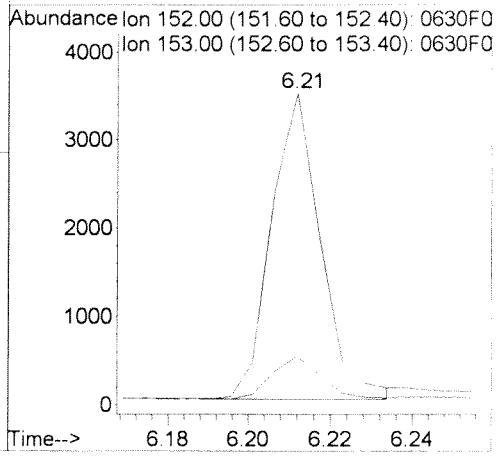


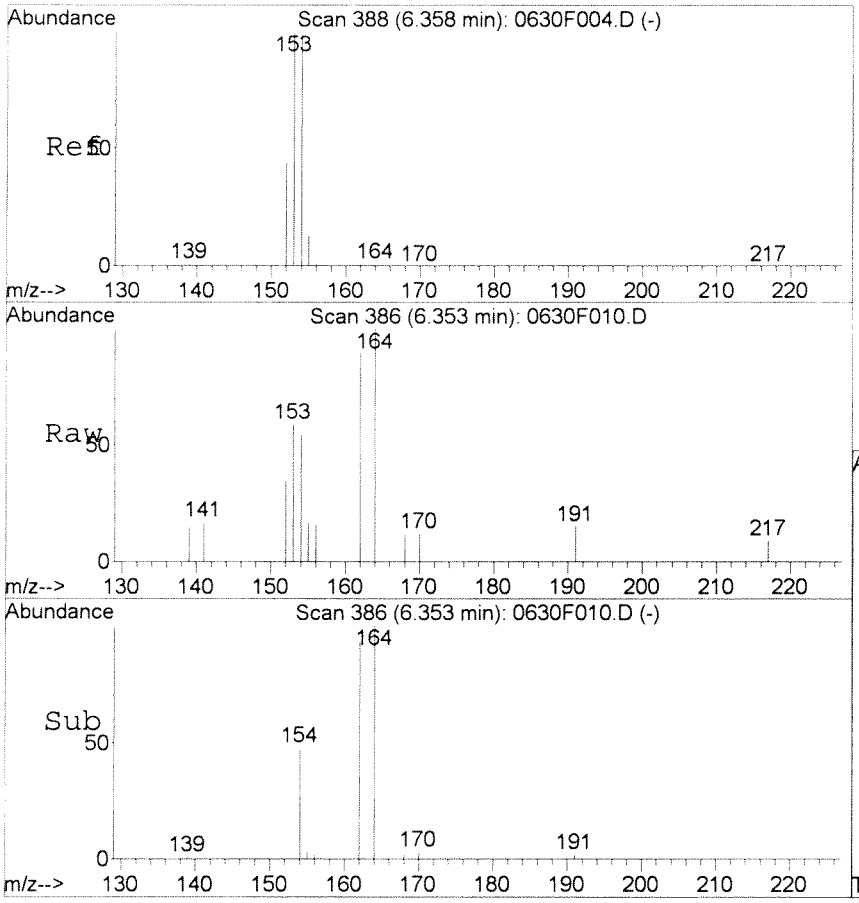


#11
Acenaphthylene
Concen: 13.78 ng/ml m
RT: 6.21 min Scan# 360
Delta R.T. 0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:152 Resp: 2882

Ion	Ratio	Lower	Upper
152	100		
153	15.7	0.0	43.6

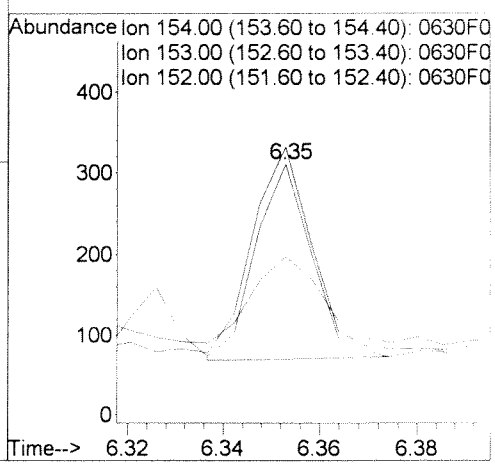


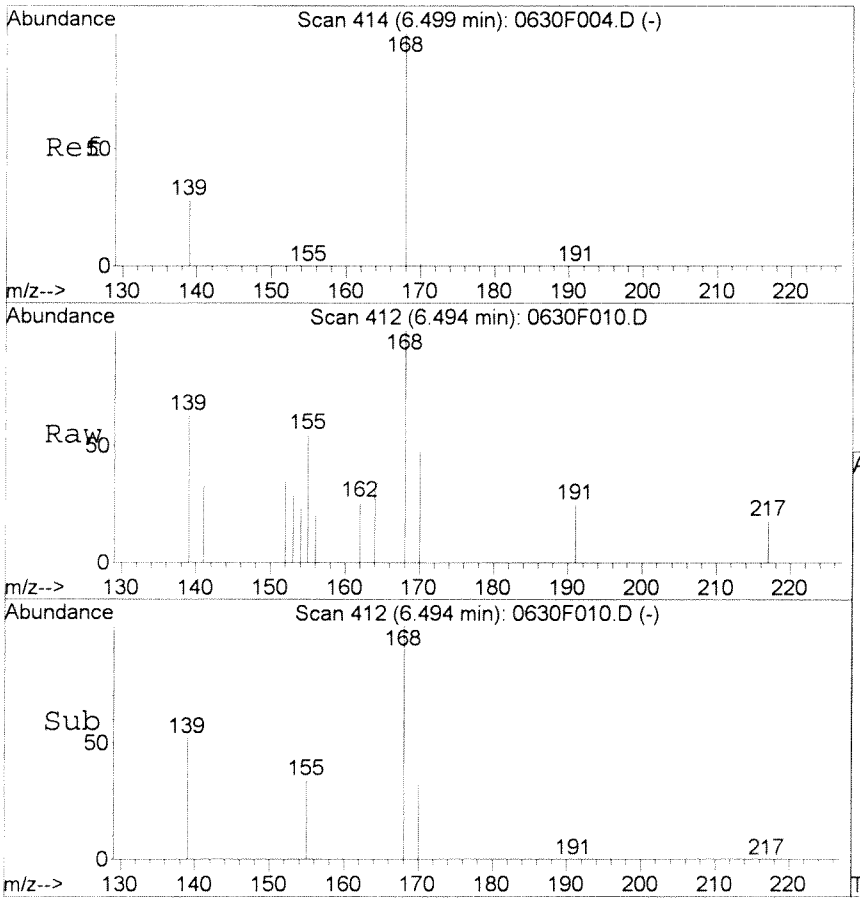


#12
Acenaphthene
Concen: 1.54 ng/ml
RT: 6.35 min Scan# 386
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:154 Resp: 195

Ion	Ratio	Lower	Upper
154	100		
153	106.7	79.5	139.5
152	45.0	22.9	82.9

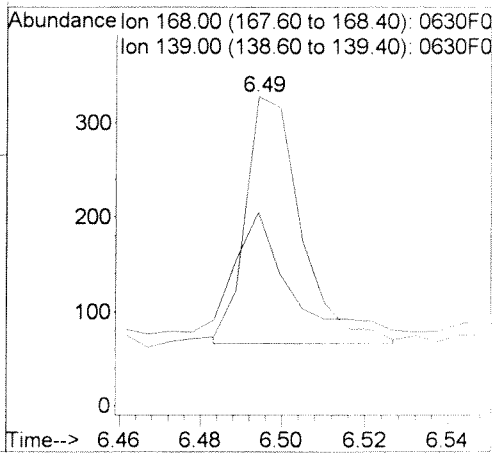


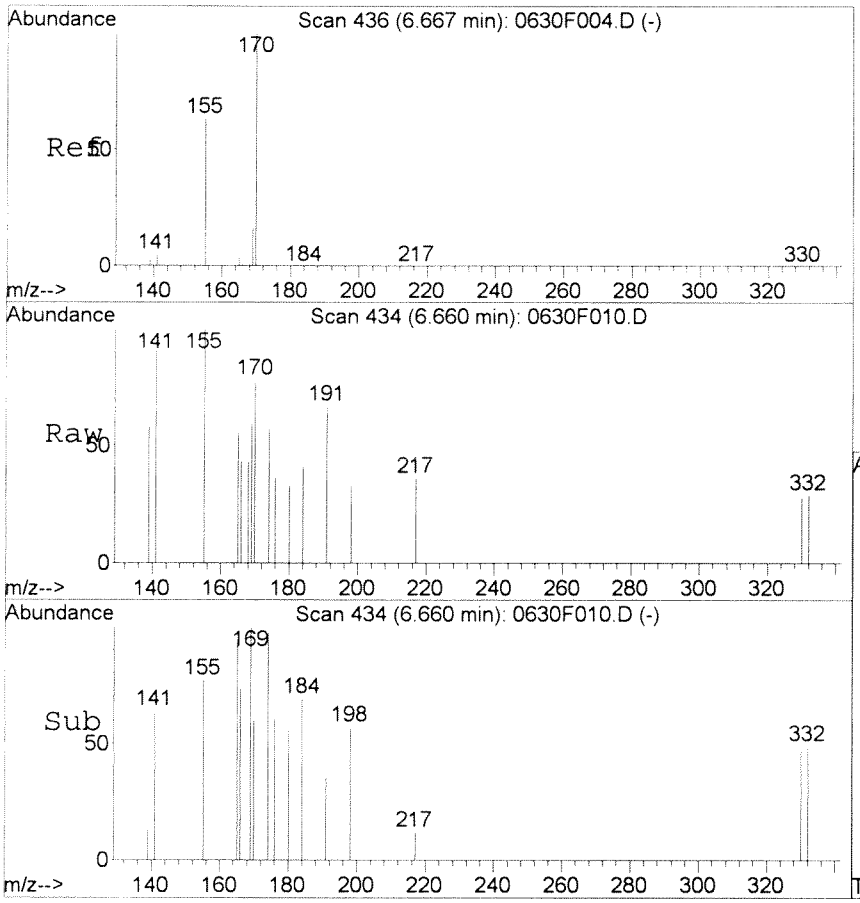


#13
Dibenzofuran
Concen: 1.33 ng/ml m
RT: 6.49 min Scan# 412
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:168 Resp: 246

Ion	Ratio	Lower	Upper
168	100		
139	62.5	0.0	47.6#

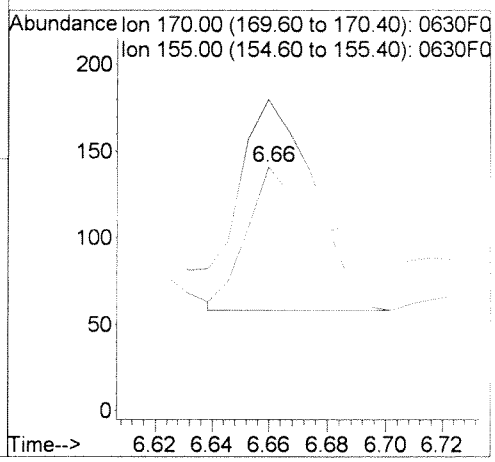


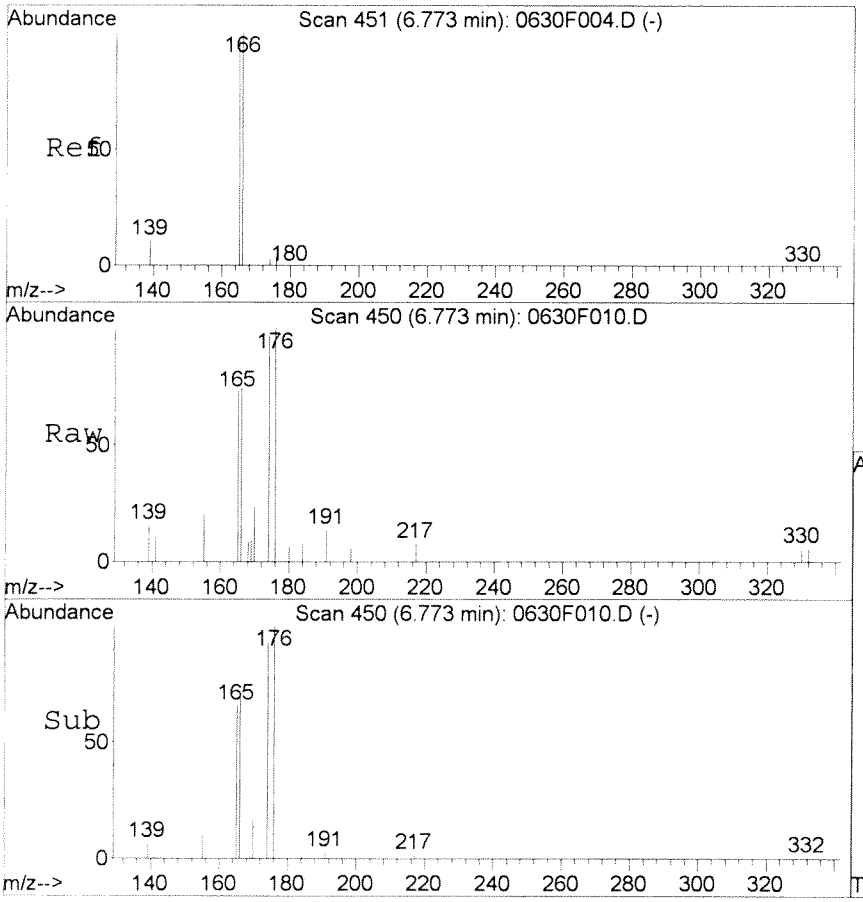


#14
2,3,5-Trimethylnaphthalene
Concen: 1.18 ng/ml
RT: 6.66 min Scan# 434
Delta R.T. -0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:170 Resp: 141

Ion	Ratio	Lower	Upper
170	100		
155	118.1	46.4	106.4#

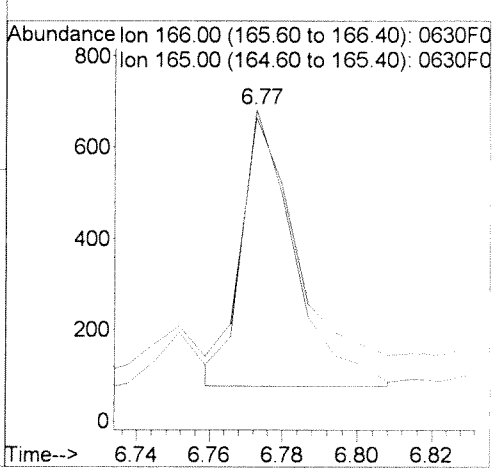


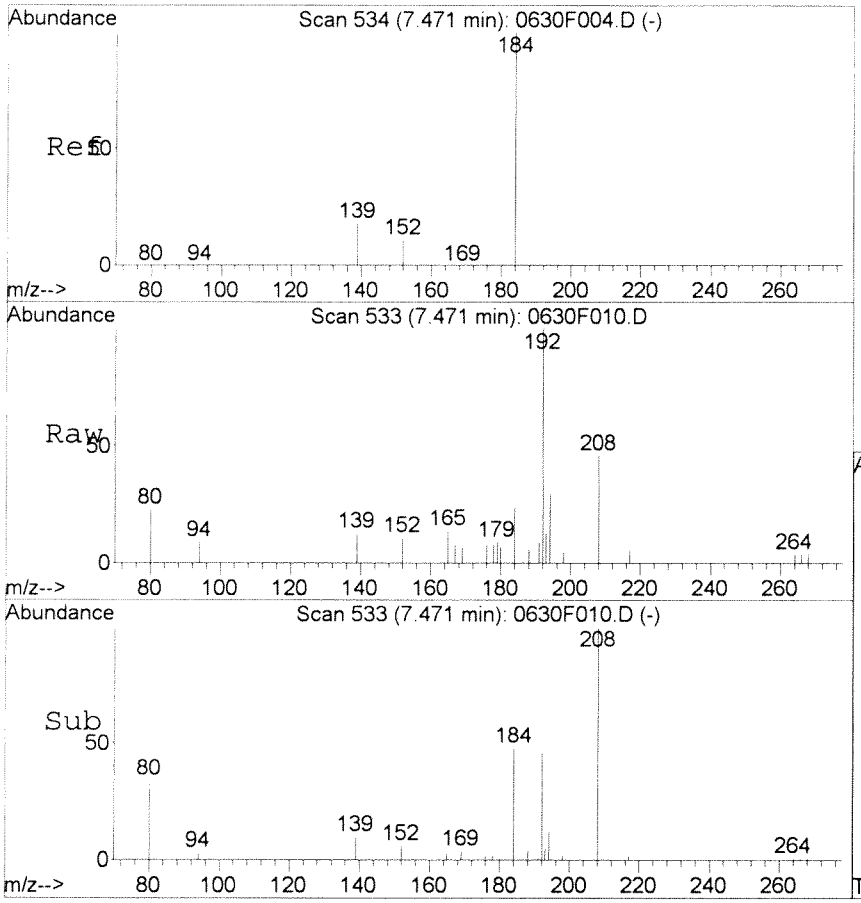


#16
Fluorene
Concen: 3.89 ng/ml m
RT: 6.77 min Scan# 450
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:166 Resp: 598

Ion	Ratio	Lower	Upper
166	100		
165	97.4	56.1	116.1

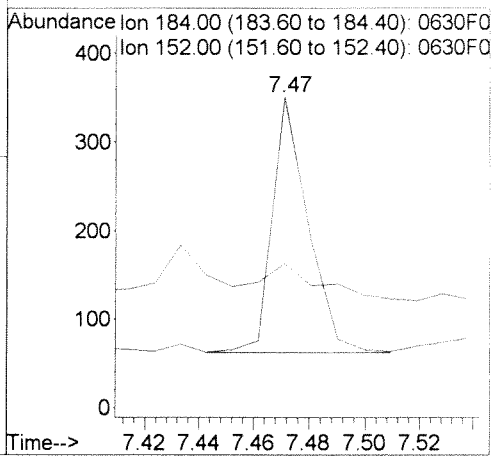


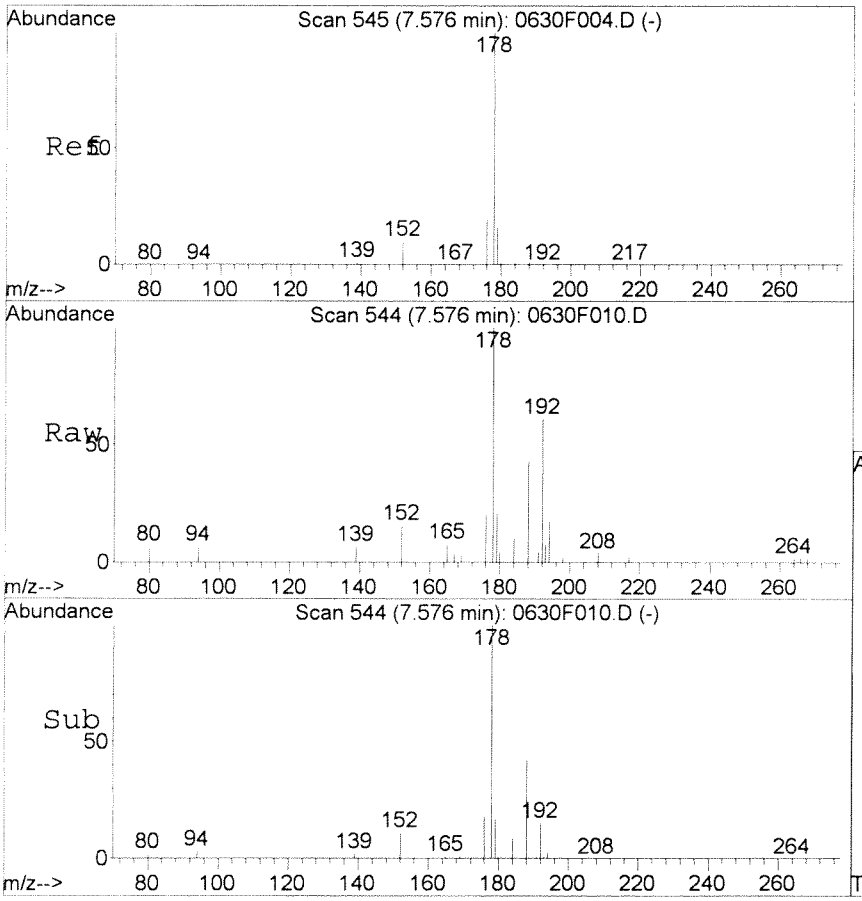


#23
Dibenzothiophene
Concen: 1.15 ng/ml
RT: 7.47 min Scan# 533
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:184 Resp: 257

Ion	Ratio	Lower	Upper
184	100		
152	13.8	0.0	41.4

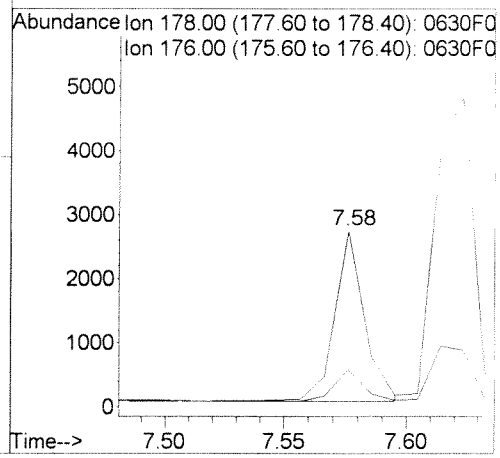


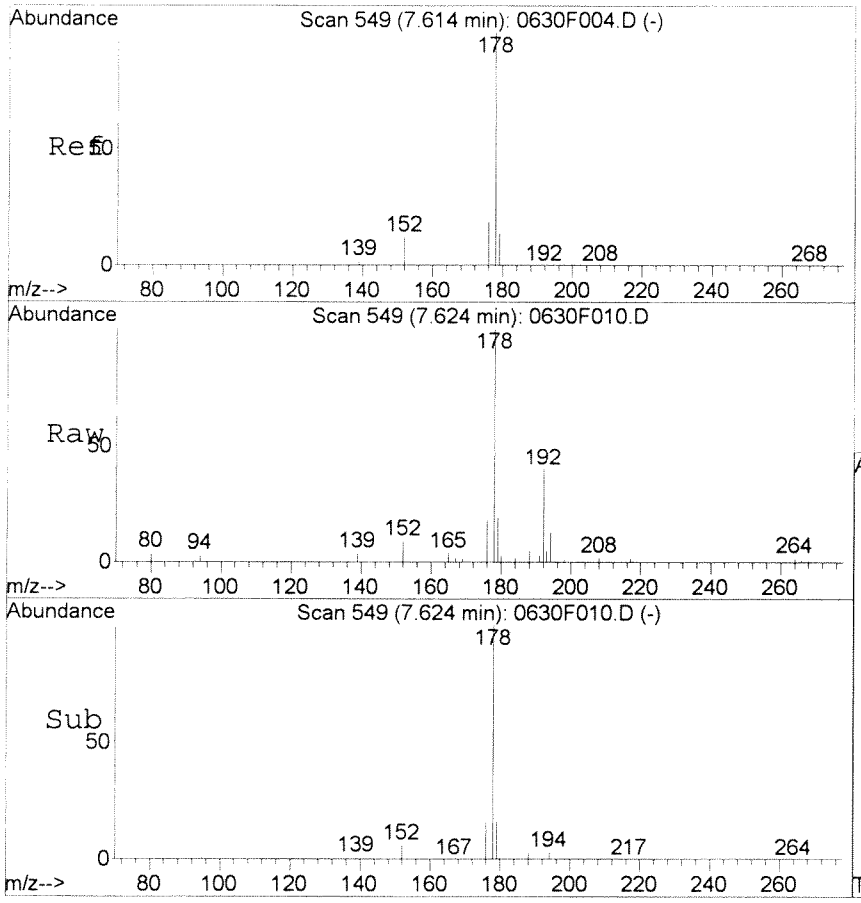


#27
Phenanthrene
Concen: 9.21 ng/ml
RT: 7.58 min Scan# 544
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:178 Resp: 2215

Ion	Ratio	Lower	Upper
178	100		
176	18.8	0.0	49.3

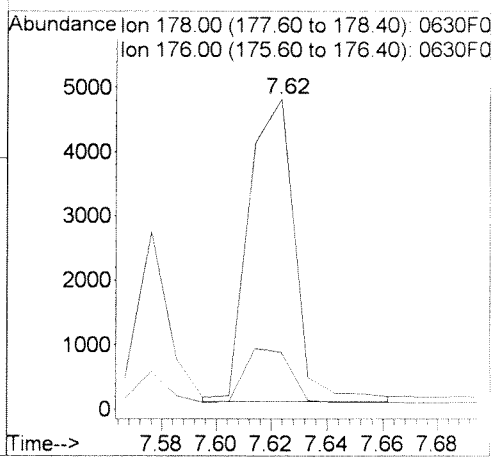


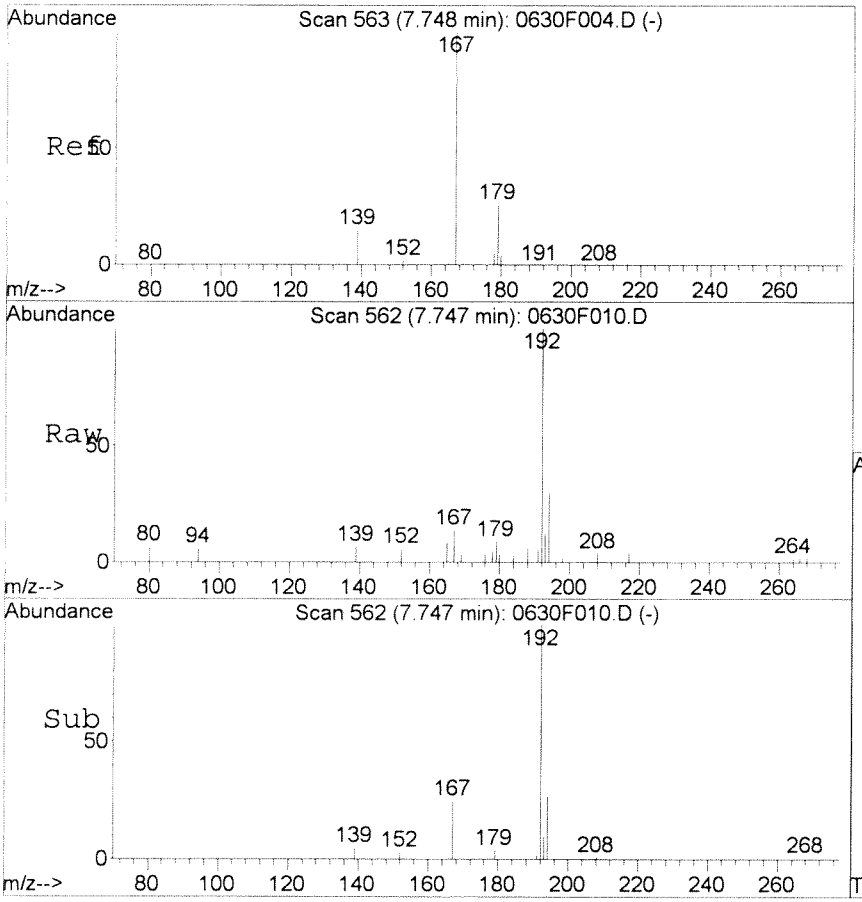


#28
Anthracene
Concen: 23.26 ng/ml m
RT: 7.62 min Scan# 549
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:178 Resp: 5424

Ion	Ratio	Lower	Upper
178	100		
176	18.4	0.0	47.1

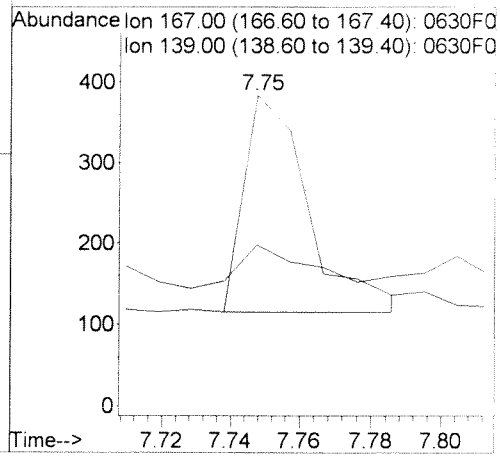


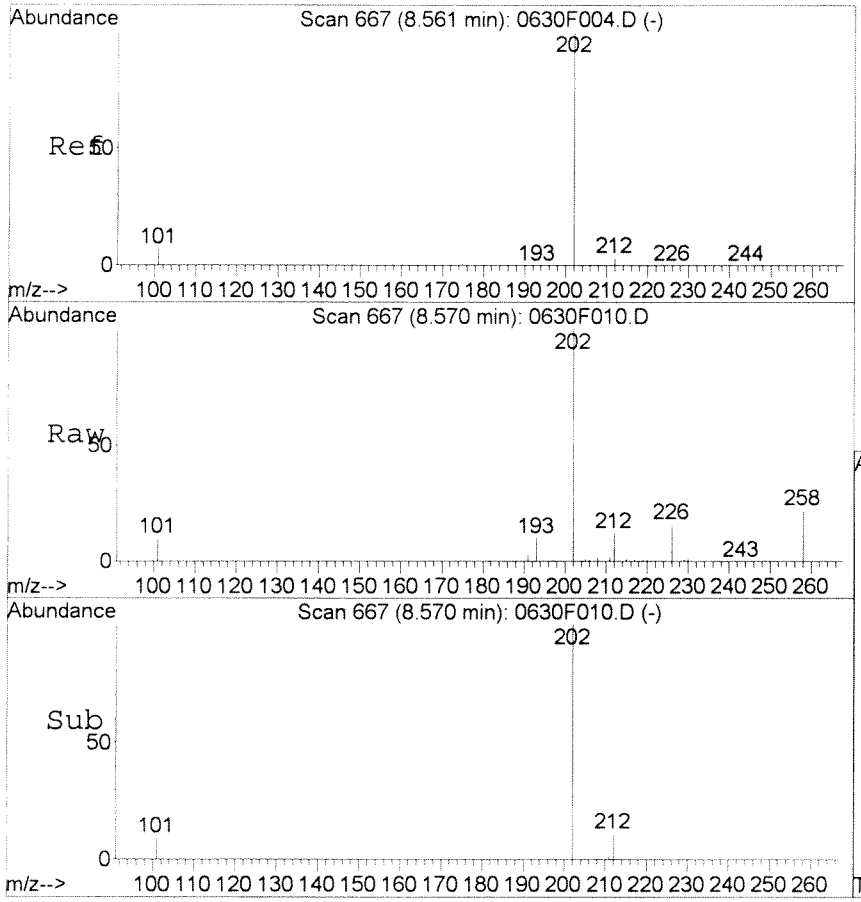


#29
Carbazole
Concen: 1.67 ng/ml m
RT: 7.75 min Scan# 562
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:167 Resp: 345

Ion	Ratio	Lower	Upper
167	100		
139	51.6	0.0	39.5#

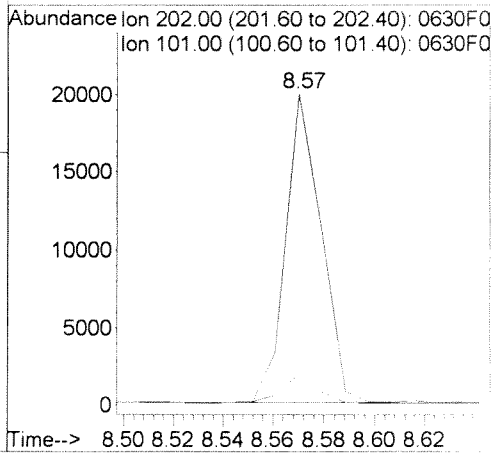


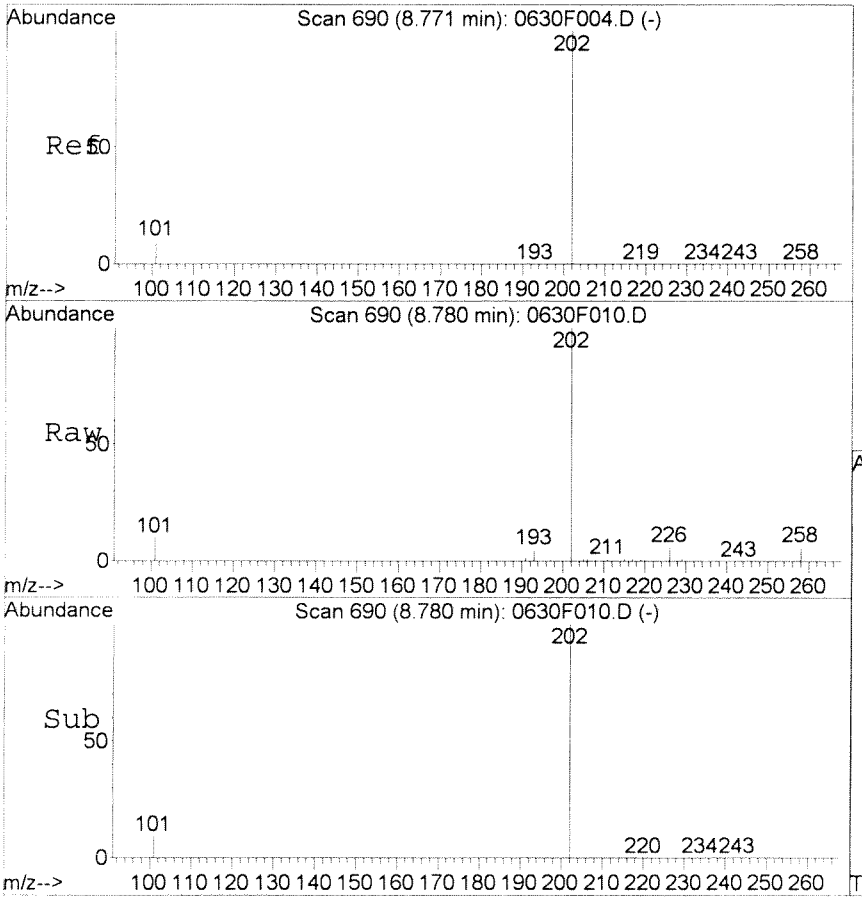


#35
Fluoranthene
Concen: 72.37 ng/ml
RT: 8.57 min Scan# 667
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:202 Resp: 19231

Ion	Ratio	Lower	Upper
202	100		
101	9.4	0.0	44.3

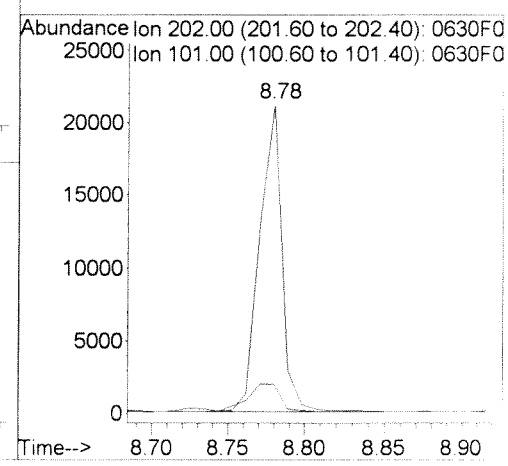


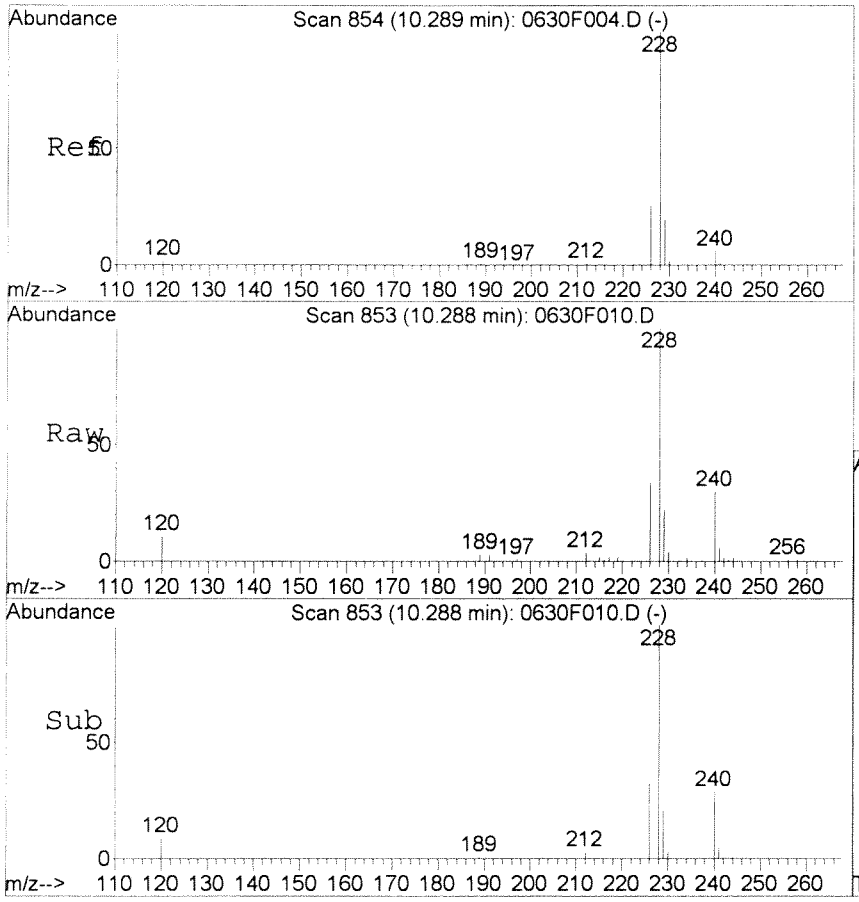


#38
Pyrene
Concen: 80.84 ng/ml
RT: 8.78 min Scan# 690
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:202 Resp: 21527

Ion	Ratio	Lower	Upper
202	100		
101	9.0	0.0	46.7

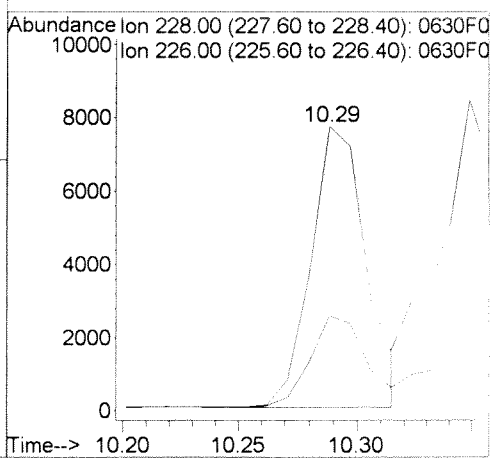


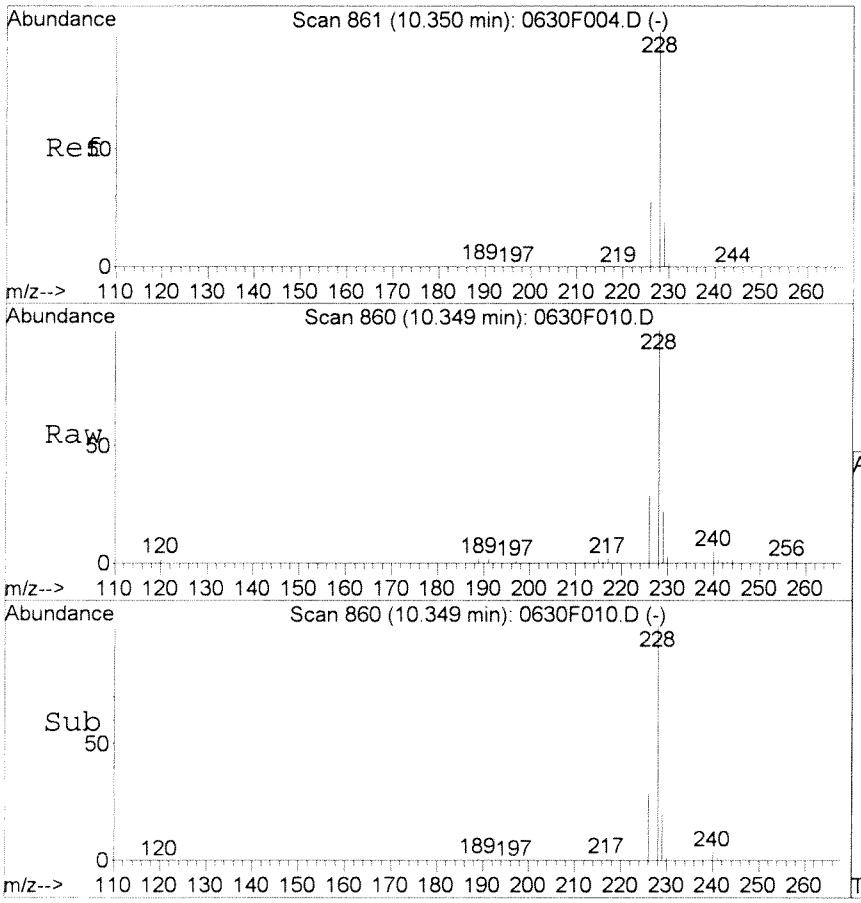


#44
Benz(a)anthracene
Concen: 46.42 ng/ml
RT: 10.29 min Scan# 853
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:228 Resp: 12329

Ion	Ratio	Lower	Upper
228	100		
226	32.7	0.0	55.7

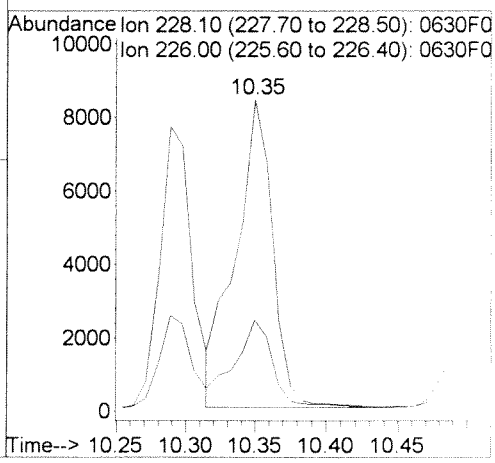


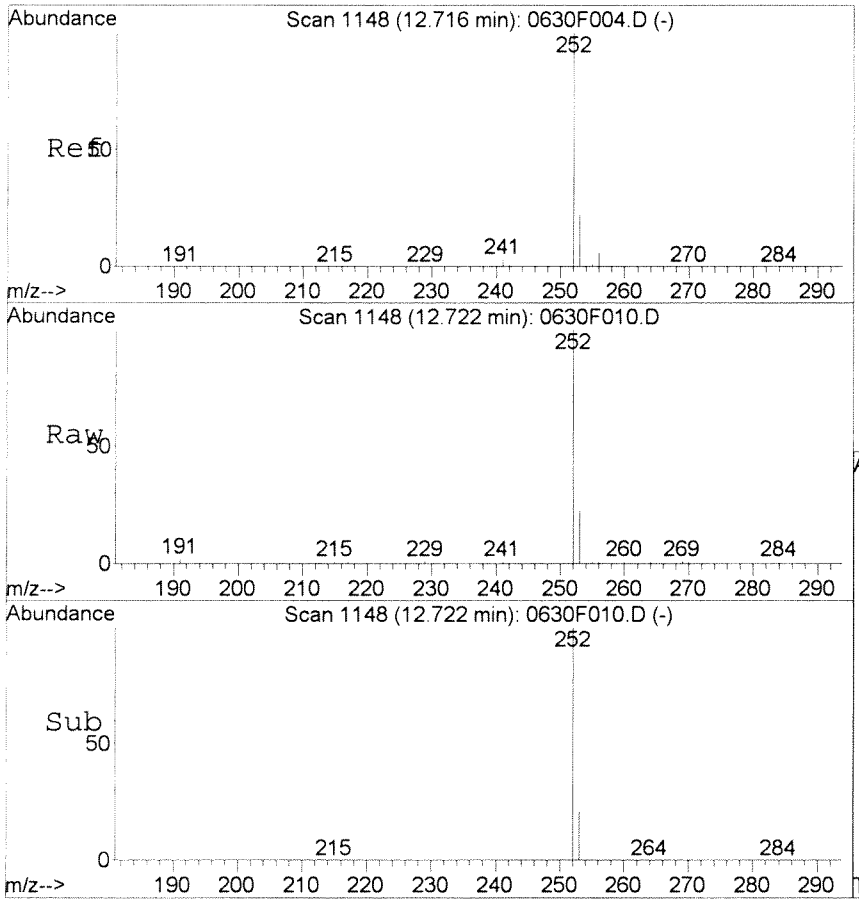


#45
Chrysene
Concen: 62.43 ng/ml
RT: 10.35 min Scan# 860
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:228 Resp: 15636

Ion	Ratio	Lower	Upper
228	100		
226	28.1	0.0	57.9

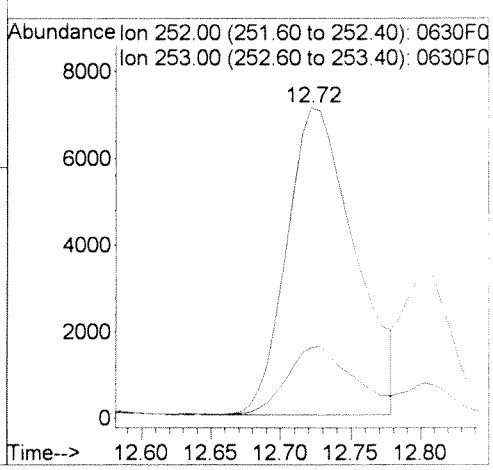


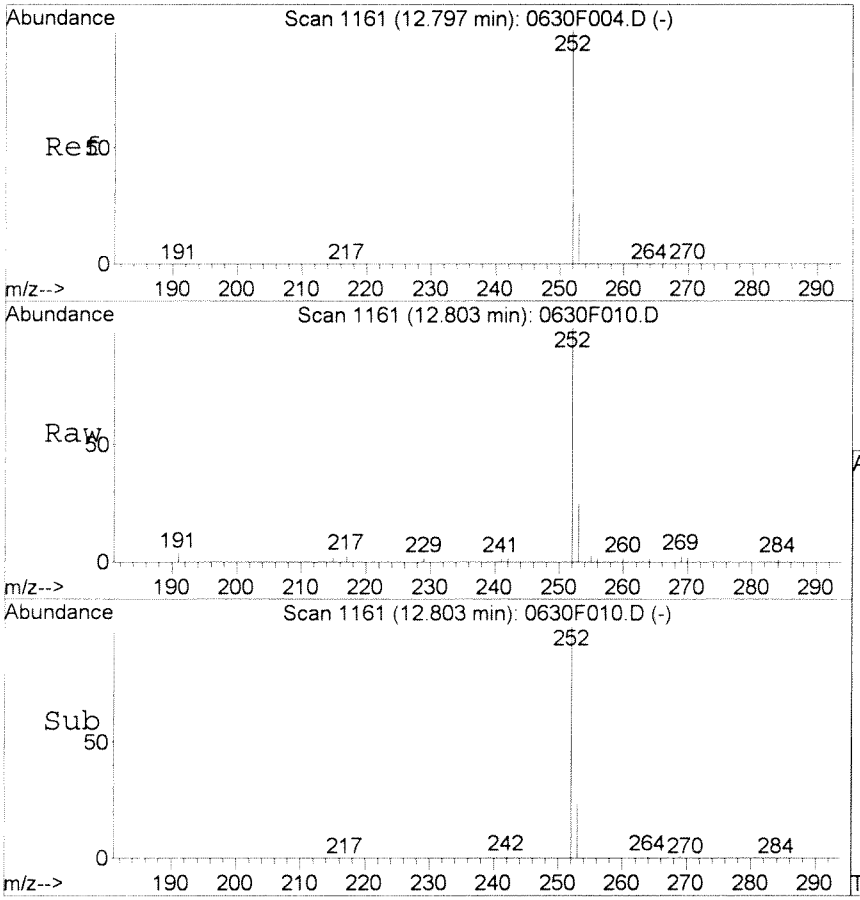


#51
Benzo(b)fluoranthene
Concen: 88.33 ng/ml
RT: 12.72 min Scan# 1148
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:252 Resp: 23704

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.5

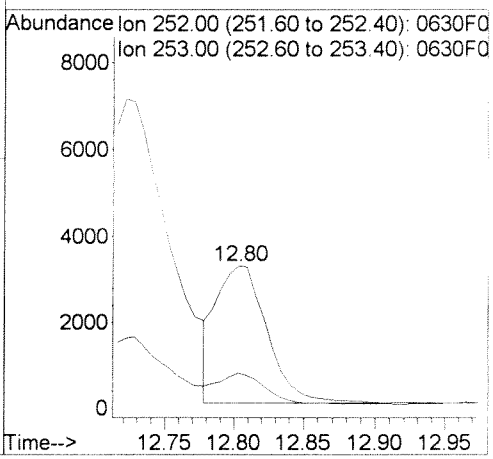


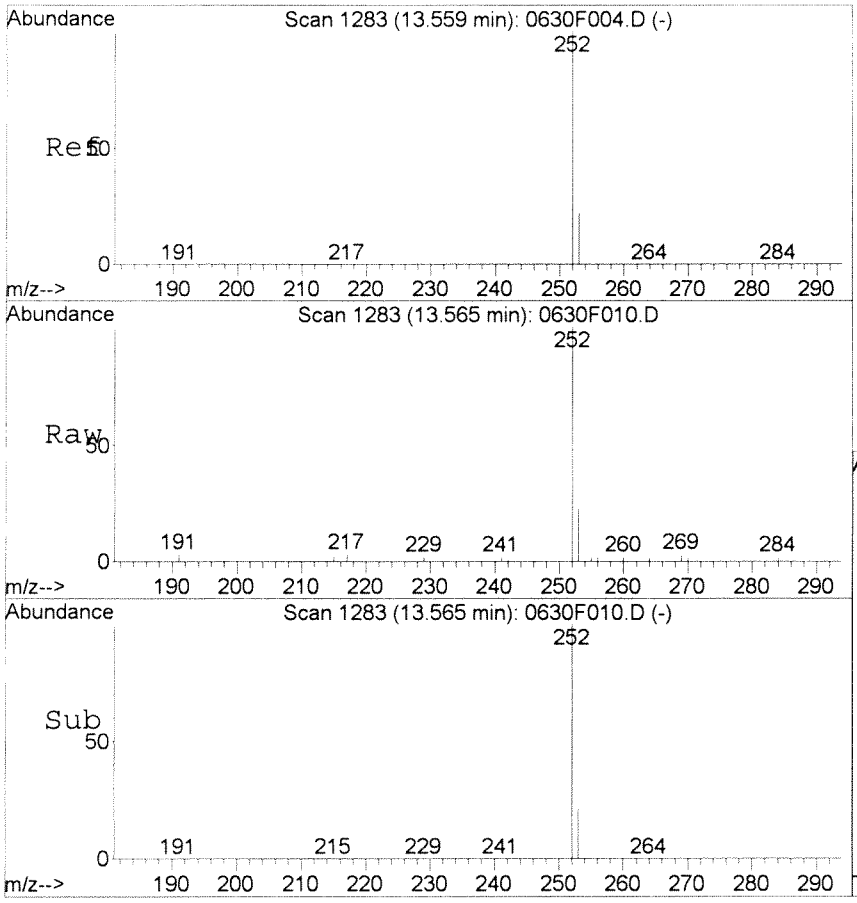


#52
Benzo(k)fluoranthene
Concen: 32.10 ng/ml
RT: 12.80 min Scan# 1161
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:252 Resp: 8232

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.3

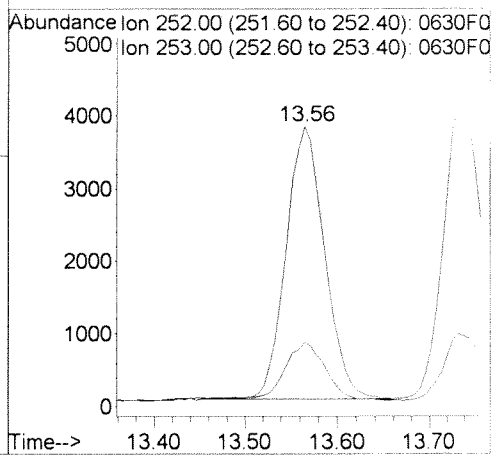


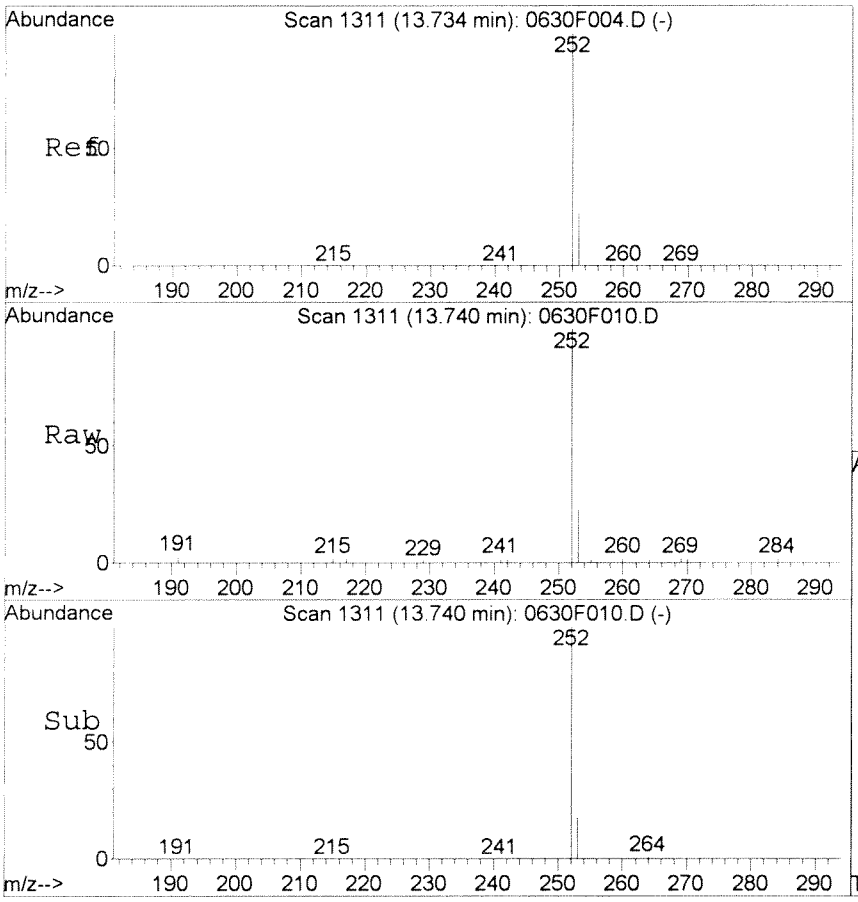


#53
Benzo(e)pyrene
Concen: 42.99 ng/ml
RT: 13.56 min Scan# 1283
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:252 Resp: 10820

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.1

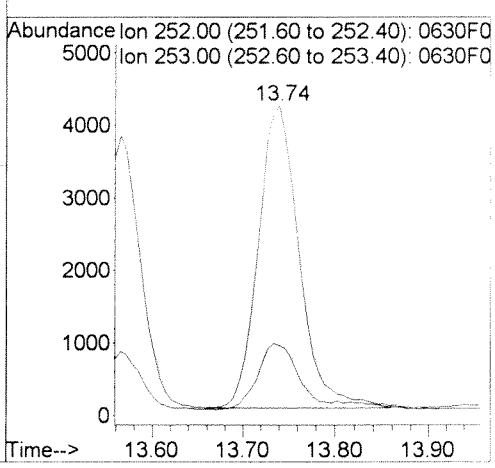


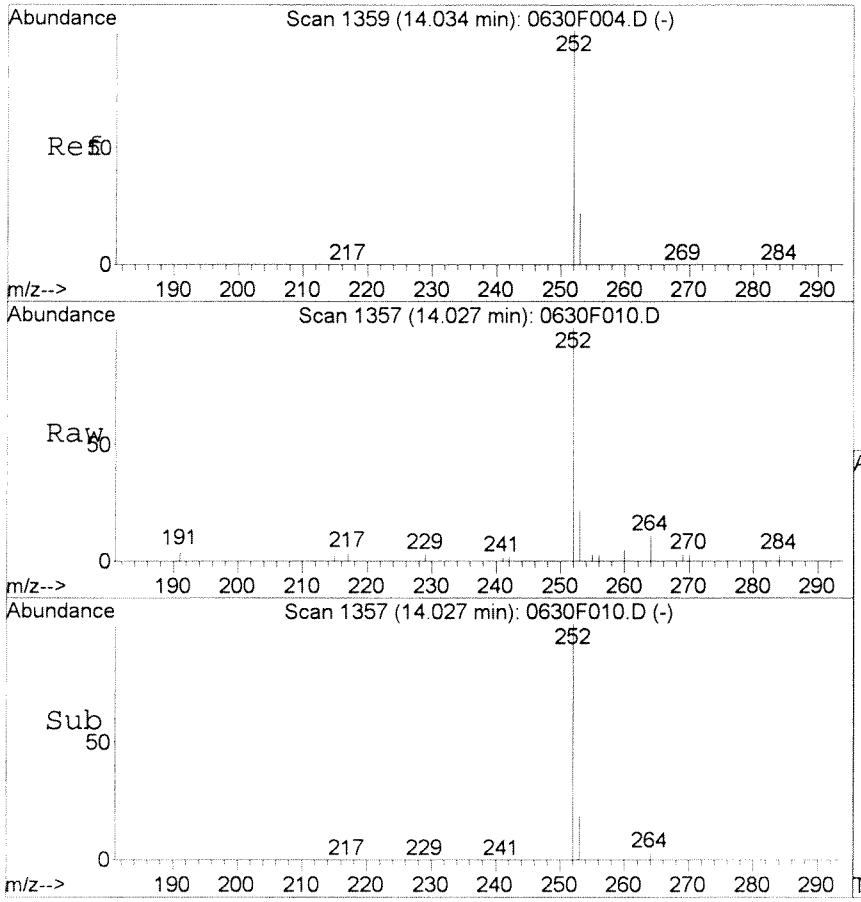


#54
Benzo(a)pyrene
Concen: 54.77 ng/ml
RT: 13.74 min Scan# 1311
Delta R.T. 0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:252 Resp: 12912

Ion	Ratio	Lower	Upper
252	100		
253	21.1	0.0	52.5

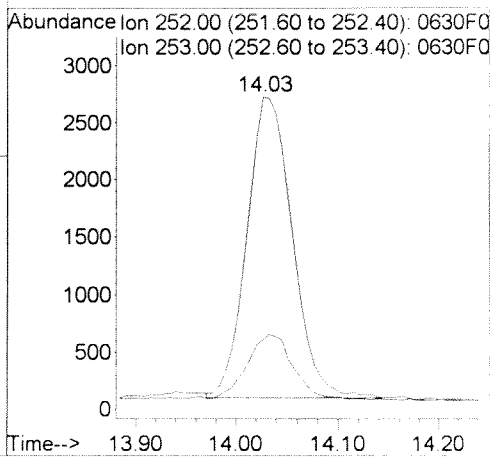


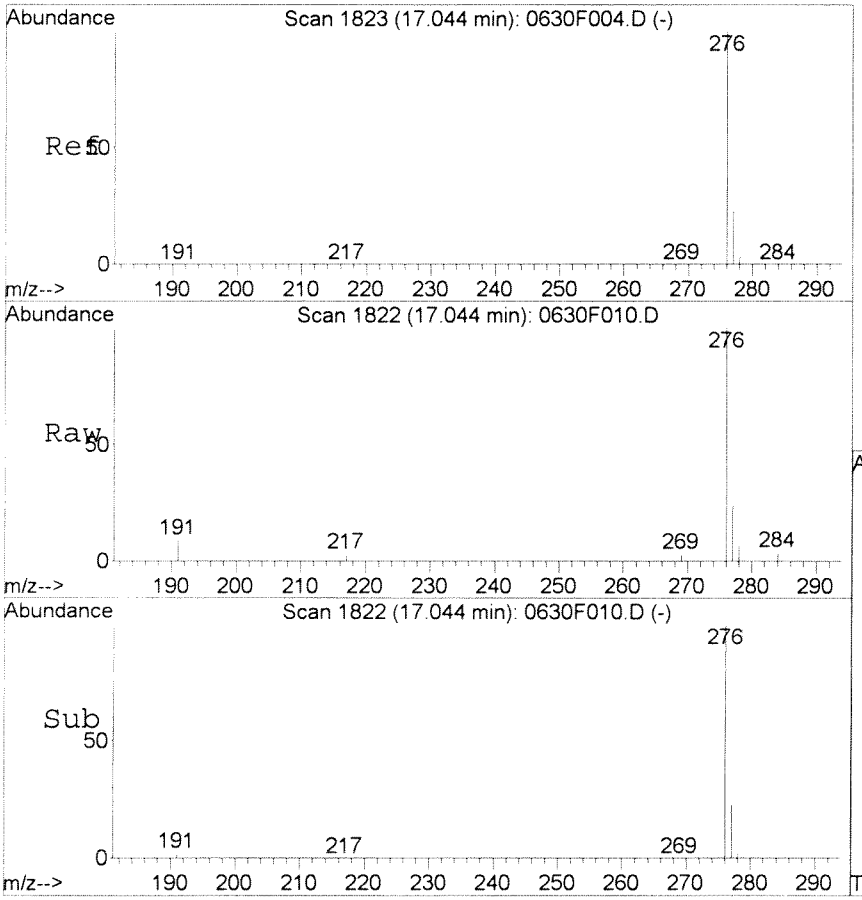


#55
Perylene
Concen: 34.55 ng/ml
RT: 14.03 min Scan# 1357
Delta R.T. -0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:252 Resp: 8203

Ion	Ratio	Lower	Upper
252	100		
253	20.2	0.0	52.3

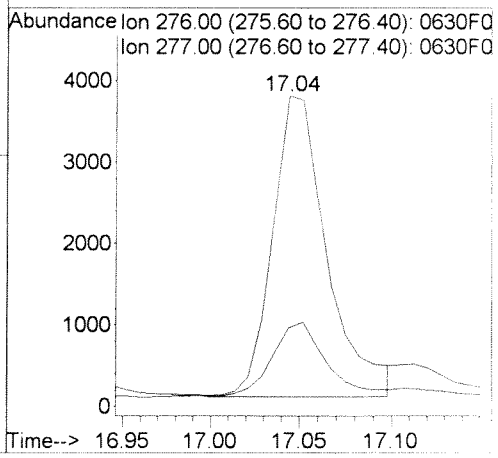


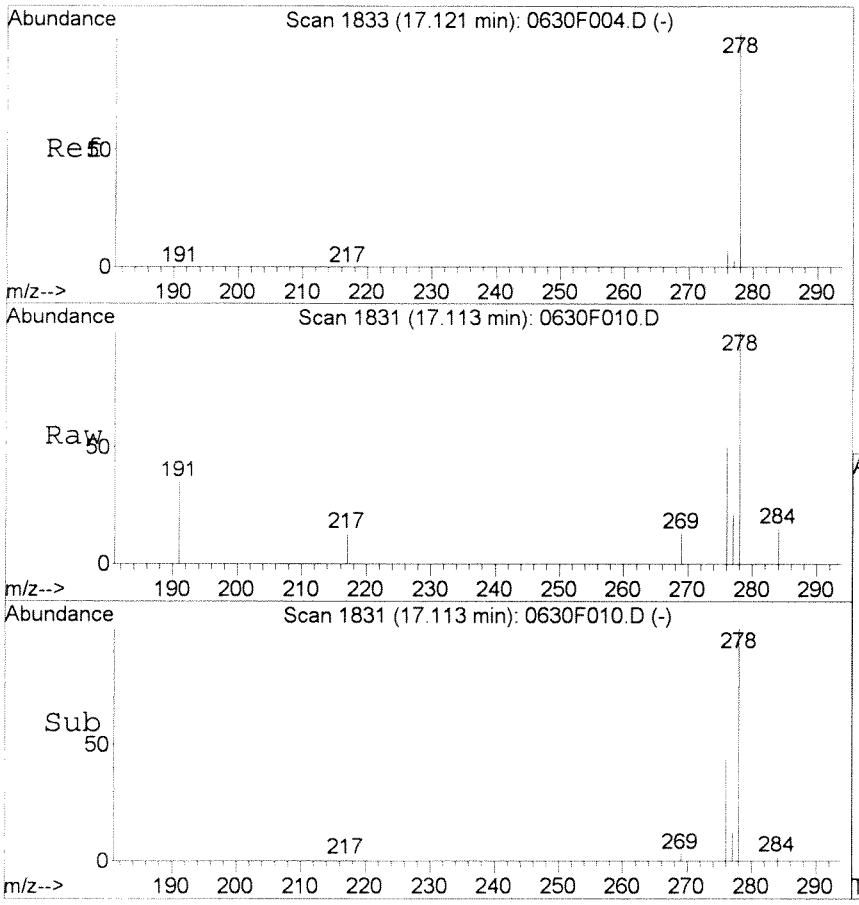


#56
Indeno(1,2,3-cd)pyrene
Concen: 34.93 ng/ml m
RT: 17.04 min Scan# 1822
Delta R.T. -0.00 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:276 Resp: 7733

Ion	Ratio	Lower	Upper
276	100		
277	25.4	0.0	54.0

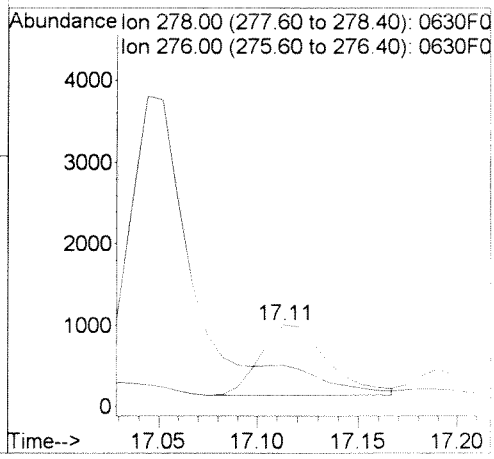


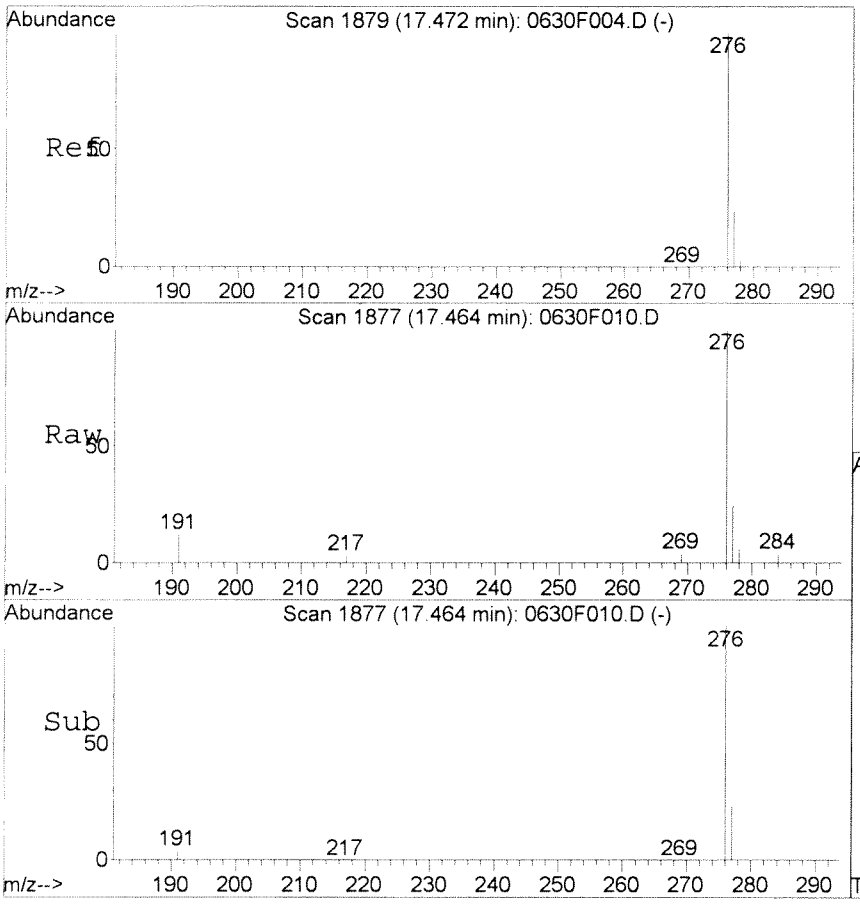


#57
Dibenz(a,h)anthracene
Concen: 8.75 ng/ml
RT: 17.11 min Scan# 1831
Delta R.T. -0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:278 Resp: 2021

Ion	Ratio	Lower	Upper
278	100		
276	37.1	0.0	56.0

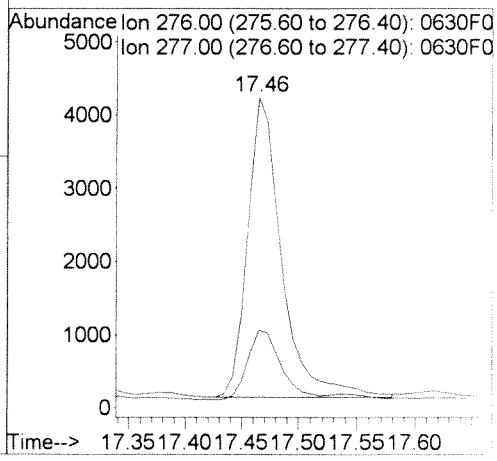




#58
Benzo(g,h,i)perylene
Concen: 32.46 ng/ml
RT: 17.46 min Scan# 1877
Delta R.T. -0.01 min
Lab File: 0630F010.D
Acq: 30 Jun 2014 10:16 am

Tgt Ion:276 Resp: 8582

Ion	Ratio	Lower	Upper
276	100		
277	23.2	0.0	54.1

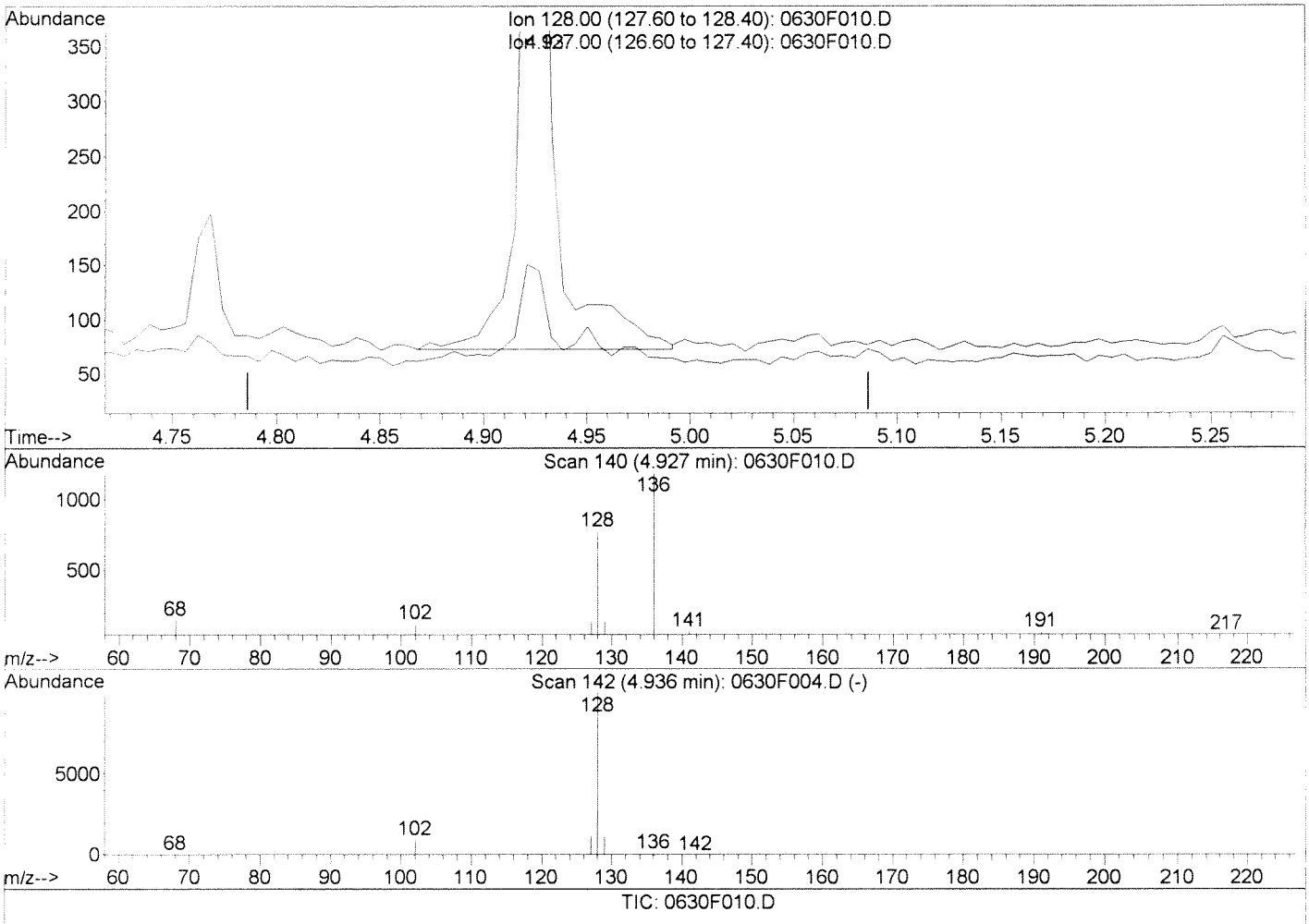


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D
Acq On : 30 Jun 2014 10:16 am
Sample : K1405833-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22 2014

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F010.D

(2) Naphthalene (T)

4.93min 3.61ng/ml

response 717

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	11.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

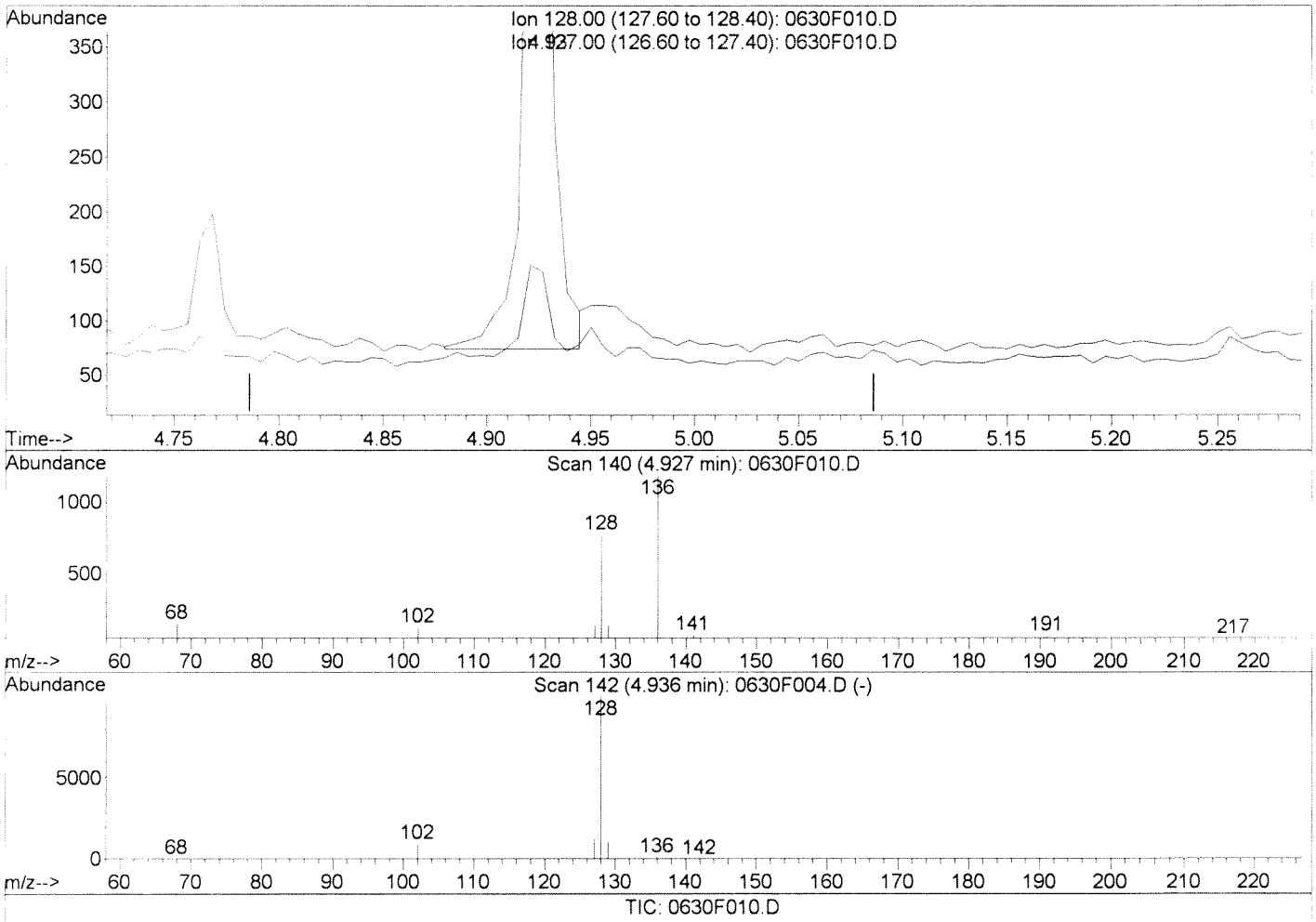
06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:24:20 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:24 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F010.D

(2) Naphthalene (T)

4.93min 3.22ng/ml m

response 639

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	18.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

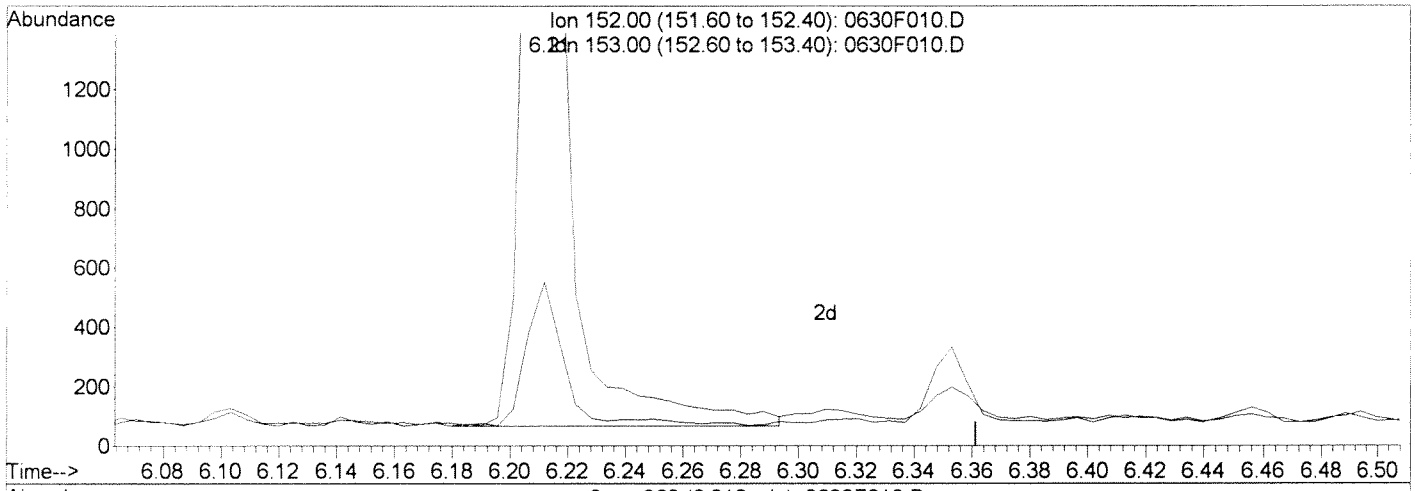
06/30/14

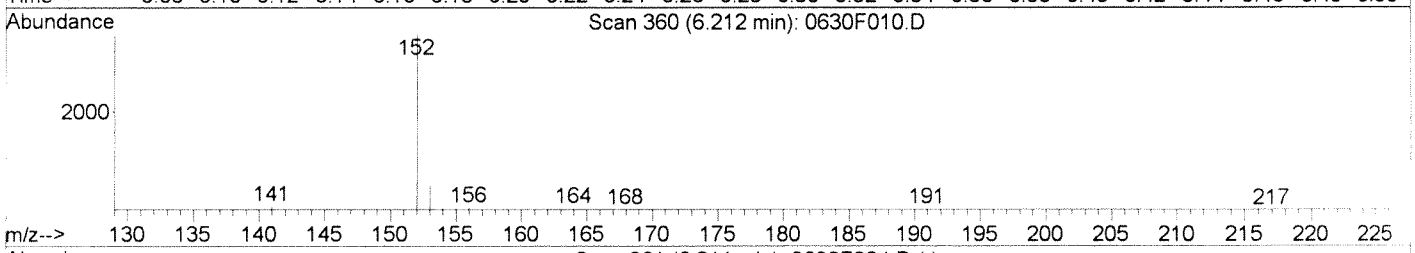
0630F010.D 062914ALK.M Mon Jun 30 12:24:26 2014

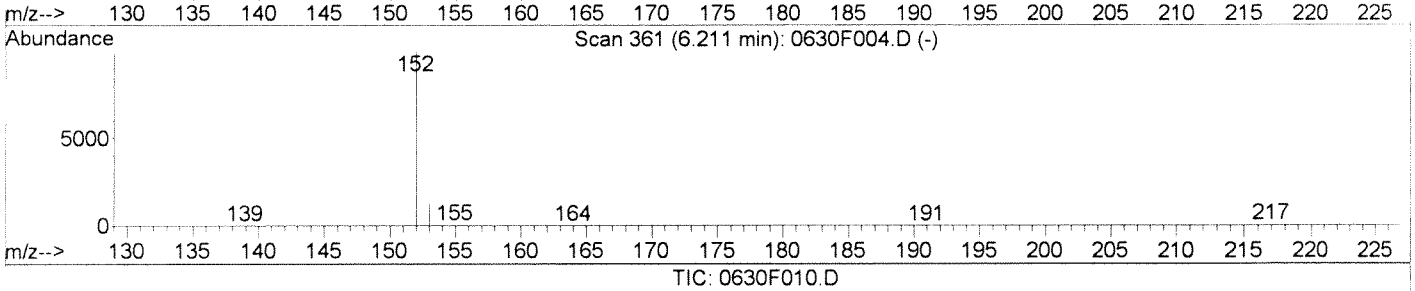
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:24 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F010.D

(11) Acenaphthylene (T)

6.21min 14.97ng/ml

response 3132

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	13.76
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

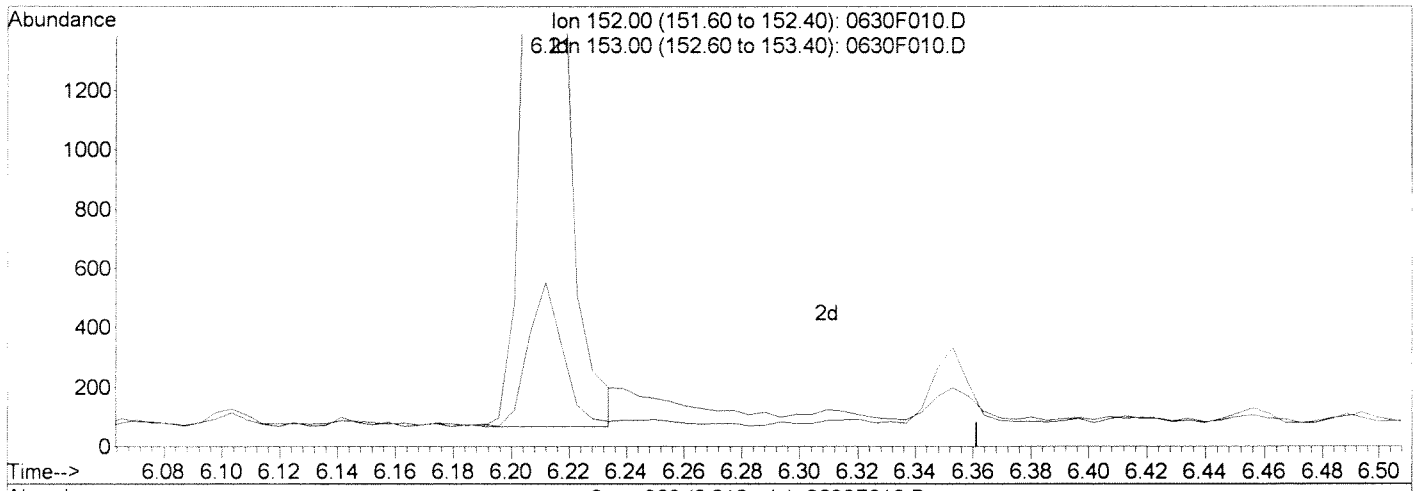
06/30/14

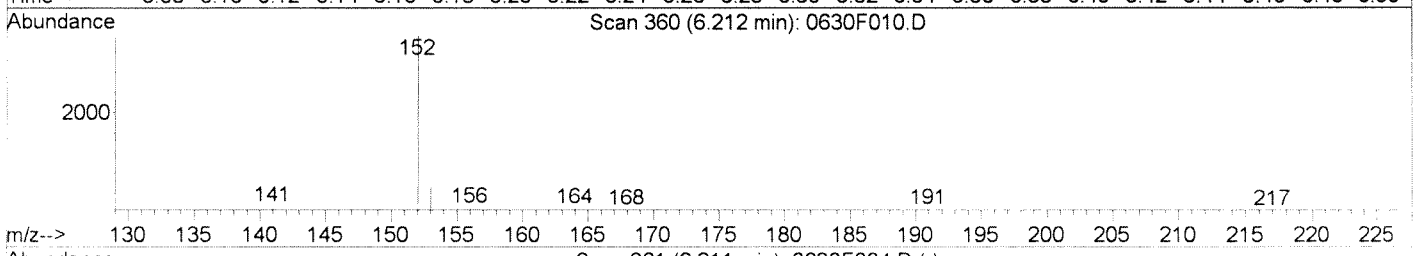
0630F010.D 062914ALK.M Mon Jun 30 12:26:44 2014

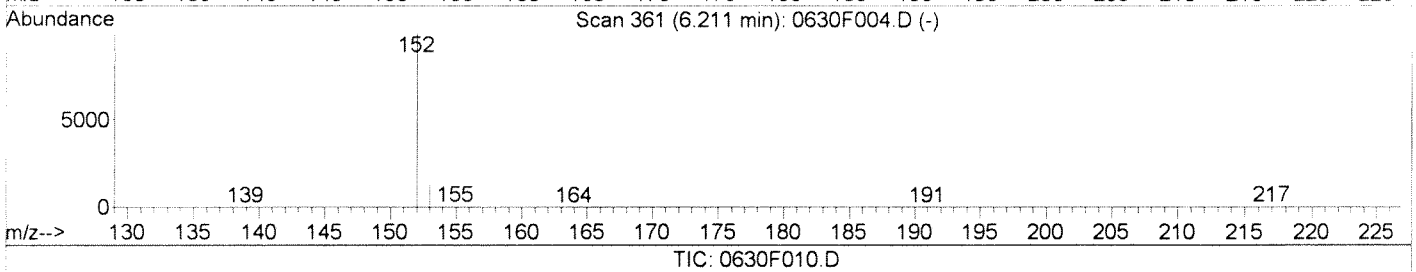
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F010.D

(11) Acenaphthylene (T)

6.21min 13.78ng/ml m

response 2882

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	15.68
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

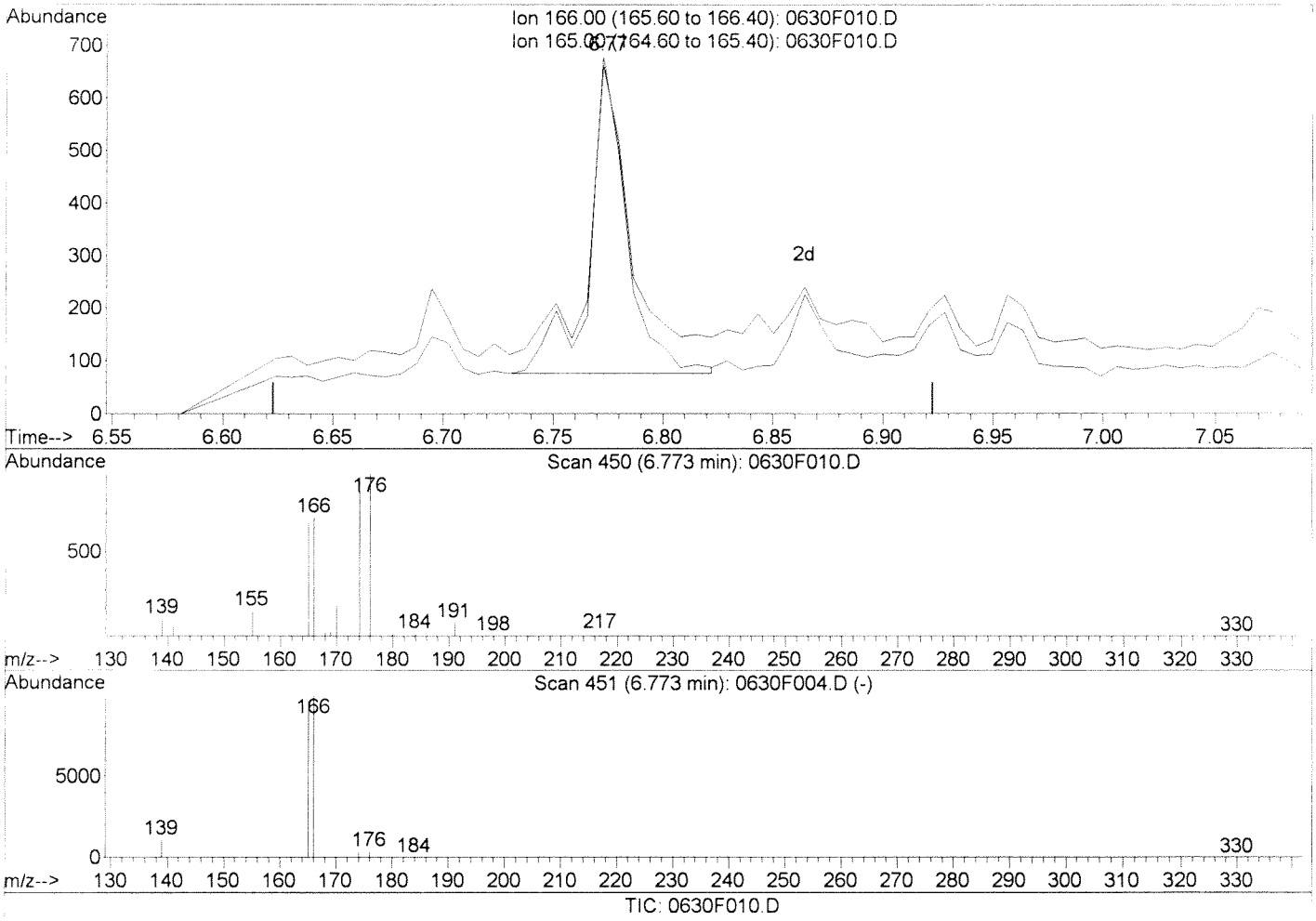
06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:26:51 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F010.D

(16) Fluorene (T)

6.77min 4.64ng/ml

response 714

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	91.10
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

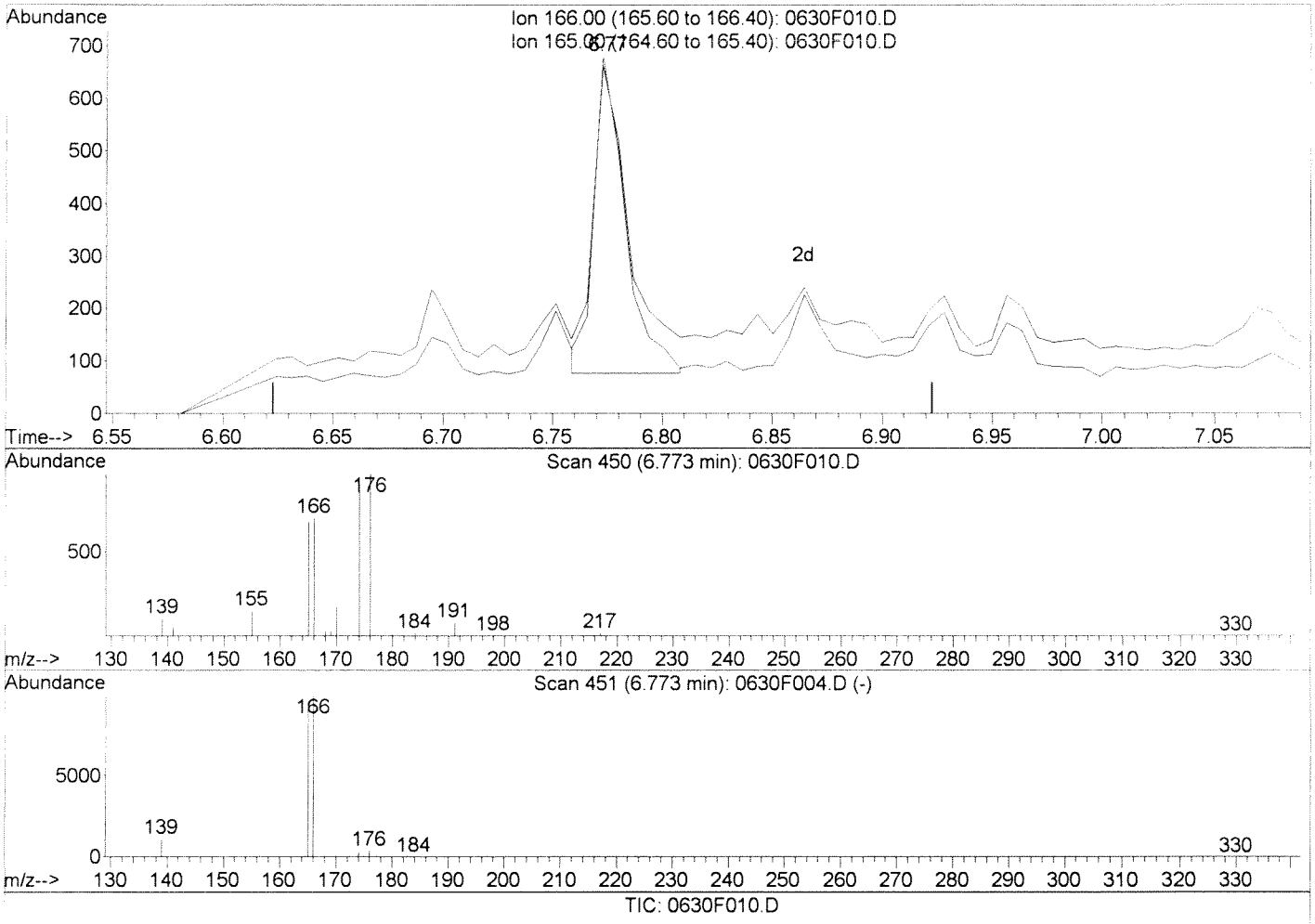
06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:27:04 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.77min 3.89ng/ml m

response 598

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	97.36
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

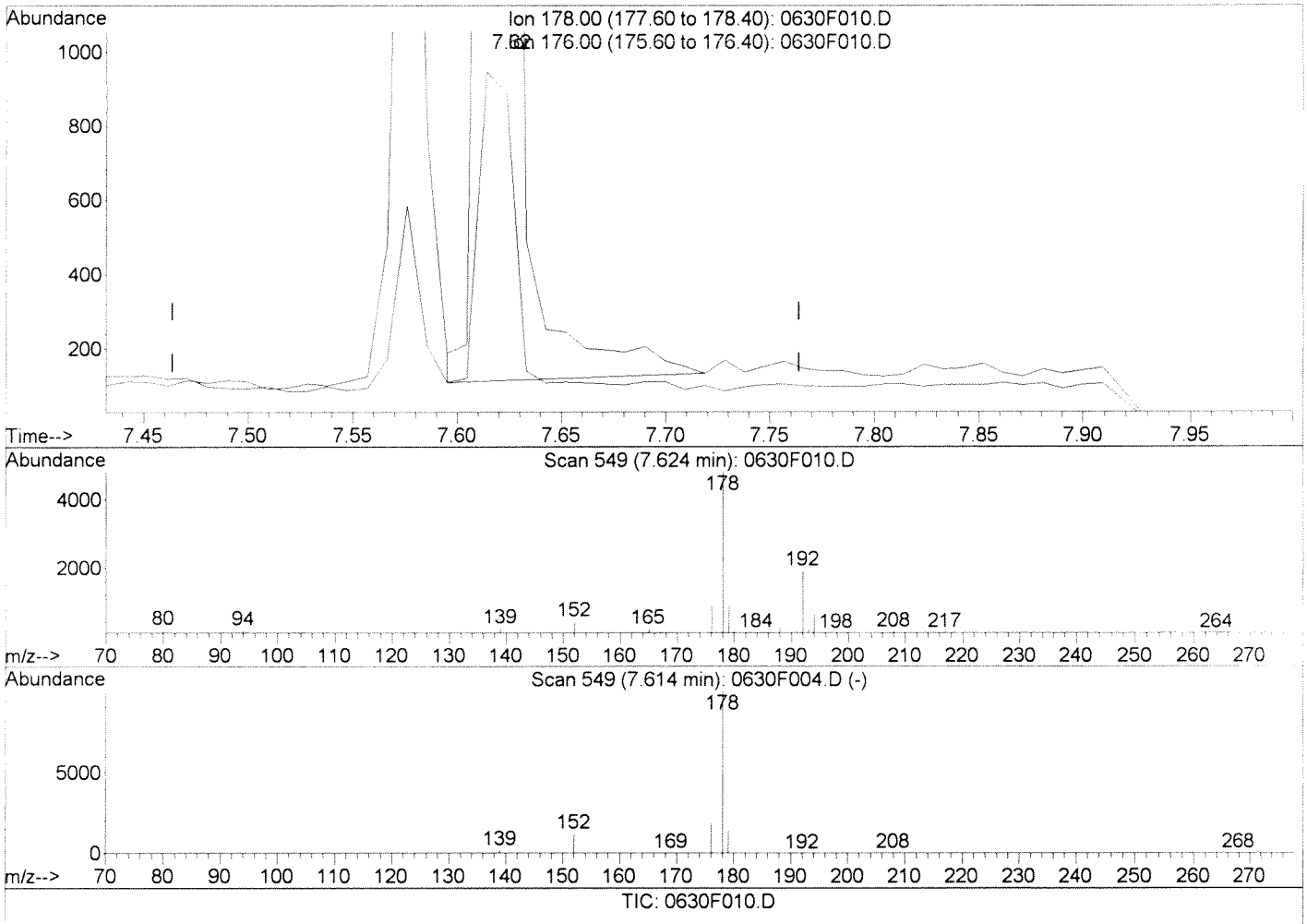
0630F010.D 062914ALK.M Mon Jun 30 12:27:10 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D
Acq On : 30 Jun 2014 10:16 am
Sample : K1405833-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.62min 24.08ng/ml

response 5615

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

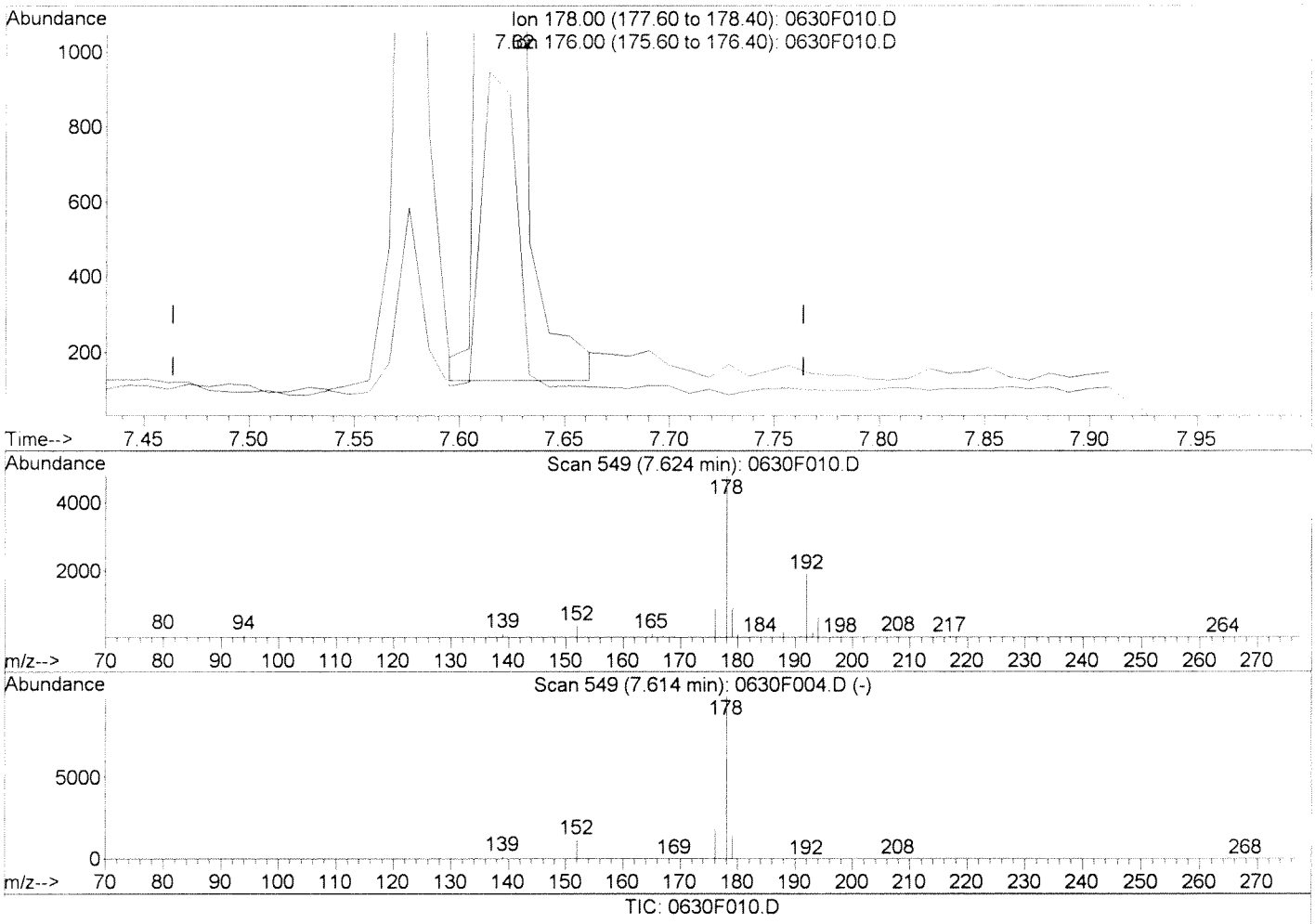
06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:27:19 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F010.D

(28) Anthracene (T)

7.62min 23.26ng/ml m

response 5424

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.42
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

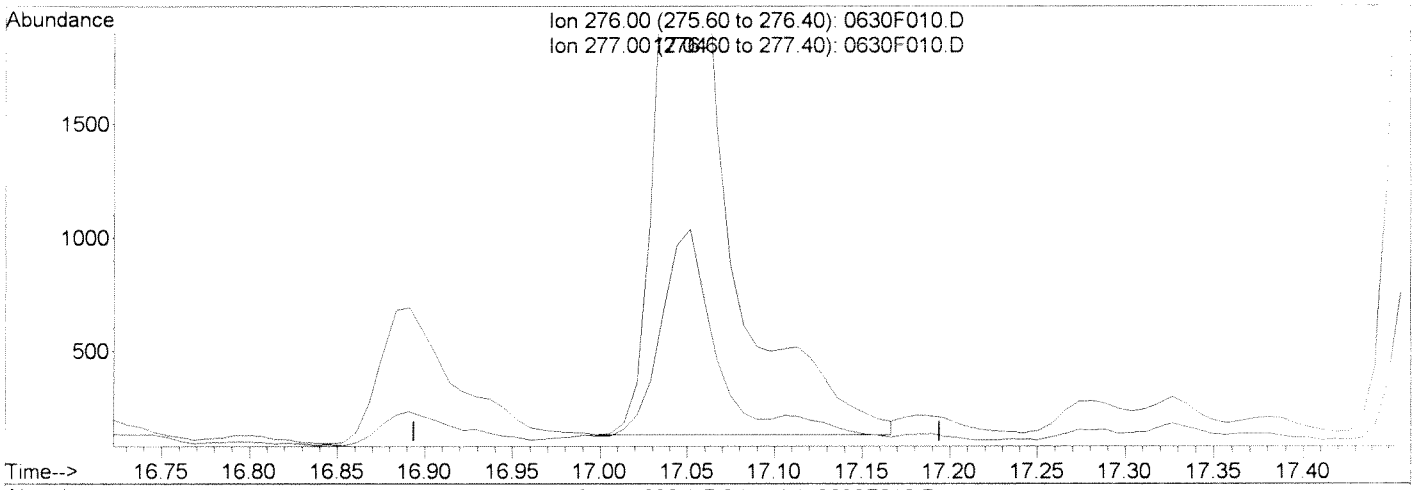
06/30/14

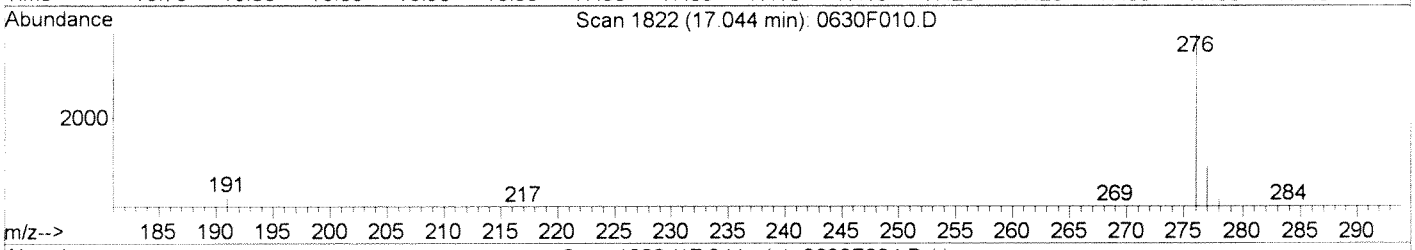
0630F010.D 062914ALK.M Mon Jun 30 12:27:24 2014

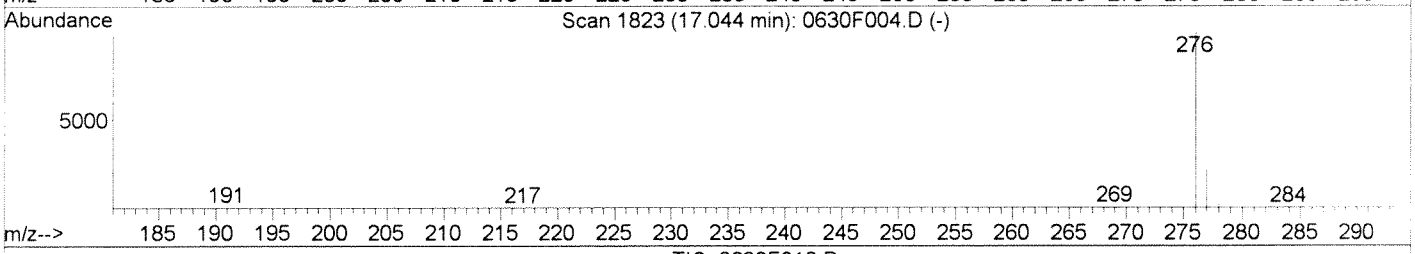
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F010.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.04min 38.20ng/ml

response 8458

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	22.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

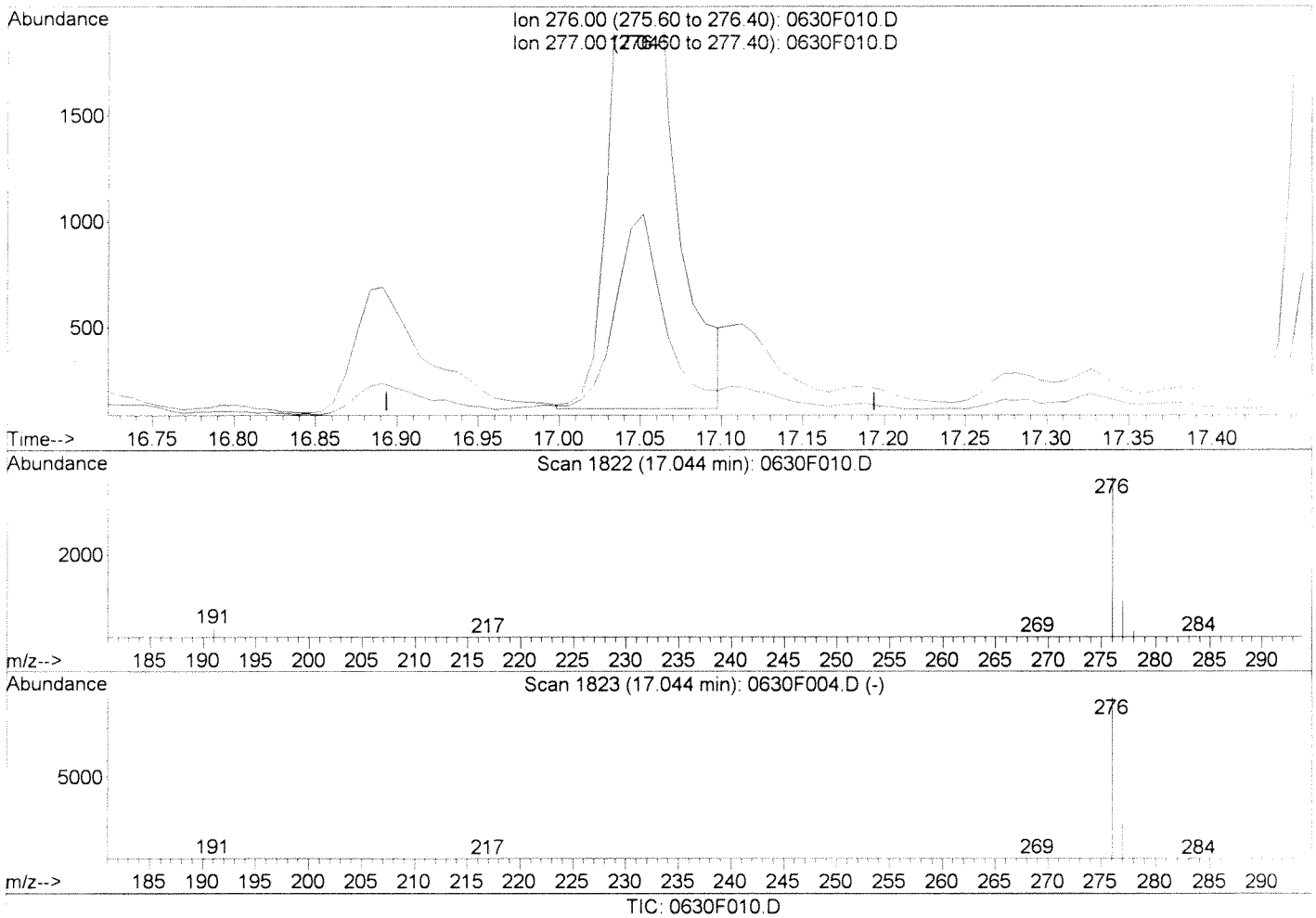
06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:27:42 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F010.D Vial: 3
Acq On : 30 Jun 2014 10:16 am Operator: LWeiskopf
Sample : K1405833-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F010.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.04min 34.93ng/ml m

response 7733

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	25.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F010.D 062914ALK.M Mon Jun 30 12:27:47 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F012.D
Lab ID: K1405833-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 06/30/2014 11:10
Date Quantitated: 06/30/2014 12:32
Batch ID: KWG1407242
Analysis Method: 8270D SIM
ListJoinID: LJ13147

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	
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: JUN 30 2014

Secondary Review:

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F012.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 11:10	**Quant Date:**	06/30/2014 12:32	**Vial:**	5
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-003			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**	06/03/2014	**Receive Date:**	06/11/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	K1405833
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347935	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ13147
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	35828m	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	20675	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	39480	200.00	OK
4	Chrysene-d12	10.31	0.00	240	41277	200.00	OK
5	Perylene-d12	13.94	0.00	264	36139	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	6.75	0.00	0.00	176	16478	119.60	60	17-104	OK	
3	Fluoranthene-d10	8.54	0.00	0.00	212	31987	127.03	64	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	29277	148.29	74	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	500m	2.52	1.6	J	
1	2-Methylnaphthalene	5.48		0.00	142	78	0.5800	0.39	U	
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	51	0.4200	0.51	U	
2	Acenaphthylene				152	0		0.59	U	
2	Acenaphthene				154	0d		0.76	U	
2	Fluorene				166	0d		0.61	U	
3	Phenanthrene	7.58		0.00	178	103	0.4500	1.4	U	
3	Anthracene				178	0d		0.58	U	
3	Fluoranthene	8.56		0.00	202	125	0.5000	0.98	U	
4	Pyrene	8.77		0.00	202	135m	0.5700	0.76	U	
4	Benz(a)anthracene	10.30	0.01	0.00	228	172m	0.7300	0.72	U	
4	Chrysene	10.35		0.00	228	63m	0.2800	0.80	U	
5	Benzo(b)fluoranthene	12.72		0.00	252	290	1.27	0.92	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:\MS11\DATA\063014A\0630F012.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 11:10	**Quant Date:**	06/30/2014 12:32	**Vial:**	5
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1405833-003			**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(k)fluoranthene	12.79	-0.01	0.00	252	109	0.5000	0.87	U	
5	Benzo(a)pyrene	13.73		0.00	252	101	0.5100	0.76	U	
5	Indeno(1,2,3-cd)pyrene	17.05	0.01	0.00	276	179**m**	0.9500	0.87	U	
5	Dibenz(a,h)anthracene	17.11	-0.01	0.00	278	82**m**	0.4200	0.80	U	
5	Benzo(g,h,i)perylene	17.47		0.00	276	380**m**	1.70	1.1	J	

Prep Amount:	20.383 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	78 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:32 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

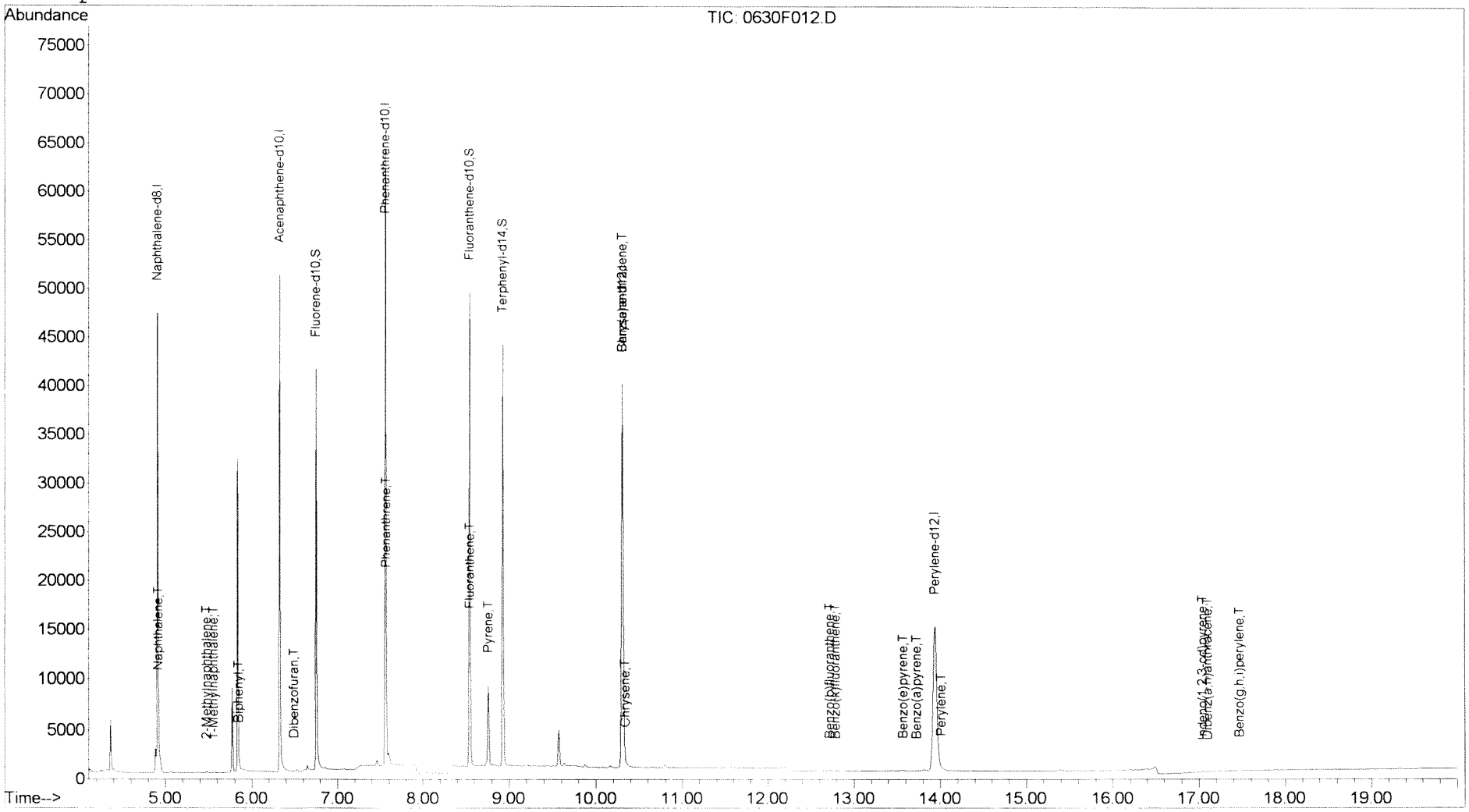
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	35828m	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.33	164	20675	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39480	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	41277	200.00	ng/ml	0.00
50) Perylene-d12	13.94	264	36139	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	16478	119.60	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 11.96%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.54	212	31987	127.03	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.70%			
43) Terphenyl-d14	8.93	244	29277	148.29	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.83%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	500m	2.52	ng/ml	
3) 2-Methylnaphthalene	5.48	142	78	0.58	ng/ml	83
4) 1-Methylnaphthalene	5.56	142	51	0.42	ng/ml	90
5) Biphenyl	5.85	154	136m	0.87	ng/ml	
13) Dibenzofuran	6.50	168	32	0.18	ng/ml	80
27) Phenanthrene	7.58	178	103	0.45	ng/ml	90
35) Fluoranthene	8.56	202	125	0.50	ng/ml	76
38) Pyrene	8.77	202	135m	0.57	ng/ml	
44) Benz(a)anthracene	10.30	228	172m	0.73	ng/ml	
45) Chrysene	10.35	228	63m	0.28	ng/ml	
51) Benzo(b)fluoranthene	12.72	252	290	1.27	ng/ml	87
52) Benzo(k)fluoranthene	12.79	252	109	0.50	ng/ml	93
53) Benzo(e)pyrene	13.57	252	338	1.58	ng/ml	93
54) Benzo(a)pyrene	13.73	252	101	0.51	ng/ml	83
55) Perylene	14.02	252	138	0.69	ng/ml	72
56) Indeno(1,2,3-cd)pyrene	17.05	276	179m	0.95	ng/ml	
57) Dibenz(a,h)anthracene	17.11	278	82m	0.42	ng/ml	
58) Benzo(g,h,i)perylene	17.47	276	380m	1.70	ng/ml	

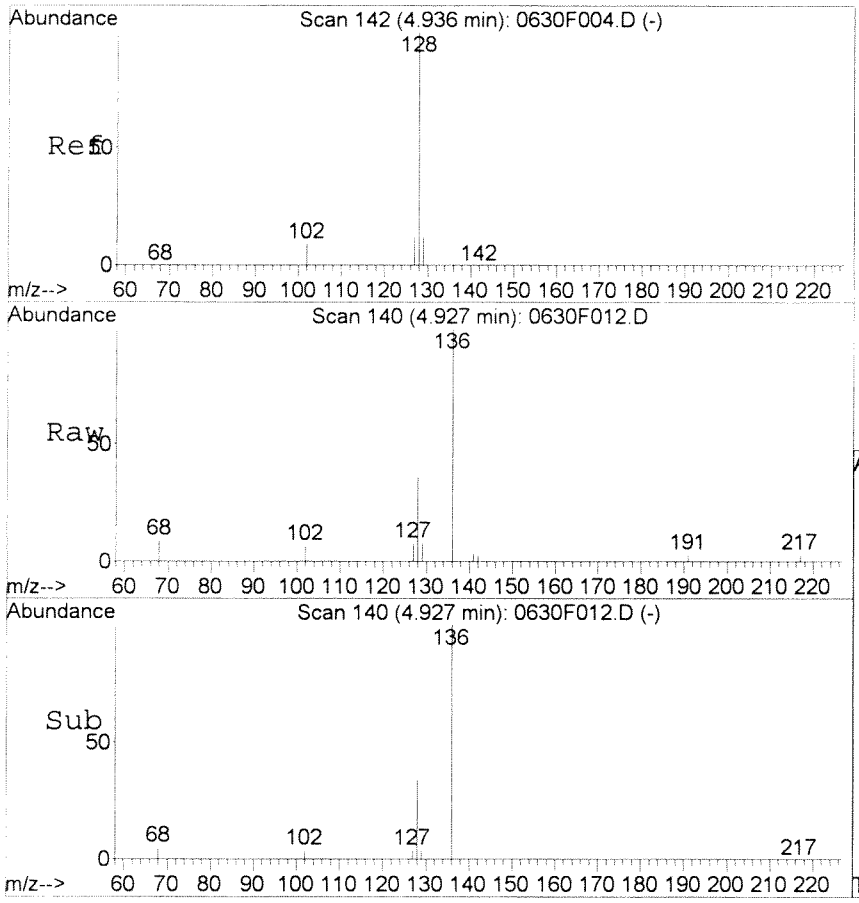
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration

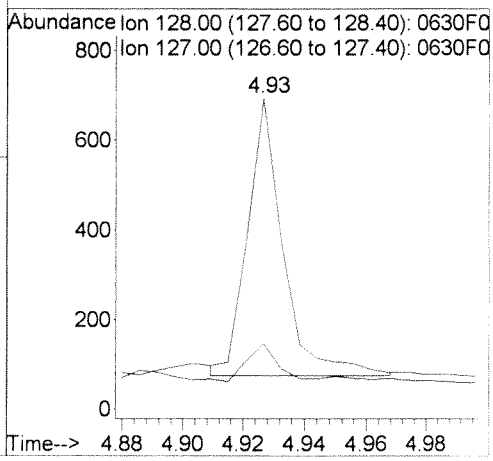


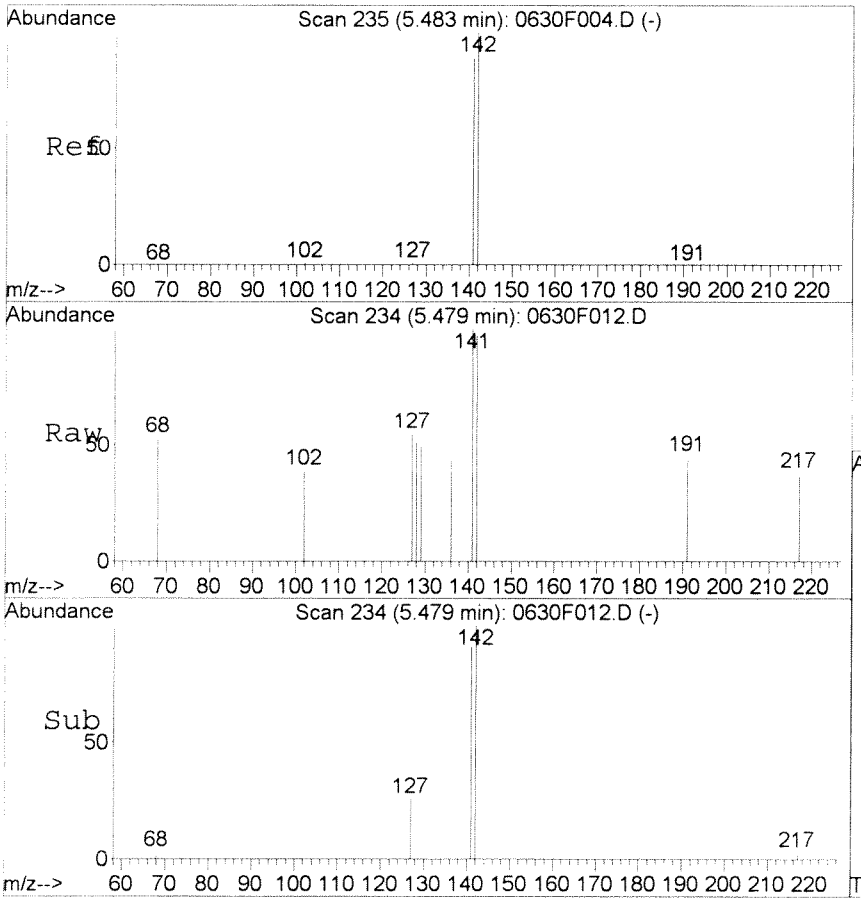


#2
Naphthalene
Concen: 2.52 ng/ml m
RT: 4.93 min Scan# 140
Delta R.T. -0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:128 Resp: 500

Ion	Ratio	Lower	Upper
128	100		
127	21.0	0.0	43.1

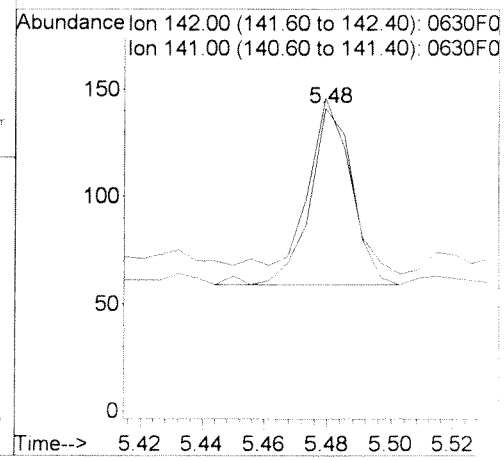


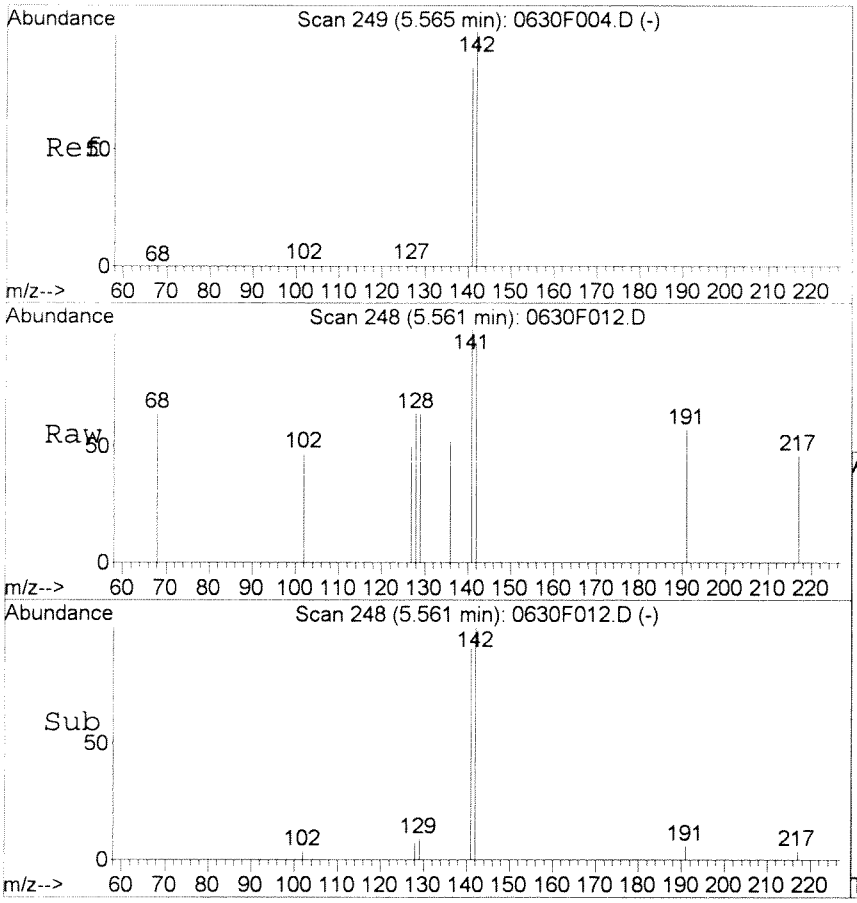


#3
2-Methylnaphthalene
Concen: 0.58 ng/ml
RT: 5.48 min Scan# 234
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:142 Resp: 78

Ion	Ratio	Lower	Upper
142	100		
141	100.0	54.9	114.9

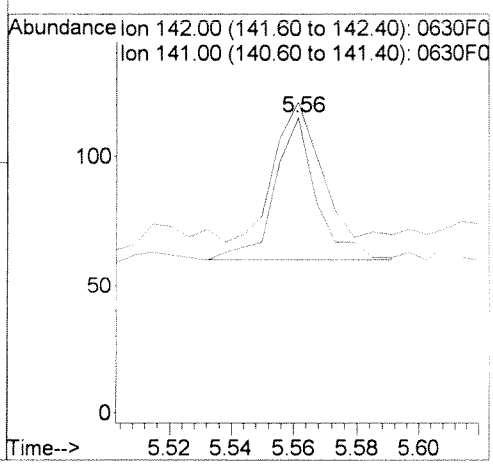


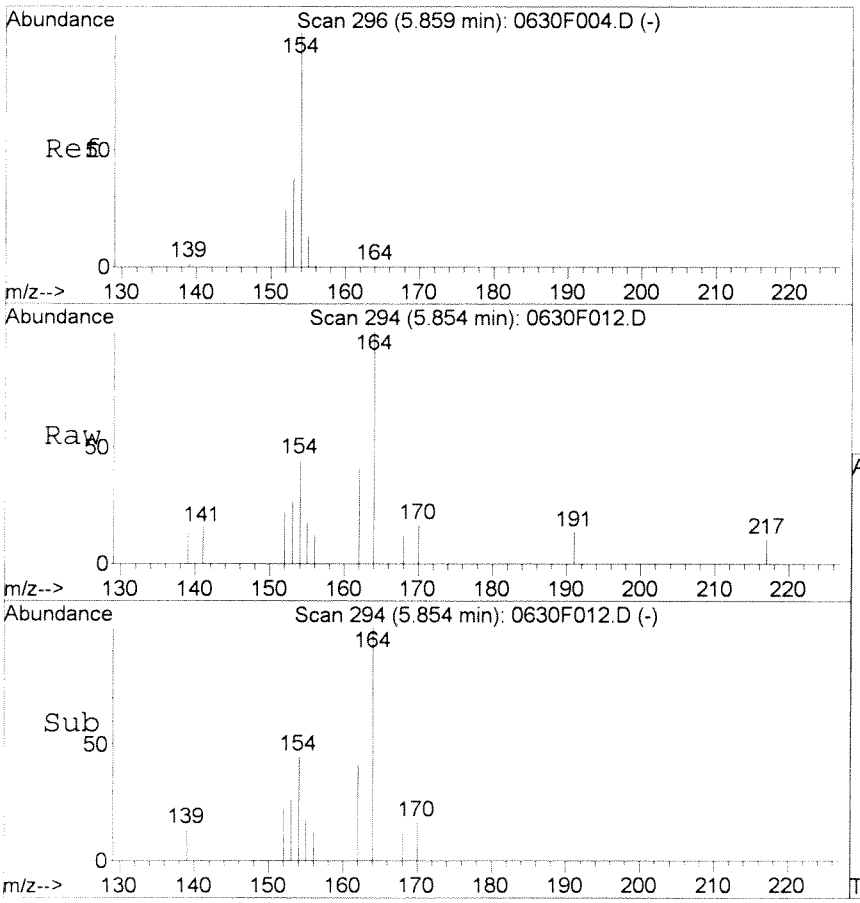


#4
1-Methylnaphthalene
Concen: 0.42 ng/ml
RT: 5.56 min Scan# 248
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:142 Resp: 51

Ion	Ratio	Lower	Upper
142	100		
141	92.7	54.0	114.0

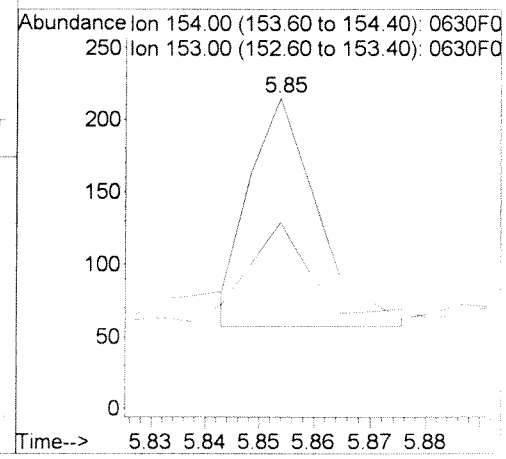


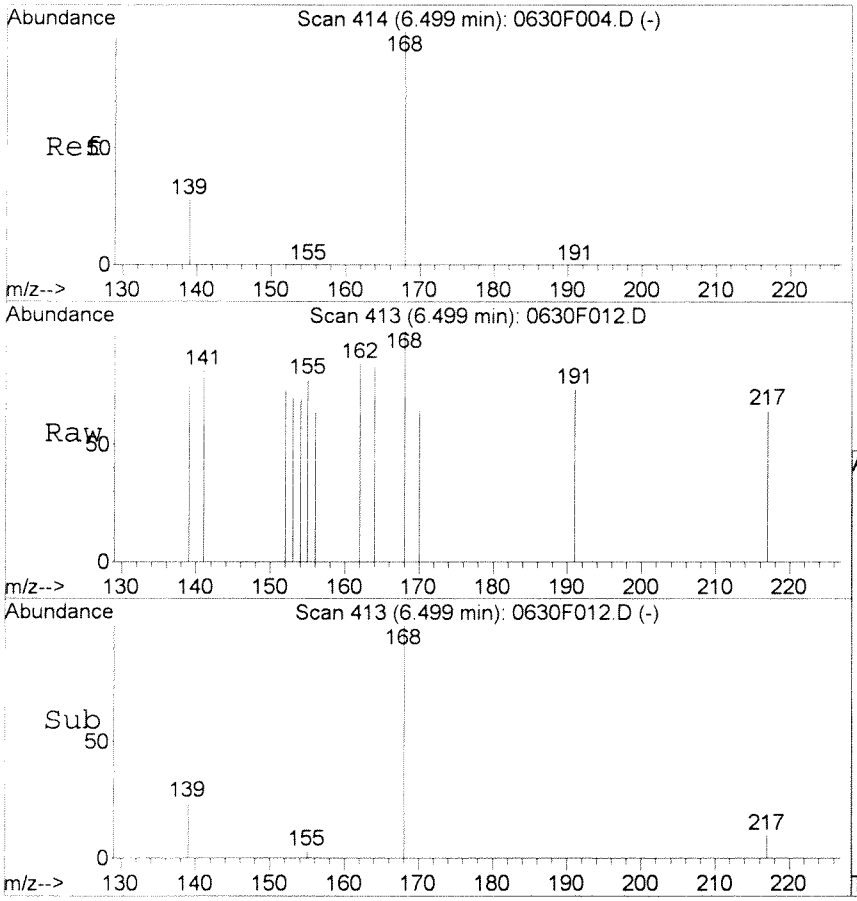


#5
Biphenyl
Concen: 0.87 ng/ml m
RT: 5.85 min Scan# 294
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:154 Resp: 136

Ion	Ratio	Lower	Upper
154	100		
153	60.0	10.0	70.0

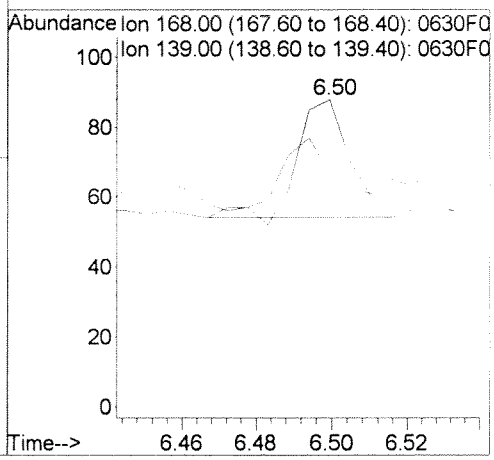


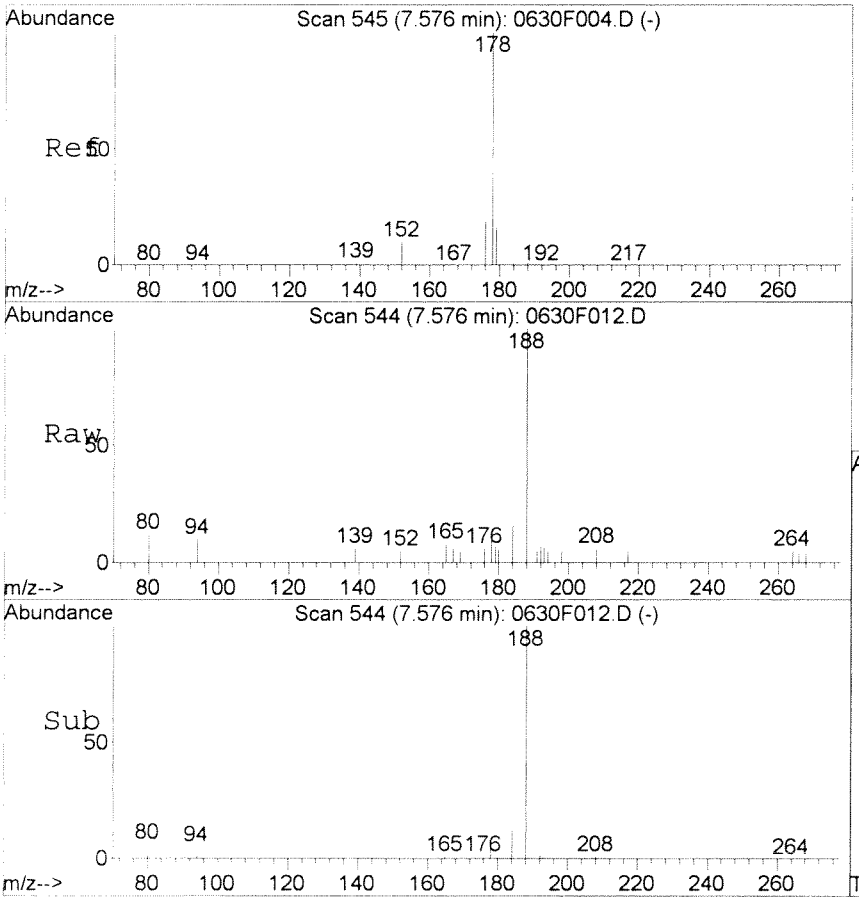


#13
Dibenzofuran
Concen: 0.18 ng/ml
RT: 6.50 min Scan# 413
Delta R.T. 0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:168 Resp: 32

Ion	Ratio	Lower	Upper
168	100		
139	26.5	0.0	47.6

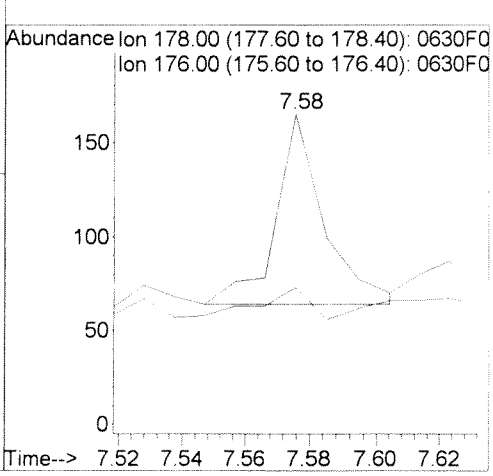


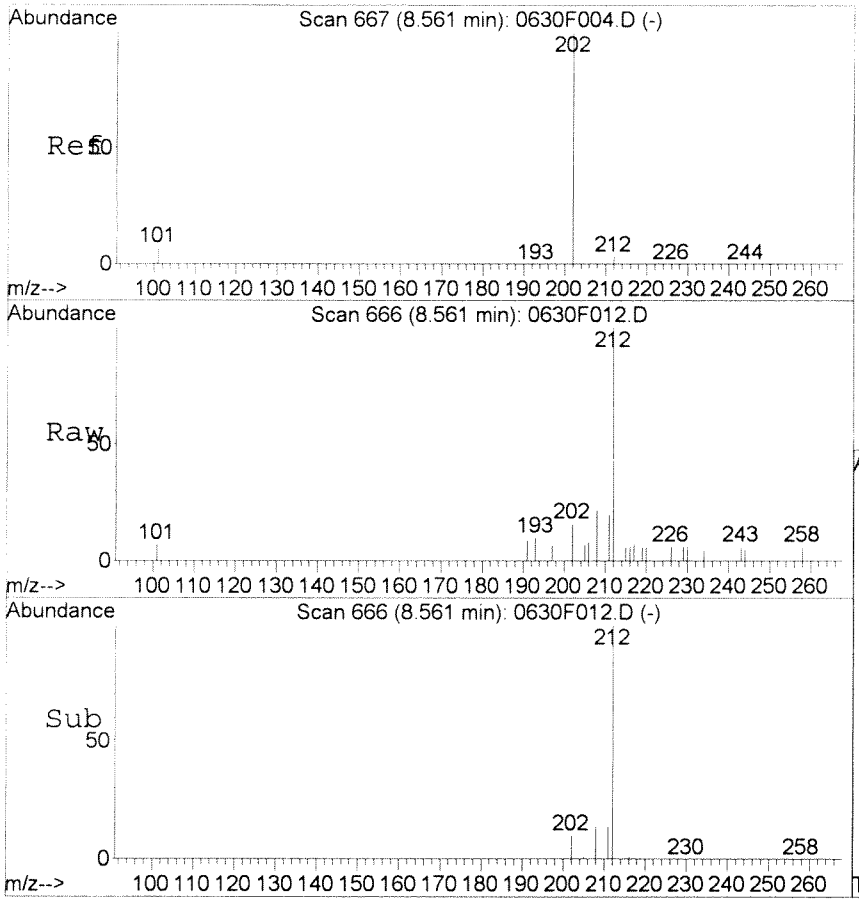


#27
Phenanthrene
Concen: 0.45 ng/ml
RT: 7.58 min Scan# 544
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:178 Resp: 103

Ion	Ratio	Lower	Upper
178	100		
176	14.9	0.0	49.3

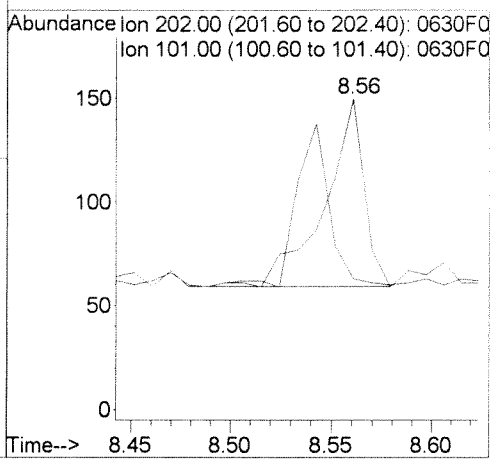


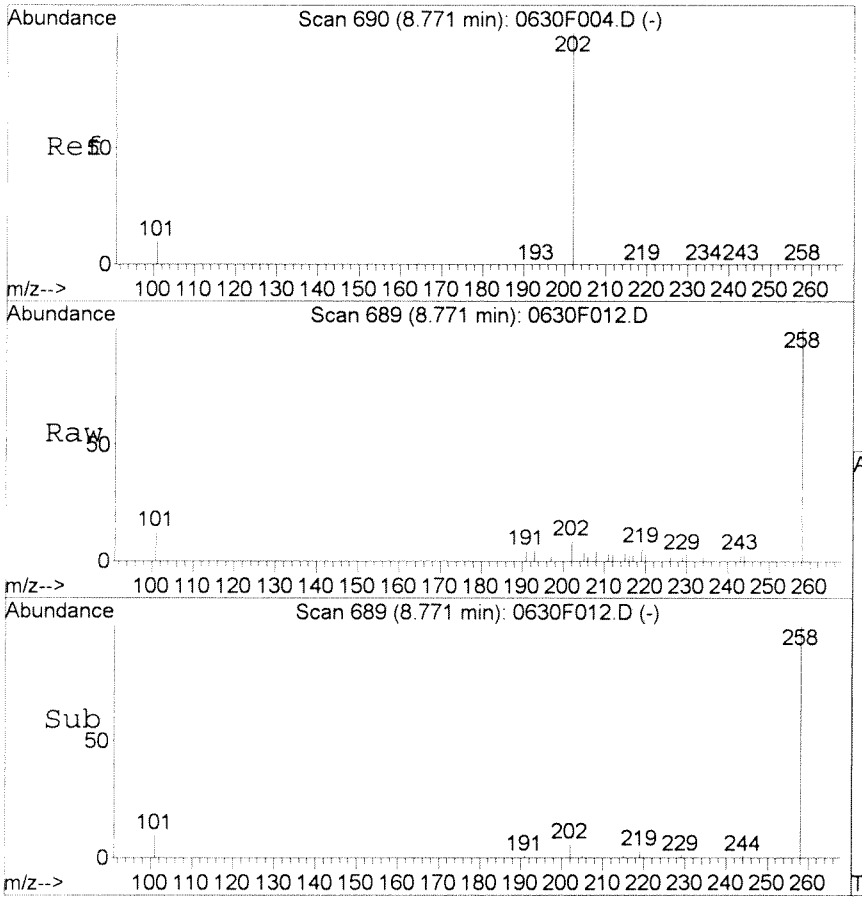


#35
Fluoranthene
Concen: 0.50 ng/ml
RT: 8.56 min Scan# 666
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:202 Resp: 125

Ion	Ratio	Lower	Upper
202	100		
101	4.4	0.0	44.3

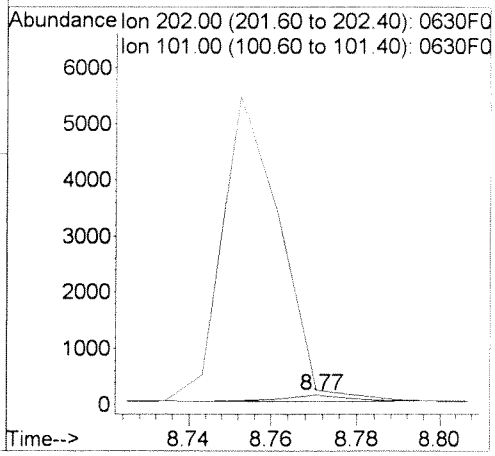


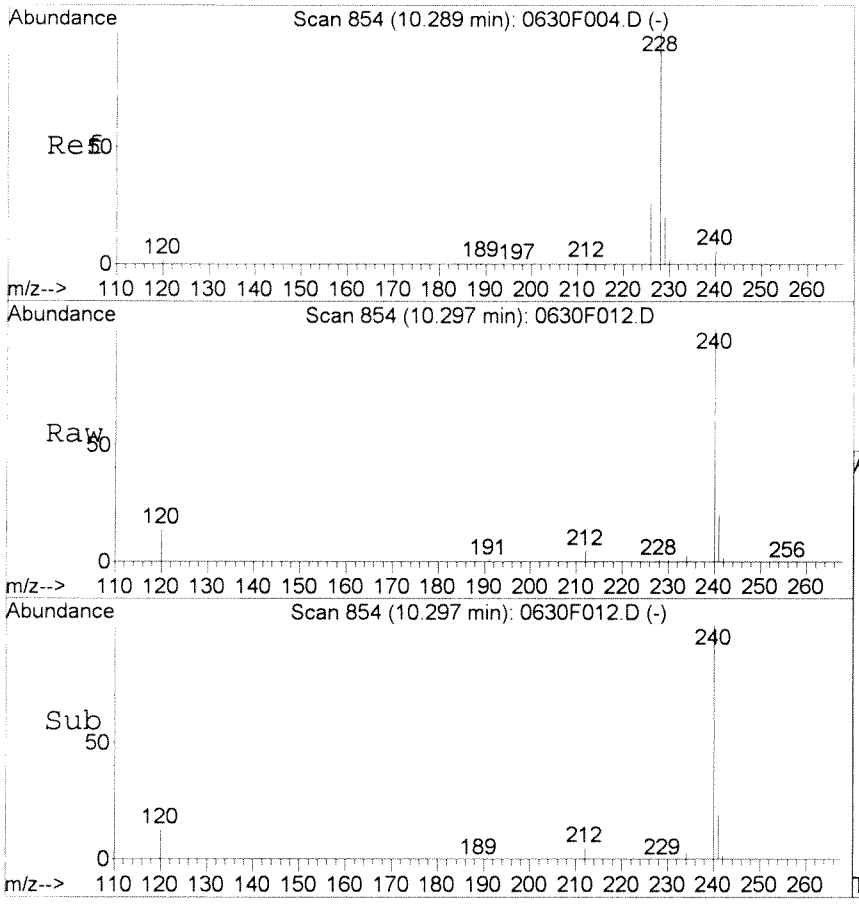


#38
Pyrene
Concen: 0.57 ng/ml m
RT: 8.77 min Scan# 689
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:202 Resp: 135

Ion	Ratio	Lower	Upper
202	100		
101	151.4	0.0	46.7#

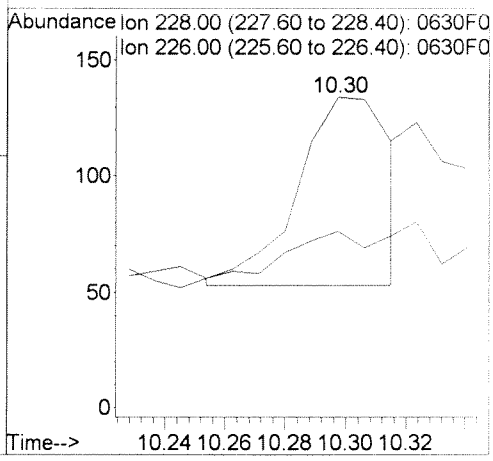


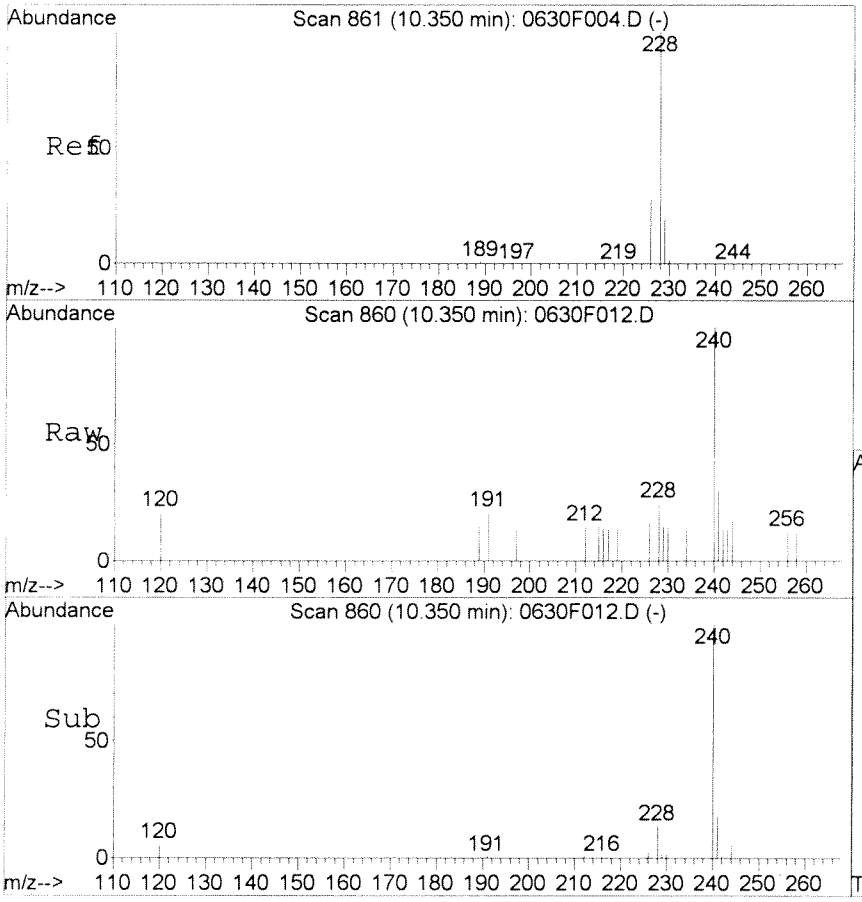


#44
Benz(a)anthracene
Concen: 0.73 ng/ml m
RT: 10.30 min Scan# 854
Delta R.T. 0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:228 Resp: 172

Ion	Ratio	Lower	Upper
228	100		
226	56.7	0.0	55.7#

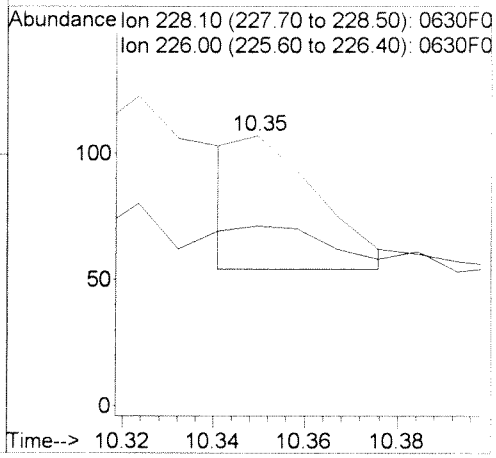


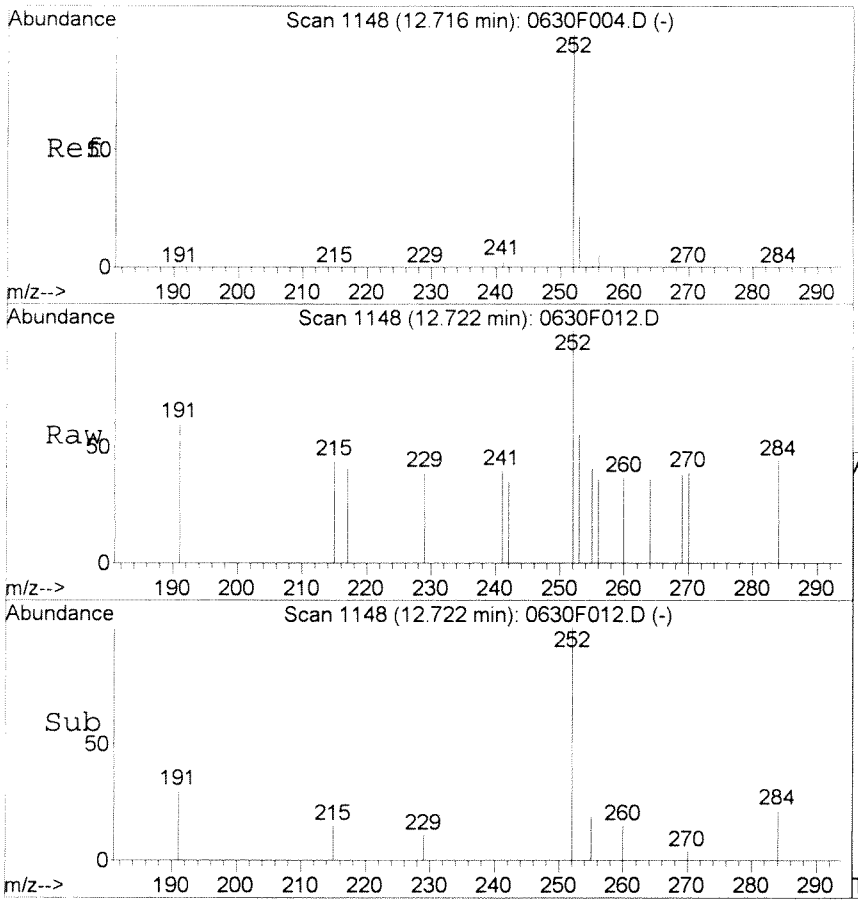


#45
Chrysene
Concen: 0.28 ng/ml m
RT: 10.35 min Scan# 860
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:228 Resp: 63

Ion	Ratio	Lower	Upper
228	100		
226	66.4	0.0	57.9#

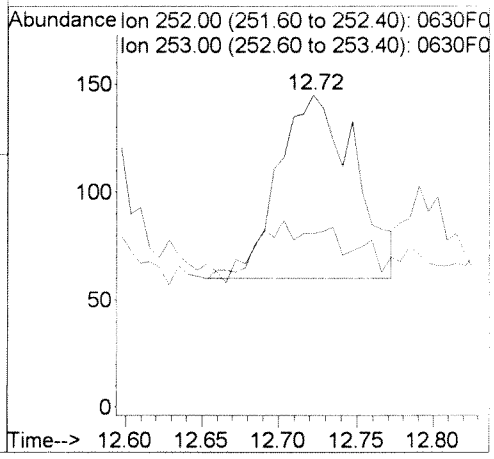


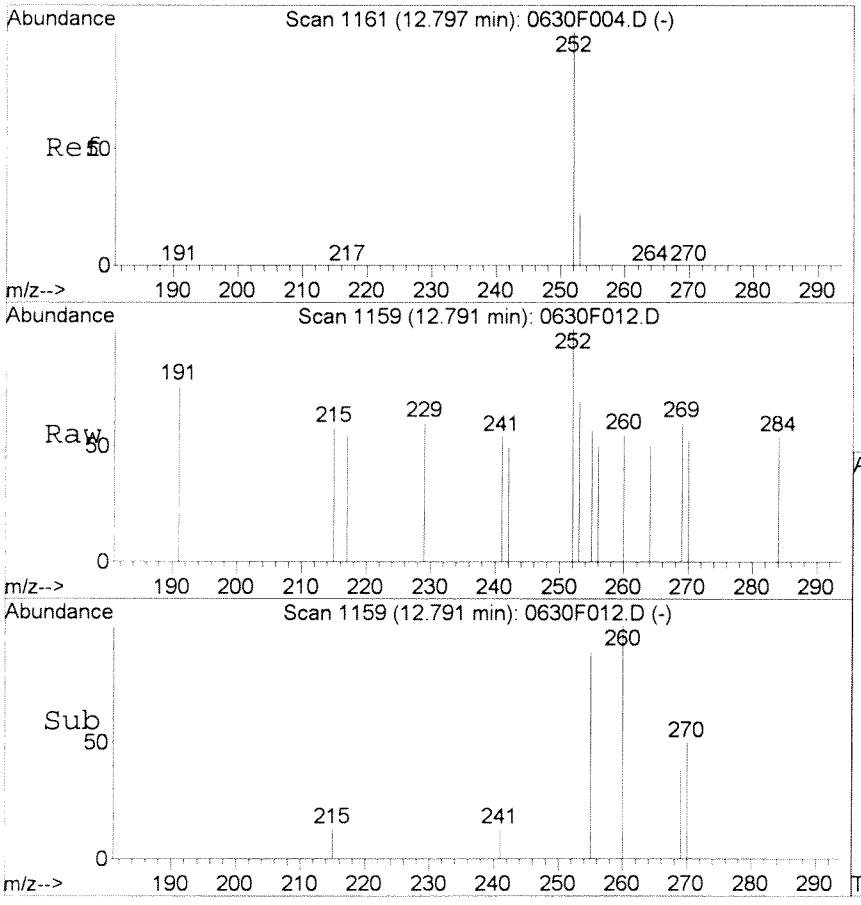


#51
Benzo(b)fluoranthene
Concen: 1.27 ng/ml
RT: 12.72 min Scan# 1148
Delta R.T. 0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:252 Resp: 290

Ion	Ratio	Lower	Upper
252	100		
253	16.5	0.0	52.5

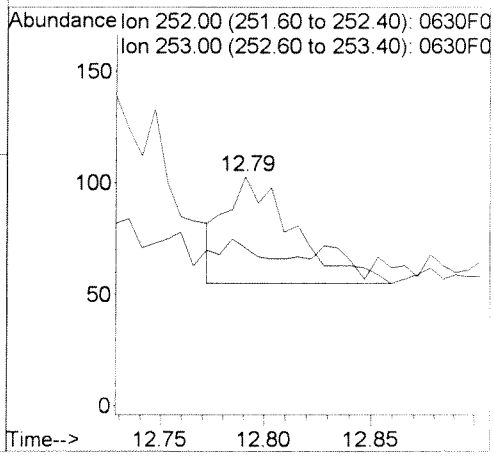


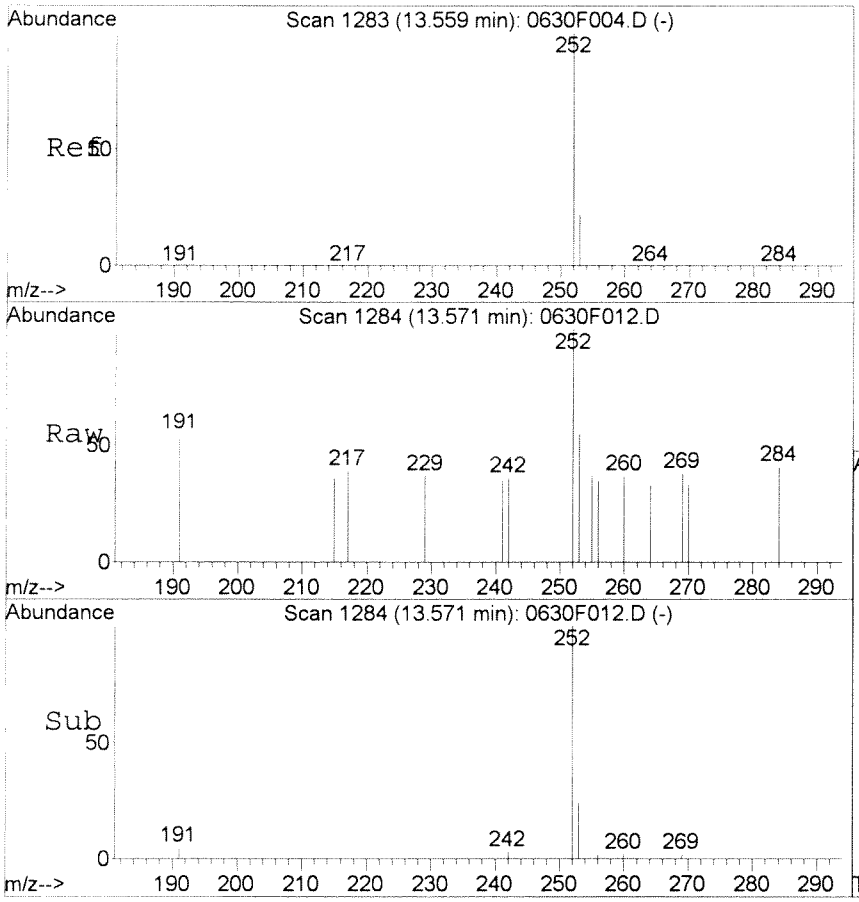


#52
Benzo(k)fluoranthene
Concen: 0.50 ng/ml
RT: 12.79 min Scan# 1159
Delta R.T. -0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:252 Resp: 109

Ion	Ratio	Lower	Upper
252	100		
253	18.8	0.0	52.3

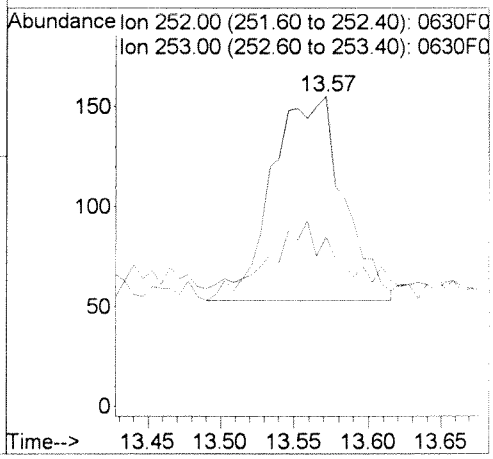


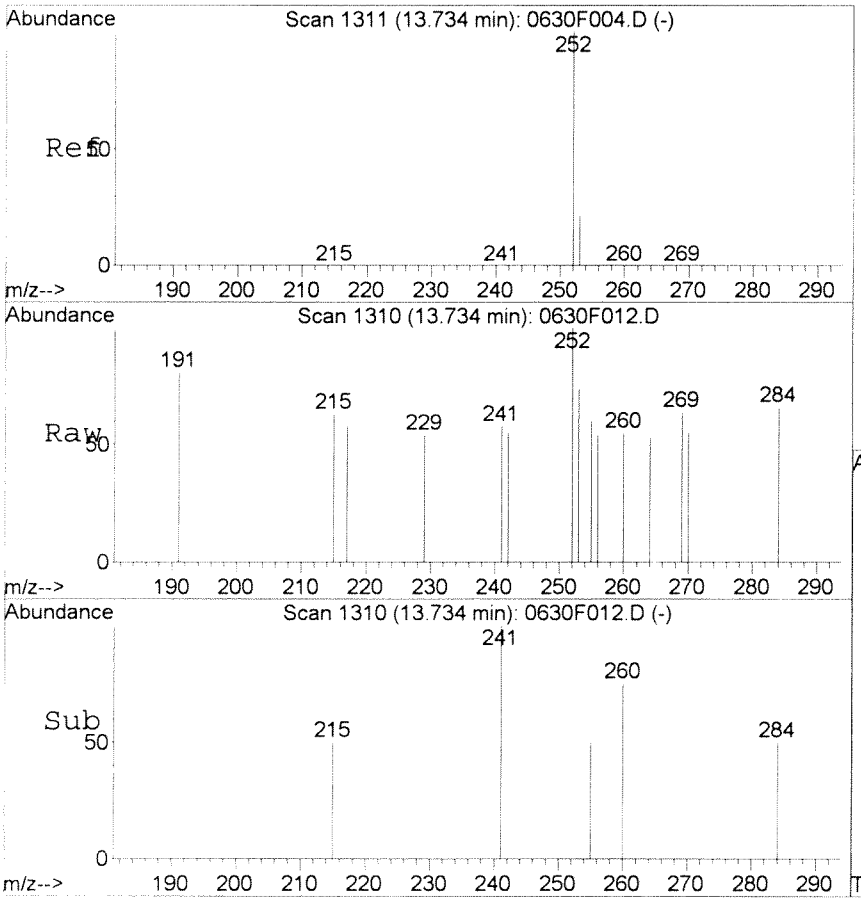


#53
Benzo(e)pyrene
Concen: 1.58 ng/ml
RT: 13.57 min Scan# 1284
Delta R.T. 0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:252 Resp: 338

Ion	Ratio	Lower	Upper
252	100		
253	25.5	0.0	52.1

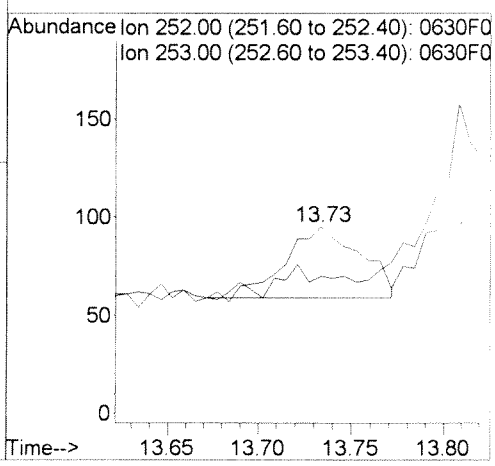


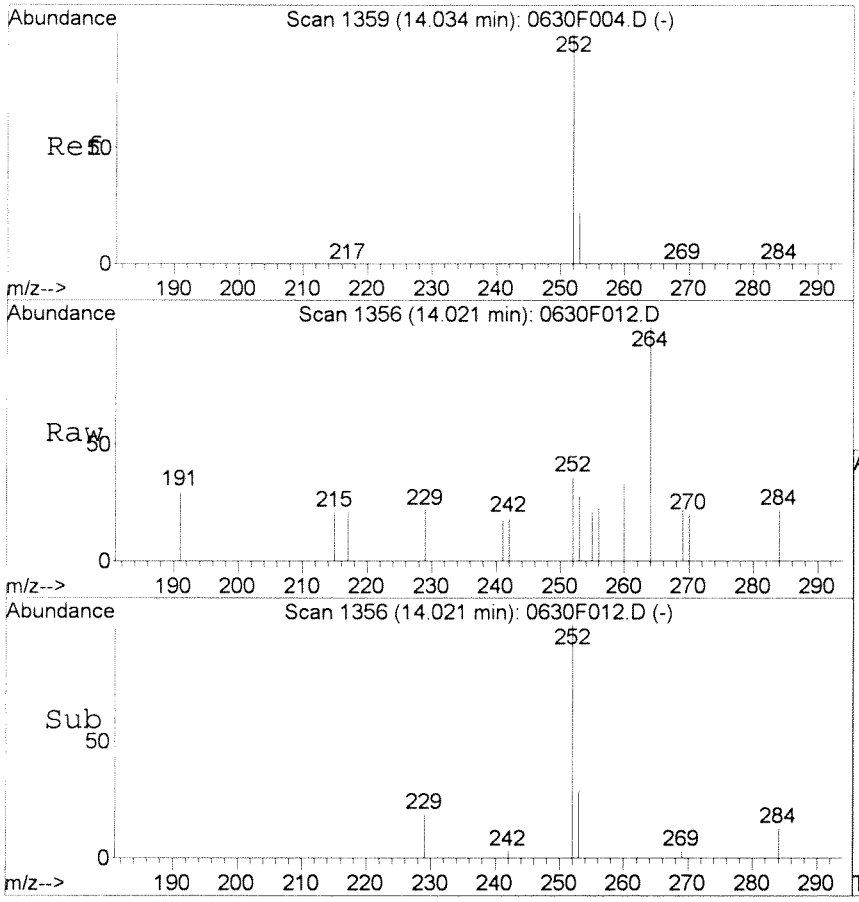


#54
Benzo(a)pyrene
Concen: 0.51 ng/ml
RT: 13.73 min Scan# 1310
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:252 Resp: 101

Ion	Ratio	Lower	Upper
252	100		
253	30.6	0.0	52.5

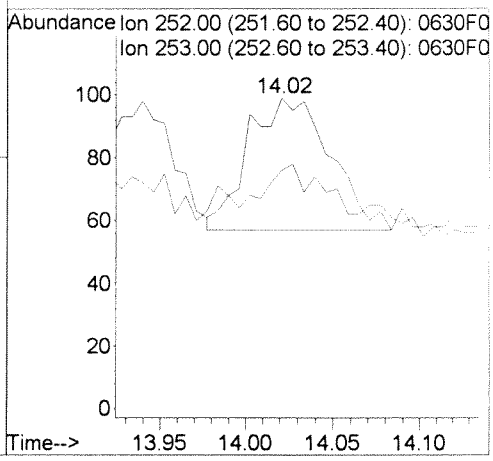


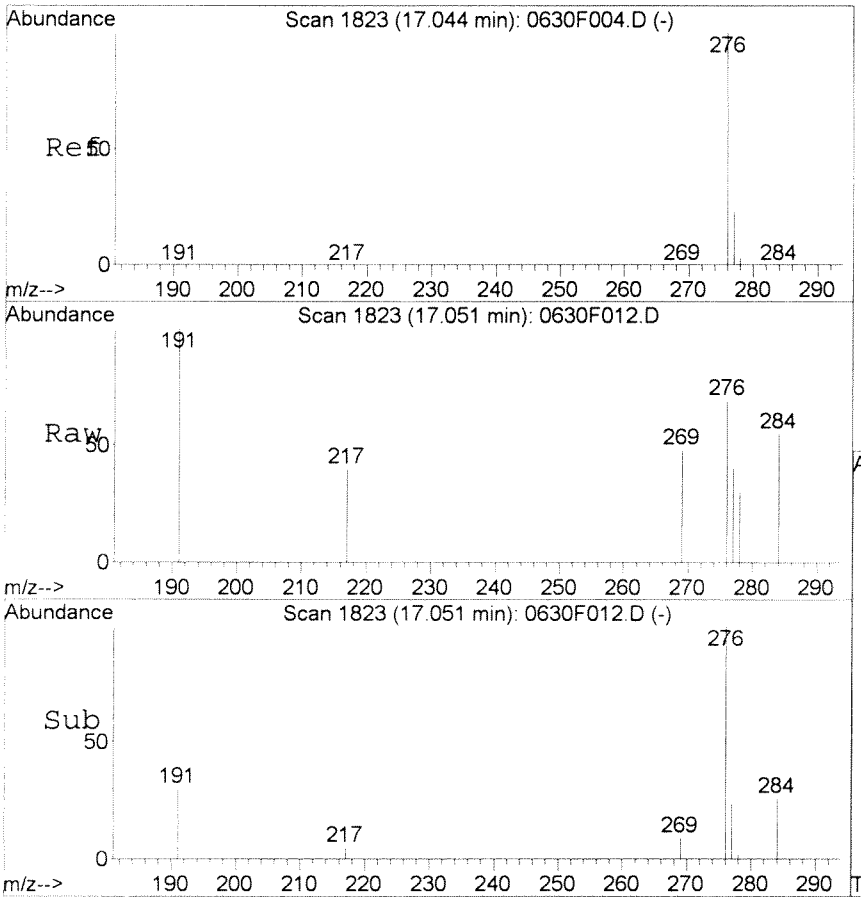


#55
Perylene
Concen: 0.69 ng/ml
RT: 14.02 min Scan# 1356
Delta R.T. -0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:252 Resp: 138

Ion	Ratio	Lower	Upper
252	100		
253	35.7	0.0	52.3

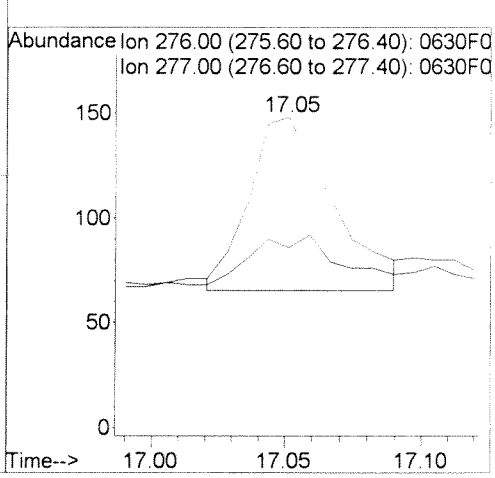


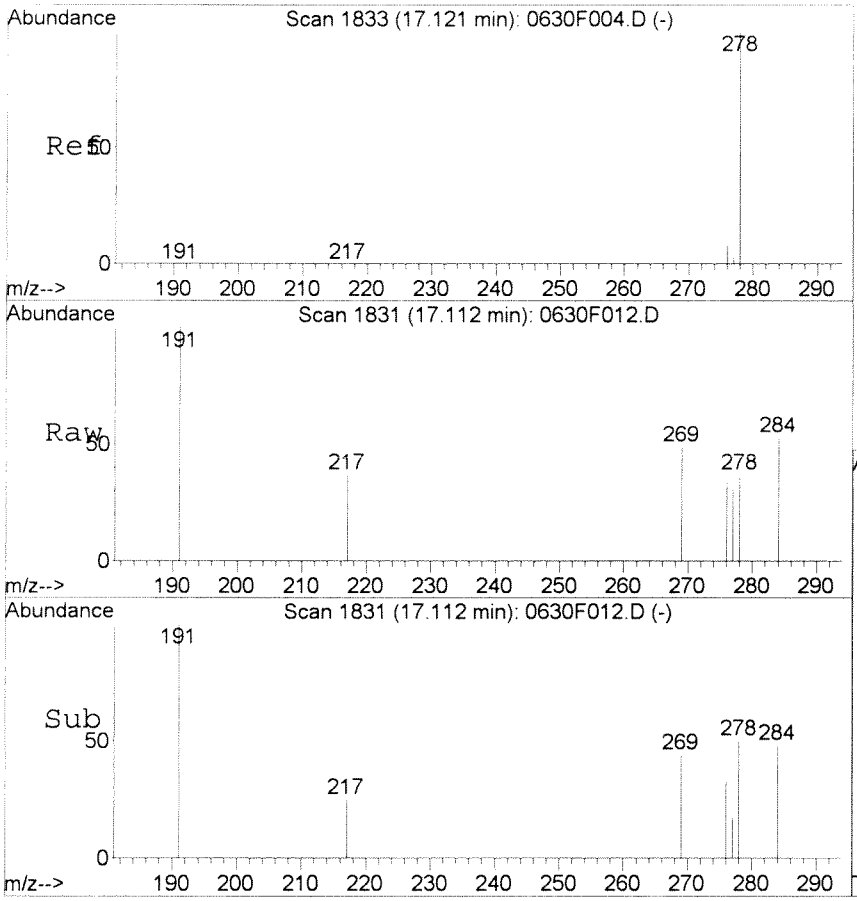


#56
Indeno(1,2,3-cd)pyrene
Concen: 0.95 ng/ml m
RT: 17.05 min Scan# 1823
Delta R.T. 0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:276 Resp: 179

Ion	Ratio	Lower	Upper
276	100		
277	58.1	0.0	54.0#

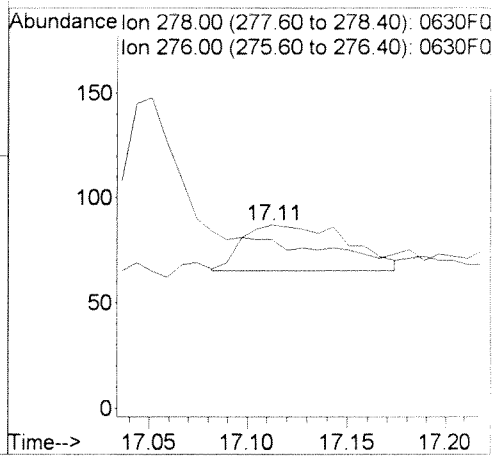


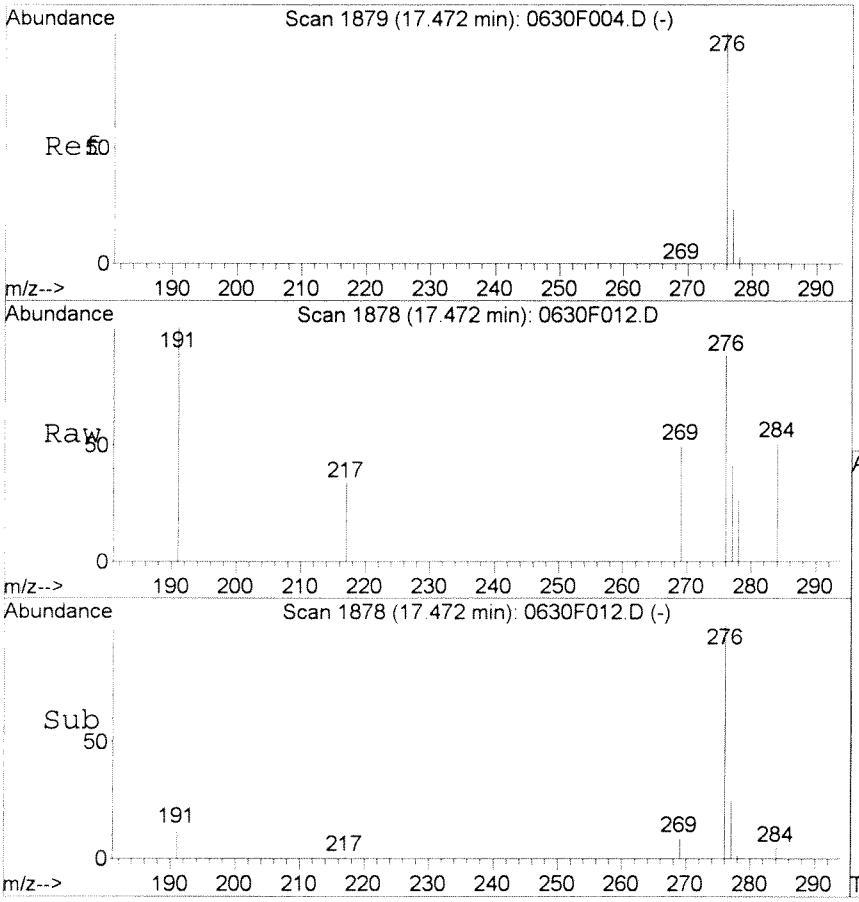


#57
Dibenz(a,h)anthracene
Concen: 0.42 ng/ml m
RT: 17.11 min Scan# 1831
Delta R.T. -0.01 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:278 Resp: 82

Ion	Ratio	Lower	Upper
278	100		
276	92.0	0.0	56.0#

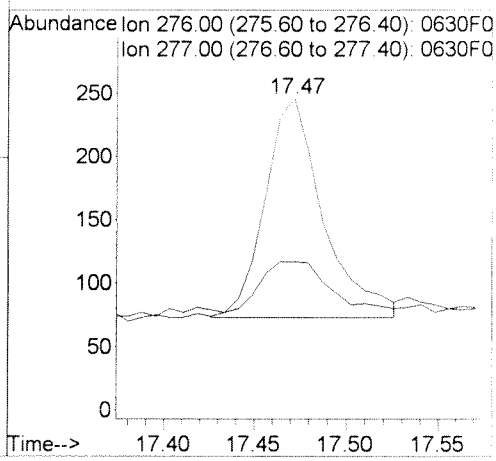




#58
Benzo(g,h,i)perylene
Concen: 1.70 ng/ml m
RT: 17.47 min Scan# 1878
Delta R.T. -0.00 min
Lab File: 0630F012.D
Acq: 30 Jun 2014 11:10 am

Tgt Ion:276 Resp: 380

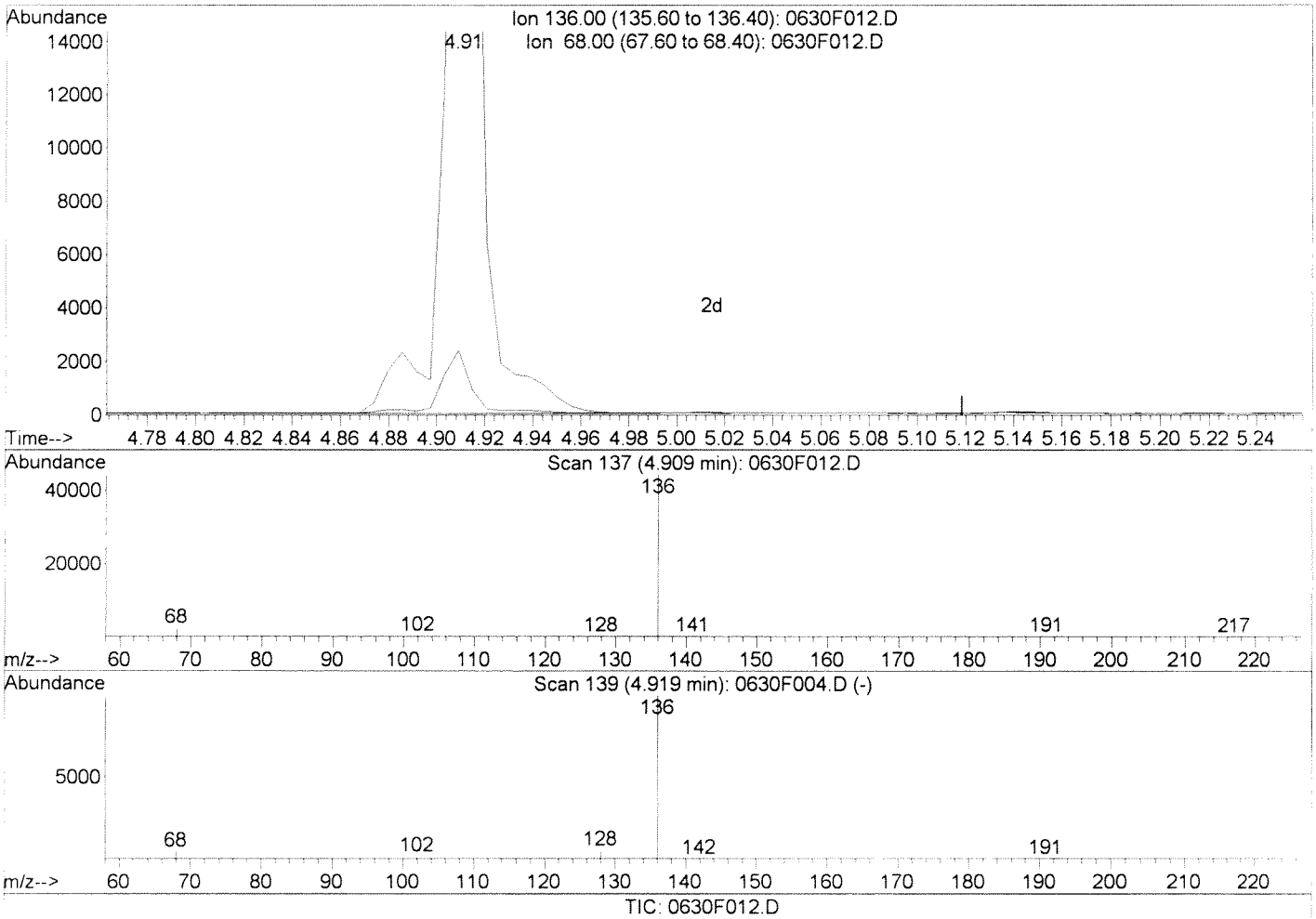
Ion	Ratio	Lower	Upper
276	100		
277	47.6	0.0	54.1



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F012.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 38462

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	5.33
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

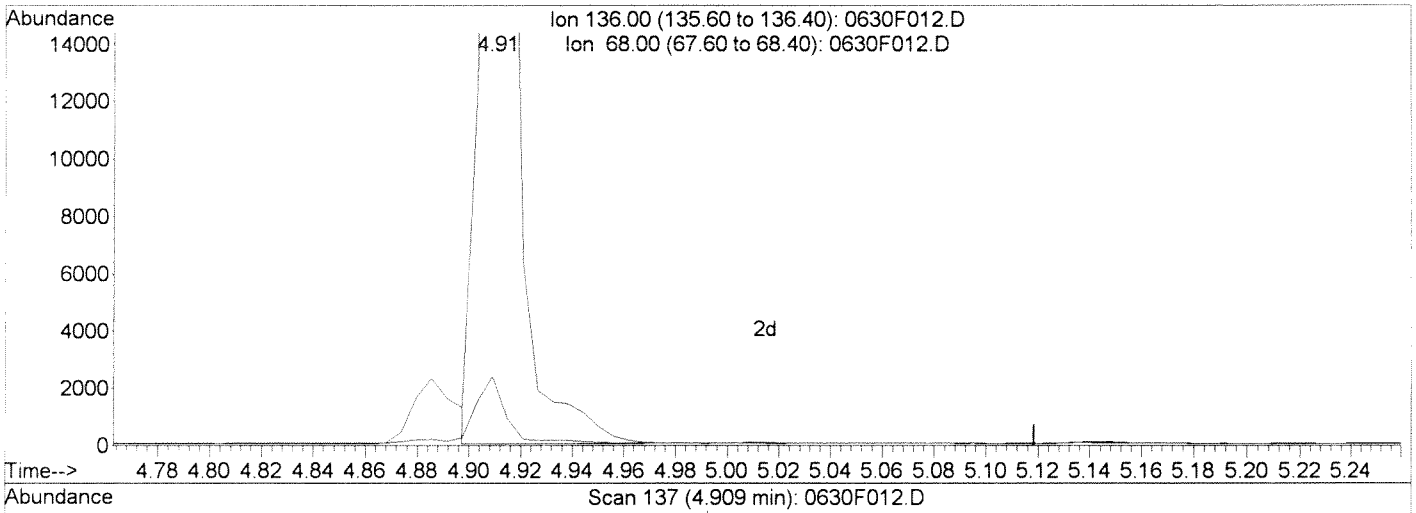
06/30/14

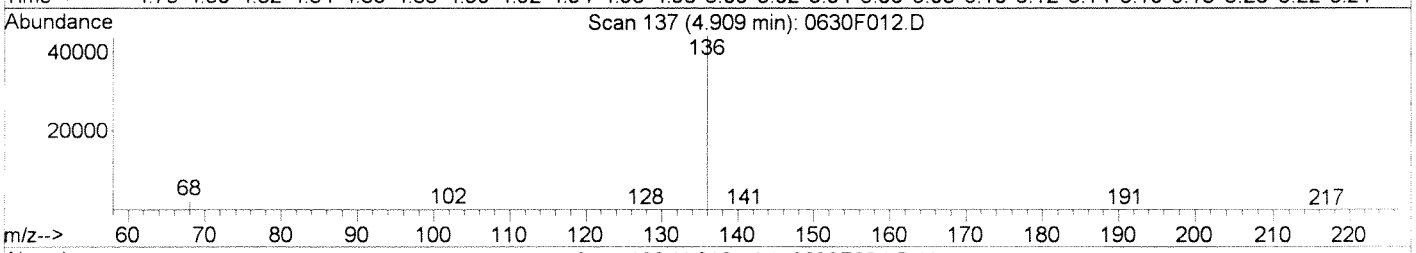
0630F012.D 062914ALK.M Mon Jun 30 12:30:04 2014

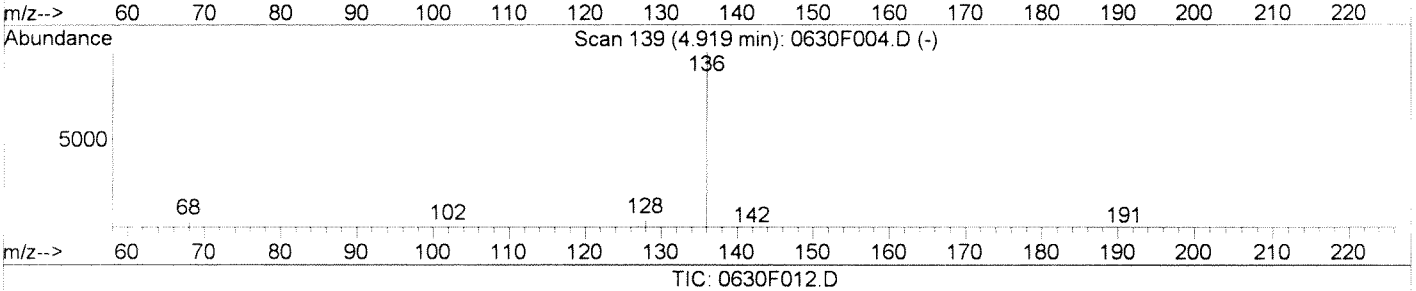
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:30 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F012.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 35828

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	5.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

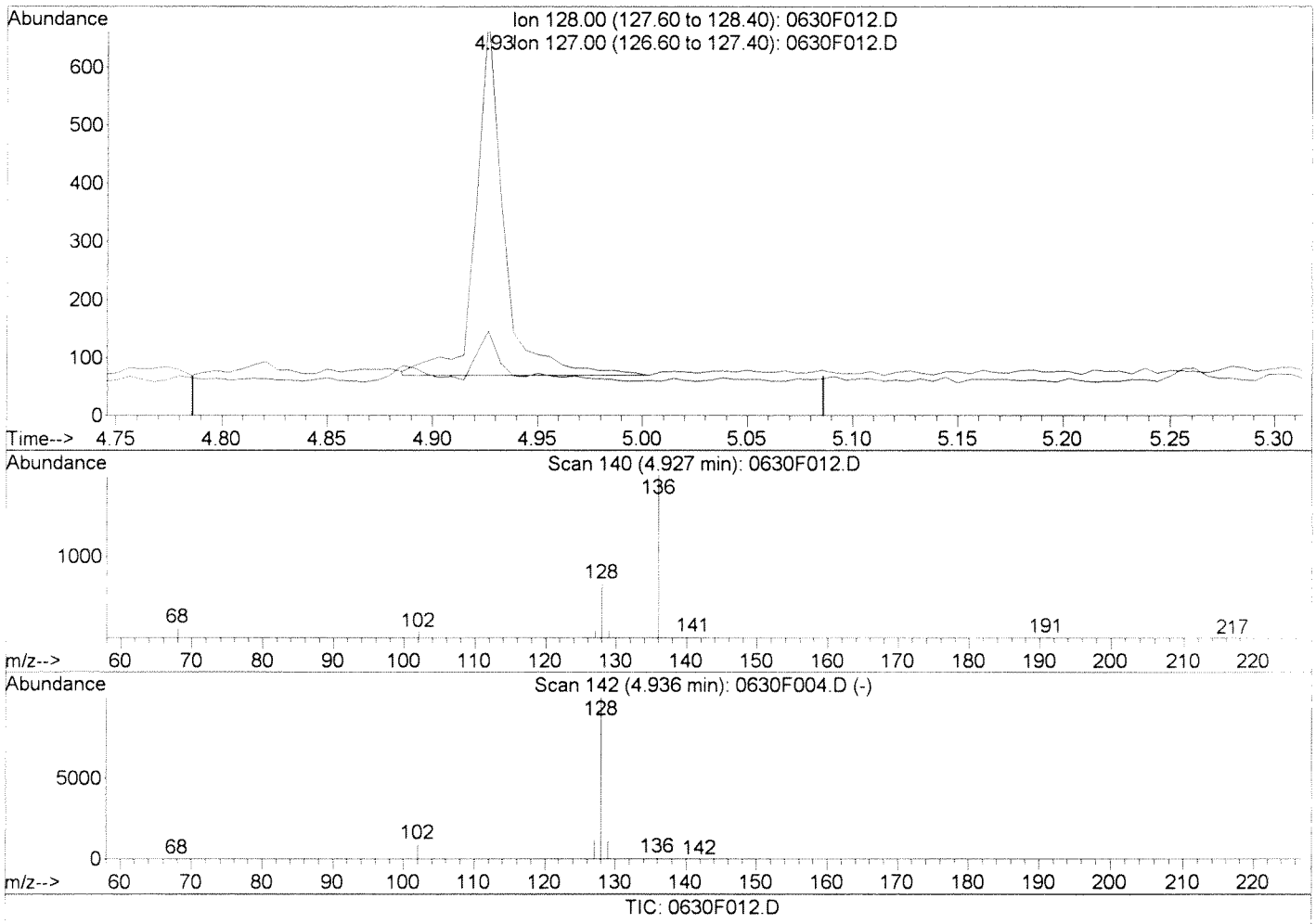
06/30/14

0630F012.D 062914ALK.M Mon Jun 30 12:30:11 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:30 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 2.88ng/ml

response 571

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.74
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

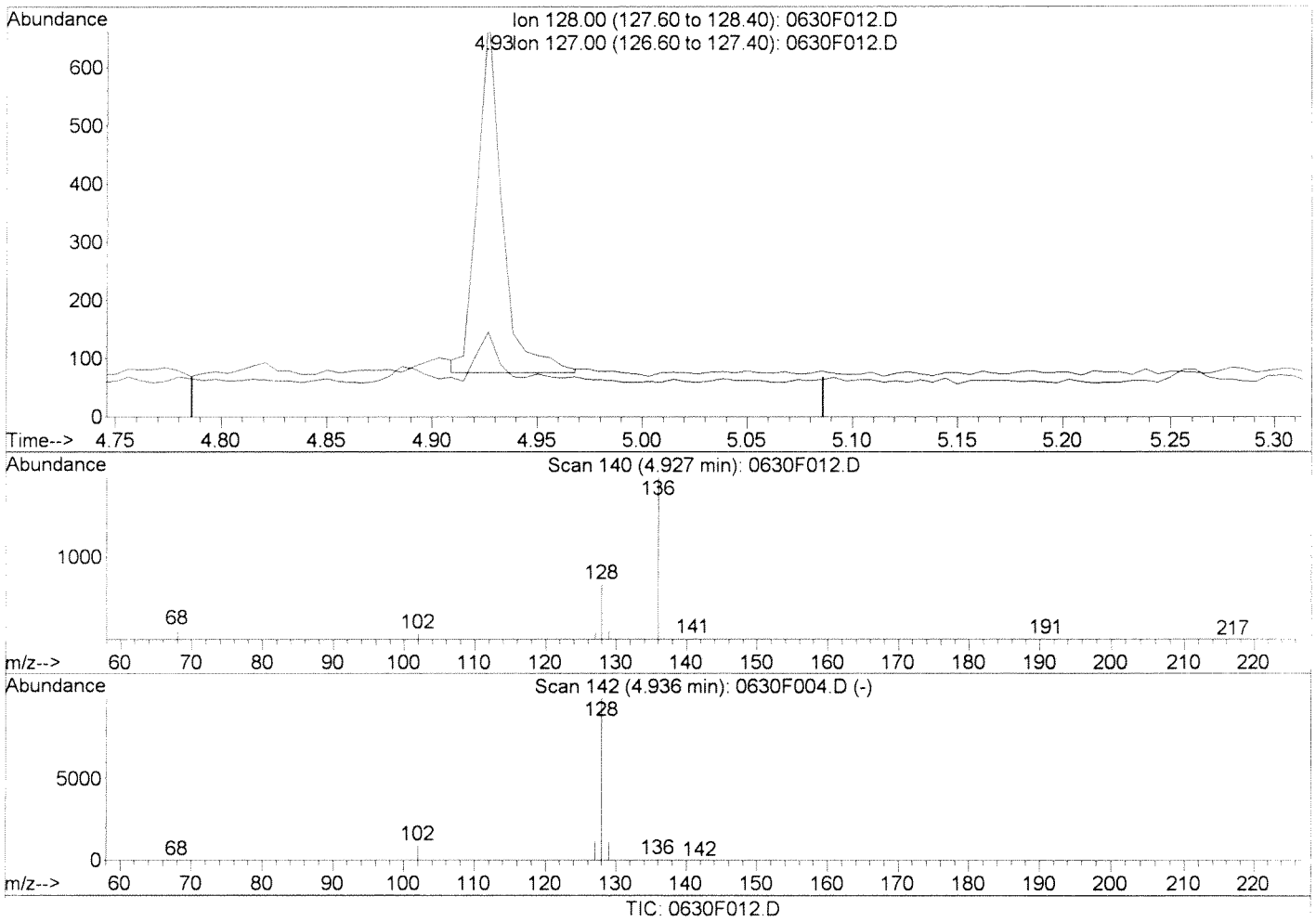
0630F012.D 062914ALK.M Mon Jun 30 12:30:15 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F012.D
Acq On : 30 Jun 2014 11:10 am
Sample : K1405833-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:30 2014

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 2.52ng/ml m

response 500

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	21.01
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

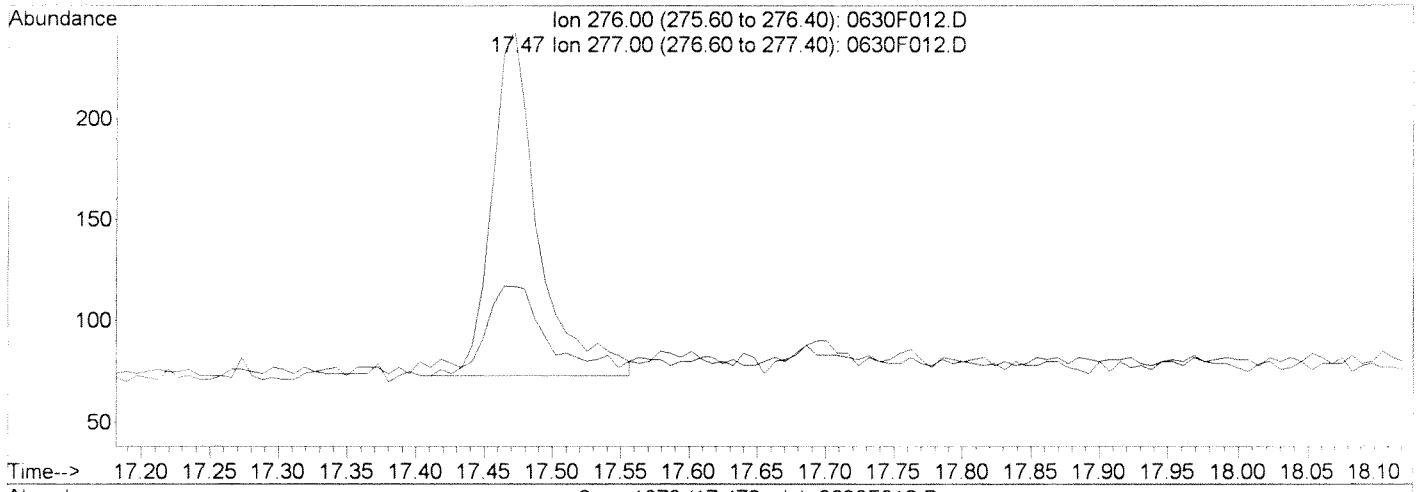
06/30/14

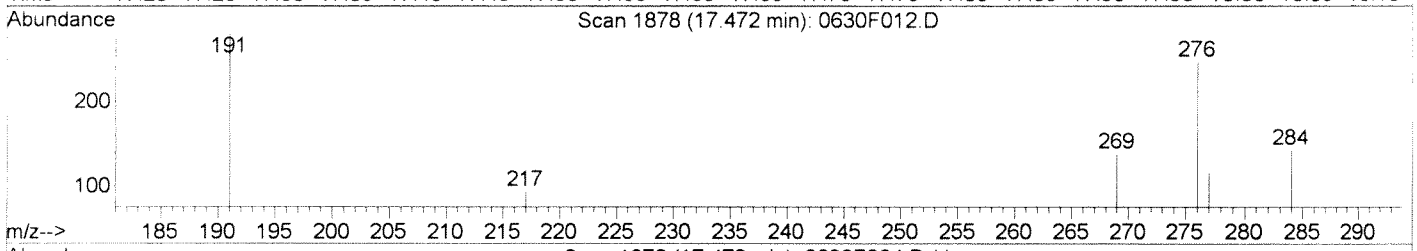
0630F012.D 062914ALK.M Mon Jun 30 12:30:19 2014

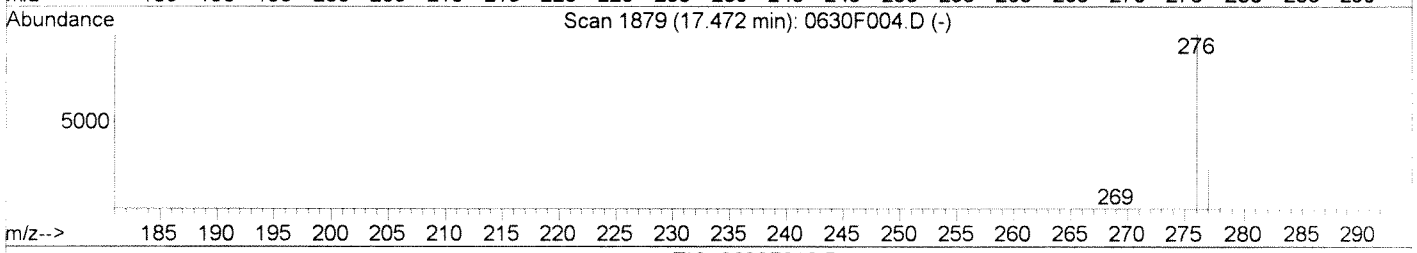
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F012.D Vial: 5
Acq On : 30 Jun 2014 11:10 am Operator: LWeiskopf
Sample : K1405833-003 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:31 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F012.D

(58) Benzo(g,h,i)perylene (T)

17.47min 1.80ng/ml

response 403

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	23.12
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

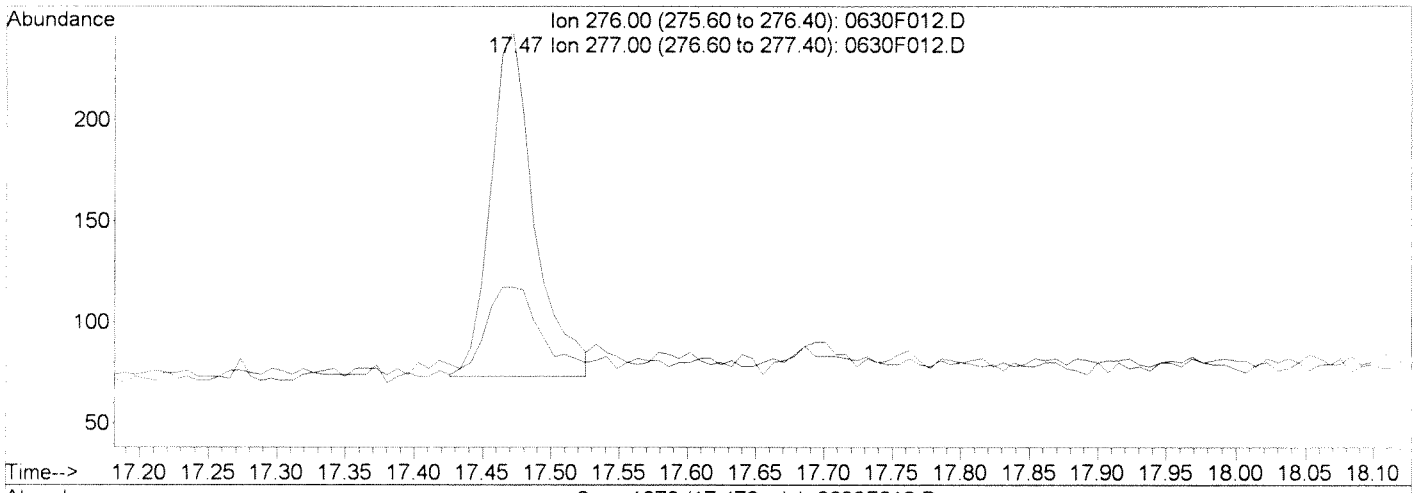
0630F012.D 062914ALK.M Mon Jun 30 12:31:58 2014

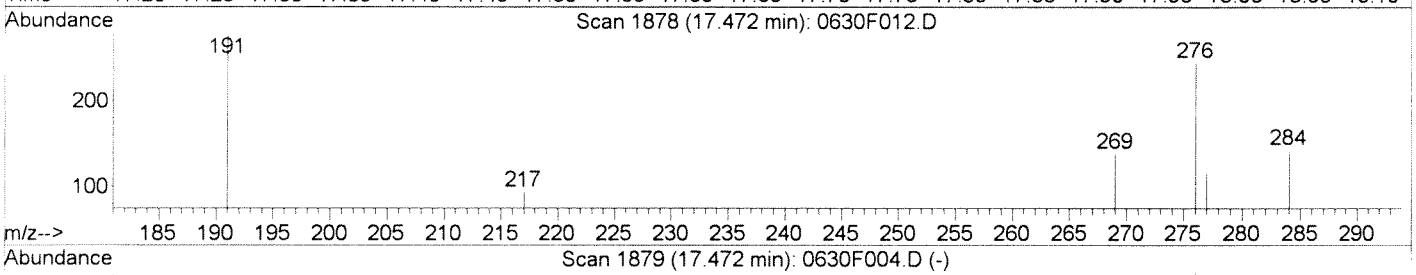
Quantitation Report (Qedit)

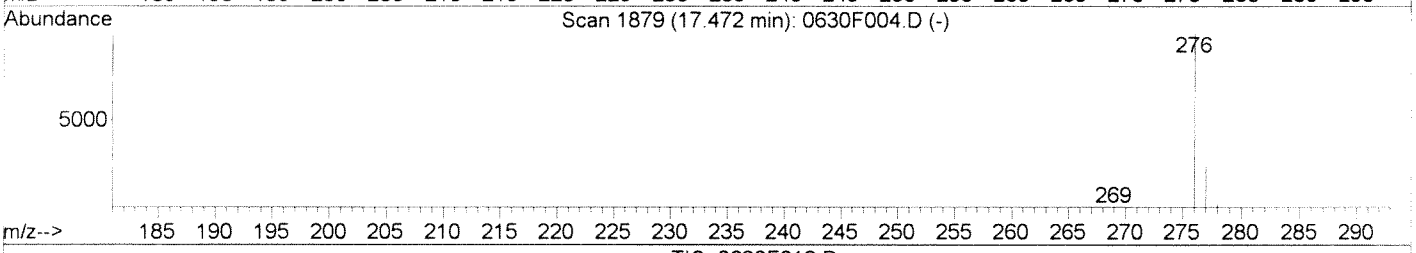
Data File : J:\MS11\DATA\063014A\0630F012.D
Acq On : 30 Jun 2014 11:10 am
Sample : K1405833-003
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:32 2014

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F012.D

(58) Benzo(g,h,i)perylene (T)
17.47min 1.70ng/ml m
response 380

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	47.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
BLC
06/30/14

0630F012.D 062914ALK.M Mon Jun 30 12:32:03 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F011.D
Lab ID: KWG1405687-6
RunType: DUP
Matrix: SOIL

Date Acquired: 06/30/2014 10:43
Date Quantitated: 06/30/2014 12:29
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

Sample Exceptions

K1405833-002 Dup

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	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NT

Primary Review: JUN 30 2014

Secondary Review:

Printed: 06/30/2014 12:54:09
u \Stealth\Crystal rpt\except2 rpt

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F011.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 10:43	**Quant Date:**	06/30/2014 12:29	**Vial:**	4
Run Type:	DUP			**Dilution:**	1.0
Lab ID:	KWG1405687-6			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347941	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	34860m	200.00	OK
2	Acenaphthene-d10	6.32	-0.01	164	21932	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	42103	200.00	OK
4	Chrysene-d12	10.31	0.00	240	48544	200.00	OK
5	Perylene-d12	13.94	0.00	264	44375	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	6.75	0.00	0.00	176	13944	95.41	48	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.55	0.01	0.00	212	30379	113.12	57	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	27536	118.59	59	35-109	OK	

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?
1	Naphthalene	4.92	-0.02	0.00	128	1521m	7.88	13.7		
1	2-Methylnaphthalene	5.48		0.00	142	391	2.99	5.19	J	
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	209	1.78	3.09	J	
1	Biphenyl	5.85	-0.01	0.00	154	308m	2.02	3.51	J	
1	2,6-Dimethylnaphthalene	5.99		0.00	156	198	1.81	3.14	J	
1	C2-Naphthalenes				156	0		8.7	U	
1	C3-Naphthalenes				170	0		8.7	U	
1	C4-Naphthalenes				184	0		8.7	U	
2	Acenaphthylene	6.21		0.00	152	2604m	12.02	20.9		
2	Acenaphthene	6.35	-0.01	0.00	154	204	1.55	2.69	J	
2	Dibenzofuran	6.50		0.00	168	272	1.42	2.47	J	
2	2,3,5-Trimethylnaphthalene	6.66	-0.01	0.00	170	153m	1.23	2.14	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:\MS11\DATA\063014A\0630F011.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 10:43	**Quant Date:**	06/30/2014 12:29	**Vial:**	4
Run Type:	DUP			**Dilution:**	1.0
Lab ID:	KWG1405687-6			**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?
2	Fluorene	6.77		0.00	166	569**m**	3.57	6.20	J	
2	C1-Fluorenes				180	0		8.7	U	
2	C2-Fluorenes				194	0		8.7	U	
2	C3-Fluorenes				208	0		8.7	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	229	1.02	1.77	J	
3	C1-Dibenzothiophenes				198	0		8.7	U	
3	C2-Dibenzothiophenes				212	0		8.7	U	
3	C3-Dibenzothiophenes				226	0		8.7	U	
3	Phenanthrene	7.58		0.00	178	2133	8.82	15.3		
3	Anthracene	7.62	0.01	0.00	178	5570**m**	23.73	41.2		
3	Carbazole	7.76	0.01	0.00	167	321**m**	1.54	4.0	U	
3	1-Methylphenanthrene				192	0		0.49	U	
3	C1-Phenanthrenes/Anthracenes				192	0		8.7	U	
3	C2-Phenanthrenes/Anthracenes				206	0		8.7	U	
3	C3-Phenanthrenes/Anthracenes				220	0		8.7	U	
3	C4-Phenanthrenes/Anthracenes				234	0		8.7	U	
3	Fluoranthene	8.57	0.01	0.00	202	19890	74.37	129		
4	Pyrene	8.78	0.01	0.00	202	22623	80.87	140		
4	C1-Fluoranthenes/Pyrenes				216	0		8.7	U	
4	C2-Fluoranthenes/Pyrenes				230	0		8.7	U	
4	C3-Fluoranthenes/Pyrenes				244	0		8.7	U	
4	C4-Fluoranthenes/Pyrenes				258	0		8.7	U	
4	Benz(a)anthracene	10.29		0.00	228	12547	44.97	78.1		
4	Chrysene	10.35		0.00	228	19320	73.44	128		
4	C1-Chrysenes				242	0		8.7	U	
4	C2-Chrysenes				256	0		8.7	U	
4	C3-Chrysenes				270	0		8.7	U	
4	C4-Chrysenes				284	0		8.7	U	
5	Benzo(b)fluoranthene	12.73	0.01	0.00	252	24836	88.89	154		
5	Benzo(k)fluoranthene	12.80		0.00	252	8446	31.63	54.9		
5	Benzo(e)pyrene	13.57	0.01	0.00	252	11711	44.69	77.6		
5	Benzo(a)pyrene	13.74	0.01	0.00	252	13137	53.52	92.9		
5	Perylene	14.03		0.00	252	8949	36.20	62.9		
5	Indeno(1,2,3-cd)pyrene	17.05	0.01	0.00	276	8173**m**	35.46	61.6		
5	Dibenz(a,h)anthracene	17.11	-0.01	0.00	278	2128	8.84	15.3		
5	Benzo(g,h,i)perylene	17.47		0.00	276	9402	34.16	59.3		

Prep Amount:	20.352 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	28.3 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:31 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	34860m	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.32	164	21932	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	42103	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	48544	200.00	ng/ml	0.00
50) Perylene-d12	13.94	264	44375	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	13944	95.41	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	9.54%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.55	212	30379	113.12	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	11.31%		
43) Terphenyl-d14	8.93	244	27536	118.59	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	11.86%		
Target Compounds						Qvalue
2) Naphthalene	4.92	128	1521m	7.88	ng/ml	
3) 2-Methylnaphthalene	5.48	142	391	2.99	ng/ml	90
4) 1-Methylnaphthalene	5.56	142	209	1.78	ng/ml	95
5) Biphenyl	5.85	154	308m	2.02	ng/ml	
6) 2,6-Dimethylnaphthalene	5.99	156	198	1.81	ng/ml	87
11) Acenaphthylene	6.21	152	2604m	12.02	ng/ml	
12) Acenaphthene	6.35	154	204	1.55	ng/ml	92
13) Dibenzofuran	6.50	168	272	1.42	ng/ml	70
14) 2,3,5-Trimethylnaphthalene	6.66	170	153m	1.23	ng/ml	
16) Fluorene	6.77	166	569m	3.57	ng/ml	
23) Dibenzothiophene	7.47	184	229	1.02	ng/ml	91
27) Phenanthrene	7.58	178	2133	8.82	ng/ml	96
28) Anthracene	7.62	178	5570m	23.73	ng/ml	
29) Carbazole	7.76	167	321m	1.54	ng/ml	
35) Fluoranthene	8.57	202	19890	74.37	ng/ml	88
38) Pyrene	8.78	202	22623	80.87	ng/ml	83
44) Benz(a)anthracene	10.29	228	12547	44.97	ng/ml	84
45) Chrysene	10.35	228	19320	73.44	ng/ml	97
51) Benzo(b)fluoranthene	12.73	252	24836	88.89	ng/ml	98
52) Benzo(k)fluoranthene	12.80	252	8446	31.63	ng/ml	100
53) Benzo(e)pyrene	13.57	252	11711	44.69	ng/ml	100
54) Benzo(a)pyrene	13.74	252	13137	53.52	ng/ml	98
55) Perylene	14.03	252	8949	36.20	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.05	276	8173m	35.46	ng/ml	
57) Dibenz(a,h)anthracene	17.11	278	2128	8.84	ng/ml	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:31 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

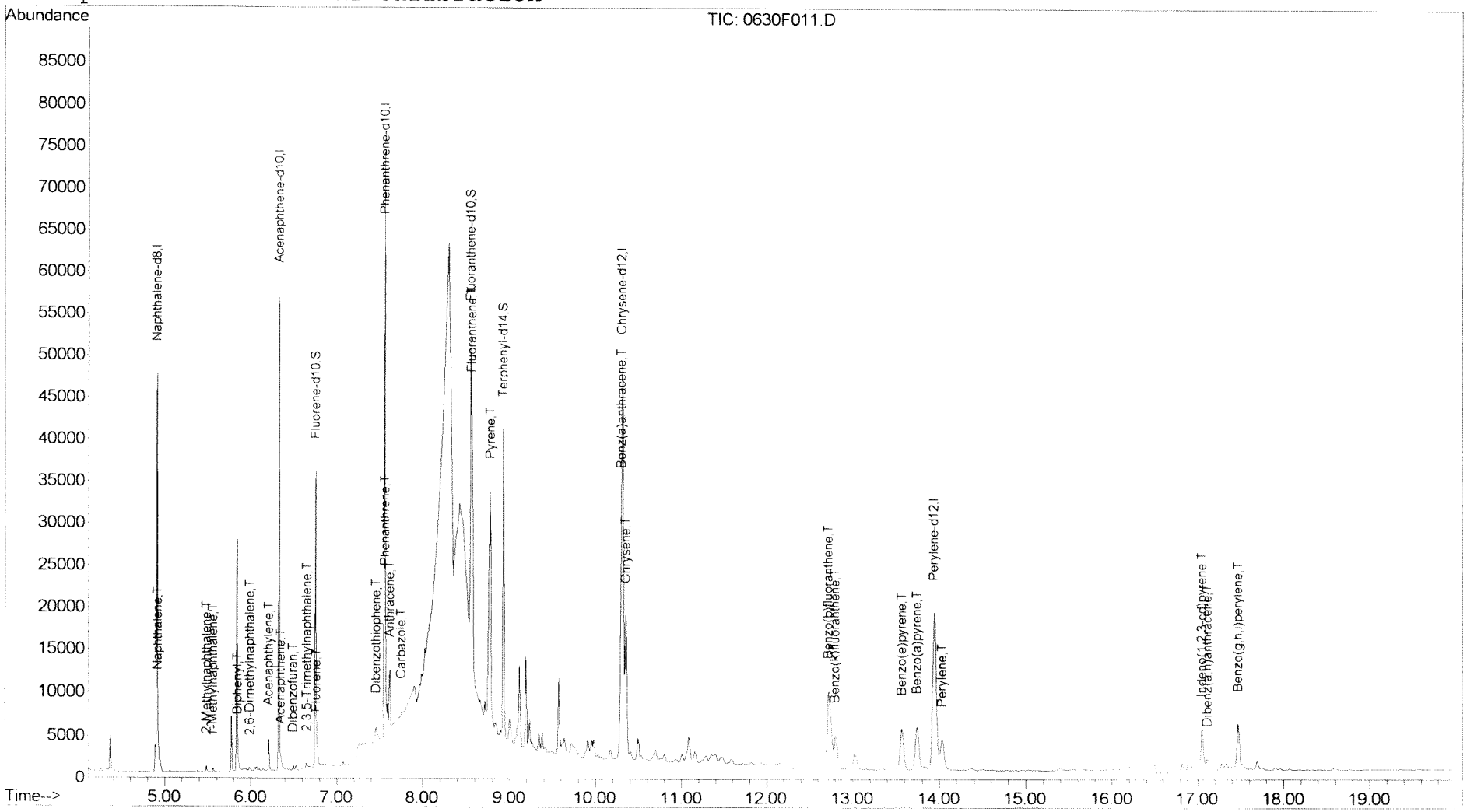
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58)	Benzo(g,h,i)perylene	17.47	276	9402	34.16	ng/ml	100

(#) = qualifier out of range (m) = manual integration

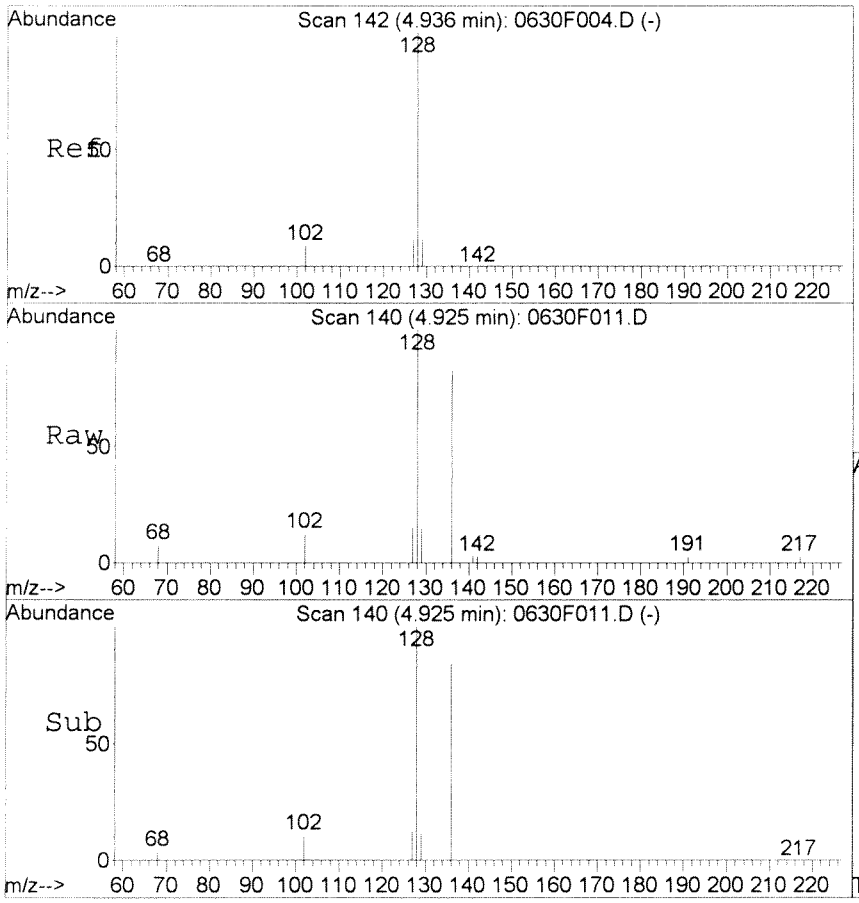
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:29 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



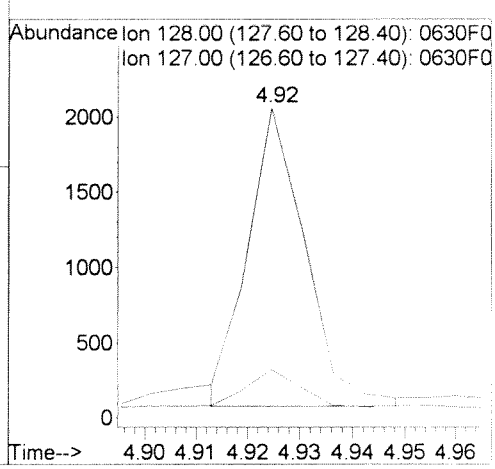
724

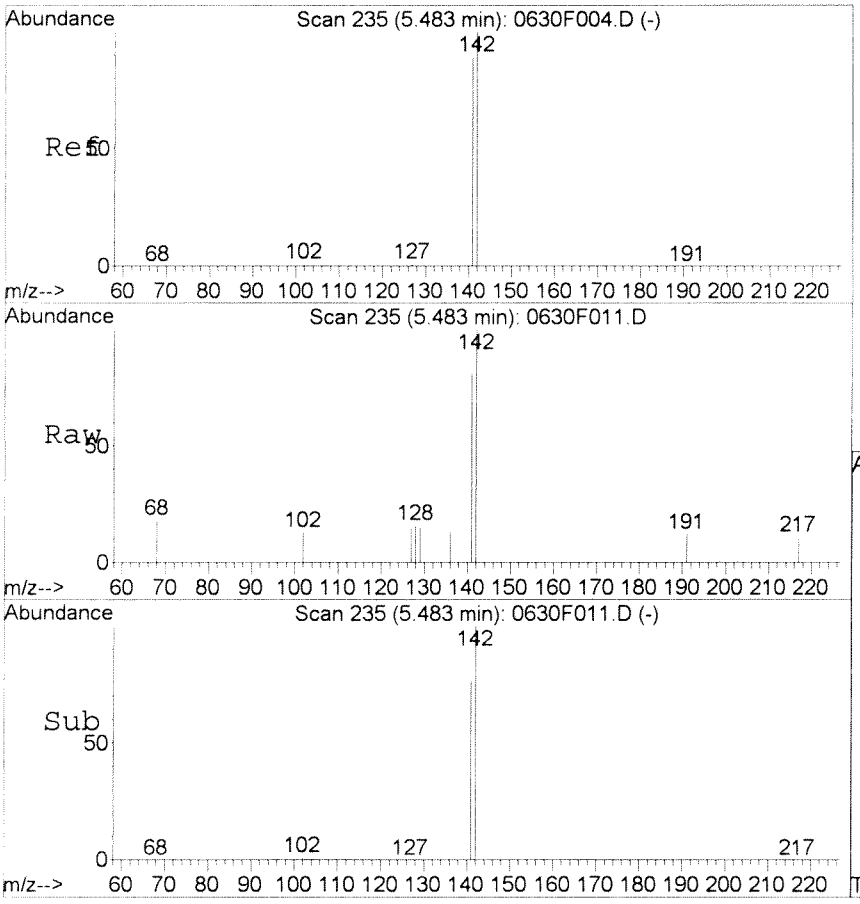


#2
Naphthalene
Concen: 7.88 ng/ml m
RT: 4.92 min Scan# 140
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:128 Resp: 1521

Ion	Ratio	Lower	Upper
128	100		
127	15.7	0.0	43.1

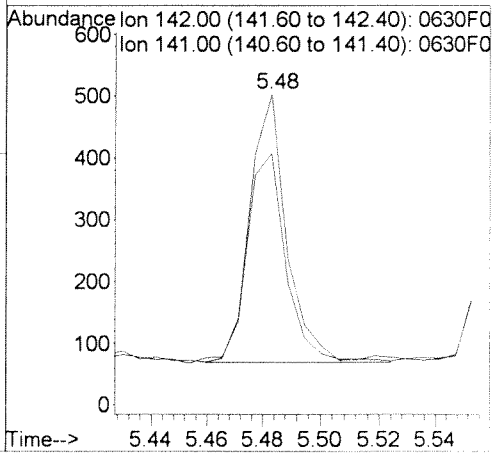


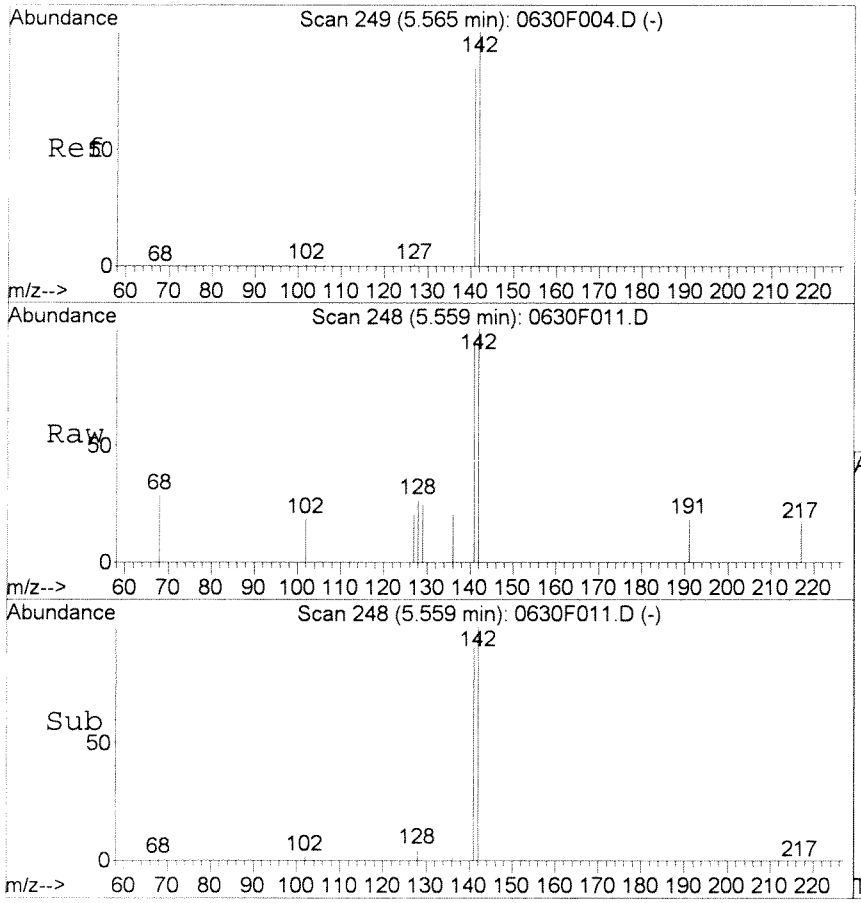


#3
2-Methylnaphthalene
Concen: 2.99 ng/ml
RT: 5.48 min Scan# 235
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:142 Resp: 391

Ion	Ratio	Lower	Upper
142	100		
141	76.2	54.9	114.9

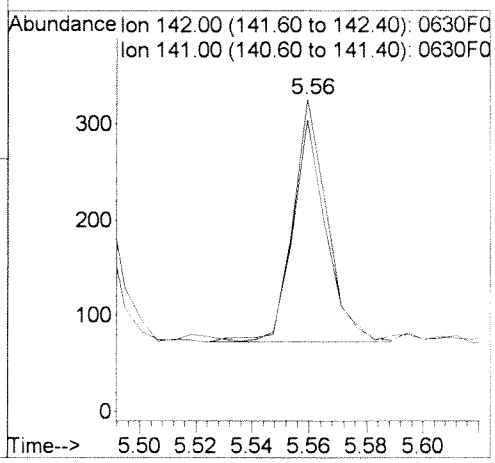


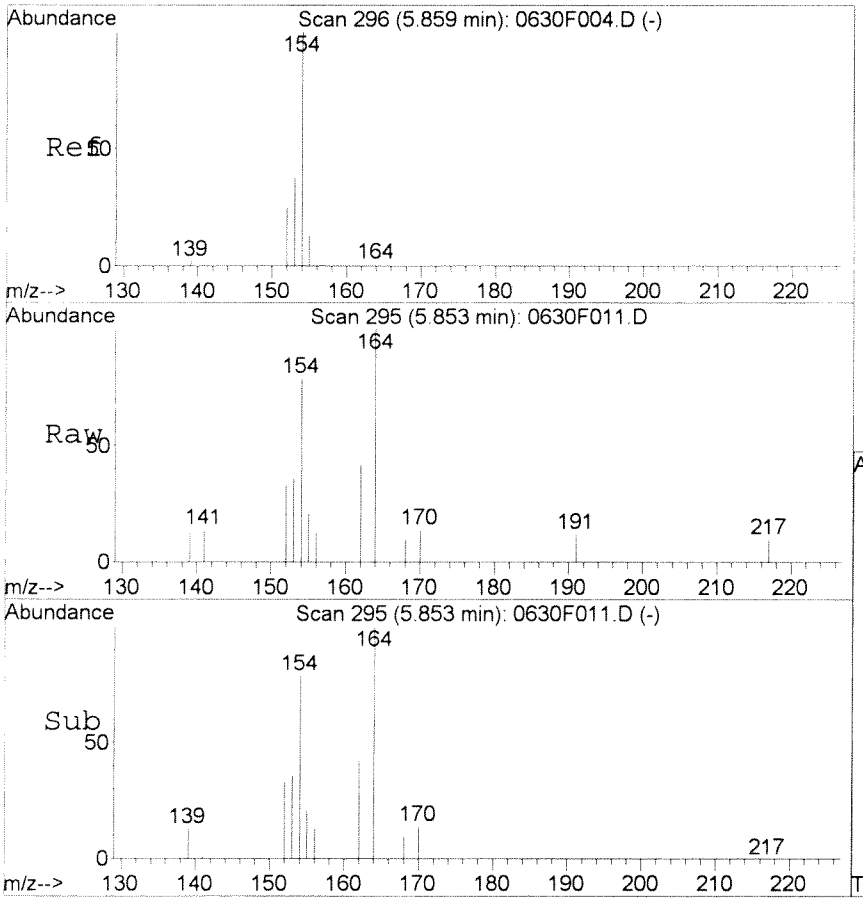


#4
1-Methylnaphthalene
Concen: 1.78 ng/ml
RT: 5.56 min Scan# 248
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:142 Resp: 209

Ion	Ratio	Lower	Upper
142	100		
141	89.0	54.0	114.0

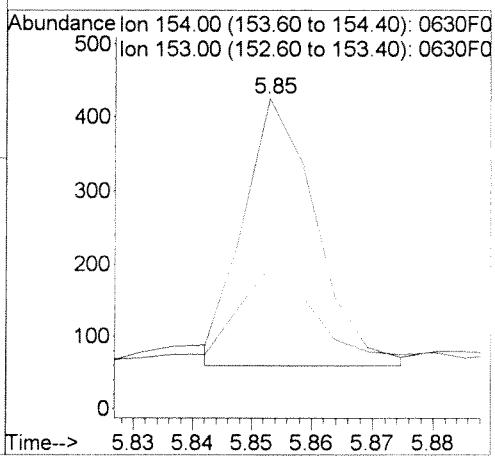


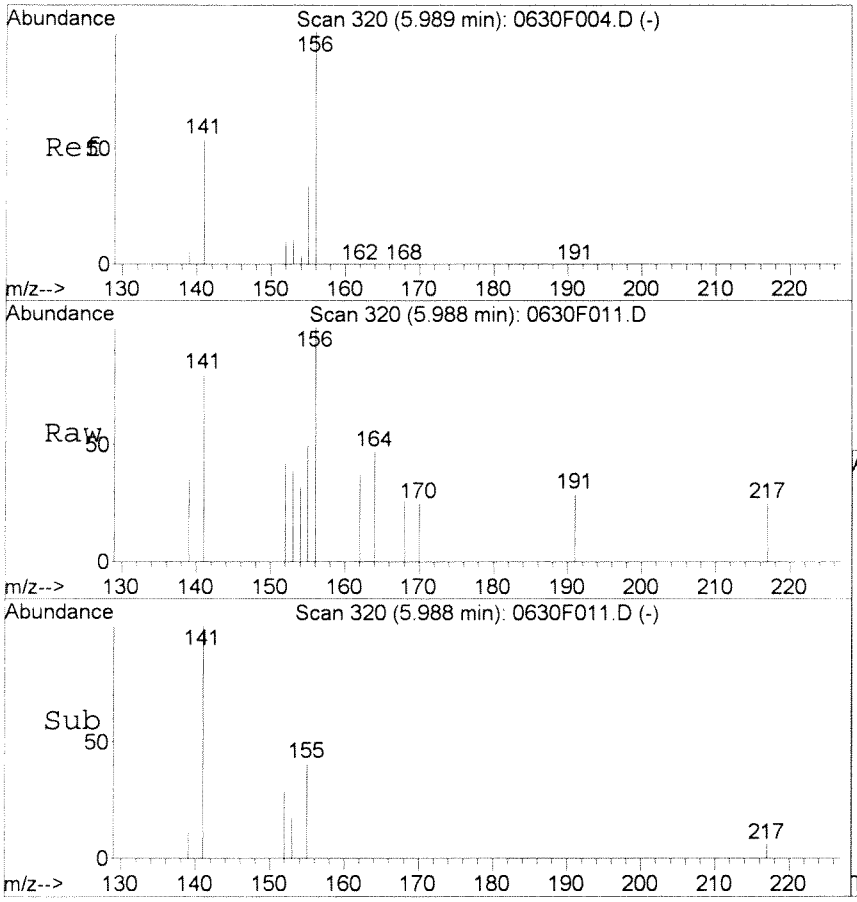


#5
Biphenyl
Concen: 2.02 ng/ml m
RT: 5.85 min Scan# 295
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:154 Resp: 308

Ion	Ratio	Lower	Upper
154	100		
153	46.1	10.0	70.0

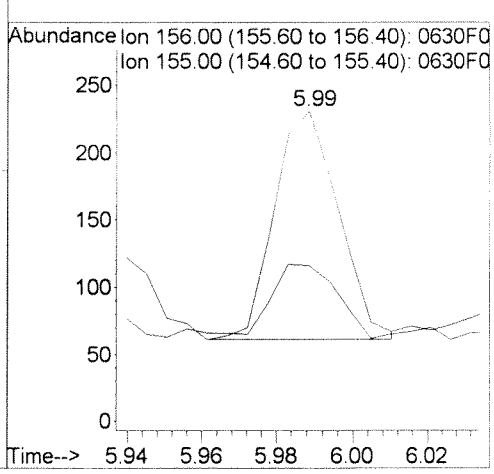


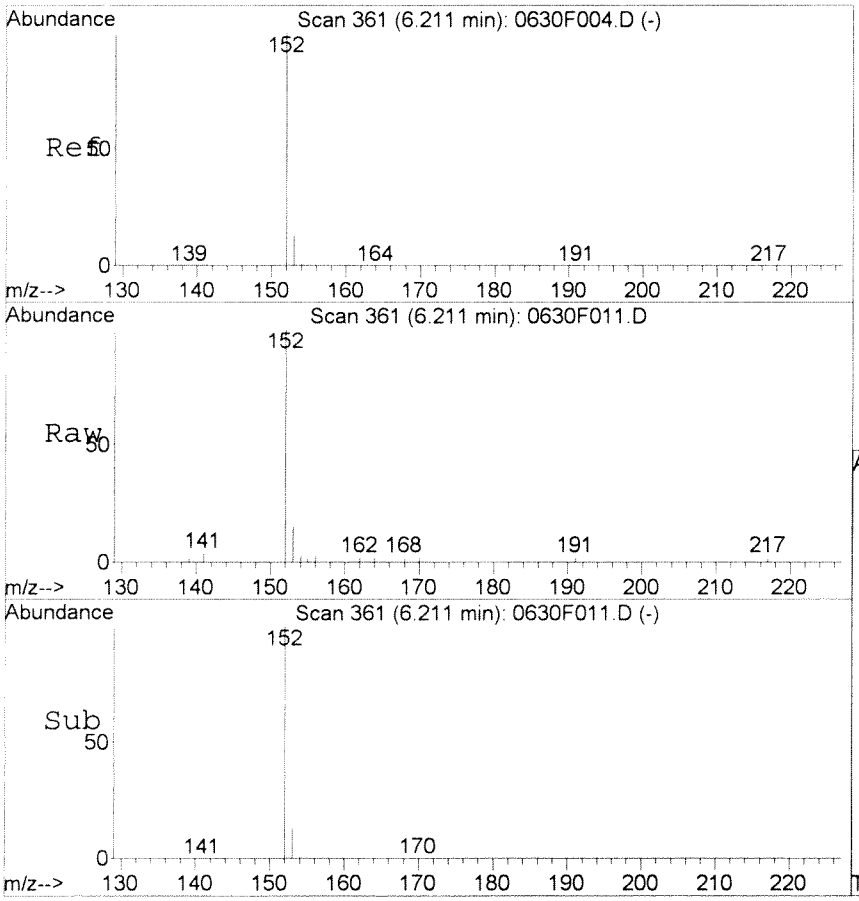


#6
2,6-Dimethylnaphthalene
Concen: 1.81 ng/ml
RT: 5.99 min Scan# 320
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:156 Resp: 198

Ion	Ratio	Lower	Upper
156	100		
155	30.0	7.5	67.5

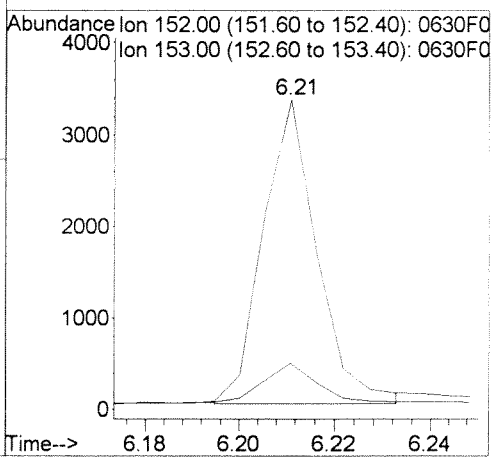


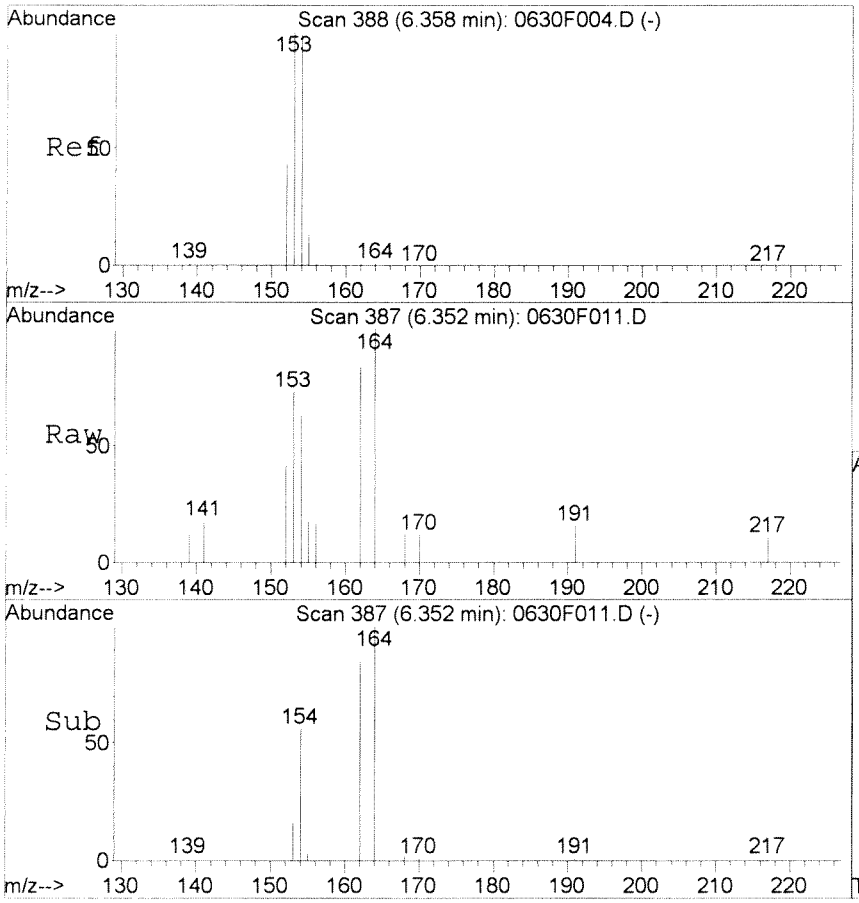


#11
Acenaphthylene
Concen: 12.02 ng/ml m
RT: 6.21 min Scan# 361
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:152 Resp: 2604

Ion	Ratio	Lower	Upper
152	100		
153	15.1	0.0	43.6

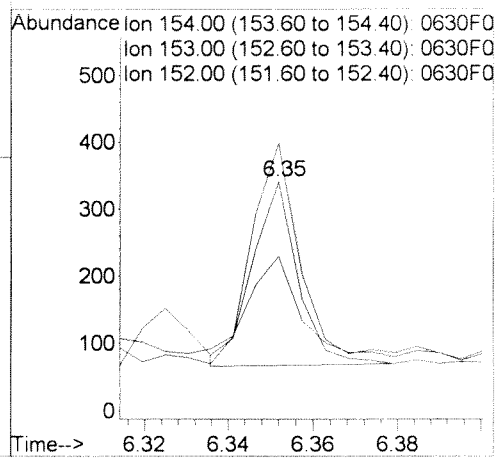


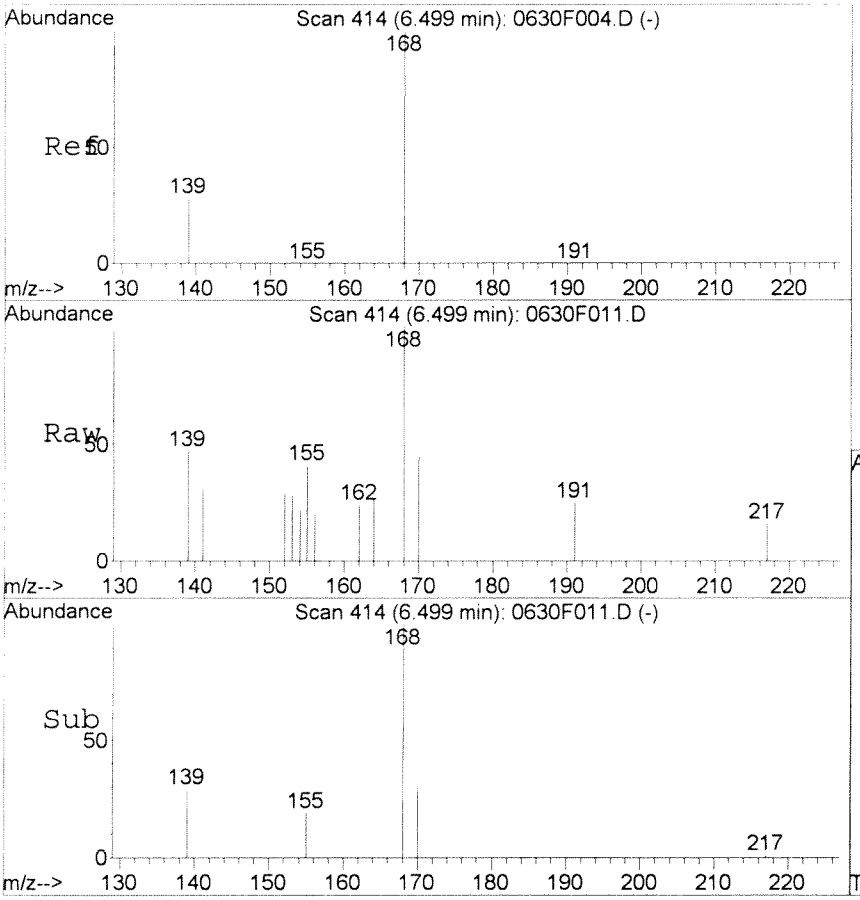


#12
Acenaphthene
Concen: 1.55 ng/ml
RT: 6.35 min Scan# 387
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:154 Resp: 204

Ion	Ratio	Lower	Upper
154	100		
153	121.0	79.5	139.5
152	55.1	22.9	82.9

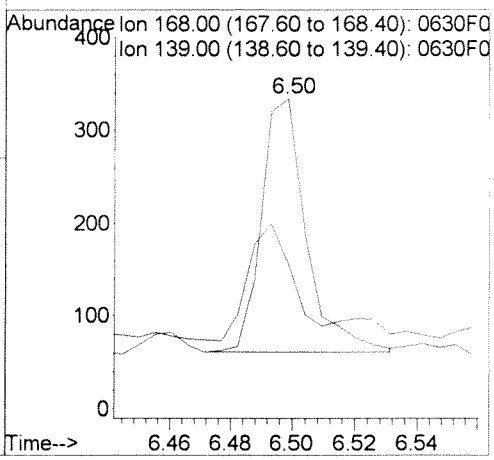


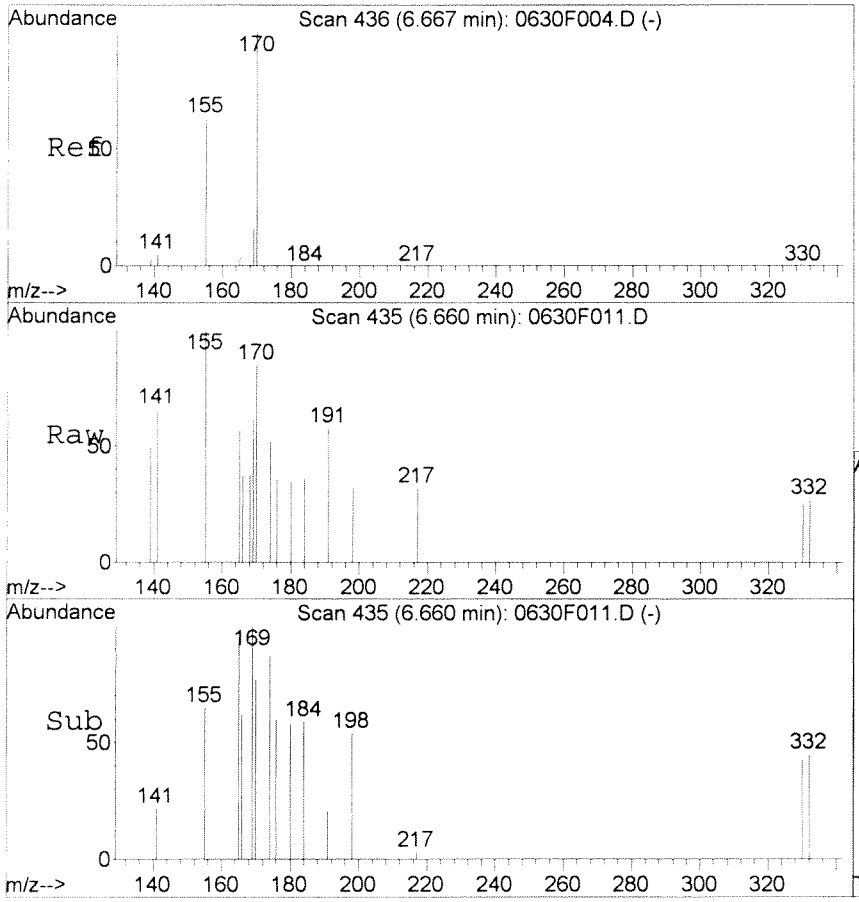


#13
Dibenzofuran
Concen: 1.42 ng/ml
RT: 6.50 min Scan# 414
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:168 Resp: 272

Ion	Ratio	Lower	Upper
168	100		
139	30.8	0.0	47.6

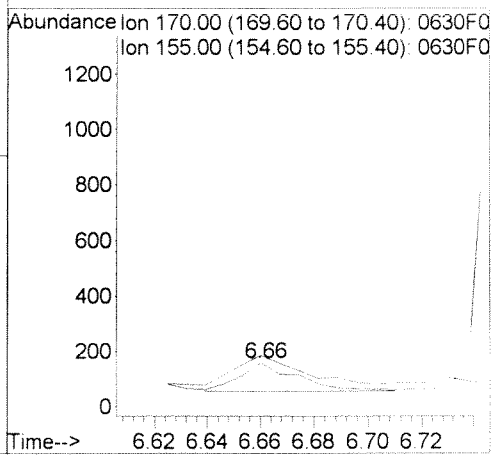


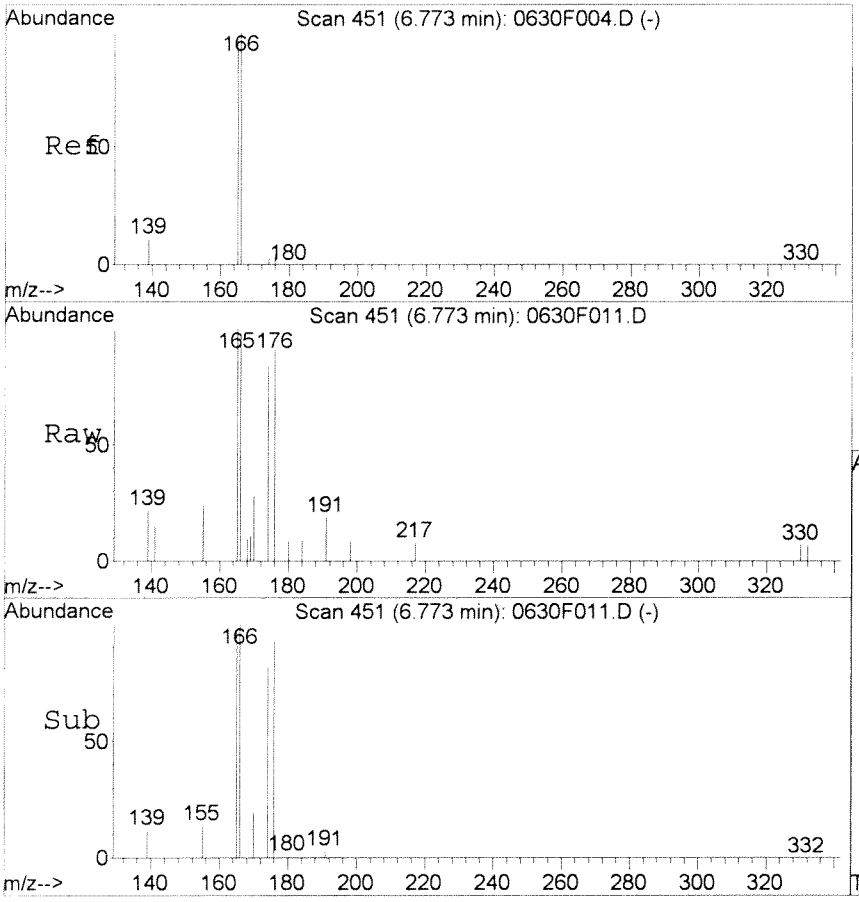


#14
2,3,5-Trimethylnaphthalene
Concen: 1.23 ng/ml m
RT: 6.66 min Scan# 435
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:170 Resp: 153

Ion	Ratio	Lower	Upper
170	100		
155	117.1	46.4	106.4#

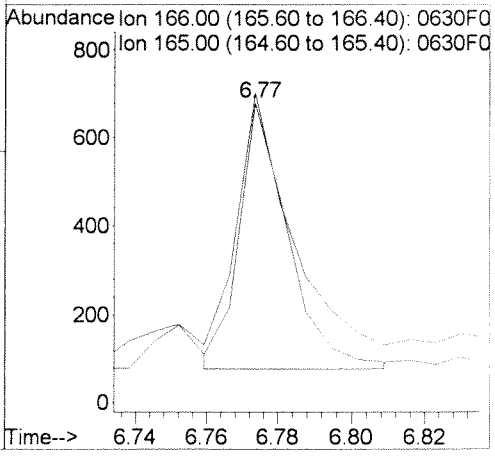


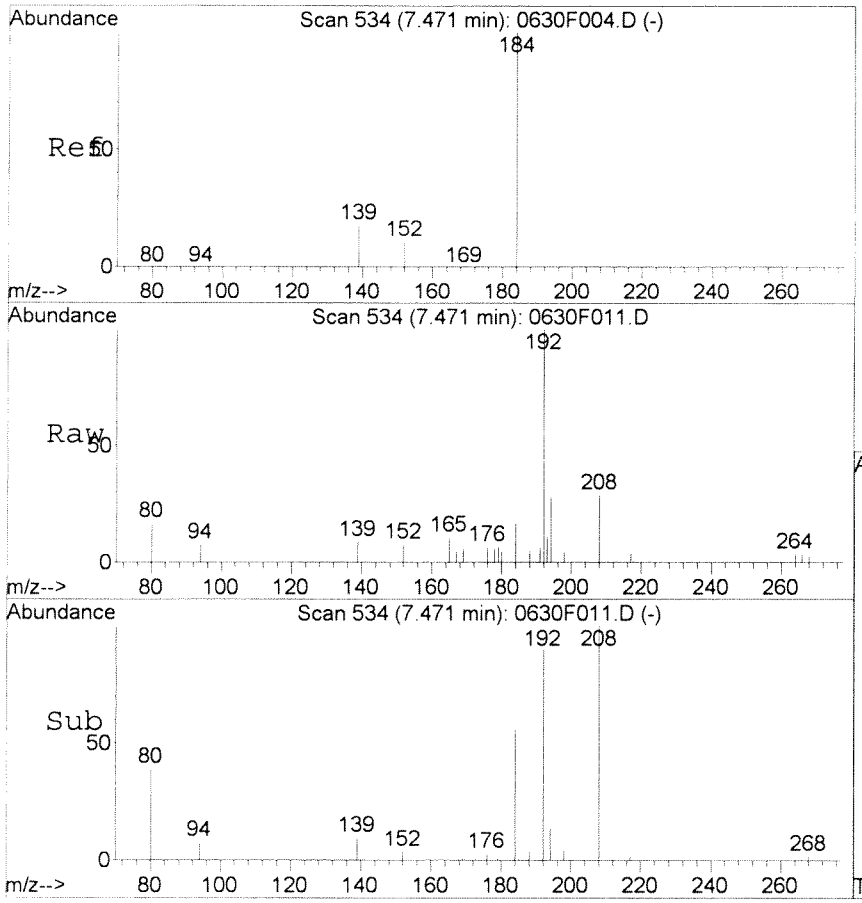


#16
Fluorene
Concen: 3.57 ng/ml m
RT: 6.77 min Scan# 451
Delta R.T. 0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:166 Resp: 569

Ion	Ratio	Lower	Upper
166	100		
165	103.4	56.1	116.1

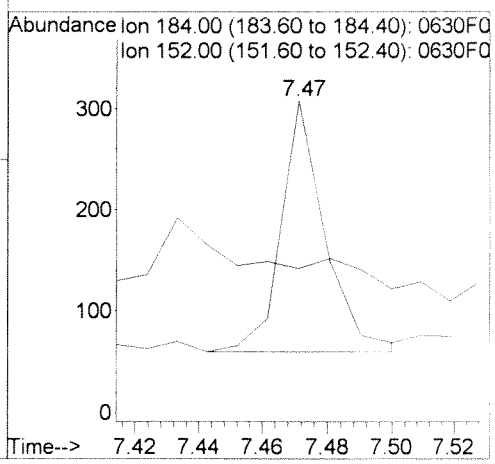


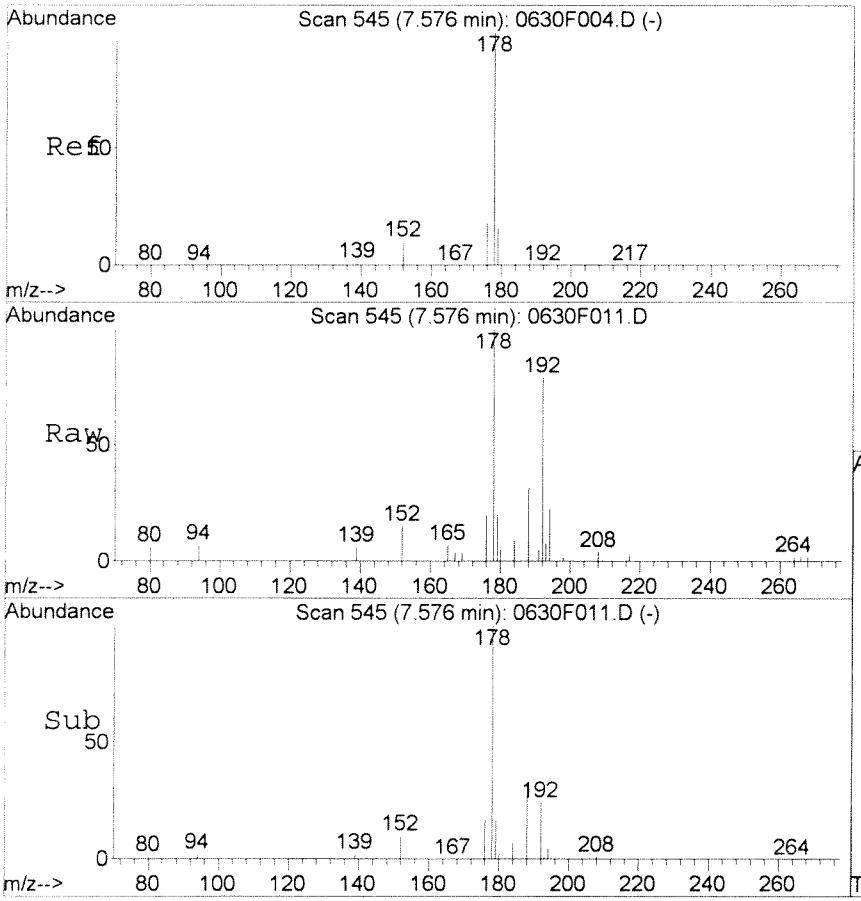


#23
Dibenzothiophene
Concen: 1.02 ng/ml
RT: 7.47 min Scan# 534
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:184 Resp: 229

Ion	Ratio	Lower	Upper
184	100		
152	8.1	0.0	41.4

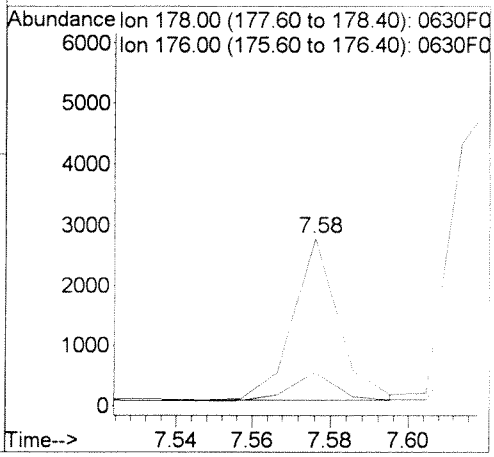


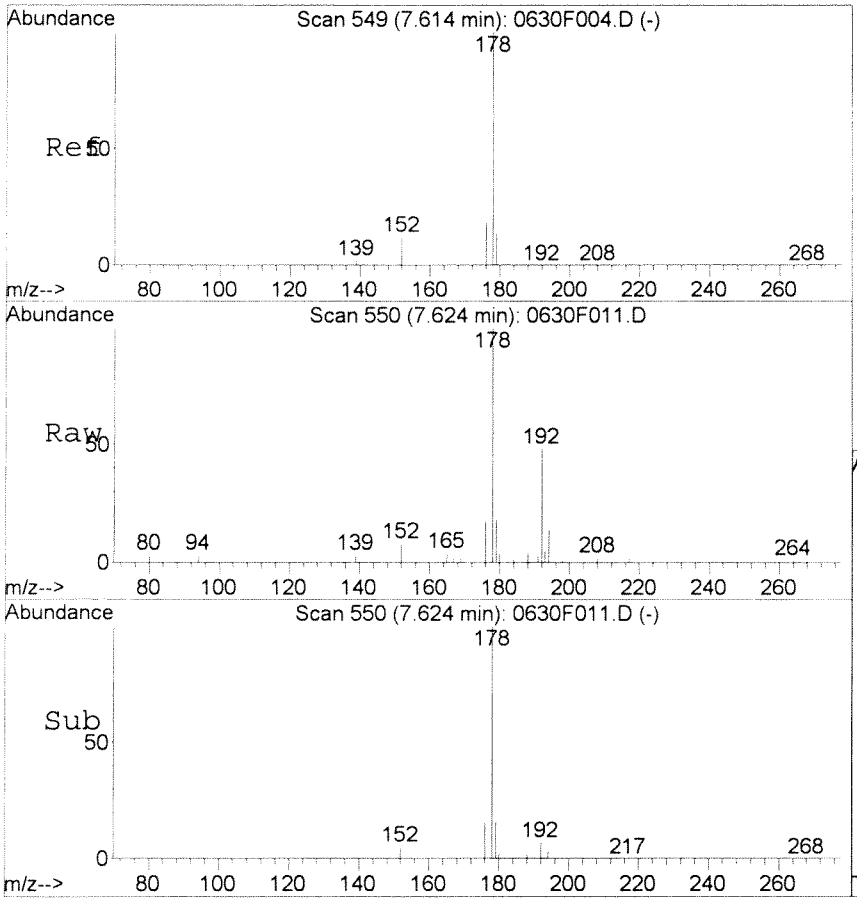


#27
Phenanthrene
Concen: 8.82 ng/ml
RT: 7.58 min Scan# 545
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:178 Resp: 2133

Ion	Ratio	Lower	Upper
178	100		
176	17.6	0.0	49.3

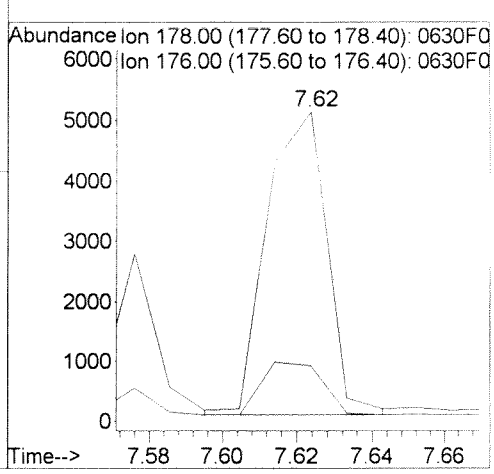


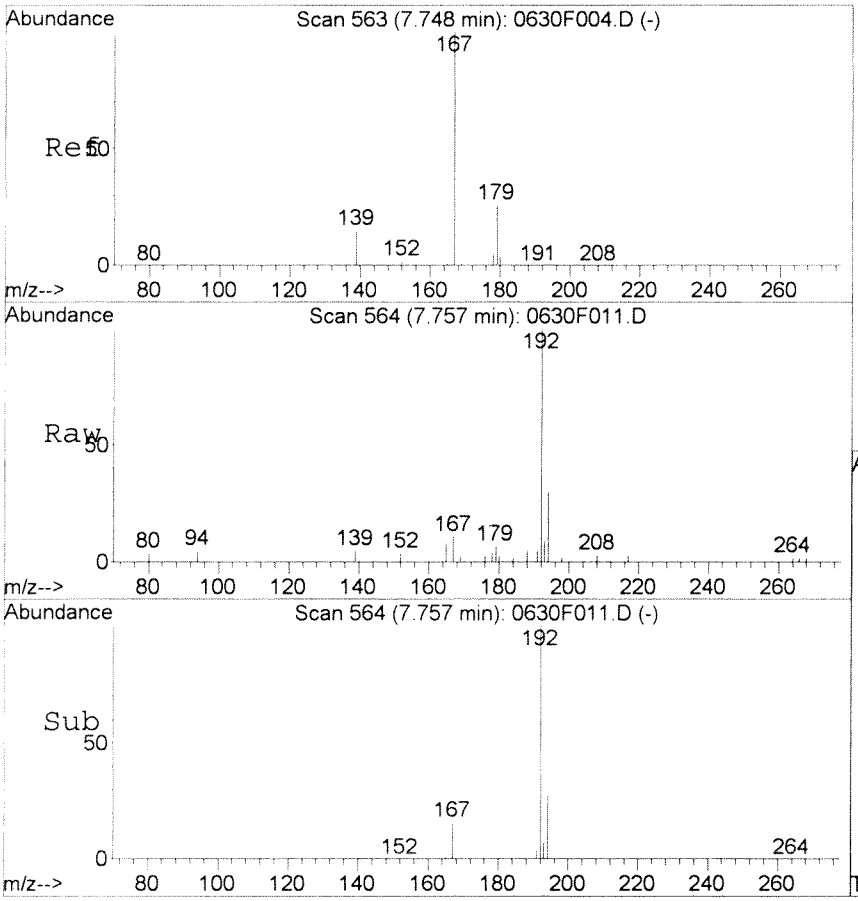


#28
Anthracene
Concen: 23.73 ng/ml m
RT: 7.62 min Scan# 550
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:178 Resp: 5570

Ion	Ratio	Lower	Upper
178	100		
176	18.1	0.0	47.1

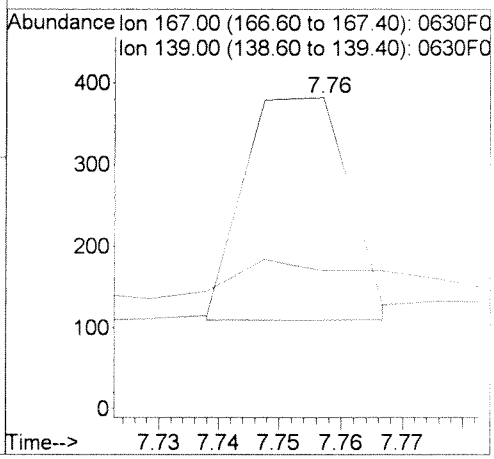


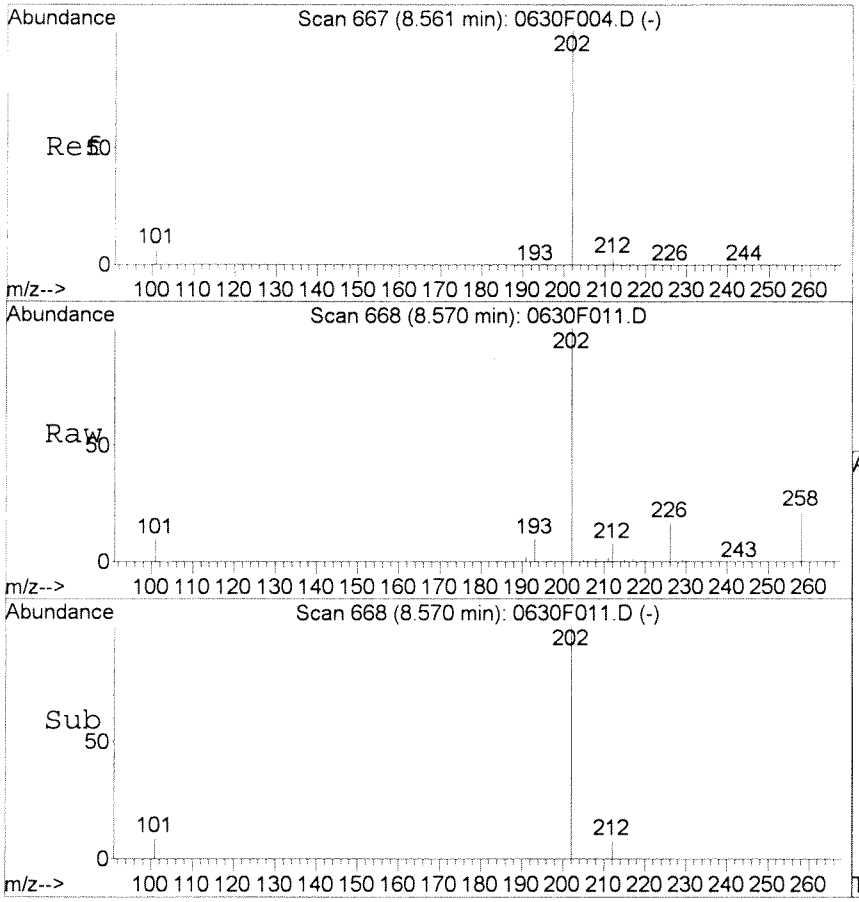


#29
Carbazole
Concen: 1.54 ng/ml m
RT: 7.76 min Scan# 564
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:167 Resp: 321

Ion	Ratio	Lower	Upper
167	100		
139	44.5	0.0	39.5#

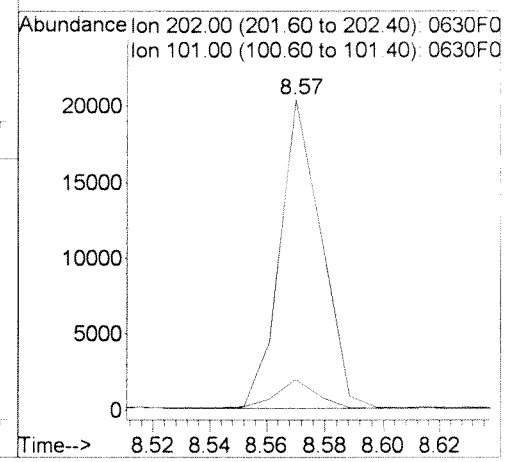


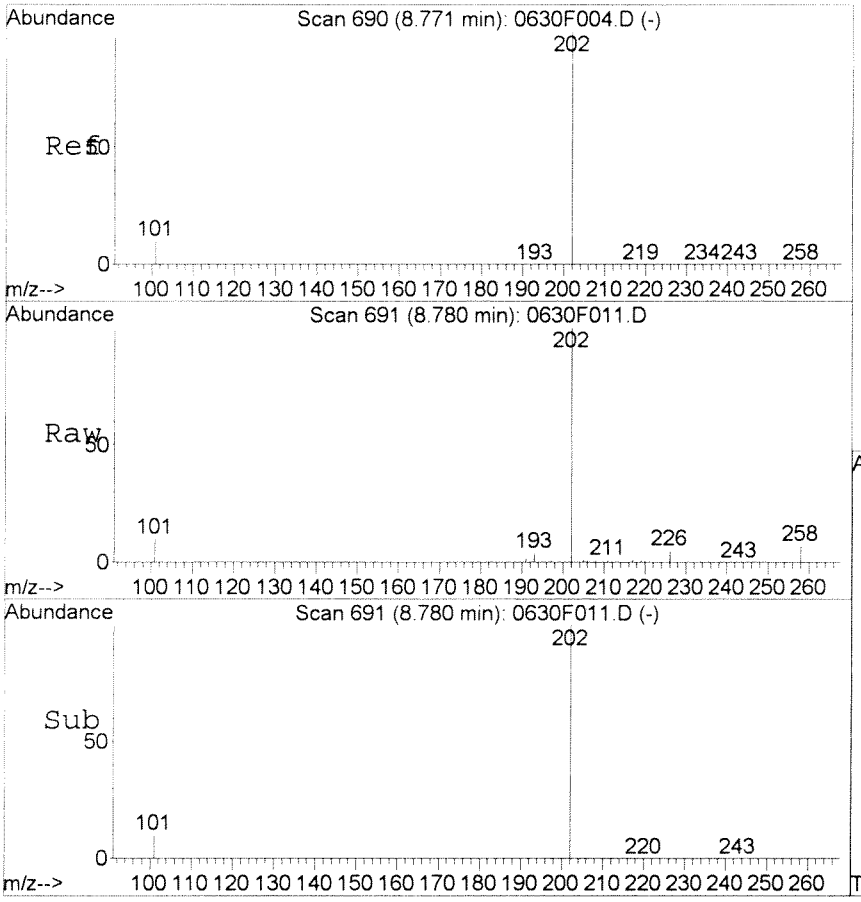


#35
Fluoranthene
Concen: 74.37 ng/ml
RT: 8.57 min Scan# 668
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:202 Resp: 19890

Ion	Ratio	Lower	Upper
202	100		
101	9.4	0.0	44.3

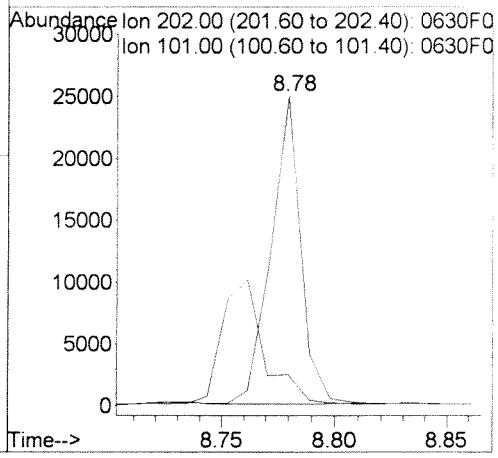


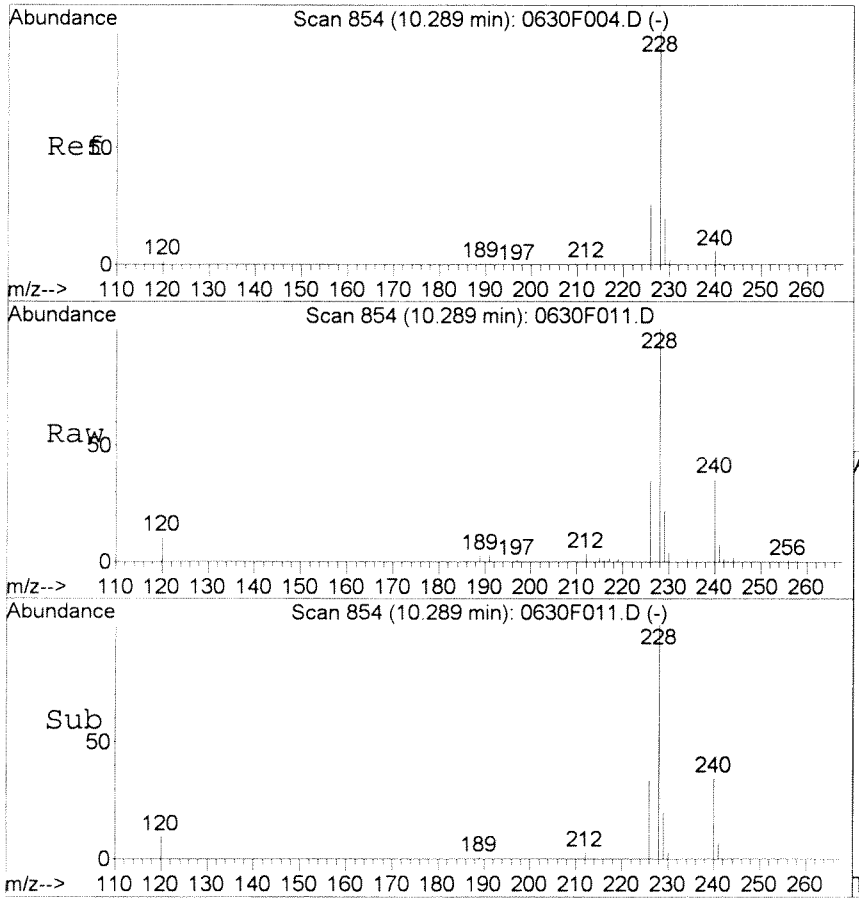


#38
Pyrene
Concen: 80.87 ng/ml
RT: 8.78 min Scan# 691
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:202 Resp: 22623

Ion	Ratio	Lower	Upper
202	100		
101	9.5	0.0	46.7

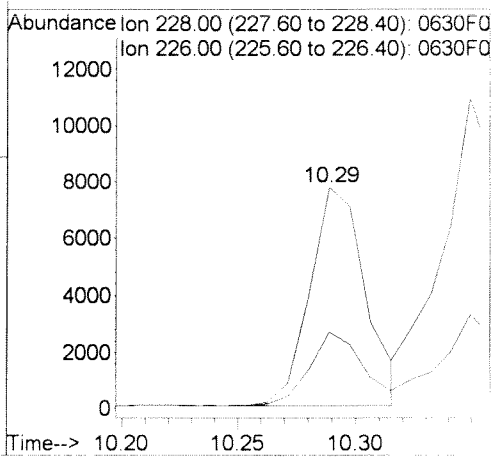


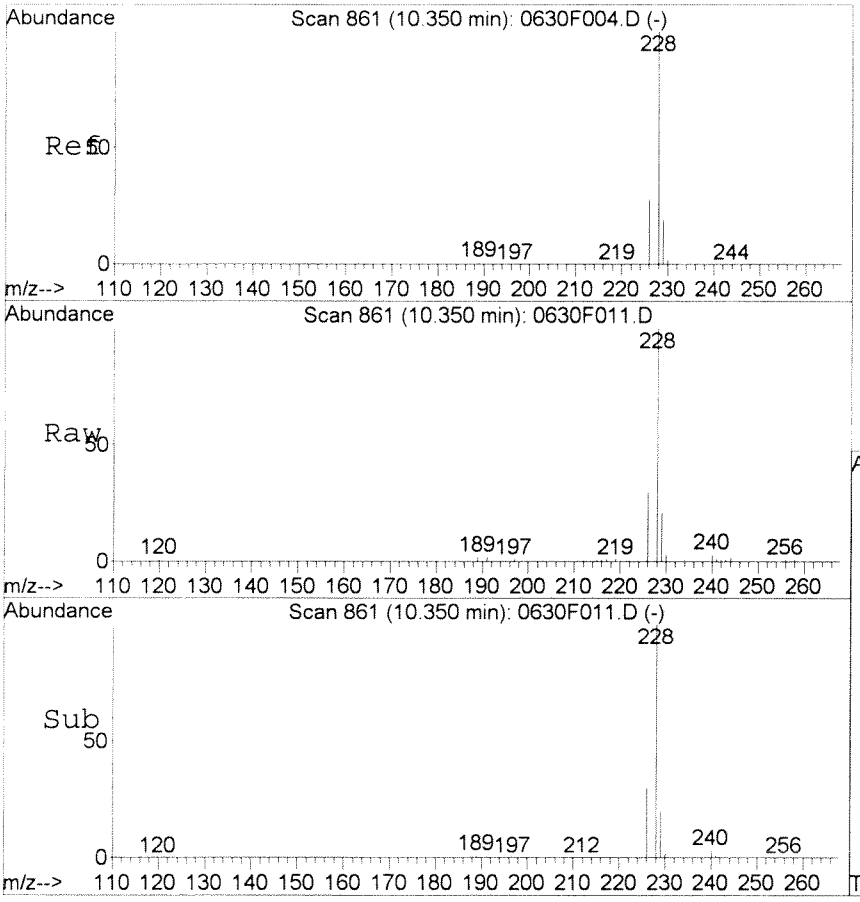


#44
Benz(a)anthracene
Concen: 44.97 ng/ml
RT: 10.29 min Scan# 854
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:228 Resp: 12547

Ion	Ratio	Lower	Upper
228	100		
226	33.9	0.0	55.7

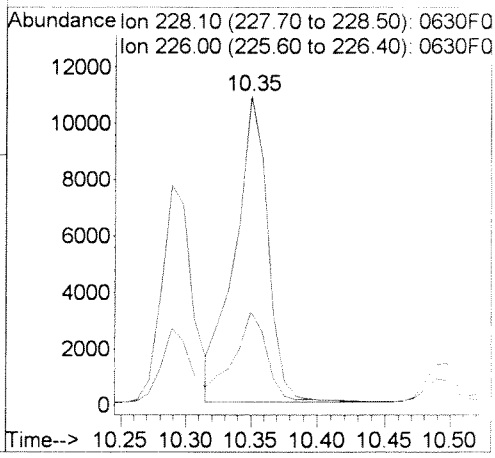


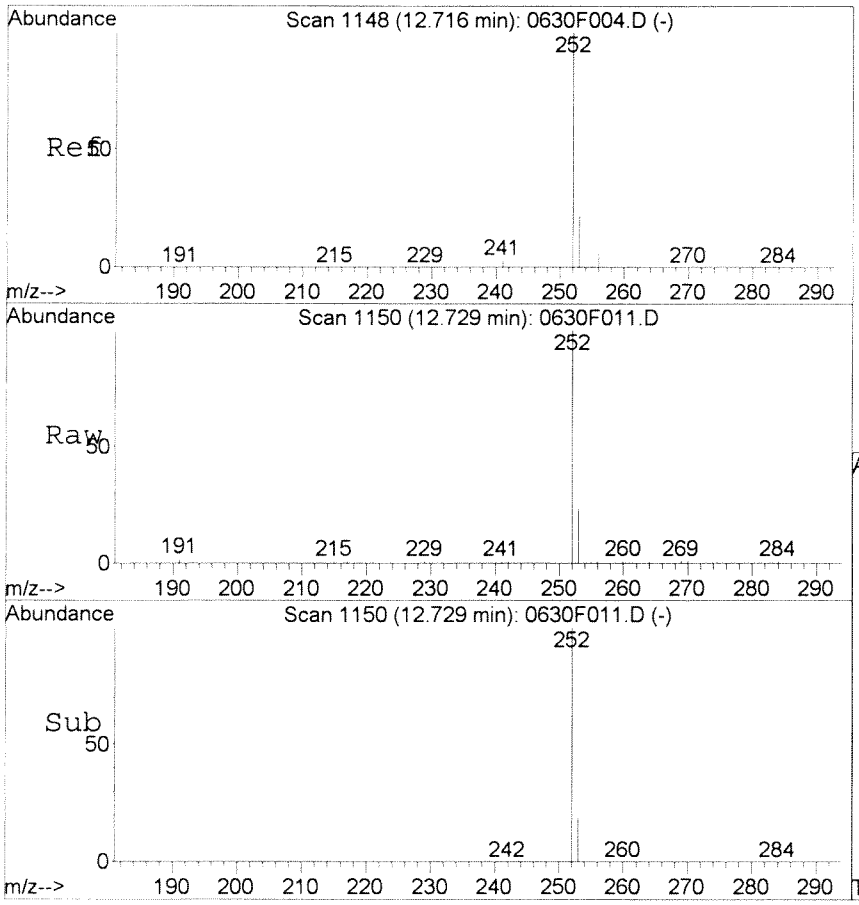


#45
Chrysene
Concen: 73.44 ng/ml
RT: 10.35 min Scan# 861
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:228 Resp: 19320

Ion	Ratio	Lower	Upper
228	100		
226	29.3	0.0	57.9

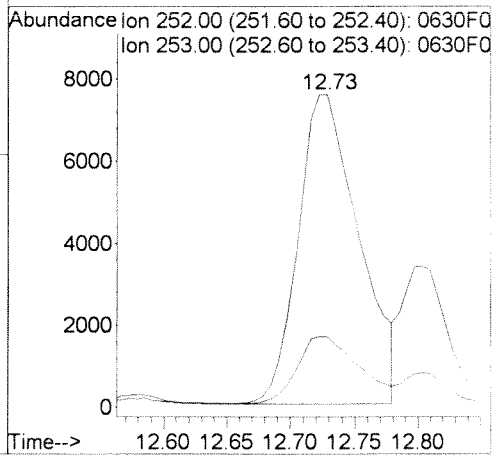


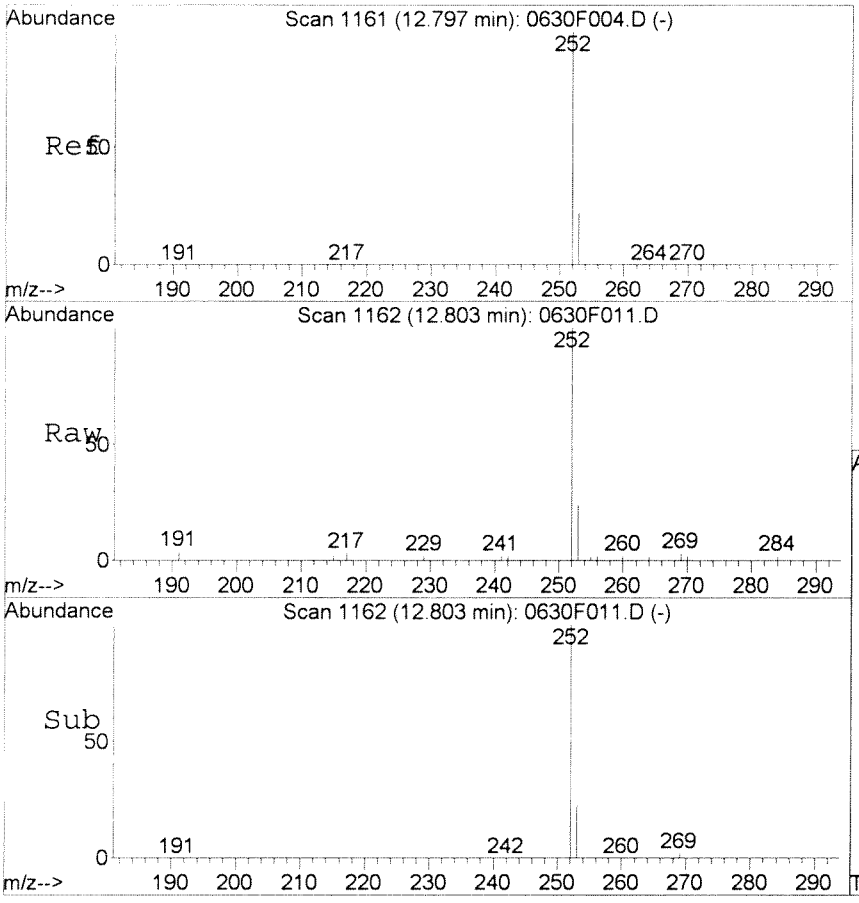


#51
Benzo(b)fluoranthene
Concen: 88.89 ng/ml
RT: 12.73 min Scan# 1150
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:252 Resp: 24836

Ion	Ratio	Lower	Upper
252	100		
253	21.4	0.0	52.5

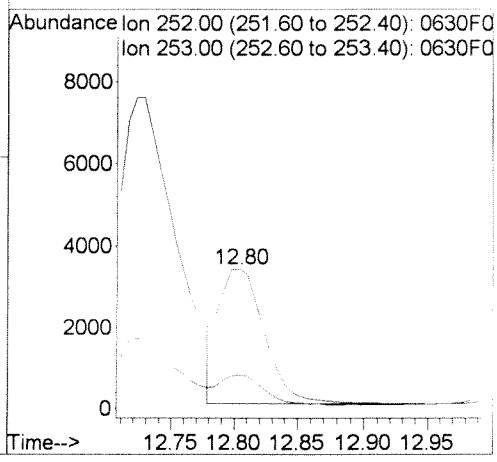


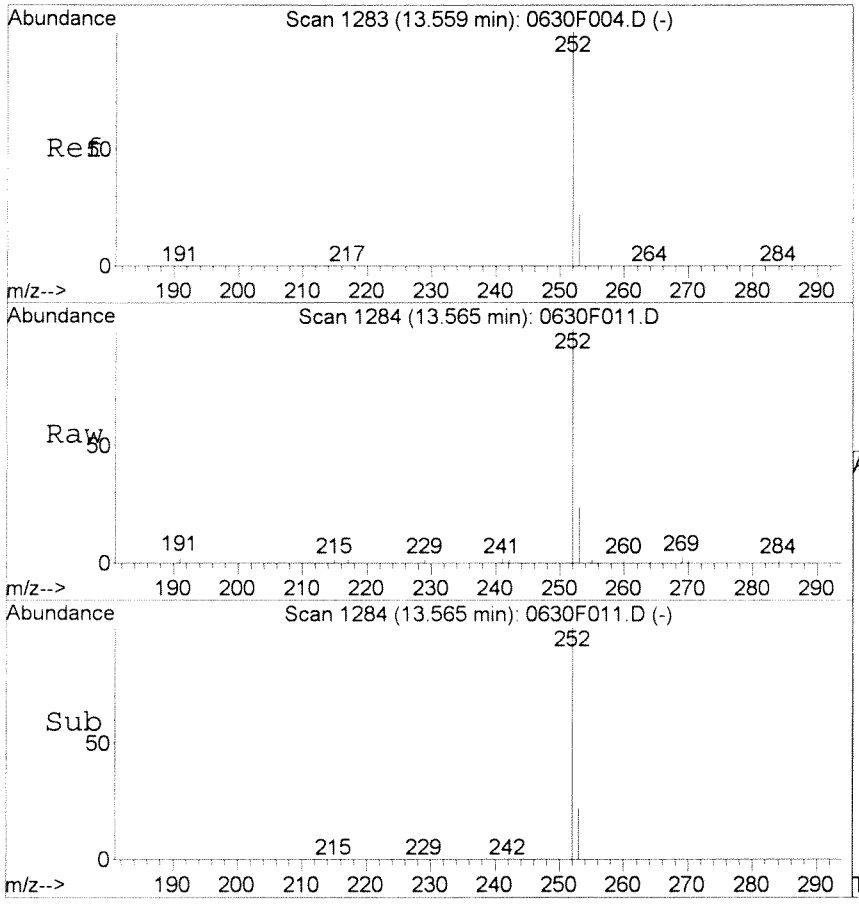


#52
Benzo(k)fluoranthene
Concen: 31.63 ng/ml
RT: 12.80 min Scan# 1162
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:252 Resp: 8446

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.3

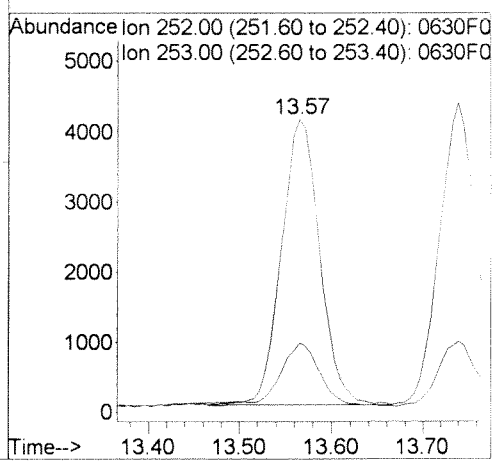


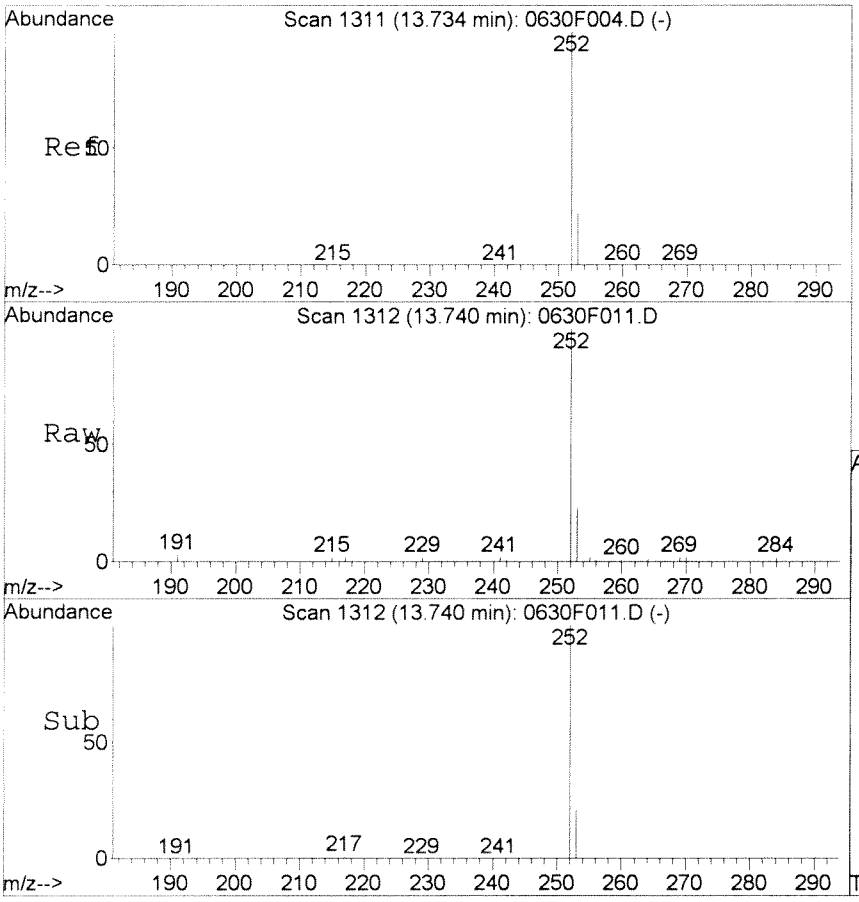


#53
Benzo(e)pyrene
Concen: 44.69 ng/ml
RT: 13.57 min Scan# 1284
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:252 Resp: 11711

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.1

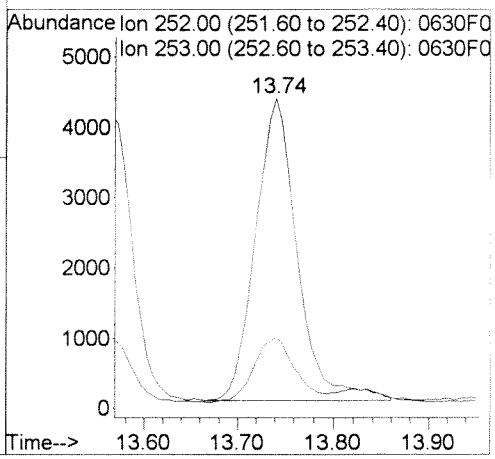


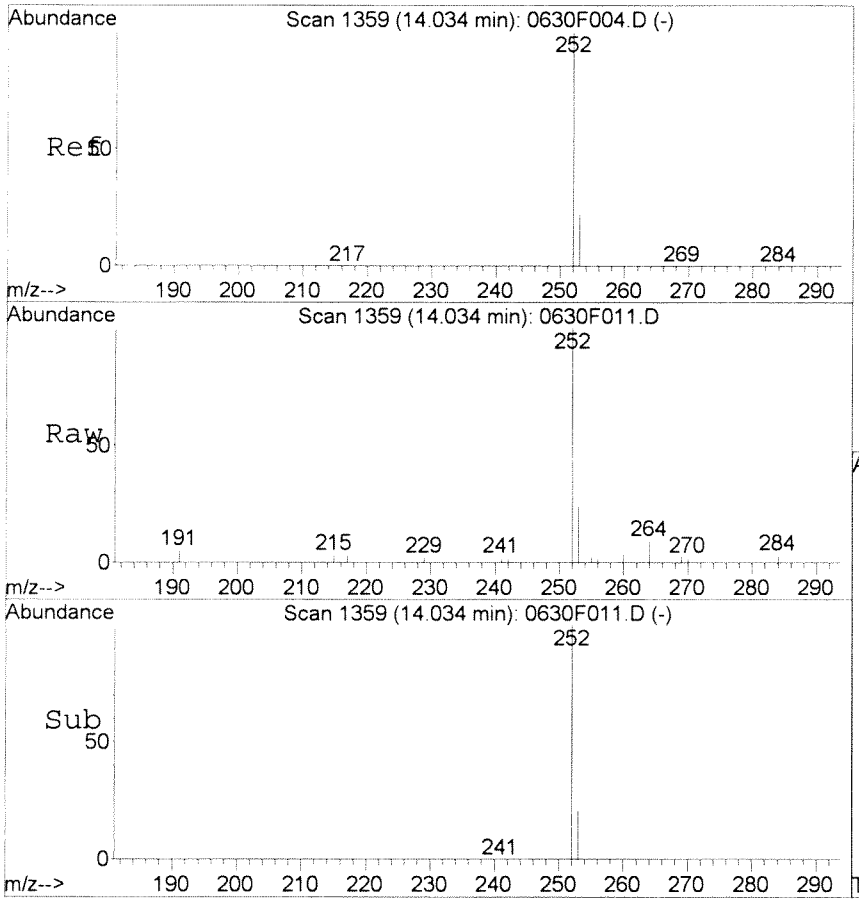


#54
Benzo(a)pyrene
Concen: 53.52 ng/ml
RT: 13.74 min Scan# 1312
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:252 Resp: 13137

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.5

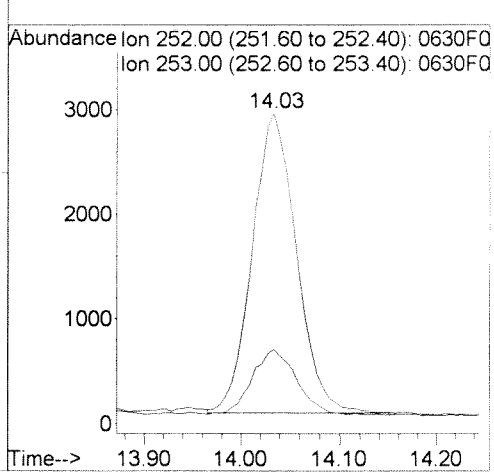


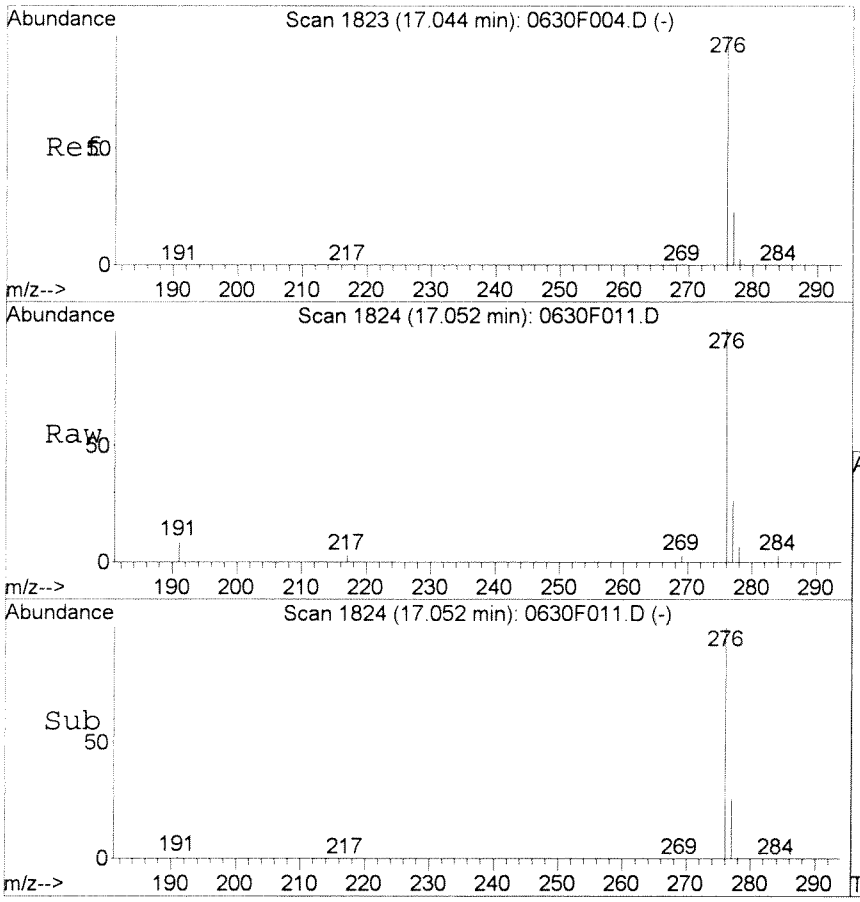


#55
Perylene
Concen: 36.20 ng/ml
RT: 14.03 min Scan# 1359
Delta R.T. 0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:252 Resp: 8949

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.3

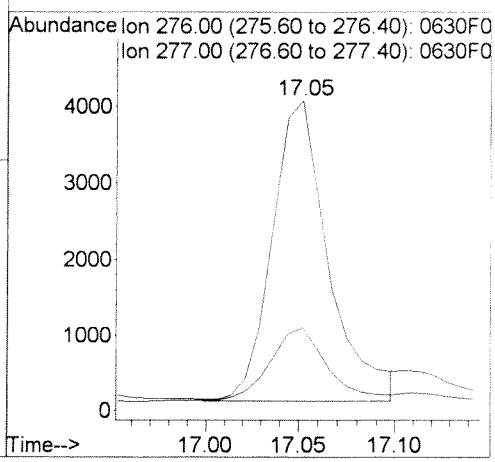


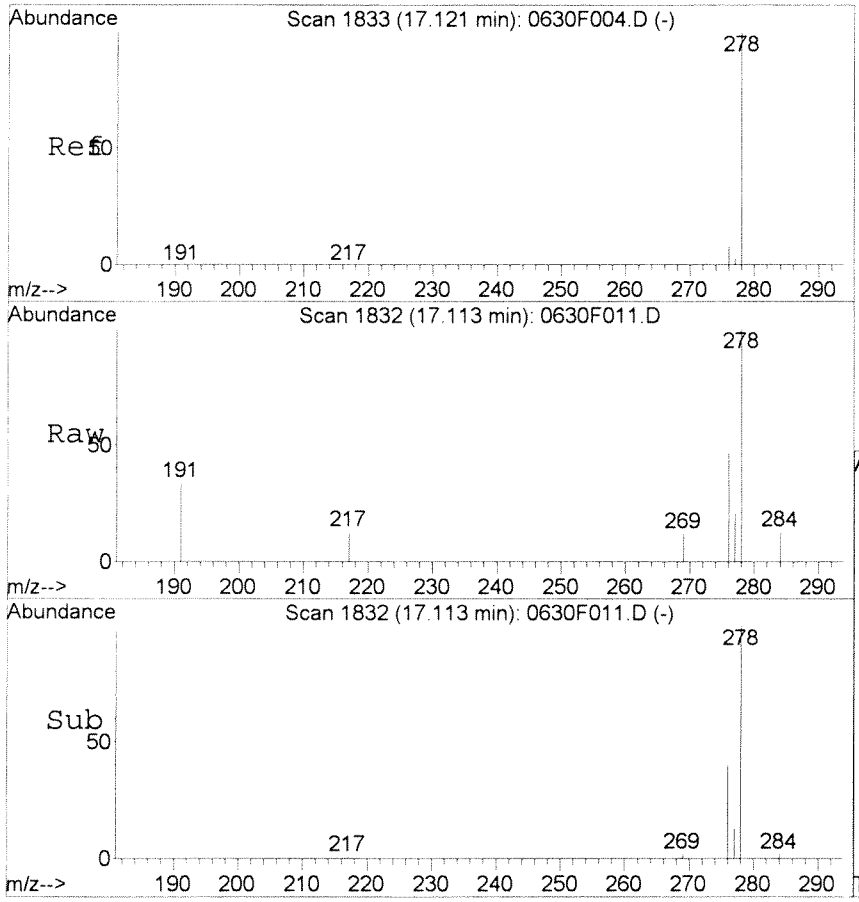


#56
Indeno(1,2,3-cd)pyrene
Concen: 35.46 ng/ml m
RT: 17.05 min Scan# 1824
Delta R.T. 0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:276 Resp: 8173

Ion	Ratio	Lower	Upper
276	100		
277	26.9	0.0	54.0

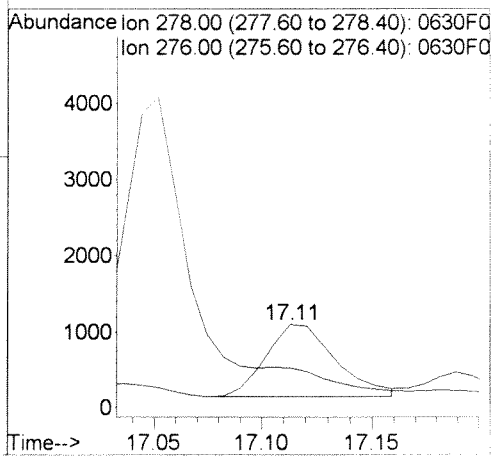


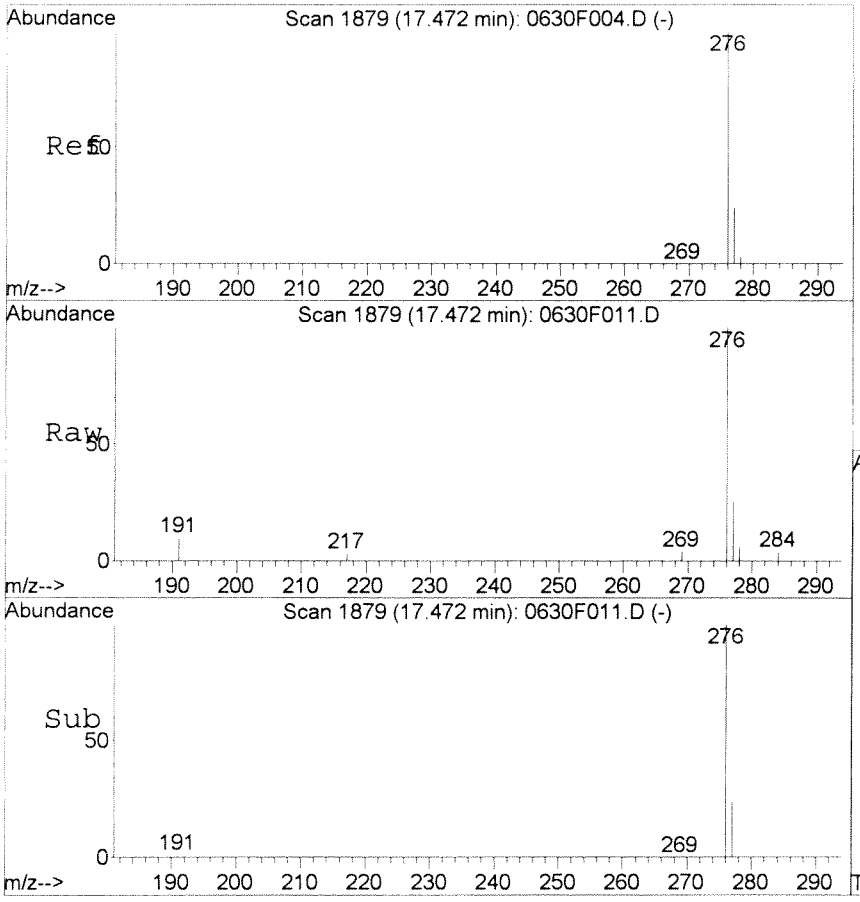


#57
Dibenz(a,h)anthracene
Concen: 8.84 ng/ml
RT: 17.11 min Scan# 1832
Delta R.T. -0.01 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:278 Resp: 2128

Ion	Ratio	Lower	Upper
278	100		
276	31.2	0.0	56.0

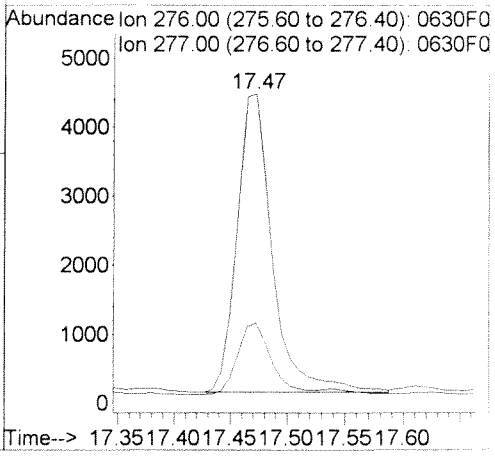




#58
Benzo(g,h,i)perylene
Concen: 34.16 ng/ml
RT: 17.47 min Scan# 1879
Delta R.T. -0.00 min
Lab File: 0630F011.D
Acq: 30 Jun 2014 10:43 am

Tgt Ion:276 Resp: 9402

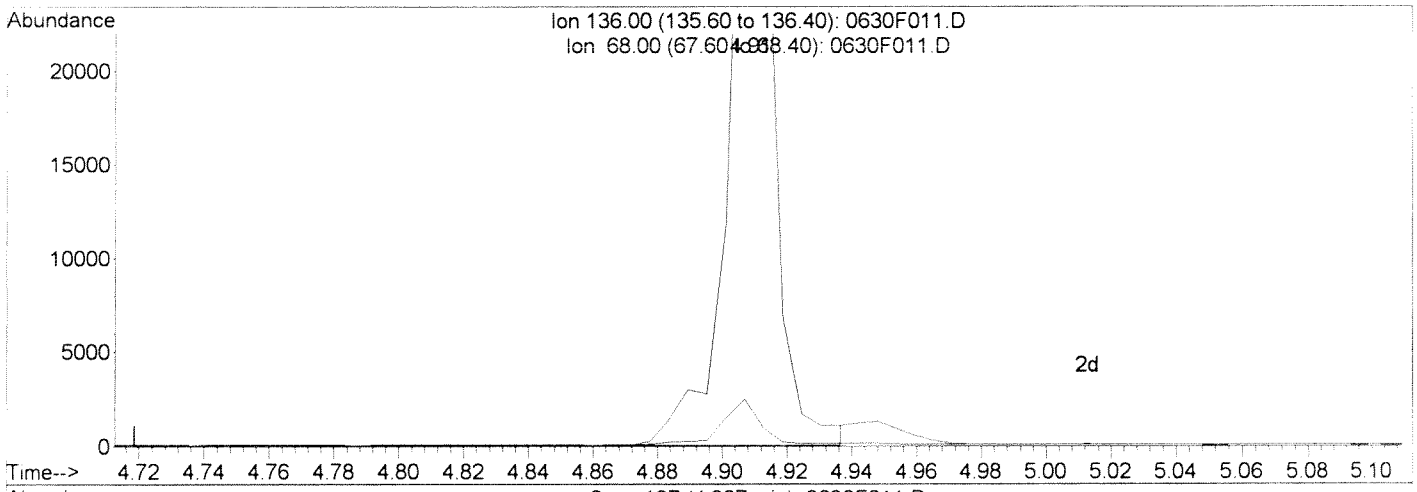
Ion	Ratio	Lower	Upper
276	100		
277	24.0	0.0	54.1

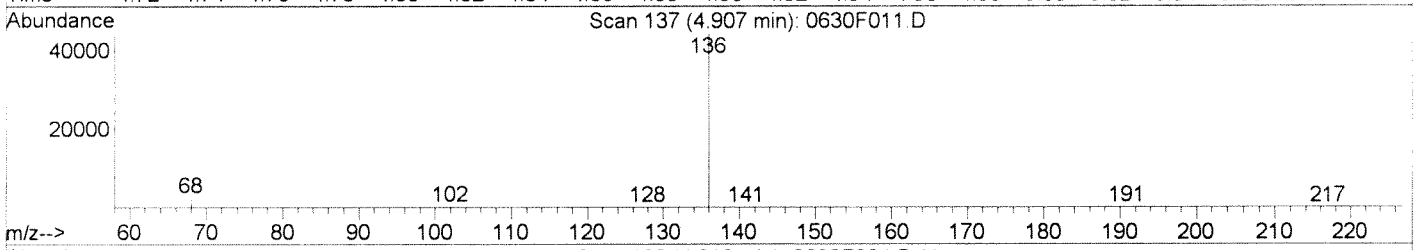


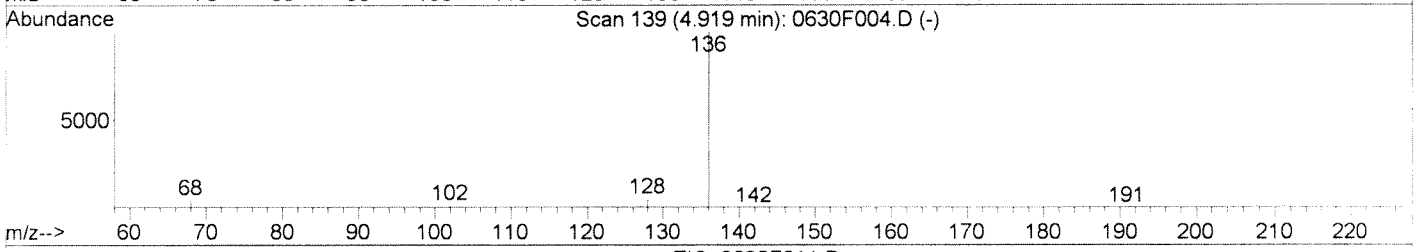
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F011.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 37869

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	5.45
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

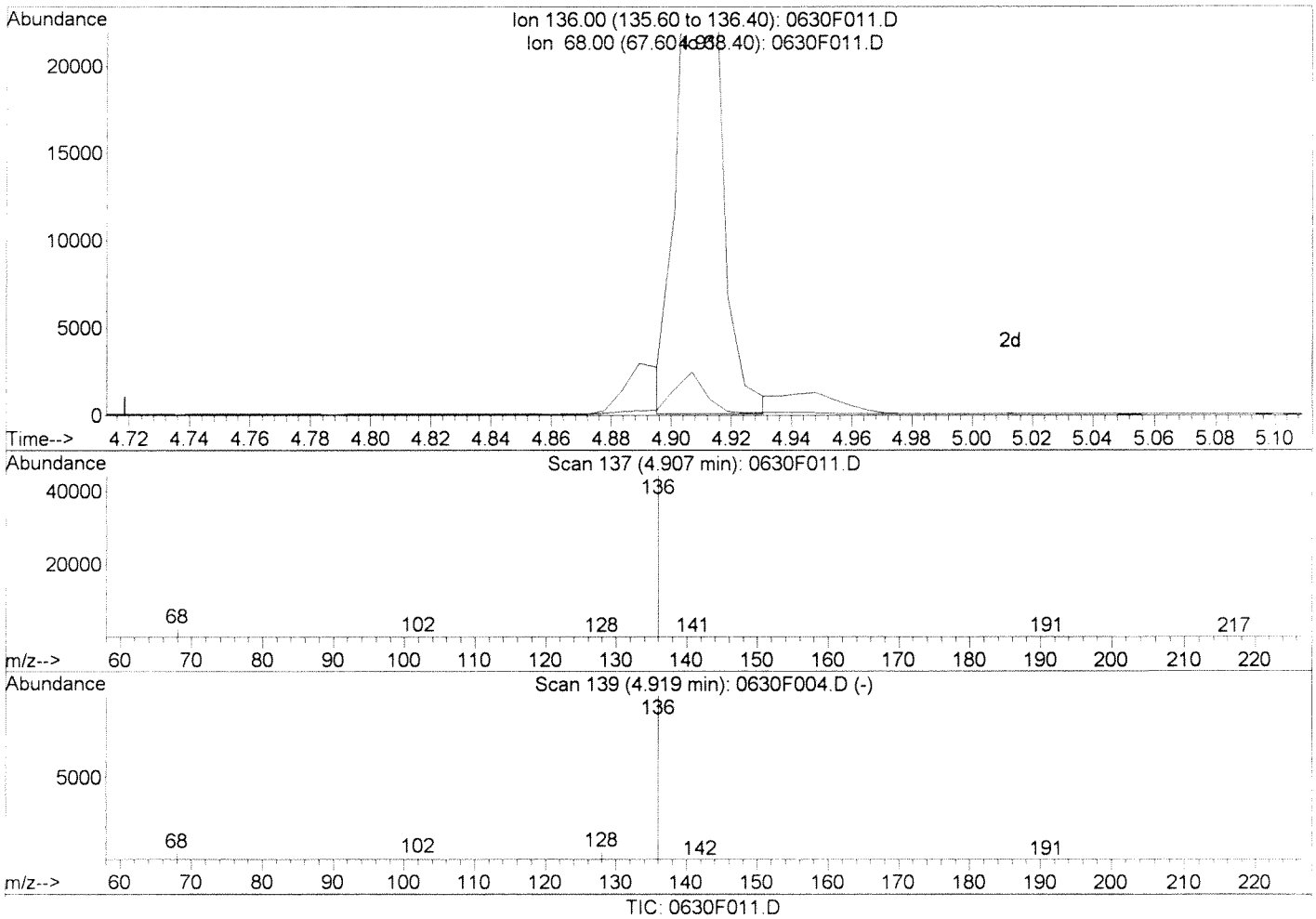
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:04 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 34860

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	5.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

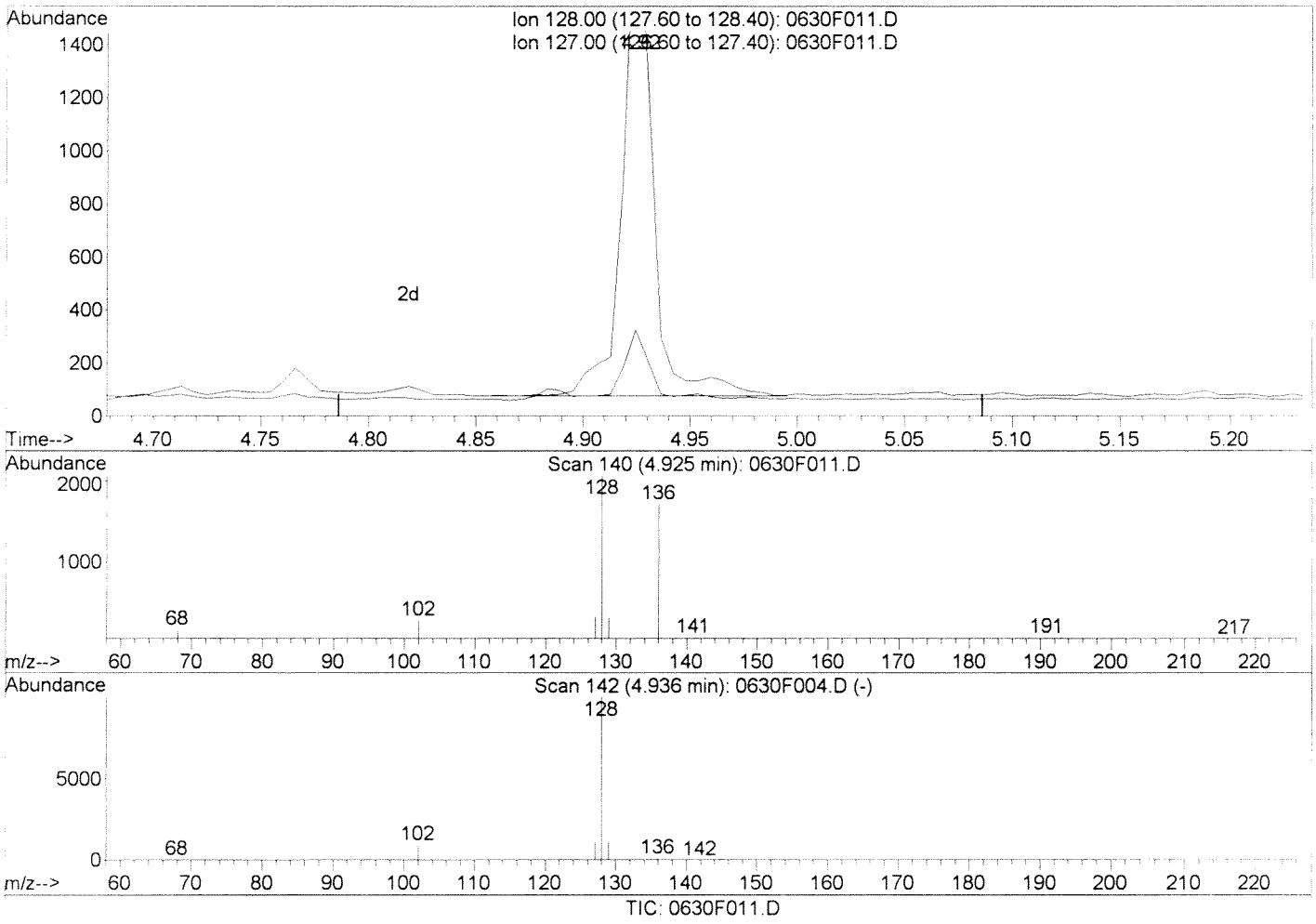
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:12 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(2) Naphthalene (T)

4.92min 9.04ng/ml

response 1745

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.12
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

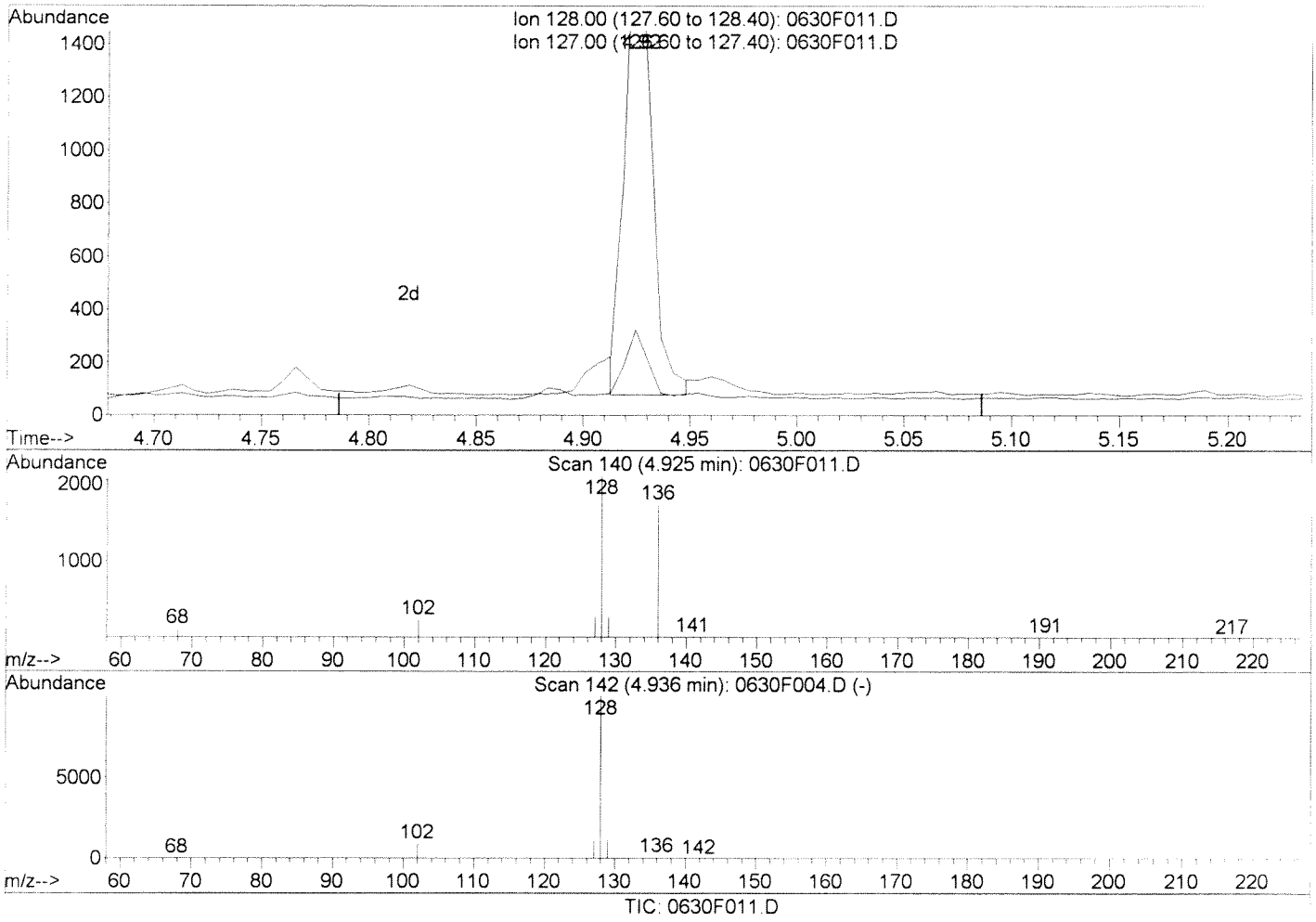
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:15 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(2) Naphthalene (T)

4.92min 7.88ng/ml m

response 1521

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	15.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

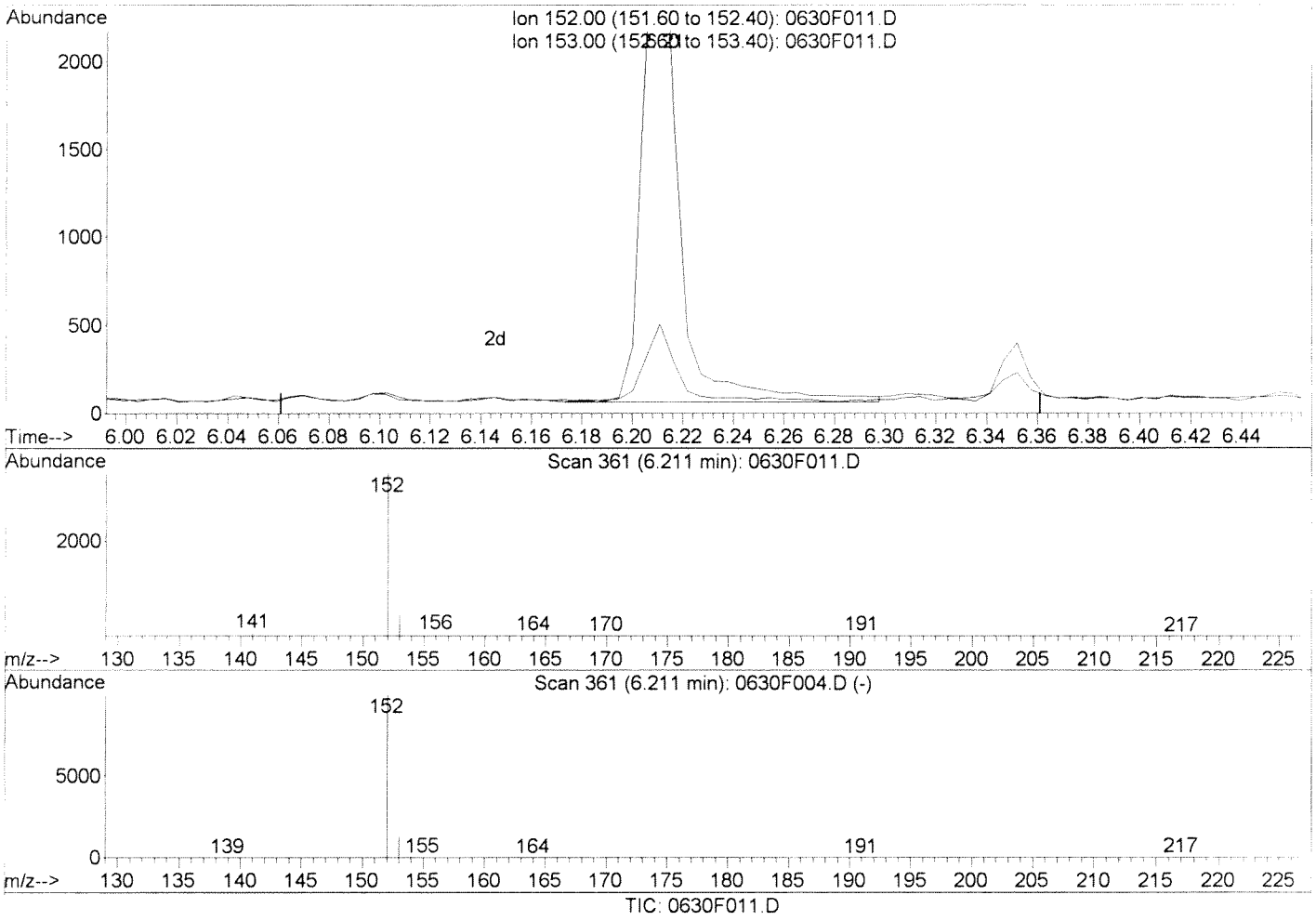
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:20 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(11) Acenaphthylene (T)

6.21min 13.08ng/ml

response 2835

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	12.99
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

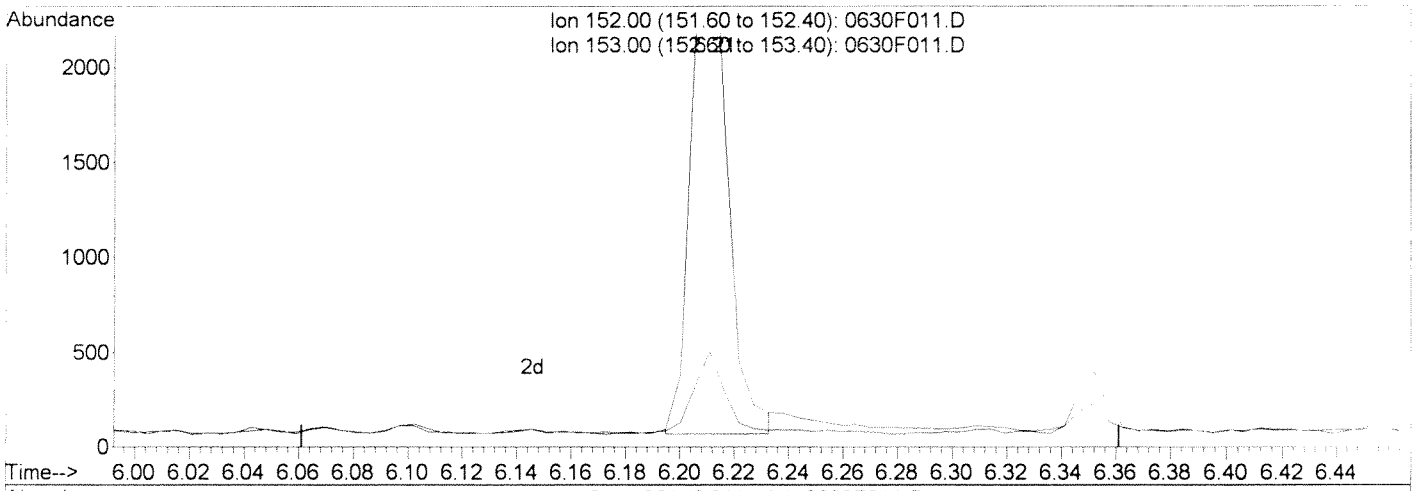
06/30/14

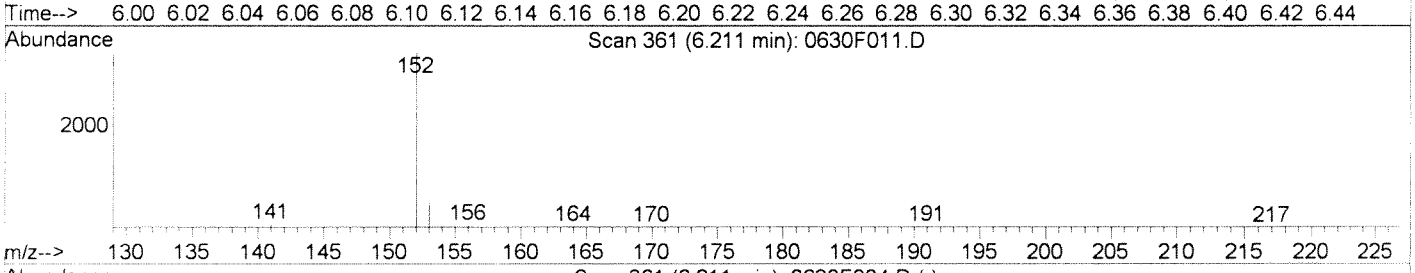
0630F011.D 062914ALK.M Mon Jun 30 12:28:31 2014

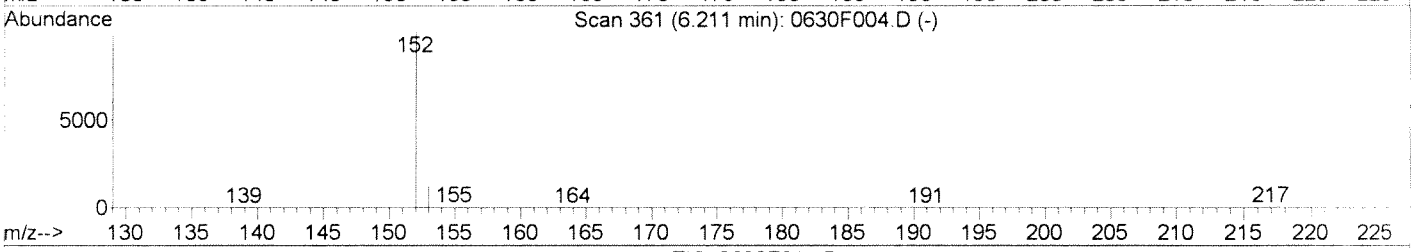
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F011.D

(11) Acenaphthylene (T)

6.21min 12.02ng/ml m

response 2604

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	15.05
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

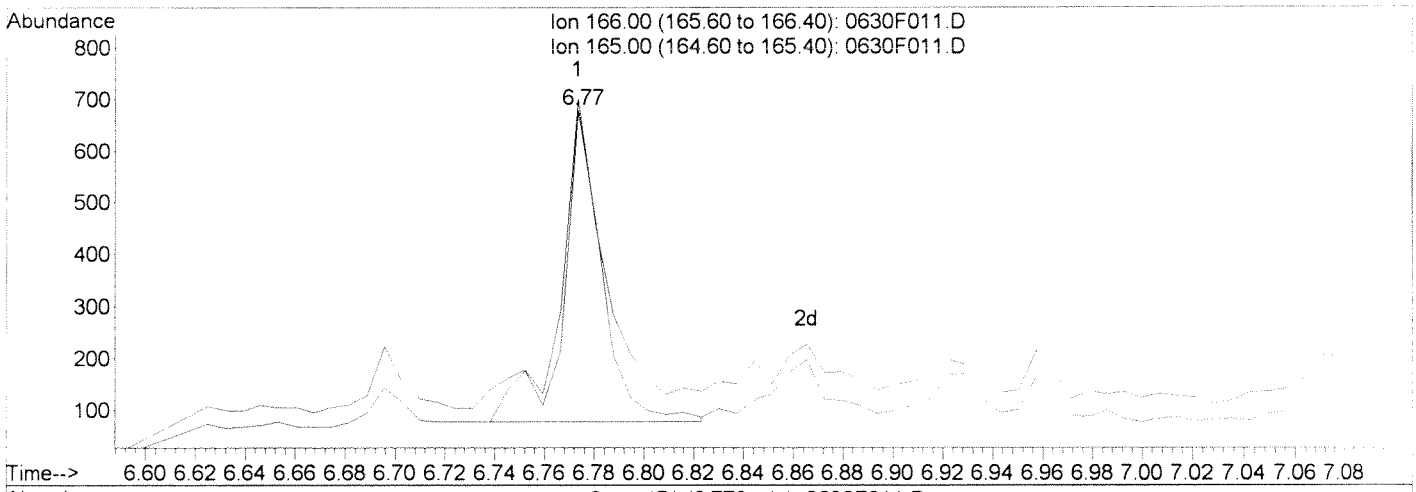
06/30/14

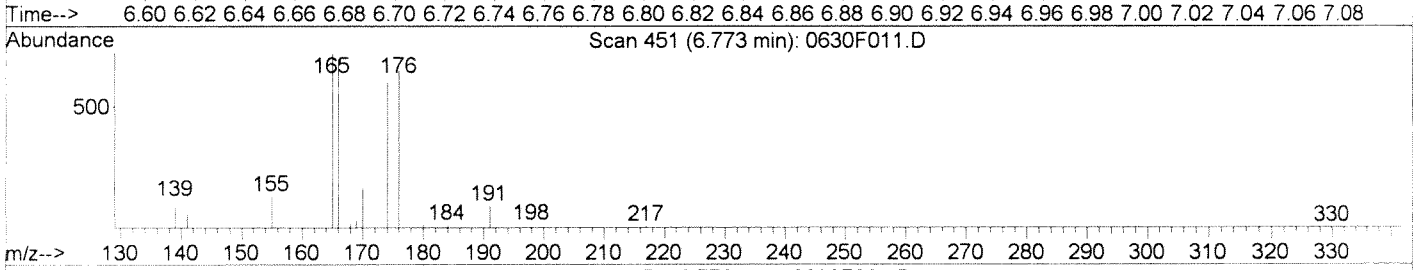
0630F011.D 062914ALK.M Mon Jun 30 12:28:36 2014

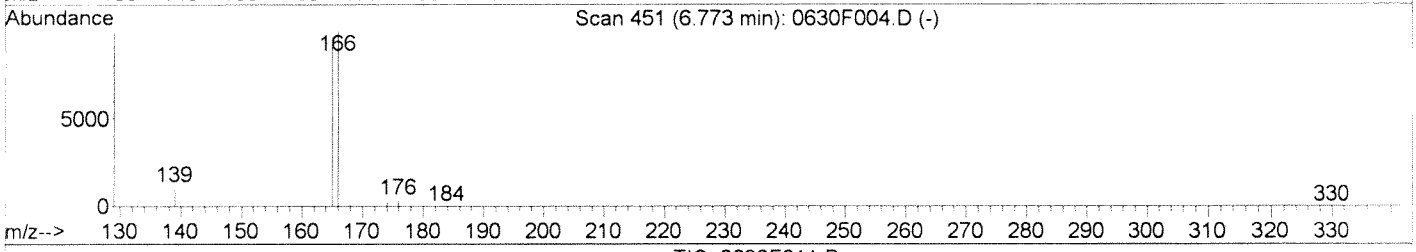
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F011.D

(16) Fluorene (T)

6.77min 4.14ng/ml

response 660

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	99.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

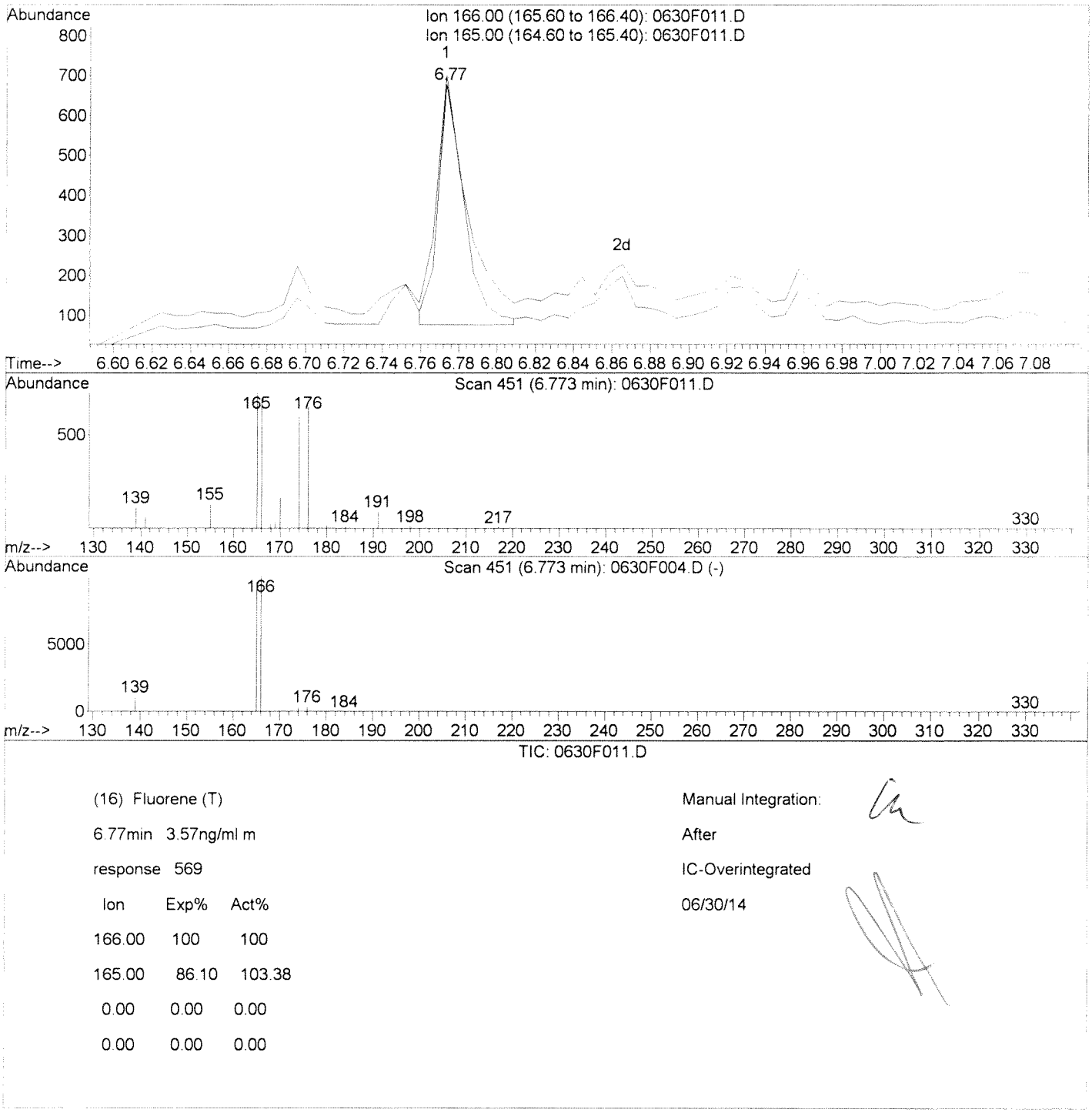
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:46 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(16) Fluorene (T)

6.77min 3.57ng/ml m

response 569

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	103.38
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

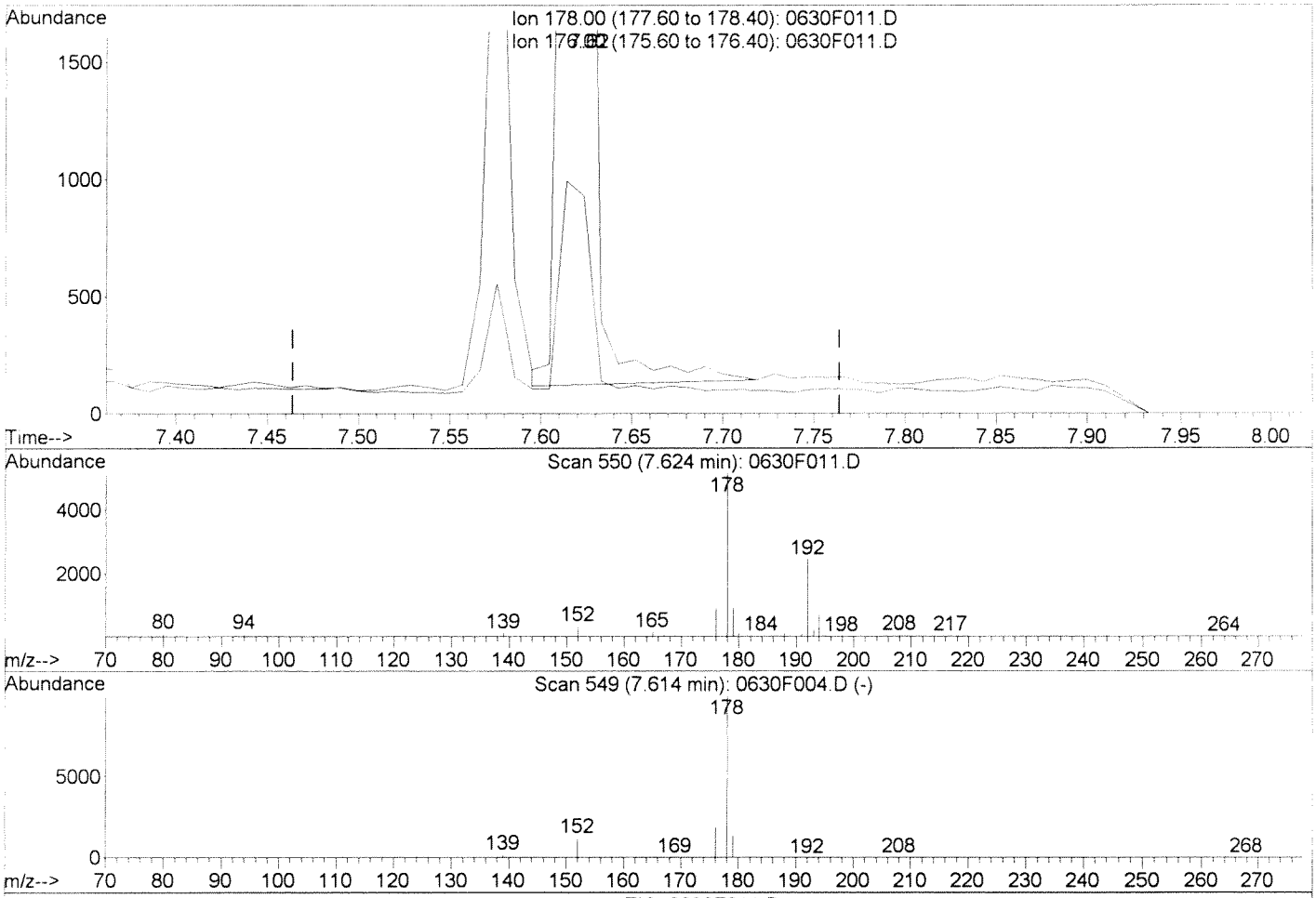
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:51 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(28) Anthracene (T)

7.62min 24.47ng/ml

response 5744

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

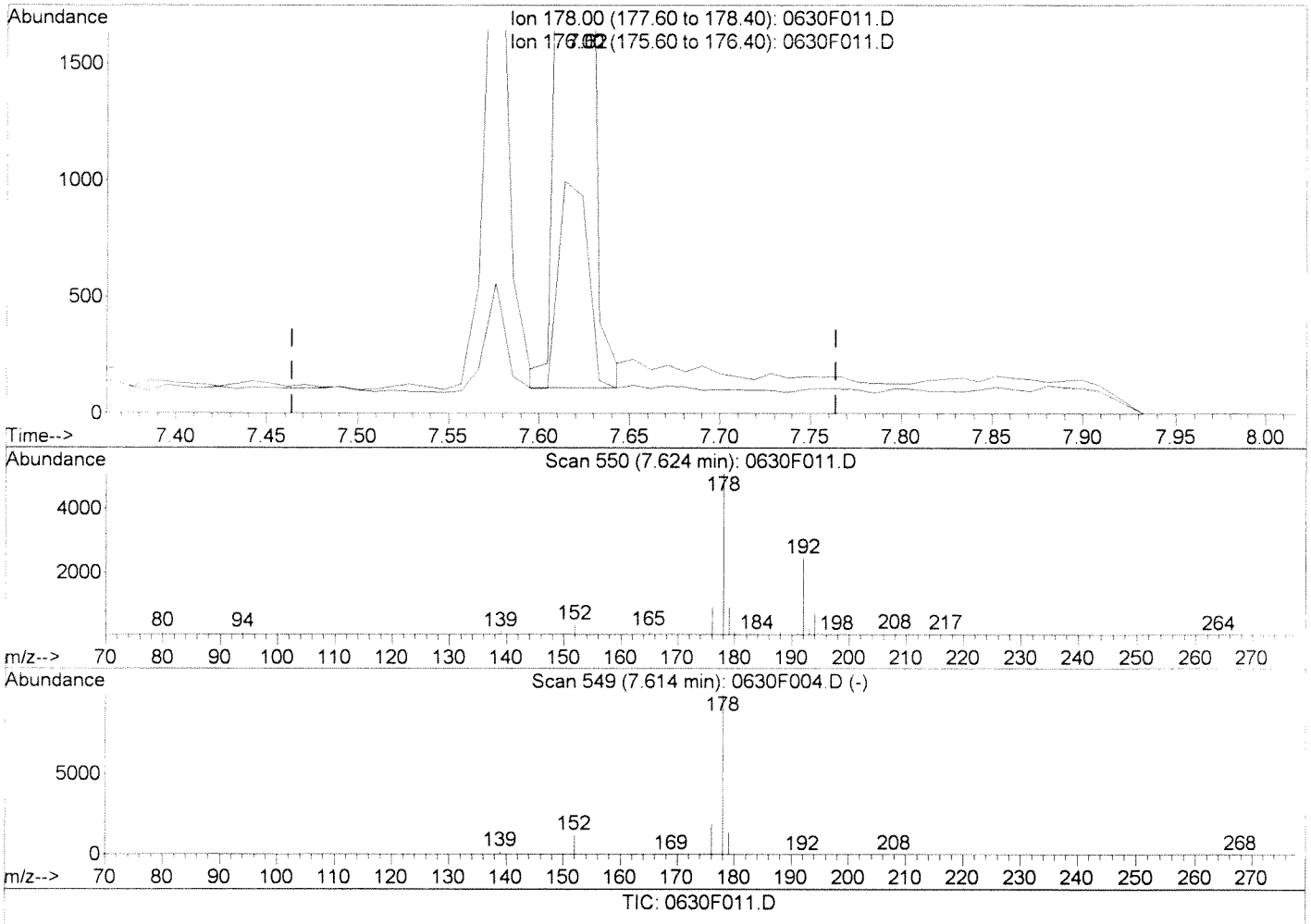
06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:28:58 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:29 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F011.D

(28) Anthracene (T)

7.62min 23.73ng/ml m

response 5570

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.11
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

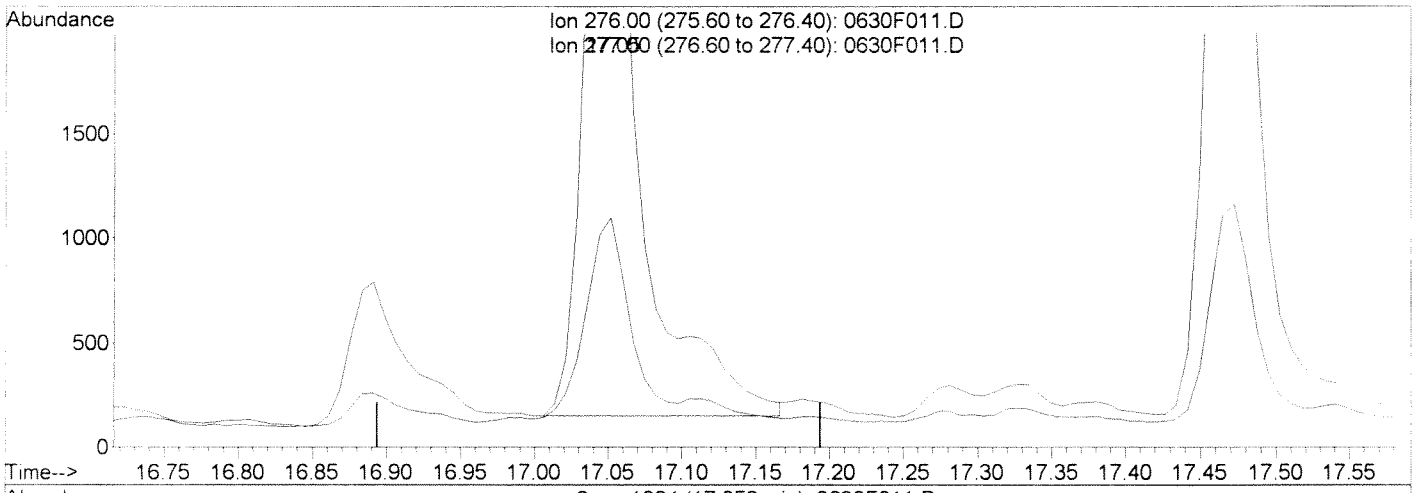
06/30/14

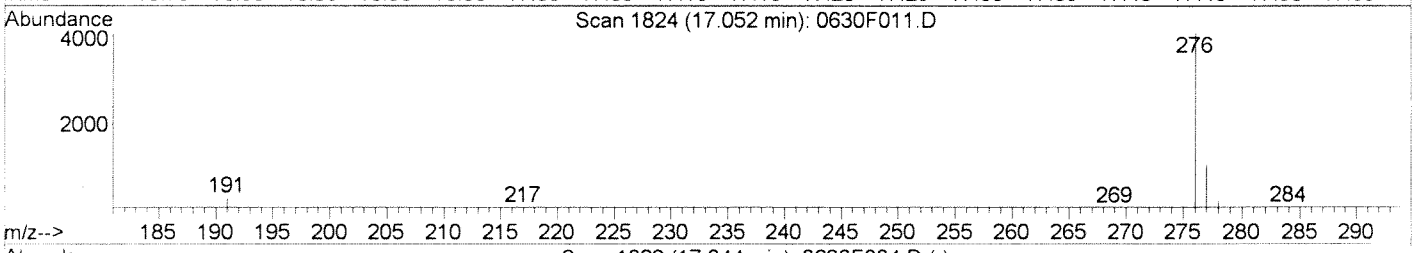
0630F011.D 062914ALK.M Mon Jun 30 12:29:03 2014

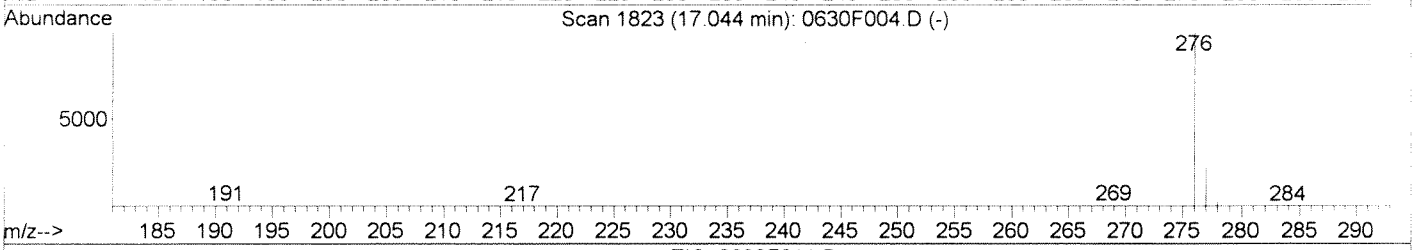
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:29 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F011.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.05min 38.57ng/ml

response 8891

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	24.59
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

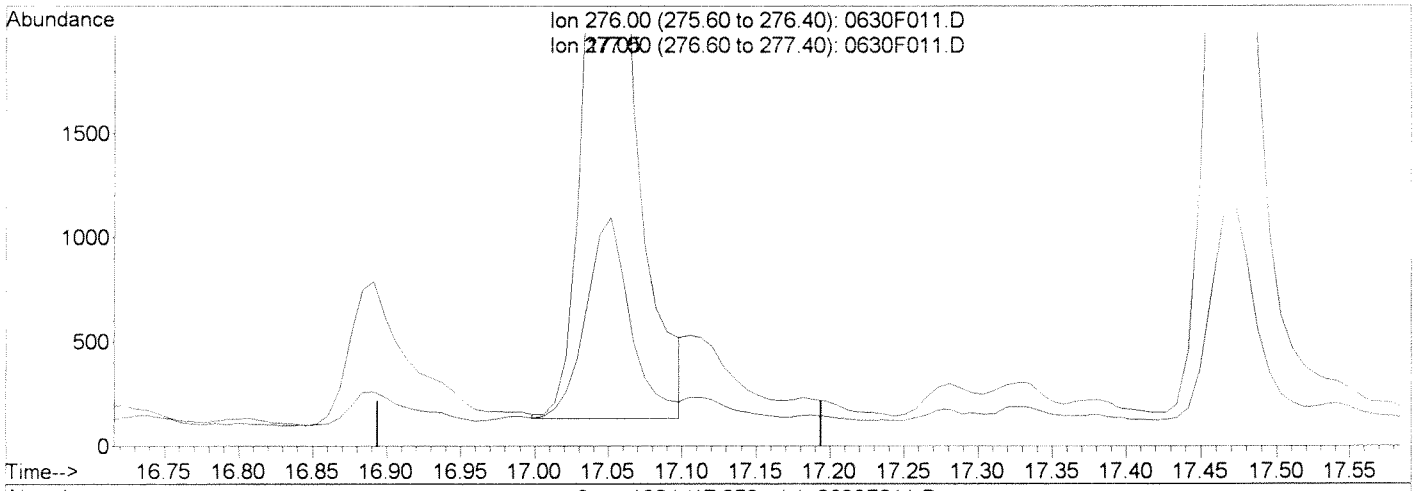
06/30/14

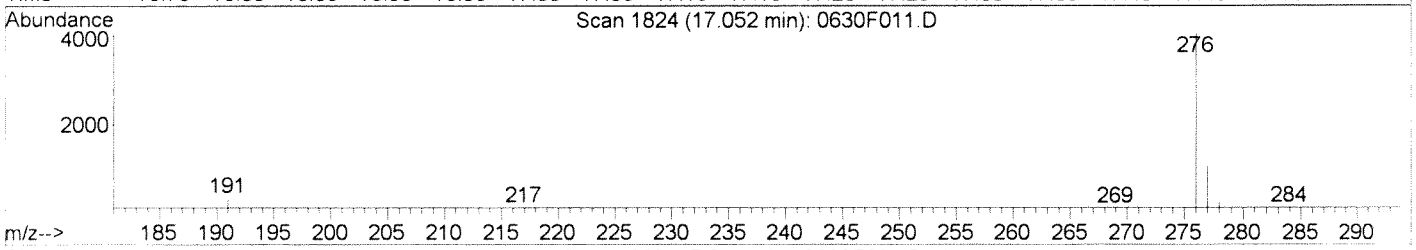
0630F011.D 062914ALK.M Mon Jun 30 12:29:24 2014

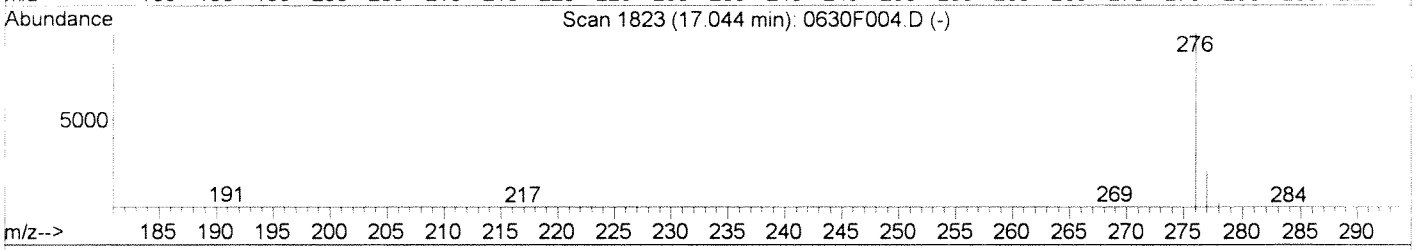
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F011.D Vial: 4
Acq On : 30 Jun 2014 10:43 am Operator: LWeiskopf
Sample : K1405833-002DUP Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:29 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F011.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.05min 35.46ng/ml m

response 8173

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	26.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F011.D 062914ALK.M Mon Jun 30 12:29:28 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F009.D
Lab ID: KWG1405687-5
RunType: MB
Matrix: SOIL

Date Acquired: 06/30/2014 09:49
Date Quantitated: 06/30/2014 12:24
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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	

K5819
K5833
K5949

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NT

Primary Review JUN 30 2014

Secondary Review

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F009.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 09:49	**Quant Date:**	06/30/2014 12:24	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1405687-5			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347940	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
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	4.91	-0.01	136	36873	200.00	OK
2	Acenaphthene-d10	6.32	-0.01	164	18697	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	36456	200.00	OK
4	Chrysene-d12	10.31	0.00	240	36778	200.00	OK
5	Perylene-d12	13.93	-0.01	264	28955	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	6.75	0.00	0.00	176	17485	140.34	70	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.54	0.00	0.00	212	32960	141.75	71	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	30569	173.77	87	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.92	-0.02	0.00	128	390	1.91	0.937	J	
1	2-Methylnaphthalene	5.48		0.00	142	72	0.5200	0.39	U	
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	67	0.5400	0.51	U	
1	Biphenyl	5.86		0.00	154	90m	0.5600	0.54	U	
1	2,6-Dimethylnaphthalene				156	0d		0.36	U	
1	C2-Naphthalenes				156	0		2.5	U	
1	C3-Naphthalenes				170	0		2.5	U	
1	C4-Naphthalenes				184	0		2.5	U	
2	Acenaphthylene				152	0d		0.59	U	
2	Acenaphthene				154	0d		0.76	U	
2	Dibenzofuran				168	0d		0.63	U	
2	2,3,5-Trimethylnaphthalene				170	0d		0.21	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:\MS11\DATA\063014A\0630F009.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 09:49	**Quant Date:**	06/30/2014 12:24	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1405687-5			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene				166	0d		0.61	U	
2	C1-Fluorenes				180	0		2.5	U	
2	C2-Fluorenes				194	0		2.5	U	
2	C3-Fluorenes				208	0		2.5	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene				184	0d		0.30	U	
3	C1-Dibenzothiophenes				198	0		2.5	U	
3	C2-Dibenzothiophenes				212	0		2.5	U	
3	C3-Dibenzothiophenes				226	0		2.5	U	
3	Phenanthrene	7.58		0.00	178	91	0.4300	1.4	U	
3	Anthracene				178	0d		0.58	U	
3	Carbazole				167	0d		2.3	U	
3	1-Methylphenanthrene				192	0		0.28	U	
3	C1-Phenanthrenes/Anthracenes				192	0		2.5	U	
3	C2-Phenanthrenes/Anthracenes				206	0		2.5	U	
3	C3-Phenanthrenes/Anthracenes				220	0		2.5	U	
3	C4-Phenanthrenes/Anthracenes				234	0		2.5	U	
3	Fluoranthene	8.56		0.00	202	124m	0.5400	0.98	U	
4	Pyrene	8.77		0.00	202	77	0.3600	0.76	U	
4	C1-Fluoranthenes/Pyrenes				216	0		2.5	U	
4	C2-Fluoranthenes/Pyrenes				230	0		2.5	U	
4	C3-Fluoranthenes/Pyrenes				244	0		2.5	U	
4	C4-Fluoranthenes/Pyrenes				258	0		2.5	U	
4	Benz(a)anthracene	10.31	0.02	0.00	228	150m	0.7100	0.72	U	
4	Chrysene	10.35		0.00	228	56m	0.2800	0.80	U	
4	C1-Chrysenes				242	0		2.5	U	
4	C2-Chrysenes				256	0		2.5	U	
4	C3-Chrysenes				270	0		2.5	U	
4	C4-Chrysenes				284	0		2.5	U	
5	Benzo(b)fluoranthene	12.72		0.00	252	123	0.6700	0.92	U	
5	Benzo(k)fluoranthene	12.78	-0.02	0.00	252	81	0.4600	0.87	U	
5	Benzo(e)pyrene	13.55	-0.01	0.00	252	219	1.28	0.628	J	
5	Benzo(a)pyrene				252	0d		0.76	U	
5	Perylene	14.04	0.01	0.00	252	81m	0.5000	0.72	U	
5	Indeno(1,2,3-cd)pyrene	17.05	0.01	0.00	276	148m	0.9800	0.87	U	
5	Dibenz(a,h)anthracene	17.12		0.00	278	103	0.6600	0.80	U	
5	Benzo(g,h,i)perylene	17.47		0.00	276	396	2.20	1.08	J	

Prep Amount:	20.383 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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F009.D Vial: 2
Acq On : 30 Jun 2014 9:49 am Operator: LWeiskopf
Sample : KWG1405687-5 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:22:29 2014 Quant Results File: 062914ALK.RES

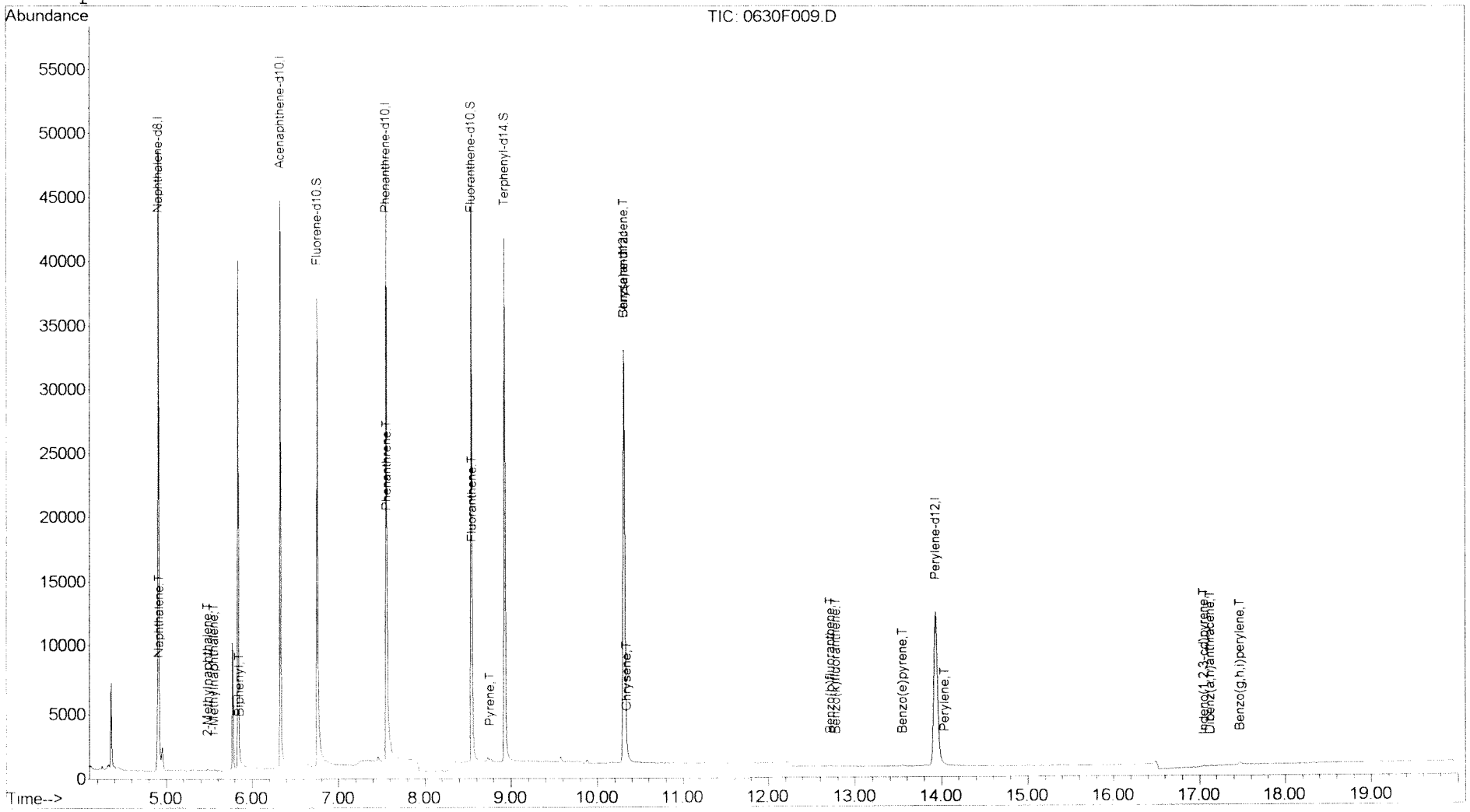
Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

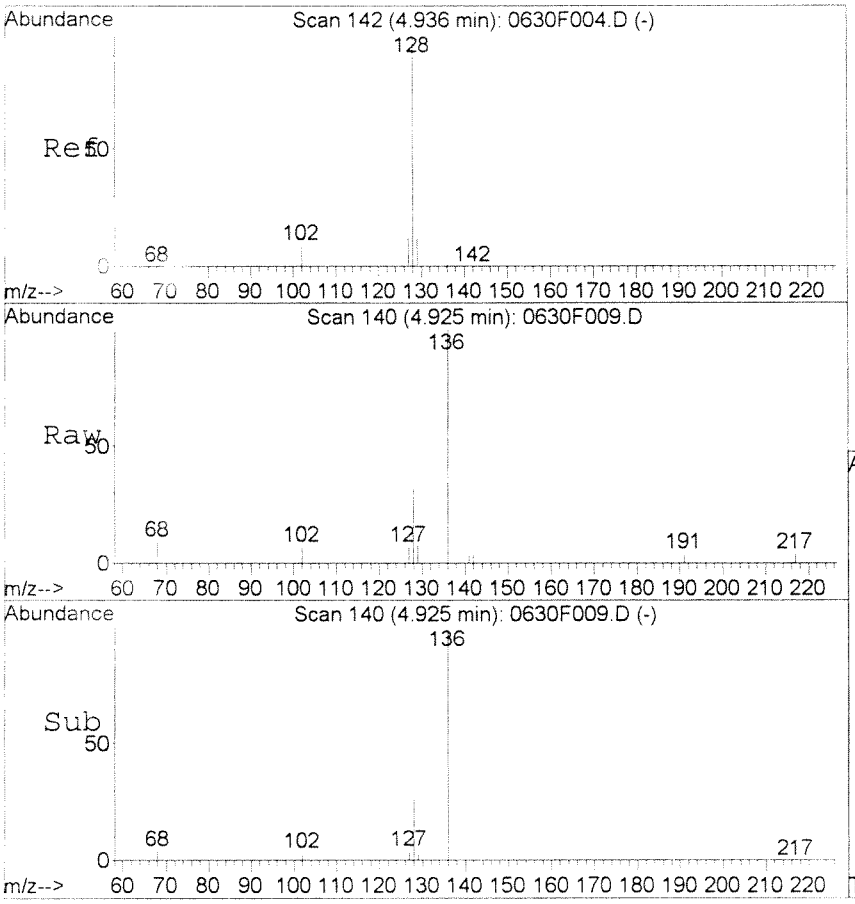
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	36873	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.32	164	18697	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	36456	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	36778	200.00	ng/ml	0.00
50) Perylene-d12	13.93	264	28955	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	17485	140.34	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.03%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.54	212	32960	141.75	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.17%			
43) Terphenyl-d14	8.93	244	30569	173.77	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 17.38%			
Target Compounds						Qvalue
2) Naphthalene	4.92	128	390	1.91	ng/ml	99
3) 2-Methylnaphthalene	5.48	142	72	0.52	ng/ml	94
4) 1-Methylnaphthalene	5.56	142	67	0.54	ng/ml	95
5) Biphenyl	5.86	154	90m	0.56	ng/ml	
27) Phenanthrene	7.58	178	91	0.43	ng/ml	94
35) Fluoranthene	8.56	202	124m	0.54	ng/ml	
38) Pyrene	8.77	202	77	0.36	ng/ml#	2
44) Benz(a)anthracene	10.31	228	150m	0.71	ng/ml	
45) Chrysene	10.35	228	56m	0.28	ng/ml	
51) Benzo(b)fluoranthene	12.72	252	123	0.67	ng/ml	70
52) Benzo(k)fluoranthene	12.78	252	81	0.46	ng/ml	85
53) Benzo(e)pyrene	13.55	252	219	1.28	ng/ml	89
55) Perylene	14.04	252	81m	0.50	ng/ml	
56) Indeno(1,2,3-cd)pyrene	17.05	276	148m	0.98	ng/ml	
57) Dibenz(a,h)anthracene	17.12	278	103	0.66	ng/ml	76
58) Benzo(g,h,i)perylene	17.47	276	396	2.20	ng/ml	95

(#) = qualifier out of range (m) = manual integration
0630F009.D 062914ALK.M Mon Jun 30 12:29:41 2014 Page 1

Data File : J:\MS11\DATA\063014A\0630F009.D Vial: 2
Acq On : 30 Jun 2014 9:49 am Operator: LWeiskopf
Sample : KWG1405687-5 MB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:24 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration

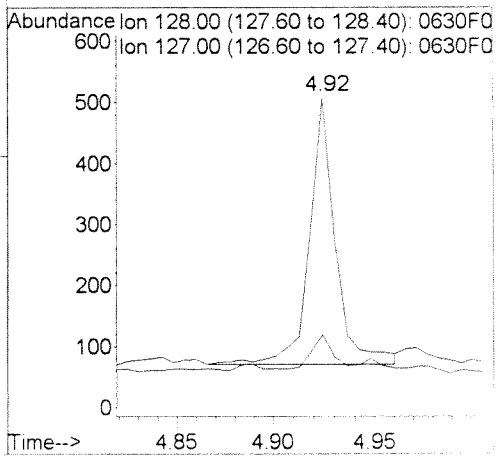


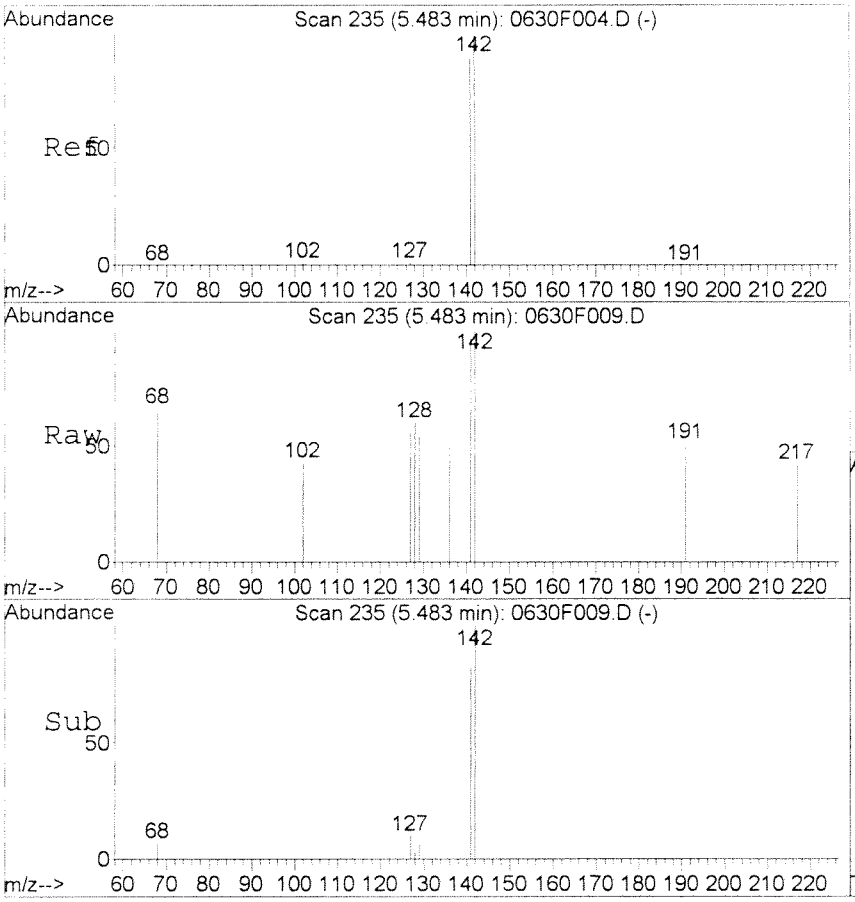


#2
Naphthalene
Concen: 1.91 ng/ml
RT: 4.92 min Scan# 140
Delta R.T. -0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:128 Resp: 390

Ion	Ratio	Lower	Upper
128	100		
127	12.8	0.0	43.1

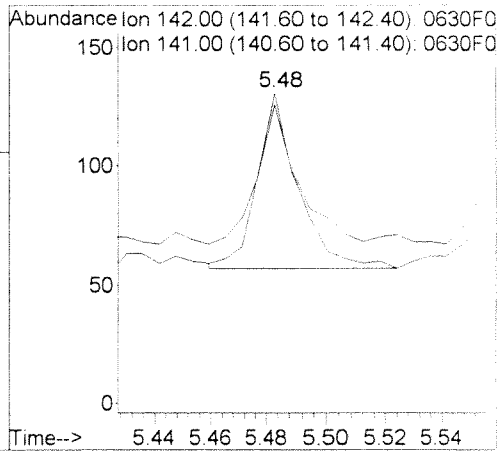


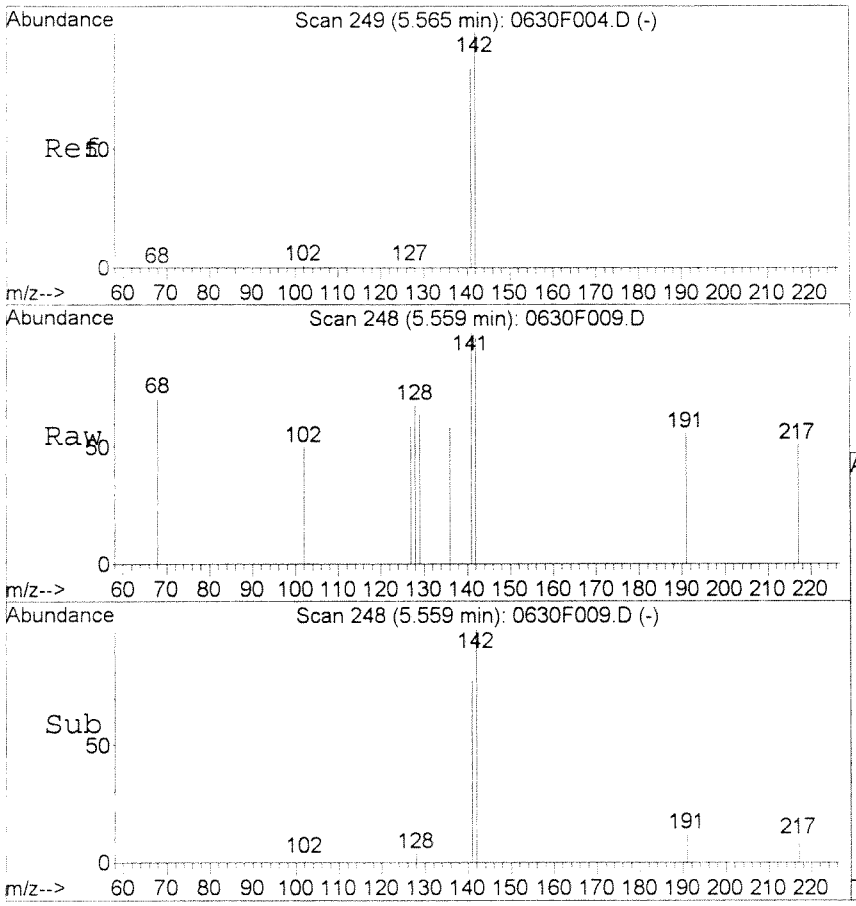


#3
2-Methylnaphthalene
Concen: 0.52 ng/ml
RT: 5.48 min Scan# 235
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:142 Resp: 72

Ion	Ratio	Lower	Upper
142	100		
141	79.7	54.9	114.9

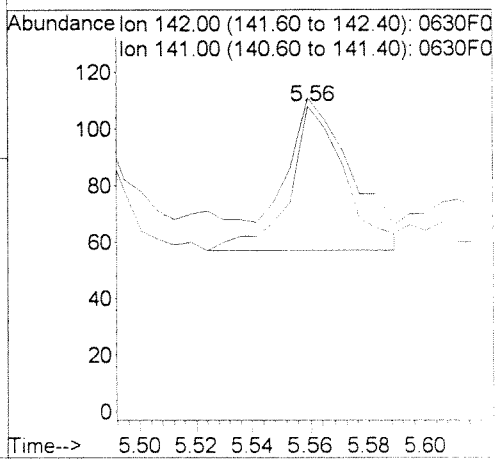


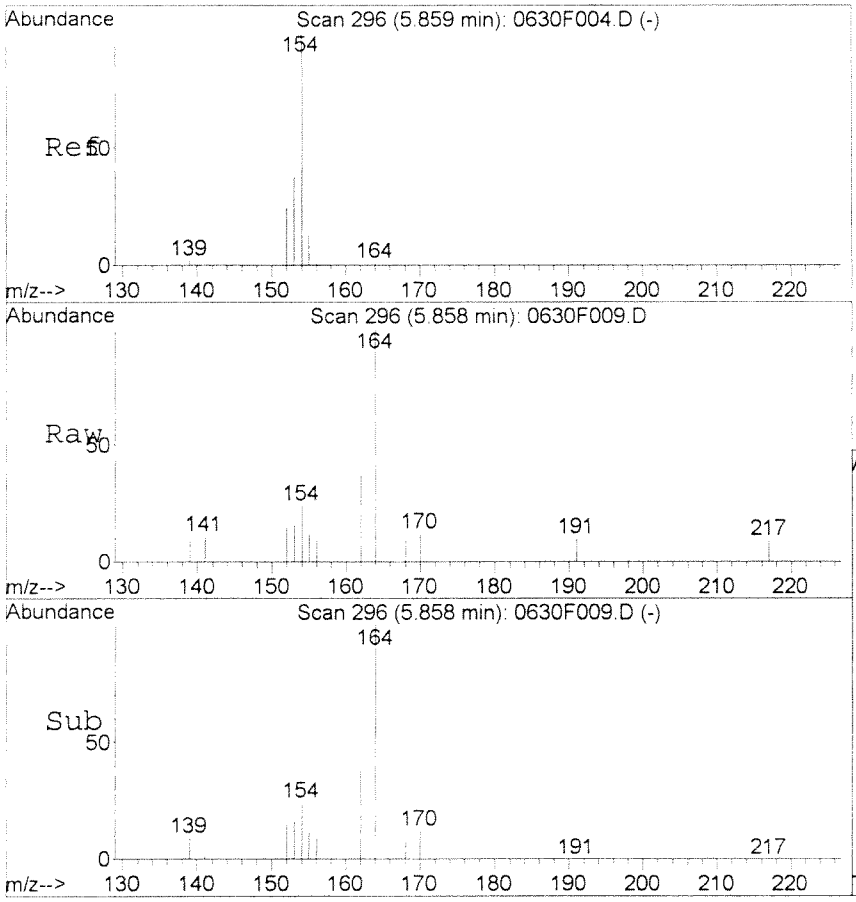


#4
1-Methylnaphthalene
Concen: 0.54 ng/ml
RT: 5.56 min Scan# 248
Delta R.T. -0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:142 Resp: 67

Ion	Ratio	Lower	Upper
142	100		
141	88.2	54.0	114.0

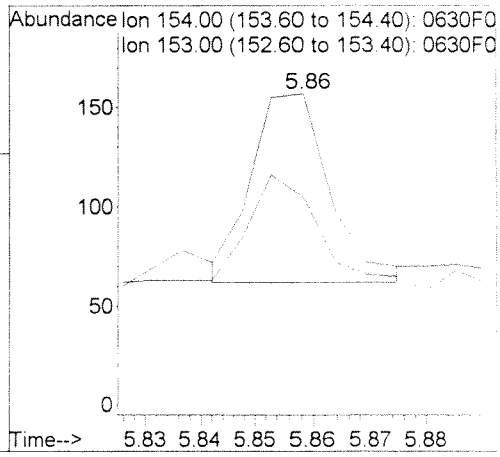


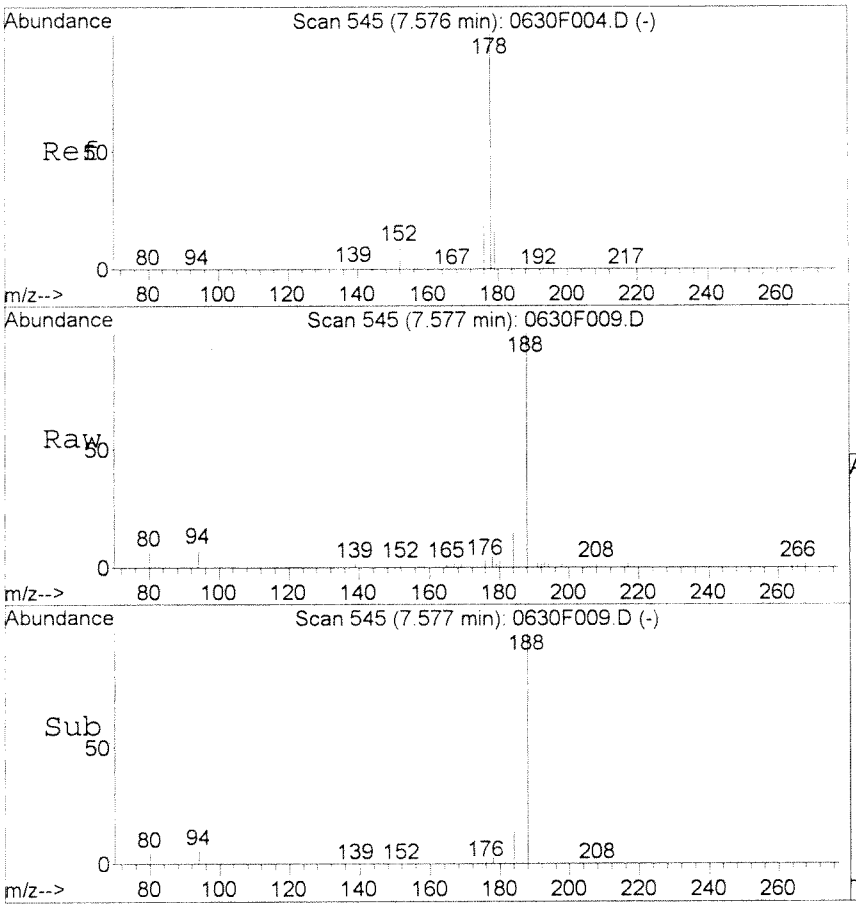


#5
Biphenyl
Concen: 0.56 ng/ml m
RT: 5.86 min Scan# 296
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:154 Resp: 90

Ion	Ratio	Lower	Upper
154	100		
153	66.9	10.0	70.0

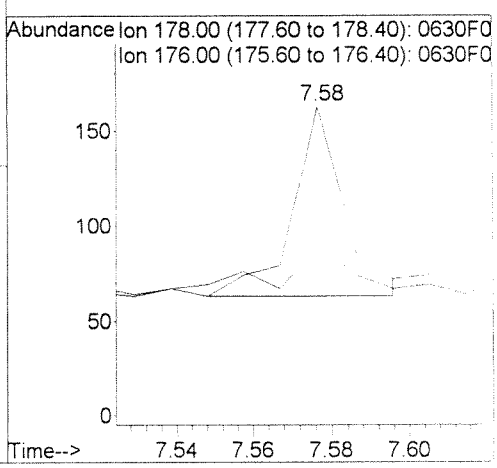


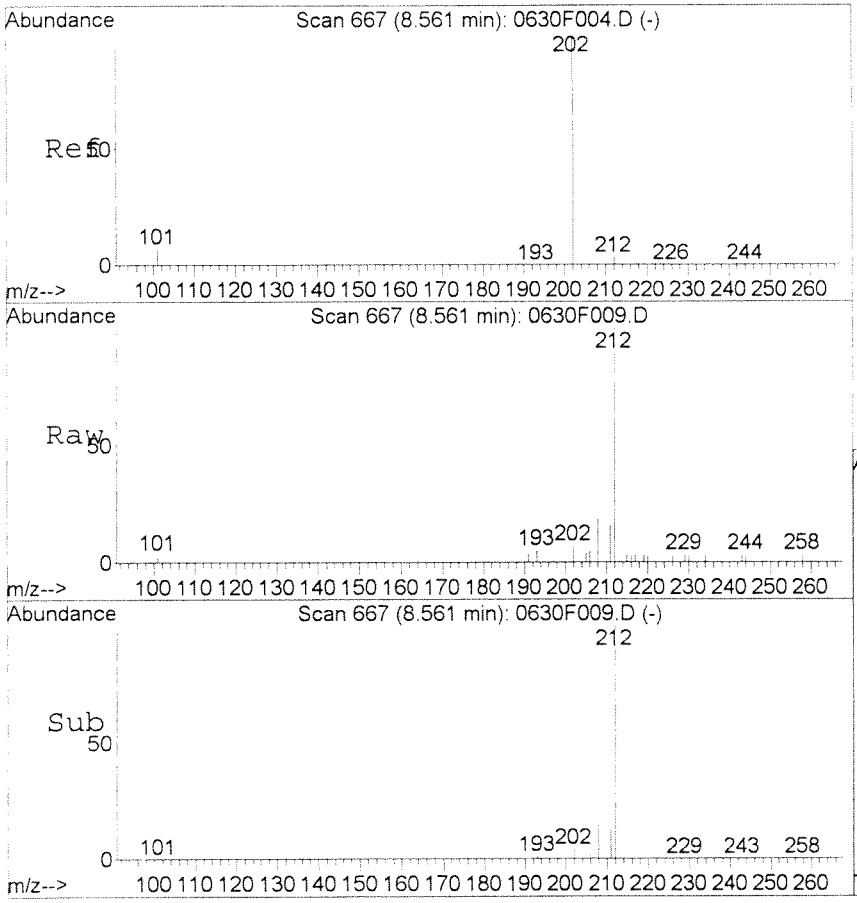


#27
Phenanthrene
Concen: 0.43 ng/ml
RT: 7.58 min Scan# 545
Delta R.T. 0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:178 Resp: 91

Ion	Ratio	Lower	Upper
178	100		
176	22.0	0.0	49.3

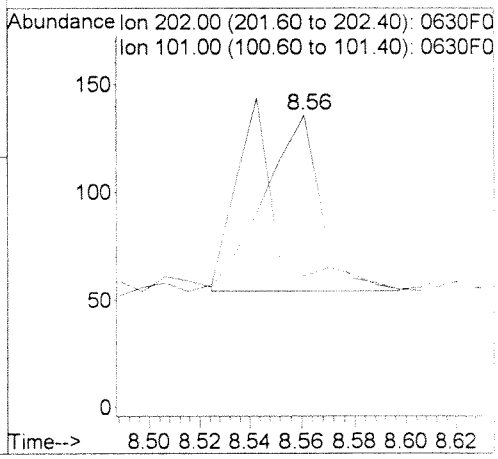


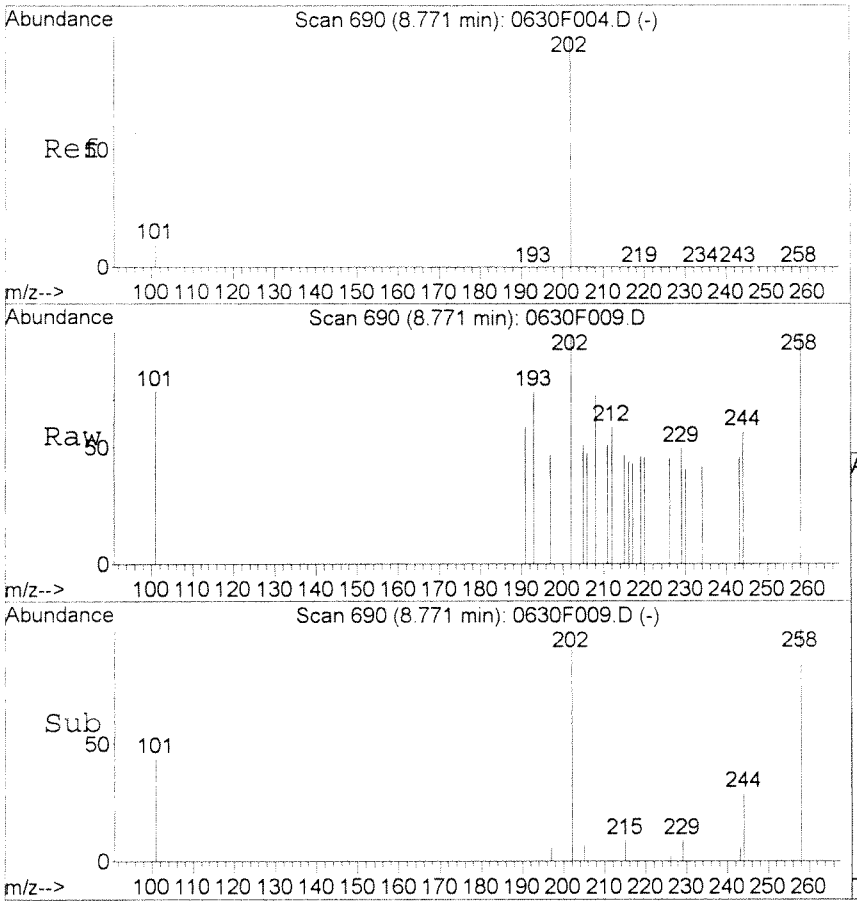


#35
Fluoranthene
Concen: 0.54 ng/ml m
RT: 8.56 min Scan# 667
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:202 Resp: 124

Ion	Ratio	Lower	Upper
202	100		
101	44.9	0.0	44.3#

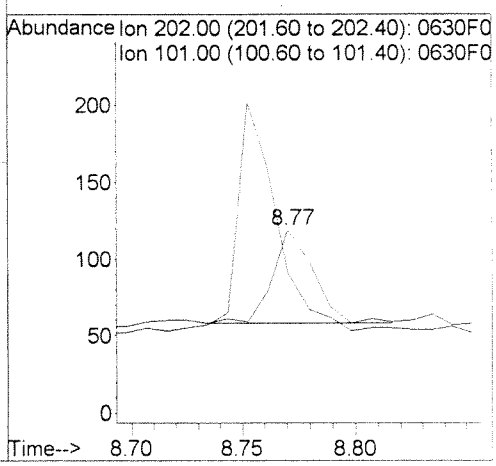


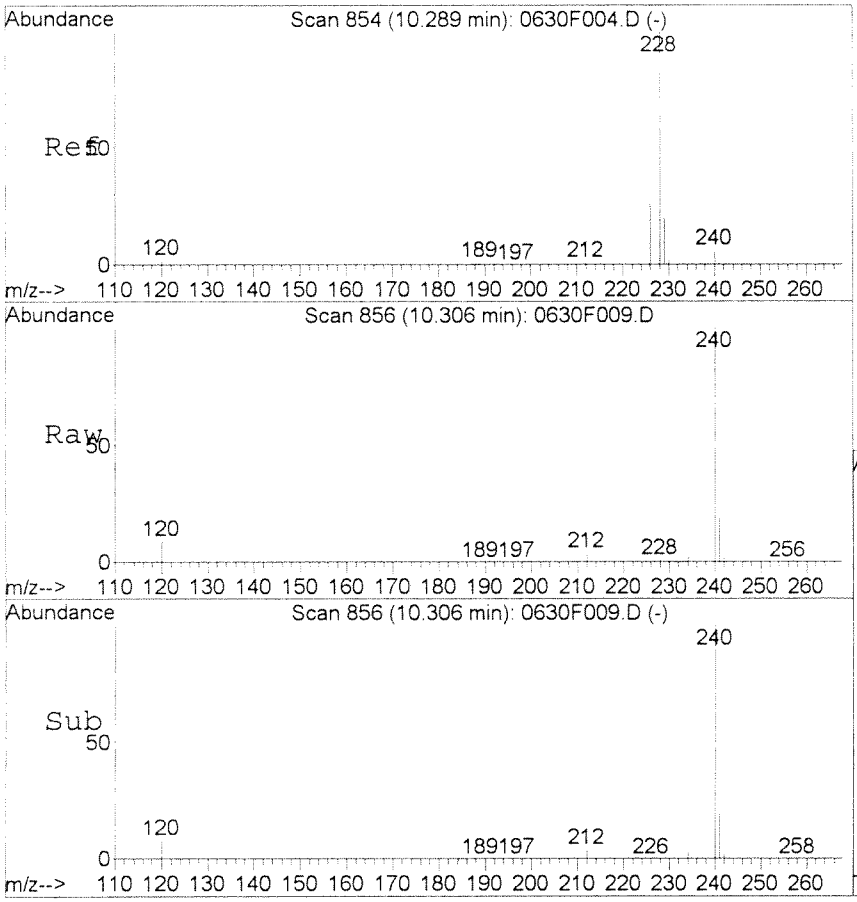


#38
Pyrene
Concen: 0.36 ng/ml
RT: 8.77 min Scan# 690
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:202 Resp: 77

Ion	Ratio	Lower	Upper
202	100		
101	59.0	0.0	46.7#

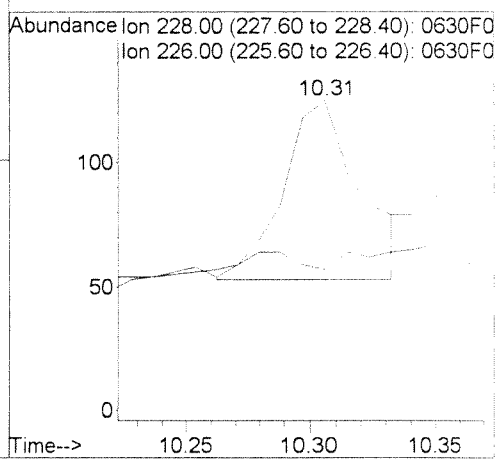


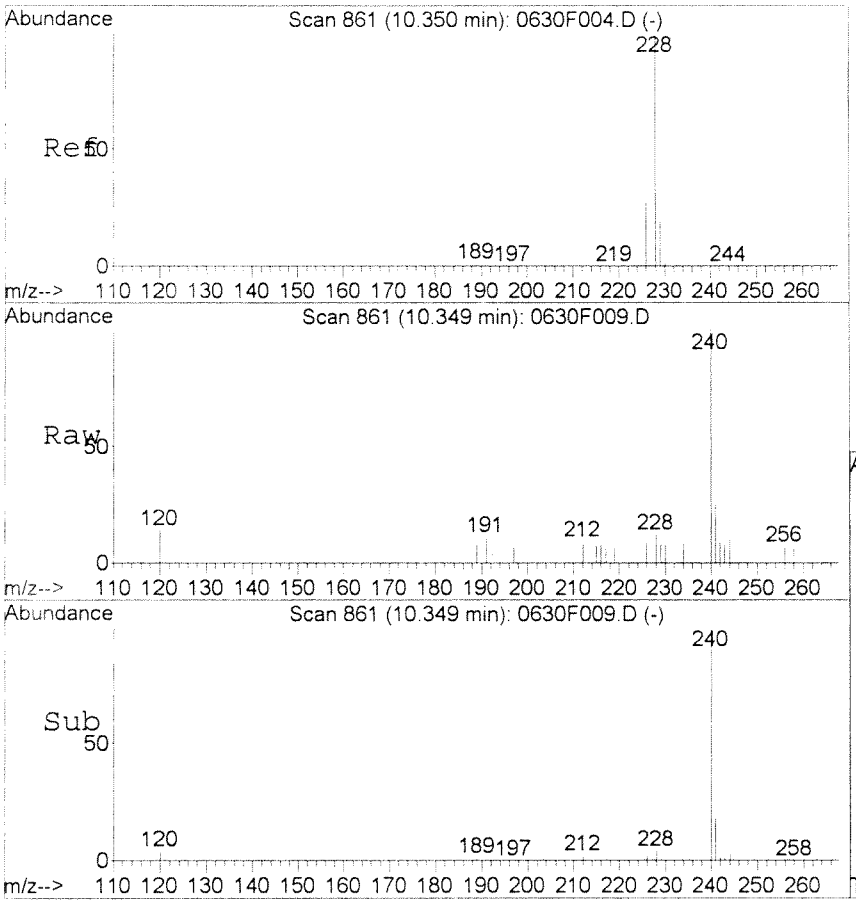


#44
Benz(a)anthracene
Concen: 0.71 ng/ml m
RT: 10.31 min Scan# 856
Delta R.T. 0.02 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:228 Resp: 150

Ion	Ratio	Lower	Upper
228	100		
226	45.6	0.0	55.7

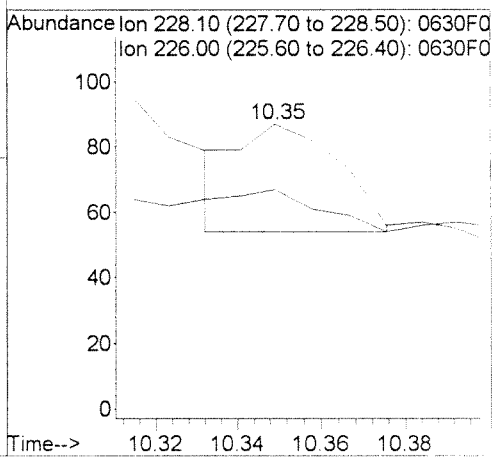


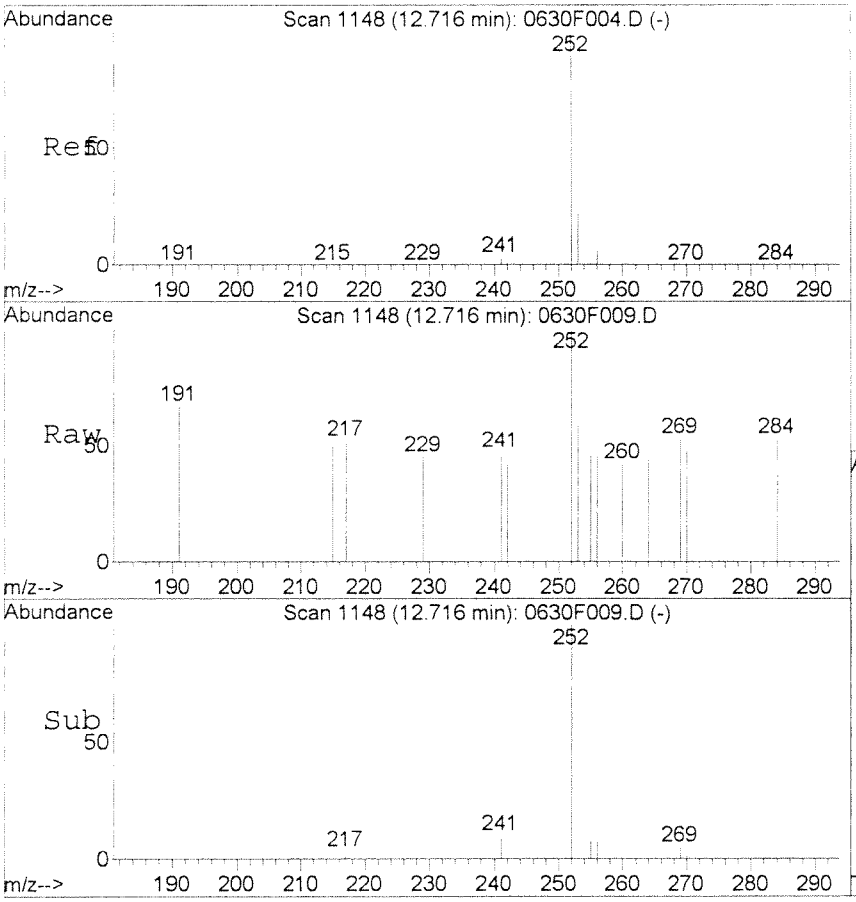


#45
Chrysene
Concen: 0.28 ng/ml m
RT: 10.35 min Scan# 861
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:228 Resp: 56

Ion	Ratio	Lower	Upper
228	100		
226	77.0	0.0	57.9#

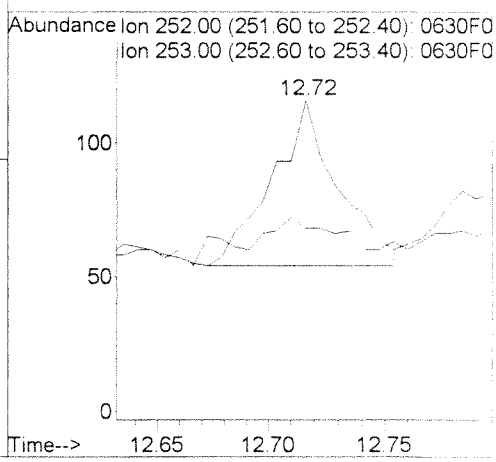


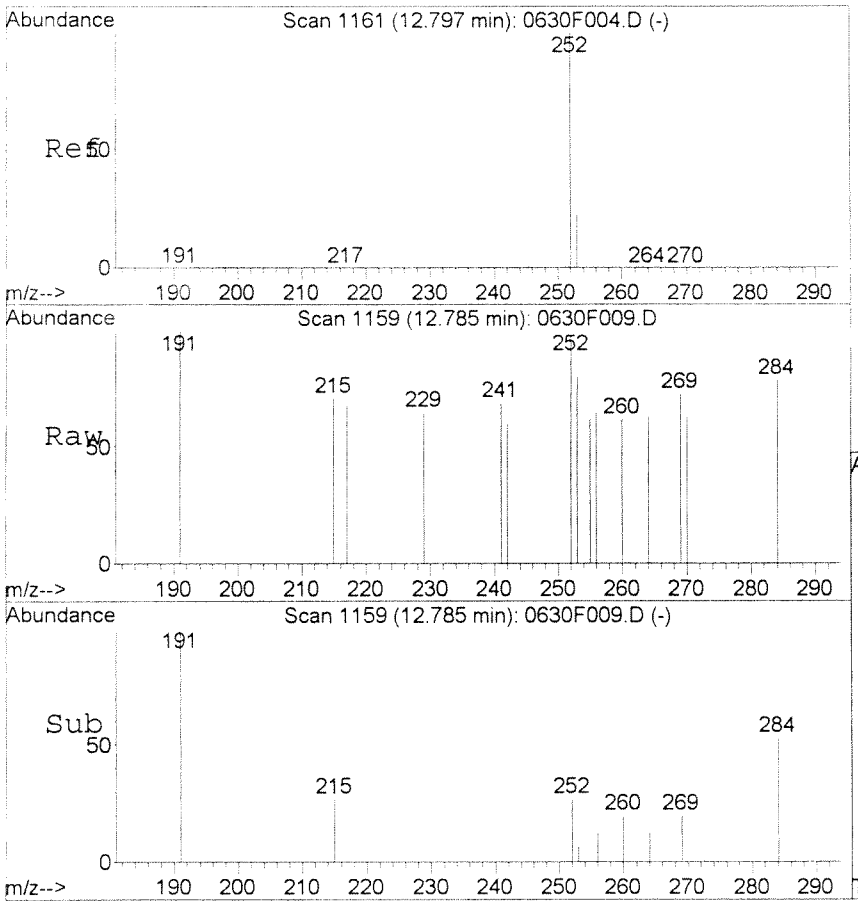


#51
Benzo(b)fluoranthene
Concen: 0.67 ng/ml
RT: 12.72 min Scan# 1148
Delta R.T. 0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:252 Resp: 123

Ion	Ratio	Lower	Upper
252	100		
253	8.1	0.0	52.5

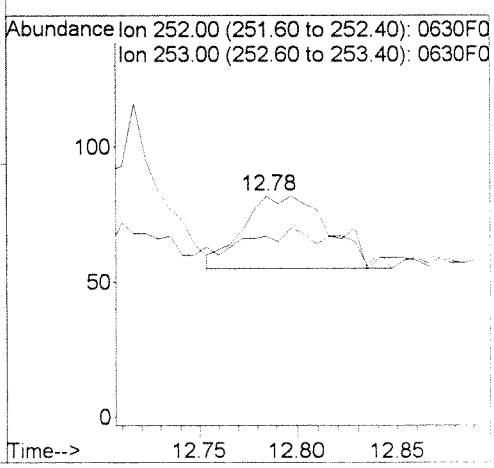


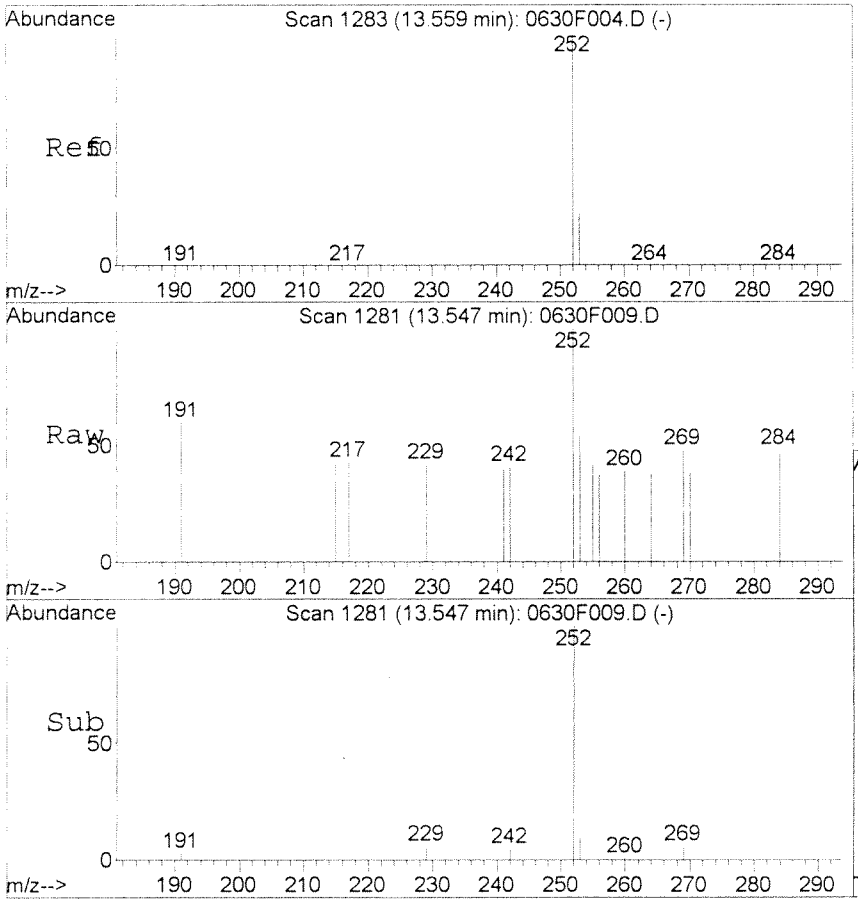


#52
Benzo(k)fluoranthene
Concen: 0.46 ng/ml
RT: 12.78 min Scan# 1159
Delta R.T. -0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:252 Resp: 81

Ion	Ratio	Lower	Upper
252	100		
253	29.6	0.0	52.3

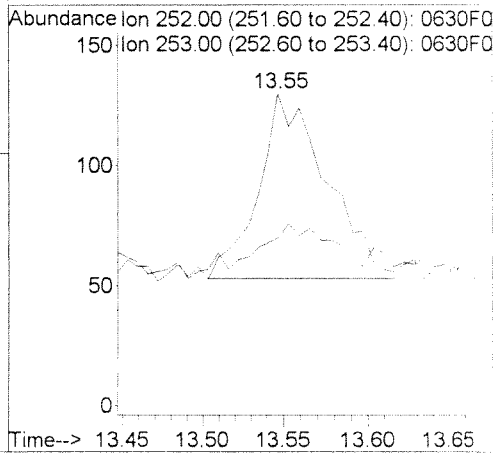


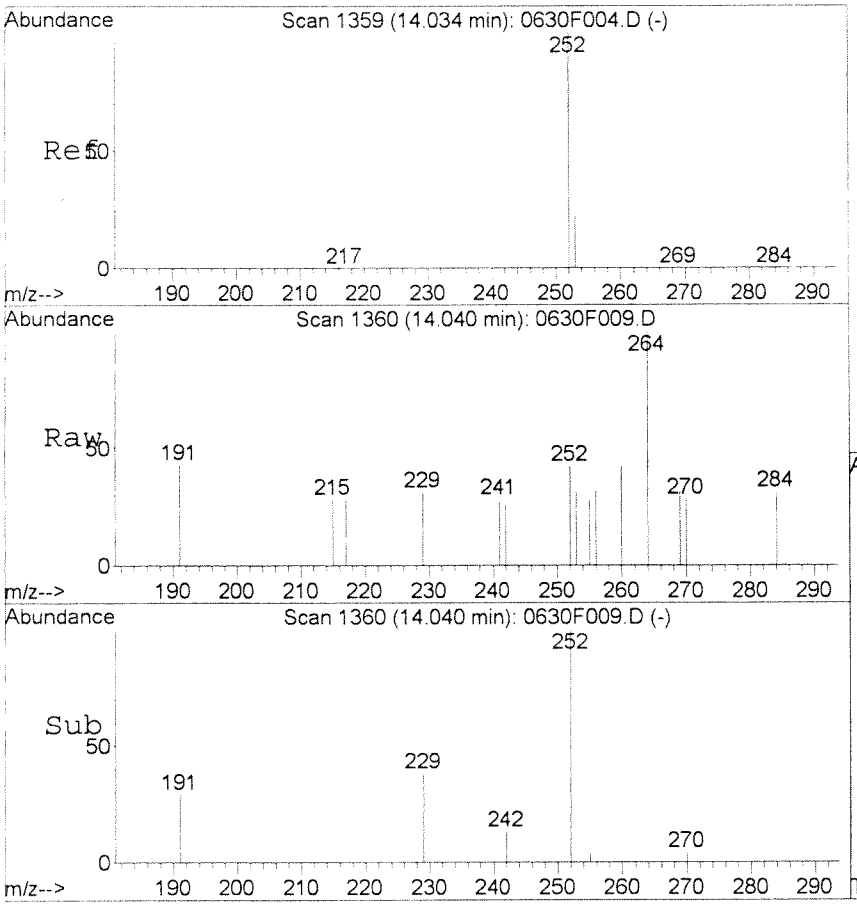


#53
Benzo(e)pyrene
Concen: 1.28 ng/ml
RT: 13.55 min Scan# 1281
Delta R.T. -0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:252 Resp: 219

Ion	Ratio	Lower	Upper
252	100		
253	16.9	0.0	52.1

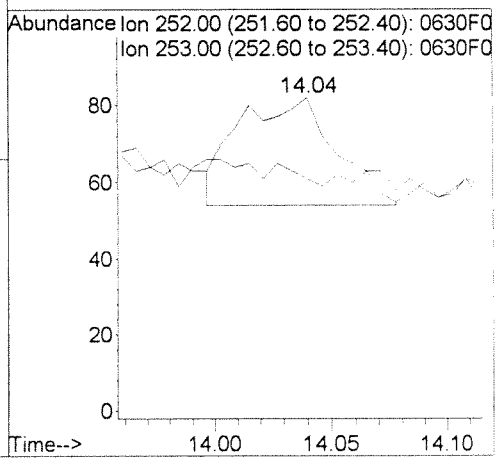


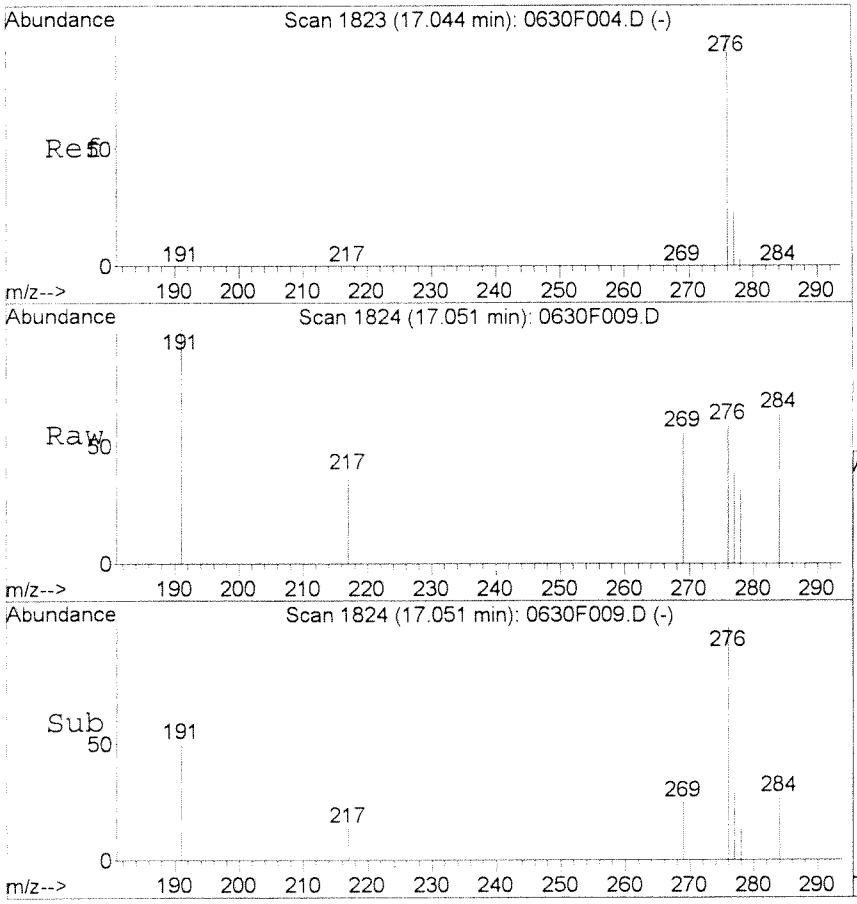


#55
Perylene
Concen: 0.50 ng/ml m
RT: 14.04 min Scan# 1360
Delta R.T. 0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:252 Resp: 81

Ion	Ratio	Lower	Upper
252	100		
253	74.4	0.0	52.3#

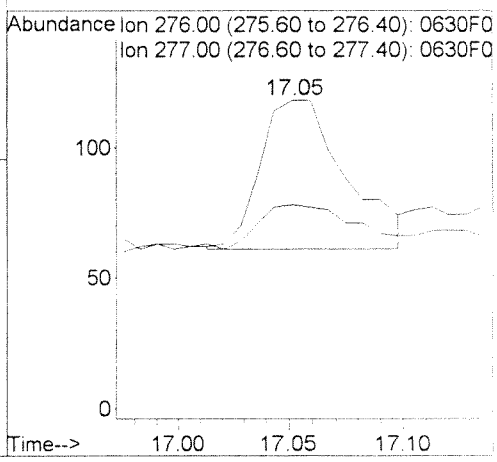


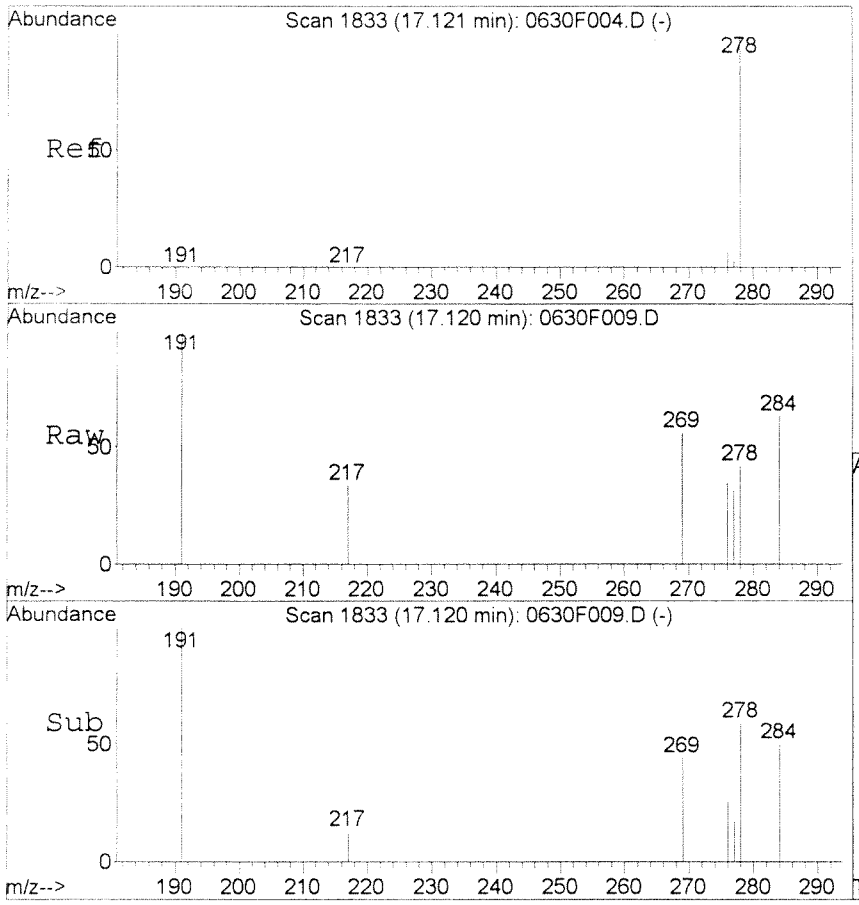


#56
Indeno(1,2,3-cd)pyrene
Concen: 0.98 ng/ml m
RT: 17.05 min Scan# 1824
Delta R.T. 0.01 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:276 Resp: 148

Ion	Ratio	Lower	Upper
276	100		
277	66.1	0.0	54.0#

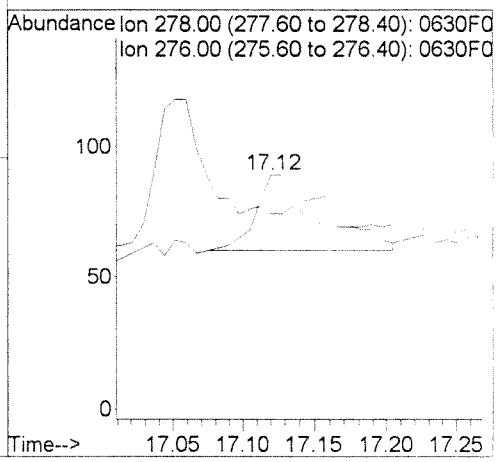


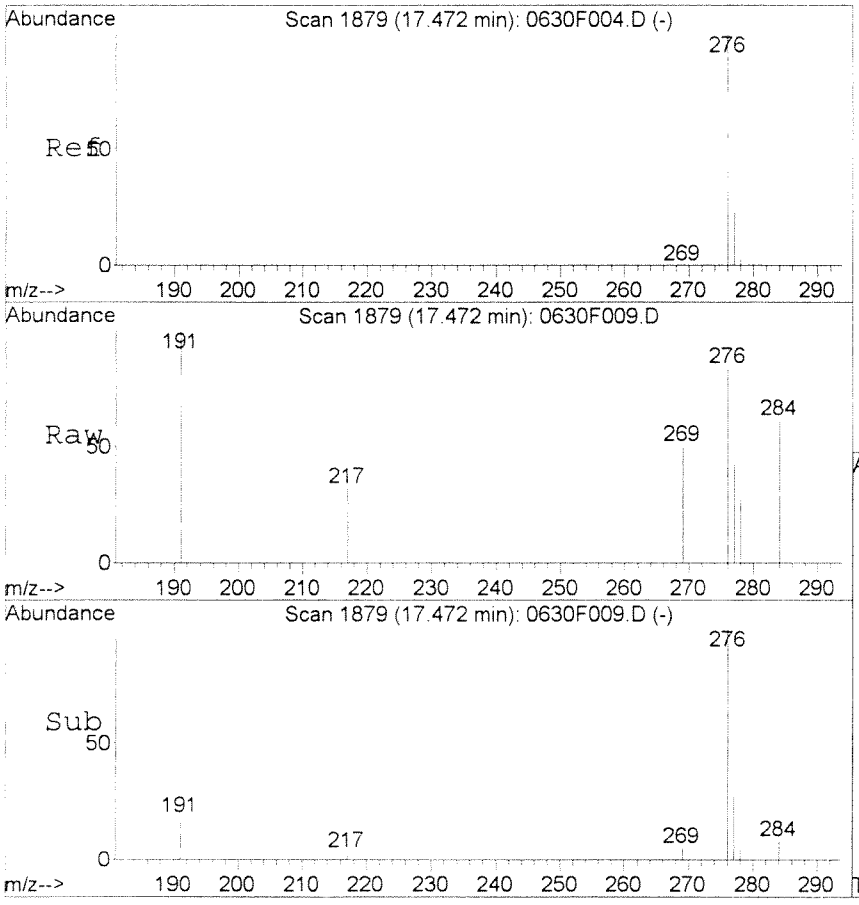


#57
Dibenz(a,h)anthracene
Concen: 0.66 ng/ml
RT: 17.12 min Scan# 1833
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:278 Resp: 103

Ion	Ratio	Lower	Upper
278	100		
276	13.8	0.0	56.0

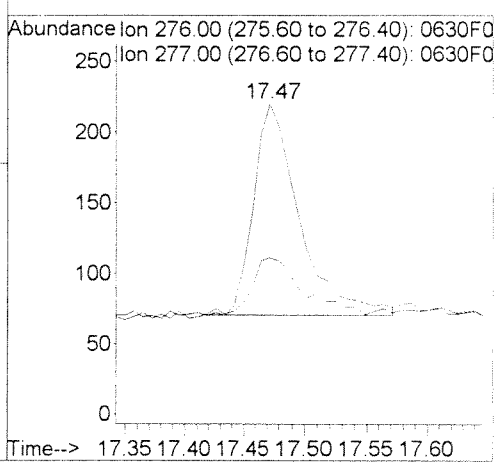




#58
Benzo(g,h,i)perylene
Concen: 2.20 ng/ml
RT: 17.47 min Scan# 1879
Delta R.T. -0.00 min
Lab File: 0630F009.D
Acq: 30 Jun 2014 9:49 am

Tgt Ion:276 Resp: 396

Ion	Ratio	Lower	Upper
276	100		
277	26.7	0.0	54.1



Exception Report

Data File: J:\MS11\DATA\063014A\0630F018.D
Lab ID: KWG1405687-1 -- K1405833-001MS
RunType: MS
Matrix: SOIL

Date Acquired: 06/30/2014 13:51
Date Quantitated: 06/30/2014 14:41
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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
K5819
K5949

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NA

Primary Review: JUN 30 2014

Secondary Review:

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F018.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 13:51	**Quant Date:**	06/30/2014 14:41	**Vial:**	9
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1405687-1 -- K1405833-001MS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347936	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	33638m	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	20321	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	39324	200.00	OK
4	Chrysene-d12	10.31	0.00	240	50413	200.00	OK
5	Perylene-d12	13.96	0.02	264	48852	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	6.75	0.00	0.00	176	15909	117.48	59	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.55	0.01	0.00	212	37440	149.27	75	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	33321	138.19	69	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	57481m	308.65	380		
1	2-Methylnaphthalene	5.48		0.00	142	43978	348.05	429		
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	39018	345.13	425		
1	Biphenyl	5.85	-0.01	0.00	154	52069	354.25	436		
1	2,6-Dimethylnaphthalene	5.98	-0.01	0.00	156	38562	364.75	449		
1	C2-Naphthalenes				156	0		6.2	U	
1	C3-Naphthalenes				170	0		6.2	U	
1	C4-Naphthalenes				184	0		6.2	U	
2	Acenaphthylene	6.21		0.00	152	66160	329.51	406		
2	Acenaphthene	6.35	-0.01	0.00	154	39372	323.33	398		
2	Dibenzofuran	6.50		0.00	168	58857	330.95	408		
2	2,3,5-Trimethylnaphthalene	6.66	-0.01	0.00	170	39198m	341.11	420		

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:\MS11\DATA\063014A\0630F018.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 13:51	**Quant Date:**	06/30/2014 14:41	**Vial:**	9
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1405687-1 -- K1405833-001MS			**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?
2	Fluorene	6.77		0.00	166	50864	344.55	424		
2	C1-Fluorenes				180	0		6.2	U	
2	C2-Fluorenes				194	0		6.2	U	
2	C3-Fluorenes				208	0		6.2	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	72046	342.49	422		
3	C1-Dibenzothiophenes				198	0		6.2	U	
3	C2-Dibenzothiophenes				212	0		6.2	U	
3	C3-Dibenzothiophenes				226	0		6.2	U	
3	Phenanthrene	7.58		0.00	178	80706	357.11	440		
3	Anthracene	7.62	0.01	0.00	178	81597	372.21	458		
3	Carbazole	7.75		0.00	167	73059	375.09	462		
3	1-Methylphenanthrene	8.08	0.01	0.00	192	62825m	382.76	471		
3	C1-Phenanthrenes/Anthracenes				192	0		6.2	U	
3	C2-Phenanthrenes/Anthracenes				206	0		6.2	U	
3	C3-Phenanthrenes/Anthracenes				220	0		6.2	U	
3	C4-Phenanthrenes/Anthracenes				234	0		6.2	U	
3	Fluoranthene	8.57	0.01	0.00	202	127707	511.25	630		
4	Pyrene	8.78	0.01	0.00	202	144802	498.45	614		
4	C1-Fluoranthenes/Pyrenes				216	0		6.2	U	
4	C2-Fluoranthenes/Pyrenes				230	0		6.2	U	
4	C3-Fluoranthenes/Pyrenes				244	0		6.2	U	
4	C4-Fluoranthenes/Pyrenes				258	0		6.2	U	
4	Benz(a)anthracene	10.30	0.01	0.00	228	127845	441.26	543		
4	Chrysene	10.36	0.01	0.00	228	114726	419.92	517		
4	C1-Chrysenes				242	0		6.2	U	
4	C2-Chrysenes				256	0		6.2	U	
4	C3-Chrysenes				270	0		6.2	U	
4	C4-Chrysenes				284	0		6.2	U	
5	Benzo(b)fluoranthene	12.74	0.02	0.00	252	146138	475.10	585		
5	Benzo(k)fluoranthene	12.82	0.02	0.00	252	116568	396.58	488		
5	Benzo(e)pyrene	13.59	0.03	0.00	252	119764	415.16	511		
5	Benzo(a)pyrene	13.76	0.03	0.00	252	116039	429.42	529		
5	Perylene	14.05	0.02	0.00	252	115574	424.67	523		
5	Indeno(1,2,3-cd)pyrene	17.06	0.02	0.00	276	104034	409.96	505		
5	Dibenz(a,h)anthracene	17.14	0.02	0.00	278	95772	361.57	445		
5	Benzo(g,h,i)perylene	17.49	0.02	0.00	276	114669	378.41	466		

Prep Amount:	20.102 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F018.D Vial: 9
Acq On : 30 Jun 2014 1:51 pm Operator: LWeiskopf
Sample : K1405833-001MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:16:02 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	33638m	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.33	164	20321	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39324	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	50413	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	48852	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	15909	117.48	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 11.75%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.55	212	37440	149.27	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 14.93%			
43) Terphenyl-d14	8.93	244	33321	138.19	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 13.82%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	57481m	308.65	ng/ml	
3) 2-Methylnaphthalene	5.48	142	43978	348.05	ng/ml	94
4) 1-Methylnaphthalene	5.56	142	39018	345.13	ng/ml	96
5) Biphenyl	5.85	154	52069	354.25	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.98	156	38562	364.75	ng/ml	96
11) Acenaphthylene	6.21	152	66160	329.51	ng/ml	99
12) Acenaphthene	6.35	154	39372	323.33	ng/ml	95
13) Dibenzofuran	6.50	168	58857	330.95	ng/ml	98
14) 2,3,5-Trimethylnaphthalene	6.66	170	39198m	341.11	ng/ml	
16) Fluorene	6.77	166	50864	344.55	ng/ml	89
23) Dibenzothiophene	7.47	184	72046	342.49	ng/ml	97
27) Phenanthrene	7.58	178	80706	357.11	ng/ml	98
28) Anthracene	7.62	178	81597	372.21	ng/ml	100
29) Carbazole	7.75	167	73059	375.09	ng/ml	83
30) 1-Methylphenanthrene	8.08	192	62825m	382.76	ng/ml	
35) Fluoranthene	8.57	202	127707	511.25	ng/ml	87
38) Pyrene	8.78	202	144802	498.45	ng/ml	89
44) Benz(a)anthracene	10.30	228	127845	441.26	ng/ml	98
45) Chrysene	10.36	228	114726	419.92	ng/ml	98
51) Benzo(b)fluoranthene	12.74	252	146138	475.10	ng/ml	98
52) Benzo(k)fluoranthene	12.82	252	116568	396.58	ng/ml	98
53) Benzo(e)pyrene	13.59	252	119764	415.16	ng/ml	99
54) Benzo(a)pyrene	13.76	252	116039	429.42	ng/ml	99
55) Perylene	14.05	252	115574	424.67	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.06	276	104034	409.96	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F018.D Vial: 9
Acq On : 30 Jun 2014 1:51 pm Operator: LWeiskopf
Sample : K1405833-001MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:16:02 2014 Quant Results File: 062914ALK.RES

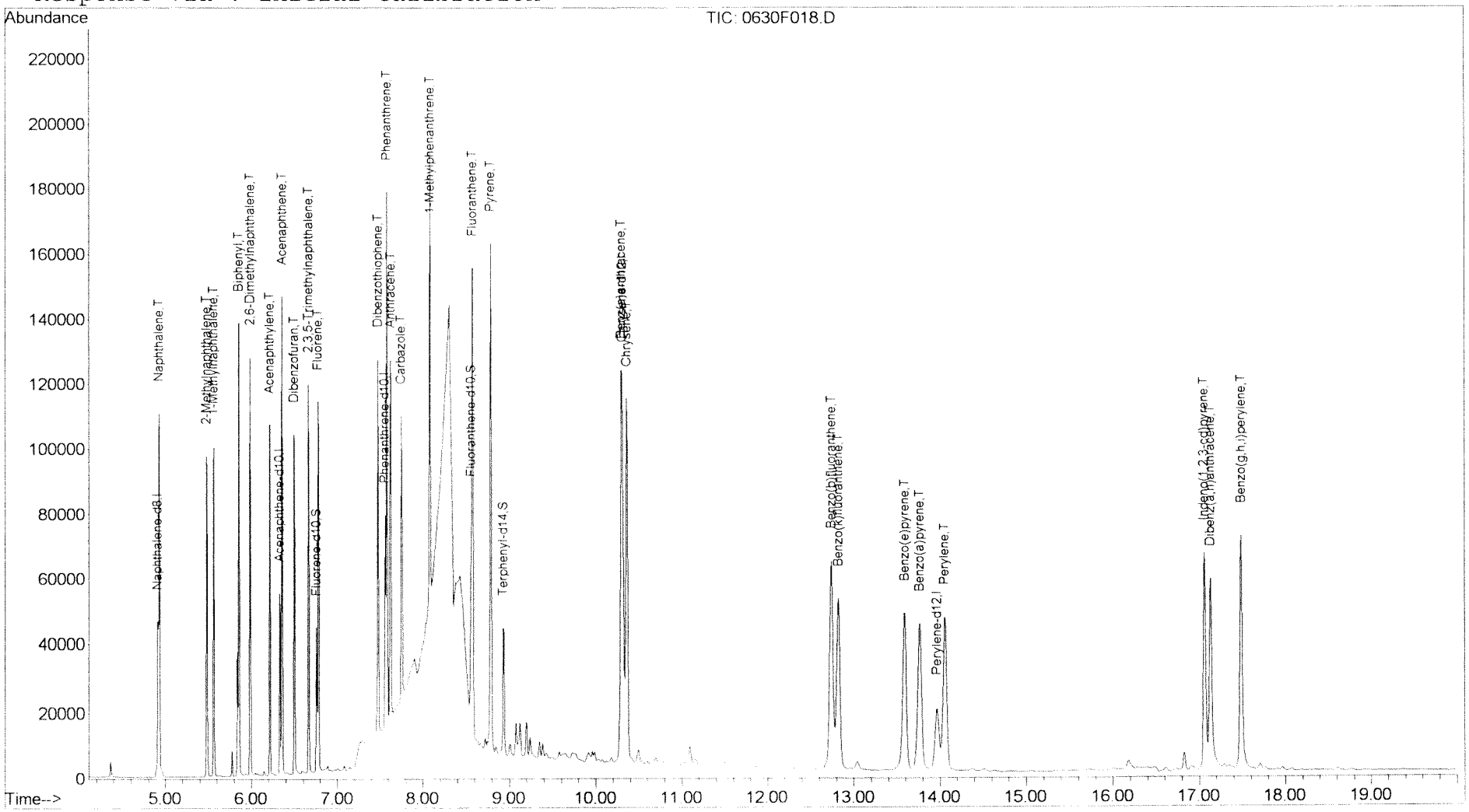
Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	95772	361.57	ng/ml	95
58)	Benzo(g,h,i)perylene	17.49	276	114669	378.41	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F018.D Vial: 9
Acq On : 30 Jun 2014 1:51 pm Operator: LWeiskopf
Sample : K1405833-001MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:41 2014 Quant Results File: 062914ALK.RES

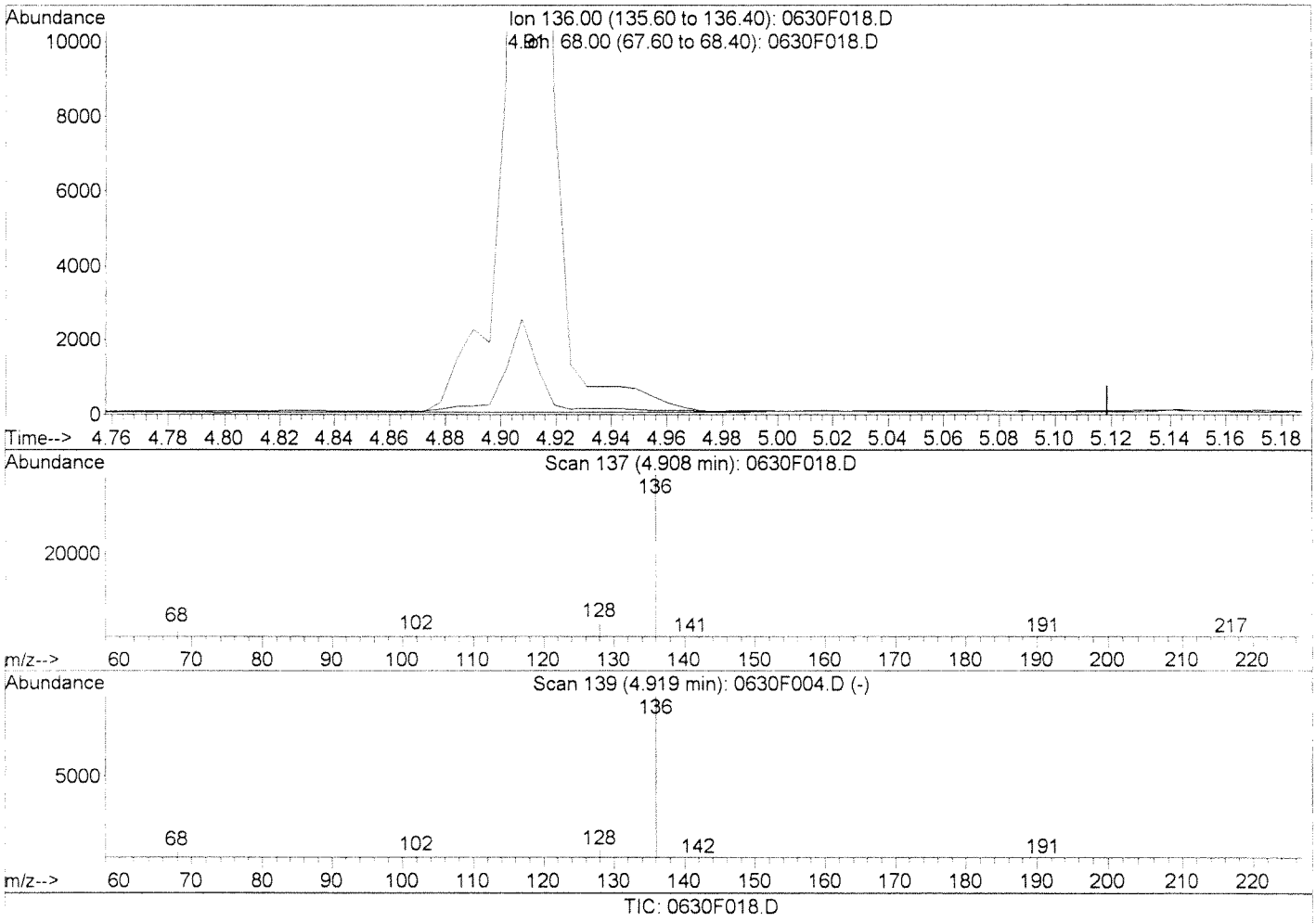
Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F018.D Vial: 9
Acq On : 30 Jun 2014 1:51 pm Operator: LWeiskopf
Sample : K1405833-001MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:16 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 36806

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	6.40
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

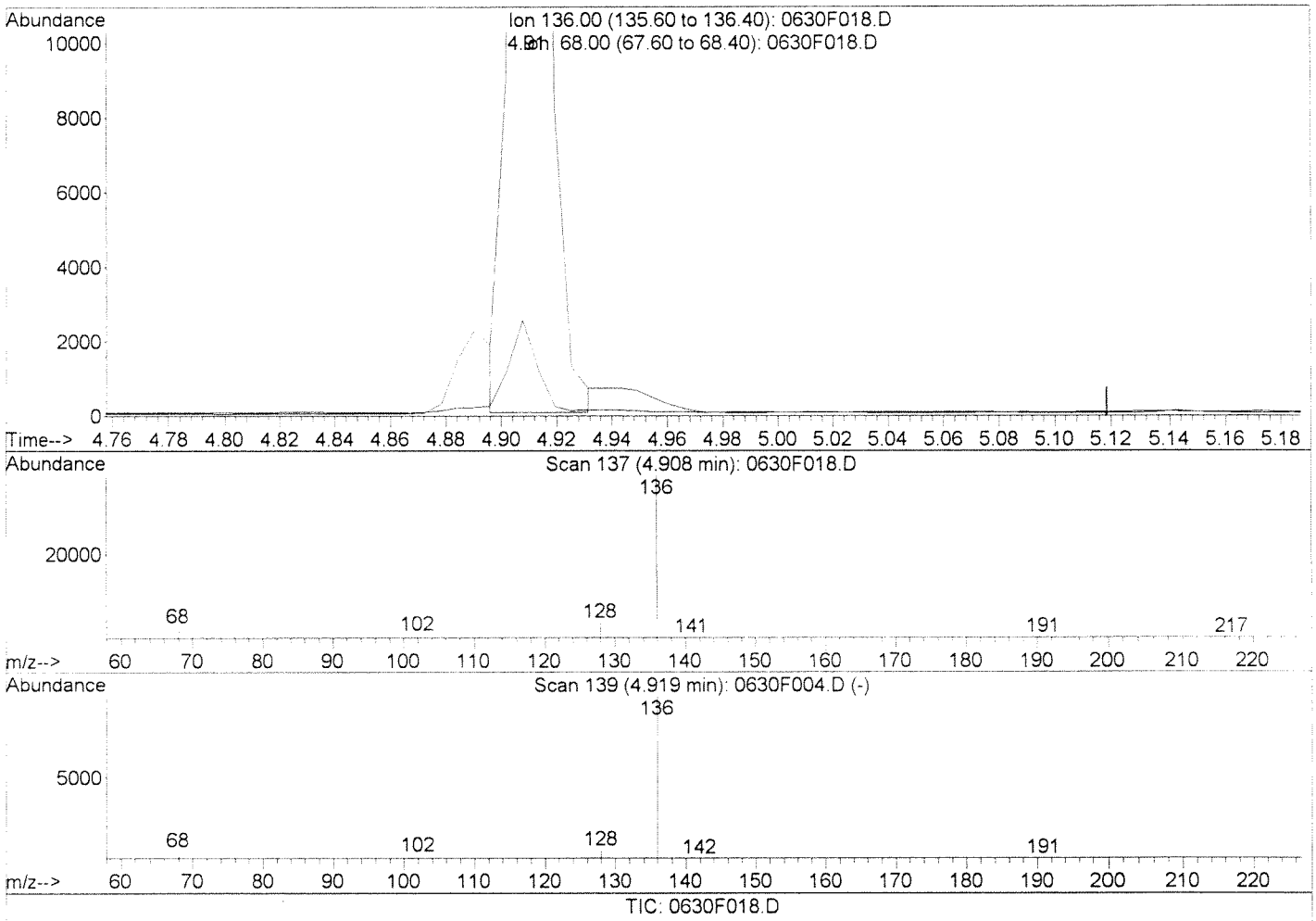
06/30/14

0630F018.D 062914ALK.M Mon Jun 30 14:40:53 2014

Data File : J:\MS11\DATA\063014A\0630F018.D
Acq On : 30 Jun 2014 1:51 pm
Sample : K1405833-001MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 33638

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	6.63
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

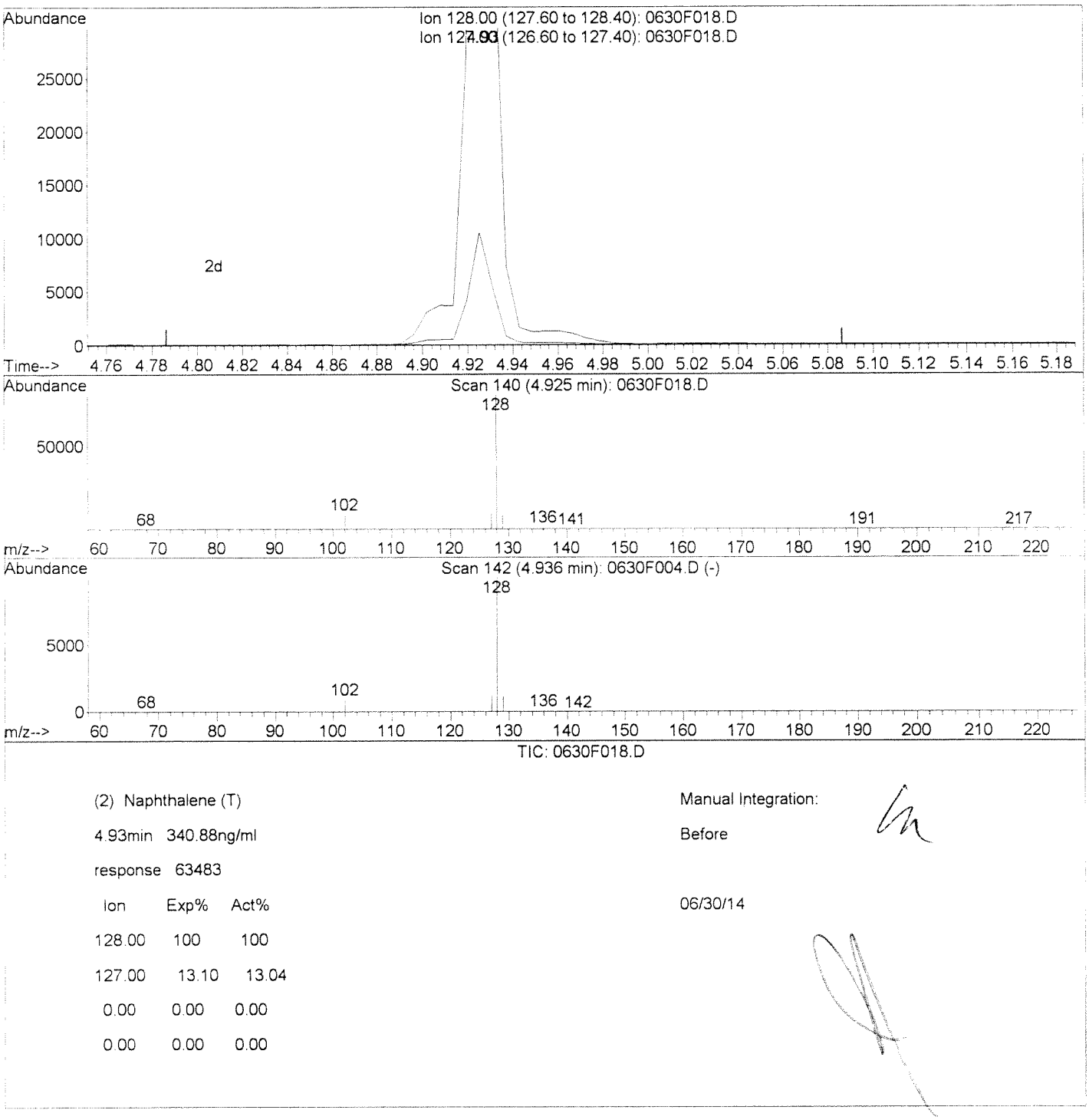
0630F018.D 062914ALK.M Mon Jun 30 14:40:57 2014

Data File : J:\MS11\DATA\063014A\0630F018.D
Acq On : 30 Jun 2014 1:51 pm
Sample : K1405833-001MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 340.88ng/ml

response 63483

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

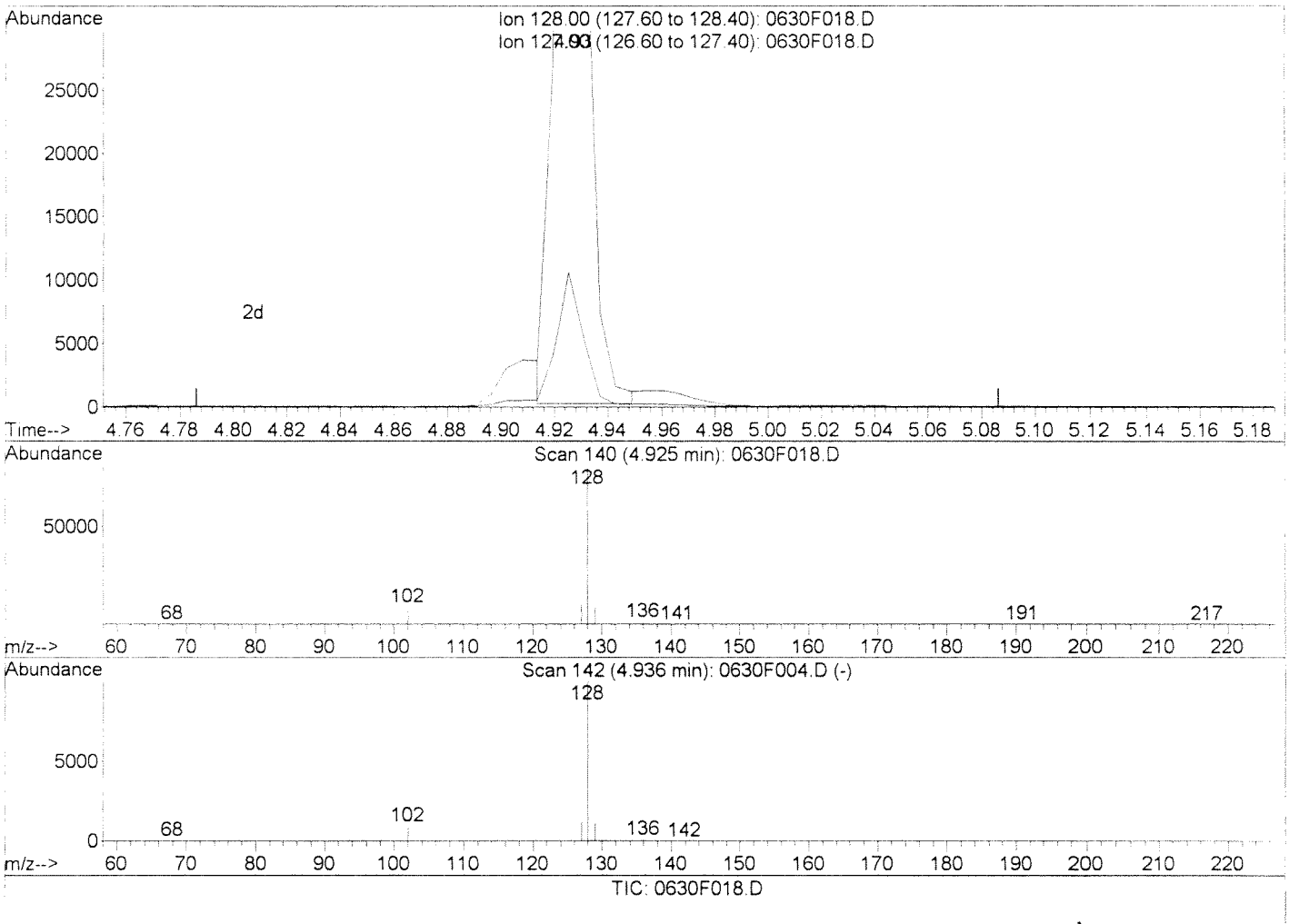
06/30/14

0630F018.D 062914ALK.M Mon Jun 30 14:41:01 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F018.D Vial: 9
Acq On : 30 Jun 2014 1:51 pm Operator: LWeiskopf
Sample : K1405833-001MS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:41 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 308.65ng/ml m

response 57481

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.11
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F018.D 062914ALK.M Mon Jun 30 14:41:05 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F019.D
Lab ID: KWG1405687-2 -- K1405833-001DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 06/30/2014 14:18
Date Quantitated: 06/30/2014 14:42
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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
K5819
K5949

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NA

Primary Review: JUN 30 2014

Secondary Review:

Printed: 06/30/2014 14:47:30
u Stealth\Crystal rpt\except2 rpt

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F019.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 14:18	**Quant Date:**	06/30/2014 14:42	**Vial:**	10
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1405687-2 -- K1405833-001DMS			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347937	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	33576m	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	20132	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	39457	200.00	OK
4	Chrysene-d12	10.31	0.00	240	48573	200.00	OK
5	Perylene-d12	13.96	0.02	264	47173	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	6.75	0.00	0.00	176	14468	107.84	54	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.55	0.01	0.00	212	31572	125.45	63	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	27968	120.38	60	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	51887m	279.12	345		
1	2-Methylnaphthalene	5.48		0.00	142	39932	316.62	392		
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	34798	308.37	381		
1	Biphenyl	5.85	-0.01	0.00	154	47577	324.28	401		
1	2,6-Dimethylnaphthalene	5.98	-0.01	0.00	156	34935	331.05	410		
1	C2-Naphthalenes				156	0		6.2	U	
1	C3-Naphthalenes				170	0		6.2	U	
1	C4-Naphthalenes				184	0		6.2	U	
2	Acenaphthylene	6.21		0.00	152	60326	303.27	375		
2	Acenaphthene	6.35	-0.01	0.00	154	35830	297.00	367		
2	Dibenzofuran	6.50		0.00	168	53270	302.35	374		
2	2,3,5-Trimethylnaphthalene	6.66	-0.01	0.00	170	35353	310.54	384		

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:\MS11\DATA\063014A\0630F019.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 14:18	**Quant Date:**	06/30/2014 14:42	**Vial:**	10
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1405687-2 -- K1405833-001DMS			**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?
2	Fluorene	6.77		0.00	166	44769	306.11	379		
2	C1-Fluorenes				180	0		6.2	U	
2	C2-Fluorenes				194	0		6.2	U	
2	C3-Fluorenes				208	0		6.2	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	55674	263.77	326		
3	C1-Dibenzothiophenes				198	0		6.2	U	
3	C2-Dibenzothiophenes				212	0		6.2	U	
3	C3-Dibenzothiophenes				226	0		6.2	U	
3	Phenanthrene	7.58		0.00	178	71331	314.56	389		
3	Anthracene	7.61		0.00	178	70108	318.72	394		
3	Carbazole	7.75		0.00	167	62513	319.86	396		
3	1-Methylphenanthrene	8.08	0.01	0.00	192	53687**m**	325.98	403		
3	C1-Phenanthrenes/Anthracenes				192	0		6.2	U	
3	C2-Phenanthrenes/Anthracenes				206	0		6.2	U	
3	C3-Phenanthrenes/Anthracenes				220	0		6.2	U	
3	C4-Phenanthrenes/Anthracenes				234	0		6.2	U	
3	Fluoranthene	8.57	0.01	0.00	202	102234	407.89	505		
4	Pyrene	8.78	0.01	0.00	202	116108	414.82	513		
4	C1-Fluoranthenes/Pyrenes				216	0		6.2	U	
4	C2-Fluoranthenes/Pyrenes				230	0		6.2	U	
4	C3-Fluoranthenes/Pyrenes				244	0		6.2	U	
4	C4-Fluoranthenes/Pyrenes				258	0		6.2	U	
4	Benz(a)anthracene	10.30	0.01	0.00	228	100228	359.04	444		
4	Chrysene	10.36	0.01	0.00	228	96802	367.74	455		
4	C1-Chrysenes				242	0		6.2	U	
4	C2-Chrysenes				256	0		6.2	U	
4	C3-Chrysenes				270	0		6.2	U	
4	C4-Chrysenes				284	0		6.2	U	
5	Benzo(b)fluoranthene	12.73	0.01	0.00	252	119923	403.75	499		
5	Benzo(k)fluoranthene	12.81	0.01	0.00	252	99109	349.19	432		
5	Benzo(e)pyrene	13.58	0.02	0.00	252	101528	364.47	451		
5	Benzo(a)pyrene	13.76	0.03	0.00	252	96047	368.09	455		
5	Perylene	14.05	0.02	0.00	252	95145	362.05	448		
5	Indeno(1,2,3-cd)pyrene	17.06	0.02	0.00	276	87663	357.74	443		
5	Dibenz(a,h)anthracene	17.13	0.01	0.00	278	81997	320.59	397		
5	Benzo(g,h,i)perylene	17.49	0.02	0.00	276	98420	336.35	416		

Prep Amount:	20.008 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	40.4 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F019.D Vial: 10
Acq On : 30 Jun 2014 2:18 pm Operator: LWeiskopf
Sample : K1405833-001DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:39:46 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	33576m	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.33	164	20132	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39457	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	48573	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	47173	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	14468	107.84	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 10.78%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.55	212	31572	125.45	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.55%			
43) Terphenyl-d14	8.93	244	27968	120.38	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.04%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	51887m	279.12	ng/ml	
3) 2-Methylnaphthalene	5.48	142	39932	316.62	ng/ml	93
4) 1-Methylnaphthalene	5.56	142	34798	308.37	ng/ml	94
5) Biphenyl	5.85	154	47577	324.28	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.98	156	34935	331.05	ng/ml	97
11) Acenaphthylene	6.21	152	60326	303.27	ng/ml	99
12) Acenaphthene	6.35	154	35830	297.00	ng/ml	96
13) Dibenzofuran	6.50	168	53270	302.35	ng/ml	91
14) 2,3,5-Trimethylnaphthalene	6.66	170	35353	310.54	ng/ml#	63
16) Fluorene	6.77	166	44769	306.11	ng/ml	89
23) Dibenzothiophene	7.47	184	55674	263.77	ng/ml	98
27) Phenanthrene	7.58	178	71331	314.56	ng/ml	98
28) Anthracene	7.61	178	70108	318.72	ng/ml	95
29) Carbazole	7.75	167	62513	319.86	ng/ml	82
30) 1-Methylphenanthrene	8.08	192	53687m	325.98	ng/ml	
35) Fluoranthene	8.57	202	102234	407.89	ng/ml	88
38) Pyrene	8.78	202	116108	414.82	ng/ml	83
44) Benz(a)anthracene	10.30	228	100228	359.04	ng/ml	99
45) Chrysene	10.36	228	96802	367.74	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	119923	403.75	ng/ml	99
52) Benzo(k)fluoranthene	12.81	252	99109	349.19	ng/ml	99
53) Benzo(e)pyrene	13.58	252	101528	364.47	ng/ml	100
54) Benzo(a)pyrene	13.76	252	96047	368.09	ng/ml	99
55) Perylene	14.05	252	95145	362.05	ng/ml	100
56) Indeno(1,2,3-cd)pyrene	17.06	276	87663	357.74	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F019.D
Acq On : 30 Jun 2014 2:18 pm
Sample : K1405833-001DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:39:46 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

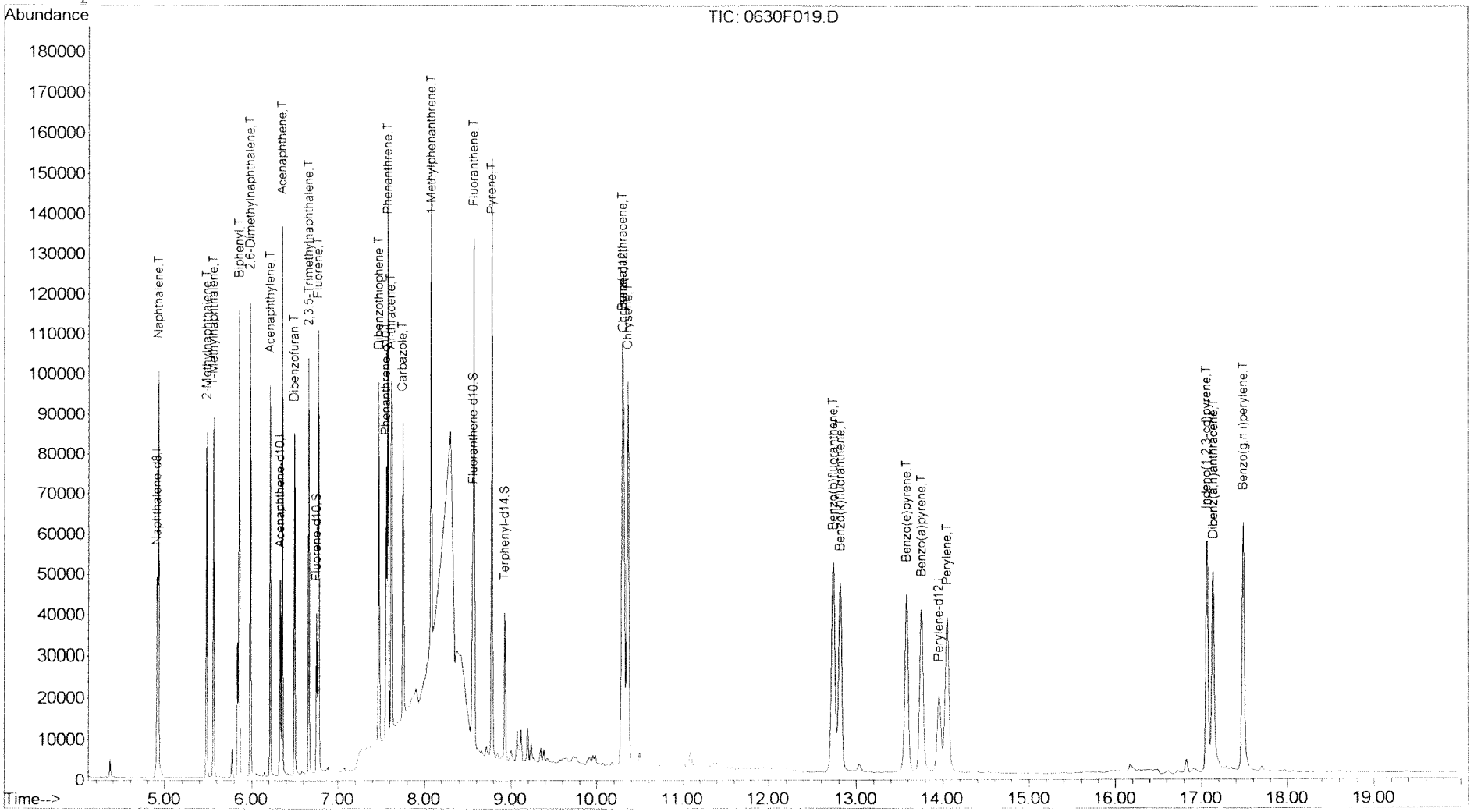
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	81997	320.59	ng/ml	95
58)	Benzo(g,h,i)perylene	17.49	276	98420	336.35	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F019.D Vial: 10
Acq On : 30 Jun 2014 2:18 pm Operator: LWeiskopf
Sample : K1405833-001DMS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:42 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



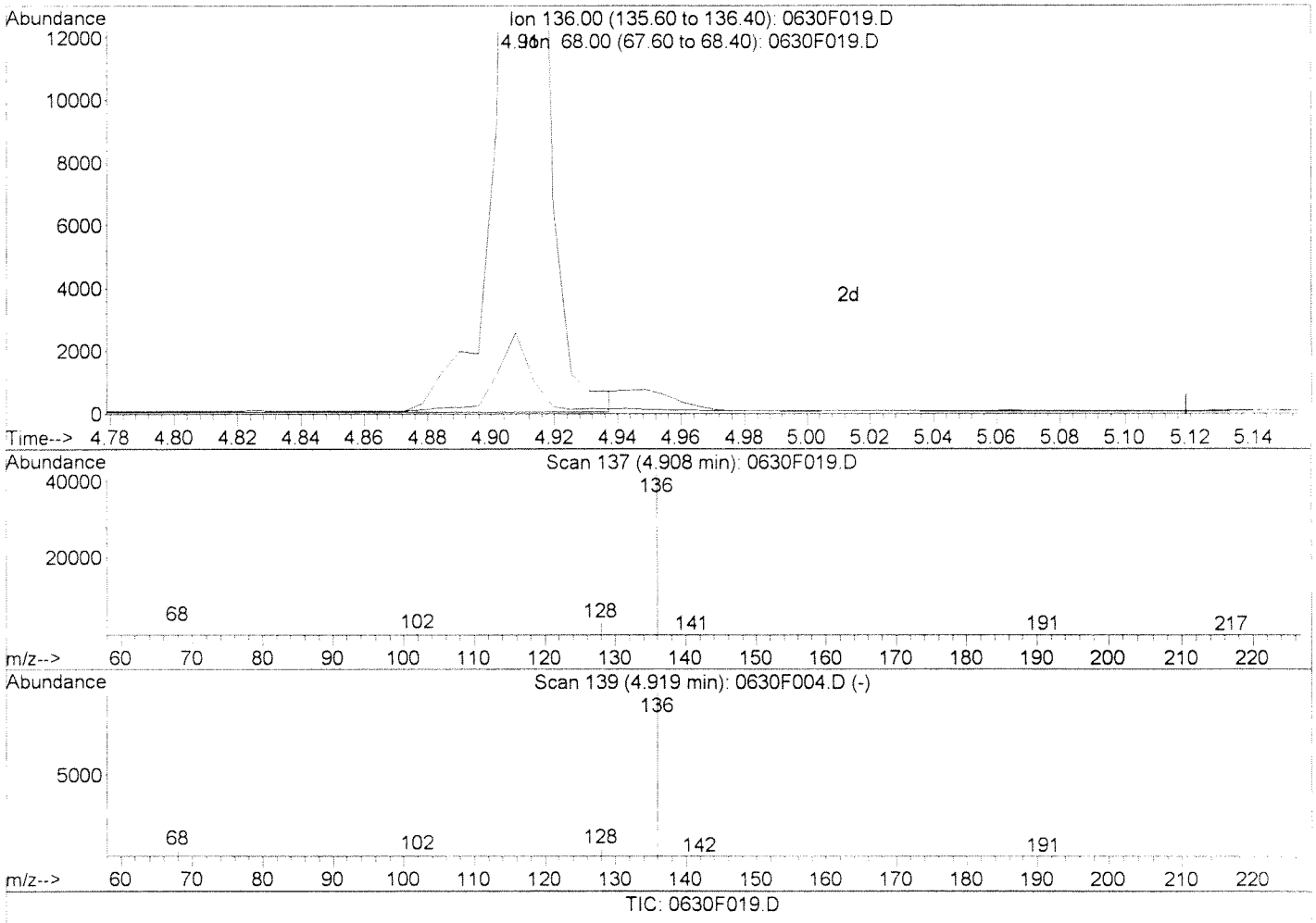
778

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F019.D
Acq On : 30 Jun 2014 2:18 pm
Sample : K1405833-001DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:39 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F019.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 35683

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	5.99
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

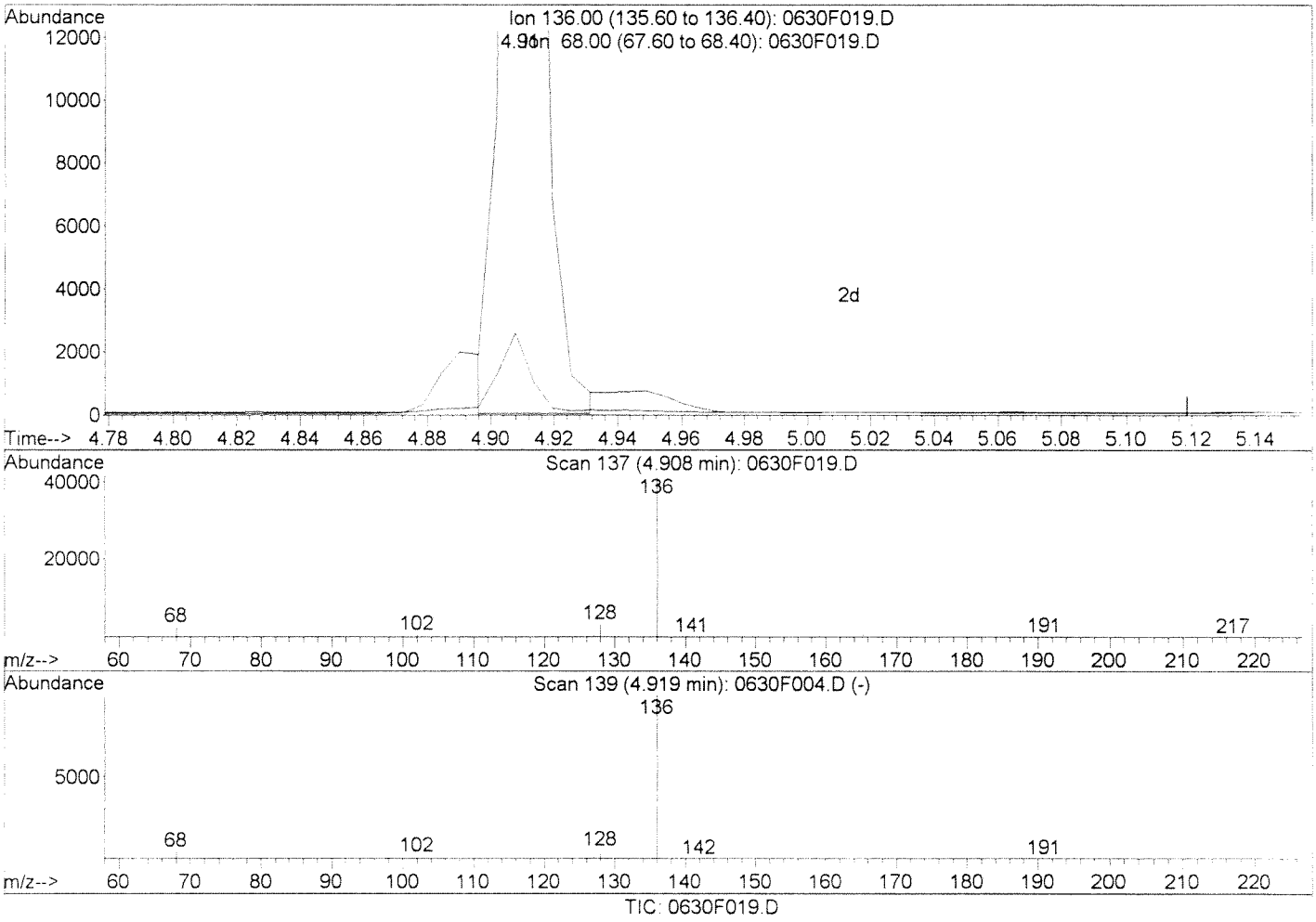
0630F019.D 062914ALK.M Mon Jun 30 14:41:44 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F019.D
Acq On : 30 Jun 2014 2:18 pm
Sample : K1405833-001DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:41 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F019.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 33576

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	6.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

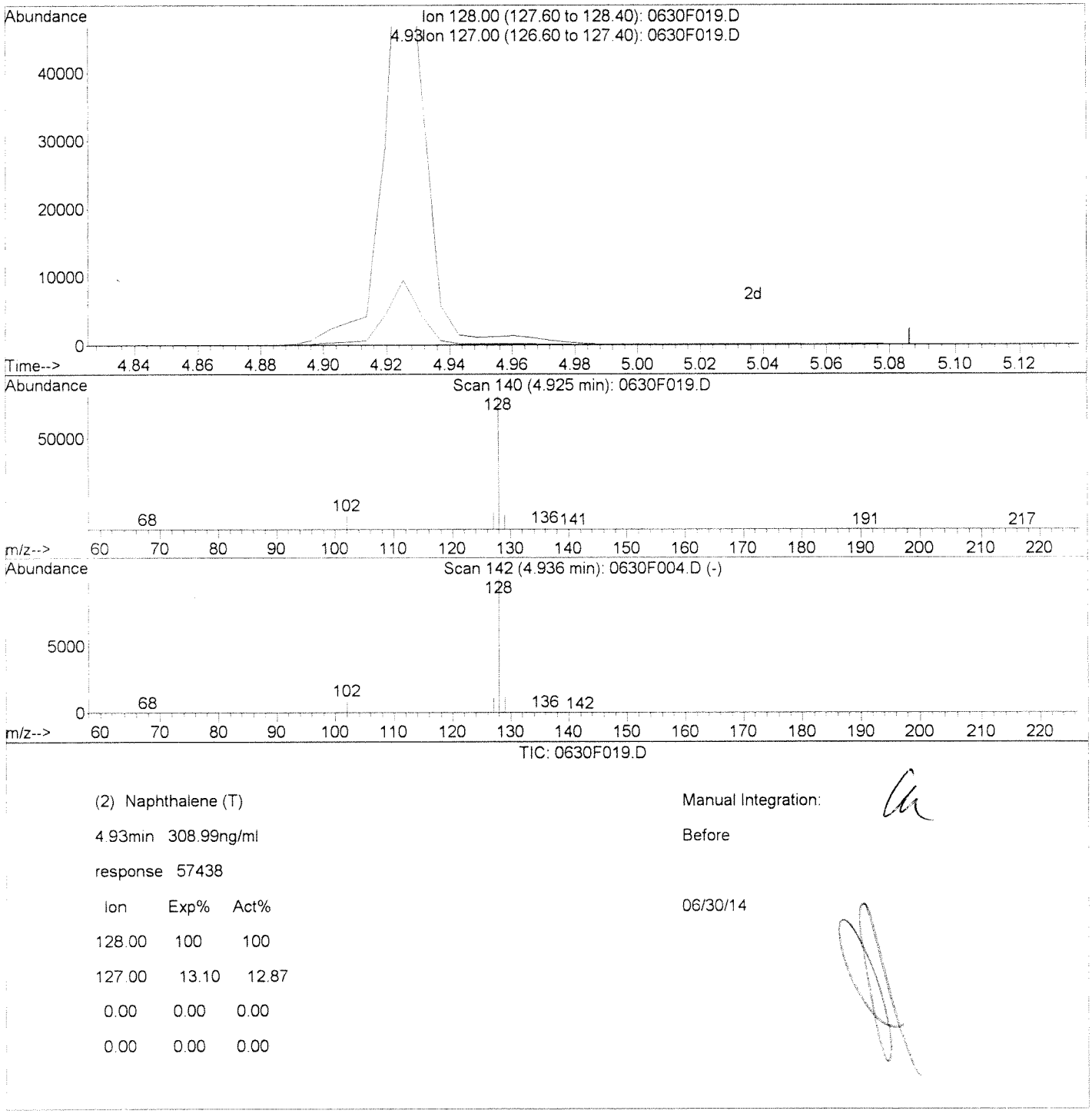
0630F019.D 062914ALK.M Mon Jun 30 14:41:48 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F019.D
Acq On : 30 Jun 2014 2:18 pm
Sample : K1405833-001DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:41 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 308.99ng/ml

response 57438

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	12.87
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

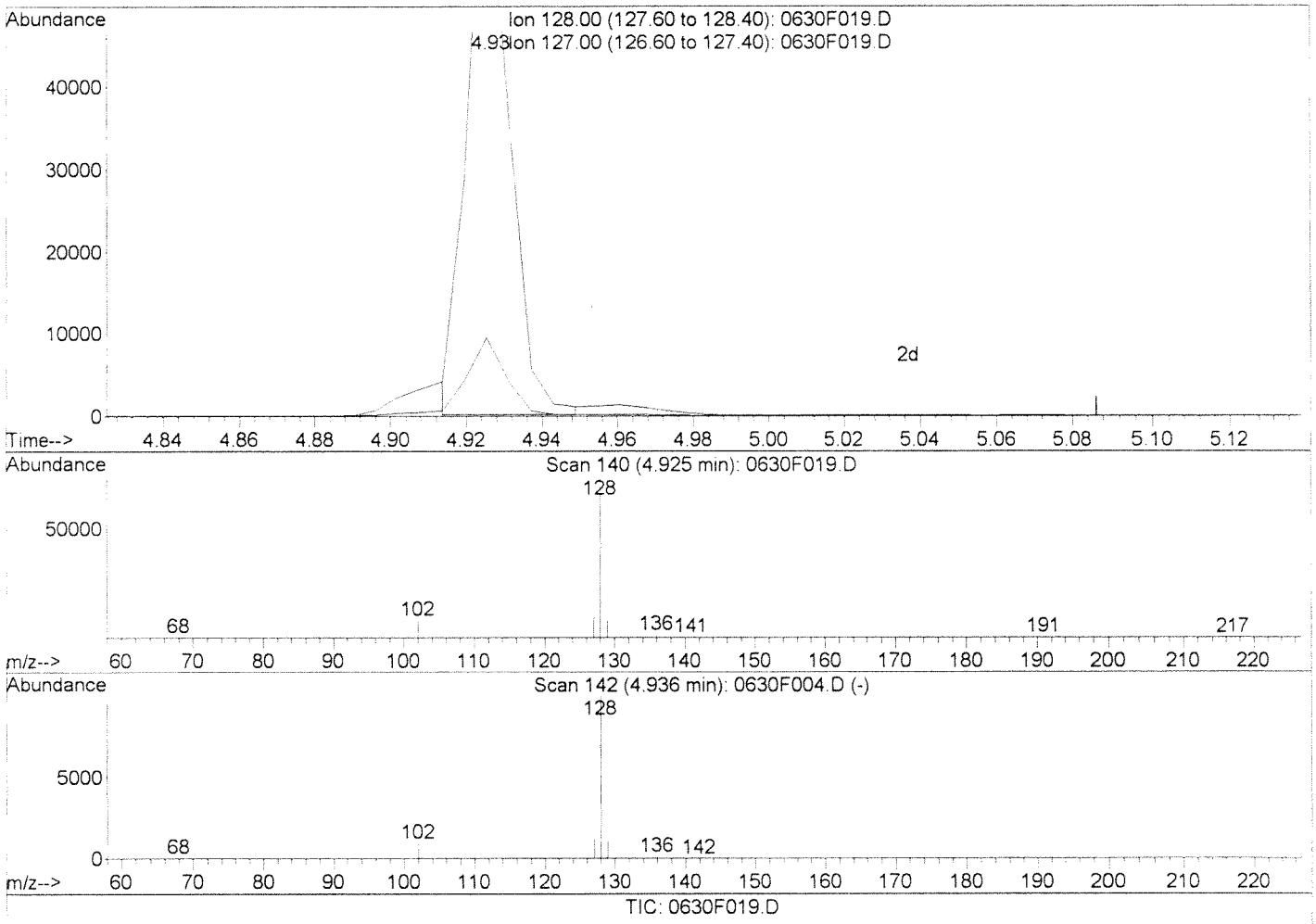
0630F019.D 062914ALK.M Mon Jun 30 14:41:53 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F019.D
Acq On : 30 Jun 2014 2:18 pm
Sample : K1405833-001DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:41 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 279.12ng/ml m

response 51887

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	12.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F019.D 062914ALK.M Mon Jun 30 14:41:58 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F016.D
Lab ID: KWG1405687-3
RunType: LCS
Matrix: SOIL

Date Acquired: 06/30/2014 12:57
Date Quantitated: 06/30/2014 14:40
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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	

K5819
K5833
K5949

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NA

Primary Review: JUN 30 2014
Secondary Review: 6/30/14

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F016.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:57	**Quant Date:**	06/30/2014 14:40	**Vial:**	7
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1405687-3			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347938	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	35324m	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	20416	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	40940	200.00	OK
4	Chrysene-d12	10.31	0.00	240	46051	200.00	OK
5	Perylene-d12	13.95	0.01	264	43827	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	6.75	0.00	0.00	176	17993	132.25	66	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.54	0.00	0.00	212	36312	139.06	70	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	31124	141.30	71	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.93	-0.01	0.00	128	60577m	309.75	310		
1	2-Methylnaphthalene	5.48		0.00	142	47030	354.44	354		
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	41022	345.53	346		
1	Biphenyl	5.85	-0.01	0.00	154	55531	359.77	360		
1	2,6-Dimethylnaphthalene	5.98	-0.01	0.00	156	40962	368.96	369		
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene	6.21		0.00	152	67778	336.00	336		
2	Acenaphthene	6.35	-0.01	0.00	154	40576	331.66	332		
2	Dibenzofuran	6.49	-0.01	0.00	168	61667	345.14	345		
2	2,3,5-Trimethylnaphthalene	6.66	-0.01	0.00	170	39602m	343.03	343		

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:\MS11\DATA\063014A\0630F016.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:57	**Quant Date:**	06/30/2014 14:40	**Vial:**	7
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1405687-3			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.77		0.00	166	50999	343.86	344		
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	59478	271.59	272		
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.58		0.00	178	76497	325.12	325		
3	Anthracene	7.62	0.01	0.00	178	76913	336.99	337		
3	Carbazole	7.75		0.00	167	68954	340.04	340		
3	1-Methylphenanthrene	8.08	0.01	0.00	192	59946	350.80	351		
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.56		0.00	202	93219	358.45	358		
4	Pyrene	8.77		0.00	202	94719	356.93	357		
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	C2-Fluoranthenes/Pyrenes				230	0		5.0	U	
4	C3-Fluoranthenes/Pyrenes				244	0		5.0	U	
4	C4-Fluoranthenes/Pyrenes				258	0		5.0	U	
4	Benz(a)anthracene	10.30	0.01	0.00	228	93728	354.15	354		
4	Chrysene	10.36	0.01	0.00	228	90049	360.82	361		
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	12.73	0.01	0.00	252	101862	369.13	369		
5	Benzo(k)fluoranthene	12.81	0.01	0.00	252	99328	376.67	377		
5	Benzo(e)pyrene	13.57	0.01	0.00	252	94904	366.70	367		
5	Benzo(a)pyrene	13.74	0.01	0.00	252	87113	359.34	359		
5	Perylene	14.04	0.01	0.00	252	84164	344.71	345		
5	Indeno(1,2,3-cd)pyrene	17.06	0.02	0.00	276	84369	370.59	371		
5	Dibenz(a,h)anthracene	17.13	0.01	0.00	278	85846	361.26	361		
5	Benzo(g,h,i)perylene	17.48	0.01	0.00	276	98688	363.02	363		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F016.D Vial: 7
Acq On : 30 Jun 2014 12:57 pm Operator: LWeiskopf
Sample : KWG1405687-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:20:27 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	35324m	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.33	164	20416	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	40940	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	46051	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	43827	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	17993	132.25	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	13.23%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.54	212	36312	139.06	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	13.91%		
43) Terphenyl-d14	8.93	244	31124	141.30	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	14.13%		
Target Compounds						Qvalue
2) Naphthalene	4.93	128	60577m	309.75	ng/ml	
3) 2-Methylnaphthalene	5.48	142	47030	354.44	ng/ml	96
4) 1-Methylnaphthalene	5.56	142	41022	345.53	ng/ml	95
5) Biphenyl	5.85	154	55531	359.77	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.98	156	40962	368.96	ng/ml	95
11) Acenaphthylene	6.21	152	67778	336.00	ng/ml	99
12) Acenaphthene	6.35	154	40576	331.66	ng/ml	95
13) Dibenzofuran	6.49	168	61667	345.14	ng/ml	50
14) 2,3,5-Trimethylnaphthalene	6.66	170	39602m	343.03	ng/ml	
16) Fluorene	6.77	166	50999	343.86	ng/ml	89
23) Dibenzothiophene	7.47	184	59478	271.59	ng/ml	97
27) Phenanthrene	7.58	178	76497	325.12	ng/ml	98
28) Anthracene	7.62	178	76913	336.99	ng/ml	99
29) Carbazole	7.75	167	68954	340.04	ng/ml	83
30) 1-Methylphenanthrene	8.08	192	59946	350.80	ng/ml	92
35) Fluoranthene	8.56	202	93219	358.45	ng/ml	83
38) Pyrene	8.77	202	94719	356.93	ng/ml	86
44) Benz(a)anthracene	10.30	228	93728	354.15	ng/ml	99
45) Chrysene	10.36	228	90049	360.82	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	101862	369.13	ng/ml	99
52) Benzo(k)fluoranthene	12.81	252	99328	376.67	ng/ml	99
53) Benzo(e)pyrene	13.57	252	94904	366.70	ng/ml	99
54) Benzo(a)pyrene	13.74	252	87113	359.34	ng/ml	99
55) Perylene	14.04	252	84164	344.71	ng/ml	98
56) Indeno(1,2,3-cd)pyrene	17.06	276	84369	370.59	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F016.D Vial: 7
Acq On : 30 Jun 2014 12:57 pm Operator: LWeiskopf
Sample : KWG1405687-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:20:27 2014 Quant Results File: 062914ALK.RES

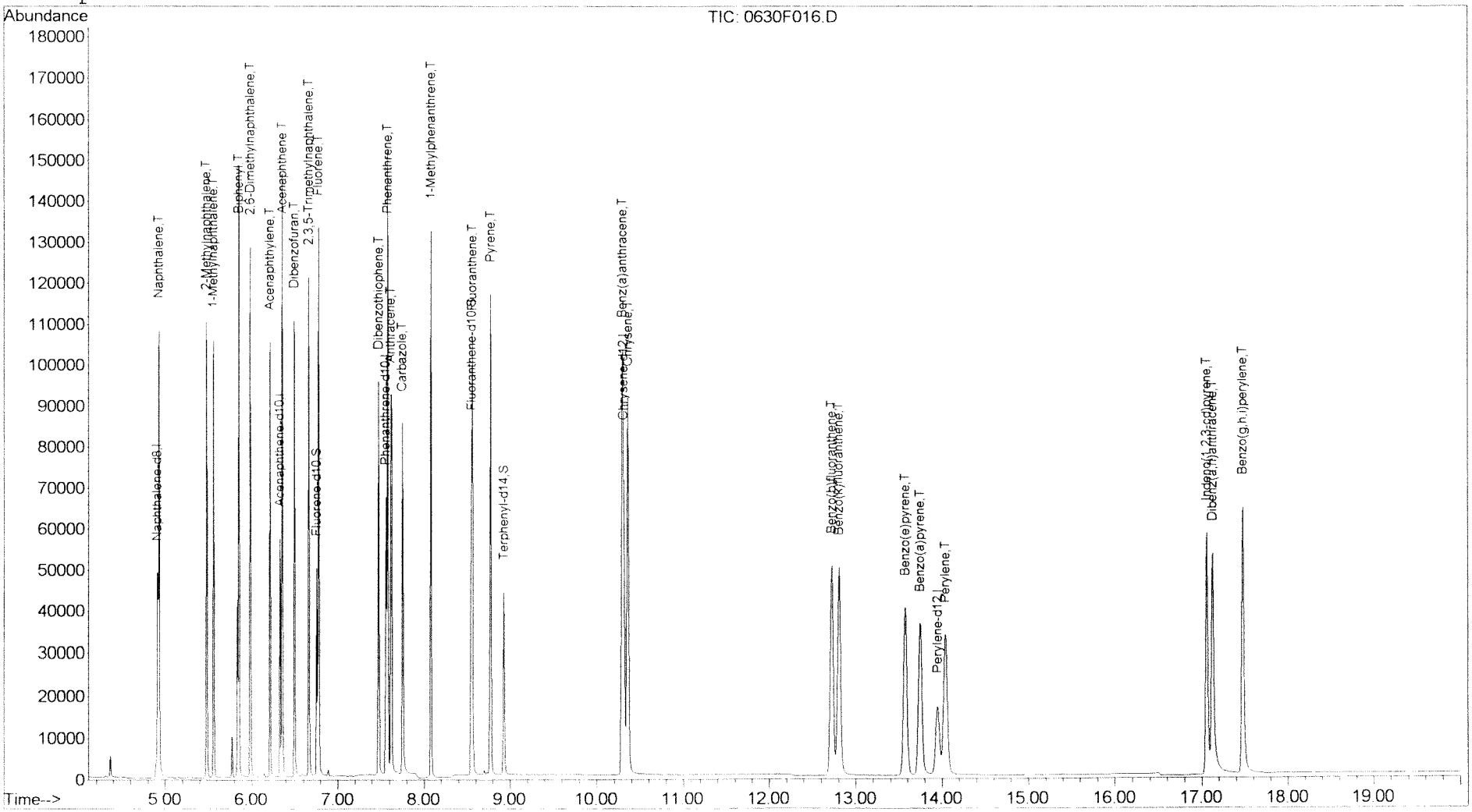
Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	85846	361.26	ng/ml	96
58)	Benzo(g,h,i)perylene	17.48	276	98688	363.02	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F016.D Vial: 7
Acq On : 30 Jun 2014 12:57 pm Operator: LWeiskopf
Sample : KWG1405687-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration

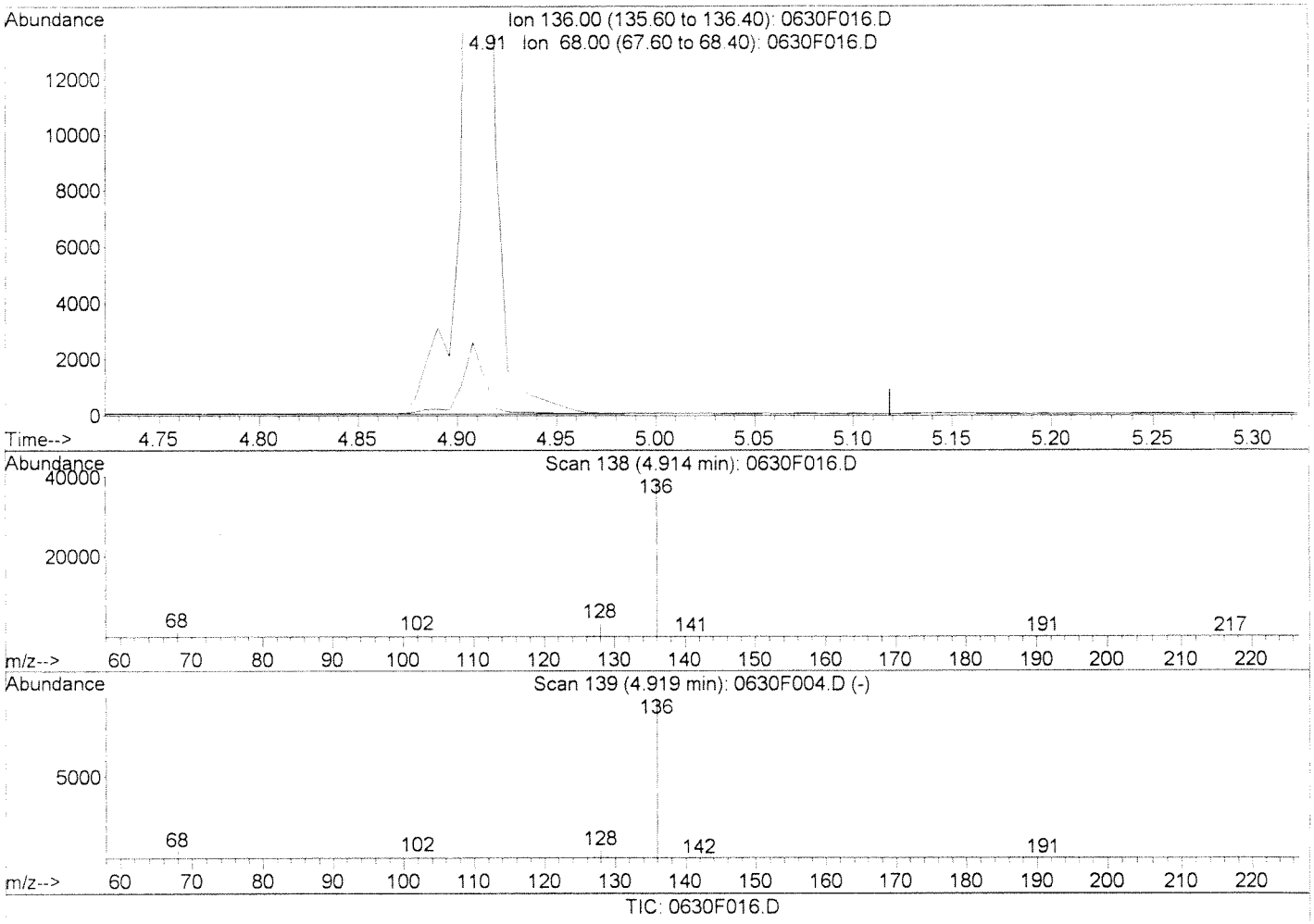


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F016.D
Acq On : 30 Jun 2014 12:57 pm
Sample : KWG1405687-3 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:20 2014

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml

response 38167

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	3.01
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

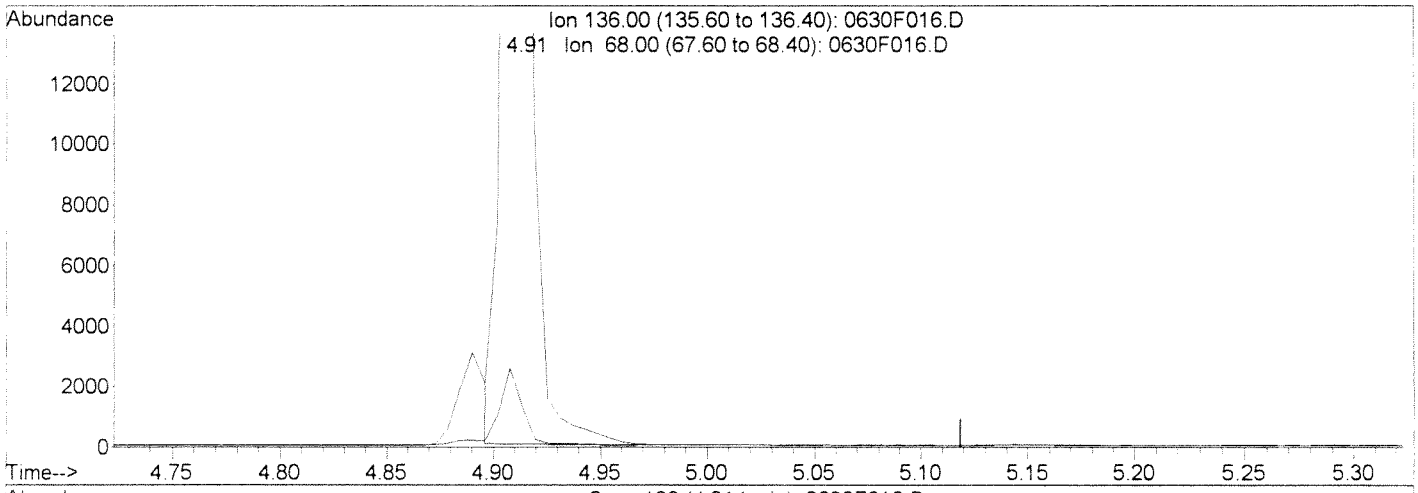
06/30/14

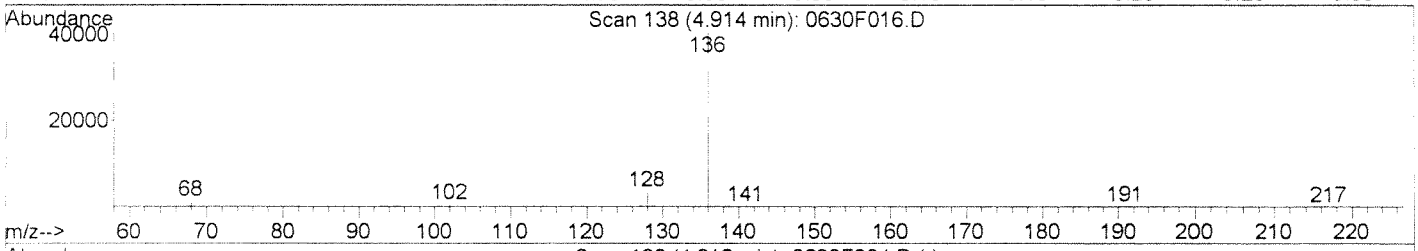
0630F016.D 062914ALK.M Mon Jun 30 14:39:59 2014

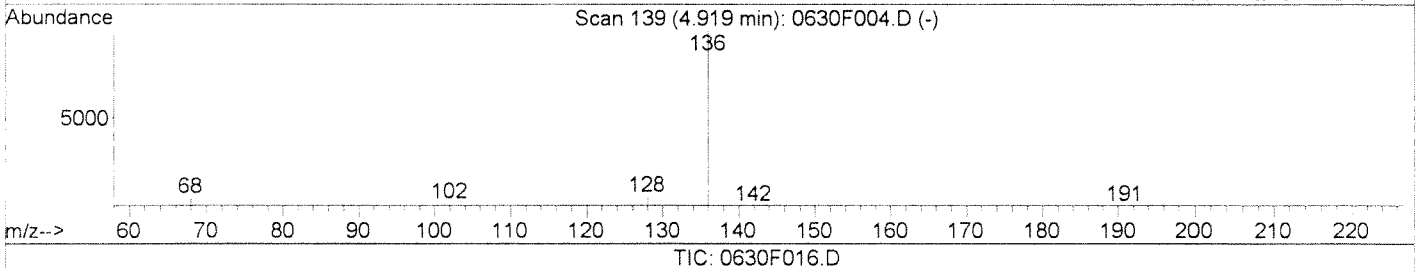
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F016.D Vial: 7
Acq On : 30 Jun 2014 12:57 pm Operator: LWeiskopf
Sample : KWG1405687-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F016.D

(1) Naphthalene-d8 (I)

4.91min 200.00ng/ml m

response 35324

Ion	Exp%	Act%
136.00	100	100
68.00	6.10	3.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

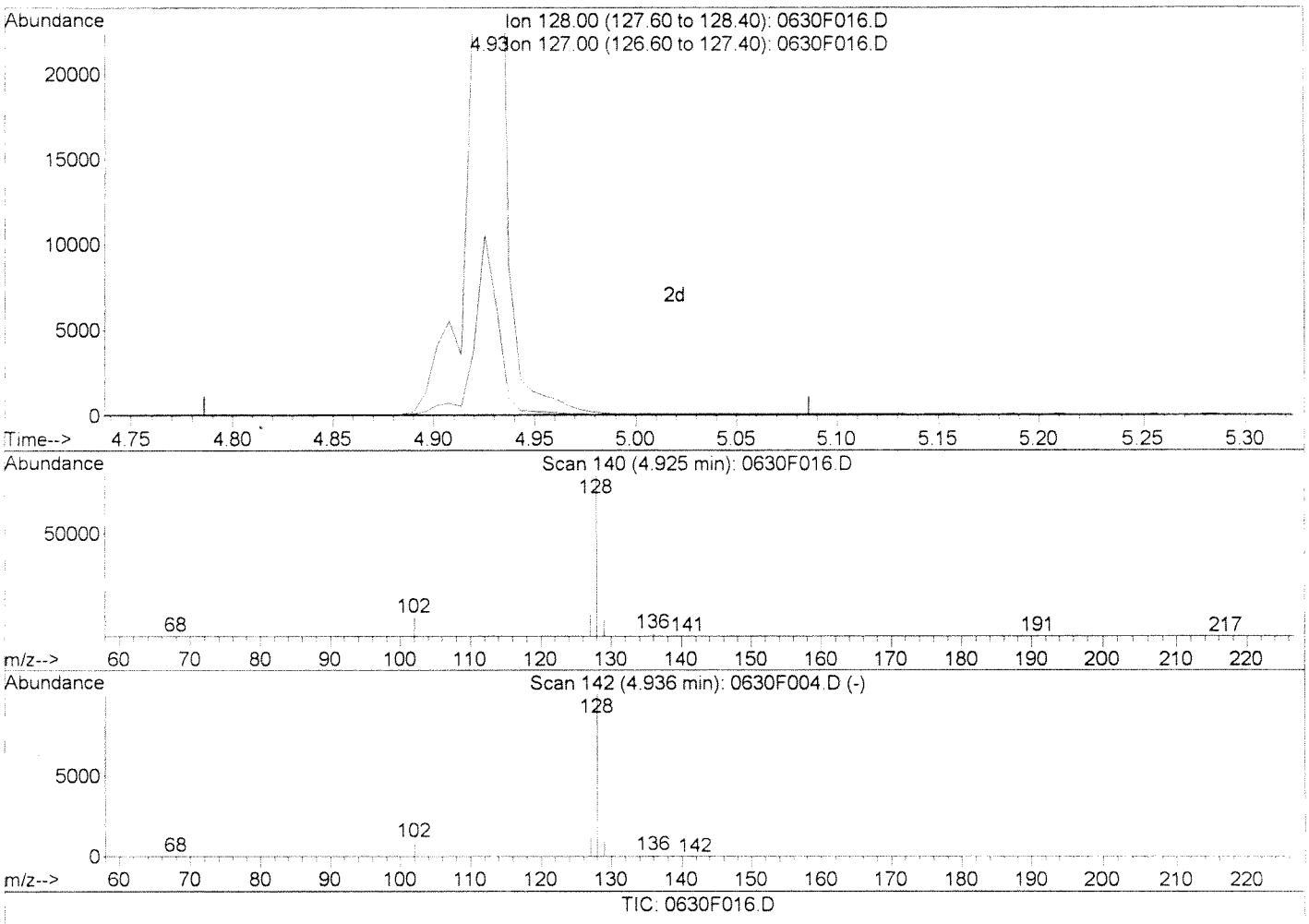
0630F016.D 062914ALK.M Mon Jun 30 14:40:03 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F016.D
Acq On : 30 Jun 2014 12:57 pm
Sample : KWG1405687-3 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 336.55ng/ml

response 65820

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.44
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

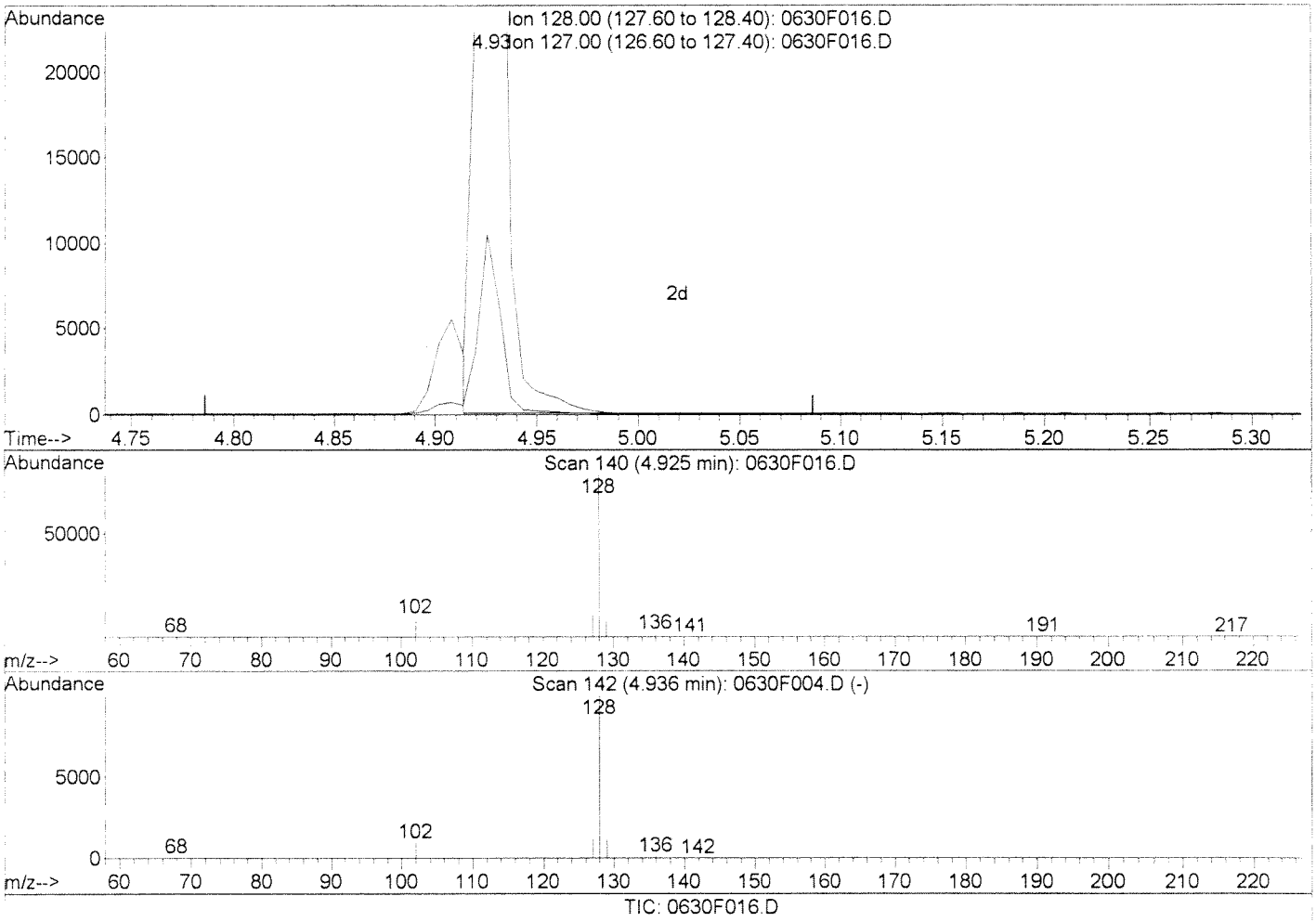
06/30/14

0630F016.D 062914ALK.M Mon Jun 30 14:40:06 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F016.D Vial: 7
Acq On : 30 Jun 2014 12:57 pm Operator: LWeiskopf
Sample : KWG1405687-3 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:40 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.93min 309.75ng/ml m

response 60577

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	13.51
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0630F016.D 062914ALK.M Mon Jun 30 14:40:14 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F017.D
Lab ID: KWG1405687-4
RunType: DLCS
Matrix: SOIL

Date Acquired: 06/30/2014 13:25
Date Quantitated: 06/30/2014 14:09
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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	

K5819

K5833

K5949

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NT

Primary Review: JUN 30 2014

Secondary Review:

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F017.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 13:25	**Quant Date:**	06/30/2014 14:09	**Vial:**	8
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1405687-4			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/19/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347939	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	34781	200.00	OK
2	Acenaphthene-d10	6.32	-0.01	164	20601	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	39185	200.00	OK
4	Chrysene-d12	10.31	0.00	240	47992	200.00	OK
5	Perylene-d12	13.95	0.01	264	47184	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	6.75	0.00	0.00	176	16377	119.30	60	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.54	0.00	0.00	212	34007	136.06	68	27-106	OK	
4	Terphenyl-d14	8.93	0.00	0.00	244	29621	129.04	65	35-109	OK	

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.93	-0.01	0.00	128	57238	297.24	297		
1	2-Methylnaphthalene	5.48		0.00	142	43859	335.71	336		
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	38896	332.74	333		
1	Biphenyl	5.85	-0.01	0.00	154	52412	344.86	345		
1	2,6-Dimethylnaphthalene	5.98	-0.01	0.00	156	37994	347.57	348		
1	C2-Naphthalenes				156	0		5.0	U	
1	C3-Naphthalenes				170	0		5.0	U	
1	C4-Naphthalenes				184	0		5.0	U	
2	Acenaphthylene	6.21		0.00	152	63864	313.75	314		
2	Acenaphthene	6.35	-0.01	0.00	154	38294	310.20	310		
2	Dibenzofuran	6.49	-0.01	0.00	168	58520	324.58	325		
2	2,3,5-Trimethylnaphthalene	6.66	-0.01	0.00	170	37326	320.41	320		

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:\MS11\DATA\063014A\0630F017.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 13:25	**Quant Date:**	06/30/2014 14:09	**Vial:**	8
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1405687-4			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.77		0.00	166	48421	323.54	324		
2	C1-Fluorenes				180	0		5.0	U	
2	C2-Fluorenes				194	0		5.0	U	
2	C3-Fluorenes				208	0		5.0	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	67337	321.24	321		
3	C1-Dibenzothiophenes				198	0		5.0	U	
3	C2-Dibenzothiophenes				212	0		5.0	U	
3	C3-Dibenzothiophenes				226	0		5.0	U	
3	Phenanthrene	7.58		0.00	178	74798	332.14	332		
3	Anthracene	7.61		0.00	178	72307	331.00	331		
3	Carbazole	7.75		0.00	167	67820	349.43	349		
3	1-Methylphenanthrene	8.07		0.00	192	58217	355.94	356		
3	C1-Phenanthrenes/Anthracenes				192	0		5.0	U	
3	C2-Phenanthrenes/Anthracenes				206	0		5.0	U	
3	C3-Phenanthrenes/Anthracenes				220	0		5.0	U	
3	C4-Phenanthrenes/Anthracenes				234	0		5.0	U	
3	Fluoranthene	8.56		0.00	202	91189	366.35	366		
4	Pyrene	8.77		0.00	202	96781	349.95	350		
4	C1-Fluoranthenes/Pyrenes				216	0		5.0	U	
4	C2-Fluoranthenes/Pyrenes				230	0		5.0	U	
4	C3-Fluoranthenes/Pyrenes				244	0		5.0	U	
4	C4-Fluoranthenes/Pyrenes				258	0		5.0	U	
4	Benz(a)anthracene	10.30	0.01	0.00	228	95700	346.97	347		
4	Chrysene	10.36	0.01	0.00	228	90796	349.10	349		
4	C1-Chrysenes				242	0		5.0	U	
4	C2-Chrysenes				256	0		5.0	U	
4	C3-Chrysenes				270	0		5.0	U	
4	C4-Chrysenes				284	0		5.0	U	
5	Benzo(b)fluoranthene	12.73	0.01	0.00	252	105612	355.49	355		
5	Benzo(k)fluoranthene	12.81	0.01	0.00	252	103251	363.69	364		
5	Benzo(e)pyrene	13.57	0.01	0.00	252	99020	355.38	355		
5	Benzo(a)pyrene	13.75	0.02	0.00	252	90399	346.36	346		
5	Perylene	14.04	0.01	0.00	252	89170	339.23	339		
5	Indeno(1,2,3-cd)pyrene	17.05	0.01	0.00	276	91664	373.99	374		
5	Dibenz(a,h)anthracene	17.13	0.01	0.00	278	88952	347.70	348		
5	Benzo(g,h,i)perylene	17.48	0.01	0.00	276	106032	362.28	362		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F017.D Vial: 8
Acq On : 30 Jun 2014 1:25 pm Operator: LWeiskopf
Sample : KWG1405687-4 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:09:25 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	34781	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.32	164	20601	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39185	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	47992	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	47184	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	16377	119.30	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 11.93%			
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery = 0.00%			
36) Fluoranthene-d10	8.54	212	34007	136.06	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 13.61%			
43) Terphenyl-d14	8.93	244	29621	129.04	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 12.90%			
Target Compounds						Qvalue
2) Naphthalene	4.93	128	57238	297.24	ng/ml	97
3) 2-Methylnaphthalene	5.48	142	43859	335.71	ng/ml	99
4) 1-Methylnaphthalene	5.56	142	38896	332.74	ng/ml	97
5) Biphenyl	5.85	154	52412	344.86	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.98	156	37994	347.57	ng/ml	94
11) Acenaphthylene	6.21	152	63864	313.75	ng/ml	100
12) Acenaphthene	6.35	154	38294	310.20	ng/ml	92
13) Dibenzofuran	6.49	168	58520	324.58	ng/ml	50
14) 2,3,5-Trimethylnaphthalene	6.66	170	37326	320.41	ng/ml	91
16) Fluorene	6.77	166	48421	323.54	ng/ml	95
23) Dibenzothiophene	7.47	184	67337	321.24	ng/ml	95
27) Phenanthrene	7.58	178	74798	332.14	ng/ml	98
28) Anthracene	7.61	178	72307	331.00	ng/ml	95
29) Carbazole	7.75	167	67820	349.43	ng/ml	86
30) 1-Methylphenanthrene	8.07	192	58217	355.94	ng/ml	97
35) Fluoranthene	8.56	202	91189	366.35	ng/ml	83
38) Pyrene	8.77	202	96781	349.95	ng/ml	85
44) Benz(a)anthracene	10.30	228	95700	346.97	ng/ml	99
45) Chrysene	10.36	228	90796	349.10	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	105612	355.49	ng/ml	98
52) Benzo(k)fluoranthene	12.81	252	103251	363.69	ng/ml	99
53) Benzo(e)pyrene	13.57	252	99020	355.38	ng/ml	100
54) Benzo(a)pyrene	13.75	252	90399	346.36	ng/ml	100
55) Perylene	14.04	252	89170	339.23	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.05	276	91664	373.99	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F017.D Vial: 8
Acq On : 30 Jun 2014 1:25 pm Operator: LWeiskopf
Sample : KWG1405687-4 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:09:25 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

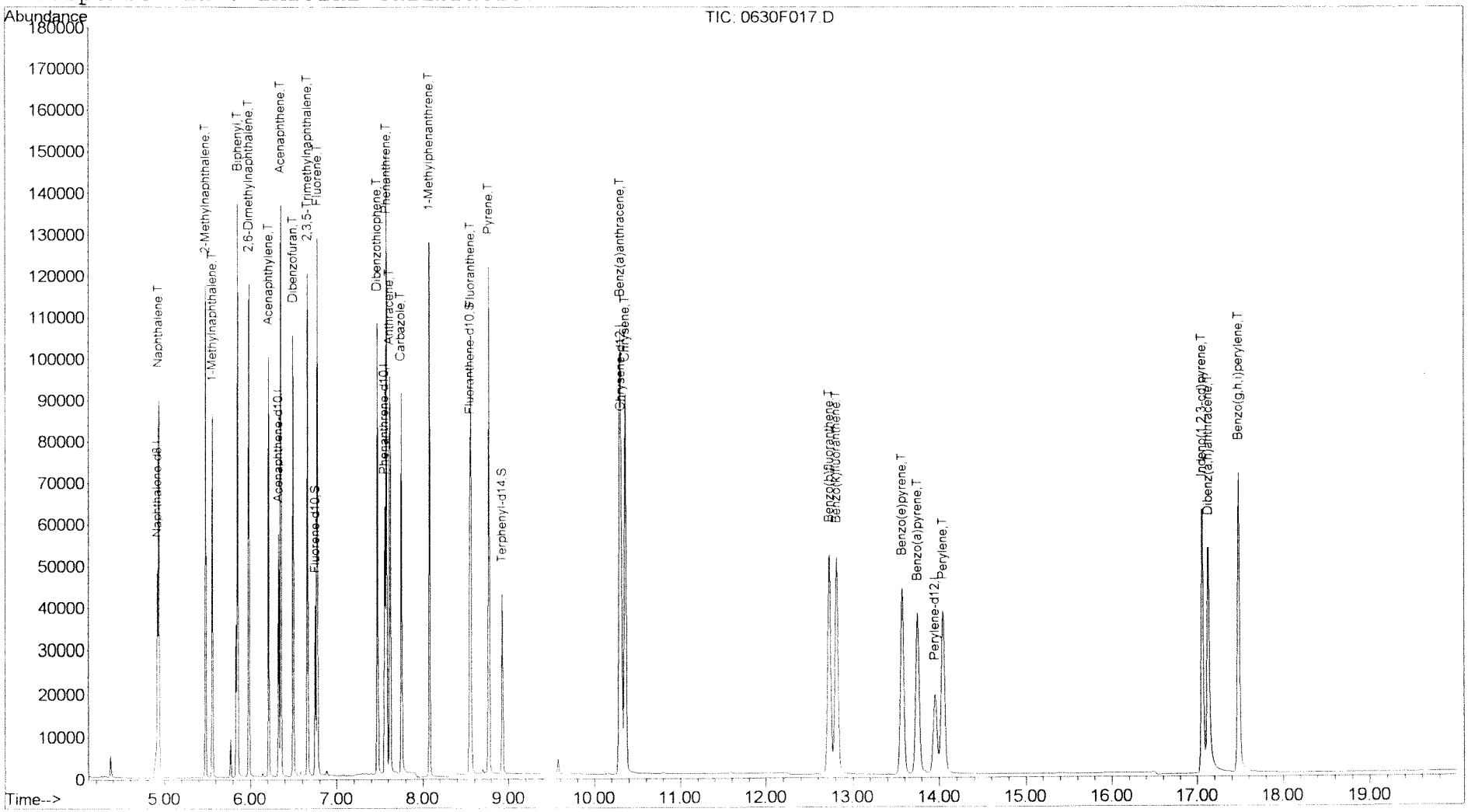
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	88952	347.70	ng/ml	95
58)	Benzo(g,h,i)perylene	17.48	276	106032	362.28	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F017.D Vial: 8
Acq On : 30 Jun 2014 1:25 pm Operator: LWeiskopf
Sample : KWG1405687-4 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 14:09 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



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Exception Report

Data File: J:\MS11\DATA\063014A\0630F014.D
Lab ID: KWG1405687-7
RunType: SRM
Matrix: SOIL

Date Acquired: 06/30/2014 12:04
Date Quantitated: 06/30/2014 12:43
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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	

KG833

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	2,4,6-Tribromophenol	0	35	109	NT
	Fluoranthene-d10	109	27	106	see 5X

Primary Review: JUN 30 2014

Secondary Review:

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F014.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:04	**Quant Date:**	06/30/2014 12:43	**Vial:**	11
Run Type:	SRM			**Dilution:**	1.0
Lab ID:	KWG1405687-7			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/30/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347942	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:			
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.91	-0.01	136	40106	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	23207	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	44682	200.00	OK
4	Chrysene-d12	10.33	0.02	240	58861	200.00	OK
5	Perylene-d12	14.13	0.19	264	54340**m**	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	6.75	0.00	0.00	176	18034	116.61	58	17-104	OK	
2	2,4,6-Tribromophenol			0.00	330	0		0	35-109	*	
3	Fluoranthene-d10	8.56	0.02	0.00	212	62016	217.60	109	27-106	*	NR
4	Terphenyl-d14	8.95	0.02	0.00	244	43032	152.85	76	35-109	OK	

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?
1	Naphthalene	4.93	-0.01	0.00	128	44744	201.51	394		
1	2-Methylnaphthalene	5.48		0.00	142	9132	60.62	119		
1	1-Methylnaphthalene	5.56	-0.01	0.00	142	4338	32.18	62.9		
1	Biphenyl	5.85	-0.01	0.00	154	3492	19.93	39.0		
1	2,6-Dimethylnaphthalene	5.99		0.00	156	3863	30.65	60.0		
1	C2-Naphthalenes				156	0		9.8	U	
1	C3-Naphthalenes				170	0		9.8	U	
1	C4-Naphthalenes				184	0		9.8	U	
2	Acenaphthylene	6.21		0.00	152	4385	19.12	37.4		
2	Acenaphthene	6.35	-0.01	0.00	154	1200	8.63	16.9		
2	Dibenzofuran	6.49	-0.01	0.00	168	4384	21.59	42.2		
2	2,3,5-Trimethylnaphthalene	6.67		0.00	170	1701	12.96	25.4		

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:\MS11\DATA\063014A\0630F014.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:04	**Quant Date:**	06/30/2014 12:43	**Vial:**	11
Run Type:	SRM			**Dilution:**	1.0
Lab ID:	KWG1405687-7			**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?
2	Fluorene	6.77		0.00	166	2349**m**	13.93	27.2		
2	C1-Fluorenes				180	0		9.8	U	
2	C2-Fluorenes				194	0		9.8	U	
2	C3-Fluorenes				208	0		9.8	U	
2	Pentachlorophenol				266	0				
3	Dibenzothiophene	7.47		0.00	184	3381	14.15	27.7		
3	C1-Dibenzothiophenes				198	0		9.8	U	
3	C2-Dibenzothiophenes				212	0		9.8	U	
3	C3-Dibenzothiophenes				226	0		9.8	U	
3	Phenanthrene	7.58		0.00	178	31472	122.56	240		
3	Anthracene	7.62	0.01	0.00	178	10956**m**	43.98	86.0		
3	Carbazole	7.75		0.00	167	1372**m**	6.20	12.1		
3	1-Methylphenanthrene				192	0**d**		0.55	U	
3	C1-Phenanthrenes/Anthracenes				192	0		9.8	U	
3	C2-Phenanthrenes/Anthracenes				206	0		9.8	U	
3	C3-Phenanthrenes/Anthracenes				220	0		9.8	U	
3	C4-Phenanthrenes/Anthracenes				234	0		9.8	U	
3	Fluoranthene	8.58	0.02	0.00	202	97603	343.88	673		NR
4	Pyrene	8.80	0.03	0.00	202	81132	239.20	468		
4	C1-Fluoranthenes/Pyrenes				216	0		9.8	U	
4	C2-Fluoranthenes/Pyrenes				230	0		9.8	U	
4	C3-Fluoranthenes/Pyrenes				244	0		9.8	U	
4	C4-Fluoranthenes/Pyrenes				258	0		9.8	U	
4	Benz(a)anthracene	10.31	0.02	0.00	228	33860	100.10	196		
4	Chrysene	10.37	0.02	0.00	228	41098	128.84	252		
4	C1-Chrysenes				242	0		9.8	U	
4	C2-Chrysenes				256	0		9.8	U	
4	C3-Chrysenes				270	0		9.8	U	
4	C4-Chrysenes				284	0		9.8	U	
5	Benzo(b)fluoranthene	12.85	0.13	0.00	252	96753**m**	282.78	553		NR
5	Benzo(k)fluoranthene				252	0**d**		1.8	U	NR
5	Benzo(e)pyrene	13.75	0.19	0.00	252	36069**m**	112.40	220		
5	Benzo(a)pyrene	13.92	0.19	0.00	252	24397**m**	81.17	159		
5	Perylene	14.21	0.18	0.00	252	25394**m**	83.88	164		
5	Indeno(1,2,3-cd)pyrene	17.10	0.06	-0.01	276	27381**m**	97.00	190		
5	Dibenz(a,h)anthracene	17.16	0.04	-0.01	278	7522**m**	25.53	49.9		
5	Benzo(g,h,i)perylene	17.51	0.04	-0.01	276	30095	89.28	175		

Prep Amount:	5.238 g	**Dilution:**	1.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.6 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42:00 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

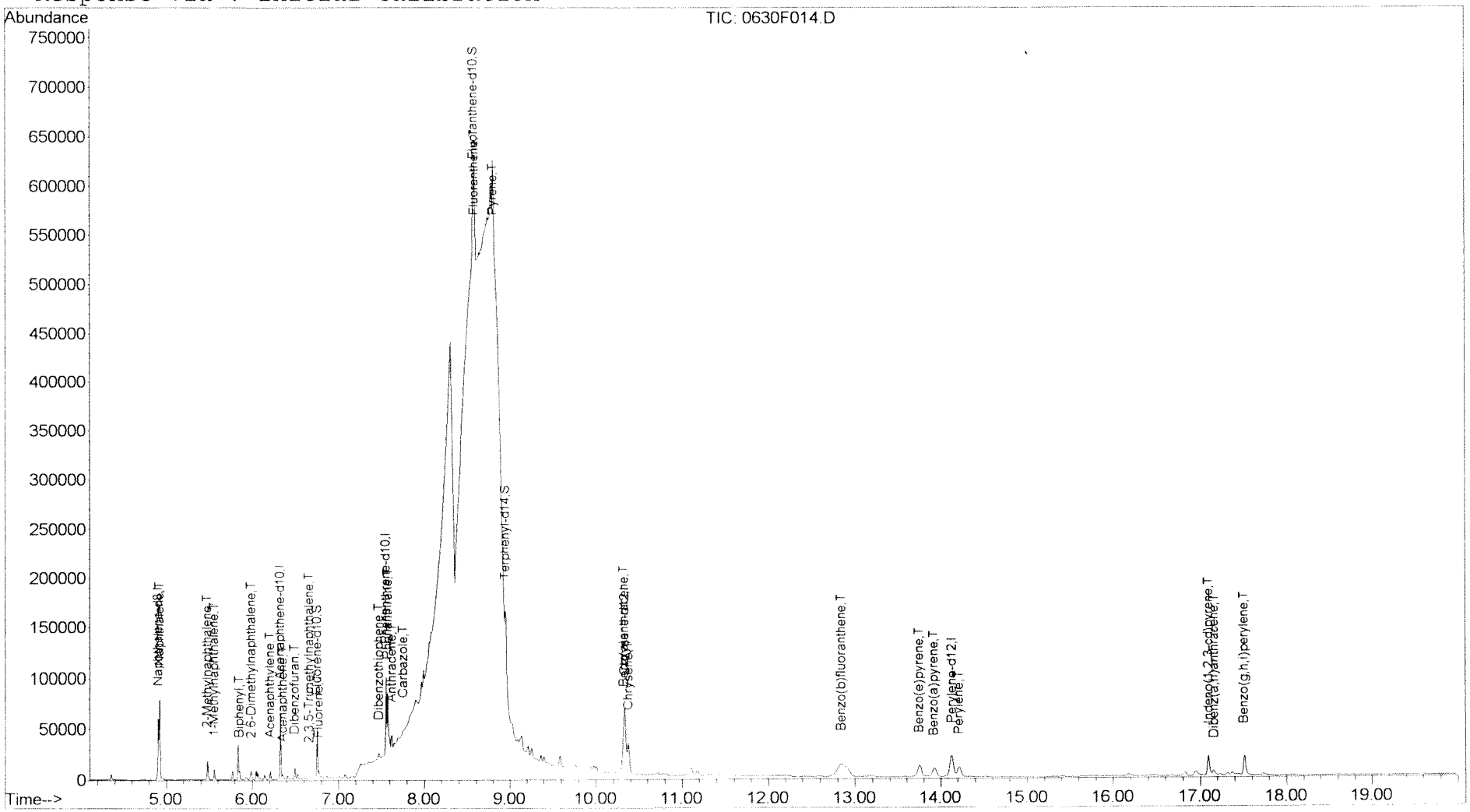
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.91	136	40106	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.33	164	23207	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	44682	200.00	ng/ml	0.00
37) Chrysene-d12	10.33	240	58861	200.00	ng/ml	0.02
50) Perylene-d12	14.13	264	54340m	200.00	ng/ml	0.19
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	18034	116.61	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	11.66%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.56	212	62016	217.60	ng/ml	0.02
Spiked Amount 1000.000			Recovery =	21.76%		
43) Terphenyl-d14	8.95	244	43032	152.85	ng/ml	0.03
Spiked Amount 1000.000			Recovery =	15.28%		
Target Compounds						Qvalue
2) Naphthalene	4.93	128	44744	201.51	ng/ml	98
3) 2-Methylnaphthalene	5.48	142	9132	60.62	ng/ml	96
4) 1-Methylnaphthalene	5.56	142	4338	32.18	ng/ml	95
5) Biphenyl	5.85	154	3492	19.93	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.99	156	3863	30.65	ng/ml	94
11) Acenaphthylene	6.21	152	4385	19.12	ng/ml	98
12) Acenaphthene	6.35	154	1200	8.63	ng/ml	98
13) Dibenzofuran	6.49	168	4384	21.59	ng/ml	36
14) 2,3,5-Trimethylnaphthalene	6.67	170	1701	12.96	ng/ml	90
16) Fluorene	6.77	166	2349m	13.93	ng/ml	
23) Dibenzothiophene	7.47	184	3381	14.15	ng/ml	98
27) Phenanthrene	7.58	178	31472	122.56	ng/ml	99
28) Anthracene	7.62	178	10956m	43.98	ng/ml	
29) Carbazole	7.75	167	1372m	6.20	ng/ml	
35) Fluoranthene	8.58	202	97603	343.88	ng/ml	90
38) Pyrene	8.80	202	81132	239.20	ng/ml	93
44) Benz(a)anthracene	10.31	228	33860	100.10	ng/ml	98
45) Chrysene	10.37	228	41098	128.84	ng/ml	98
51) Benzo(b)fluoranthene	12.85	252	96753m	282.78	ng/ml	
53) Benzo(e)pyrene	13.75	252	36069m	112.40	ng/ml	
54) Benzo(a)pyrene	13.92	252	24397m	81.17	ng/ml	
55) Perylene	14.21	252	25394m	83.88	ng/ml	
56) Indeno(1,2,3-cd)pyrene	17.10	276	27381m	97.00	ng/ml	
57) Dibenz(a,h)anthracene	17.16	278	7522m	25.53	ng/ml	
58) Benzo(g,h,i)perylene	17.51	276	30095	89.28	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration



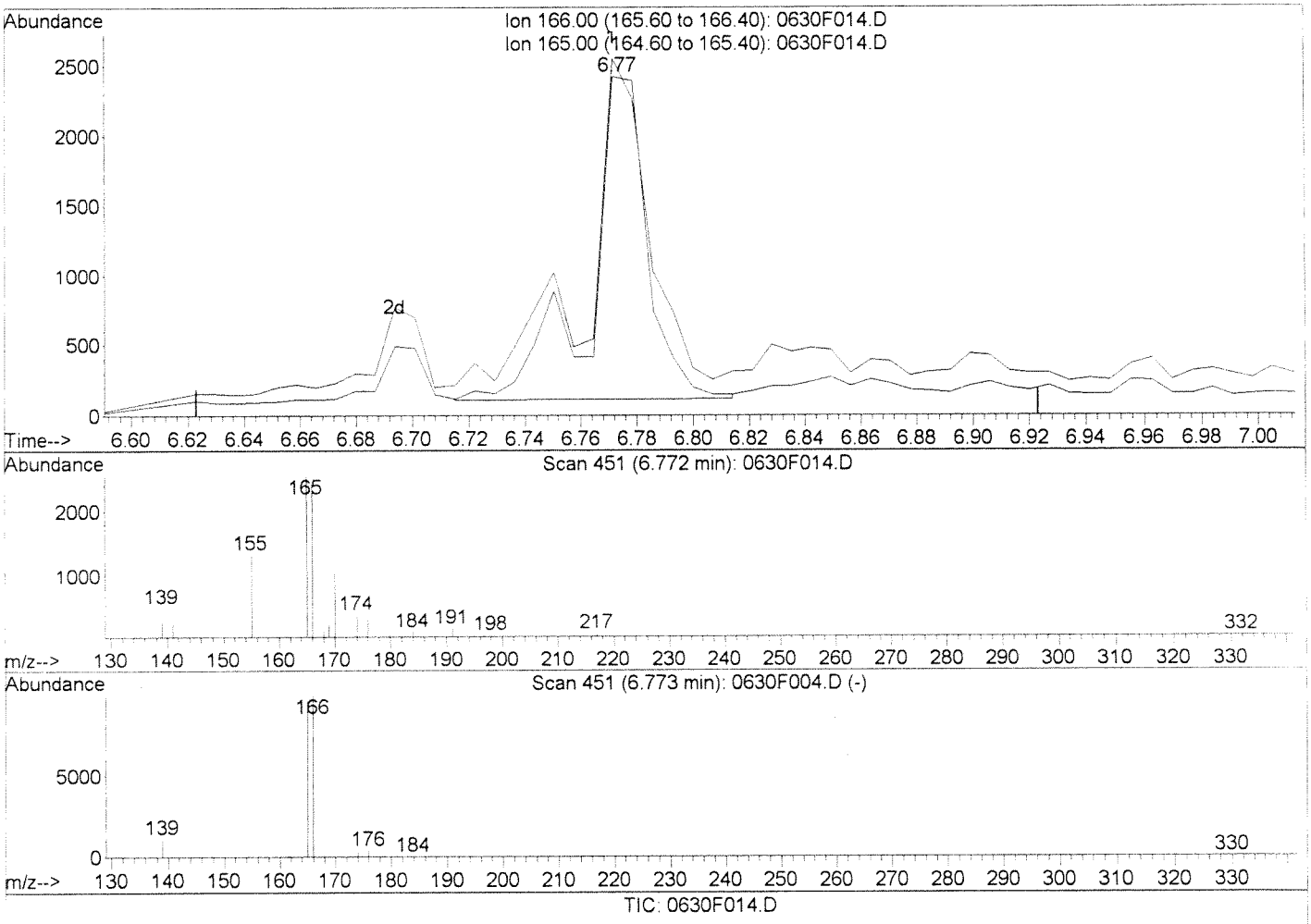
803

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D
Acq On : 30 Jun 2014 12:04 pm
Sample : KWG1405687-7 SRM
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014

Vial: 11
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(16) Fluorene (T)

6.77min 19.28ng/ml

response 3250

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	101.43
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

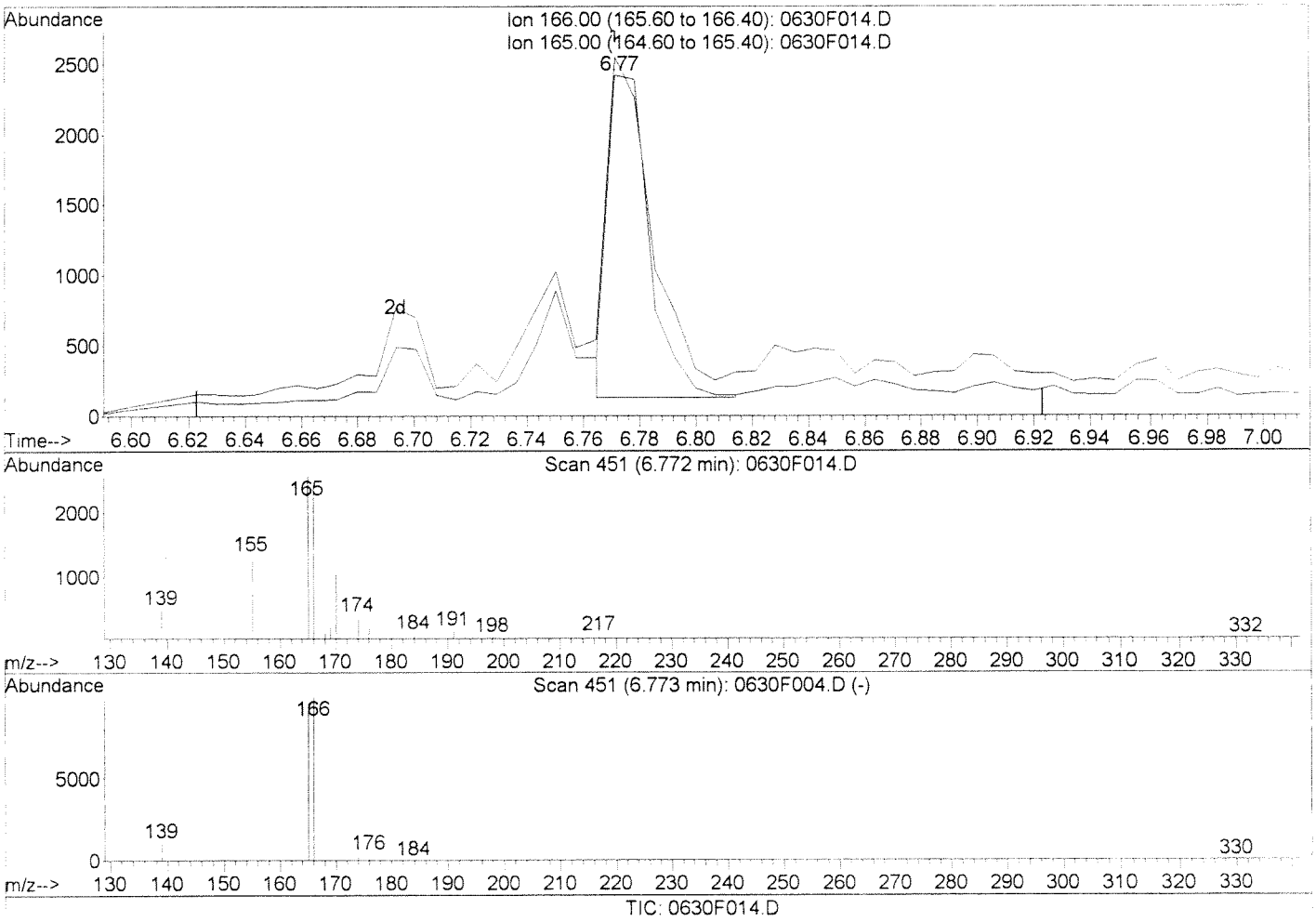
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:42:16 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(16) Fluorene (T)

6.77min 13.93ng/ml m

response 2349

Ion	Exp%	Act%
166.00	100	100
165.00	86.10	105.37
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

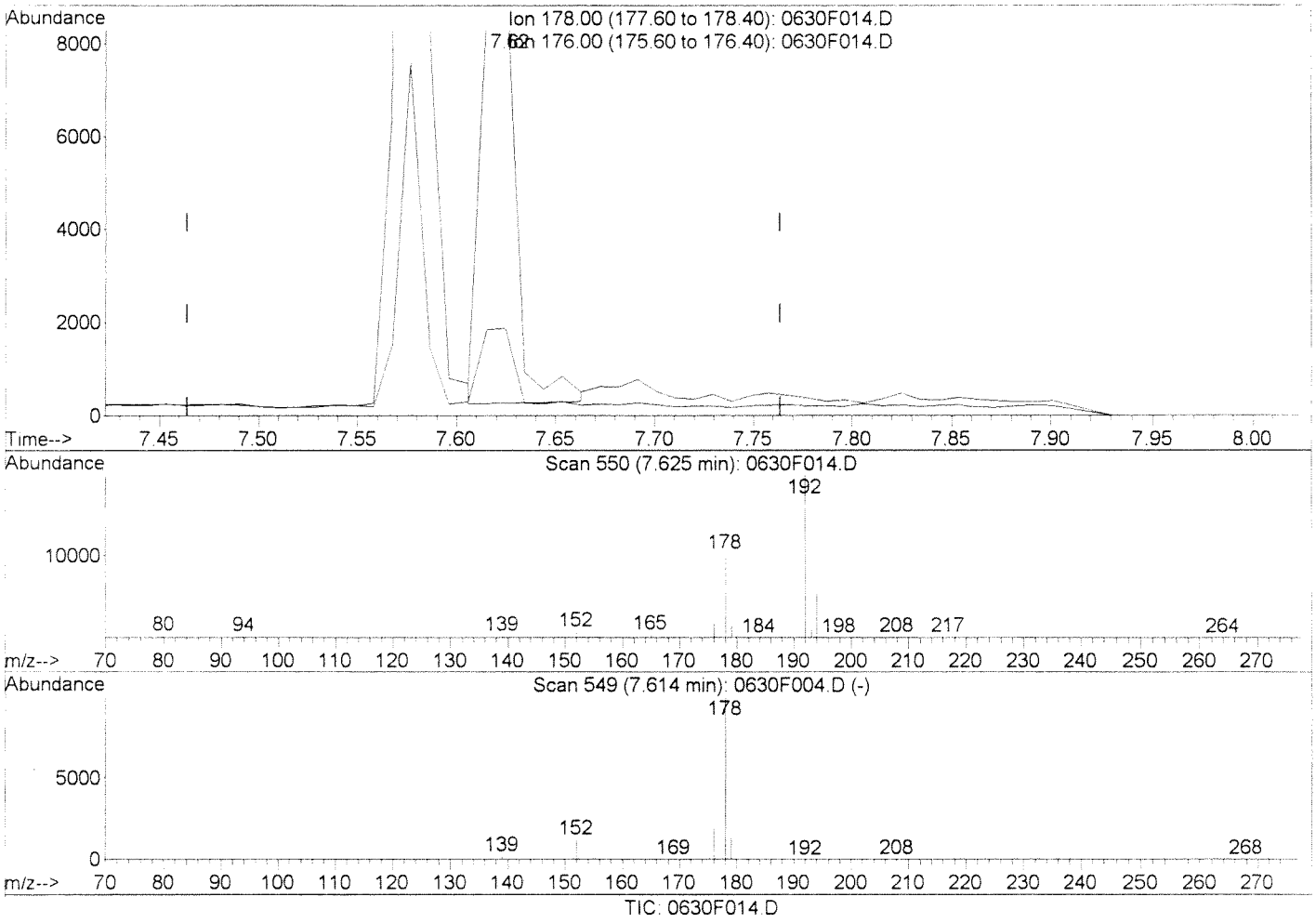
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:42:21 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(28) Anthracene (T)

7.62min 45.61ng/ml

response 11360

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

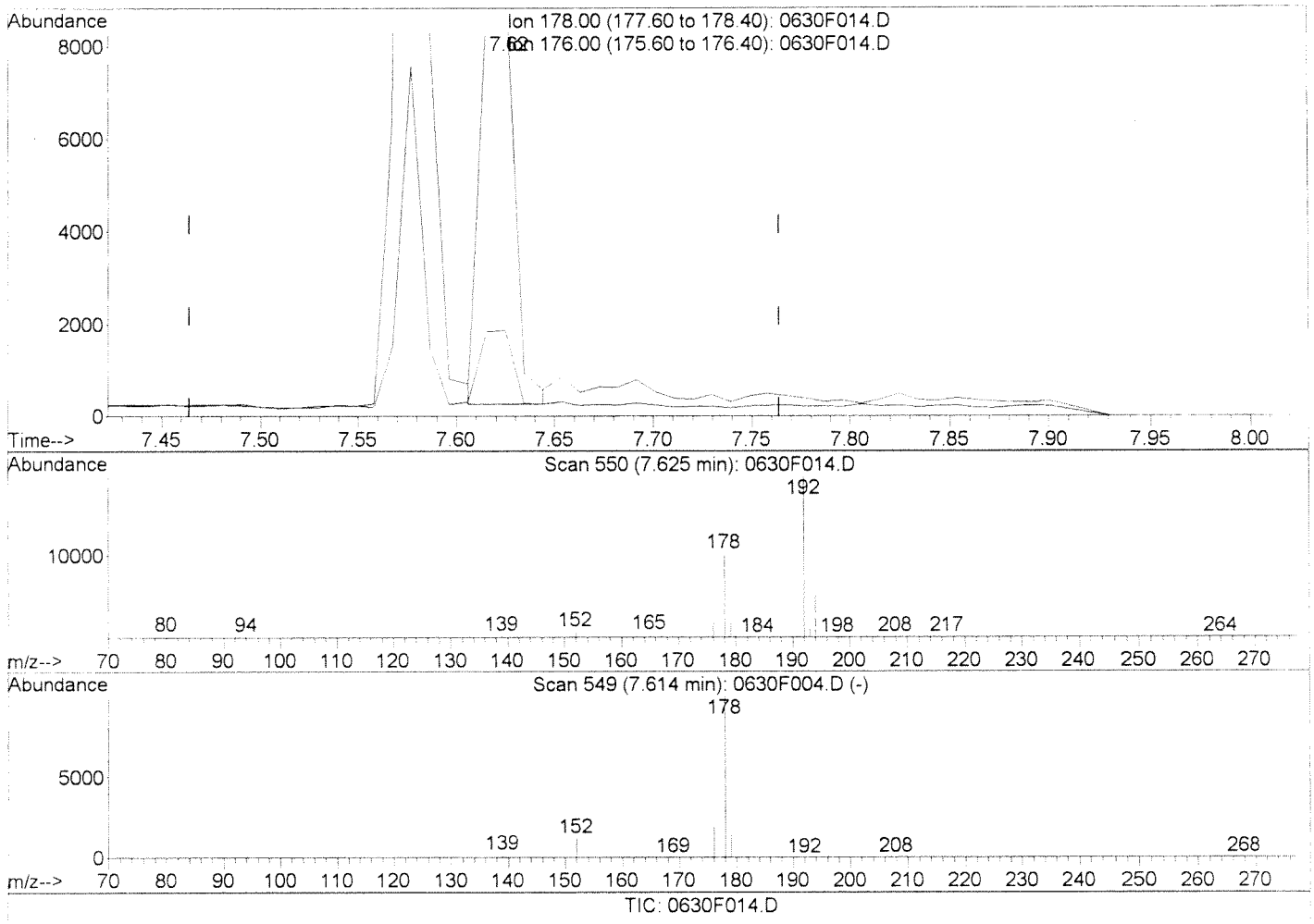
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:42:27 2014

Quantitation Report (QedIt)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(28) Anthracene (T)

7.62min 43.98ng/ml m

response 10956

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.27
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

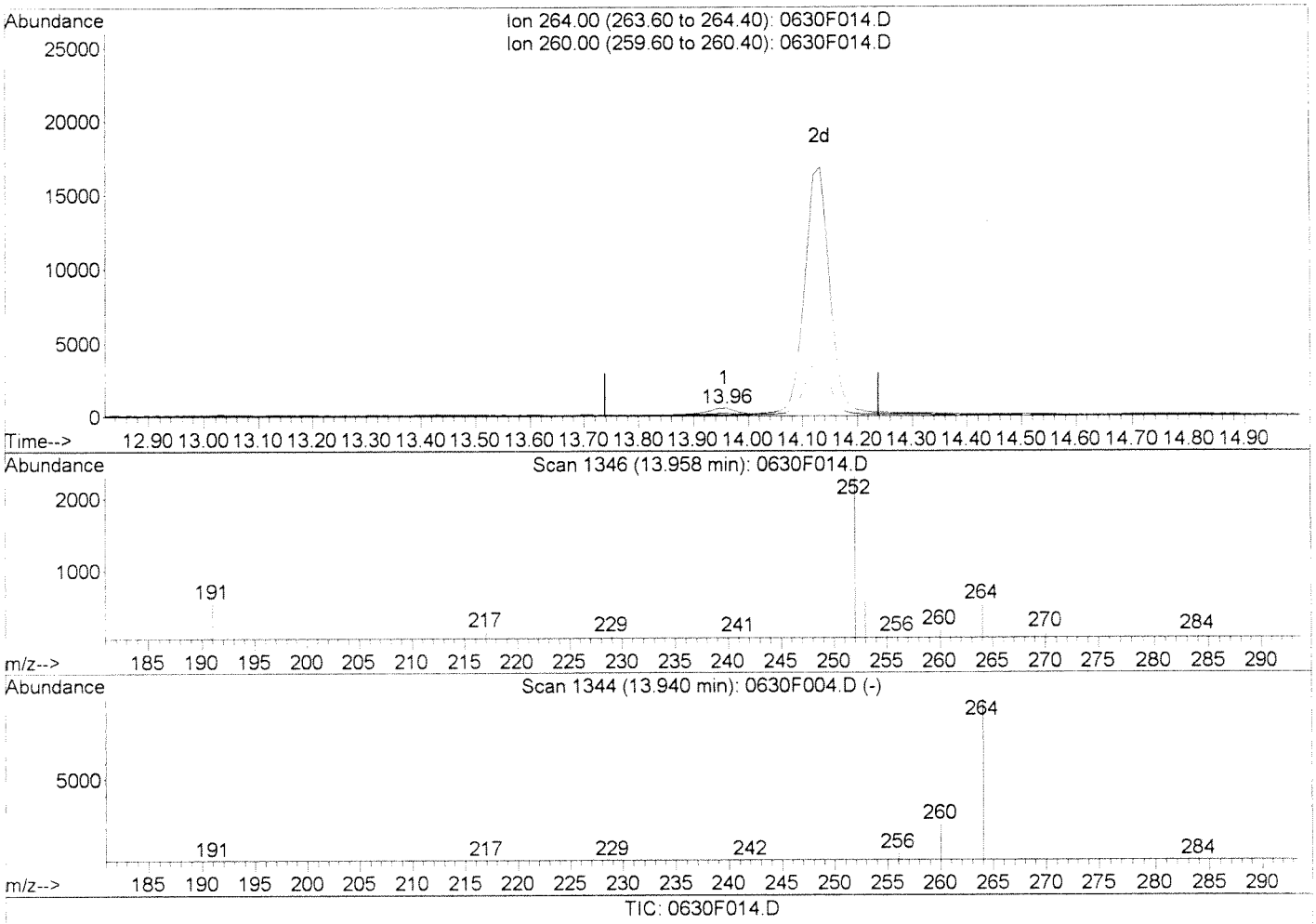
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:42:31 2014

Data File : J:\MS11\DATA\063014A\0630F014.D
Acq On : 30 Jun 2014 12:04 pm
Sample : KWG1405687-7 SRM
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014

Vial: 11
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(50) Perylene-d12 (I)
13.96min 200.00ng/ml
response 1778

Ion	Exp%	Act%
264.00	100	100
260.00	23.00	18.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
Before

06/30/14

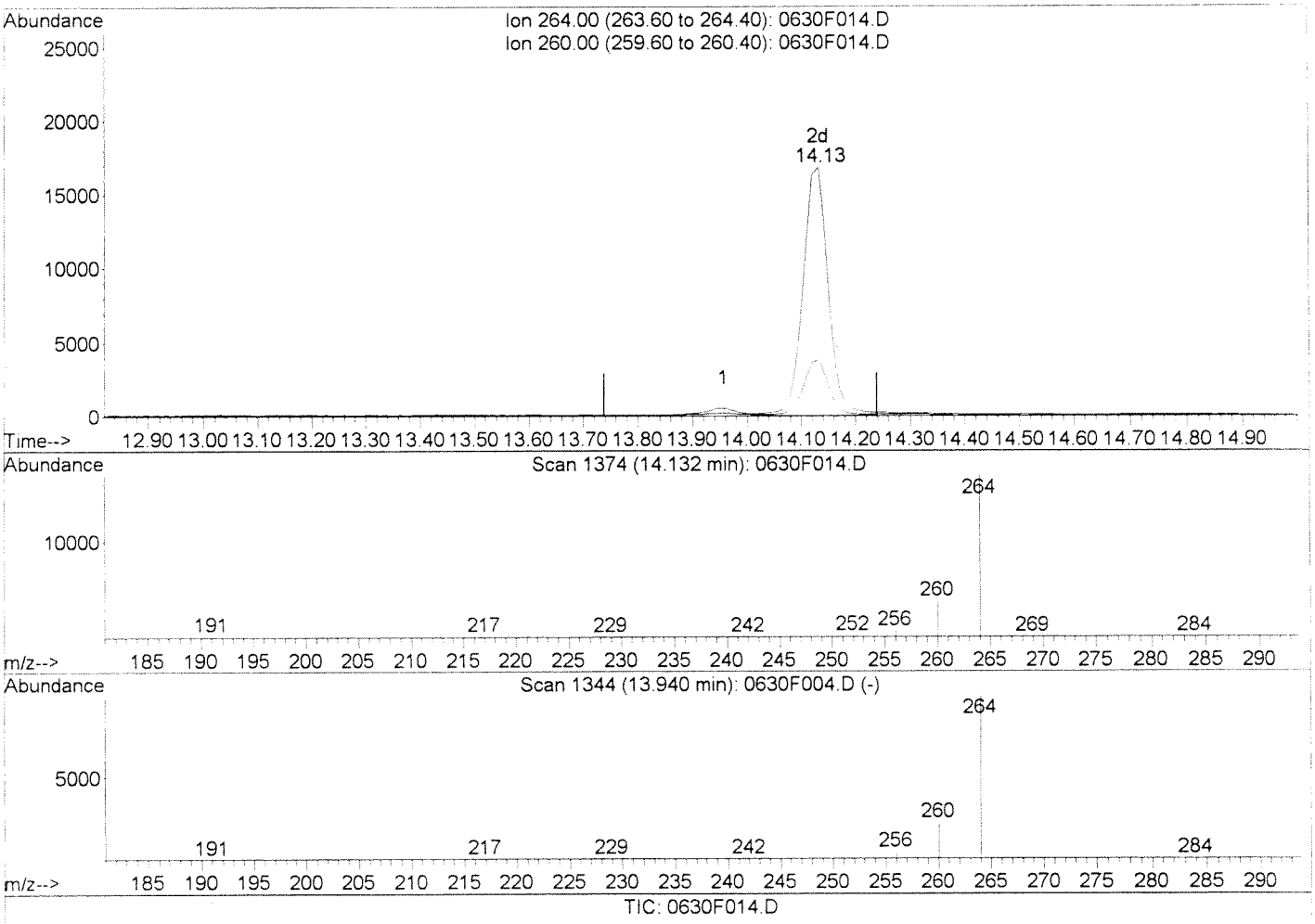
0630F014.D 062914ALK.M Mon Jun 30 12:42:47 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D
Acq On : 30 Jun 2014 12:04 pm
Sample : KWG1405687-7 SRM
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:42 2014

Vial: 11
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(50) Perylene-d12 (I)

14.13min 200.00ng/ml m

response 54340

Ion	Exp%	Act%
264.00	100	100
260.00	23.00	22.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

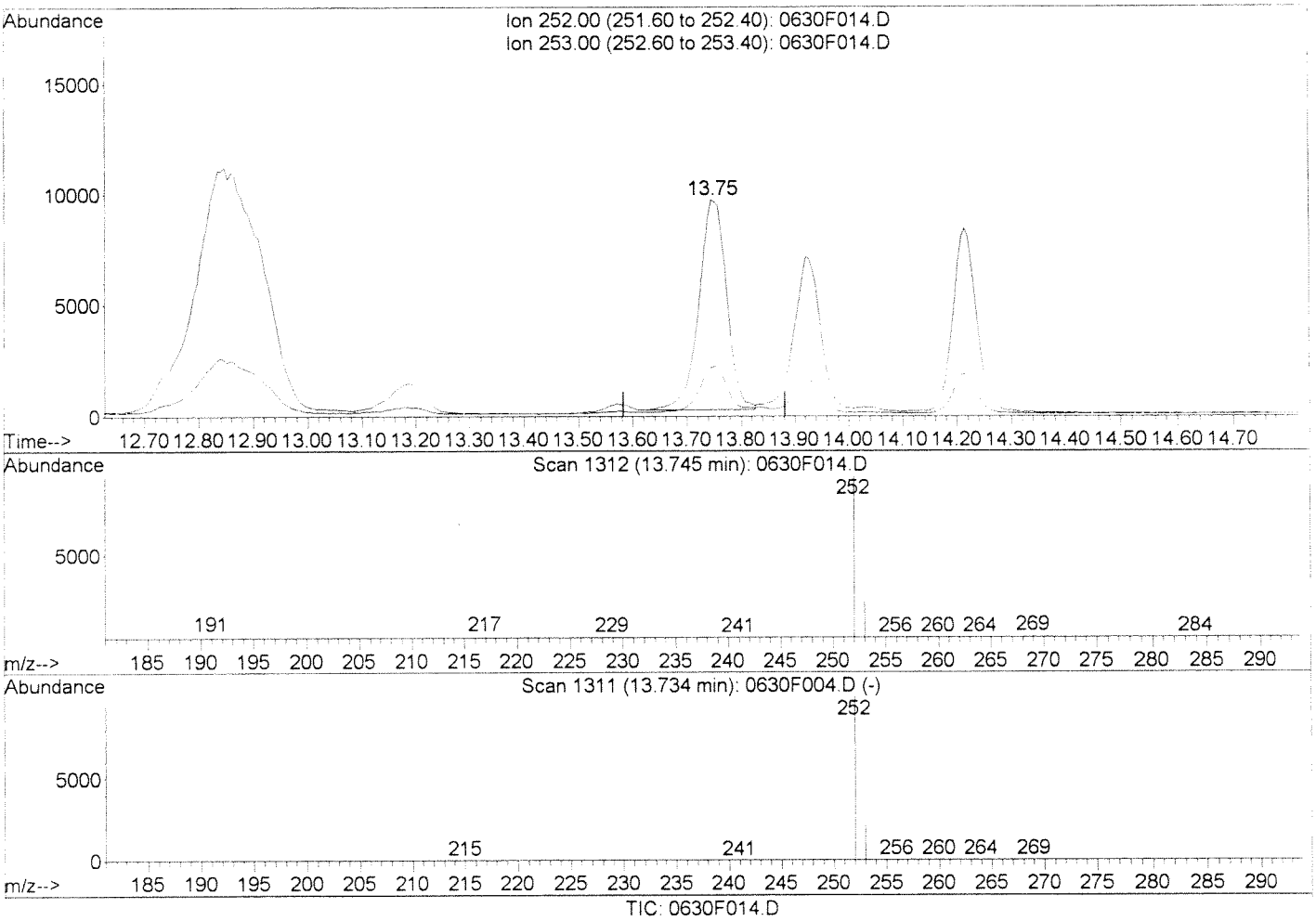
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:42:54 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(54) Benzo(a)pyrene (T)

13.75min 112.62ng/ml

response 33850

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	21.62
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

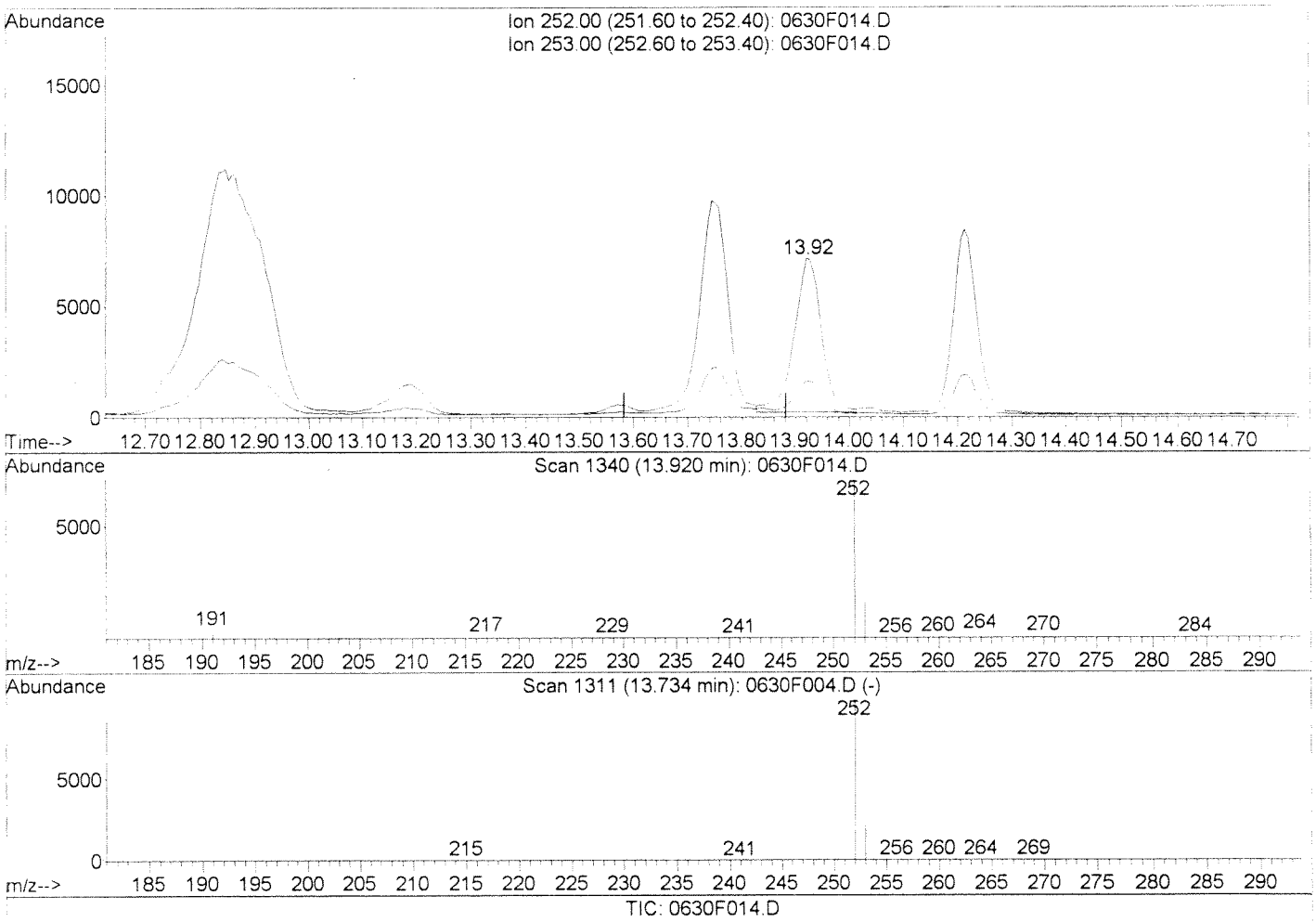
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:43:12 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



(54) Benzo(a)pyrene (T)

13.92min 81.17ng/ml m

response 24397

ion	Exp%	Act%
252.00	100	100
253.00	22.50	23.32
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

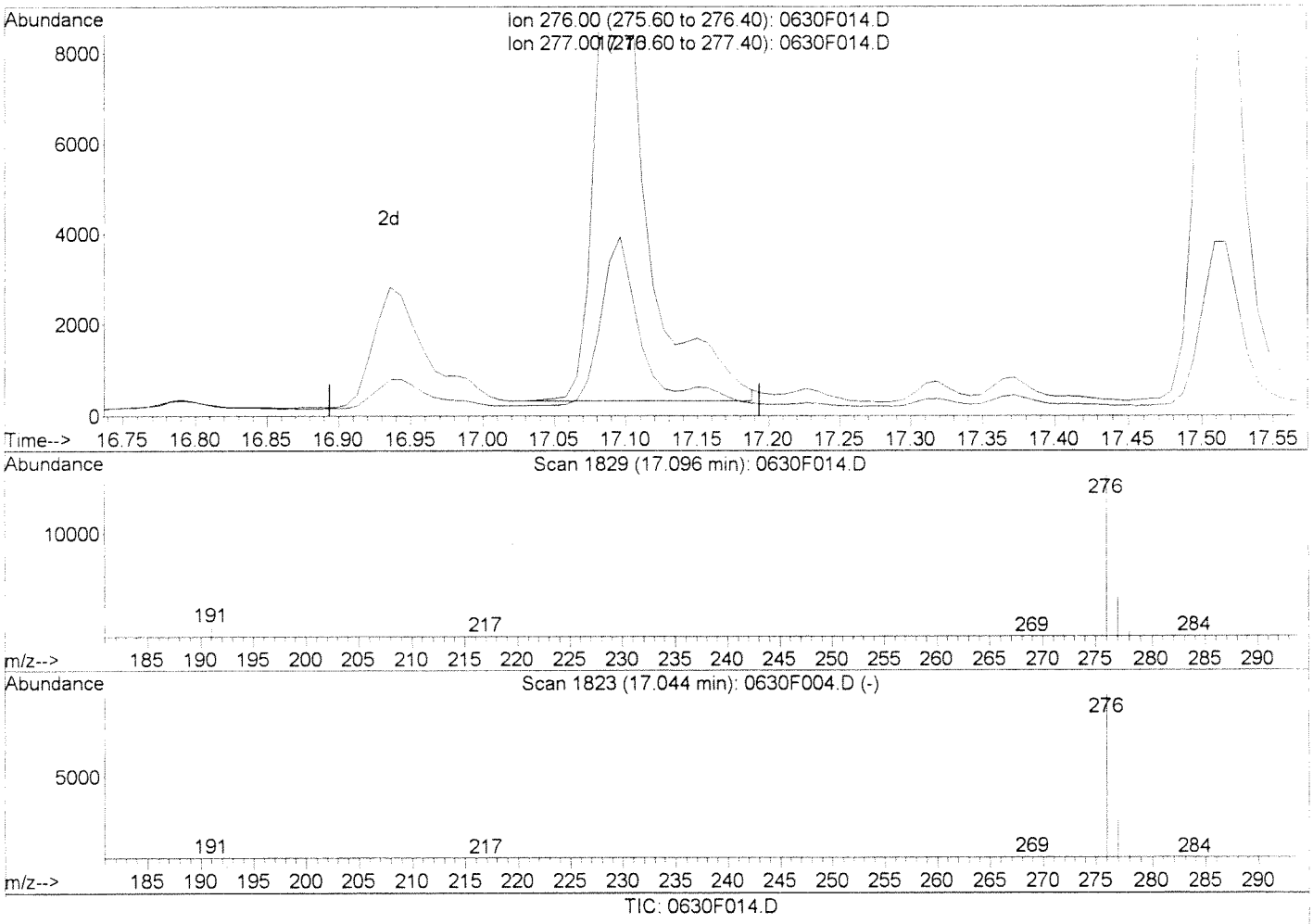
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:43:20 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.10min 106.29ng/ml

response 30004

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	24.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

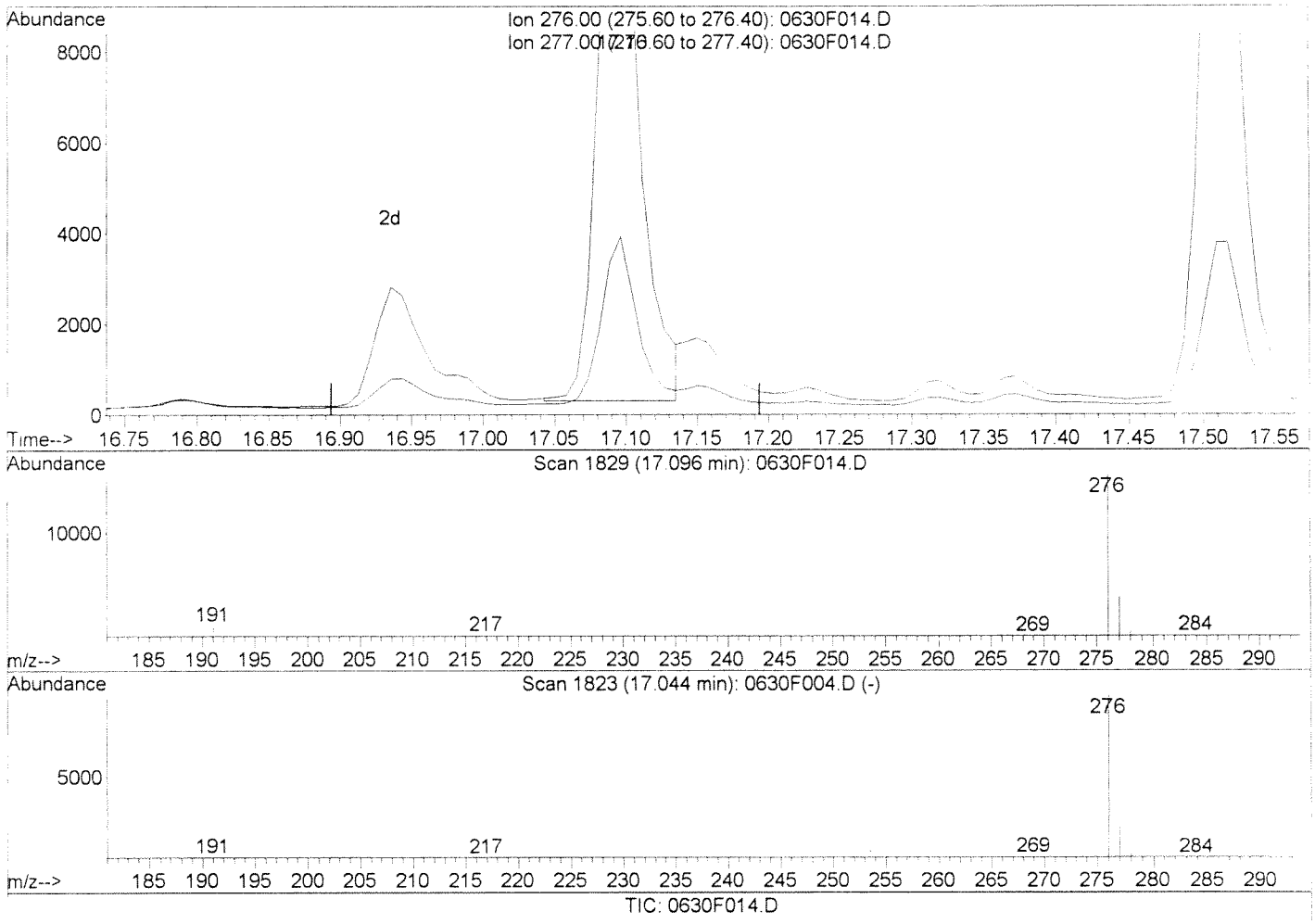
0630F014.D 062914ALK.M Mon Jun 30 12:43:28 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D
Acq On : 30 Jun 2014 12:04 pm
Sample : KWG1405687-7 SRM
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014

Vial: 11
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.10min 97.00ng/ml m

response 27381

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	25.40
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

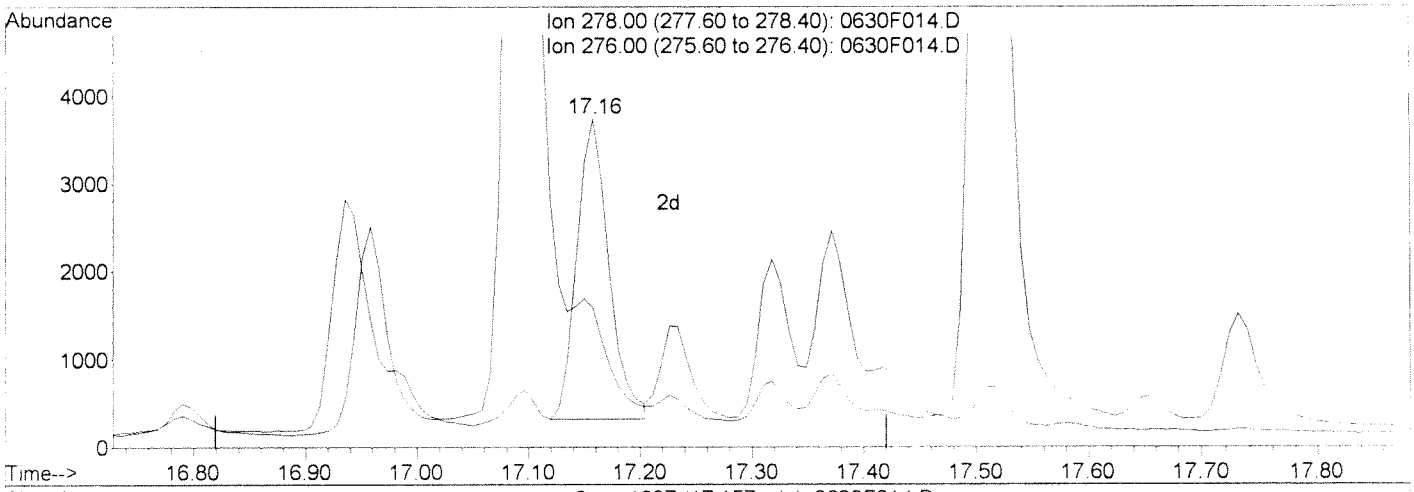
06/30/14

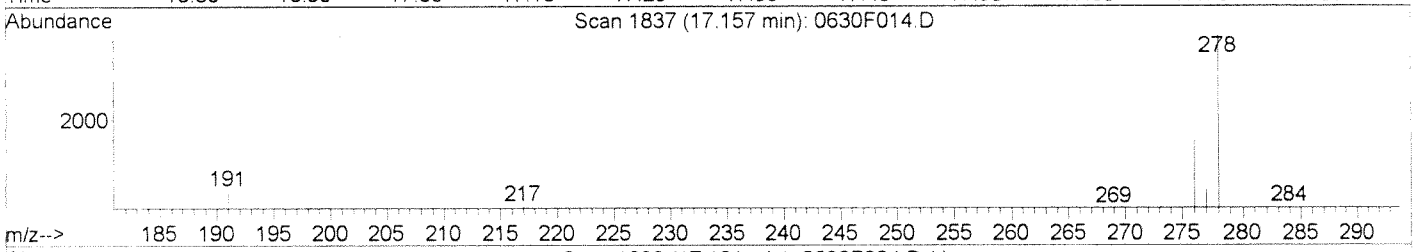
0630F014.D 062914ALK.M Mon Jun 30 12:43:33 2014

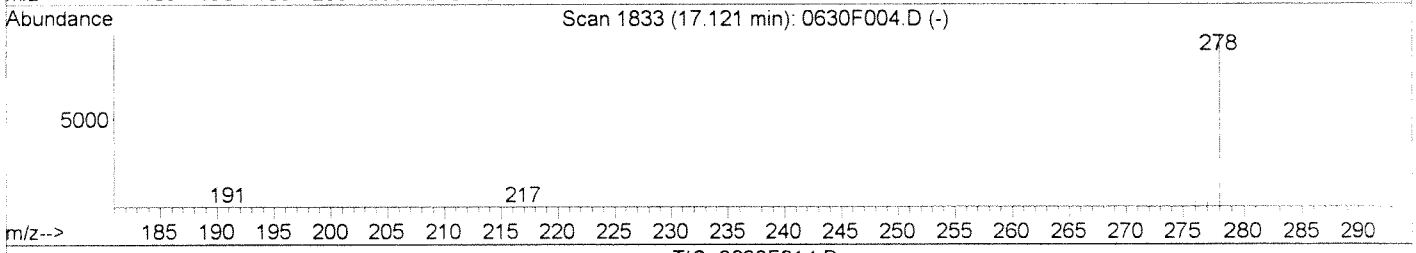
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F014.D

(57) Dibenz(a,h)anthracene (T)

17.16min 23.18ng/ml

response 6831

Ion	Exp%	Act%
278.00	100	100
276.00	26.00	32.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

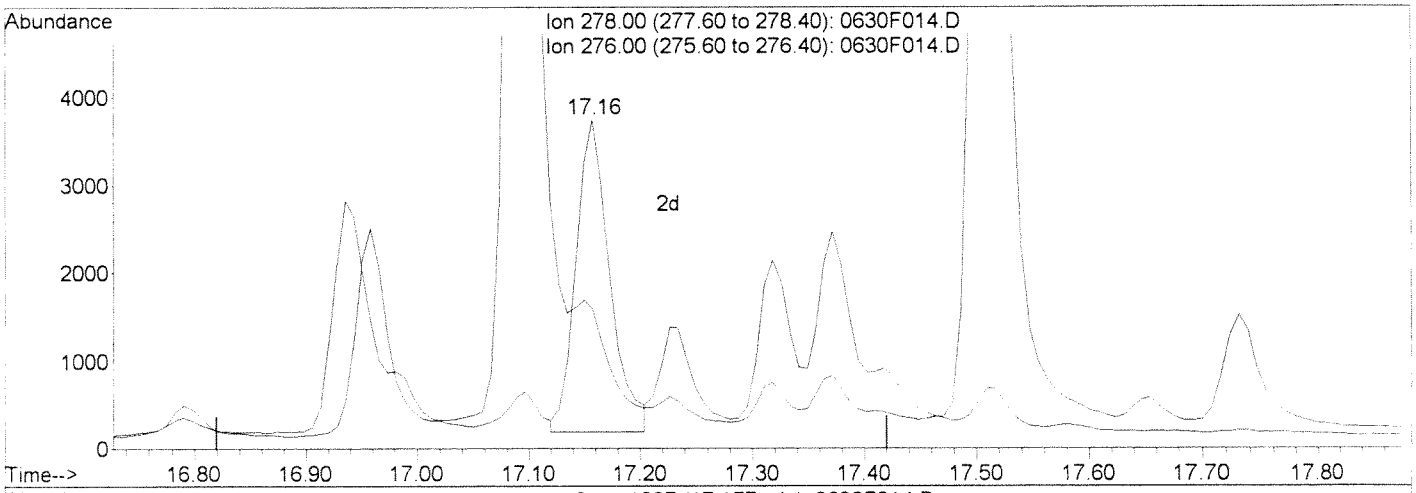
06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:43:37 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014A\0630F014.D Vial: 11
Acq On : 30 Jun 2014 12:04 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:43 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration



TIC: 0630F014.D

(57) Dibenz(a,h)anthracene (T)

17.16min 25.53ng/ml m

response 7522

Ion	Exp%	Act%
278.00	100	100
276.00	26.00	42.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0630F014.D 062914ALK.M Mon Jun 30 12:43:43 2014

Exception Report

Data File: J:\MS11\DATA\063014A\0630F015.D
Lab ID: KWG1405687-7
RunType: DL
Matrix: SOIL

Date Acquired: 06/30/2014 12:30
Date Quantitated: 06/30/2014 13:01
Batch ID: KWG1407242
Analysis Method: 8270D SIM
ListJoinID: LJ13147

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	
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		x

K5833

MRL's OK

Primary Review: JUN 30 2014

Secondary Review:

Printed: 06/30/2014 13:05:45
u:\Stealth\Crystal rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F015.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:30	**Quant Date:**	06/30/2014 13:01	**Vial:**	12
Run Type:	DL			**Dilution:**	5.0
Lab ID:	KWG1405687-7			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/30/2014

Analysis Lot:	KWG1407242	**Prep Lot:**	KWG1405687	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3541		
Prep Ref:	1347942	**Prep Date:**	06/16/2014		

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M	**Calibration ID:**	CAL13411
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ13147
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D	**Method ID:**	MJ1187
MB Ref:	J:\MS11\DATA\063014A\0630F009.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	4.92	0.00	136	36259	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	21245	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	42391	200.00	OK
4	Chrysene-d12	10.31	0.00	240	44067	200.00	OK
5	Perylene-d12	13.97	0.03	264	36519	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	6.76	0.01	0.00	176	3343	23.61	59	17-104	OK	NR
3	Fluoranthene-d10	8.56	0.02	0.00	212	7243	26.79	67	27-106	OK	
4	Terphenyl-d14	8.94	0.01	0.00	244	7355	34.90	87	35-109	OK	NR

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?
1	Naphthalene	4.93	-0.01	0.00	128	7500	37.36	370	D	NR
1	2-Methylnaphthalene	5.48		0.00	142	1465	10.76	110	D	NR
1	1-Methylnaphthalene	5.57		0.00	142	712	5.84	57	D	NR
2	Acenaphthylene	6.22	0.01	0.00	152	840	4.00	39	JD	NR
2	Acenaphthene	6.36		0.00	154	224	1.76	17	JD	NR
2	Fluorene	6.78	0.01	0.00	166	502m	3.25	32	JD	NR
3	Phenanthrene	7.58		0.00	178	5649	23.19	230	D	NR
3	Anthracene	7.62	0.01	0.00	178	2271m	9.61	94	D	NR
3	Fluoranthene	8.57	0.01	0.00	202	10896	40.46	400	D	
4	Pyrene	8.78	0.01	0.00	202	8751	34.46	340	D	NR
4	Benz(a)anthracene	10.30	0.01	0.00	228	5155	20.35	200	D	NR
4	Chrysene	10.36	0.01	0.00	228	6277	26.28	260	D	NR
5	Benzo(b)fluoranthene	12.75	0.03	0.00	252	9440	41.05	400	D	

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:\MS11\DATA\063014A\0630F015.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 12:30	**Quant Date:**	06/30/2014 13:01	**Vial:**	12
Run Type:	DL			**Dilution:**	5.0
Lab ID:	KWG1405687-7			**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(k)fluoranthene	12.83	0.03	0.00	252	3743**m**	17.03	170	D	
5	Benzo(a)pyrene	13.77	0.04	0.00	252	3657	18.10	180	D	NR
5	Indeno(1,2,3-cd)pyrene	17.06	0.02	0.00	276	4322**m**	22.78	220	D	NR
5	Dibenz(a,h)anthracene	17.12		0.00	278	1187	5.99	59	D	NR
5	Benzo(g,h,i)perylene	17.48	0.01	0.00	276	5292	23.36	230	D	NR

Prep Amount:	5.238 g	**Dilution:**	5.0
Prep Final Vol:	10 ml	**Unit Factor:**	1
Solids:	97.6 %		

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F015.D Vial: 12
Acq On : 30 Jun 2014 12:30 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM 5X Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:00:21 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	36259	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.33	164	21245	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	42391	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	44067	200.00	ng/ml	0.00
50) Perylene-d12	13.97	264	36519	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	3343	23.61	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	2.36%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.56	212	7243	26.79	ng/ml	0.02
Spiked Amount 1000.000			Recovery =	2.68%		
43) Terphenyl-d14	8.94	244	7355	34.90	ng/ml	0.01
Spiked Amount 1000.000			Recovery =	3.49%		
Target Compounds						Qvalue
2) Naphthalene	4.93	128	7500	37.36	ng/ml	99
3) 2-Methylnaphthalene	5.48	142	1465	10.76	ng/ml	95
4) 1-Methylnaphthalene	5.57	142	712	5.84	ng/ml	95
5) Biphenyl	5.86	154	587	3.70	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.99	156	569	4.99	ng/ml	93
11) Acenaphthylene	6.22	152	840	4.00	ng/ml	98
12) Acenaphthene	6.36	154	224	1.76	ng/ml	95
13) Dibenzofuran	6.50	168	764	4.11	ng/ml	51
14) 2,3,5-Trimethylnaphthalene	6.67	170	273	2.27	ng/ml	89
16) Fluorene	6.78	166	502m	3.25	ng/ml	
23) Dibenzothiophene	7.47	184	598	2.64	ng/ml	99
27) Phenanthrene	7.58	178	5649	23.19	ng/ml	98
28) Anthracene	7.62	178	2271m	9.61	ng/ml	
29) Carbazole	7.76	167	336	1.60	ng/ml	95
35) Fluoranthene	8.57	202	10896	40.46	ng/ml	88
38) Pyrene	8.78	202	8751	34.46	ng/ml	89
44) Benz(a)anthracene	10.30	228	5155	20.35	ng/ml	93
45) Chrysene	10.36	228	6277	26.28	ng/ml	100
51) Benzo(b)fluoranthene	12.75	252	9440	41.05	ng/ml	99
52) Benzo(k)fluoranthene	12.83	252	3743m	17.03	ng/ml	
53) Benzo(e)pyrene	13.59	252	4757	22.06	ng/ml	99
54) Benzo(a)pyrene	13.77	252	3657	18.10	ng/ml	98
55) Perylene	14.06	252	3517	17.29	ng/ml	98
56) Indeno(1,2,3-cd)pyrene	17.06	276	4322m	22.78	ng/ml	
57) Dibenz(a,h)anthracene	17.12	278	1187	5.99	ng/ml	69

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F015.D Vial: 12
Acq On : 30 Jun 2014 12:30 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM 5X Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:00:21 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

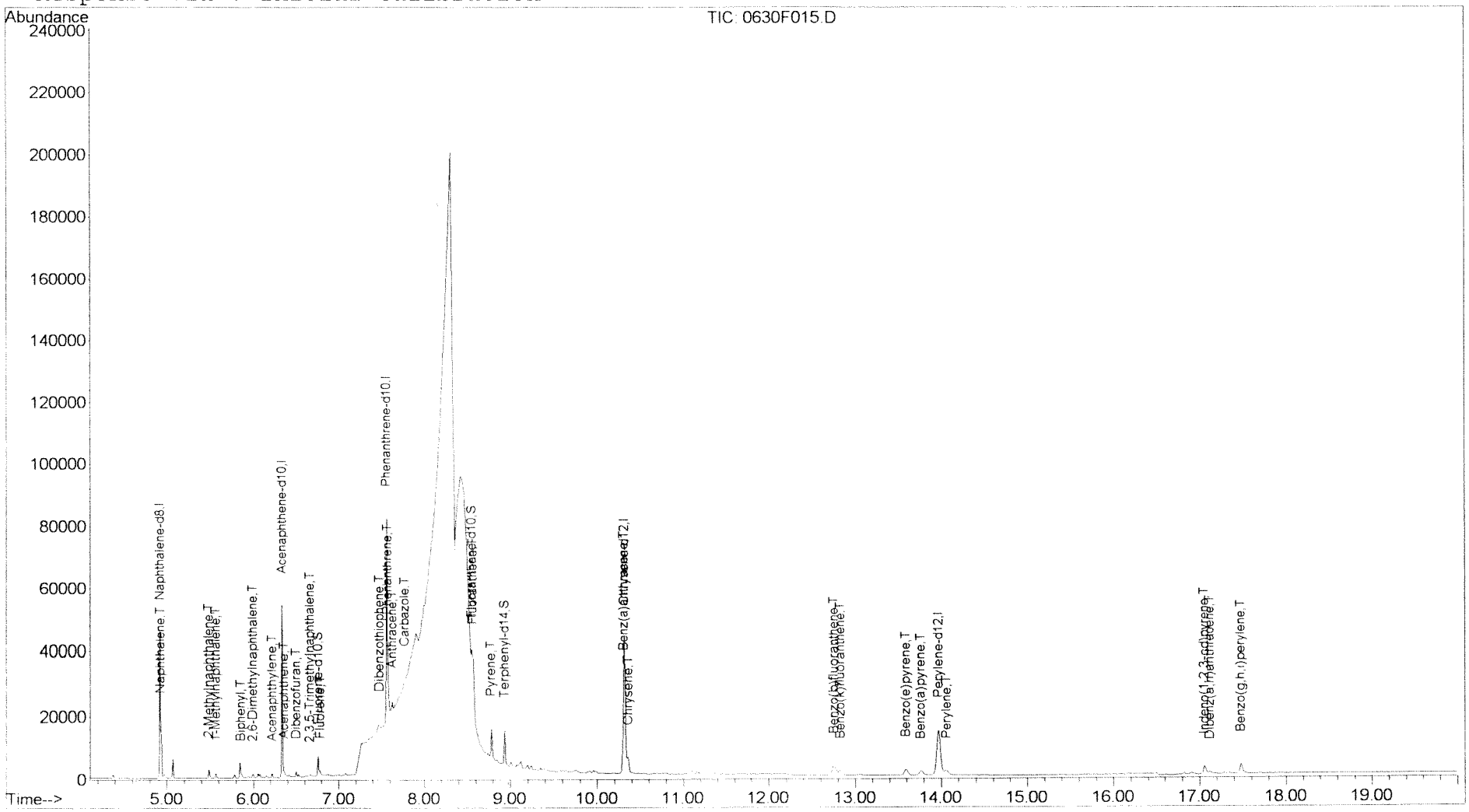
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58)	Benzo(g,h,i)perylene	17.48	276	5292	23.36	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014A\0630F015.D Vial: 12
Acq On : 30 Jun 2014 12:30 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM 5X Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:01 2014 Quant Results File: 062914ALK.RES

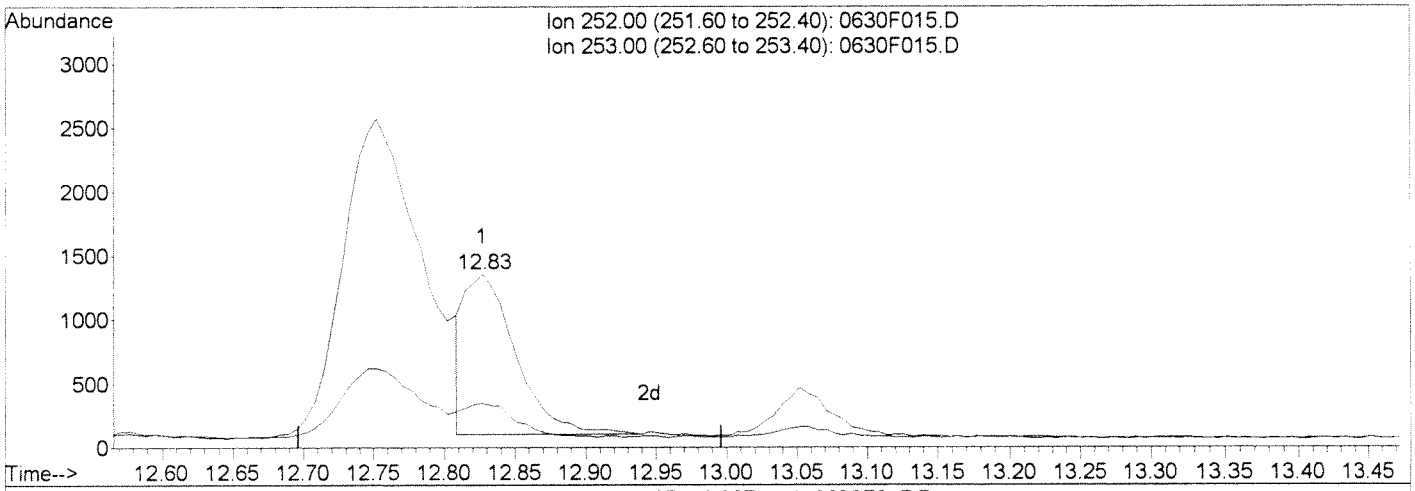
Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration

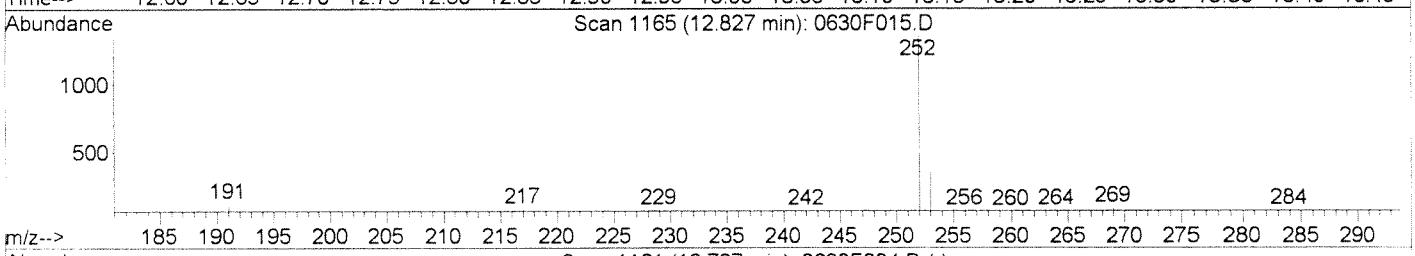


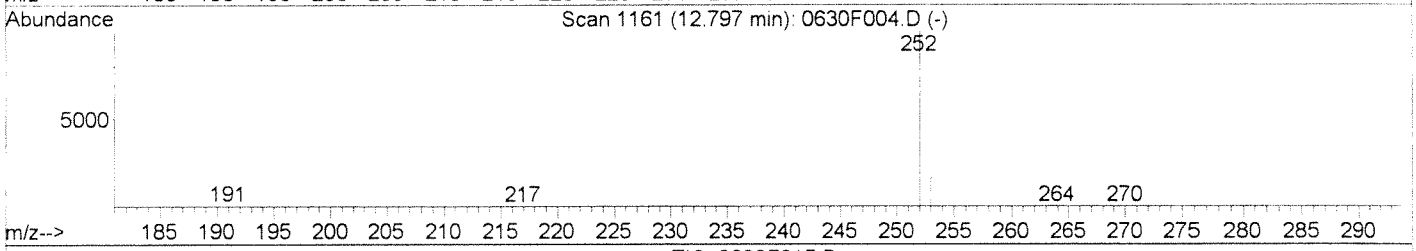
821

Data File : J:\MS11\DATA\063014A\0630F015.D Vial: 12
Acq On : 30 Jun 2014 12:30 pm Operator: LWeiskopf
Sample : KWG1405687-7 SRM 5X Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:00 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F015.D

(52) Benzo(k)fluoranthene (T)

12.83min 14.56ng/ml

response 3200

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	20.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

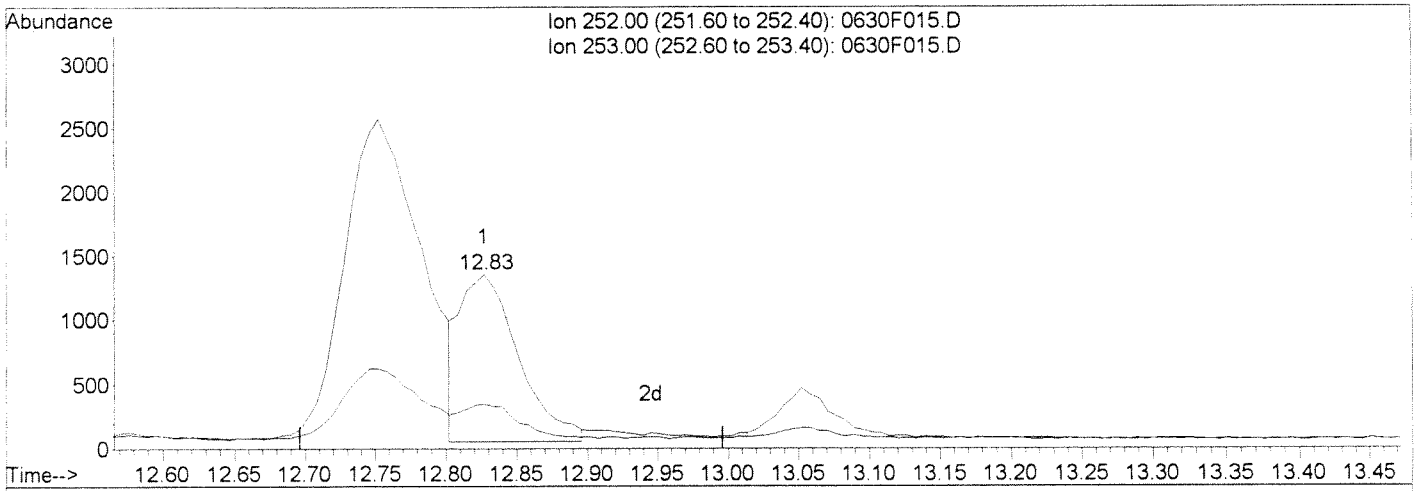
06/30/14

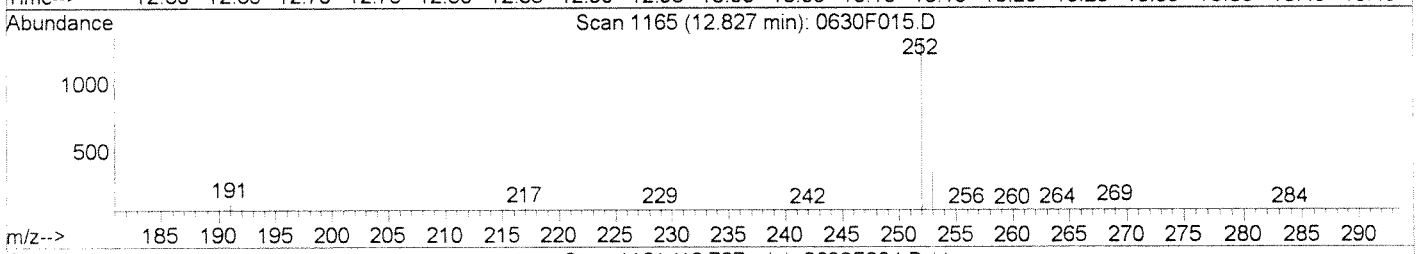
0630F015.D 062914ALK.M Mon Jun 30 13:01:06 2014

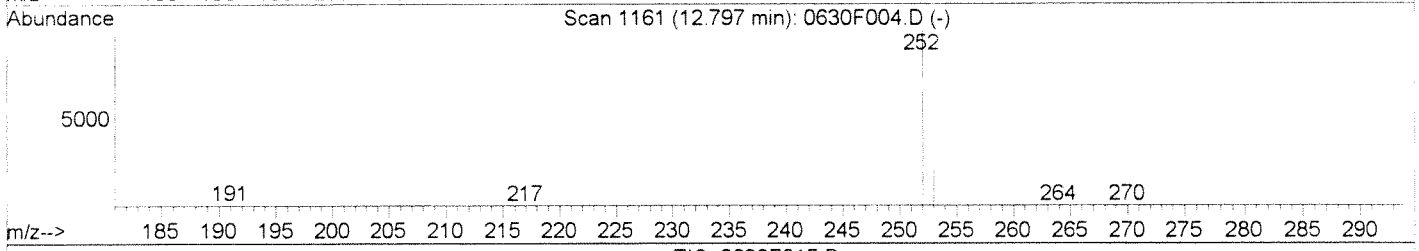
Data File : J:\MS11\DATA\063014A\0630F015.D
Acq On : 30 Jun 2014 12:30 pm
Sample : KWG1405687-7 SRM 5X
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 13:01 2014

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Multiple Level Calibration







TIC: 0630F015.D

(52) Benzo(k)fluoranthene (T)
12.83min 17.03ng/ml m
response 3743

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	25.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Incomplete
06/30/14

0630F015.D 062914ALK.M Mon Jun 30 13:01:17 2014

Injection Log

Directory: J:\MS11\DATA\062914

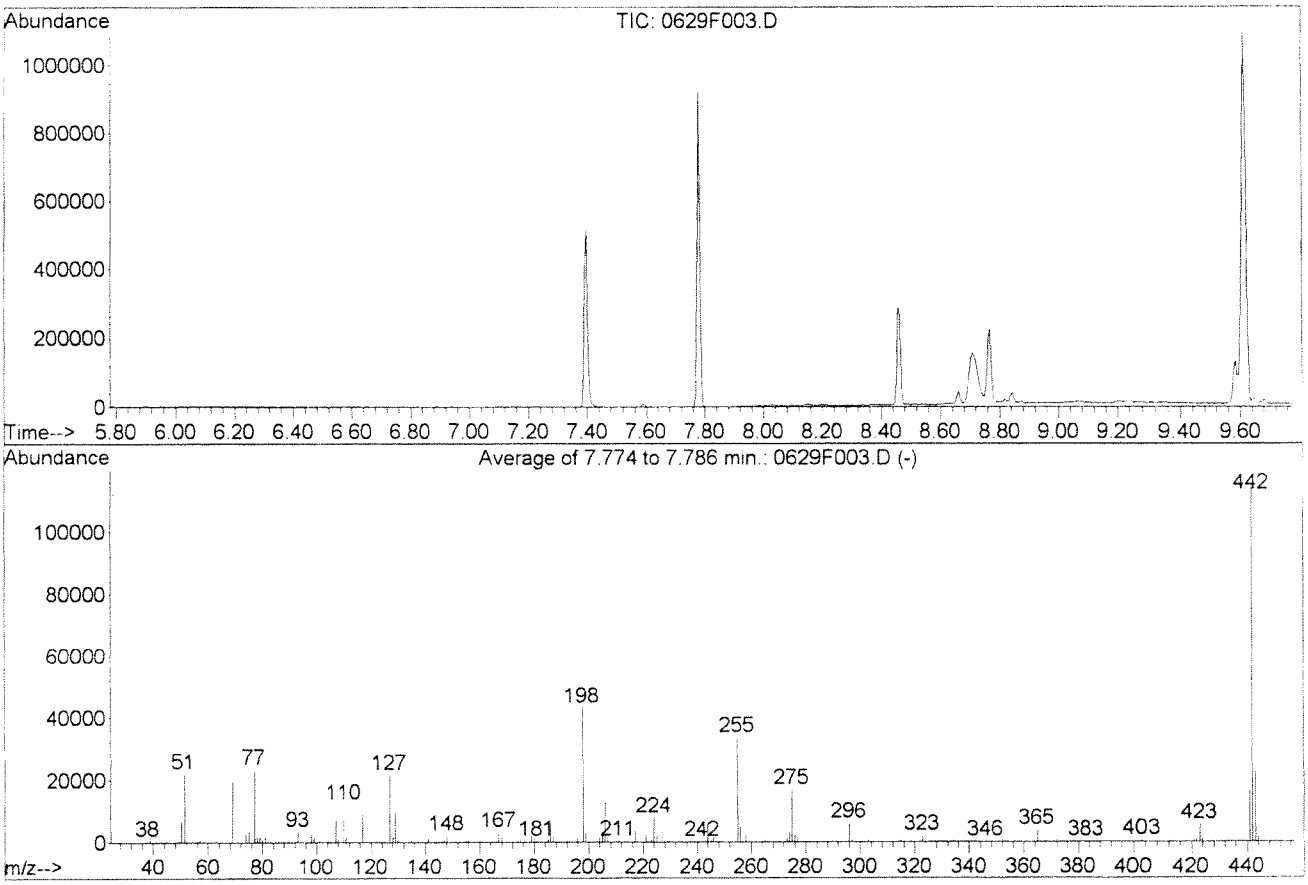
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0629F001.D	1.	PR > MR		29 Jun 2014 07:5
2	1	0629F002.D	1.	PR > MR		29 Jun 2014 08:1
3	2	0629F003.D	1.	DFTPP @ 3.0ug/mL | SVM46-66F		29 Jun 2014 08:4
4	3	0629F004.D	1.	IB MR		29 Jun 2014 09:1
5	3	0629F005.D	1.	IB		29 Jun 2014 09:3
6	4	0629F006.D	1.	SIM-PAH ICAL @.002ug/mL | SVM46-68A		29 Jun 2014 10:0
7	5	0629F007.D	1.	SIM-PAH ICAL @.004ug/mL | SVM46-68B MR-rerun		29 Jun 2014 10:3
8	6	0629F008.D	1.	SIM-PAH ICAL @.008ug/mL | SVM46-68C		29 Jun 2014 11:0
9	7	0629F009.D	1.	SIM-PAH ICAL @0.02ug/mL | SVM46-68D		29 Jun 2014 11:2
10	8	0629F010.D	1.	SIM-PAH ICAL @0.1ug/mL | SVM46-68E		29 Jun 2014 11:5
11	9	0629F011.D	1.	SIM-PAH ICAL @0.2ug/mL | SVM46-68F		29 Jun 2014 12:2
12	10	0629F012.D	1.	SIM-PAH ICAL @0.4ug/mL | SVM46-68G		29 Jun 2014 12:5
13	11	0629F013.D	1.	SIM-PAH ICAL @1.0ug/mL | SVM46-68H		29 Jun 2014 13:1
14	12	0629F014.D	1.	SIM-PAH ICAL @1.6ug/mL | SVM46-68I		29 Jun 2014 13:4
15	13	0629F015.D	1.	SIM-PAH ICAL @2.0ug/mL | SVM46-68J		29 Jun 2014 14:1

CAL 13411
SIM-PAH ICAL
6/30/14

DFTPP

Data File : J:\MS11\DATA\062914\0629F003.D
Acq On : 29 Jun 2014 8:45 am
Sample : DFTPP @ 3.0ug/mL | SVM46-66F
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



AutoFind: Scans 627, 628, 629; Background Corrected with Scan 623

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	51.3	22117	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.0	19854	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.3	21699	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	37.8	43146	PASS
199	198	5	9	7.0	3020	PASS
275	198	10	60	39.0	16820	PASS
365	442	1	50	3.4	3829	PASS
441	443	0.01	100	72.6	16305	PASS
442	442	30	100	100.0	114194	PASS
443	442	15	24	19.7	22444	PASS

JUN 3 0 2014

0629F003.D DFTPPPAH.M Mon Jun 30 06:30:39 2014

Average of 7.774 to 7.786 min.: 0629F003.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	400	63.10	812	82.05	502	104.00	613
39.10	1741	65.10	231	83.10	502	105.05	597
43.00	173	69.00	19854	85.00	211	107.00	7287
49.05	541	73.10	173	86.00	614	108.00	1055
50.10	6871	74.05	2650	91.05	426	110.00	12307
51.10	22117	75.00	3622	92.10	515	111.00	1811
52.00	1122	77.10	23467	93.00	3565	117.00	8931
55.00	190	78.10	1658	98.05	2862	117.95	545
56.00	634	79.00	1870	99.00	1653	122.00	614
57.00	1205	80.00	1163	101.00	739	123.00	740
62.10	387	81.00	1974	103.10	171	123.95	376

Average of 7.774 to 7.786 min.: 0629F003.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
125.10	184	146.20	170	166.00	245	187.05	1944
127.00	21699	146.95	685	167.00	3296	189.00	331
128.05	1797	148.00	2228	168.00	1474	192.00	583
129.00	9580	149.00	187	174.00	512	193.00	643
130.00	804	153.05	400	175.00	1032	196.00	1501
134.00	202	154.00	263	177.00	331	197.95	43146
135.00	779	155.05	692	179.00	2149	198.90	3020
135.90	257	156.00	928	180.00	1049	200.00	175
137.00	249	160.05	413	181.00	504	201.50	203
141.00	1427	161.05	520	185.05	931	202.95	397
142.10	229	165.00	531	186.00	6758	204.00	1840

Average of 7.774 to 7.786 min.: 0629F003.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
205.00	3284	225.00	2029	245.95	1368	276.00	2219
206.00	12839	227.00	3903	246.90	170	277.00	1715
207.00	1663	228.00	303	255.00	33498	284.90	180
208.00	243	229.00	589	255.95	5070	293.00	233
210.00	169	230.90	171	256.90	198	295.95	6051
211.00	441	234.90	197	257.95	2408	296.90	914
216.95	3517	237.00	170	259.00	282	302.90	419
217.90	339	242.00	277	264.95	1058	314.90	606
221.00	2422	243.00	359	273.00	1074	315.90	197
222.95	761	244.00	6380	273.95	3164	322.90	2051
224.00	7938	245.00	675	275.00	16820	324.00	198

Average of 7.774 to 7.786 min.: 0629F003.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

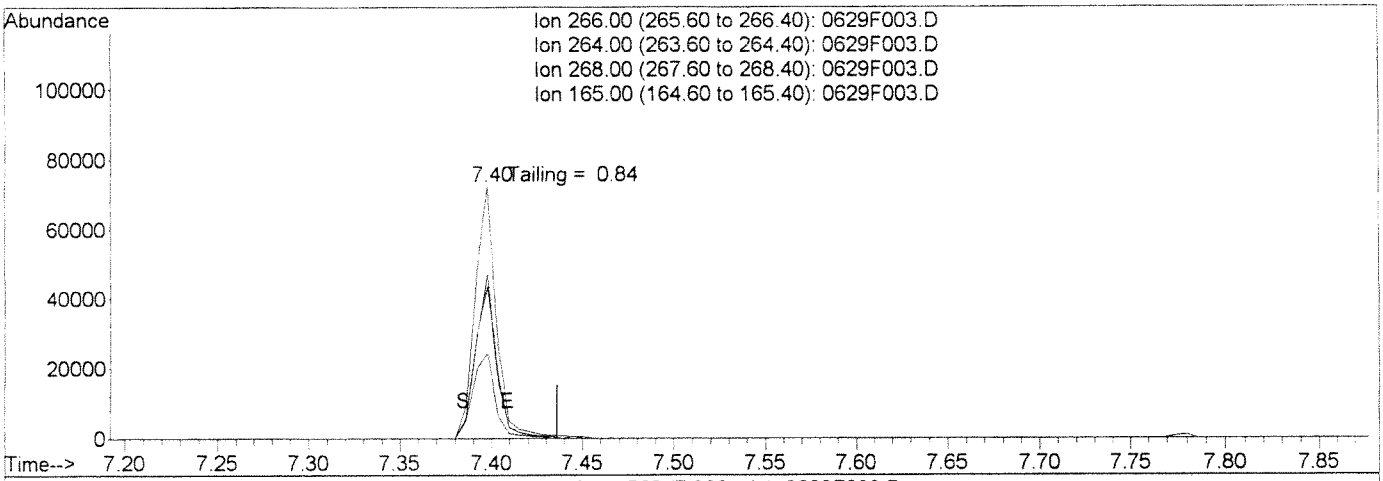
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
326.90	210	402.00	343				
333.95	1431	402.95	726				
334.90	244	420.95	657				
346.00	241	421.95	781				
352.00	784	423.00	5770				
353.00	255	424.00	1066				
354.00	331	441.00	16305				
364.90	3829	442.00	114194				
365.90	282	443.00	22444				
372.00	1208	444.00	2112				
382.90	238						

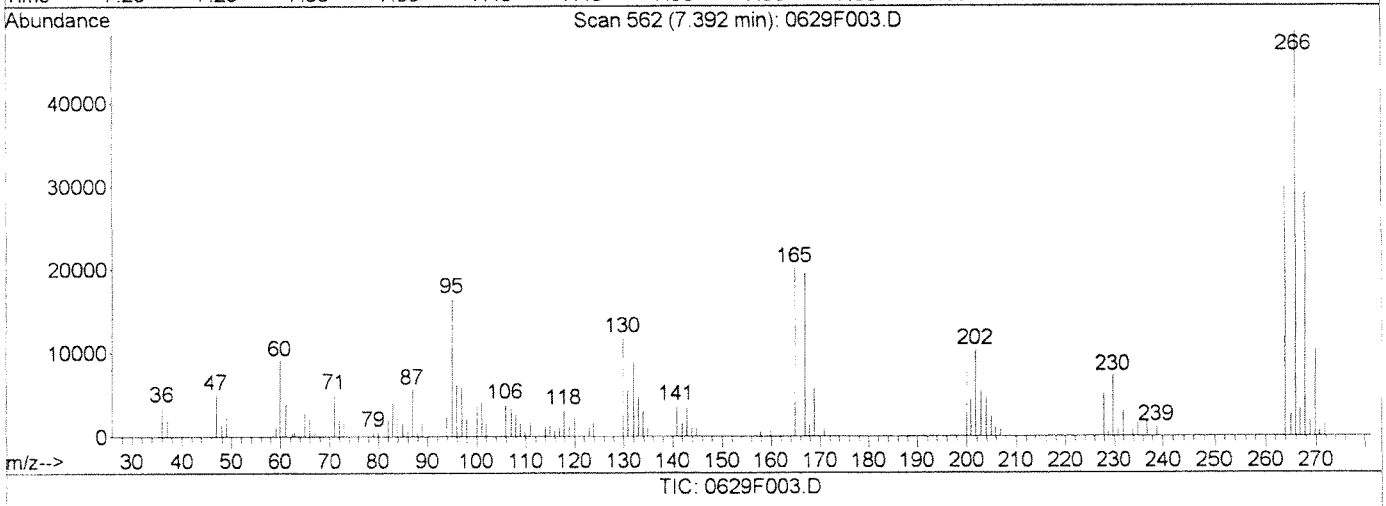
JUN 3 0 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F003.D Vial: 2
Acq On : 29 Jun 2014 8:45 am Operator: LWeiskopf
Sample : DFTPP @ 3.0ug/mL | SVM46-66F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 6:30 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





TIC: 0629F003.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

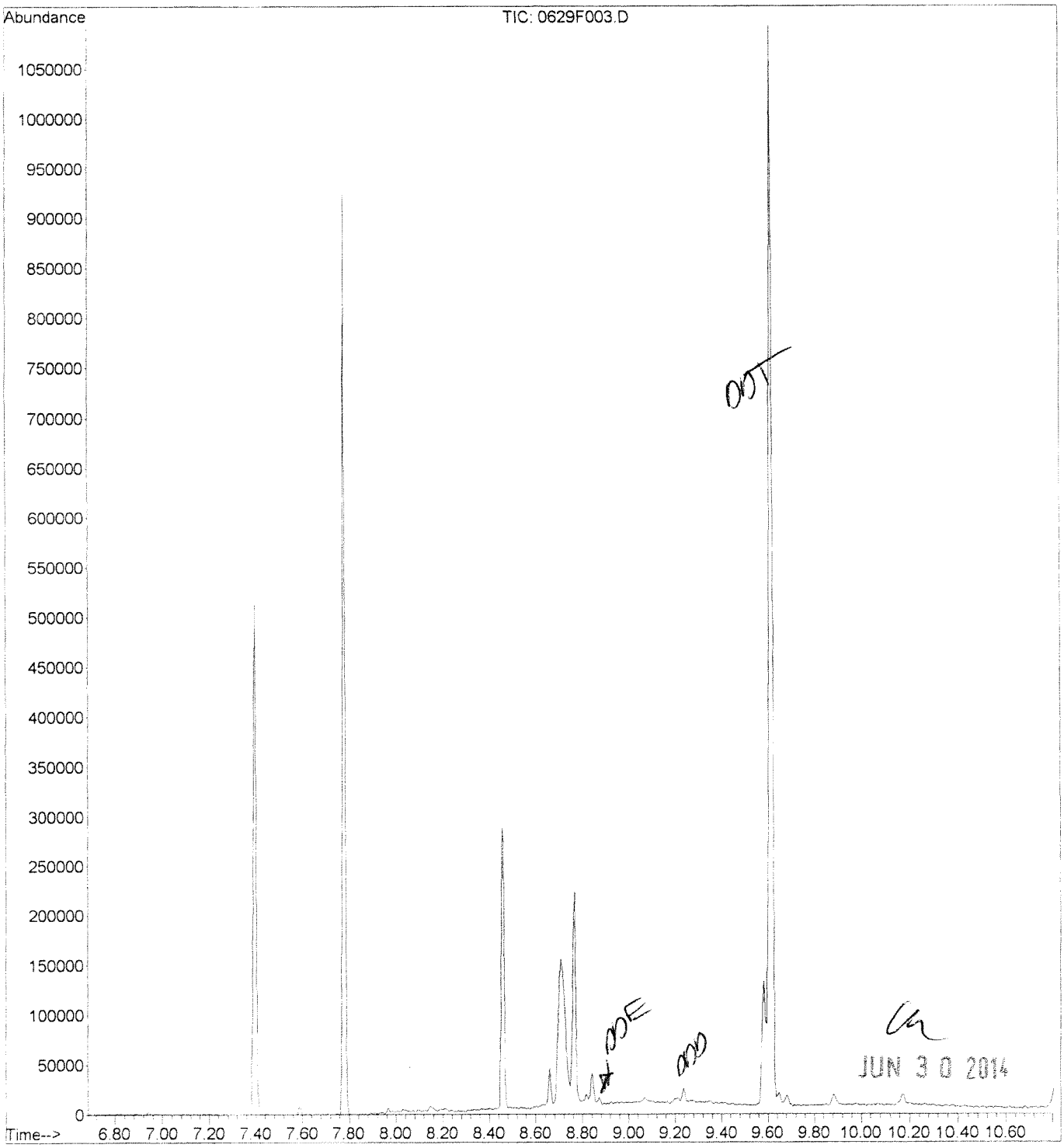
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

JUN 30 2014

0629F003.D DFTPPPAH.M Mon Jun 30 06:30:17 2014

File : J:\MS11\DATA\062914\0629F003.D
Operator : LWeiskopf
Acquired : 29 Jun 2014 8:45 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM46-66F
Misc Info :
Vial Number: 2



1	5.153	rBV	0.053	5338	5.136	5.189
2	5.424	rBV	0.029	1937	5.418	5.447
3	5.482	rVB	0.024	1295	5.471	5.494
4	5.623	rBV	0.029	821.00	5.606	5.635
5	5.770	rBV	0.024	568.00	5.753	5.776
6	5.788	rVB	0.024	950.00	5.776	5.800
7	5.864	rVB	0.035	829.00	5.847	5.882
8	5.900	rVB	0.029	1584	5.882	5.911
9	5.952	rBV	0.035	1497	5.935	5.970
10	6.017	rVV	0.041	893.00	6.005	6.046
11	6.052	rVB	0.047	902.00	6.046	6.093
12	6.140	rBV	0.029	1719	6.123	6.152
13	6.205	rBV	0.024	866.00	6.187	6.211
14	6.311	rVB	0.053	2160	6.293	6.346
15	6.364	rBV	0.018	401.00	6.352	6.370
16	6.434	rVB	0.047	1633	6.405	6.452
17	6.475	rBV	0.018	324.00	6.470	6.487
18	6.517	rVB	0.024	599.00	6.499	6.522
19	6.528	rBV	0.024	907.00	6.522	6.546
20	6.599	rVV	0.065	2069	6.575	6.640
21	6.652	rVB	0.035	727.00	6.640	6.675
22	6.681	rVB	0.029	1327	6.675	6.705
23	6.710	rBV	0.029	1356	6.705	6.734
24	6.775	rVV	0.035	639.00	6.763	6.799
25	6.822	rVV	0.047	1260	6.799	6.846
26	6.887	rVB	0.047	1835	6.869	6.916
27	6.940	rBV	0.041	2861	6.916	6.957
28	6.981	rVB	0.035	1052	6.957	6.992
29	6.998	rBB	0.029	372.00	6.992	7.022
30	7.034	rBB	0.018	215.00	7.028	7.045
31	7.057	rBB	0.018	204.00	7.051	7.069
32	7.075	rBB	0.012	221.00	7.069	7.081
33	7.092	rBB	0.018	389.00	7.081	7.098
34	7.110	rBB	0.024	425.00	7.098	7.122
35	7.133	rBB	0.018	223.00	7.128	7.145
36	7.151	rBB	0.012	199.00	7.145	7.157
37	7.175	rBB	0.018	377.00	7.169	7.186
38	7.210	rBB	0.029	739.00	7.186	7.216
39	7.233	rBB	0.024	368.00	7.222	7.245
40	7.263	rBB	0.024	189.00	7.251	7.274
41	7.398	rBB	0.094	430935	7.368	7.462
42	7.468	rBB	0.018	182.00	7.462	7.480
43	7.586	rBB	0.041	6274	7.568	7.609
44	7.633	rBB	0.024	198.00	7.621	7.645
45	7.709	rBB	0.029	630.00	7.692	7.721
46	7.780	rBB	0.088	612022	7.733	7.821
47	7.844	rBB	0.018	178.00	7.833	7.850
48	7.856	rBB	0.024	367.00	7.850	7.874
49	7.891	rBB	0.024	1168	7.880	7.903
50	7.909	rBV	0.018	1530	7.903	7.921
51	7.944	rBV	0.035	1108	7.921	7.956
52	7.968	rBV	0.024	4575	7.956	7.980
53	8.027	rBV	0.053	4112	8.015	8.068
54	8.091	rBV	0.029	1950	8.079	8.109
55	8.115	rBV	0.012	900.00	8.109	8.121
56	8.144	rBV	0.047	8287	8.132	8.179
57	8.209	rVB	0.047	4780	8.179	8.226
58	8.267	rVB	0.041	1330	8.256	8.297
59	8.338	rBV	0.059	5579	8.297	8.356
60	8.455	rBV	0.071	241797	8.432	8.502
61	8.661	rBV	0.088	44120	8.585	8.673

62	8.708	rVV	0.076	315523	8.673	8.749	
63	8.767	rVV	0.047	202220	8.749	8.796	
64	8.814	rVV	0.029	12507	8.796	8.826	
65	8.843	rVV	0.035	29612	8.826	8.861	
66	8.873	rVB	0.035	ODE 4499	8.861	8.896	
67	9.213	rBV	0.047	11043	9.178	9.225	
68	9.237	rVB	0.029	ODD 11248	9.225	9.254	
69	9.613	rBV	0.118	ODT 1291469	9.548	9.666	
70	9.683	rVB	0.041	13769	9.666	9.707	
71	9.883	rBV	0.071	18496	9.860	9.930	
72	10.171	rBV	0.053	13634	10.142	10.195	
73	10.811	rBV	0.082	42310	10.770	10.853	
74	11.376	rBV	0.018	1615	11.370	11.387	
75	11.464	rBV	0.047	2863	11.428	11.475	
76	11.605	rVB	0.106	56442	11.564	11.669	
77	11.763	rVB	0.053	2760	11.728	11.781	
78	11.863	rBV	0.024	983.00	11.857	11.881	
79	11.934	rVB	0.029	2099	11.916	11.945	
80	11.998	rBV	0.024	1248	11.987	12.010	
81	12.051	rBV	0.029	1643	12.034	12.063	
82	12.186	rBV	0.035	3727	12.175	12.210	
83	12.316	rBV	0.029	3688	12.292	12.321	
84	12.363	rBV	0.029	2770	12.351	12.380	
85	12.392	rVV	0.035	2210	12.380	12.415	
86	12.480	rBV	0.029	1525	12.462	12.492	
87	12.504	rBV	0.018	1370	12.492	12.509	
88	12.592	rBV	0.129	155148	12.533	12.662	
89	13.843	rVB	0.147	191263	13.779	13.925	
90	14.319	rBV	0.053	5011	14.290	14.343	
91	14.396	rBV	0.035	3406	14.378	14.413	
92	14.495	rVB	0.053	3147	14.478	14.531	
93	14.572	rBV	0.029	3110	14.554	14.584	
94	14.801	rBV	0.053	5051	14.754	14.807	
95	14.889	rBV	0.029	1569	14.871	14.901	
96	14.942	rVV	0.041	3562	14.924	14.965	
97	15.001	rVB	0.029	1471	14.989	15.018	
98	15.048	rBV	0.029	1344	15.036	15.065	
99	15.142	rBV	0.029	1822	15.130	15.159	
100	15.289	rBV	0.024	1453	15.277	15.300	
101	15.430	rVB	0.170	274236	15.347	15.518	
102	16.505	rBV	0.106	348170	16.458	16.564	
103	17.163	rVB	0.300	1427824	17.098	17.398	
104	17.780	rVB	0.094	298198	17.745	17.839	
105	18.426	rVB	0.112	265090	18.391	18.502	
106	19.125	rVB	0.100	185820	19.096	19.196	
107	19.889	rVB	0.100	160189	19.866	19.965	

ODT Breakdown
= 1.2% ✓

6/Jony

JUN 30 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F005.D Vial: 3
Acq On : 29 Jun 2014 9:39 am Operator: LWeiskopf
Sample : IB Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 06:11:43 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.94	136	56069	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.33	164	42211	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.56	188	79919	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	102443	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	105701	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	0.00	176	0d	0.00	ng/ml	
Spiked Amount 1000.000			Recovery =	0.00%		
20) 2,4,6 Tribromophenol	0.00	330	0	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	0.00	212	0d	0.00	ng/ml	
Spiked Amount 1000.000			Recovery =	0.00%		
43) Terphenyl-d14	8.93	244	81	0.16	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.02%		
Target Compounds						Qvalue
5) Biphenyl	5.85	154	78m	0.31	ng/ml	
29) Carbazole	7.76	167	80m	0.20	ng/ml	
44) Benz(a)anthracene	10.31	228	419	0.67	ng/ml	79
45) Chrysene	10.36	228	151m	0.27	ng/ml	
51) Benzo(b)fluoranthene	12.74	252	184m	0.27	ng/ml	
52) Benzo(k)fluoranthene	12.82	252	211	0.33	ng/ml	56
53) Benzo(e)pyrene	13.58	252	245	0.39	ng/ml	73
54) Benzo(a)pyrene	13.78	252	206	0.35	ng/ml	86
55) Perylene	14.05	252	159	0.27	ng/ml	76
56) Indeno(1,2,3-cd)pyrene	17.07	276	478m	0.83	ng/ml	
57) Dibenz(a,h)anthracene	17.14	278	580m	0.96	ng/ml	
58) Benzo(g,h,i)perylene	17.49	276	657	0.97	ng/ml	88

MRL

JUN 30 2014

(#) = qualifier out of range (m) = manual integration
0629F005.D 062914ALK.M Mon Jun 30 06:29:39 2014 Page 1

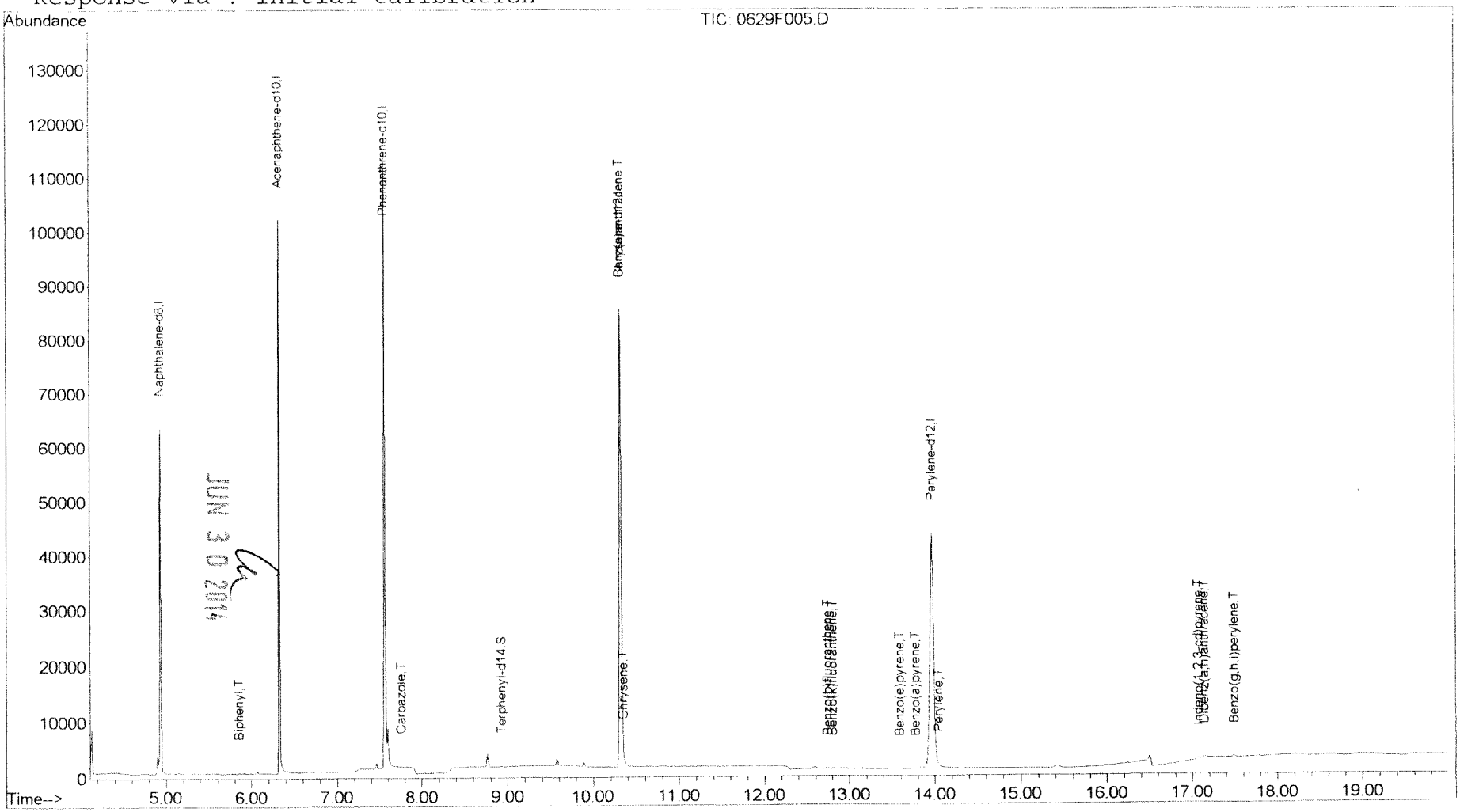
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F005.D
Acq On : 29 Jun 2014 9:39 am
Sample : IB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 6:29 2014

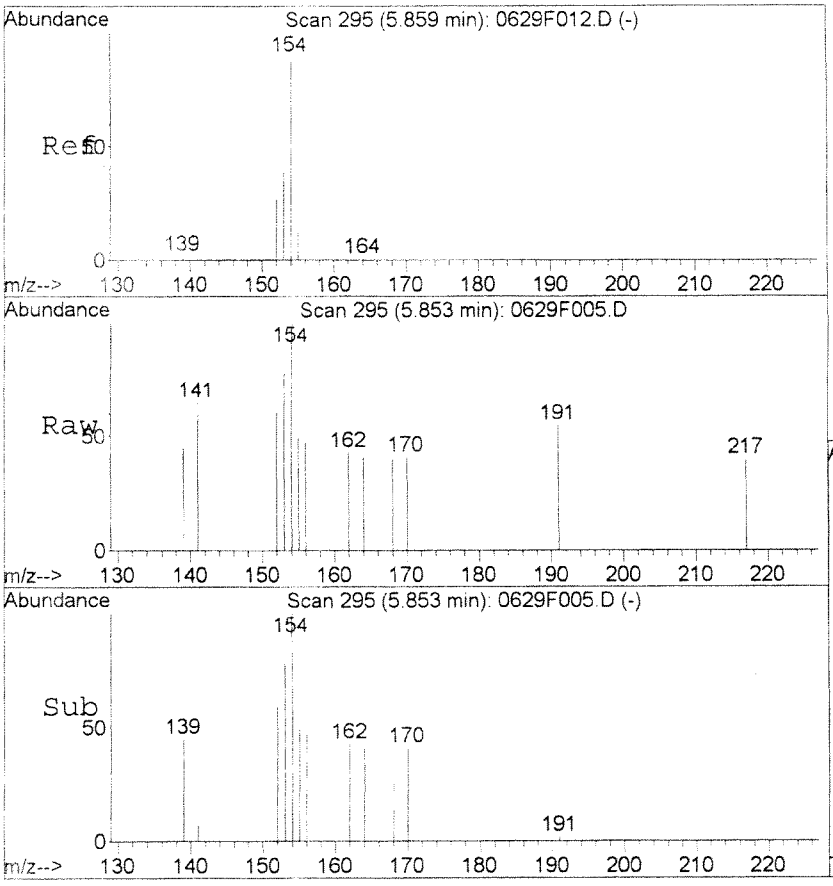
Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration



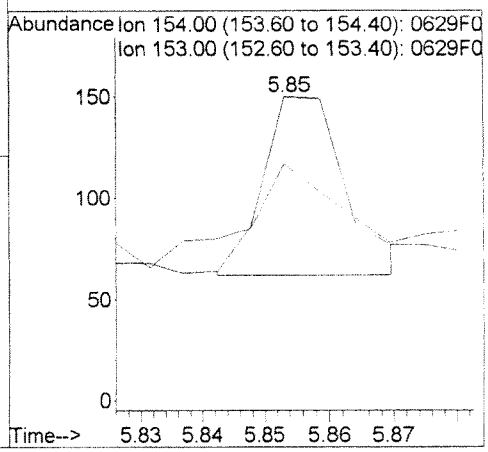
832

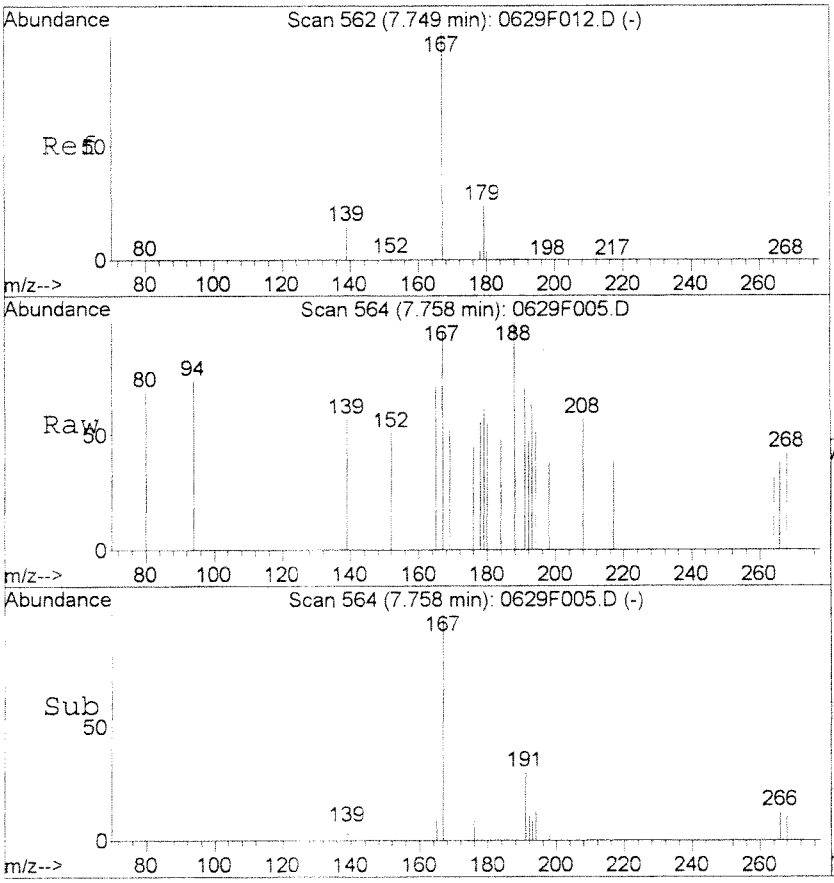


#5
Biphenyl
Concen: 0.31 ng/ml m
RT: 5.85 min Scan# 295
Delta R.T. -0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:154 Resp: 78

Ion	Ratio	Lower	Upper
154	100		
153	78.0	10.0	70.0#

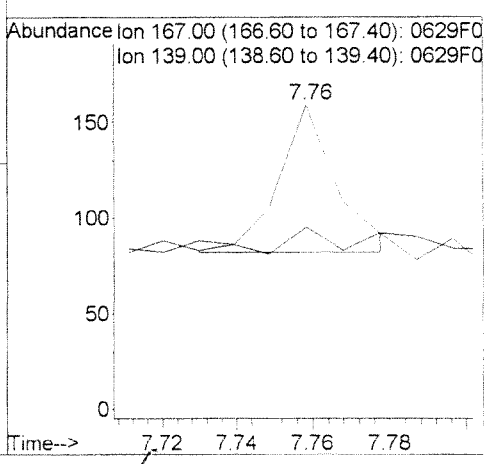




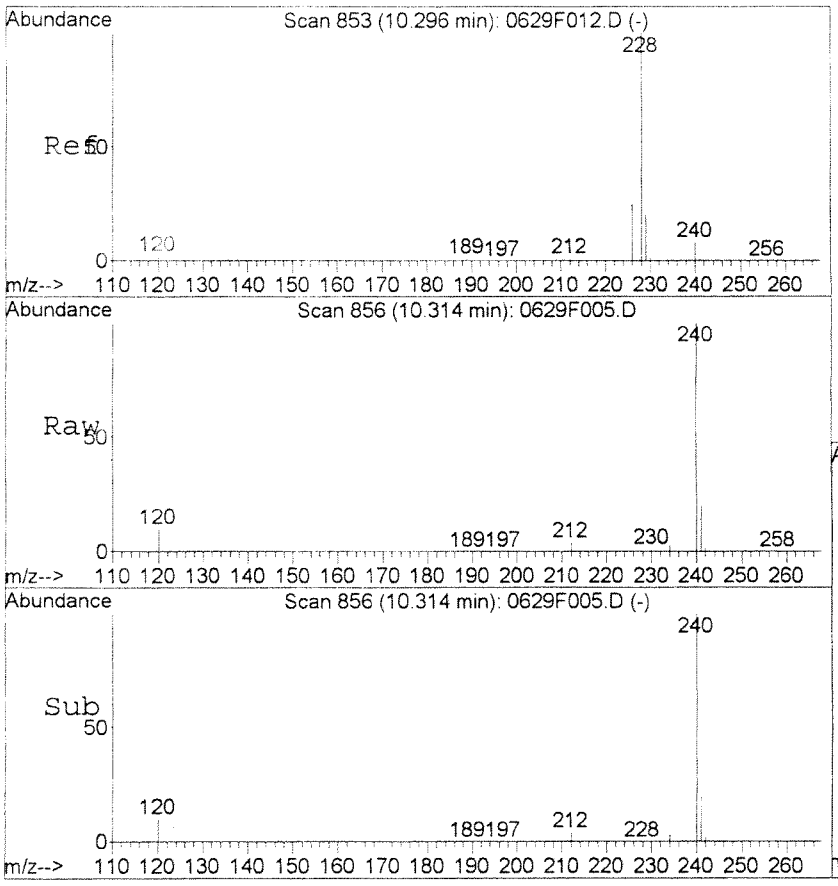
#29
Carbazole
Concen: 0.20 ng/ml m
RT: 7.76 min Scan# 564
Delta R.T. 0.00 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:167 Resp: 80

Ion	Ratio	Lower	Upper
167	100		
139	59.7	0.0	39.5#



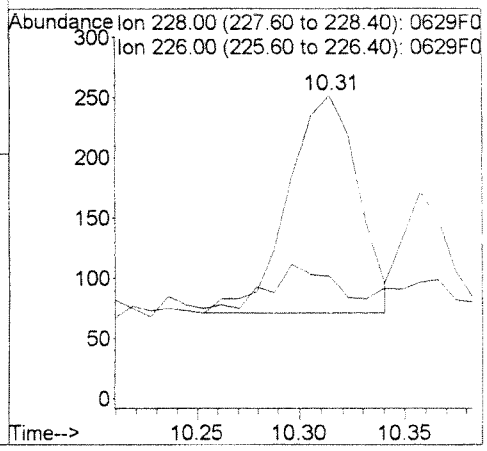
JUN 3 0 2014

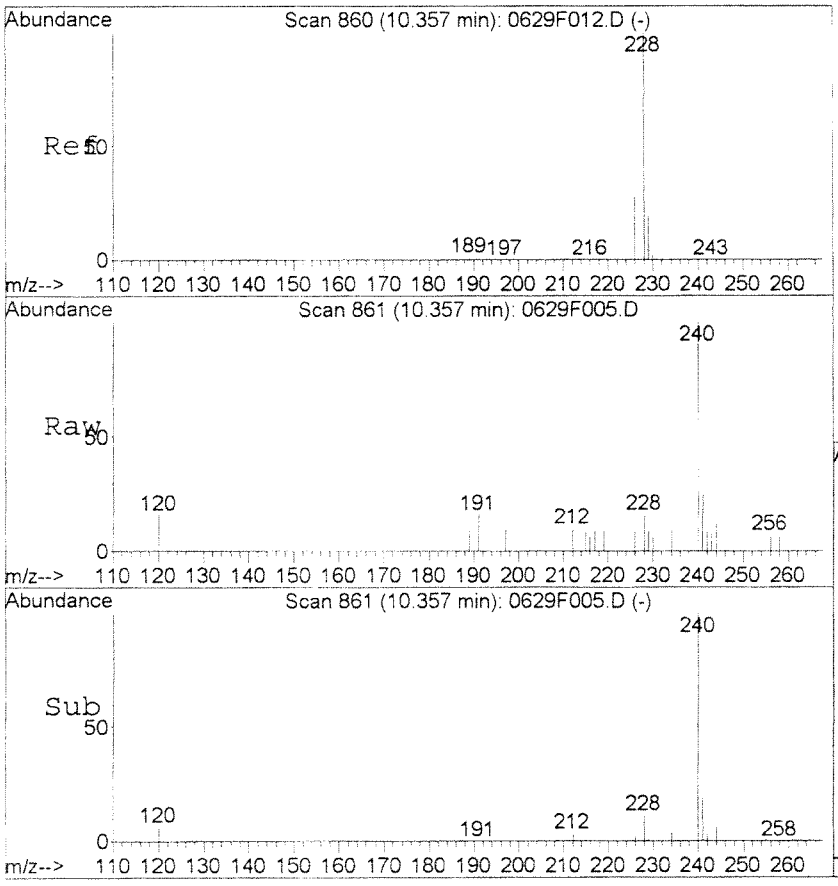


#44
Benz(a)anthracene
Concen: 0.67 ng/ml
RT: 10.31 min Scan# 856
Delta R.T. 0.02 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:228 Resp: 419

Ion	Ratio	Lower	Upper
228	100		
226	14.9	0.0	55.7

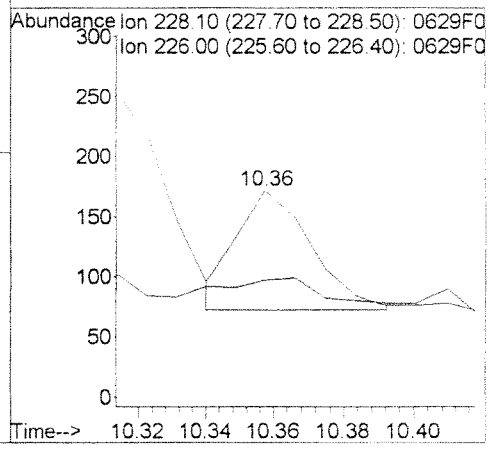




#45
Chrysene
Concen: 0.27 ng/ml m
RT: 10.36 min Scan# 861
Delta R.T. -0.00 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:228 Resp: 151

Ion	Ratio	Lower	Upper
228	100		
226	56.4	0.0	57.9



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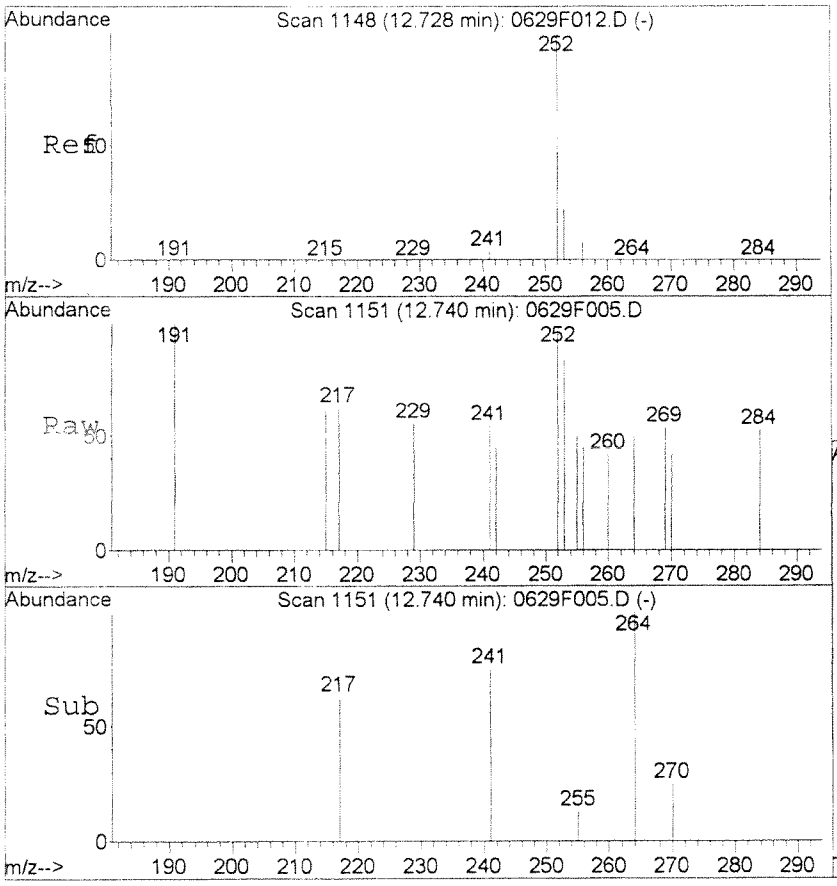
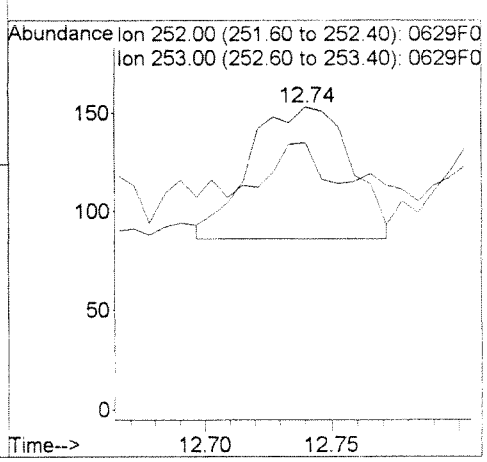
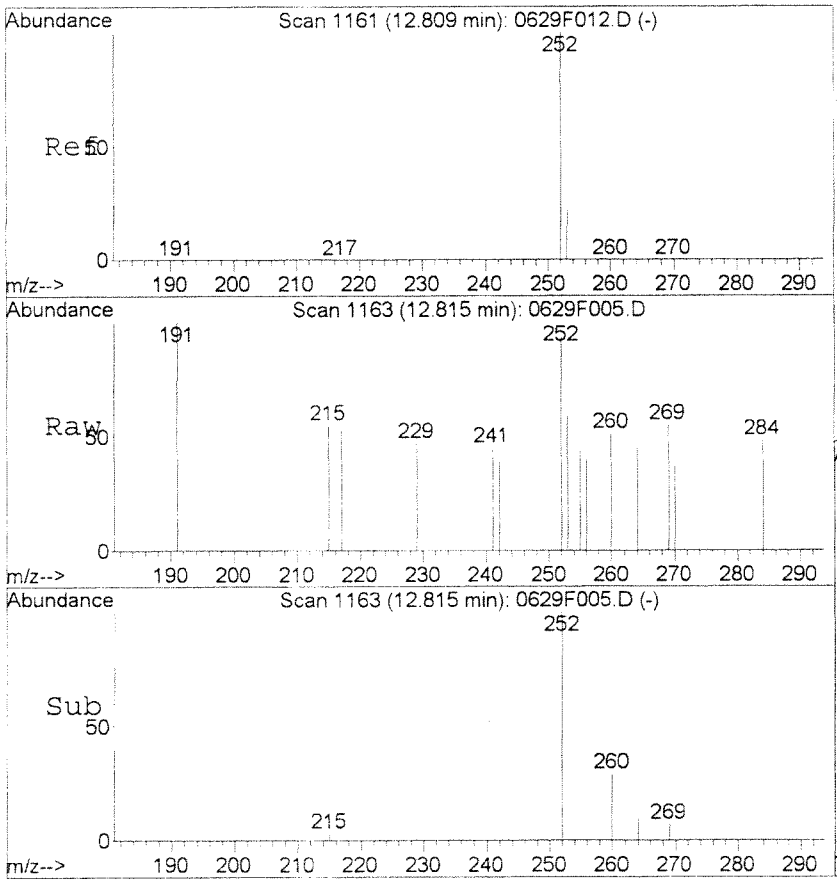


#51
Benzo(b)fluoranthene
Concen: 0.27 ng/ml m
RT: 12.74 min Scan# 1151
Delta R.T. 0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:252 Resp: 184

Ion	Ratio	Lower	Upper
252	100		
253	88.2	0.0	52.5#

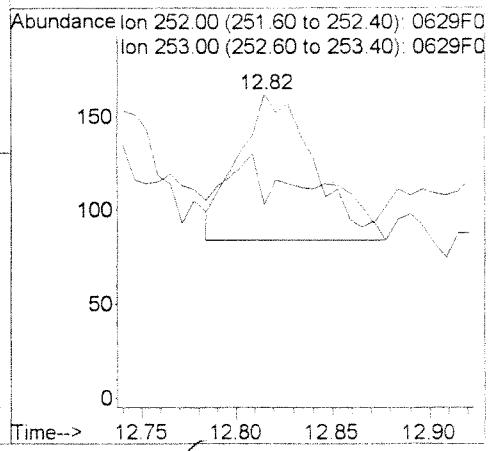




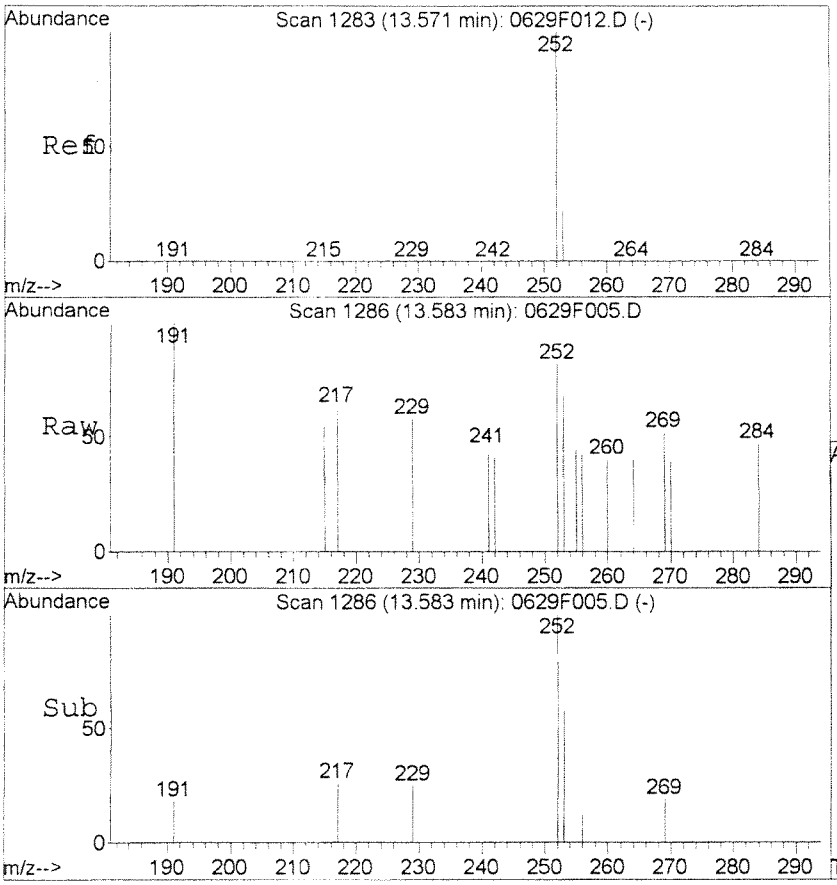
#52
Benzo(k)fluoranthene
Concen: 0.33 ng/ml
RT: 12.82 min Scan# 1163
Delta R.T. 0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:252 Resp: 211

Ion	Ratio	Lower	Upper
252	100		
253	1.3	0.0	52.3



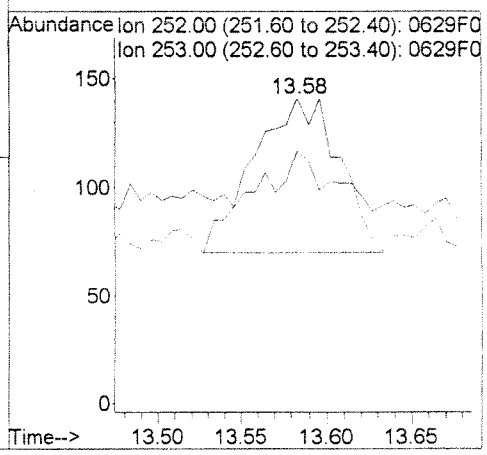
JUN 3 0 2014

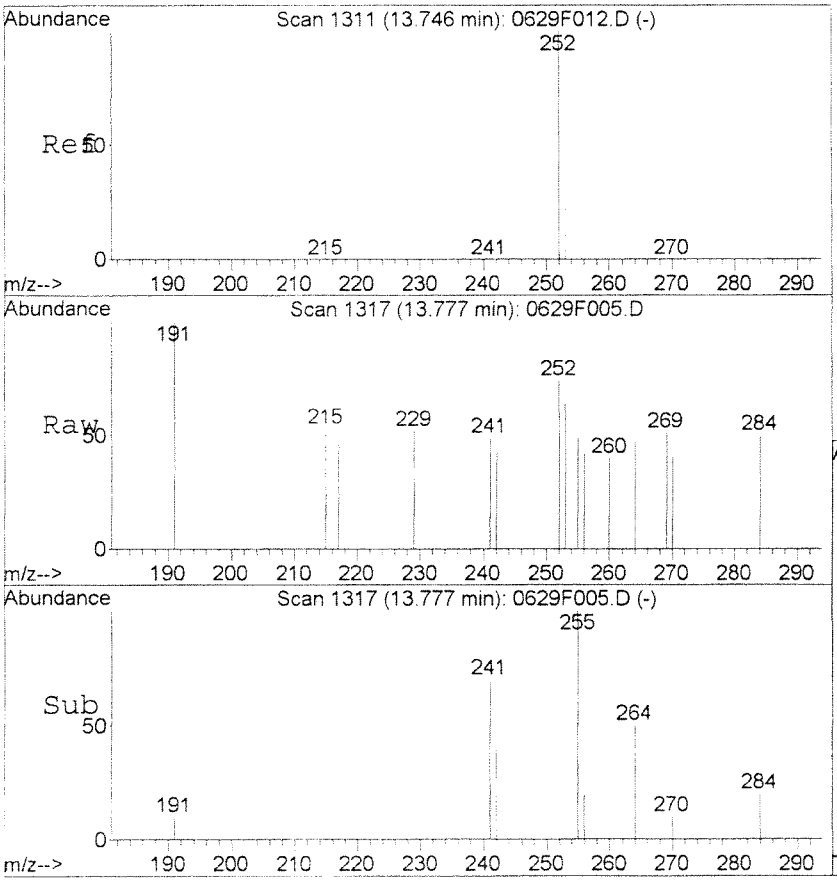


#53
Benzo(e)pyrene
Concen: 0.39 ng/ml
RT: 13.58 min Scan# 1286
Delta R.T. 0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:252 Resp: 245

Ion	Ratio	Lower	Upper
252	100		
253	35.2	0.0	52.1

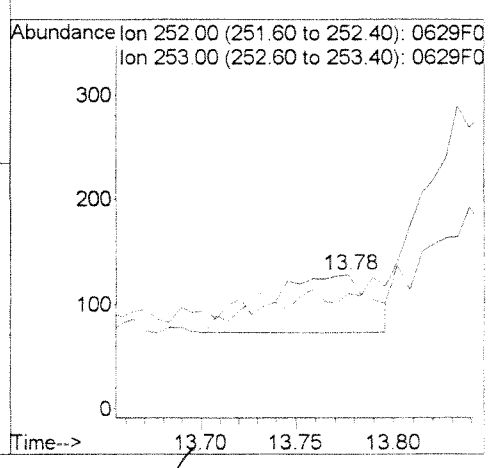




#54
Benzo(a)pyrene
Concen: 0.35 ng/ml
RT: 13.78 min Scan# 1317
Delta R.T. 0.04 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:252 Resp: 206

Ion	Ratio	Lower	Upper
252	100		
253	29.1	0.0	52.5



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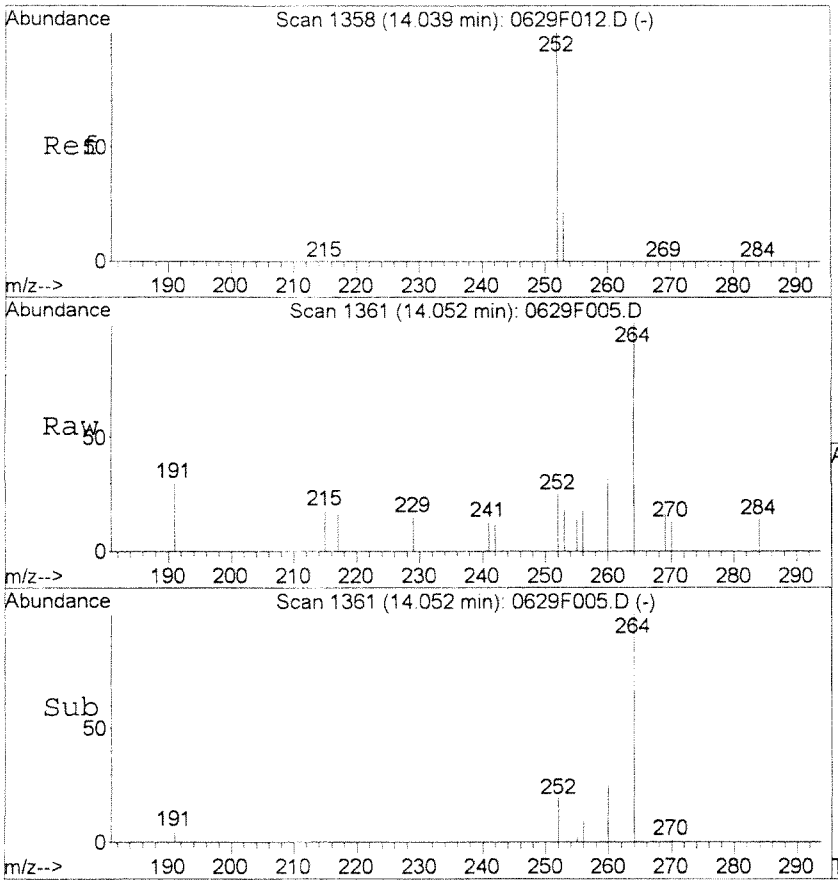
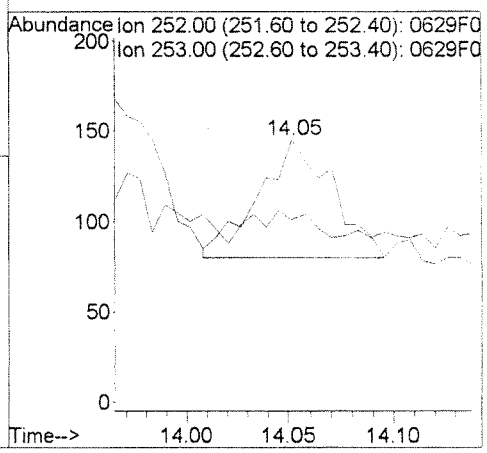
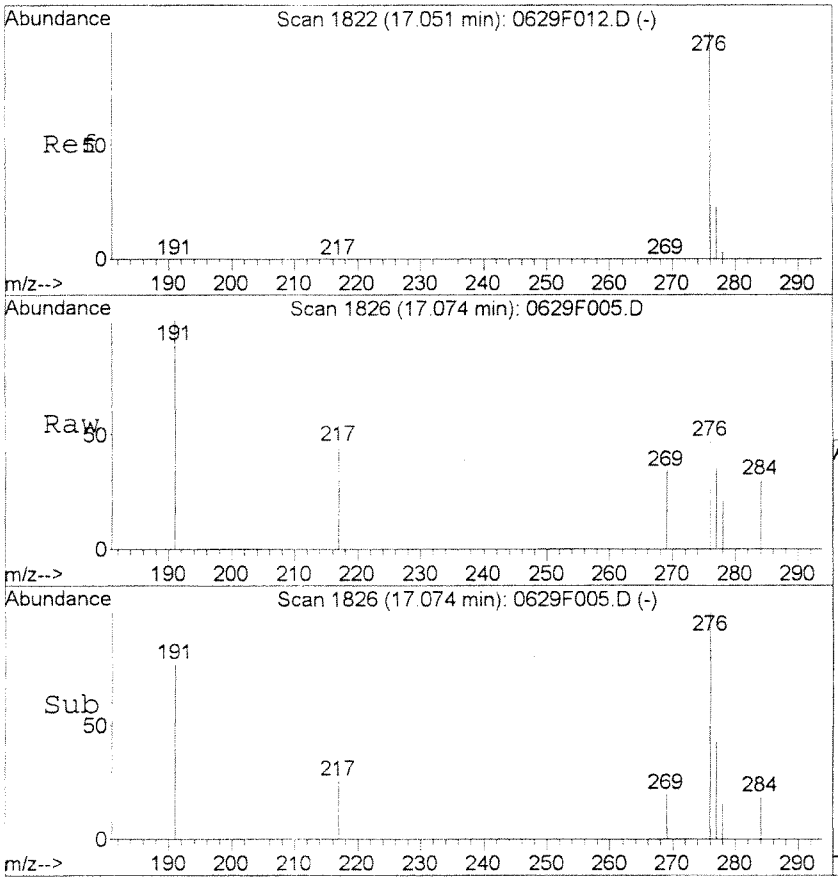


#55
Perylene
Concen: 0.27 ng/ml
RT: 14.05 min Scan# 1361
Delta R.T. 0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

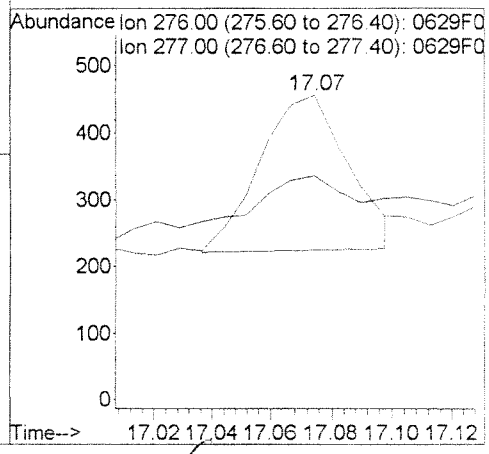
Tgt Ion:252	Resp:	159	
Ion	Ratio	Lower	Upper
252	100		
253	10.8	0.0	52.3



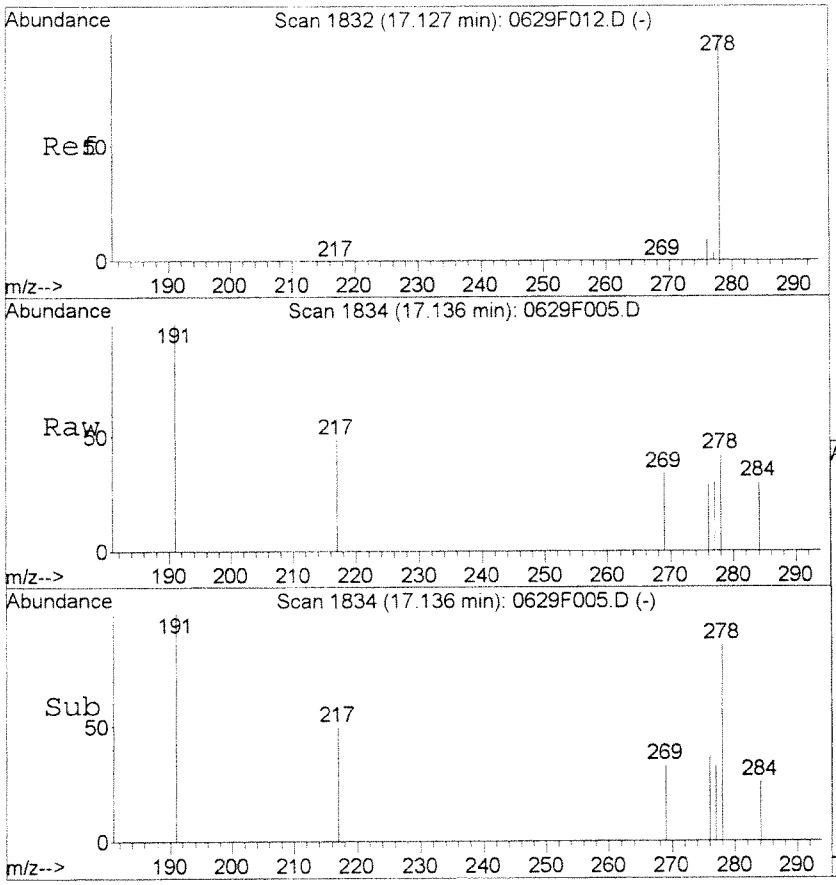


#56
Indeno(1,2,3-cd)pyrene
Concen: 0.83 ng/ml m
RT: 17.07 min Scan# 1826
Delta R.T. 0.02 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:276	Resp:	478	
Ion	Ratio	Lower	Upper
276	100		
277	73.7	0.0	54.0#



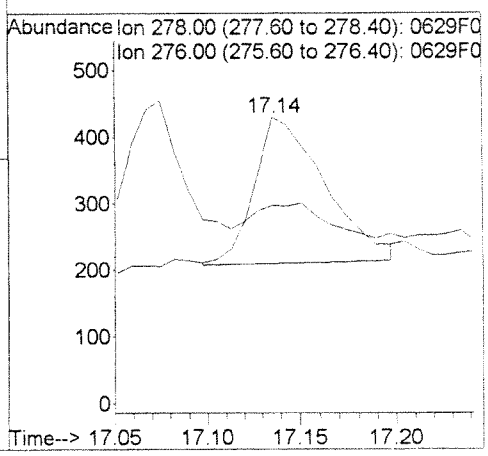
JUN 30 2014

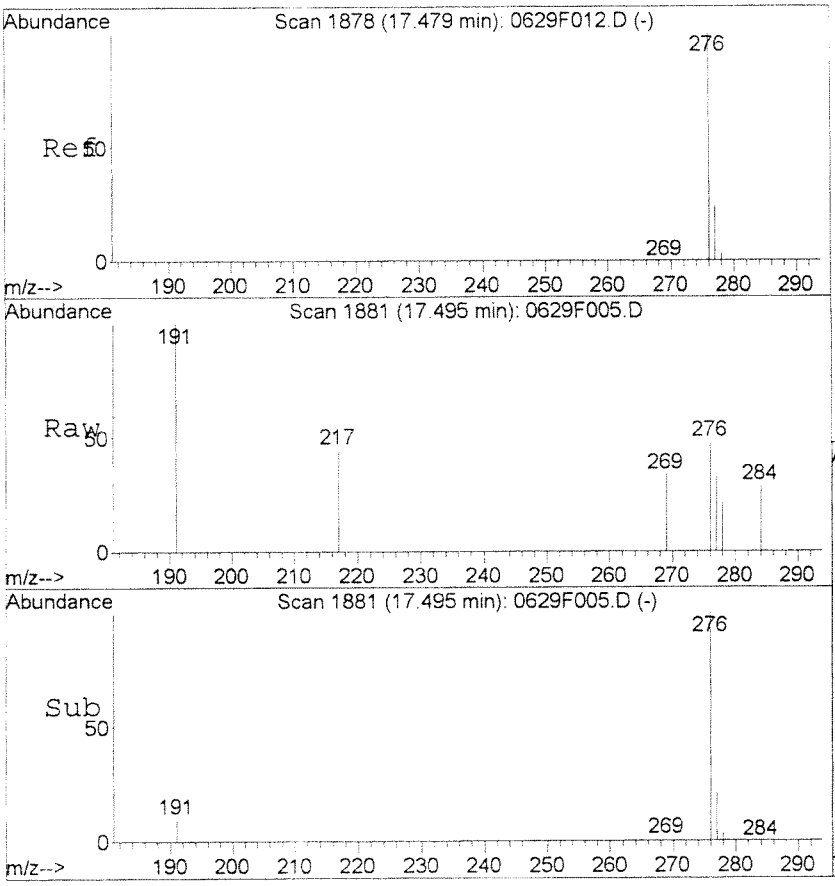


#57
Dibenz(a,h)anthracene
Concen: 0.96 ng/ml m
RT: 17.14 min Scan# 1834
Delta R.T. 0.01 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:278 Resp: 580

Ion	Ratio	Lower	Upper
278	100		
276	69.3	0.0	56.0#

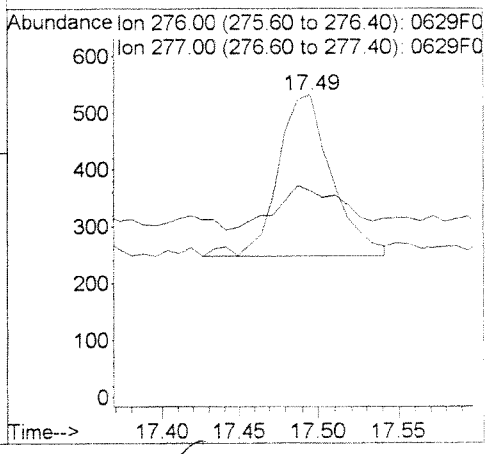




#58
Benzo(g,h,i)perylene
Concen: 0.97 ng/ml
RT: 17.49 min Scan# 1881
Delta R.T. 0.02 min
Lab File: 0629F005.D
Acq: 29 Jun 2014 9:39 am

Tgt Ion:276 Resp: 657

Ion	Ratio	Lower	Upper
276	100		
277	18.0	0.0	54.1



JUN 30 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:08 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	38543	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.34	164	20907	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.57	188	40050	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	48543	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	51402	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	320	2.60	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.26%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.55	212	635m	2.73	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.27%		
43) Terphenyl-d14	8.94	244	526	2.57	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.26%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	484m	2.28	ng/ml	
3) 2-Methylnaphthalene	5.49	142	312m	1.77	ng/ml	
4) 1-Methylnaphthalene	5.57	142	294	1.83	ng/ml	93
5) Biphenyl	5.86	154	348m	1.63	ng/ml	
6) 2,6-Dimethylnaphthalene	5.99	156	225	1.56	ng/ml	89
11) Acenaphthylene	6.22	152	430	2.06	ng/ml	100
12) Acenaphthene	6.36	154	269	2.19	ng/ml	96
13) Dibenzofuran	6.50	168	349m	1.77	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.67	170	240	1.98	ng/ml#	51
16) Fluorene	6.78	166	311	2.03	ng/ml	88
23) Dibenzothiophene	7.48	184	514	2.47	ng/ml	91
27) Phenanthrene	7.58	178	586	2.61	ng/ml	99
28) Anthracene	7.62	178	518m	2.32	ng/ml	
29) Carbazole	7.77	167	482m	2.45	ng/ml	
30) 1-Methylphenanthrene	8.08	192	397	2.26	ng/ml	97
35) Fluoranthene	8.56	202	593m	2.25	ng/ml	
38) Pyrene	8.78	202	645m	2.53	ng/ml	
44) Benz(a)anthracene	10.30	228	762	2.69	ng/ml	98
45) Chrysene	10.36	228	646	2.62	ng/ml	88
51) Benzo(b)fluoranthene	12.73	252	774	2.53	ng/ml	90
52) Benzo(k)fluoranthene	12.81	252	721	2.49	ng/ml	89
53) Benzo(e)pyrene	13.58	252	707	2.52	ng/ml	91
54) Benzo(a)pyrene	13.76	252	660m	2.52	ng/ml	
55) Perylene	14.05	252	652	2.43	ng/ml	93
56) Indeno(1,2,3-cd)pyrene	17.07	276	569m	2.13	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:08 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	653	2.30	ng/ml	85
58)	Benzo(g,h,i)perylene	17.49	276	692m	2.37	ng/ml	

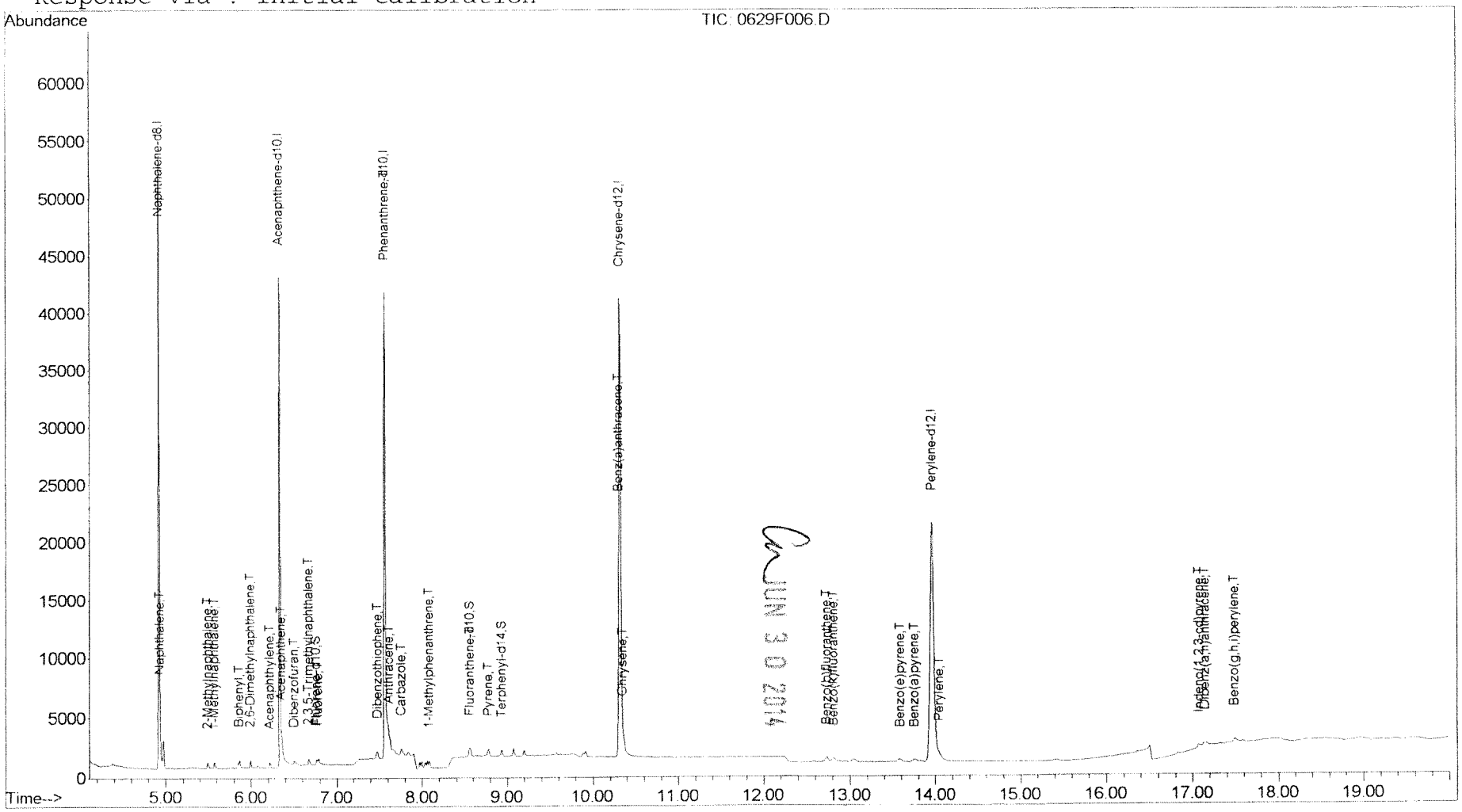
JUN 3 0 2014

(#) = qualifier out of range (m) = manual integration
0629F006.D 062914ALK.M Mon Jun 30 06:27:30 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: 062914ALK.RES

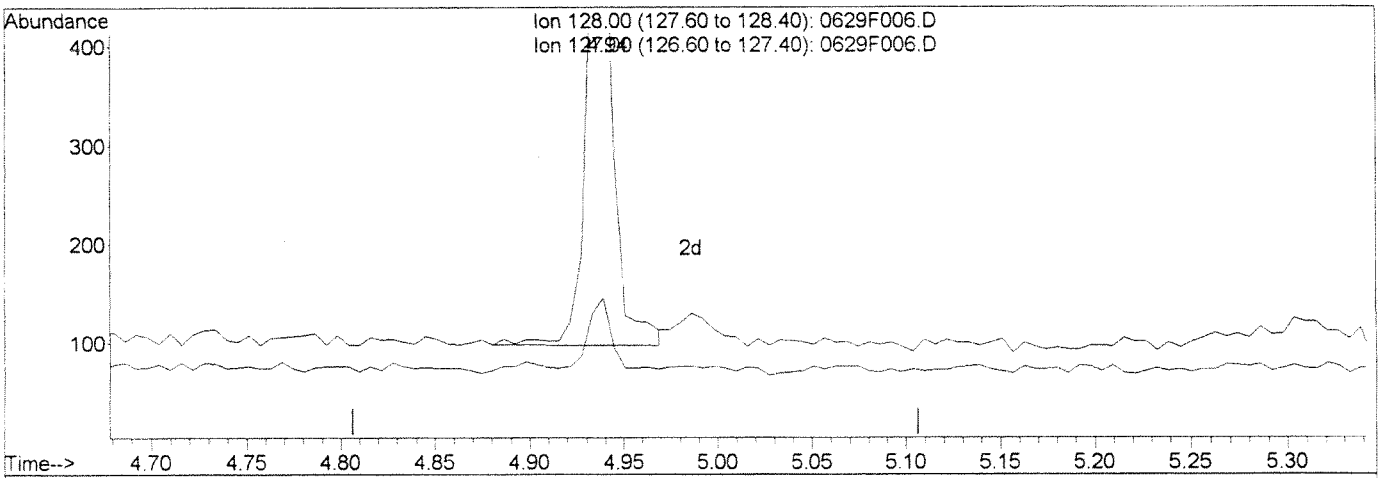
Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration

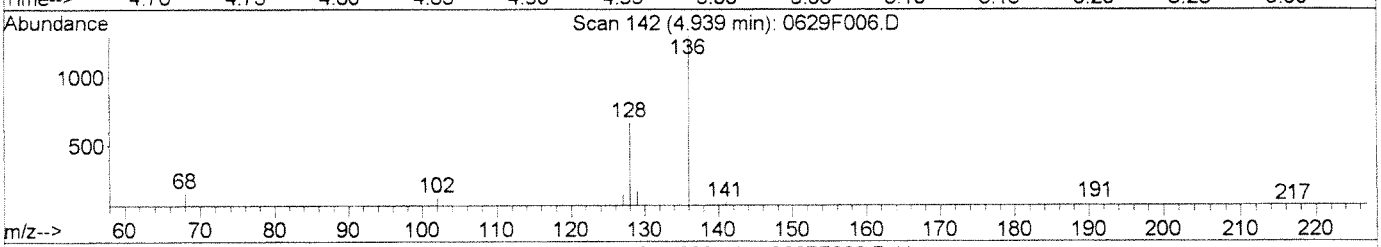


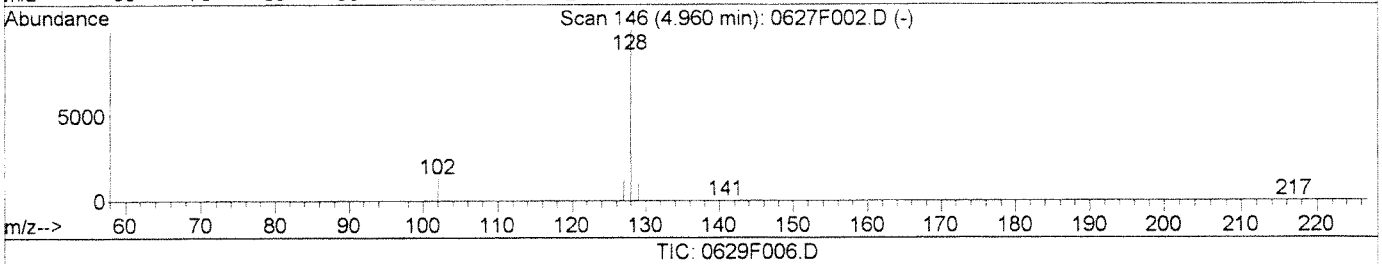
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(2) Naphthalene (T)

4.94min 2.35ng/ml

response 499

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	12.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

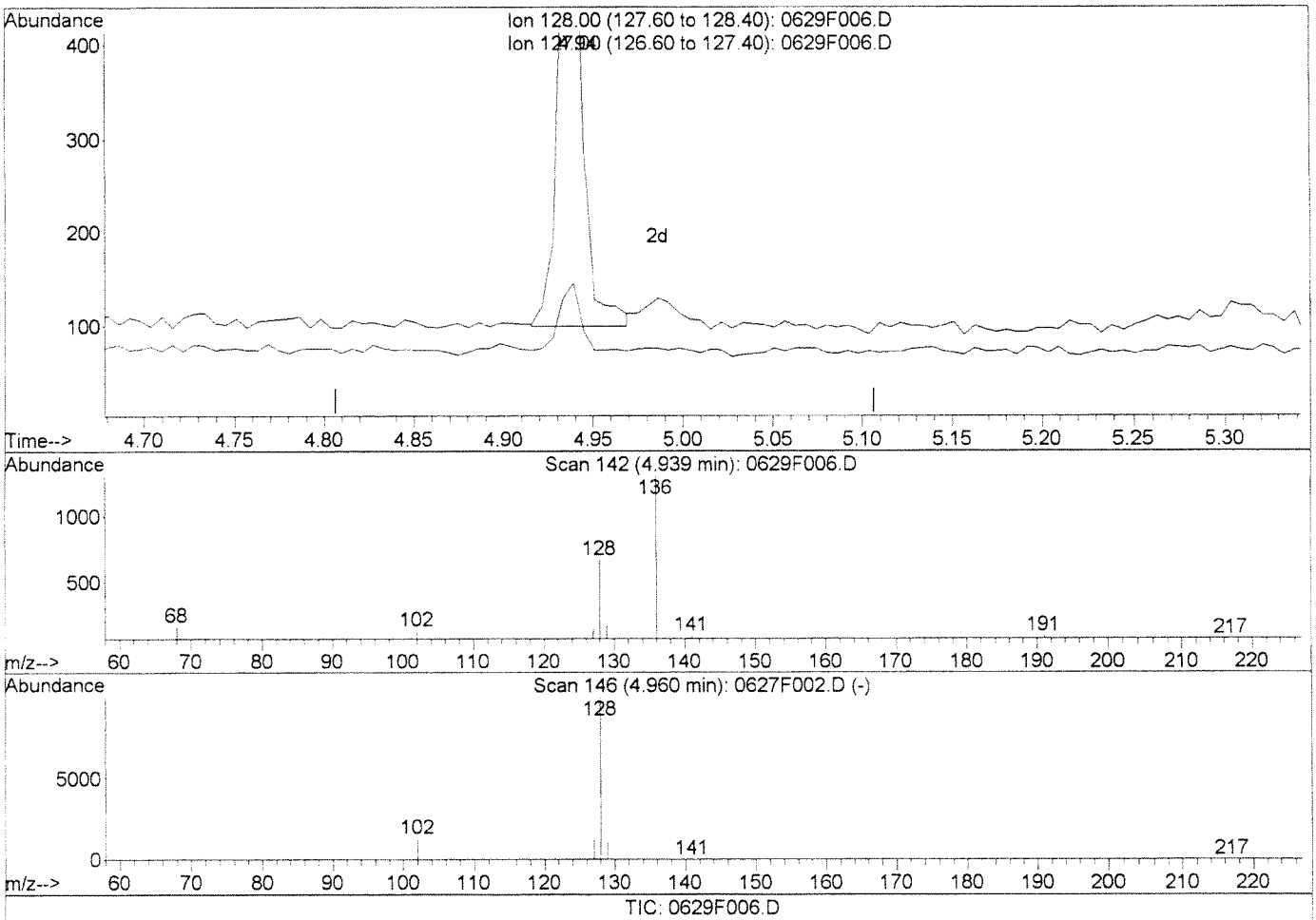
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:06:52 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(2) Naphthalene (T)

4.94min 2.28ng/ml m

response 484

Ion	Exp%	Act%
128.00	100	100
127.00	13.10	21.79
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

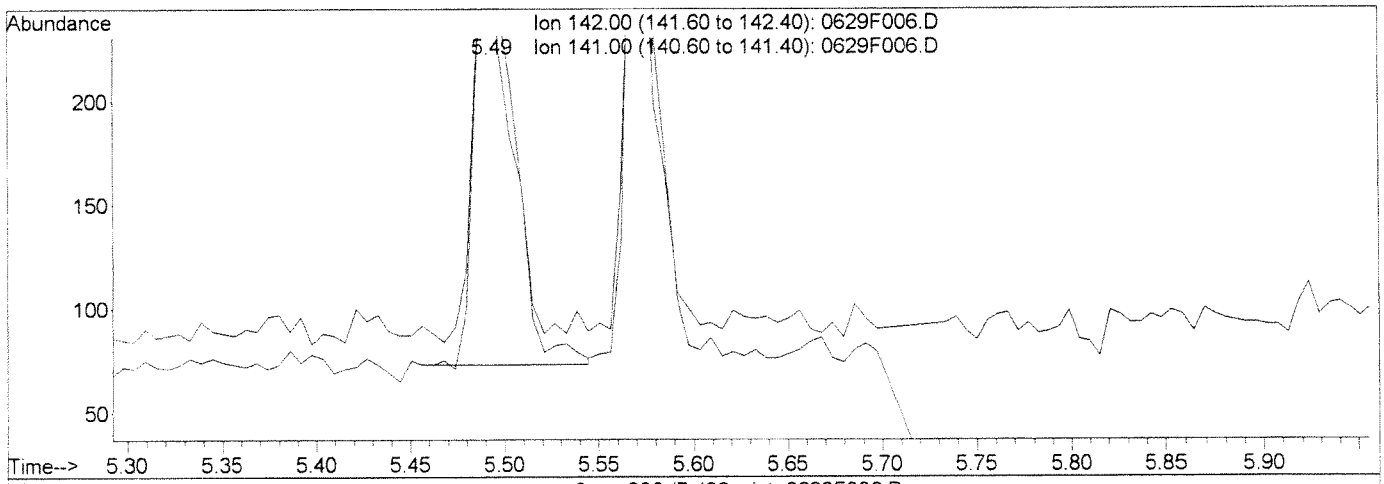
06/30/14

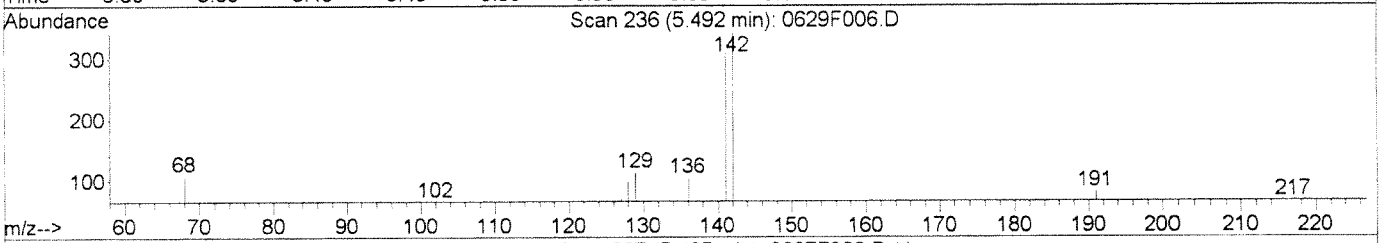
0629F006.D 062914ALK.M Mon Jun 30 05:06:56 2014

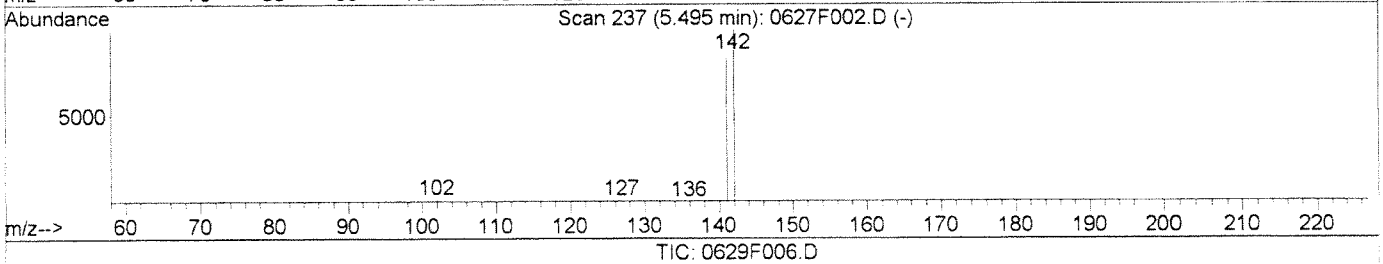
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(3) 2-Methylnaphthalene (T)

5.49min 1.79ng/ml

response 316

Ion	Exp%	Act%
142.00	100	100
141.00	84.90	82.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

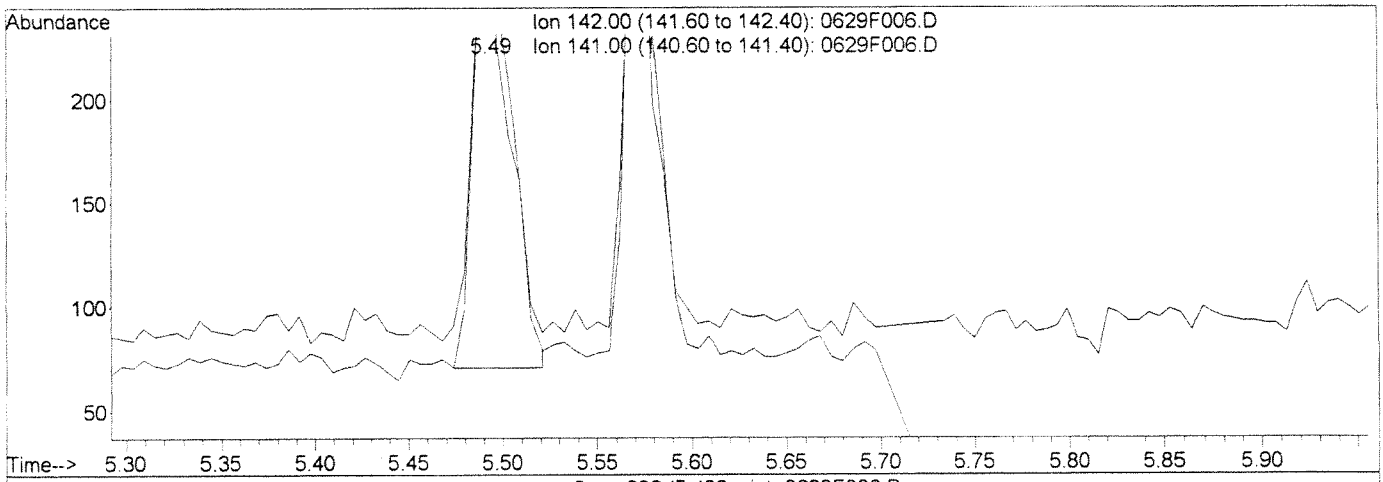
06/30/14

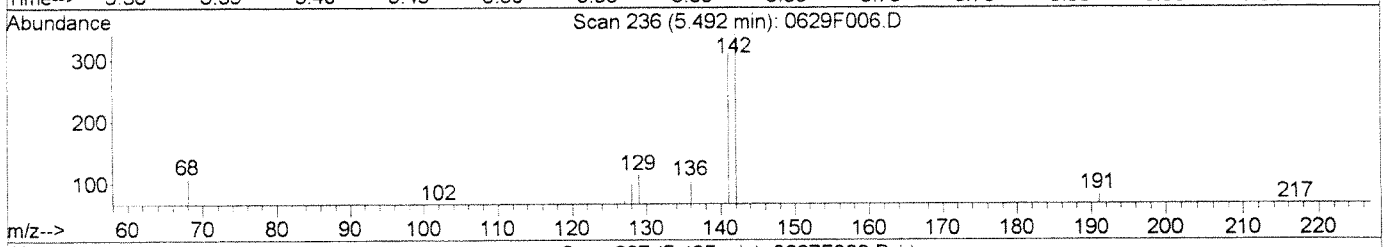
0629F006.D 062914ALK.M Mon Jun 30 05:06:59 2014

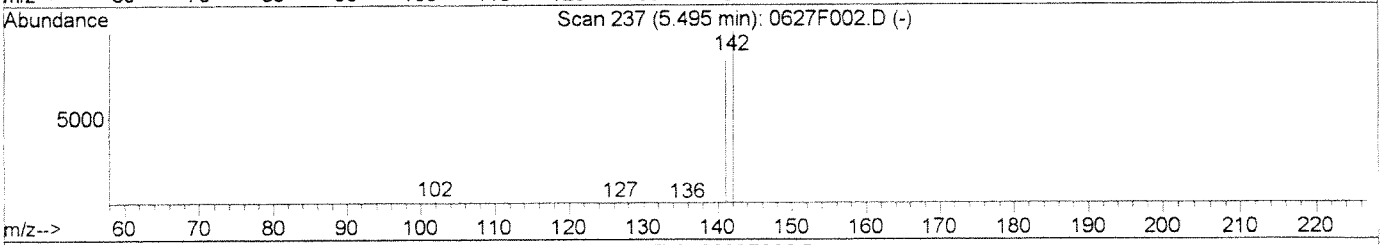
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(3) 2-Methylnaphthalene (T)

5.49min 1.77ng/ml m

response 312

Ion	Exp%	Act%
142.00	100	100
141.00	84.90	90.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:03 2014

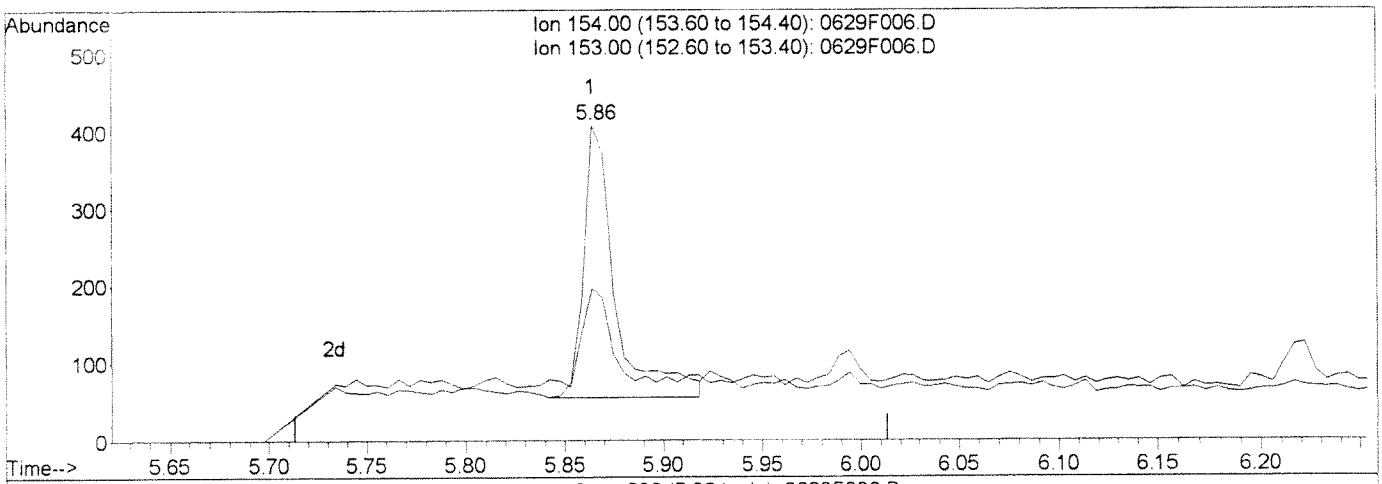
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(5) Biphenyl (T)

5.86min 1.85ng/ml

response 394

Ion	Exp%	Act%
154.00	100	100
153.00	40.00	33.43
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

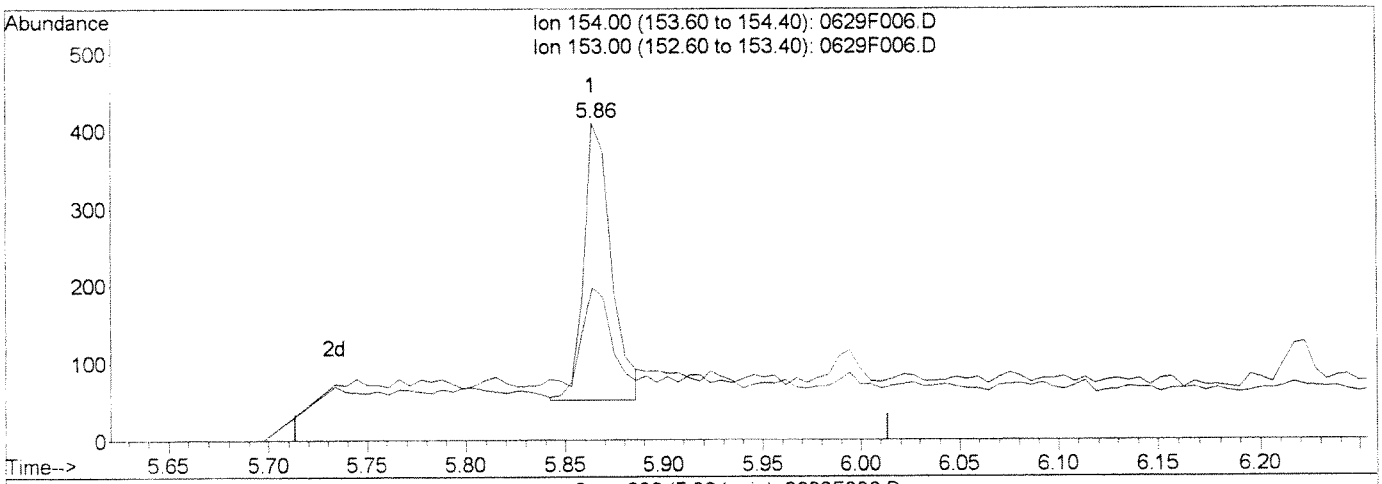
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:08 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(5) Biphenyl (T)

5.86min 1.63ng/ml m

response 348

Ion	Exp%	Act%
154.00	100	100
153.00	40.00	48.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

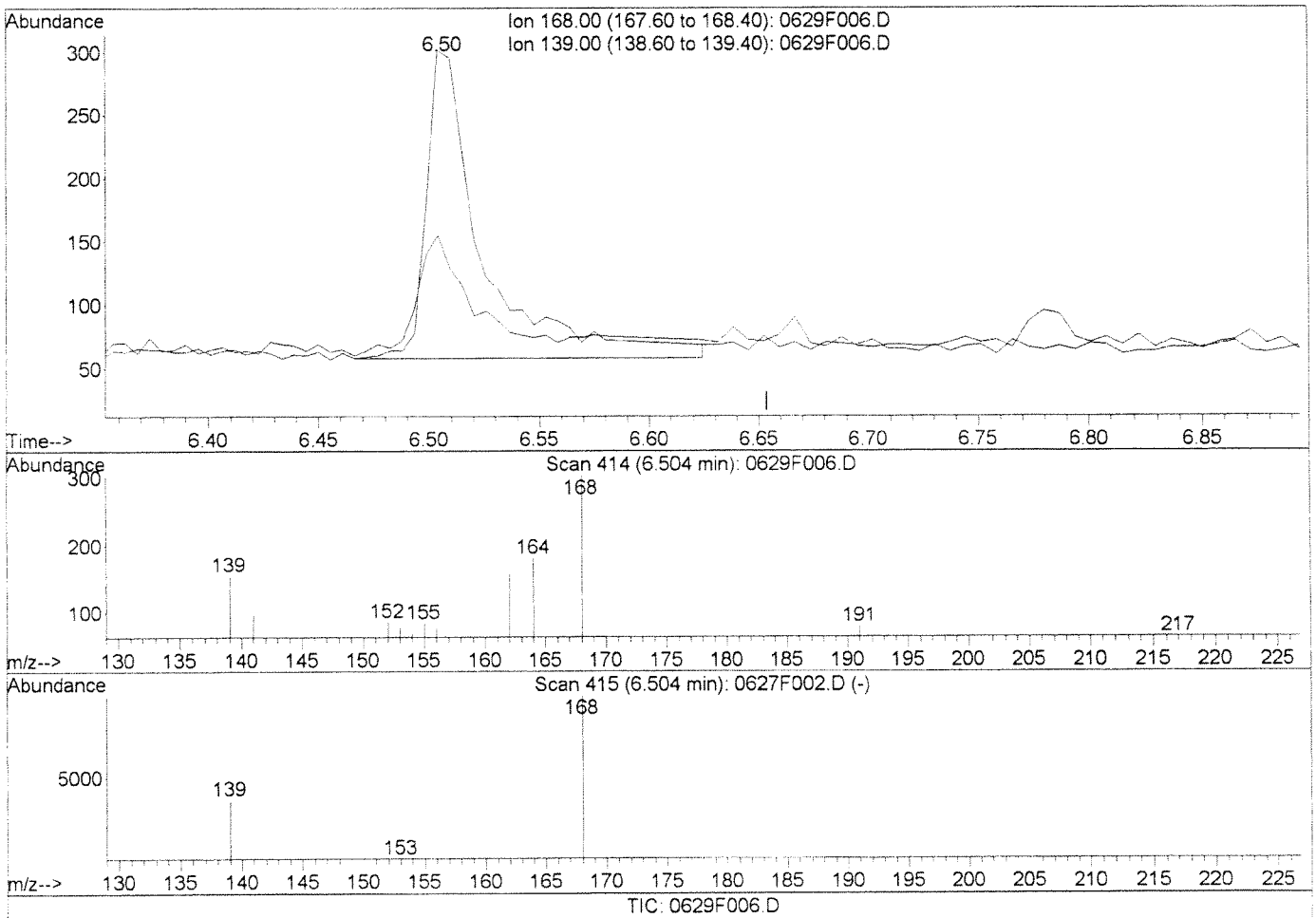
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:13 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(13) Dibenzofuran (T)

6.50min 2.73ng/ml

response 539

Ion	Exp%	Act%
168.00	100	100
139.00	17.60	38.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

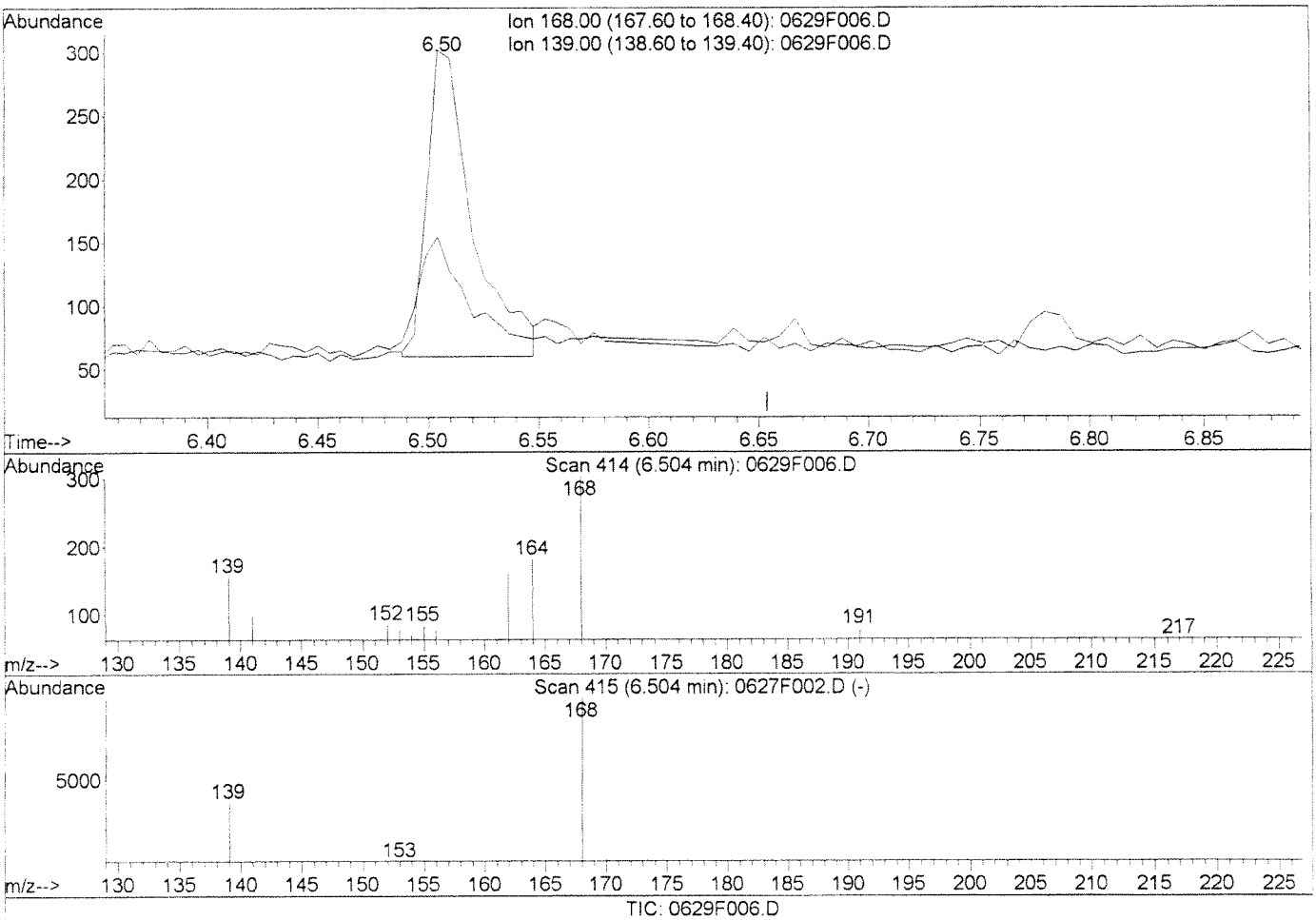
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:19 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(13) Dibenzofuran (T)

6.50min 1.77ng/ml m

response 349

Ion	Exp%	Act%
168.00	100	100
139.00	17.60	51.32#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

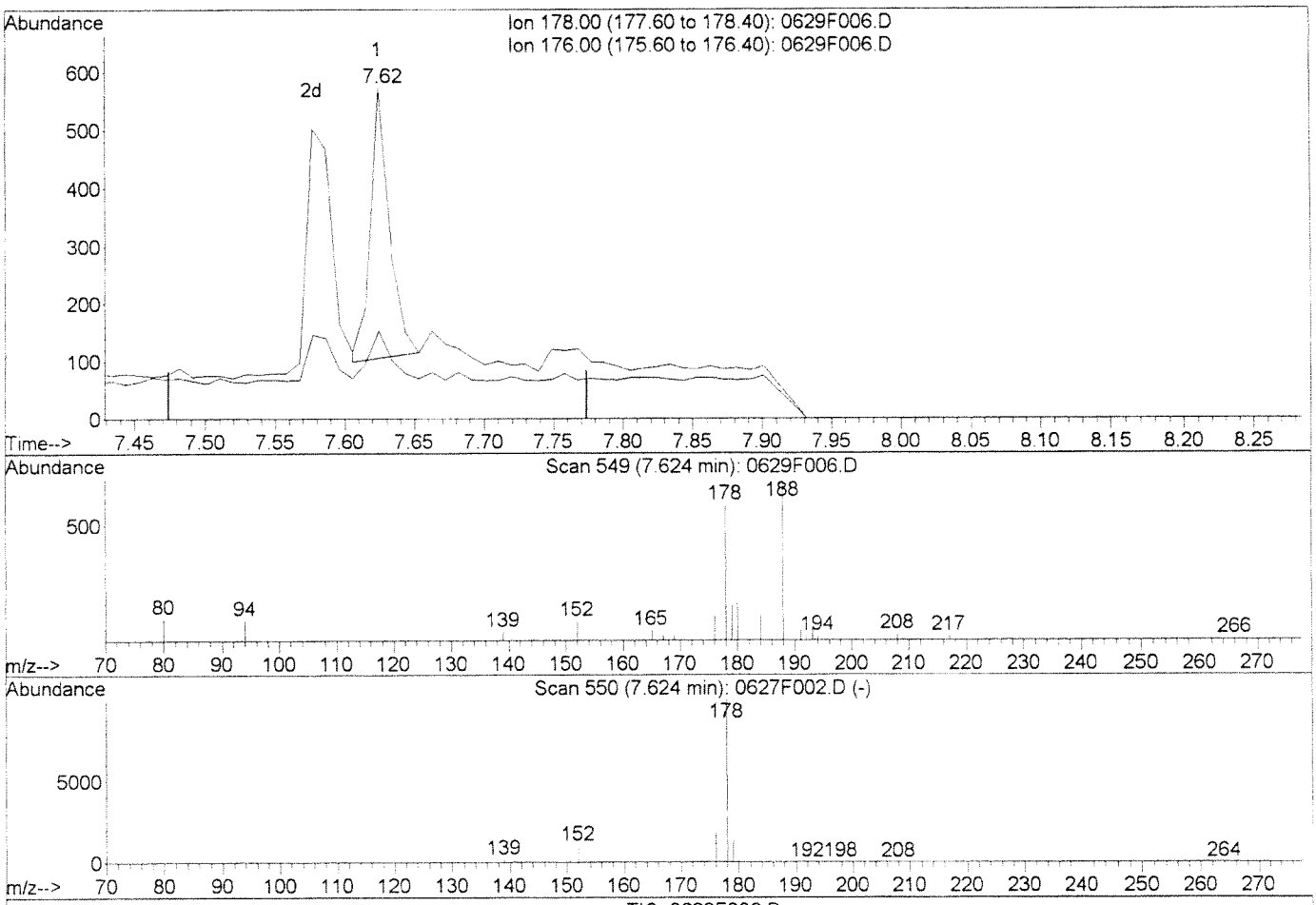
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:23 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(28) Anthracene (T)

7.62min 1.99ng/ml

response 444

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.30
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

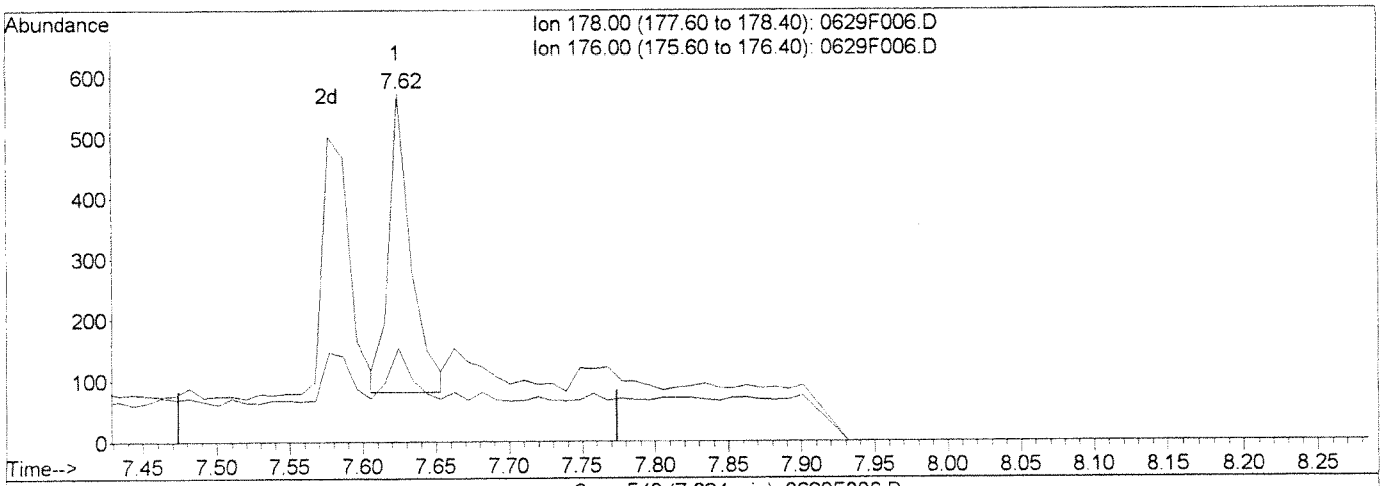
0629F006.D 062914ALK.M Mon Jun 30 05:07:35 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(28) Anthracene (T)

7.62min 2.32ng/ml m

response 518

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	26.83
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

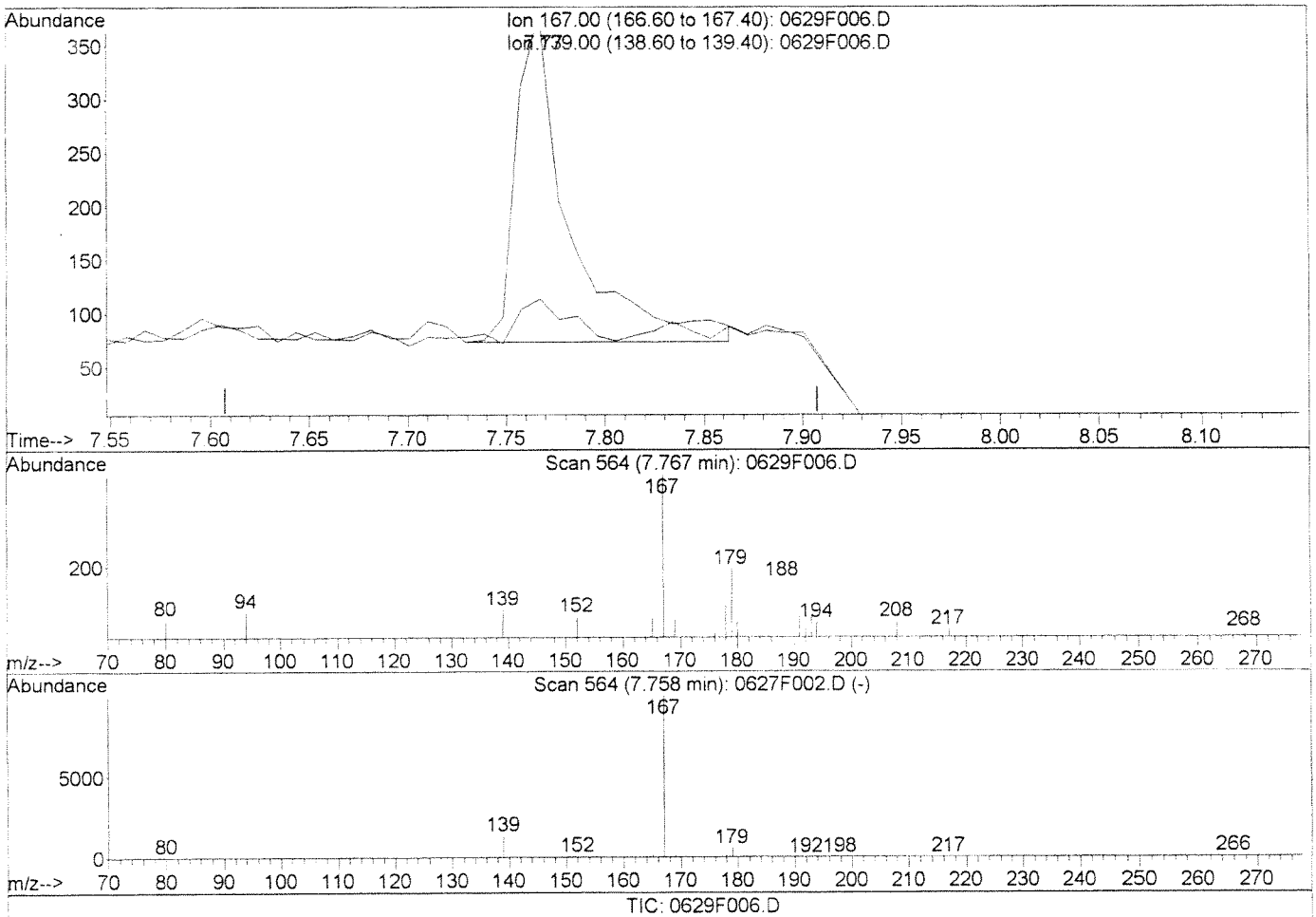
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:38 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(29) Carbazole (T)

7.77min 2.94ng/ml

response 578

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	11.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

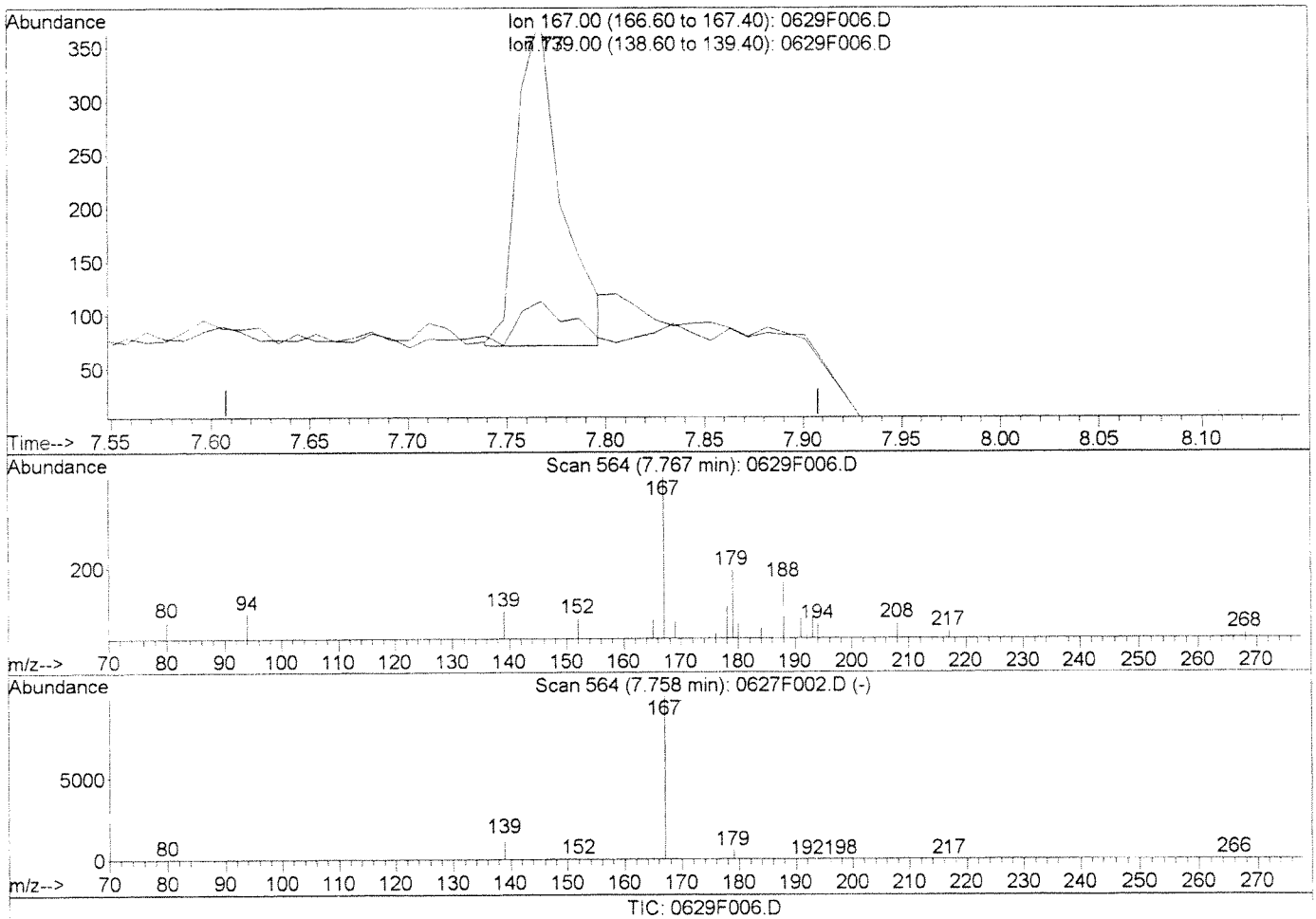
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:42 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(29) Carbazole (T)

7.77min 2.45ng/ml m

response 482

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	29.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:47 2014

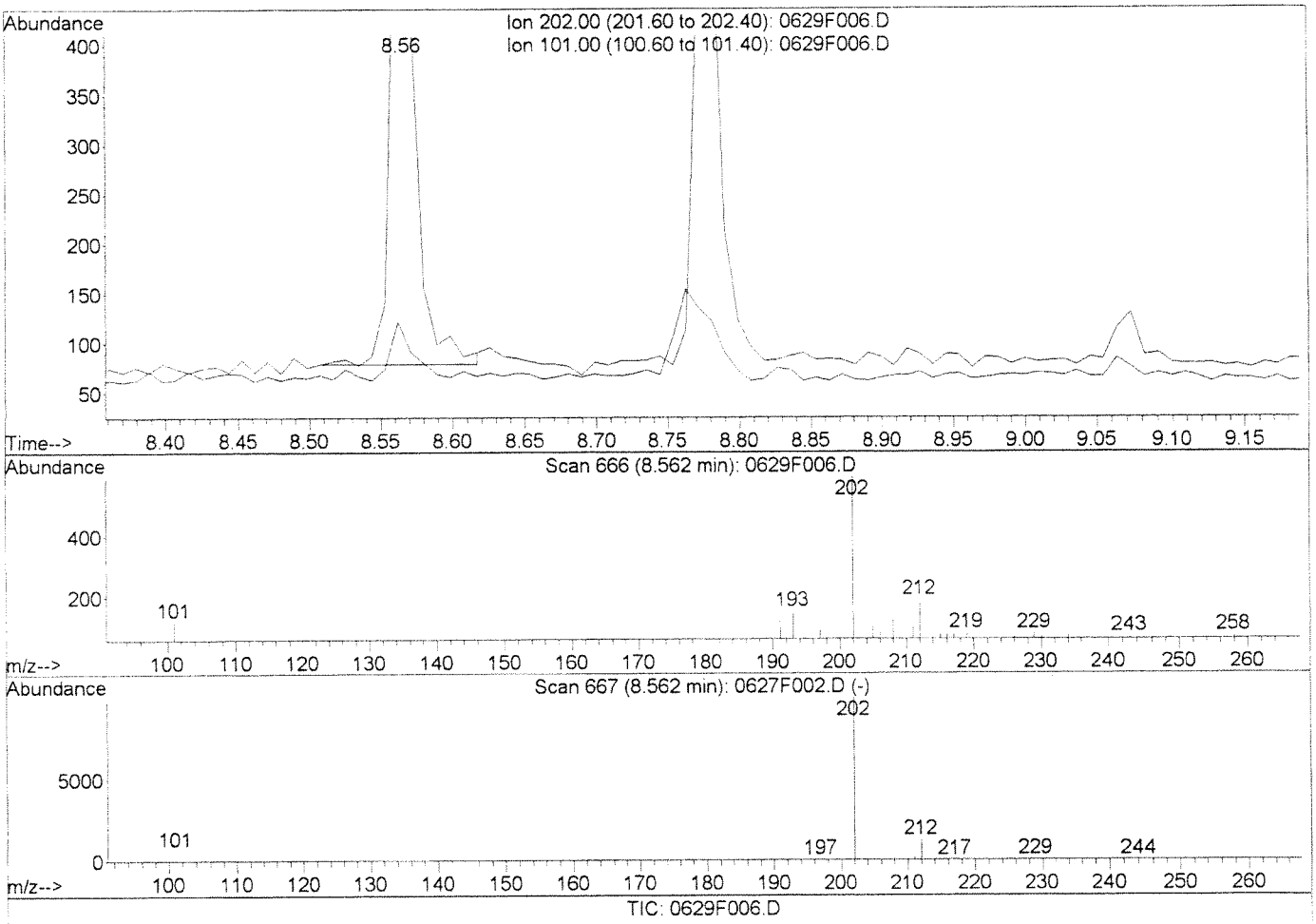
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(35) Fluoranthene (T)

8.56min 2.32ng/ml

response 610

Ion	Exp%	Act%
202.00	100	100
101.00	14.30	10.68
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

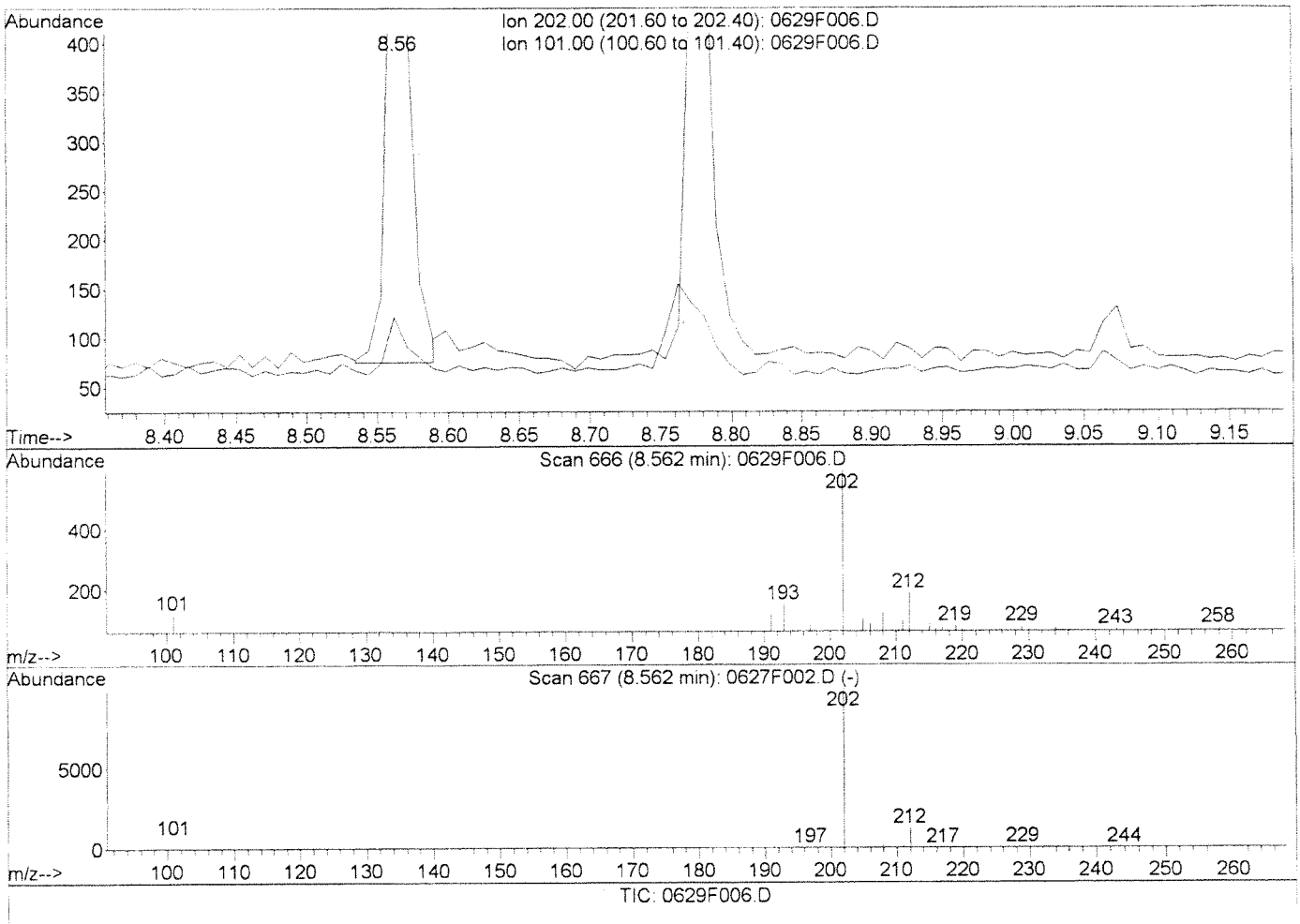
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:54 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(35) Fluoranthene (T)

8.56min 2.25ng/ml m

response 593

Ion	Exp%	Act%
202.00	100	100
101.00	14.30	20.54
0.00	0.00	0.00
0.00	0.00	0.00

Manual integration:

After

BLC

06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:07:59 2014

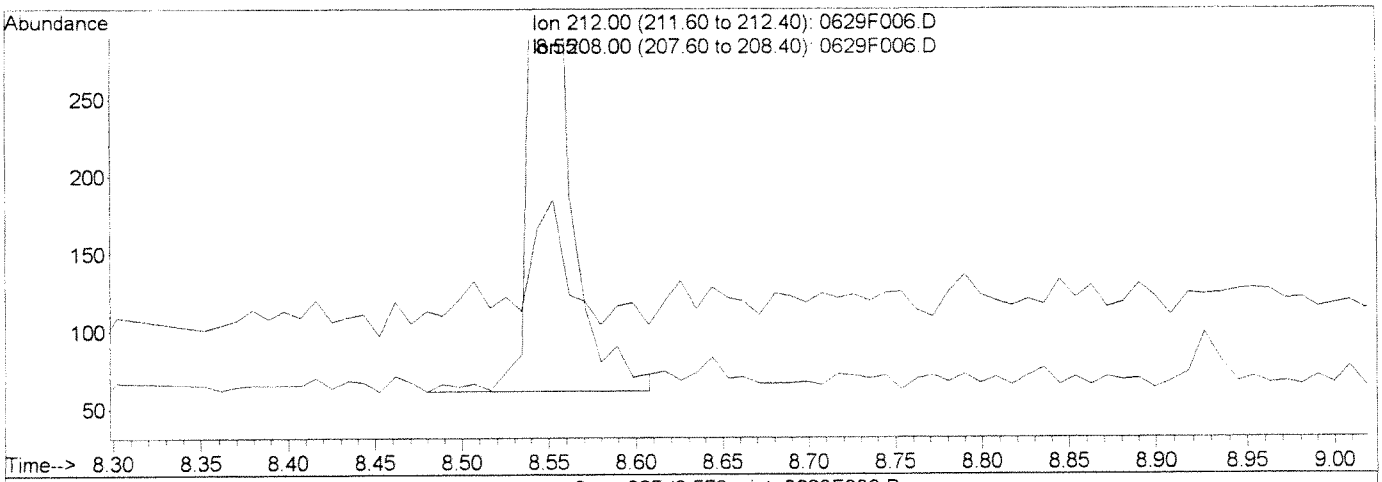
Quantitation Report (Qedit)

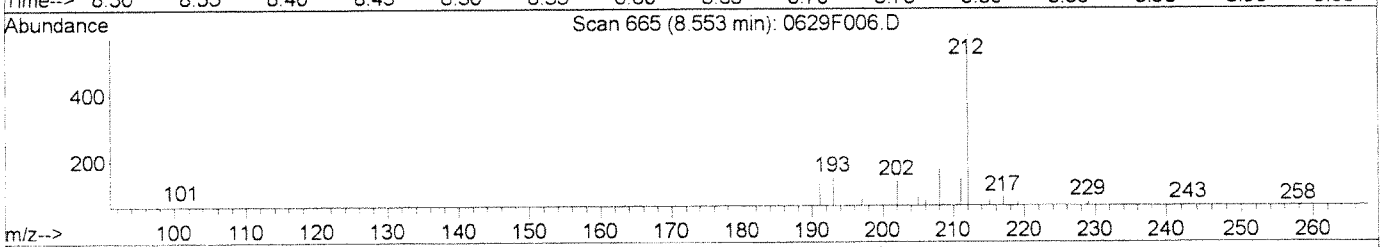
Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:07 2014

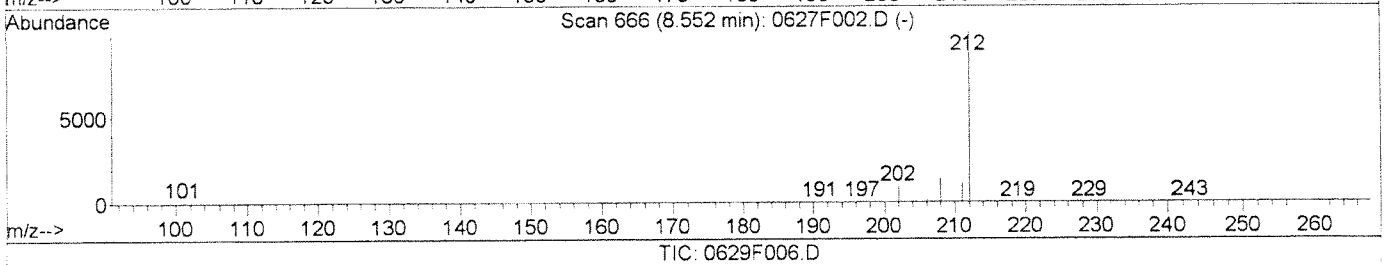
Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(36) Fluoranthene-d10 (S)

8.55min 2.86ng/ml

response 665

Ion	Exp%	Act%
212.00	100	100
208.00	14.80	15.79
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

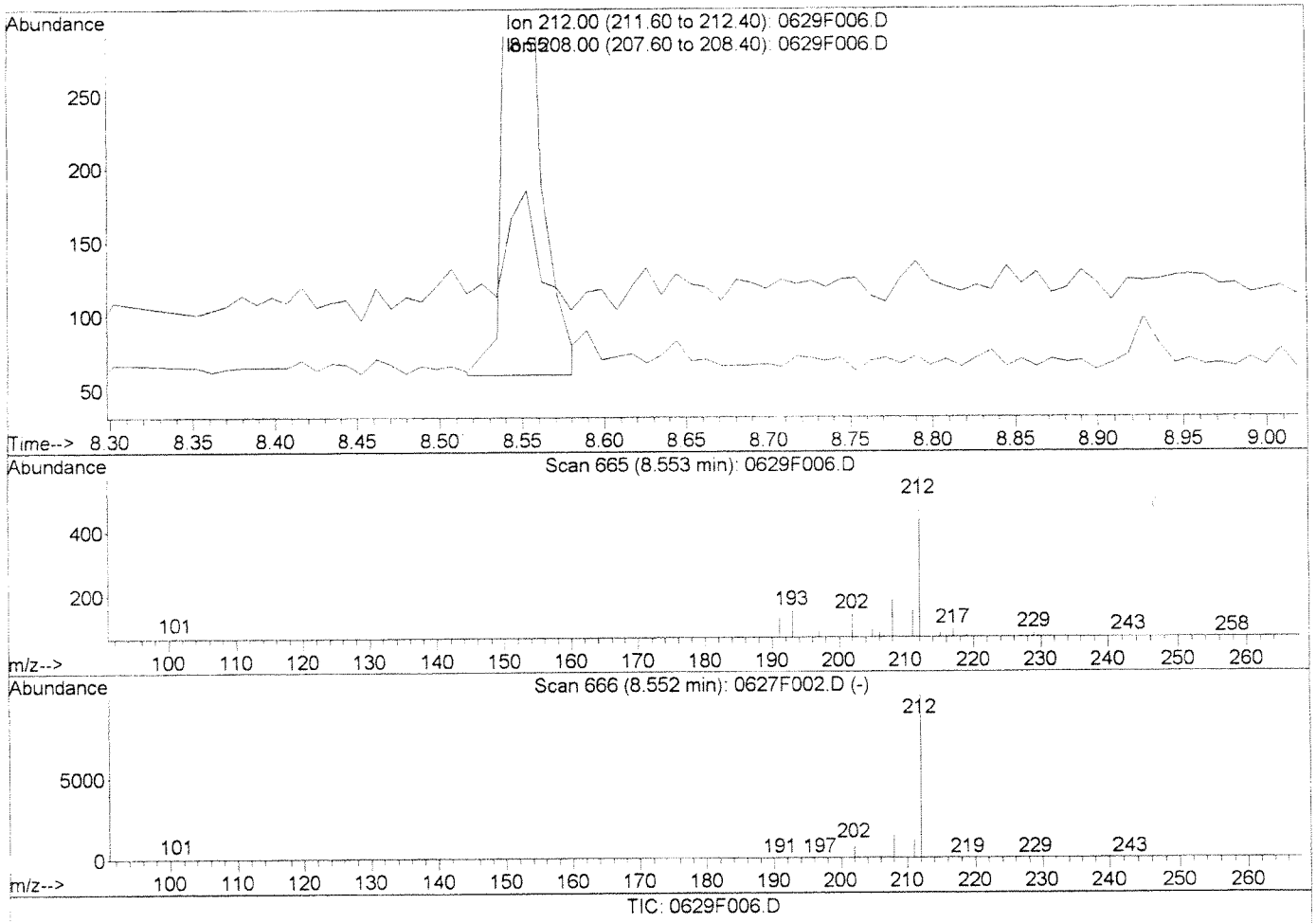
0629F006.D 062914ALK.M Mon Jun 30 05:08:03 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(36) Fluoranthene-d10 (S)

8.55min 2.73ng/ml m

response 635

Ion	Exp%	Act%
212.00	100	100
208.00	14.80	32.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

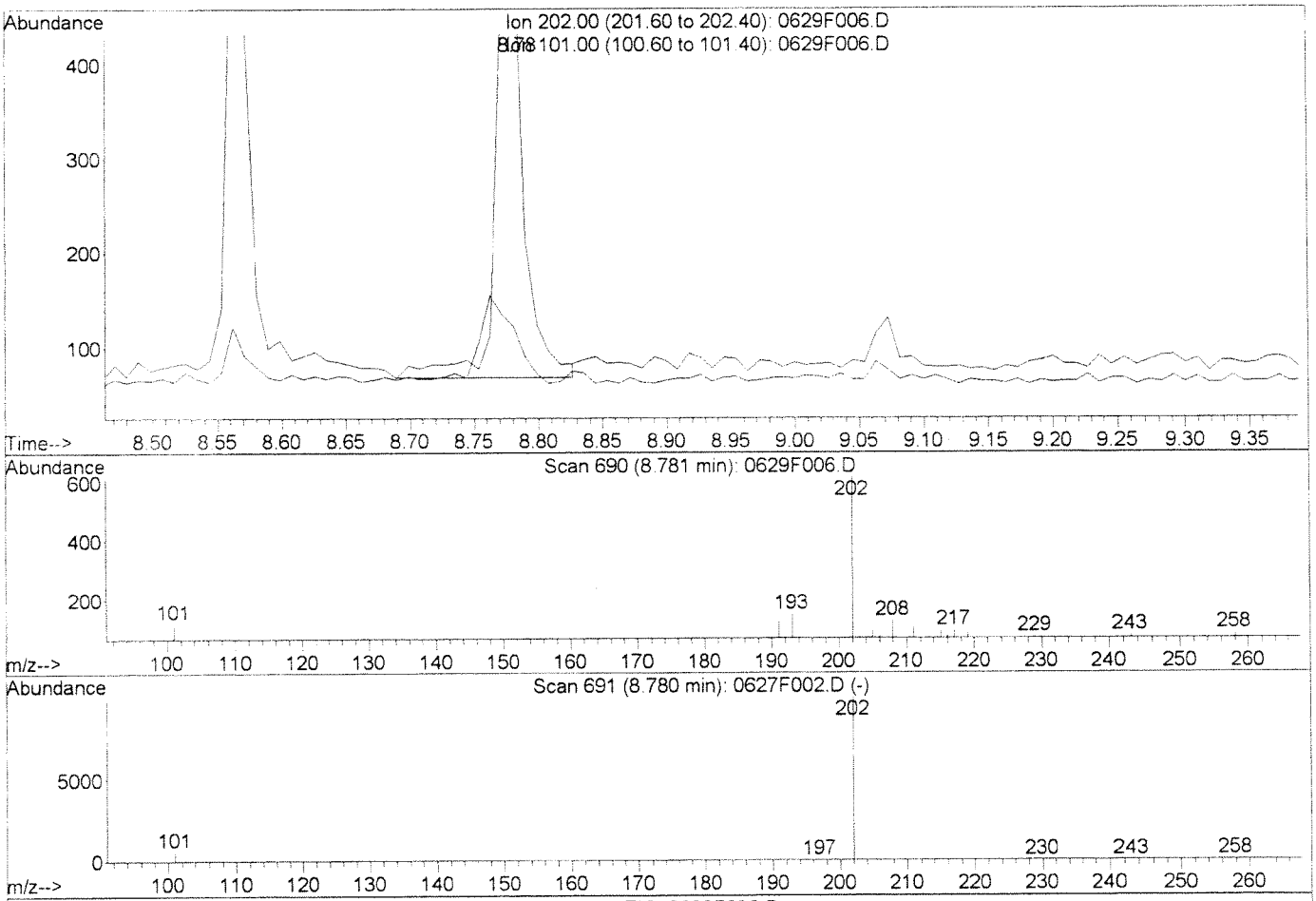
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:08 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(38) Pyrene (T)

8.78min 2.87ng/ml

response 732

Ion	Exp%	Act%
202.00	100	100
101.00	16.70	10.28
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

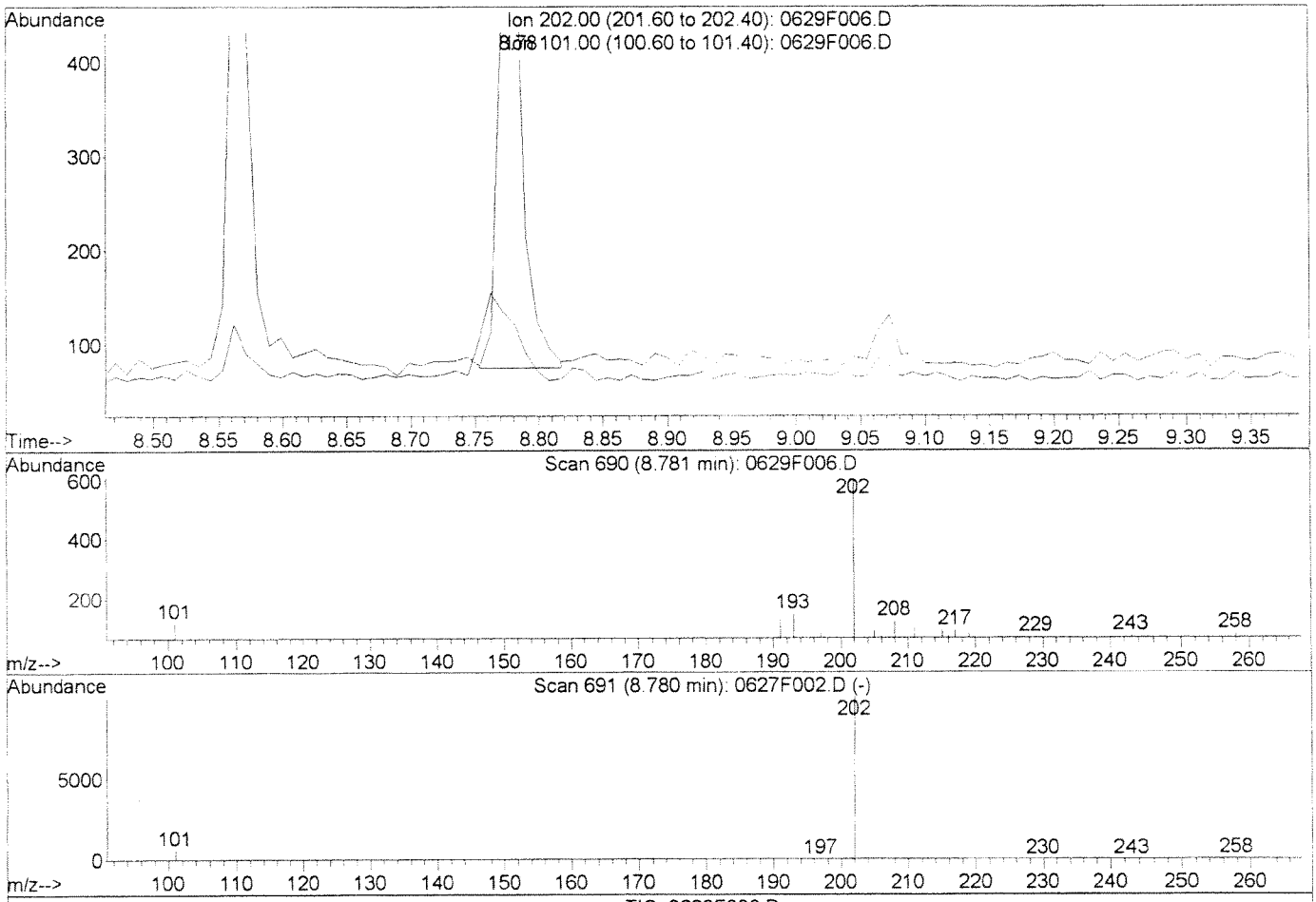
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:11 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(38) Pyrene (T)
8.78min 2.53ng/ml m
response 645

Ion	Exp%	Act%
202.00	100	100
101.00	16.70	19.90
0.00	0.00	0.00
0.00	0.00	0.00

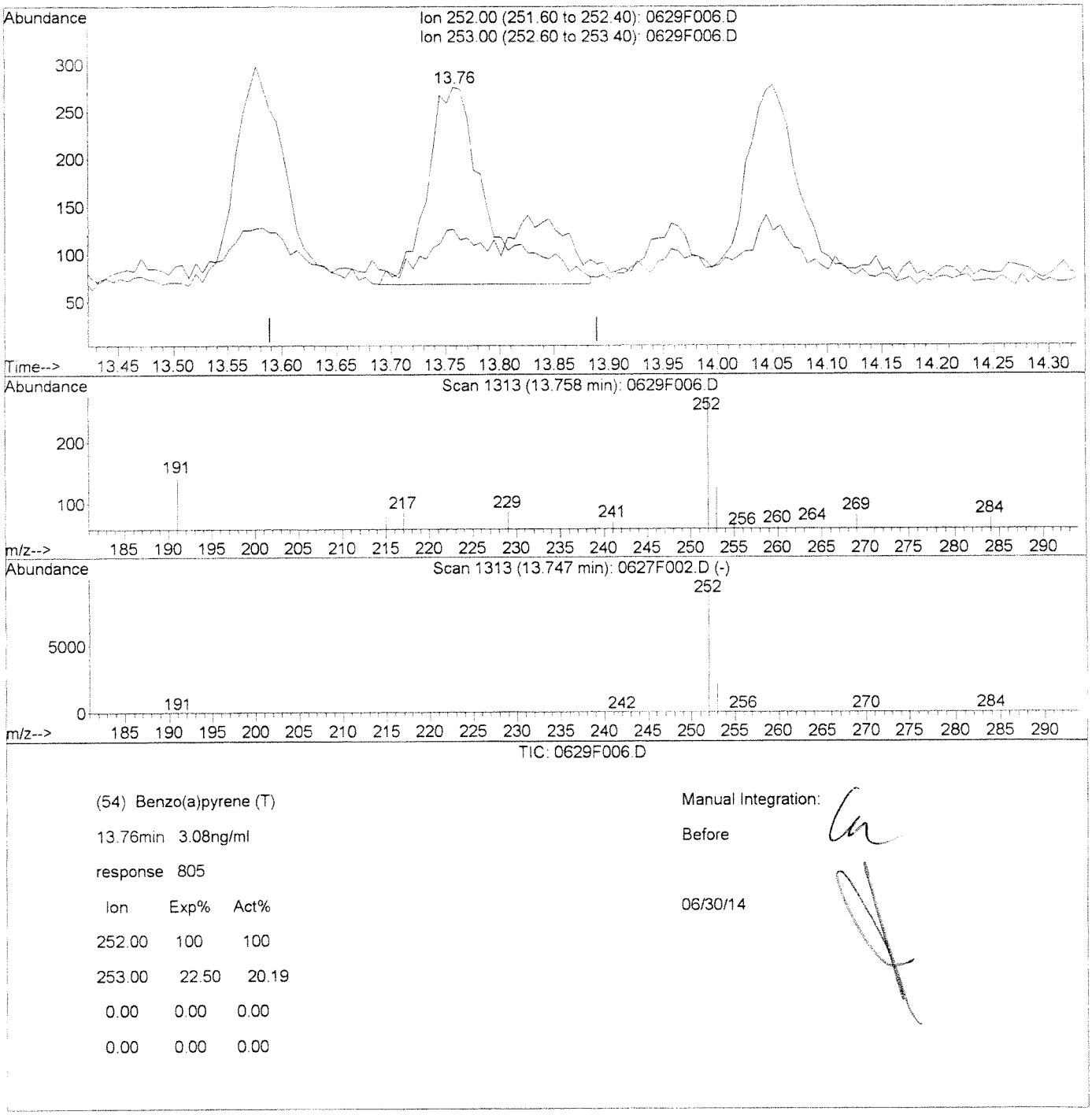
Manual Integration:
After
BLC
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:15 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(54) Benzo(a)pyrene (T)

13.76min 3.08ng/ml

response 805

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	20.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

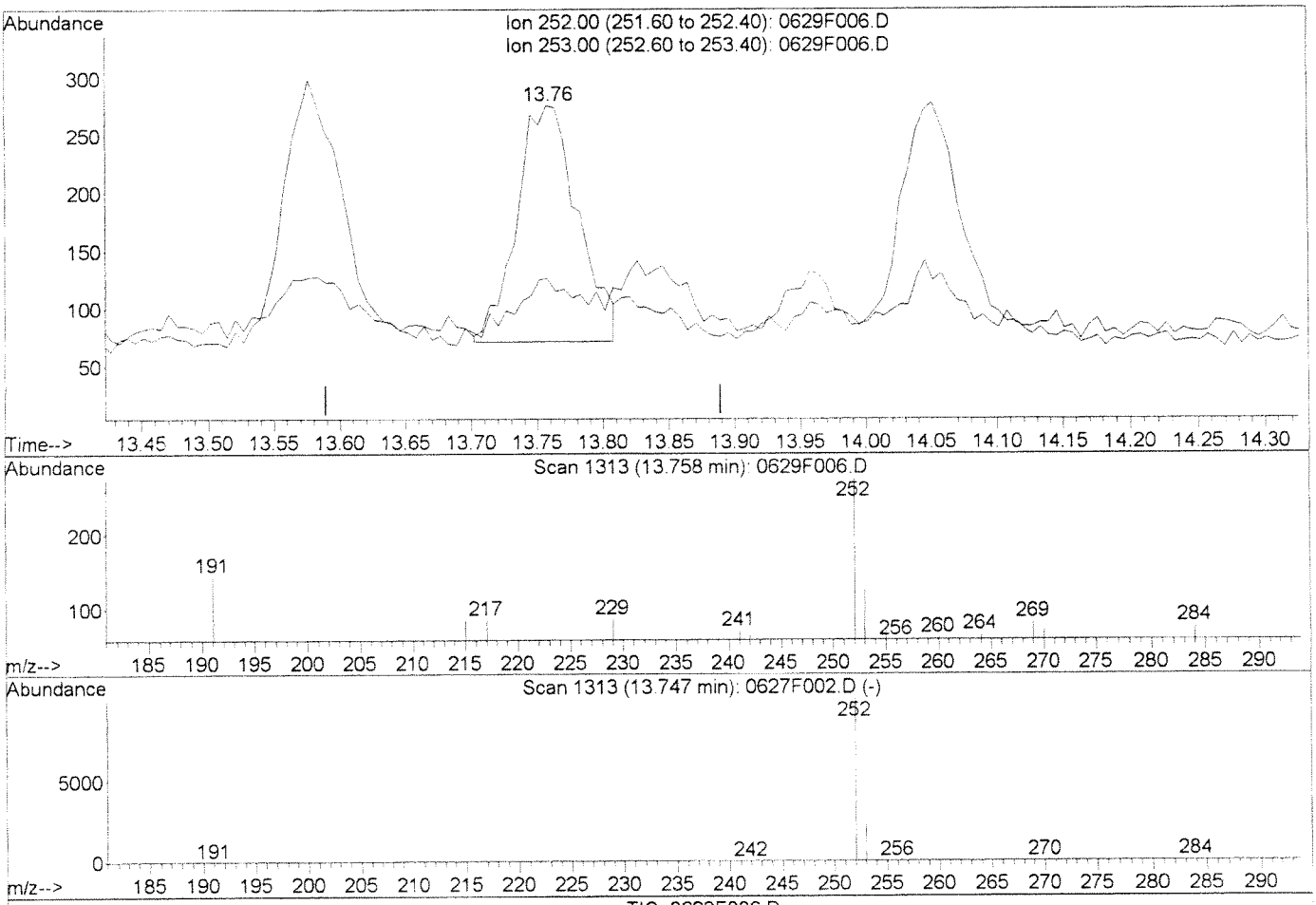
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:24 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F006.D

(54) Benzo(a)pyrene (T)

13.76min 2.52ng/ml m

response 660

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	45.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

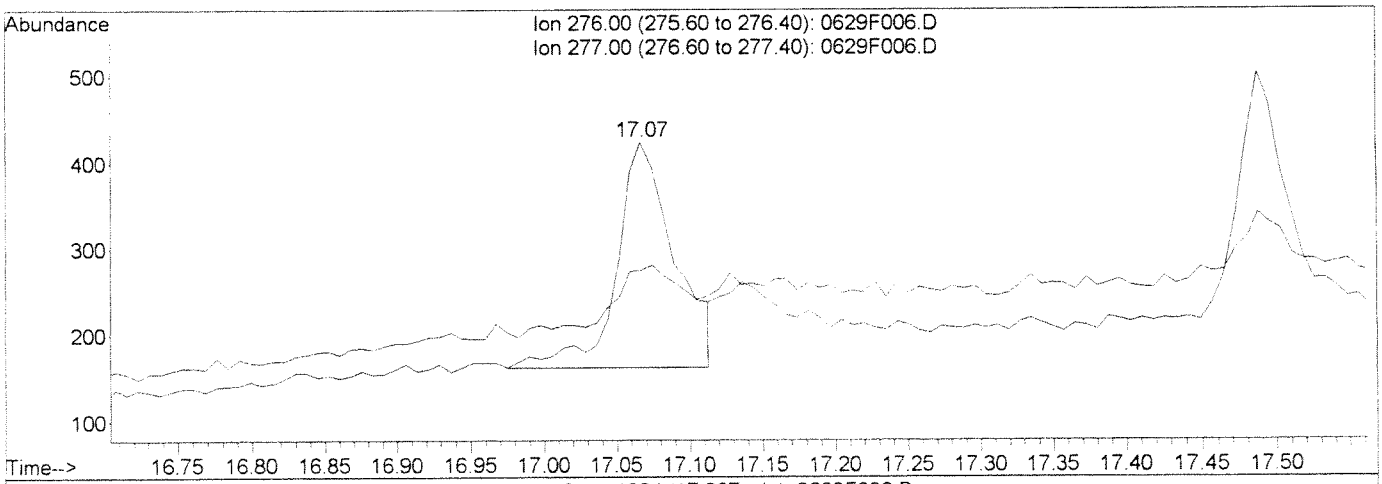
0629F006.D 062914ALK.M Mon Jun 30 05:08:29 2014

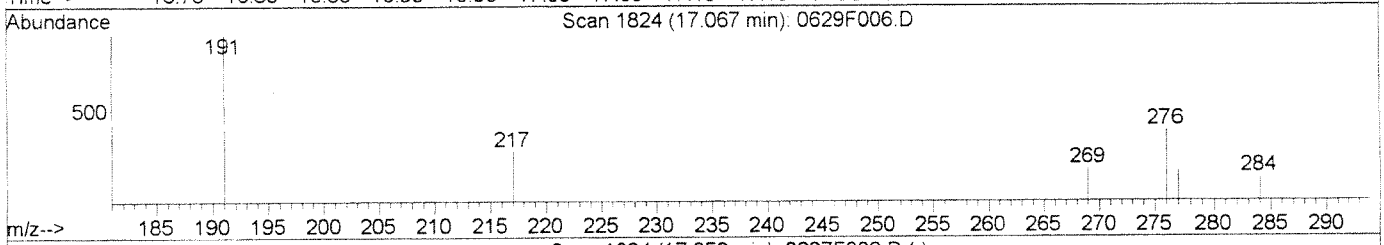
Quantitation Report (Qedit)

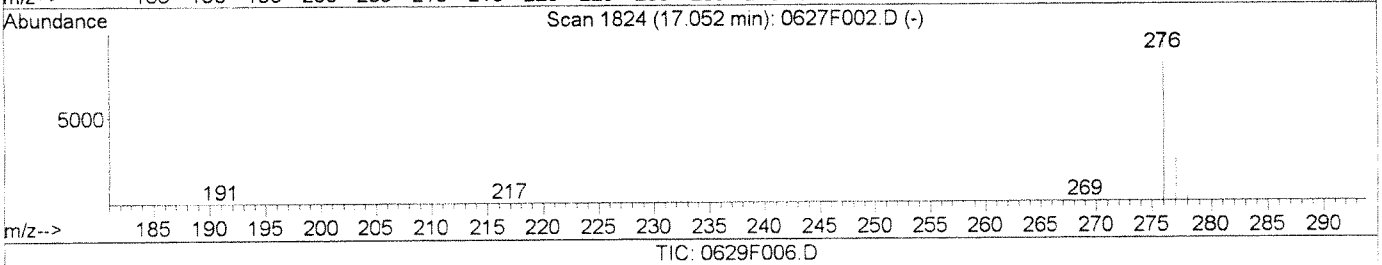
Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014

Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.07min 2.74ng/ml

response 730

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	27.48
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

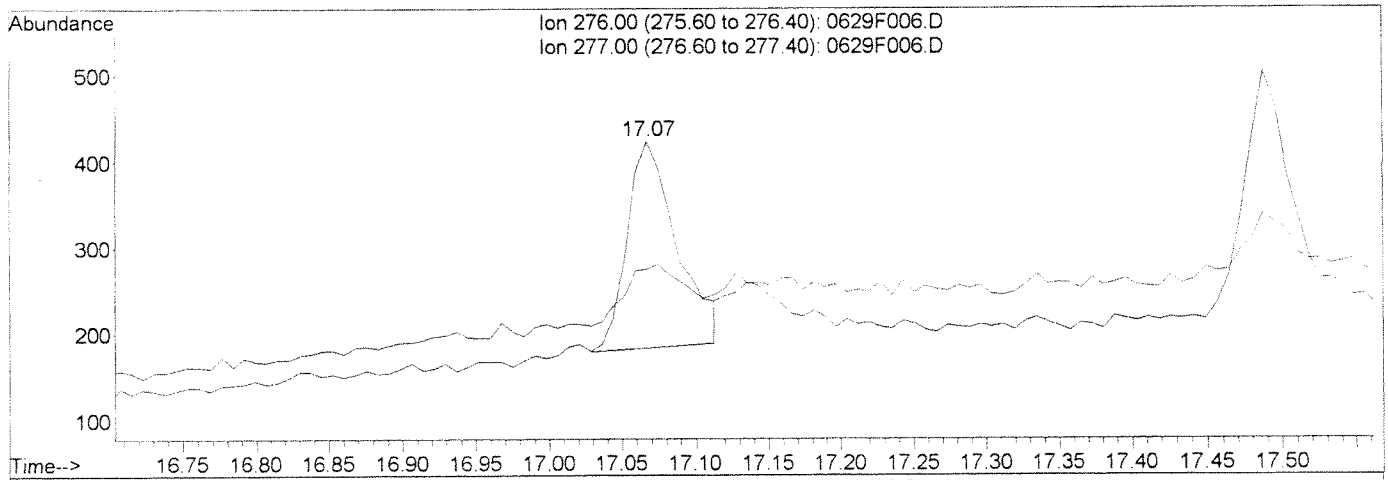
06/30/14

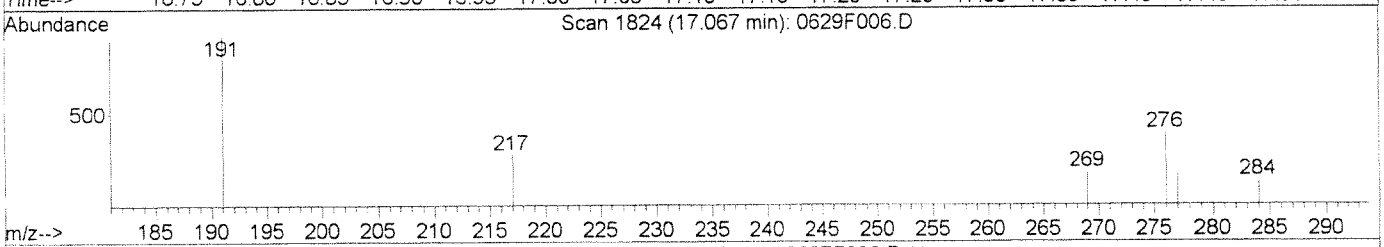
0629F006.D 062914ALK.M Mon Jun 30 05:08:32 2014

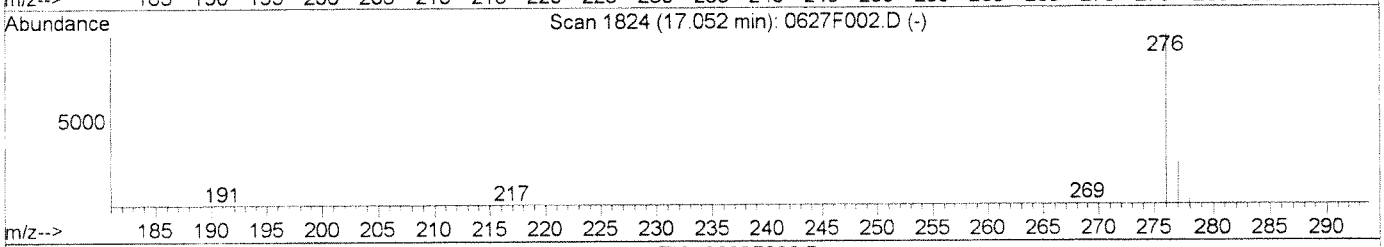
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.07min 2.13ng/ml m

response 569

Ion	Exp%	Act%
276.00	100	100
277.00	24.00	64.86#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

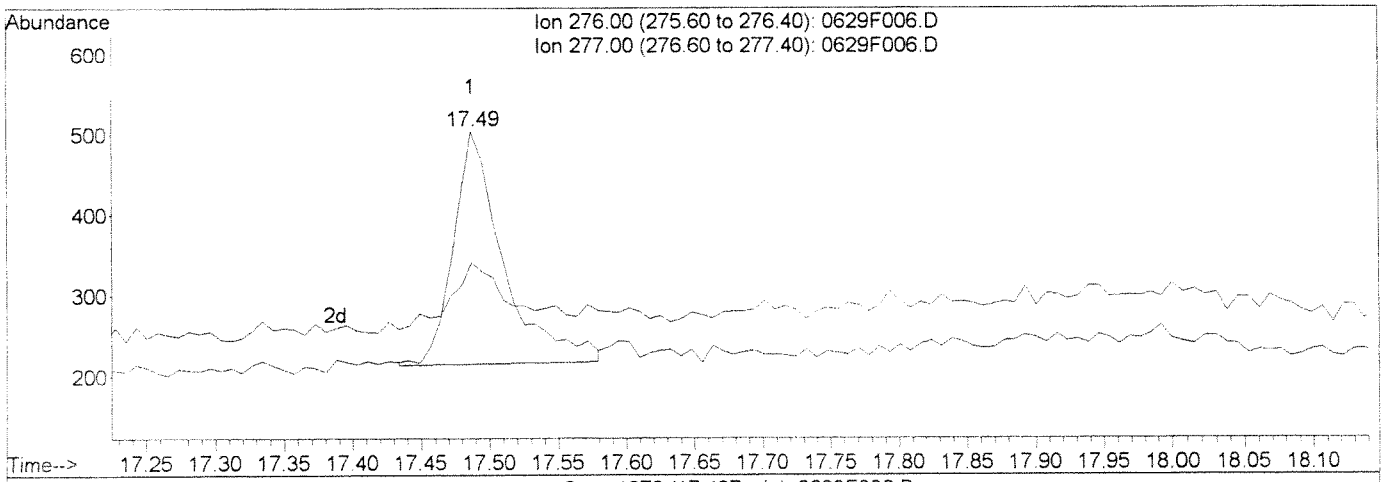
06/30/14

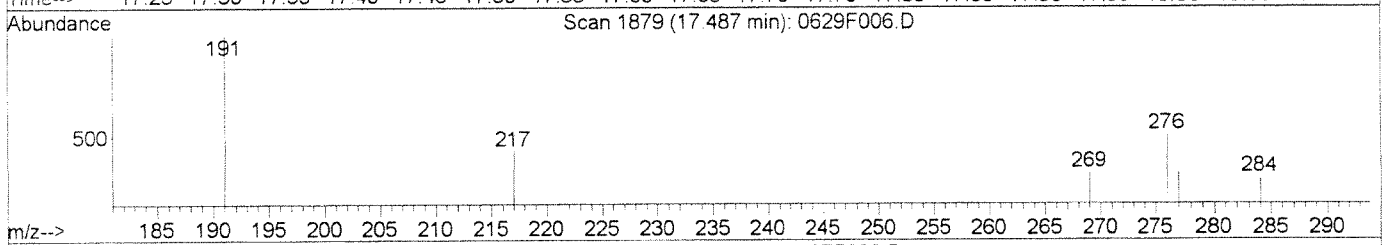
0629F006.D 062914ALK.M Mon Jun 30 05:08:36 2014

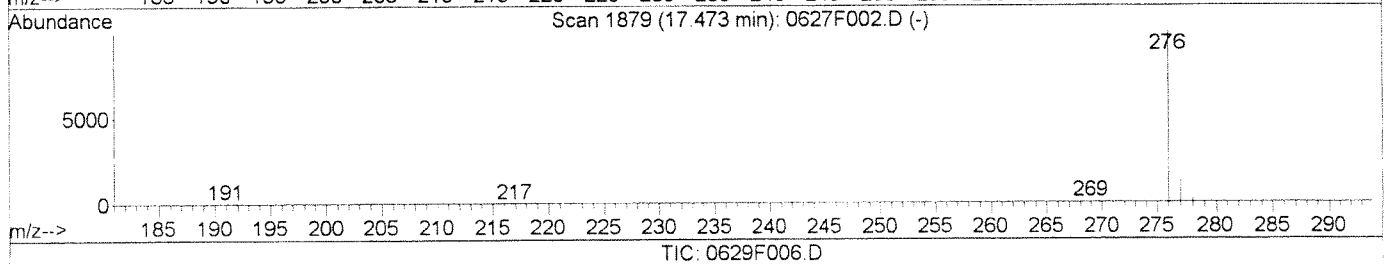
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F006.D Vial: 4
Acq On : 29 Jun 2014 10:07 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(58) Benzo(g,h,i)perylene (T)

17.49min 2.50ng/ml

response 732

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	28.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:41 2014

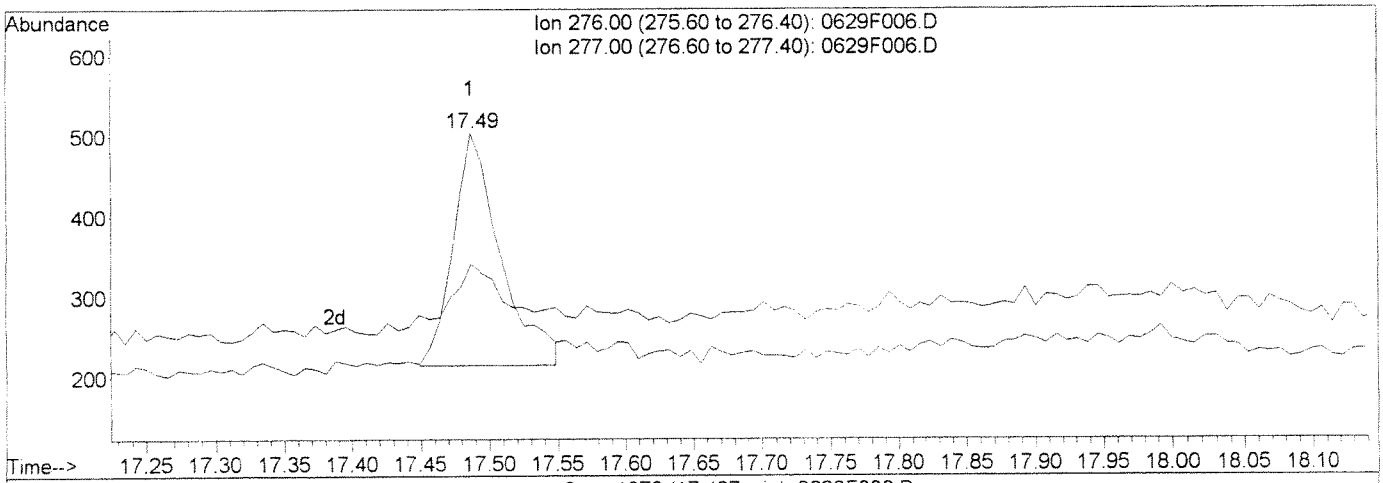
Quantitation Report (Qedit)

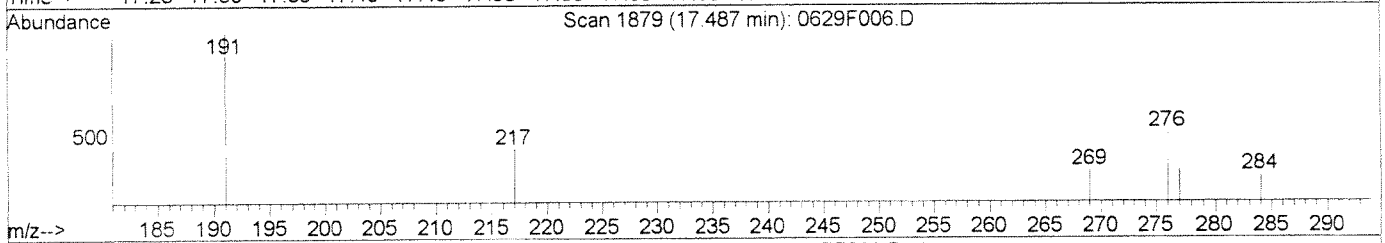
Data File : J:\MS11\DATA\062914\0629F006.D
Acq On : 29 Jun 2014 10:07 am
Sample : SIM-PAH ICAL @.002ug/mL | SVM46-68A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:08 2014

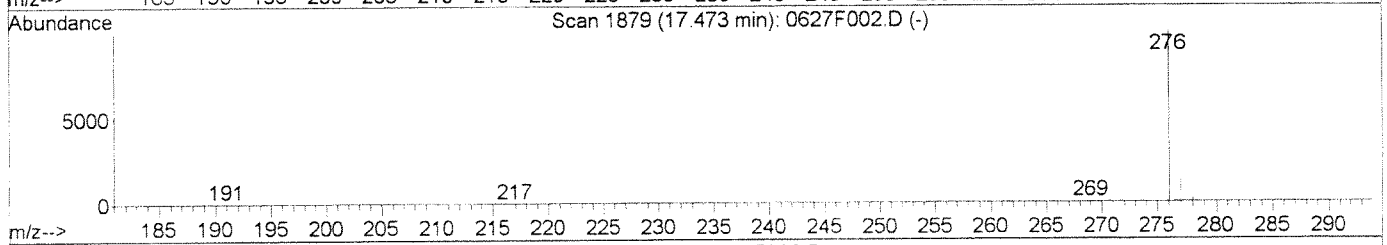
Vial: 4
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F006.D

(58) Benzo(g,h,i)perylene (T)

17.49min 2.37ng/ml m

response 692

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	67.66#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
BLC
06/30/14

0629F006.D 062914ALK.M Mon Jun 30 05:08:46 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:10 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.93	136	64840	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.32	164	37827	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.56	188	70907	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	84031	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	86688	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	2187	9.84	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.98%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.54	212	3927	9.55	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.96%		
43) Terphenyl-d14	8.93	244	3240	9.15	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.92%		
Target Compounds						Qvalue
2) Naphthalene	4.95	128	3010	8.42	ng/ml	97
3) 2-Methylnaphthalene	5.48	142	2092	7.05	ng/ml	97
4) 1-Methylnaphthalene	5.56	142	1870	6.92	ng/ml	99
5) Biphenyl	5.85	154	2659	7.42	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.98	156	1906	7.83	ng/ml	91
11) Acenaphthylene	6.21	152	3105	8.22	ng/ml	98
12) Acenaphthene	6.35	154	1865	8.38	ng/ml	96
13) Dibenzofuran	6.50	168	2784	7.80	ng/ml	84
14) 2,3,5-Trimethylnaphthalene	6.66	170	1689	7.72	ng/ml	82
16) Fluorene	6.77	166	2290	8.25	ng/ml	97
23) Dibenzothiophene	7.47	184	3061	8.31	ng/ml	94
27) Phenanthrene	7.58	178	3339	8.41	ng/ml	97
28) Anthracene	7.61	178	3076m	7.77	ng/ml	
29) Carbazole	7.76	167	2720m	7.81	ng/ml	
30) 1-Methylphenanthrene	8.07	192	2356	7.57	ng/ml	99
35) Fluoranthene	8.56	202	3691	7.92	ng/ml	86
38) Pyrene	8.77	202	3723	8.42	ng/ml	89
44) Benz(a)anthracene	10.30	228	4096	8.36	ng/ml	99
45) Chrysene	10.36	228	3669	8.59	ng/ml	100
51) Benzo(b)fluoranthene	12.73	252	4223	8.18	ng/ml	98
52) Benzo(k)fluoranthene	12.82	252	4234	8.65	ng/ml	99
53) Benzo(e)pyrene	13.58	252	4027	8.52	ng/ml	96
54) Benzo(a)pyrene	13.75	252	3833m	8.69	ng/ml	
55) Perylene	14.05	252	3867	8.54	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.06	276	3921	8.72	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:10 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

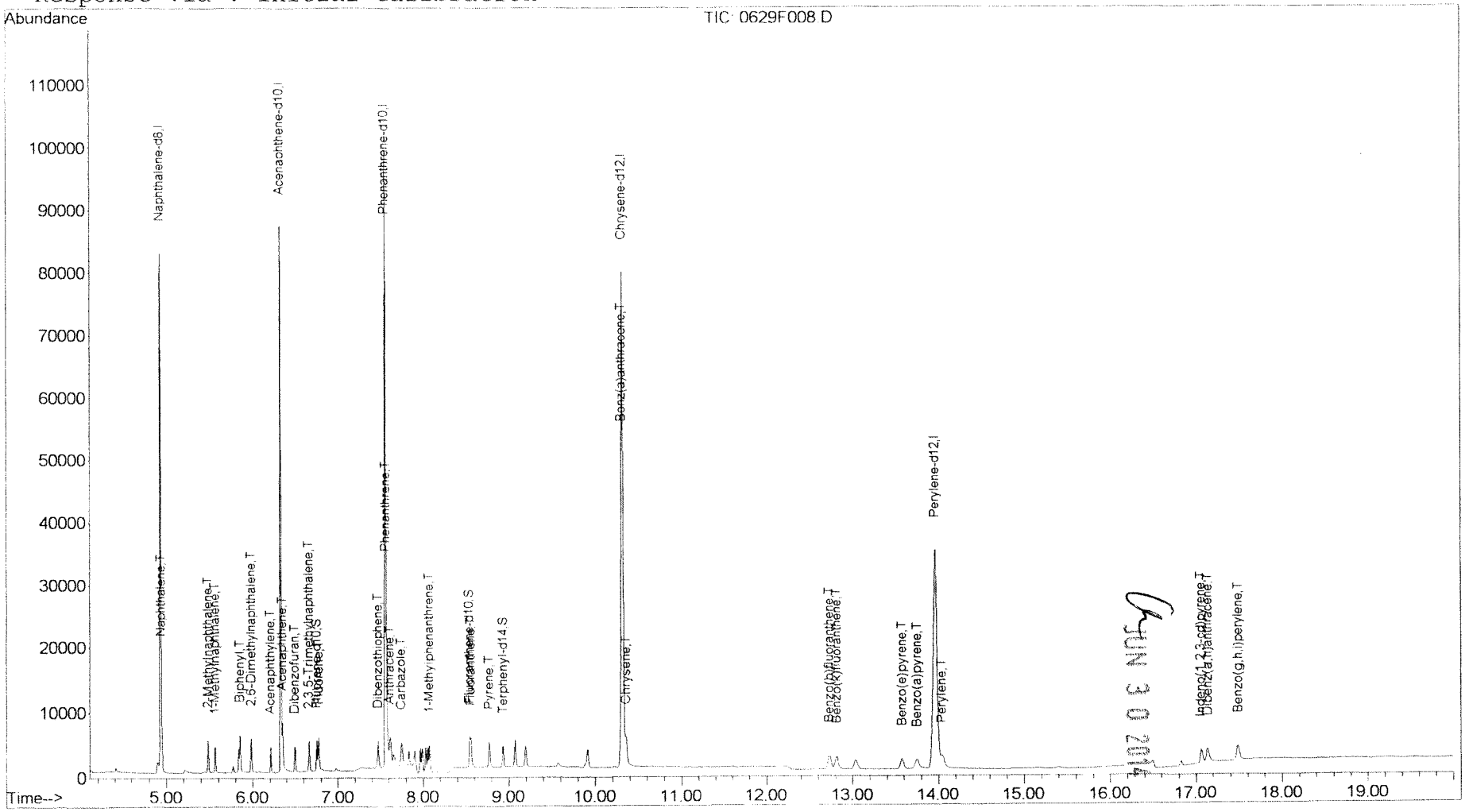
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	4140	8.65	ng/ml	97
58)	Benzo(g,h,i)perylene	17.49	276	4721	9.57	ng/ml	99

(#) = qualifier out of range (m) = manual integration
0629F008.D 062914ALK.M Mon Jun 30 06:27:34 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration



898

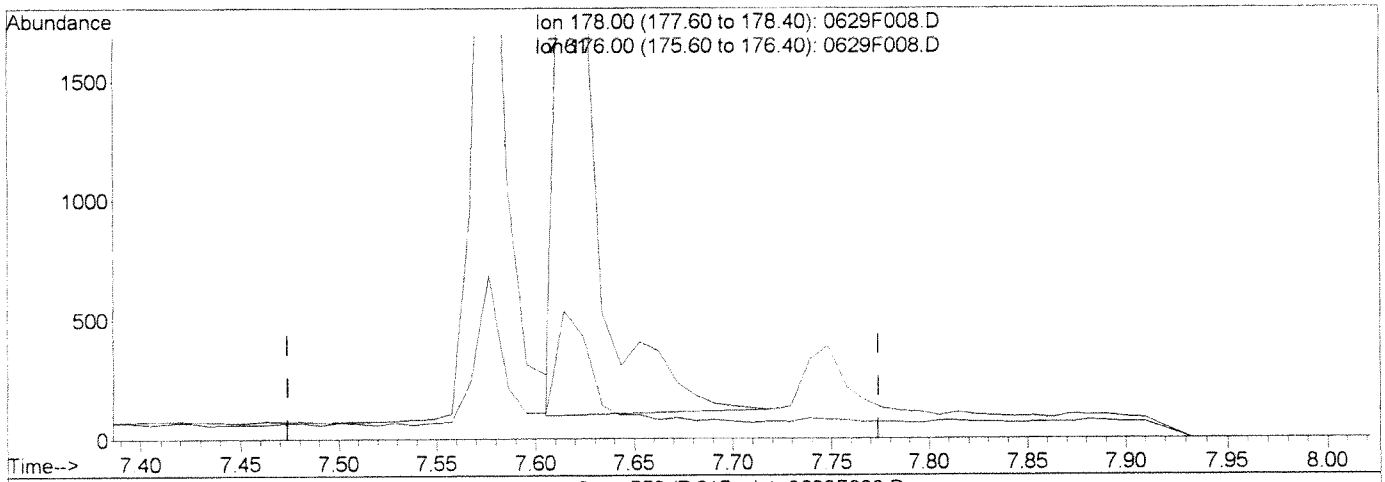
Quantitation Report (Qedit)

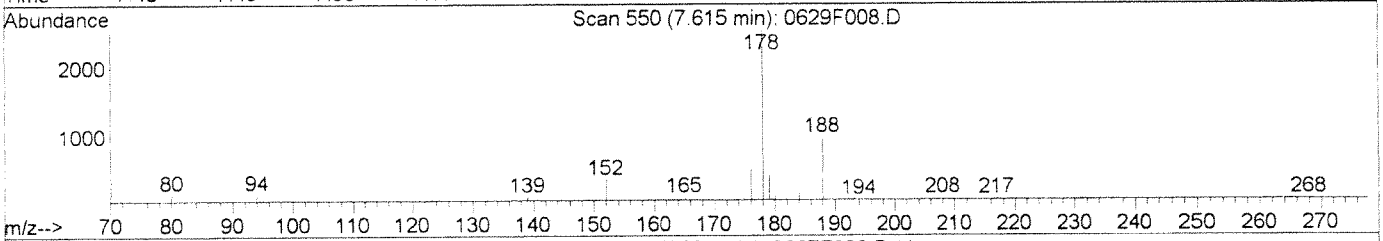
Data File : J:\MS11\DATA\062914\0629F008.D
Acq On : 29 Jun 2014 11:02 am
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:10 2014

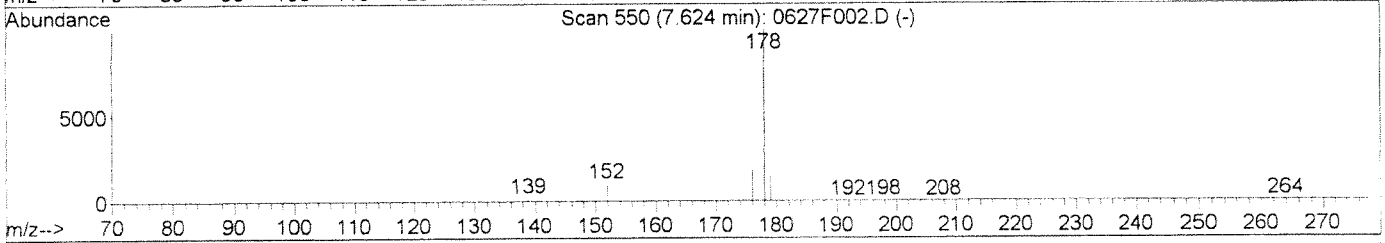
Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F008.D

(28) Anthracene (T)

7.61min 8.79ng/ml

response 3480

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	19.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

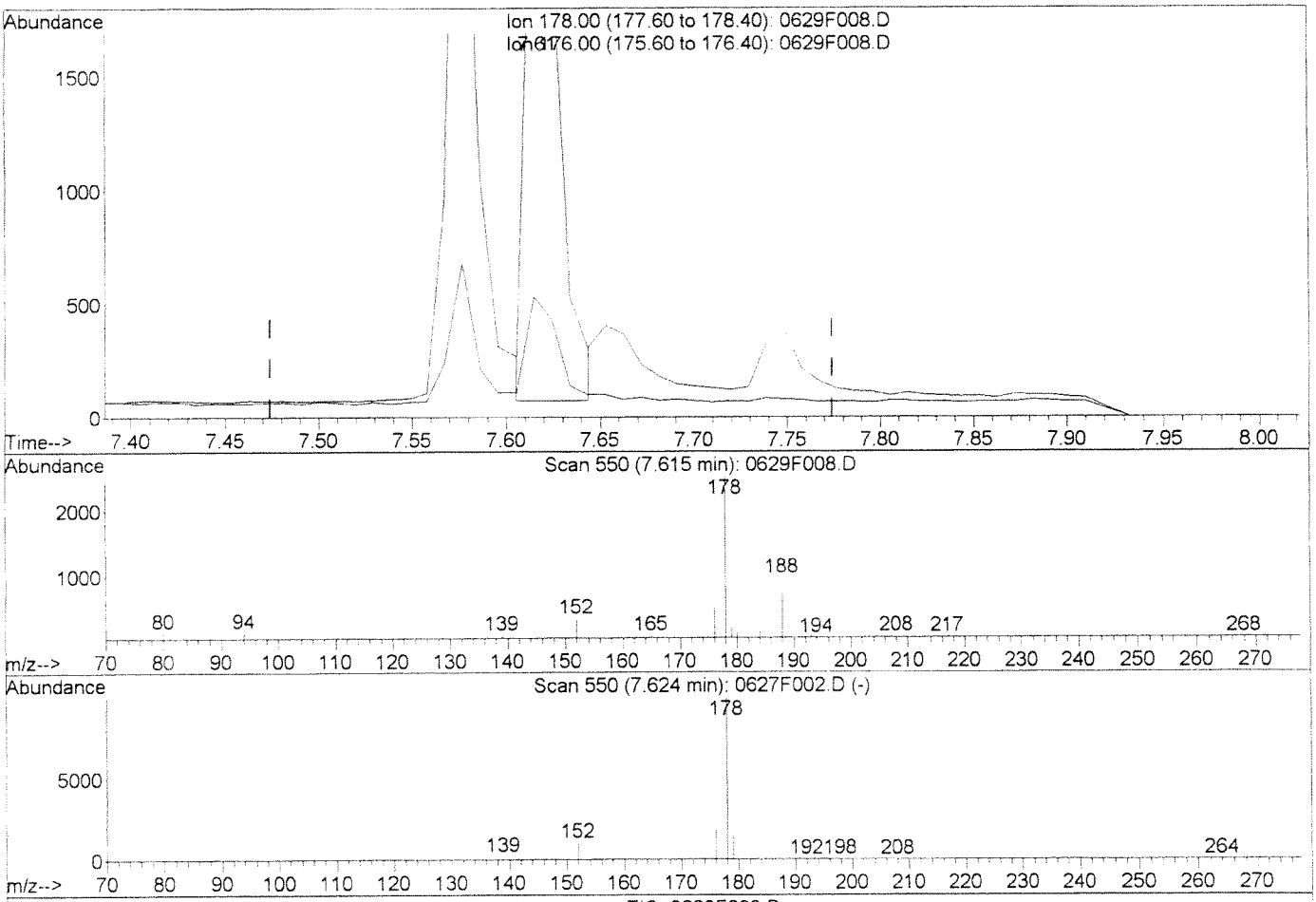
06/30/14

0629F008.D 062914ALK.M Mon Jun 30 05:10:30 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:10 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F008.D

(28) Anthracene (T)

7.61min 7.77ng/ml m

response 3076

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	21.12
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

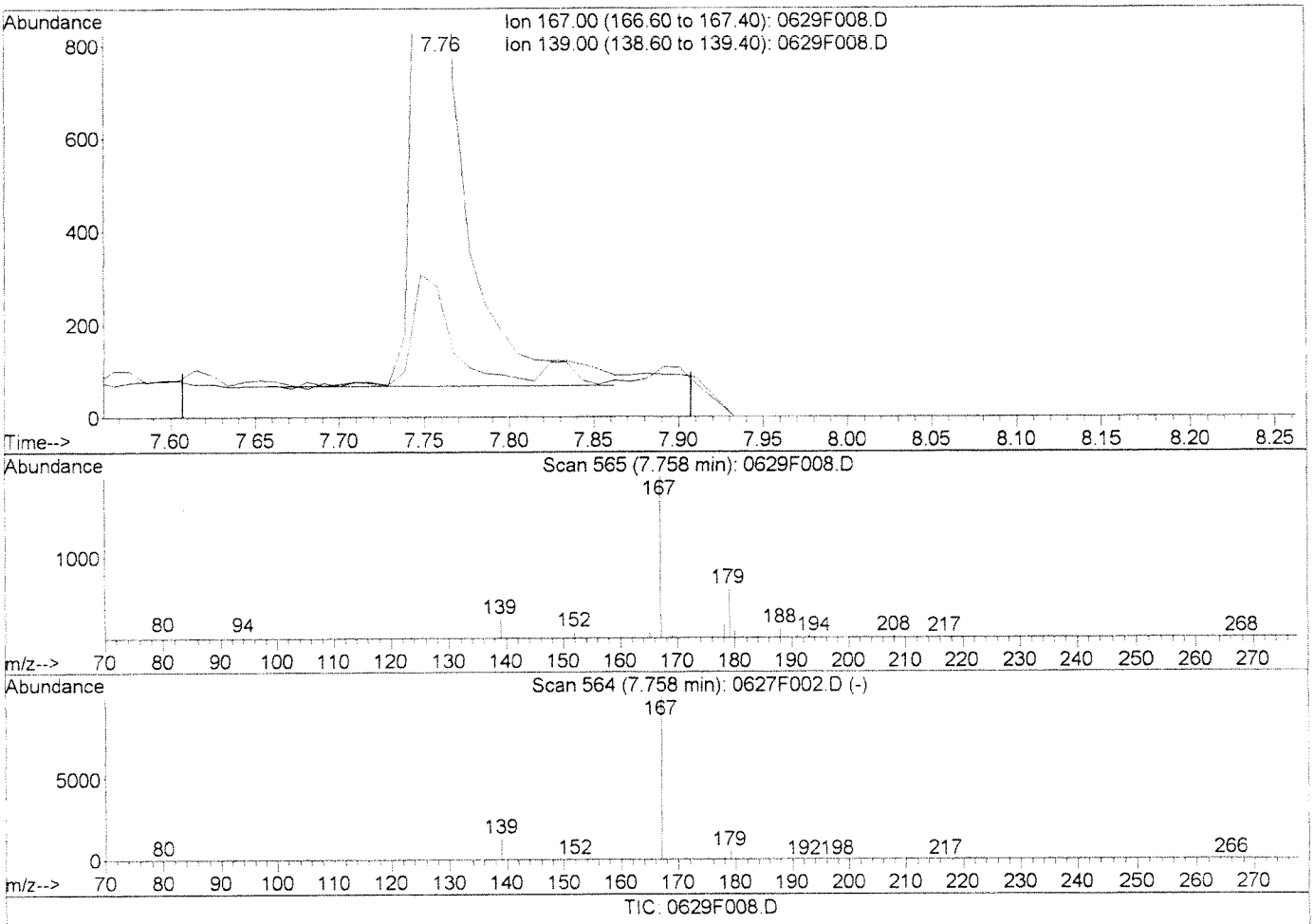
06/30/14

0629F008.D 062914ALK.M Mon Jun 30 05:10:34 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:10 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F008.D

(29) Carbazole (T)

7.76min 8.20ng/ml

response 2855

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	10.92
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

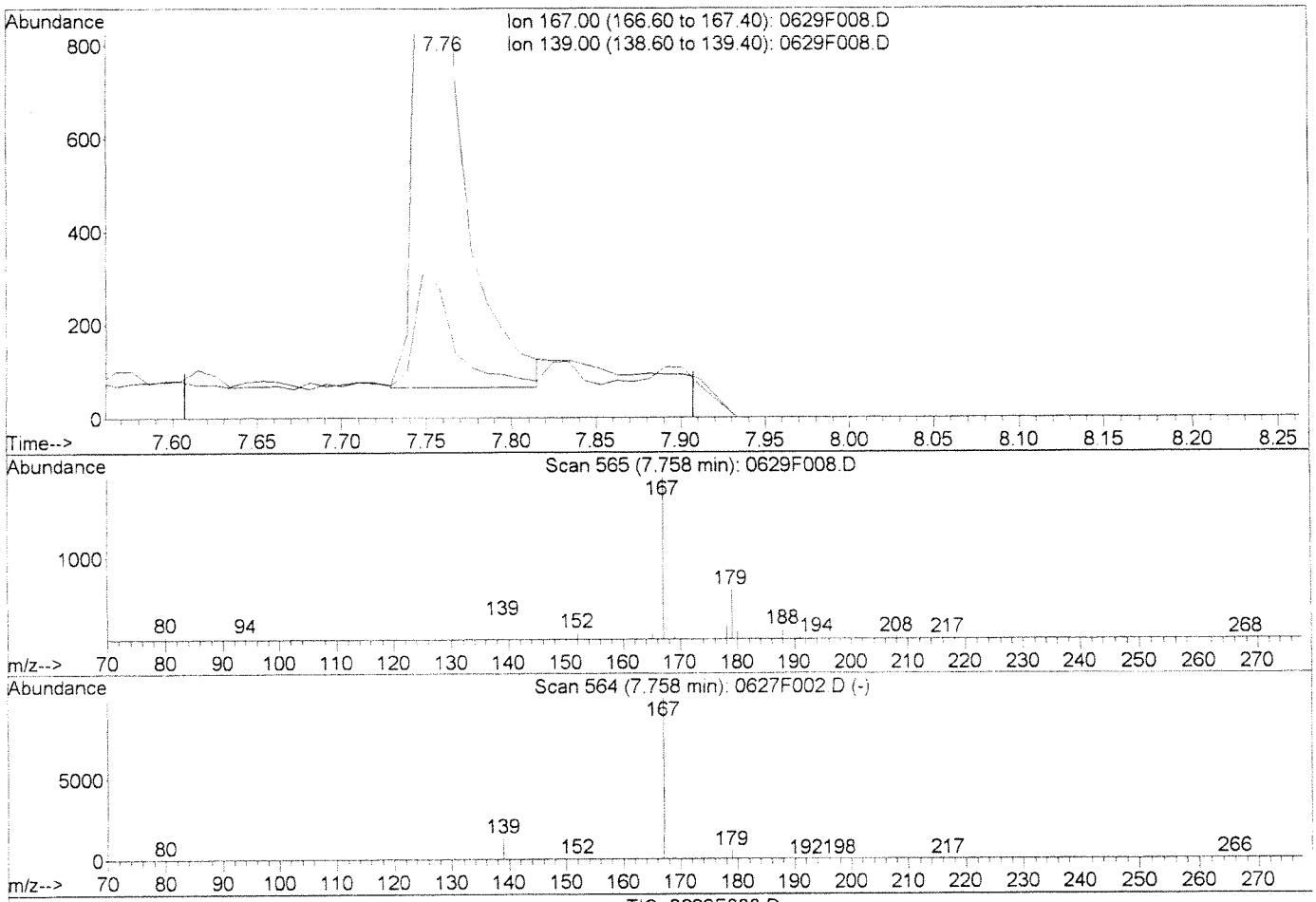
06/30/14

0629F008.D 062914ALK.M Mon Jun 30 05:10:39 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:10 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F008.D

(29) Carbazole (T)

7.76min 7.81ng/ml m

response 2720

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	14.63
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

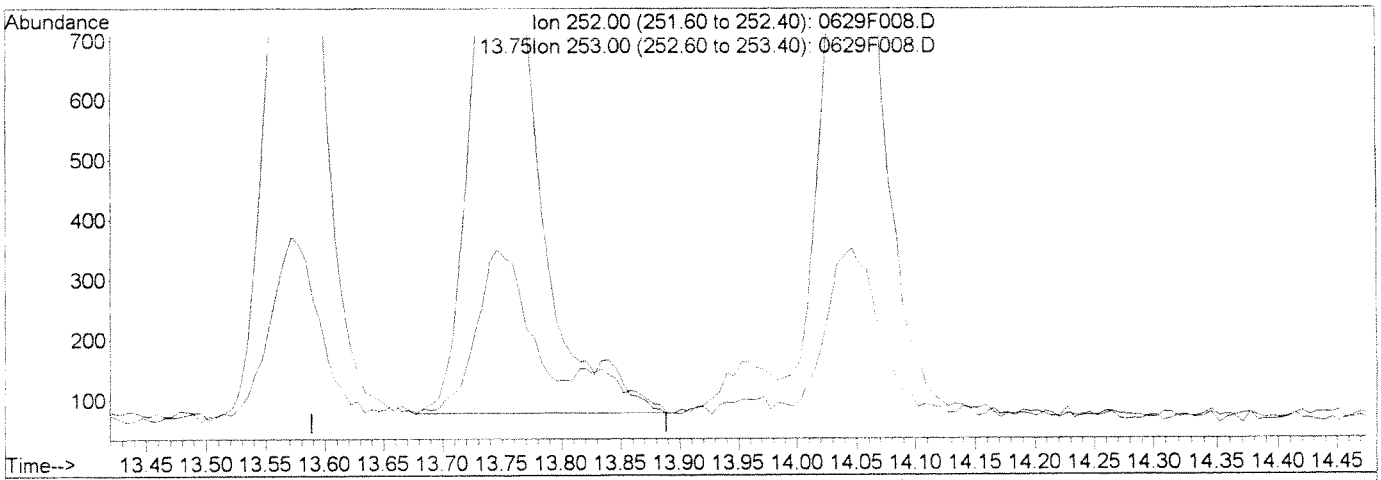
06/30/14

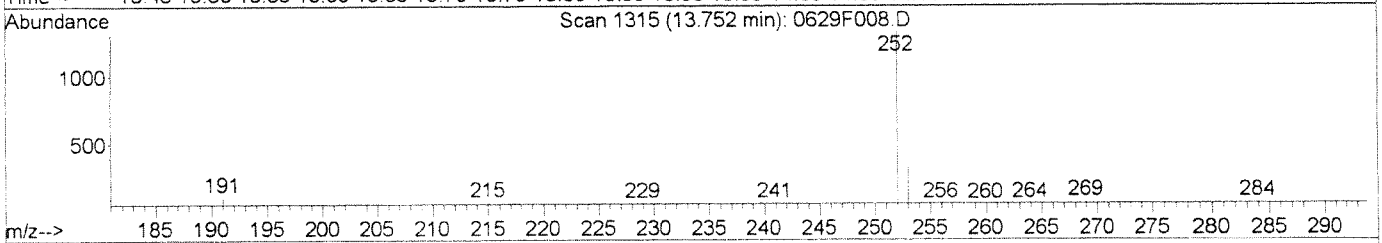
0629F008.D 062914ALK.M Mon Jun 30 05:10:44 2014

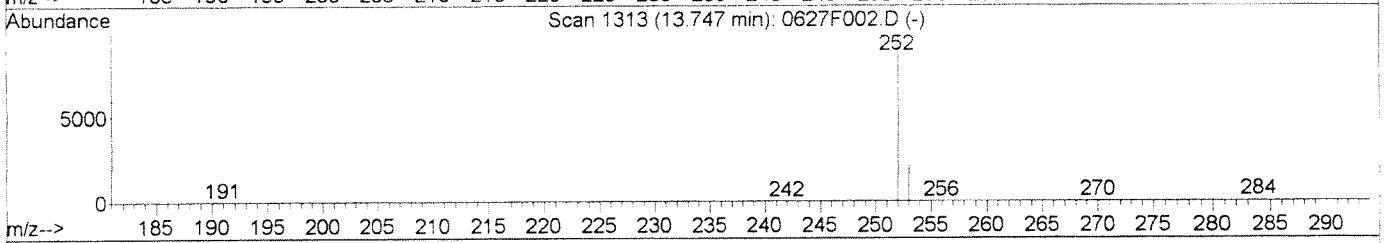
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:10 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F008.D

(54) Benzo(a)pyrene (T)

13.75min 8.95ng/ml

response 3946

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	20.88
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

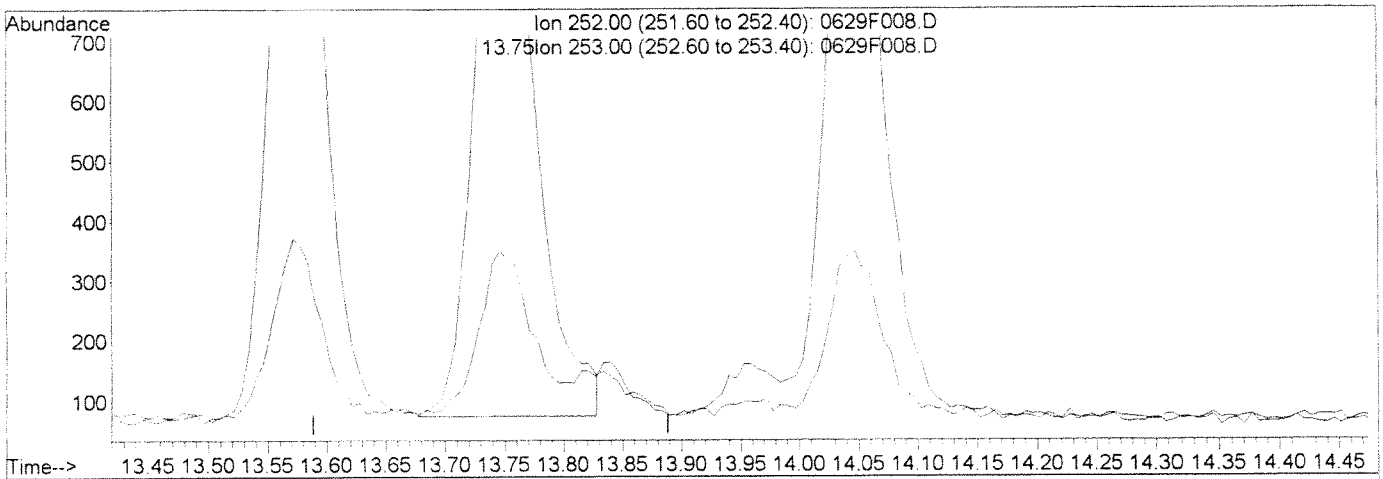
06/30/14

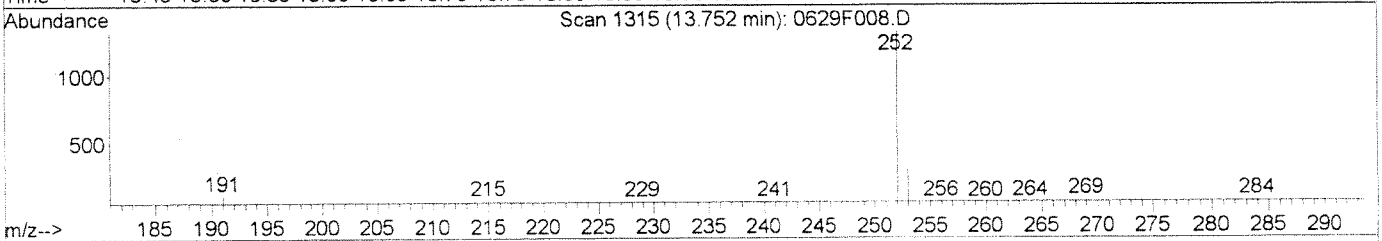
0629F008.D 062914ALK.M Mon Jun 30 05:10:57 2014

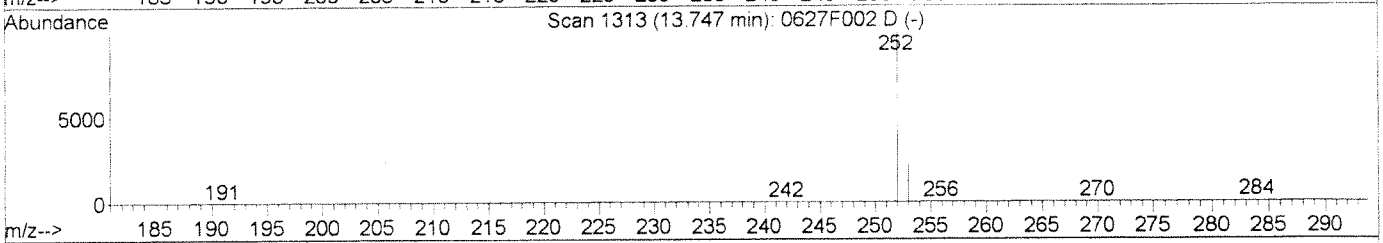
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F008.D Vial: 6
Acq On : 29 Jun 2014 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008ug/mL | SVM46-68C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F008.D

(54) Benzo(a)pyrene (T)

13.75min 8.69ng/ml m

response 3833

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	25.32
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
06/30/14

0629F008.D 062914ALK.M Mon Jun 30 05:11:01 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:11 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	36723	200.00	ng/ml	-0.03
10) Acenaphthene-d10	6.33	164	19357	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	38068	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	44173	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	44231	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	2694m	23.68	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	2.37%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.55	212	5118	23.18	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	2.32%		
43) Terphenyl-d14	8.93	244	4195	22.54	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	2.25%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	4270	21.08	ng/ml	100
3) 2-Methylnaphthalene	5.49	142	2892	17.20	ng/ml	100
4) 1-Methylnaphthalene	5.57	142	2524	16.49	ng/ml	98
5) Biphenyl	5.86	154	3283	16.18	ng/ml	96
6) 2,6-Dimethylnaphthalene	5.99	156	2153m	15.62	ng/ml	
11) Acenaphthylene	6.22	152	3760	19.45	ng/ml	98
12) Acenaphthene	6.36	154	2425m	21.29	ng/ml	
13) Dibenzofuran	6.50	168	3356	18.37	ng/ml	81
14) 2,3,5-Trimethylnaphthalene	6.67	170	2228	19.89	ng/ml	86
16) Fluorene	6.78	166	2844	20.02	ng/ml	93
23) Dibenzothiophene	7.48	184	3966	20.07	ng/ml	83
27) Phenanthrene	7.58	178	4298	20.15	ng/ml	99
28) Anthracene	7.62	178	4254m	20.02	ng/ml	
29) Carbazole	7.76	167	3717m	19.89	ng/ml	
30) 1-Methylphenanthrene	8.08	192	3668	21.96	ng/ml	93
35) Fluoranthene	8.56	202	4965	19.85	ng/ml	89
38) Pyrene	8.78	202	4893	21.06	ng/ml	83
44) Benz(a)anthracene	10.30	228	5169	20.06	ng/ml	97
45) Chrysene	10.36	228	4893	21.78	ng/ml	97
51) Benzo(b)fluoranthene	12.73	252	5447	20.67	ng/ml	96
52) Benzo(k)fluoranthene	12.81	252	5290	21.19	ng/ml	99
53) Benzo(e)pyrene	13.58	252	5158	21.39	ng/ml	97
54) Benzo(a)pyrene	13.75	252	4800	21.33	ng/ml	99
55) Perylene	14.04	252	4739	20.52	ng/ml	100
56) Indeno(1,2,3-cd)pyrene	17.06	276	4190	18.27	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:11 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

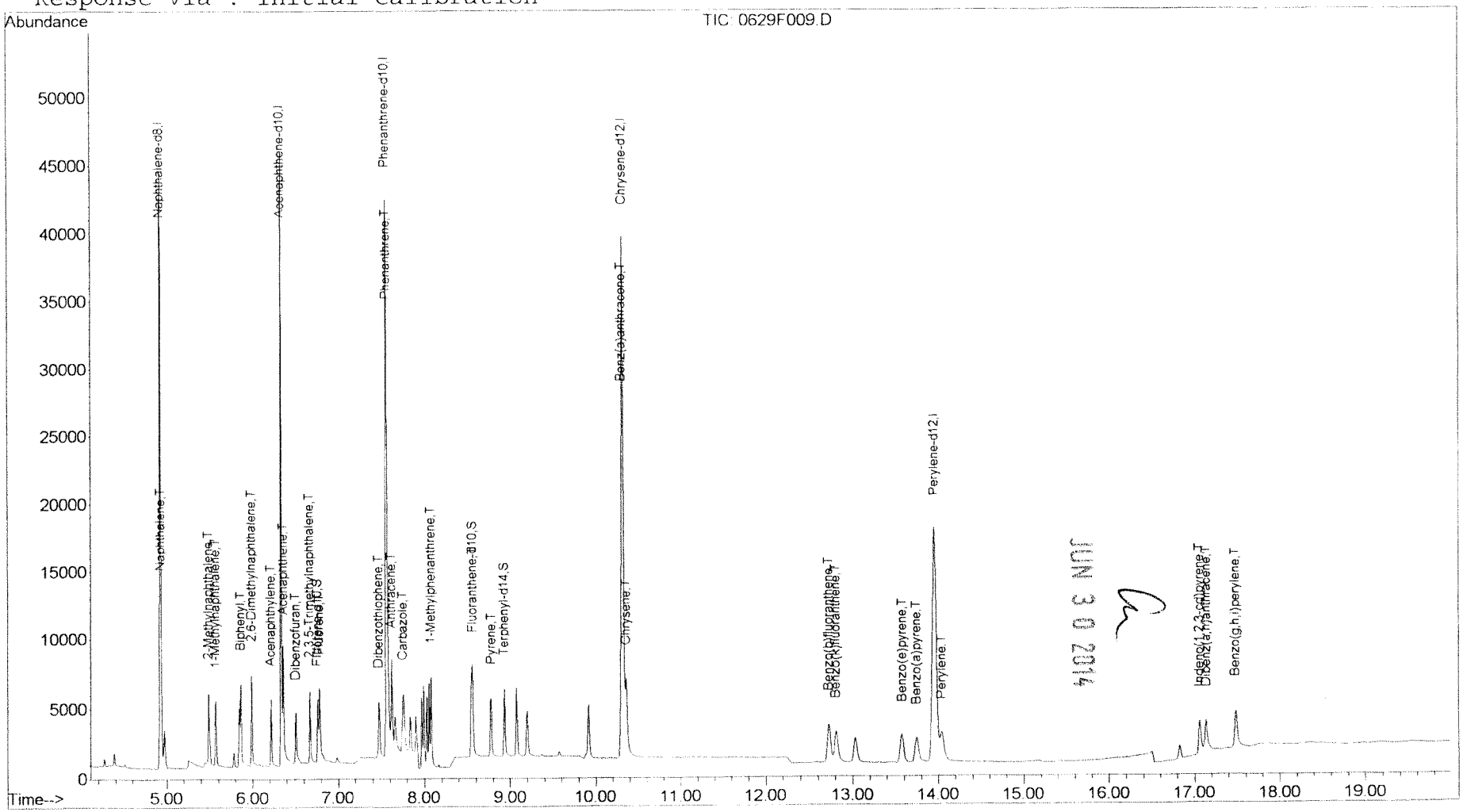
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	4362	17.86	ng/ml	96
58)	Benzo(g,h,i)perylene	17.48	276	5434	21.59	ng/ml	99

(#) = qualifier out of range (m) = manual integration
0629F009.D 062914ALK.M Mon Jun 30 06:27:36 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration

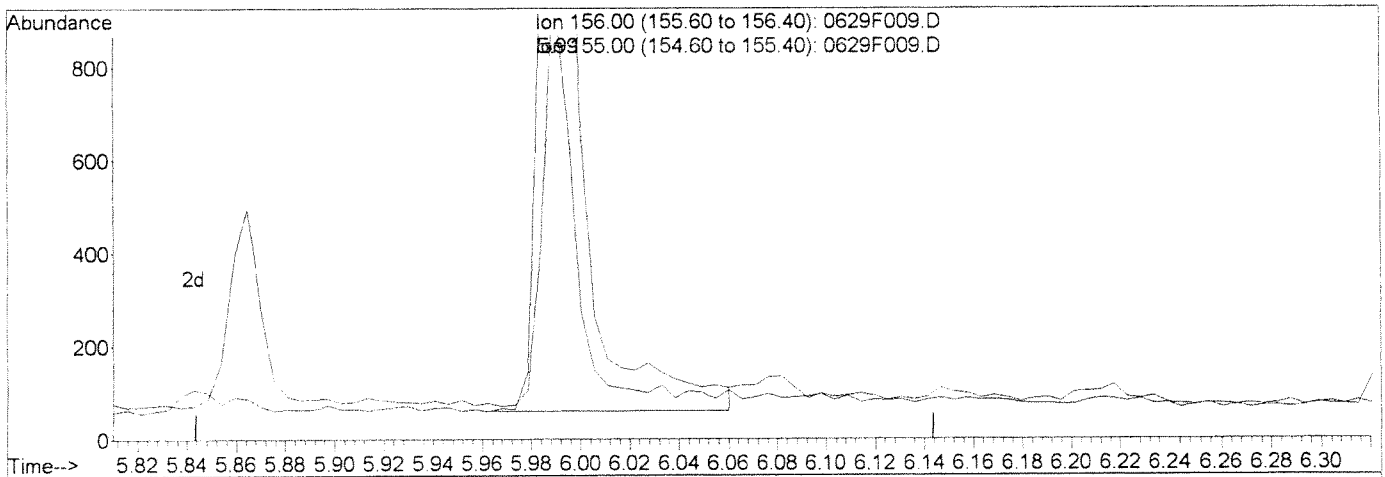


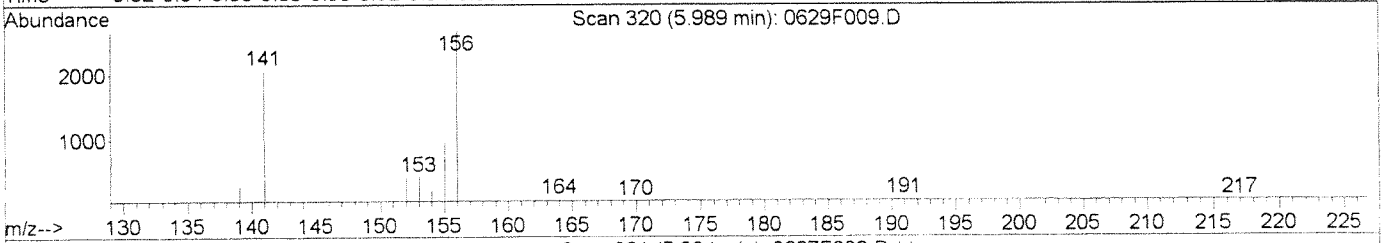
877

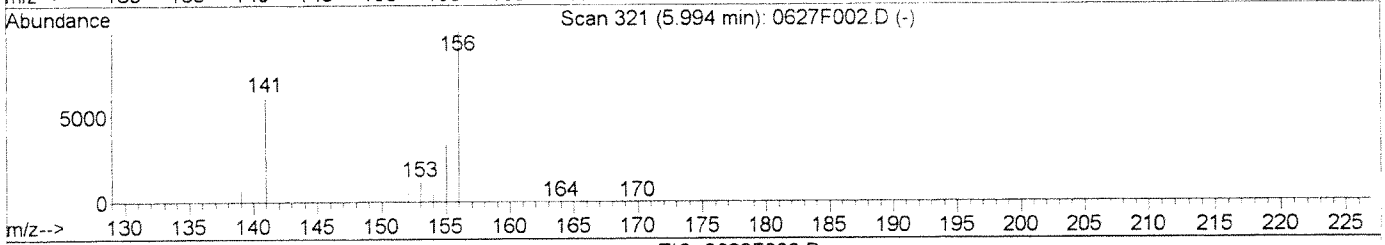
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(6) 2,6-Dimethylnaphthalene (T)

5.99min 16.79ng/ml

response 2314

Ion	Exp%	Act%
156.00	100	100
155.00	37.50	34.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

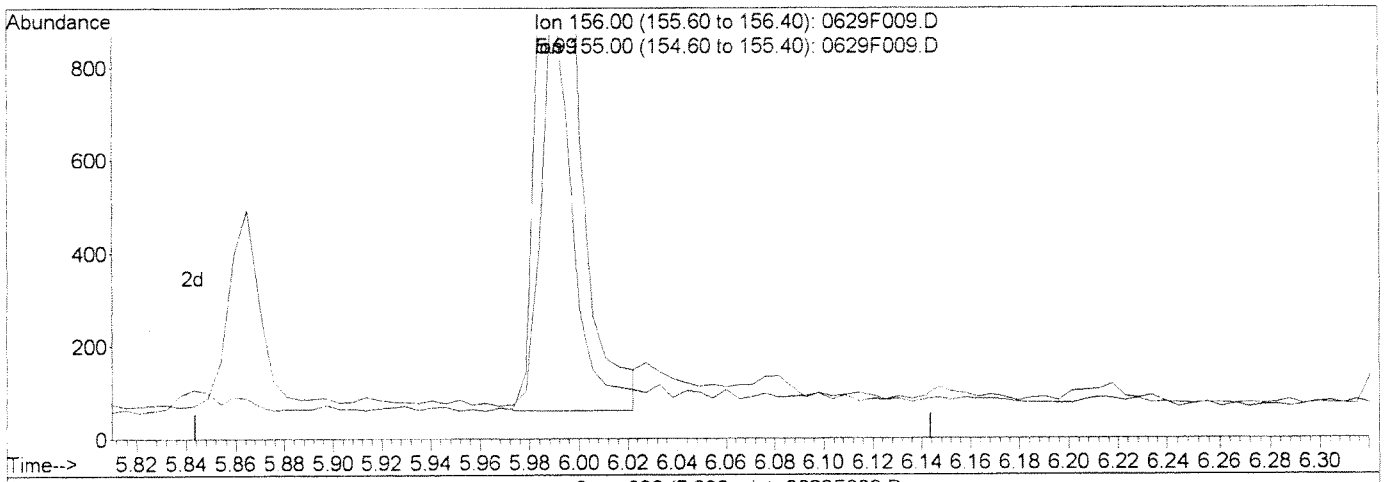
06/30/14

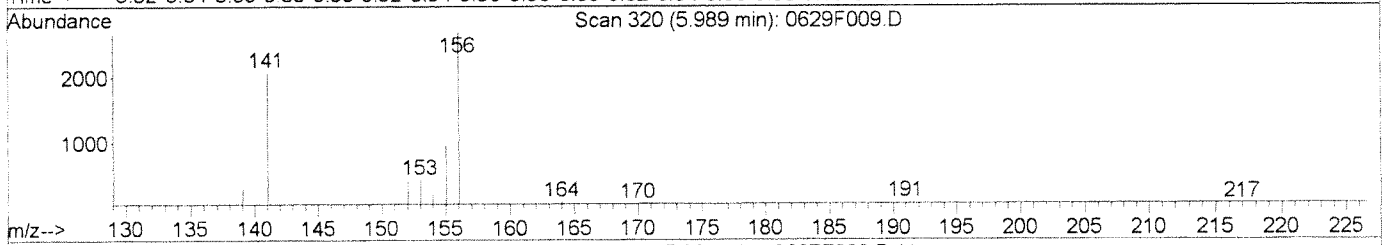
0629F009.D 062914ALK.M Mon Jun 30 05:11:16 2014

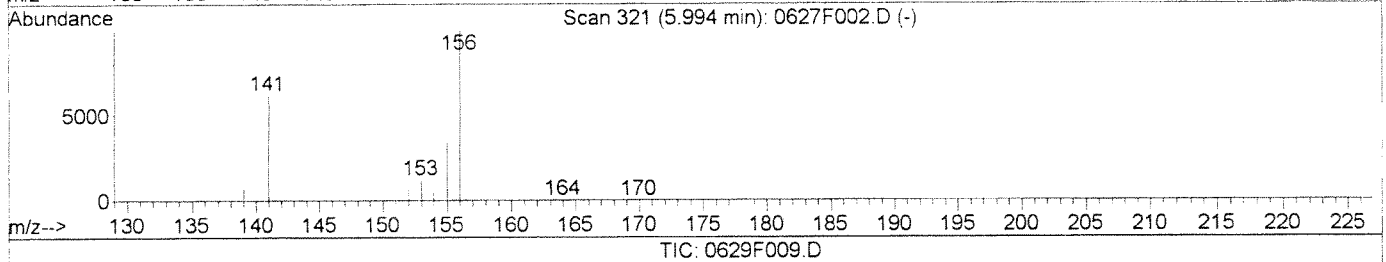
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(6) 2,6-Dimethylnaphthalene (T)

5.99min 15.62ng/ml m

response 2153

Ion	Exp%	Act%
156.00	100	100
155.00	37.50	36.46
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

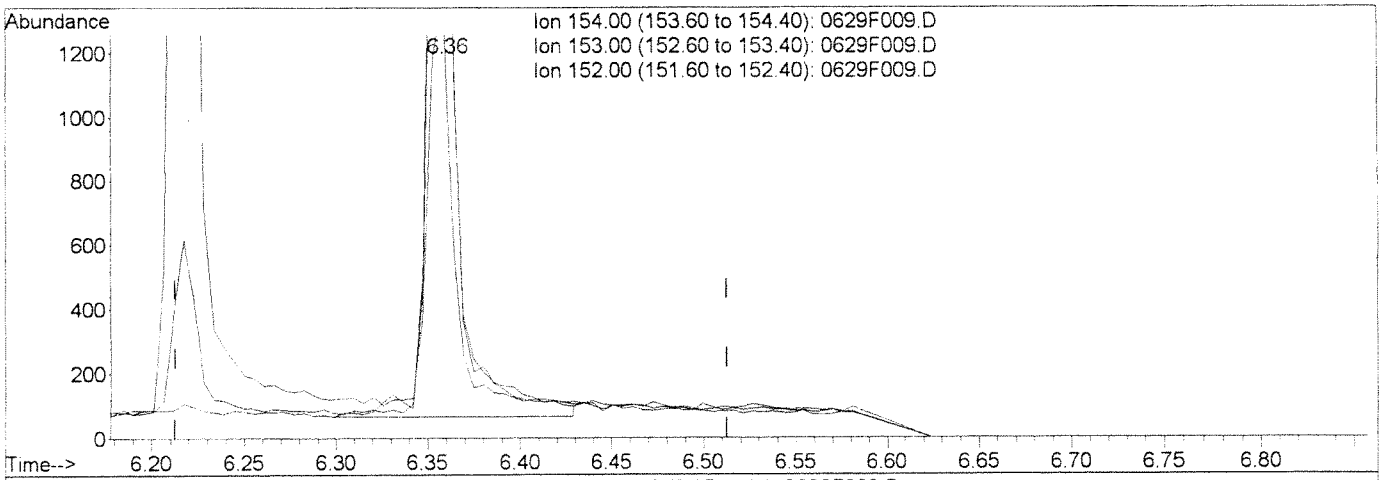
06/30/14

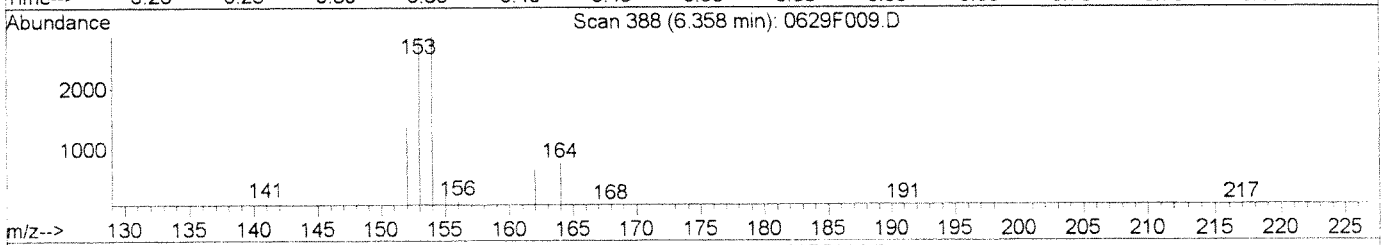
0629F009.D 062914ALK.M Mon Jun 30 05:11:20 2014

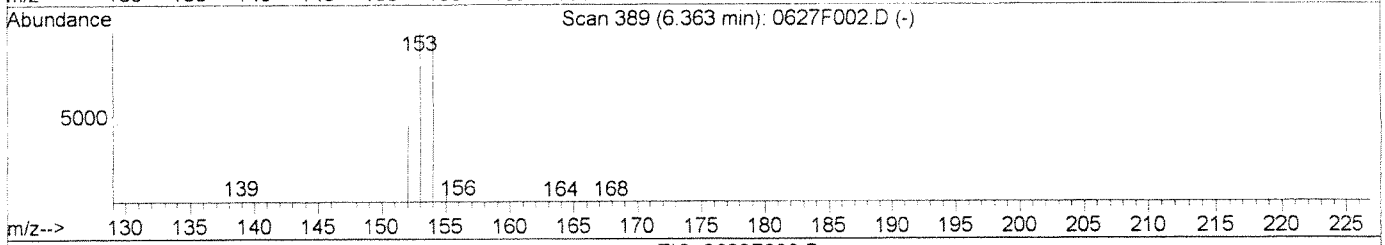
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(12) Acenaphthene (T)

6.36min 21.96ng/ml

response 2501

Ion	Exp%	Act%
154.00	100	100
153.00	109.50	100.71
152.00	52.90	45.26
0.00	0.00	0.00

Manual Integration:

Before

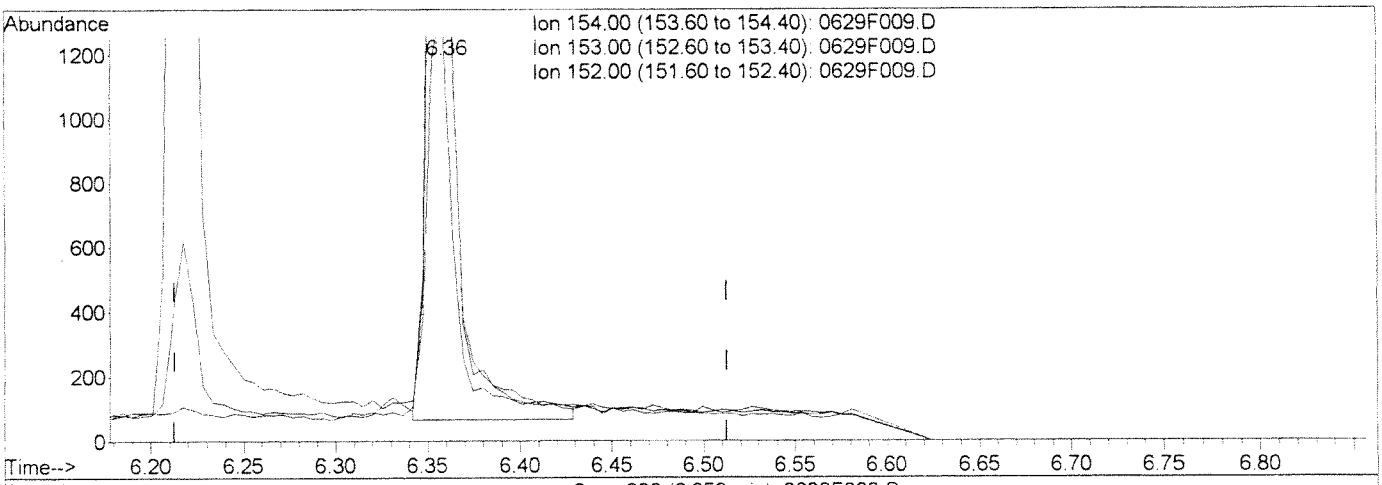
06/30/14

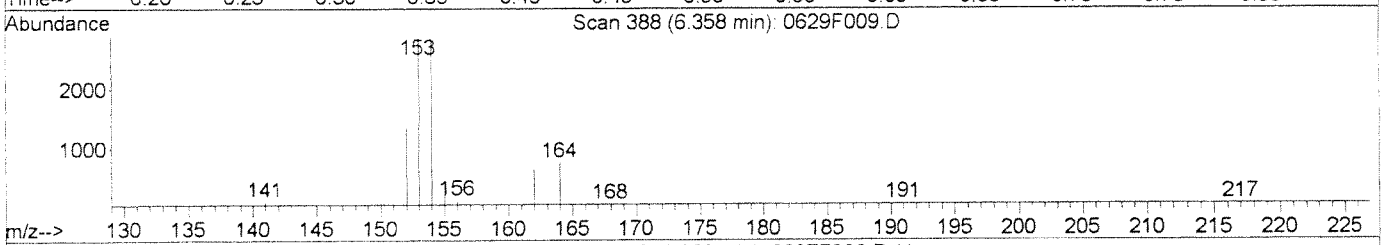
0629F009.D 062914ALK.M Mon Jun 30 05:11:26 2014

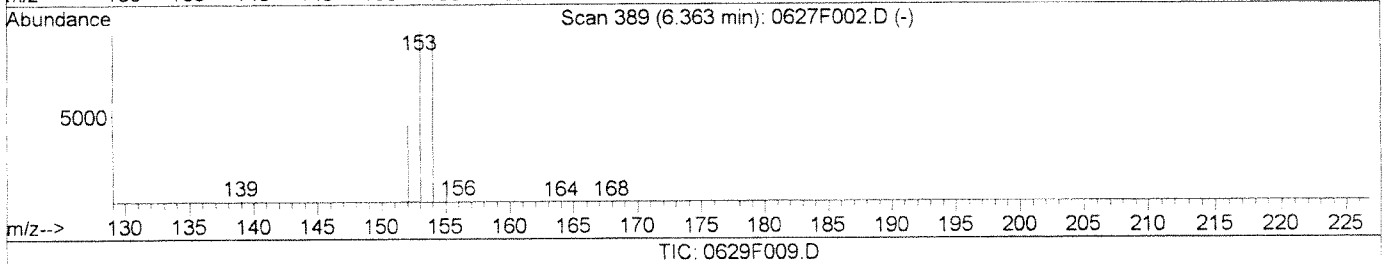
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(12) Acenaphthene (T)

6.36min 21.29ng/ml m

response 2425

Ion	Exp%	Act%
154.00	100	100
153.00	109.50	101.11
152.00	52.90	47.84
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

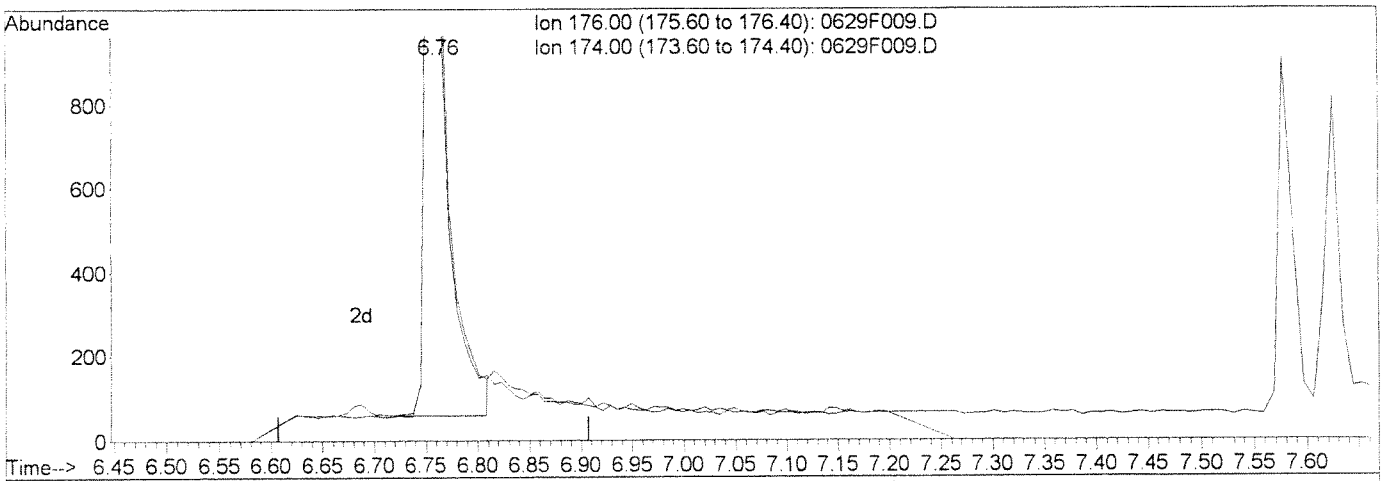
06/30/14

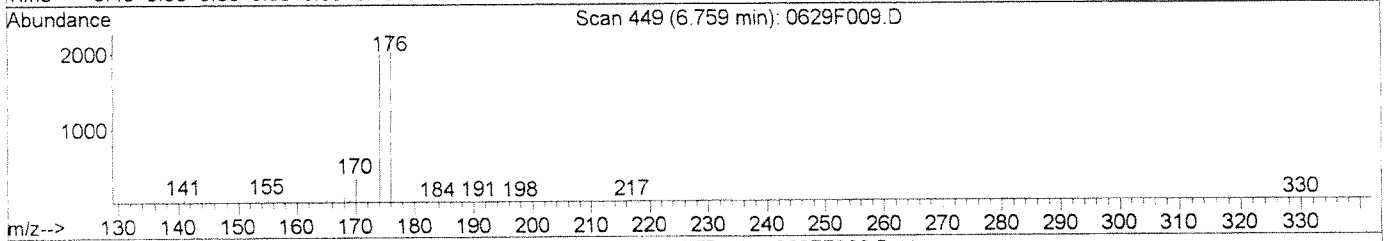
0629F009.D 062914ALK.M Mon Jun 30 05:11:31 2014

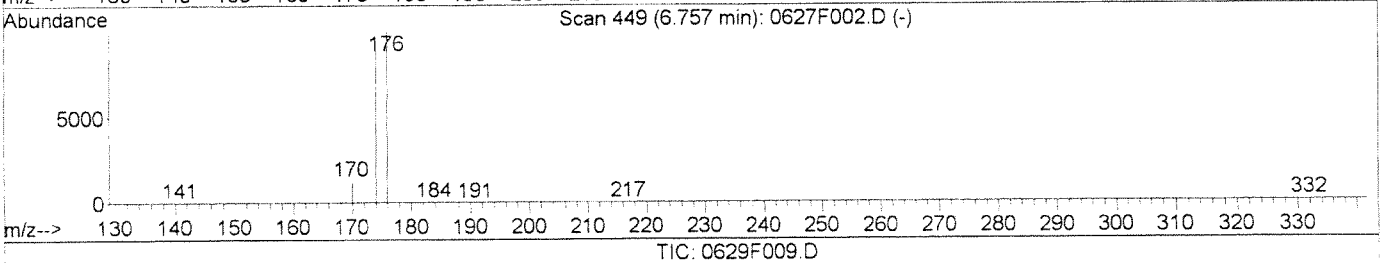
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(15) Fluorene-d10 (S)

6.76min 21.97ng/ml

response 2500

Ion	Exp%	Act%
176.00	100	100
174.00	94.70	88.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

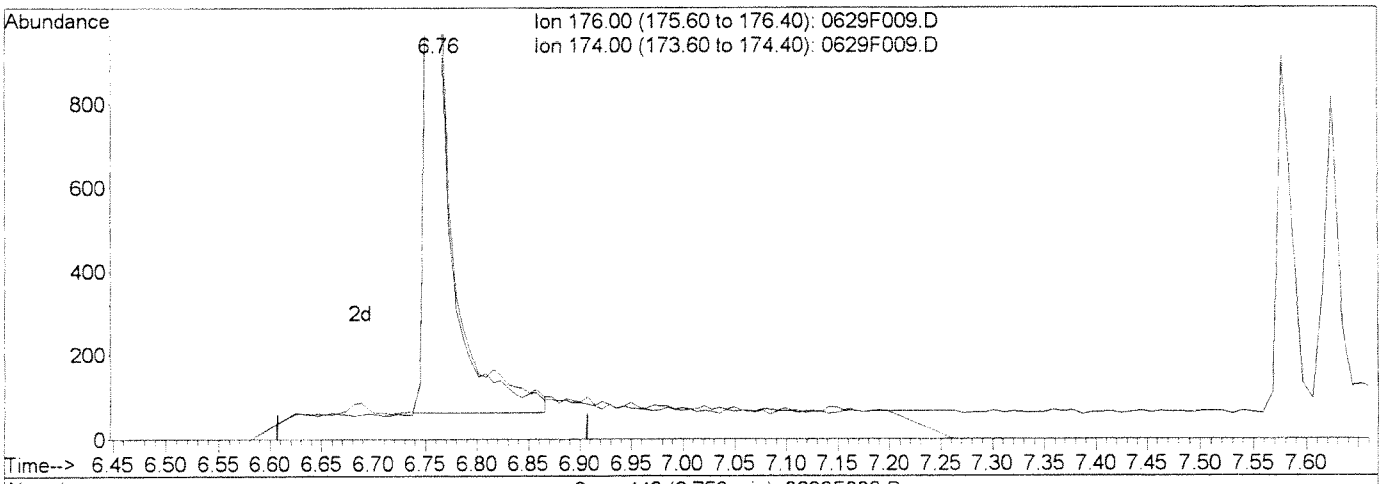
06/30/14

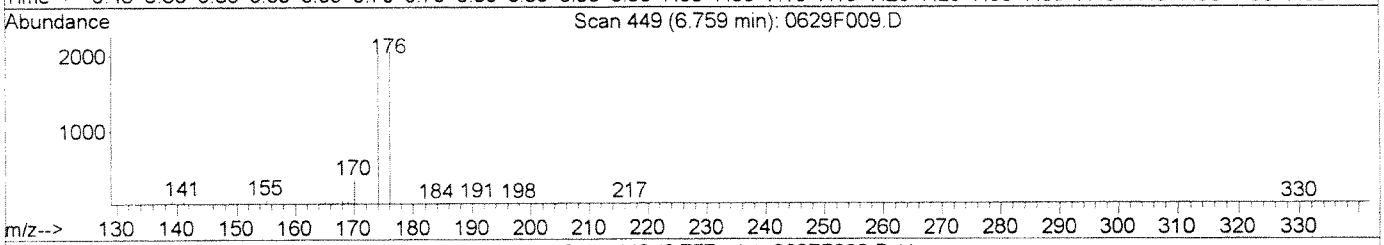
0629F009.D 062914ALK.M Mon Jun 30 05:11:38 2014

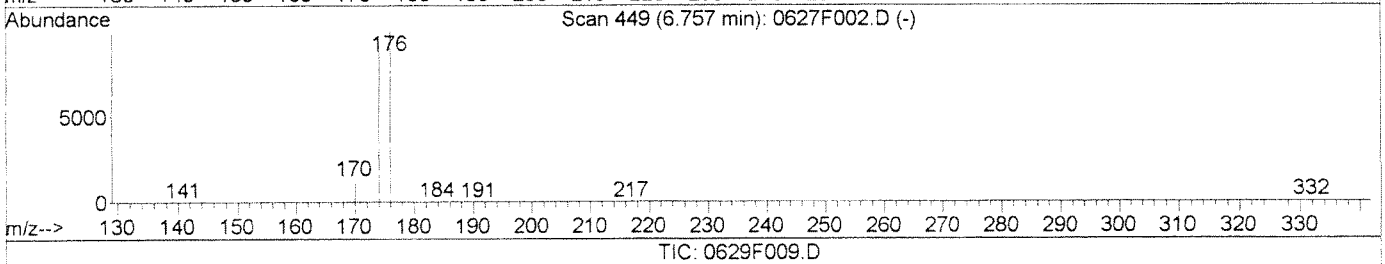
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(15) Fluorene-d10 (S)

6.76min 23.68ng/ml m

response 2694

Ion	Exp%	Act%
176.00	100	100
174.00	94.70	88.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

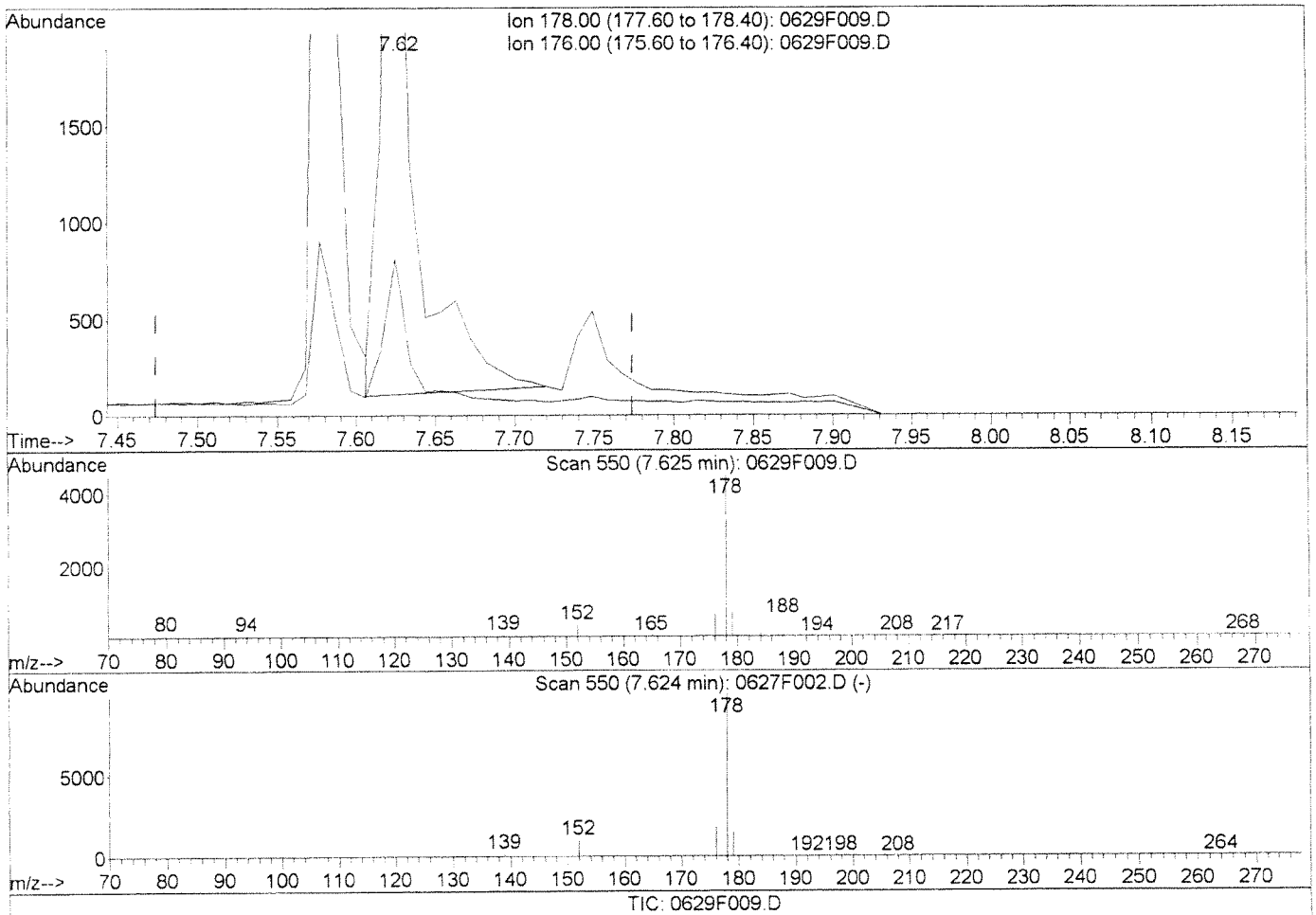
06/30/14

0629F009.D 062914ALK.M Mon Jun 30 05:11:44 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F009.D

(28) Anthracene (T)

7.62min 23.56ng/ml

response 5006

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

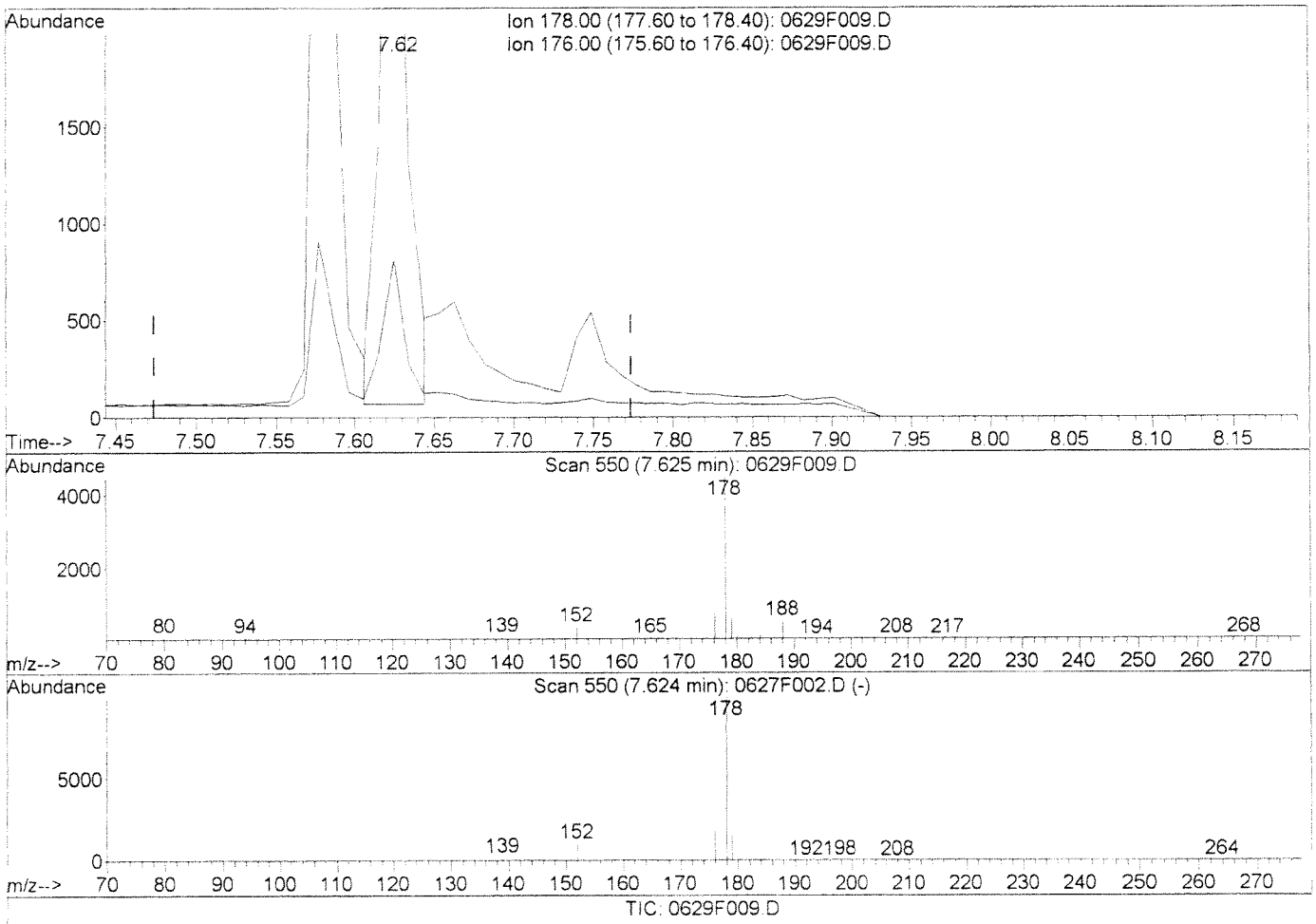
06/30/14

0629F009.D 062914ALK.M Mon Jun 30 05:11:53 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D Vial: 7
Acq On : 29 Jun 2014 11:29 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F009.D

(28) Anthracene (T)

7.62min 20.02ng/ml m

response 4254

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	18.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

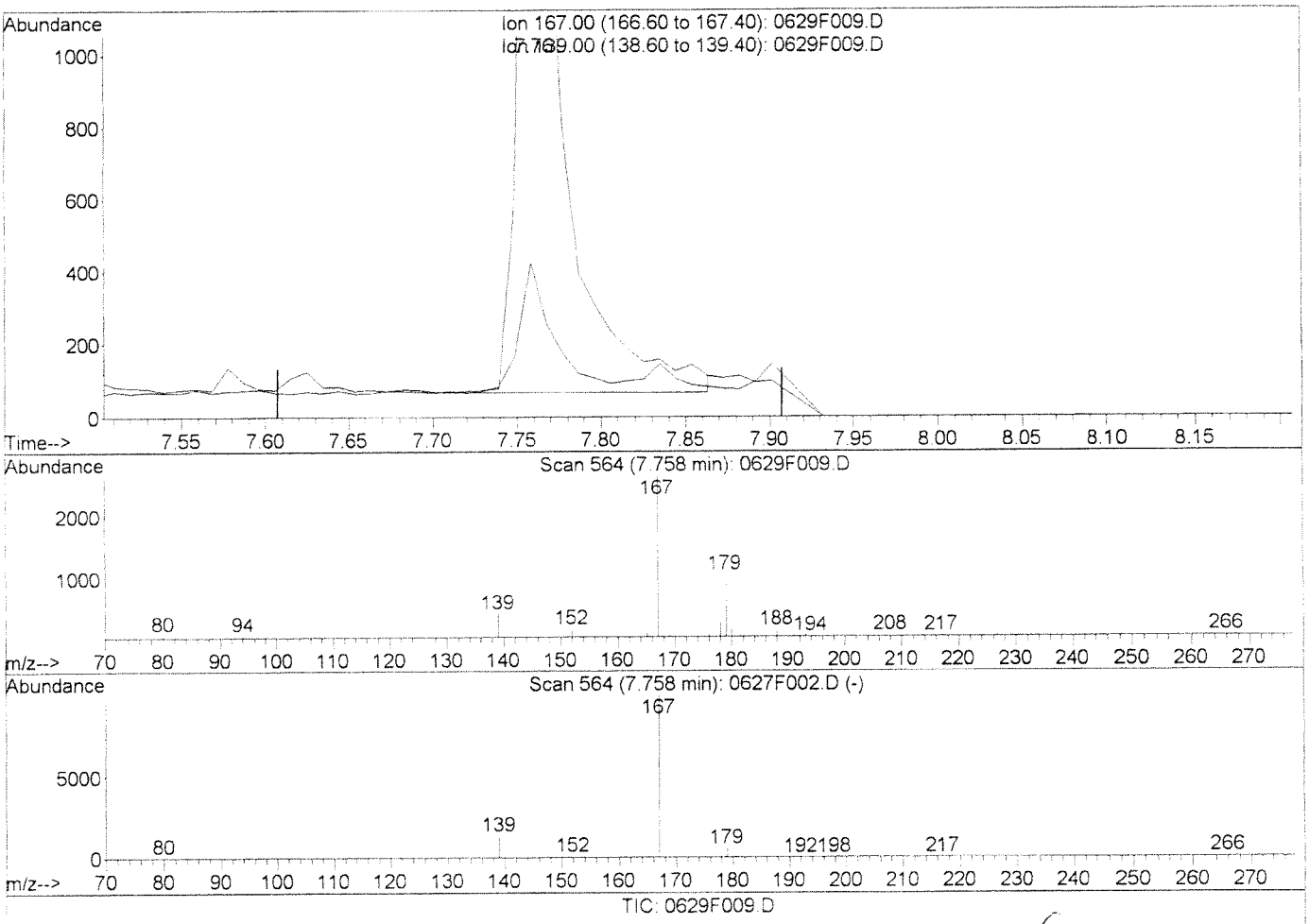
0629F009.D 062914ALK.M Mon Jun 30 05:11:58 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F009.D
Acq On : 29 Jun 2014 11:29 am
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:11 2014

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F009.D

(29) Carbazole (T)

7.76min 20.65ng/ml

response 3858

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	13.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual integration:

Before

06/30/14

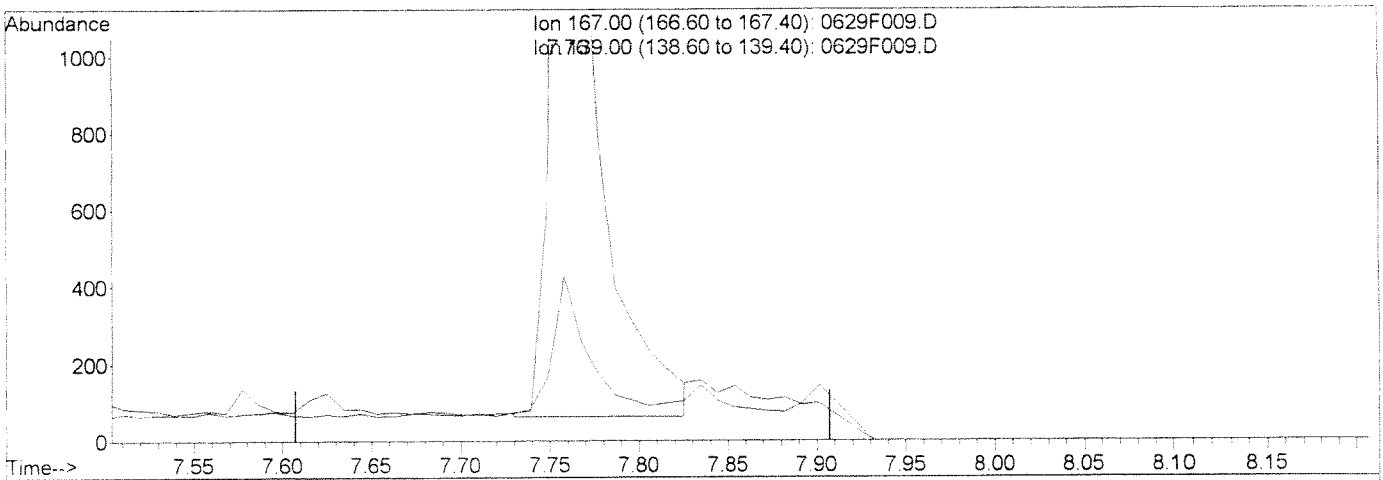
0629F009.D 062914ALK.M Mon Jun 30 05:12:03 2014

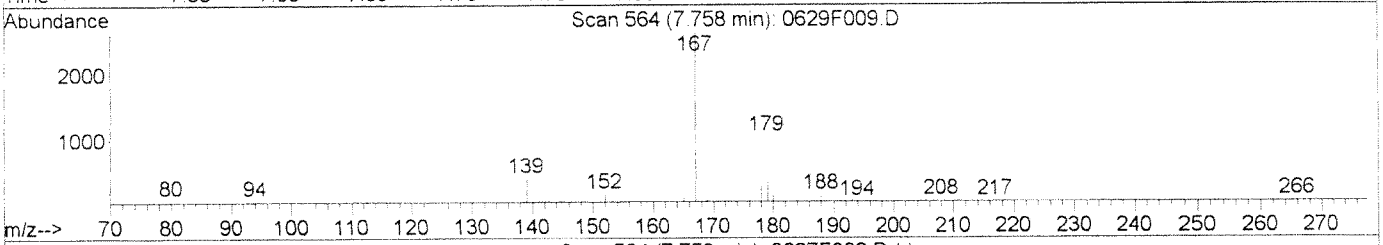
Quantitation Report (Qedit)

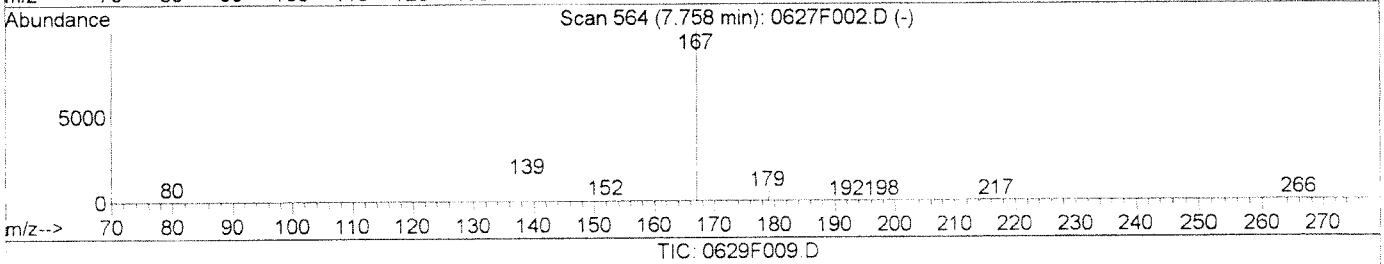
Data File : J:\MS11\DATA\062914\0629F009.D
Acq On : 29 Jun 2014 11:29 am
Sample : SIM-PAH ICAL @0.02ug/mL | SVM46-68D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F009.D

(29) Carbazole (T)

7.76min 19.89ng/ml m

response 3717

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	16.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0629F009.D 062914ALK.M Mon Jun 30 05:12:07 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:12 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	40510	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.33	164	21852	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	42940	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	48902	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	48516	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	13990	108.92	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	10.89%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.54	212	24205	97.17	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	9.72%		
43) Terphenyl-d14	8.93	244	21799	105.81	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	10.58%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	21982	98.39	ng/ml	98
3) 2-Methylnaphthalene	5.49	142	15378	82.91	ng/ml	94
4) 1-Methylnaphthalene	5.57	142	13751	81.45	ng/ml	97
5) Biphenyl	5.86	154	18731	83.68	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.99	156	13341	87.76	ng/ml	97
11) Acenaphthylene	6.22	152	21035	96.37	ng/ml	99
12) Acenaphthene	6.36	154	12909m	100.41	ng/ml	
13) Dibenzofuran	6.50	168	19255	93.35	ng/ml	88
14) 2,3,5-Trimethylnaphthalene	6.67	170	12355	97.70	ng/ml	91
16) Fluorene	6.78	166	15892	99.08	ng/ml	93
23) Dibenzothiophene	7.47	184	21604	96.90	ng/ml	93
27) Phenanthrene	7.58	178	22944	95.37	ng/ml	99
28) Anthracene	7.62	178	22890m	95.50	ng/ml	
29) Carbazole	7.76	167	20695	98.18	ng/ml	94
30) 1-Methylphenanthrene	8.08	192	17099	90.77	ng/ml	92
35) Fluoranthene	8.56	202	25711	91.13	ng/ml	86
38) Pyrene	8.77	202	26230	101.98	ng/ml	88
44) Benz(a)anthracene	10.30	228	25457	89.26	ng/ml	100
45) Chrysene	10.36	228	25184	101.27	ng/ml	99
51) Benzo(b)fluoranthene	12.72	252	28412	98.32	ng/ml	99
52) Benzo(k)fluoranthene	12.80	252	28162	102.84	ng/ml	97
53) Benzo(e)pyrene	13.57	252	26420	99.90	ng/ml	99
54) Benzo(a)pyrene	13.75	252	24814	100.54	ng/ml	99
55) Perylene	14.05	252	24954	98.52	ng/ml	98
56) Indeno(1,2,3-cd)pyrene	17.05	276	24384	96.93	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:12 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

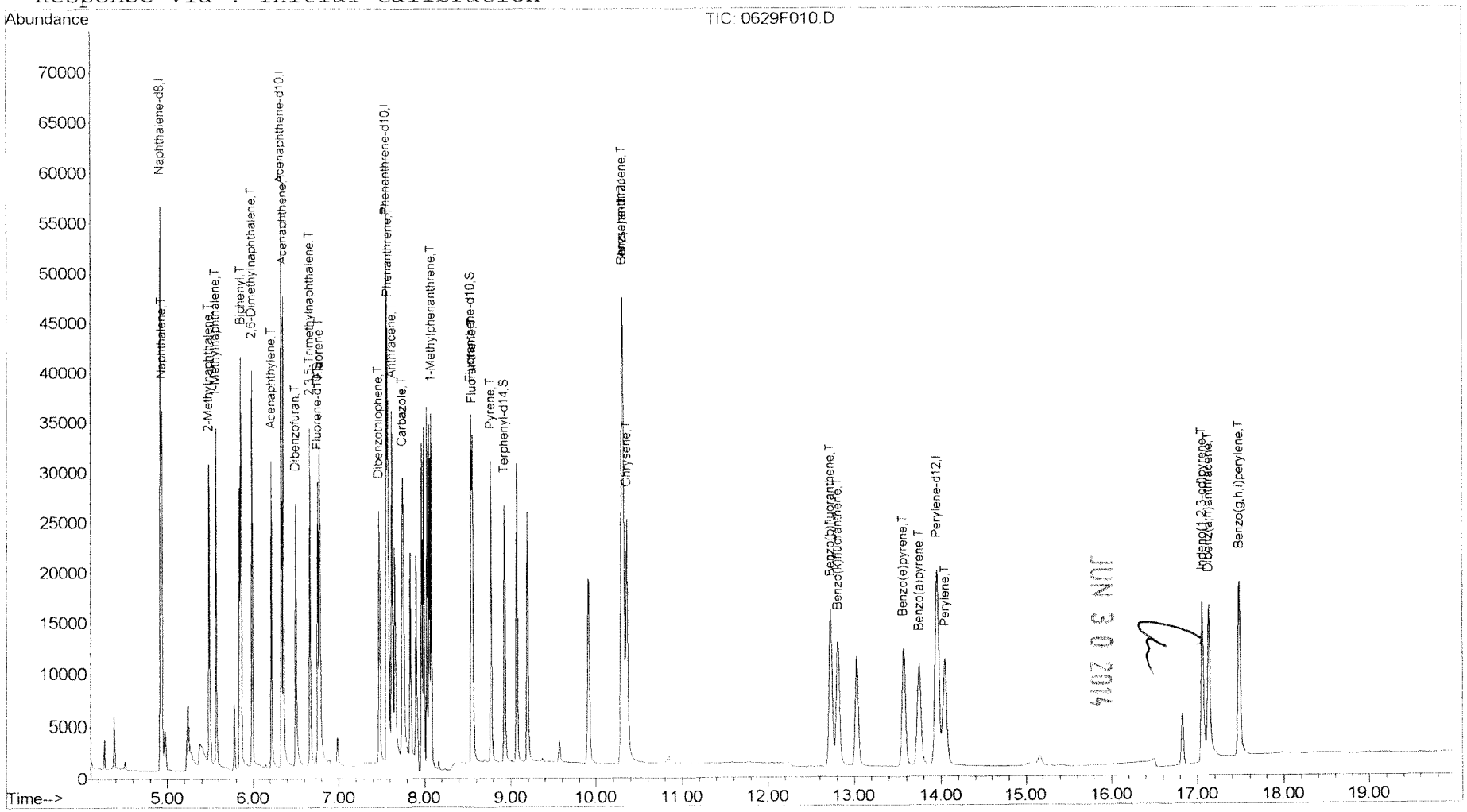
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	25475	95.10	ng/ml	98
58)	Benzo(g,h,i)perylene	17.48	276	29560	107.09	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration

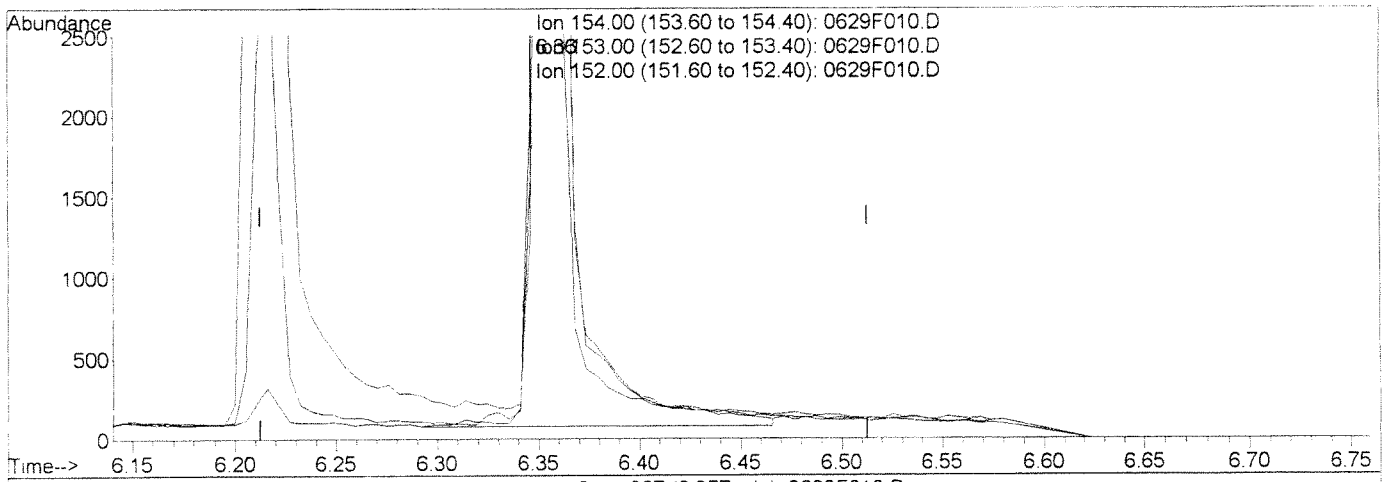


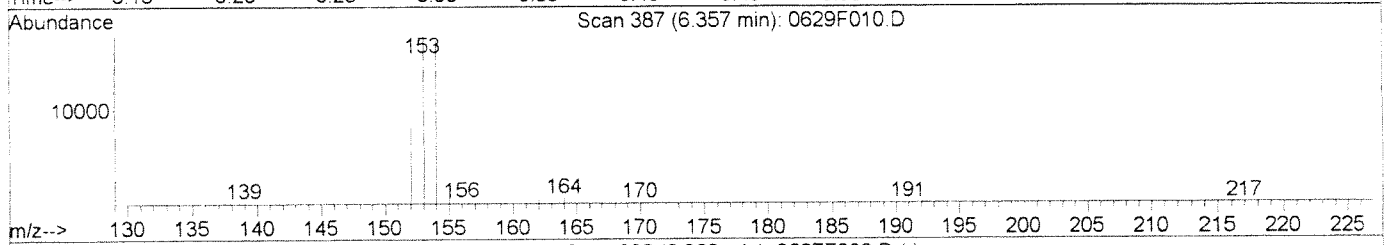
068

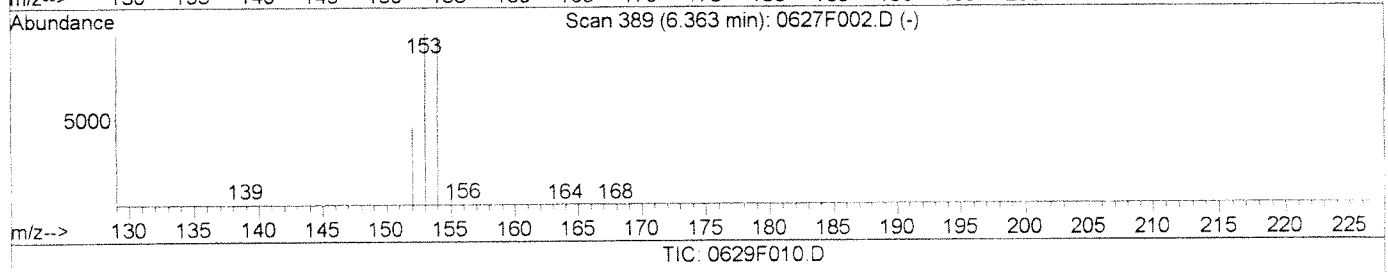
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







(12) Acenaphthene (T)

6.36min 101.79ng/ml

response 13087

Ion	Exp%	Act%
154.00	100	100
153.00	109.50	104.41
152.00	52.90	47.94
0.00	0.00	0.00

Manual Integration:

Before

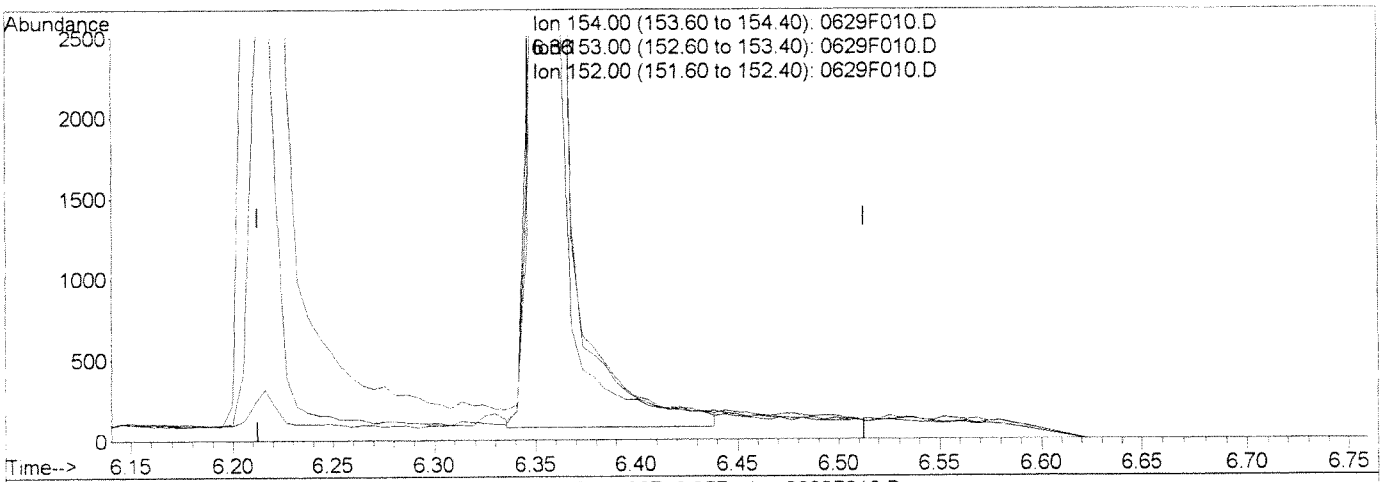
06/30/14

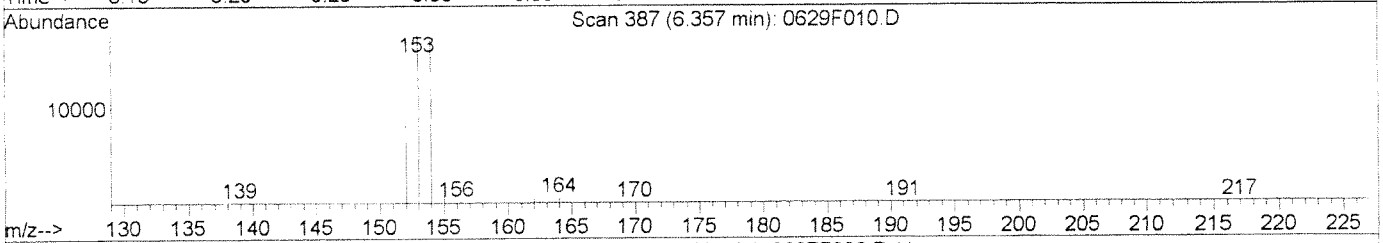
0629F010.D 062914ALK.M Mon Jun 30 05:12:30 2014

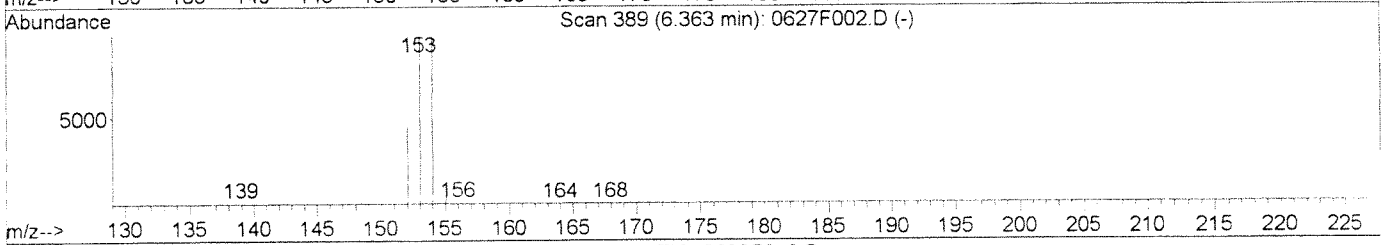
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F010.D

(12) Acenaphthene (T)

6.36min 100.41ng/ml m

response 12909

Ion	Exp%	Act%
154.00	100	100
153.00	109.50	104.56
152.00	52.90	48.58
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

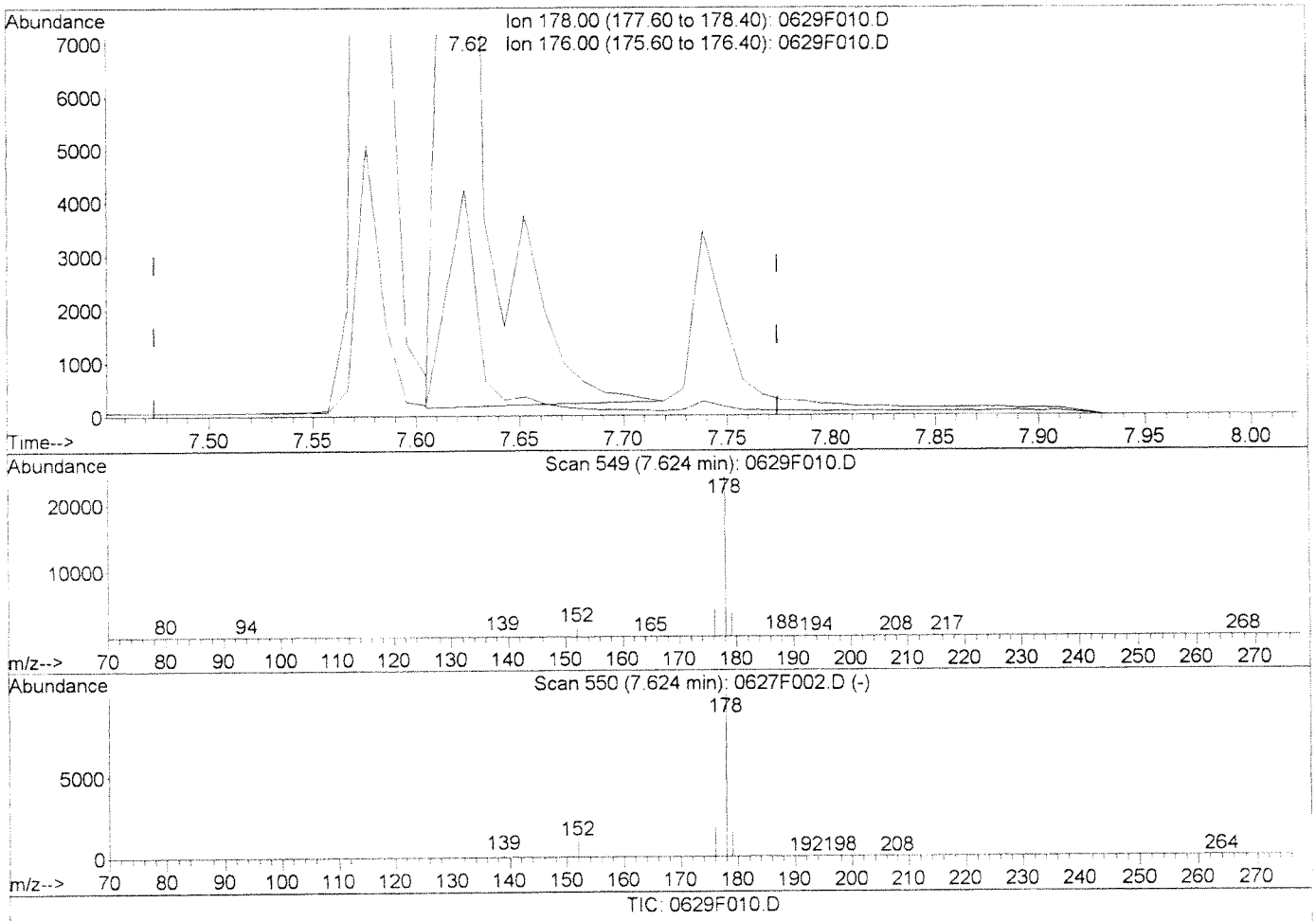
06/30/14

0629F010.D 062914ALK.M Mon Jun 30 05:12:35 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F010.D

(28) Anthracene (T)

7.62min 111.27ng/ml

response 26668

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.34
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

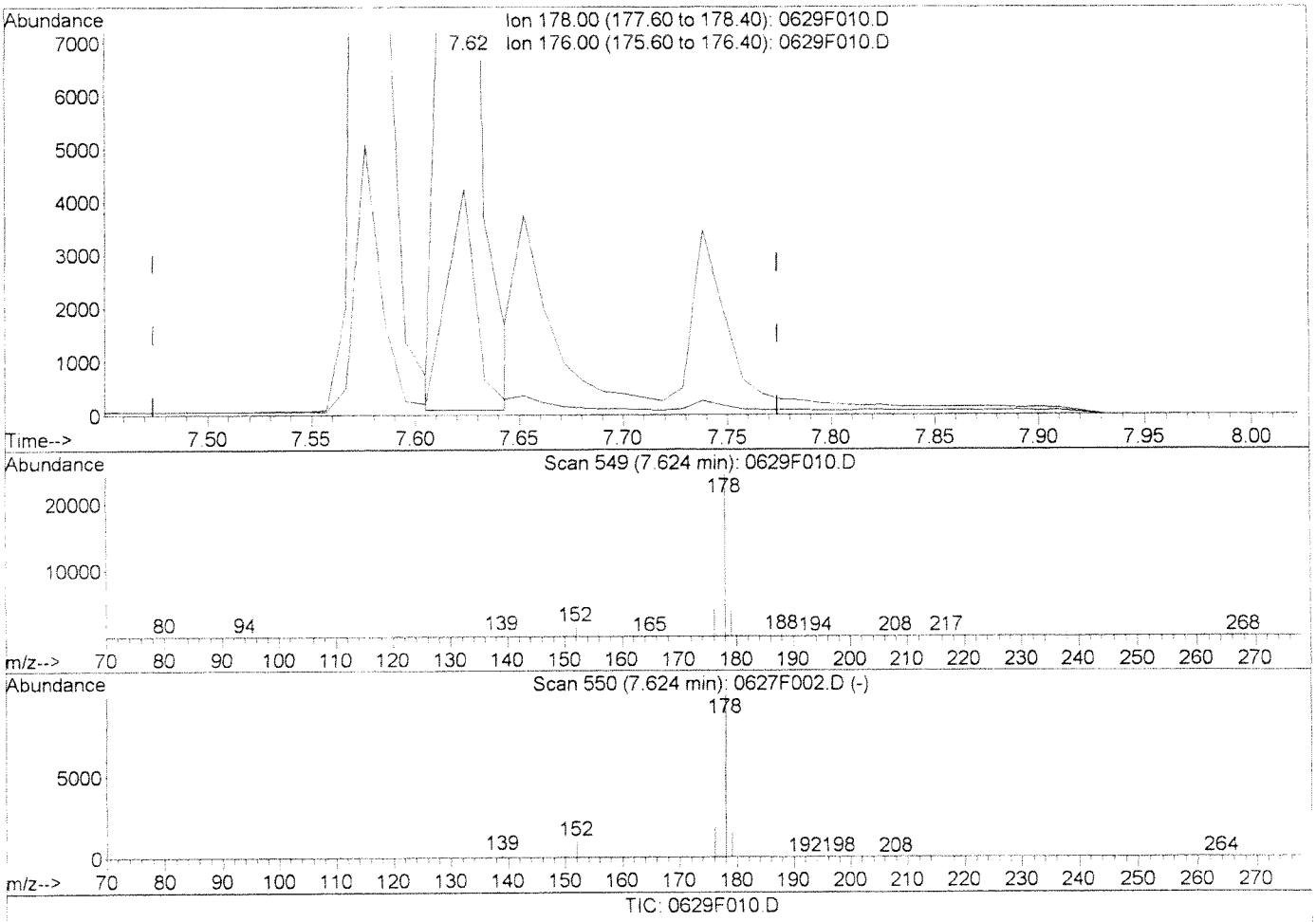
06/30/14

0629F010.D 062914ALK.M Mon Jun 30 05:12:46 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F010.D Vial: 8
Acq On : 29 Jun 2014 11:56 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1ug/mL | SVM46-68E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:12 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F010.D

(28) Anthracene (T)

7.62min 95.50ng/ml m

response 22890

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0629F010.D 062914ALK.M Mon Jun 30 05:12:52 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F011.D Vial: 9
Acq On : 29 Jun 2014 12:23 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2ug/mL | SVM46-68F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:13 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	40601	200.00	ng/ml	-0.03
10) Acenaphthene-d10	6.33	164	22176	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	43252	200.00	ng/ml	-0.01
37) Chrysene-d12	10.31	240	48706	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	48681	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	28741	220.50	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	22.05%		
20) 2,4,6 Tribromophenol	6.98	330	3600	112.70	ng/ml	0.00
Spiked Amount 1500.000			Recovery =	7.51%		
36) Fluoranthene-d10	8.54	212	50492	201.24	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	20.12%		
43) Terphenyl-d14	8.93	244	44877	218.70	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	21.87%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	45186	201.80	ng/ml	98
3) 2-Methylnaphthalene	5.49	142	31286	168.29	ng/ml	93
4) 1-Methylnaphthalene	5.57	142	27730	163.88	ng/ml	95
5) Biphenyl	5.86	154	37271	166.14	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.99	156	27146	178.18	ng/ml	96
11) Acenaphthylene	6.22	152	43893	198.15	ng/ml	99
12) Acenaphthene	6.36	154	26101	200.05	ng/ml	94
13) Dibenzofuran	6.50	168	39608	189.22	ng/ml	50
14) 2,3,5-Trimethylnaphthalene	6.67	170	24934	194.29	ng/ml	91
16) Fluorene	6.78	166	32126	197.36	ng/ml	98
23) Dibenzothiophene	7.47	184	44944	200.13	ng/ml	97
27) Phenanthrene	7.58	178	48073	198.38	ng/ml	99
28) Anthracene	7.62	178	47673m	197.47	ng/ml	
29) Carbazole	7.76	167	42031	197.96	ng/ml	95
30) 1-Methylphenanthrene	8.08	192	32925	173.52	ng/ml	91
35) Fluoranthene	8.56	202	52613	185.13	ng/ml	85
38) Pyrene	8.77	202	54506	212.76	ng/ml	87
44) Benz(a)anthracene	10.30	228	52351	184.29	ng/ml	100
45) Chrysene	10.36	228	50504	203.91	ng/ml	100
51) Benzo(b)fluoranthene	12.72	252	58552	201.92	ng/ml	99
52) Benzo(k)fluoranthene	12.80	252	57739	210.13	ng/ml	99
53) Benzo(e)pyrene	13.57	252	54238	204.39	ng/ml	99
54) Benzo(a)pyrene	13.75	252	51515	208.01	ng/ml	98
55) Perylene	14.04	252	51292	201.81	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.06	276	49892	197.65	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F011.D Vial: 9
Acq On : 29 Jun 2014 12:23 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2ug/mL | SVM46-68F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:13 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

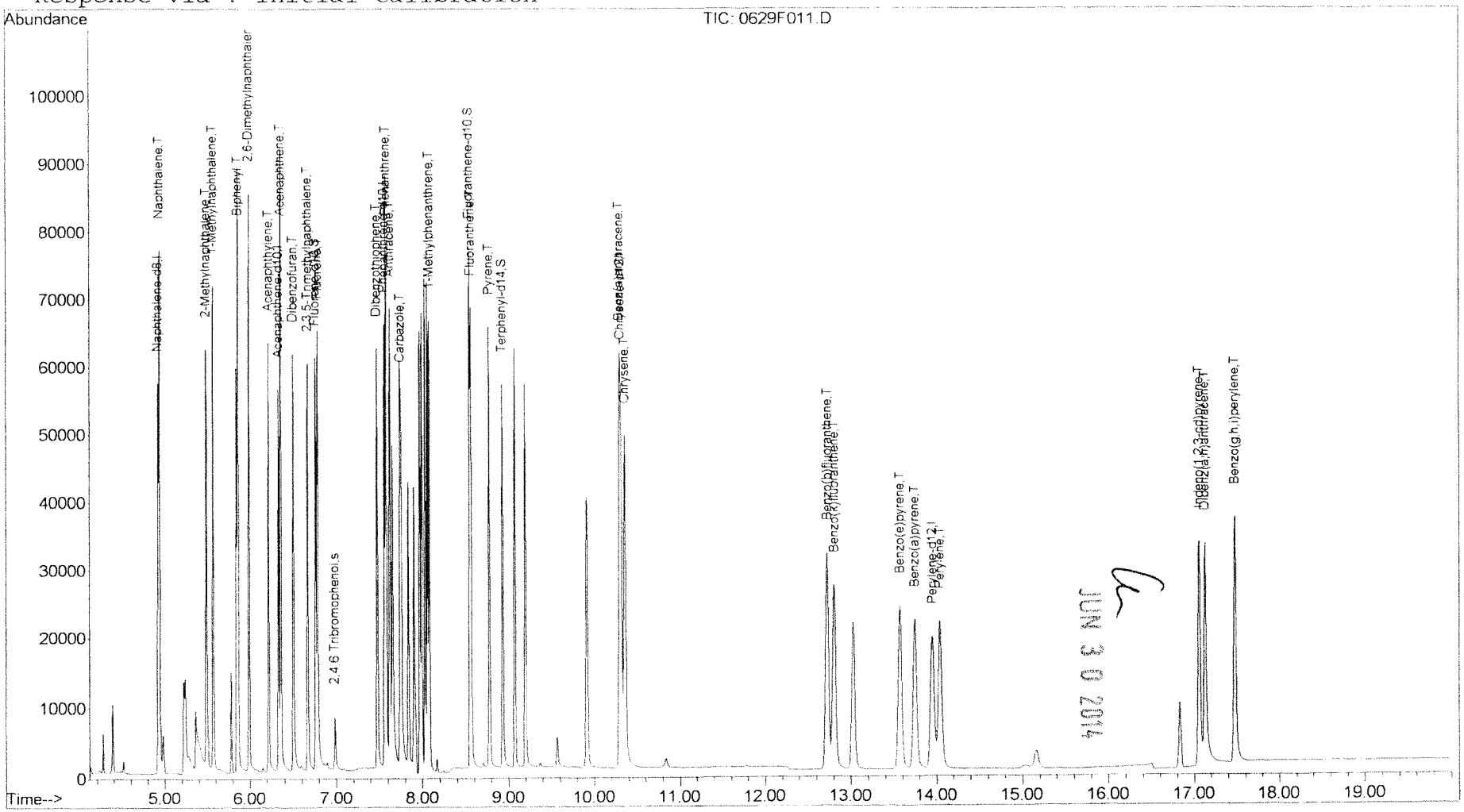
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	53049	197.37	ng/ml	95
58)	Benzo(g,h,i)perylene	17.48	276	59913	216.31	ng/ml	100

(#) = qualifier out of range (m) = manual integration
0629F011.D 062914ALK.M Mon Jun 30 06:27:39 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F011.D Vial: 9
Acq On : 29 Jun 2014 12:23 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2ug/mL | SVM46-68F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:13 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration



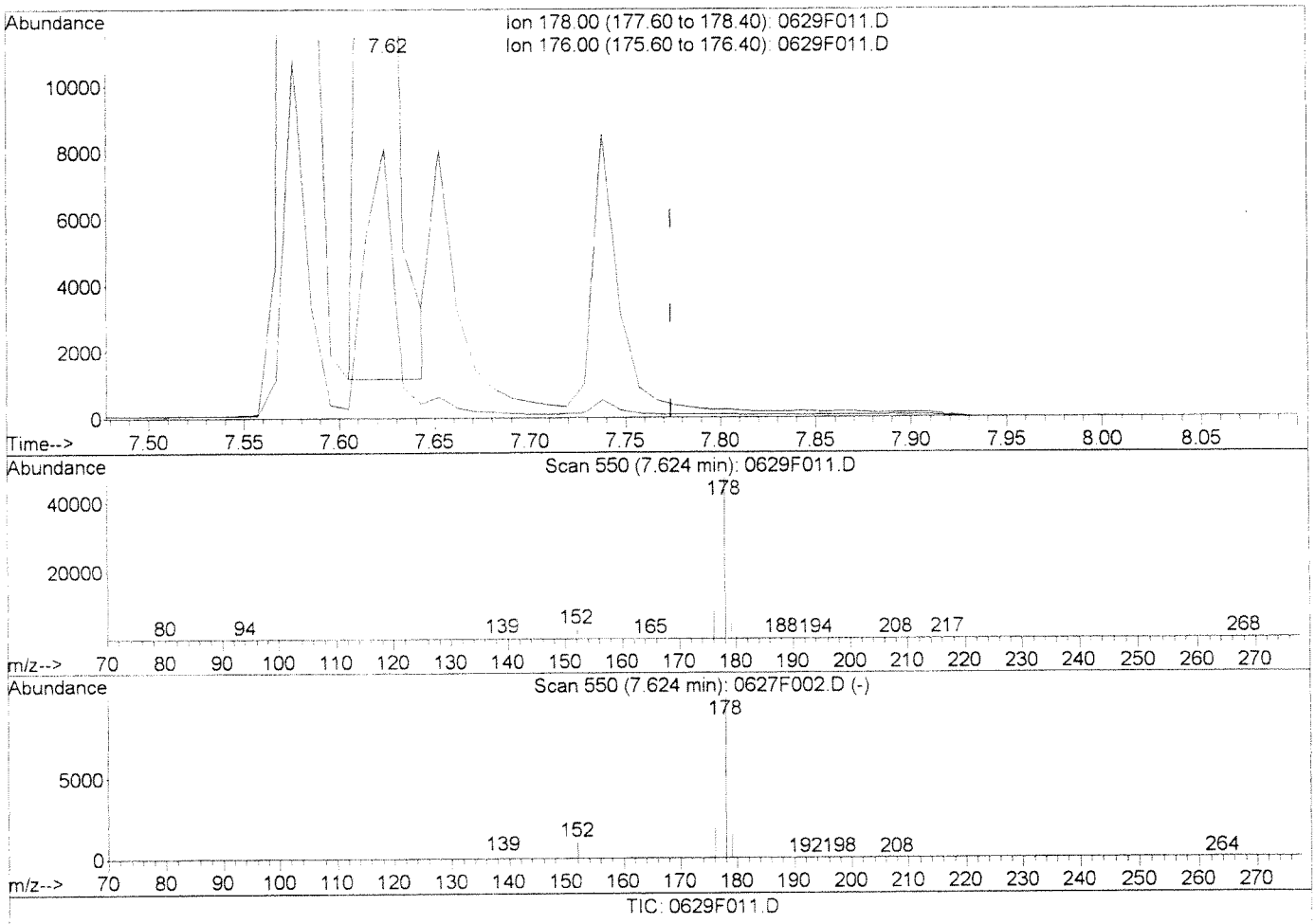
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F011.D
Acq On : 29 Jun 2014 12:23 pm
Sample : SIM-PAH ICAL @0.2ug/mL | SVM46-68F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F011.D

(28) Anthracene (T)

7.62min 186.82ng/ml

response 45101

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

0629F011.D 062914ALK.M Mon Jun 30 05:13:19 2014

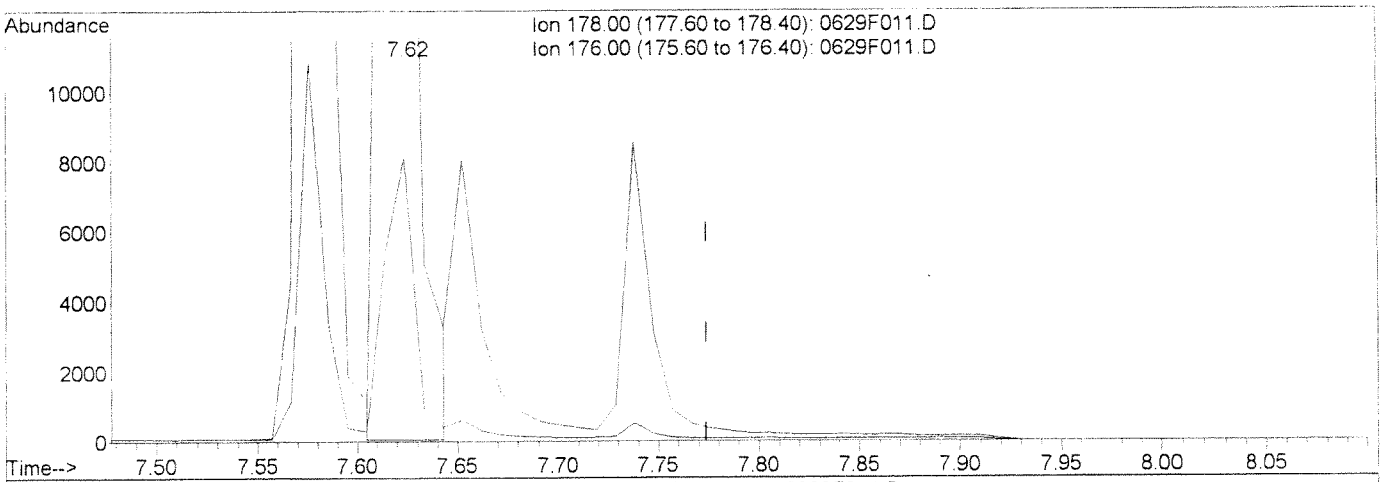
Quantitation Report (Qedit)

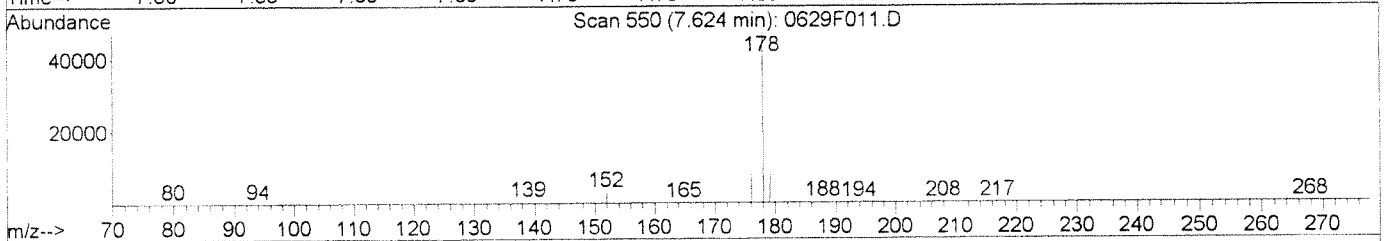
Data File : J:\MS11\DATA\062914\0629F011.D
Acq On : 29 Jun 2014 12:23 pm
Sample : SIM-PAH ICAL @0.2ug/mL | SVM46-68F
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:13 2014

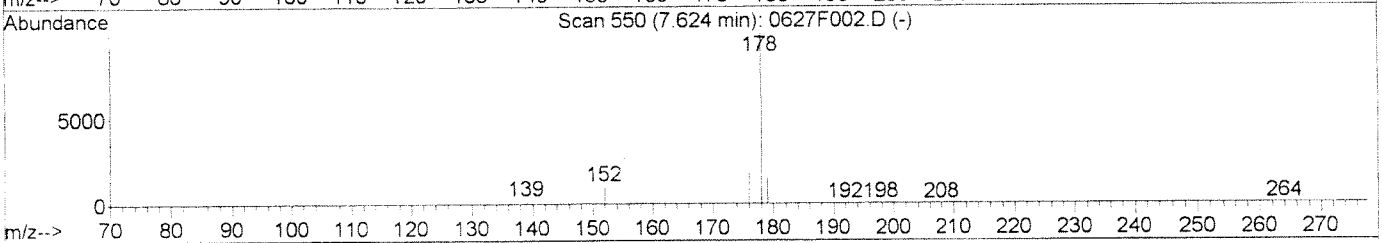
Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F011.D

(28) Anthracene (T)

7.62min 197.47ng/ml m

response 47673

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0629F011.D 062914ALK.M Mon Jun 30 05:13:23 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F012.D Vial: 10
Acq On : 29 Jun 2014 12:51 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4ug/mL | SVM46-68G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:14 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	41863	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.33	164	22664	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	44207	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	50386	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	49796	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	60949	457.53	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 45.75%			
20) 2,4,6 Tribromophenol	6.98	330	8604	263.55	ng/ml	0.00
Spiked Amount 1500.000			Recovery = 17.57%			
36) Fluoranthene-d10	8.54	212	109535	427.12	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 42.71%			
43) Terphenyl-d14	8.92	244	96164	453.01	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 45.30%			
Target Compounds						Qvalue
2) Naphthalene	4.94	128	94515	409.37	ng/ml	97
3) 2-Methylnaphthalene	5.48	142	65740	342.97	ng/ml	95
4) 1-Methylnaphthalene	5.57	142	58083	332.91	ng/ml	98
5) Biphenyl	5.86	154	77888	336.72	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.99	156	57061	363.24	ng/ml	95
11) Acenaphthylene	6.22	152	95752	422.95	ng/ml	100
12) Acenaphthene	6.36	154	55167	413.73	ng/ml	91
13) Dibenzofuran	6.50	168	85318	398.81	ng/ml	72
14) 2,3,5-Trimethylnaphthalene	6.67	170	54138	412.77	ng/ml	94
16) Fluorene	6.78	166	67643	406.60	ng/ml	99
23) Dibenzothiophene	7.47	184	98929	431.01	ng/ml	97
27) Phenanthrene	7.58	178	101282	408.93	ng/ml	98
28) Anthracene	7.63	178	98897m	400.81	ng/ml	
29) Carbazole	7.75	167	89448	412.19	ng/ml	85
30) 1-Methylphenanthrene	8.08	192	70475	363.40	ng/ml	92
35) Fluoranthene	8.56	202	113962	392.34	ng/ml	86
38) Pyrene	8.77	202	118115	445.68	ng/ml	89
44) Benz(a)anthracene	10.30	228	116791	397.42	ng/ml	99
45) Chrysene	10.36	228	105990	413.66	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	126985	428.12	ng/ml	99
52) Benzo(k)fluoranthene	12.81	252	124782	443.95	ng/ml	99
53) Benzo(e)pyrene	13.57	252	117078	431.31	ng/ml	100
54) Benzo(a)pyrene	13.75	252	112900	445.66	ng/ml	98
55) Perylene	14.04	252	111321	428.19	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.05	276	109437	423.84	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F012.D Vial: 10
Acq On : 29 Jun 2014 12:51 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4ug/mL | SVM46-68G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:14 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

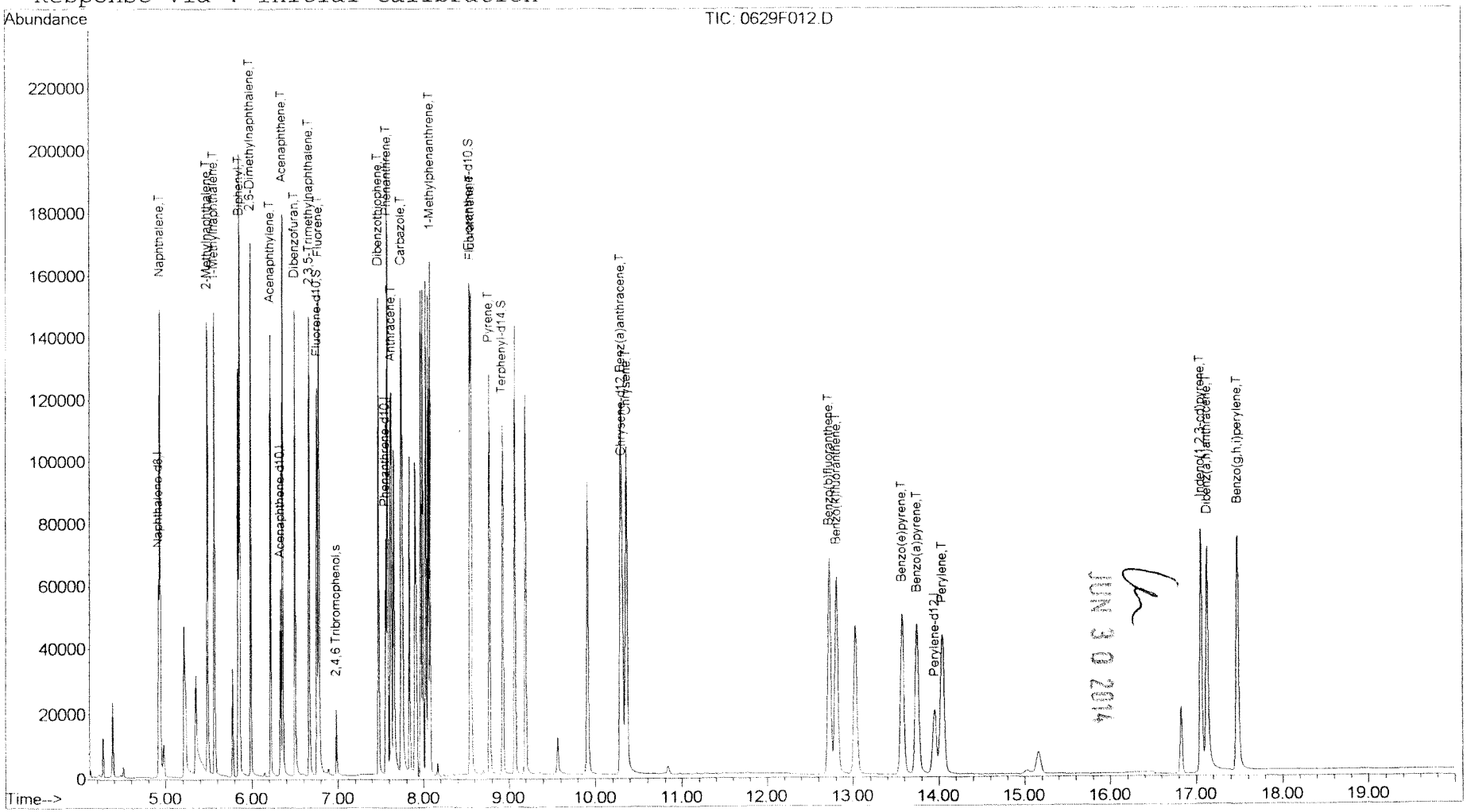
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	111717	406.34	ng/ml	94
58)	Benzo(g,h,i)perylene	17.48	276	126965	448.13	ng/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F012.D Vial: 10
Acq On : 29 Jun 2014 12:51 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4ug/mL | SVM46-68G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:13 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration



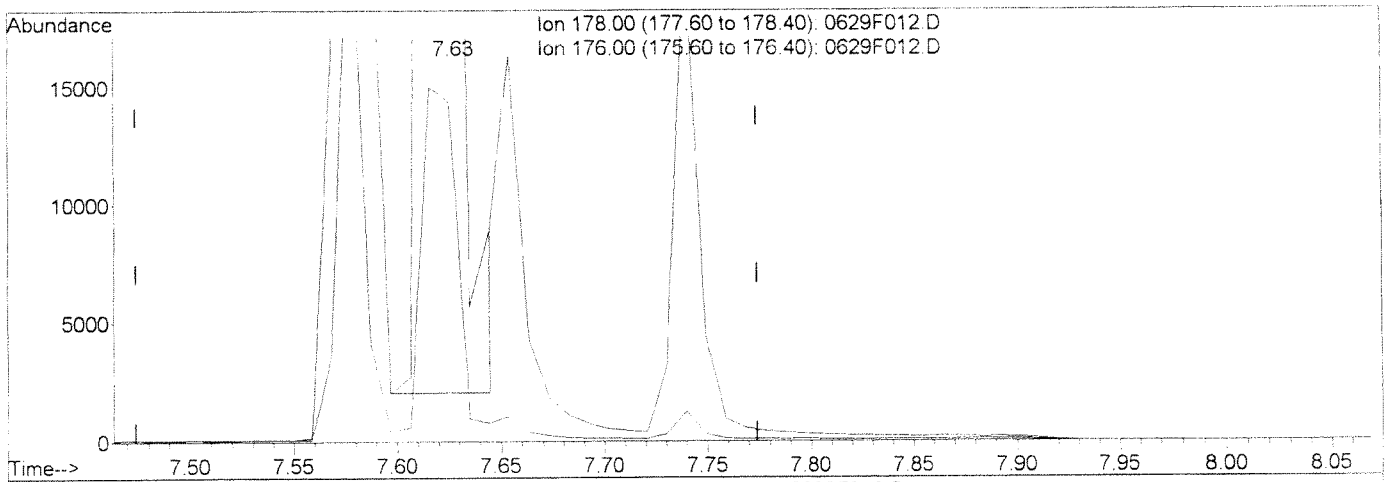
902

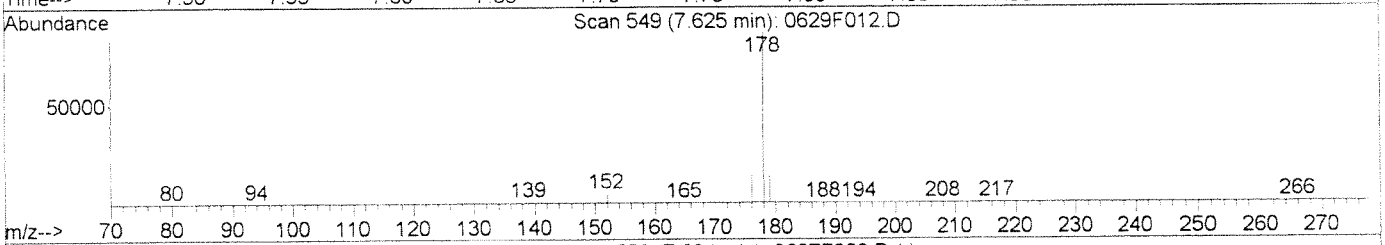
Quantitation Report (Qedit)

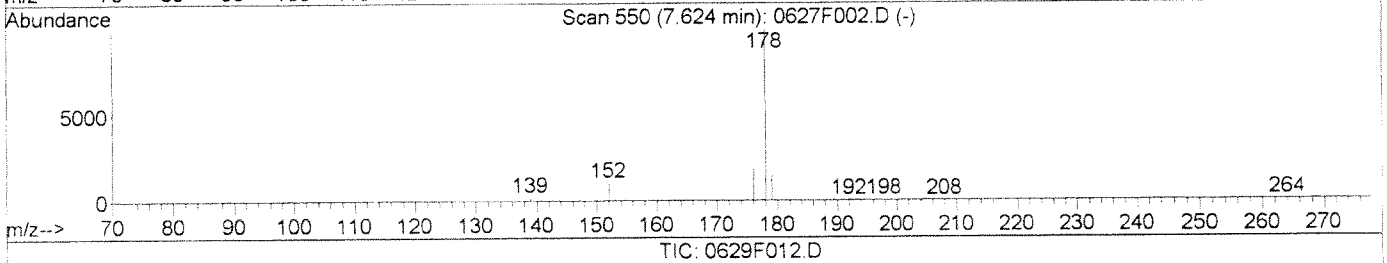
Data File : J:\MS11\DATA\062914\0629F012.D
Acq On : 29 Jun 2014 12:51 pm
Sample : SIM-PAH ICAL @0.4ug/mL | SVM46-68G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration







TIC: 0629F012.D

(28) Anthracene (T)

7.63min 398.42ng/ml

response 98308

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

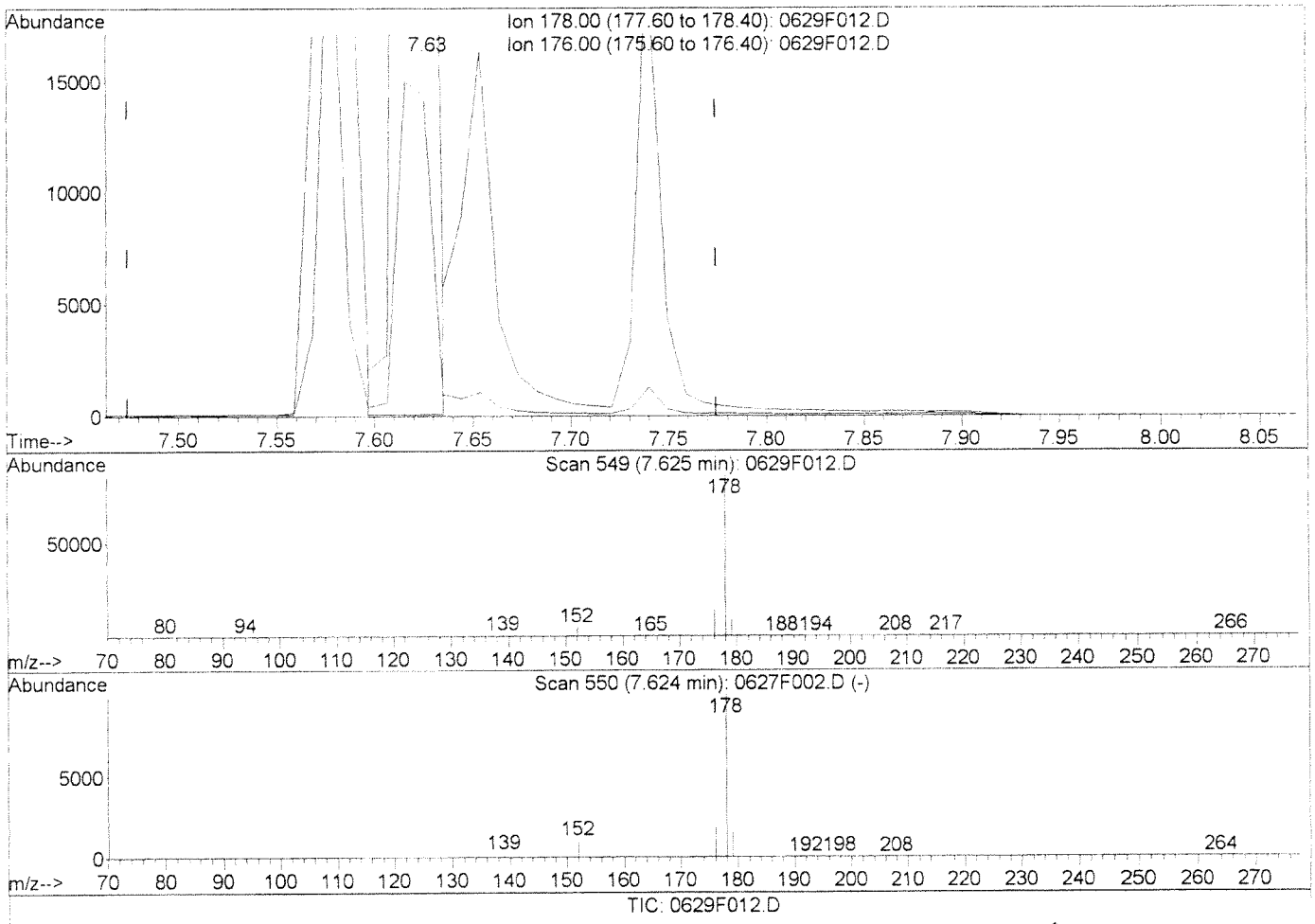
06/30/14

0629F012.D 062914ALK.M Mon Jun 30 05:13:53 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F012.D Vial: 10
Acq On : 29 Jun 2014 12:51 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4ug/mL | SVM46-68G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:13 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.63min 400.81ng/ml m

response 98897

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.74
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0629F012.D 062914ALK.M Mon Jun 30 05:13:59 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F013.D Vial: 11
Acq On : 29 Jun 2014 1:18 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0ug/mL | SVM46-68H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:15 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	43739	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.33	164	23034	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	45668	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	52068	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	52399	200.00	ng/ml	0.02
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	147945	1092.75	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 109.28%			
20) 2,4,6 Tribromophenol	6.98	330	26327	793.49	ng/ml	0.00
Spiked Amount 1500.000			Recovery = 52.90%			
36) Fluoranthene-d10	8.54	212	280701	1059.55	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 105.96%			
43) Terphenyl-d14	8.93	244	244754	1115.74	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 111.57%			
Target Compounds						Qvalue
2) Naphthalene	4.94	128	226704	939.81	ng/ml	98
3) 2-Methylnaphthalene	5.49	142	157732	787.60	ng/ml	98
4) 1-Methylnaphthalene	5.57	142	140038	768.22	ng/ml	99
5) Biphenyl	5.86	154	182438	754.87	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.99	156	139196	848.08	ng/ml	95
11) Acenaphthylene	6.22	152	233396	1014.39	ng/ml	99
12) Acenaphthene	6.36	154	135068	996.68	ng/ml	91
13) Dibenzofuran	6.50	168	205394	944.67	ng/ml	57
14) 2,3,5-Trimethylnaphthalene	6.67	170	135159	1013.96	ng/ml	95
16) Fluorene	6.78	166	164348	972.02	ng/ml	100
23) Dibenzothiophene	7.47	184	235418	992.84	ng/ml	93
27) Phenanthrene	7.58	178	249817	976.39	ng/ml	99
28) Anthracene	7.62	178	241284m	946.58	ng/ml	
29) Carbazole	7.76	167	215374	960.72	ng/ml	96
30) 1-Methylphenanthrene	8.08	192	173096	864.00	ng/ml	94
35) Fluoranthene	8.56	202	282154	940.30	ng/ml	87
38) Pyrene	8.77	202	300518	1097.30	ng/ml	89
44) Benz(a)anthracene	10.30	228	299604	986.57	ng/ml	100
45) Chrysene	10.36	228	268399	1013.68	ng/ml	99
51) Benzo(b)fluoranthene	12.73	252	325647	1043.35	ng/ml	100
52) Benzo(k)fluoranthene	12.81	252	306698	1036.97	ng/ml	100
53) Benzo(e)pyrene	13.58	252	294769	1031.97	ng/ml	100
54) Benzo(a)pyrene	13.76	252	288247	1081.30	ng/ml	99
55) Perylene	14.05	252	285409	1043.26	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.07	276	278727	1025.86	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F013.D Vial: 11
Acq On : 29 Jun 2014 1:18 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0ug/mL | SVM46-68H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:15 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

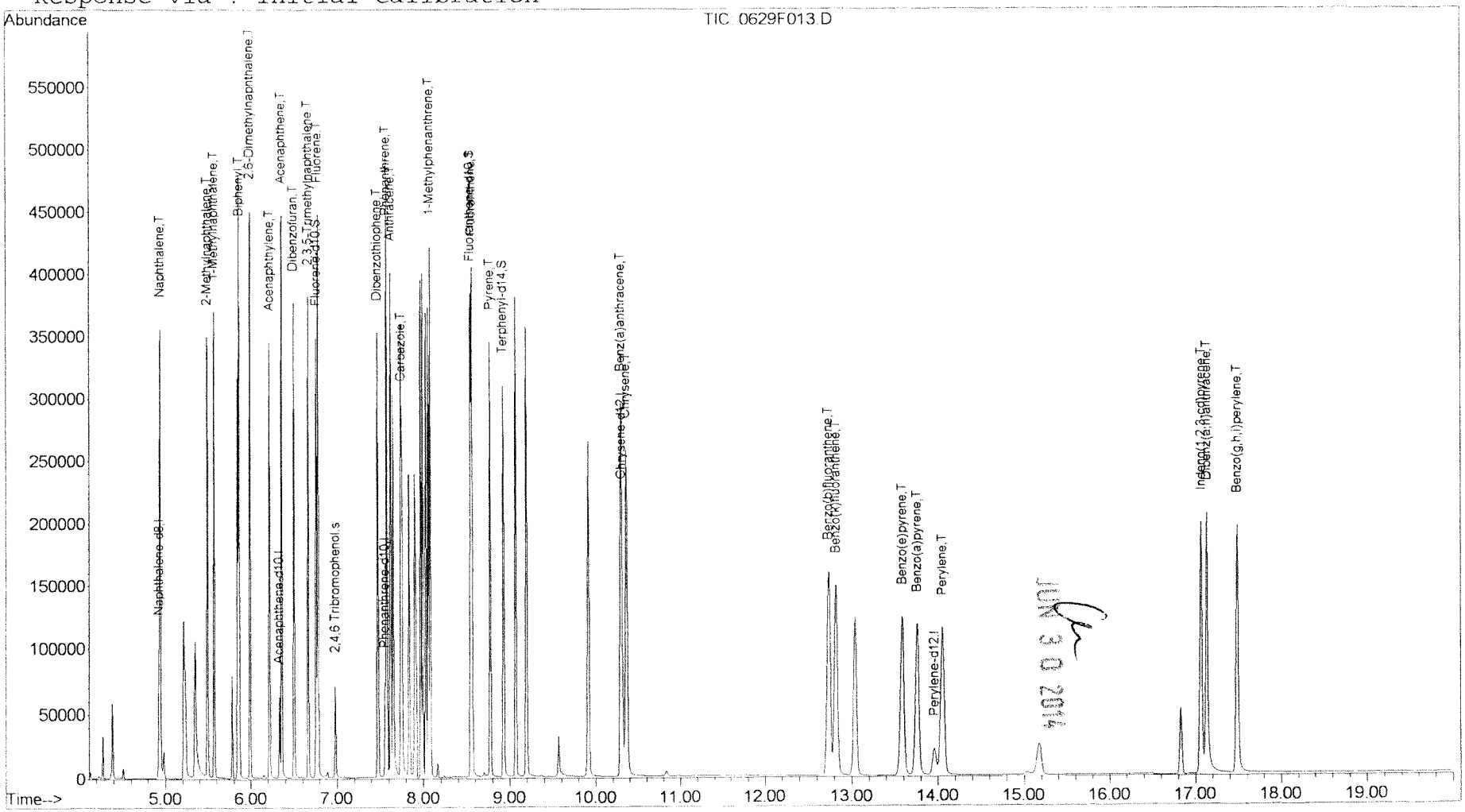
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.13	278	284798	984.42	ng/ml	92
58)	Benzo(g,h,i)perylene	17.49	276	309609	1038.50	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F013.D Vial: 11
Acq On : 29 Jun 2014 1:18 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0ug/mL | SVM46-68H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:14 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration

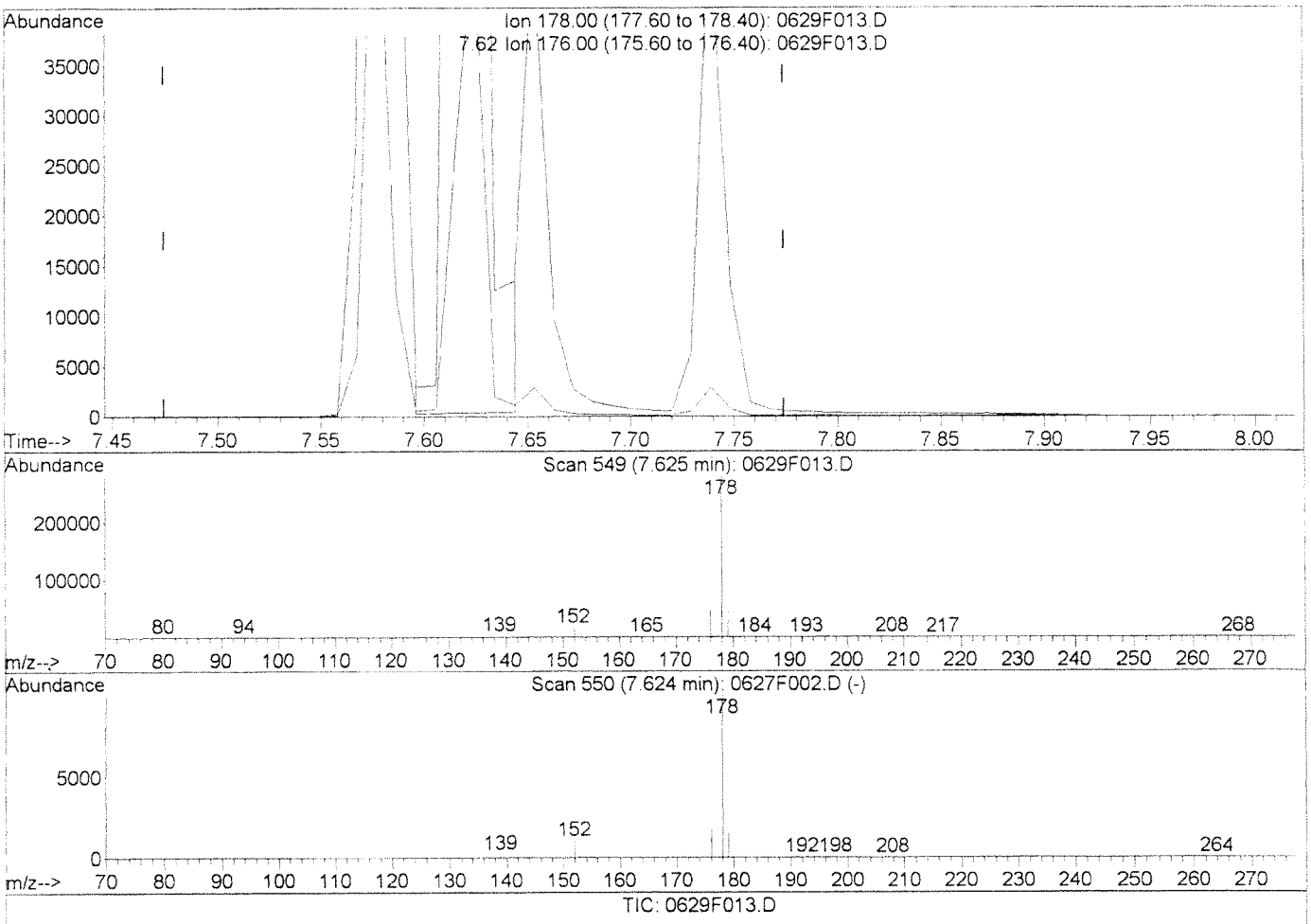


907

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F013.D Vial: 11
Acq On : 29 Jun 2014 1:18 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0ug/mL | SVM46-68H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F013.D

(28) Anthracene (T)

7.62min 981.65ng/ml

response 250223

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

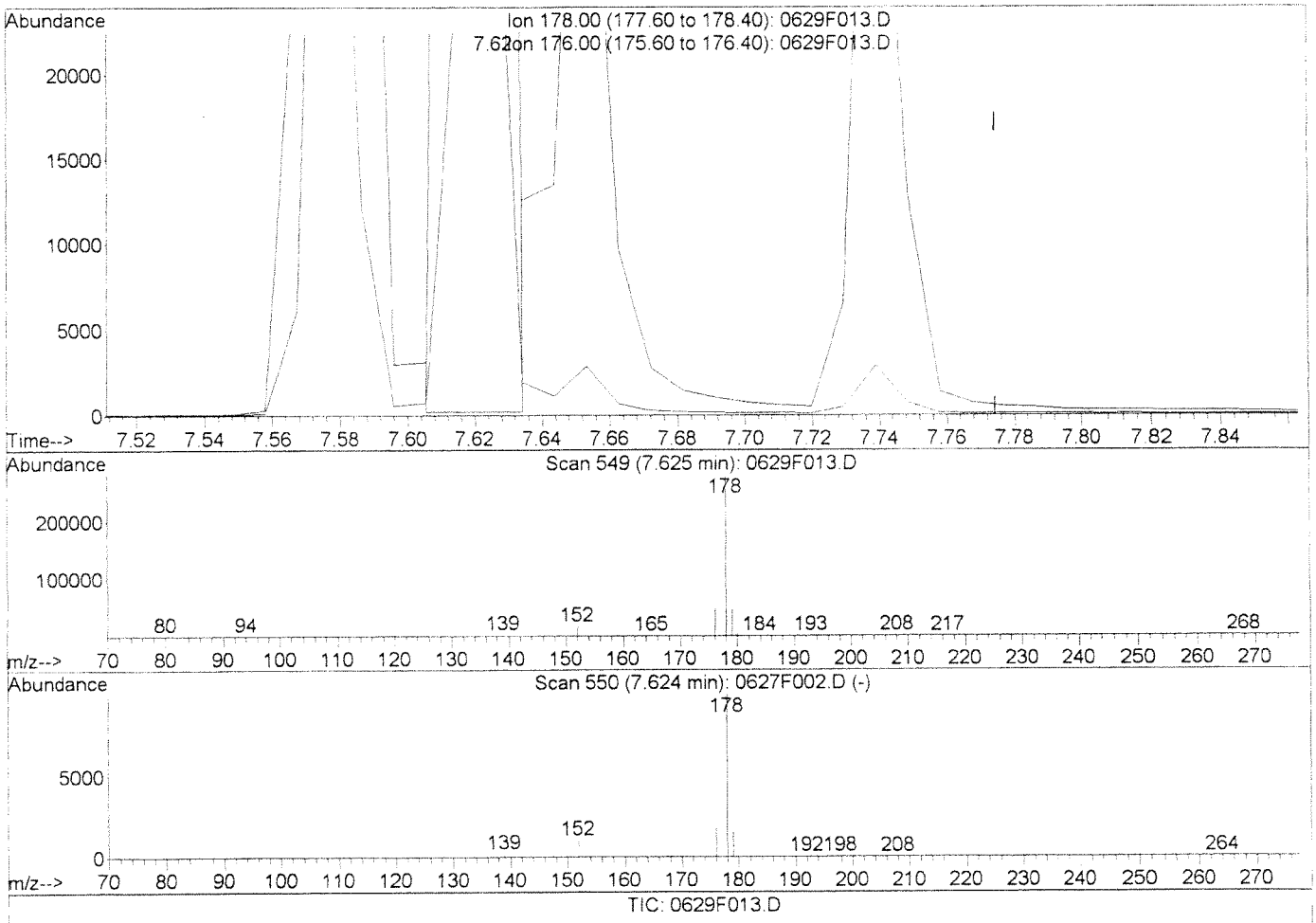
06/30/14

0629F013.D 062914ALK.M Mon Jun 30 05:14:26 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F013.D Vial: 11
Acq On : 29 Jun 2014 1:18 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0ug/mL | SVM46-68H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:14 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F013.D

(28) Anthracene (T)

7.62min 946.58ng/ml m

response 241284

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	17.10
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

06/30/14

0629F013.D 062914ALK.M Mon Jun 30 05:14:34 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F014.D Vial: 12
Acq On : 29 Jun 2014 1:45 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6ug/mL | SVM46-68I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:16 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.93	136	43598	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.33	164	22820	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	44829	200.00	ng/ml	0.00
37) Chrysene-d12	10.32	240	52764	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	52990	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	236604	1763.99	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 176.40%			
20) 2,4,6 Tribromophenol	6.98	330	45963	1398.30	ng/ml	0.00
Spiked Amount 1500.000			Recovery = 93.22%			
36) Fluoranthene-d10	8.54	212	451125	1734.72	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 173.47%			
43) Terphenyl-d14	8.93	244	397489	1788.10	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 178.81%			
Target Compounds						Qvalue
2) Naphthalene	4.94	128	355358	1477.91	ng/ml	99
3) 2-Methylnaphthalene	5.49	142	246124	1232.94	ng/ml	95
4) 1-Methylnaphthalene	5.57	142	219575	1208.43	ng/ml	95
5) Biphenyl	5.86	154	281014	1166.51	ng/ml	100
6) 2,6-Dimethylnaphthalene	5.99	156	219295	1340.42	ng/ml	95
11) Acenaphthylene	6.22	152	363274	1593.67	ng/ml	98
12) Acenaphthene	6.36	154	211453	1574.96	ng/ml	89
13) Dibenzofuran	6.50	168	321915	1494.48	ng/ml	65
14) 2,3,5-Trimethylnaphthalene	6.67	170	212984	1612.78	ng/ml	95
16) Fluorene	6.78	166	259909	1551.63	ng/ml	100
23) Dibenzothiophene	7.47	184	385945	1658.13	ng/ml	98
27) Phenanthrene	7.58	178	381556	1519.19	ng/ml	100
28) Anthracene	7.62	178	383281m	1531.79	ng/ml	
29) Carbazole	7.76	167	347901	1580.93	ng/ml	96
30) 1-Methylphenanthrene	8.08	192	278862	1417.98	ng/ml	98
35) Fluoranthene	8.56	202	431810	1465.98	ng/ml	90
38) Pyrene	8.77	202	482962	1740.20	ng/ml	90
44) Benz(a)anthracene	10.30	228	477763	1552.49	ng/ml	100
45) Chrysene	10.37	228	430900	1605.95	ng/ml	99
51) Benzo(b)fluoranthene	12.75	252	526612	1668.41	ng/ml	100
52) Benzo(k)fluoranthene	12.83	252	488574	1633.49	ng/ml	100
53) Benzo(e)pyrene	13.60	252	476707	1650.31	ng/ml	99
54) Benzo(a)pyrene	13.77	252	466537	1730.60	ng/ml	100
55) Perylene	14.07	252	462028	1670.03	ng/ml	100
56) Indeno(1,2,3-cd)pyrene	17.07	276	442595	1610.81	ng/ml	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F014.D Vial: 12
Acq On : 29 Jun 2014 1:45 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6ug/mL | SVM46-68I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:16 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

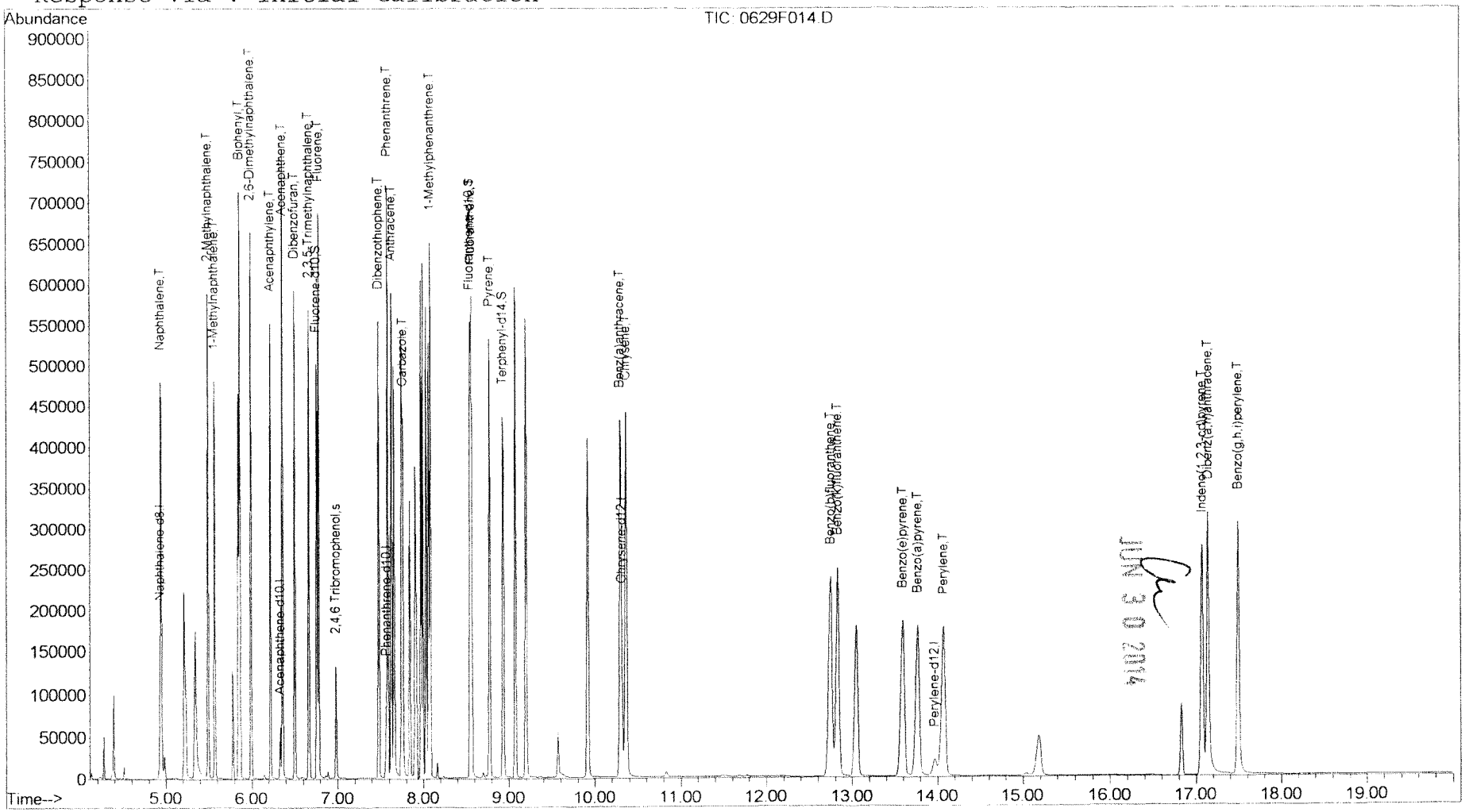
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	456503	1560.34	ng/ml	93
58)	Benzo(g,h,i)perylene	17.49	276	473465	1570.40	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F014.D Vial: 12
Acq On : 29 Jun 2014 1:45 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6ug/mL | SVM46-68I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:15 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration

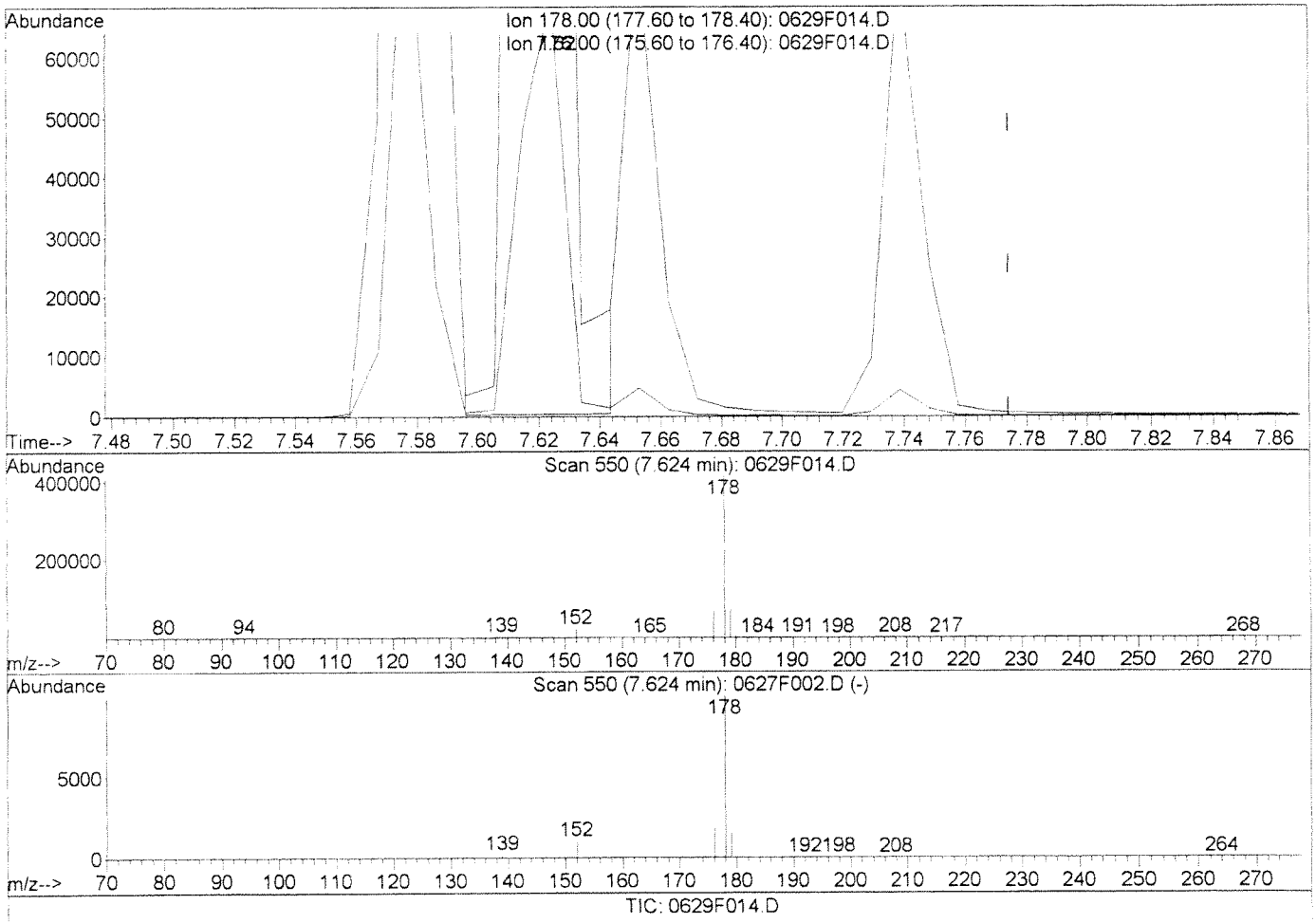


912

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F014.D Vial: 12
Acq On : 29 Jun 2014 1:45 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6ug/mL | SVM46-68I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.62min 1581.31ng/ml

response 395672

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

06/30/14

0629F014.D 062914ALK.M Mon Jun 30 05:14:58 2014

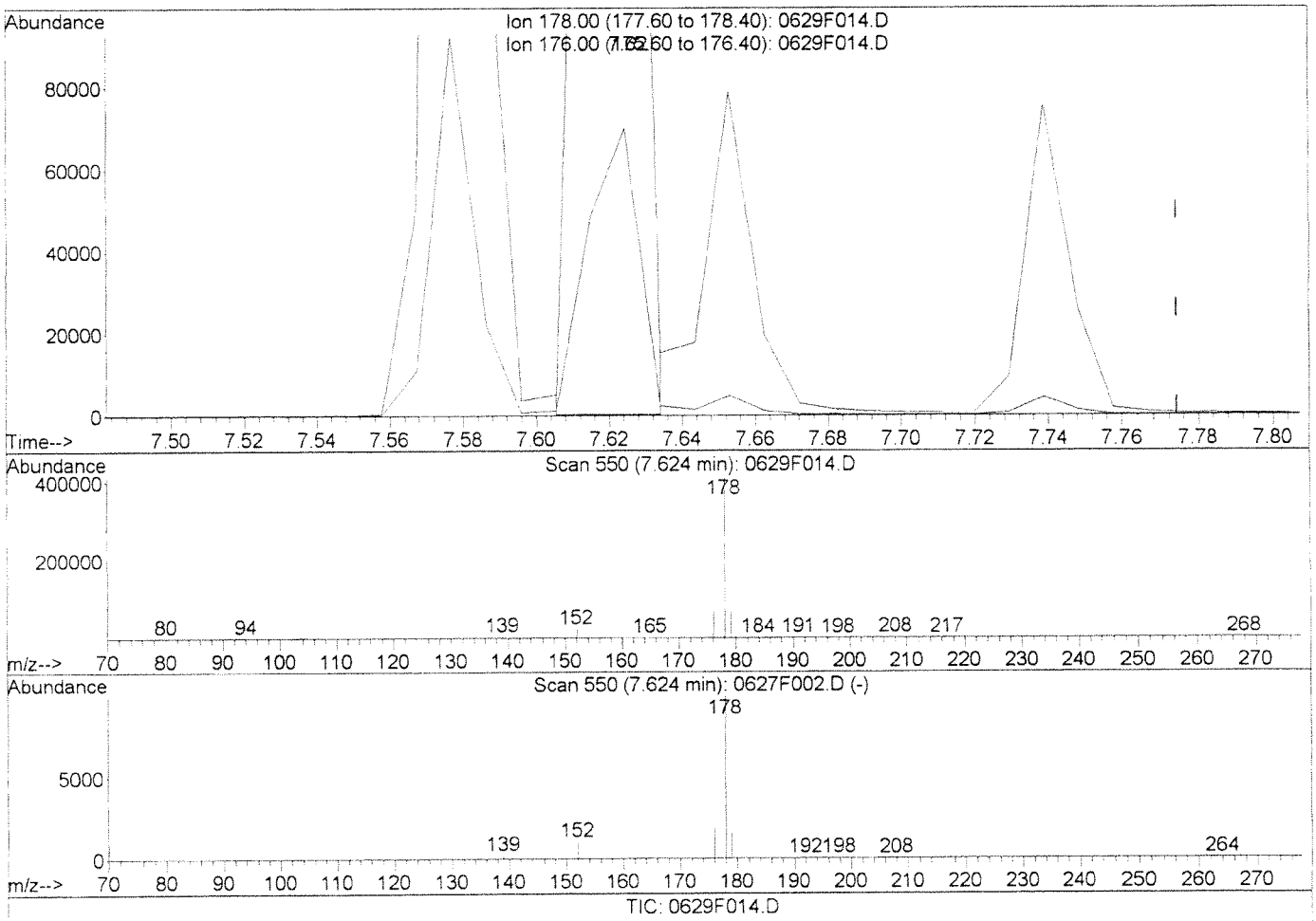
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\062914\0629F014.D
Acq On : 29 Jun 2014 1:45 pm
Sample : SIM-PAH ICAL @1.6ug/mL | SVM46-68I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:15 2014

Vial: 12
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Multiple Level Calibration



TIC: 0629F014.D

(28) Anthracene (T)

7.62min 1531.79ng/ml m

response 383281

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	16.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0629F014.D 062914ALK.M Mon Jun 30 05:15:06 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F015.D
Acq On : 29 Jun 2014 2:12 pm
Sample : SIM-PAH ICAL @2.0ug/mL | SVM46-68J
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:17 2014

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.93	136	42329	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.33	164	22446	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	44260	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	51324	200.00	ng/ml	0.00
50) Perylene-d12	13.97	264	52225	200.00	ng/ml	0.03
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	285608	2164.82	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 216.48%			
20) 2,4,6 Tribromophenol	6.98	330	57065	1764.97	ng/ml	0.00
Spiked Amount 1500.000			Recovery = 117.66%			
36) Fluoranthene-d10	8.54	212	547597	2132.75	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 213.28%			
43) Terphenyl-d14	8.93	244	476697	2204.59	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 220.46%			
Target Compounds						Qvalue
2) Naphthalene	4.94	128	425514	1822.74	ng/ml	100
3) 2-Methylnaphthalene	5.49	142	297553	1535.26	ng/ml	95
4) 1-Methylnaphthalene	5.57	142	263064	1491.18	ng/ml	96
5) Biphenyl	5.86	154	336181	1437.35	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.99	156	264084	1662.58	ng/ml	97
11) Acenaphthylene	6.22	152	435880	1944.05	ng/ml	97
12) Acenaphthene	6.36	154	254413	1926.51	ng/ml	91
13) Dibenzofuran	6.50	168	387070	1826.90	ng/ml	55
14) 2,3,5-Trimethylnaphthalene	6.67	170	256245	1972.70	ng/ml	98
16) Fluorene	6.78	166	313480	1902.62	ng/ml	100
23) Dibenzothiophene	7.47	184	456322	1985.69	ng/ml	93
27) Phenanthrene	7.58	178	453056	1827.06	ng/ml	100
28) Anthracene	7.62	178	482531	1953.24	ng/ml	99
29) Carbazole	7.76	167	421536	1940.17	ng/ml	93
30) 1-Methylphenanthrene	8.08	192	326797	1683.09	ng/ml	96
35) Fluoranthene	8.56	202	522599	1797.01	ng/ml	92
38) Pyrene	8.77	202	577887	2140.66	ng/ml	90
44) Benz(a)anthracene	10.30	228	591414	1975.71	ng/ml	100
45) Chrysene	10.37	228	522181	2000.75	ng/ml	100
51) Benzo(b)fluoranthene	12.75	252	635693	2043.50	ng/ml	99
52) Benzo(k)fluoranthene	12.83	252	598762	2031.21	ng/ml	99
53) Benzo(e)pyrene	13.60	252	581326	2041.97	ng/ml	99
54) Benzo(a)pyrene	13.78	252	569132	2142.10	ng/ml	100
55) Perylene	14.08	252	564017	2068.54	ng/ml	100
56) Indeno(1,2,3-cd)pyrene	17.07	276	535267	1976.62	ng/ml	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F015.D Vial: 13
Acq On : 29 Jun 2014 2:12 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0ug/mL | SVM46-68J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 05:06:17 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Sun Jun 29 07:17:42 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

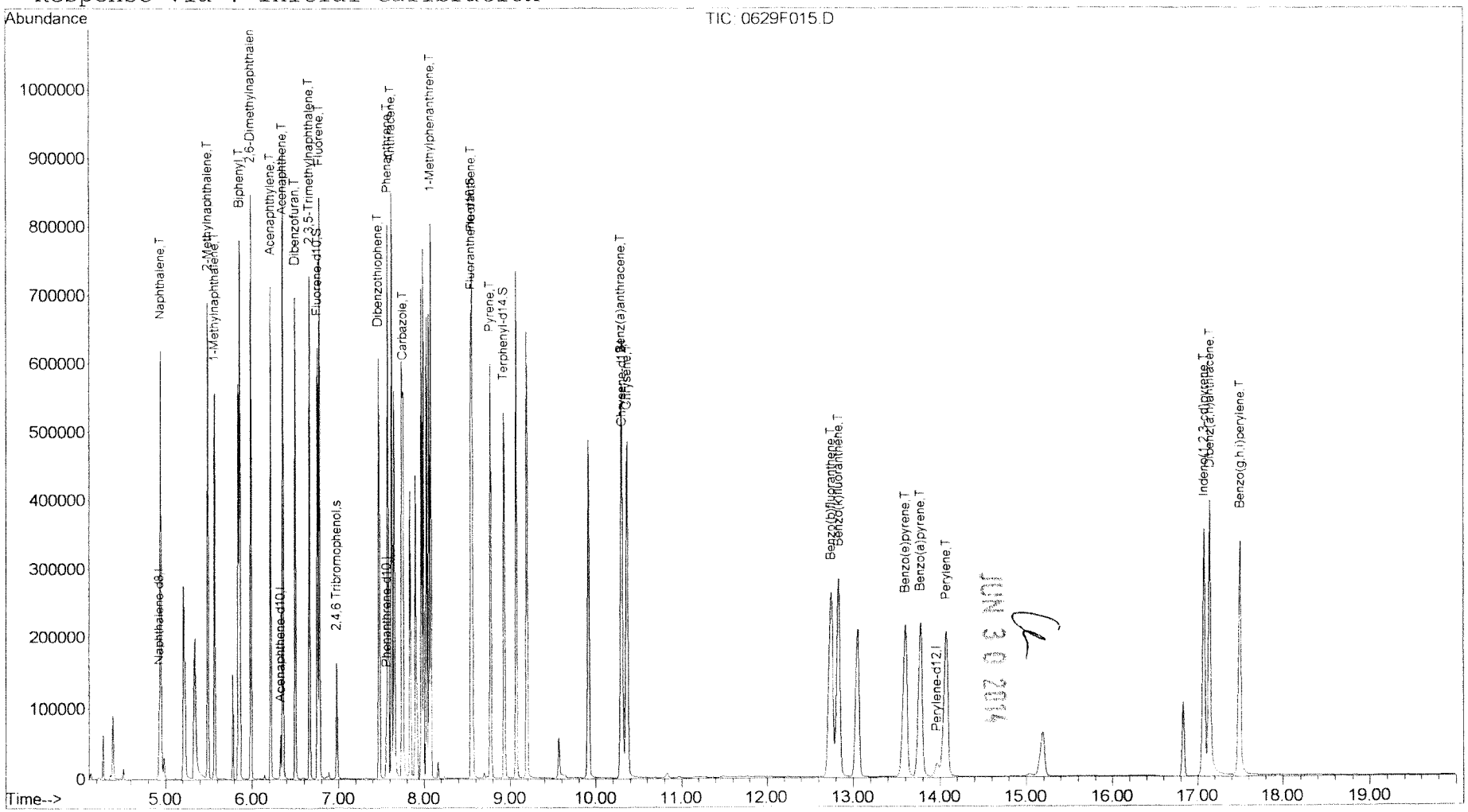
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	550954	1910.76	ng/ml	95
58)	Benzo(g,h,i)perylene	17.50	276	575434	1936.57	ng/ml	96

(#) = qualifier out of range (m) = manual integration
0629F015.D 062914ALK.M Mon Jun 30 06:27:46 2014 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\062914\0629F015.D Vial: 13
Acq On : 29 Jun 2014 2:12 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0ug/mL | SVM46-68J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 5:06 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 05:17:27 2014
Response via : Initial Calibration



917

Injection Log

Directory: J:\MS11\DATA\063014

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0630F001.D	1.	DFTPP @ 3.0ug/mL | SVM46-66F		30 Jun 2014 05:5
2	2	0630F002.D	1.	SIM-PAH ICAL @.004ug/mL | SVM46-68B	NR	30 Jun 2014 06:2
3	2	0630F003.D	1.	SIM-PAH ICAL @.004ug/mL | SVM46-68B		30 Jun 2014 07:0
4	3	0630F004.D	1.	SIM-PAH ICV @0.4ug/mL | SVM46-88H		30 Jun 2014 07:3

CRL 13411

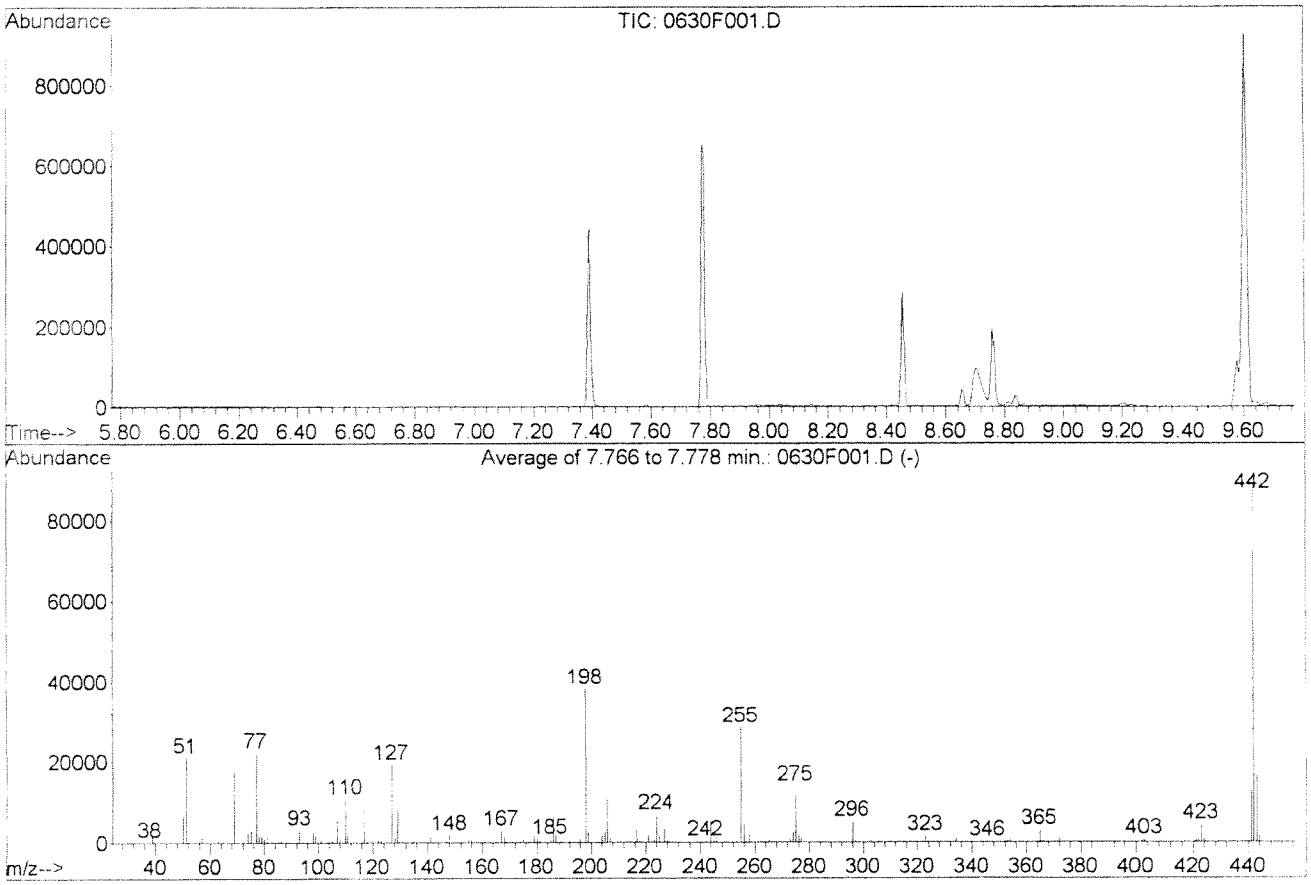
JUN 30 2014

DFTPP

Data File : J:\MS11\DATA\063014\0630F001.D
Acq On : 30 Jun 2014 5:55 am
Sample : DFTPP @ 3.0ug/mL | SVM46-66F
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

JUN 30 2014



AutoFind: Scans 626, 627, 628; Background Corrected with Scan 622

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	55.1	20994	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.3	18028	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.6	19286	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	43.1	38128	PASS
199	198	5	9	6.9	2633	PASS
275	198	10	60	36.4	13887	PASS
365	442	1	50	3.4	3004	PASS
441	443	0.01	100	75.2	12758	PASS
442	442	30	100	100.0	88447	PASS
443	442	15	24	19.2	16969	PASS

0630F001.D DFTPPPAH.M Mon Jun 30 06:31:02 2014

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	200	69.00	18028	85.10	178	107.00	6355
39.10	1639	73.10	208	86.05	513	108.00	766
49.00	182	74.05	2552	91.10	216	110.00	10751
50.10	6576	75.00	3100	92.00	227	111.00	1715
51.10	20994	77.10	22148	93.00	3166	112.00	167
52.05	1094	78.10	1524	98.00	2800	117.00	8642
56.05	490	79.05	1757	99.05	1761	117.90	314
57.05	1504	80.00	1161	101.00	572	118.10	171
62.10	179	81.00	1477	103.90	267	122.00	499
63.05	649	82.00	273	104.10	170	123.00	769
65.00	173	83.10	384	105.00	471	127.00	19286

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
128.05	1477	149.00	235	175.05	774	196.00	934
129.00	8480	153.00	196	176.95	443	198.00	38128
130.00	734	155.00	673	178.90	1672	198.95	2633
134.00	216	155.95	830	180.00	950	203.00	208
135.00	669	159.95	406	180.90	435	204.00	1744
137.00	205	161.05	466	185.00	829	205.00	2768
141.00	1411	164.90	408	186.00	6296	206.00	10882
142.10	232	165.90	197	187.00	1860	207.00	1328
146.00	203	167.00	2971	188.95	465	207.90	250
147.05	607	168.00	1456	191.95	487	211.05	419
148.00	2009	174.00	427	193.05	582	216.00	177

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
216.90	3311	244.95	571	276.00	1797	351.90	585
218.00	420	245.90	1138	276.95	1260	353.00	437
221.00	1829	255.00	28332	292.90	171	354.00	628
223.00	614	256.00	4319	296.00	5210	364.90	3004
224.00	6840	256.90	170	296.90	634	366.00	459
225.00	1610	258.00	2234	302.95	594	372.00	1098
227.00	3500	258.90	169	314.95	537	372.90	170
228.00	485	264.95	859	323.00	1566	401.90	456
229.00	582	272.90	874	326.90	187	402.95	721
242.00	387	274.00	2571	334.00	1113	420.95	593
244.00	5350	275.00	13887	345.80	194	421.95	614

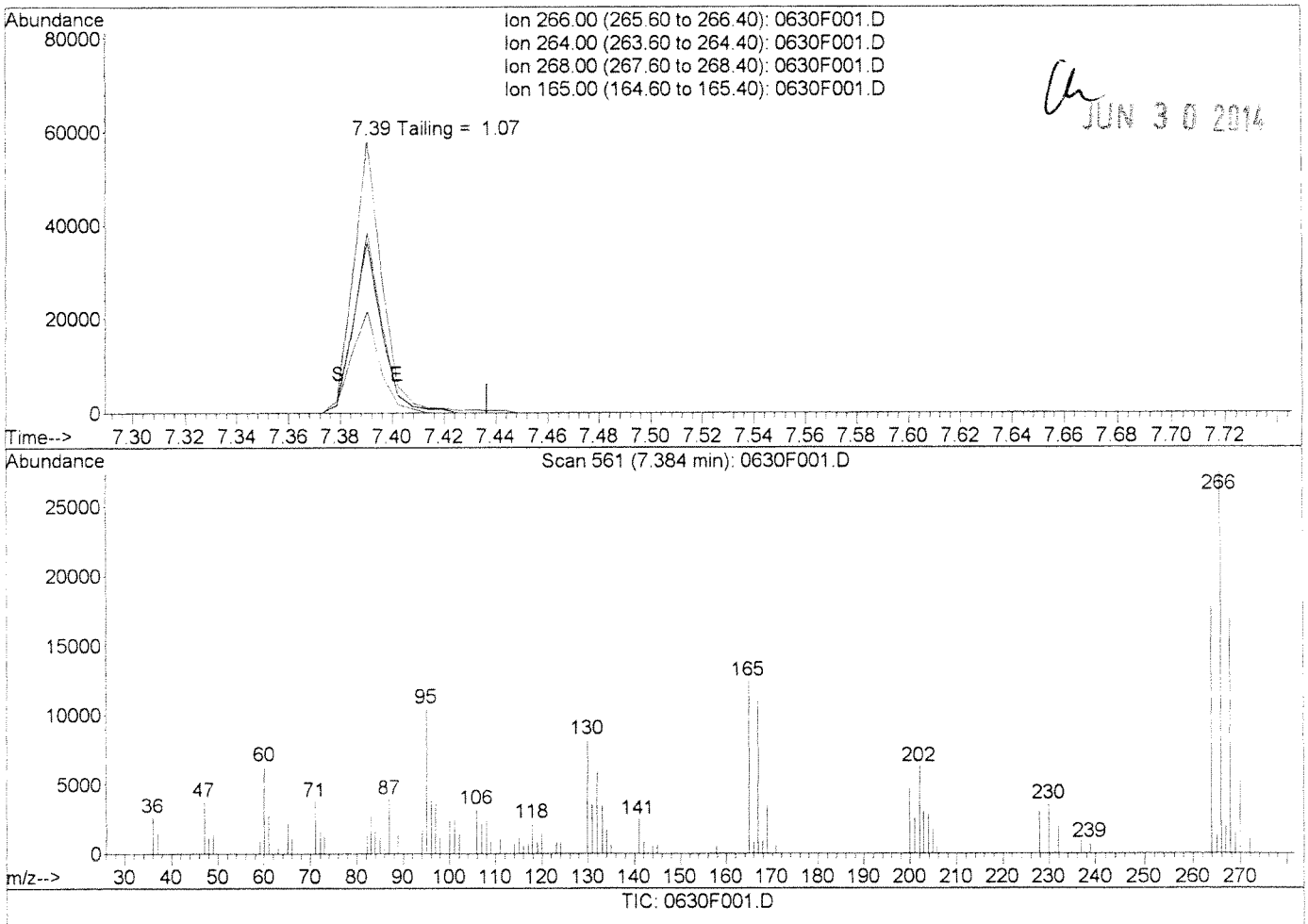
Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
422.95	4436						
423.95	865						
441.00	12758						
442.00	88447						
443.00	16969						
444.00	1526						

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F001.D Vial: 1
Acq On : 30 Jun 2014 5:55 am Operator: LWeiskopf
Sample : DFTPP @ 3.0ug/mL | SVM46-66F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 6:30 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration



TIC: 0630F001.D

(1) Pentachlorophenol

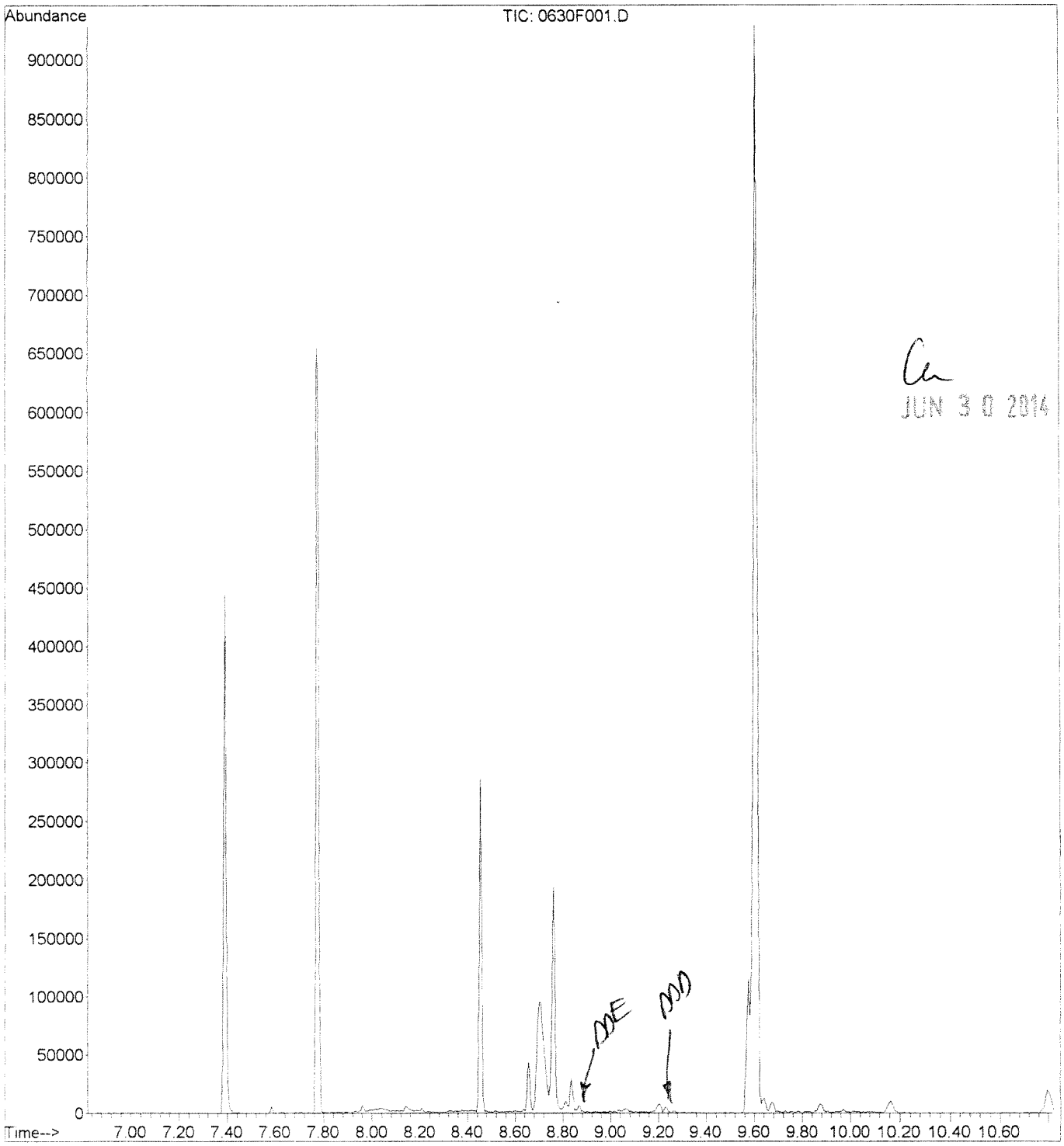
6.94min 0.00ng/ml

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

0630F001.D DFTPPPAH.M Mon Jun 30 06:31:11 2014

File : J:\MS11\DATA\063014\0630F001.D
Operator : LWeiskopf
Acquired : 30 Jun 2014 5:55 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ug/mL | SVM46-66F
Misc Info :
Vial Number: 1



1	5.140	rBV	0.041		6217	5.122	5.163
2	5.334	rBV	0.029		1474	5.322	5.352
3	5.587	rBV	0.035		1428	5.575	5.610
4	6.004	rVB	0.059		1324	5.992	6.051
5	6.109	rBV	0.024		811.00	6.098	6.121
6	6.151	rVV	0.024		715.00	6.145	6.168
7	6.186	rVV	0.024		774.00	6.168	6.192
8	6.209	rVV	0.029		1074	6.192	6.221
9	6.233	rVB	0.041		1187	6.221	6.262
10	6.339	rVV	0.035		407.00	6.321	6.356
11	6.374	rVV	0.024		292.00	6.356	6.380
12	6.391	rVB	0.024		332.00	6.386	6.409
13	6.474	rVB	0.041		2073	6.456	6.497
14	6.521	rBV	0.035		1315	6.497	6.532
15	6.568	rVB	0.024		359.00	6.550	6.574
16	6.644	rBB	0.035		983.00	6.626	6.662
17	6.691	rBB	0.059		1617	6.662	6.720
18	6.738	rBB	0.018		377.00	6.732	6.750
19	6.767	rBB	0.029		762.00	6.750	6.779
20	6.785	rBB	0.018		355.00	6.779	6.797
21	6.814	rBB	0.035		655.00	6.797	6.832
22	6.862	rBB	0.041		584.00	6.850	6.891
23	6.914	rBB	0.024		361.00	6.897	6.920
24	6.938	rBB	0.024		723.00	6.926	6.950
25	6.973	rBB	0.029		609.00	6.956	6.985
26	7.050	rBB	0.024		188.00	7.038	7.061
27	7.126	rBB	0.029		375.00	7.114	7.144
28	7.155	rBB	0.024		401.00	7.149	7.173
29	7.390	rBV	0.071		332212	7.367	7.437
30	7.449	rVB	0.024		612.00	7.437	7.461
31	7.584	rBB	0.035		3505	7.567	7.602
32	7.637	rBB	0.053		940.00	7.608	7.661
33	7.708	rBB	0.059		1568	7.666	7.725
34	7.737	rBB	0.012		195.00	7.731	7.743
35	7.772	rBV	0.071		544823	7.749	7.819
36	7.831	rBV	0.018		1051	7.825	7.843
37	7.860	rVV	0.029		1025	7.843	7.872
38	7.884	rVV	0.024		991.00	7.872	7.896
39	7.907	rVV	0.024		964.00	7.896	7.919
40	7.931	rVV	0.018		1128	7.919	7.937
41	7.960	rVV	0.041		6697	7.937	7.978
42	8.031	rVV	0.100		15710	7.978	8.078
43	8.089	rVV	0.018		1816	8.078	8.095
44	8.142	rVV	0.059		9601	8.119	8.178
45	8.207	rVV	0.029		2936	8.195	8.225
46	8.236	rVB	0.041		1795	8.225	8.266
47	8.283	rBV	0.018		595.00	8.277	8.295
48	8.319	rBV	0.047		2830	8.295	8.342
49	8.377	rVV	0.041		2935	8.360	8.401
50	8.454	rVB	0.082		207482	8.424	8.507
51	8.513	rBV	0.029		1214	8.507	8.536
52	8.601	rBV	0.024		925.00	8.589	8.612
53	8.654	rVV	0.047		36394	8.624	8.671
54	8.706	rVV	0.071		204896	8.671	8.742
55	8.759	rVV	0.047		177697	8.742	8.789
56	8.812	rVV	0.035		11933	8.789	8.824
57	8.836	rVV	0.029		23276	8.824	8.853
58	8.865	rVV	0.041	MF	5248	8.853	8.894
59	8.936	rBV	0.065		1895	8.918	8.983
60	8.994	rVB	0.018		779.00	8.988	9.006
61	9.035	rBV	0.018		1735	9.024	9.041

DOT Breakdown
= 1%

62	9.065	rVV	0.053		5293	9.041	9.094
63	9.135	rVB	0.041		1068	9.118	9.159
64	9.206	rBV	0.059		10370	9.159	9.218
65	9.229	rVB	0.035	NDD	~~5999~~	9.218	9.253
66	9.265	rBB	0.035		2670	9.253	9.288
67	9.306	rBB	0.029		1007	9.288	9.317
68	9.359	rBV	0.053		1992	9.317	9.370
69	9.388	rBB	0.024		375.00	9.382	9.406
70	9.411	rBB	0.018		181.00	9.406	9.423
71	9.441	rBB	0.029		358.00	9.429	9.458
72	9.476	rBB	0.029		772.00	9.464	9.494
73	9.500	rBB	0.041	NDT	812.00	9.494	9.535
74	9.605	rBV	0.118		~~1145662~~	9.541	9.658
75	9.676	rVV	0.059		11992	9.658	9.717
76	9.729	rVV	0.024		1137	9.717	9.740
77	9.758	rVV	0.029		1373	9.740	9.770
78	9.782	rVB	0.029		1877	9.770	9.799
79	9.823	rBV	0.041		2815	9.799	9.840
80	9.870	rVV	0.076		12999	9.840	9.917
81	9.970	rVV	0.082		5924	9.917	9.999
82	10.017	rVV	0.047		3119	9.999	10.046
83	10.052	rVV	0.018		894.00	10.046	10.064
84	10.081	rVV	0.047		2867	10.064	10.111
85	10.164	rVV	0.071		16759	10.134	10.205
86	10.216	rVB	0.024		744.00	10.205	10.228
87	10.240	rBB	0.018		384.00	10.228	10.246
88	10.258	rBB	0.024		385.00	10.252	10.275
89	10.316	rBB	0.024		177.00	10.305	10.328
90	10.369	rBB	0.024		180.00	10.357	10.381
91	10.451	rBB	0.024		189.00	10.440	10.463
92	10.610	rBB	0.024		177.00	10.598	10.622
93	10.628	rBB	0.018		186.00	10.622	10.639
94	10.657	rBB	0.024		176.00	10.645	10.669
95	10.704	rBB	0.035		798.00	10.686	10.722
96	10.733	rBV	0.024		1017	10.722	10.745
97	10.798	rVV	0.094		35690	10.745	10.839
98	10.845	rVV	0.035		1187	10.839	10.874
99	10.880	rVB	0.018		767.00	10.874	10.892
100	10.921	rBV	0.053		2319	10.892	10.945
101	11.004	rBB	0.035		1029	10.986	11.021
102	11.027	rBB	0.018		404.00	11.021	11.039
103	11.062	rBB	0.024		548.00	11.045	11.068
104	11.080	rBB	0.024		605.00	11.068	11.092
105	11.104	rBB	0.018		217.00	11.098	11.115
106	11.591	rBB	0.088		43820	11.550	11.638
107	12.173	rBB	0.035		362.00	12.161	12.196
108	12.326	rBB	0.035		369.00	12.302	12.337
109	12.361	rBV	0.024		639.00	12.349	12.373
110	12.414	rBV	0.047		1116	12.373	12.420
111	12.578	rBV	0.212		199506	12.420	12.631
112	13.242	rBV	0.024		832.00	13.225	13.248
113	13.283	rBV	0.029		1177	13.272	13.301
114	13.354	rBV	0.018		1158	13.348	13.366
115	13.413	rVV	0.029		741.00	13.407	13.436
116	13.454	rVB	0.029		1263	13.436	13.466
117	13.477	rVB	0.041		1574	13.466	13.507
118	13.513	rBV	0.012		194.00	13.507	13.518
119	13.536	rVB	0.047		1296	13.518	13.565
120	13.583	rBV	0.018		871.00	13.577	13.595
121	13.601	rBV	0.018		264.00	13.595	13.612
122	13.624	rVB	0.018		275.00	13.612	13.630

123	13.677	rVB	0.024	390.00	13.671	13.695
124	13.818	rBV	0.194	172927	13.730	13.924
125	13.936	rVB	0.024	595.00	13.924	13.947
126	13.953	rBB	0.012	177.00	13.947	13.959
127	13.971	rBB	0.018	203.00	13.965	13.983
128	13.994	rBB	0.018	190.00	13.988	14.006
129	14.018	rBB	0.018	178.00	14.012	14.030
130	14.735	rBB	0.024	565.00	14.723	14.746
131	14.764	rBB	0.047	1008	14.746	14.793
132	14.893	rBB	0.024	180.00	14.882	14.905
133	15.399	rBV	0.223	247217	15.293	15.516
134	15.581	rBB	0.035	823.00	15.569	15.604
135	15.616	rBB	0.012	211.00	15.610	15.622
136	15.639	rBB	0.018	519.00	15.628	15.645
137	15.675	rBB	0.018	191.00	15.669	15.686
138	15.710	rBB	0.035	1027	15.692	15.728
139	15.733	rBB	0.024	765.00	15.728	15.751
140	15.780	rBB	0.065	2371	15.751	15.816
141	15.839	rBV	0.035	1511	15.816	15.851
142	15.886	rBB	0.024	848.00	15.874	15.898
143	15.921	rBV	0.035	1910	15.898	15.933
144	15.945	rBV	0.024	652.00	15.933	15.957
145	15.992	rBV	0.047	1894	15.957	16.004
146	16.033	rBV	0.024	787.00	16.027	16.051
147	16.121	rBV	0.035	1200	16.092	16.127
148	16.180	rVV	0.053	6933	16.139	16.192
149	16.203	rVB	0.053	3577	16.192	16.245
150	16.268	rBV	0.029	1760	16.245	16.274
151	16.374	rBV	0.065	11384	16.315	16.380
152	16.427	rBV	0.012	1090	16.421	16.433
153	16.491	rVB	0.206	322141	16.439	16.644
154	16.674	rBV	0.035	5595	16.644	16.679
155	16.932	rBV	0.059	10453	16.897	16.956
156	17.149	rBV	0.200	977160	17.050	17.249
157	17.766	rVB	0.147	338938	17.725	17.872
158	18.413	rBV	0.118	288549	18.366	18.483
159	18.583	rVB	0.194	204456	18.507	18.701
160	19.106	rVB	0.182	205296	19.065	19.247
161	19.870	rVB	0.153	168786	19.823	19.976

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 07:26:26 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	41407	200.00	ng/ml	-0.03
10) Acenaphthene-d10	6.33	164	19313	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.57	188	38769	200.00	ng/ml	0.00
37) Chrysene-d12	10.31	240	43939	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	40856	200.00	ng/ml	0.01
System Monitoring Compounds						
15) Fluorene-d10	6.76	176	458m	3.50	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.35%		
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1500.000			Recovery =	0.00%		
36) Fluoranthene-d10	8.55	212	918	3.68	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.37%		
43) Terphenyl-d14	8.93	244	871	4.10	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	0.41%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	916	3.97	ng/ml	98
3) 2-Methylnaphthalene	5.49	142	550	3.49	ng/ml	98
4) 1-Methylnaphthalene	5.57	142	500	3.56	ng/ml	97
5) Biphenyl	5.86	154	588m	3.17	ng/ml	
6) 2,6-Dimethylnaphthalene	5.99	156	400	3.04	ng/ml	98
11) Acenaphthylene	6.22	152	670m	3.49	ng/ml	
12) Acenaphthene	6.36	154	453	3.90	ng/ml	86
13) Dibenzofuran	6.51	168	602	3.41	ng/ml	62
14) 2,3,5-Trimethylnaphthalene	6.67	170	372	3.37	ng/ml	78
16) Fluorene	6.78	166	547	3.88	ng/ml	98
23) Dibenzothiophene	7.48	184	769	3.65	ng/ml	87
27) Phenanthrene	7.58	178	944	4.23	ng/ml	95
28) Anthracene	7.62	178	893m	4.05	ng/ml	
29) Carbazole	7.77	167	740m	3.81	ng/ml	
30) 1-Methylphenanthrene	8.08	192	724m	4.40	ng/ml	
35) Fluoranthene	8.56	202	1004	4.04	ng/ml	91
38) Pyrene	8.77	202	1048	4.13	ng/ml	92
44) Benz(a)anthracene	10.30	228	1095	4.14	ng/ml	94
45) Chrysene	10.36	228	985	4.07	ng/ml	100
51) Benzo(b)fluoranthene	12.73	252	1051	4.01	ng/ml	94
52) Benzo(k)fluoranthene	12.81	252	935	3.71	ng/ml	97
53) Benzo(e)pyrene	13.57	252	1116	4.53	ng/ml	99
54) Benzo(a)pyrene	13.75	252	885m	3.85	ng/ml	
55) Perylene	14.03	252	1003	4.38	ng/ml	91
56) Indeno(1,2,3-cd)pyrene	17.06	276	770	3.55	ng/ml	99

(#) = qualifier out of range (m) = manual integration
0630F003.D 062914ALK.M Mon Jun 30 08:09:32 2014 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 07:26:26 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

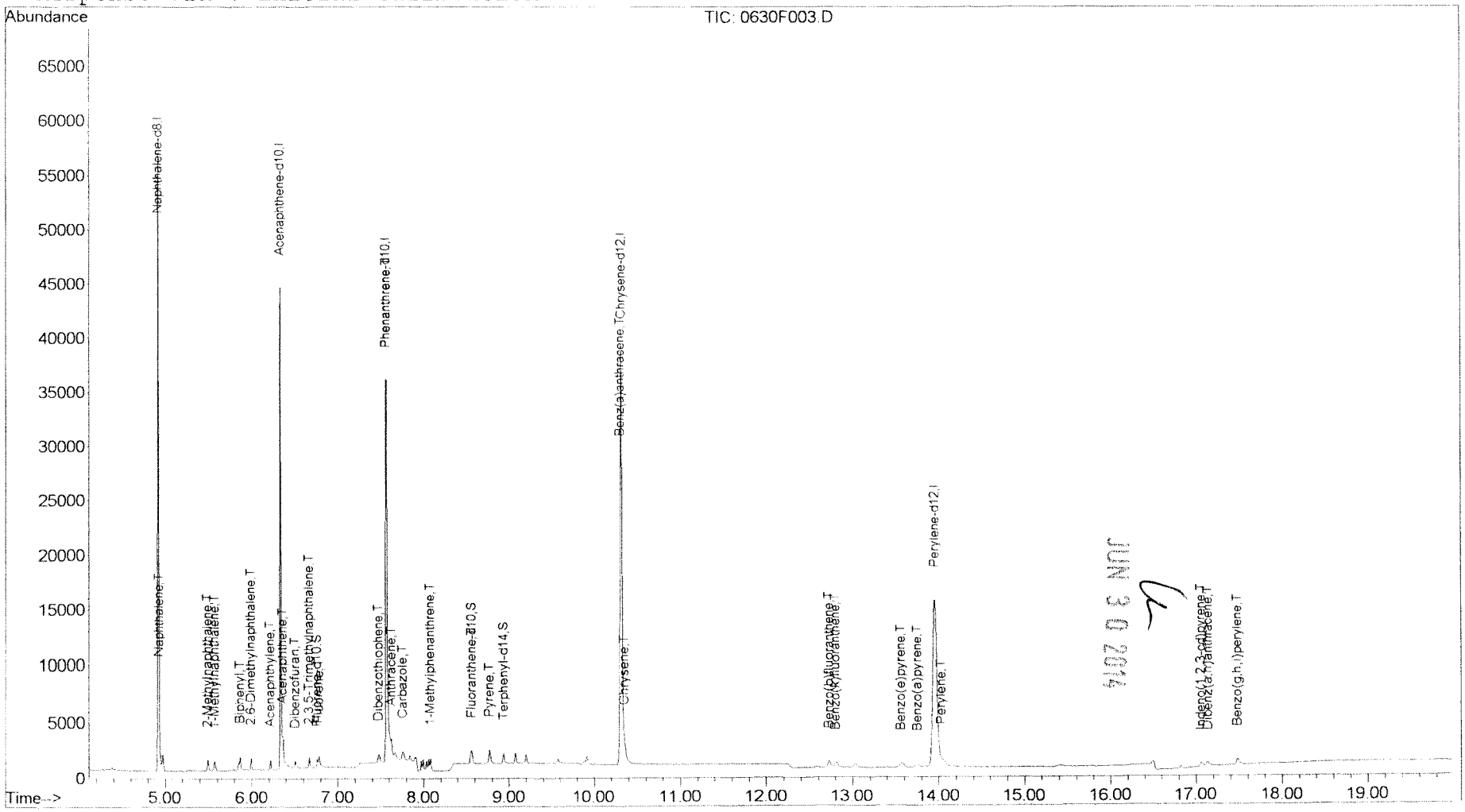
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.14	278	746	3.29	ng/ml	99
58)	Benzo(g,h,i)perylene	17.48	276	1099m	4.19	ng/ml	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:28 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:28:41 2014
Response via : Initial Calibration

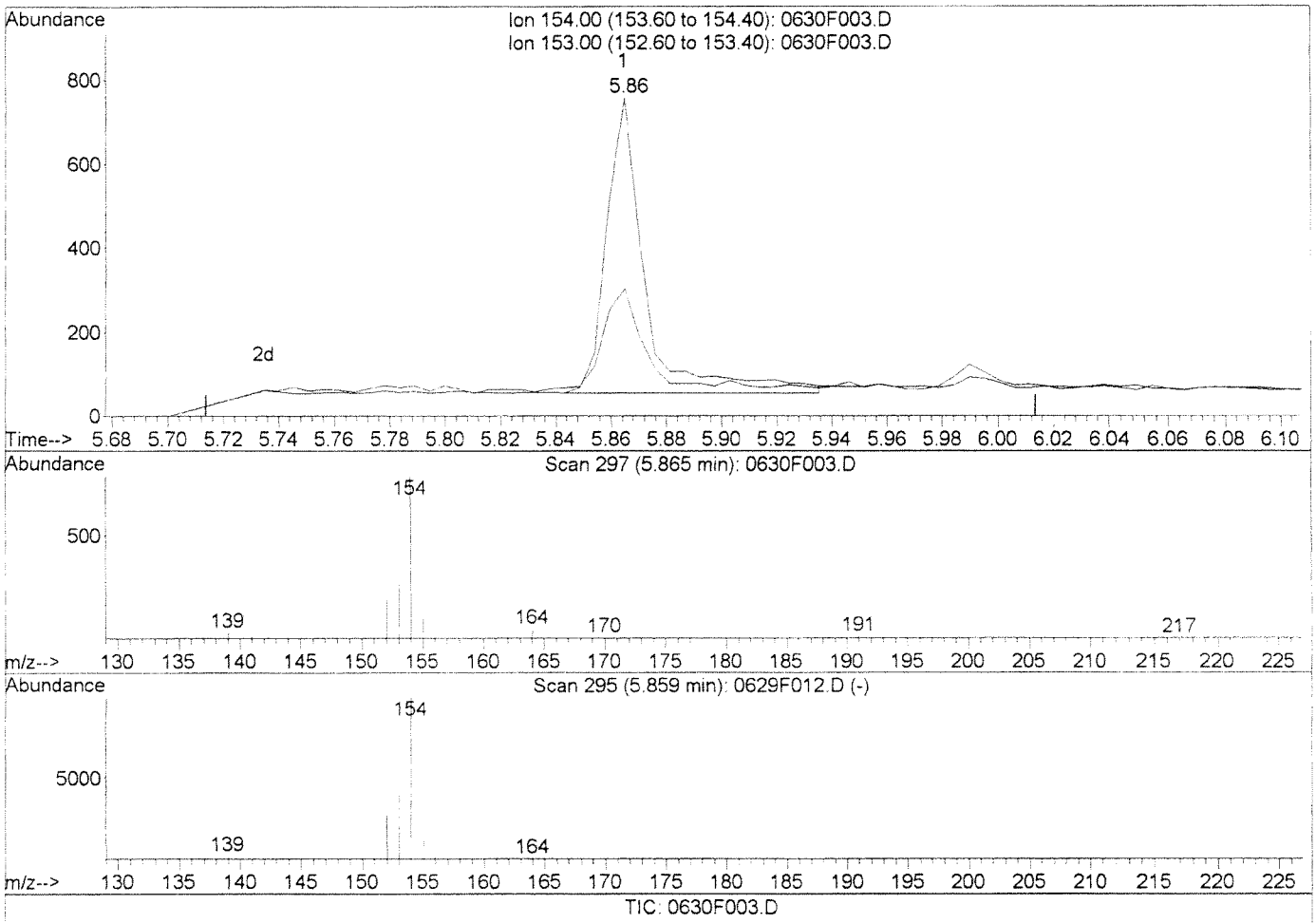


928

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(5) Biphenyl (T)

5.86min 3.69ng/ml

response 686

Ion	Exp%	Act%
154.00	100	100
153.00	40.00	33.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration

Before

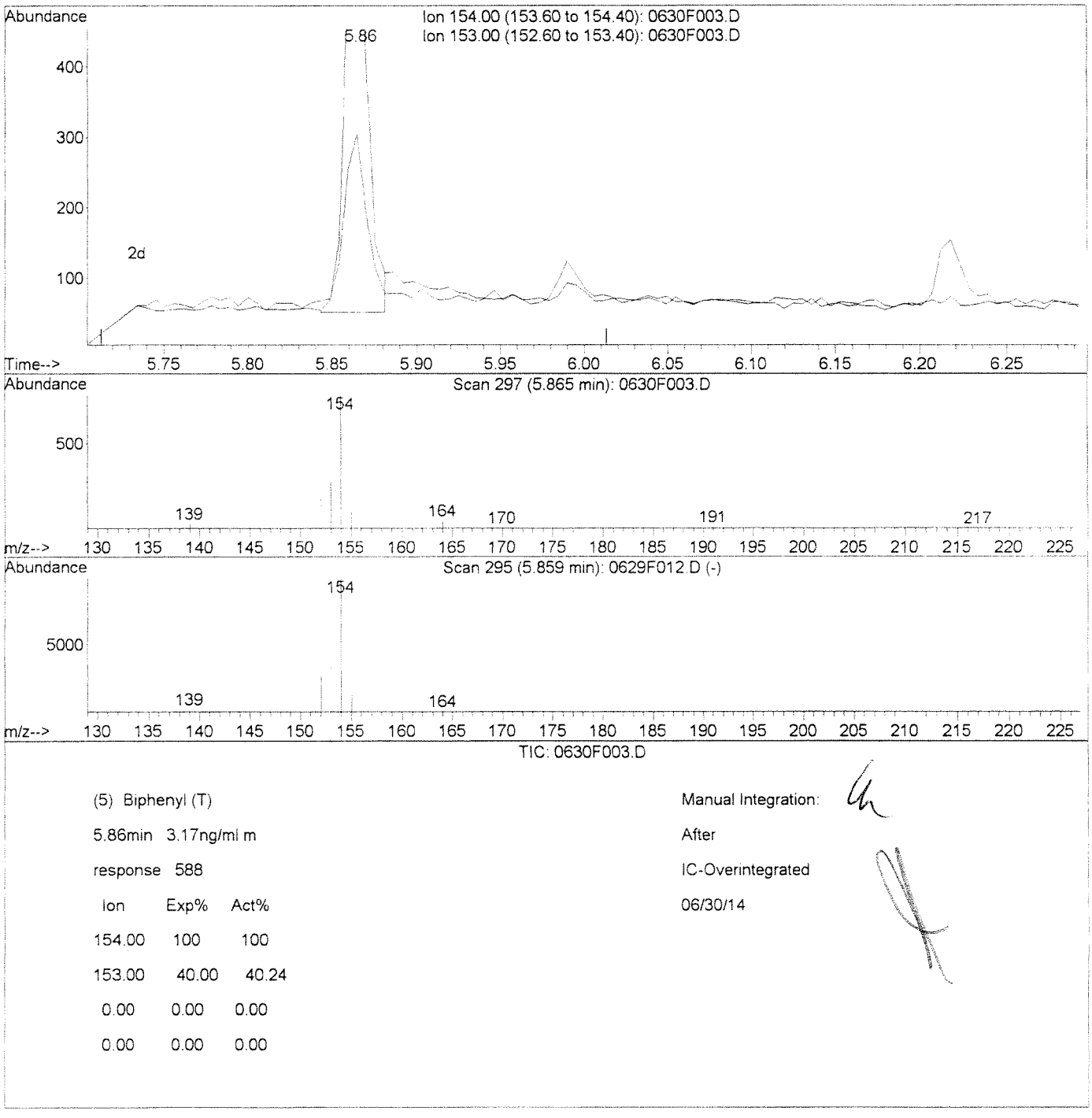
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:26:41 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



(5) Biphenyl (T)

5.86min 3.17ng/ml m

response 588

Ion	Exp%	Act%
154.00	100	100
153.00	40.00	40.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

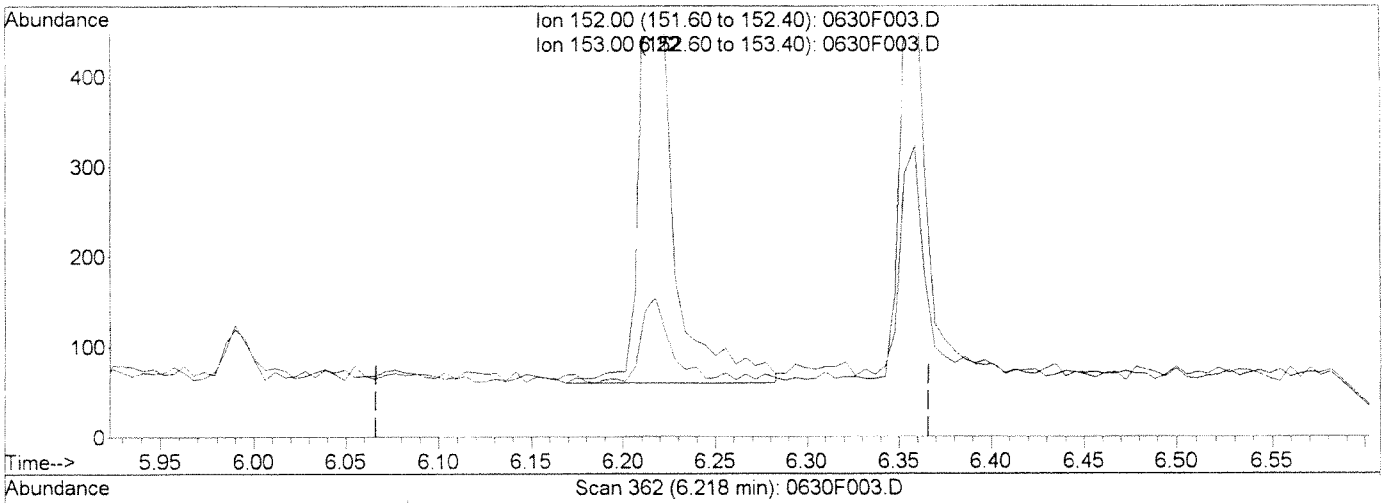
06/30/14

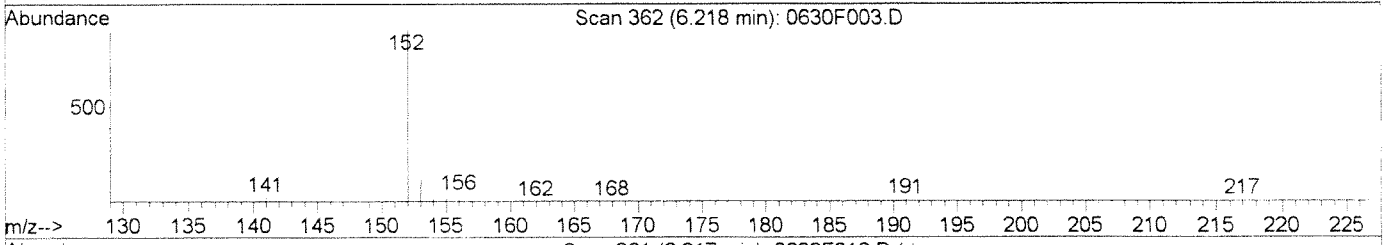
0630F003.D 062914ALK.M Mon Jun 30 07:26:48 2014

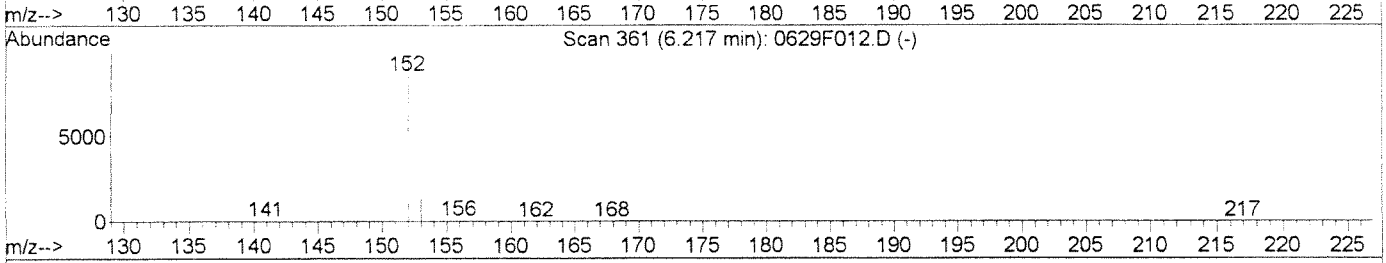
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(11) Acenaphthylene (T)

6.22min 3.88ng/ml

response 744

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	11.11
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

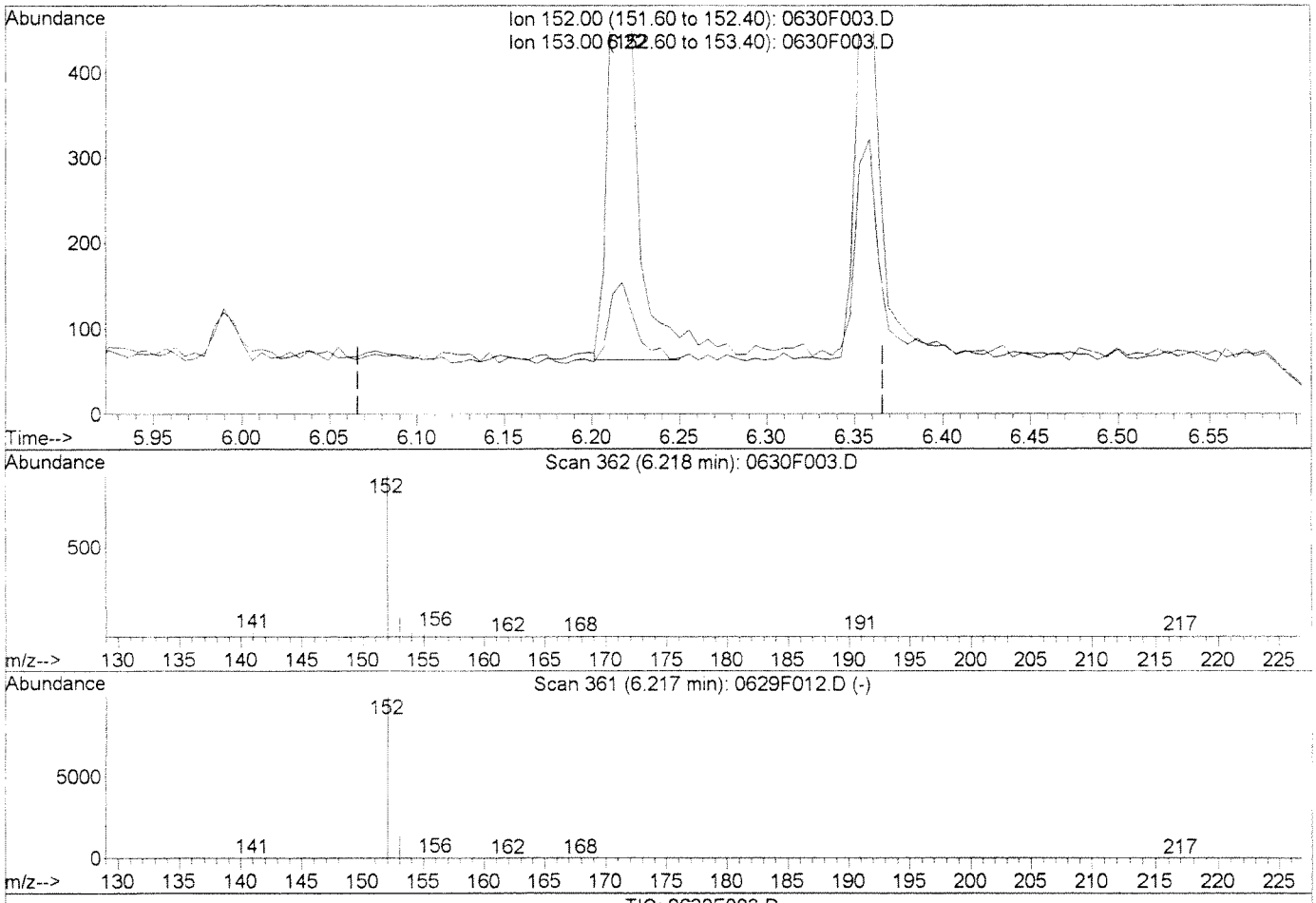
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:26:53 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(11) Acenaphthylene (T)

6.22min 3.49ng/ml m

response 670

Ion	Exp%	Act%
152.00	100	100
153.00	13.60	17.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

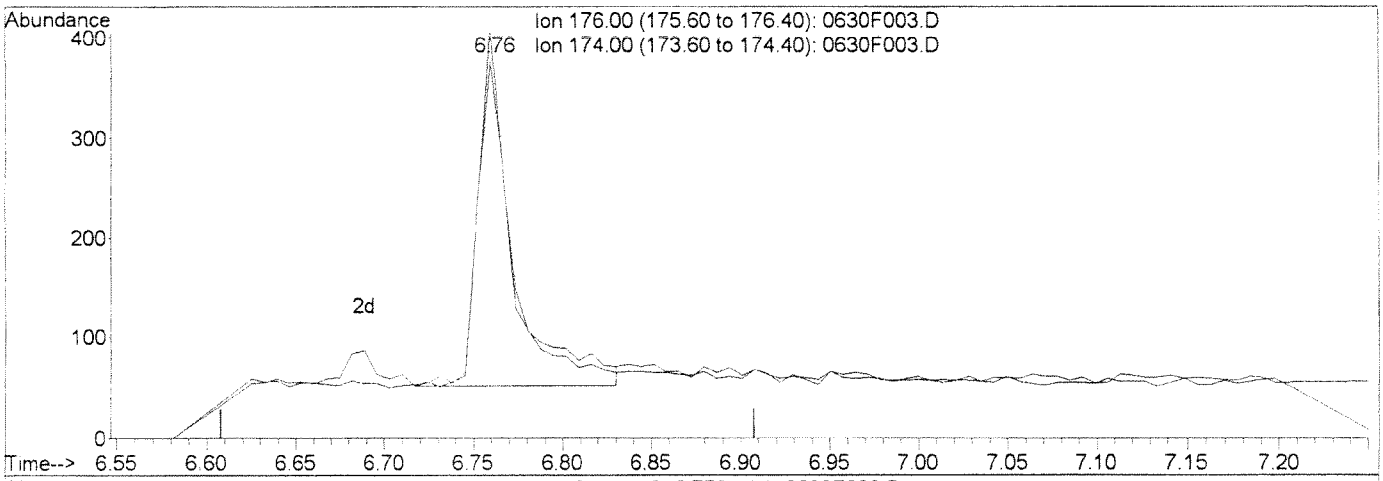
06/30/14

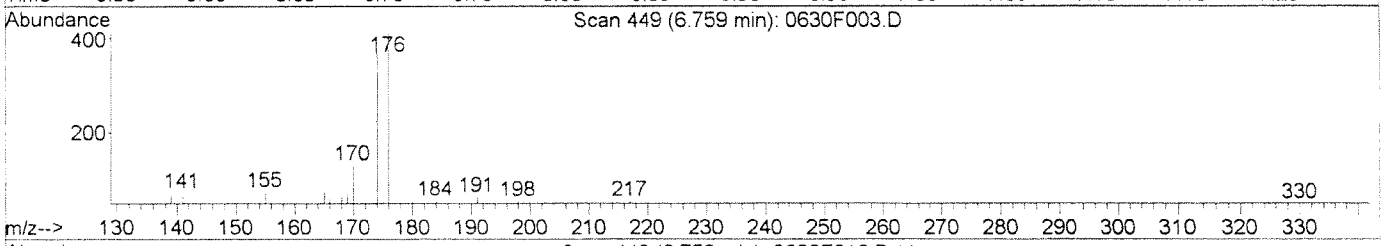
0630F003.D 062914ALK.M Mon Jun 30 07:26:58 2014

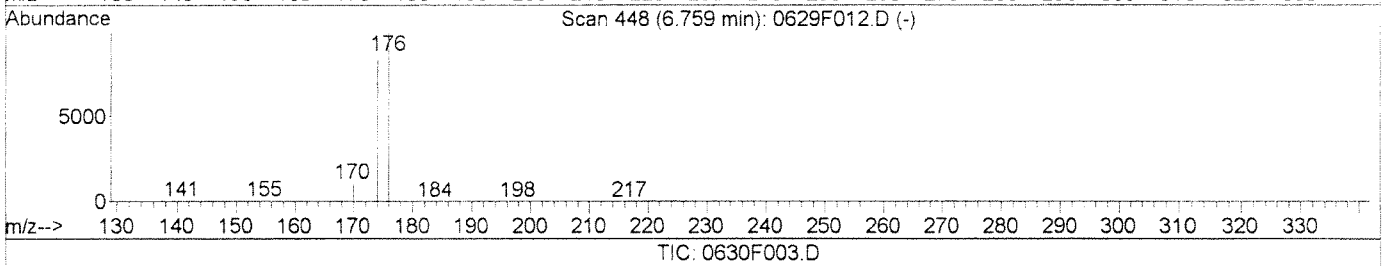
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:26 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(15) Fluorene-d10 (S)

6.76min 3.75ng/ml

response 491

Ion	Exp%	Act%
176.00	100	100
174.00	94.70	89.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

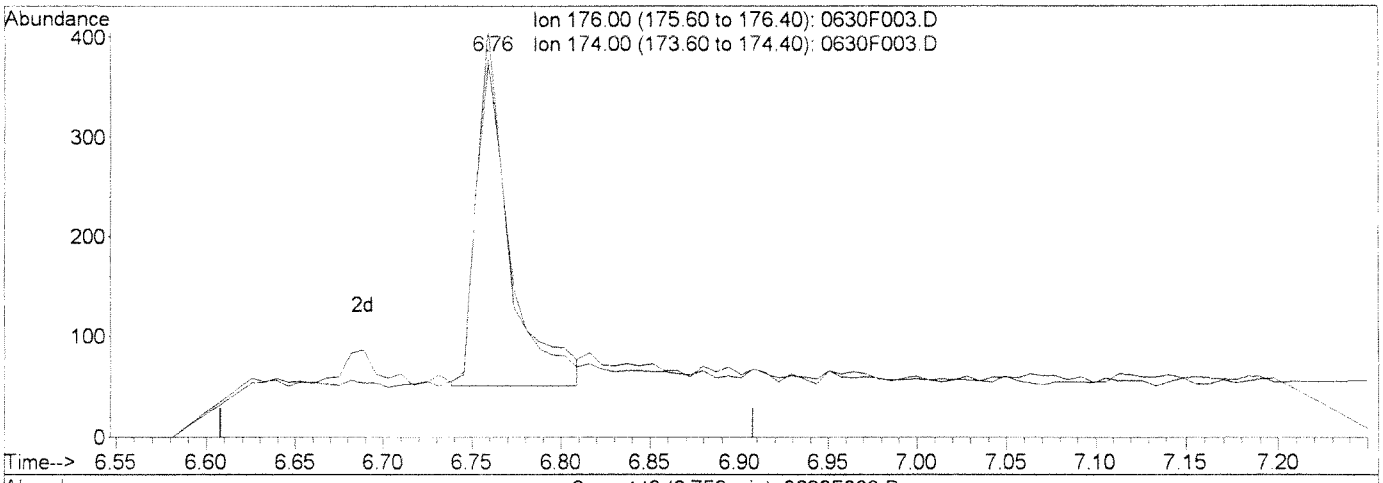
06/30/14

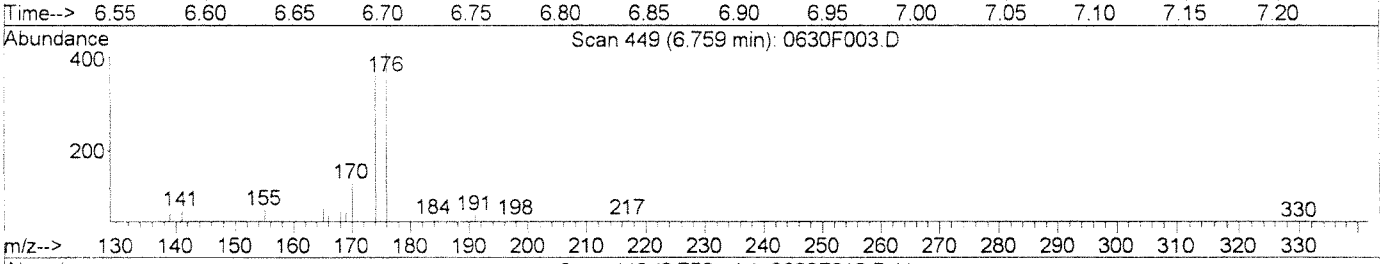
0630F003.D 062914ALK.M Mon Jun 30 07:27:05 2014

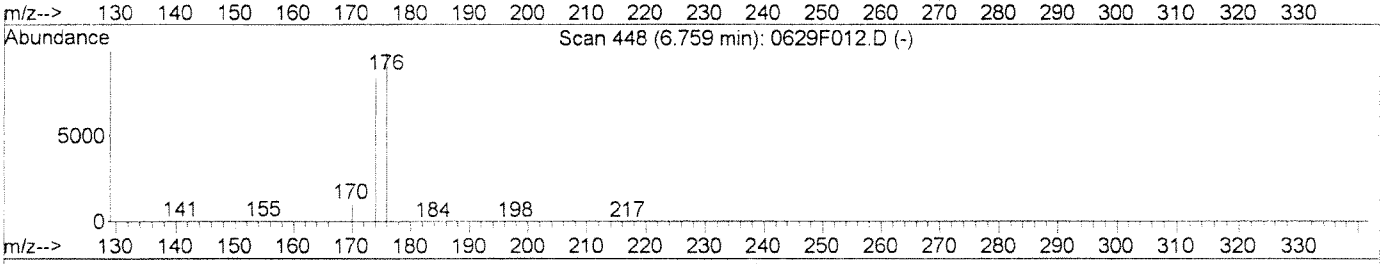
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(15) Fluorene-d10 (S)

6.76min 3.50ng/ml m

response 458

Ion	Exp%	Act%
176.00	100	100
174.00	94.70	91.06
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

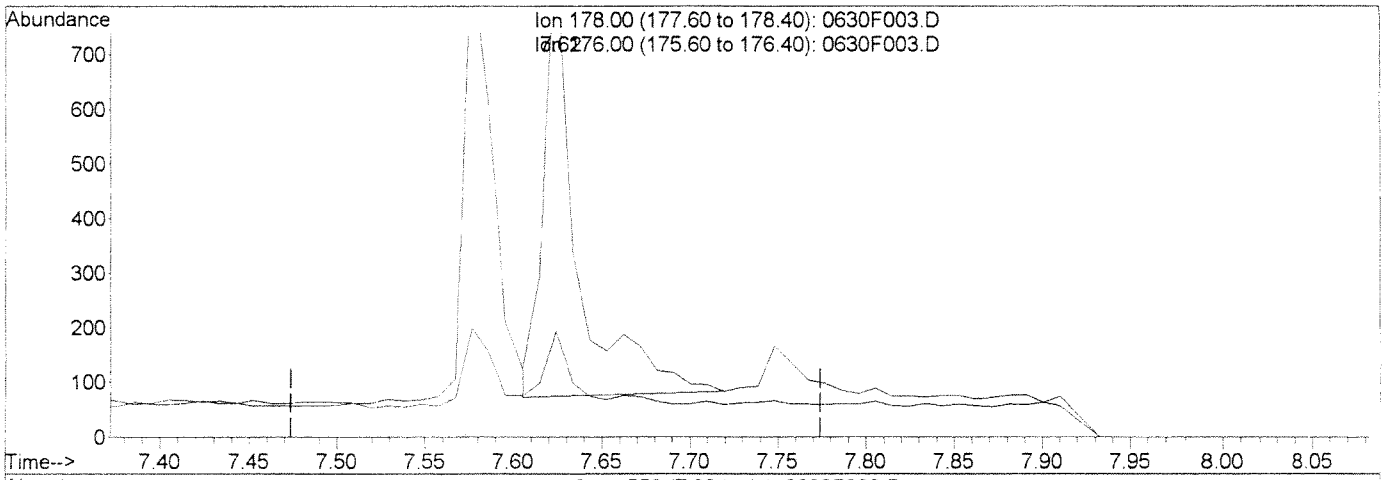
06/30/14

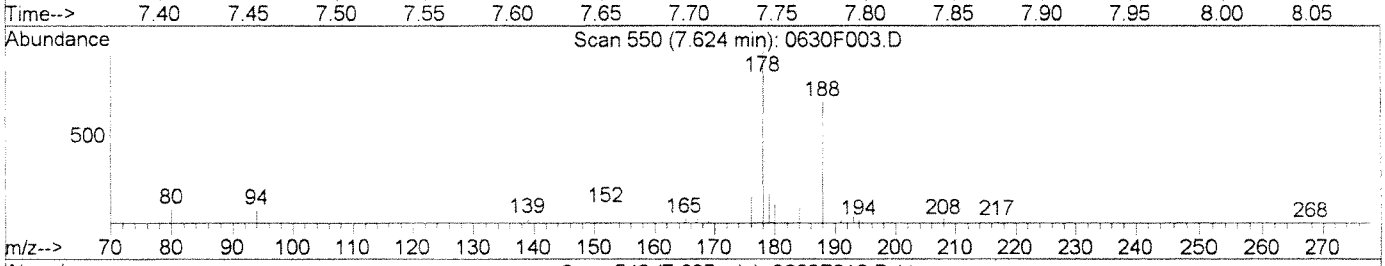
0630F003.D 062914ALK.M Mon Jun 30 07:27:10 2014

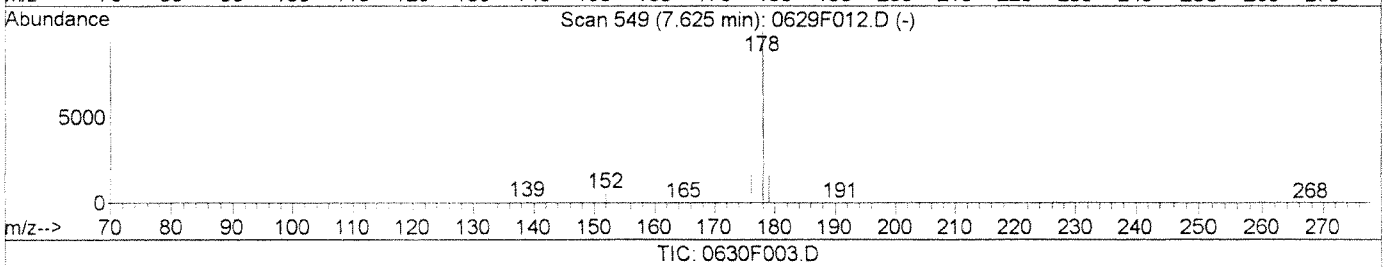
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(28) Anthracene (T)

7.62min 4.72ng/ml

response 1041

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	15.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

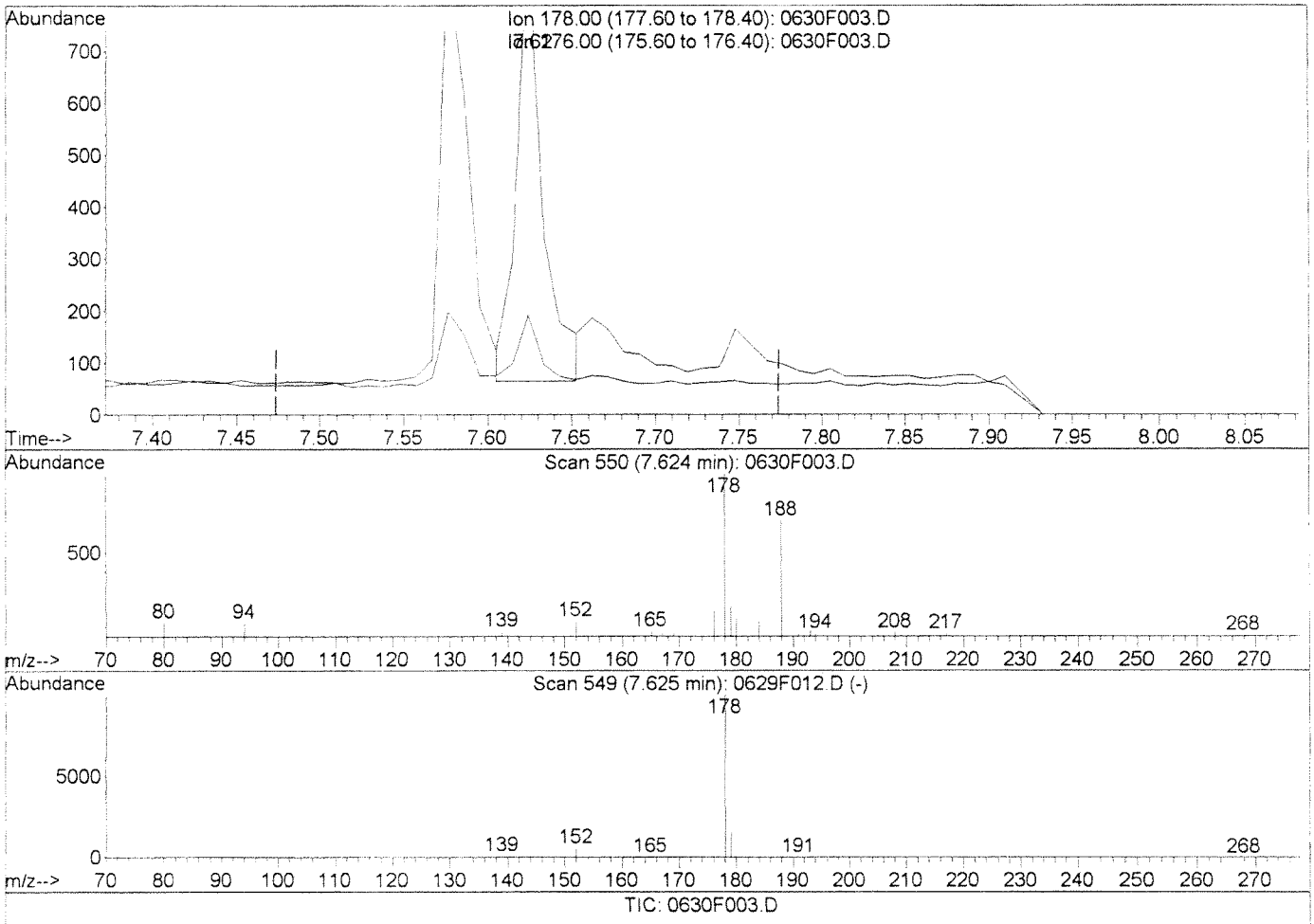
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:27:19 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(28) Anthracene (T)

7.62min 4.05ng/ml m

response 893

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	20.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

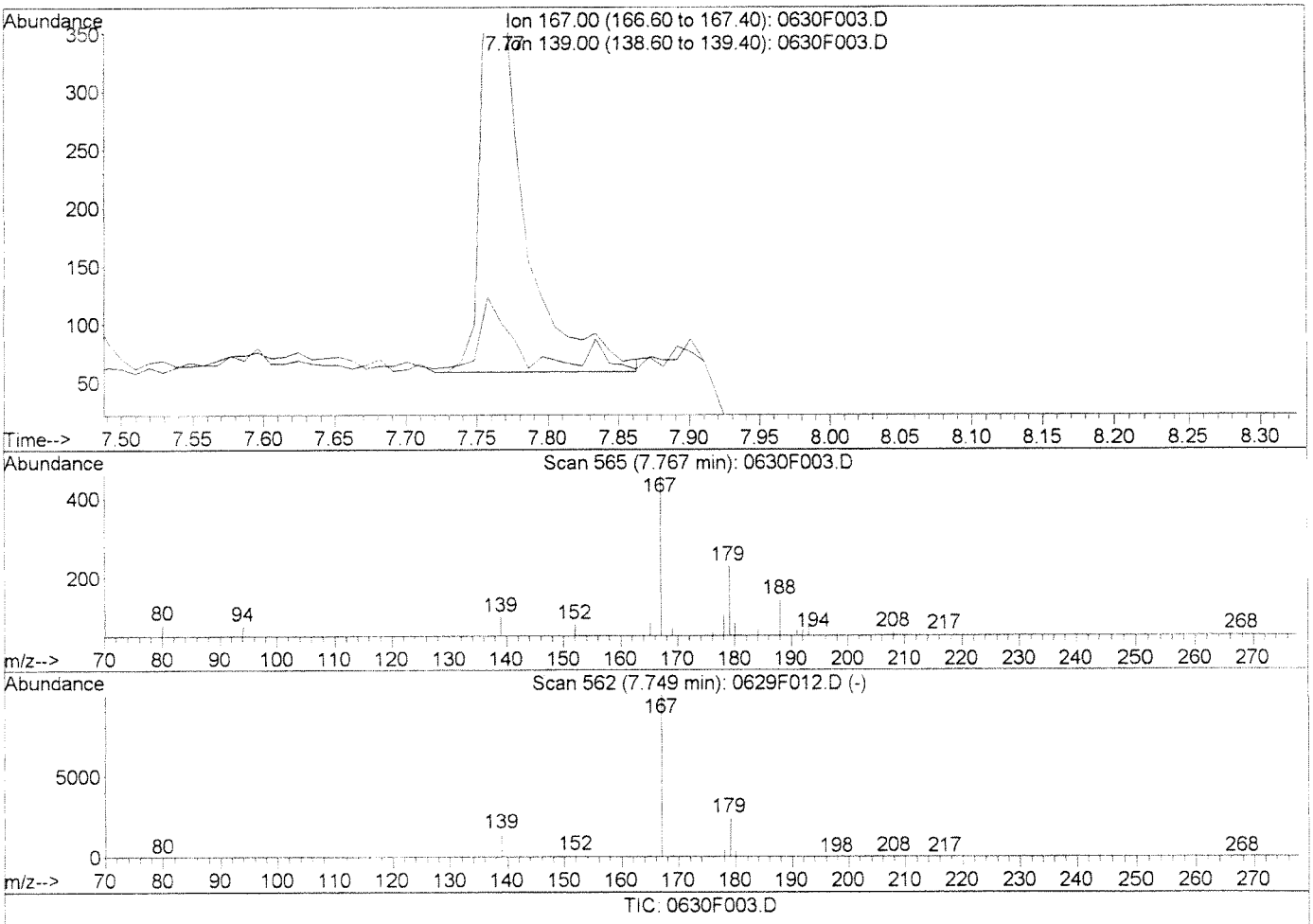
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:27:25 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(29) Carbazole (T)

7.77min 4.02ng/ml

response 780

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	9.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

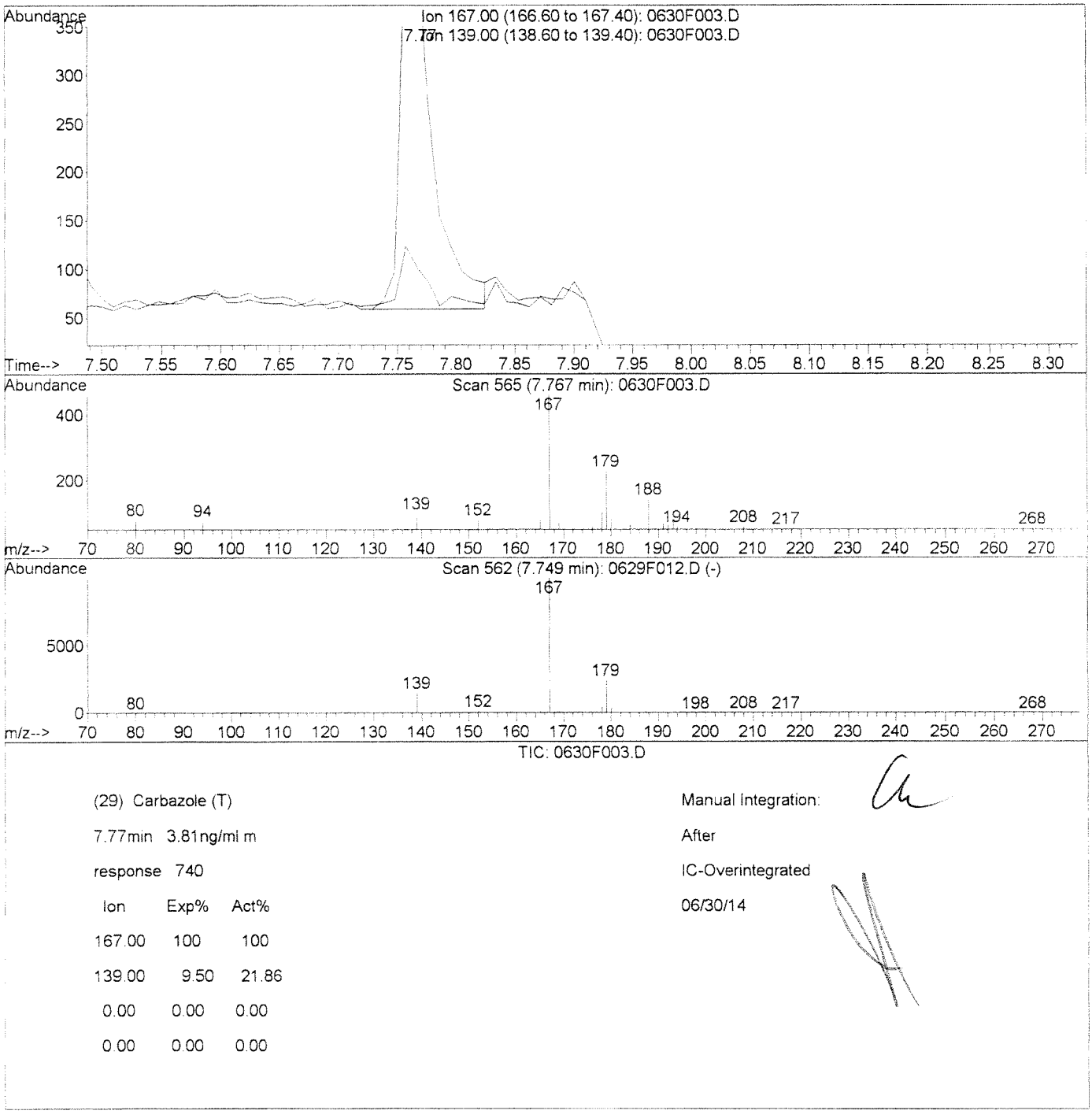
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:27:28 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(29) Carbazole (T)

7.77min 3.81ng/ml m

response 740

Ion	Exp%	Act%
167.00	100	100
139.00	9.50	21.86
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

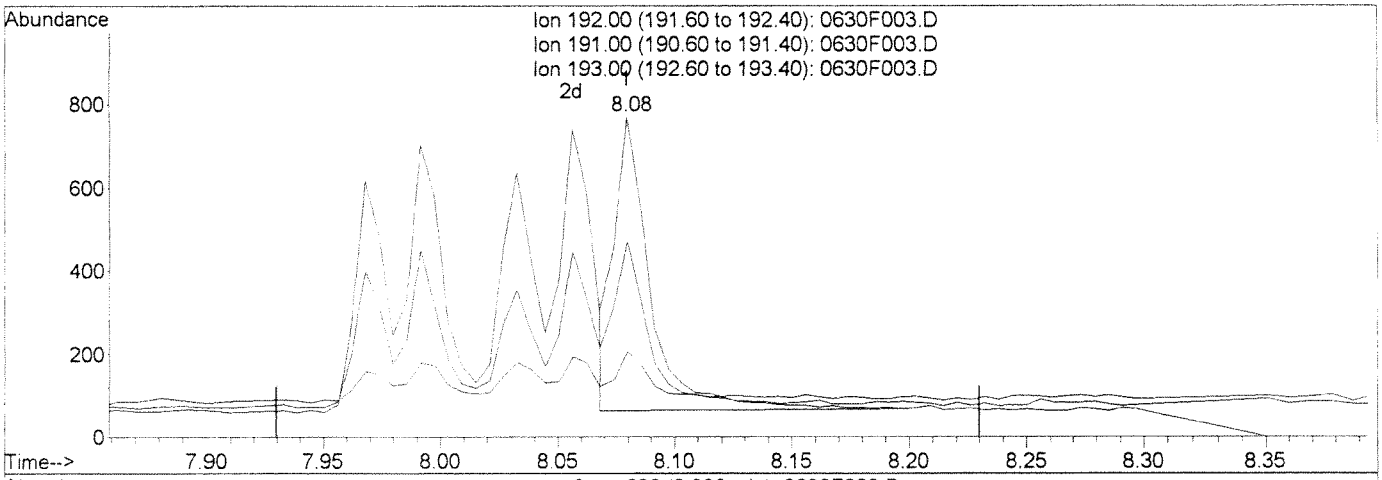
06/30/14

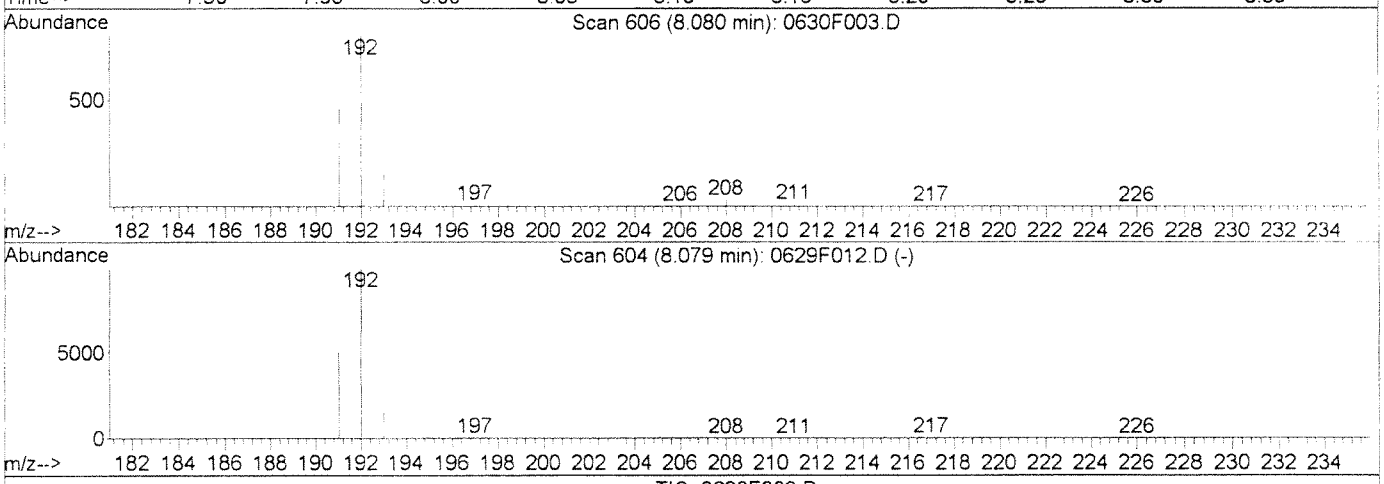
0630F003.D 062914ALK.M Mon Jun 30 07:27:32 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration





TIC: 0630F003.D

(30) 1-Methylphenanthrene (T)

8.08min 4.66ng/ml

response 768

Ion	Exp%	Act%
192.00	100	100
191.00	59.00	54.83
193.00	14.90	15.48
0.00	0.00	0.00

Manual Integration:

Before

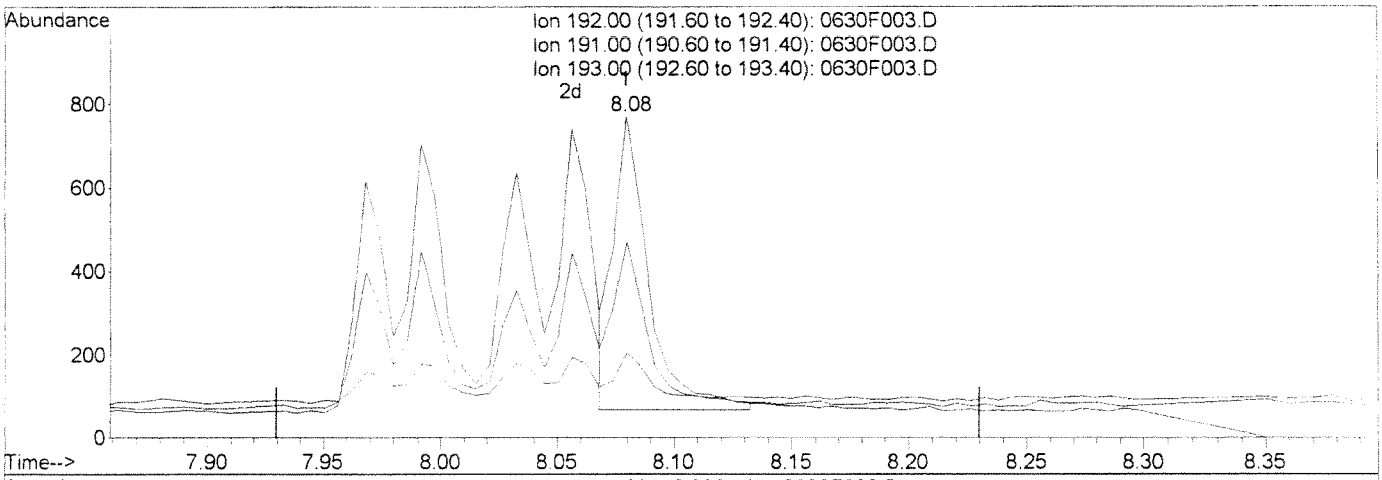
06/30/14

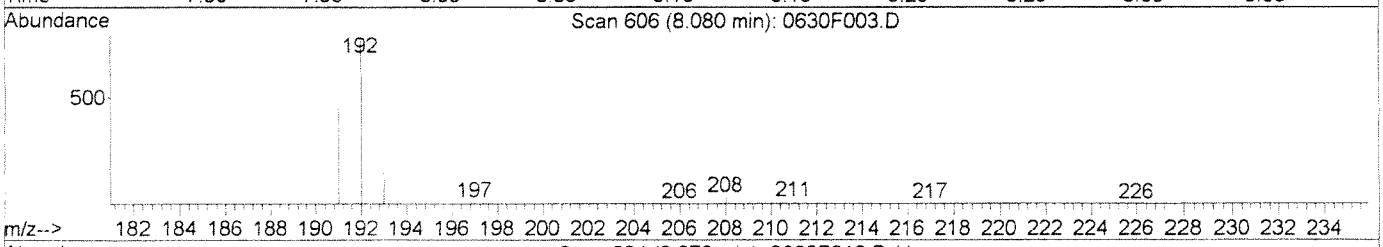
0630F003.D 062914ALK.M Mon Jun 30 07:27:38 2014

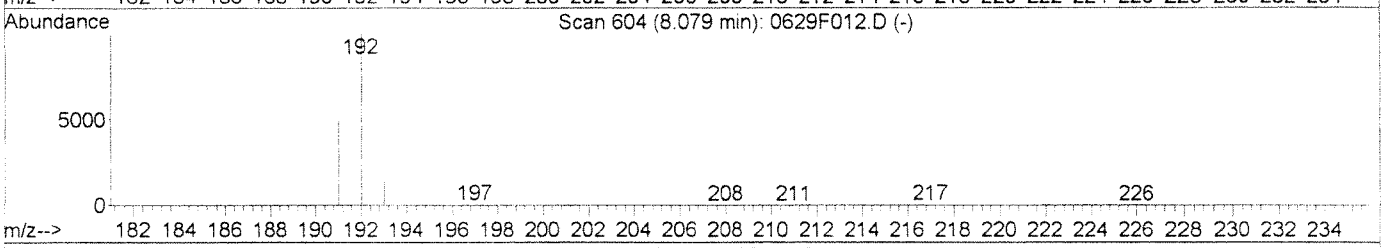
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(30) 1-Methylphenanthrene (T)

8.08min 4.40ng/ml m

response 724

Ion	Exp%	Act%
192.00	100	100
191.00	59.00	61.09
193.00	14.90	26.59
0.00	0.00	0.00

Manual Integration:

After

BLC

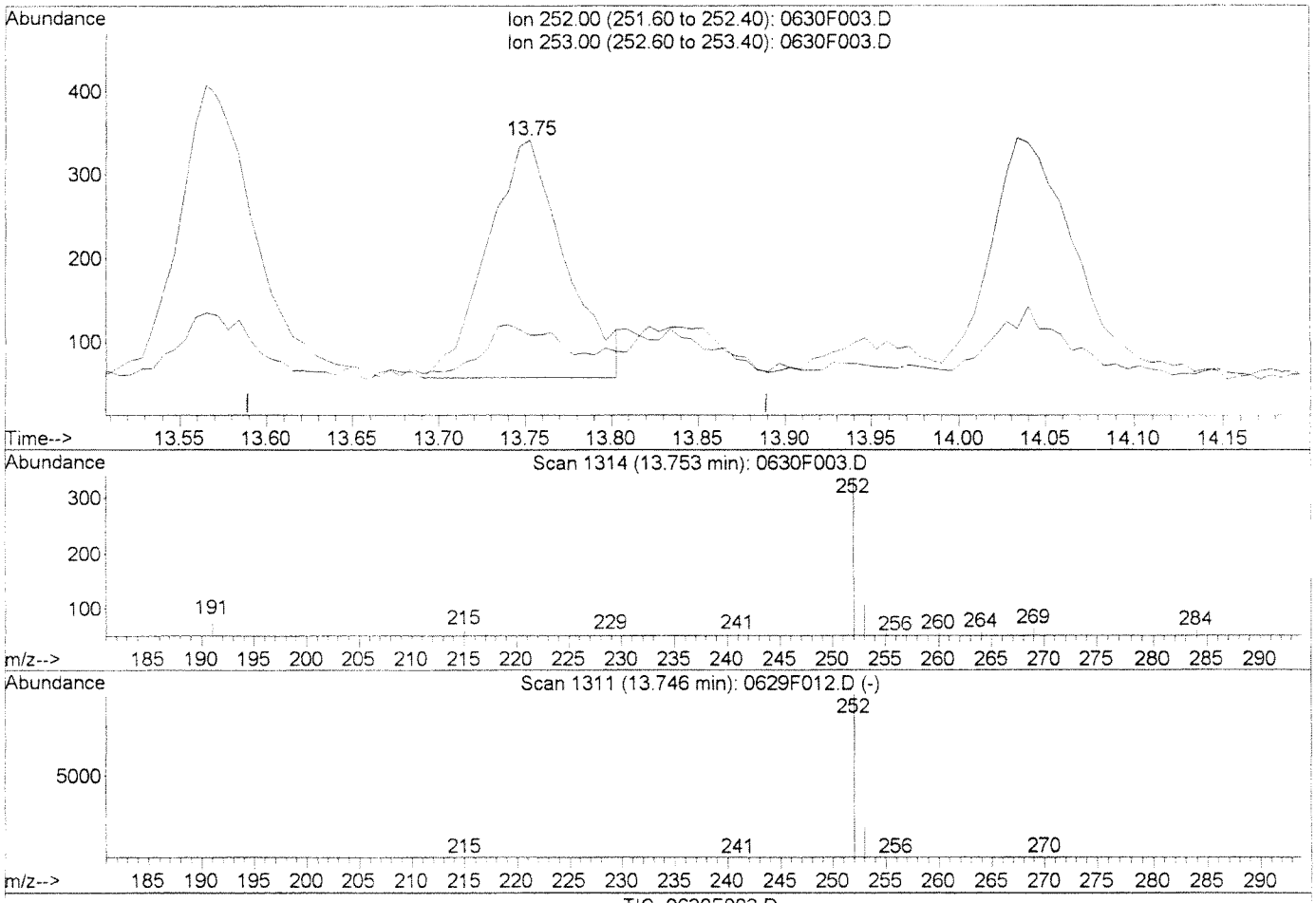
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:27:44 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:27 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



TIC: 0630F003.D

(54) Benzo(a)pyrene (T)

13.75min 3.86ng/ml

response 887

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	16.20
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

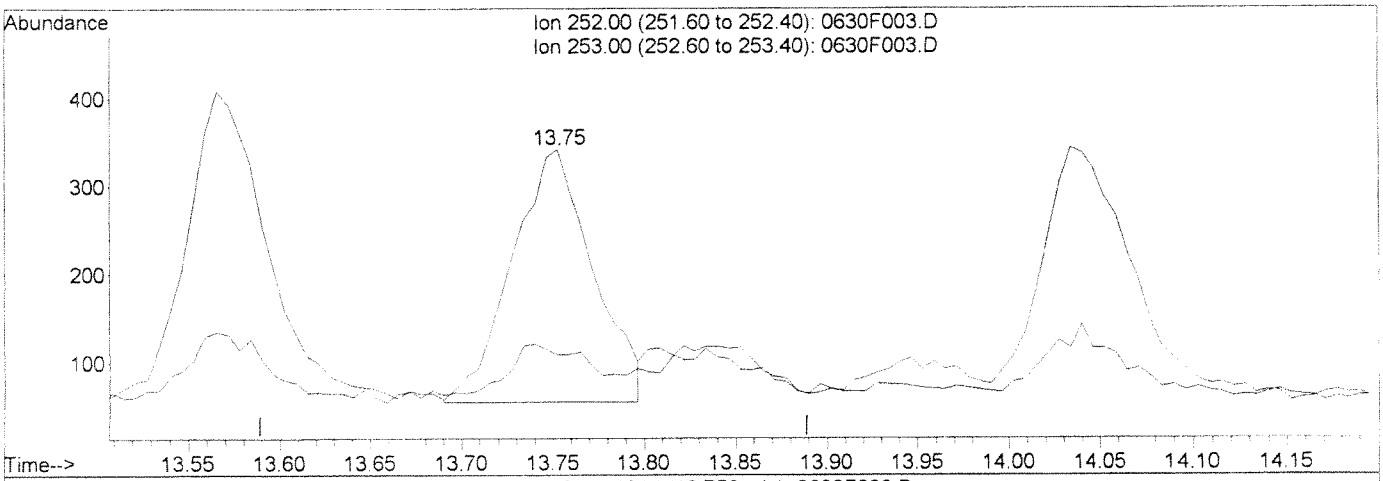
06/30/14

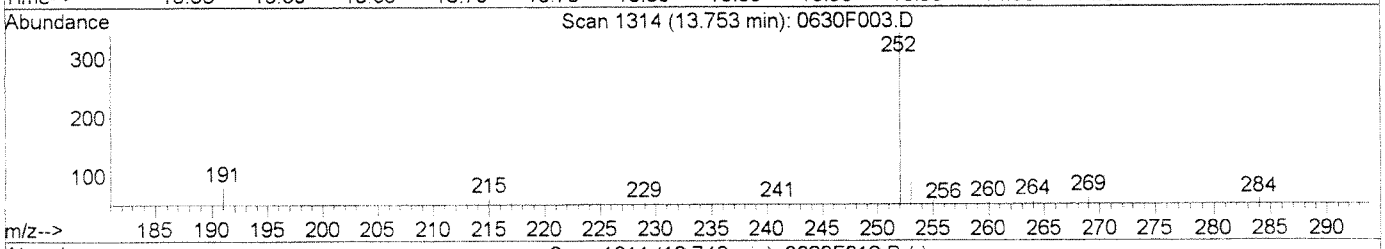
0630F003.D 062914ALK.M Mon Jun 30 07:28:02 2014

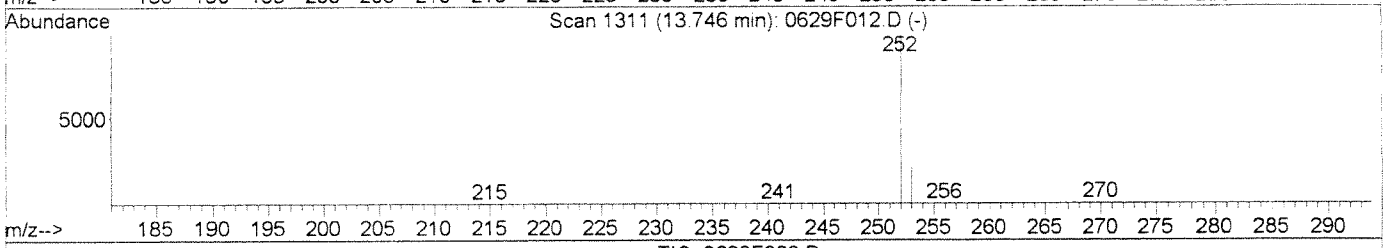
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(54) Benzo(a)pyrene (T)

13.75min 3.85ng/ml m

response 885

Ion	Exp%	Act%
252.00	100	100
253.00	22.50	31.87
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

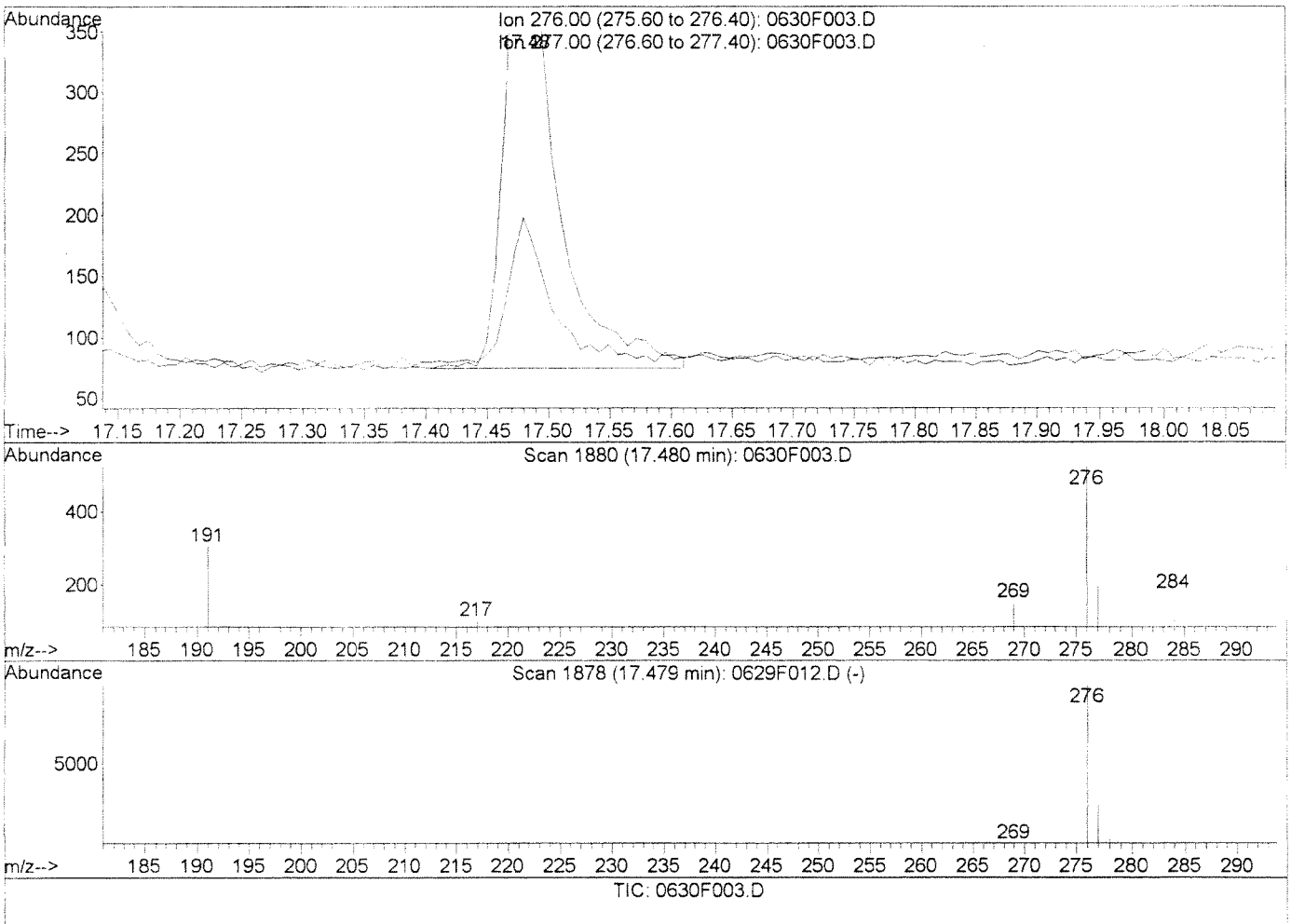
06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:28:06 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration



(58) Benzo(g,h,i)perylene (T)

17.48min 4.34ng/ml

response 1139

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	26.40
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

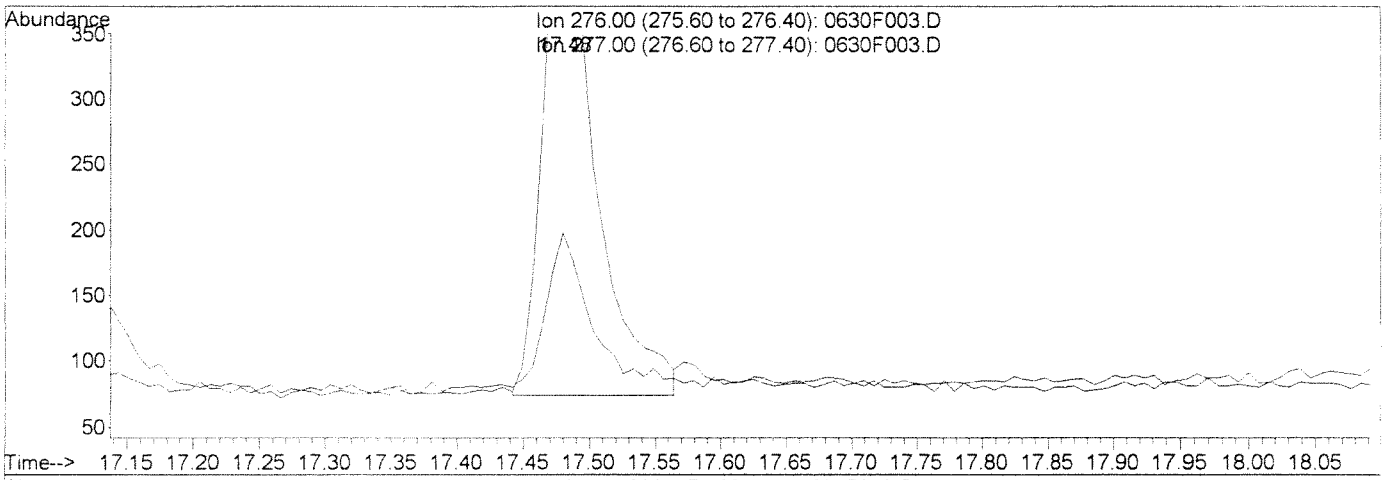
06/30/14

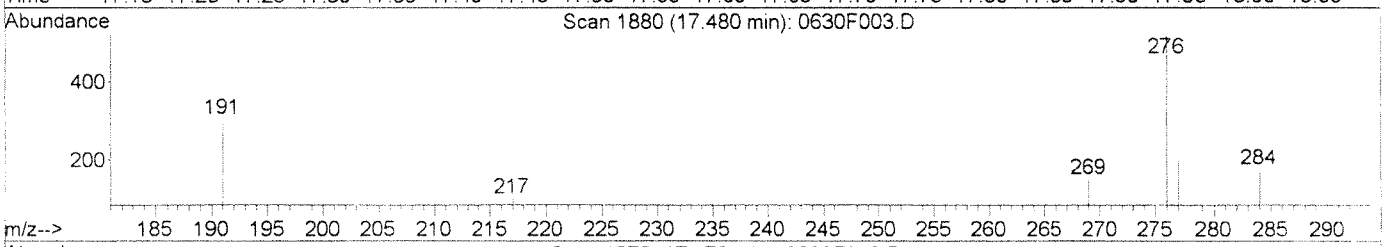
0630F003.D 062914ALK.M Mon Jun 30 07:28:15 2014

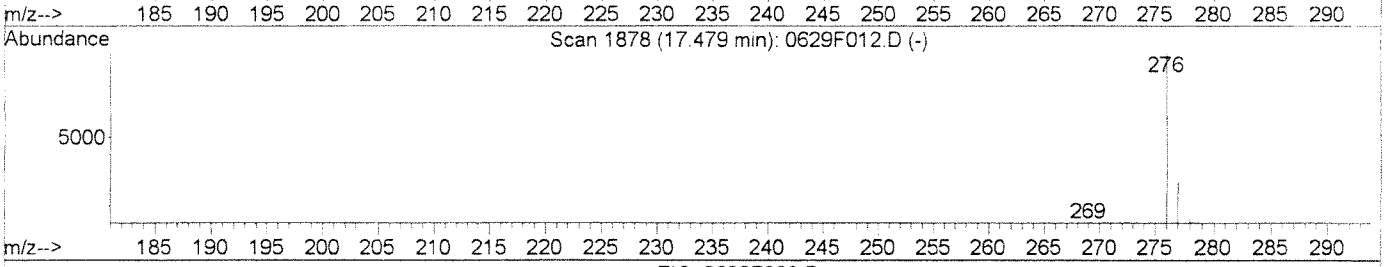
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F003.D Vial: 2
Acq On : 30 Jun 2014 7:06 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004ug/mL | SVM46-68B Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 7:28 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 07:03:51 2014
Response via : Multiple Level Calibration







TIC: 0630F003.D

(58) Benzo(g,h,i)perylene (T)

17.48min 4.19ng/ml m

response 1099

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	37.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0630F003.D 062914ALK.M Mon Jun 30 07:28:21 2014

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 08:15:58 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 30 2014

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	38188	200.00	ng/ml	-0.03
10) Acenaphthene-d10	6.33	164	20257	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39952	200.00	ng/ml	-0.01
37) Chrysene-d12	10.31	240	46318	200.00	ng/ml	0.00
50) Perylene-d12	13.94	264	43701	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	51785	383.63	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	38.36%		
20) 2,4,6 Tribromophenol	6.98	330	7780	353.41	ng/ml	0.00
Spiked Amount 1500.000			Recovery =	23.56%		
36) Fluoranthene-d10	8.54	212	91632	359.59	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	35.96%		
43) Terphenyl-d14	8.93	244	79776	360.09	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	36.01%		
Target Compounds						Qvalue
2) Naphthalene	4.94	128	78123	369.50	ng/ml	97
3) 2-Methylnaphthalene	5.48	142	52041	362.79	ng/ml	96
4) 1-Methylnaphthalene	5.57	142	48982	381.64	ng/ml	99
5) Biphenyl	5.86	154	63001	377.55	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.99	156	47346	394.48	ng/ml	94
11) Acenaphthylene	6.21	152	79592	397.66	ng/ml	99
12) Acenaphthene	6.36	154	46048	379.34	ng/ml	90
13) Dibenzofuran	6.50	168	70921	400.05	ng/ml	75
14) 2,3,5-Trimethylnaphthalene	6.67	170	44753	390.69	ng/ml	84
16) Fluorene	6.77	166	56594	384.58	ng/ml	89
23) Dibenzothiophene	7.47	184	79418	371.60	ng/ml	98
27) Phenanthrene	7.58	178	84002	365.85	ng/ml	99
28) Anthracene	7.61	178	81209m	364.62	ng/ml	
29) Carbazole	7.75	167	74462	376.28	ng/ml	84
30) 1-Methylphenanthrene	8.07	192	62749	376.29	ng/ml	97
35) Fluoranthene	8.56	202	93483	368.36	ng/ml	82
38) Pyrene	8.77	202	93227	349.29	ng/ml	84
44) Benz(a)anthracene	10.29	228	94530	355.12	ng/ml	99
45) Chrysene	10.35	228	91134	363.06	ng/ml	99
51) Benzo(b)fluoranthene	12.72	252	100711	366.01	ng/ml	98
52) Benzo(k)fluoranthene	12.80	252	98492	374.58	ng/ml	99
53) Benzo(e)pyrene	13.56	252	86703	335.98	ng/ml	99
54) Benzo(a)pyrene	13.73	252	89737	371.23	ng/ml	98
55) Perylene	14.03	252	87256	358.41	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.04	276	85329	375.89	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 08:15:58 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

JUN 3 0 2014

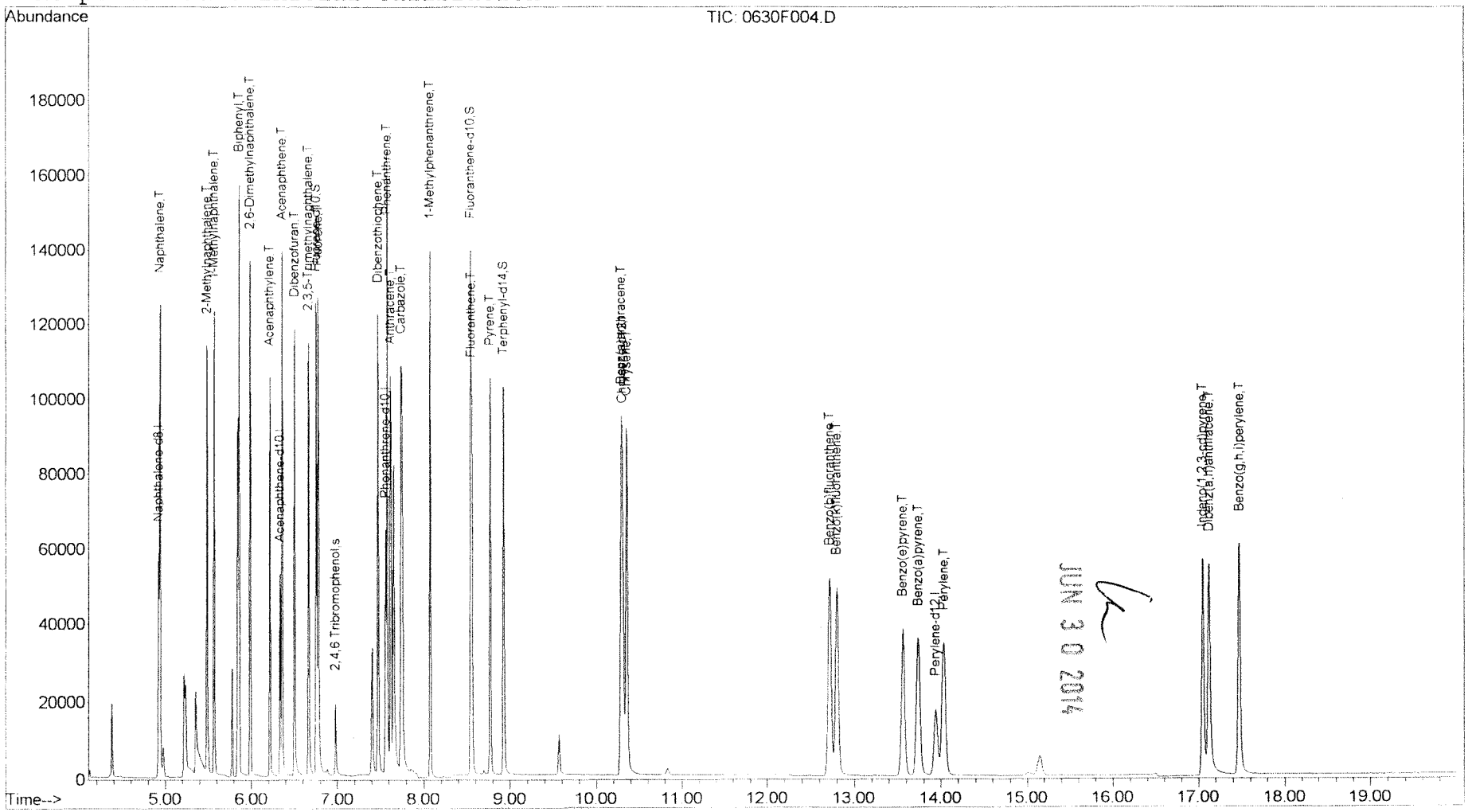
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.12	278	88903	375.20	ng/ml	97
58)	Benzo(g,h,i)perylene	17.47	276	94580	348.91	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\063014\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 8:16 2014 Quant Results File: 062914ALK.RES

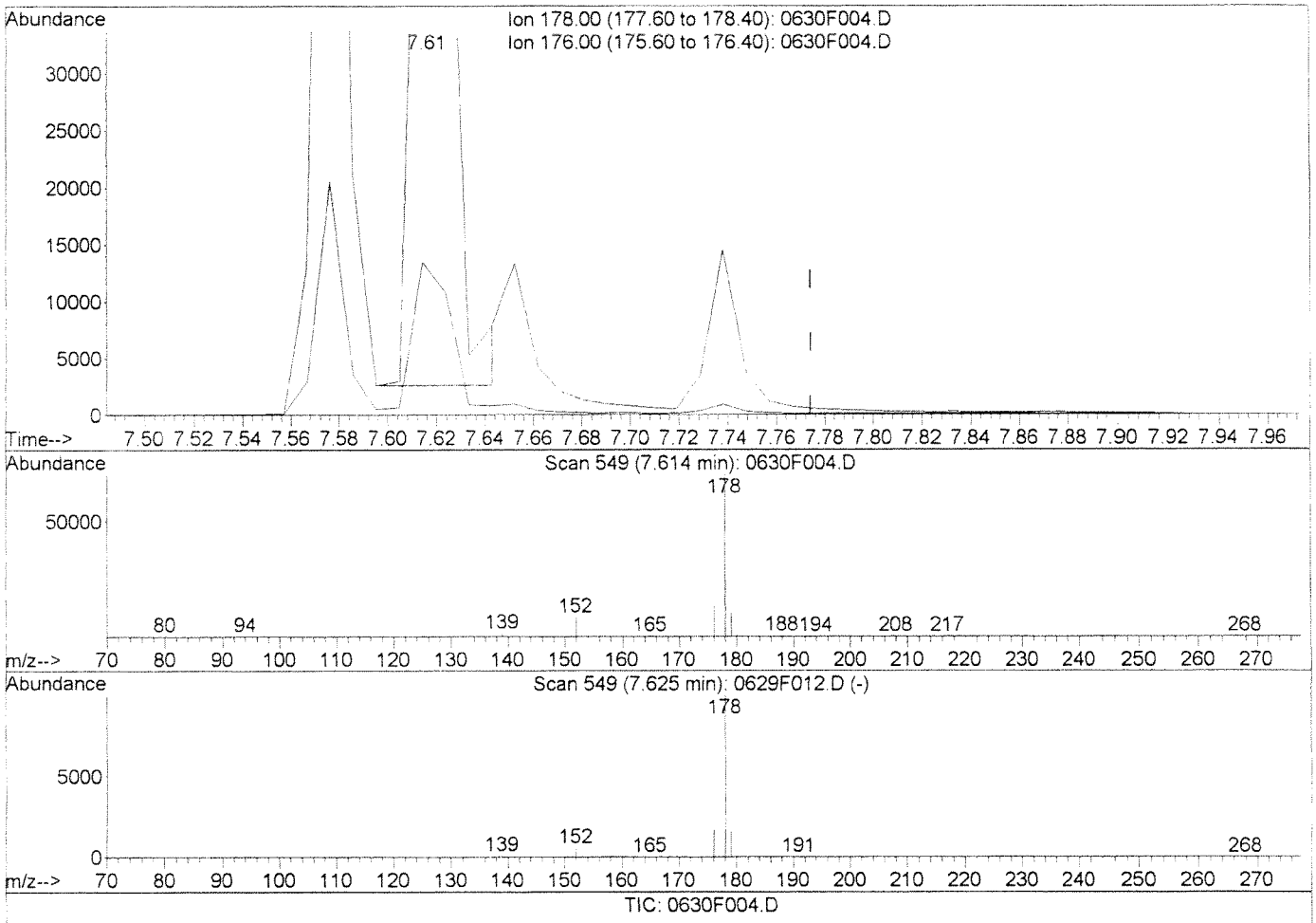
Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 8:16 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Multiple Level Calibration



TIC: 0630F004.D

(28) Anthracene (T)

7.61min 354.88ng/ml

response 79041

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	19.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

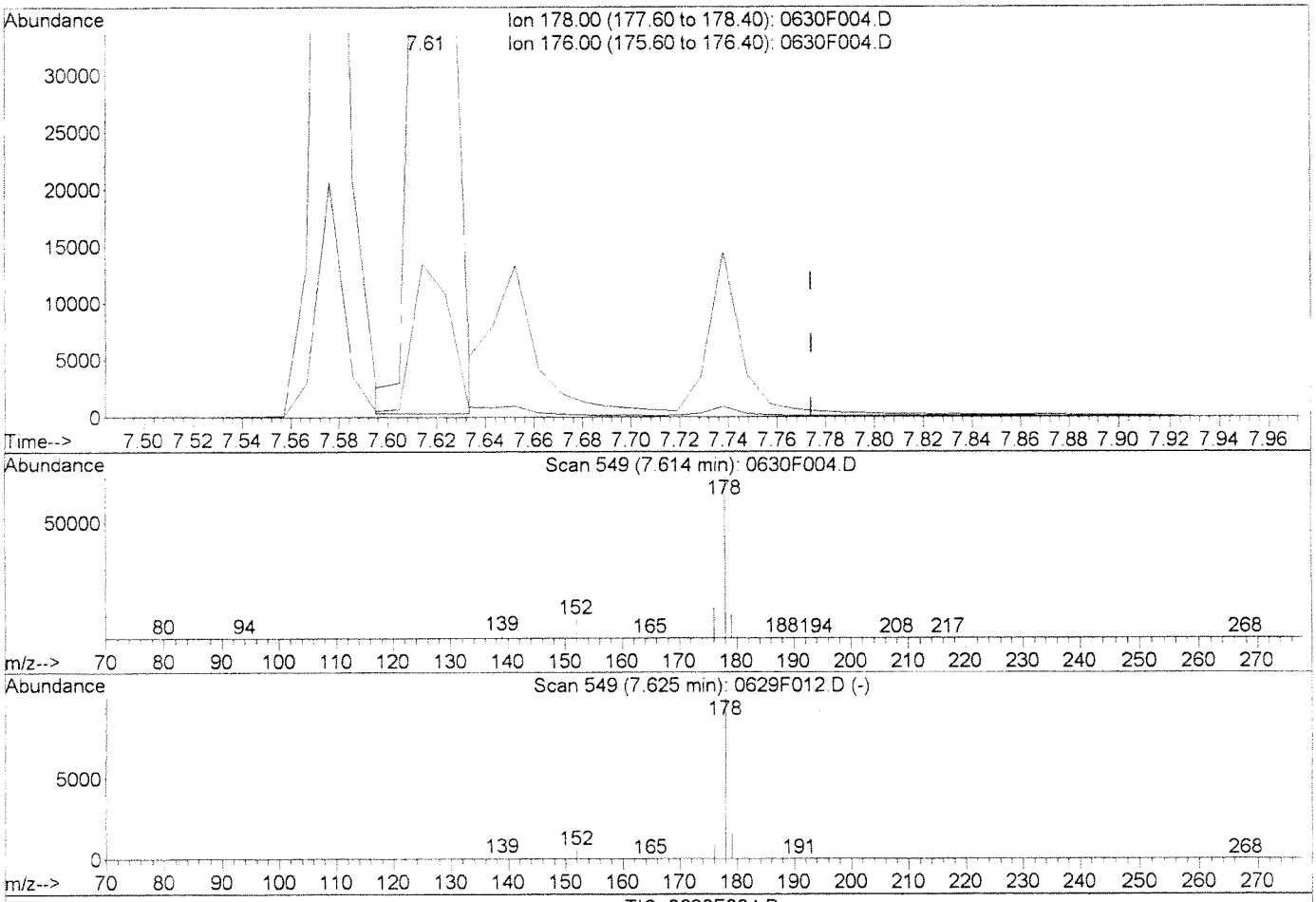
06/30/14

0630F004.D 062914ALK.M Mon Jun 30 08:16:15 2014

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\063014\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 8:16 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Multiple Level Calibration



TIC: 0630F004.D

(28) Anthracene (T)

7.61min 364.62ng/ml m

response 81209

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	19.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0630F004.D 062914ALK.M Mon Jun 30 08:16:20 2014

Injection Log

Directory: J:\ms11\data\063014a

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0630F001.D	1.	DFTPP @ 3.0ug/mL | SVM46-66F		30 Jun 2014 05:5
2	3	0630F004.D	1.	SIM-PAH ICV @0.4ug/mL | SVM46-88H		30 Jun 2014 07:3
3	2	0630F009.D	1.	KWG1405687-5 MB		30 Jun 2014 09:4
4	3	0630F010.D	1.	K1405833-002		30 Jun 2014 10:1
5	4	0630F011.D	1.	K1405833-002DUP		30 Jun 2014 10:4
6	5	0630F012.D	1.	K1405833-003		30 Jun 2014 11:1
7	6	0630F013.D	1.	K1405833-001		30 Jun 2014 11:3
8	11	0630F014.D	1.	KWG1405687-7 SRM		30 Jun 2014 12:0
9	12	0630F015.D	5.	KWG1405687-7 SRM 5X		30 Jun 2014 12:3
10	7	0630F016.D	1.	KWG1405687-3 LCS		30 Jun 2014 12:5
11	8	0630F017.D	1.	KWG1405687-4 DLCS		30 Jun 2014 13:2
12	9	0630F018.D	1.	K1405833-001MS		30 Jun 2014 13:5
13	10	0630F019.D	1.	K1405833-001DMS		30 Jun 2014 14:1

CAL 13411
*Lims # 399603
6/30/14

DILUTION LOG MS II

Date: 6/30/14 Prepared by: Zalewski Solvent Lot #: DJ327

LAB ID.	ALIQUOT	FINAL VOLUME	DILUTION FACTOR	COMMENTS
KWG-5687-SRM-7	100ul	0.5mL	5X	

6/30/14

R:\SVM\DILUTION LOG.DOC

Exception Report

Data File:	J:\MS11\DATA\063014A\0630F001.D	**Date Acquired:**	06/30/2014 05:55
Lab ID:	KWG1407242-1	**Date Quantitated:**	
RunType:	DFTPP	**Batch ID:**	KWG1407242
Matrix:	WATER	**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: JUN 30 2014

Secondary Review: 6/30/14

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F001.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 05:55	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG1407242-1			**Soln Conc. Units:**	

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/30/2014

Analysis Lot:	KWG1407242	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL13411
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	55.1	20994	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	47.3	18028	Pass
70	69	0	2	0.0	0	Pass
127	198	10	80	50.6	19286	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	43.1	38128	Pass
199	198	5	9	6.9	2633	Pass
275	198	10	60	36.4	13887	Pass
365	442	1	50	3.4	3004	Pass
441	443	0.01	100	75.2	12758	Pass
442	442	100	100	100.0	88447	Pass
443	442	15	24	19.2	16969	Pass

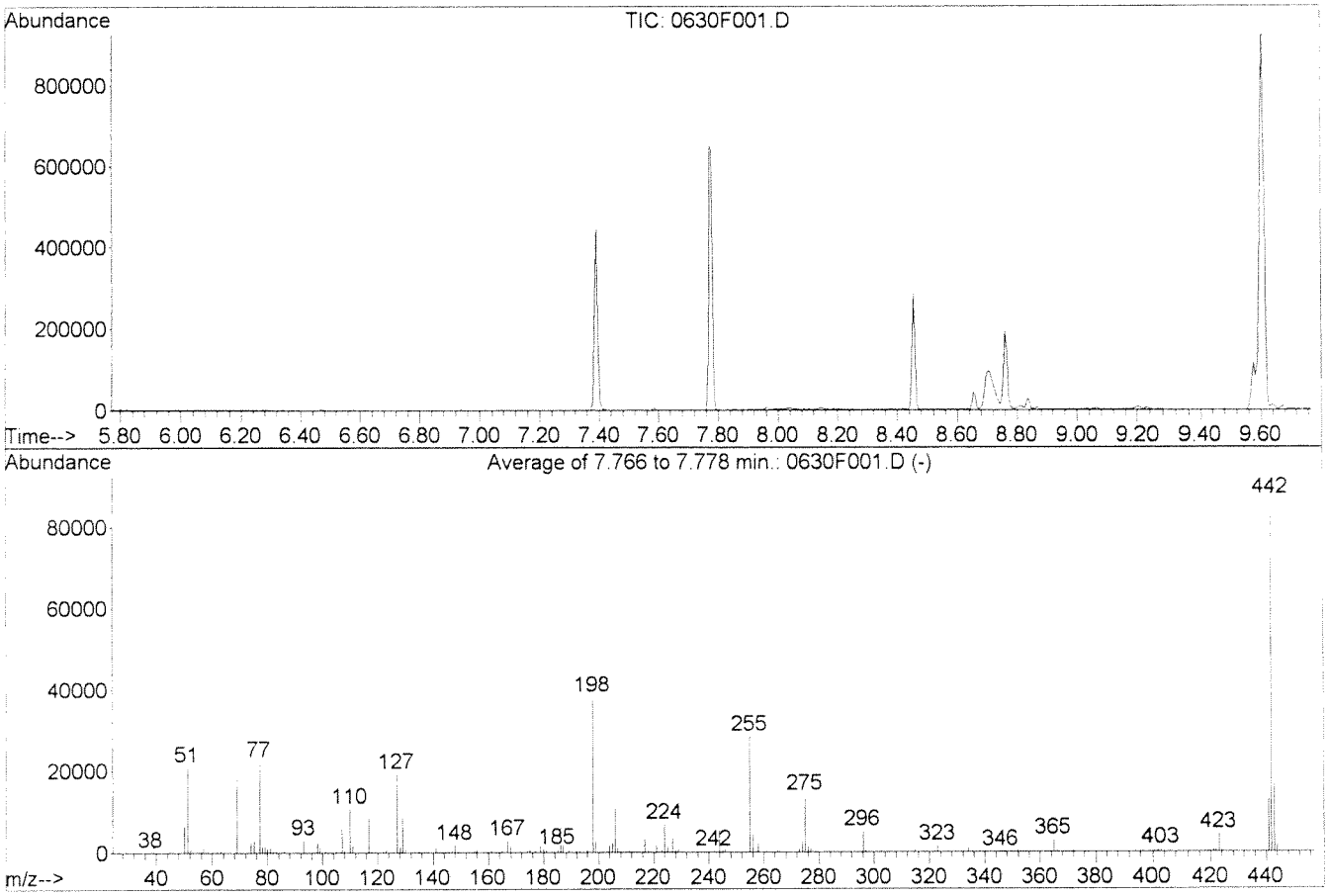
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

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

Data File : J:\MS11\DATA\063014A\0630F001.D
Acq On : 30 Jun 2014 5:55 am
Sample : DFTPP @ 3.0ug/mL | SVM46-66F
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



AutoFind: Scans 626, 627, 628; Background Corrected with Scan 622

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	55.1	20994	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.3	18028	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.6	19286	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	43.1	38128	PASS
199	198	5	9	6.9	2633	PASS
275	198	10	60	36.4	13887	PASS
365	442	1	50	3.4	3004	PASS
441	443	0.01	100	75.2	12758	PASS
442	442	30	100	100.0	88447	PASS
443	442	15	24	19.2	16969	PASS

0630F001.D DFTPPPAH.M Mon Jun 30 12:21:05 2014

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	200	69.00	18028	85.10	178	107.00	6355
39.10	1639	73.10	208	86.05	513	108.00	766
49.00	182	74.05	2552	91.10	216	110.00	10751
50.10	6576	75.00	3100	92.00	227	111.00	1715
51.10	20994	77.10	22148	93.00	3166	112.00	167
52.05	1094	78.10	1524	98.00	2800	117.00	8642
56.05	490	79.05	1757	99.05	1761	117.90	314
57.05	1504	80.00	1161	101.00	572	118.10	171
62.10	179	81.00	1477	103.90	267	122.00	499
63.05	649	82.00	273	104.10	170	123.00	769
65.00	173	83.10	384	105.00	471	127.00	19286

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
128.05	1477	149.00	235	175.05	774	196.00	934
129.00	8480	153.00	196	176.95	443	198.00	38128
130.00	734	155.00	673	178.90	1672	198.95	2633
134.00	216	155.95	830	180.00	950	203.00	208
135.00	669	159.95	406	180.90	435	204.00	1744
137.00	205	161.05	466	185.00	829	205.00	2768
141.00	1411	164.90	408	186.00	6296	206.00	10882
142.10	232	165.90	197	187.00	1860	207.00	1328
146.00	203	167.00	2971	188.95	465	207.90	250
147.05	607	168.00	1456	191.95	487	211.05	419
148.00	2009	174.00	427	193.05	582	216.00	177

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
216.90	3311	244.95	571	276.00	1797	351.90	585
218.00	420	245.90	1138	276.95	1260	353.00	437
221.00	1829	255.00	28332	292.90	171	354.00	628
223.00	614	256.00	4319	296.00	5210	364.90	3004
224.00	6840	256.90	170	296.90	634	366.00	459
225.00	1610	258.00	2234	302.95	594	372.00	1098
227.00	3500	258.90	169	314.95	537	372.90	170
228.00	485	264.95	859	323.00	1566	401.90	456
229.00	582	272.90	874	326.90	187	402.95	721
242.00	387	274.00	2571	334.00	1113	420.95	593
244.00	5350	275.00	13887	345.80	194	421.95	614

Average of 7.766 to 7.778 min.: 0630F001.D
DFTPP @ 3.0ug/mL | SVM46-66F
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
422.95	4436						
423.95	865						
441.00	12758						
442.00	88447						
443.00	16969						
444.00	1526						

Exception Report

Data File: J:\MS11\DATA\063014A\0630F004.D
Lab ID: KWG1407242-2
RunType: CCV
Matrix: WATER

Date Acquired: 06/30/2014 07:33
Date Quantitated: 06/30/2014 12:21
Batch ID: KWG1407242
Analysis Method: 8270D SIM
MethodJoinID: MJ1187

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: JUN 30 2014

Secondary Review: 6/30/14

Quantitation Report

Data File:	J:\MS11\DATA\063014A\0630F004.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 07:33	**Quant Date:**	06/30/2014 12:21	**Vial:**	3
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1407242-2			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	06/30/2014

Analysis Lot:	KWG1407242	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\062914ALK.M			**Calibration ID:**	CAL13411
Title:					
Tune Ref:	J:\MS11\DATA\063014A\0630F001.D			**Method ID:**	MJ1187
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	4.92	0.00	136	38188	200.00	OK
2	Acenaphthene-d10	6.33	0.00	164	20257	200.00	OK
3	Phenanthrene-d10	7.56	0.00	188	39952	200.00	OK
4	Chrysene-d12	10.31	0.00	240	46318	200.00	OK
5	Perylene-d12	13.94	-0.01	264	43701	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	6.75			176	51785	383.63		17-104	NA
2	2,4,6-Tribromophenol	6.98			330	7780	353.41		35-109	NA
3	Fluoranthene-d10	8.54			212	91632	359.59		27-106	NA
4	Terphenyl-d14	8.93			244	79776	360.09		35-109	NA

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.94			128	78123	369.50			
1	2-Methylnaphthalene	5.48			142	52041	362.79			
1	1-Methylnaphthalene	5.57			142	48982	381.64			
1	Biphenyl	5.86			154	63001	377.55			
1	2,6-Dimethylnaphthalene	5.99			156	47346	394.48			
1	C2-Naphthalenes				156	0				
1	C3-Naphthalenes				170	0				
1	C4-Naphthalenes				184	0				
2	Acenaphthylene	6.21			152	79592	397.66			
2	Acenaphthene	6.36			154	46048	379.34			
2	Dibenzofuran	6.50			168	70921	400.05			
2	2,3,5-Trimethylnaphthalene	6.67			170	44753	390.69			

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:\MS11\DATA\063014A\0630F004.D			**Instrument:**	MS11
Acqu Date:	06/30/2014 07:33	**Quant Date:**	06/30/2014 12:21	**Vial:**	3
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1407242-2			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units:

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Fluorene	6.77			166	56594	384.58			
2	C1-Fluorenes				180	0				
2	C2-Fluorenes				194	0				
2	C3-Fluorenes				208	0				
2	Pentachlorophenol	7.40			266	12338				
3	Dibenzothiophene	7.47			184	79418	371.60			
3	C1-Dibenzothiophenes				198	0				
3	C2-Dibenzothiophenes				212	0				
3	C3-Dibenzothiophenes				226	0				
3	Phenanthrene	7.58			178	84002	365.85			
3	Anthracene	7.61			178	81506**m**	365.95			
3	Carbazole	7.75			167	74462	376.28			
3	1-Methylphenanthrene	8.07			192	62749	376.29			
3	C1-Phenanthrenes/Anthracenes				192	0				
3	C2-Phenanthrenes/Anthracenes				206	0				
3	C3-Phenanthrenes/Anthracenes				220	0				
3	C4-Phenanthrenes/Anthracenes				234	0				
3	Fluoranthene	8.56			202	93483	368.36			
4	Pyrene	8.77			202	93227	349.29			
4	C1-Fluoranthenes/Pyrenes				216	0				
4	C2-Fluoranthenes/Pyrenes				230	0				
4	C3-Fluoranthenes/Pyrenes				244	0				
4	C4-Fluoranthenes/Pyrenes				258	0				
4	Benz(a)anthracene	10.29			228	94530	355.12			
4	Chrysene	10.35			228	91134	363.06			
4	C1-Chrysenes				242	0				
4	C2-Chrysenes				256	0				
4	C3-Chrysenes				270	0				
4	C4-Chrysenes				284	0				
5	Benzo(b)fluoranthene	12.72			252	100711	366.01			
5	Benzo(k)fluoranthene	12.80			252	98492	374.58			
5	Benzo(e)pyrene	13.56			252	86703	335.98			
5	Benzo(a)pyrene	13.73			252	89737	371.23			
5	Perylene	14.03			252	87256	358.41			
5	Indeno(1,2,3-cd)pyrene	17.04			276	85329	375.89			
5	Dibenz(a,h)anthracene	17.12			278	88903	375.20			
5	Benzo(g,h,i)perylene	17.47			276	94580	348.91			

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)

Data File : J:\MS11\DATA\063014A\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:21:12 2014 Quant Results File: 062914ALK.RES

Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.92	136	38188	200.00	ng/ml	-0.03
10) Acenaphthene-d10	6.33	164	20257	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.56	188	39952	200.00	ng/ml	-0.01
37) Chrysene-d12	10.31	240	46318	200.00	ng/ml	0.00
50) Perylene-d12	13.94	264	43701	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.75	176	51785	383.63	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 38.36%			
20) 2,4,6 Tribromophenol	6.98	330	7780	353.41	ng/ml	0.00
Spiked Amount 1500.000			Recovery = 23.56%			
36) Fluoranthene-d10	8.54	212	91632	359.59	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 35.96%			
43) Terphenyl-d14	8.93	244	79776	360.09	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 36.01%			
Target Compounds						Qvalue
2) Naphthalene	4.94	128	78123	369.50	ng/ml	97
3) 2-Methylnaphthalene	5.48	142	52041	362.79	ng/ml	96
4) 1-Methylnaphthalene	5.57	142	48982	381.64	ng/ml	99
5) Biphenyl	5.86	154	63001	377.55	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.99	156	47346	394.48	ng/ml	94
11) Acenaphthylene	6.21	152	79592	397.66	ng/ml	99
12) Acenaphthene	6.36	154	46048	379.34	ng/ml	90
13) Dibenzofuran	6.50	168	70921	400.05	ng/ml	75
14) 2,3,5-Trimethylnaphthalene	6.67	170	44753	390.69	ng/ml	84
16) Fluorene	6.77	166	56594	384.58	ng/ml	89
23) Dibenzothiophene	7.47	184	79418	371.60	ng/ml	98
27) Phenanthrene	7.58	178	84002	365.85	ng/ml	99
28) Anthracene	7.61	178	81506m	365.95	ng/ml	
29) Carbazole	7.75	167	74462	376.28	ng/ml	84
30) 1-Methylphenanthrene	8.07	192	62749	376.29	ng/ml	97
35) Fluoranthene	8.56	202	93483	368.36	ng/ml	82
38) Pyrene	8.77	202	93227	349.29	ng/ml	84
44) Benz(a)anthracene	10.29	228	94530	355.12	ng/ml	99
45) Chrysene	10.35	228	91134	363.06	ng/ml	99
51) Benzo(b)fluoranthene	12.72	252	100711	366.01	ng/ml	98
52) Benzo(k)fluoranthene	12.80	252	98492	374.58	ng/ml	99
53) Benzo(e)pyrene	13.56	252	86703	335.98	ng/ml	99
54) Benzo(a)pyrene	13.73	252	89737	371.23	ng/ml	98
55) Perylene	14.03	252	87256	358.41	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.04	276	85329	375.89	ng/ml	98

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:21:12 2014 Quant Results File: 062914ALK.RES

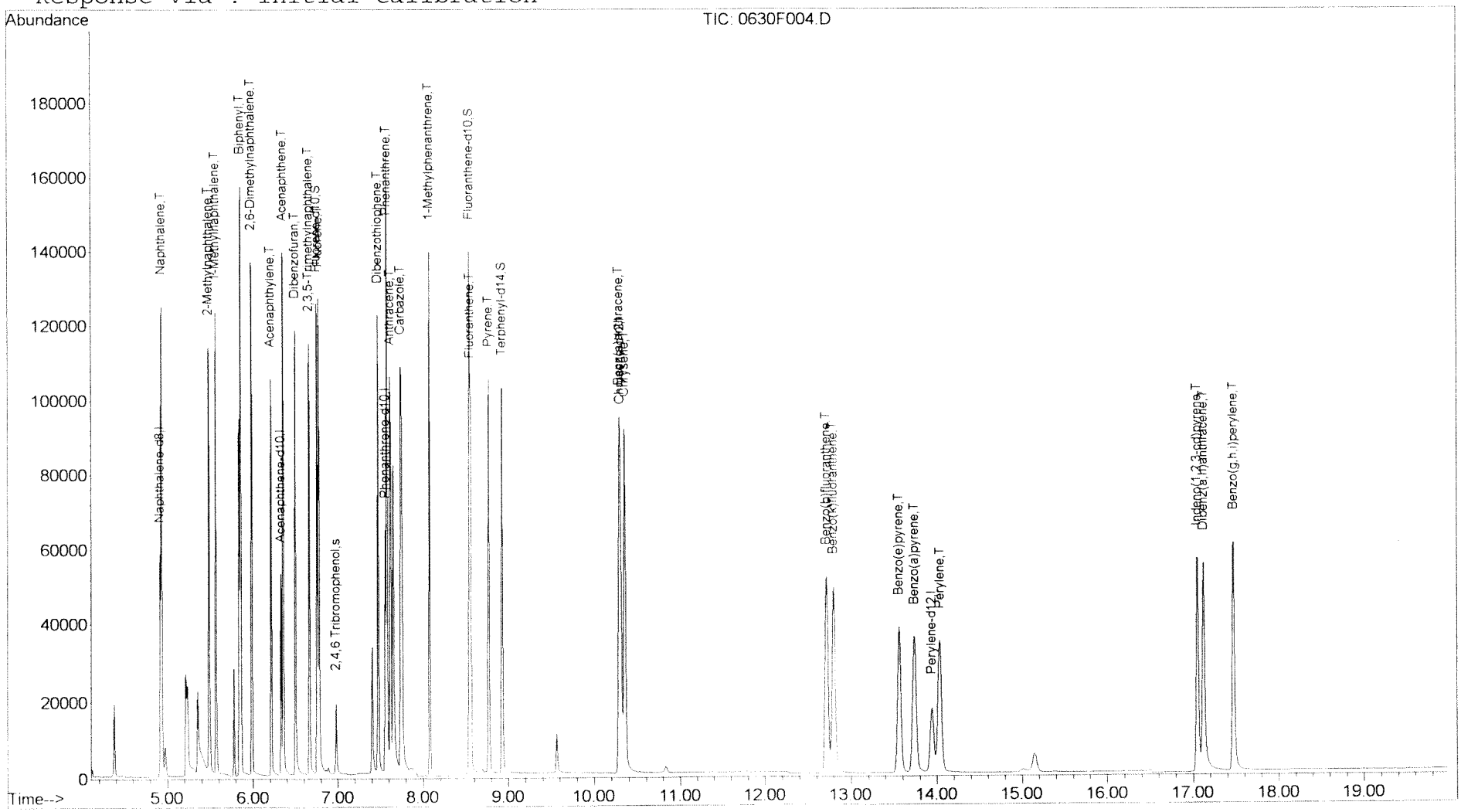
Quant Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
57)	Dibenz(a,h)anthracene	17.12	278	88903	375.20	ng/ml	97
58)	Benzo(g,h,i)perylene	17.47	276	94580	348.91	ng/ml	99

(#) = qualifier out of range (m) = manual integration

Data File : J:\MS11\DATA\063014A\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:21 2014 Quant Results File: 062914ALK.RES

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 12:22:08 2014
Response via : Initial Calibration

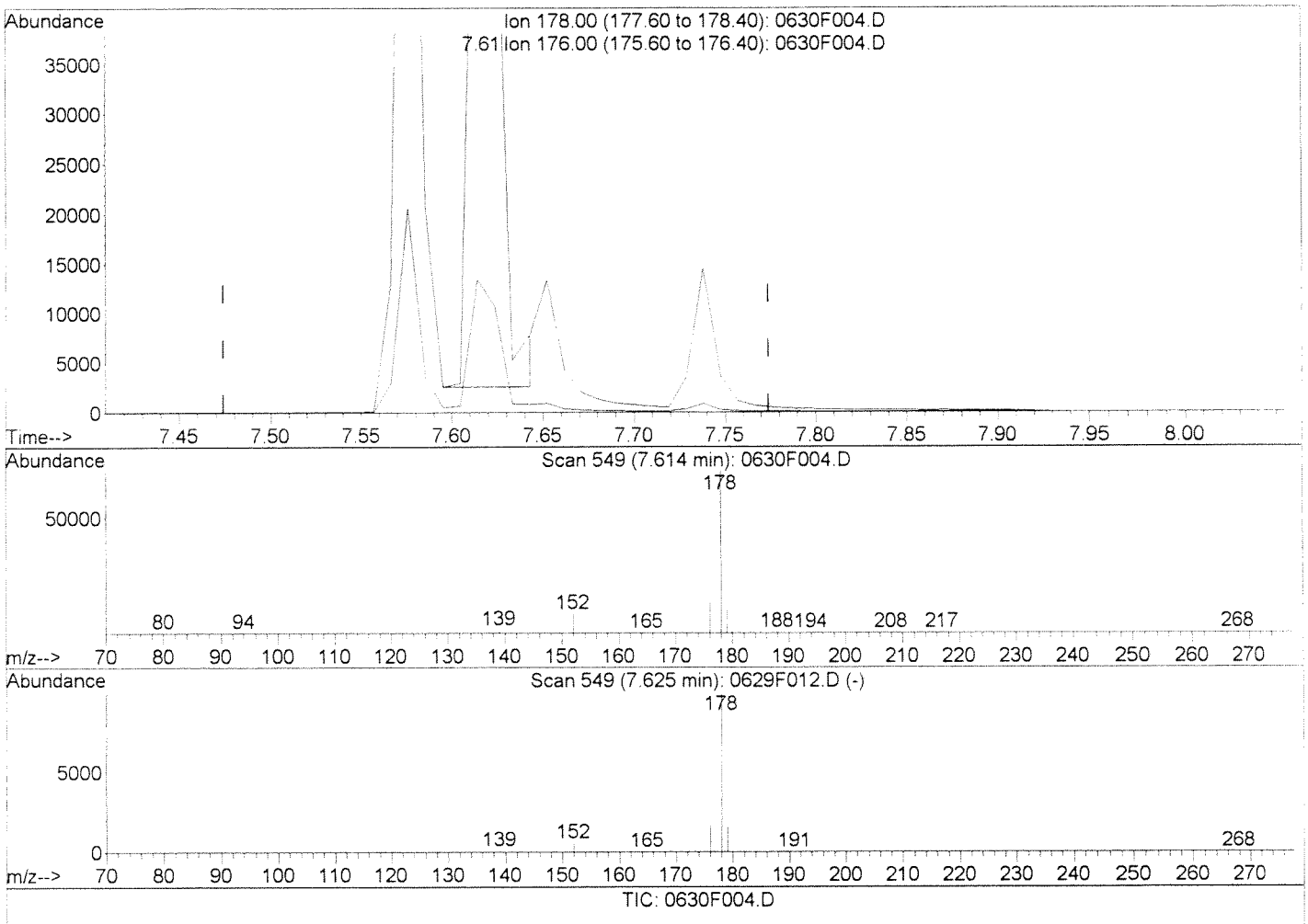


961

Data File : J:\MS11\DATA\063014A\0630F004.D
Acq On : 30 Jun 2014 7:33 am
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:21 2014

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Multiple Level Calibration



TIC: 0630F004.D

(28) Anthracene (T)

7.61min 354.88ng/ml

response 79041

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	19.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

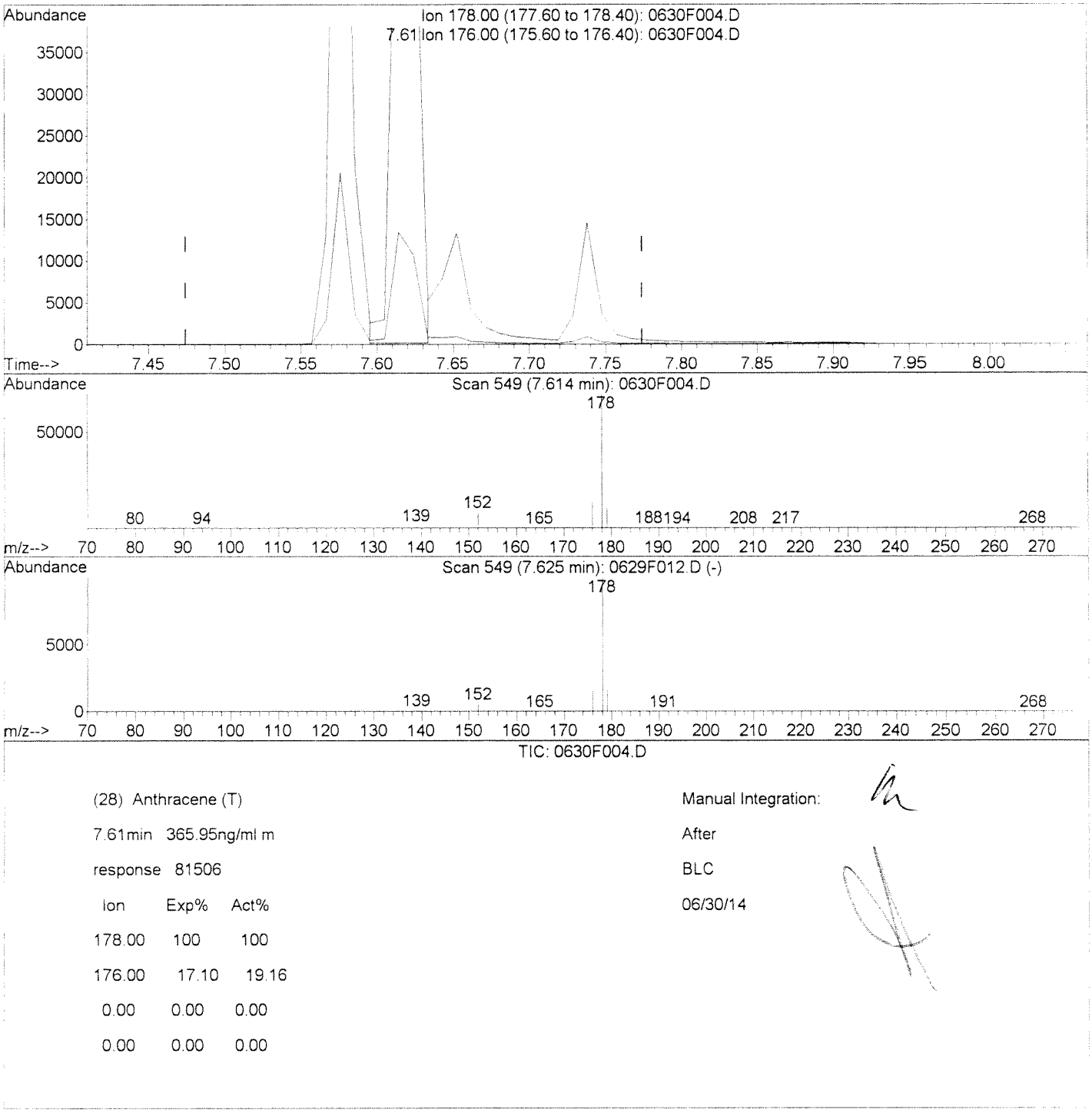
Before

06/30/14

0630F004.D 062914ALK.M Mon Jun 30 12:21:32 2014

Data File : J:\MS11\DATA\063014A\0630F004.D Vial: 3
Acq On : 30 Jun 2014 7:33 am Operator: LWeiskopf
Sample : SIM-PAH ICV @0.4ug/mL | SVM46-88H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 30 12:21 2014 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\062914ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Jun 30 08:15:52 2014
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.61min 365.95ng/ml m

response 81506

Ion	Exp%	Act%
178.00	100	100
176.00	17.10	19.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

BLC

06/30/14

0630F004.D 062914ALK.M Mon Jun 30 12:21:38 2014

Preparation Information

Group ID:	KWG1405687	**Prep Method:**	EPA 3541	**Prep Date:**	06/16/14 12:30
Department:	Semivoa GCMS				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K1405819-001	Wash Solids	8270D PAH SIM	SOIL	20.061g	10ml	
K1405833-001	SYC14-AC	8270D PAH SIM	SOIL	20.034g	10ml	
K1405833-002	SYC14-TB	8270D PAH SIM	SOIL	20.149g	10ml	
K1405833-003	SYC14-REF	8270D PAH SIM	SOIL	20.383g	10ml	
K1405949-001	Central St Box Culvert Upstrc	8270D PAH SIM	SOIL	20.217g	10ml	
KWG1405687-1	Matrix Spike	8270D PAH SIM	SOIL	20.102g	10ml	
KWG1405687-2	Duplicate Matrix Spike	8270D PAH SIM	SOIL	20.008g	10ml	
KWG1405687-3	Lab Control Sample	8270D PAH SIM	SOIL	10.000g	10ml	
KWG1405687-4	Duplicate Lab Control Sampl	8270D PAH SIM	SOIL	10.000g	10ml	
KWG1405687-5	Method Blank	8270D PAH SIM	SOIL	20.383g	10ml	
KWG1405687-6	Duplicate Client Sample	8270D PAH SIM	SOIL	20.352g	10ml	
KWG1405687-7	Standard Reference Material	8270D PAH SIM	SOIL	5.238g	10ml	

Lab Code	Parent Lab Code	Comments
KWG1405687-1	K1405833-001	
KWG1405687-2	K1405833-001	
KWG1405687-6	K1405833-002	
KWG1405687-7	1941B	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1405819-001	1347932	SVM45-60E	20uL			HSteele
K1405833-001	1347933	SVM45-60E	20uL			HSteele
K1405833-002	1347934	SVM45-60E	20uL			HSteele
K1405833-003	1347935	SVM45-60E	20uL			HSteele
K1405949-001	1347931	SVM45-60E	20uL			HSteele
KWG1405687-1	1347936	SVM45-60E	20uL	SVM46-34D	200uL	HSteele
KWG1405687-2	1347937	SVM45-60E	20uL	SVM46-34D	200uL	HSteele
KWG1405687-3	1347938	SVM45-60E	20uL	SVM46-34D	200uL	HSteele
KWG1405687-4	1347939	SVM45-60E	20uL	SVM46-34D	200uL	HSteele
KWG1405687-5	1347940	SVM45-60E	20uL			HSteele
KWG1405687-6	1347941	SVM45-60E	20uL			HSteele
KWG1405687-7	1347942	SVM45-60E	20uL			HSteele

Comments: IS = SVM # 45-66A

6/23/14

Started By: NCisney Assisted By: _____ Training: Yes / No

Completed By: AMeyers Assisted By: _____ Yes / No

Reviewed By: [signature] Date: 6/19/14 Storage: SVM LAB

Chain of Custody

Relinquished By: AMeyers Date: 6/19/14

Received By: [signature] Date: 6/23/14 Extracts Examined: Yes / No

Preparation Information

Due 6/18/14

Group ID: KWG1405687 **Prep Method:** **Prep Date:** 6/16/14
Department: Semivoa GCMS

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. 9	pH	Int. Vol. mL	Final Vol. mL	Surr. Added	Spike Added
1	K1405819-001 O	Wash Solids	2	✓	8270D PAH SIM	SOIL	20.061	N/A	10	10	20ul	—
2	K1405833-001	SYC14-AC	10	✓	8270D PAH SIM	SOIL	20.034		10	10		—
3	K1405833-002	SYC14-TB	9	✓	8270D PAH SIM	SOIL	20.149		10	10		—
4	K1405833-003 S	SYC14-REF	12	✓	8270D PAH SIM	SOIL	20.383		10	10		—
5	K1405949-001 O	Central St Box Culvert Upstream	1	✓	8270D PAH SIM	SOIL	20.217		10	10		—
6	KWG1405687-1	Matrix Spike K1405833-1	10	✓	8270D PAH SIM	SOIL	20.102		10	10		200ul
7	KWG1405687-2	Duplicate Matrix Spike K1405833-1	10	✓	8270D PAH SIM	SOIL	20.008		10	10		
8	KWG1405687-3	Lab Control Sample			8270D PAH SIM	SOIL	10.000		10	10		
9	KWG1405687-4	Duplicate Lab Control Sample			8270D PAH SIM	SOIL	10.000		10	10		
10	KWG1405687-5	Method Blank			8270D PAH SIM	SOIL	20.383		10	10		—
11	KWG1405687-6	Duplicate Client Sample K1405833-2	9	✓	8270D PAH SIM	SOIL	20.352		10	10		—
12	KWG1405687-7 1941b	Standard Reference Material KSRM13MM			8270D PAH SIM	SOIL	5.238		10	10		—

Comments: S=sand in sample O=sticks/roots in sample #210926

Surrogate ID: SVM45-60E 100/150ppm Ex 8-26-14 20ul (SYRS47)
Spike ID: SVM46-34D 25ppm Ex 10-29-14 200ul (EPP10D)
Witness: 6-16-14
Started By: 6/16/14 Assisted By:
Completed By: Assisted By:

Additional Prep Information for EPA 3541

PAH

Service Request K1405819/K1405833/K1405949 **Workgroup** KWG1405687

Sulfate Lot # 132318 DCM (GC^2) Lot # DK494 Glass Wool Lot# 26911999
Date/Time/Initials Weighed: 6/16/14 0905 MC Balance ID: K-Bal-03 Calibration Verified ☑

Storage Location (if not extracted same day): ———

Soxtherm Start (Time/Date/Initial): 1230/ 6.16.14 /NC

Soxtherm Stop (Time/Date/Initial): ~~1605 /6.16.14~~ ① 1605 / 6.16.14 / NC

N-Evap (Time/Date/Initial): 845 6/18/14 AM N-Evap Therm. ID: SVGP-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): 815 6/19/14 AM
Hexane Lot # 67123
N-Evap (Time/Date/Initial): 815 6/19/14 AM N-Evap Therm. ID: SVGP-006
Temp as measured: 30.0 °C Correction factor: 0.0 °C Adjusted temp: 30.0 °C

Silica Gel Clean-up (3630) (Time/Date/Initial): 1040 6/19/14 AM
Silica Column Lot # EXTD2-90B 1:1 Hexane/DCM Reagent Lot # EXTD2-30A
Turbovap (Time/Date/Initial): 1110 6/19/14 AM Turbovap Therm. ID: KTVOS
Temp as measured: 29.0 °C Correction factor: +1.0 °C Adjusted temp: 30.0 °C

Extract Storage: J.T.T.

Completed (Time/Date/Initial): 1215 6/19/14 AM

Comments/Observations: ① EEN 6.16.14

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

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

Preparation Information Benchsheet

Prep Run#: 210955 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped
Team: Semivoa GCMS/WMCDONOUGH **Prep Method:** Method **Prep Date/Time:** 6/17/14 10:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1400628-018	BN10LAA01-SP-7	.01	8290A/PCDD PCDF		Soil	10.084g	Brown Soil (w/ rocks)
2	E1400628-019	BN10LAA01-SP-8	.01	8290A/PCDD PCDF		Soil	10.059g	Brown Soil (w/ rocks)
3	E1400628-020	BN10LAA01-SP-8-D	.01	8290A/PCDD PCDF		Soil	10.058g	Brown Soil (w/ rocks)
4	E1400628-021	BN10LAA01-SP-9	.01	8290A/PCDD PCDF		Soil	10.128g	Brown Soil (w/ rocks)
5	E1400628-022	BN10LAA01-SP-10	.01	8290A/PCDD PCDF		Soil	10.046g	Brown Soil (w/ rocks)
6	E1400628-023	BN10LAA01-SP-11	.01	8290A/PCDD PCDF		Soil	10.033g	Brown Soil (w/ rocks)
7	E1400628-024	BN10LAA01-SP-12	.01	8290A/PCDD PCDF		Soil	10.047g	Brown Soil (w/ rocks)
8	E1400628-025	BN10LAA01-SP-13	.01	8290A/PCDD PCDF		Soil	10.022g	Brown Soil (w/ rocks)
9	E1400659-001	A0610-31	.01	8290/PCDD PCDF		Soil	10.038g	Soft Spongy Black Solid
10	EQ1400321-01	MB		8290A/PCDD PCDF		Solid	10.076g	
11	EQ1400321-02	LCS		8290A/PCDD PCDF		Solid	10.036g	
12	EQ1400321-03	SYC14-AC MS	.02	8290A/PCDD PCDF		Solid	10.007g	
13	EQ1400321-04	SYC14-AC DMS	.02	8290A/PCDD PCDF		Solid	10.182g	
14	EQ1400321-05	SYC14-AC DUP	.02	8290A/PCDD PCDF		Solid	10.153g	
15	J1404236-001	9030O	.02	8290A/PCDD PCDF		Paperboard	10.043g	Thick White Paper
16	J1404236-002	9031O	.02	8290A/PCDD PCDF		Paperboard	10.019g	Thick White Paper
17	J1404236-003	9032O	.02	8290A/PCDD PCDF		Paperboard	10.067g	Thick White Paper
18	K1405323-008	Composite	.02	8290/PCDD PCDF		Paperboard	10.096g	Soft, White Fluffy Solid
19	K1405695-007	Composite	.06	8290/PCDD PCDF		Paperboard	10.014g	Brown Shredded Paper
20	K1405697-007	Composite	.03	8290/PCDD PCDF		Paperboard	10.042g	Brown Shredded Paper
21	K1405833-001	SYC14-AC	.02	8290A/PCDD PCDF		Soil	10.151g	Black/Grey Sludge
22	K1405833-002	SYC14-TB	.02	8290A/PCDD PCDF		Soil	10.138g	Black/Grey Sludge
23	K1405833-003	SYC14-REF	.21	8290A/PCDD PCDF		Soil	10.151g	Damp Brown Soil

Preparation Information Benchsheet

Prep Run#: 210955 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped
Team: Semivoa GCMS/WMCDONOUGH **Prep Method:** Method **Prep Date/Time:** 6/17/14 10:00 AM

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	71502	Logbook Ref:	71502 TL 6/11/14	Expires On:	06/11/2015

EQ1400321-02	100.00µL	EQ1400321-02	100.00µL	EQ1400321-03	100.00µL	EQ1400321-04	100.00µL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	71611	Logbook Ref:	71611 CID 06/16/2014	Expires On:	12/13/2014

E1400628-018	100.00µL	E1400628-019	100.00µL	E1400628-020	100.00µL	E1400628-021	100.00µL	E1400628-022	100.00µL	E1400628-023	100.00µL
E1400628-024	100.00µL	E1400628-025	100.00µL	E1400659-001	100.00µL	EQ1400321-01	100.00µL	EQ1400321-01	100.00µL	EQ1400321-02	100.00µL
EQ1400321-02	100.00µL	EQ1400321-03	100.00µL	EQ1400321-04	100.00µL	EQ1400321-05	100.00µL	J1404236-001	100.00µL	J1404236-002	100.00µL
J1404236-003	100.00µL	K1405323-008	100.00µL	K1405695-007	100.00µL	K1405697-007	100.00µL	K1405833-001	100.00µL	K1405833-002	100.00µL
K1405833-003	100.00µL										

Name:	1613B Labeled Working Standard	Inventory ID	71670	Logbook Ref:	71670 WM 6/17/14	Expires On:	08/04/2016

E1400628-018	1,000.00µL	E1400628-019	1,000.00µL	E1400628-020	1,000.00µL	E1400628-021	1,000.00µL	E1400628-022	1,000.00µL	E1400628-023	1,000.00µL
E1400628-024	1,000.00µL	E1400628-025	1,000.00µL	E1400659-001	1,000.00µL	EQ1400321-01	1,000.00µL	EQ1400321-01	1,000.00µL	EQ1400321-02	1,000.00µL
EQ1400321-02	1,000.00µL	EQ1400321-03	1,000.00µL	EQ1400321-04	1,000.00µL	EQ1400321-05	1,000.00µL	J1404236-001	1,000.00µL	J1404236-002	1,000.00µL
J1404236-003	1,000.00µL	K1405323-008	1,000.00µL	K1405695-007	1,000.00µL	K1405697-007	1,000.00µL	K1405833-001	1,000.00µL	K1405833-002	1,000.00µL
K1405833-003	1,000.00µL										

Preparation Materials

Carbon, High Purity	AL 05/19/14 (70615)	Ethyl Acetate 99.9% Minimum EtOAc	AL 04/02/14 (69066)	Glass Wool	AL 05/19/14 (70618)
Sulfuric Acid Reagent Grade H2SO4	AL 05/21/14 (70716)	Hexanes 95%	AL 05/30/14 (71078)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 05/14/14 (70509)
Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)	Sodium Hydroxide Reagent Grade NaOH	C2-73-7 (53023)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 05/28/14 (71000)
Tridecane (n-Tridecane)	WM 6/10/14 (71503)	Silica Gel Reagent Grade	AL 05/21/14 (70718)	Toluene 99.9% Minimum	AL 06/06/14 (71345)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	6/17/14 10:00	Started:	6/18/14 11:30	Started:	6/19/14 10:05	Started:	6/20/14 13:20
Finished:	6/18/14 06:00	Finished:	6/18/14 12:55	Finished:	6/19/14 13:10	Finished:	6/20/14 14:20
By:	WMCDONOUGH	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Comments: _____

Preparation Information Benchsheet

Prep Run#: 210955
Team: Semivoa GCMS/WMCDONOUGH

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/17/14 10:00 AM

Reviewed By: JWP 062014 Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

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

ALS ENVIRONMENTAL
Sample Response Summary
METHOD 1613B/8290A

CLIENT ID.
SYC14-AC

Run #10 Filename U149683 Samp: 1 Inj: 1 Acquired: 23-JUN-14 12:49:48
Processed: 24-JUN-14 06:27:06 Sample ID: K1405833-001

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.944
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	1.184e+01	1.265e+01	0.94	no	yes	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:23	1.416e+01	1.216e+01	1.16	yes	yes	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:52	1.134e+01	9.827e+00	1.15	yes	yes	1.136
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:51	1.744e+02	1.794e+02	0.97	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	1.256e+01	1.639e+01	0.77	no	no	1.358
10	Unk	OCDF	42:54	2.648e+02	3.103e+02	0.85	yes	yes	1.350
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:53	1.889e+01	1.328e+01	1.42	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:00	2.251e+01	2.030e+01	1.11	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	6.723e+01	5.058e+01	1.33	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:19	8.816e+01	6.906e+01	1.28	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	1.659e+03	1.457e+03	1.14	yes	no	1.065
17	Unk	OCDD	42:40	1.308e+04	1.471e+04	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:35	7.286e+03	8.948e+03	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:42	1.546e+04	9.656e+03	1.60	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	1.490e+04	9.196e+03	1.62	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:15	6.378e+03	1.233e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	8.529e+03	1.626e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:51	7.164e+03	1.376e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	6.740e+03	1.312e+04	0.51	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:50	5.050e+03	1.125e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	4.562e+03	1.020e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:20	4.661e+03	5.972e+03	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:52	1.089e+04	6.776e+03	1.61	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:59	7.514e+03	5.832e+03	1.29	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	8.859e+03	6.840e+03	1.30	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	7.644e+03	6.904e+03	1.11	yes	no	0.936
32	IS	13C-OCDD	42:40	8.075e+03	9.009e+03	0.90	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:46	7.862e+03	1.013e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:18	1.345e+04	1.032e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.681e+03				no	1.044

$$\text{OCDD} = \frac{(1.308e+04 + 1.471e+04) \times 4000\ \text{pg} \times 1}{(8.075e+03 + 9.009e+03) \times 10.151 \times 40.4 \times 1.177} = 1350\ \text{pg/kg}$$

06/26/14

1613RESP1

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-AC

Run #10 Filename U149683 Samp: 1 Inj: 1 Acquired: 23-JUN-14 12:49:48
Processed: 24-JUN-14 06:27:061 LAB. ID: K1405833-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	4.64e+02	*	*	6.72e+02	*
2	1,2,3,7,8-PeCDF	*	6.96e+02	*	*	5.84e+02	*
3	2,3,4,7,8-PeCDF	*	6.96e+02	*	*	5.84e+02	*
4	1,2,3,4,7,8-HxCDF	2.40e+03	8.96e+02	2.7e+00	2.79e+03	7.56e+02	3.7e+00
5	1,2,3,6,7,8-HxCDF	2.42e+03	8.96e+02	2.7e+00	3.05e+03	7.56e+02	4.0e+00
6	2,3,4,6,7,8-HxCDF	2.38e+03	8.96e+02	2.7e+00	2.17e+03	7.56e+02	2.9e+00
7	1,2,3,7,8,9-HxCDF	*	8.96e+02	*	*	7.56e+02	*
8	1,2,3,4,6,7,8-HpCDF	3.65e+04	1.13e+03	3.2e+01	3.77e+04	6.64e+02	5.7e+01
9	1,2,3,4,7,8,9-HpCDF	2.97e+03	1.13e+03	2.6e+00	4.40e+03	6.64e+02	6.6e+00
10	OCDF	4.42e+04	5.60e+02	7.9e+01	4.70e+04	7.20e+02	6.5e+01
11	2,3,7,8-TCDD	*	8.40e+02	*	*	7.24e+02	*
12	1,2,3,7,8-PeCDD	3.04e+03	5.60e+02	5.4e+00	3.22e+03	6.52e+02	4.9e+00
13	1,2,3,4,7,8-HxCDD	5.12e+03	8.48e+02	6.0e+00	5.35e+03	1.09e+03	4.9e+00
14	1,2,3,6,7,8-HxCDD	1.58e+04	8.48e+02	1.9e+01	1.26e+04	1.09e+03	1.2e+01
15	1,2,3,7,8,9-HxCDD	2.12e+04	8.48e+02	2.5e+01	1.42e+04	1.09e+03	1.3e+01
16	1,2,3,4,6,7,8-HpCDD	3.25e+05	2.00e+03	1.6e+02	2.83e+05	1.51e+03	1.9e+02
17	OCDD	2.00e+06	5.88e+02	3.4e+03	2.28e+06	6.28e+02	3.6e+03
18	13C-2,3,7,8-TCDF	1.47e+06	9.80e+02	1.5e+03	1.79e+06	6.32e+02	2.8e+03
19	13C-1,2,3,7,8-PeCDF	2.87e+06	5.64e+02	5.1e+03	1.77e+06	4.68e+02	3.8e+03
20	13C-2,3,4,7,8-PeCDF	2.97e+06	5.64e+02	5.3e+03	1.82e+06	4.68e+02	3.9e+03
21	13C-1,2,3,4,7,8-HxCDF	1.38e+06	5.88e+02	2.3e+03	2.65e+06	8.88e+02	3.0e+03
22	13C-1,2,3,6,7,8-HxCDF	1.70e+06	5.88e+02	2.9e+03	3.27e+06	8.88e+02	3.7e+03
23	13C-2,3,4,6,7,8-HxCDF	1.55e+06	5.88e+02	2.6e+03	2.96e+06	8.88e+02	3.3e+03
24	13C-1,2,3,7,8,9-HxCDF	1.39e+06	5.88e+02	2.4e+03	2.66e+06	8.88e+02	3.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.04e+06	6.59e+03	1.6e+02	2.32e+06	3.62e+03	6.4e+02
26	13C-1,2,3,4,7,8,9-HpCDF	8.43e+05	6.59e+03	1.3e+02	1.84e+06	3.62e+03	5.1e+02
27	13C-2,3,7,8-TCDD	1.02e+06	1.44e+03	7.0e+02	1.29e+06	8.88e+02	1.4e+03
28	13C-1,2,3,7,8-PeCDD	2.18e+06	7.88e+02	2.8e+03	1.36e+06	6.32e+02	2.2e+03
29	13C-1,2,3,4,7,8-HxCDD	1.68e+06	6.52e+02	2.6e+03	1.29e+06	5.28e+02	2.4e+03
30	13C-1,2,3,6,7,8-HxCDD	1.78e+06	6.52e+02	2.7e+03	1.38e+06	5.28e+02	2.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.46e+06	8.00e+02	1.8e+03	1.33e+06	6.60e+02	2.0e+03
32	13C-OCDD	1.26e+06	6.48e+02	1.9e+03	1.39e+06	5.24e+02	2.7e+03
33	13C-1,2,3,4-TCDD	1.66e+06	1.44e+03	1.2e+03	2.13e+06	8.88e+02	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	2.72e+06	6.52e+02	4.2e+03	2.14e+06	5.28e+02	4.1e+03
35	37Cl-2,3,7,8-TCDD	7.81e+05	5.84e+02	1.3e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 1
Llim: 25:55 Ulim: 30:22
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 319.8970 321.8940 Tot Response: 2.00e+02 RRF: 1.013

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:28	8.65e+01	1.13e+02	0.76	yes	2.00e+02	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 38 Totals Name: Total Penta-Furan1

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 1
Llim: 30:12 Ulim: 34:40
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 339.8600 341.8570 Tot Response: 5.39e+01 RRF: 0.9587

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:19	3.31e+01	2.08e+01 1.59	yes	5.39e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 39 Totals Name: Total Penta-Furan2

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 2
Llim: 30:12 Ulim: 34:40
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 339.8600 341.8570 Tot Response: 6.17e+01 RRF: 0.9587

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:47	3.69e+01	2.48e+01 1.49	yes	6.17e+01		y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 2
Llim: 31:43 Ulim: 34:24
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 355.8550 357.8520 Tot Response: 5.58e+02 RRF: 1.025

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:48	1.30e+02	8.94e+01	1.45	yes	2.19e+02		n	n
2	32:15	1.60e+02	1.02e+02	1.57	yes	2.62e+02		n	n
3	32:57	1.69e+01	9.81e+00	1.72	yes	2.67e+01		n	n
4	33:53	1.89e+01	1.33e+01	1.42	yes	3.22e+01	1,2,3,7,8-PeCDD	n	n
5	34:15	1.05e+01	7.84e+00	1.34	yes	1.83e+01		n	n

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Peak List Summary

CLIENT ID.

SYC14-AC

Entry: 41 Totals Name: Total Hexa-Furans

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 3
Llim: 35:03 Ulim: 37:49
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 373.8210 375.8180 Tot Response: 3.78e+02 RRF: 1.165

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:18	8.42e+01	6.33e+01	1.33	yes	1.47e+02		y	n
2	35:49	1.03e+02	7.93e+01	1.30	yes	1.83e+02		n	y
3	36:23	1.42e+01	1.22e+01	1.16	yes	2.63e+01	1,2,3,6,7,8-HxCDF	n	n
4	36:52	1.13e+01	9.83e+00	1.15	yes	2.12e+01	2,3,4,6,7,8-HxCDF	y	y

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Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 3
Llim: 35:33 Ulim: 37:23
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 389.8160 391.8130 Tot Response: 4.95e+03 RRF: 1.151

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:39	1.94e+03	1.52e+03 1.28	yes	3.46e+03		n	n
2	36:10	6.46e+01	5.68e+01 1.14	yes	1.21e+02		n	n
3	36:24	5.18e+02	3.81e+02 1.36	yes	9.00e+02		n	n
4	36:30	8.67e+01	6.27e+01 1.38	yes	1.49e+02		n	n
5	37:00	2.25e+01	2.03e+01 1.11	yes	4.28e+01	1,2,3,4,7,8-HxCDD	n	n
6	37:04	6.72e+01	5.06e+01 1.33	yes	1.18e+02	1,2,3,6,7,8-HxCDD	n	n
7	37:19	8.82e+01	6.91e+01 1.28	yes	1.57e+02	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 43 Totals Name: Total Hepta-Furans

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 4
Llim: 38:46 Ulim: 40:28
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 407.7820 409.7790 Tot Response: 1.04e+03 RRF: 1.393

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:51	1.74e+02	1.79e+02	0.97	yes	3.54e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:16	3.43e+02	3.45e+02	1.00	yes	6.89e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 10 File: U149683 Sample: 1 Injection: 1 Function: 4
Llim: 39:01 Ulim: 39:58
Acquired: 23-JUN-14 12:49:48 Processed: 24-JUN-14 06:27:06
Mass: 423.7770 425.7740 Tot Response: 1.61e+04 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	6.54e+03	6.43e+03	1.02	yes	1.30e+04		n	n
2	39:48	1.66e+03	1.46e+03	1.14	yes	3.12e+03	1,2,3,4,6,7,8-HpCDD	n	n

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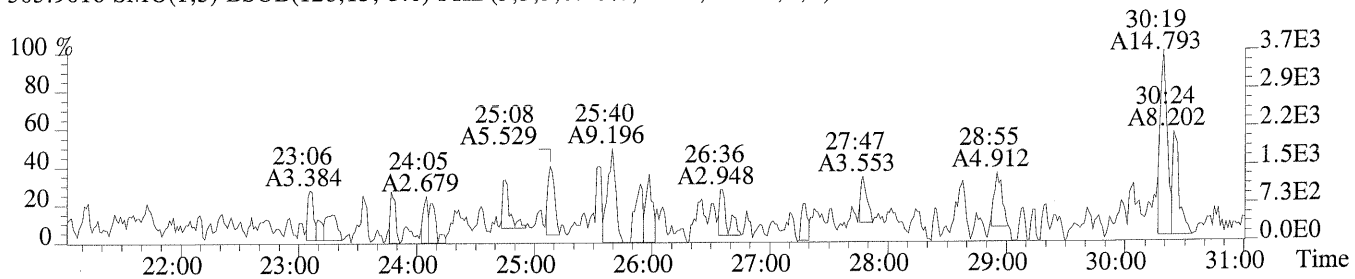
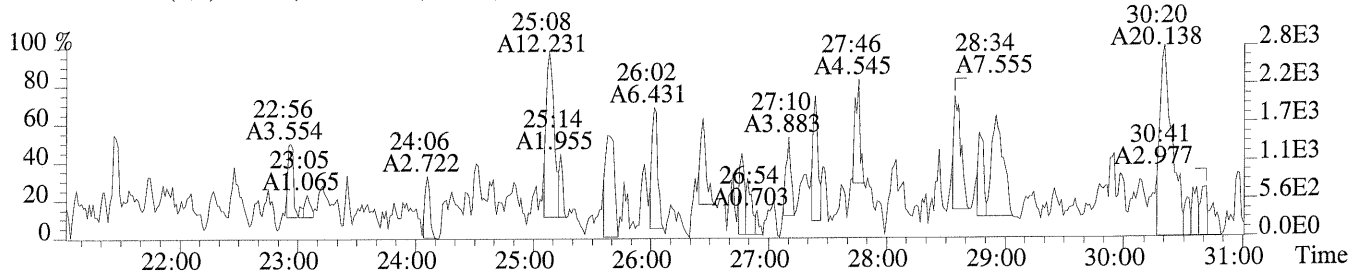
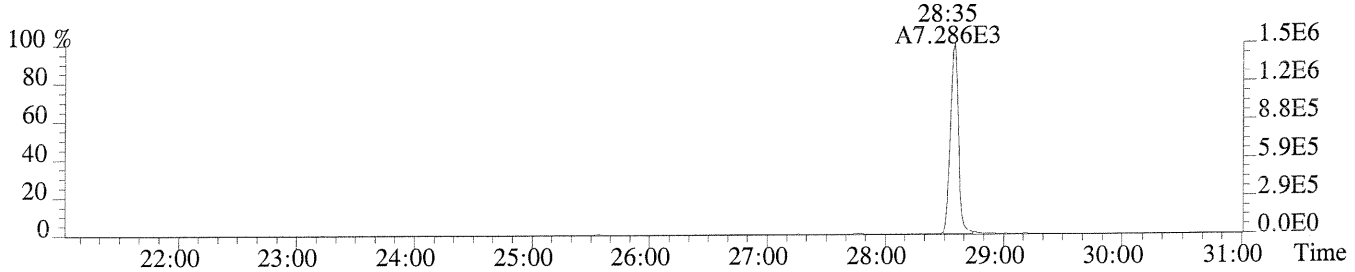
File:U149683 #1-627 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



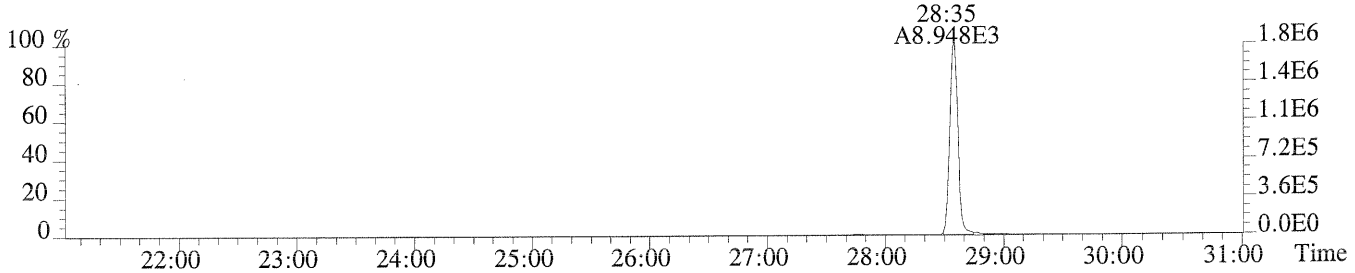
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



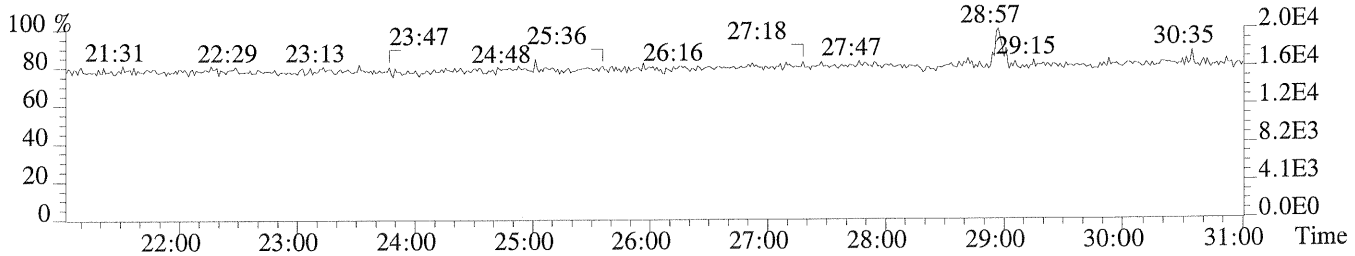
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



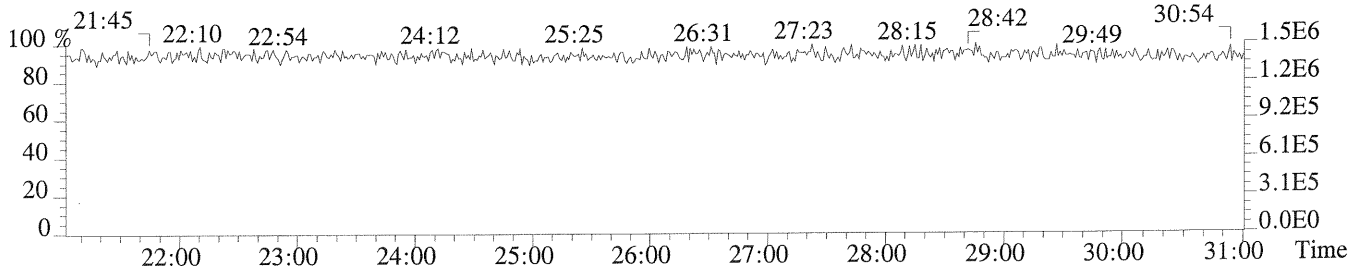
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



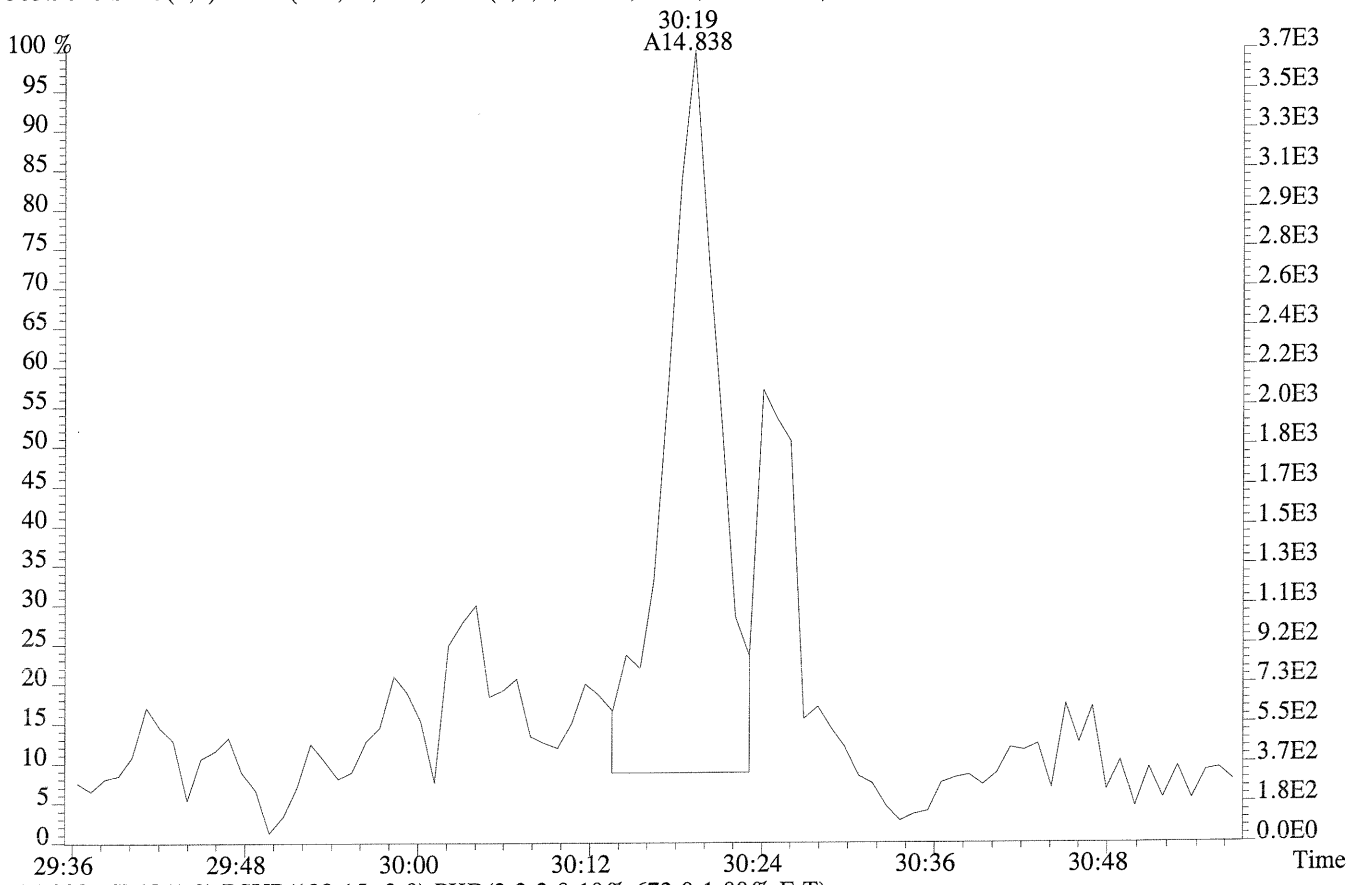
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



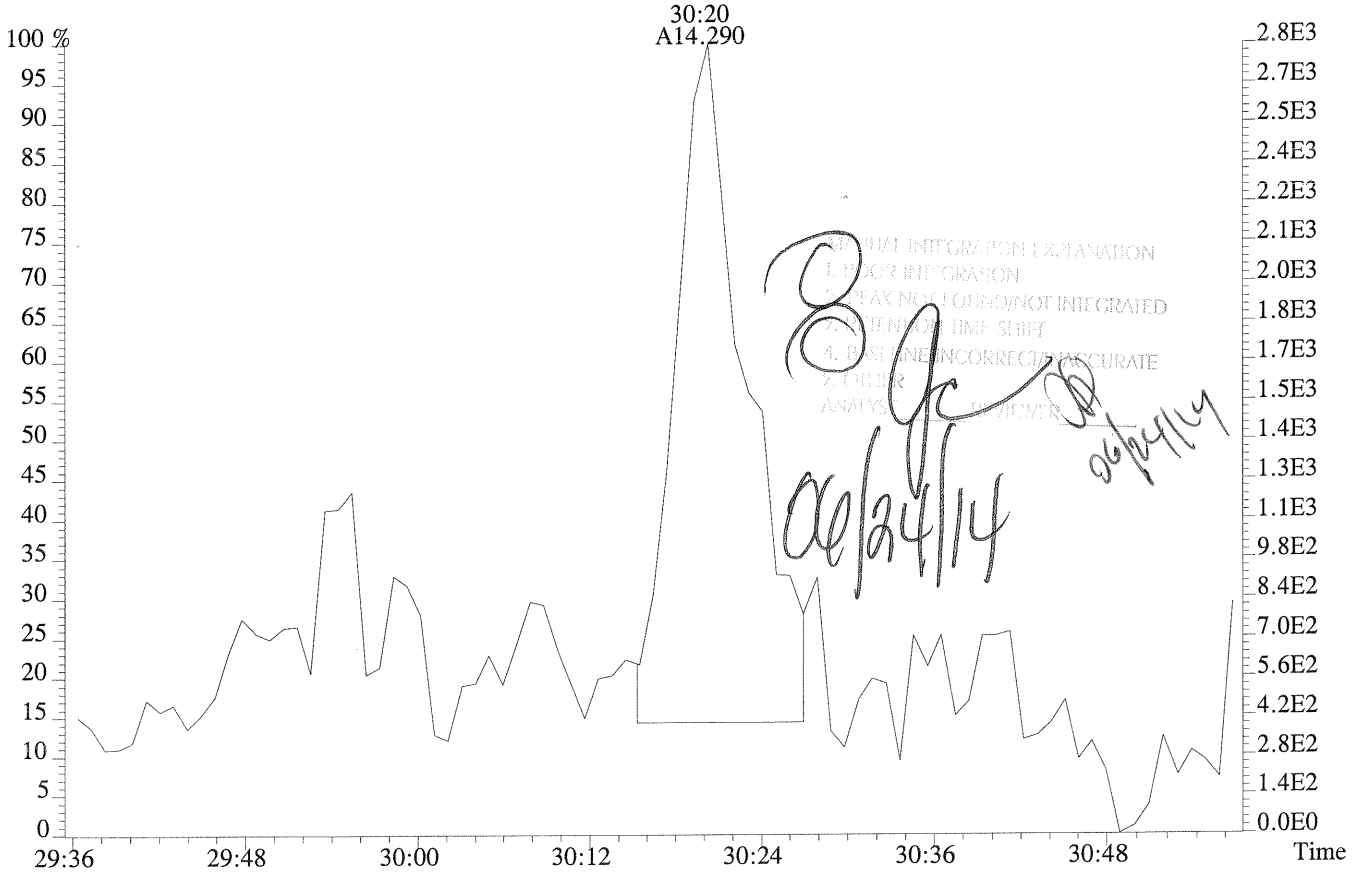
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



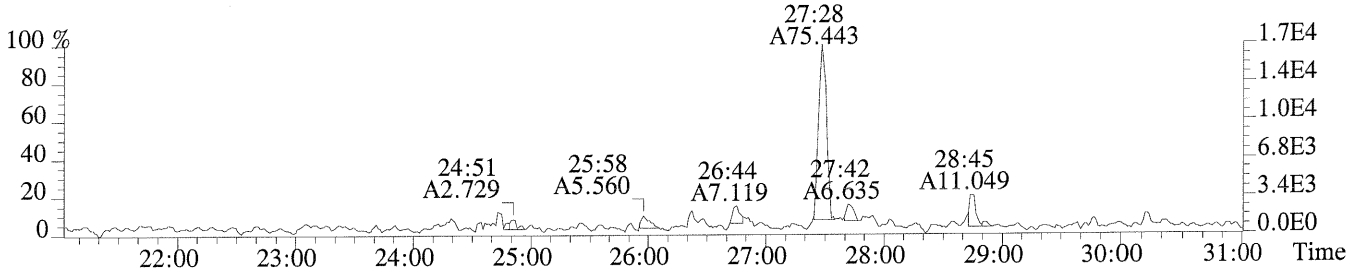
File:U149683 #1-627 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



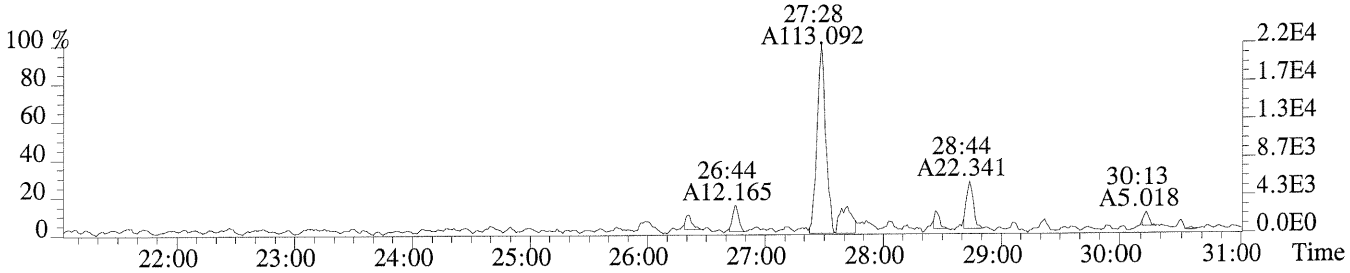
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



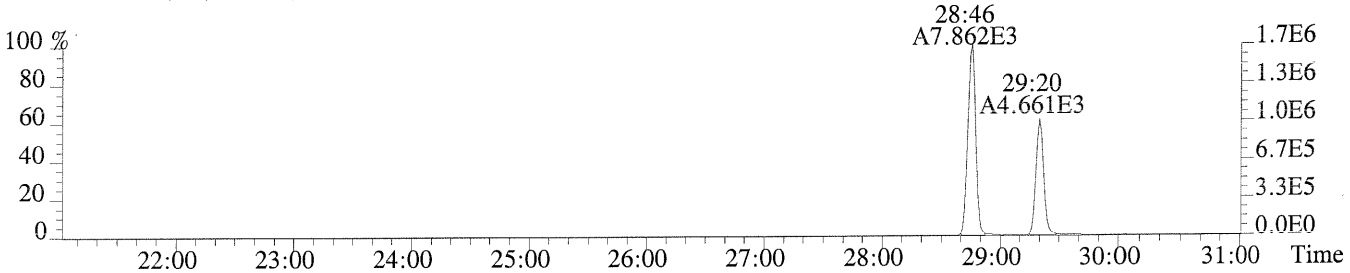
File:U149683 #1-627 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



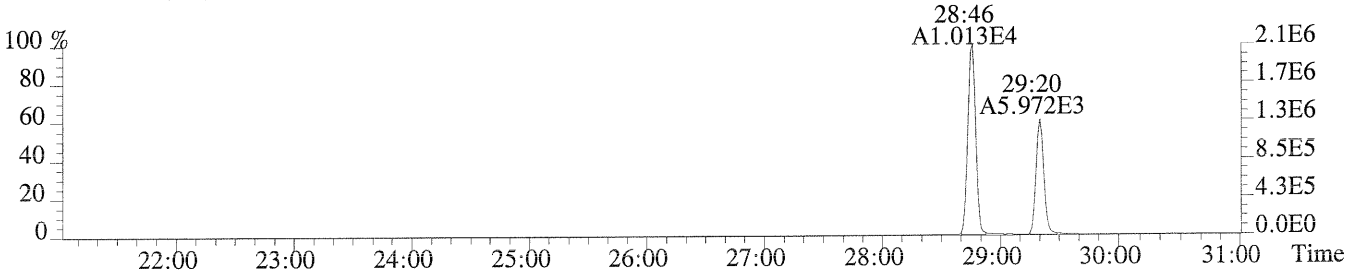
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



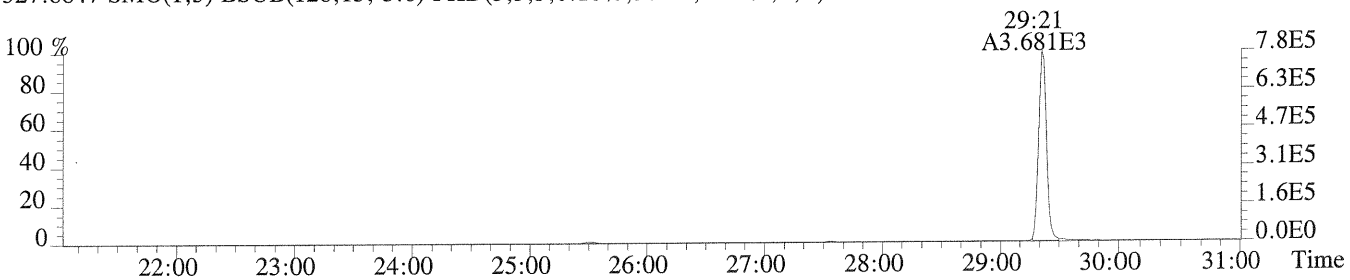
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1444.0,1.00%,F,T)



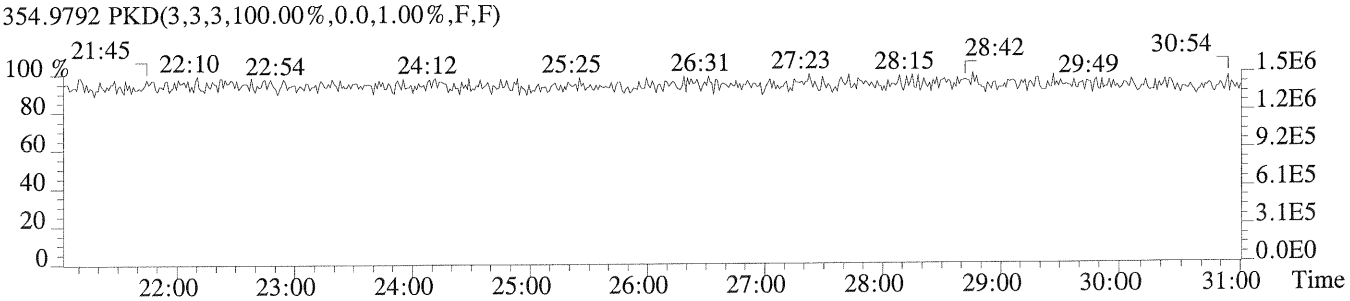
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



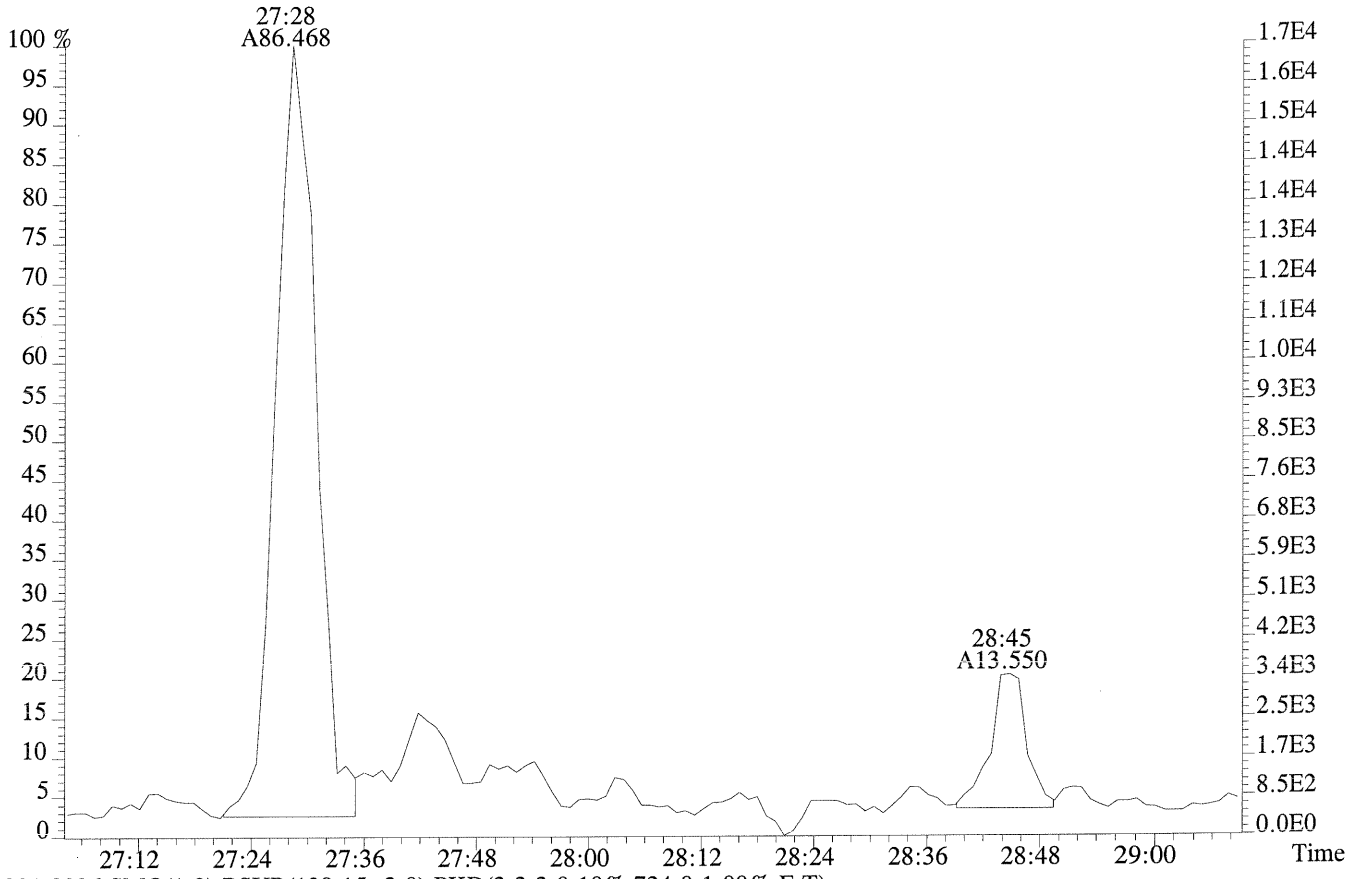
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



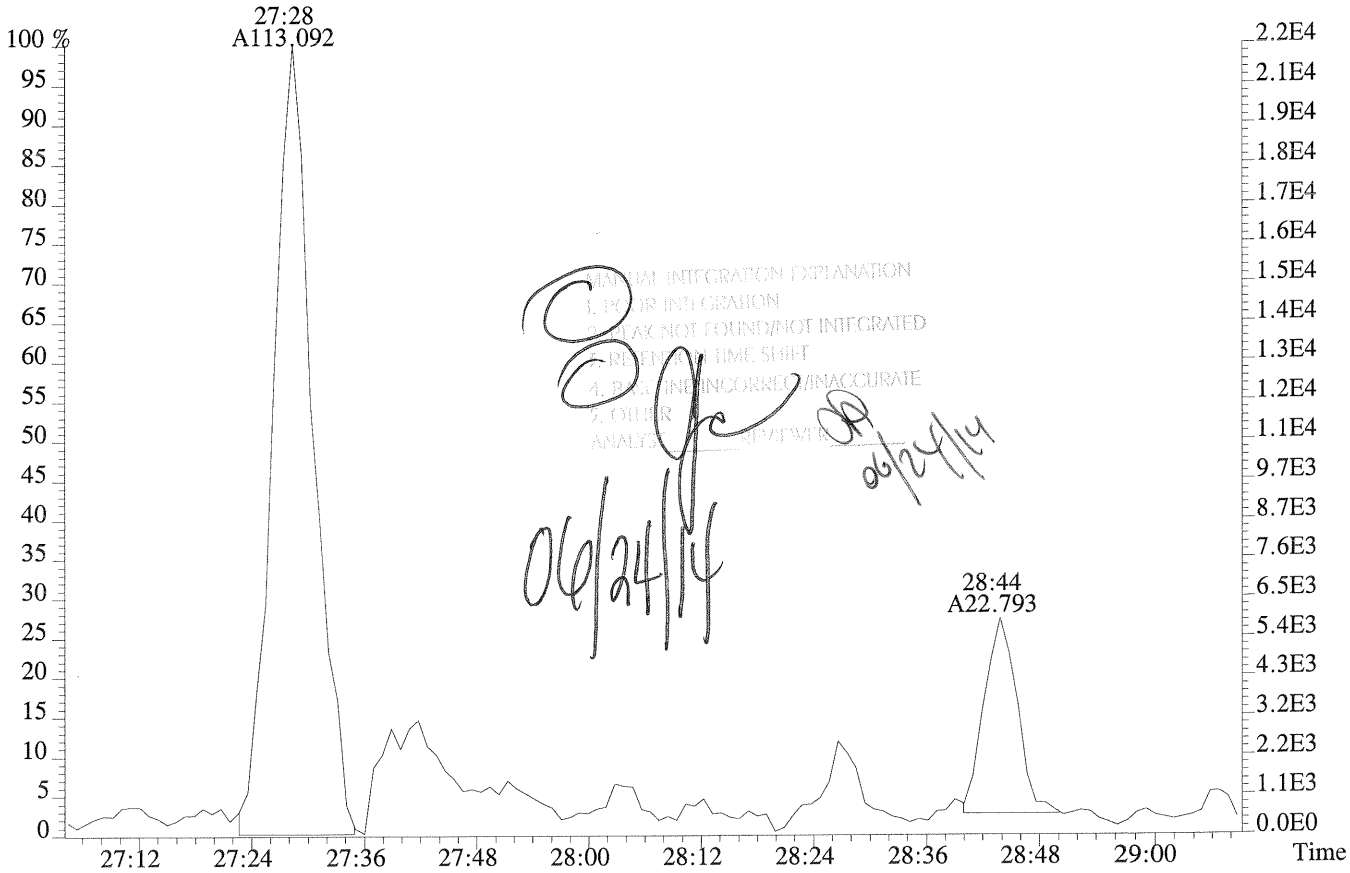
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



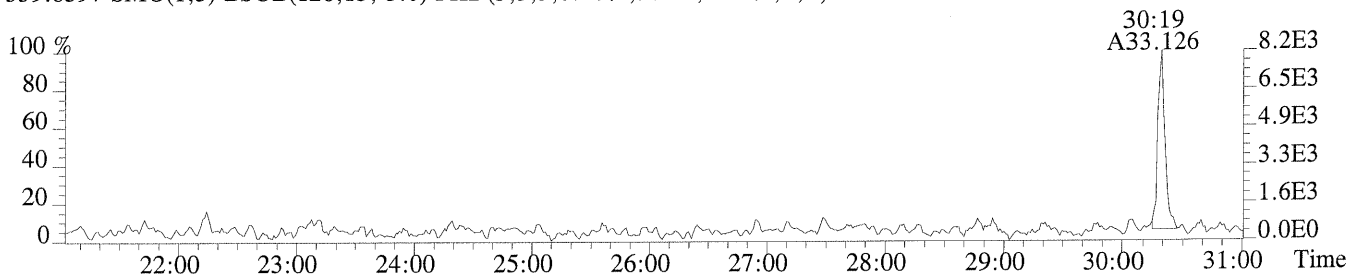
File:U149683 #1-627 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



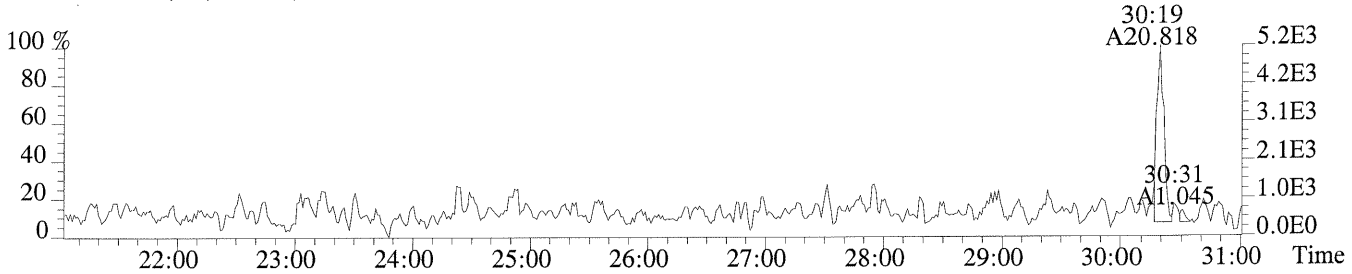
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



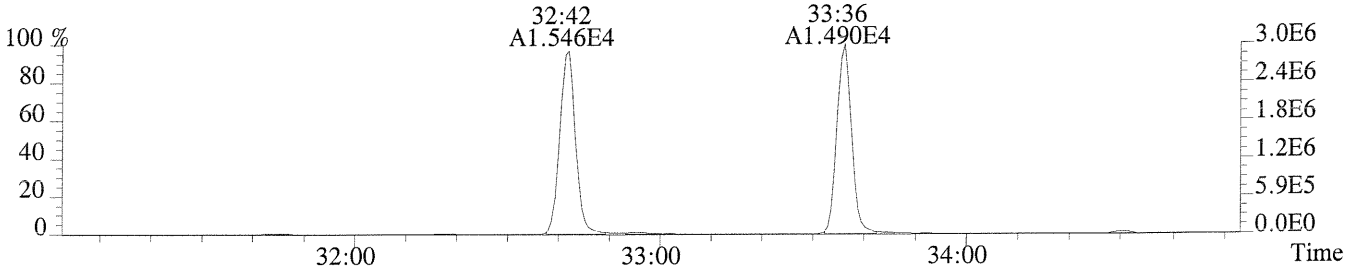
File:U149683 #1-627 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



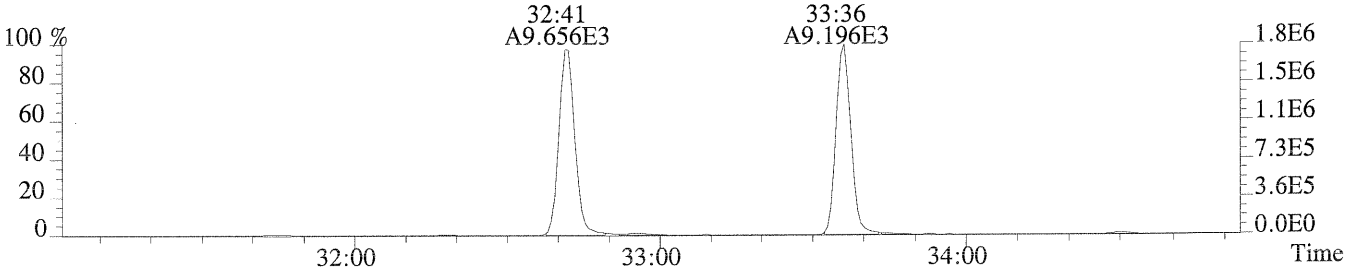
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



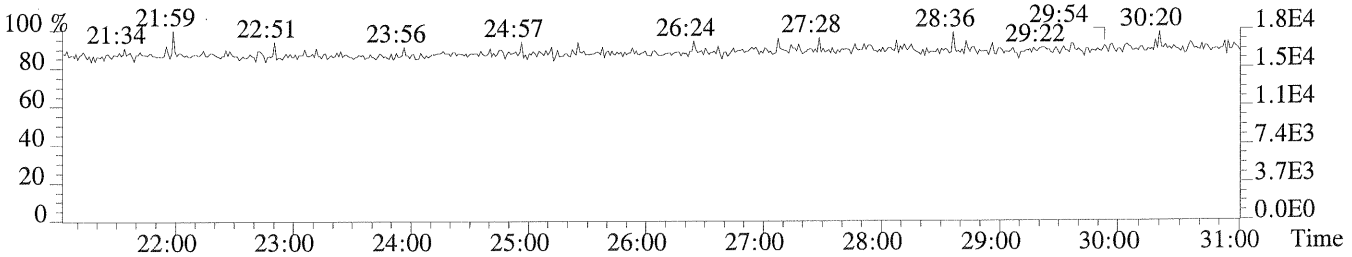
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,T)



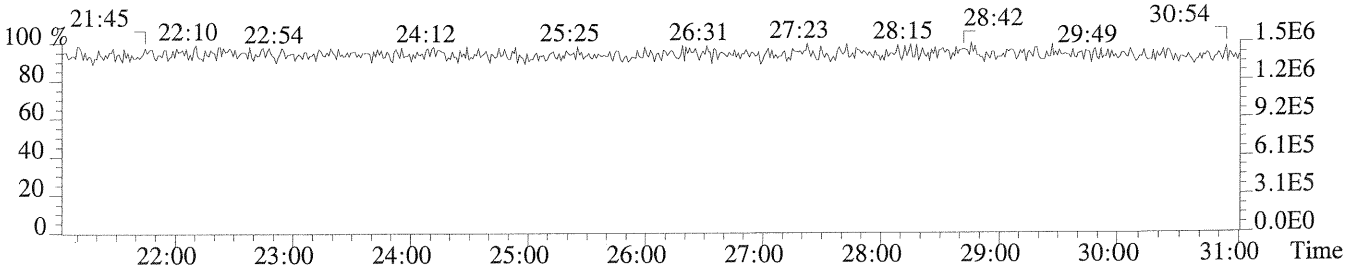
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

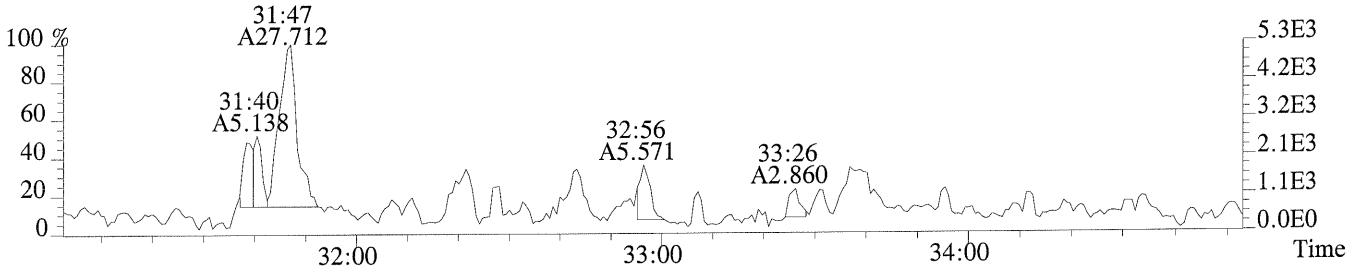


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

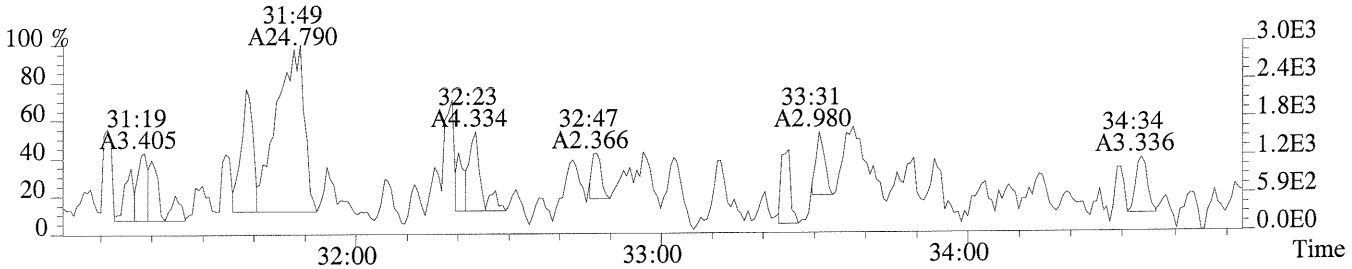


File:U149683 #1-349 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001

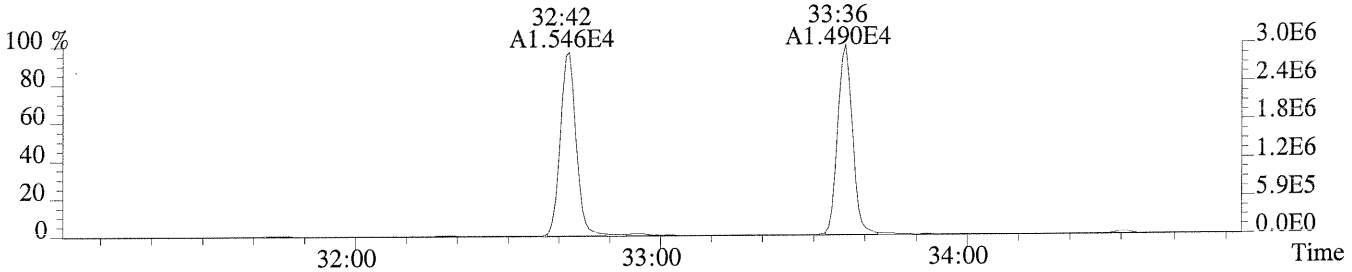
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



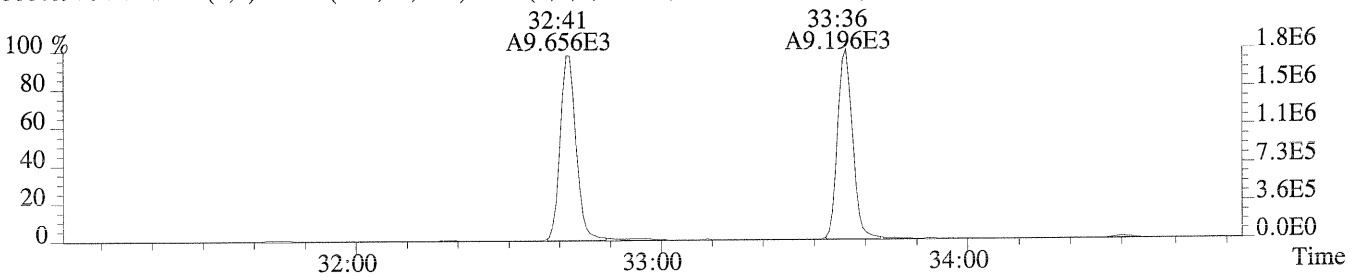
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



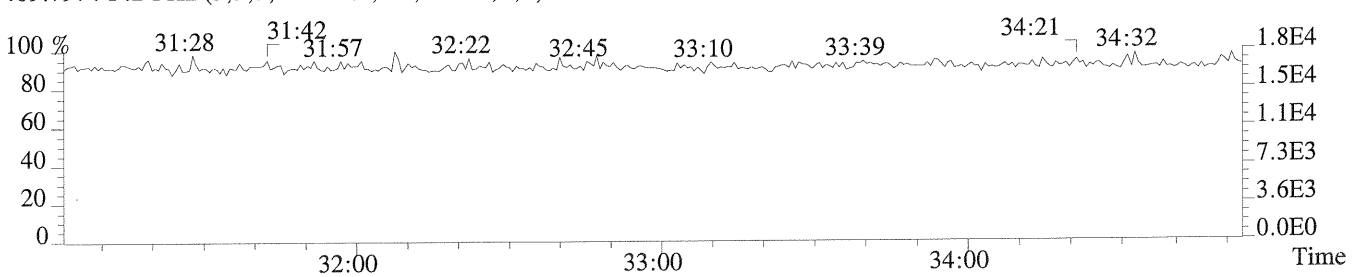
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,T)



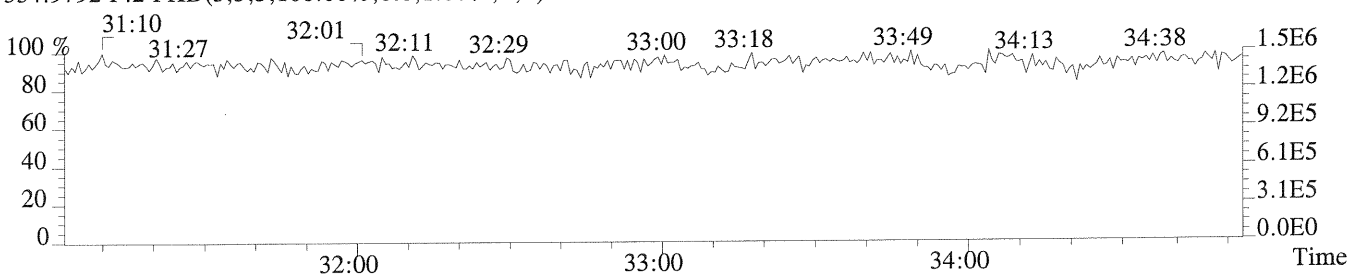
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,T)



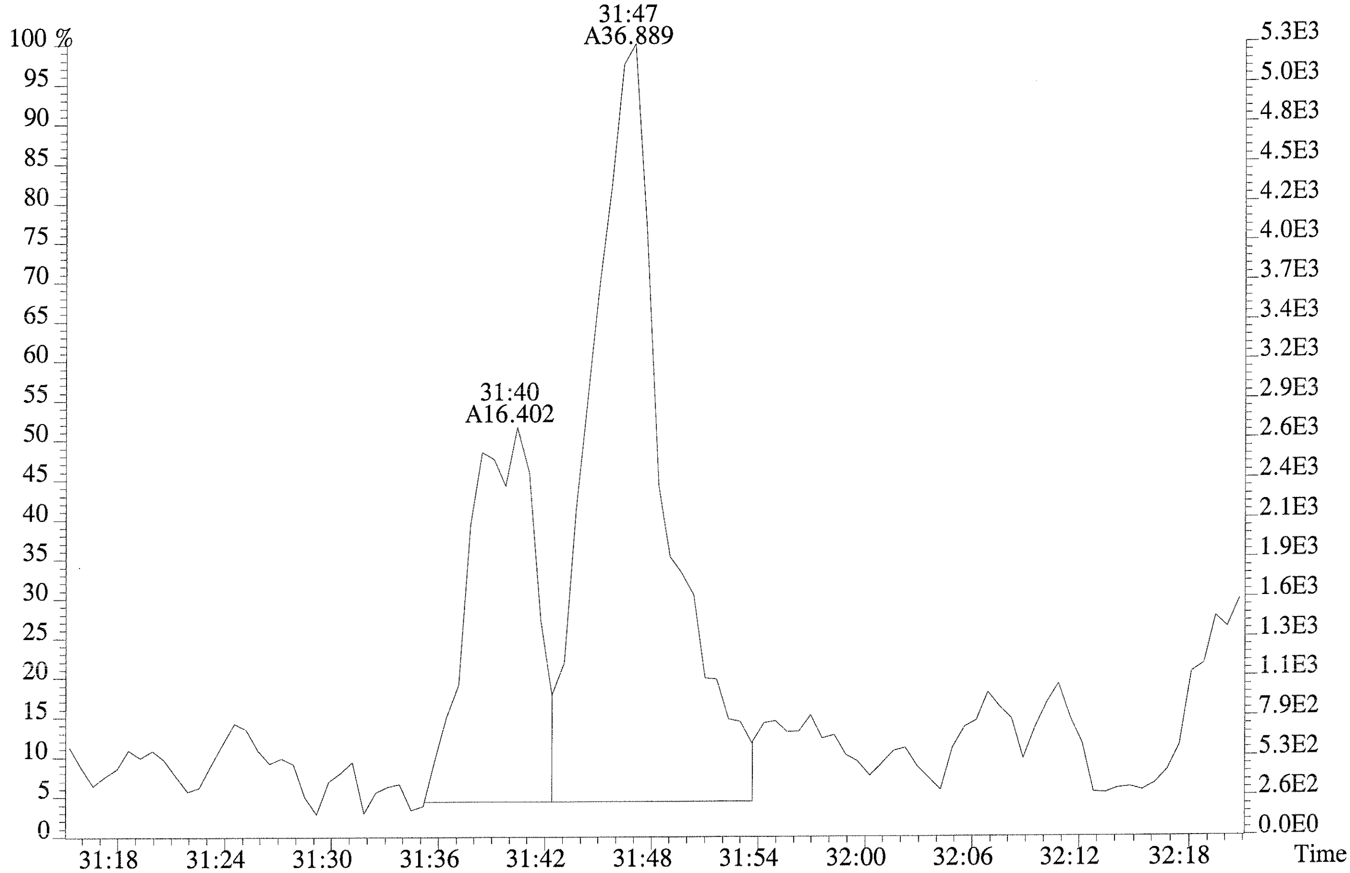
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



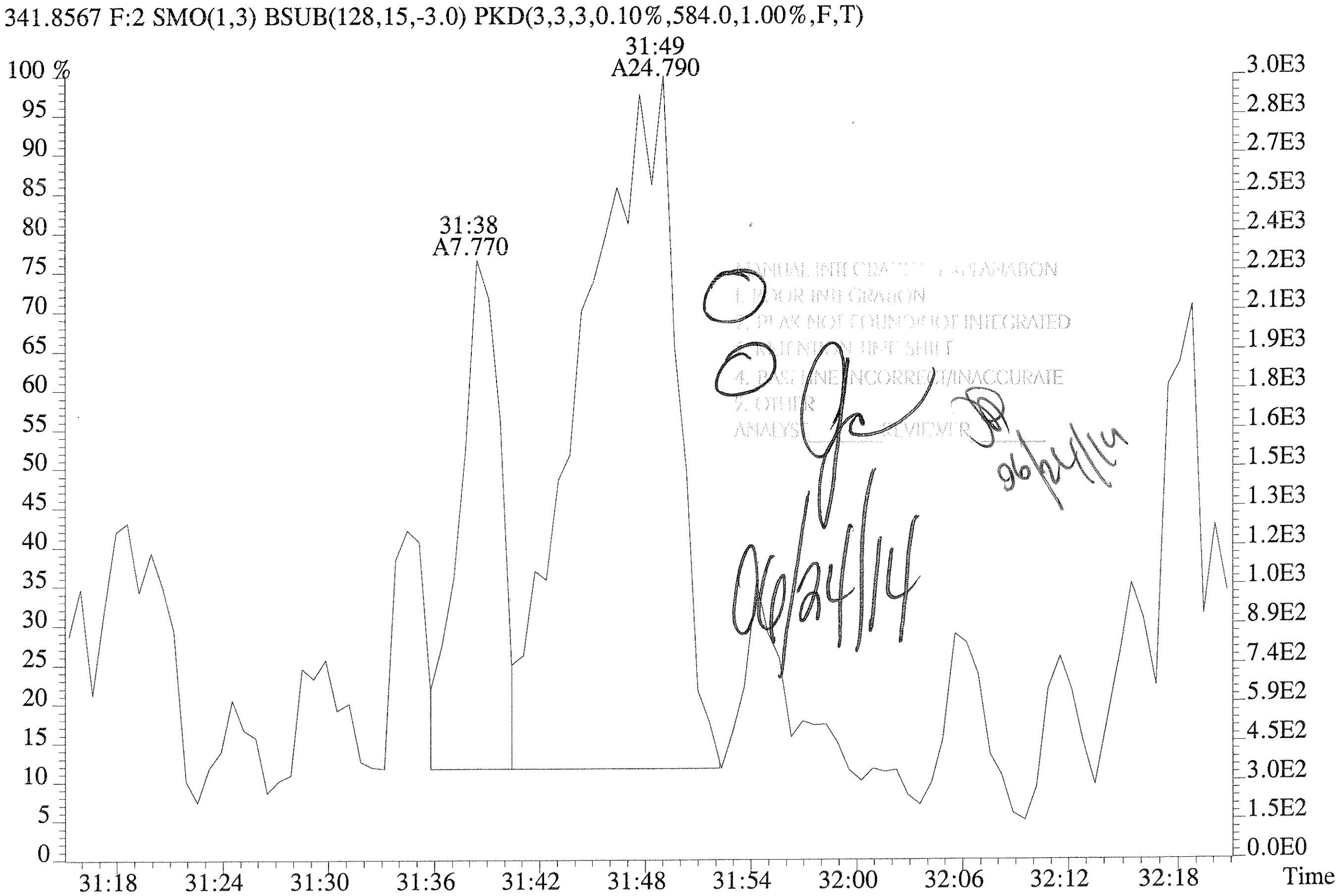
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



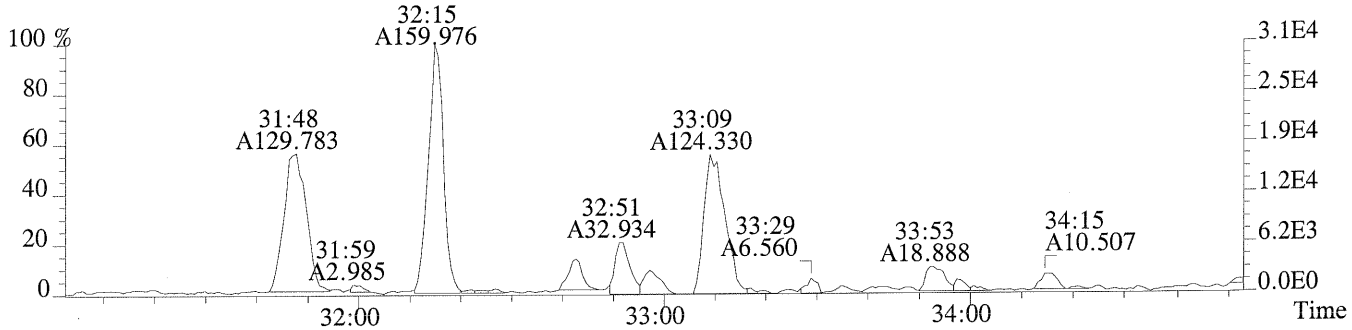
File:U149683 #1-349 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



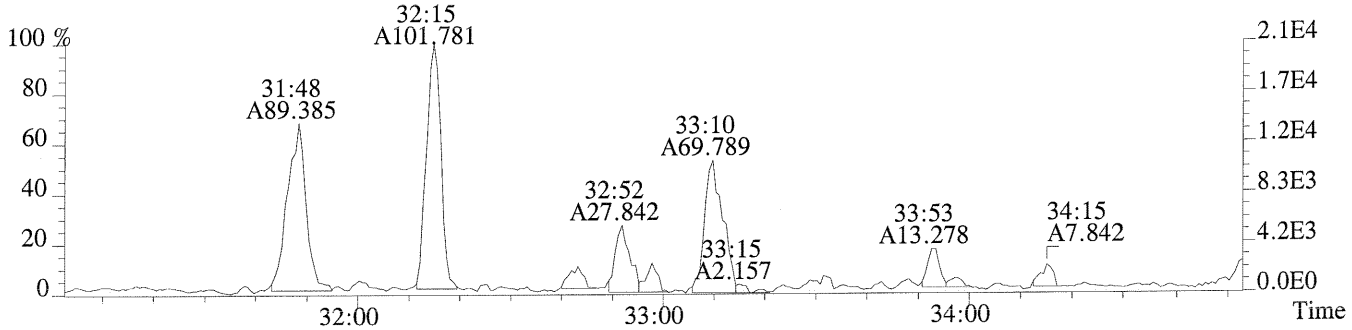
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



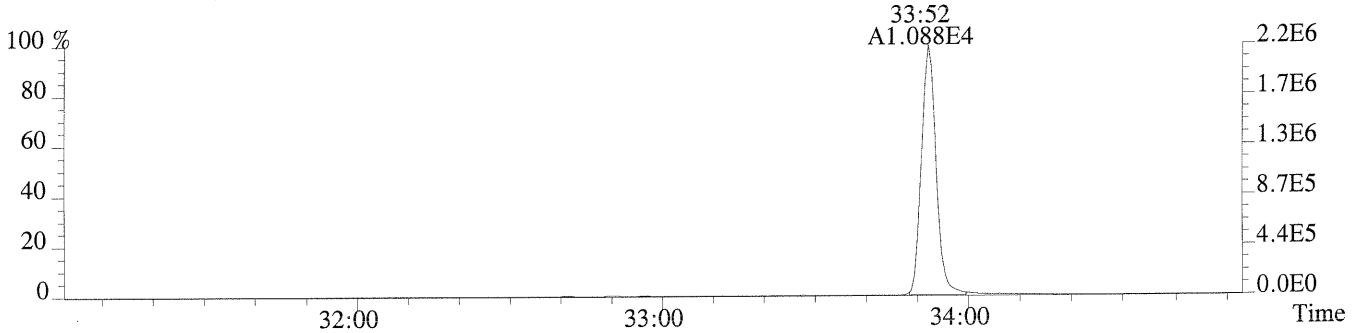
File:U149683 #1-349 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,560.0,1.00%,F,T)



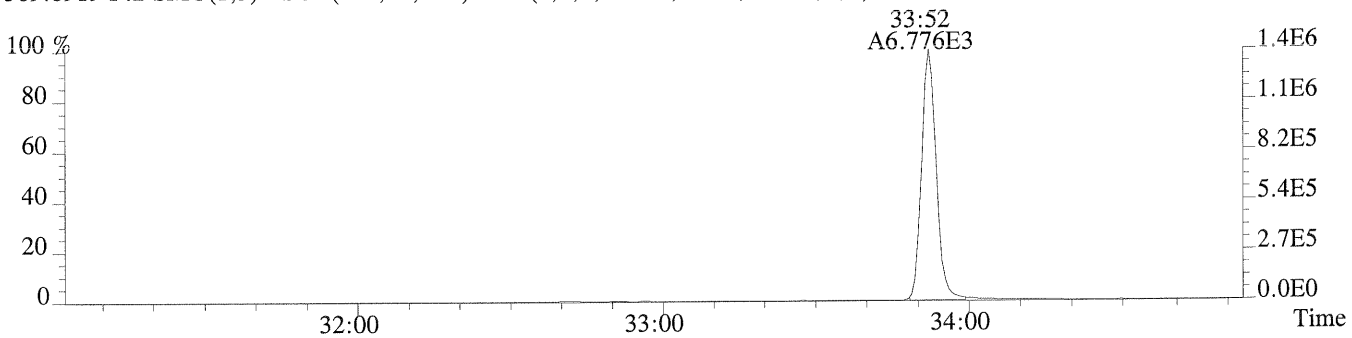
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



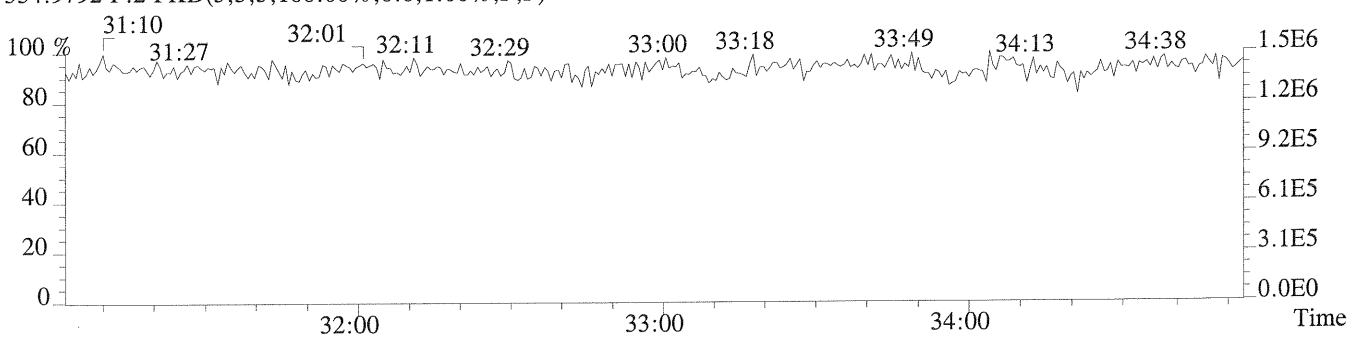
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)

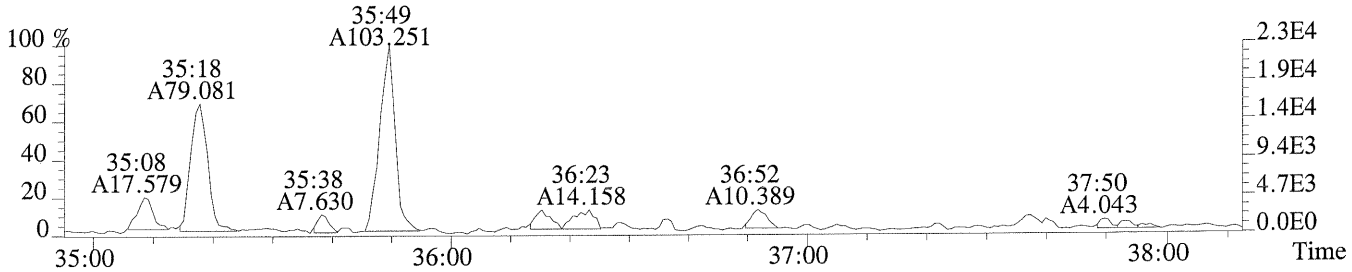


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

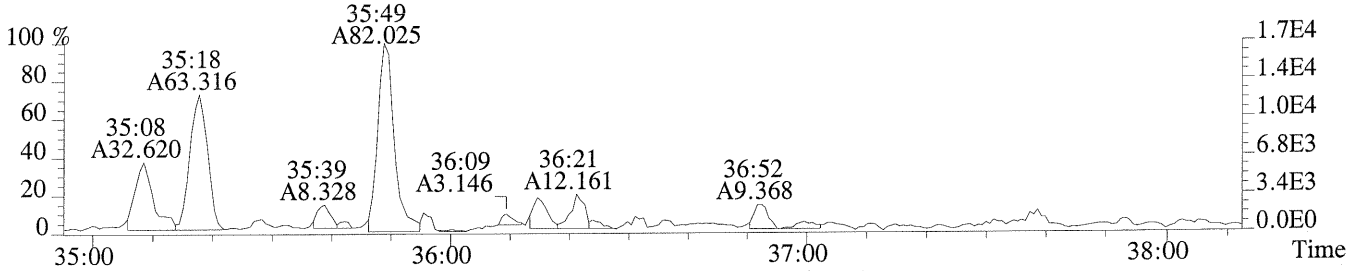


File:U149683 #1-299 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001

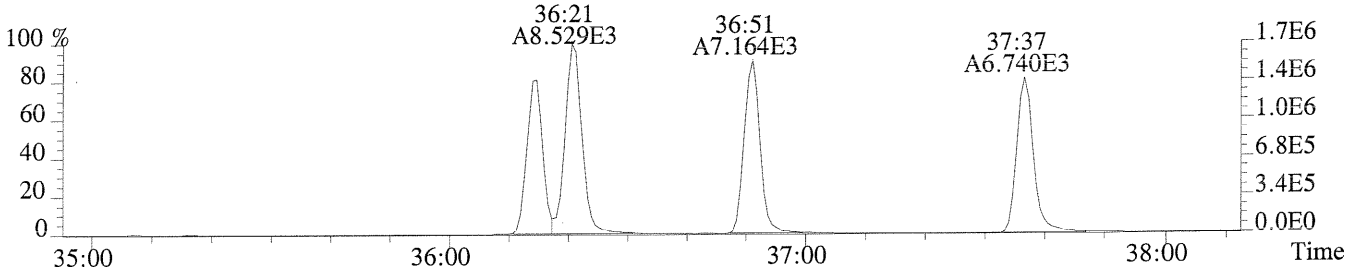
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



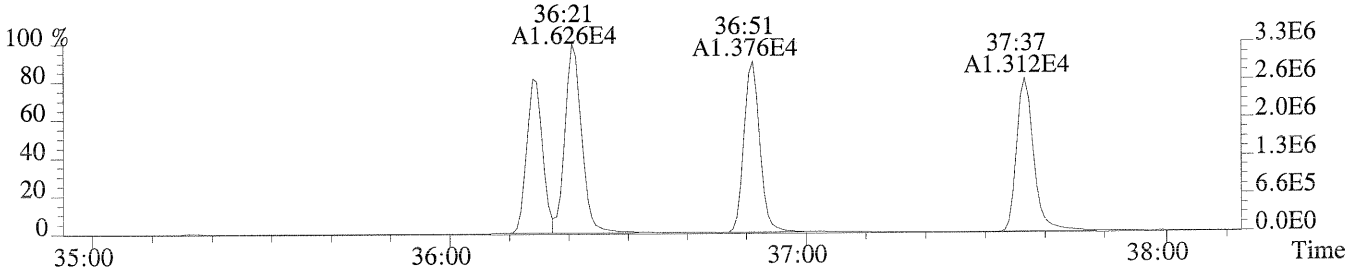
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



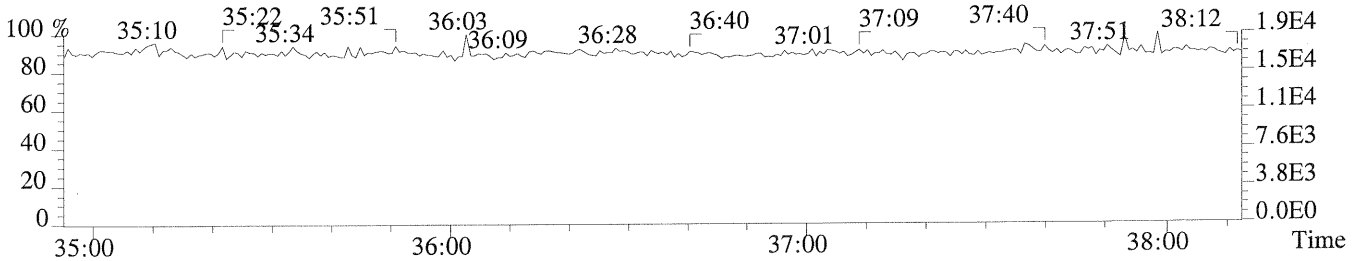
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,T)



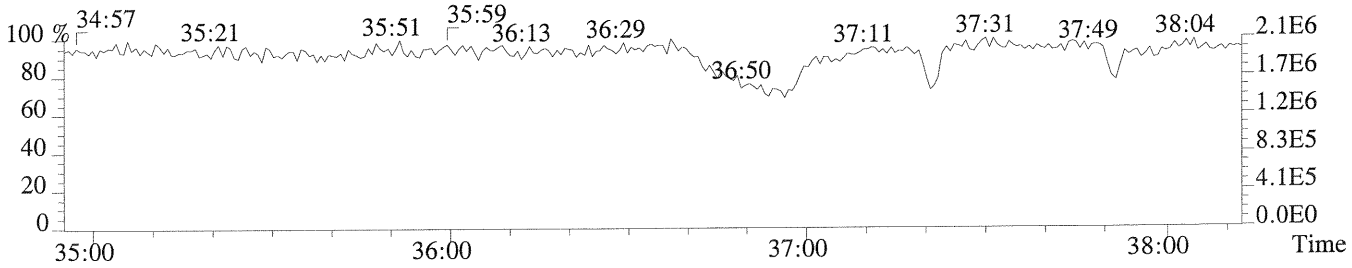
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,T)



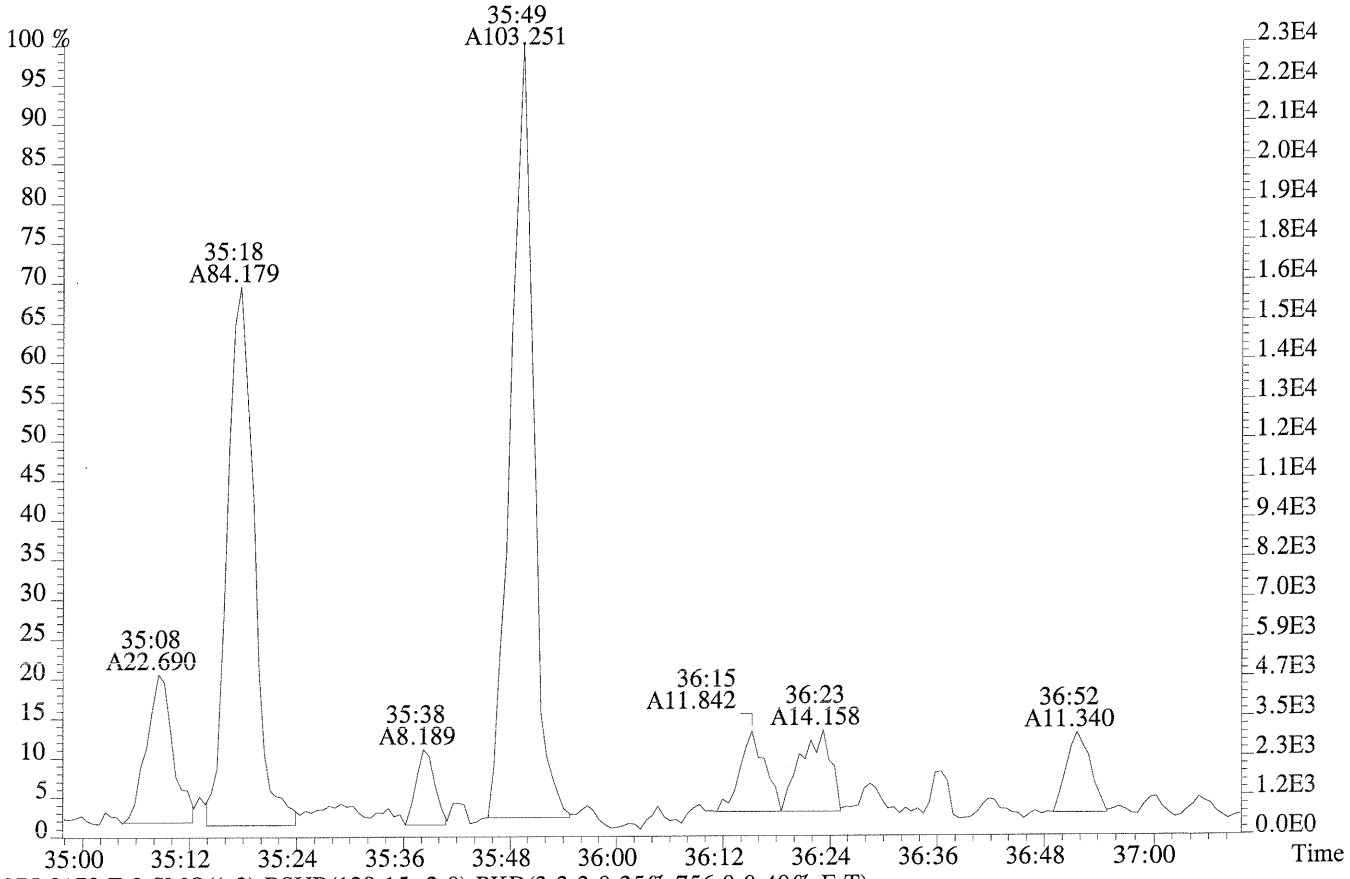
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



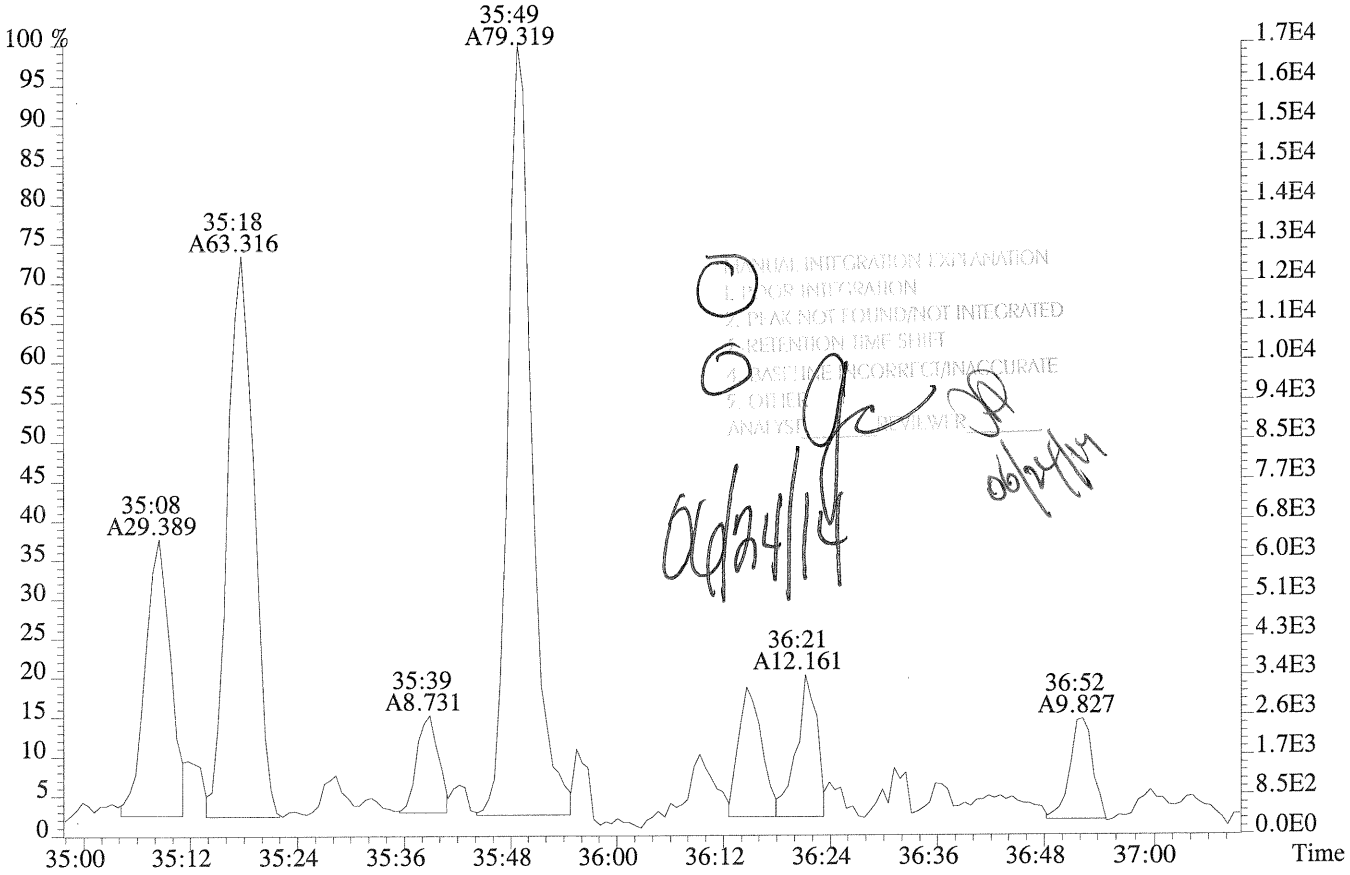
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



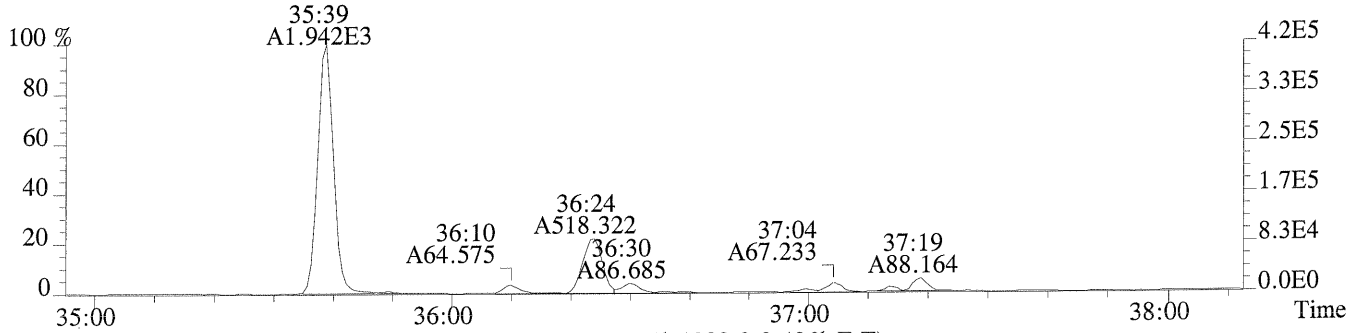
File:U149683 #1-299 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



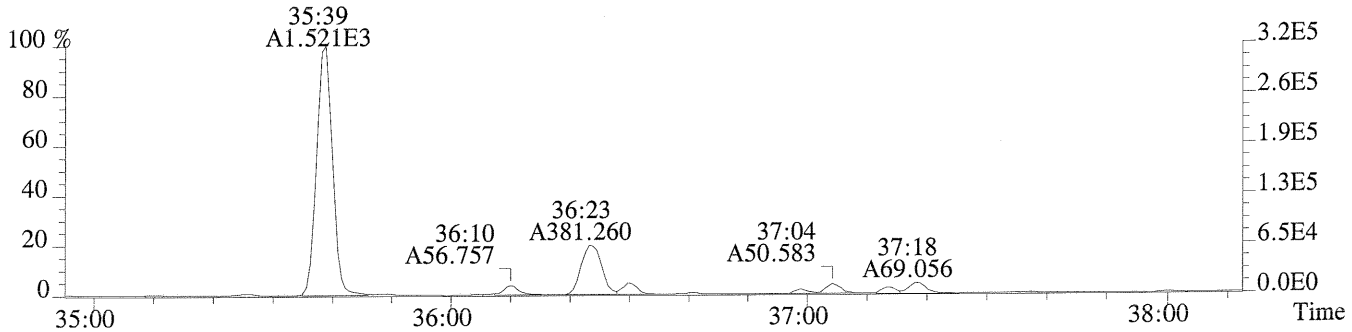
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



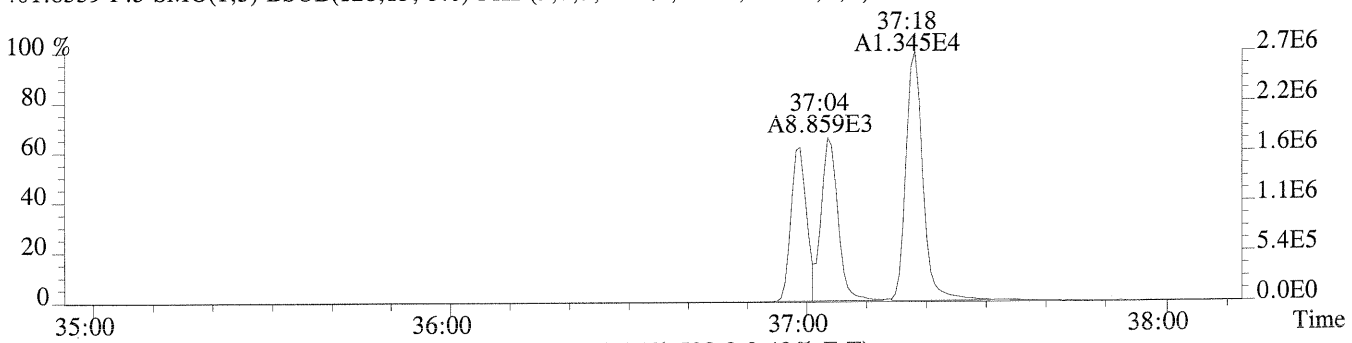
File:U149683 #1-299 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



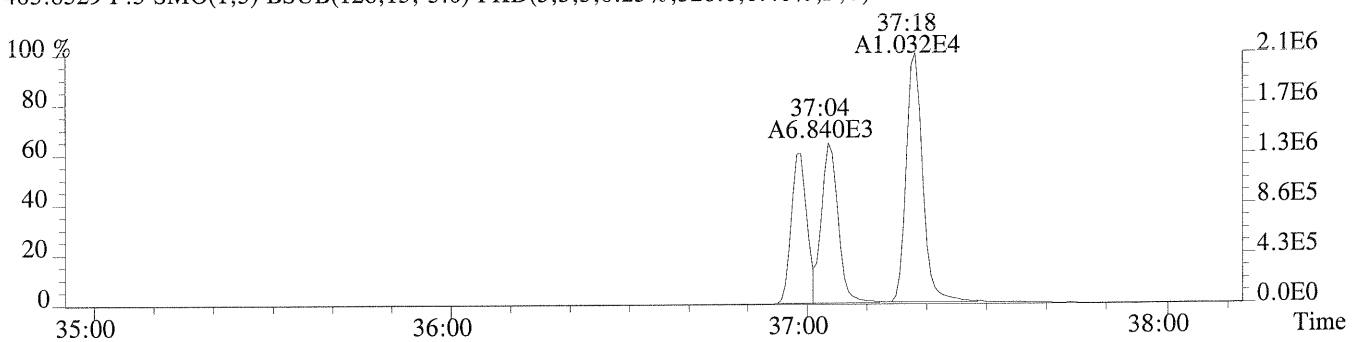
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1088.0,0.40%,F,T)



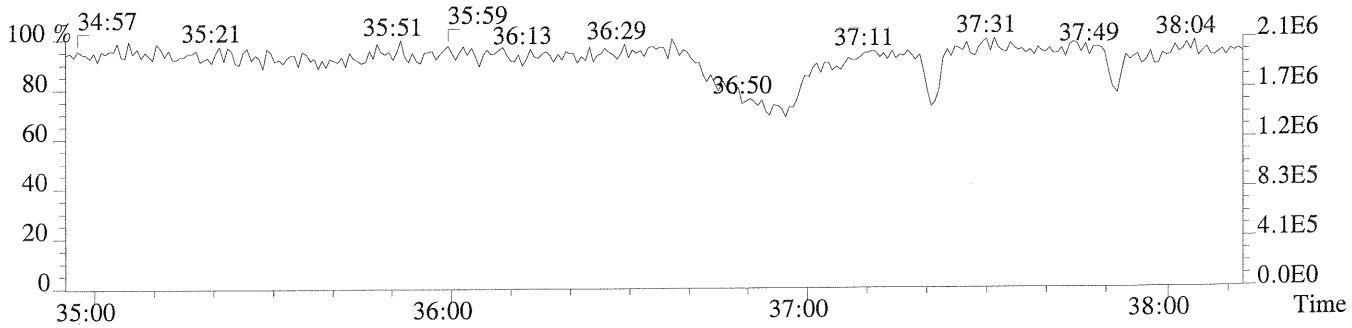
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,652.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,528.0,0.40%,F,T)

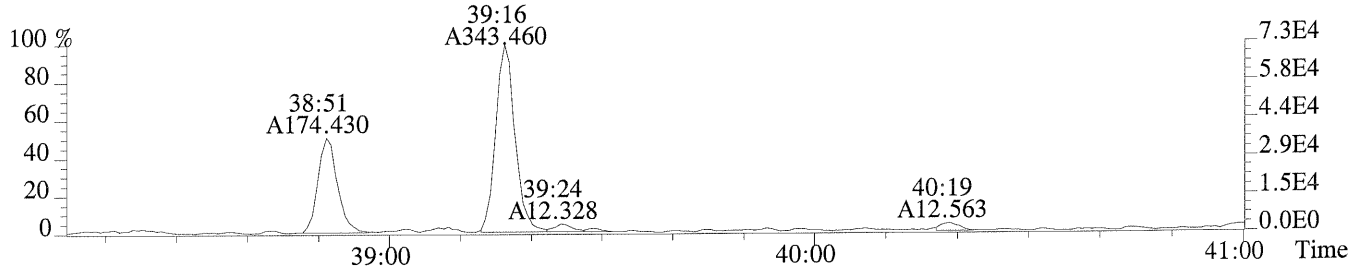


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

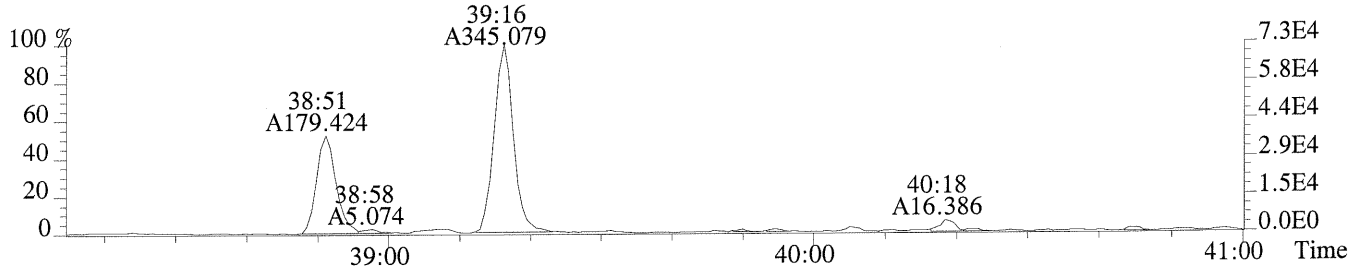


File:U149683 #1-251 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001

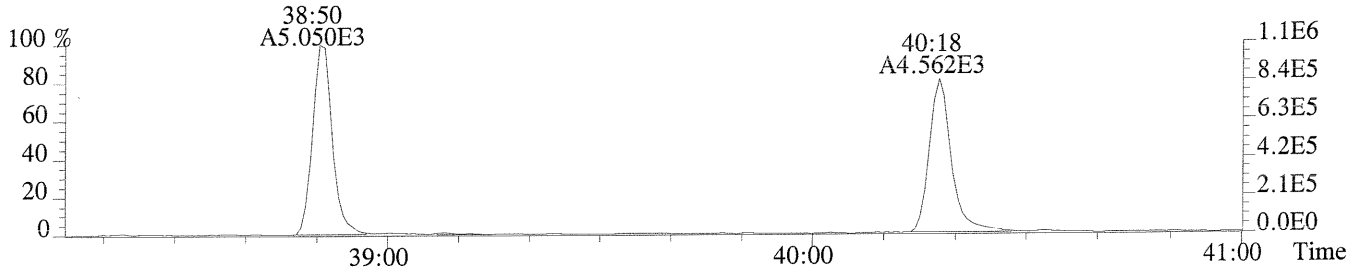
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.50%,F,T)



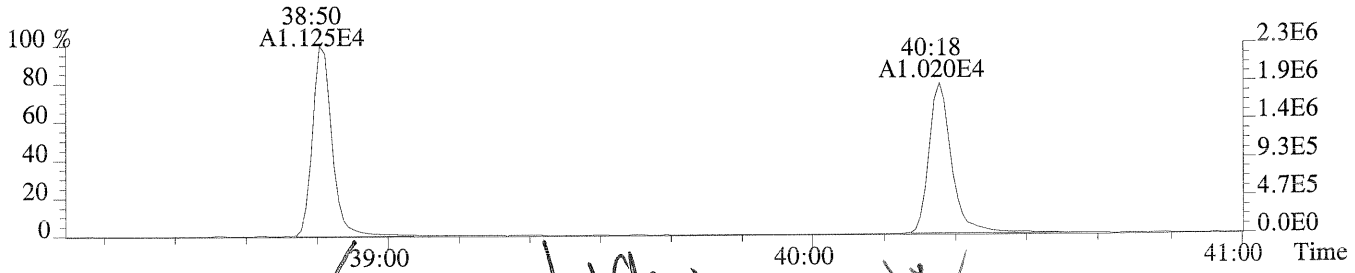
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.50%,F,T)



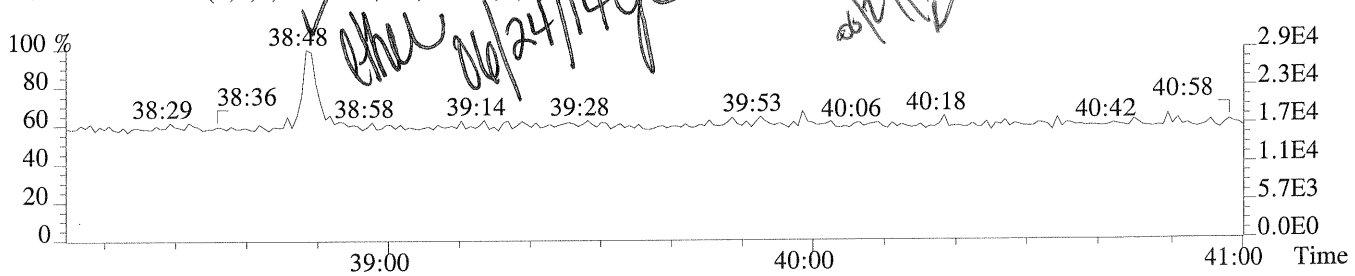
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6592.0,0.50%,F,T)



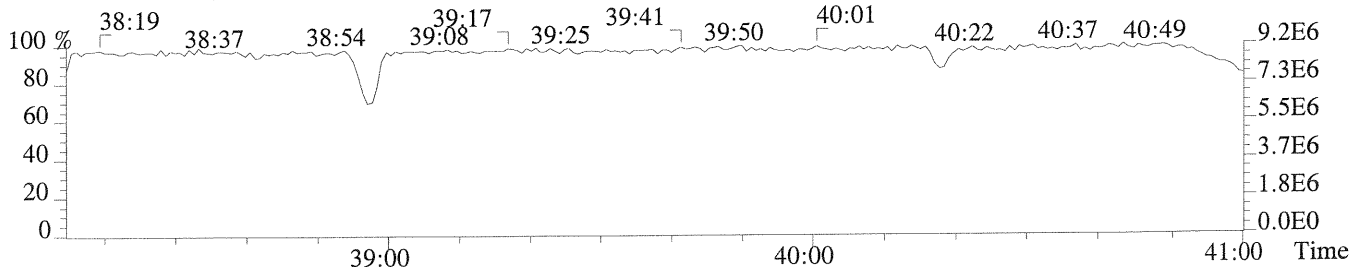
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3620.0,0.50%,F,T)



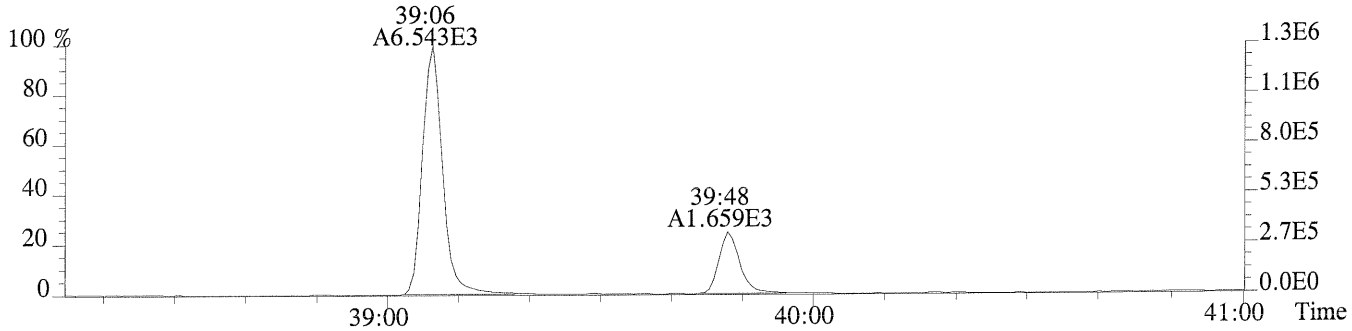
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



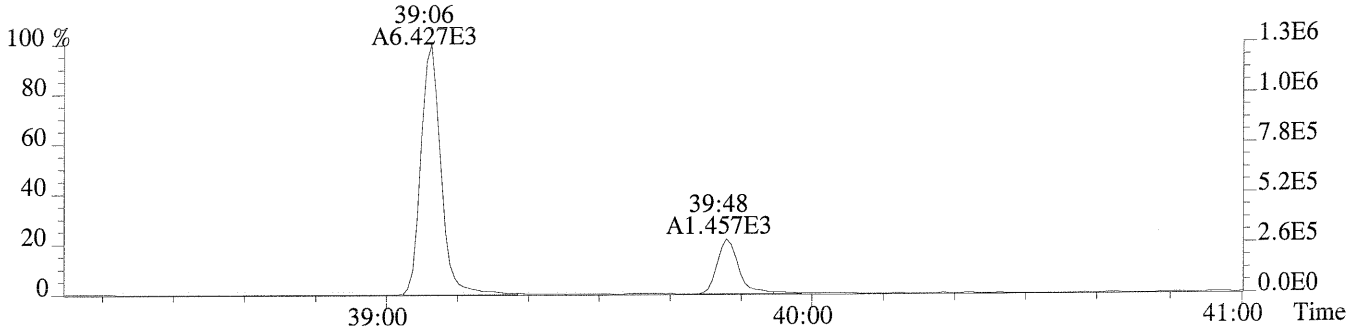
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



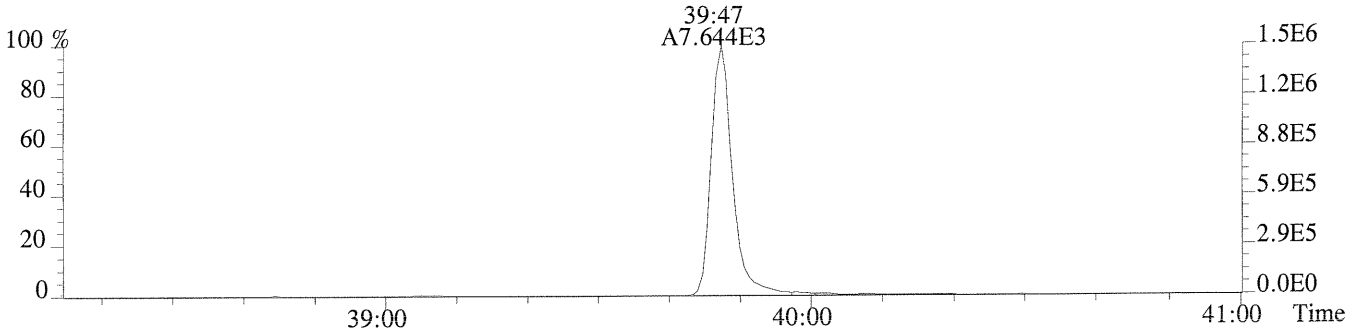
File:U149683 #1-251 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2004.0,0.40%,F,T)



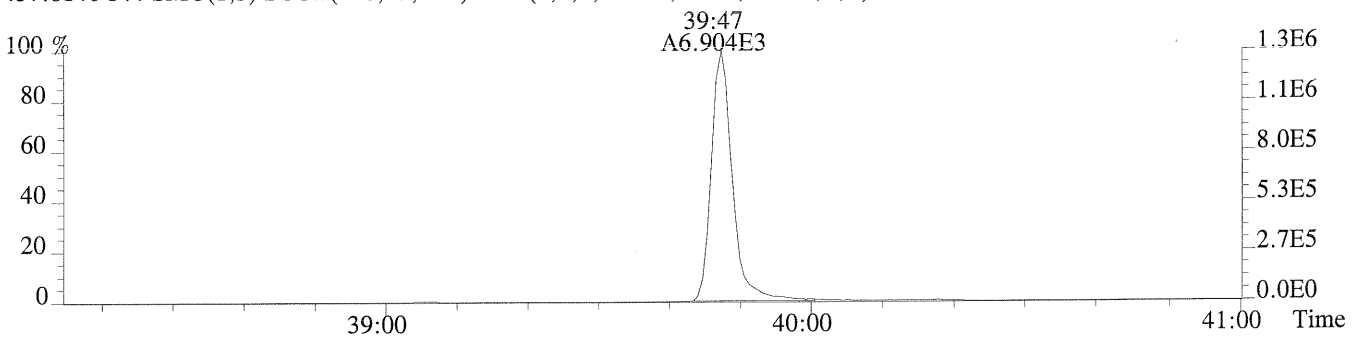
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



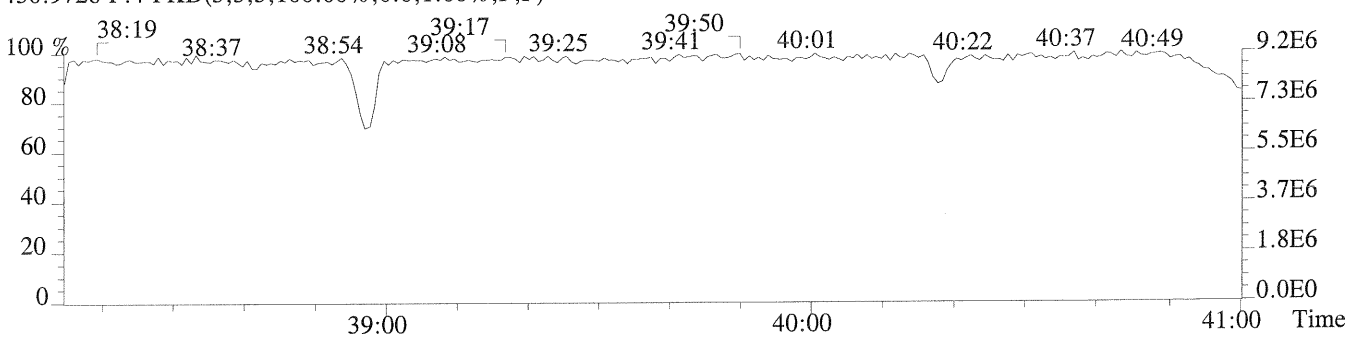
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



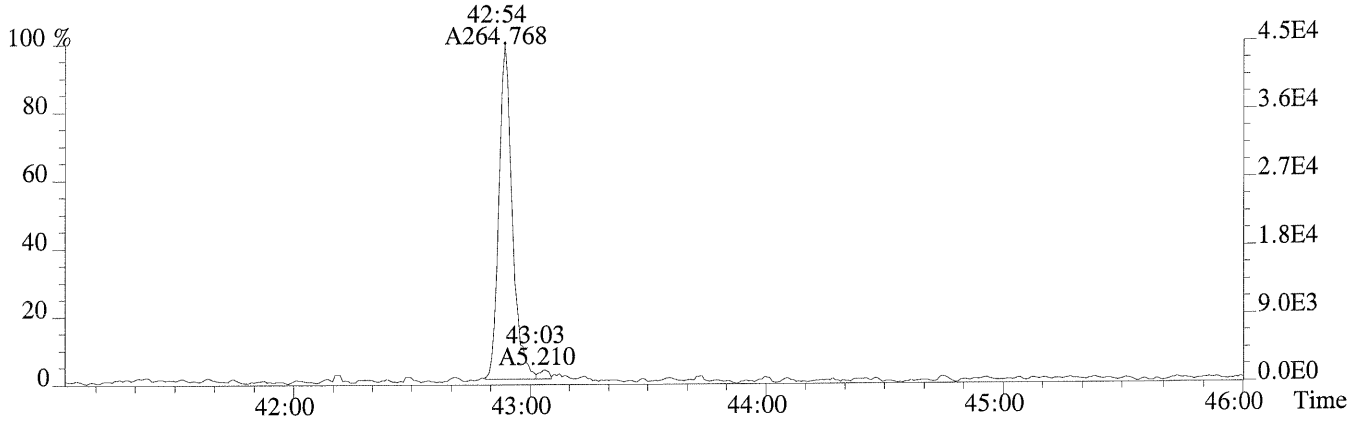
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,660.0,0.40%,F,T)



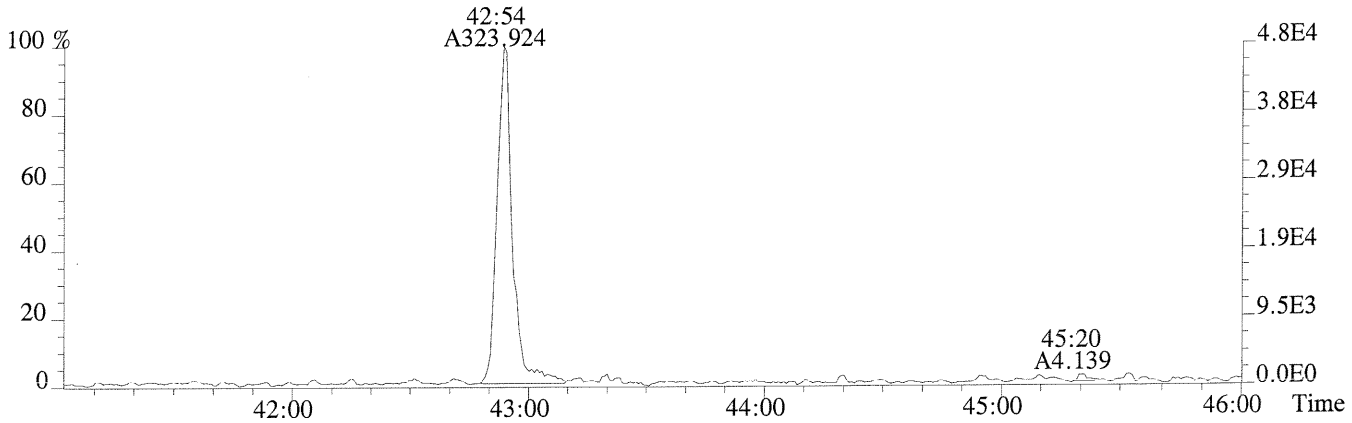
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



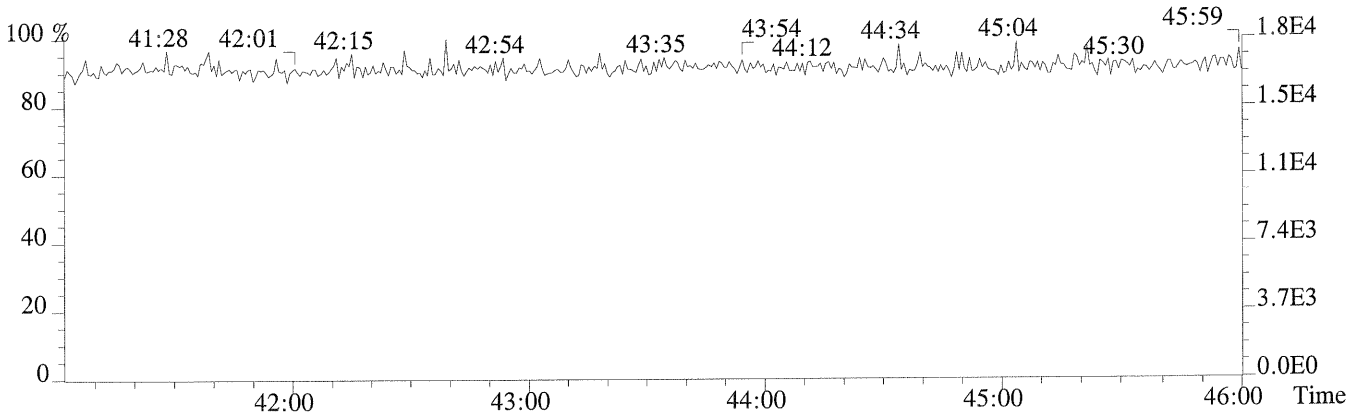
File:U149683 #1-451 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,560.0,0.40%,F,T)



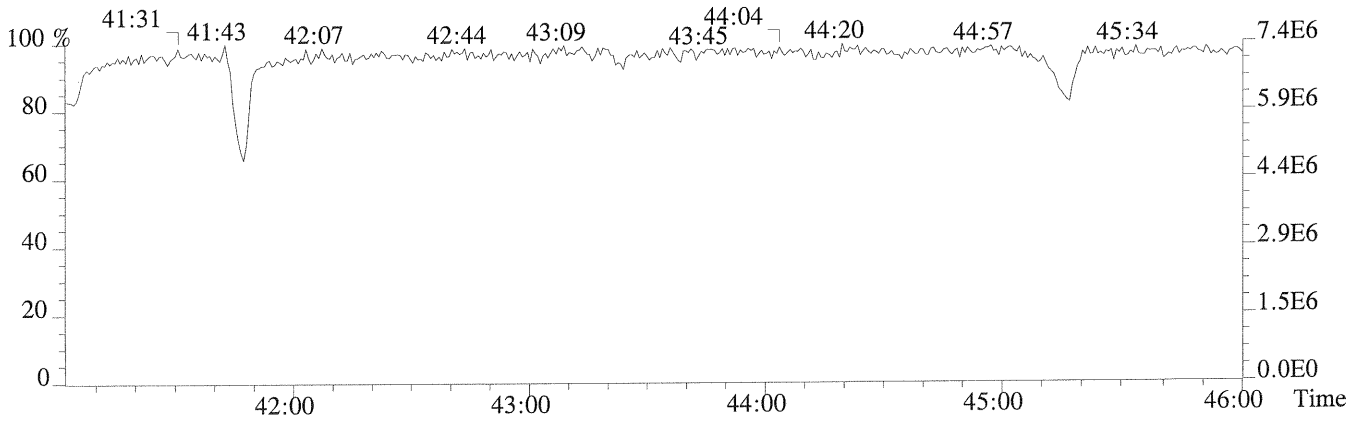
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,720.0,0.40%,F,T)



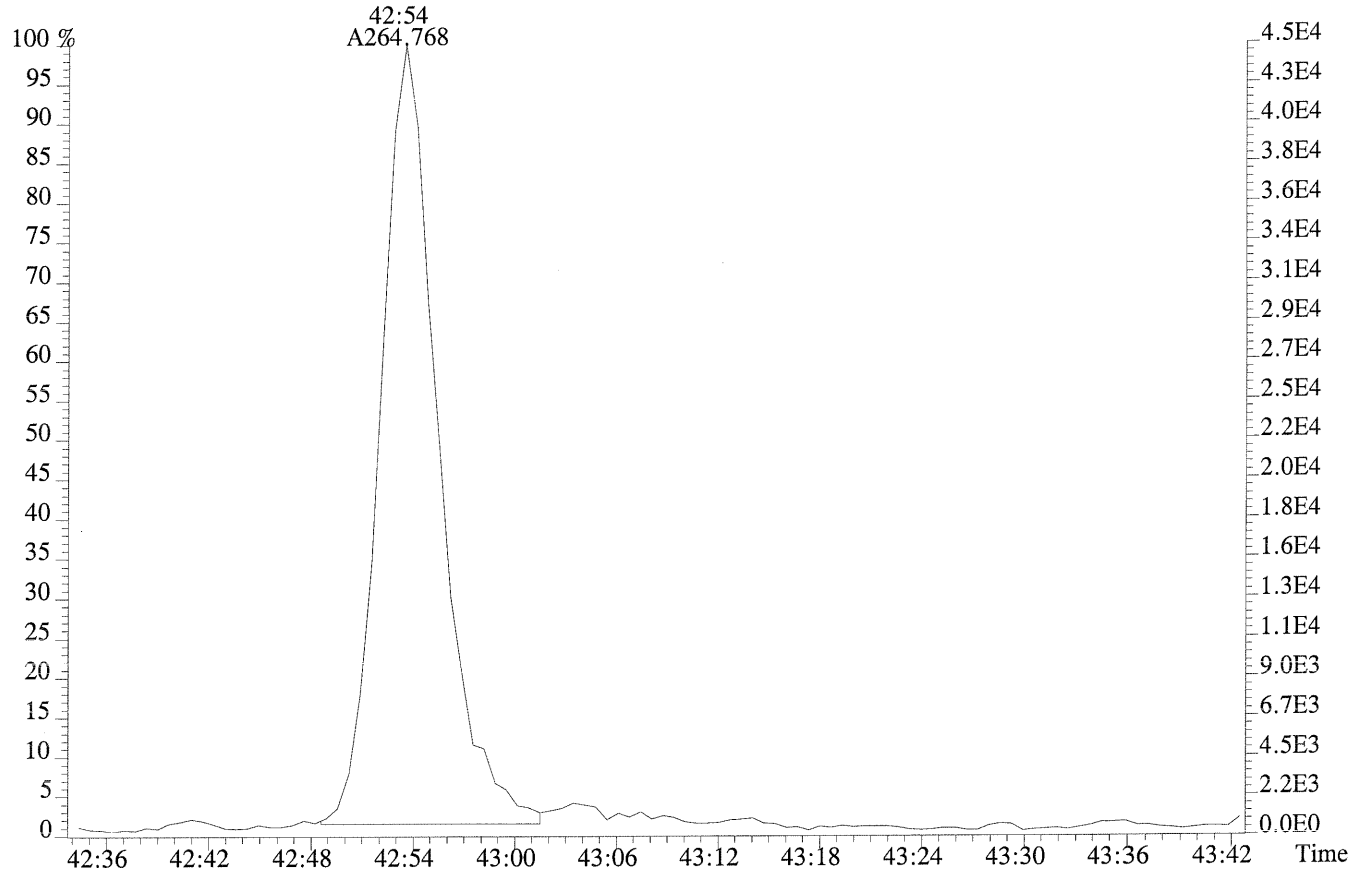
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



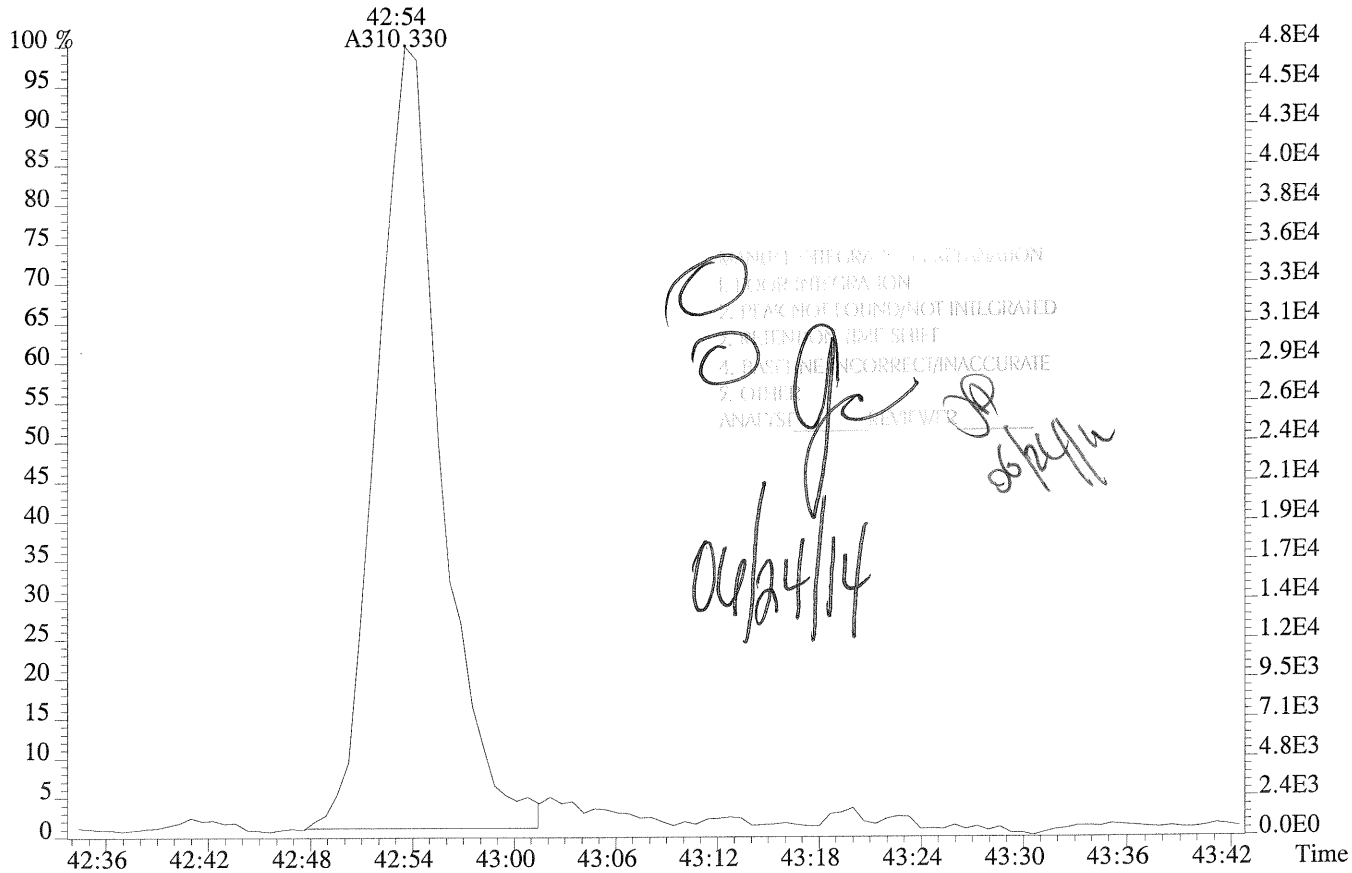
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:U149683 #1-451 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,560.0,0.40%,F,T)

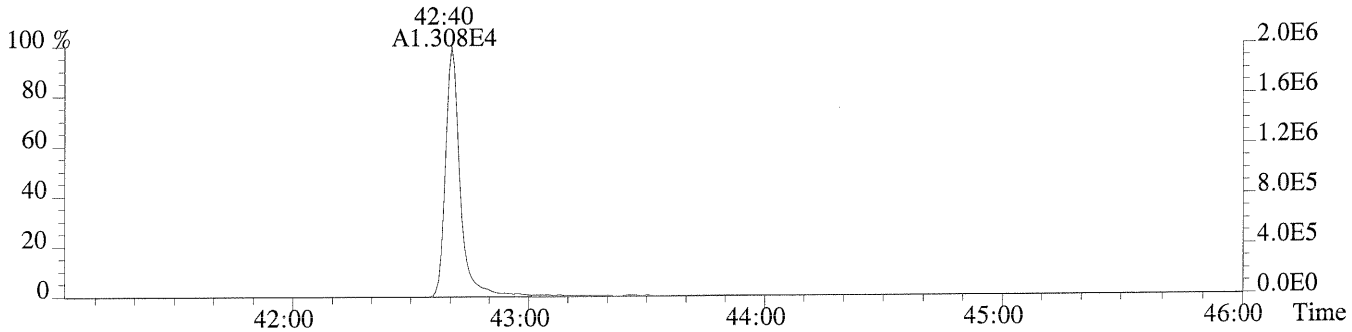


443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,720.0,0.40%,F,T)

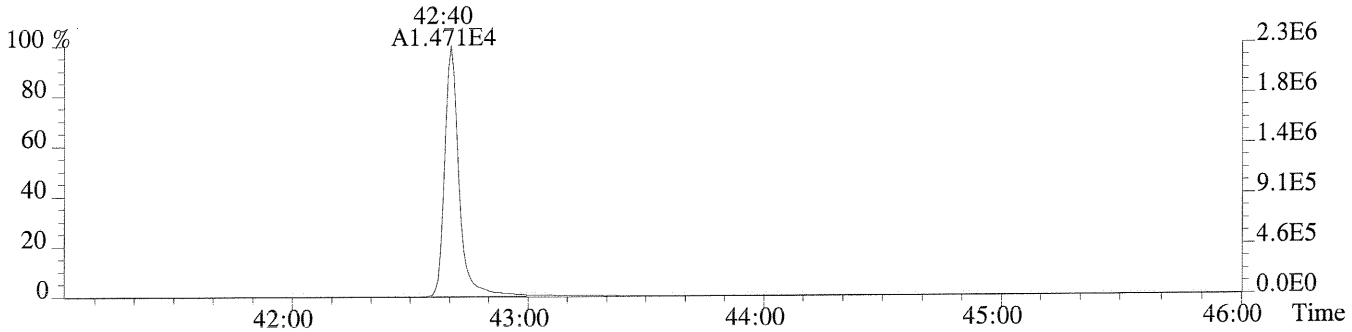


06/24/14

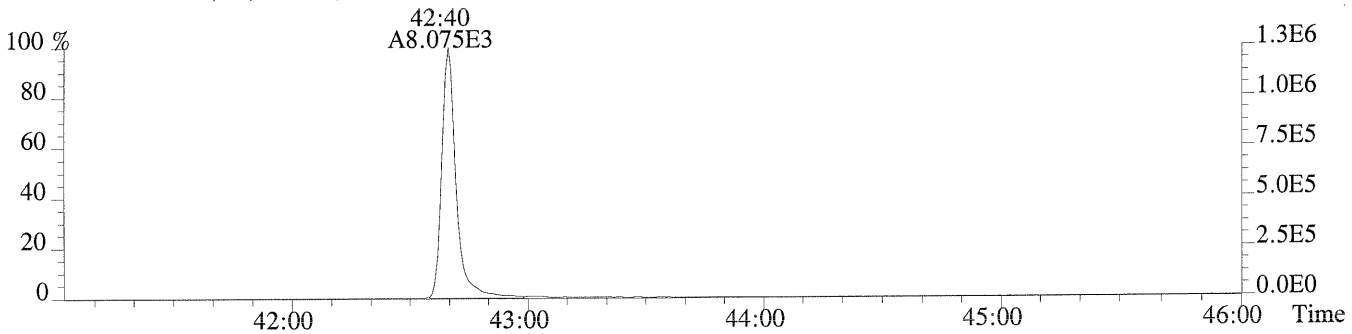
File:U149683 #1-451 Acq:23-JUN-2014 12:49:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-001
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



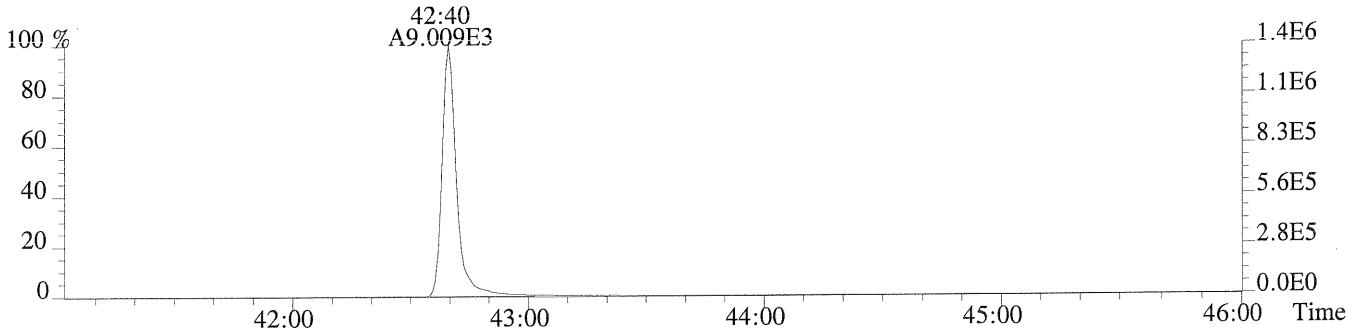
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,628.0,0.40%,F,T)



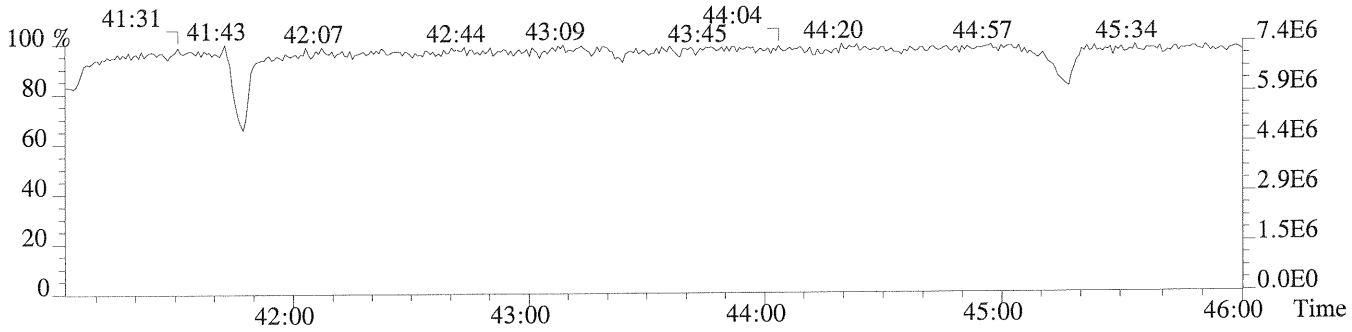
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,524.0,0.40%,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.
SYC14-TB

Run #11 Filename U149684 Samp: 1 Inj: 1 Acquired: 23-JUN-14 13:38:28
Processed: 24-JUN-14 06:27:07 Sample ID: K1405833-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:36	9.801e+00	1.570e+01	0.62	no	yes	0.944
2	Unk	1,2,3,7,8-PeCDF	32:43	2.042e+01	1.153e+01	1.77	yes	yes	0.977
3	Unk	2,3,4,7,8-PeCDF	33:37	1.904e+01	1.399e+01	1.36	yes	yes	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	2.613e+01	2.442e+01	1.07	yes	yes	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:22	4.312e+01	2.341e+01	1.84	no	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:52	5.011e+01	3.455e+01	1.45	no	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:51	3.488e+02	3.607e+02	0.97	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	4.652e+01	3.283e+01	1.42	no	no	1.358
10	Unk	OCDF	42:54	7.234e+02	7.833e+02	0.92	yes	no	1.350
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:53	3.393e+01	1.434e+01	2.37	no	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:00	6.517e+01	5.455e+01	1.19	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	1.426e+02	1.091e+02	1.31	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:19	2.031e+02	1.843e+02	1.10	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	4.967e+03	4.802e+03	1.03	yes	no	1.065
17	Unk	OCDD	42:40	4.139e+04	4.601e+04	0.90	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	7.820e+03	9.359e+03	0.84	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	1.502e+04	9.468e+03	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	1.494e+04	9.381e+03	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:15	6.721e+03	1.279e+04	0.53	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	8.874e+03	1.708e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:51	8.568e+03	1.622e+04	0.53	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	7.607e+03	1.446e+04	0.53	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	5.352e+03	1.175e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	5.192e+03	1.114e+04	0.47	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:20	4.961e+03	6.319e+03	0.79	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:52	1.018e+04	6.284e+03	1.62	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:59	8.853e+03	6.386e+03	1.39	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	8.675e+03	7.134e+03	1.22	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	8.246e+03	7.628e+03	1.08	yes	no	0.936
32	IS	13C-OCDD	42:40	9.626e+03	1.049e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:46	7.958e+03	1.007e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:18	1.371e+04	1.073e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.770e+03				no	1.044

$$\text{OCDD} = \frac{(4.139e+04 + 4.601e+04) \times 4000\ \text{pg} \times 1}{(9.626e+03 + 1.049e+04) \times 0.88 \times 28.3 \times 1.177} = 5150\ \text{pg/g}$$

06/26/14

1613RESP1

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-TB

Run #11 Filename U149684 Samp: 1 Inj: 1 Acquired: 23-JUN-14 13:38:28
Processed: 24-JUN-14 06:27:071 LAB. ID: K1405833-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.36e+03	3.92e+02	6.0e+00	3.00e+03	6.36e+02	4.7e+00
2	1,2,3,7,8-PeCDF	3.35e+03	1.03e+03	3.2e+00	2.82e+03	5.84e+02	4.8e+00
3	2,3,4,7,8-PeCDF	3.80e+03	1.03e+03	3.7e+00	2.21e+03	5.84e+02	3.8e+00
4	1,2,3,4,7,8-HxCDF	5.10e+03	1.05e+03	4.8e+00	5.37e+03	6.56e+02	8.2e+00
5	1,2,3,6,7,8-HxCDF	7.30e+03	1.05e+03	6.9e+00	5.99e+03	6.56e+02	9.1e+00
6	2,3,4,6,7,8-HxCDF	1.15e+04	1.05e+03	1.1e+01	7.29e+03	6.56e+02	1.1e+01
7	1,2,3,7,8,9-HxCDF	*	1.05e+03	*	*	6.56e+02	*
8	1,2,3,4,6,7,8-HpCDF	6.99e+04	1.46e+03	4.8e+01	7.07e+04	1.48e+03	4.8e+01
9	1,2,3,4,7,8,9-HpCDF	8.75e+03	1.46e+03	6.0e+00	5.45e+03	1.48e+03	3.7e+00
10	OCDF	1.07e+05	5.96e+02	1.8e+02	1.21e+05	6.88e+02	1.8e+02
11	2,3,7,8-TCDD	*	4.96e+02	*	*	4.96e+02	*
12	1,2,3,7,8-PeCDD	8.82e+03	5.12e+02	1.7e+01	2.96e+03	7.72e+02	3.8e+00
13	1,2,3,4,7,8-HxCDD	1.62e+04	9.28e+02	1.7e+01	1.28e+04	1.23e+03	1.0e+01
14	1,2,3,6,7,8-HxCDD	3.11e+04	9.28e+02	3.3e+01	2.60e+04	1.23e+03	2.1e+01
15	1,2,3,7,8,9-HxCDD	4.09e+04	9.28e+02	4.4e+01	3.82e+04	1.23e+03	3.1e+01
16	1,2,3,4,6,7,8-HpCDD	9.71e+05	4.92e+02	2.0e+03	9.33e+05	5.88e+02	1.6e+03
17	OCDD	6.34e+06	6.48e+02	9.8e+03	7.13e+06	5.28e+02	1.4e+04
18	13C-2,3,7,8-TCDF	1.58e+06	1.21e+03	1.3e+03	1.93e+06	7.12e+02	2.7e+03
19	13C-1,2,3,7,8-PeCDF	2.75e+06	4.24e+02	6.5e+03	1.74e+06	5.88e+02	3.0e+03
20	13C-2,3,4,7,8-PeCDF	2.99e+06	4.24e+02	7.1e+03	1.86e+06	5.88e+02	3.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.39e+06	6.88e+02	2.0e+03	2.74e+06	6.60e+02	4.1e+03
22	13C-1,2,3,6,7,8-HxCDF	1.81e+06	6.88e+02	2.6e+03	3.45e+06	6.60e+02	5.2e+03
23	13C-2,3,4,6,7,8-HxCDF	1.83e+06	6.88e+02	2.7e+03	3.45e+06	6.60e+02	5.2e+03
24	13C-1,2,3,7,8,9-HxCDF	1.51e+06	6.88e+02	2.2e+03	2.88e+06	6.60e+02	4.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.09e+06	5.56e+03	2.0e+02	2.36e+06	3.07e+03	7.7e+02
26	13C-1,2,3,4,7,8,9-HpCDF	9.20e+05	5.56e+03	1.7e+02	2.00e+06	3.07e+03	6.5e+02
27	13C-2,3,7,8-TCDD	1.06e+06	1.72e+03	6.2e+02	1.36e+06	8.96e+02	1.5e+03
28	13C-1,2,3,7,8-PeCDD	2.03e+06	6.20e+02	3.3e+03	1.27e+06	5.04e+02	2.5e+03
29	13C-1,2,3,4,7,8-HxCDD	1.88e+06	7.84e+02	2.4e+03	1.40e+06	6.44e+02	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	1.82e+06	7.84e+02	2.3e+03	1.45e+06	6.44e+02	2.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.58e+06	5.52e+02	2.9e+03	1.43e+06	6.60e+02	2.2e+03
32	13C-OCDD	1.46e+06	6.20e+02	2.4e+03	1.62e+06	6.32e+02	2.6e+03
33	13C-1,2,3,4-TCDD	1.65e+06	1.72e+03	9.6e+02	2.08e+06	8.96e+02	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	2.75e+06	7.84e+02	3.5e+03	2.13e+06	6.44e+02	3.3e+03
35	37Cl-2,3,7,8-TCDD	8.11e+05	6.00e+02	1.4e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 1
Llim: 25:55 Ulim: 30:22
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 319.8970 321.8940 Tot Response: 5.63e+02 RRF: 1.013

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:22	1.58e+01	1.95e+01	0.81	yes	3.53e+01	n	n
2	26:45	2.28e+01	2.66e+01	0.86	yes	4.94e+01	n	n
3	27:28	1.59e+02	1.86e+02	0.85	yes	3.45e+02	n	n
4	27:42	2.17e+01	2.76e+01	0.79	yes	4.93e+01	n	y
5	28:44	3.93e+01	4.47e+01	0.88	yes	8.39e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 39 Totals Name: Total Penta-Furan2

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 2
Llim: 30:12 Ulim: 34:40
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 339.8600 341.8570 Tot Response: 2.90e+02 RRF: 0.9587

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:38	3.72e+01	2.50e+01 1.49	yes	6.22e+01		n	y
2	31:47	8.01e+01	5.19e+01 1.54	yes	1.32e+02		n	y
3	32:43	2.04e+01	1.15e+01 1.77	yes	3.20e+01	1,2,3,7,8-PeCDF	y	y
4	32:58	1.81e+01	1.30e+01 1.40	yes	3.11e+01		y	y
5	33:37	1.90e+01	1.40e+01 1.36	yes	3.30e+01	2,3,4,7,8-PeCDF	n	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 2
Llim: 31:43 Ulim: 34:24
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 355.8550 357.8520 Tot Response: 5.96e+02 RRF: 1.025

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:15	3.47e+02	2.20e+02 1.58	yes	5.68e+02		n	n
2	34:15	1.69e+01	1.11e+01 1.52	yes	2.80e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 41 Totals Name: Total Hexa-Furans

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 3
Llim: 35:03 Ulim: 37:49
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 373.8210 375.8180 Tot Response: 4.81e+02 RRF: 1.165

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:08	5.23e+01	4.04e+01 1.29	yes	9.27e+01		n	n
2	35:49	1.81e+02	1.57e+02 1.15	yes	3.37e+02		n	y
3	36:15	2.61e+01	2.44e+01 1.07	yes	5.05e+01	1,2,3,4,7,8-HxCDF	y	n

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Office(713)266-1599. Fax(713)266-0130

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Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 3
Llim: 35:33 Ulim: 37:23
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 389.8160 391.8130 Tot Response: 1.23e+04 RRF: 1.151

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:39	4.66e+03	3.70e+03	1.26	yes	8.36e+03		n	n
2	36:09	1.86e+02	1.46e+02	1.27	yes	3.32e+02		n	n
3	36:24	1.29e+03	1.04e+03	1.24	yes	2.33e+03		n	n
4	36:31	2.28e+02	1.68e+02	1.36	yes	3.96e+02		n	n
5	37:00	6.52e+01	5.46e+01	1.19	yes	1.20e+02	1,2,3,4,7,8-HxCDD	n	n
6	37:04	1.43e+02	1.09e+02	1.31	yes	2.52e+02	1,2,3,6,7,8-HxCDD	n	n
7	37:14	7.41e+01	5.92e+01	1.25	yes	1.33e+02		n	n
8	37:19	2.03e+02	1.84e+02	1.10	yes	3.87e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 4
Llim: 38:46 Ulim: 40:28
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 407.7820 409.7790 Tot Response: 2.31e+03 RRF: 1.393

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:51	3.49e+02	3.61e+02 0.97	yes	7.09e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:16	8.49e+02	7.47e+02 1.14	yes	1.60e+03		n	n

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Peak List Summary

CLIENT ID.
SYC14-TB

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: U149684 Sample: 1 Injection: 1 Function: 4
Llim: 39:01 Ulim: 39:58
Acquired: 23-JUN-14 13:38:28 Processed: 24-JUN-14 06:27:07
Mass: 423.7770 425.7740 Tot Response: 4.96e+04 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	2.02e+04	1.97e+04	1.03	yes	3.99e+04		n	n
2	39:48	4.97e+03	4.80e+03	1.03	yes	9.77e+03	1,2,3,4,6,7,8-HpCDD	n	n

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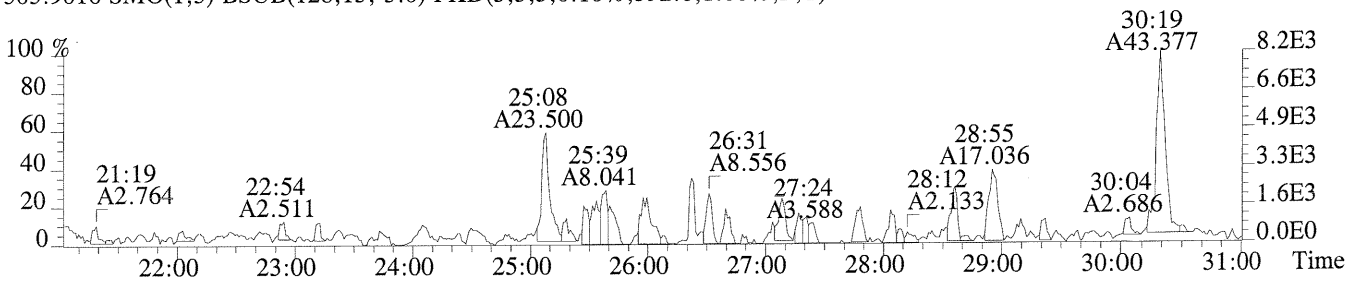
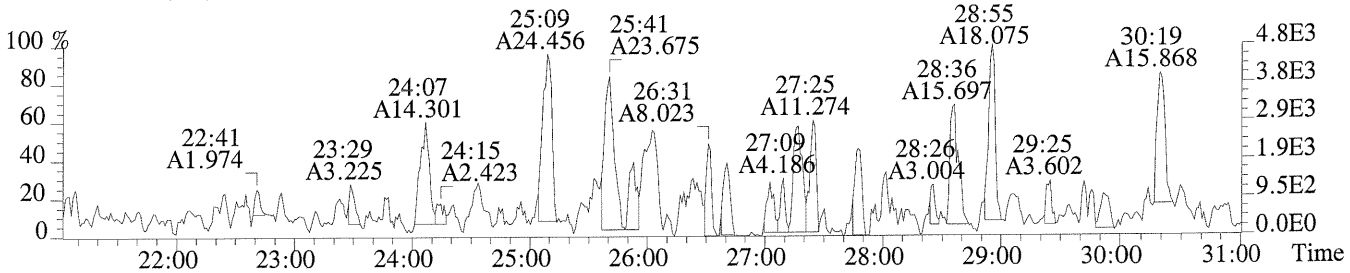
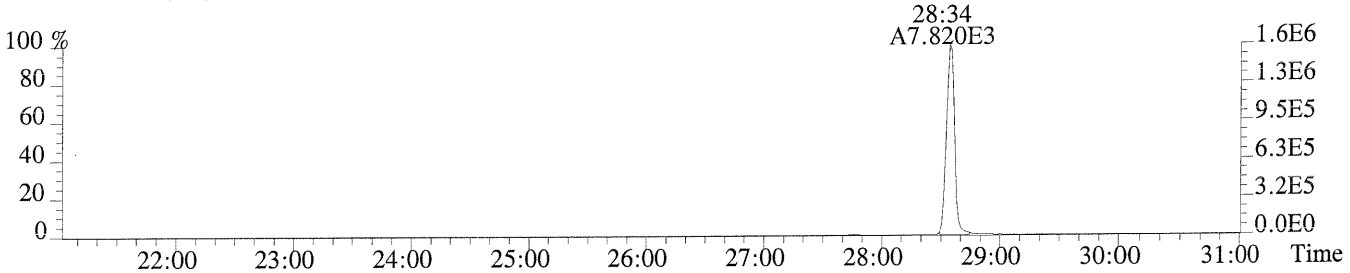
File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,T)



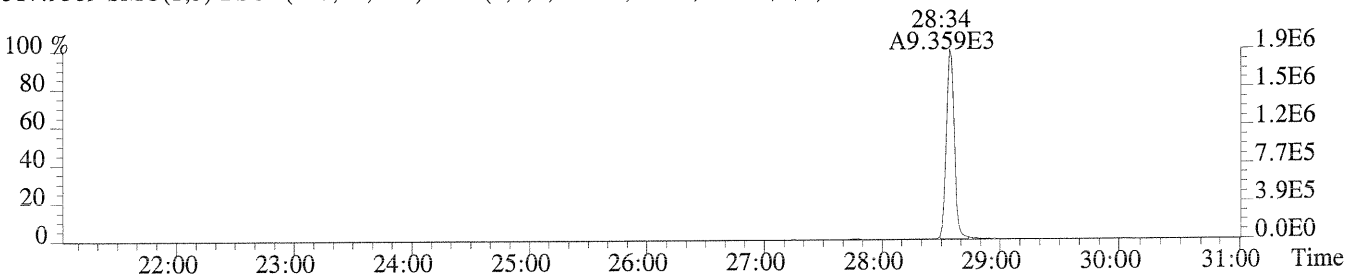
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



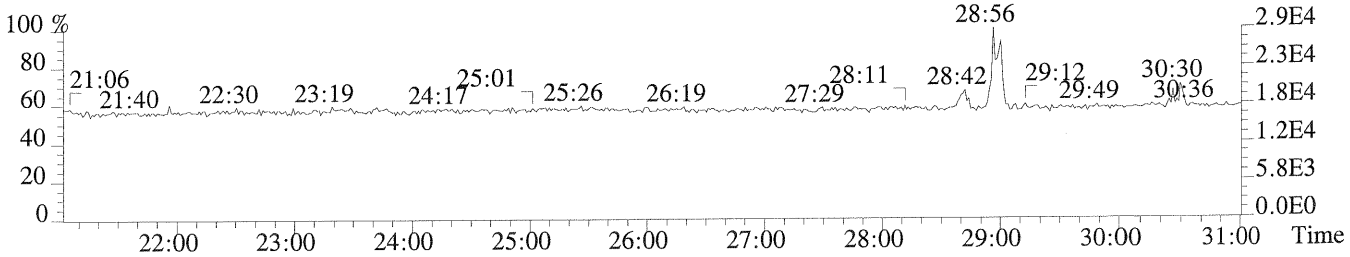
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



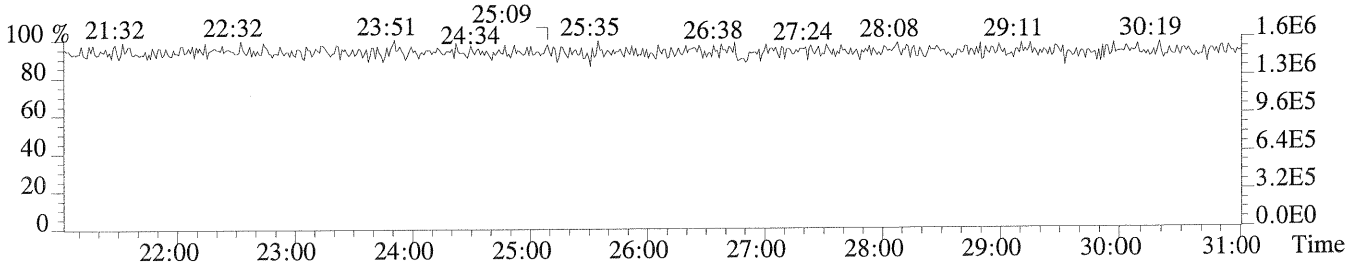
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



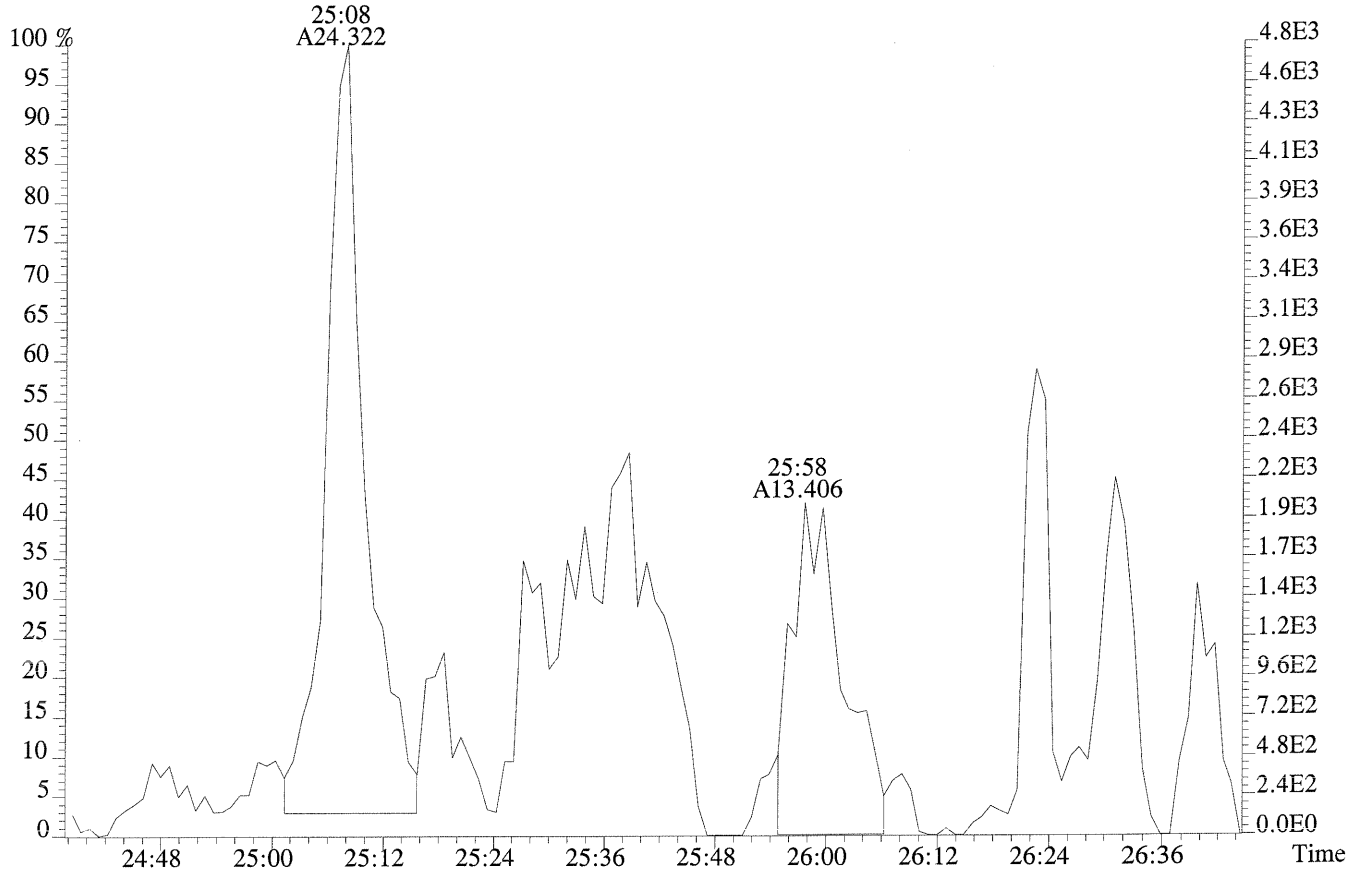
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



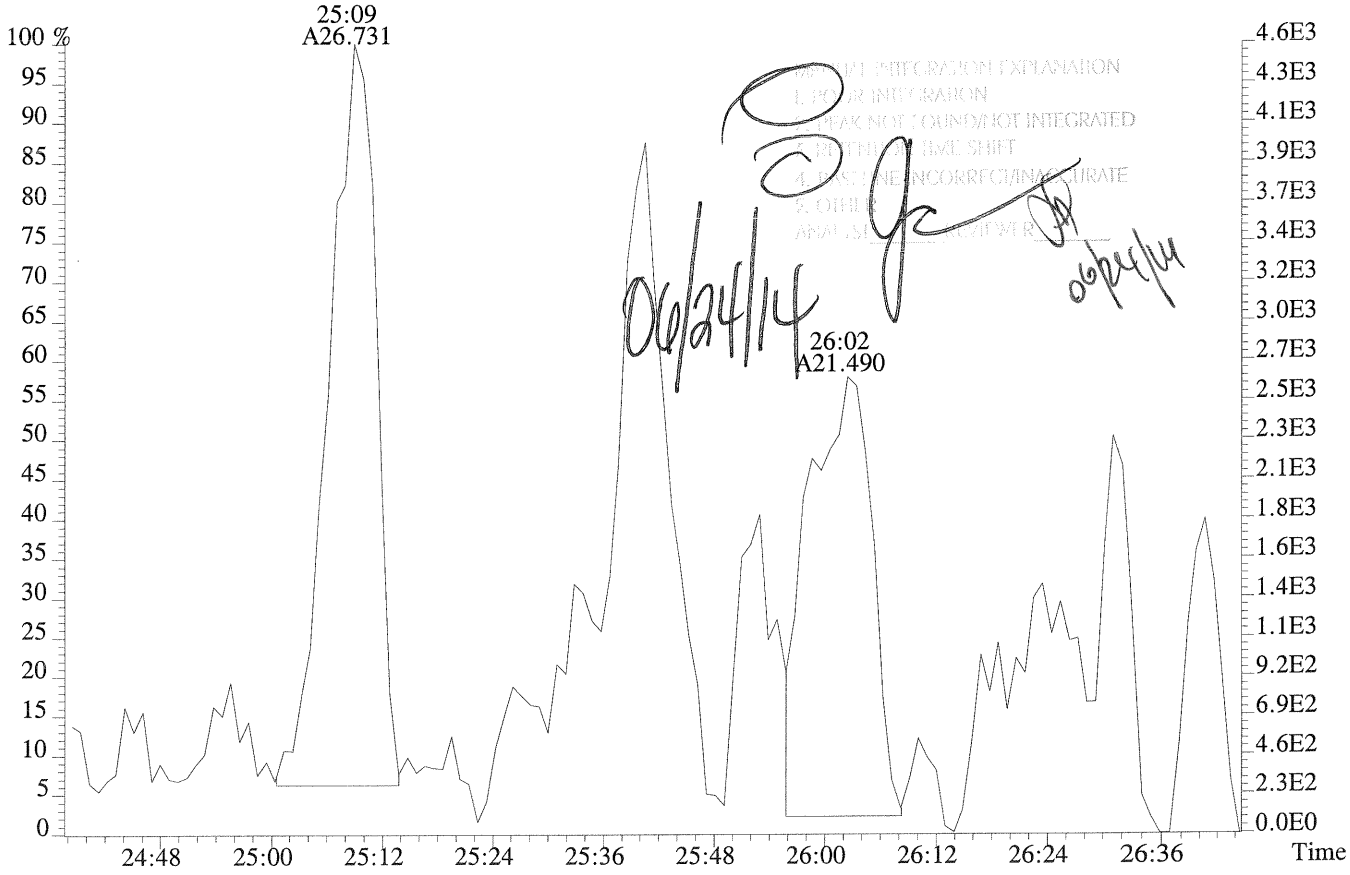
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



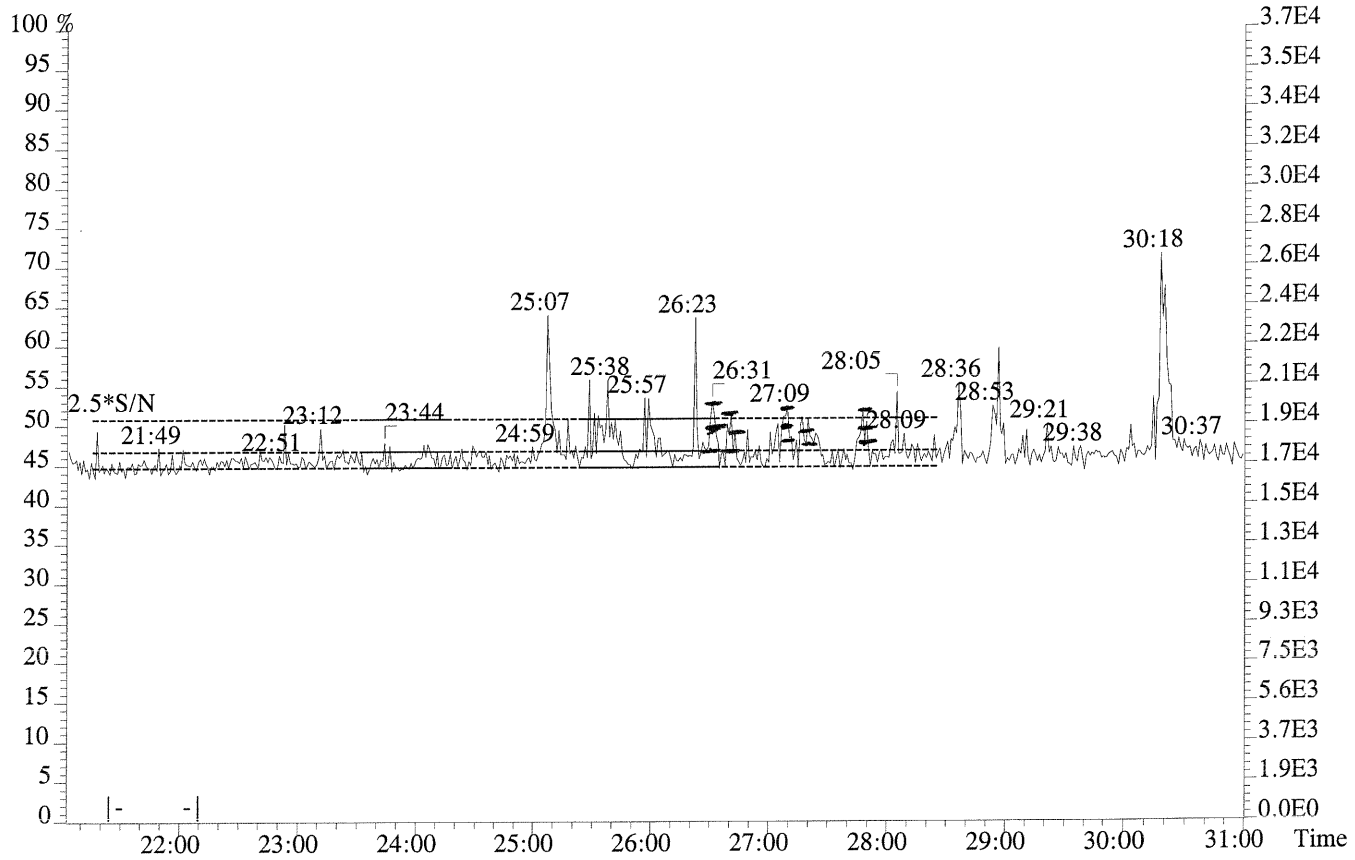
File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
303.9016 SMO(1,3) BSUB(128,15,-3.0)



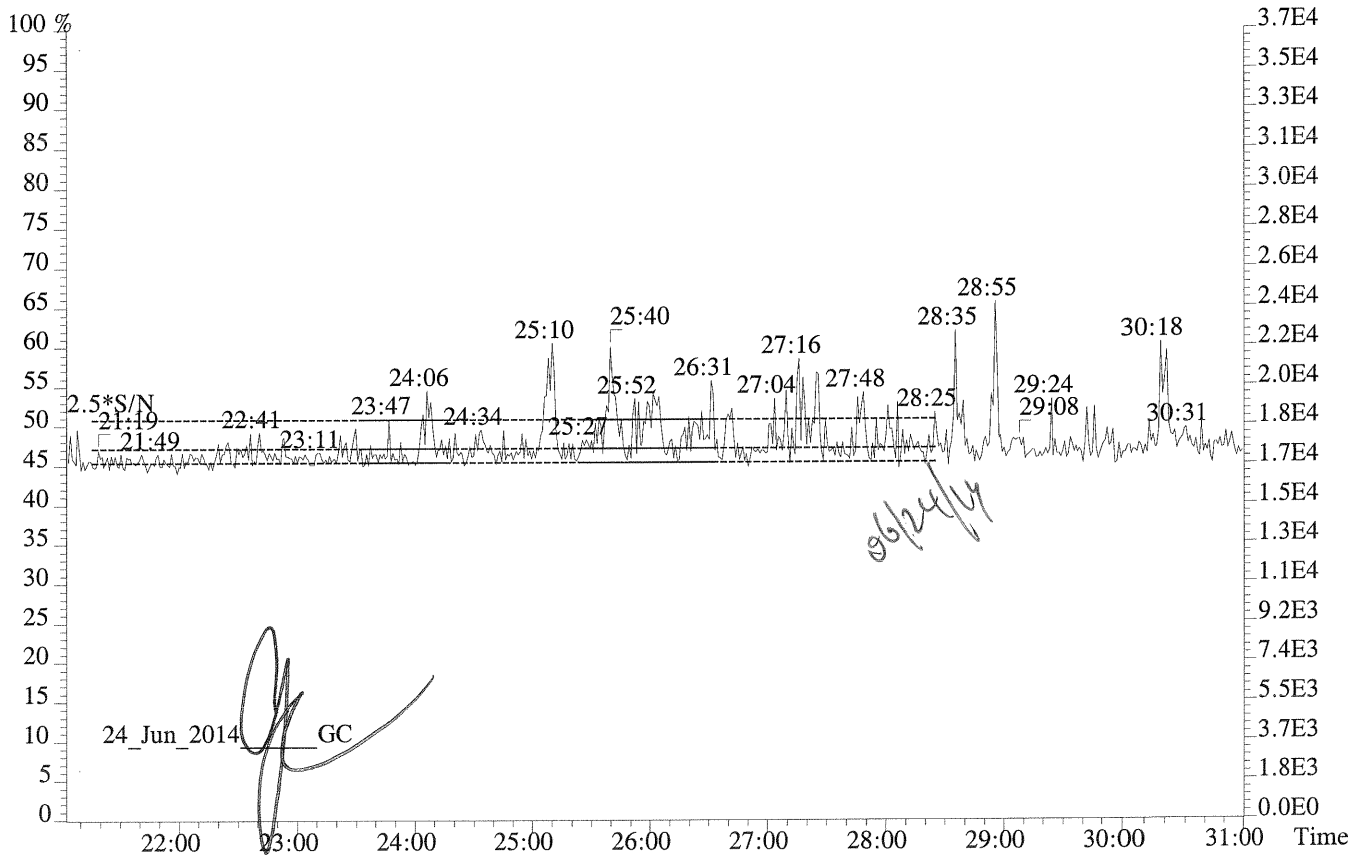
305.8987 SMO(1,3) BSUB(128,15,-3.0)



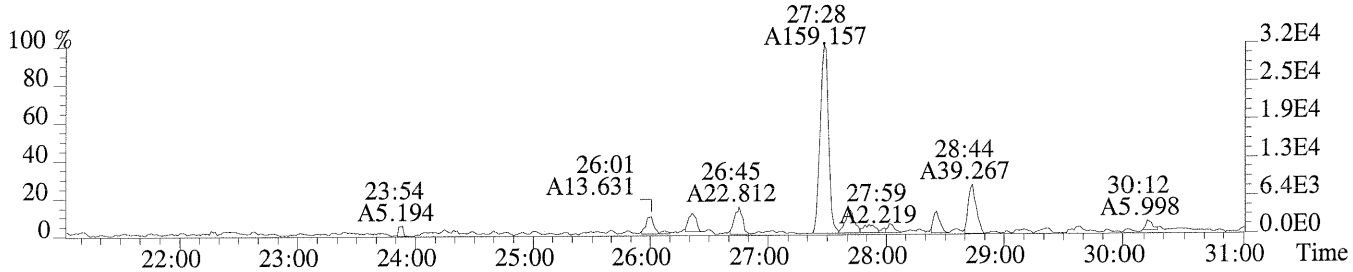
File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
303.9016



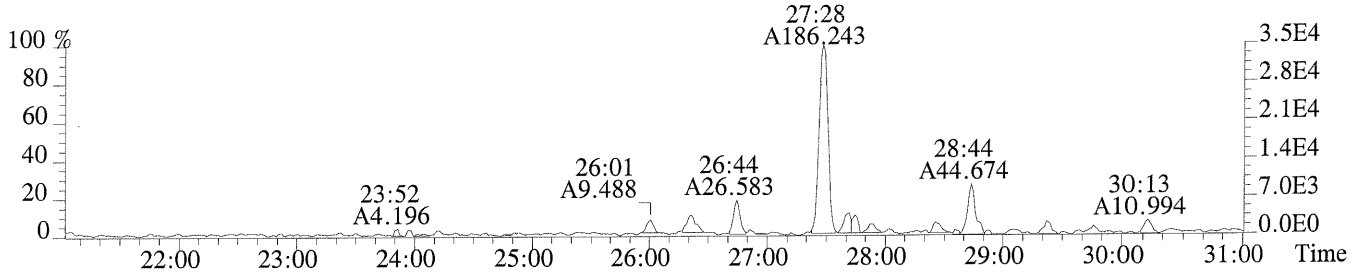
305.8987



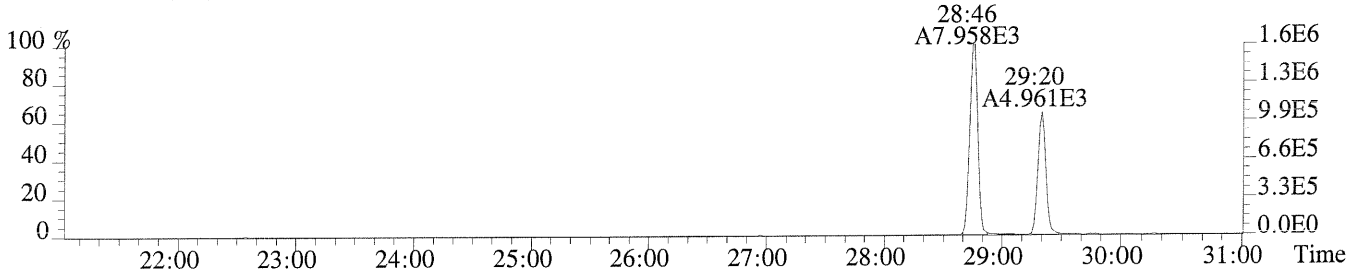
File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



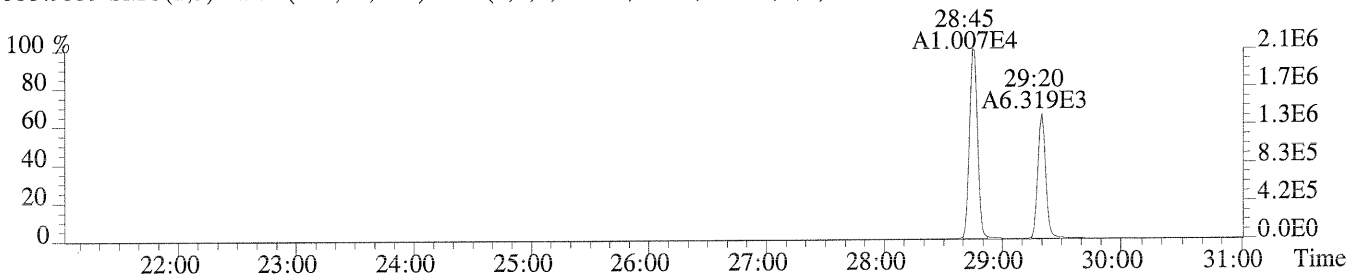
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



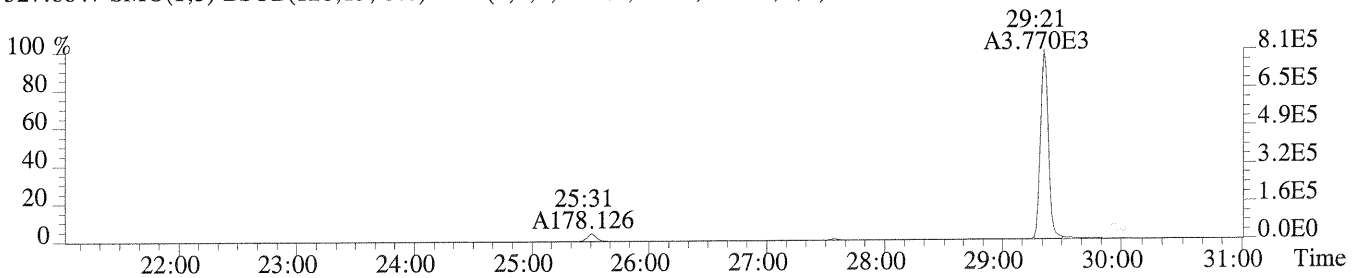
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



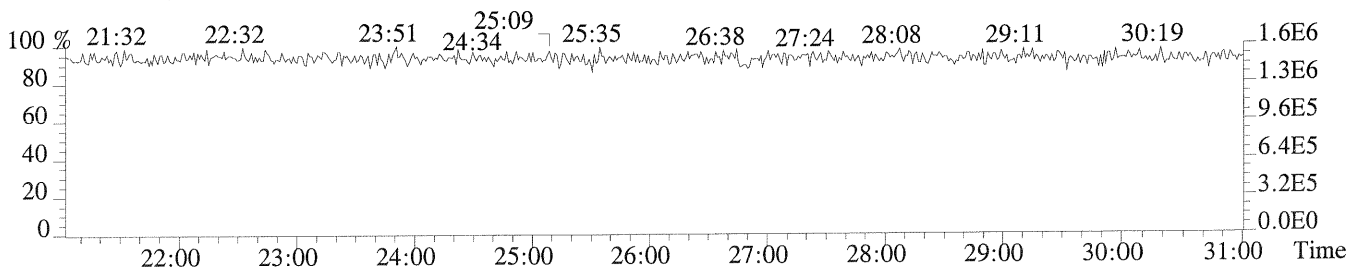
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



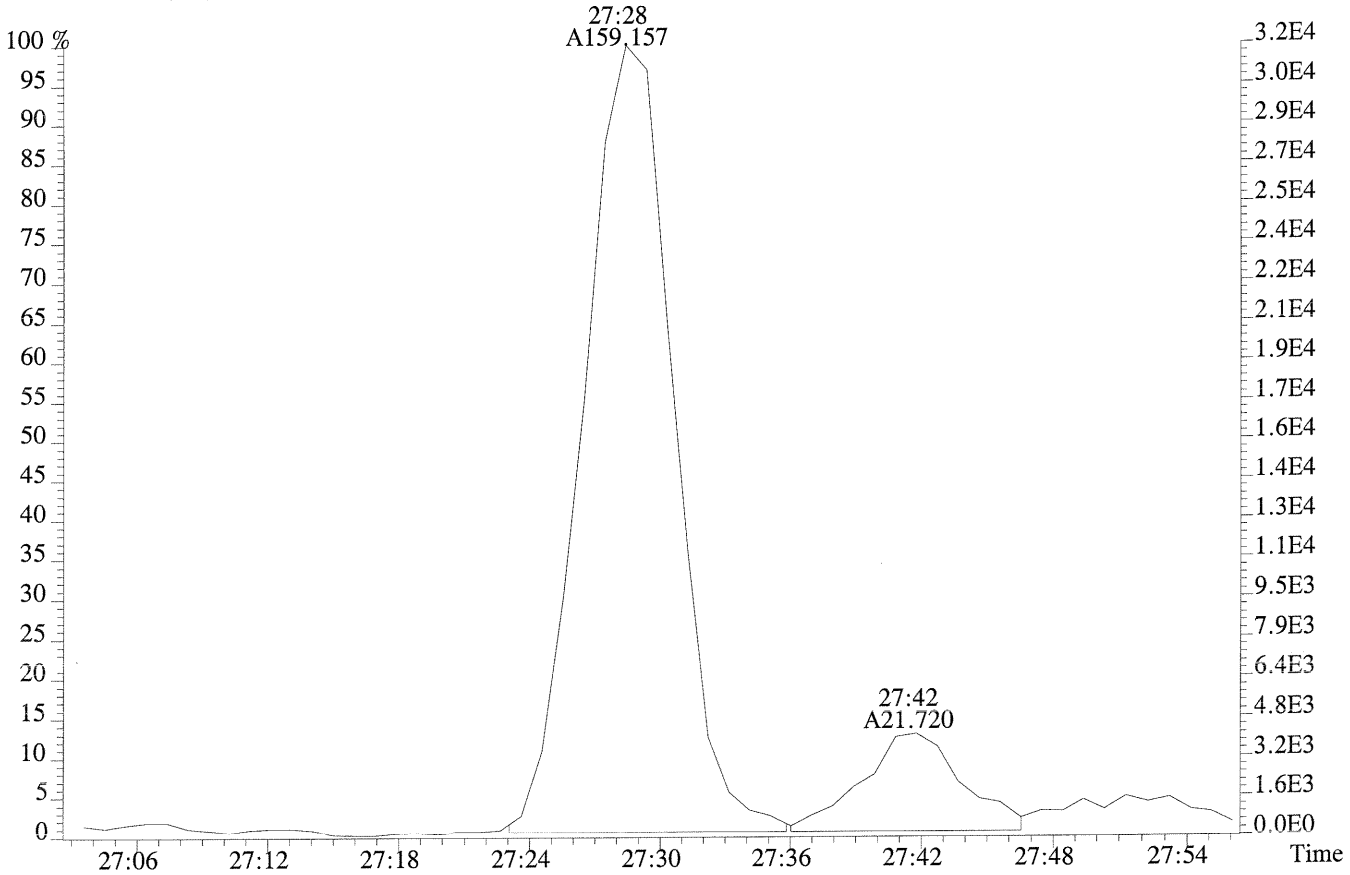
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



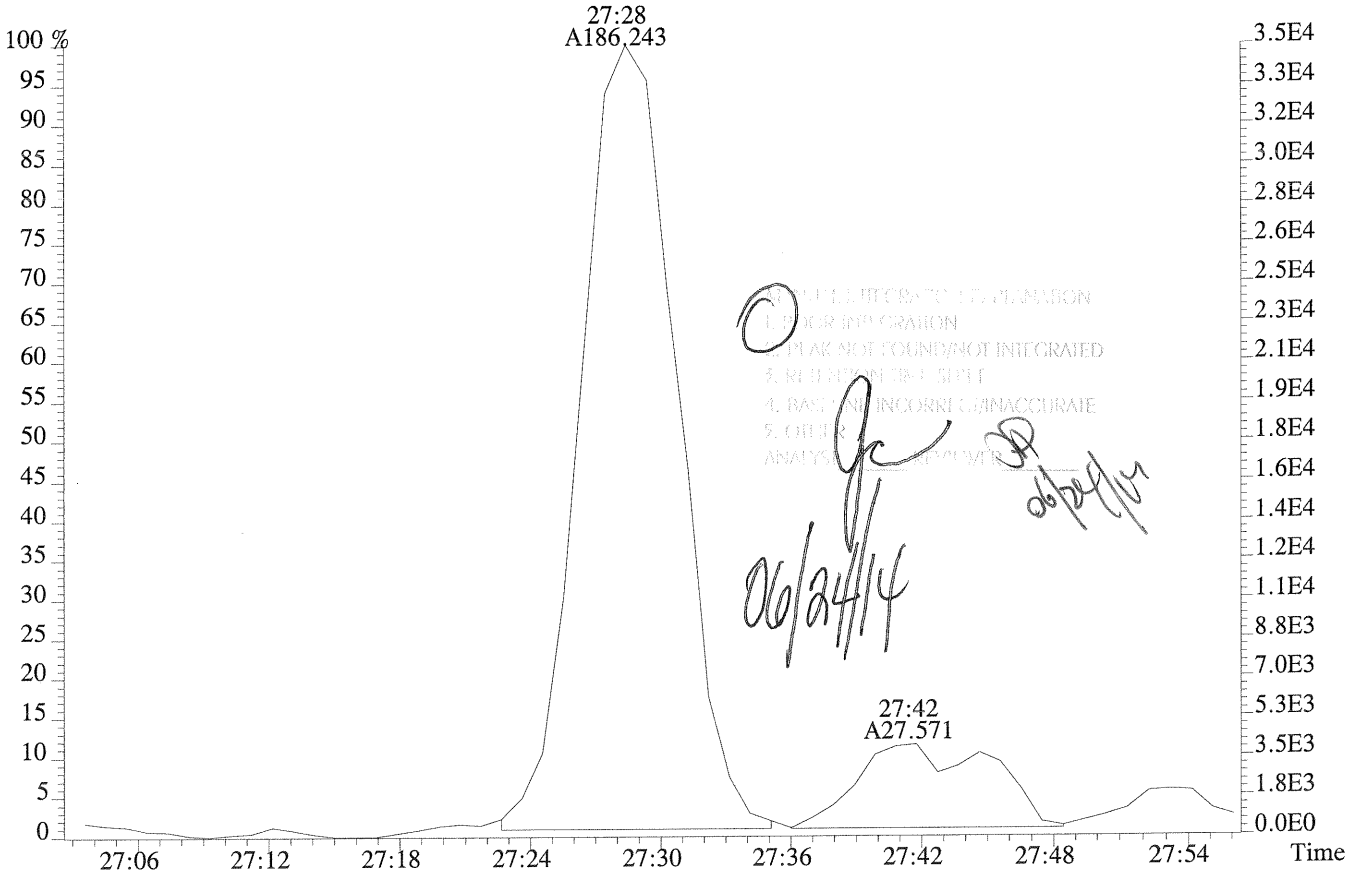
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,T)



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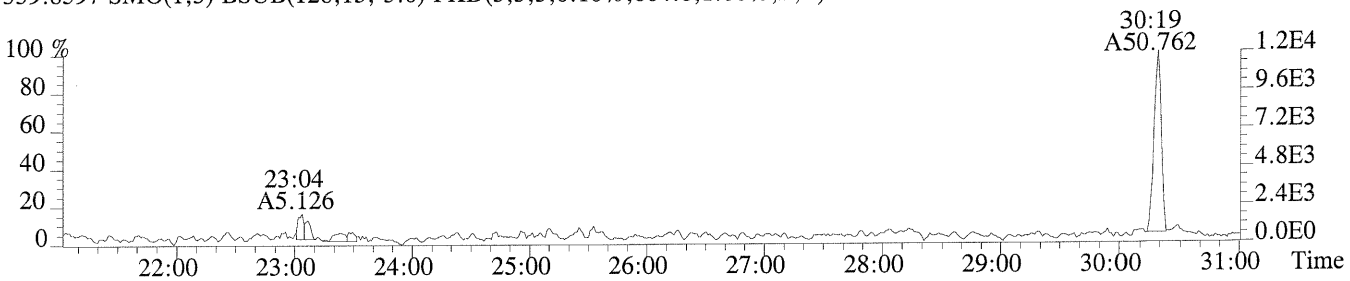
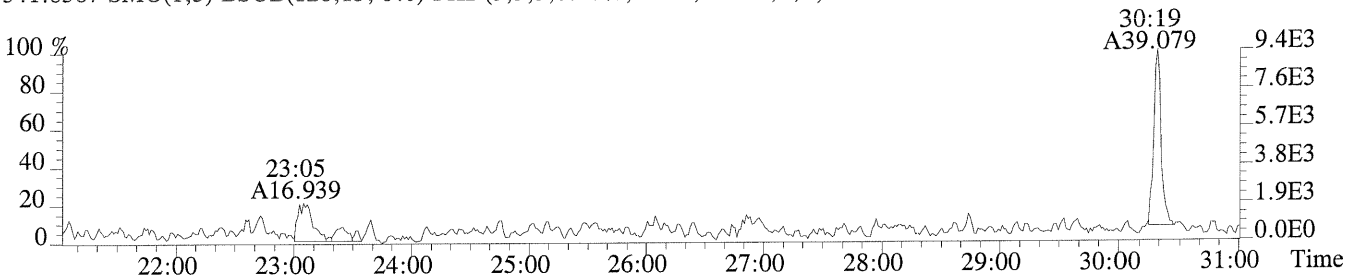
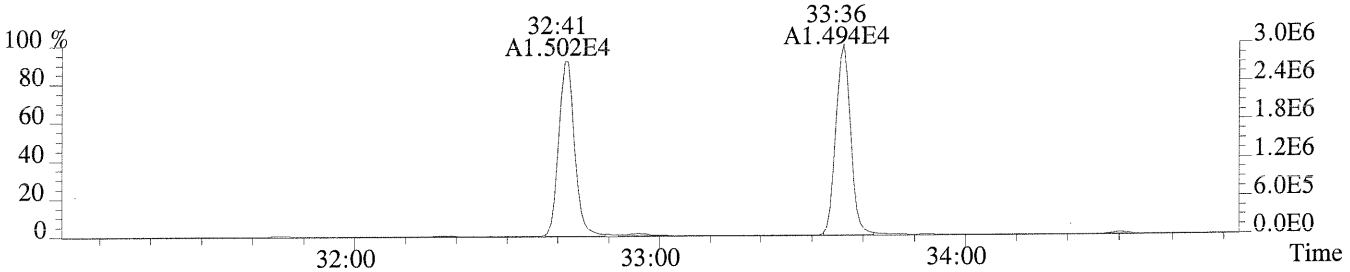
File:U149684 #1-627 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,T)



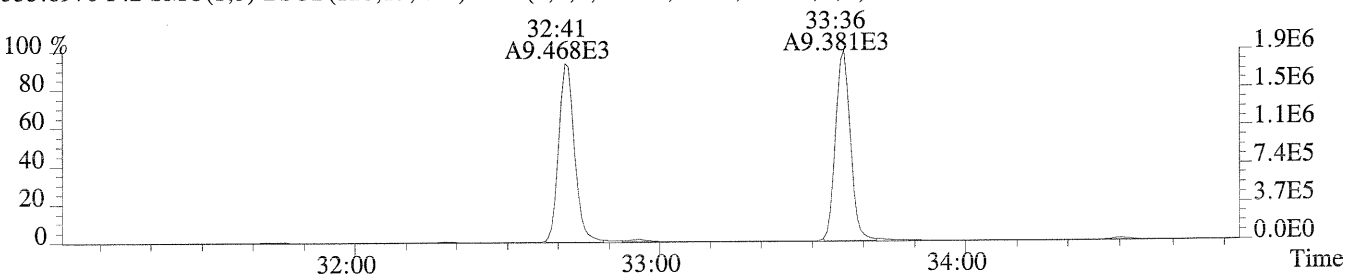
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)



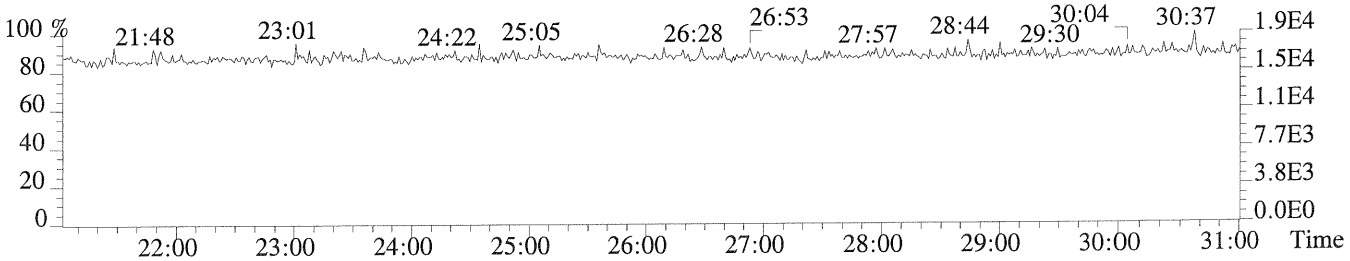
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



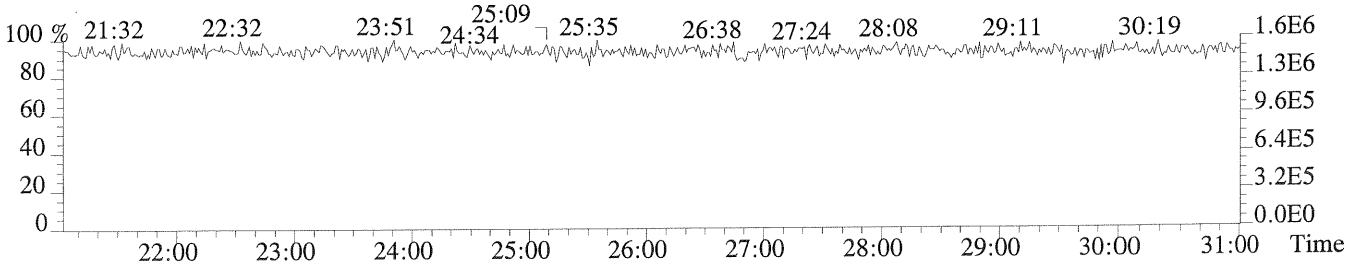
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

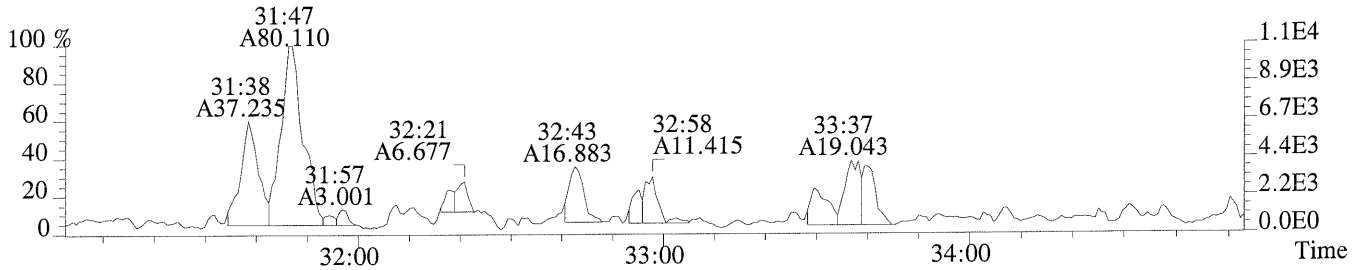


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

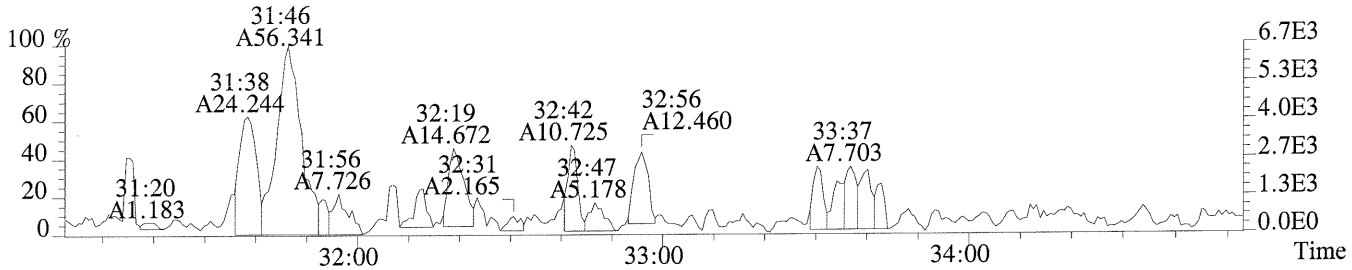


File:U149684 #1-349 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002

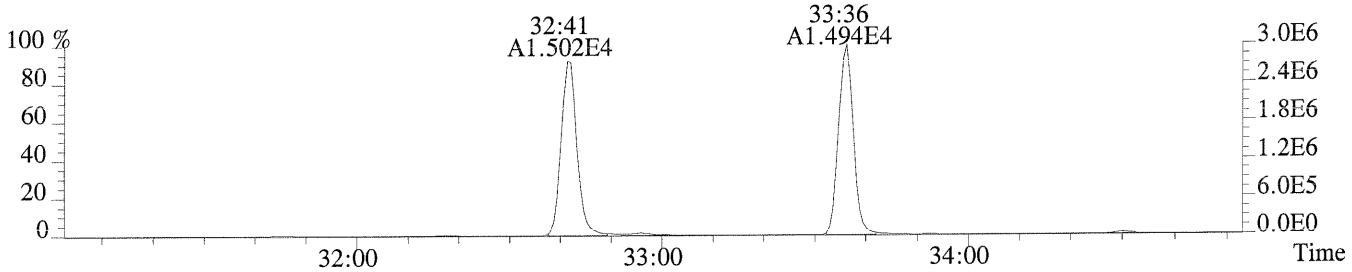
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



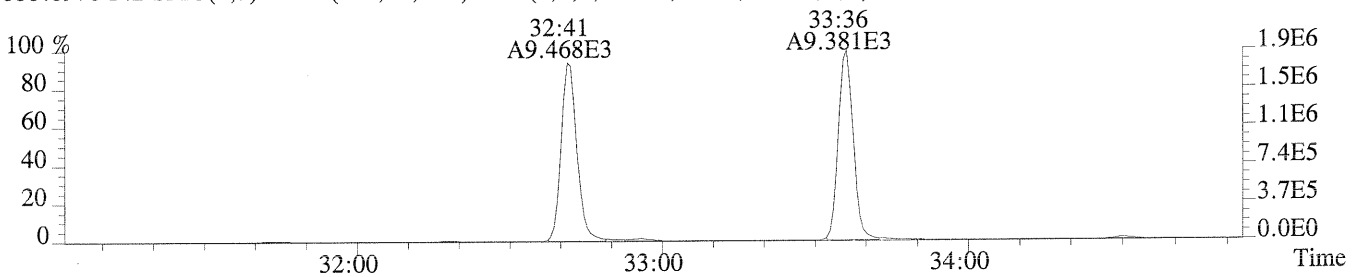
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



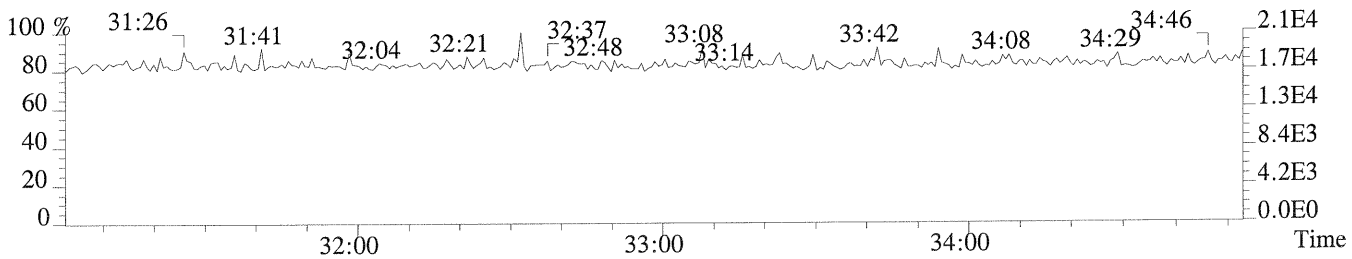
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



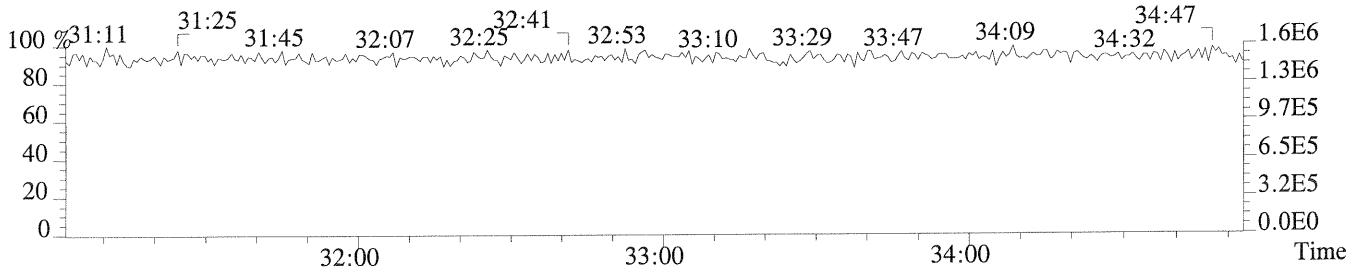
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



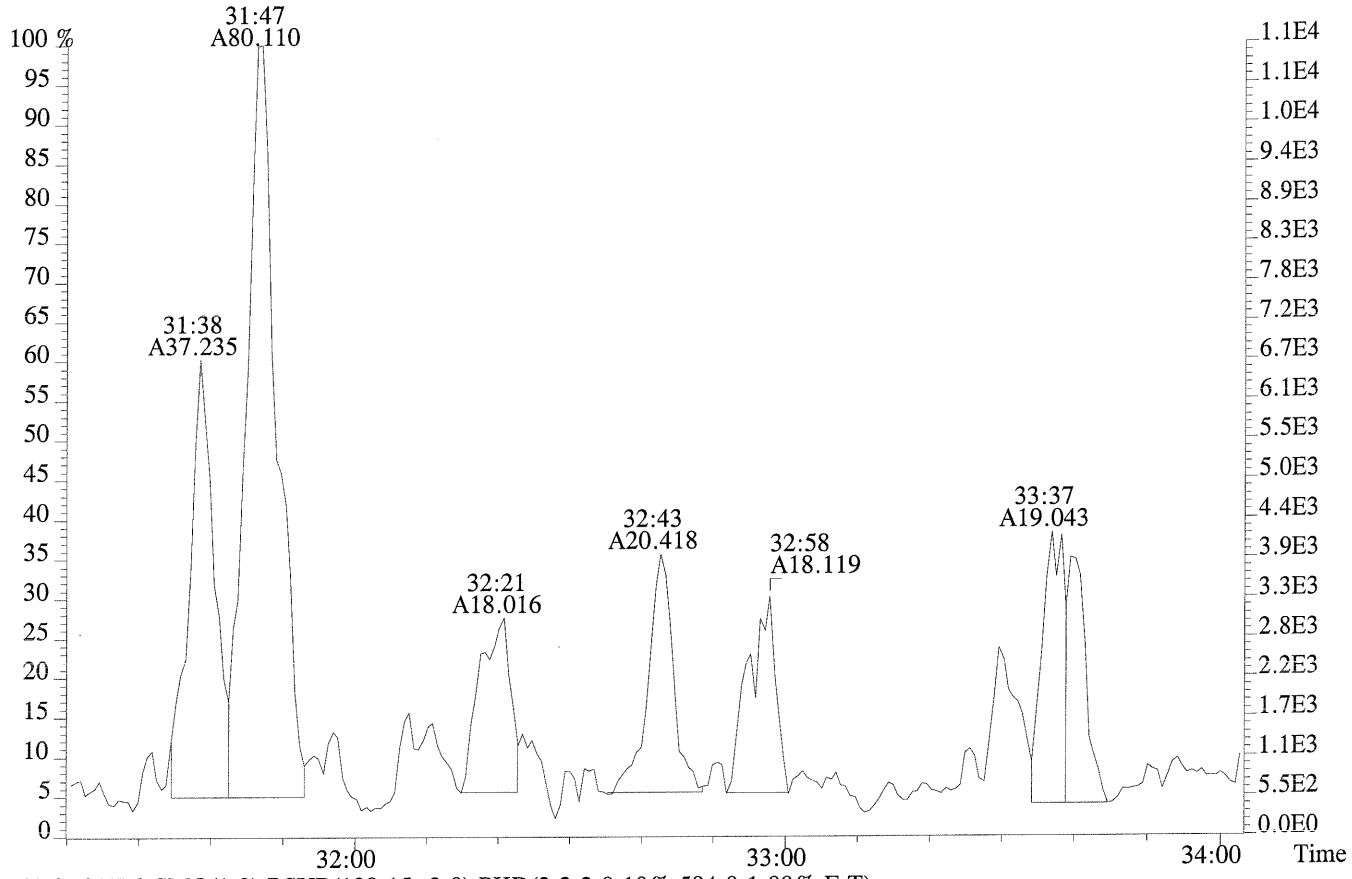
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



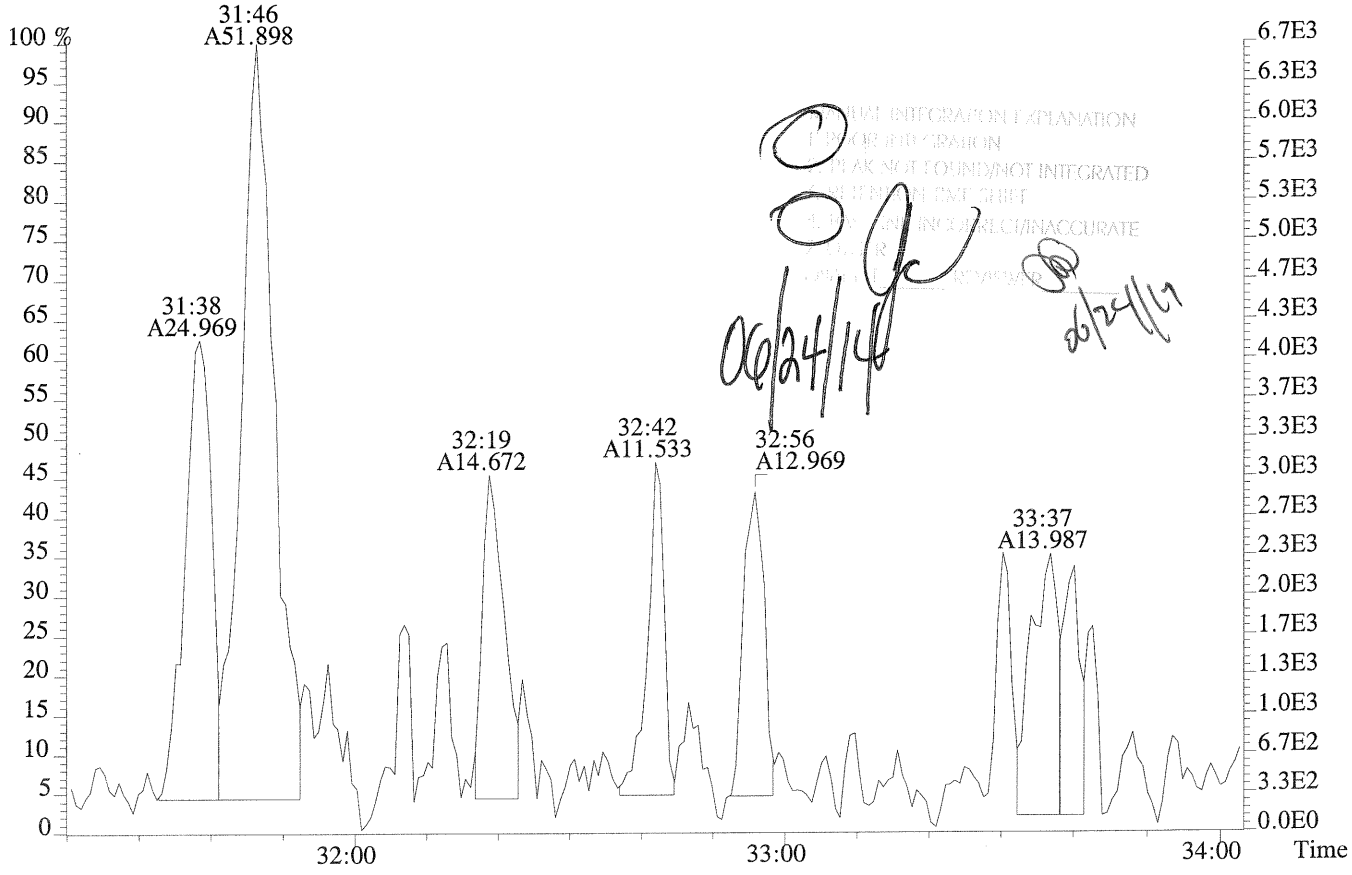
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U149684 #1-349 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



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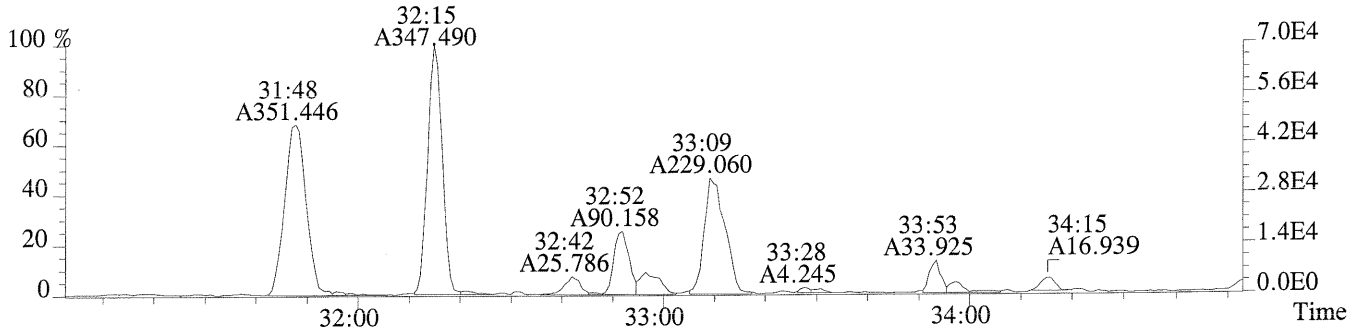
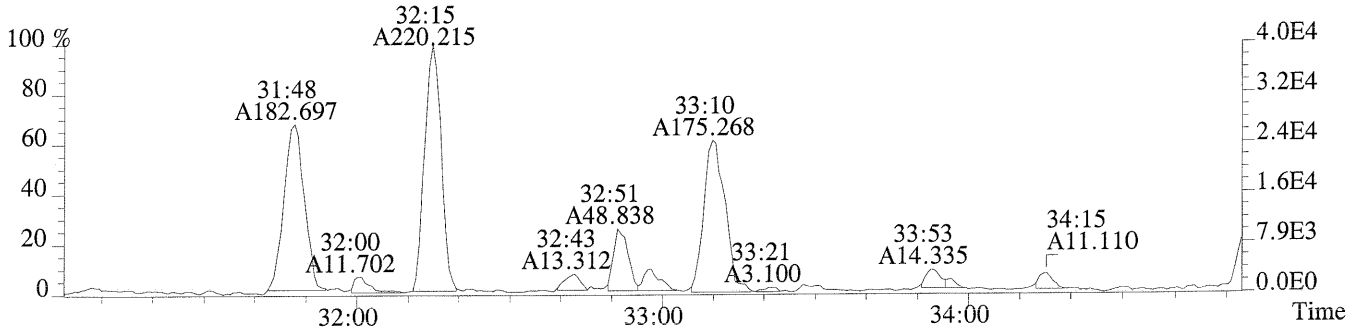
06/24/17

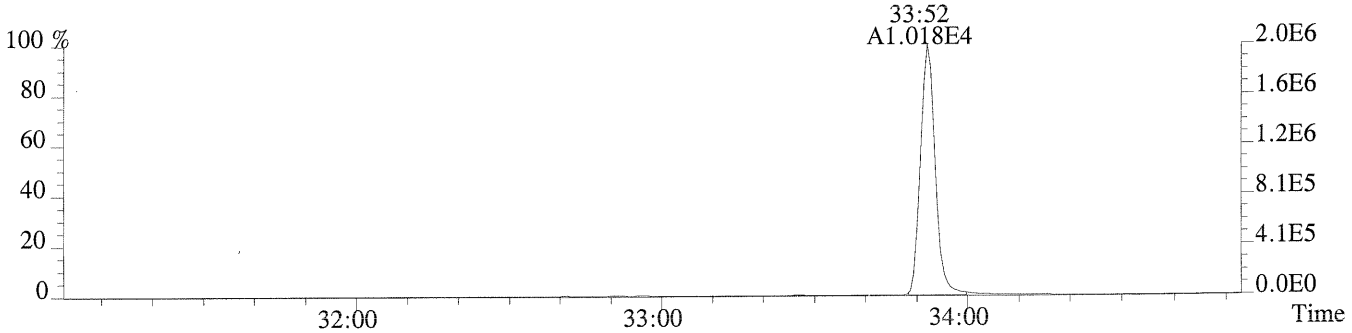
File:U149684 #1-349 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,T)



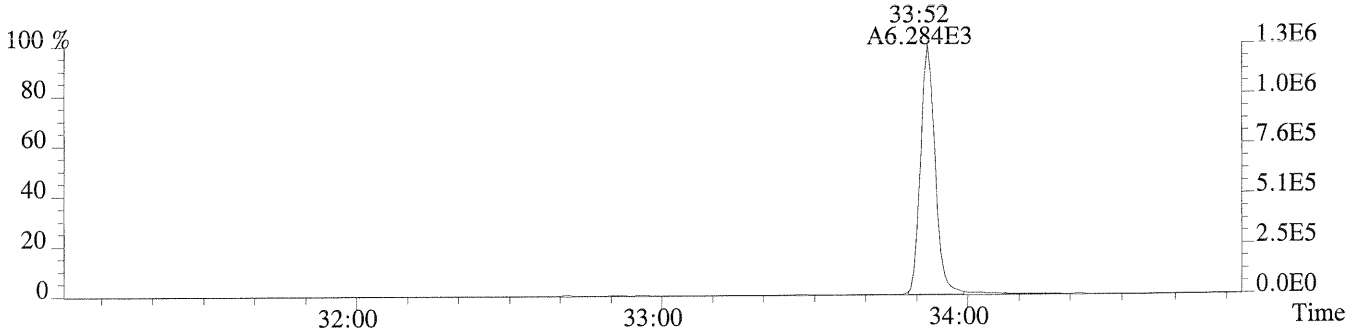
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



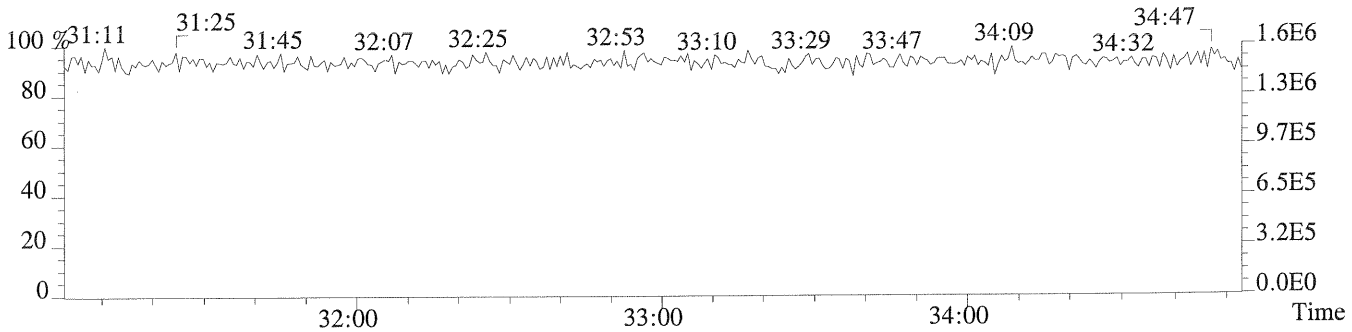
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)

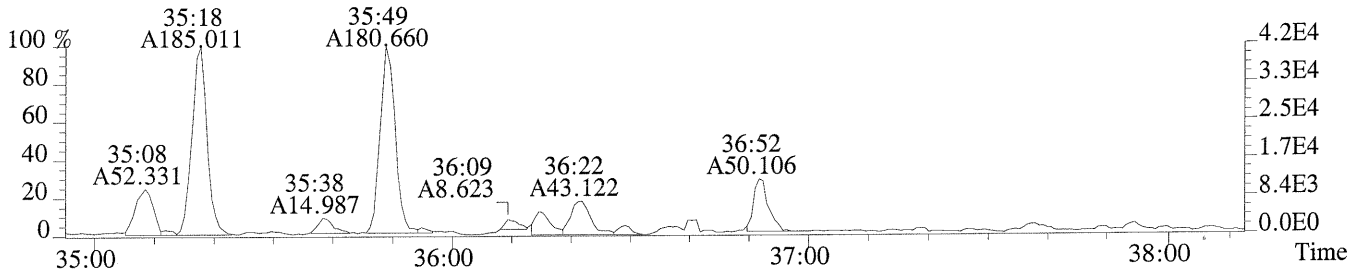


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

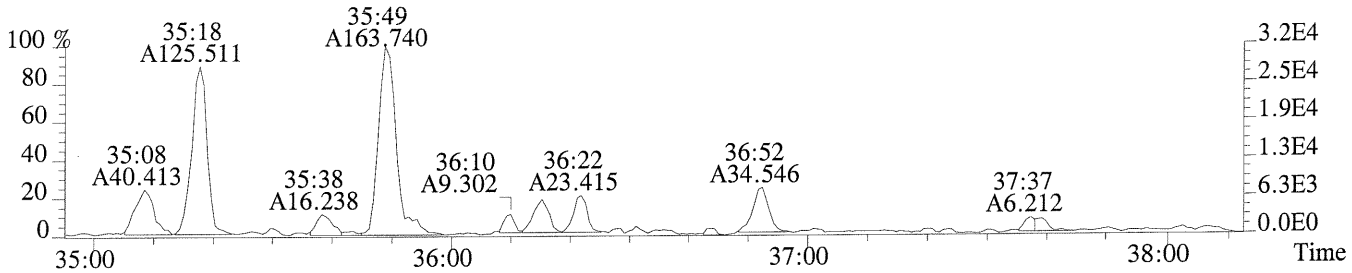


File:U149684 #1-299 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002

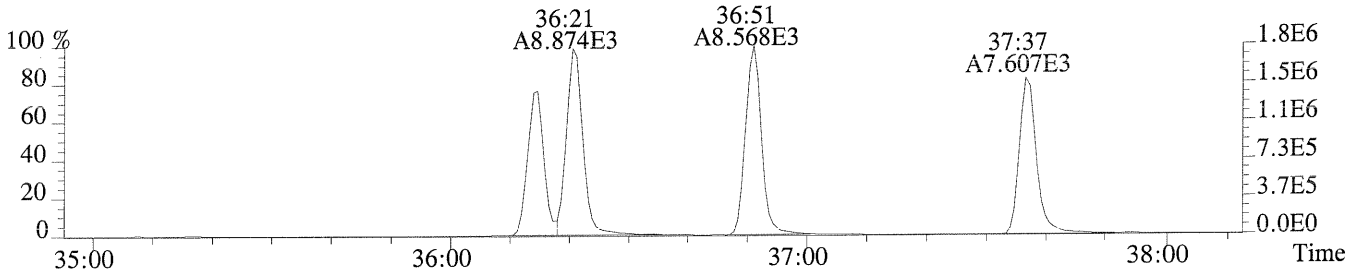
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



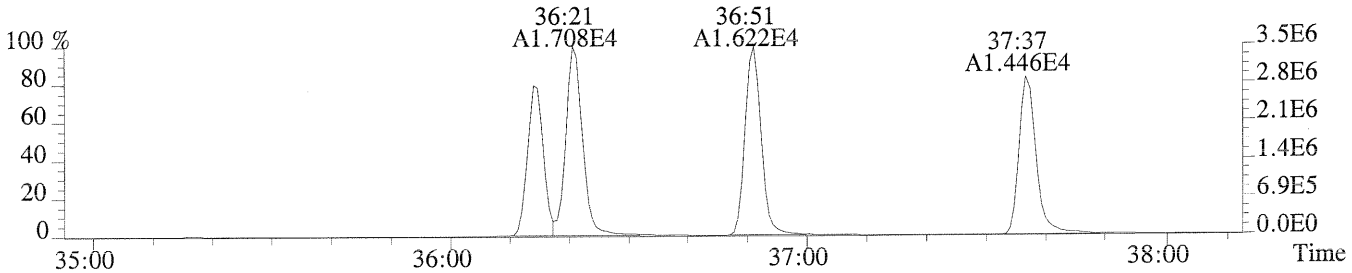
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)



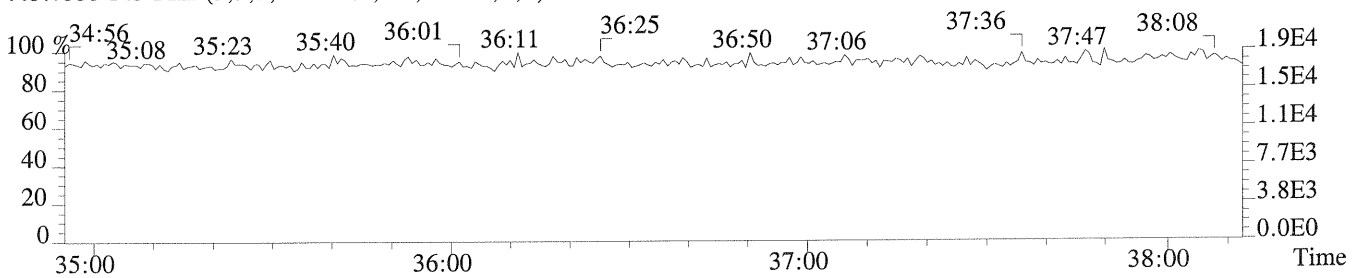
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



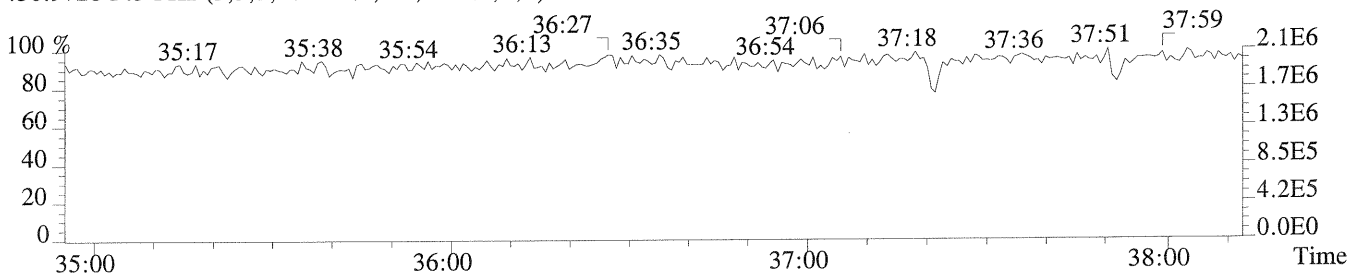
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,660.0,0.40%,F,T)



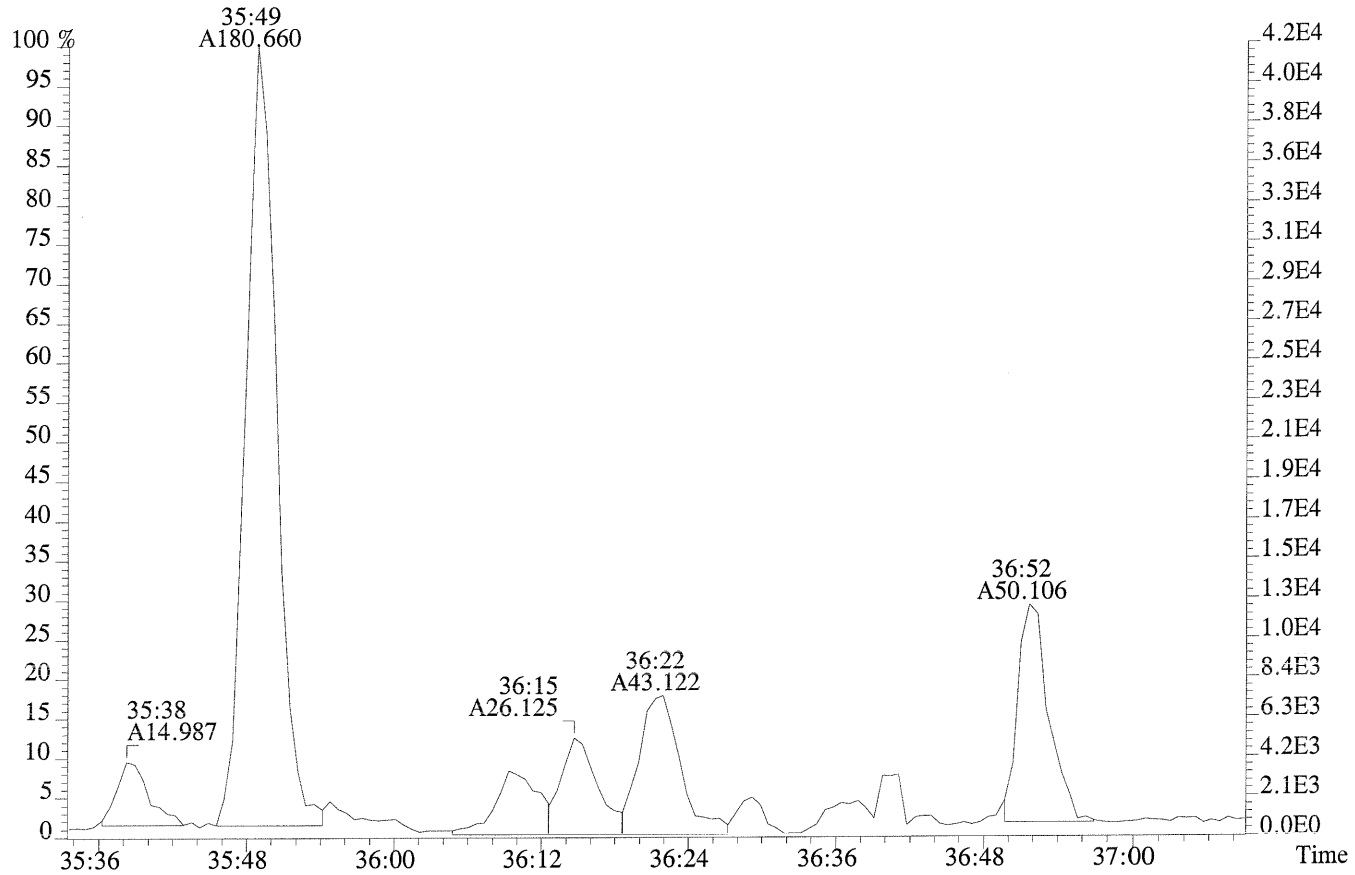
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



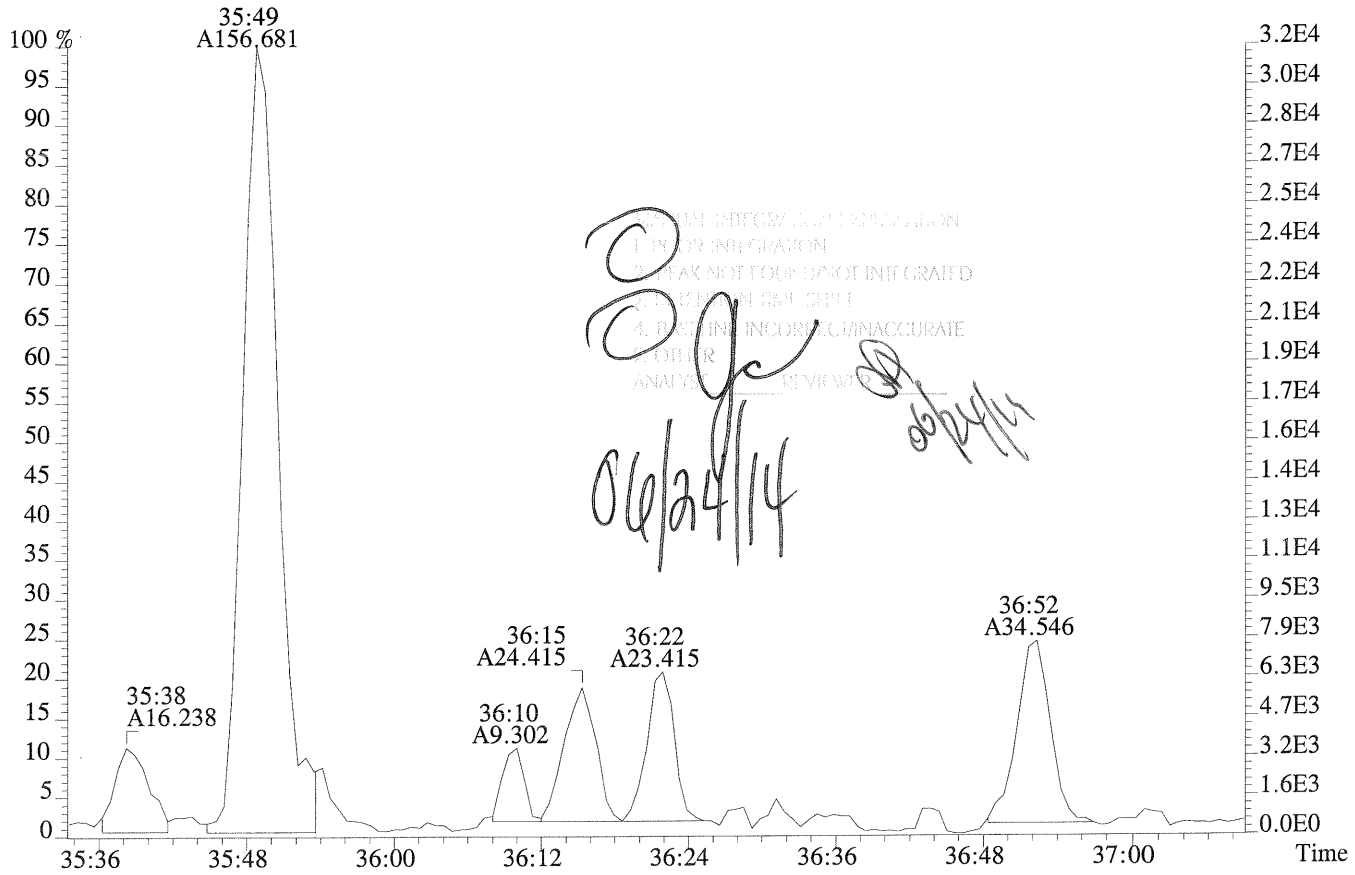
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U149684 #1-299 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)

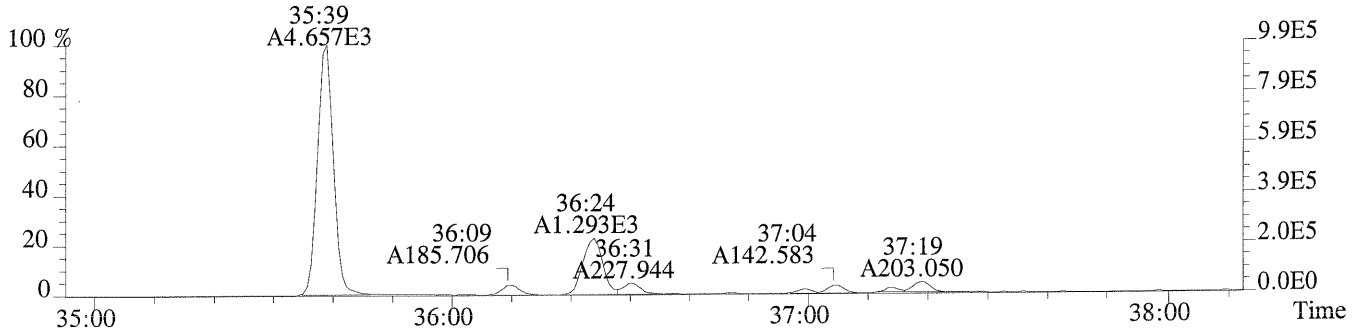


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)

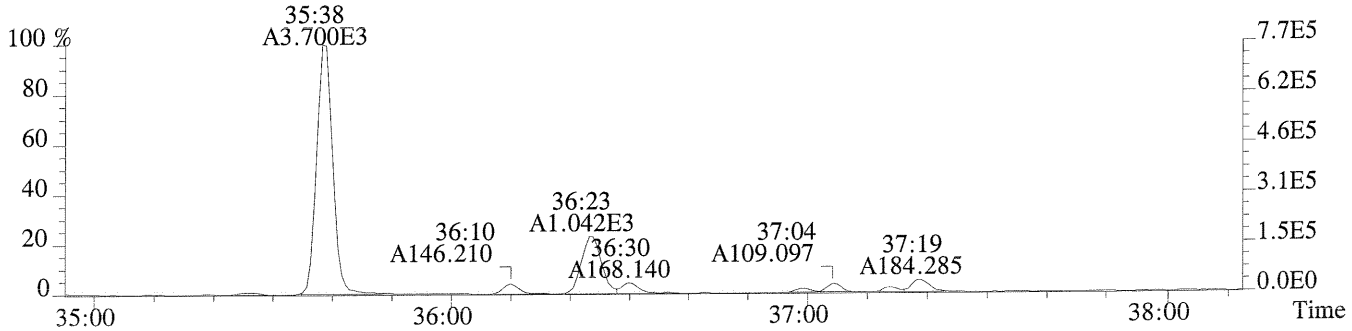


06/24/14

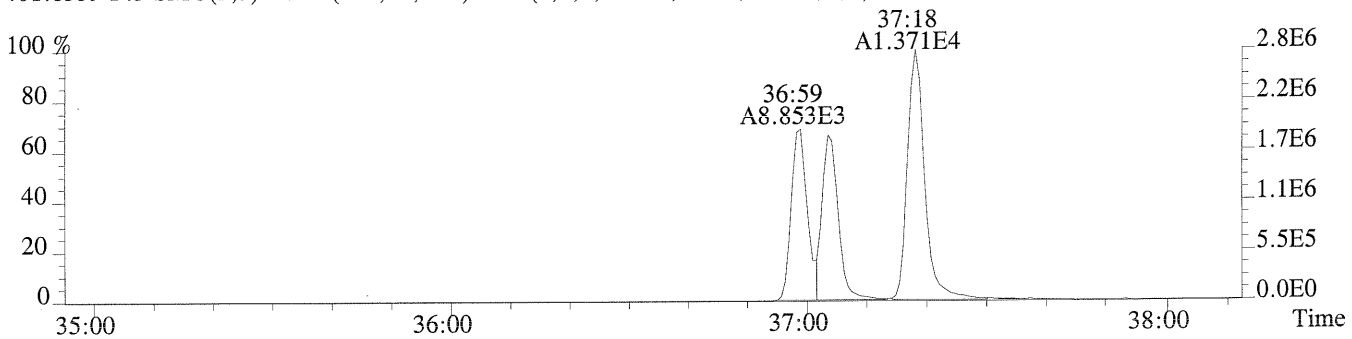
File:U149684 #1-299 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,T)



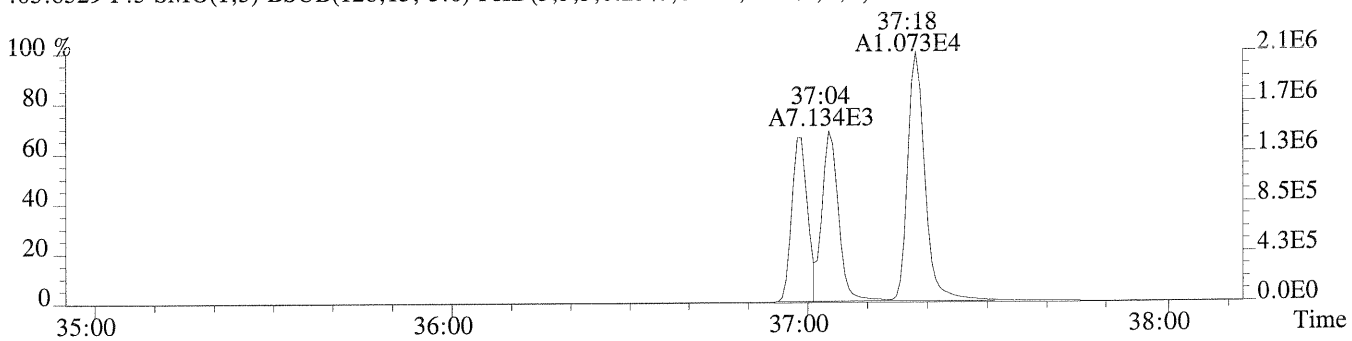
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,T)



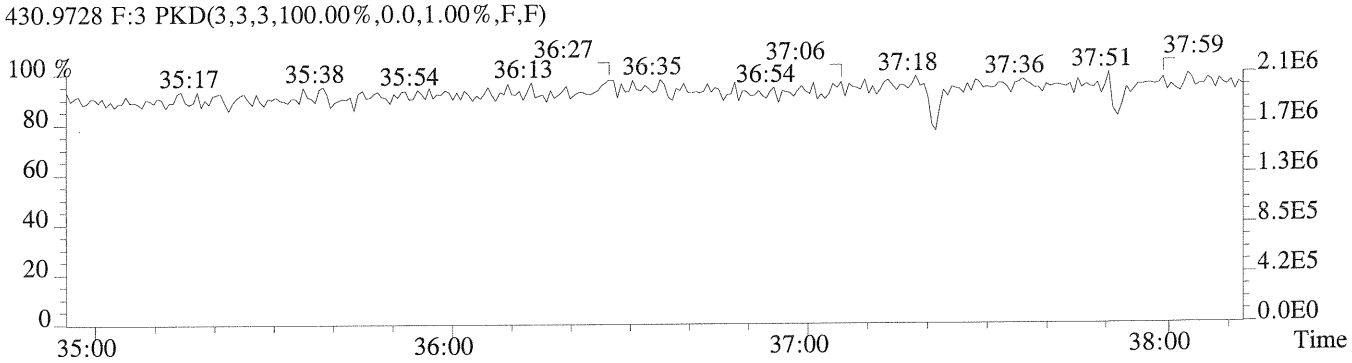
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,644.0,0.40%,F,T)

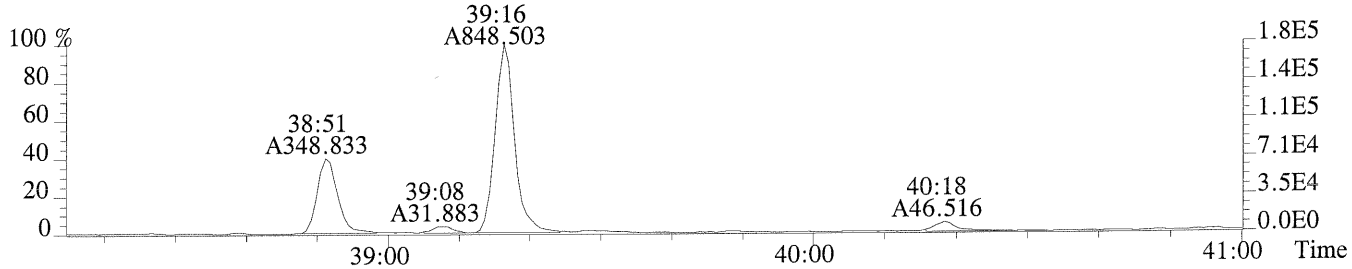


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

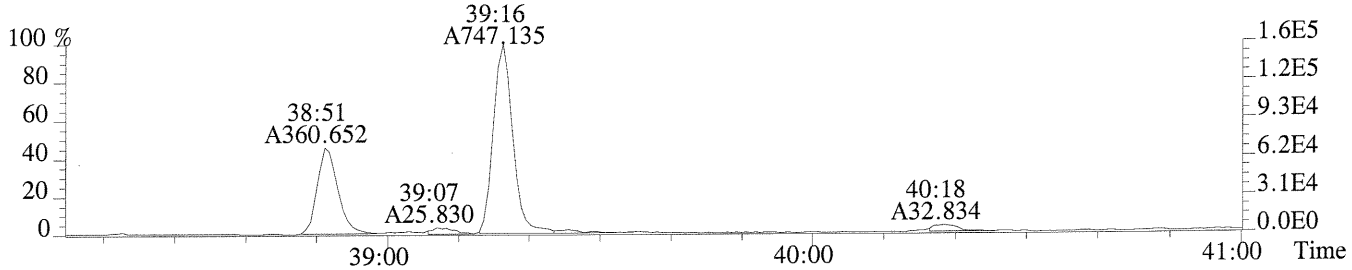


File:U149684 #1-251 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002

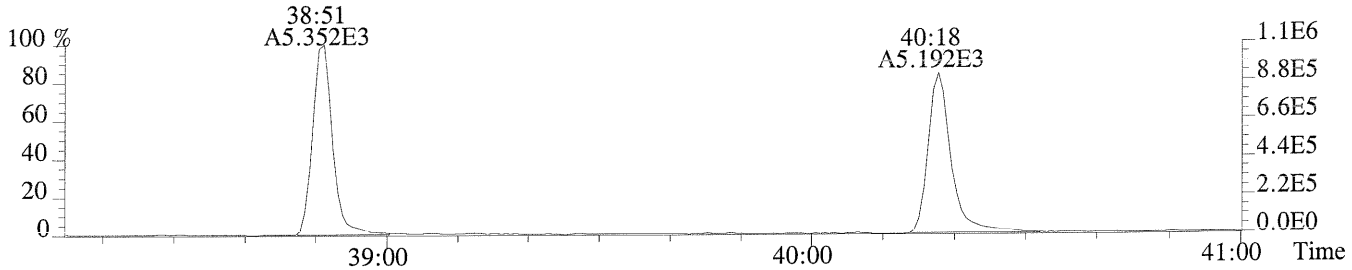
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.50%,F,T)



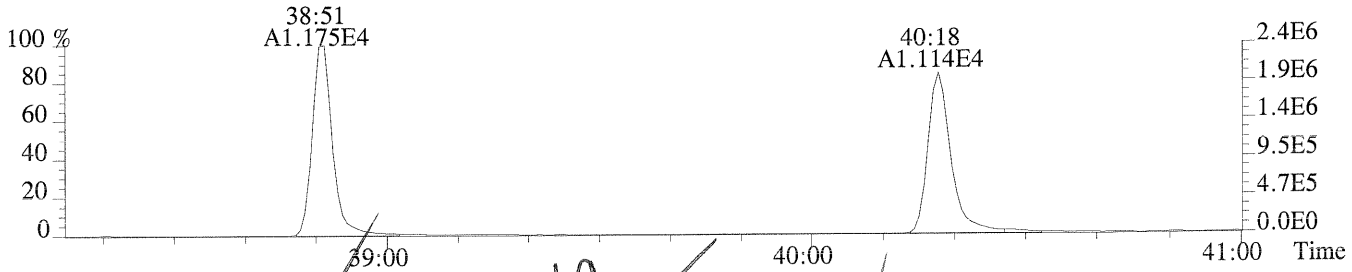
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.50%,F,T)



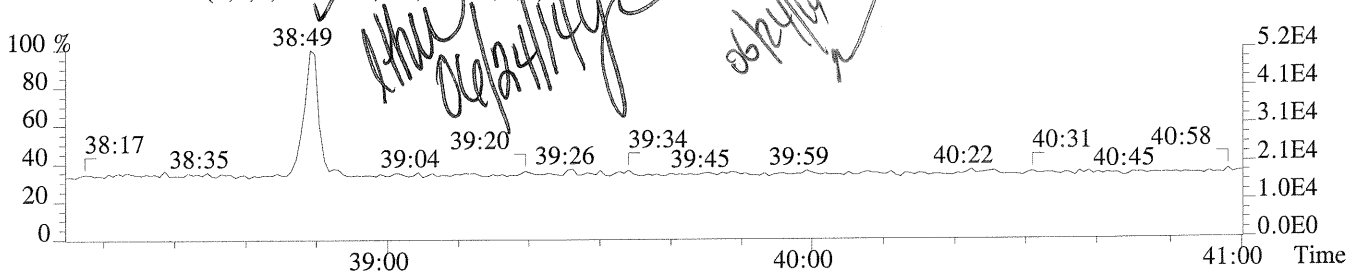
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5560.0,0.50%,F,T)



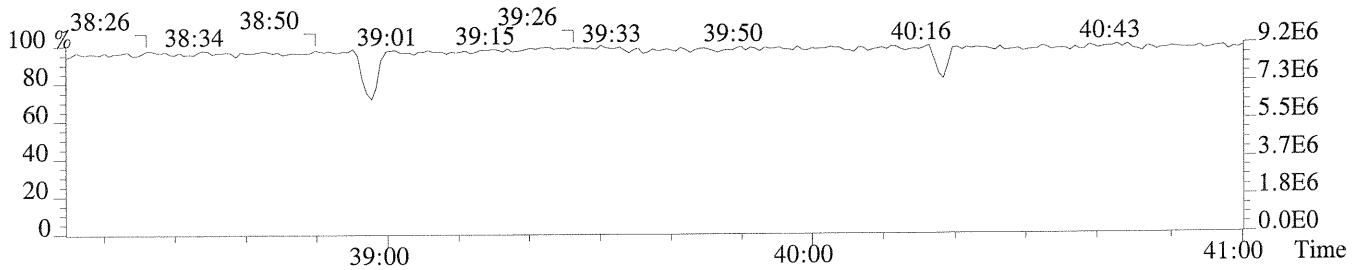
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3072.0,0.50%,F,T)



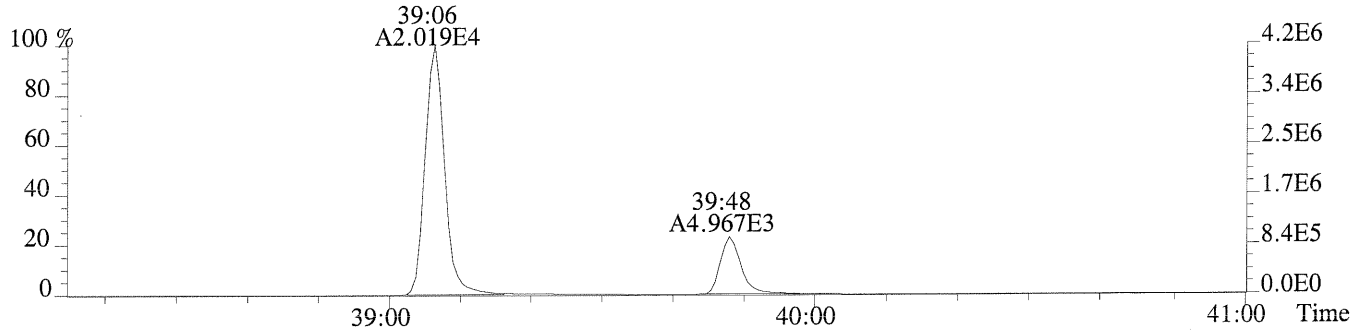
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



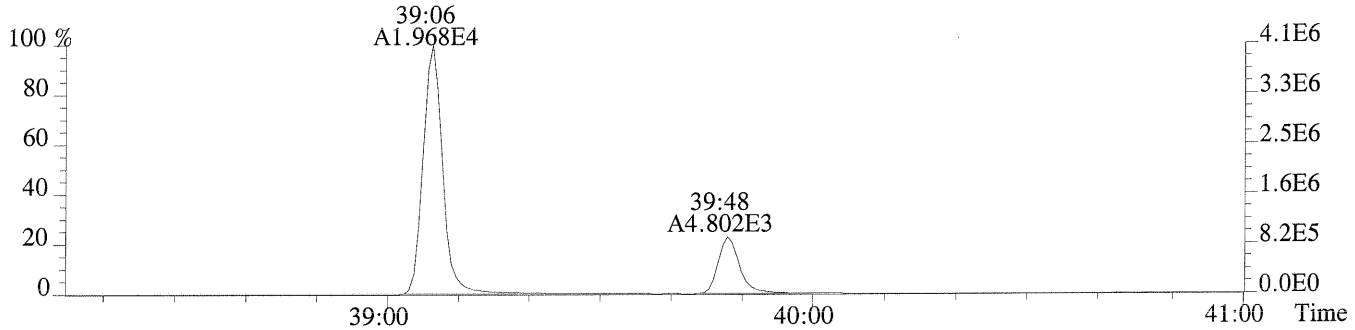
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



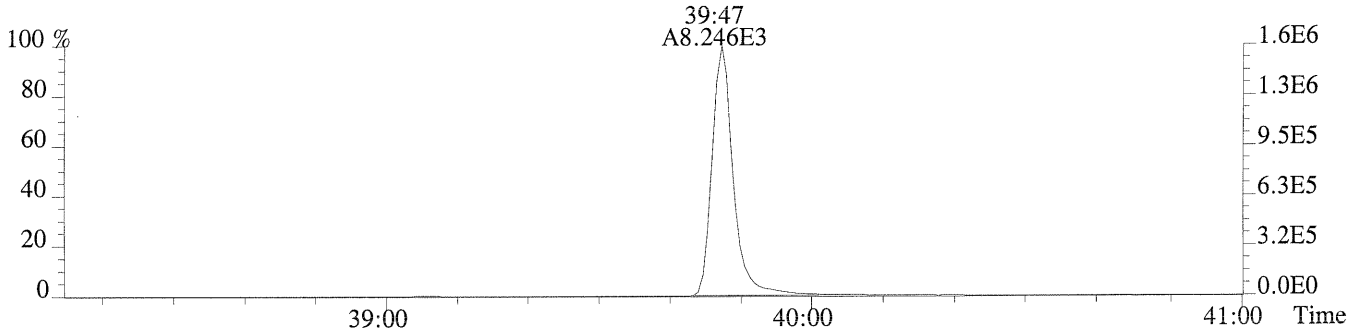
File:U149684 #1-251 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,T)



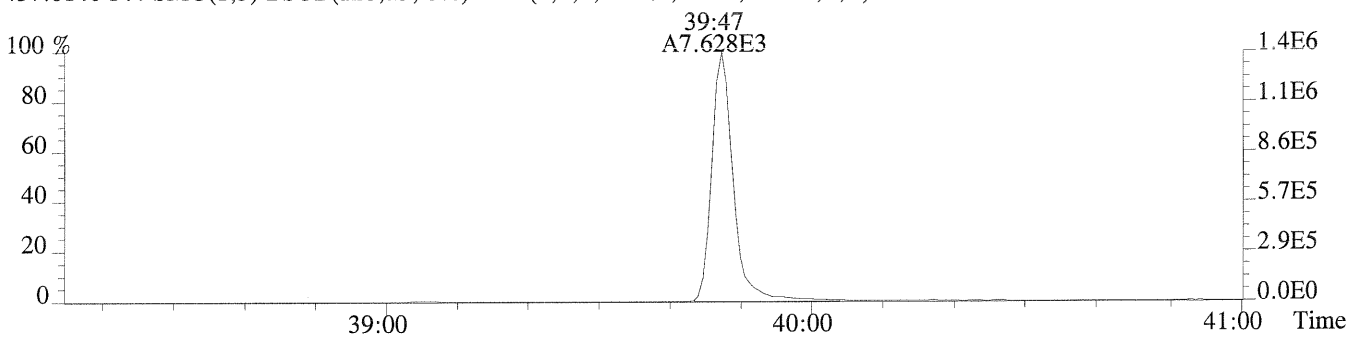
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,T)



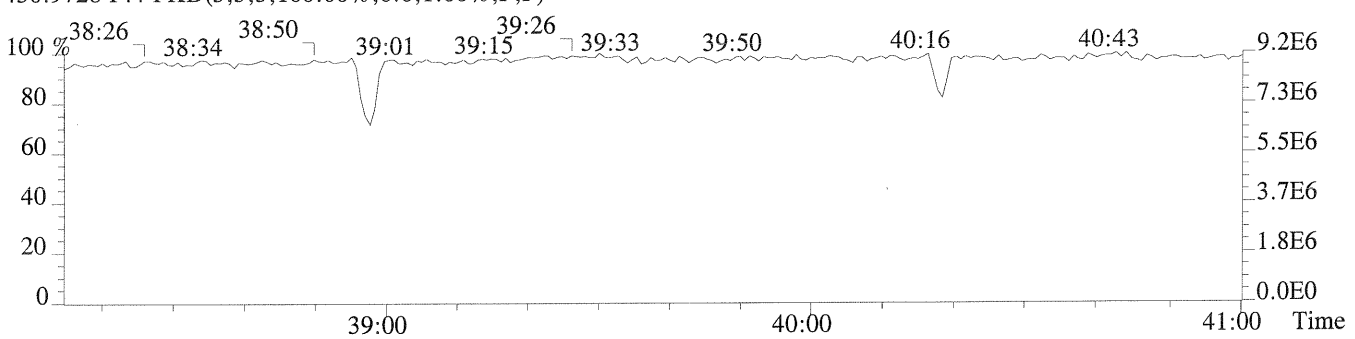
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,T)



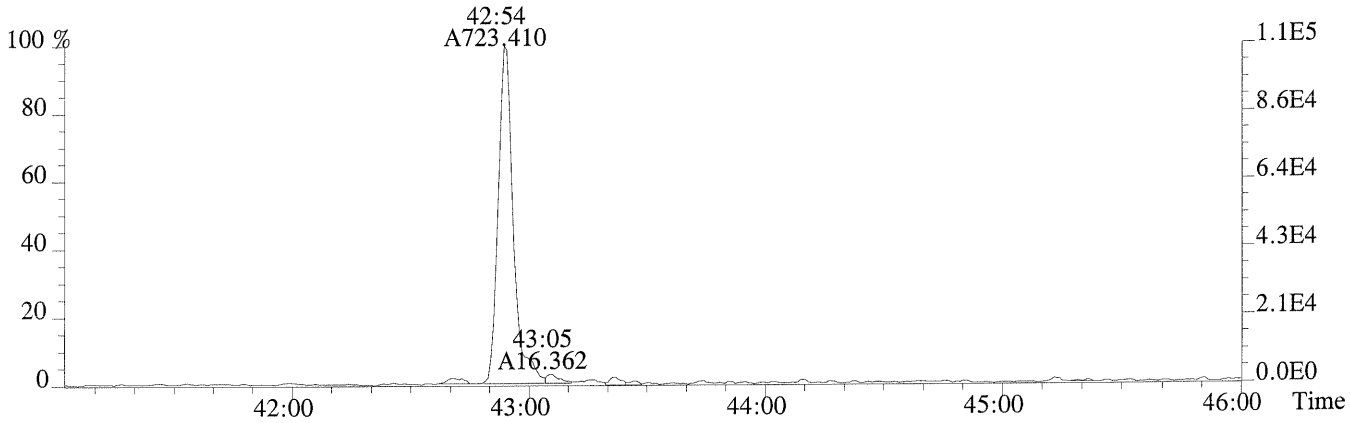
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,660.0,0.40%,F,T)



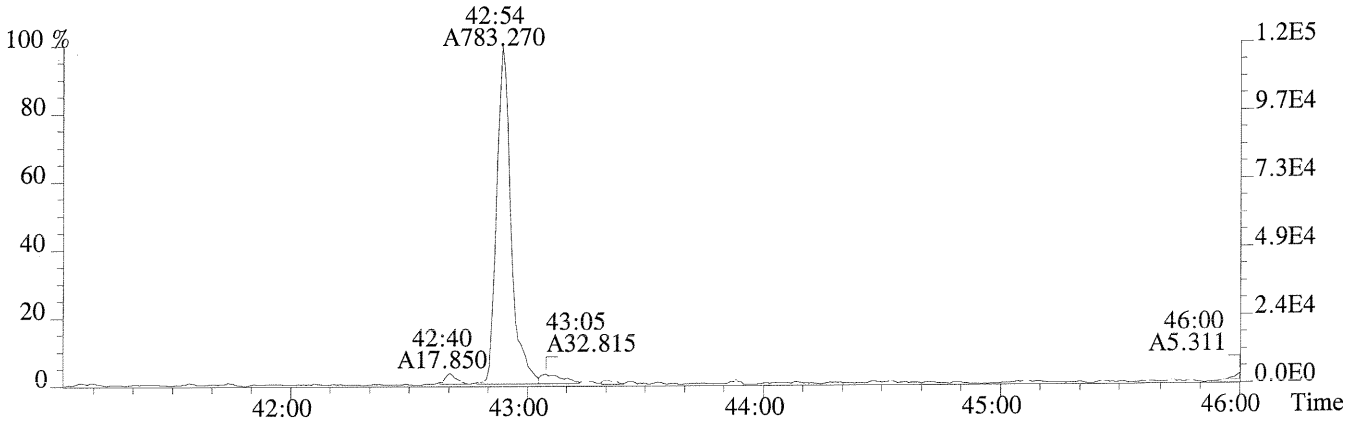
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



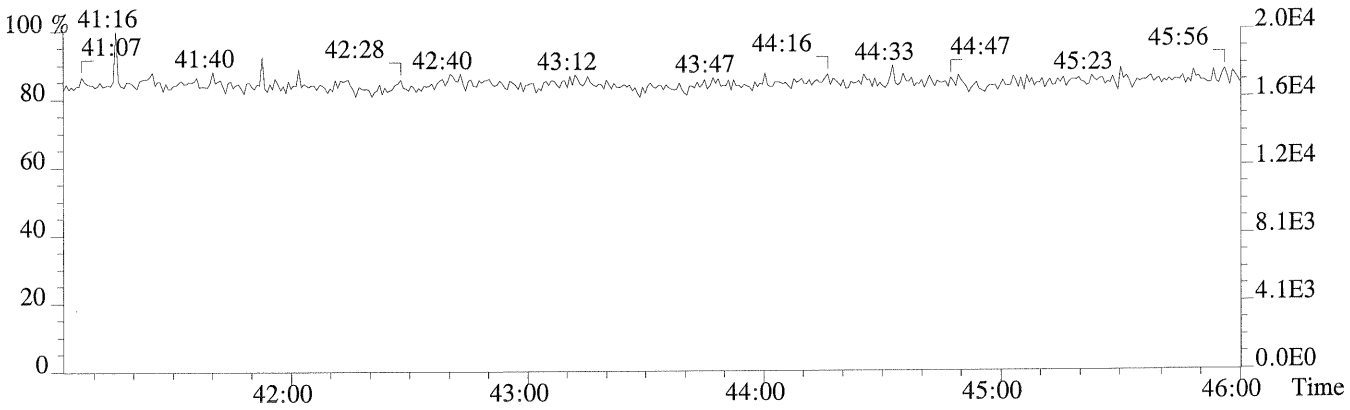
File:U149684 #1-451 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,596.0,0.40%,F,T)



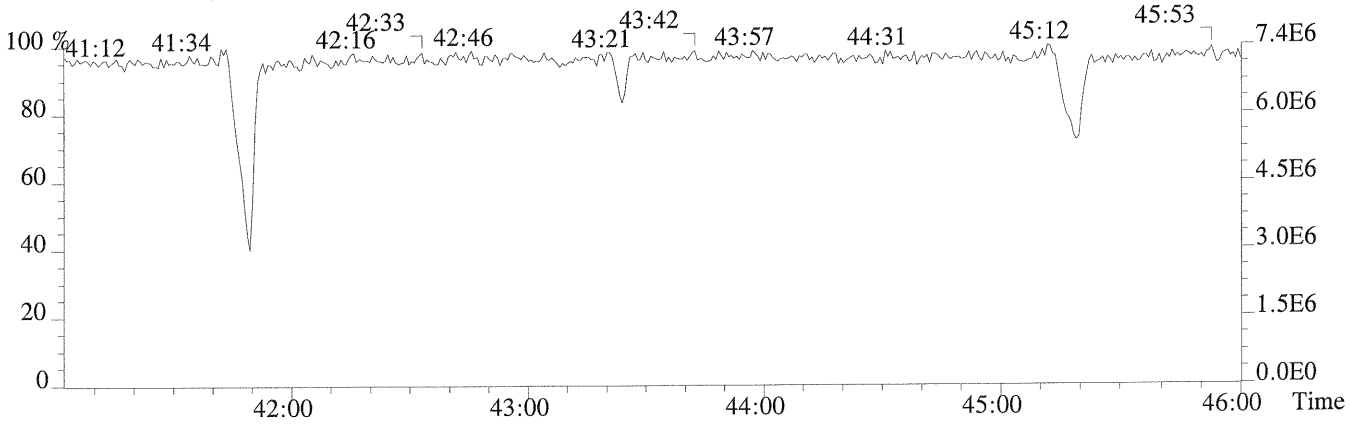
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,688.0,0.40%,F,T)



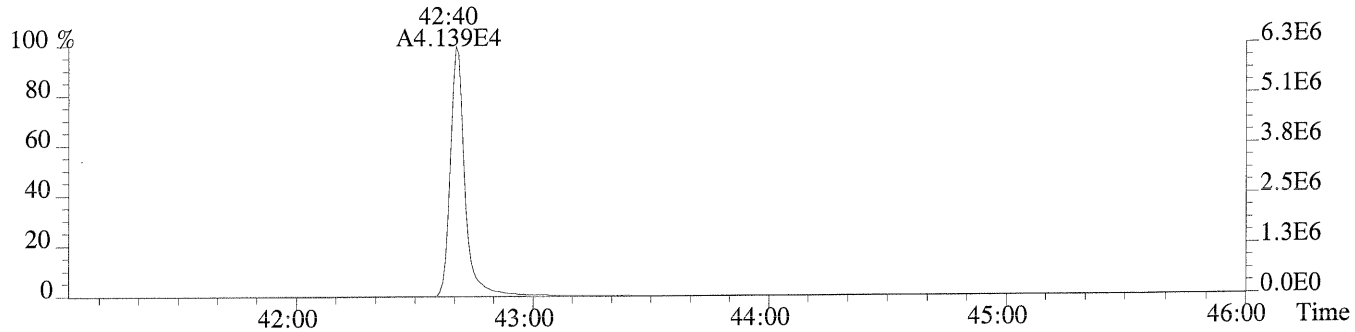
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



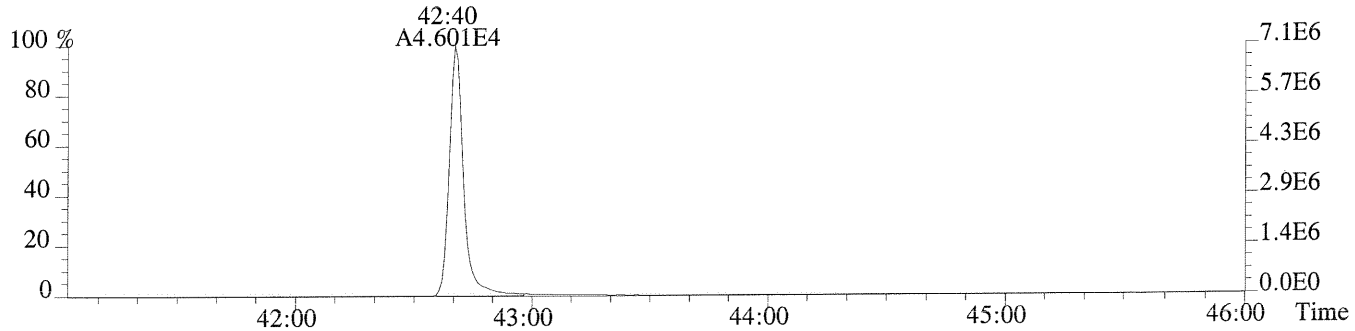
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



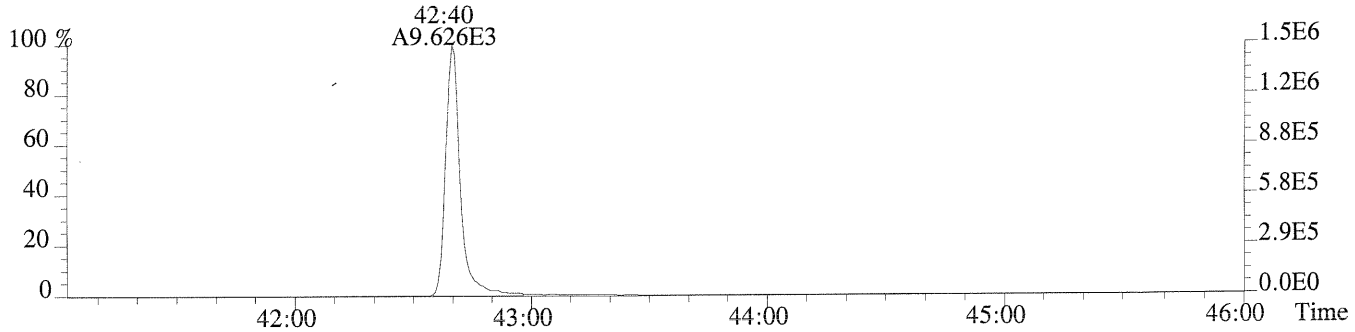
File:U149684 #1-451 Acq:23-JUN-2014 13:38:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-002
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



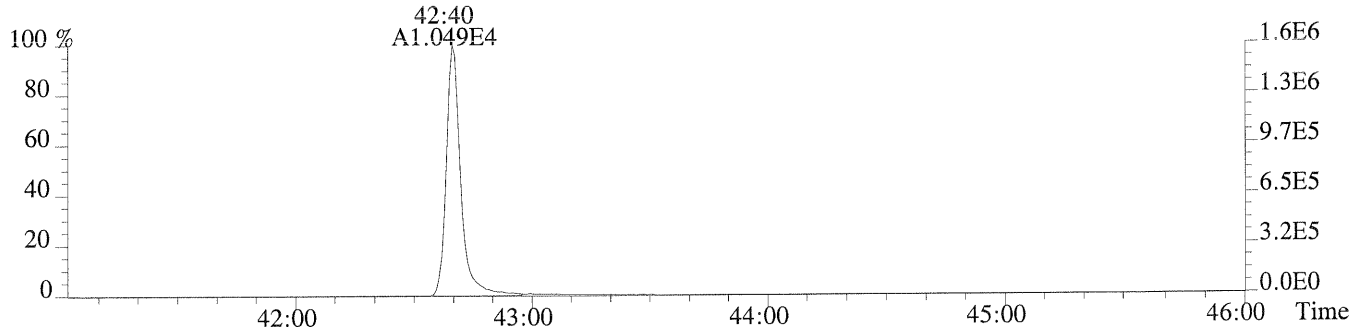
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,528.0,0.40%,F,T)



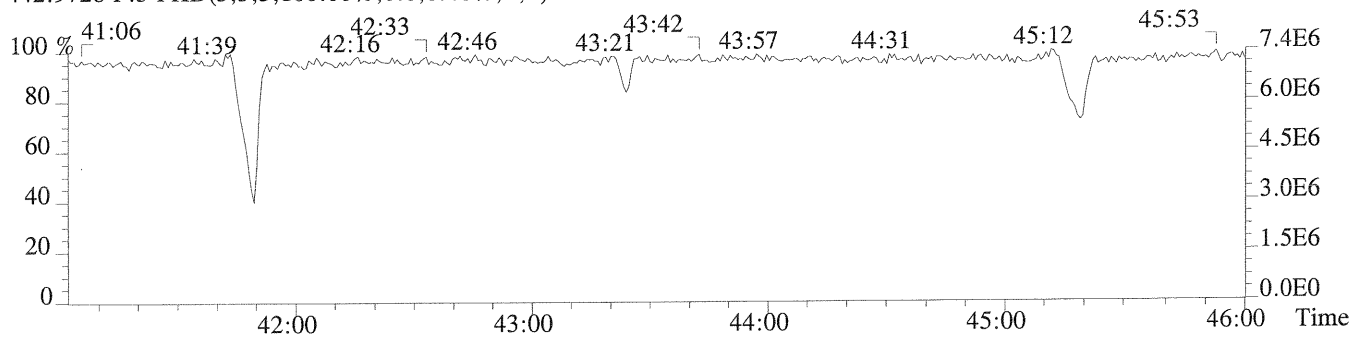
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,620.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,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.
SYC14-REF

Run #12 Filename U149685 Samp: 1 Inj: 1 Acquired: 23-JUN-14 14:27:09
Processed: 24-JUN-14 06:27:09 Sample ID: K1405833-003

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.944
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.358
10	Unk	OCDF	NotFnd	*	*	*	no	no	1.350
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.013
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	3.607e+01	3.012e+01	1.20	yes	no	1.065
17	Unk	OCDD	42:40	2.167e+02	2.516e+02	0.86	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	6.455e+03	7.864e+03	0.82	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	1.308e+04	8.275e+03	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	1.353e+04	8.293e+03	1.63	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:14	6.139e+03	1.172e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	8.057e+03	1.567e+04	0.51	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:51	7.746e+03	1.511e+04	0.51	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	6.818e+03	1.301e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:50	4.966e+03	1.074e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	4.634e+03	1.033e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:20	4.202e+03	5.390e+03	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:52	9.186e+03	5.830e+03	1.58	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:58	7.953e+03	6.201e+03	1.28	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	8.490e+03	6.625e+03	1.28	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	7.636e+03	6.784e+03	1.13	yes	no	0.936
32	IS	13C-OCDD	42:40	8.112e+03	8.886e+03	0.91	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:46	7.668e+03	9.999e+03	0.77	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:18	1.299e+04	1.036e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.174e+03				no	1.044

$$\text{OCDD} = \frac{(2.167e+02 + 2.516e+02) \times 4000\ \text{pg} \times 1}{(8.112e+03 + 8.886e+03) \times 10.15 \times 78.2 \times 1.177} = 11.8\ \text{ng/kg}$$

06/26/14

1613RESP1

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-REF

Run #12 Filename U149685 Samp: 1 Inj: 1 Acquired: 23-JUN-14 14:27:09
Processed: 24-JUN-14 06:27:091 LAB. ID: K1405833-003

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	6.12e+02	*	*	5.24e+02	*
2	1,2,3,7,8-PeCDF	*	6.72e+02	*	*	7.64e+02	*
3	2,3,4,7,8-PeCDF	*	6.72e+02	*	*	7.64e+02	*
4	1,2,3,4,7,8-HxCDF	*	7.36e+02	*	*	6.48e+02	*
5	1,2,3,6,7,8-HxCDF	*	7.36e+02	*	*	6.48e+02	*
6	2,3,4,6,7,8-HxCDF	*	7.36e+02	*	*	6.48e+02	*
7	1,2,3,7,8,9-HxCDF	*	7.36e+02	*	*	6.48e+02	*
8	1,2,3,4,6,7,8-HpCDF	*	6.24e+02	*	*	7.72e+02	*
9	1,2,3,4,7,8,9-HpCDF	*	6.24e+02	*	*	7.72e+02	*
10	OCDF	*	7.88e+02	*	*	5.64e+02	*
11	2,3,7,8-TCDD	*	6.16e+02	*	*	6.68e+02	*
12	1,2,3,7,8-PeCDD	*	7.64e+02	*	*	6.20e+02	*
13	1,2,3,4,7,8-HxCDD	*	6.60e+02	*	*	6.08e+02	*
14	1,2,3,6,7,8-HxCDD	*	6.60e+02	*	*	6.08e+02	*
15	1,2,3,7,8,9-HxCDD	*	6.60e+02	*	*	6.08e+02	*
16	1,2,3,4,6,7,8-HpCDD	6.68e+03	6.76e+02	9.9e+00	5.58e+03	5.00e+02	1.1e+01
17	OCDD	3.10e+04	5.40e+02	5.7e+01	3.85e+04	5.76e+02	6.7e+01
18	13C-2,3,7,8-TCDF	1.29e+06	7.80e+02	1.7e+03	1.57e+06	7.24e+02	2.2e+03
19	13C-1,2,3,7,8-PeCDF	2.46e+06	6.96e+02	3.5e+03	1.56e+06	7.52e+02	2.1e+03
20	13C-2,3,4,7,8-PeCDF	2.63e+06	6.96e+02	3.8e+03	1.60e+06	7.52e+02	2.1e+03
21	13C-1,2,3,4,7,8-HxCDF	1.32e+06	6.64e+02	2.0e+03	2.51e+06	6.56e+02	3.8e+03
22	13C-1,2,3,6,7,8-HxCDF	1.65e+06	6.64e+02	2.5e+03	3.15e+06	6.56e+02	4.8e+03
23	13C-2,3,4,6,7,8-HxCDF	1.59e+06	6.64e+02	2.4e+03	3.10e+06	6.56e+02	4.7e+03
24	13C-1,2,3,7,8,9-HxCDF	1.35e+06	6.64e+02	2.0e+03	2.61e+06	6.56e+02	4.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.03e+06	3.42e+03	3.0e+02	2.22e+06	2.22e+03	1.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.29e+05	3.42e+03	2.4e+02	1.82e+06	2.22e+03	8.2e+02
27	13C-2,3,7,8-TCDD	9.18e+05	1.40e+03	6.5e+02	1.18e+06	8.48e+02	1.4e+03
28	13C-1,2,3,7,8-PeCDD	1.83e+06	6.80e+02	2.7e+03	1.16e+06	8.80e+02	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	1.80e+06	6.40e+02	2.8e+03	1.41e+06	6.88e+02	2.0e+03
30	13C-1,2,3,6,7,8-HxCDD	1.73e+06	6.40e+02	2.7e+03	1.34e+06	6.88e+02	2.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.42e+06	5.80e+02	2.5e+03	1.26e+06	4.68e+02	2.7e+03
32	13C-OCDD	1.18e+06	8.08e+02	1.5e+03	1.28e+06	5.64e+02	2.3e+03
33	13C-1,2,3,4-TCDD	1.58e+06	1.40e+03	1.1e+03	2.08e+06	8.48e+02	2.5e+03
34	13C-1,2,3,7,8,9-HxCDD	2.57e+06	6.40e+02	4.0e+03	2.07e+06	6.88e+02	3.0e+03
35	37Cl-2,3,7,8-TCDD	6.73e+05	6.36e+02	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-REF

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: U149685 Sample: 1 Injection: 1 Function: 3
Llim: 35:33 Ulim: 37:23
Acquired: 23-JUN-14 14:27:09 Processed: 24-JUN-14 06:27:09
Mass: 389.8160 391.8130 Tot Response: 2.71e+01 RRF: 1.151

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:23	1.55e+01	1.16e+01 1.33	yes	2.71e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-REF

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: U149685 Sample: 1 Injection: 1 Function: 4
Llim: 39:01 Ulim: 39:58
Acquired: 23-JUN-14 14:27:09 Processed: 24-JUN-14 06:27:09
Mass: 423.7770 425.7740 Tot Response: 2.31e+02 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	8.59e+01	7.94e+01	1.08	yes	1.65e+02		n	n
2	39:48	3.61e+01	3.01e+01	1.20	yes	6.62e+01	1,2,3,4,6,7,8-HpCDD	n	n

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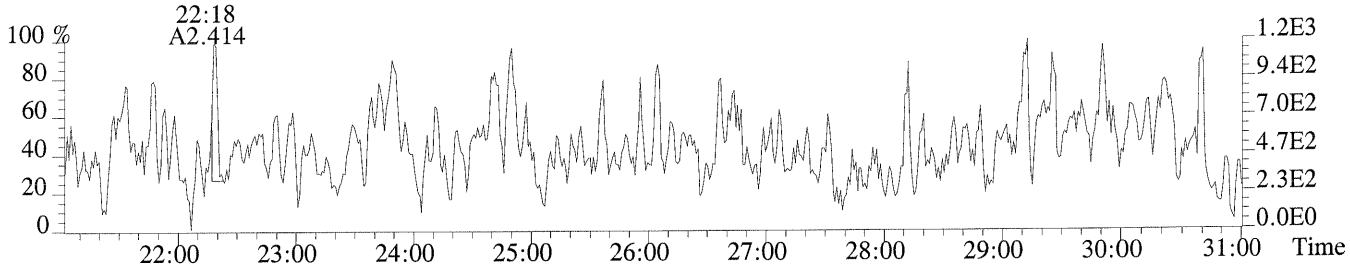
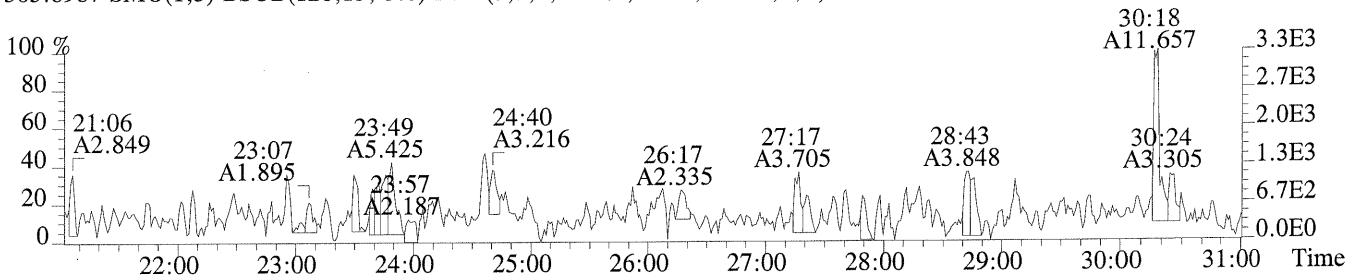
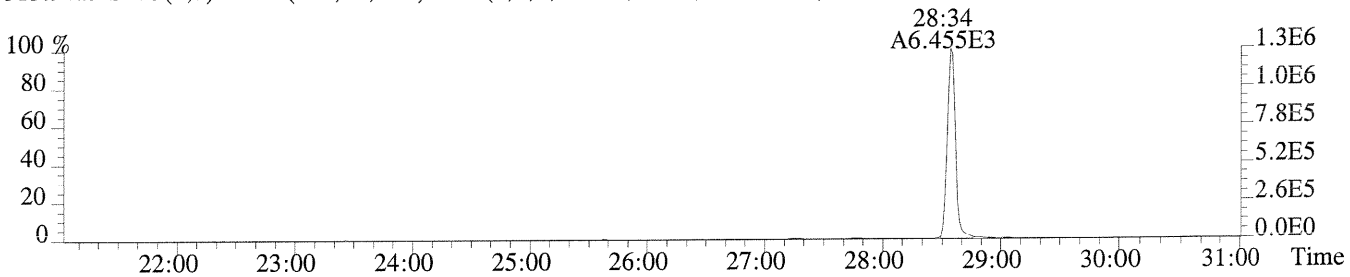
File:U149685 #1-627 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



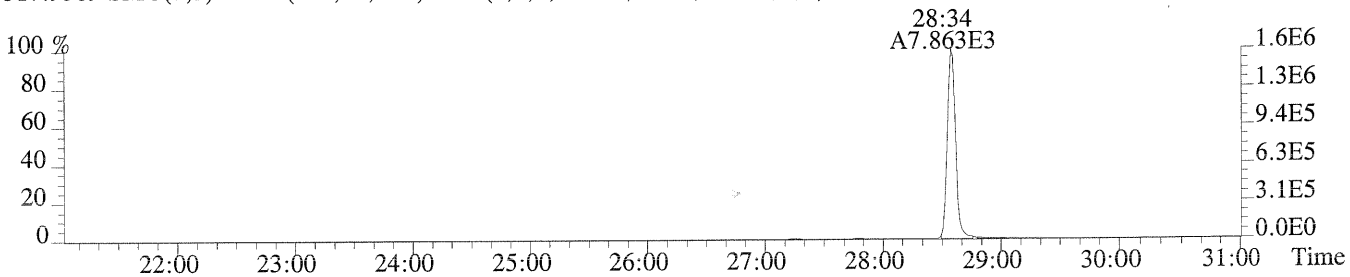
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



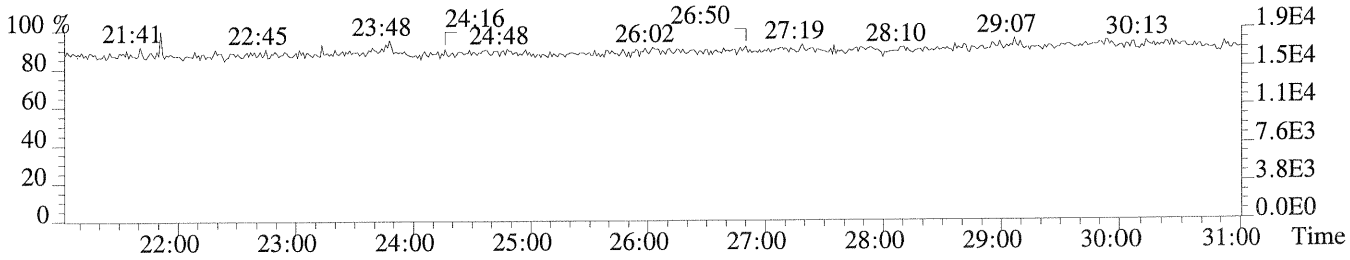
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)



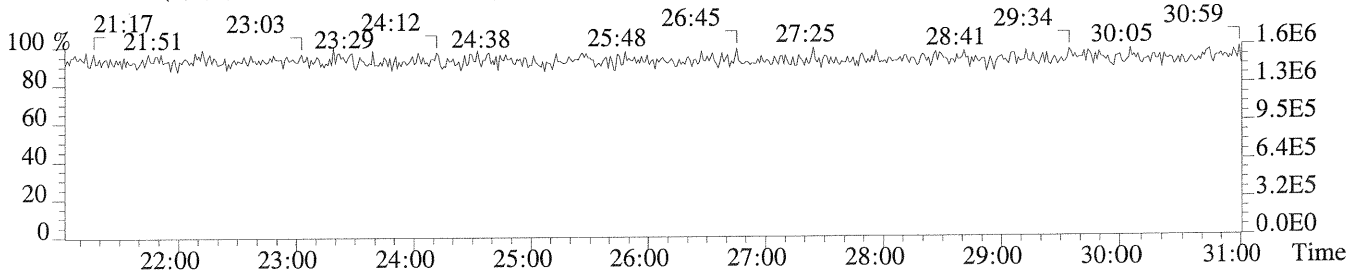
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



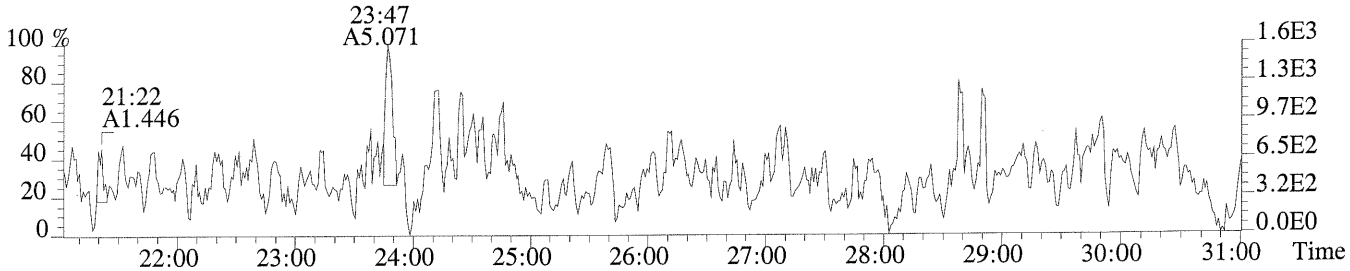
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



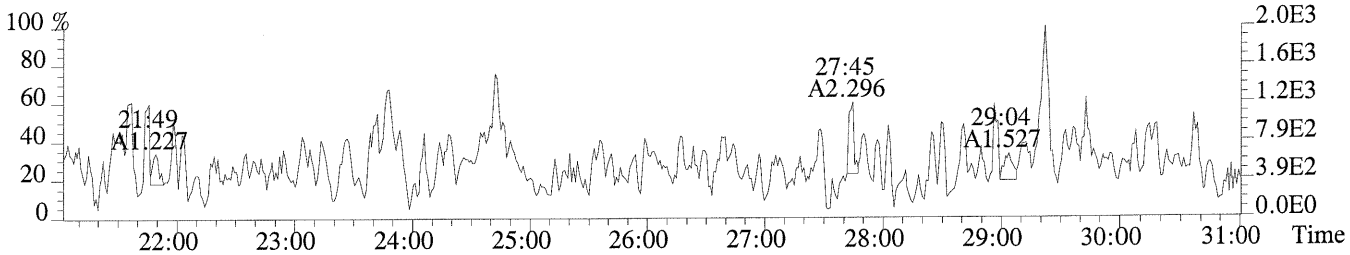
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



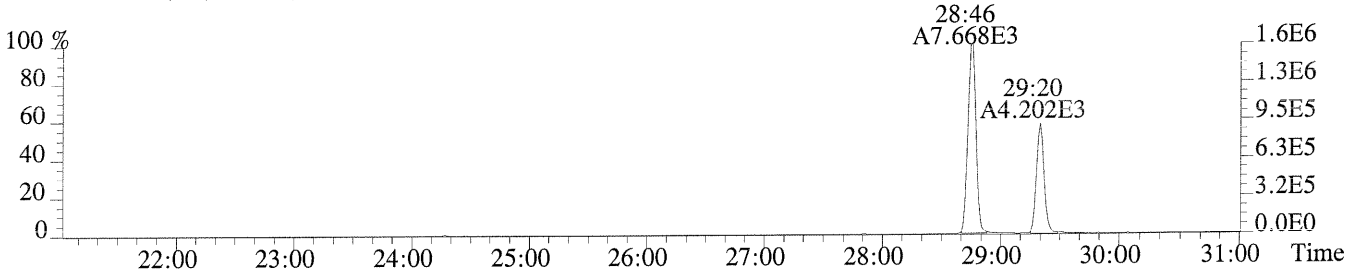
File:U149685 #1-627 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



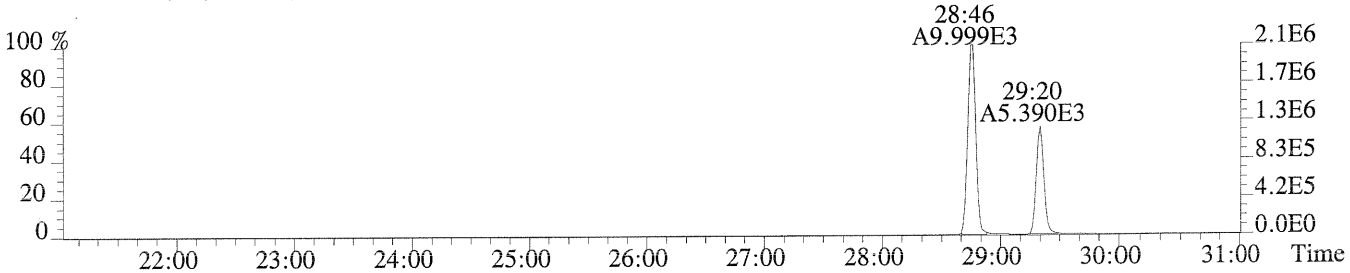
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,T)



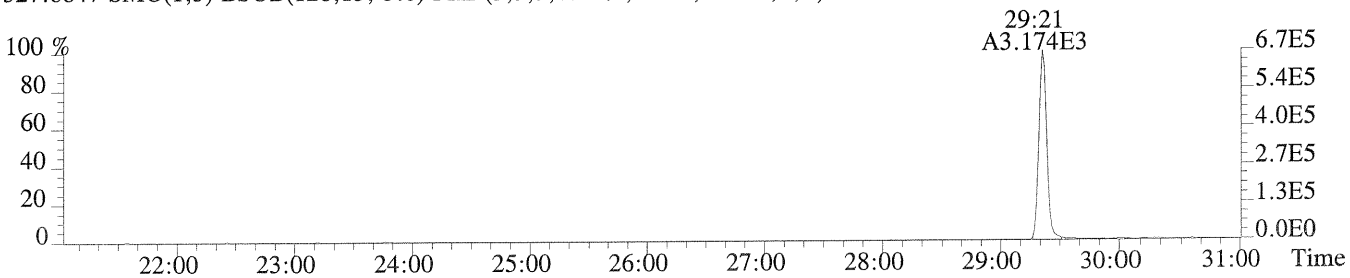
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,T)



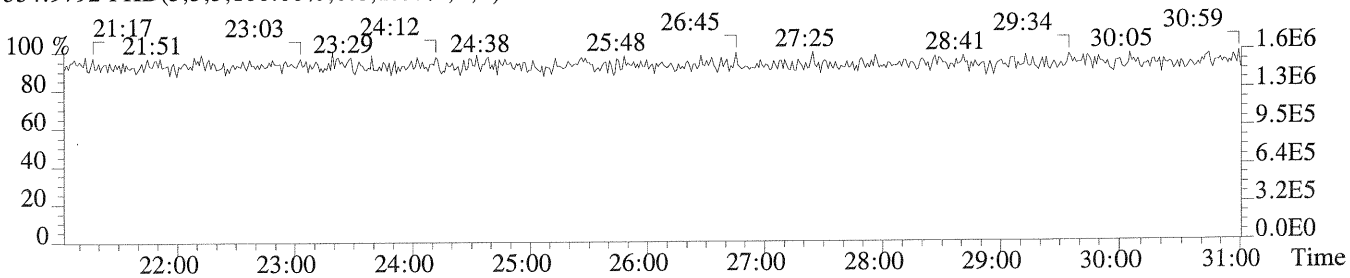
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



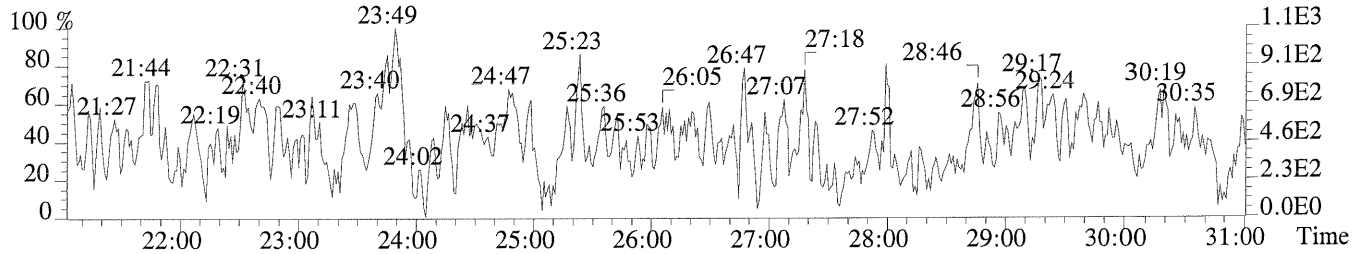
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



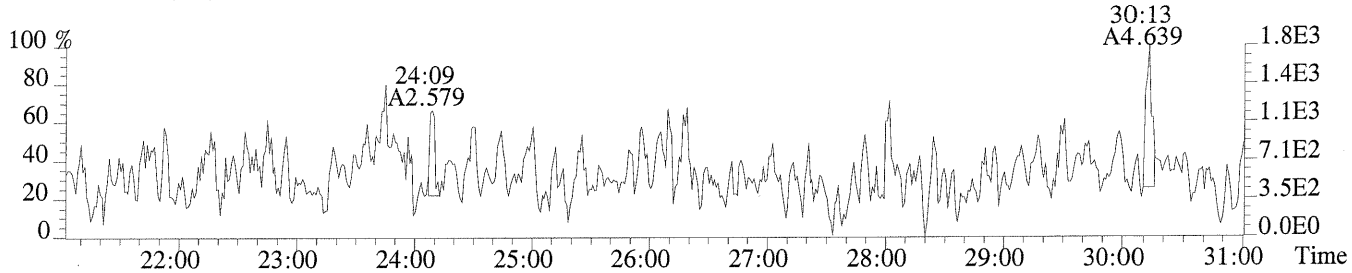
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



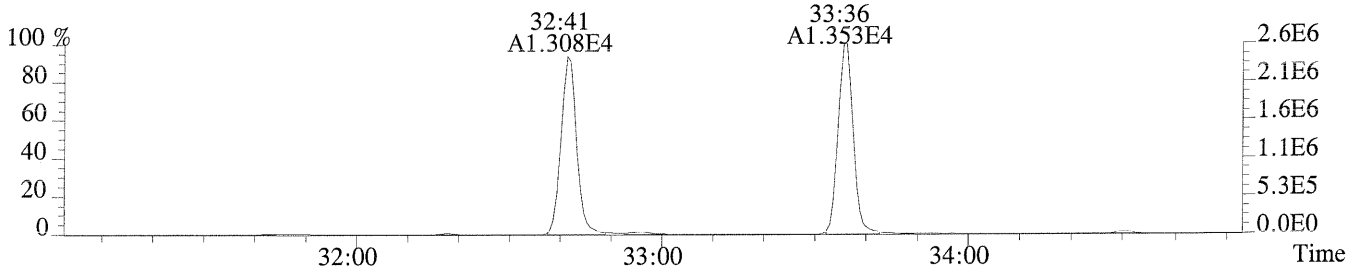
File:U149685 #1-627 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



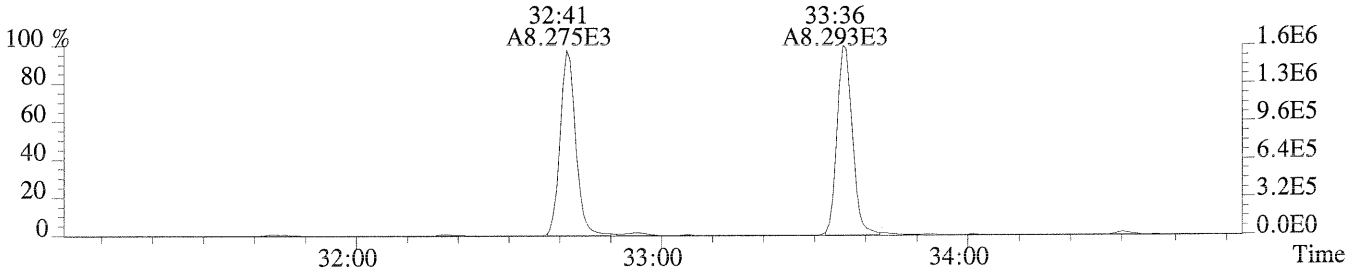
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



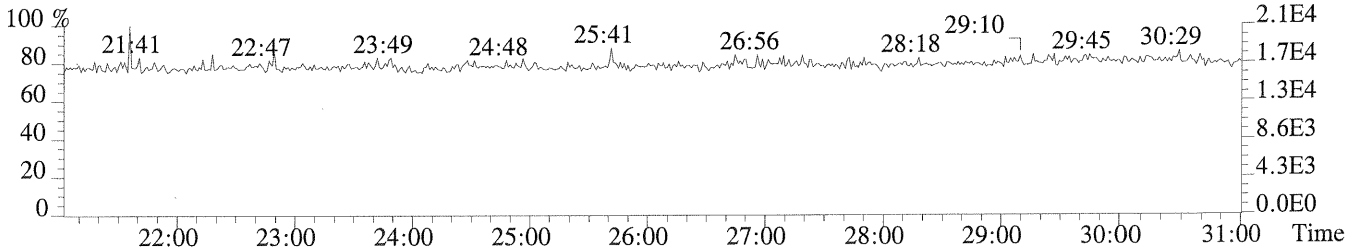
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



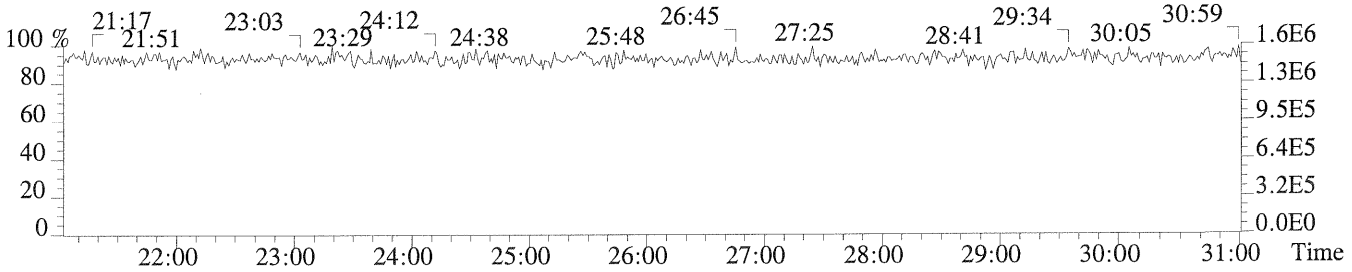
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)



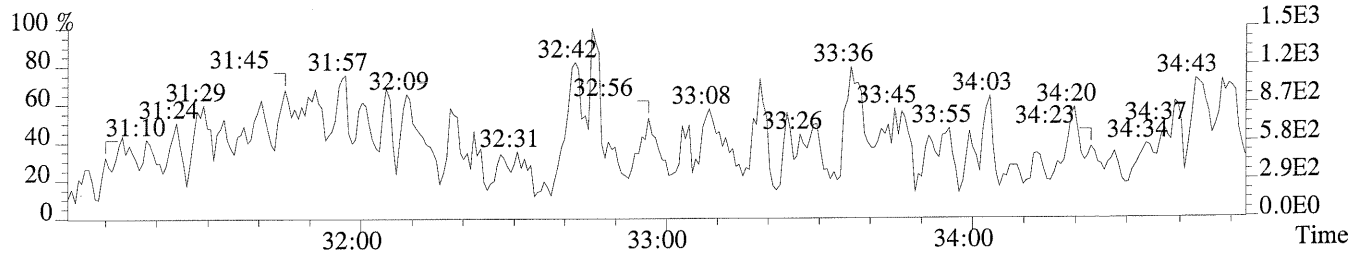
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



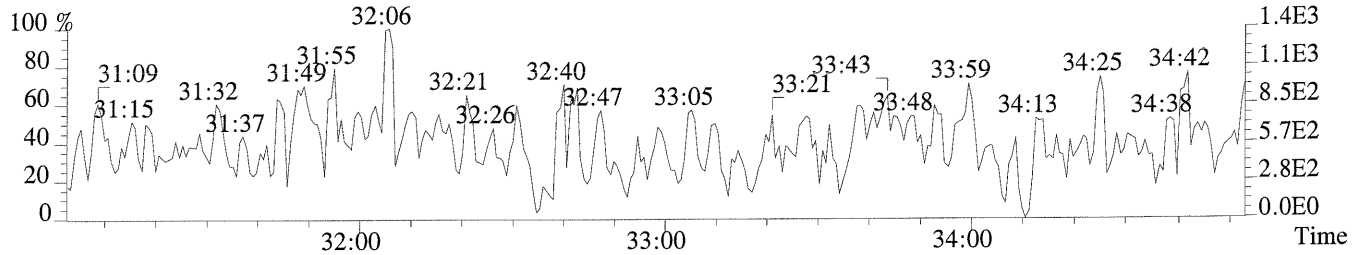
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



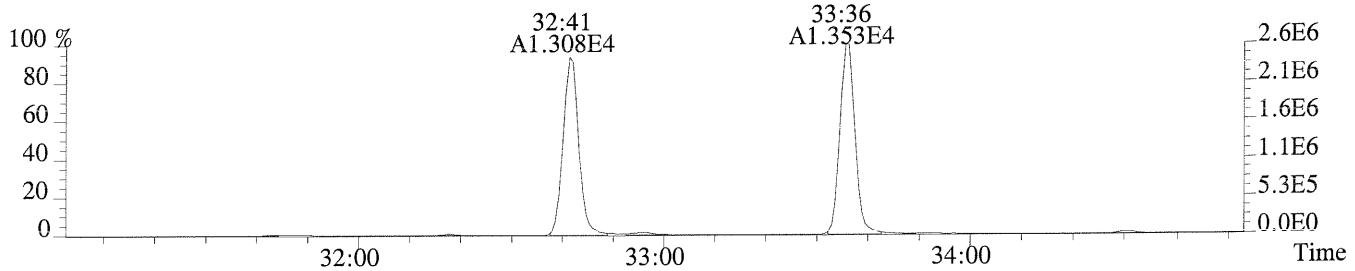
File:U149685 #1-349 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



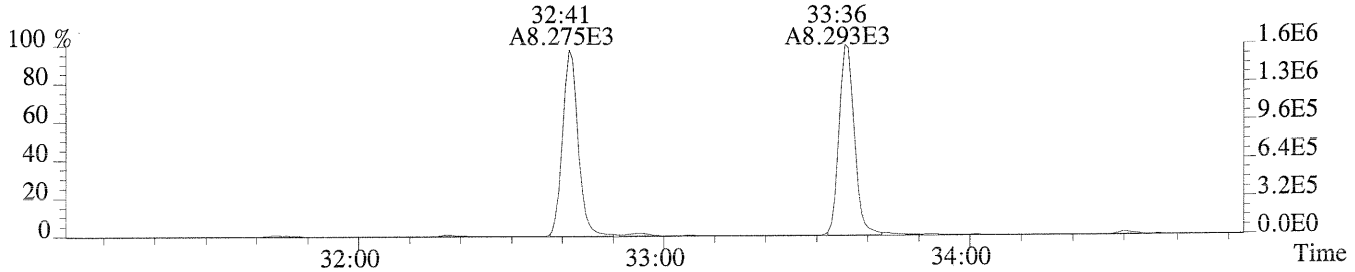
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)



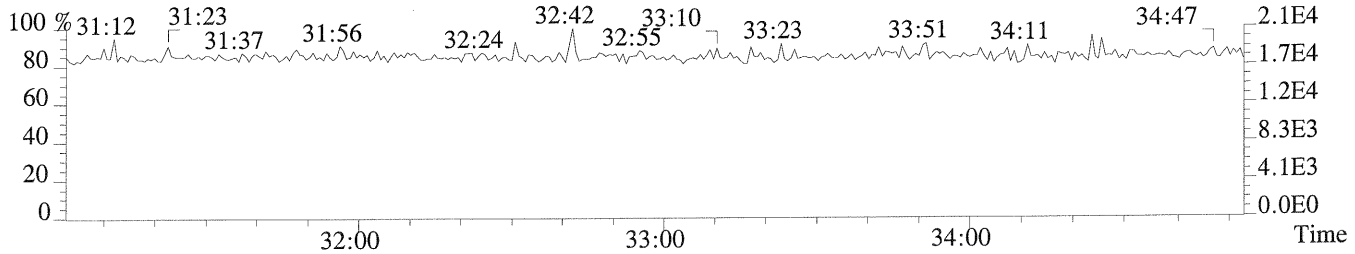
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



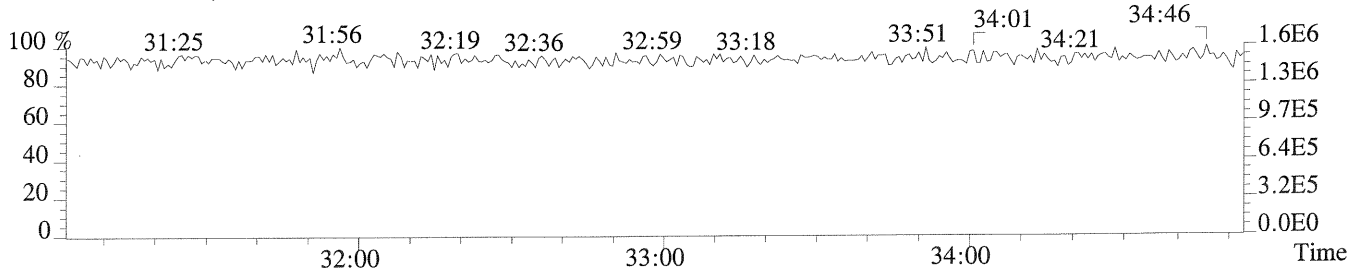
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)



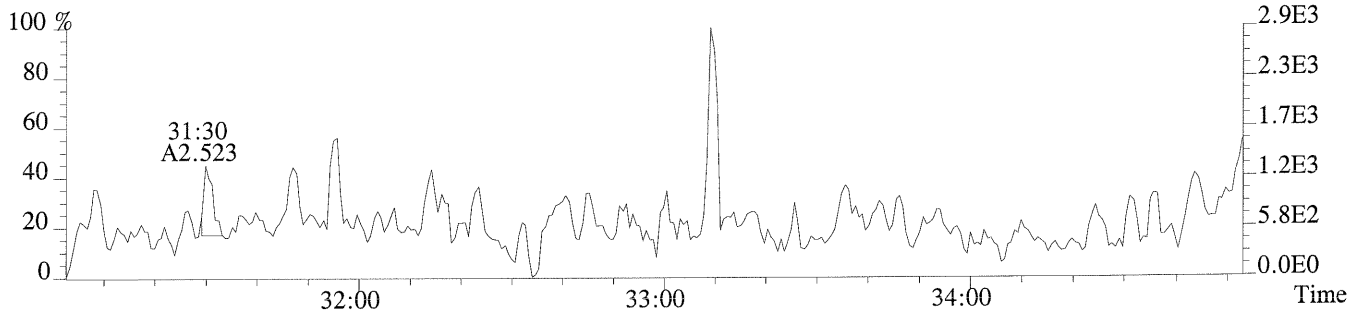
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



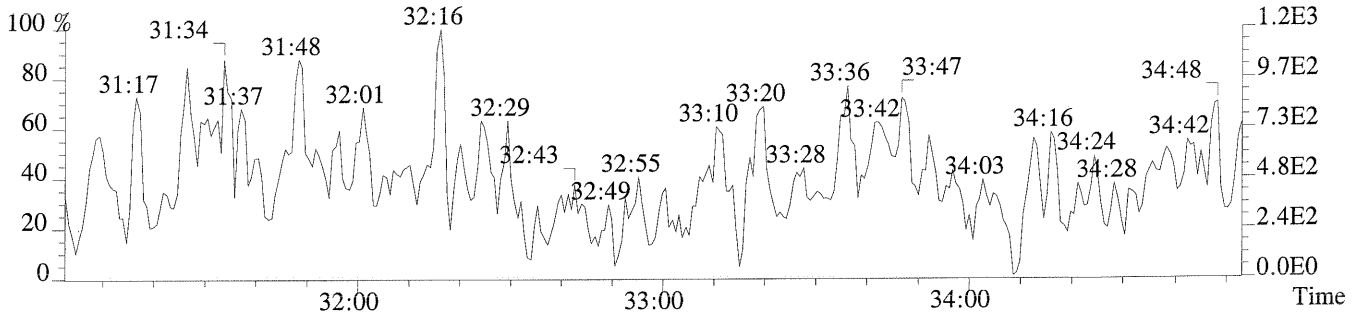
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



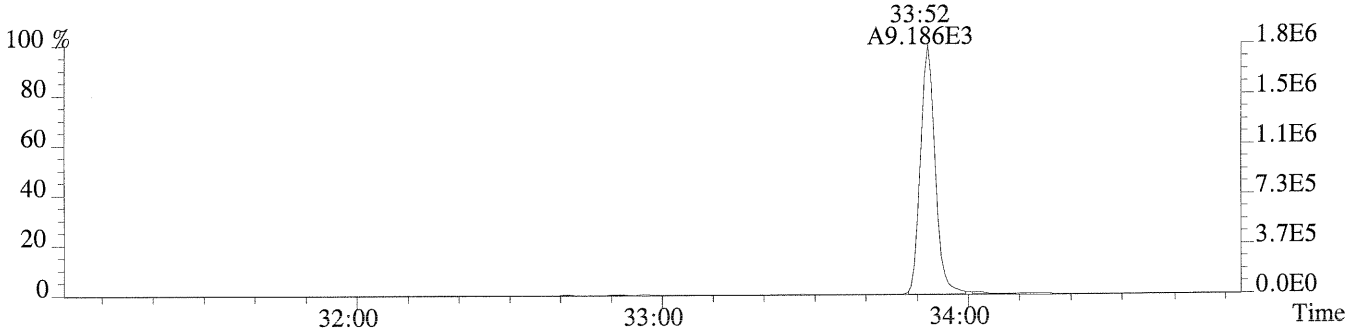
File:U149685 #1-349 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)



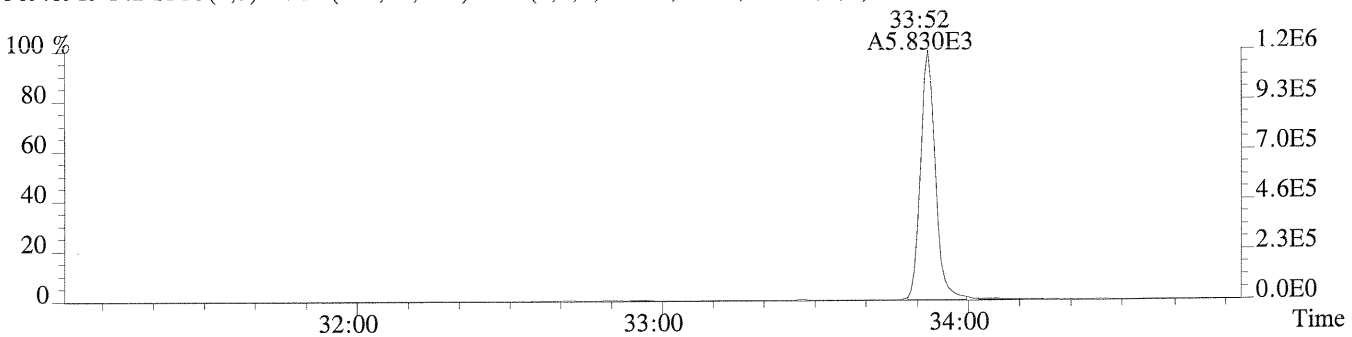
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



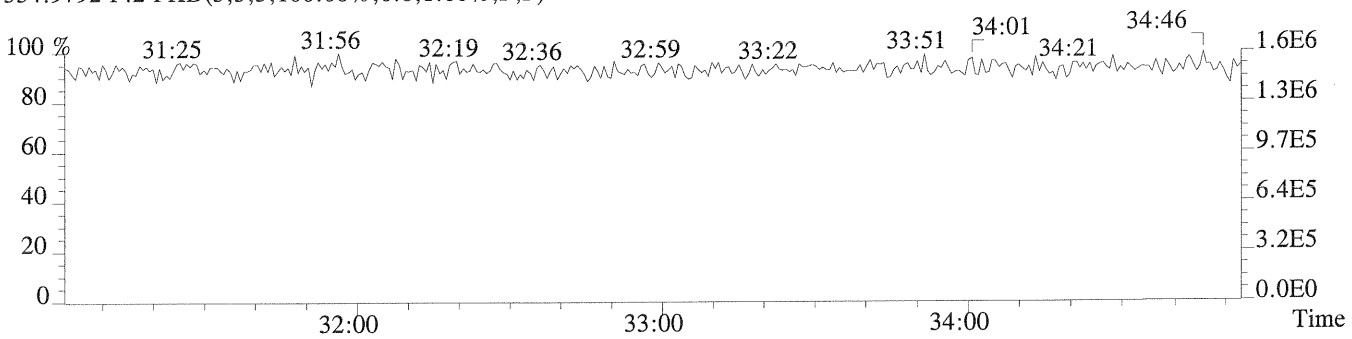
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)



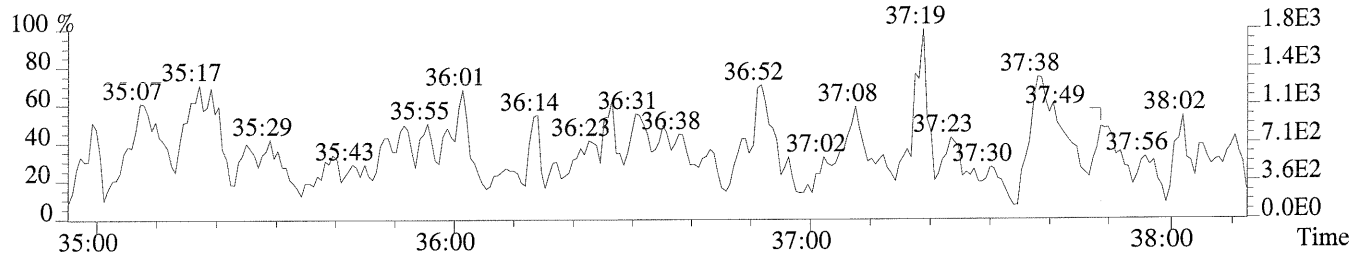
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



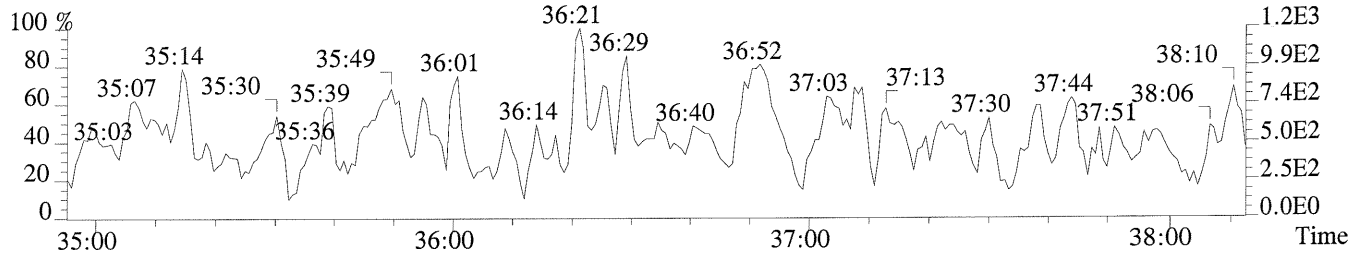
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



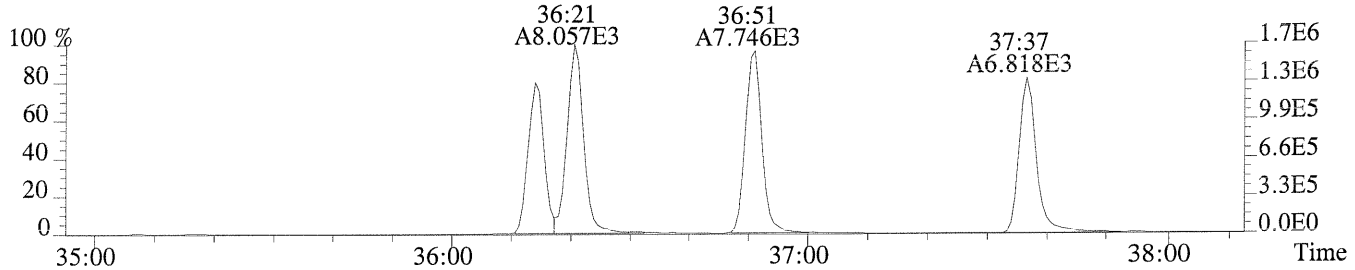
File:U149685 #1-299 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



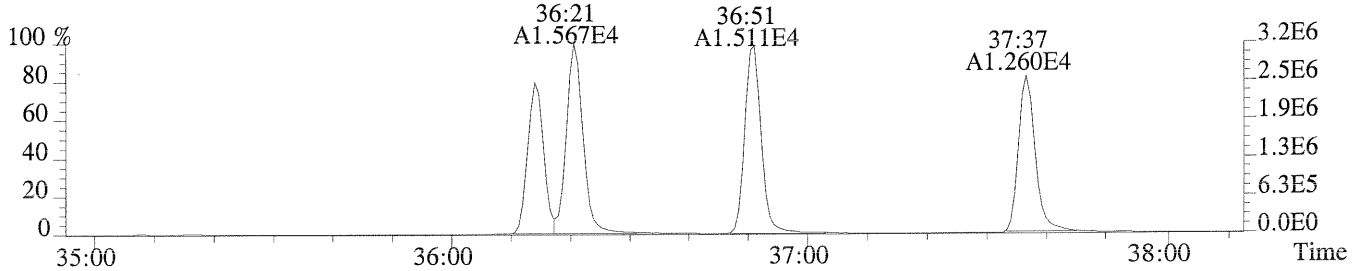
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,648.0,0.40%,F,T)



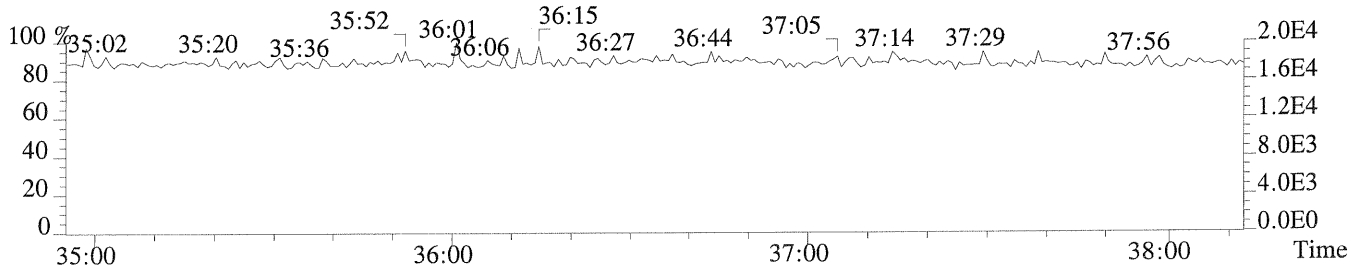
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.40%,F,T)



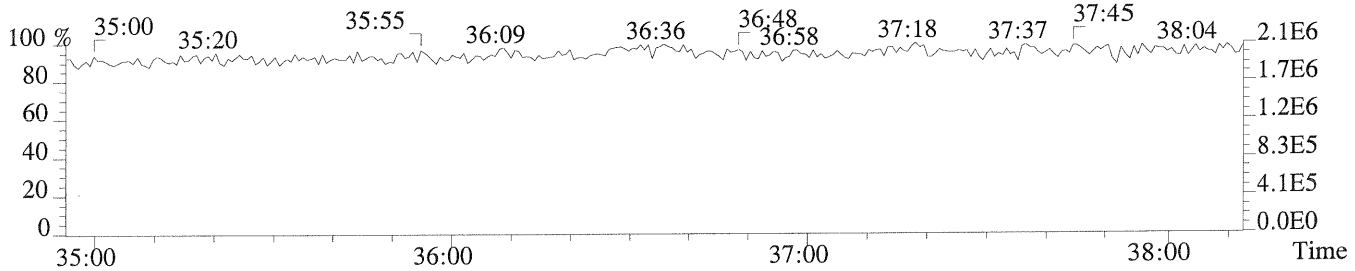
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)



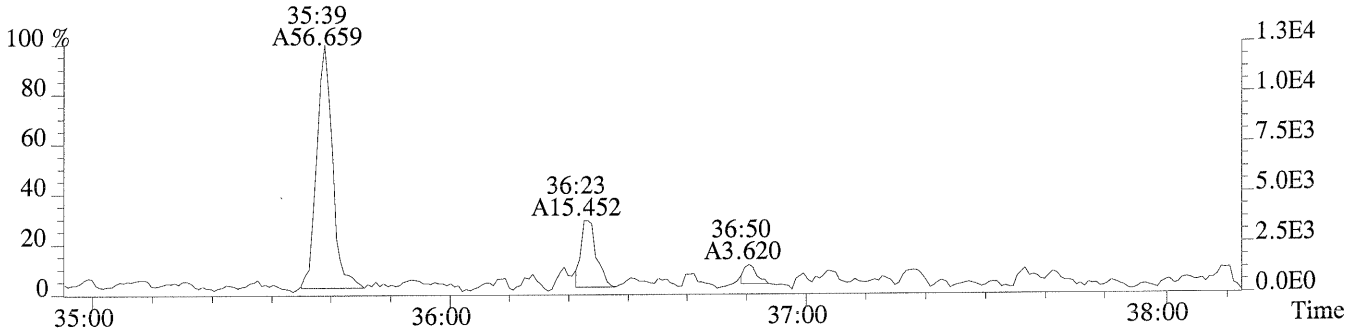
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



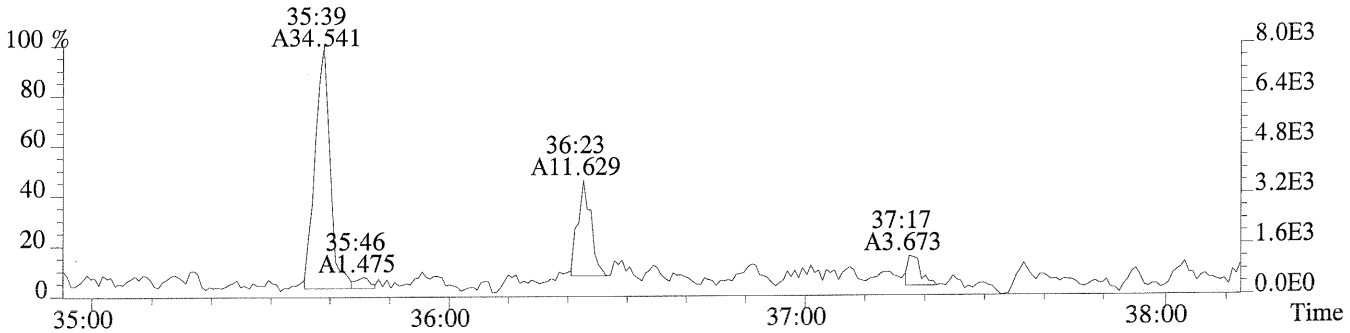
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



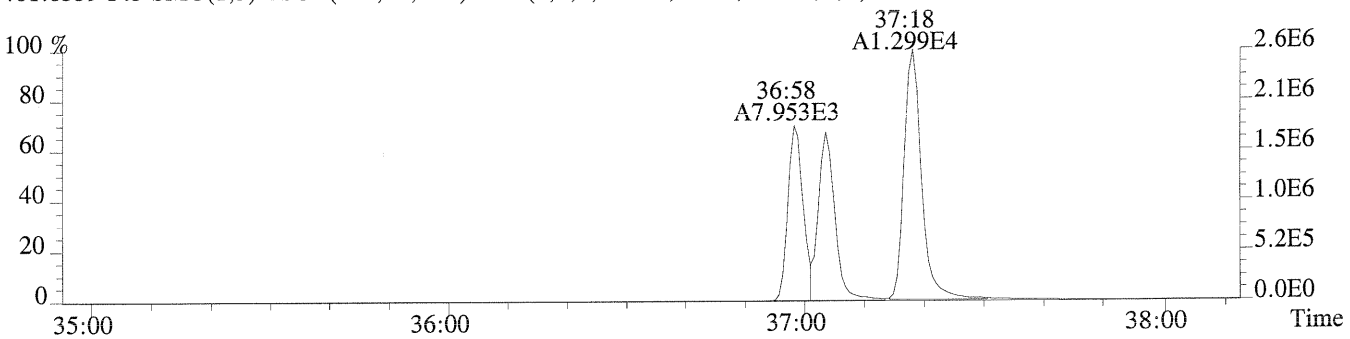
File:U149685 #1-299 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,660.0,0.40%,F,T)



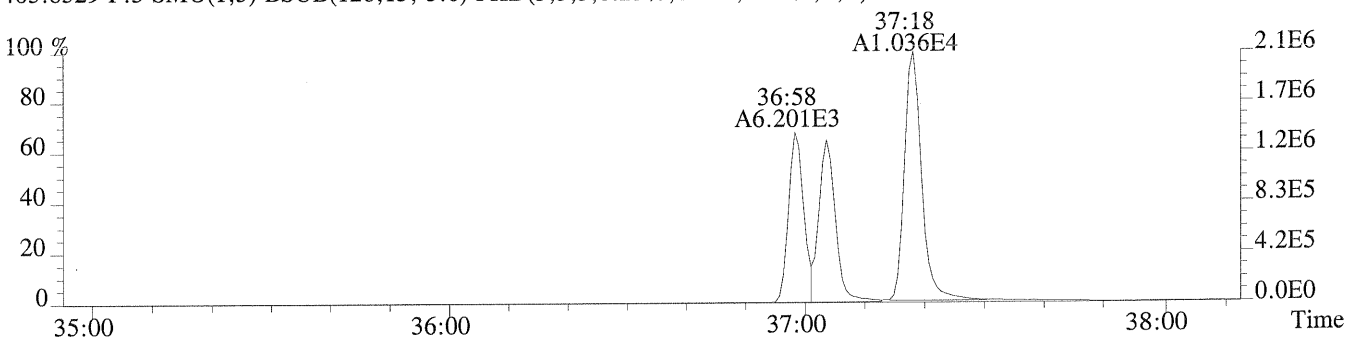
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,608.0,0.40%,F,T)



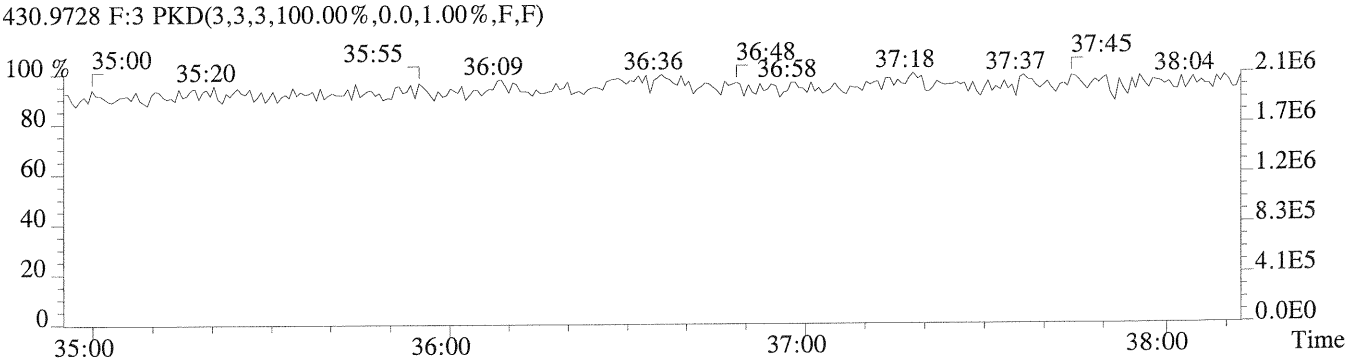
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



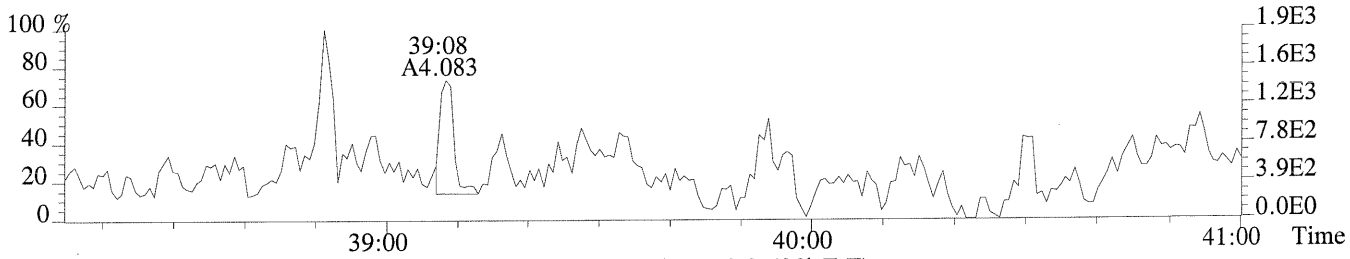
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



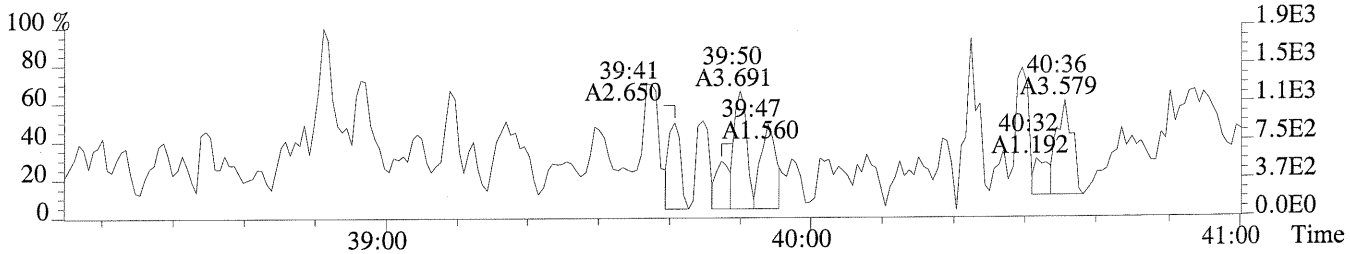
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



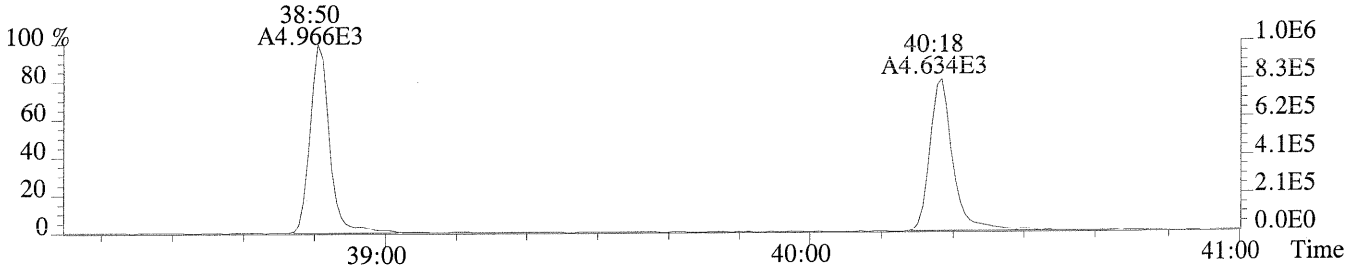
File:U149685 #1-251 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.50%,F,T)



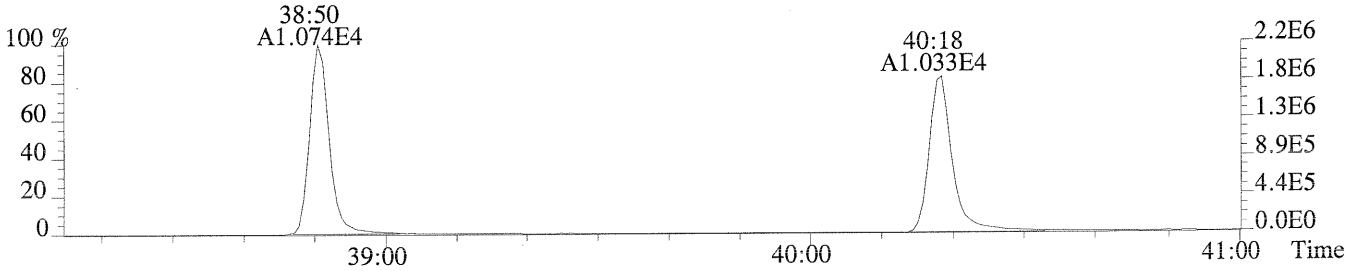
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.50%,F,T)



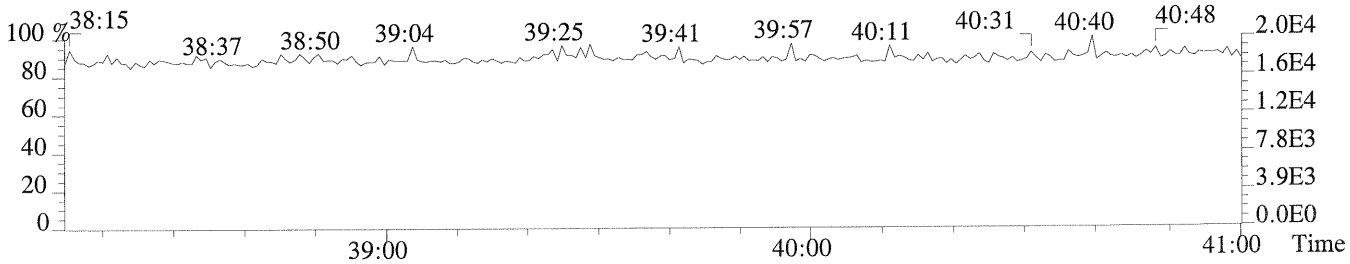
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3424.0,0.50%,F,T)



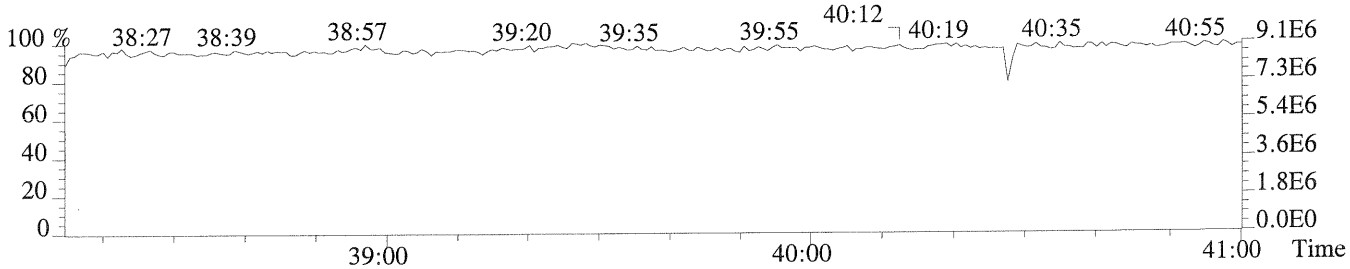
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2216.0,0.50%,F,T)



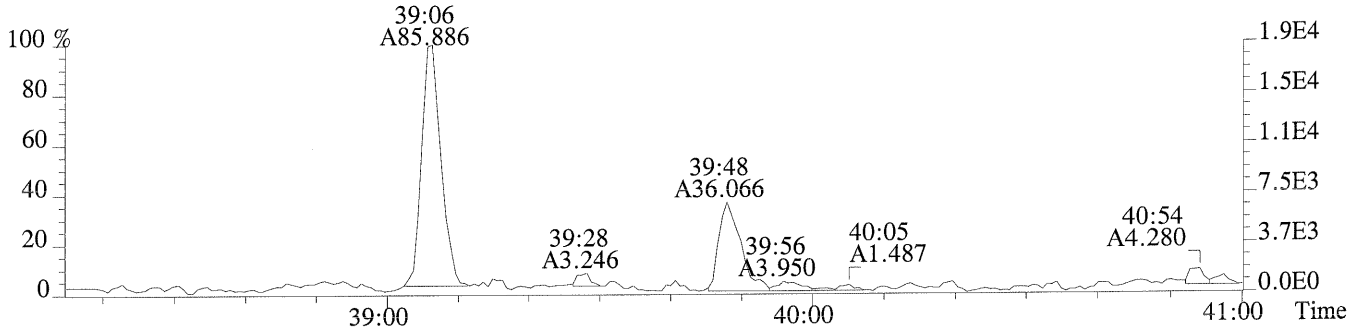
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



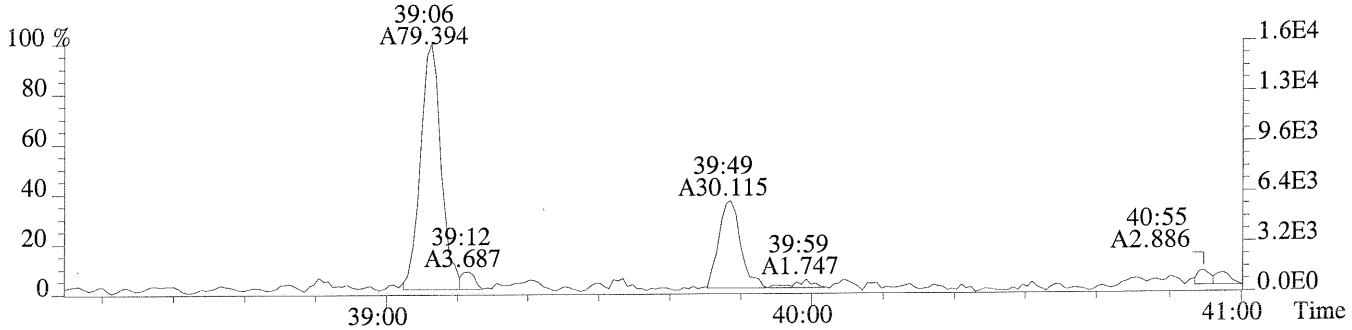
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



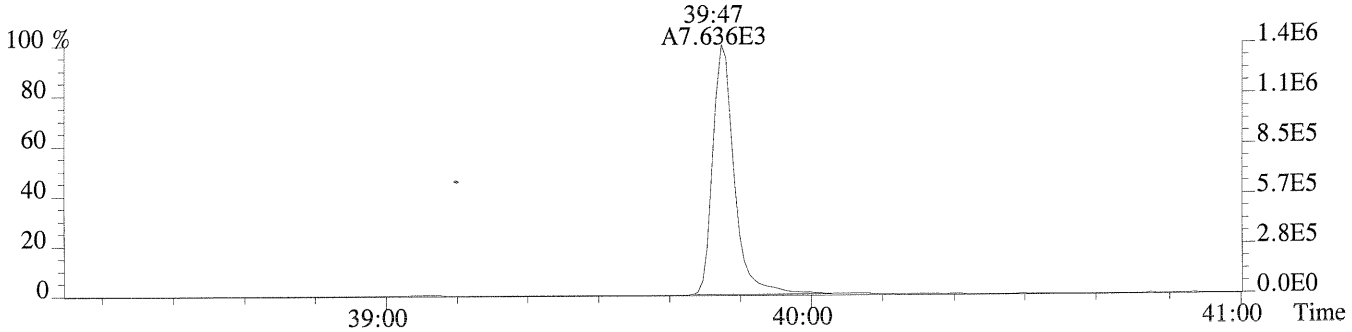
File:U149685 #1-251 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



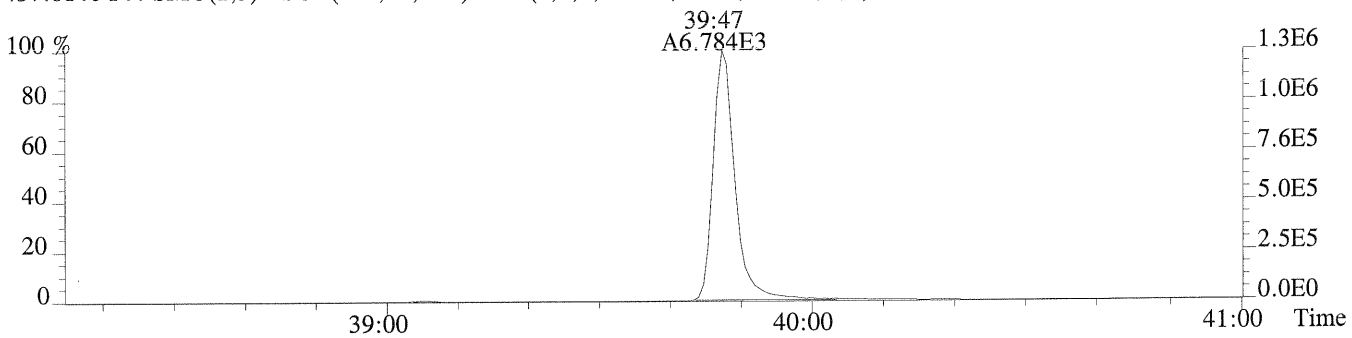
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,500.0,0.40%,F,T)



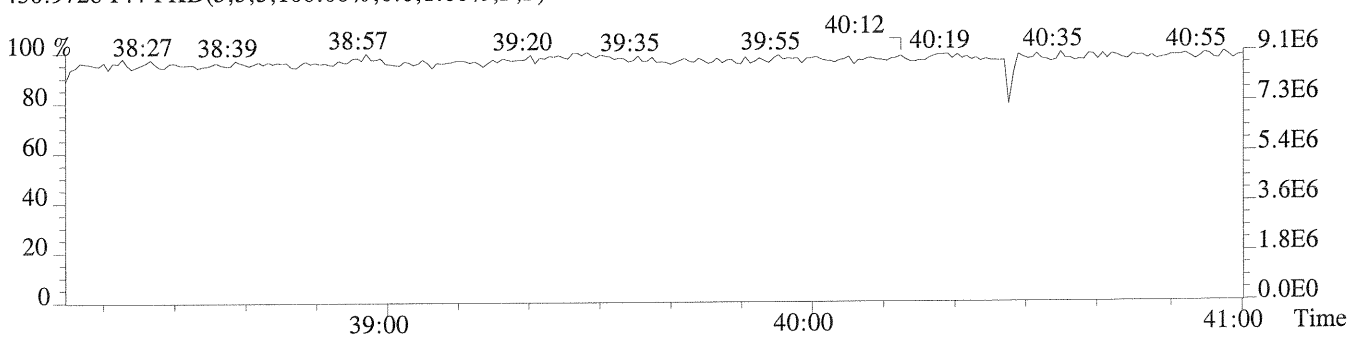
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



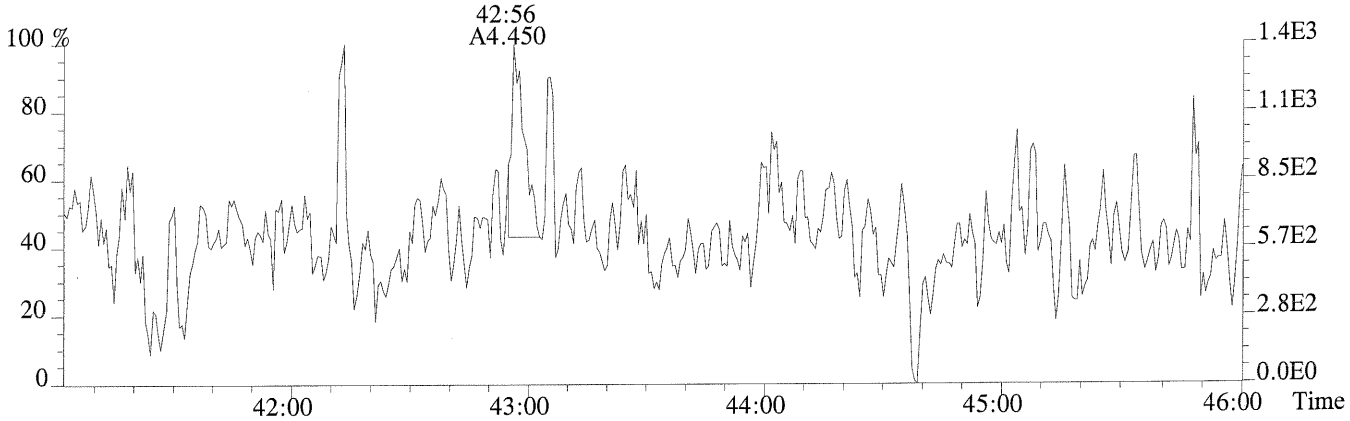
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,T)



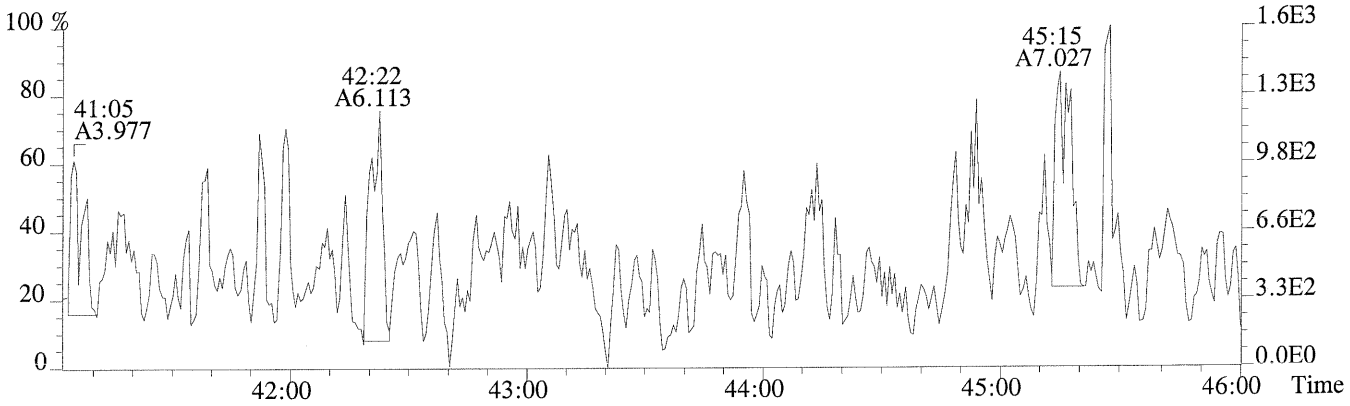
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



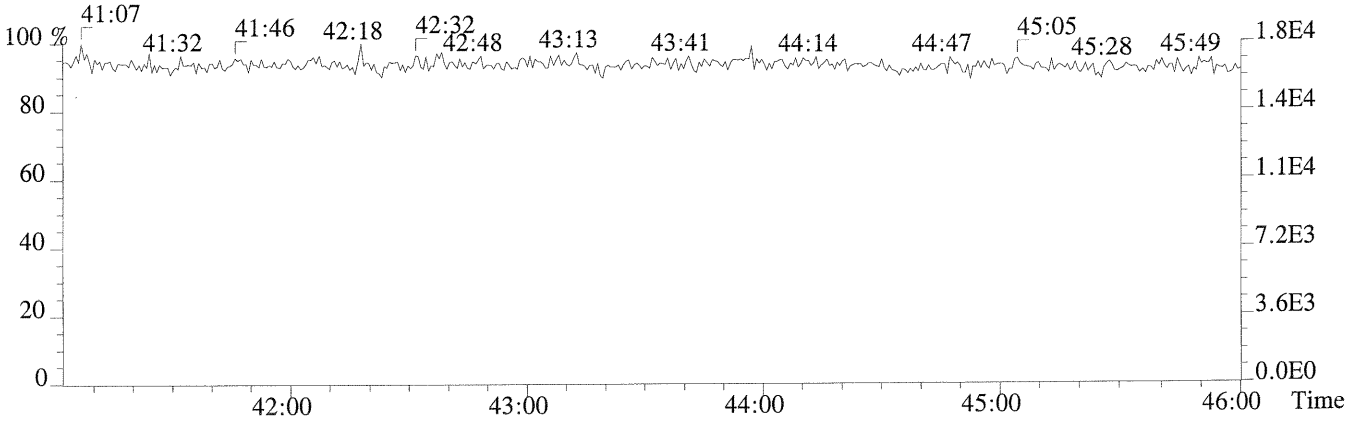
File:U149685 #1-451 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,788.0,0.40%,F,T)



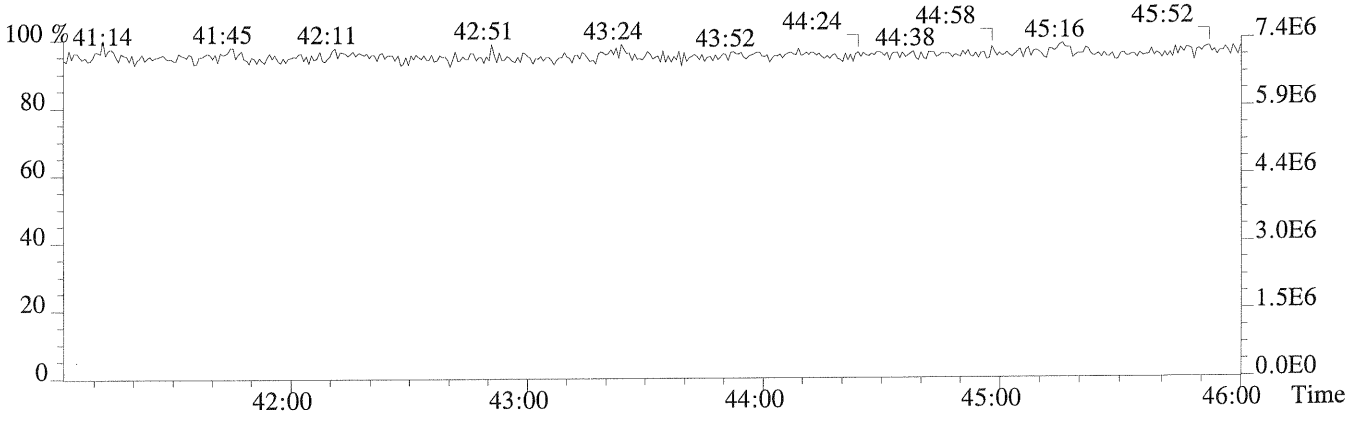
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,564.0,0.40%,F,T)



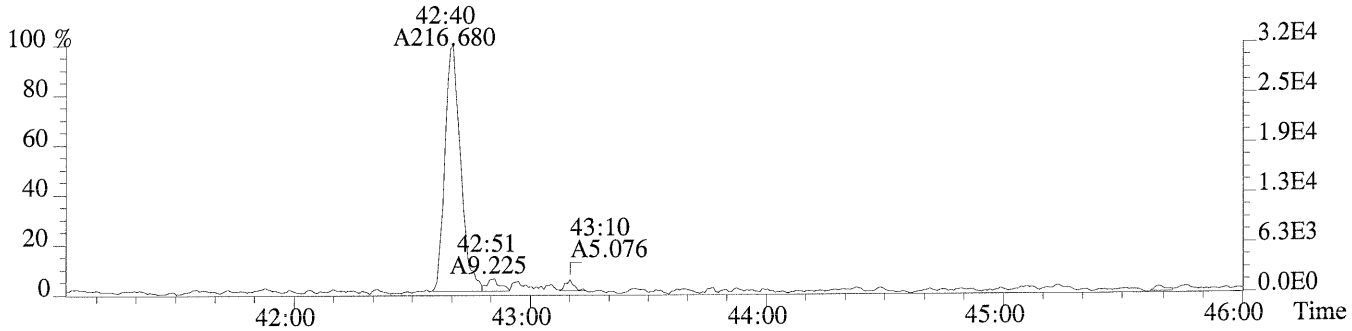
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



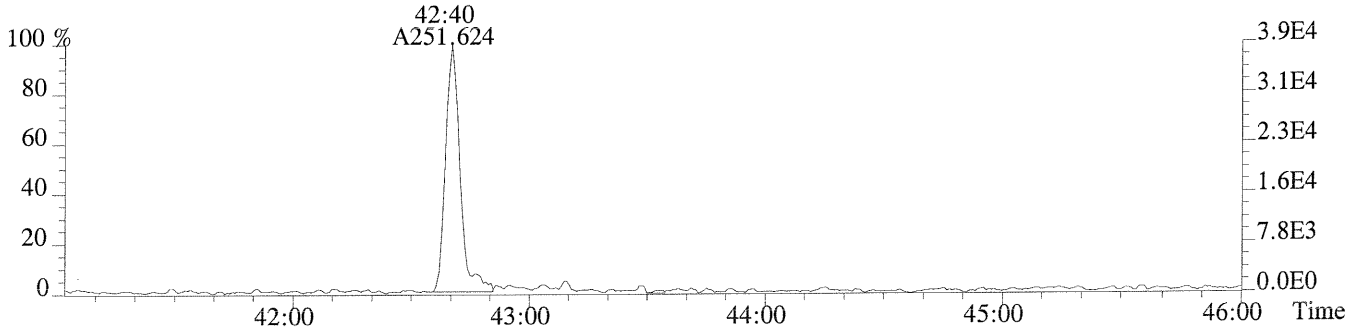
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



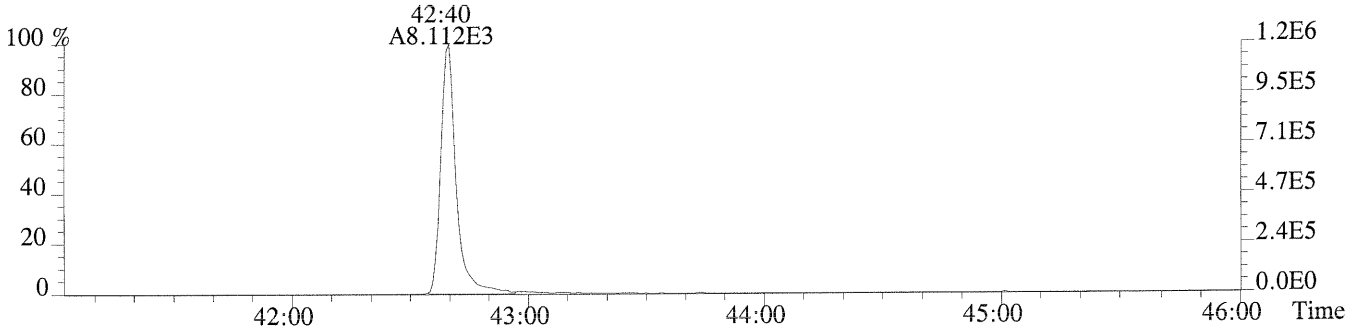
File:U149685 #1-451 Acq:23-JUN-2014 14:27:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:K1405833-003
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,540.0,0.40%,F,T)



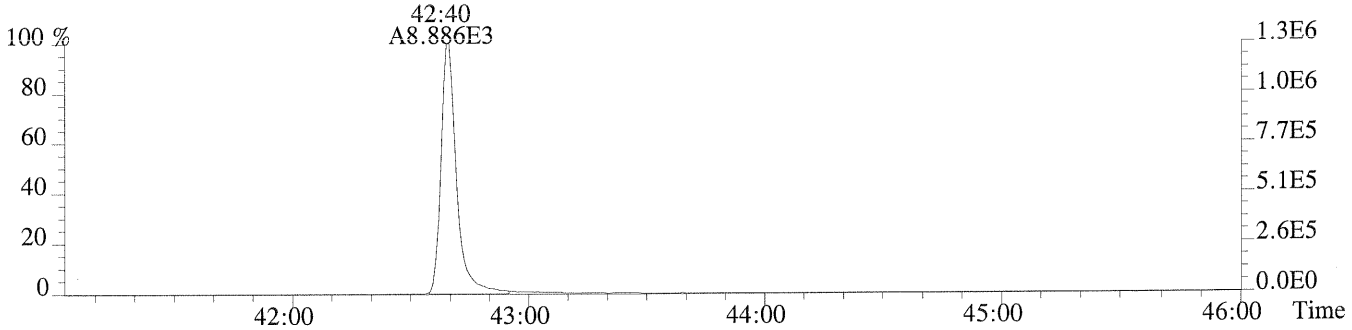
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,576.0,0.40%,F,T)



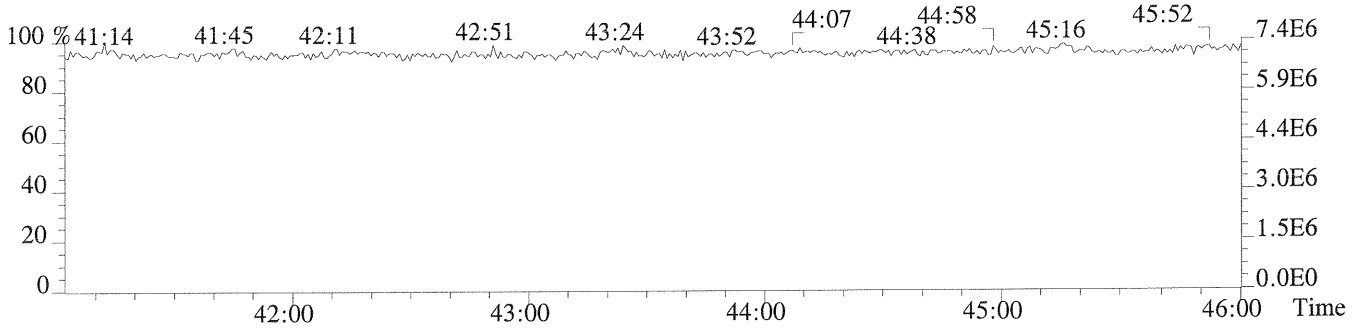
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,808.0,0.40%,F,T)



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)



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Sample Response Summary — CLIENT ID.
METHOD 1613B/8290A — METHOD BLANK

Run #8 Filename U149688 Samp: 1 Inj: 1 Acquired: 23-JUN-14 17:25:41
Processed: 24-JUN-14 08:35:01 Sample ID: EQ1400321-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.944
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.977
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:53	1.304e+01	1.174e+01	1.11	yes	yes	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.358
10	Unk	OCDF	NotFnd	*	*	*	no	no	1.350
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.013
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	1.211e+01	9.011e+00	1.34	no	yes	1.065
17	Unk	OCDD	42:41	1.325e+01	1.628e+01	0.81	yes	yes	1.177
18	IS	13C-2,3,7,8-TCDF	28:35	7.182e+03	8.750e+03	0.82	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:42	1.463e+04	9.184e+03	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:37	1.424e+04	8.976e+03	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:15	6.433e+03	1.231e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	8.798e+03	1.644e+04	0.54	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:52	8.237e+03	1.572e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	7.465e+03	1.428e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:52	5.201e+03	1.149e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:19	5.152e+03	1.149e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:21	4.694e+03	6.013e+03	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:53	9.708e+03	6.287e+03	1.54	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:59	8.268e+03	6.396e+03	1.29	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	8.951e+03	6.959e+03	1.29	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	7.875e+03	7.304e+03	1.08	yes	no	0.936
32	IS	13C-OCDD	42:41	9.195e+03	1.006e+04	0.91	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:46	7.935e+03	1.019e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	1.383e+04	1.068e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:22	3.567e+03				no	1.044

$$\text{OCDD} = \frac{(1.325e+01 + 1.628e+01) \times 4000\ \text{pg} \times 1}{(9.195e+03 + 1.006e+04) \times \times \times 1.177} =$$

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1613RESP1

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
METHOD BLANK

Run #8 Filename U149688 Samp: 1 Inj: 1 Acquired: 23-JUN-14 17:25:41
Processed: 24-JUN-14 08:35:011 LAB. ID: EQ1400321-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	6.24e+02	*	*	6.24e+02	*
2	1,2,3,7,8-PeCDF	*	5.80e+02	*	*	5.72e+02	*
3	2,3,4,7,8-PeCDF	*	5.80e+02	*	*	5.72e+02	*
4	1,2,3,4,7,8-HxCDF	*	8.24e+02	*	*	6.44e+02	*
5	1,2,3,6,7,8-HxCDF	*	8.24e+02	*	*	6.44e+02	*
6	2,3,4,6,7,8-HxCDF	*	8.24e+02	*	*	6.44e+02	*
7	1,2,3,7,8,9-HxCDF	*	8.24e+02	*	*	6.44e+02	*
8	1,2,3,4,6,7,8-HpCDF	2.76e+03	4.36e+02	6.3e+00	2.51e+03	4.88e+02	5.1e+00
9	1,2,3,4,7,8,9-HpCDF	*	4.36e+02	*	*	4.88e+02	*
10	OCDF	*	4.96e+02	*	*	7.80e+02	*
11	2,3,7,8-TCDD	*	8.12e+02	*	*	6.84e+02	*
12	1,2,3,7,8-PeCDD	*	6.00e+02	*	*	5.76e+02	*
13	1,2,3,4,7,8-HxCDD	*	8.28e+02	*	*	6.88e+02	*
14	1,2,3,6,7,8-HxCDD	*	8.28e+02	*	*	6.88e+02	*
15	1,2,3,7,8,9-HxCDD	*	8.28e+02	*	*	6.88e+02	*
16	1,2,3,4,6,7,8-HpCDD	2.66e+03	7.64e+02	3.5e+00	1.64e+03	6.00e+02	2.7e+00
17	OCDD	1.91e+03	5.48e+02	3.5e+00	3.17e+03	5.40e+02	5.9e+00
18	13C-2,3,7,8-TCDF	1.46e+06	7.48e+02	2.0e+03	1.80e+06	5.52e+02	3.3e+03
19	13C-1,2,3,7,8-PeCDF	2.70e+06	5.00e+02	5.4e+03	1.67e+06	5.48e+02	3.0e+03
20	13C-2,3,4,7,8-PeCDF	2.77e+06	5.00e+02	5.5e+03	1.75e+06	5.48e+02	3.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.42e+06	7.56e+02	1.9e+03	2.67e+06	8.48e+02	3.1e+03
22	13C-1,2,3,6,7,8-HxCDF	1.79e+06	7.56e+02	2.4e+03	3.35e+06	8.48e+02	4.0e+03
23	13C-2,3,4,6,7,8-HxCDF	1.68e+06	7.56e+02	2.2e+03	3.24e+06	8.48e+02	3.8e+03
24	13C-1,2,3,7,8,9-HxCDF	1.47e+06	7.56e+02	1.9e+03	2.78e+06	8.48e+02	3.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.07e+06	1.00e+03	1.1e+03	2.34e+06	2.03e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	9.20e+05	1.00e+03	9.2e+02	2.04e+06	2.03e+03	1.0e+03
27	13C-2,3,7,8-TCDD	9.71e+05	1.21e+03	8.0e+02	1.27e+06	7.48e+02	1.7e+03
28	13C-1,2,3,7,8-PeCDD	1.94e+06	5.80e+02	3.3e+03	1.22e+06	6.56e+02	1.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.86e+06	7.00e+02	2.7e+03	1.43e+06	5.84e+02	2.4e+03
30	13C-1,2,3,6,7,8-HxCDD	1.77e+06	7.00e+02	2.5e+03	1.41e+06	5.84e+02	2.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.49e+06	5.92e+02	2.5e+03	1.38e+06	5.00e+02	2.8e+03
32	13C-OCDD	1.34e+06	4.72e+02	2.8e+03	1.48e+06	6.28e+02	2.4e+03
33	13C-1,2,3,4-TCDD	1.69e+06	1.21e+03	1.4e+03	2.19e+06	7.48e+02	2.9e+03
34	13C-1,2,3,7,8,9-HxCDD	2.61e+06	7.00e+02	3.7e+03	2.01e+06	5.84e+02	3.4e+03
35	37Cl-2,3,7,8-TCDD	7.49e+05	6.56e+02	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 43 Totals Name: Total Hepta-Furans

Run: 8 File: U149688 Sample: 1 Injection: 1 Function: 4
Llim: 38:46 Ulim: 40:29
Acquired: 23-JUN-14 17:25:41 Processed: 24-JUN-14 08:35:01
Mass: 407.7820 409.7790 Tot Response: 2.48e+01 RRF: 1.393

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:53	1.30e+01	1.17e+01 1.11	yes	2.48e+01	1,2,3,4,6,7,8-HpCDF	y	y

ALS ENVIRONMENTAL
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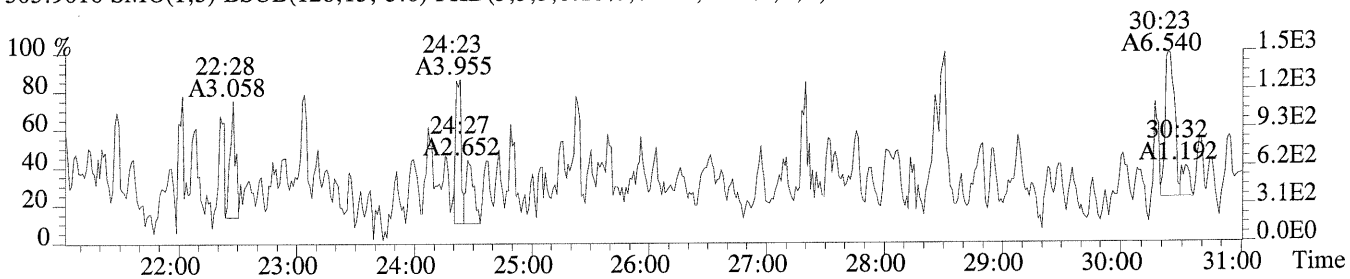
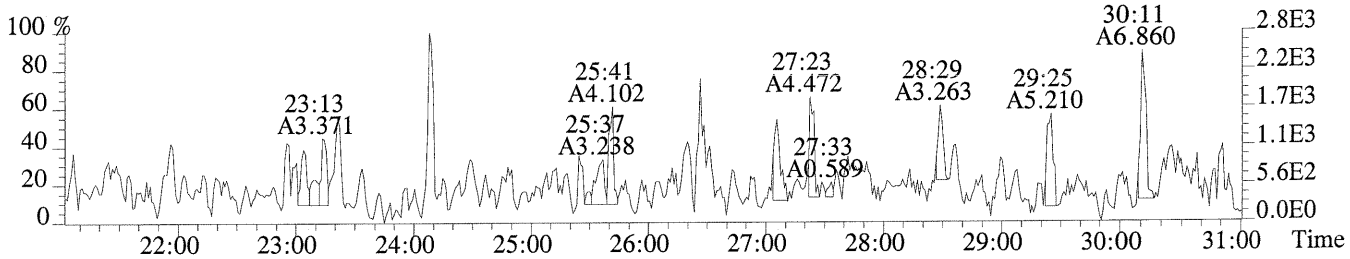
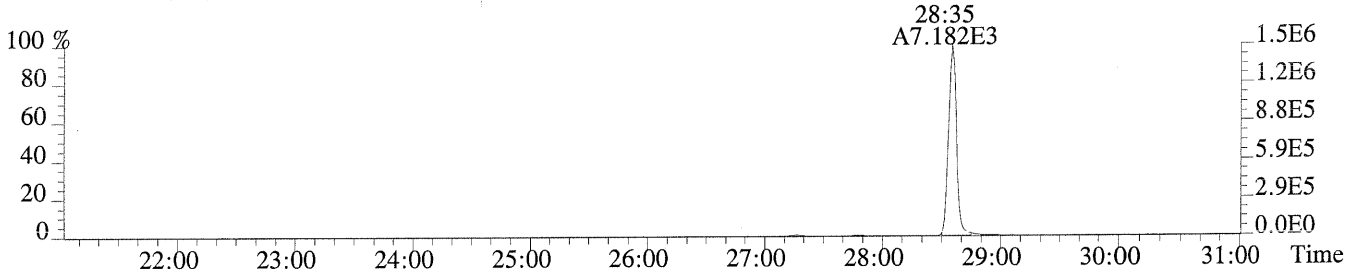
File:U149688 #1-627 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



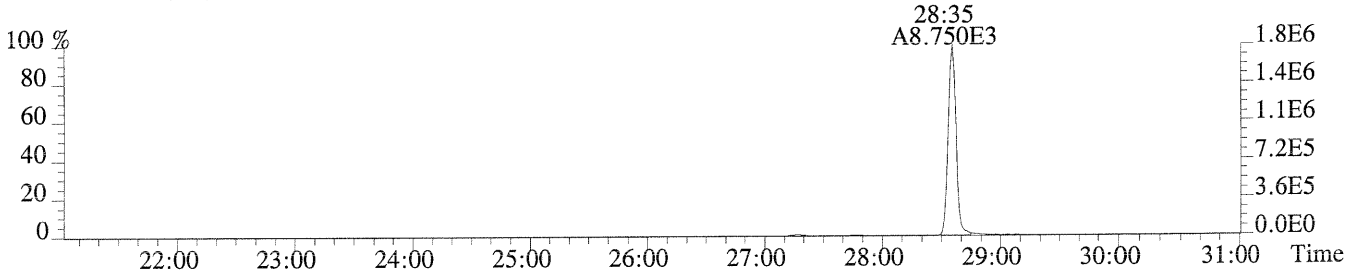
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



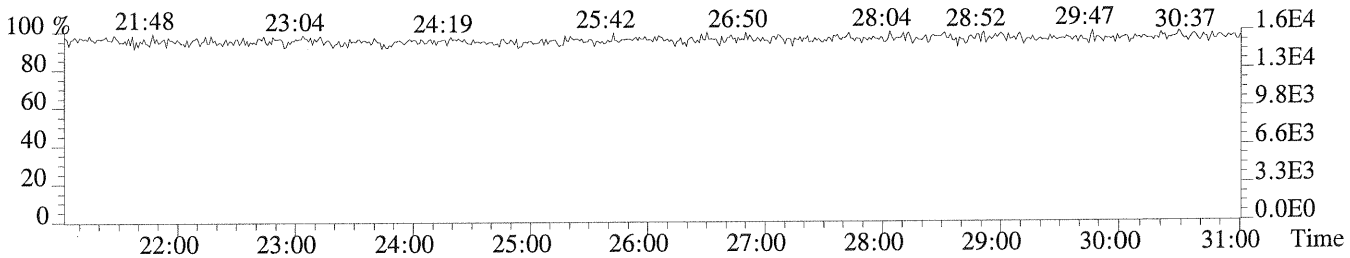
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,748.0,1.00%,F,T)



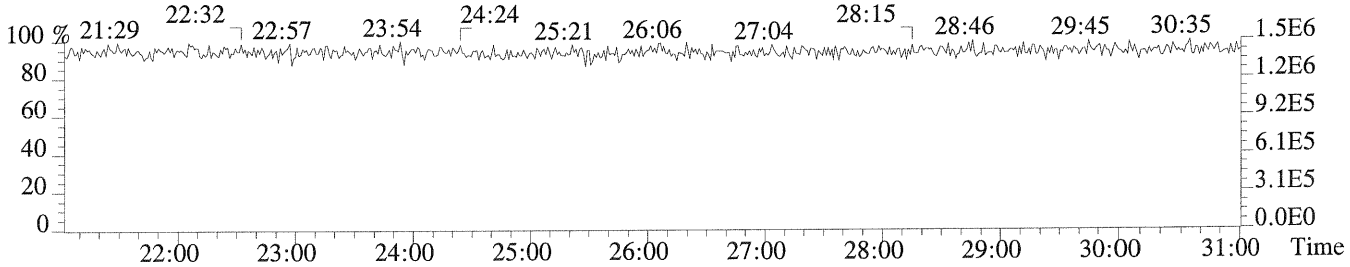
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



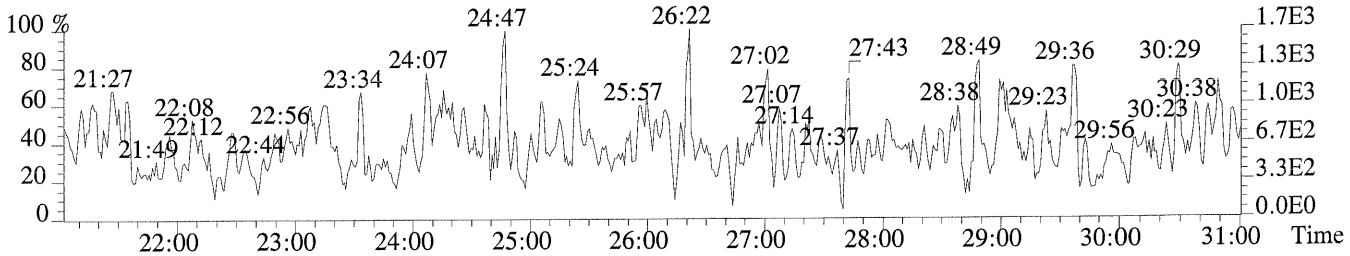
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



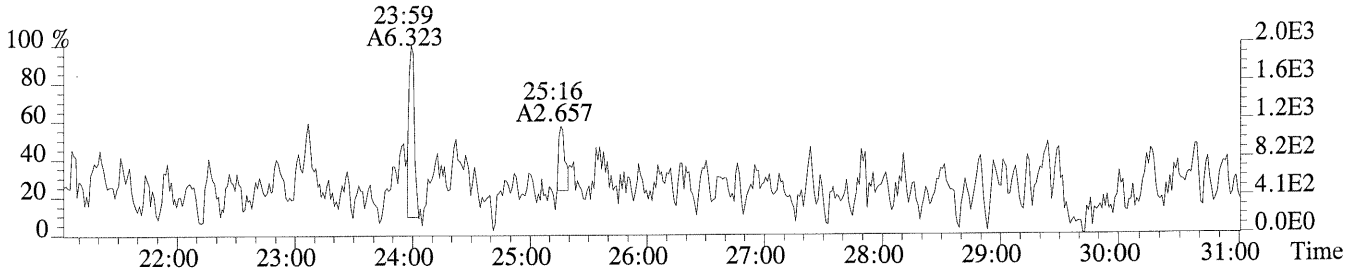
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



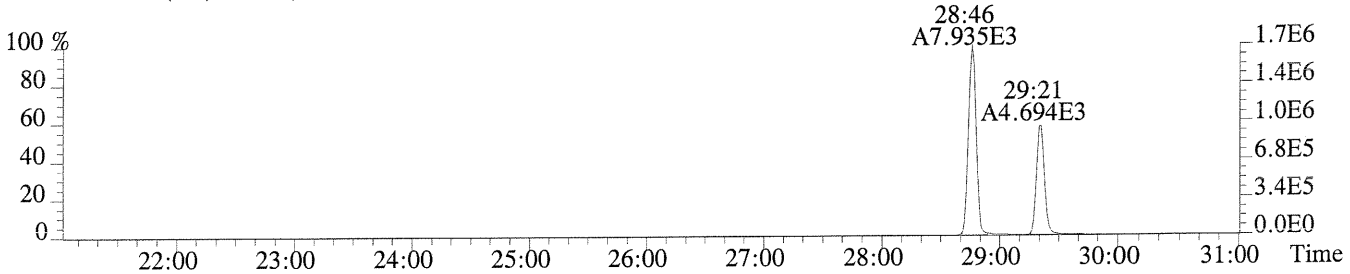
File:U149688 #1-627 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



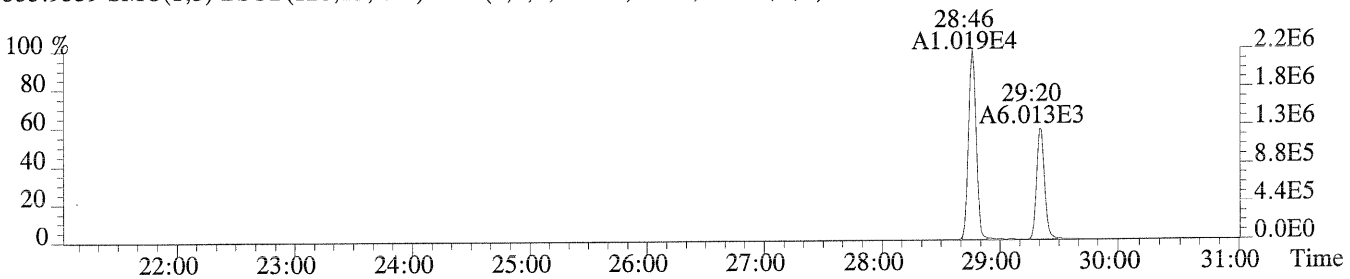
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



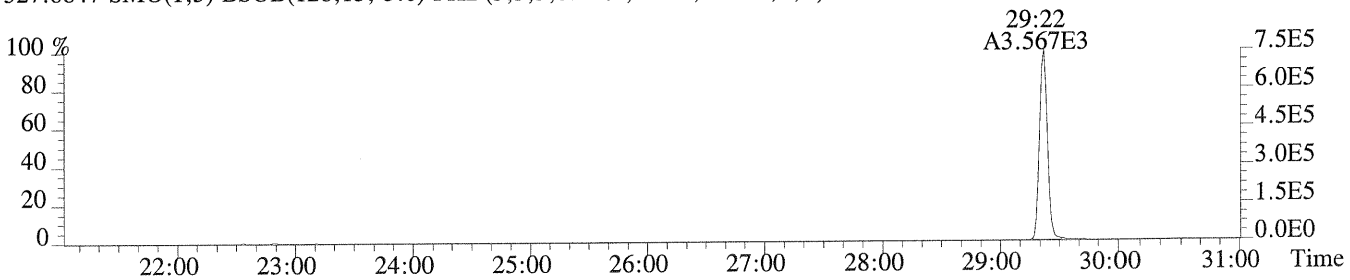
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



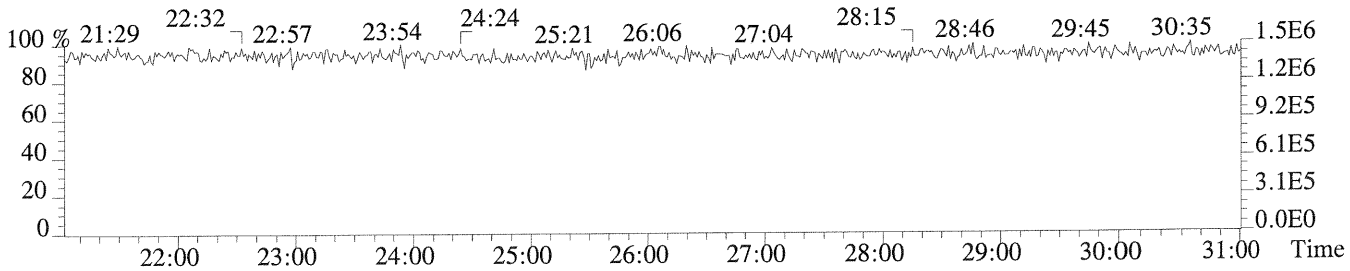
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,748.0,1.00%,F,T)



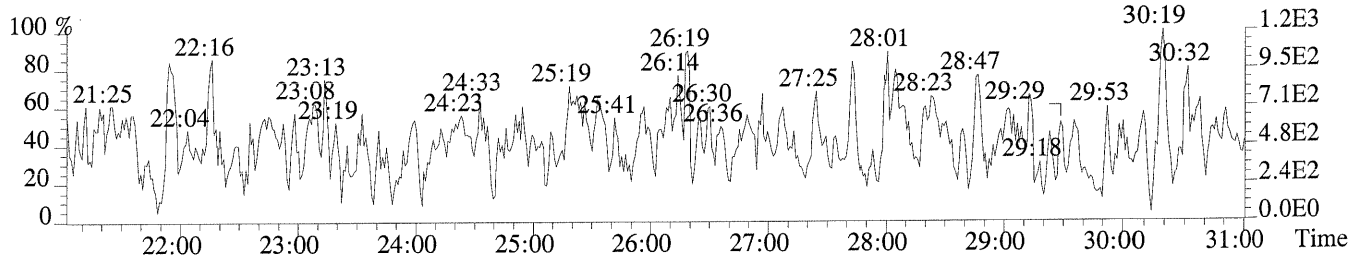
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



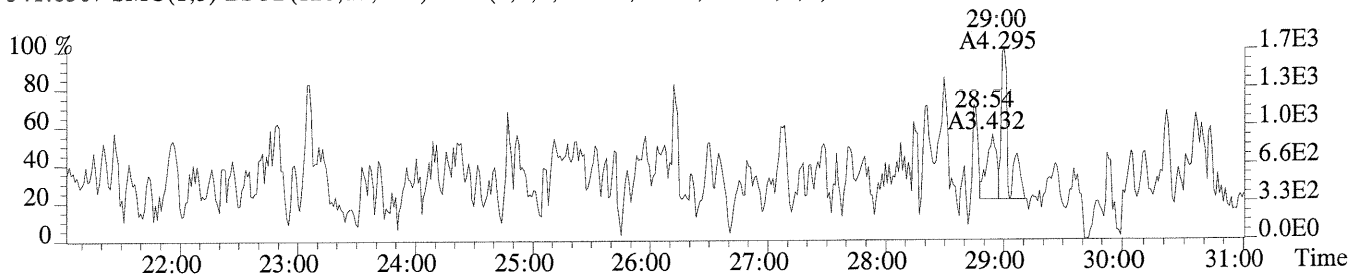
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



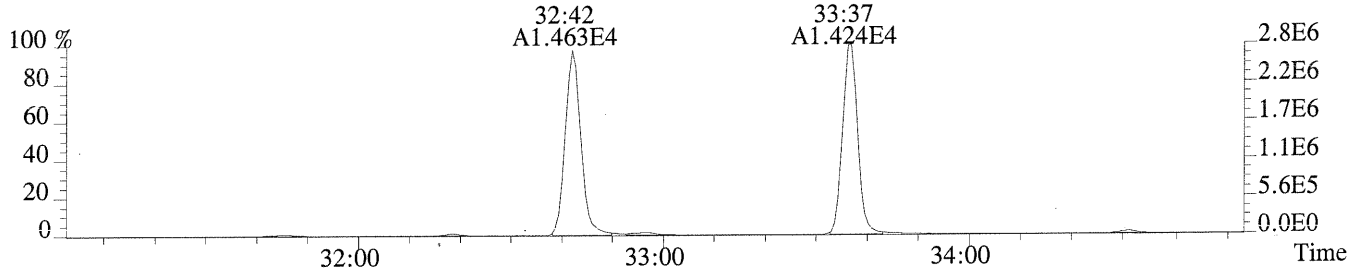
File:U149688 #1-627 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



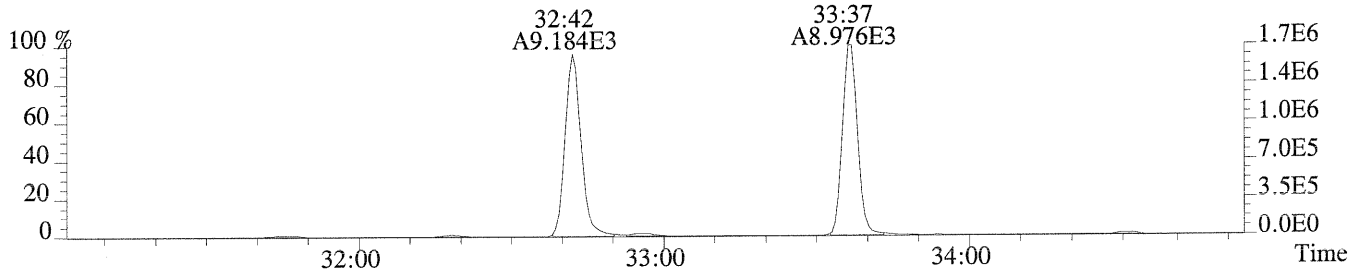
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



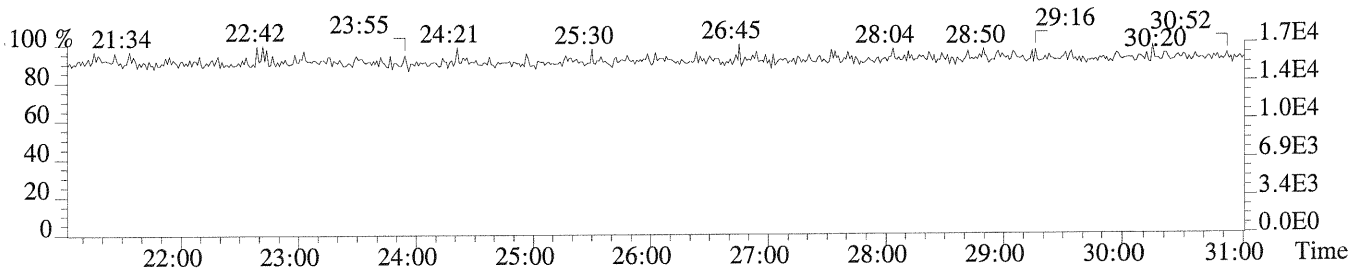
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



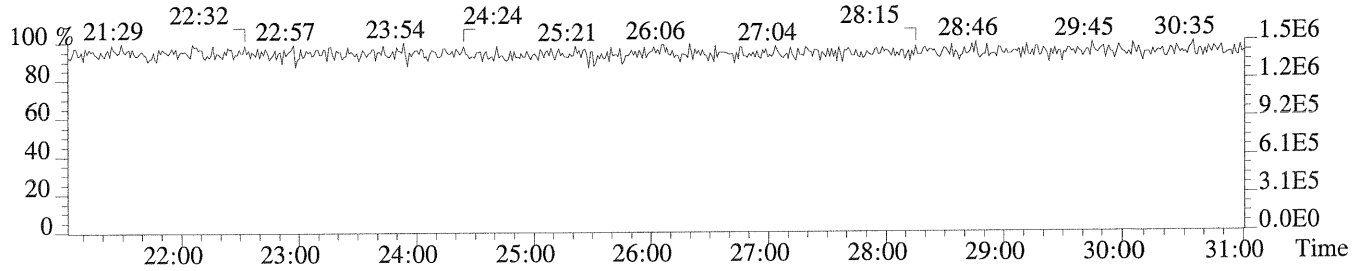
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



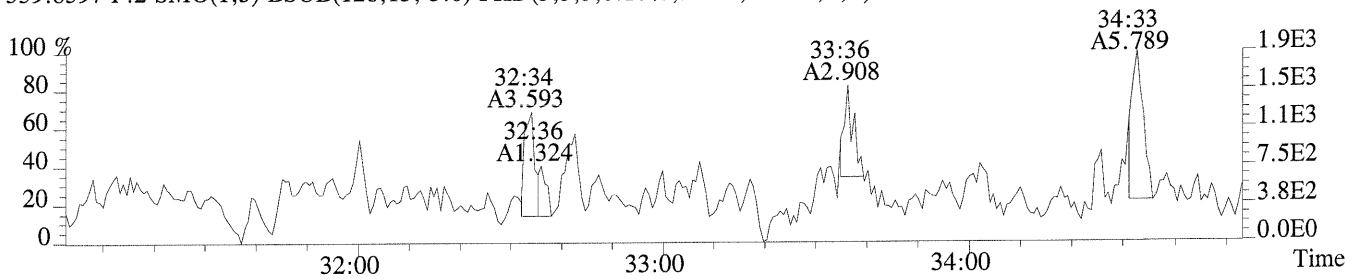
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



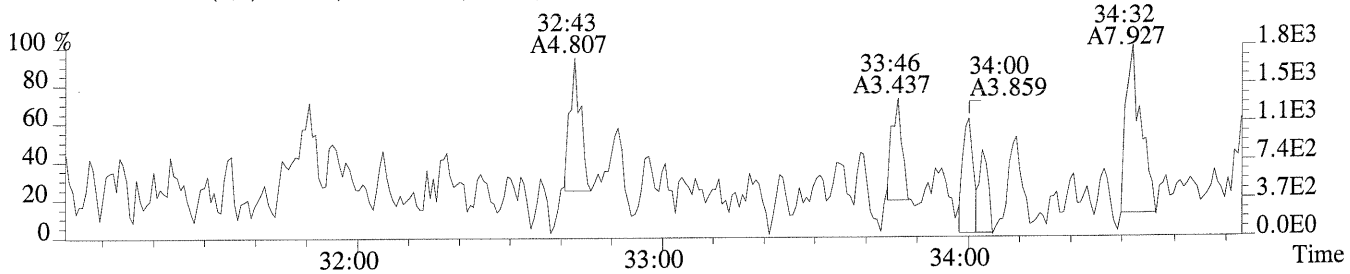
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



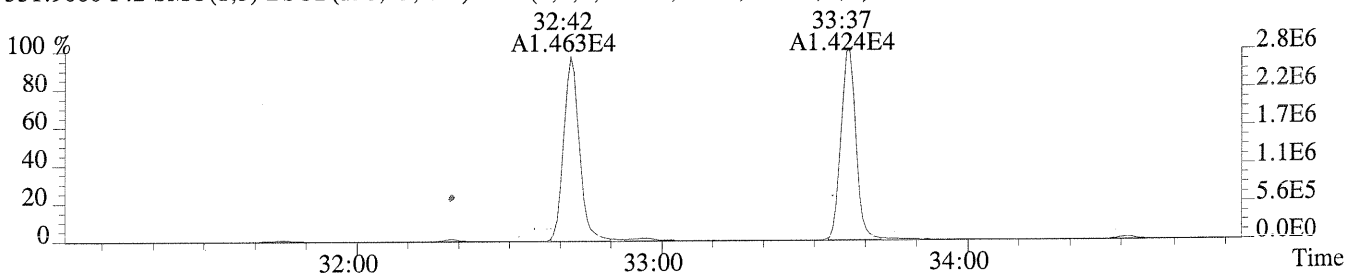
File:U149688 #1-349 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,580.0,1.00%,F,T)



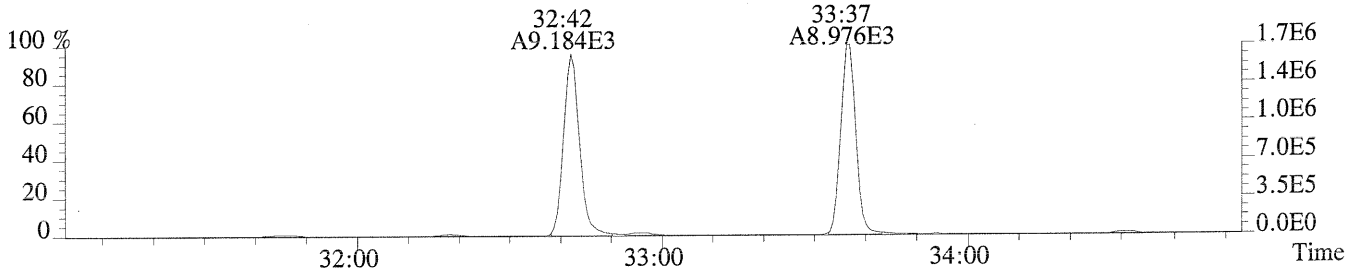
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



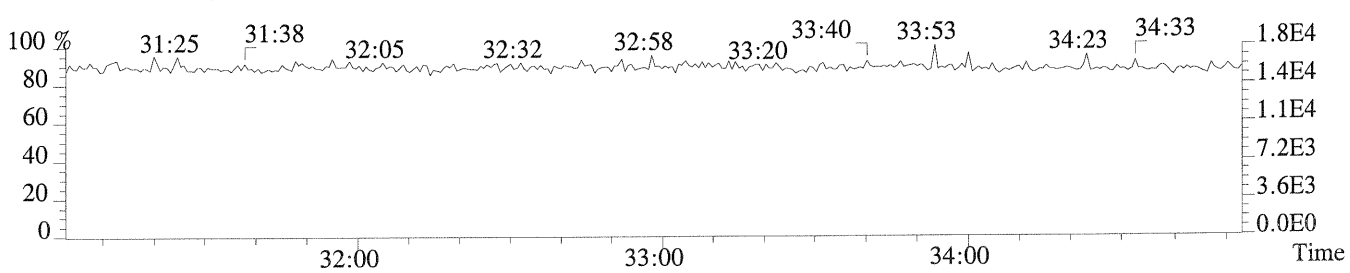
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



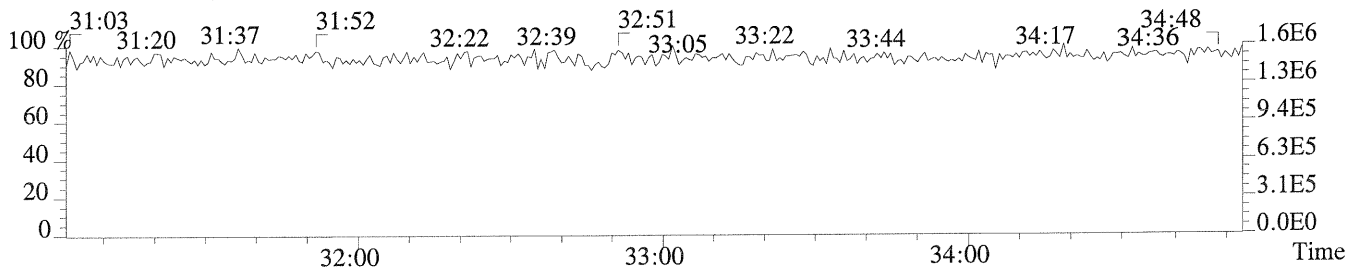
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



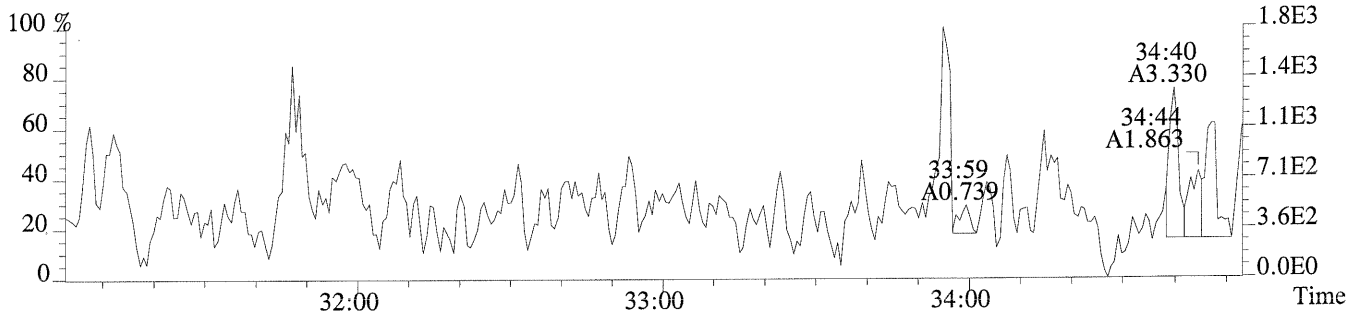
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



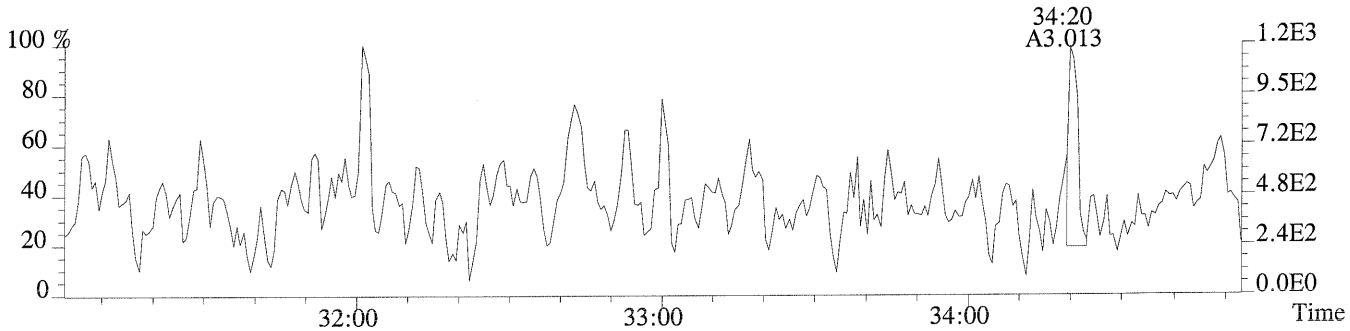
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



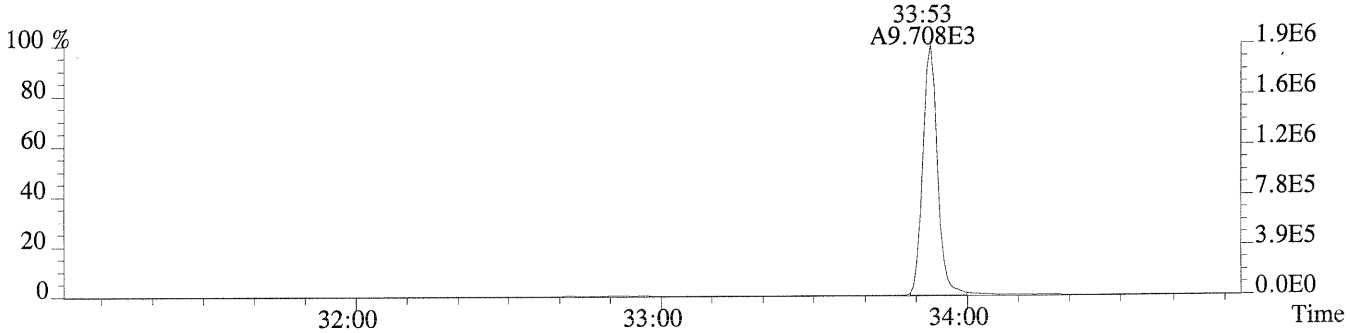
File:U149688 #1-349 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



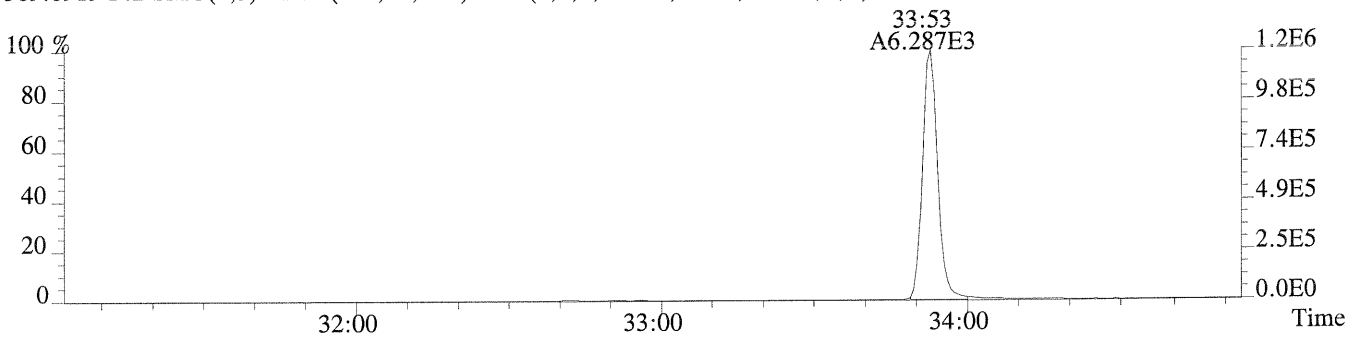
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



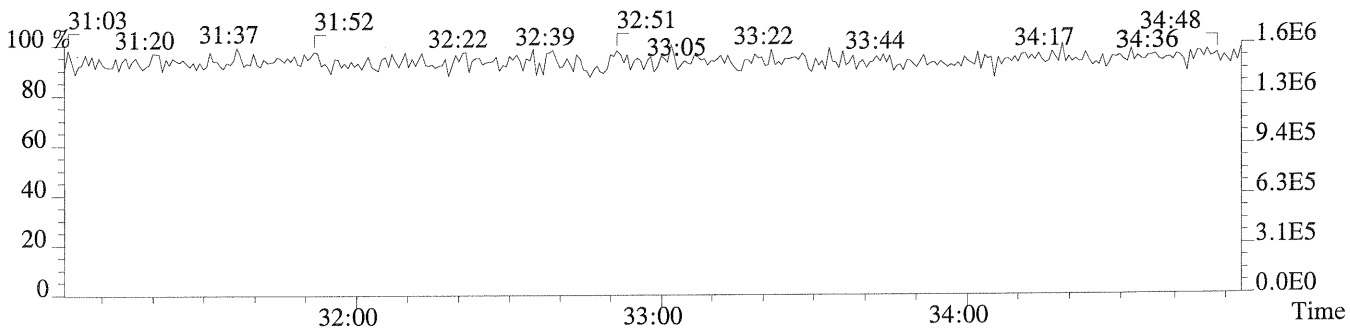
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,580.0,1.00%,F,T)



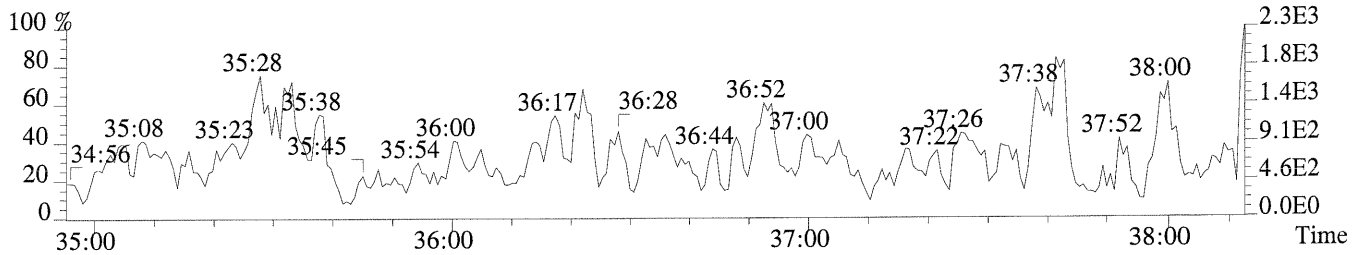
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



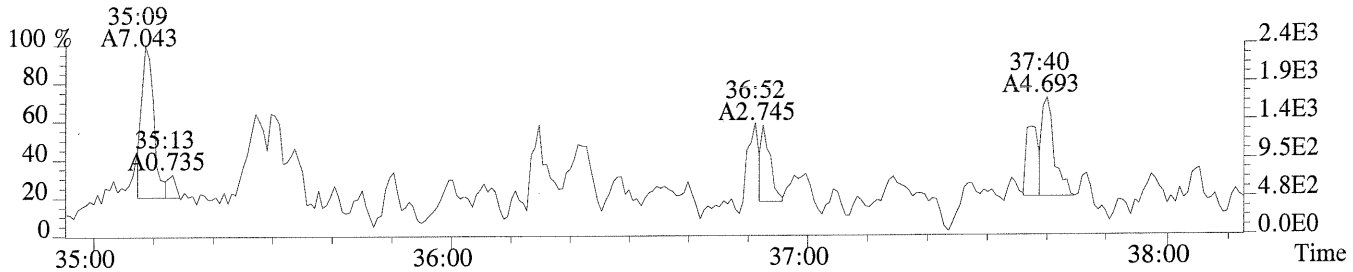
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



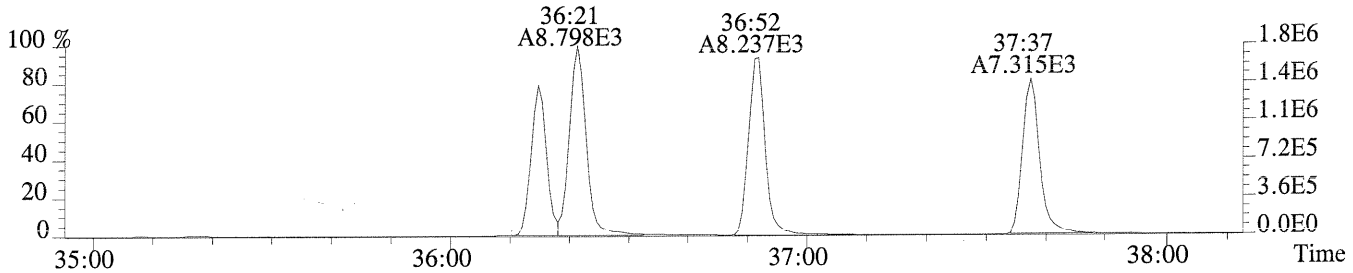
File:U149688 #1-299 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



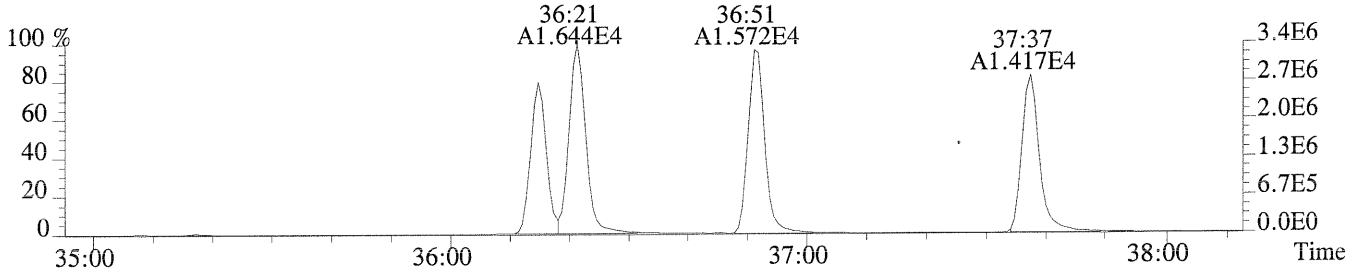
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,644.0,0.40%,F,T)



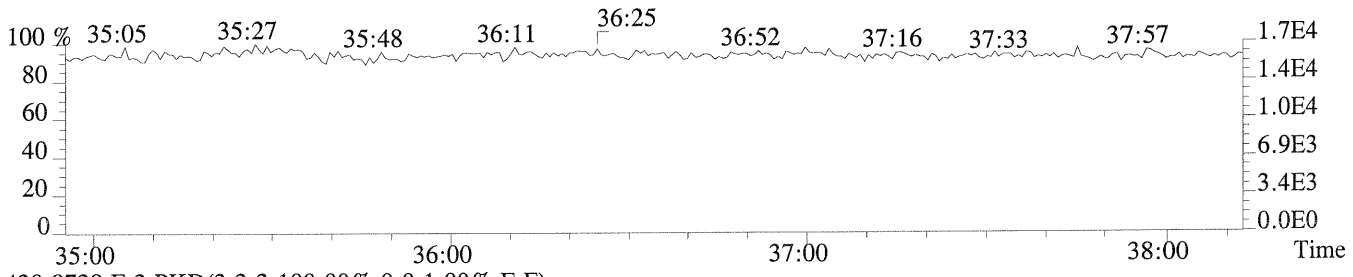
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



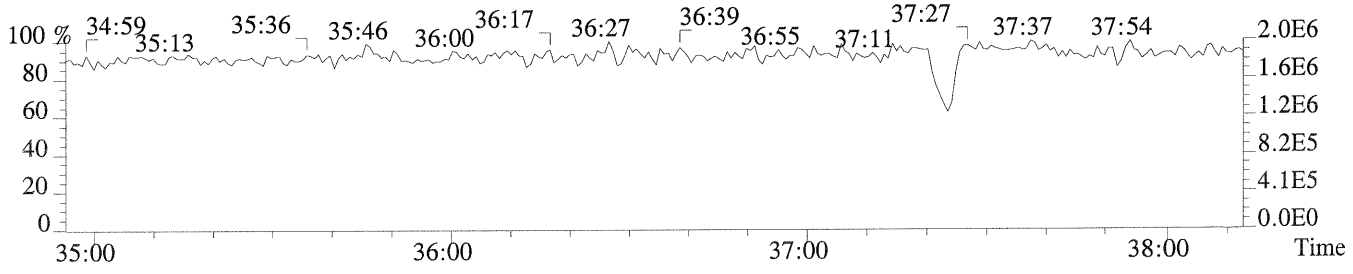
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



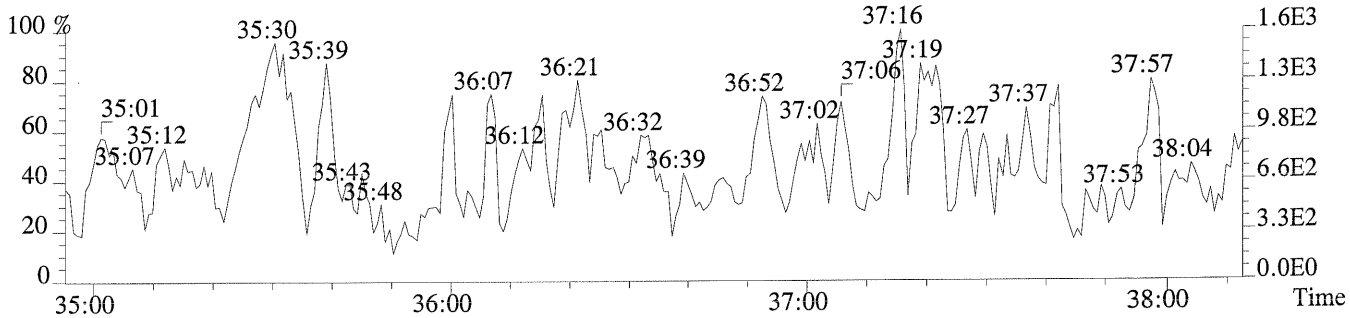
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



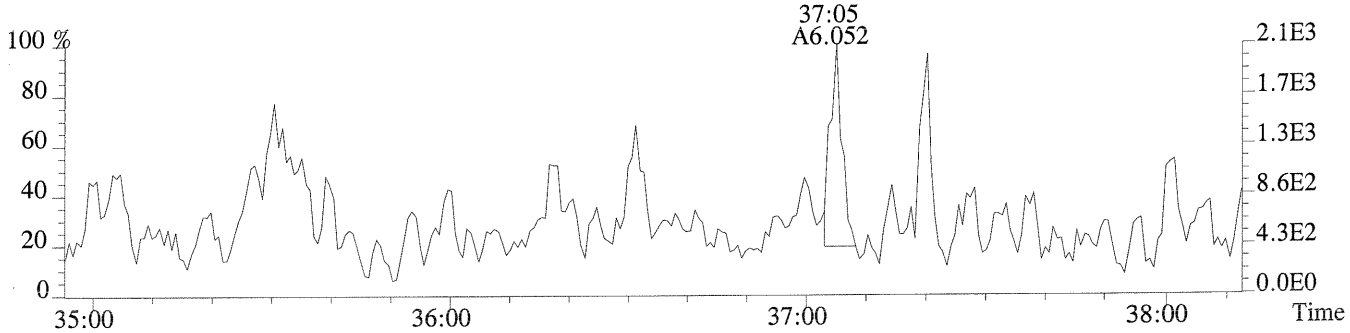
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



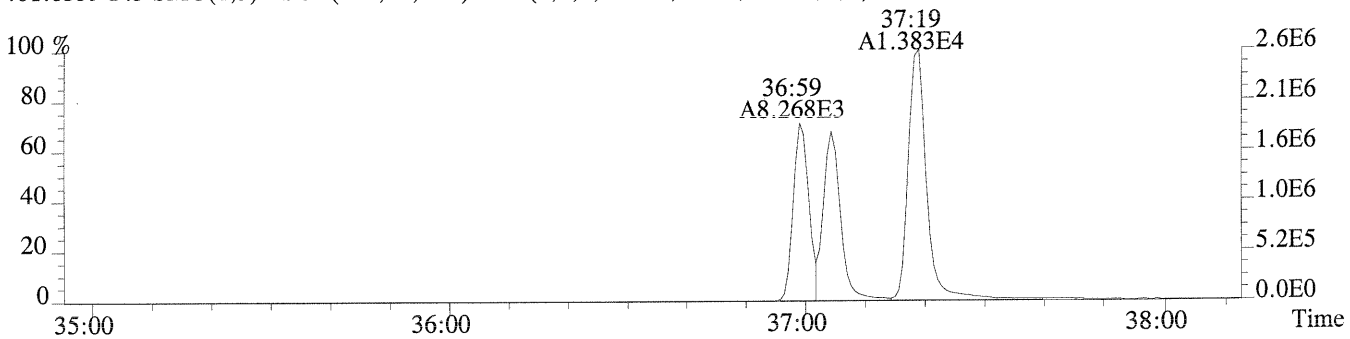
File:U149688 #1-299 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



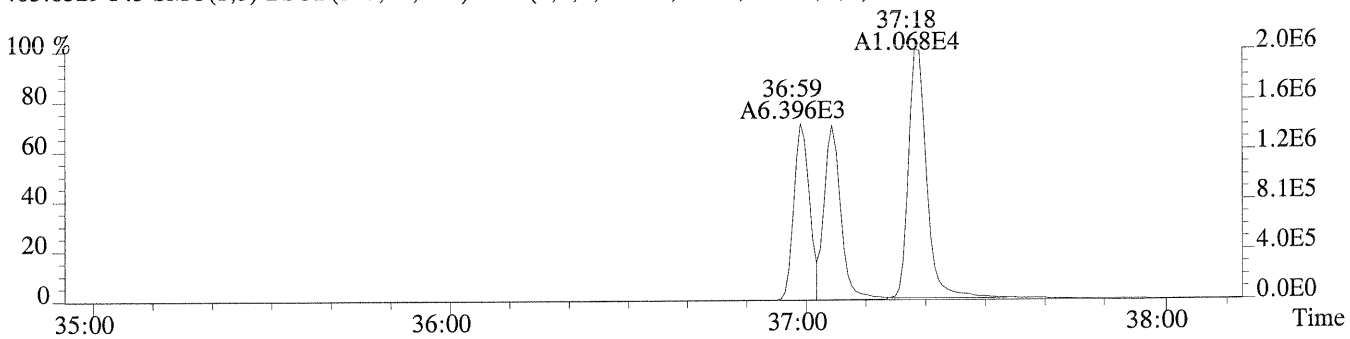
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



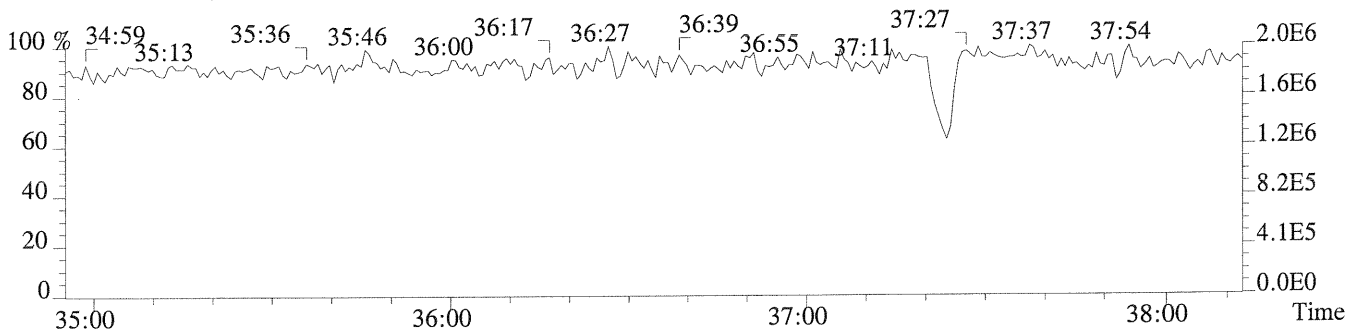
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,584.0,0.40%,F,T)

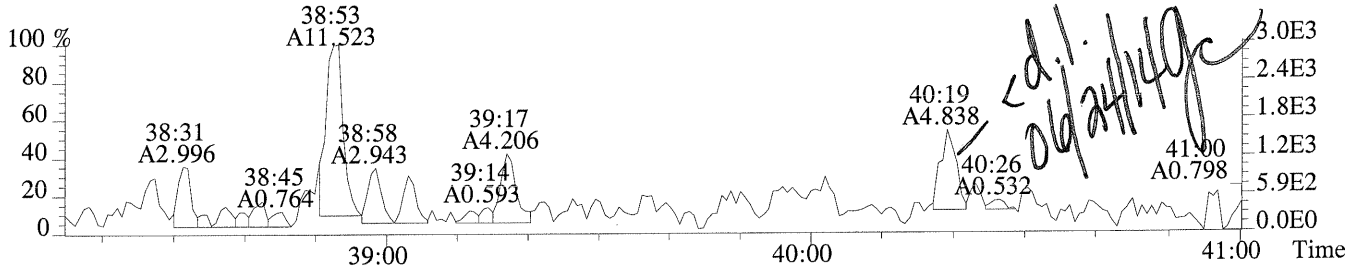


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

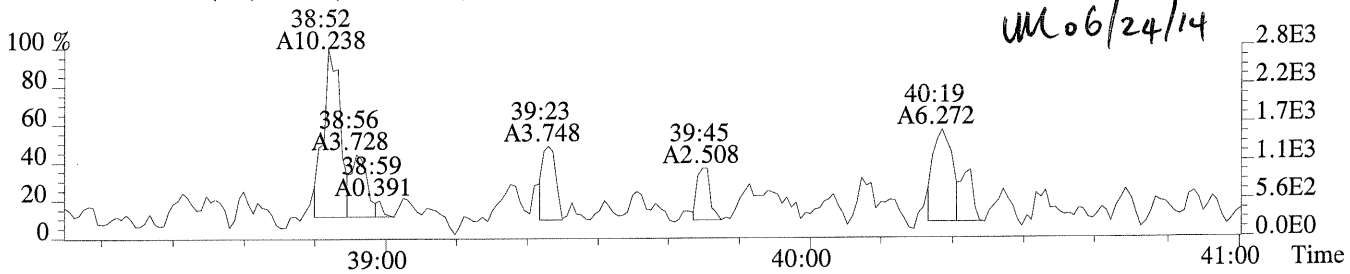


File:U149688 #1-251 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01

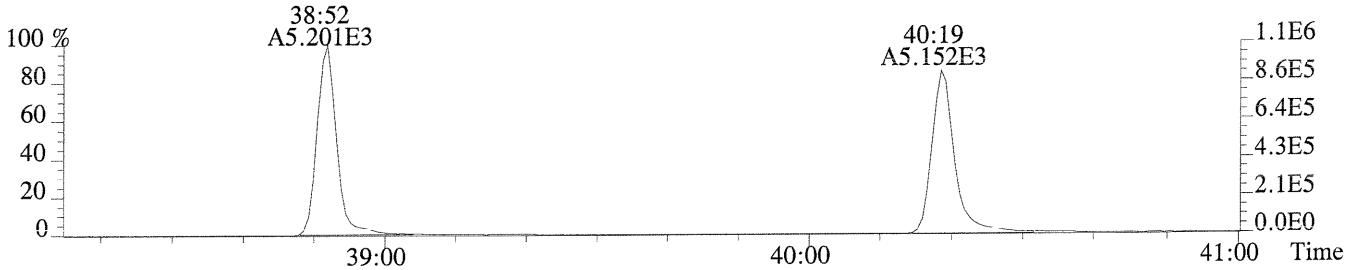
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.50%,F,T)



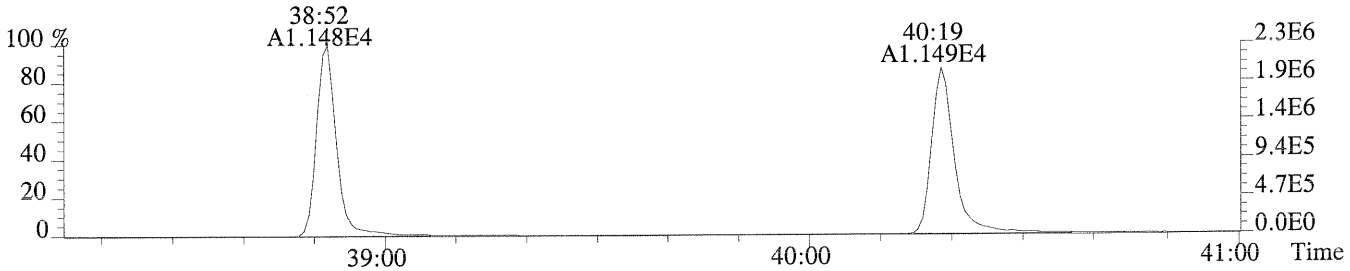
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.50%,F,T)



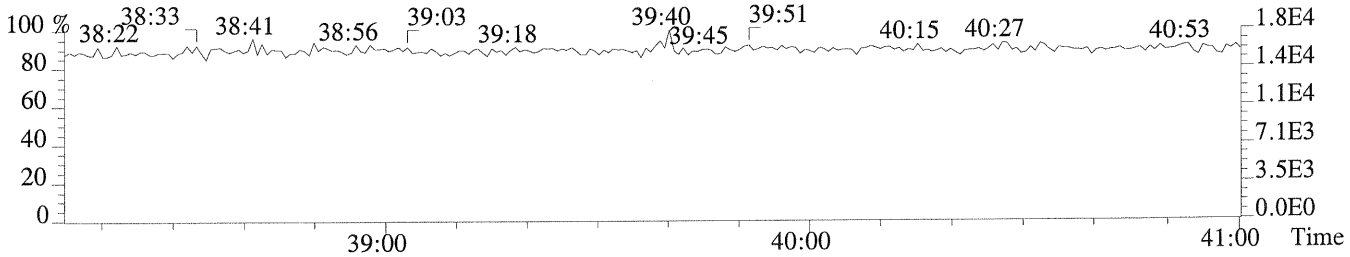
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.50%,F,T)



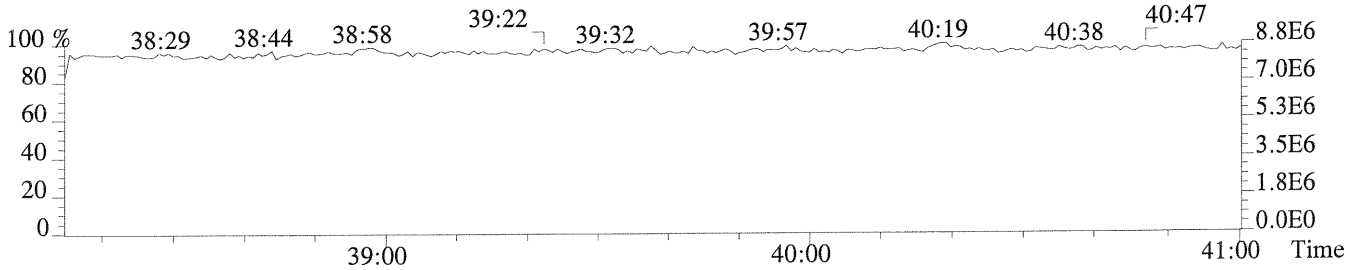
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2032.0,0.50%,F,T)



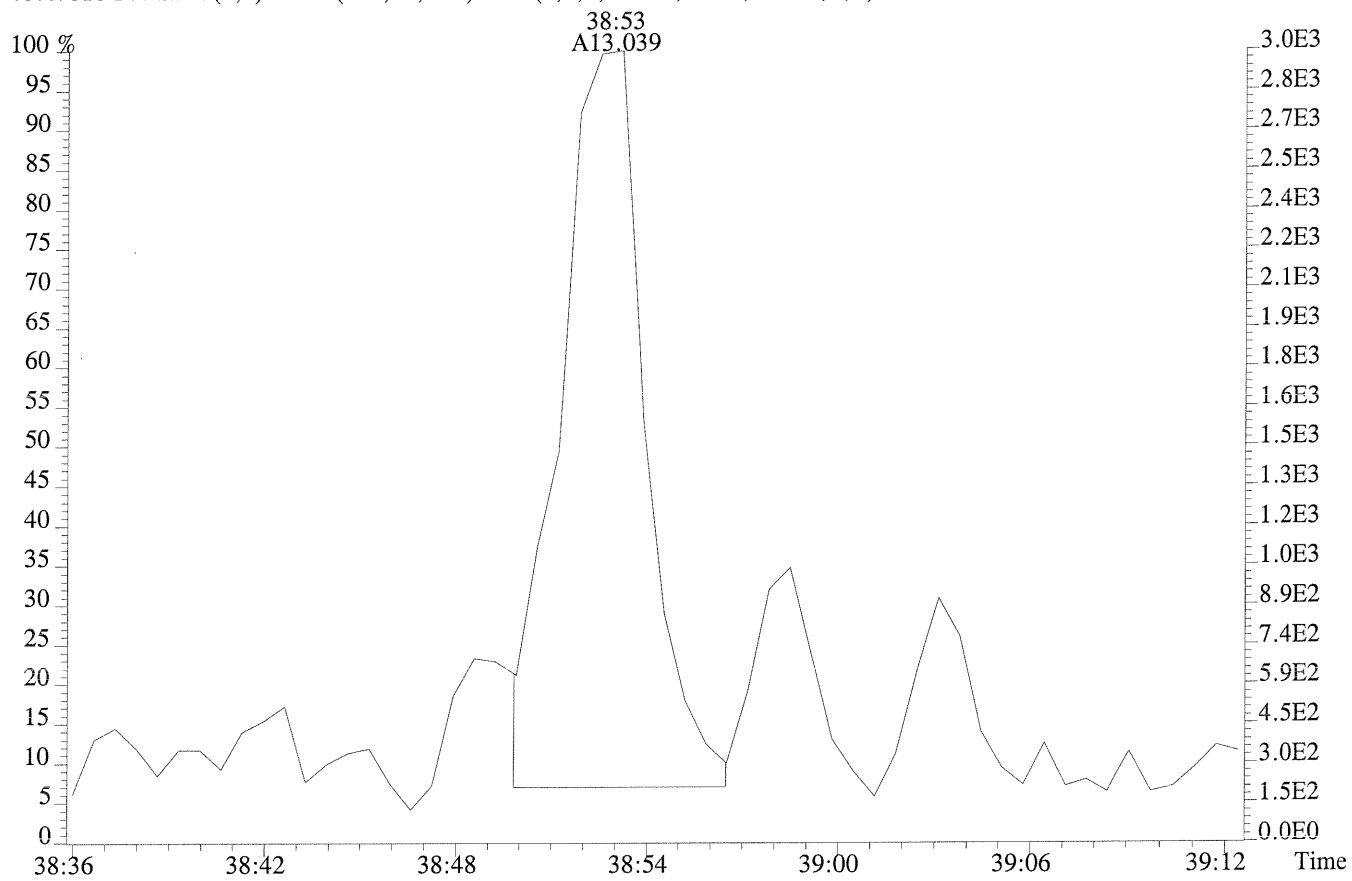
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



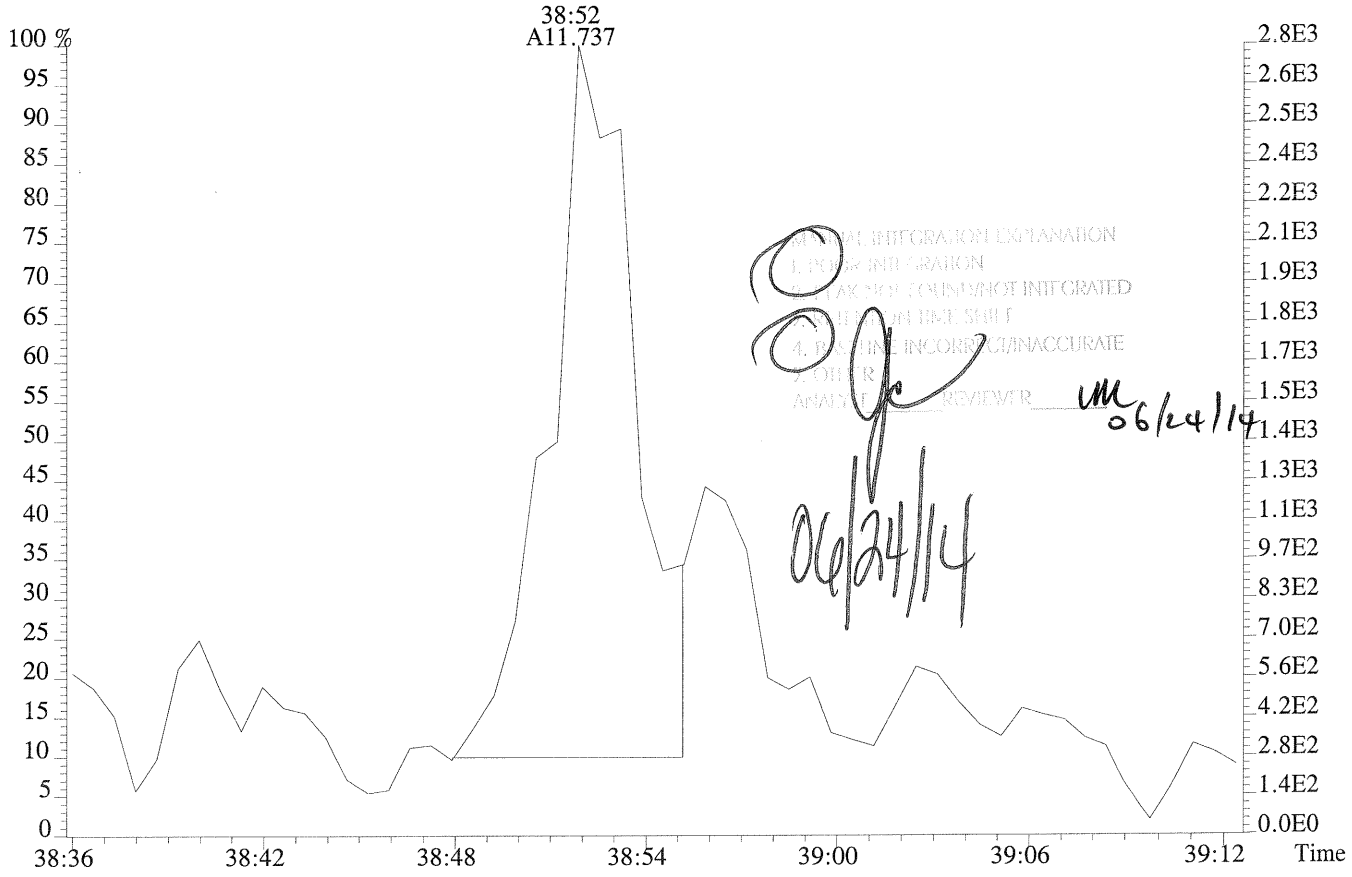
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U149688 #1-251 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.50%,F,T)



409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.50%,F,T)

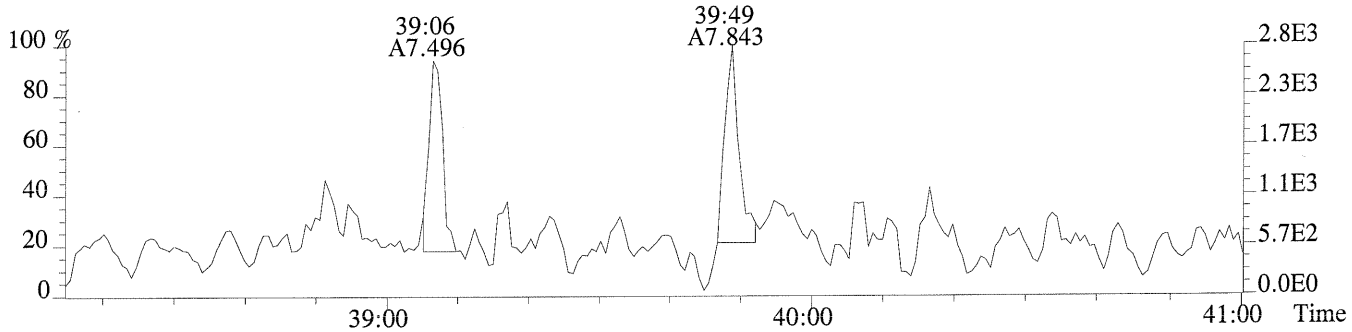


4. INCORRECT/INACCURATE

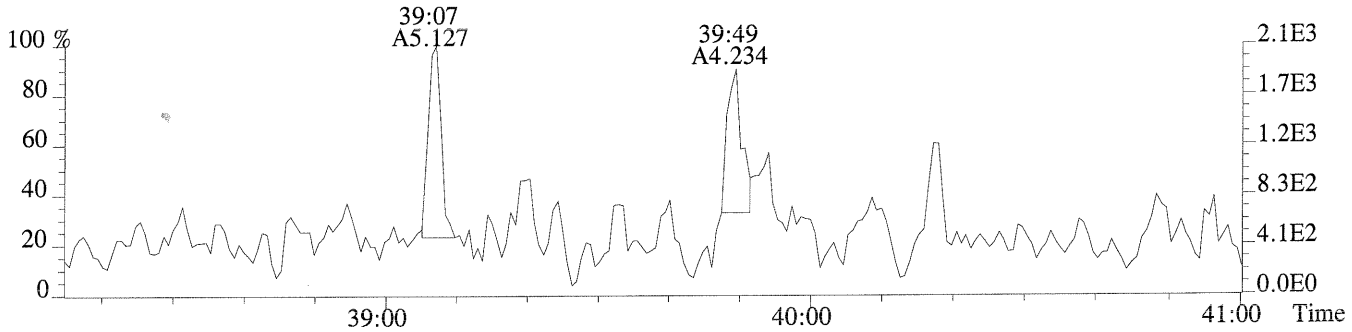
ANALYST REVIEWER 06/24/14

06/24/14

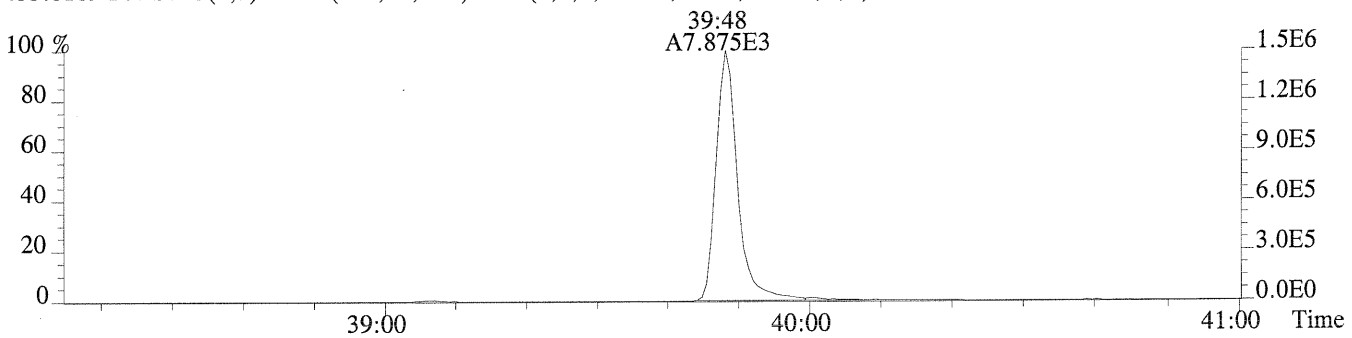
File:U149688 #1-251 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,764.0,0.40%,F,T)



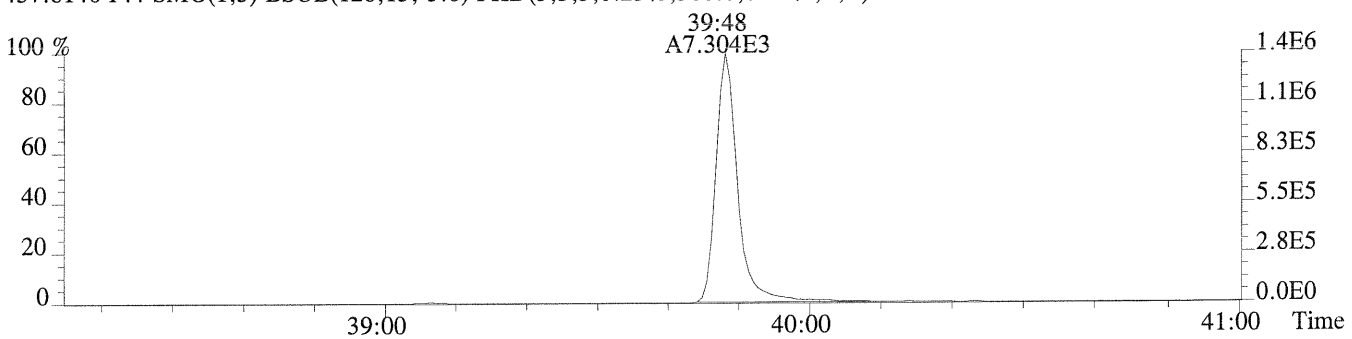
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.40%,F,T)



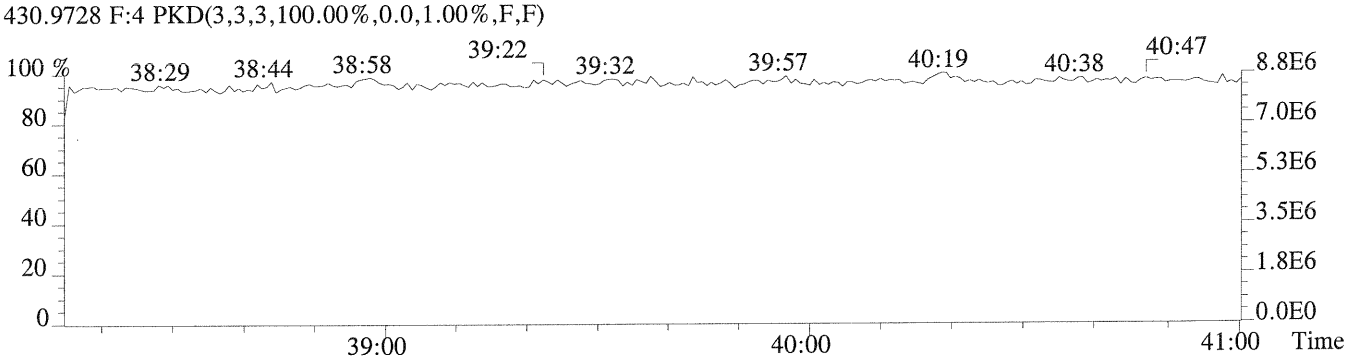
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,592.0,0.40%,F,T)



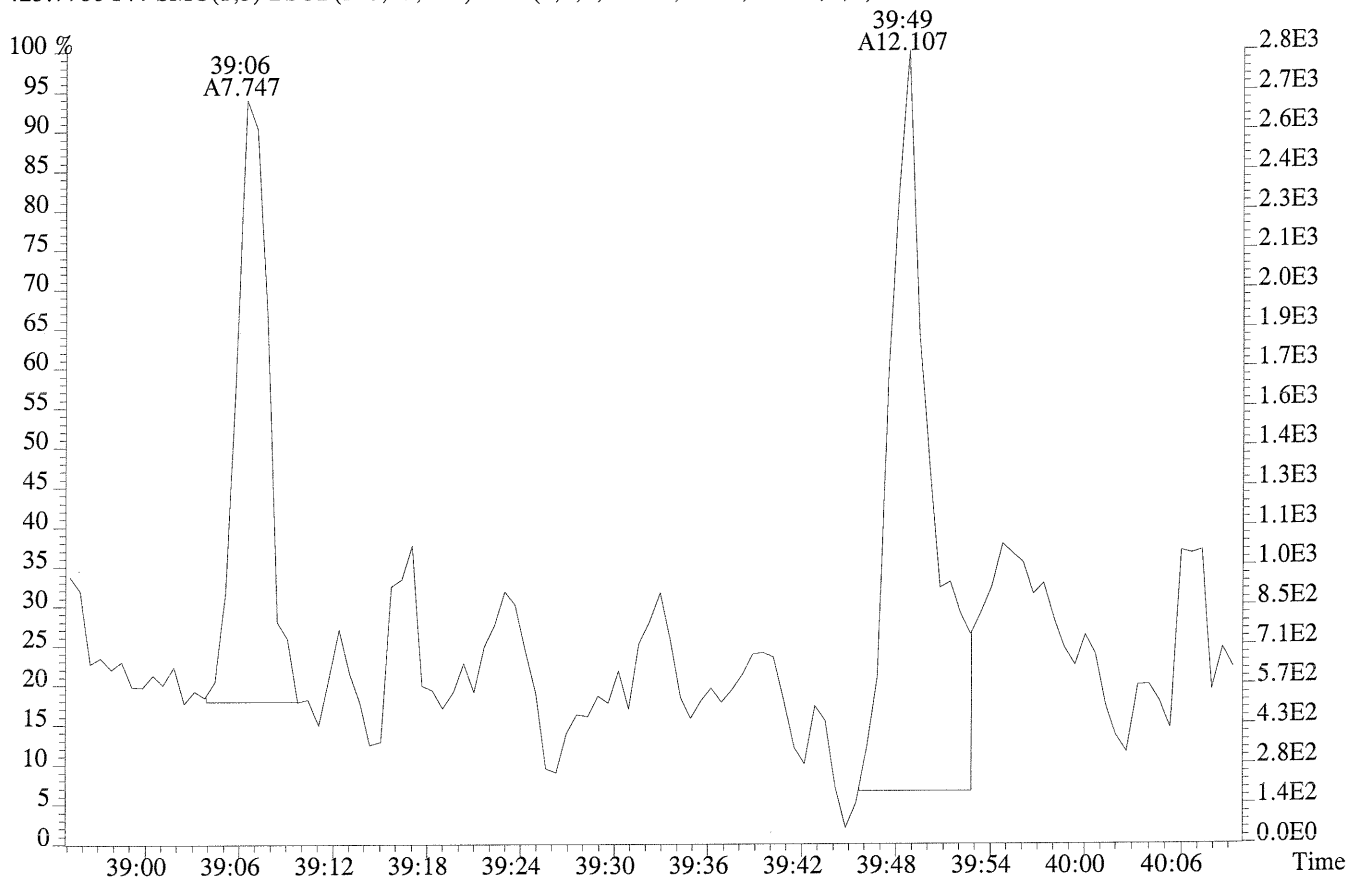
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,500.0,0.40%,F,T)



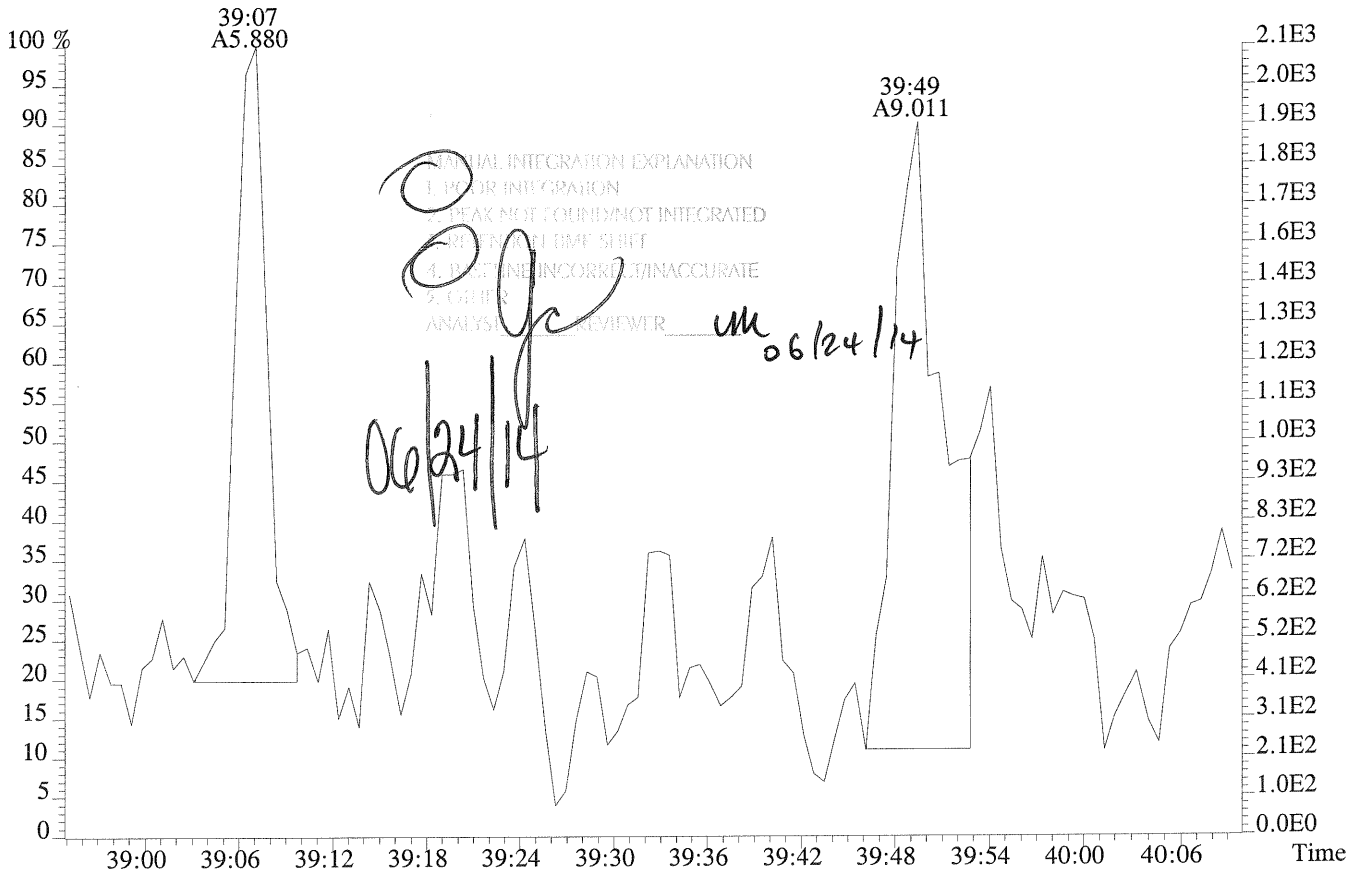
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U149688 #1-251 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,764.0,0.40%,F,T)



425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.40%,F,T)

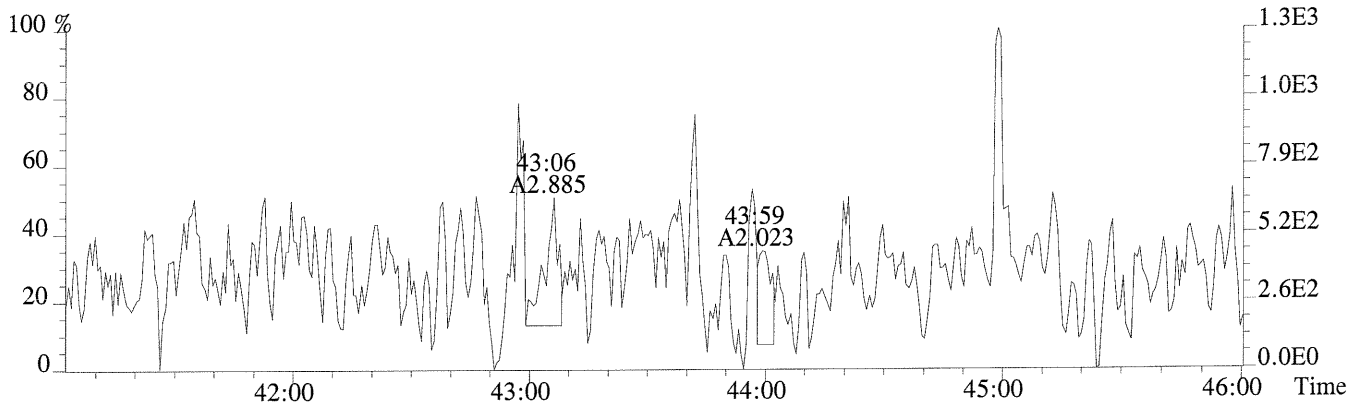


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST/REVIEWER

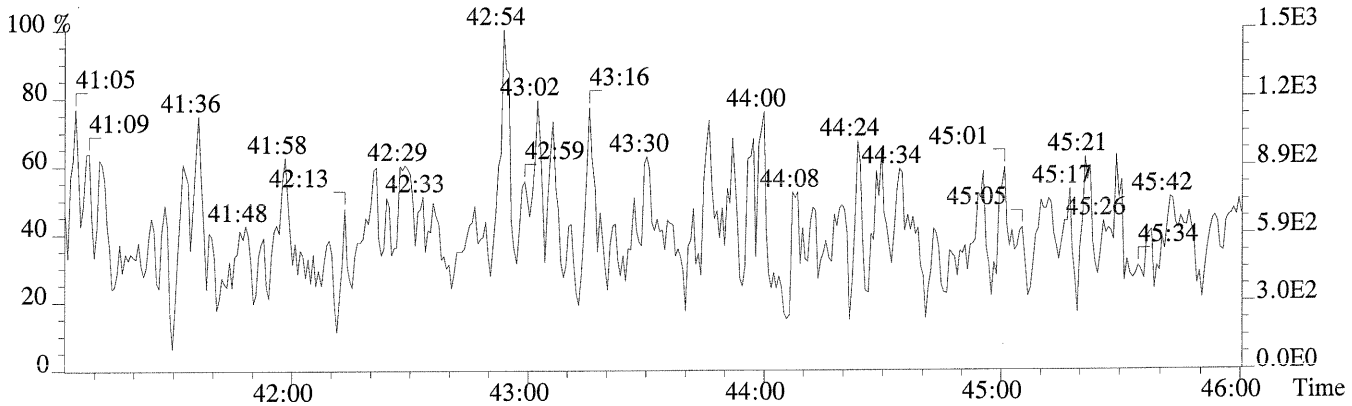
06/24/14

06/24/14

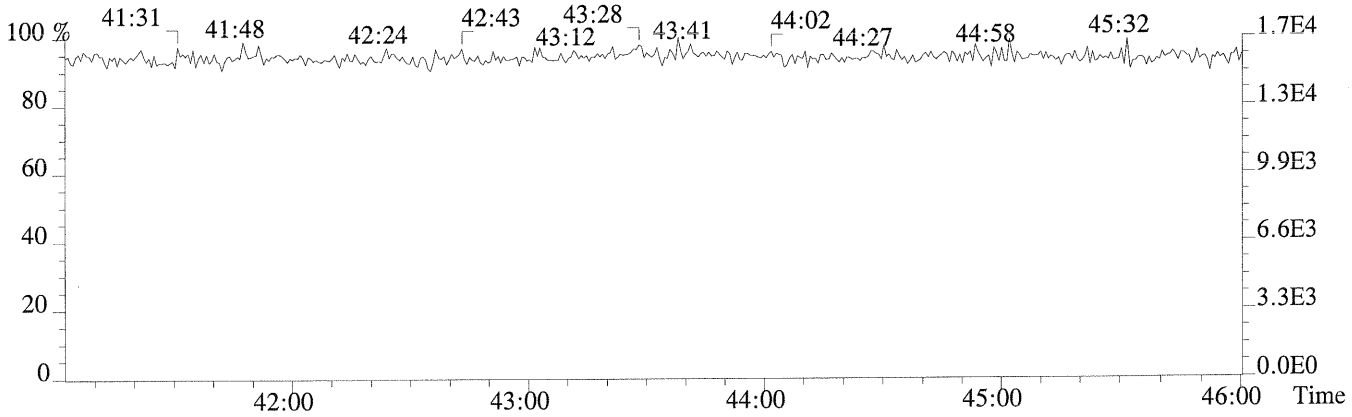
File:U149688 #1-451 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,496.0,0.40%,F,T)



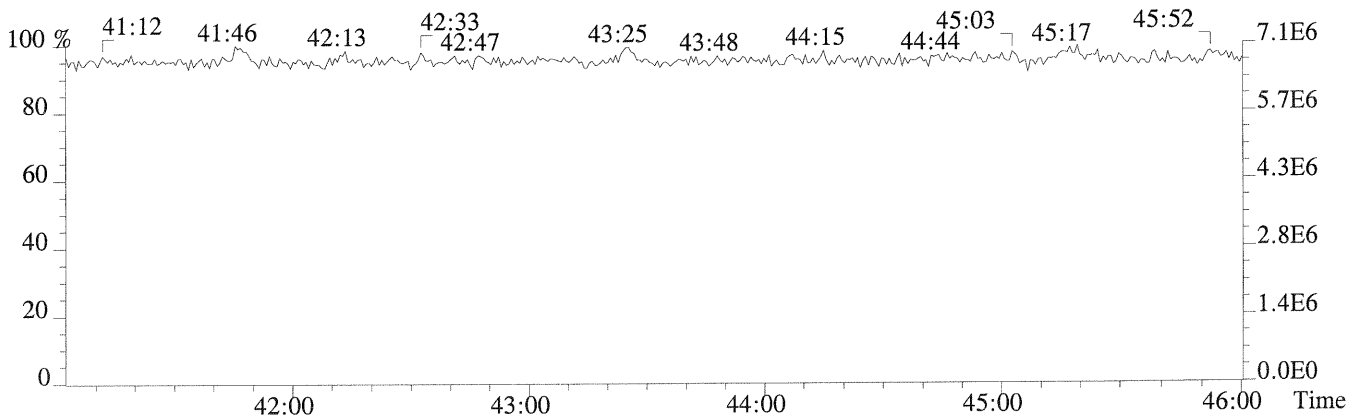
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,T)



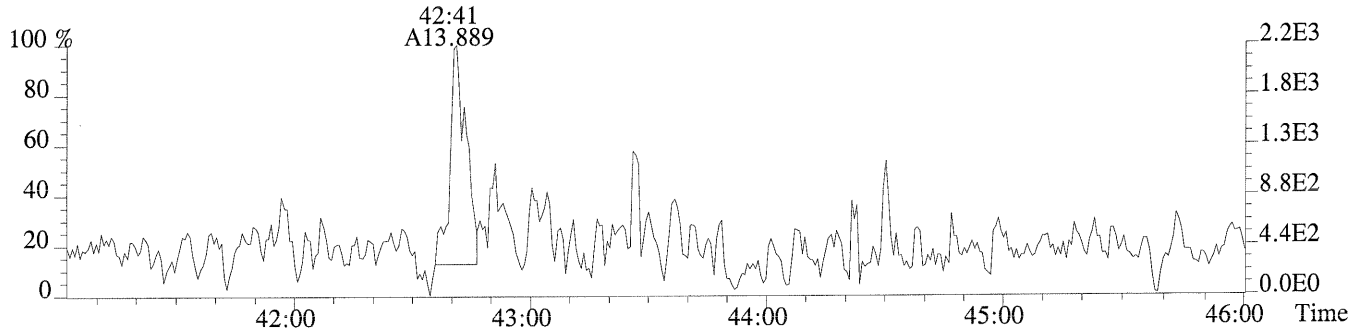
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



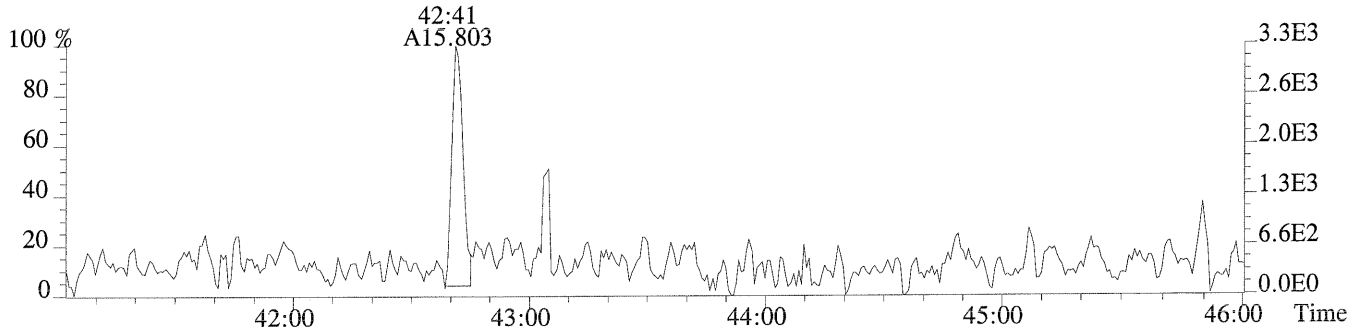
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



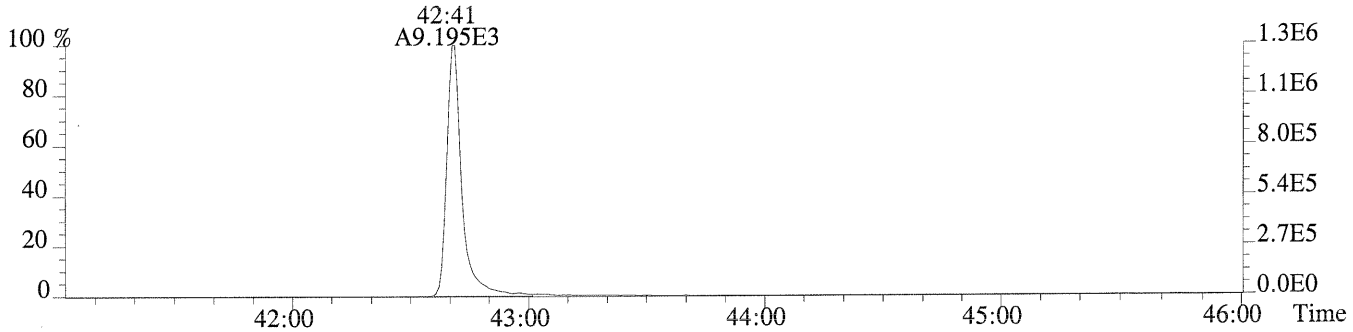
File:U149688 #1-451 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,548.0,0.40%,F,T)



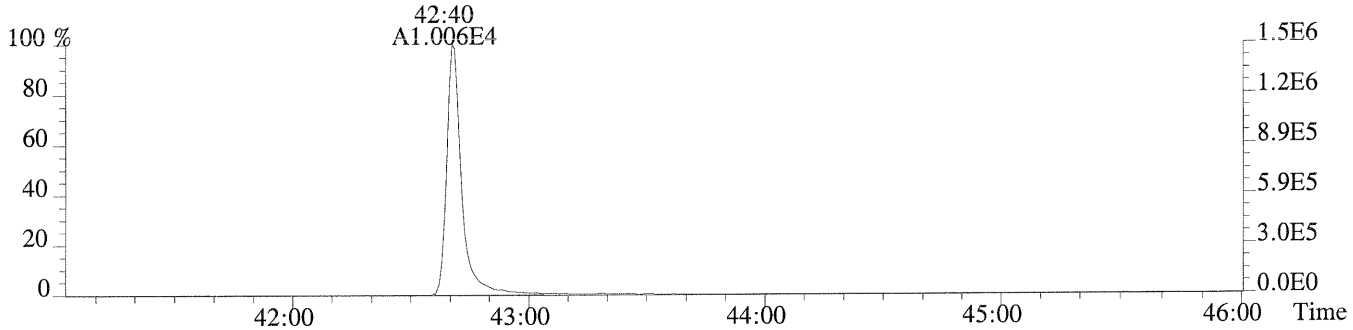
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,540.0,0.40%,F,T)



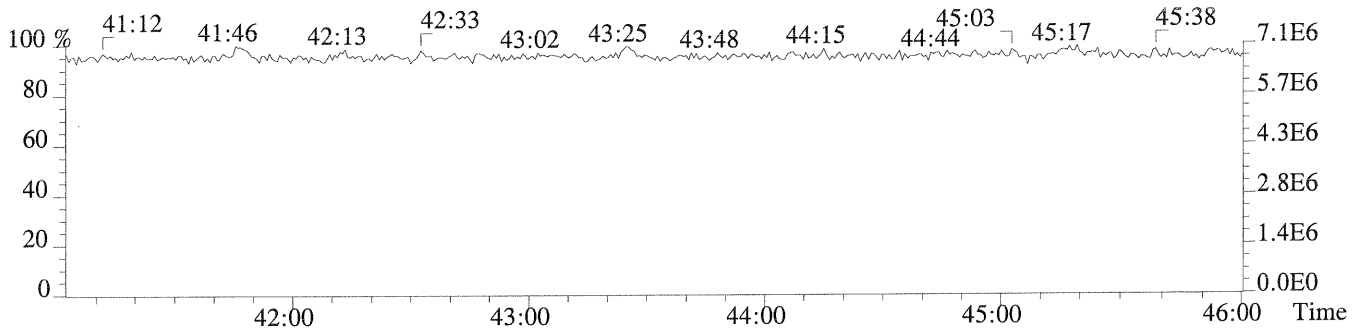
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,T)



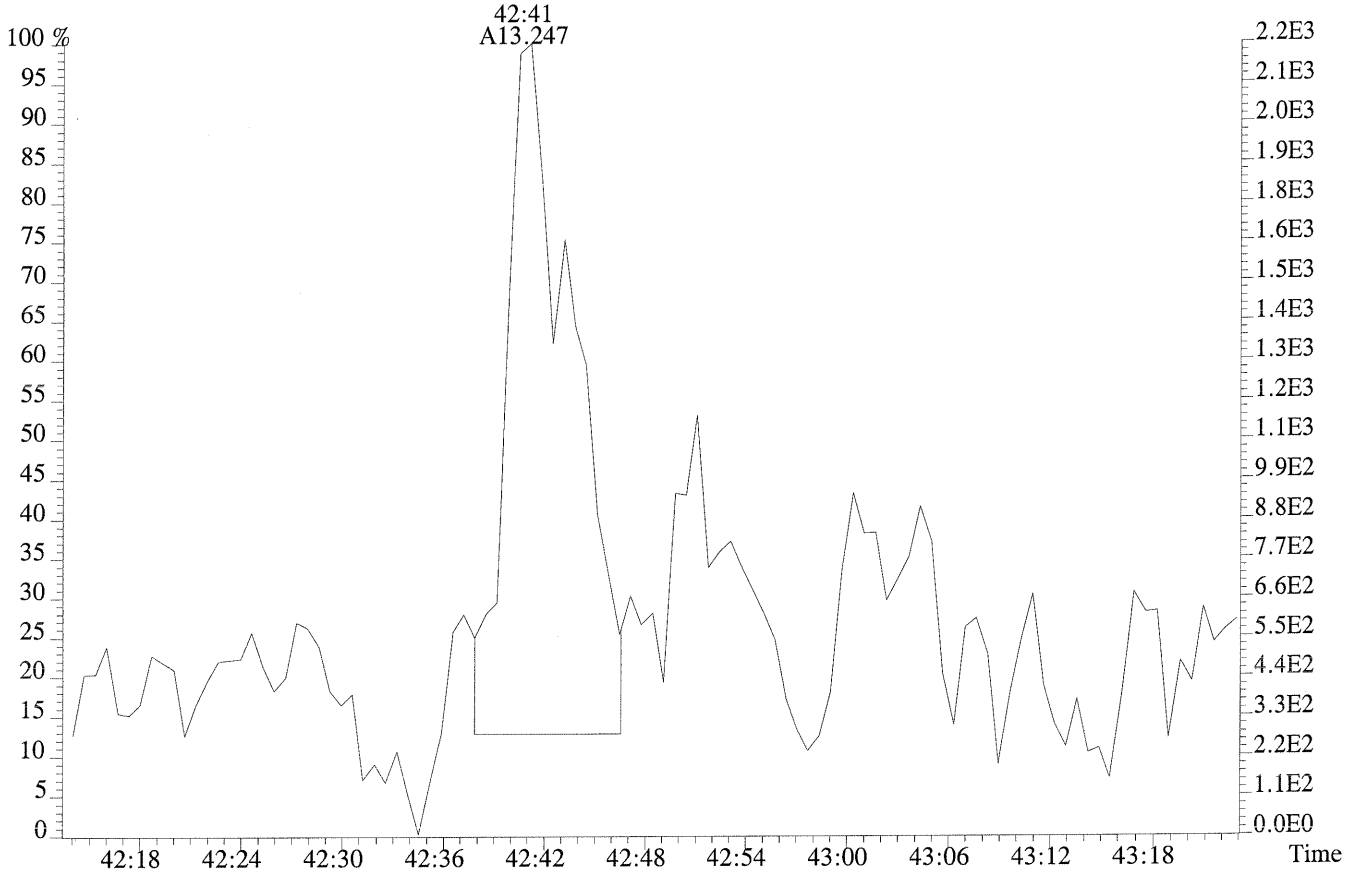
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,628.0,0.40%,F,T)



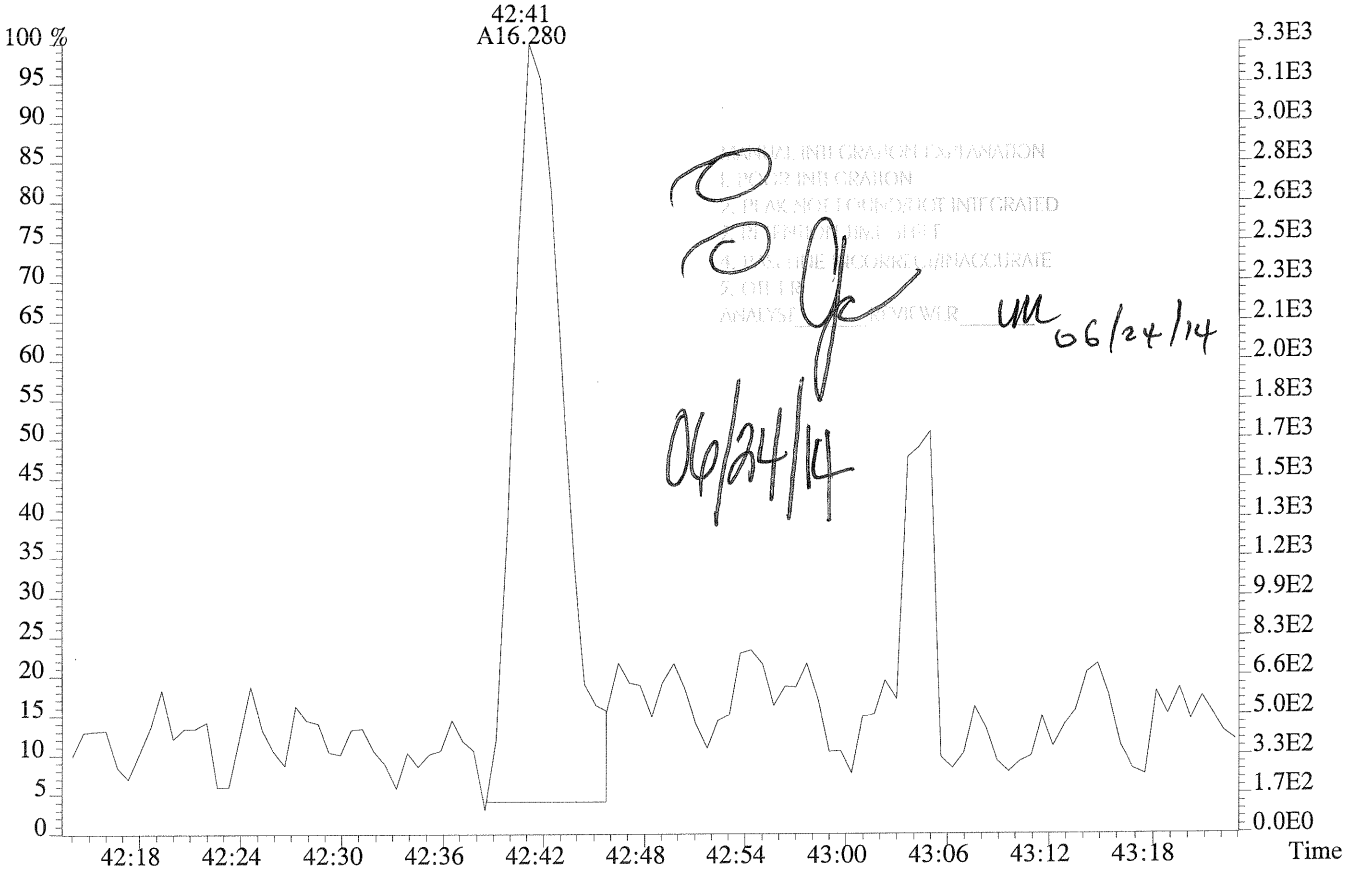
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:U149688 #1-451 Acq:23-JUN-2014 17:25:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,548.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,540.0,0.40%,F,T)



06/24/14

06/24/14

ALS ENVIRONMENTAL
Sample Response Summary
METHOD 1613B/8290A

CLIENT ID.
LCS

Run #15 Filename U149695 Samp: 1 Inj: 1 Acquired: 23-JUN-14 23:05:19
Processed: 24-JUN-14 08:35:09 Sample ID: EQ1400321-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:35	9.445e+02	1.205e+03	0.78	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:42	1.066e+04	6.724e+03	1.58	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:36	9.577e+03	6.041e+03	1.59	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	8.702e+03	6.816e+03	1.28	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:21	9.413e+03	7.503e+03	1.25	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:51	9.567e+03	7.386e+03	1.30	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:37	8.578e+03	6.672e+03	1.29	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:51	7.585e+03	7.166e+03	1.06	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	6.346e+03	6.176e+03	1.03	yes	no	1.358
10	Unk	OCDF	42:54	7.275e+03	8.060e+03	0.90	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:21	6.465e+02	8.042e+02	0.80	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:53	6.757e+03	4.228e+03	1.60	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	36:59	5.816e+03	4.620e+03	1.26	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	6.466e+03	5.150e+03	1.26	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:18	6.806e+03	5.446e+03	1.25	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	4.810e+03	4.614e+03	1.04	yes	no	1.065
17	Unk	OCDD	42:40	5.811e+03	6.489e+03	0.90	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	7.778e+03	9.410e+03	0.83	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	1.582e+04	9.978e+03	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	1.579e+04	9.893e+03	1.60	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:14	6.896e+03	1.281e+04	0.54	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	8.995e+03	1.679e+04	0.54	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:50	8.783e+03	1.687e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	7.060e+03	1.391e+04	0.51	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:50	5.418e+03	1.202e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	4.722e+03	1.062e+04	0.44	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:19	4.855e+03	6.262e+03	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:51	1.134e+04	7.098e+03	1.60	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:58	8.506e+03	6.525e+03	1.30	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	9.565e+03	7.609e+03	1.26	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	7.803e+03	7.232e+03	1.08	yes	no	0.936
32	IS	13C-OCDD	42:39	8.223e+03	9.018e+03	0.91	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:45	8.024e+03	1.027e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:17	1.387e+04	1.068e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.700e+03				no	1.044

$$\text{OCDD} = \frac{(5.811e+03 + 6.489e+03) \times 4000\ \text{pg} \times 1}{(8.223e+03 + 9.018e+03) \times \times \times 1.177} =$$

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1613RESP1

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Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
LCS

Run #15 Filename U149695 Samp: 1 Inj: 1 Acquired: 23-JUN-14 23:05:19
Processed: 24-JUN-14 08:35:091 LAB. ID: EQ1400321-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.90e+05	6.04e+02	3.1e+02	2.50e+05	7.56e+02	3.3e+02
2	1,2,3,7,8-PeCDF	1.97e+06	5.84e+02	3.4e+03	1.25e+06	5.68e+02	2.2e+03
3	2,3,4,7,8-PeCDF	1.89e+06	5.84e+02	3.2e+03	1.18e+06	5.68e+02	2.1e+03
4	1,2,3,4,7,8-HxCDF	1.88e+06	4.12e+02	4.6e+03	1.48e+06	6.32e+02	2.3e+03
5	1,2,3,6,7,8-HxCDF	1.89e+06	4.12e+02	4.6e+03	1.52e+06	6.32e+02	2.4e+03
6	2,3,4,6,7,8-HxCDF	2.03e+06	4.12e+02	4.9e+03	1.57e+06	6.32e+02	2.5e+03
7	1,2,3,7,8,9-HxCDF	1.68e+06	4.12e+02	4.1e+03	1.34e+06	6.32e+02	2.1e+03
8	1,2,3,4,6,7,8-HpCDF	1.57e+06	1.03e+03	1.5e+03	1.49e+06	1.15e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	1.16e+06	1.03e+03	1.1e+03	1.16e+06	1.15e+03	1.0e+03
10	OCDF	1.07e+06	4.40e+02	2.4e+03	1.22e+06	8.12e+02	1.5e+03
11	2,3,7,8-TCDD	1.35e+05	7.76e+02	1.7e+02	1.67e+05	6.28e+02	2.7e+02
12	1,2,3,7,8-PeCDD	1.29e+06	7.56e+02	1.7e+03	8.05e+05	4.80e+02	1.7e+03
13	1,2,3,4,7,8-HxCDD	1.30e+06	6.24e+02	2.1e+03	1.06e+06	8.24e+02	1.3e+03
14	1,2,3,6,7,8-HxCDD	1.33e+06	6.24e+02	2.1e+03	1.06e+06	8.24e+02	1.3e+03
15	1,2,3,7,8,9-HxCDD	1.35e+06	6.24e+02	2.2e+03	1.10e+06	8.24e+02	1.3e+03
16	1,2,3,4,6,7,8-HpCDD	9.17e+05	8.36e+02	1.1e+03	8.88e+05	5.76e+02	1.5e+03
17	OCDD	8.83e+05	5.12e+02	1.7e+03	9.95e+05	6.48e+02	1.5e+03
18	13C-2,3,7,8-TCDF	1.55e+06	1.04e+03	1.5e+03	1.88e+06	7.20e+02	2.6e+03
19	13C-1,2,3,7,8-PeCDF	2.89e+06	7.00e+02	4.1e+03	1.83e+06	5.28e+02	3.5e+03
20	13C-2,3,4,7,8-PeCDF	3.13e+06	7.00e+02	4.5e+03	1.94e+06	5.28e+02	3.7e+03
21	13C-1,2,3,4,7,8-HxCDF	1.49e+06	6.64e+02	2.2e+03	2.81e+06	6.04e+02	4.6e+03
22	13C-1,2,3,6,7,8-HxCDF	1.83e+06	6.64e+02	2.8e+03	3.47e+06	6.04e+02	5.7e+03
23	13C-2,3,4,6,7,8-HxCDF	1.89e+06	6.64e+02	2.8e+03	3.63e+06	6.04e+02	6.0e+03
24	13C-1,2,3,7,8,9-HxCDF	1.44e+06	6.64e+02	2.2e+03	2.74e+06	6.04e+02	4.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.10e+06	9.84e+02	1.1e+03	2.45e+06	1.70e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.69e+05	9.84e+02	8.8e+02	1.95e+06	1.70e+03	1.1e+03
27	13C-2,3,7,8-TCDD	1.05e+06	1.35e+03	7.8e+02	1.35e+06	9.04e+02	1.5e+03
28	13C-1,2,3,7,8-PeCDD	2.23e+06	6.72e+02	3.3e+03	1.41e+06	5.52e+02	2.5e+03
29	13C-1,2,3,4,7,8-HxCDD	1.91e+06	8.72e+02	2.2e+03	1.47e+06	6.24e+02	2.4e+03
30	13C-1,2,3,6,7,8-HxCDD	2.00e+06	8.72e+02	2.3e+03	1.59e+06	6.24e+02	2.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.51e+06	7.24e+02	2.1e+03	1.40e+06	7.32e+02	1.9e+03
32	13C-OCDD	1.26e+06	5.12e+02	2.5e+03	1.36e+06	5.48e+02	2.5e+03
33	13C-1,2,3,4-TCDD	1.71e+06	1.35e+03	1.3e+03	2.21e+06	9.04e+02	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	2.79e+06	8.72e+02	3.2e+03	2.16e+06	6.24e+02	3.5e+03
35	37Cl-2,3,7,8-TCDD	7.68e+05	6.84e+02	1.1e+03			

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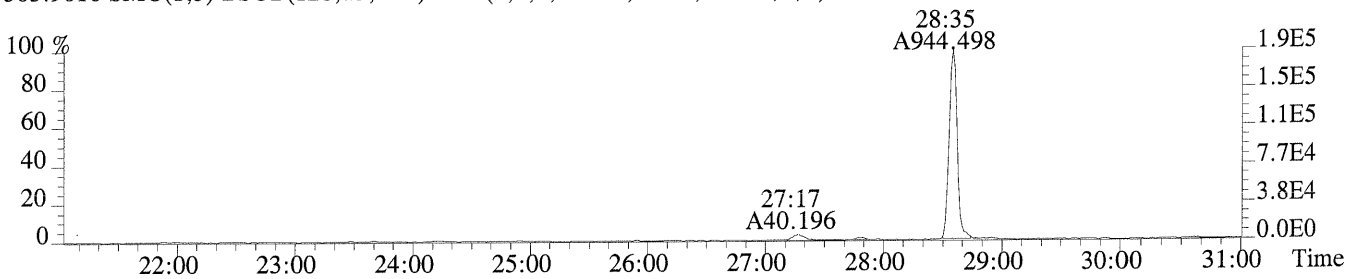
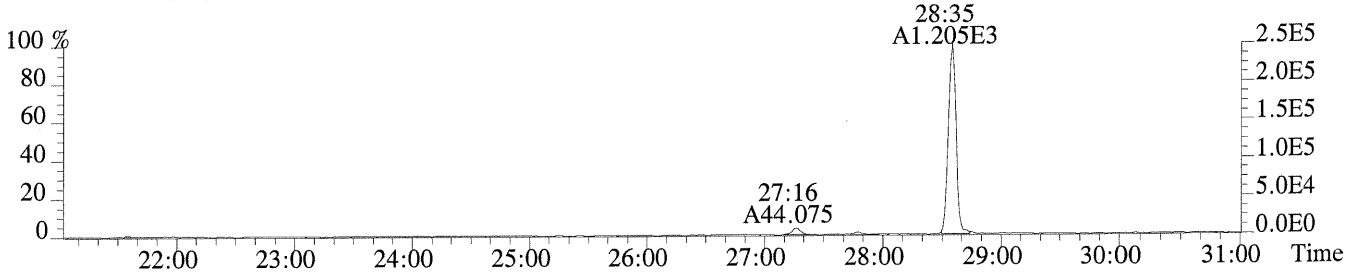
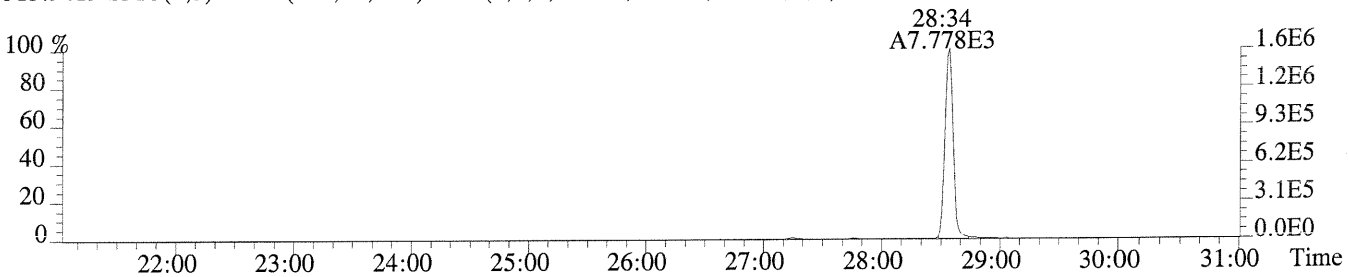
File:U149695 #1-627 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,T)



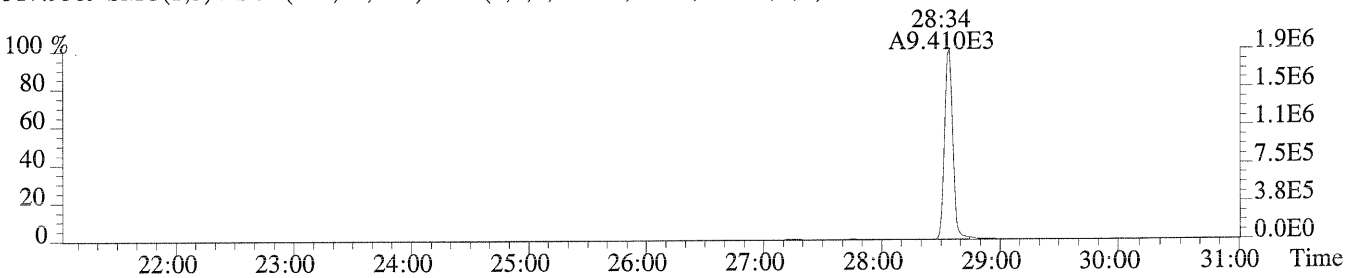
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



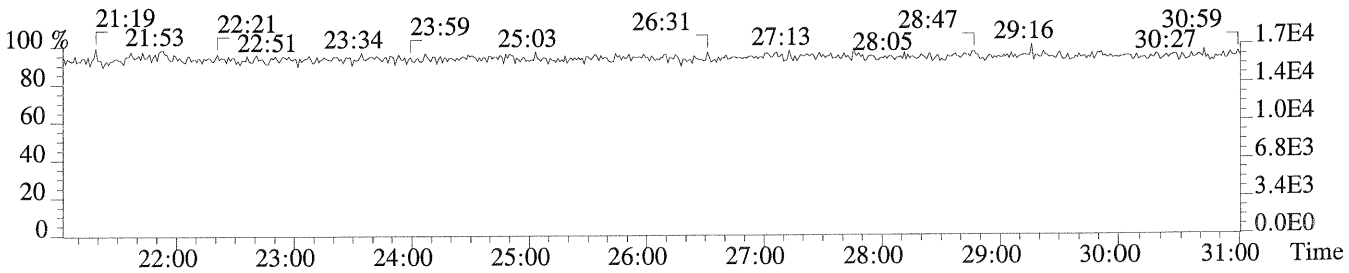
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,T)



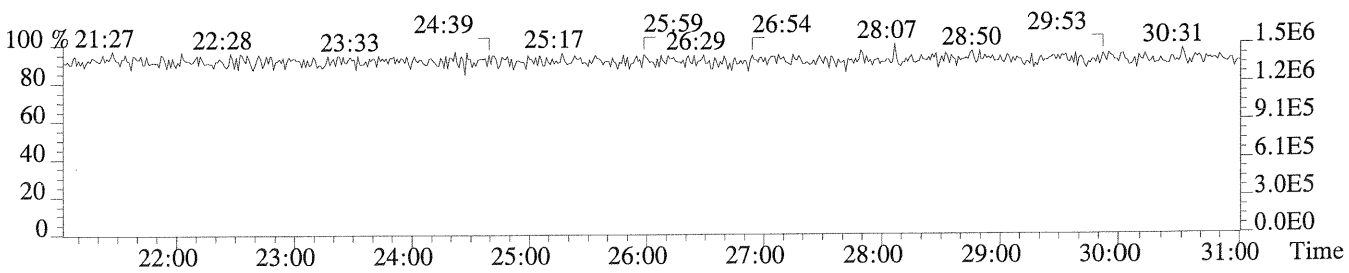
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



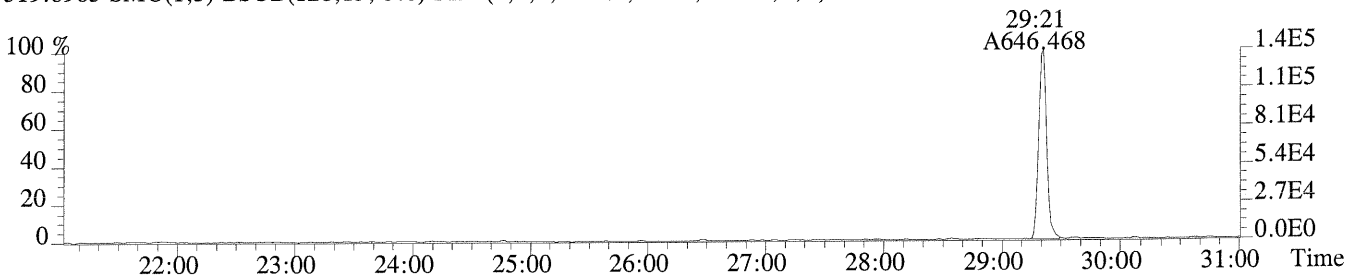
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



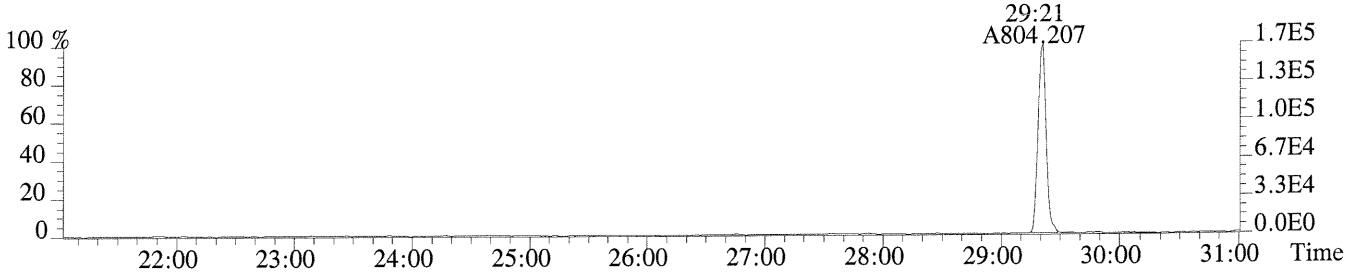
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



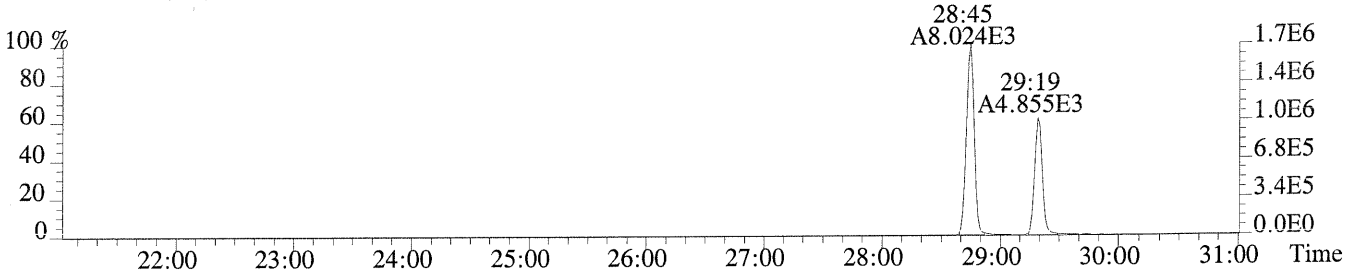
File:U149695 #1-627 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



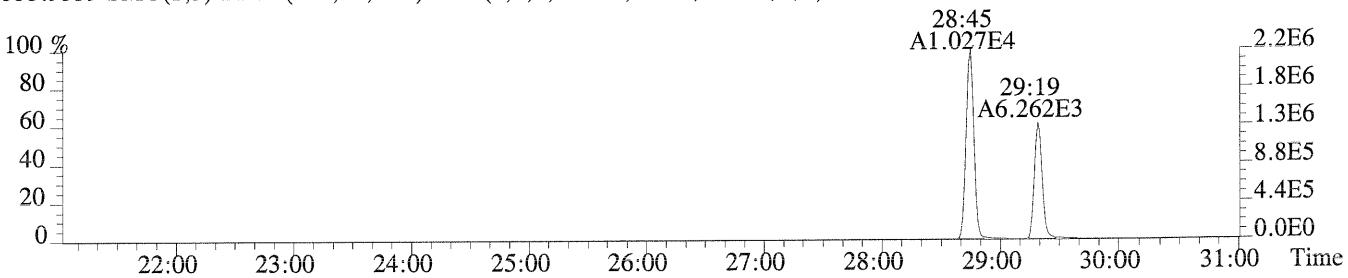
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,T)



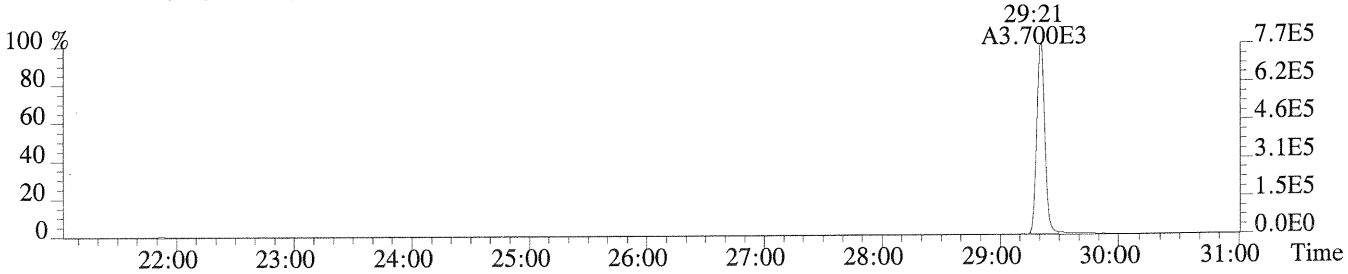
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1348.0,1.00%,F,T)



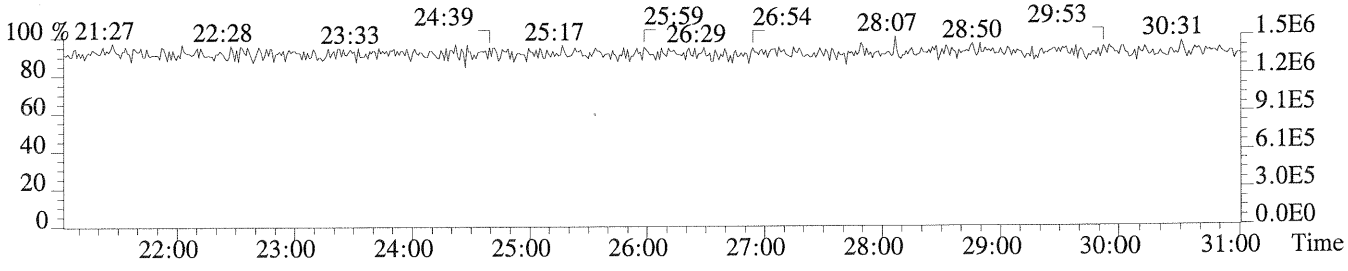
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



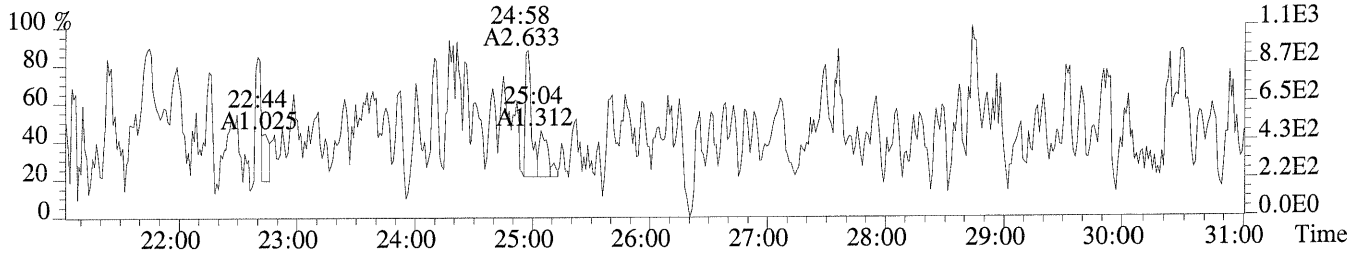
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



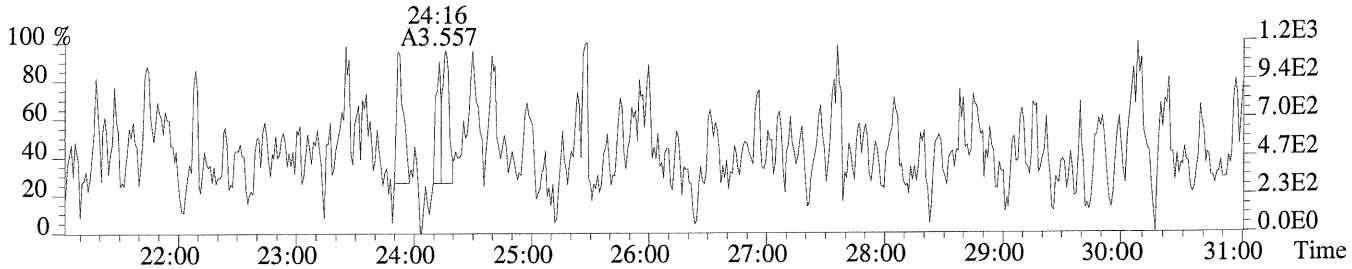
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



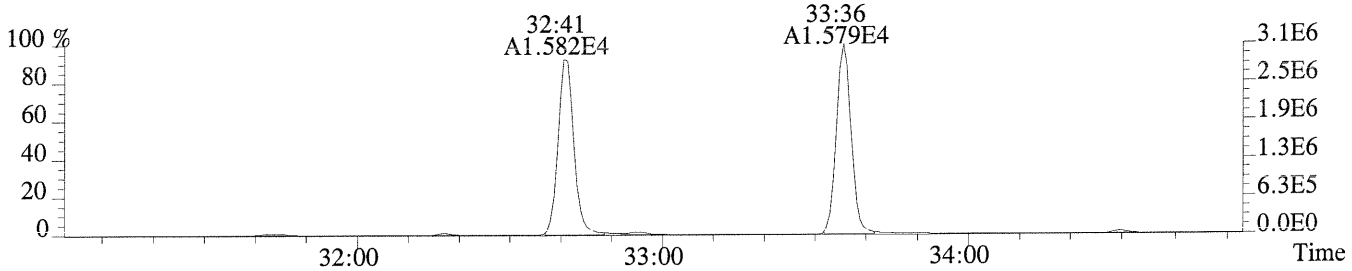
File:U149695 #1-627 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



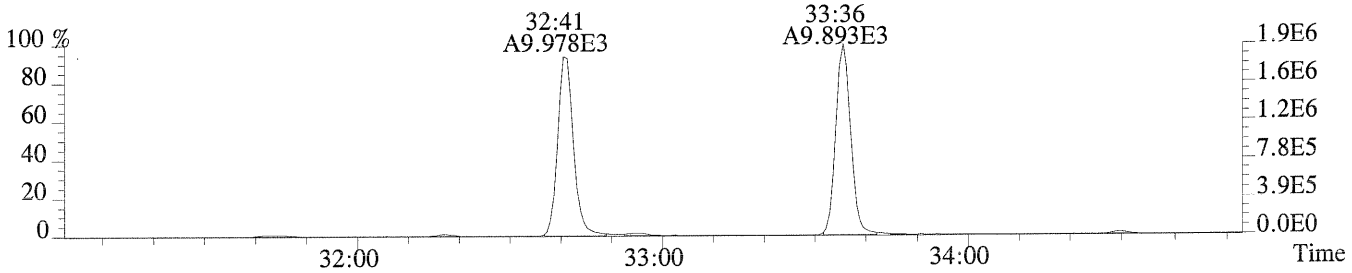
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



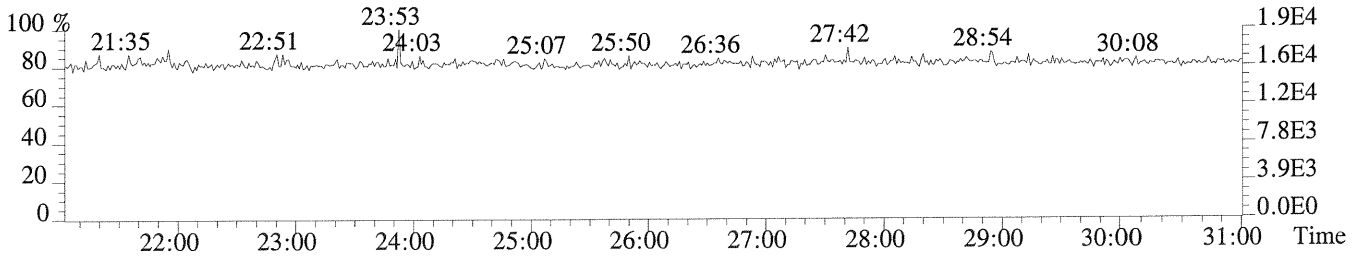
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



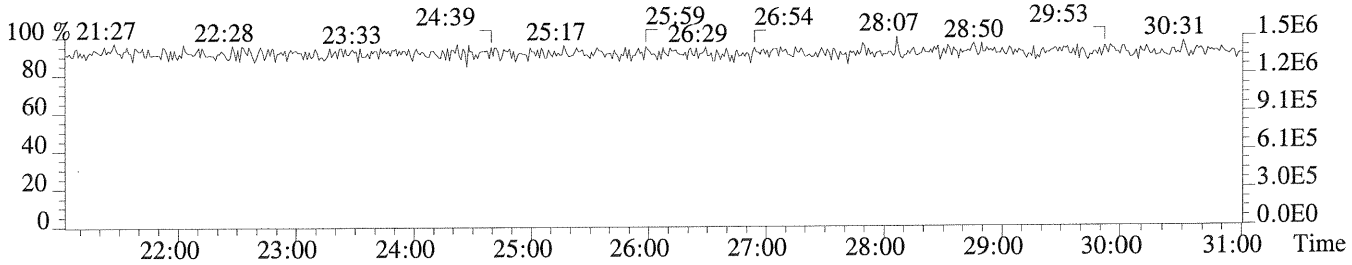
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,T)



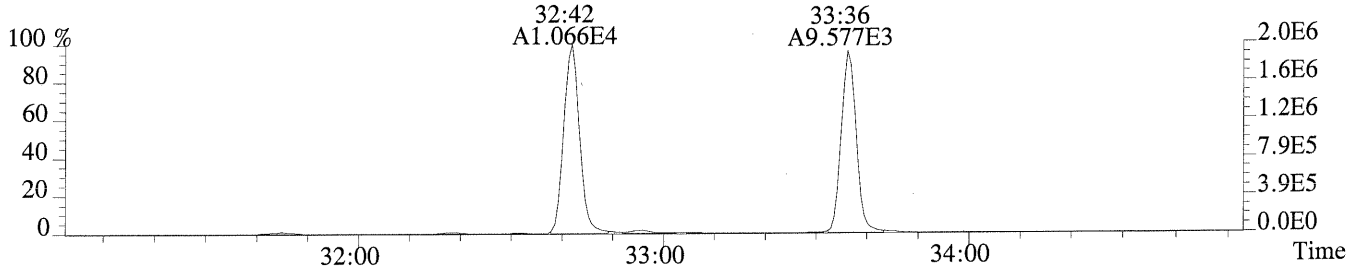
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



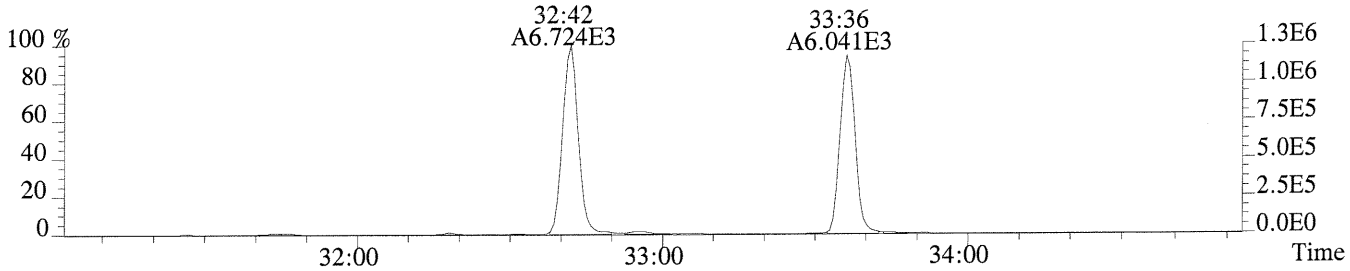
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



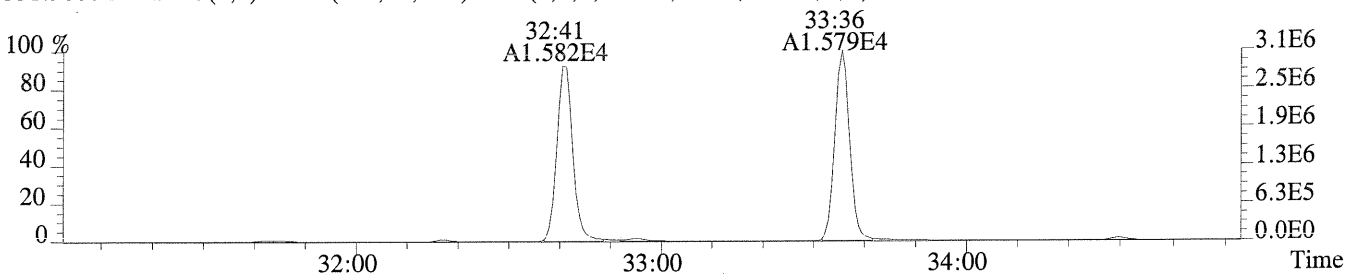
File:U149695 #1-349 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)



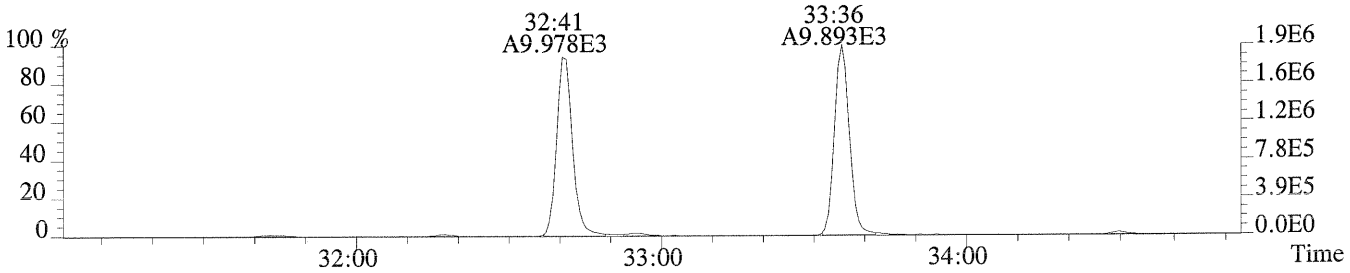
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,568.0,1.00%,F,T)



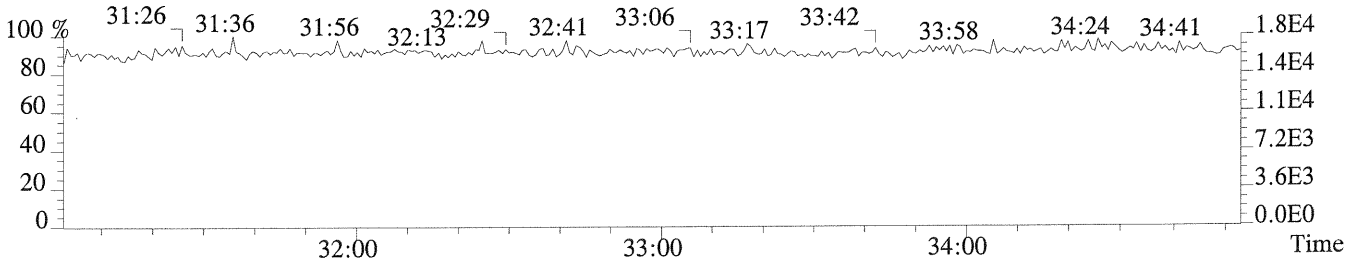
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



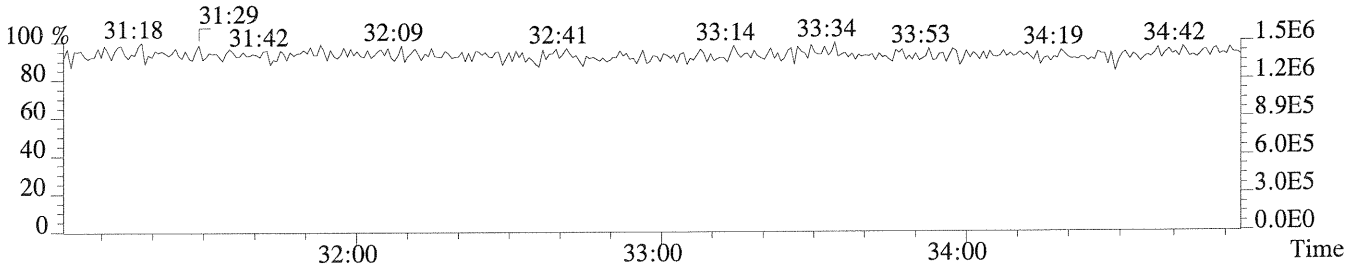
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,T)



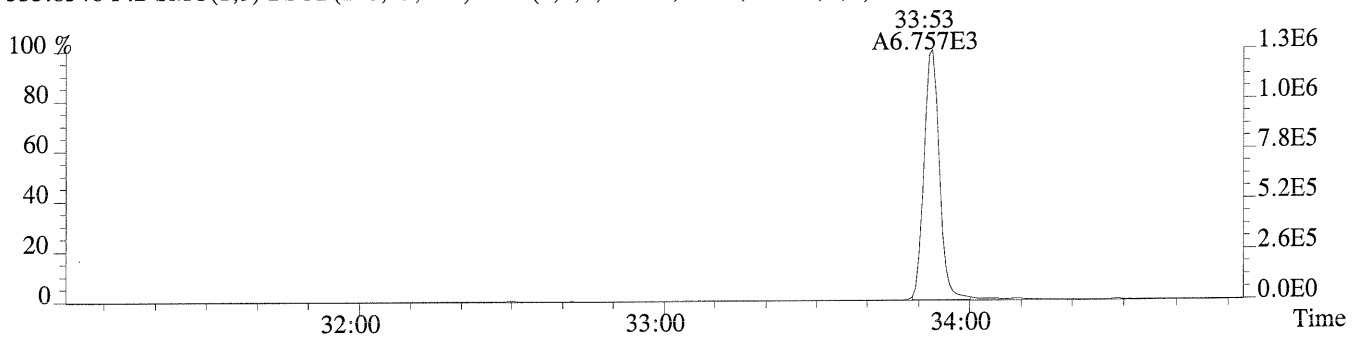
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



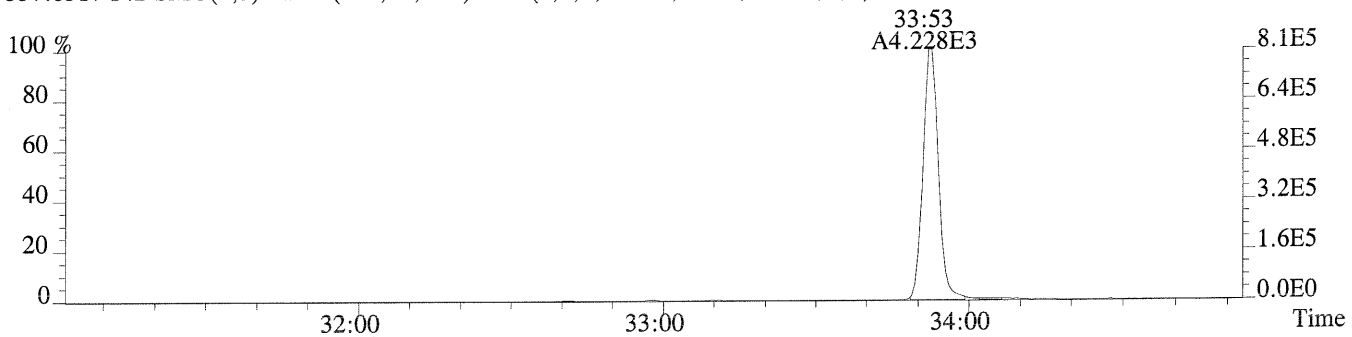
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



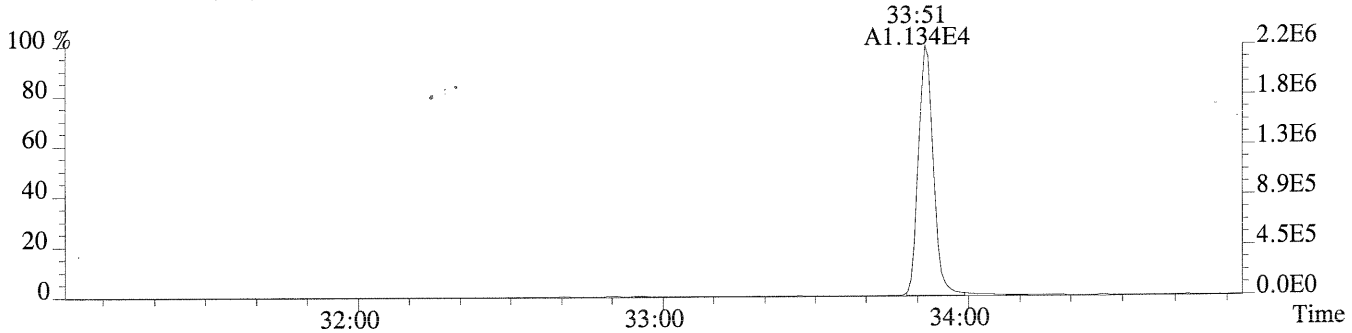
File:U149695 #1-349 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



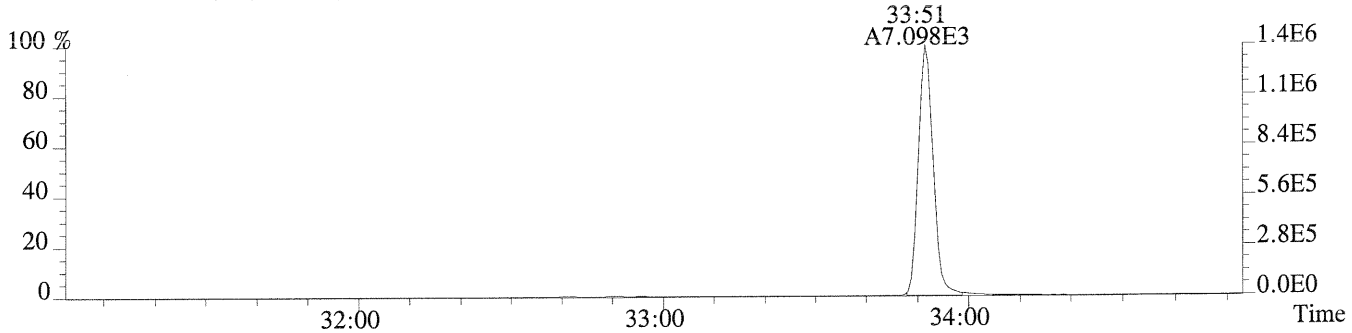
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



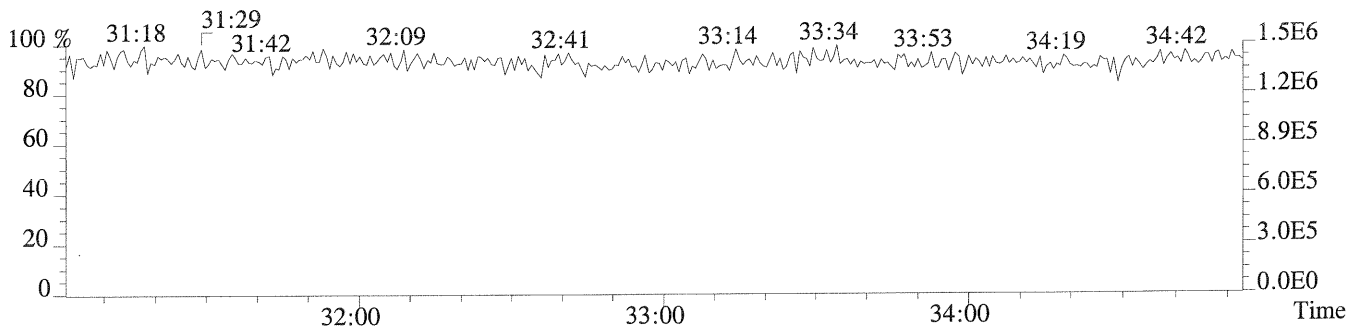
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)

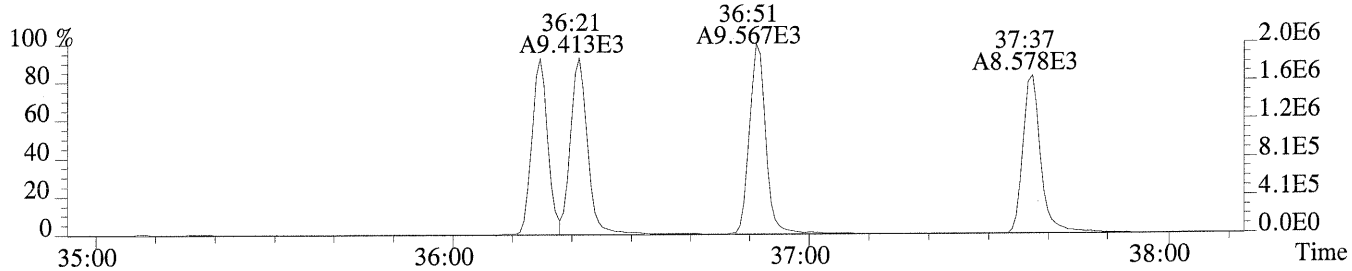


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

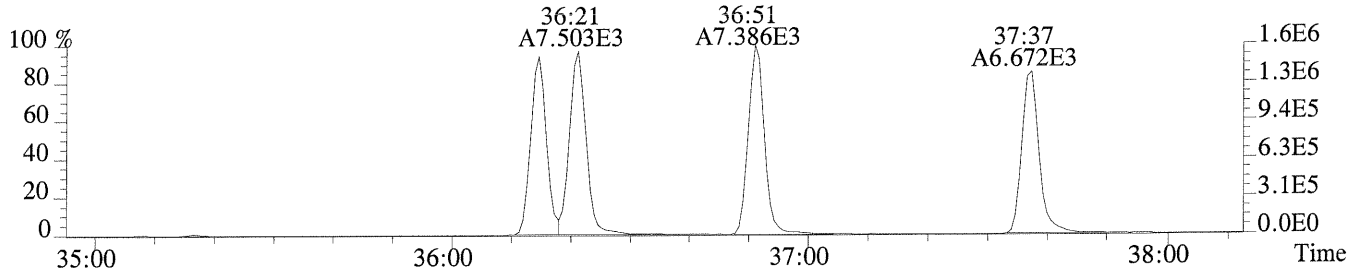


File:U149695 #1-299 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02

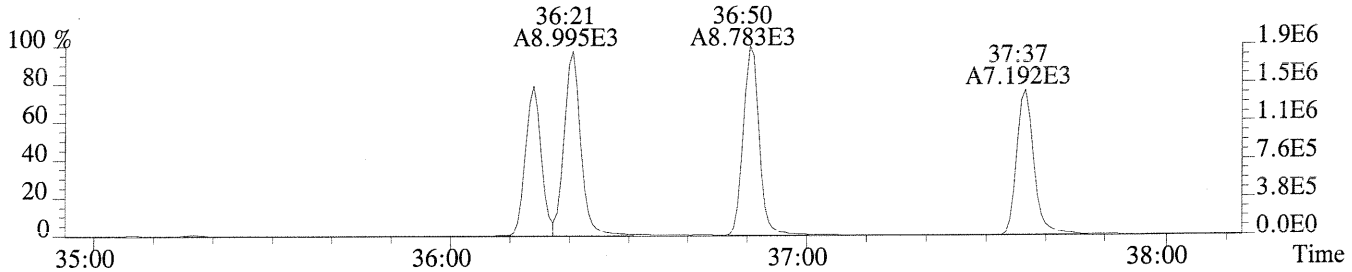
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,412.0,0.40%,F,T)



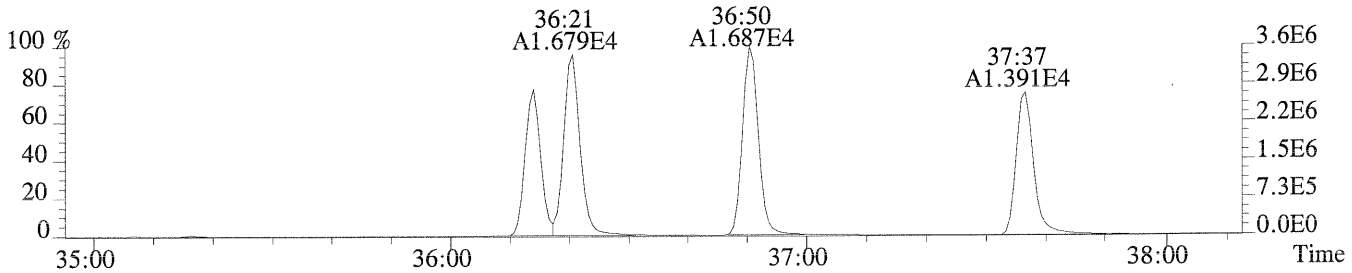
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,632.0,0.40%,F,T)



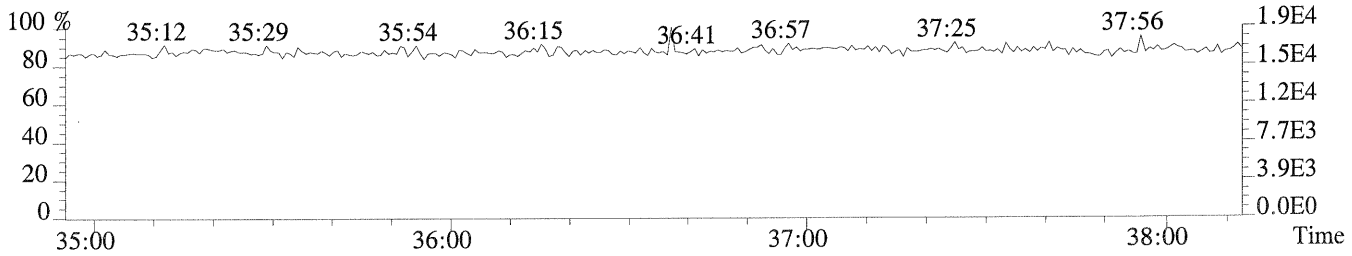
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.40%,F,T)



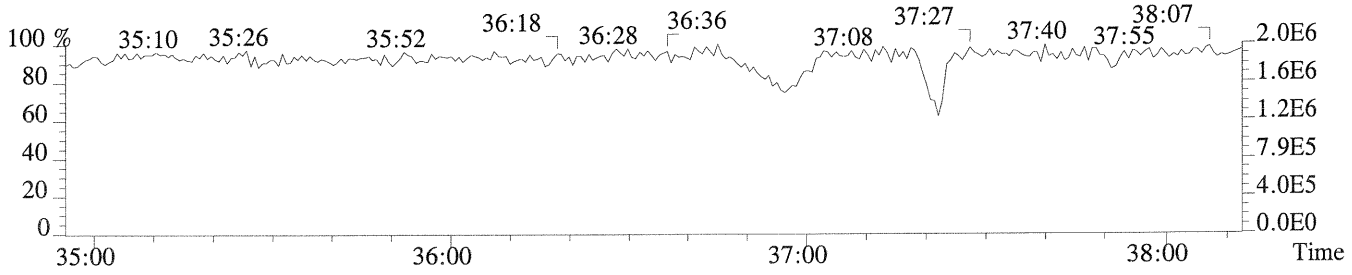
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,604.0,0.40%,F,T)



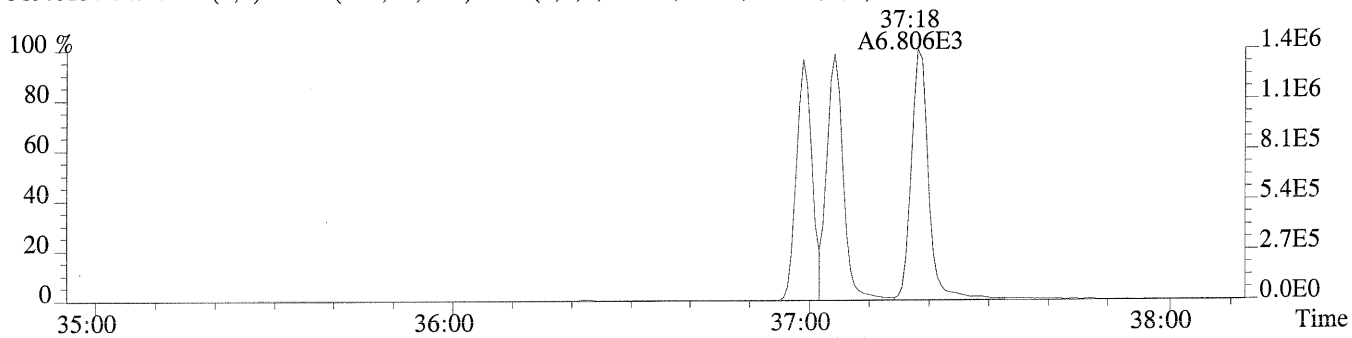
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



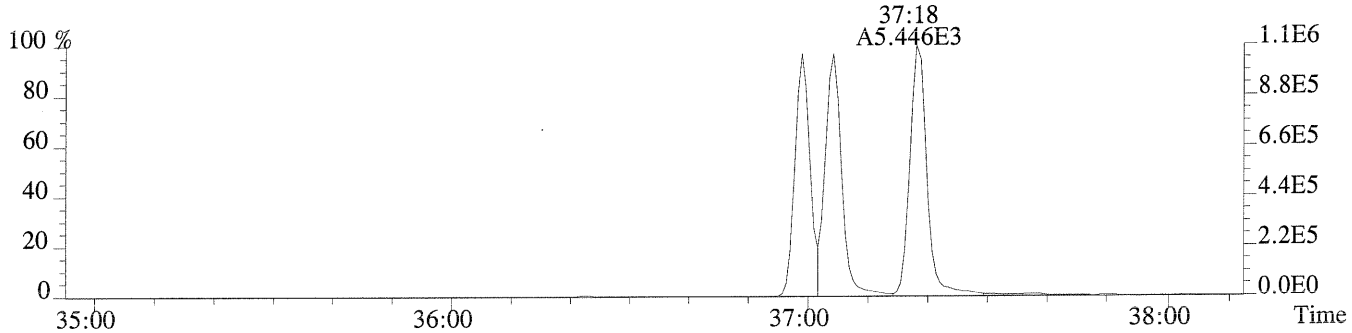
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



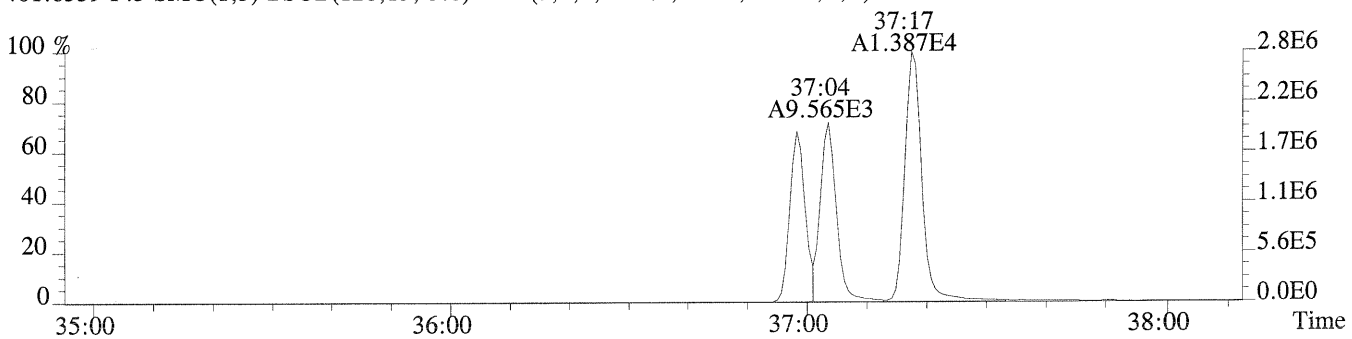
File:U149695 #1-299 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



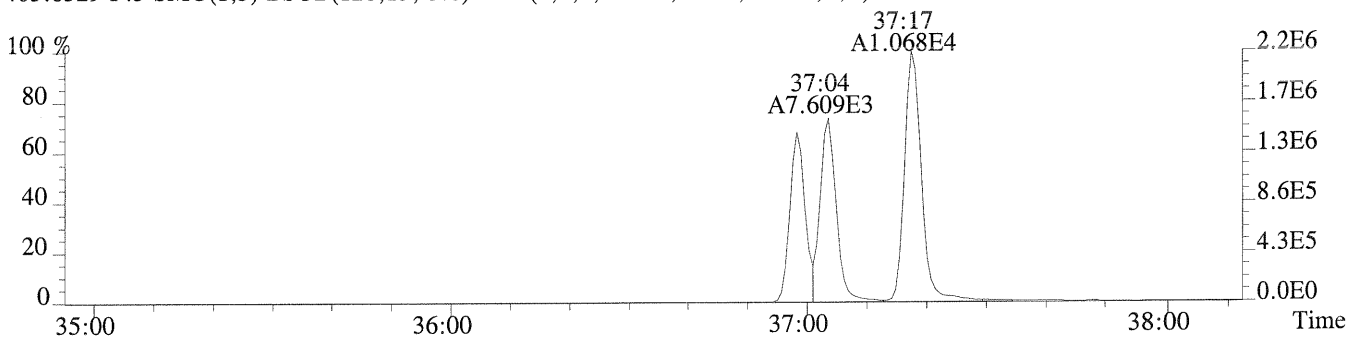
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



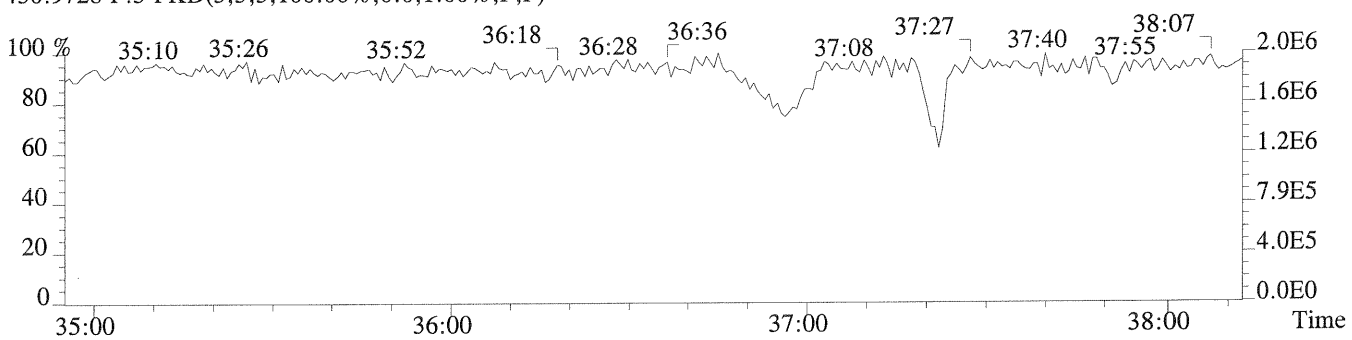
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



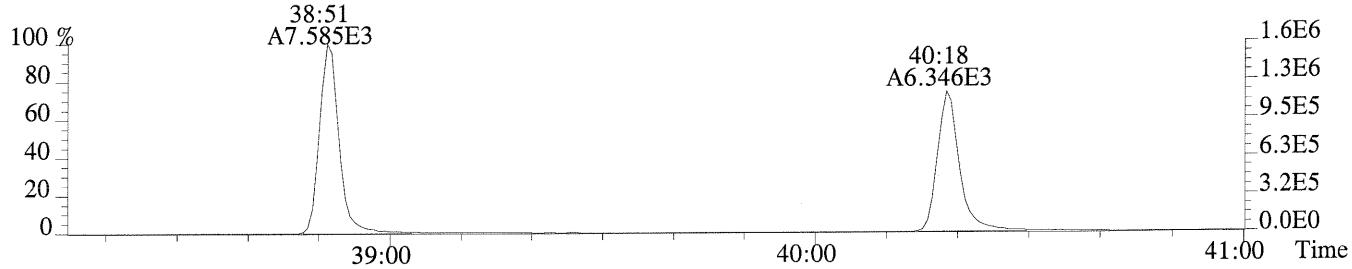
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



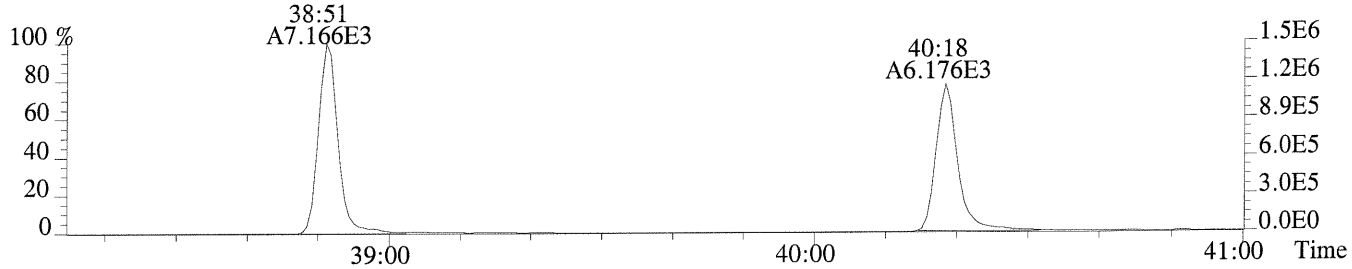
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



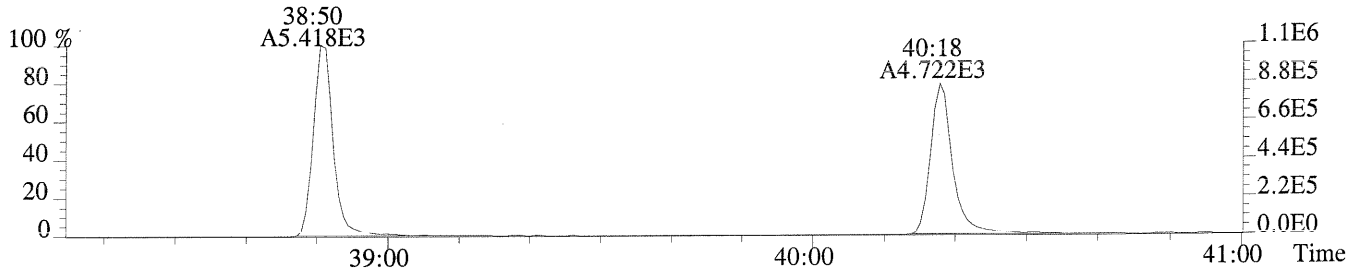
File:U149695 #1-251 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.50%,F,T)



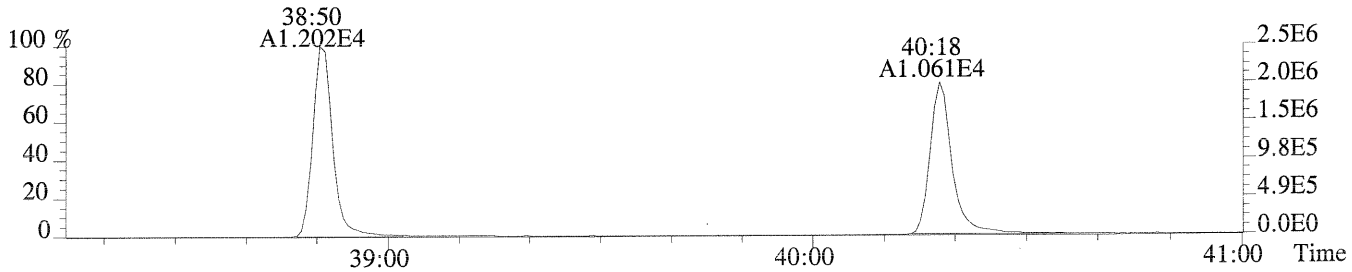
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1148.0,0.50%,F,T)



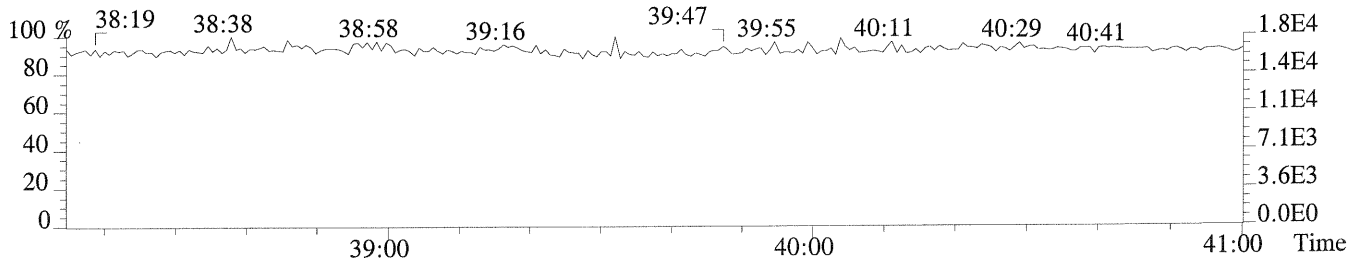
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.50%,F,T)



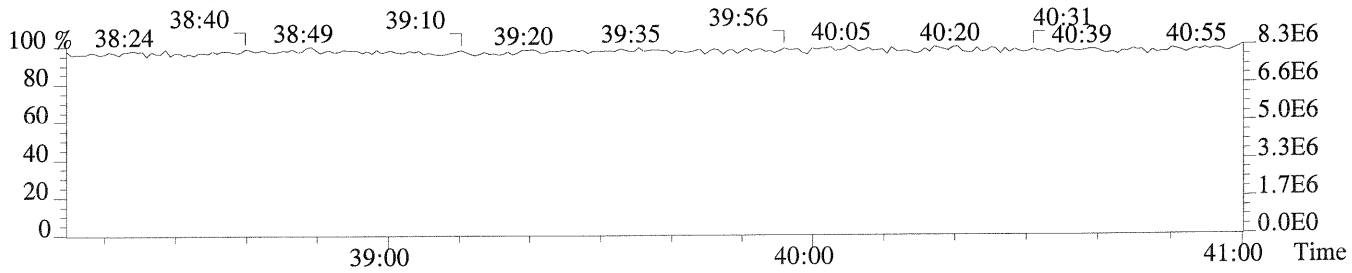
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.50%,F,T)



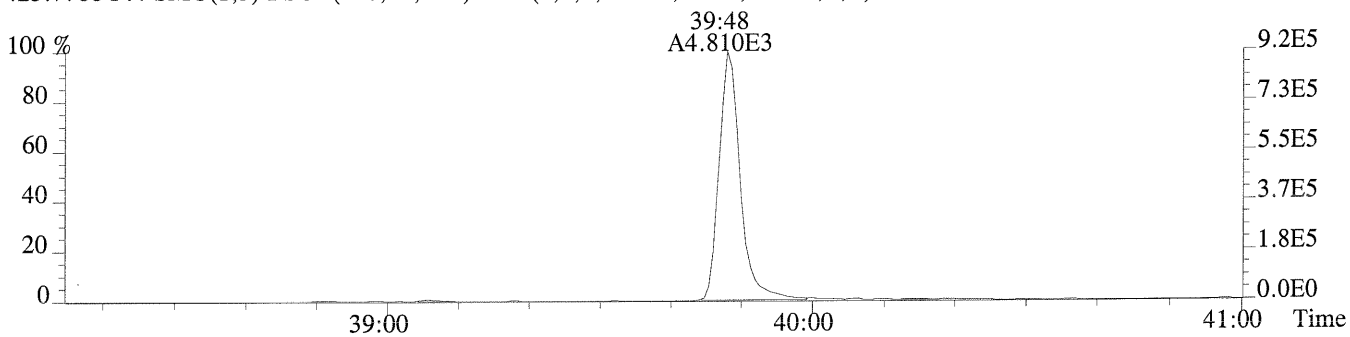
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



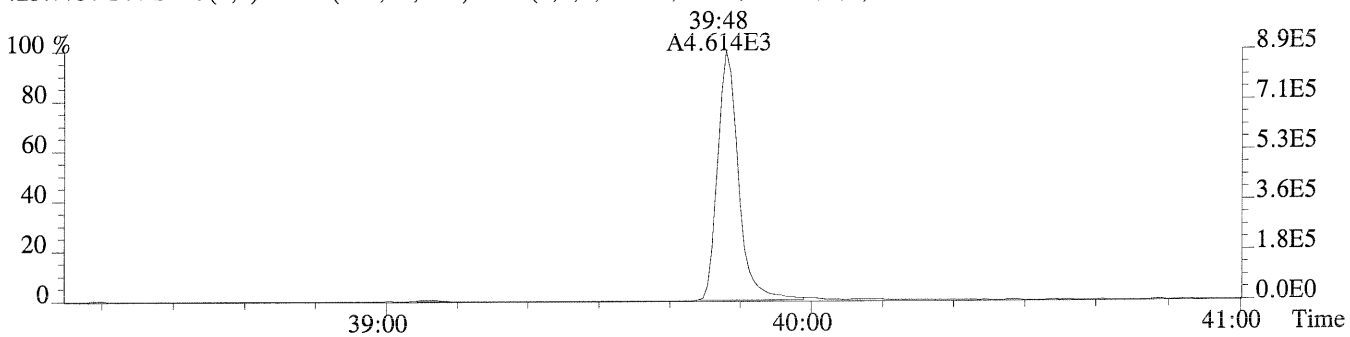
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



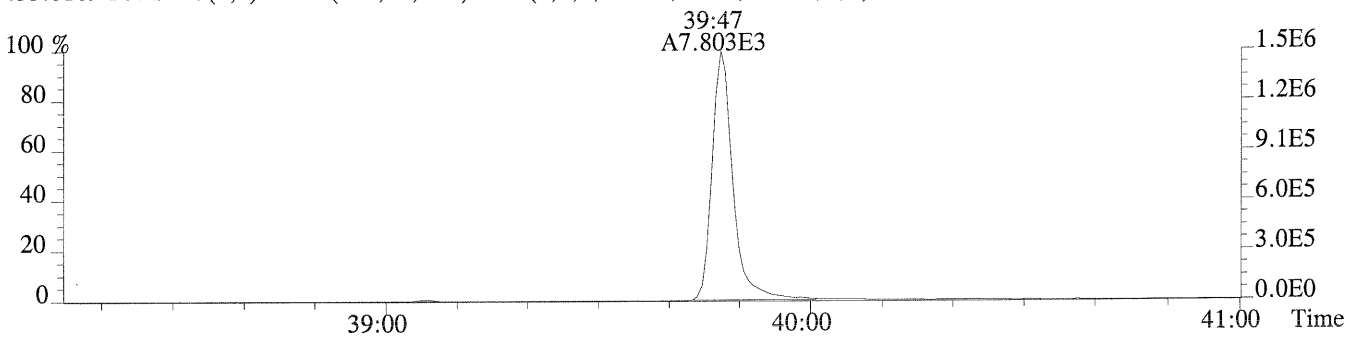
File:U149695 #1-251 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



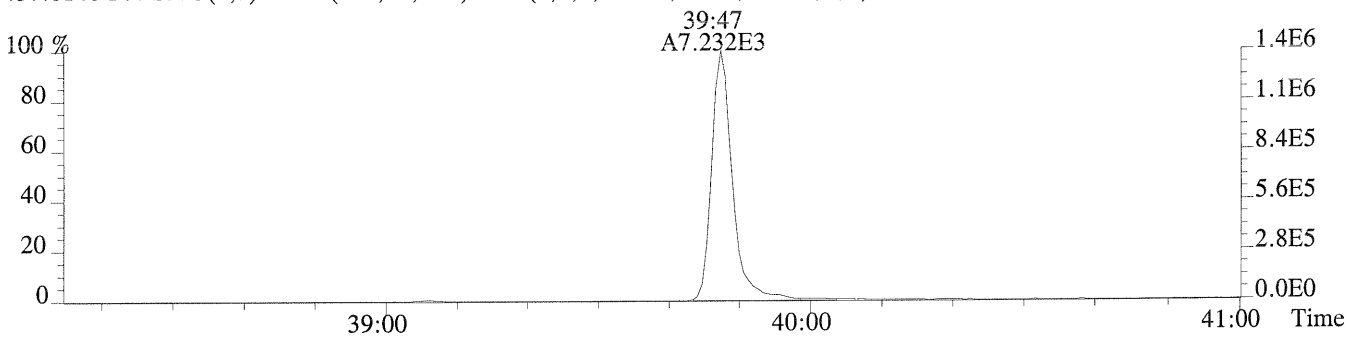
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,T)



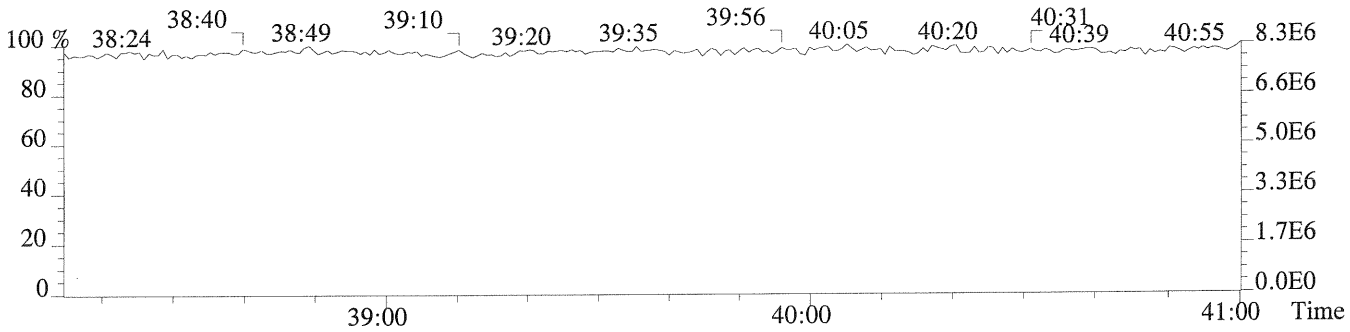
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



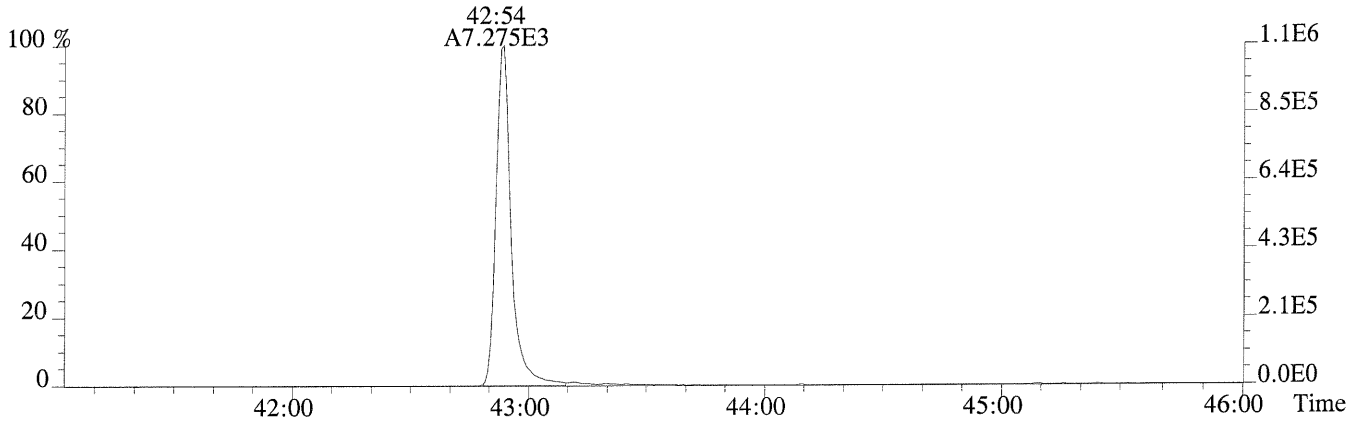
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



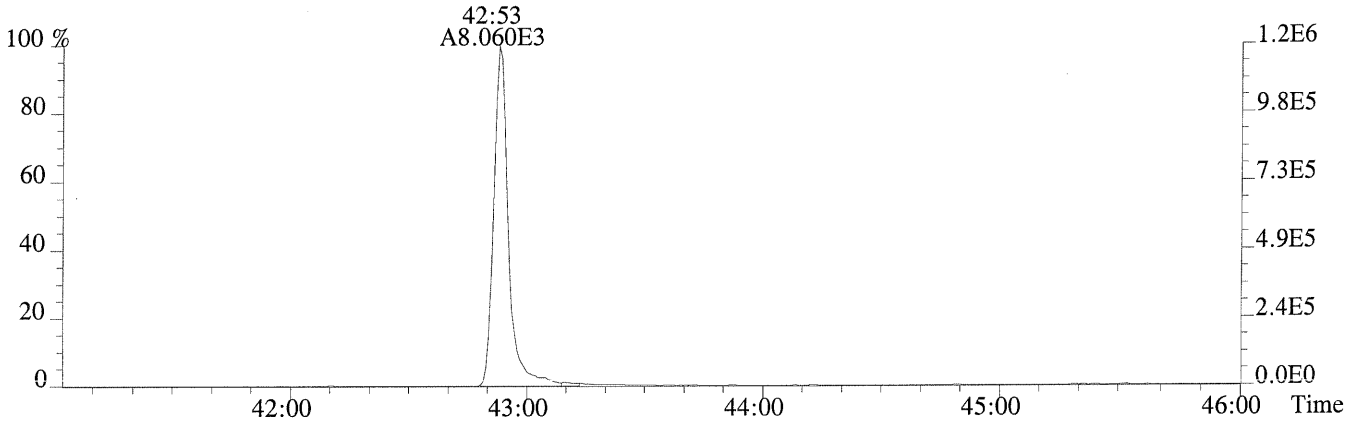
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



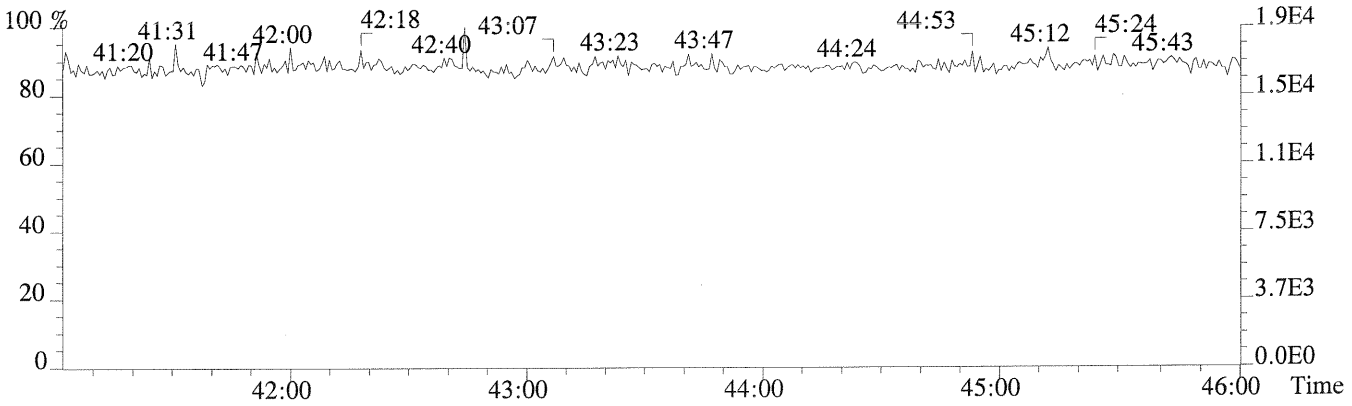
File:U149695 #1-451 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,440.0,0.40%,F,T)



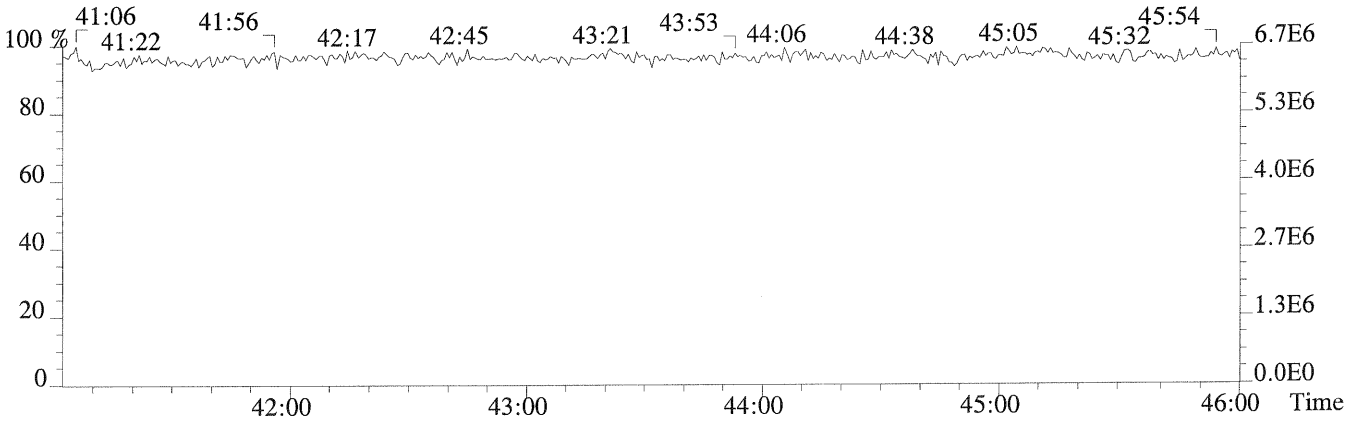
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



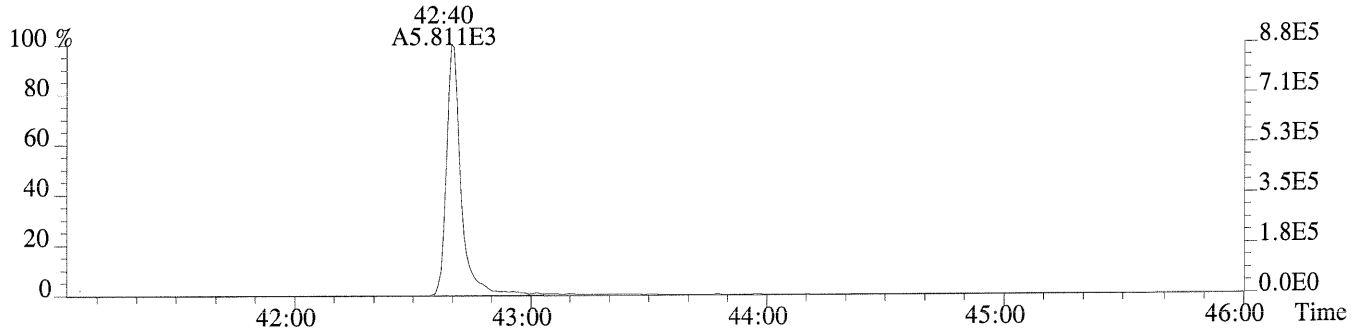
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



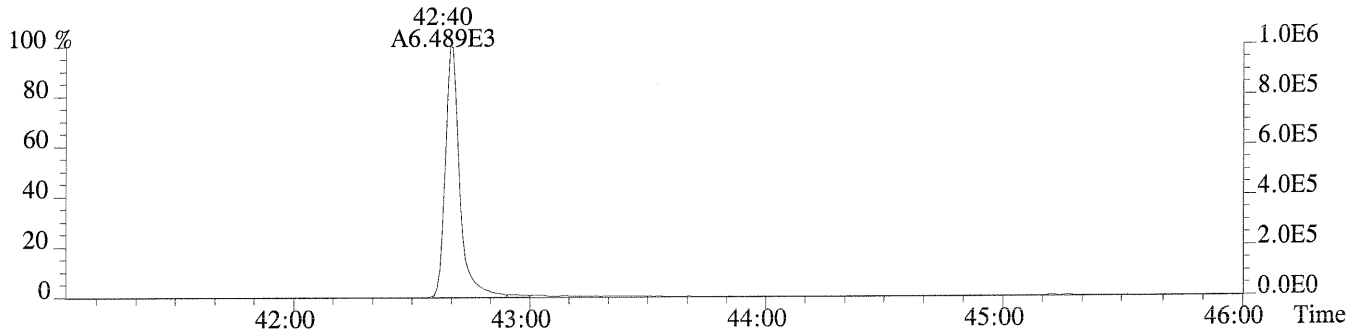
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



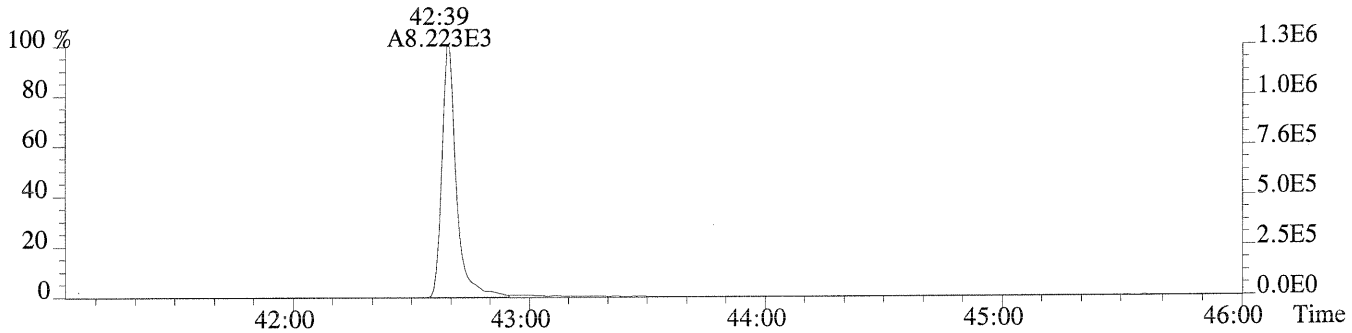
File:U149695 #1-451 Acq:23-JUN-2014 23:05:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-02
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



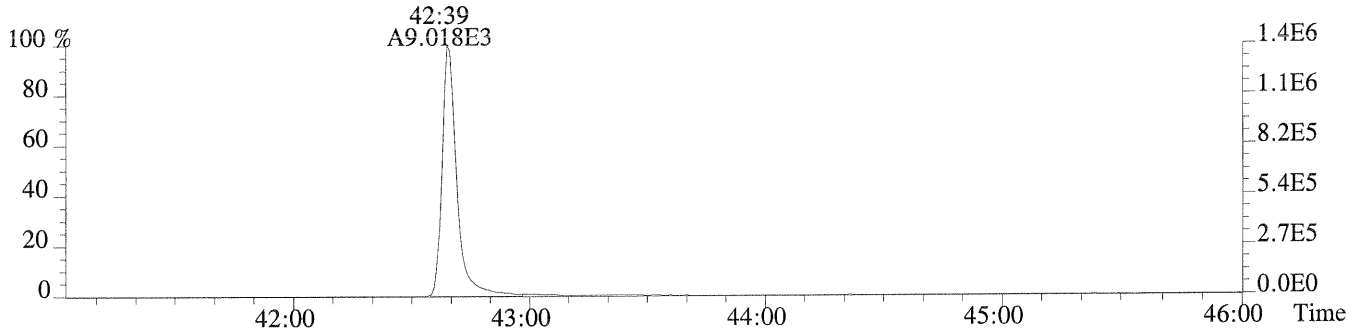
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



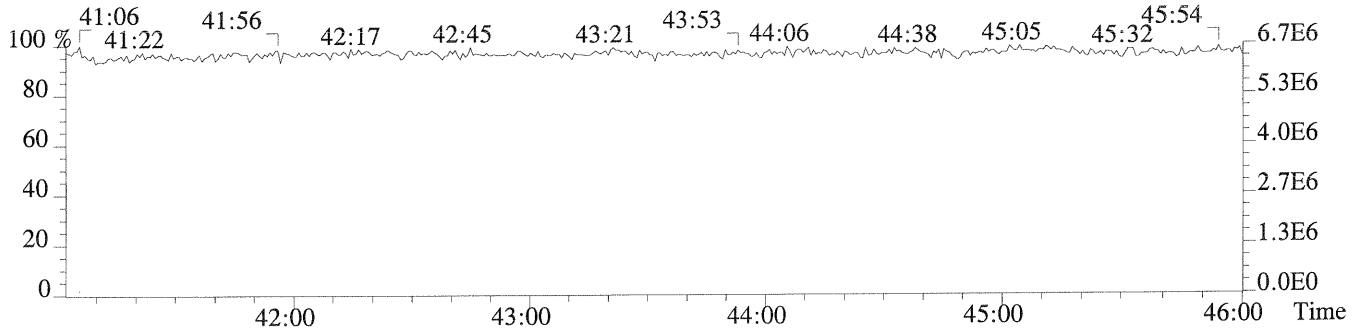
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,548.0,0.40%,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.
SYC14-AC MS

Run #10 Filename P171752 Samp: 1 Inj: 1 Acquired: 24-JUN-14 07:03:11
Processed: 25-JUN-14 05:24:58 Sample ID: EQ1400321-03

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:01	9.403e+02	1.305e+03	0.72	yes	no	0.945
2	Unk	1,2,3,7,8-PeCDF	33:02	1.146e+04	7.110e+03	1.61	yes	no	1.017
3	Unk	2,3,4,7,8-PeCDF	33:53	1.038e+04	6.735e+03	1.54	yes	no	0.977
4	Unk	1,2,3,4,7,8-HxCDF	36:29	1.033e+04	8.458e+03	1.22	yes	no	1.241
5	Unk	1,2,3,6,7,8-HxCDF	36:36	1.058e+04	8.805e+03	1.20	yes	no	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:04	9.980e+03	8.175e+03	1.22	yes	no	1.150
7	Unk	1,2,3,7,8,9-HxCDF	37:48	9.022e+03	7.427e+03	1.21	yes	no	1.154
8	Unk	1,2,3,4,6,7,8-HpCDF	39:03	8.514e+03	8.249e+03	1.03	yes	no	1.403
9	Unk	1,2,3,4,7,8,9-HpCDF	40:28	7.717e+03	7.389e+03	1.04	yes	no	1.324
10	Unk	OCDF	43:03	1.079e+04	1.183e+04	0.91	yes	no	1.307
11	Unk	2,3,7,8-TCDD	29:46	7.801e+02	1.024e+03	0.76	yes	no	1.037
12	Unk	1,2,3,7,8-PeCDD	34:10	7.280e+03	4.589e+03	1.59	yes	no	0.938
13	Unk	1,2,3,4,7,8-HxCDD	37:12	6.465e+03	5.256e+03	1.23	yes	no	1.041
14	Unk	1,2,3,6,7,8-HxCDD	37:17	6.969e+03	5.356e+03	1.30	yes	no	0.990
15	Unk	1,2,3,7,8,9-HxCDD	37:31	7.442e+03	5.955e+03	1.25	yes	no	1.094
16	Unk	1,2,3,4,6,7,8-HpCDD	39:58	8.115e+03	7.933e+03	1.02	yes	no	1.016
17	Unk	OCDD	42:50	3.050e+04	3.443e+04	0.89	yes	no	1.079
18	IS	13C-2,3,7,8-TCDF	29:00	8.756e+03	1.125e+04	0.78	yes	no	1.452
19	IS	13C-1,2,3,7,8-PeCDF	33:01	1.642e+04	1.060e+04	1.55	yes	no	1.849
20	IS	13C-2,3,4,7,8-PeCDF	33:53	1.630e+04	1.061e+04	1.54	yes	no	1.800
21	IS	13C-1,2,3,4,7,8-HxCDF	36:28	7.506e+03	1.462e+04	0.51	yes	no	1.045
22	IS	13C-1,2,3,6,7,8-HxCDF	36:35	9.852e+03	1.902e+04	0.52	yes	no	1.202
23	IS	13C-2,3,4,6,7,8-HxCDF	37:03	9.219e+03	1.793e+04	0.51	yes	no	1.120
24	IS	13C-1,2,3,7,8,9-HxCDF	37:48	7.565e+03	1.491e+04	0.51	yes	no	1.028
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:02	5.815e+03	1.336e+04	0.44	yes	no	0.908
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:28	5.468e+03	1.260e+04	0.43	yes	no	0.814
27	IS	13C-2,3,7,8-TCDD	29:45	6.274e+03	8.049e+03	0.78	yes	no	1.049
28	IS	13C-1,2,3,7,8-PeCDD	34:08	1.348e+04	8.393e+03	1.61	yes	no	1.320
29	IS	13C-1,2,3,4,7,8-HxCDD	37:11	1.067e+04	8.839e+03	1.21	yes	no	0.859
30	IS	13C-1,2,3,6,7,8-HxCDD	37:16	1.117e+04	9.109e+03	1.23	yes	no	0.946
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:58	9.256e+03	8.727e+03	1.06	yes	no	0.862
32	IS	13C-OCDD	42:49	1.198e+04	1.315e+04	0.91	yes	no	0.758
33	RS/RT	13C-1,2,3,4-TCDD	29:13	1.137e+04	1.428e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:30	1.697e+04	1.377e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:46	4.998e+03				no	1.125

$$OCDD = \frac{(3.050e+04 + 3.443e+04) \times 4000\ pg \times 1}{(1.198e+04 + 1.315e+04) \times 10.007 \times 40.4 \times 1.079} = 2570\ NDV$$

06/26/14

1613RESP1

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-AC MS

Run #10 Filename P171752 Samp: 1 Inj: 1 Acquired: 24-JUN-14 07:03:11
Processed: 25-JUN-14 05:24:581 LAB. ID: EQ1400321-03

	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+05	1.52e+02	1.2e+03	2.65e+05	5.44e+02	4.9e+02
2	1,2,3,7,8-PeCDF	2.19e+06	6.44e+02	3.4e+03	1.37e+06	1.51e+03	9.0e+02
3	2,3,4,7,8-PeCDF	2.05e+06	6.44e+02	3.2e+03	1.33e+06	1.51e+03	8.8e+02
4	1,2,3,4,7,8-HxCDF	2.21e+06	1.30e+03	1.7e+03	1.81e+06	1.04e+03	1.8e+03
5	1,2,3,6,7,8-HxCDF	2.17e+06	1.30e+03	1.7e+03	1.80e+06	1.04e+03	1.7e+03
6	2,3,4,6,7,8-HxCDF	2.14e+06	1.30e+03	1.6e+03	1.76e+06	1.04e+03	1.7e+03
7	1,2,3,7,8,9-HxCDF	1.85e+06	1.30e+03	1.4e+03	1.51e+06	1.04e+03	1.5e+03
8	1,2,3,4,6,7,8-HpCDF	1.77e+06	2.16e+03	8.2e+02	1.73e+06	1.29e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	1.45e+06	2.16e+03	6.7e+02	1.40e+06	1.29e+03	1.1e+03
10	OCDF	1.73e+06	4.92e+02	3.5e+03	1.89e+06	8.76e+02	2.2e+03
11	2,3,7,8-TCDD	1.60e+05	4.24e+02	3.8e+02	2.13e+05	3.12e+02	6.8e+02
12	1,2,3,7,8-PeCDD	1.41e+06	4.72e+02	3.0e+03	9.00e+05	3.36e+02	2.7e+03
13	1,2,3,4,7,8-HxCDD	1.49e+06	1.30e+03	1.1e+03	1.19e+06	1.12e+03	1.1e+03
14	1,2,3,6,7,8-HxCDD	1.45e+06	1.30e+03	1.1e+03	1.10e+06	1.12e+03	9.8e+02
15	1,2,3,7,8,9-HxCDD	1.53e+06	1.30e+03	1.2e+03	1.24e+06	1.12e+03	1.1e+03
16	1,2,3,4,6,7,8-HpCDD	1.64e+06	2.32e+03	7.1e+02	1.61e+06	1.73e+03	9.3e+02
17	OCDD	5.04e+06	8.80e+02	5.7e+03	5.67e+06	1.06e+03	5.4e+03
18	13C-2,3,7,8-TCDF	1.80e+06	4.88e+02	3.7e+03	2.31e+06	3.68e+02	6.3e+03
19	13C-1,2,3,7,8-PeCDF	3.05e+06	4.40e+02	6.9e+03	1.99e+06	6.40e+01	3.1e+04
20	13C-2,3,4,7,8-PeCDF	3.17e+06	4.40e+02	7.2e+03	2.03e+06	6.40e+01	3.2e+04
21	13C-1,2,3,4,7,8-HxCDF	1.61e+06	1.68e+02	9.6e+03	3.13e+06	4.08e+02	7.7e+03
22	13C-1,2,3,6,7,8-HxCDF	2.06e+06	1.68e+02	1.2e+04	3.98e+06	4.08e+02	9.8e+03
23	13C-2,3,4,6,7,8-HxCDF	2.02e+06	1.68e+02	1.2e+04	3.88e+06	4.08e+02	9.5e+03
24	13C-1,2,3,7,8,9-HxCDF	1.53e+06	1.68e+02	9.1e+03	3.06e+06	4.08e+02	7.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.23e+06	6.92e+02	1.8e+03	2.83e+06	1.19e+03	2.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.02e+06	6.92e+02	1.5e+03	2.39e+06	1.19e+03	2.0e+03
27	13C-2,3,7,8-TCDD	1.32e+06	1.34e+03	9.9e+02	1.71e+06	5.52e+02	3.1e+03
28	13C-1,2,3,7,8-PeCDD	2.67e+06	2.84e+02	9.4e+03	1.67e+06	7.20e+01	2.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.43e+06	3.04e+02	8.0e+03	2.01e+06	3.68e+02	5.5e+03
30	13C-1,2,3,6,7,8-HxCDD	2.33e+06	3.04e+02	7.7e+03	1.90e+06	3.68e+02	5.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.88e+06	4.24e+02	4.4e+03	1.74e+06	3.32e+02	5.2e+03
32	13C-OCDD	1.94e+06	1.92e+02	1.0e+04	2.18e+06	3.08e+02	7.1e+03
33	13C-1,2,3,4-TCDD	2.42e+06	1.34e+03	1.8e+03	3.06e+06	5.52e+02	5.5e+03
34	13C-1,2,3,7,8,9-HxCDD	3.60e+06	3.04e+02	1.2e+04	2.93e+06	3.68e+02	8.0e+03
35	37Cl-2,3,7,8-TCDD	1.06e+06	3.72e+02	2.9e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC MS

Entry: 36 Totals Name: Total Tetra-Furans

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 1
Llim: 24:43 Ulim: 30:56
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 303.9020 305.8990 Tot Response: 2.25e+03 RRF: 0.9451

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:01	9.40e+02	1.30e+03 0.72	yes	2.25e+03	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC MS

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 1
Llim: 26:34 Ulim: 30:47
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 319.8970 321.8940 Tot Response: 1.86e+03 RRF: 1.037

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:38	1.63e+01	1.86e+01	0.87	yes	3.49e+01		n	n
2	28:22	7.47e+00	1.01e+01	0.74	yes	1.75e+01		n	n
3	29:46	7.80e+02	1.02e+03	0.76	yes	1.80e+03	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SYC14-AC MS

Entry: 39 Totals Name: Total Penta-Furan2

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 2
Llim: 30:40 Ulim: 34:58
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 339.8600 341.8570 Tot Response: 3.60e+04 RRF: 0.9970

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:02	1.15e+04	7.11e+03	1.61	yes	1.86e+04	1,2,3,7,8-PeCDF	n	n
2	33:15	1.84e+02	1.21e+02	1.53	yes	3.05e+02		n	n
3	33:53	1.04e+04	6.73e+03	1.54	yes	1.71e+04	2,3,4,7,8-PeCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SYC14-AC MS

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 2
Llim: 32:06 Ulim: 34:43
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 355.8550 357.8520 Tot Response: 1.30e+04 RRF: 0.9375

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:08	2.35e+02	1.34e+02	1.76	yes	3.69e+02		n	n
2	32:35	2.17e+02	1.62e+02	1.34	yes	3.79e+02		n	n
3	33:10	4.12e+01	2.85e+01	1.44	yes	6.97e+01		n	n
4	33:17	2.52e+01	1.87e+01	1.35	yes	4.39e+01		n	n
5	33:28	1.53e+02	9.49e+01	1.62	yes	2.48e+02		n	n
6	34:10	7.28e+03	4.59e+03	1.59	yes	1.19e+04	1,2,3,7,8-PeCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC MS

Entry: 41 Totals Name: Total Hexa-Furans

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 3
Llim: 35:22 Ulim: 38:02
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 373.8210 375.8180 Tot Response: 7.30e+04 RRF: 1.180

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:05	1.21e+02	1.08e+02	1.12	yes	2.29e+02		n	n
2	36:29	1.03e+04	8.46e+03	1.22	yes	1.88e+04	1,2,3,4,7,8-HxCDF	n	n
3	36:36	1.06e+04	8.80e+03	1.20	yes	1.94e+04	1,2,3,6,7,8-HxCDF	n	n
4	37:04	9.98e+03	8.18e+03	1.22	yes	1.82e+04	2,3,4,6,7,8-HxCDF	n	n
5	37:48	9.02e+03	7.43e+03	1.21	yes	1.64e+04	1,2,3,7,8,9-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SYC14-AC MS

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 3
Llim: 35:51 Ulim: 37:38
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 389.8160 391.8130 Tot Response: 4.45e+04 RRF: 1.040

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:55	3.12e+03	2.32e+03	1.35	yes	5.43e+03		n	n
2	36:24	6.91e+01	6.18e+01	1.12	yes	1.31e+02		n	n
3	36:38	7.27e+02	5.80e+02	1.25	yes	1.31e+03		n	n
4	36:44	1.13e+02	9.13e+01	1.24	yes	2.05e+02		n	n
5	37:12	6.47e+03	5.26e+03	1.23	yes	1.17e+04	1,2,3,4,7,8-HxCDD	n	n
6	37:17	6.97e+03	5.36e+03	1.30	yes	1.23e+04	1,2,3,6,7,8-HxCDD	n	n
7	37:31	7.44e+03	5.96e+03	1.25	yes	1.34e+04	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC MS

Entry: 43 Totals Name: Total Hepta-Furans

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 4
Llim: 39:00 Ulim: 40:41
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 407.7820 409.7790 Tot Response: 3.28e+04 RRF: 1.365

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:03	8.51e+03	8.25e+03	1.03	yes	1.68e+04	1,2,3,4,6,7,8-HpCDF	n	n
2	39:27	4.42e+02	4.65e+02	0.95	yes	9.06e+02		n	n
3	40:28	7.72e+03	7.39e+03	1.04	yes	1.51e+04	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SYC14-AC MS

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 10 File: P171752 Sample: 1 Injection: 1 Function: 4
Llim: 39:14 Ulim: 40:10
Acquired: 24-JUN-14 07:03:11 Processed: 25-JUN-14 05:24:58
Mass: 423.7770 425.7740 Tot Response: 3.62e+04 RRF: 1.016

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:17	1.03e+04	9.78e+03	1.06	yes	2.01e+04		n	n
2	39:58	8.11e+03	7.93e+03	1.02	yes	1.60e+04	1,2,3,4,6,7,8-HpCDD	n	n

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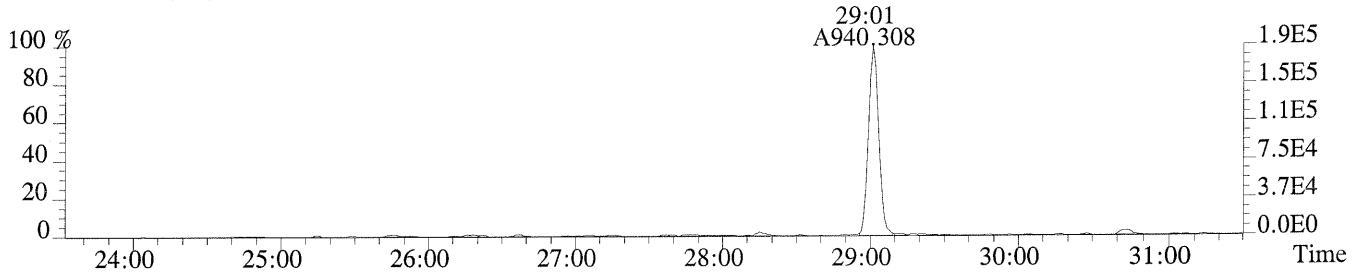
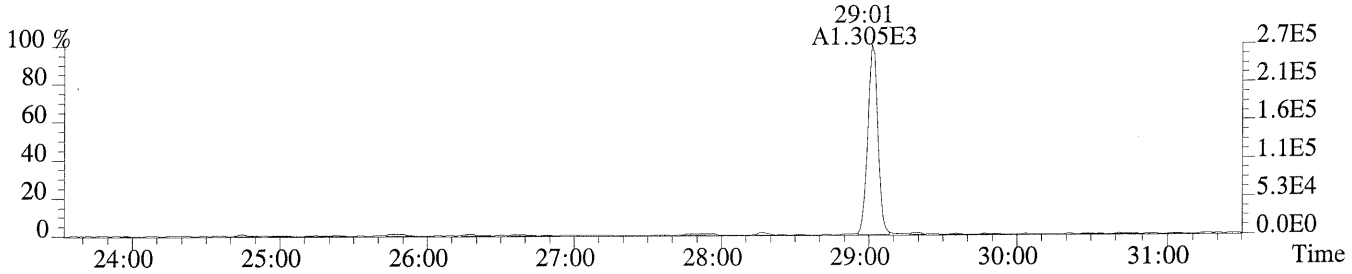
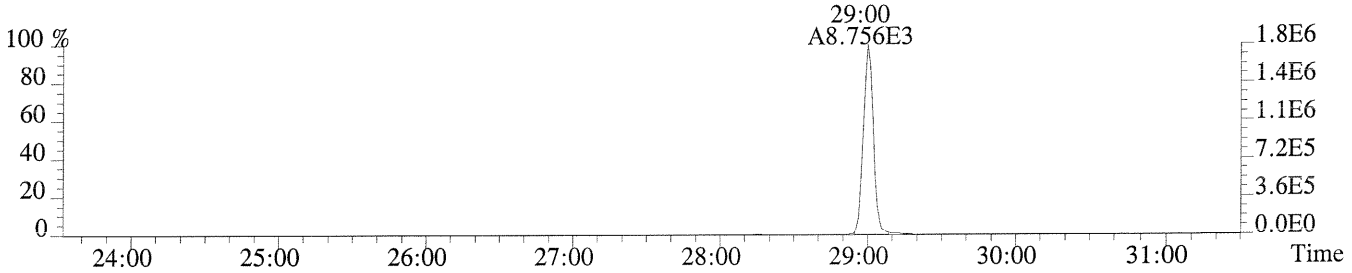
File:P171752 #1-501 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



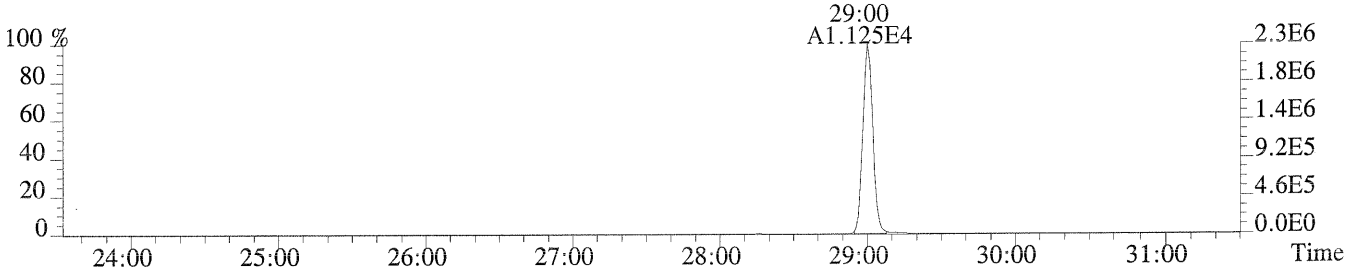
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



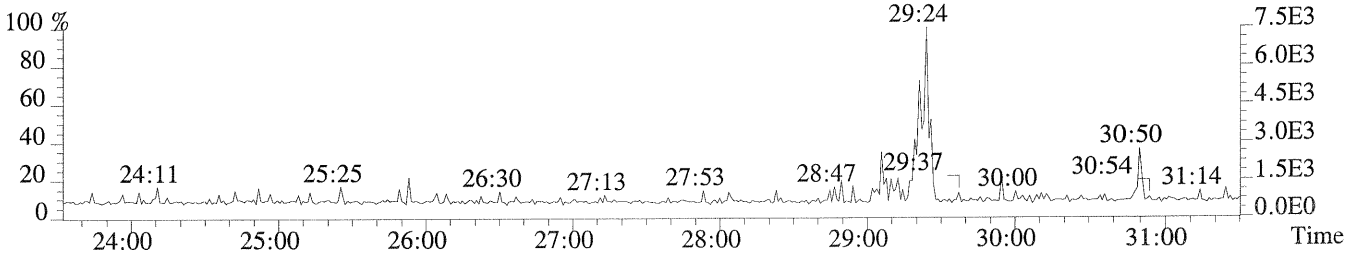
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,T)



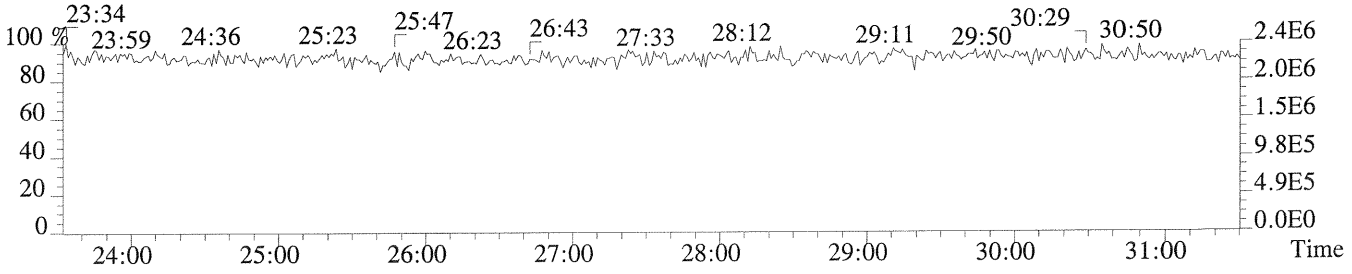
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



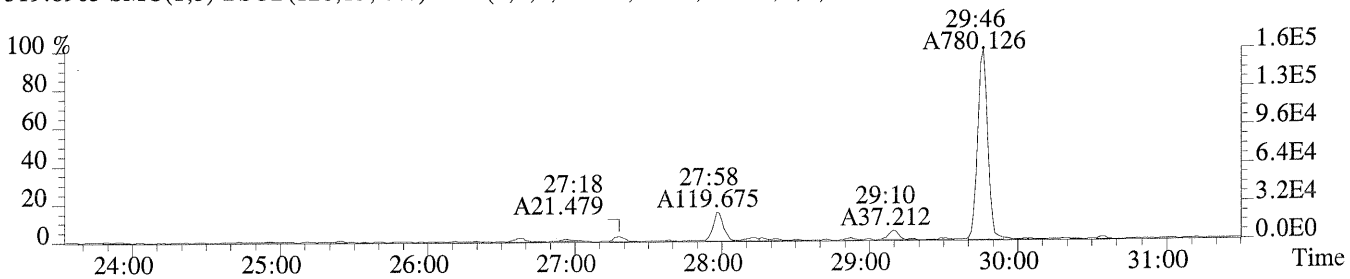
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



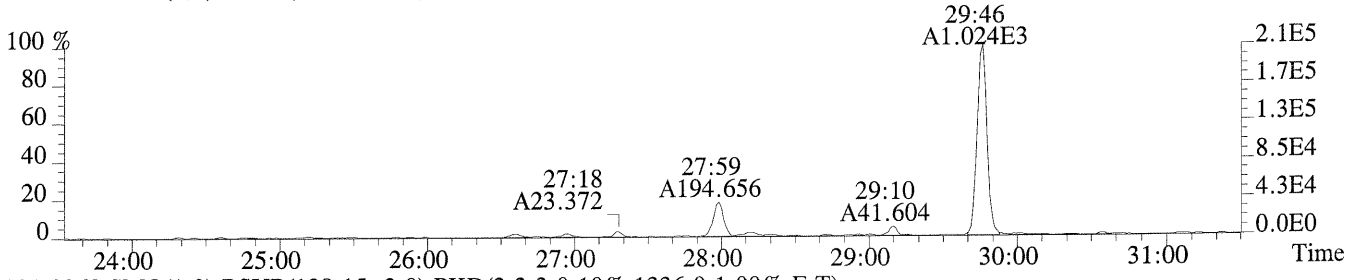
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



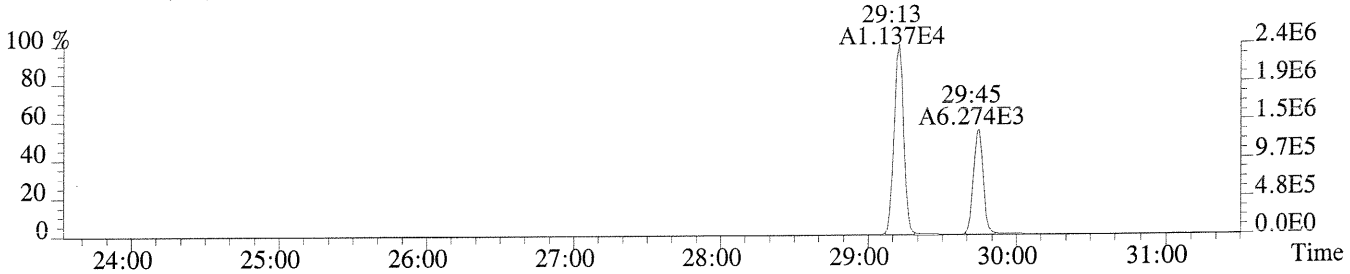
File:P171752 #1-501 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



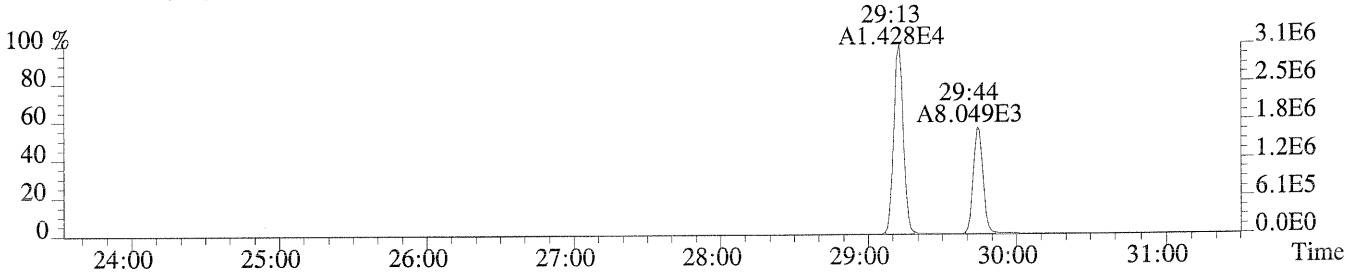
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)



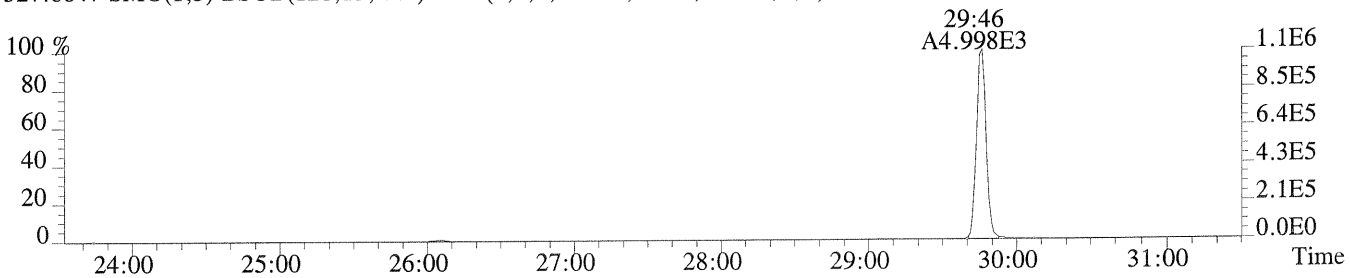
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



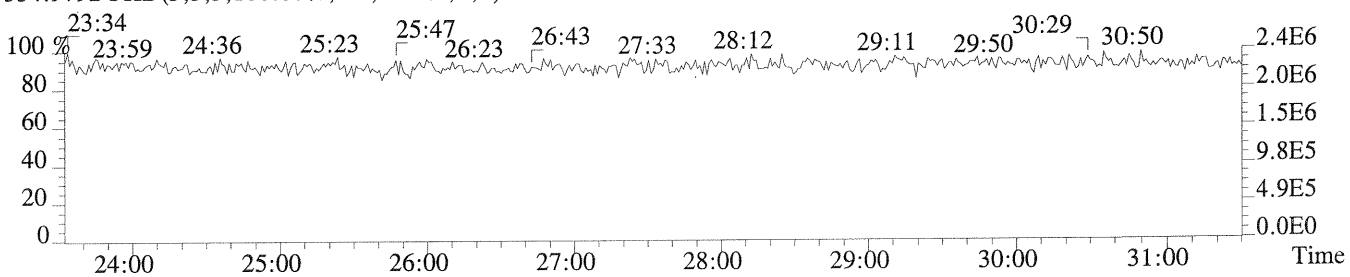
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



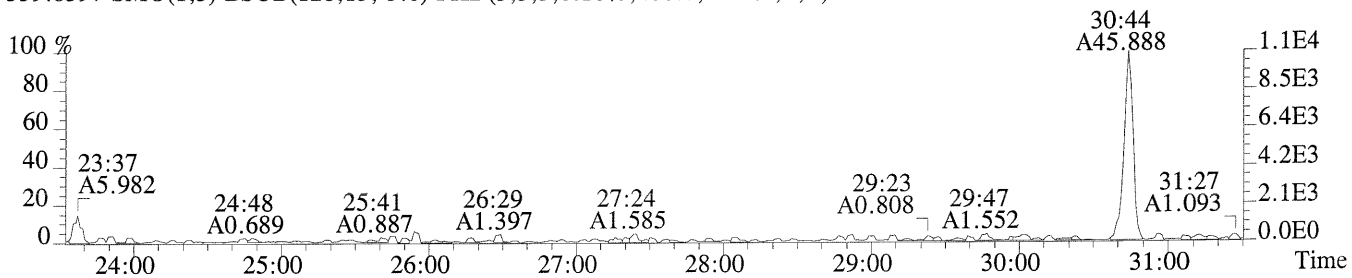
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,372.0,1.00%,F,T)



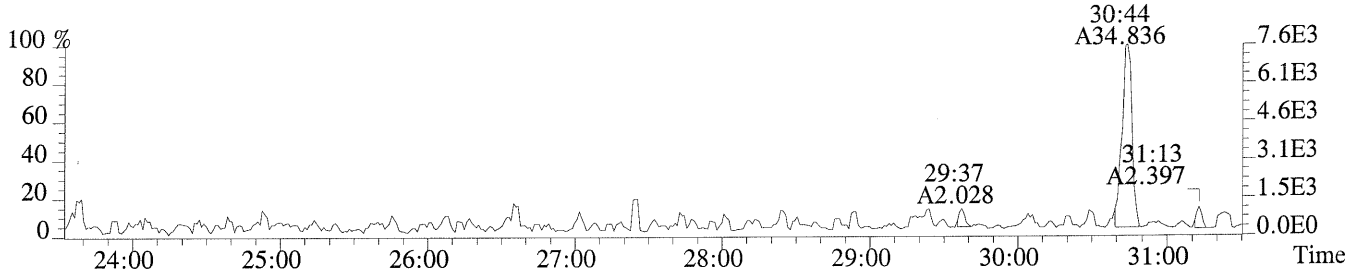
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



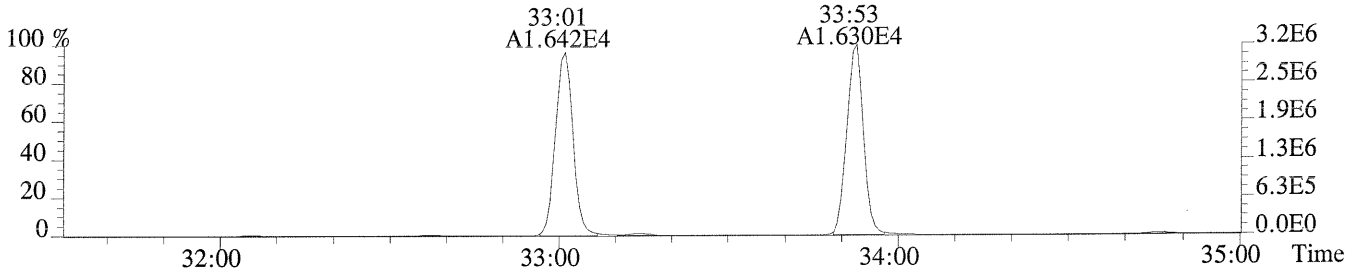
File:P171752 #1-501 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,T)



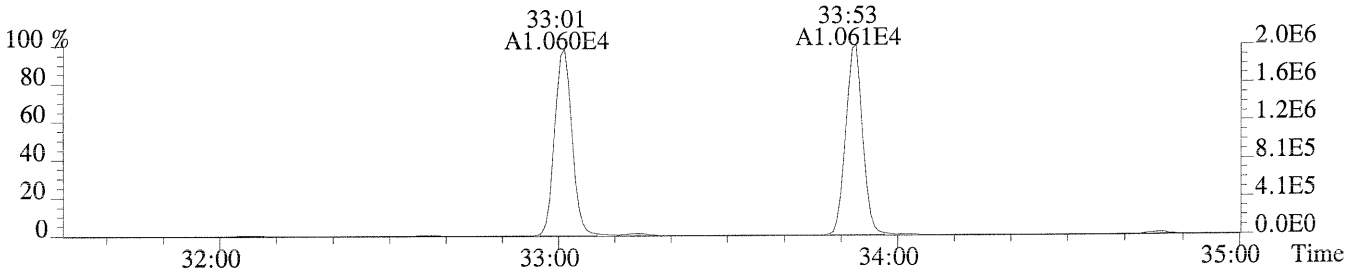
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



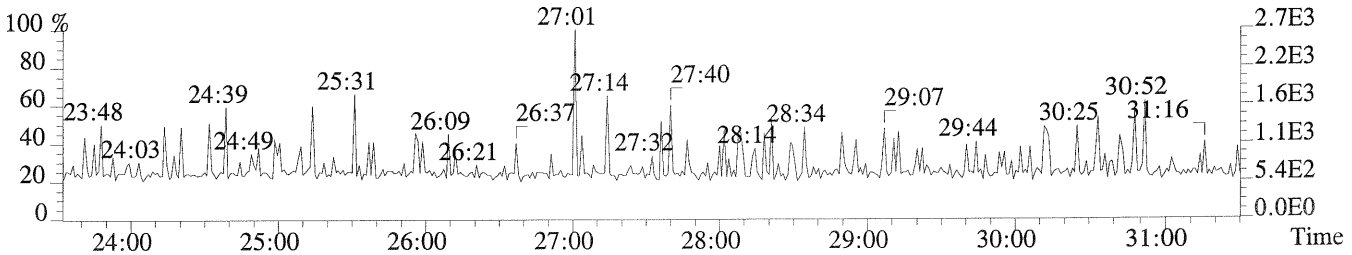
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



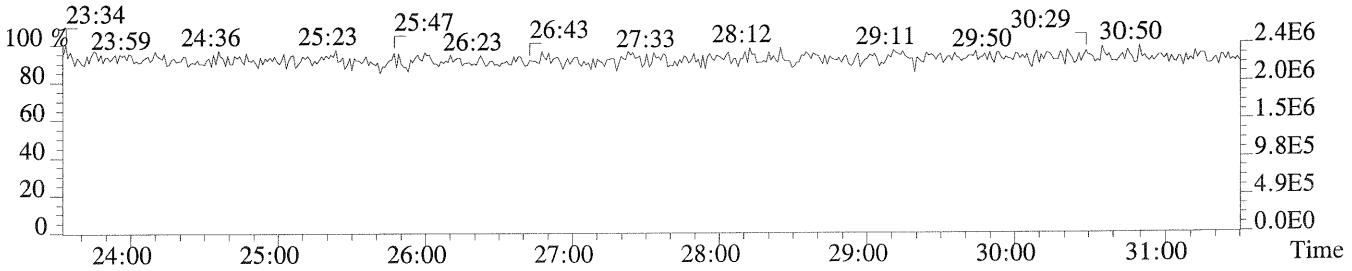
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

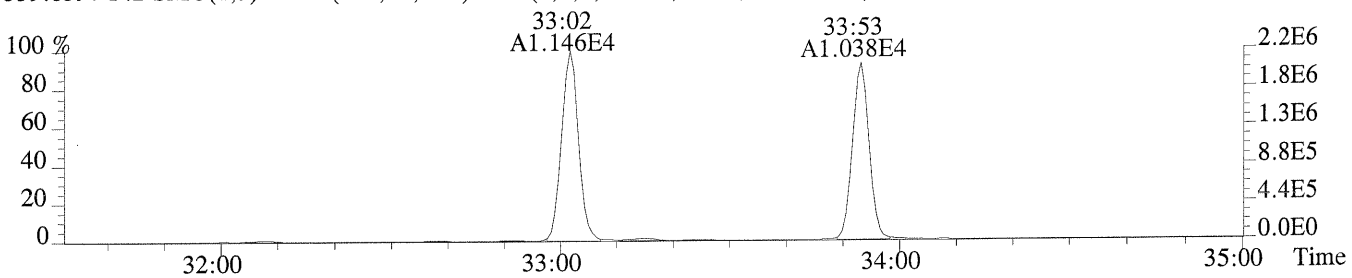


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

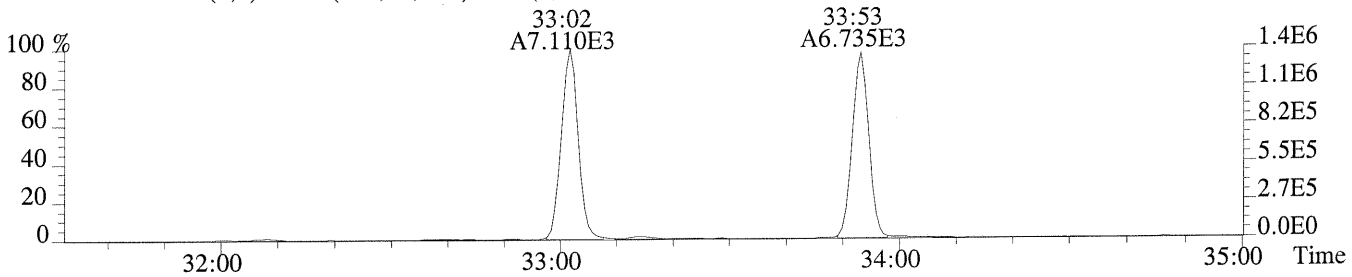


File:P171752 #1-315 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03

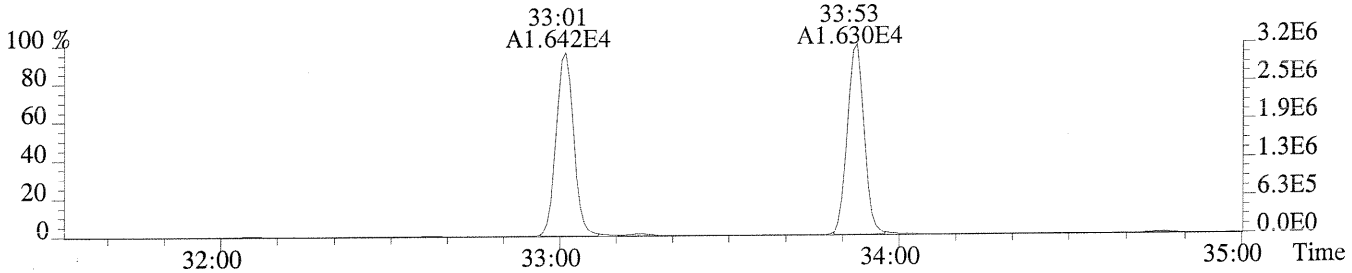
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



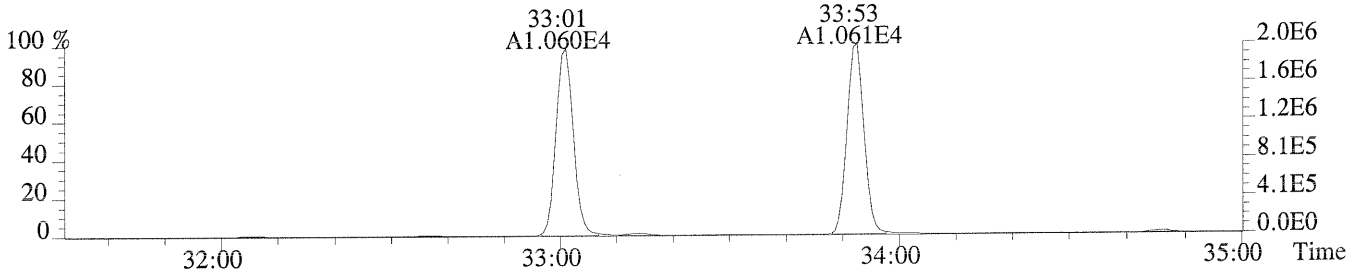
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1512.0,1.00%,F,T)



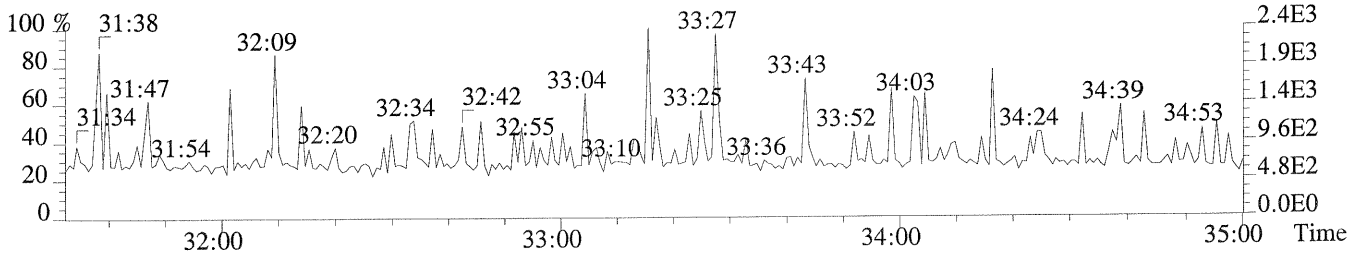
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



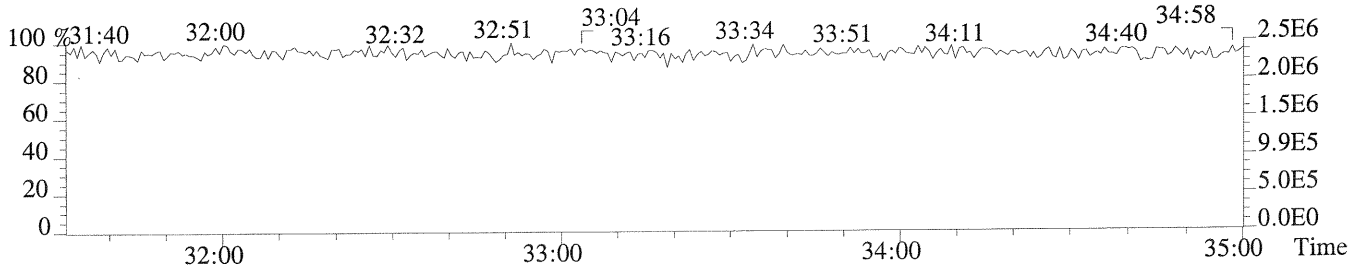
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,T)



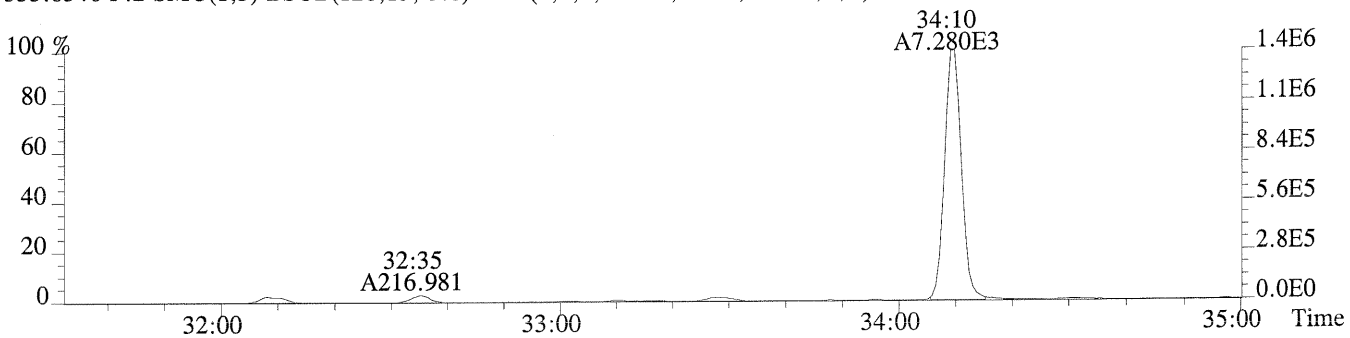
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



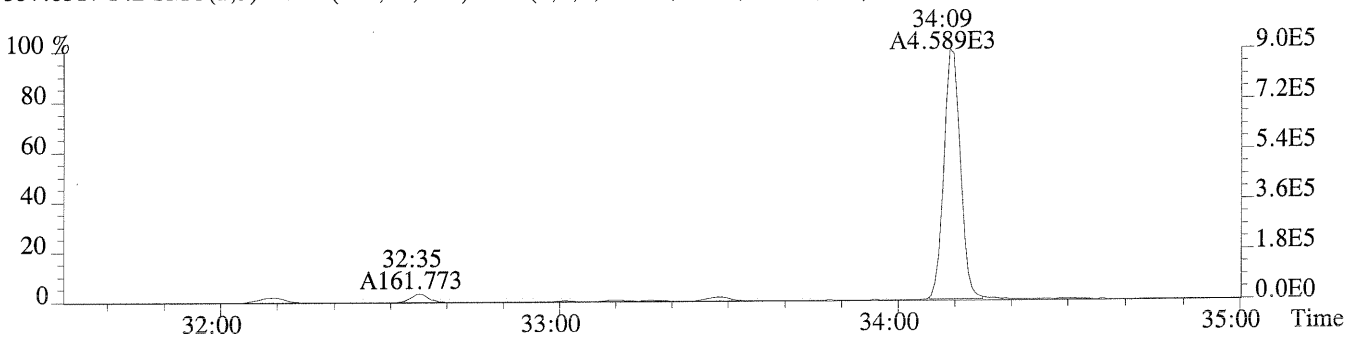
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



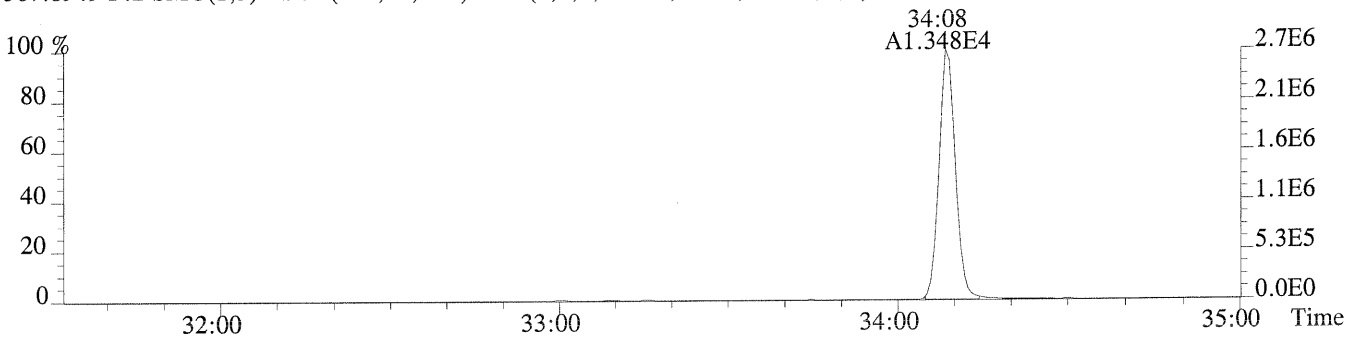
File:P171752 #1-315 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



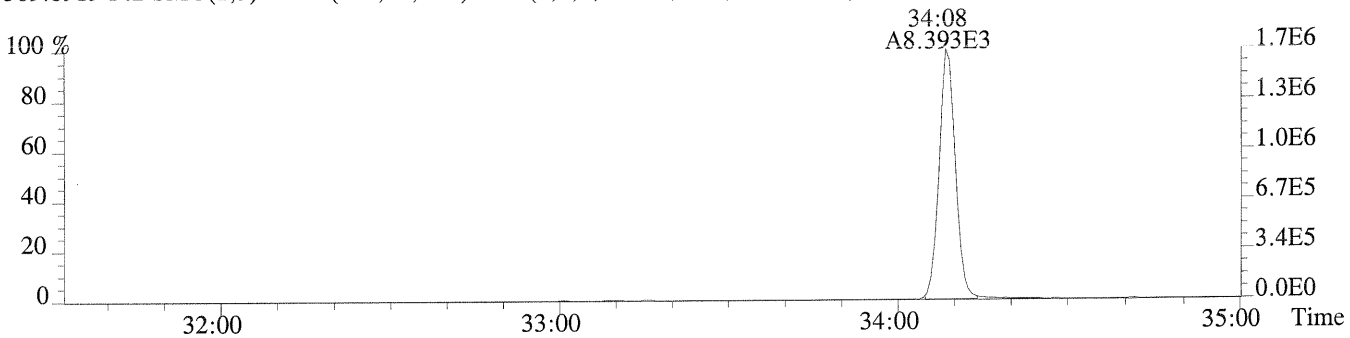
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,336.0,1.00%,F,T)



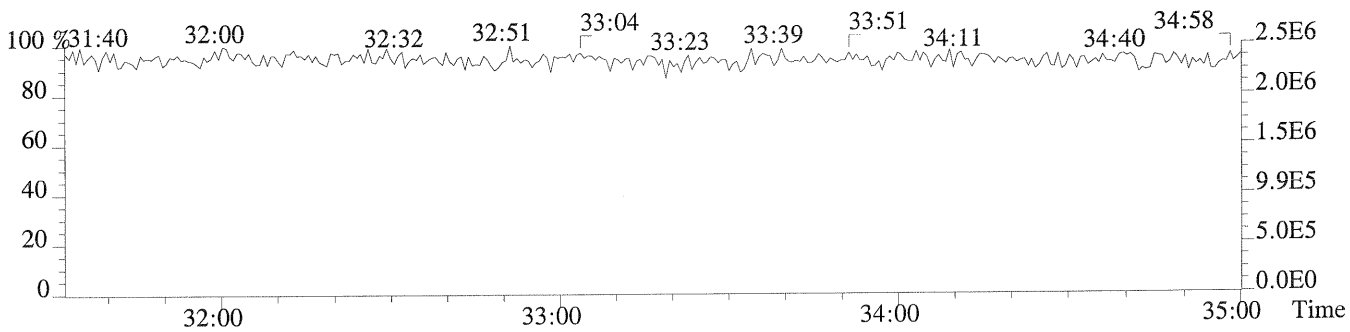
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)

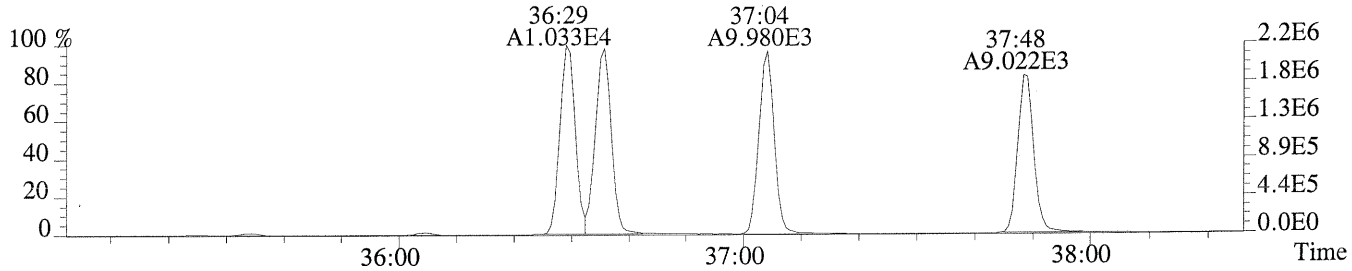


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

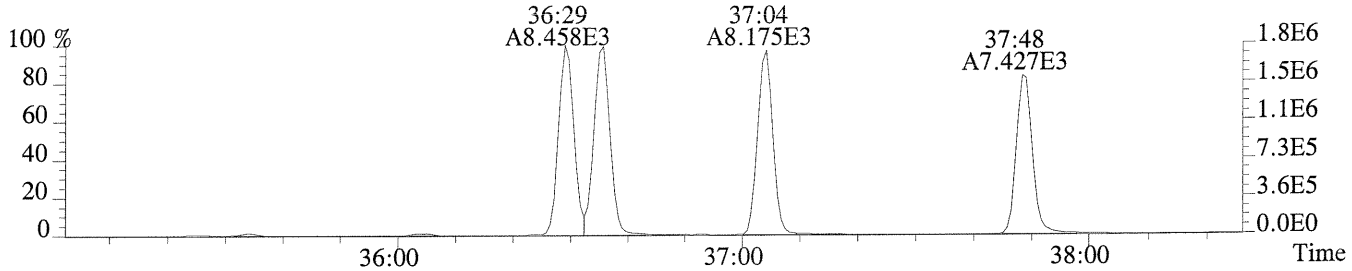


File:P171752 #1-309 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03

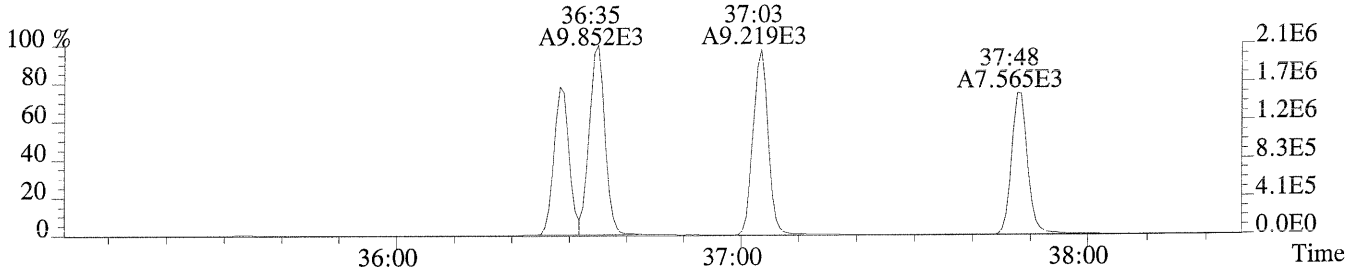
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1304.0,0.40%,F,T)



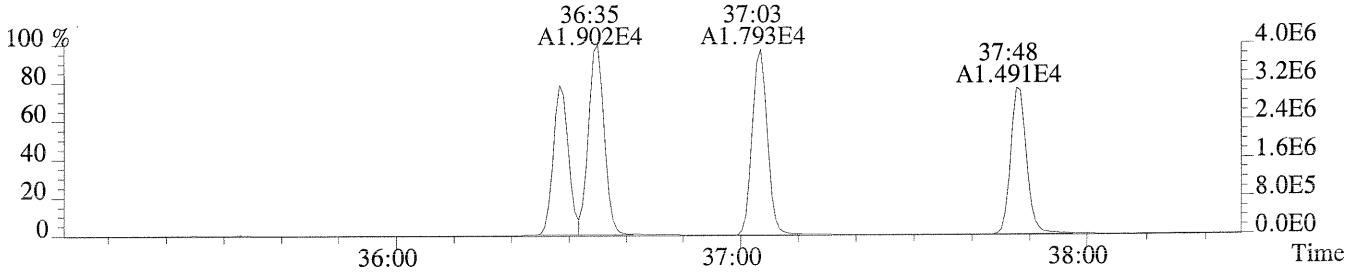
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1036.0,0.40%,F,T)



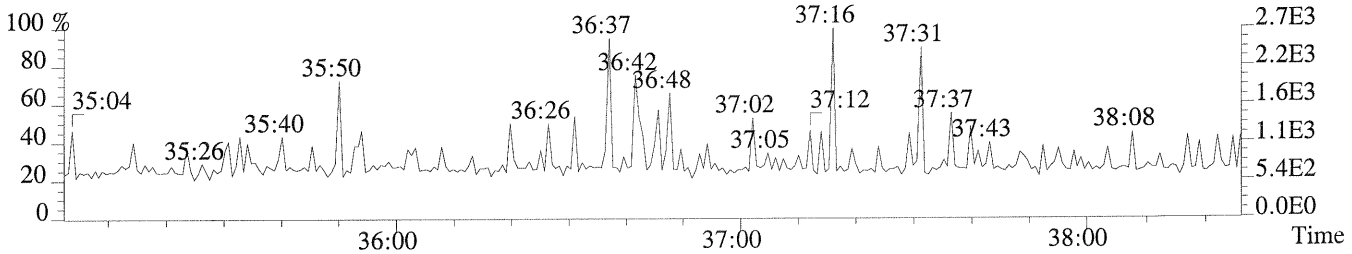
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



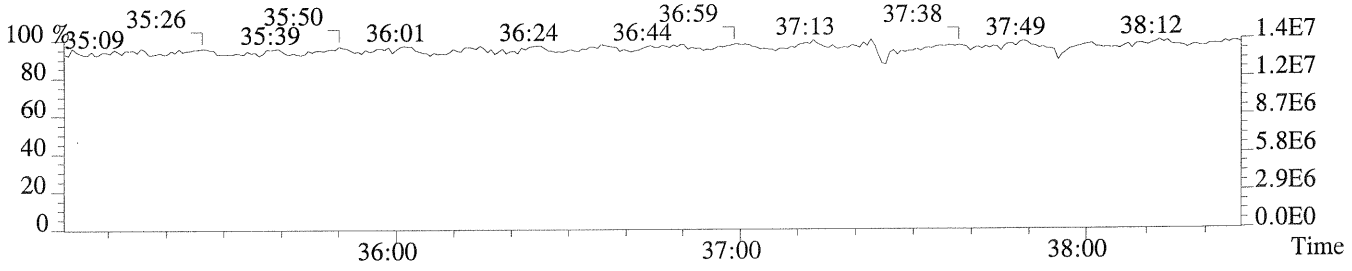
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,408.0,0.40%,F,T)



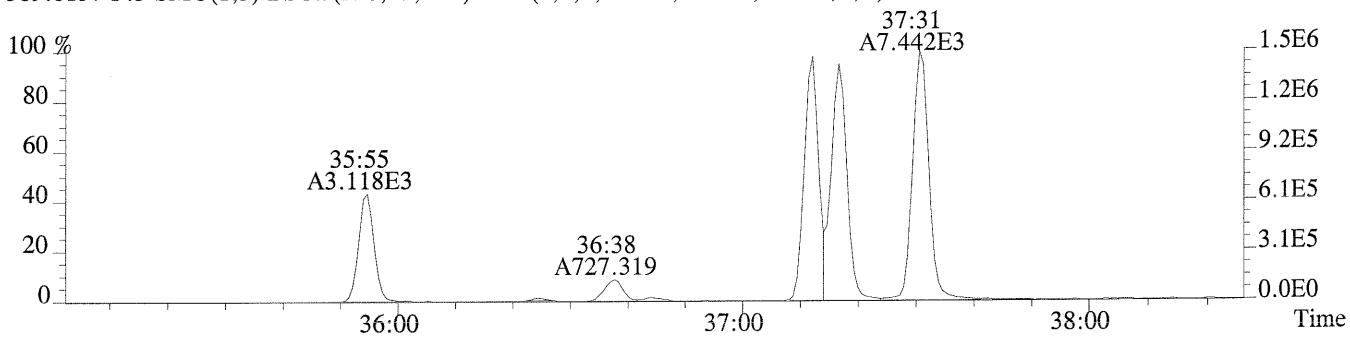
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



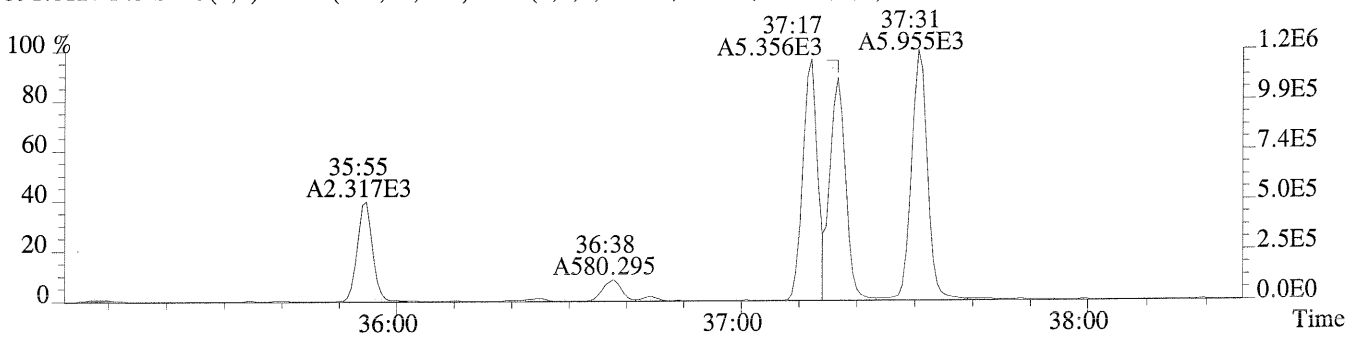
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



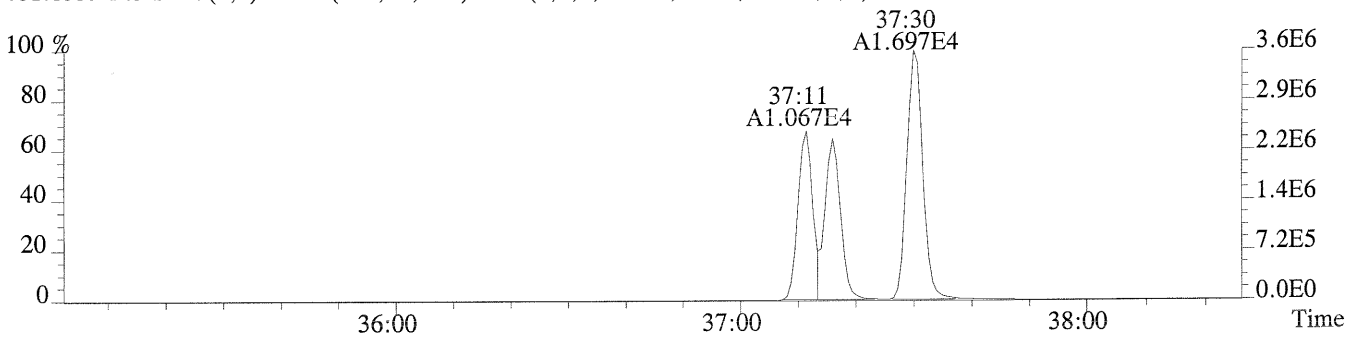
File:P171752 #1-309 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1304.0,0.40%,F,T)



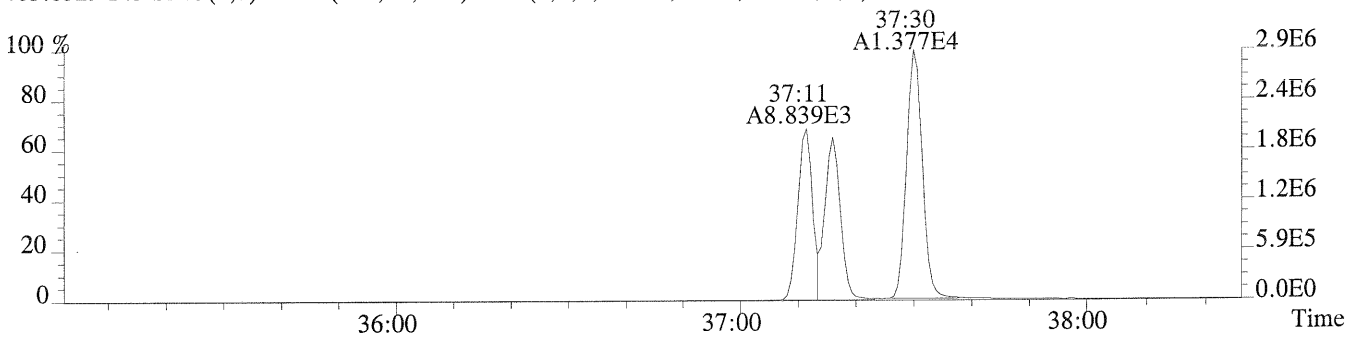
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



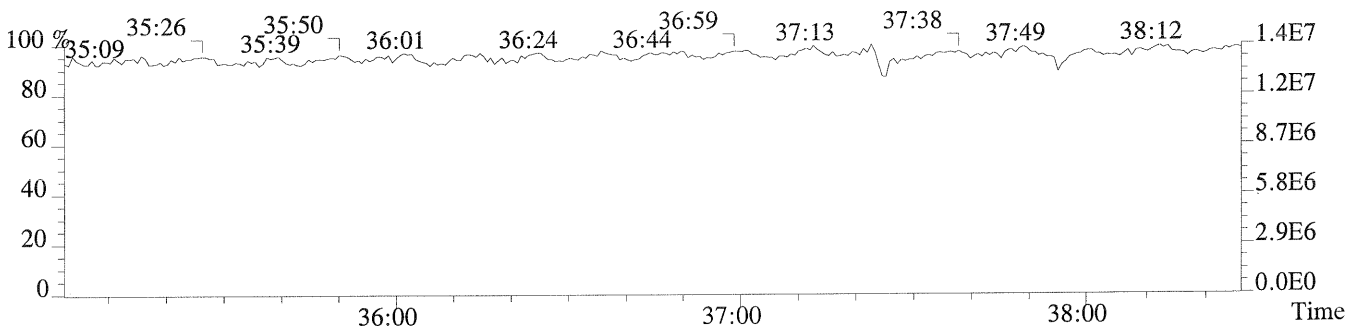
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



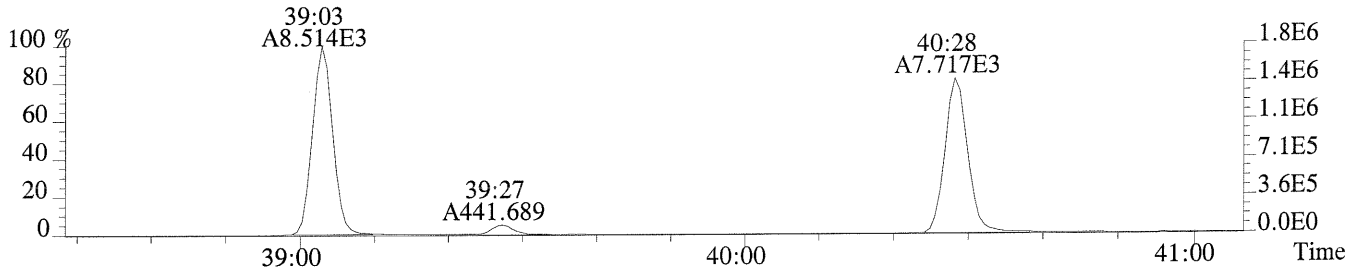
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,368.0,0.40%,F,T)



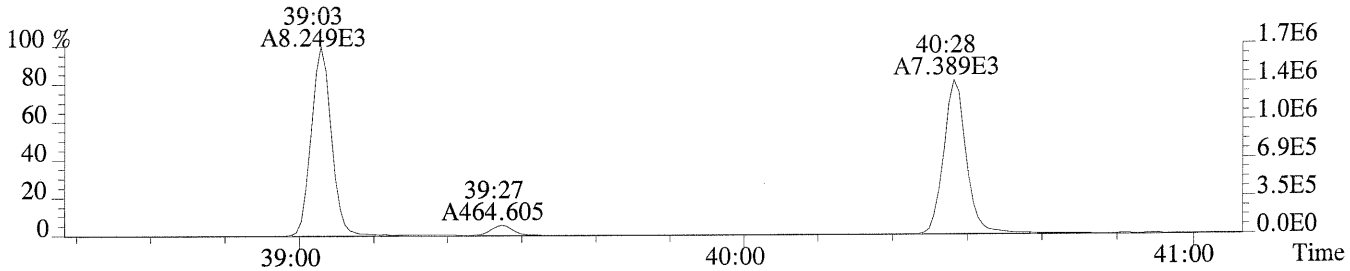
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



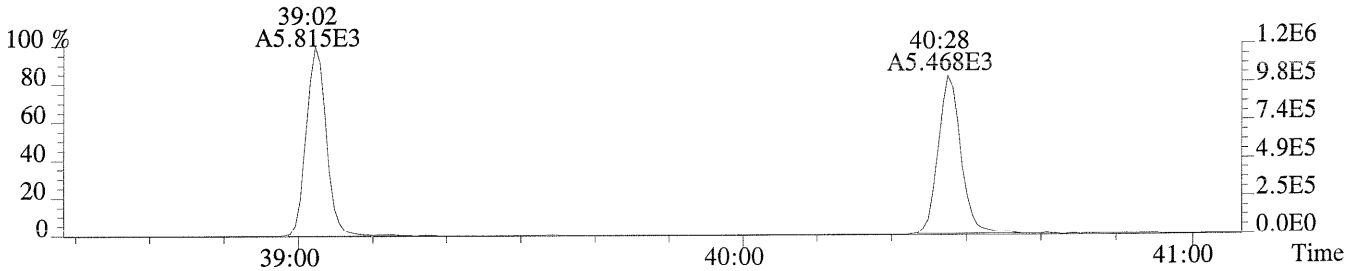
File:P171752 #1-240 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2160.0,0.50%,F,T)



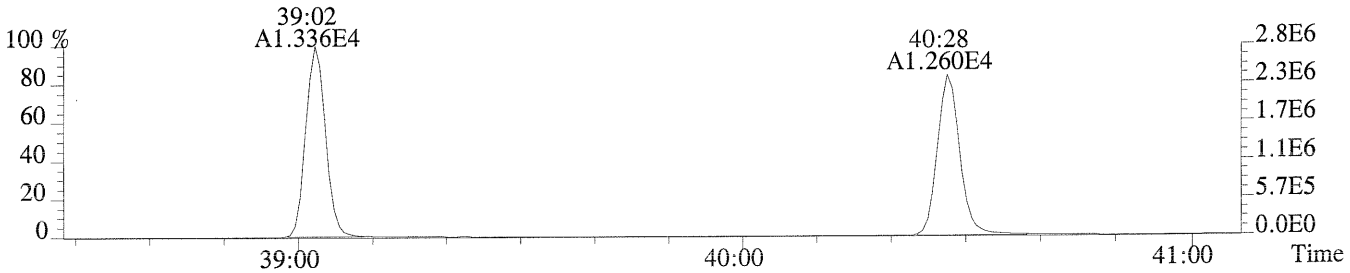
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.50%,F,T)



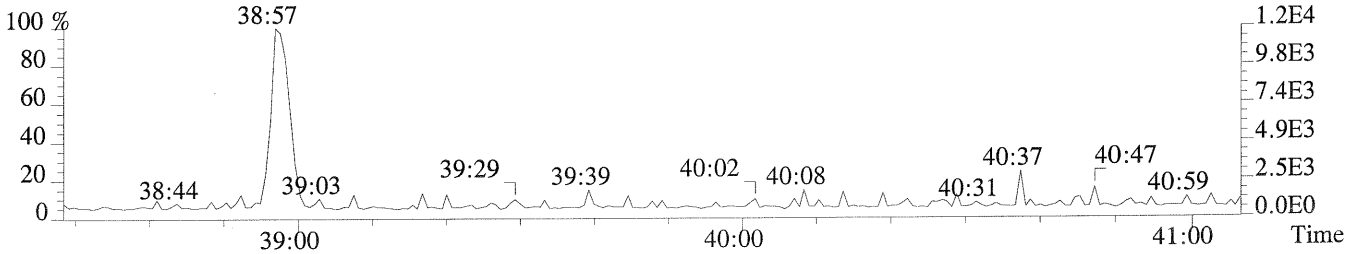
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,692.0,0.50%,F,T)



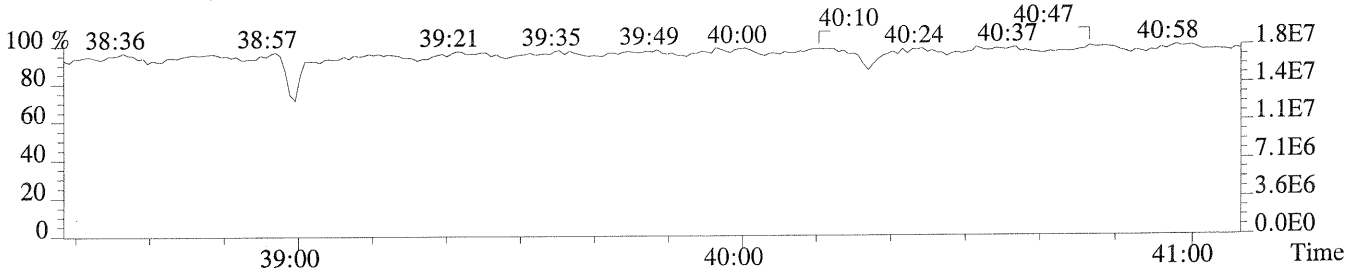
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1192.0,0.50%,F,T)



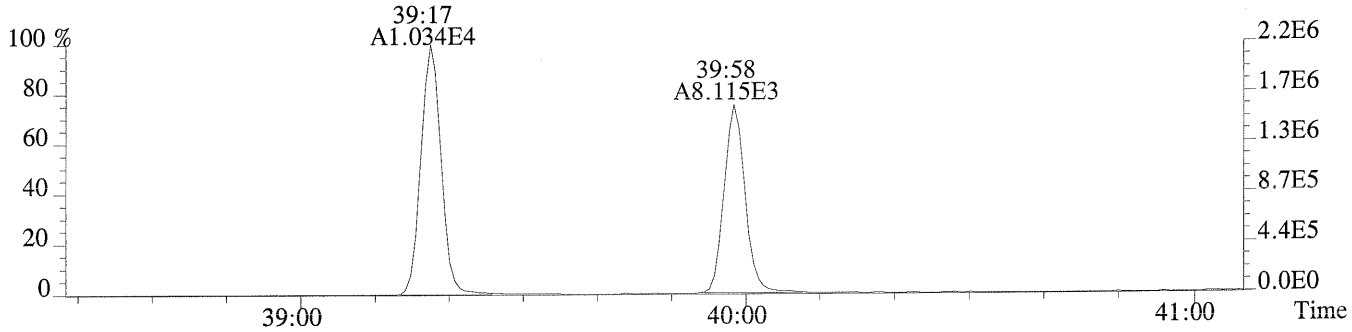
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



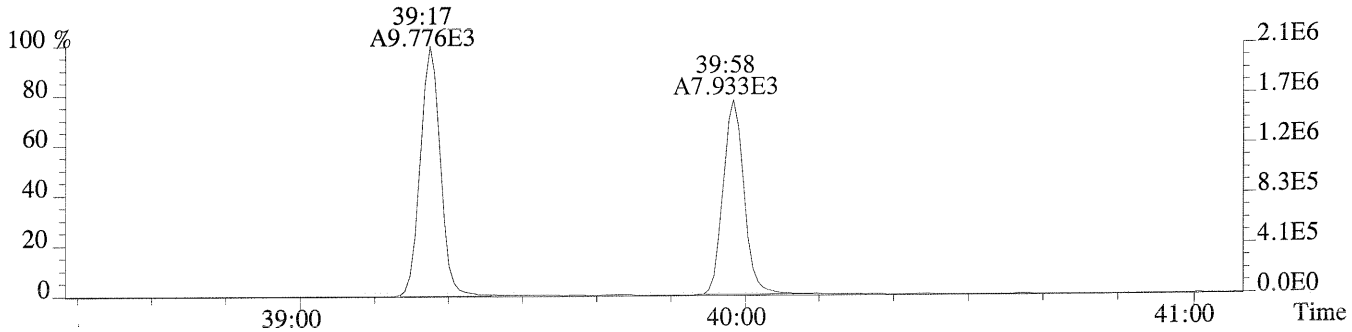
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



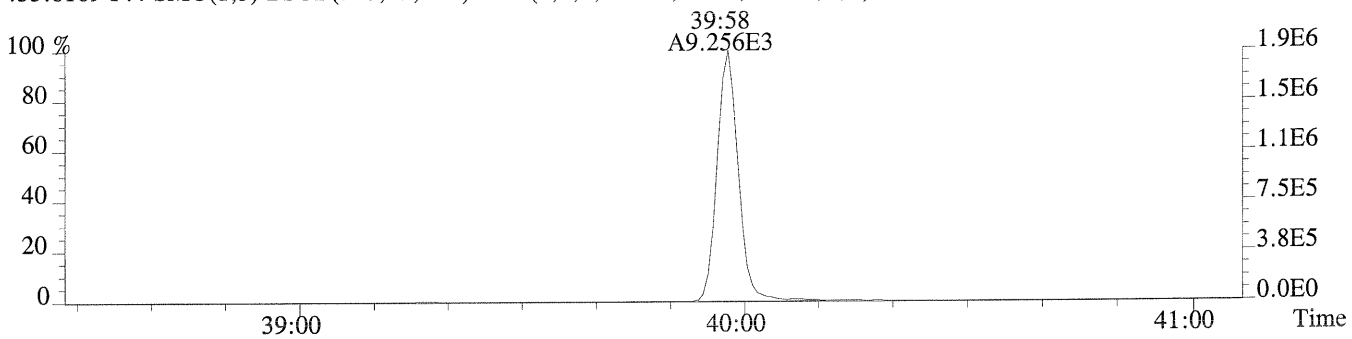
File:P171752 #1-240 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2324.0,0.40%,F,T)



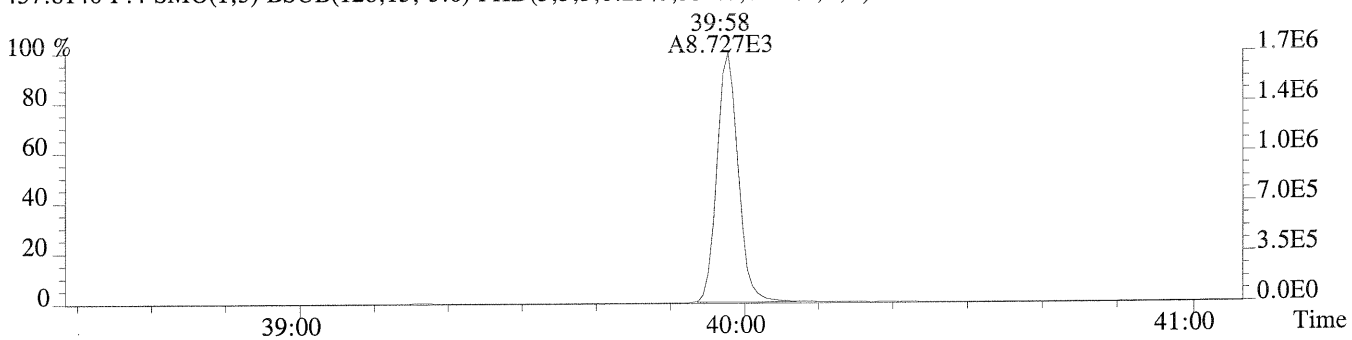
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,T)



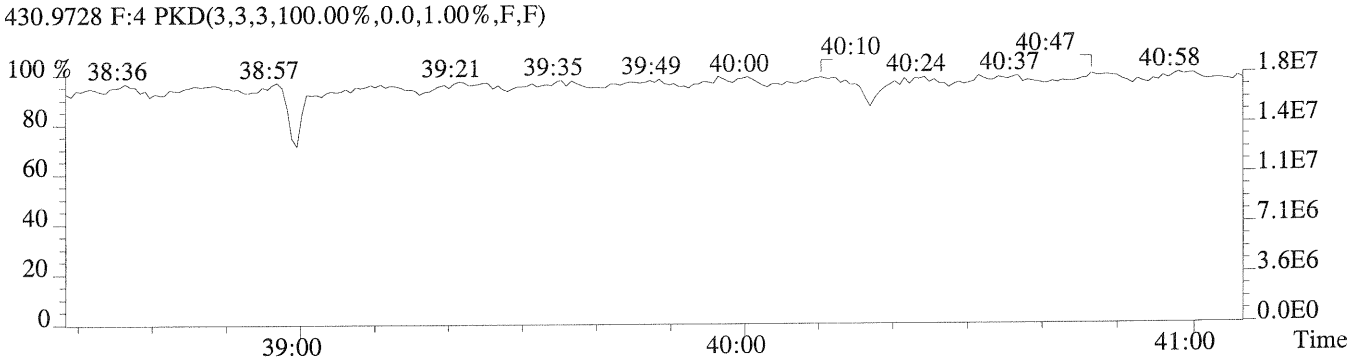
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,424.0,0.40%,F,T)



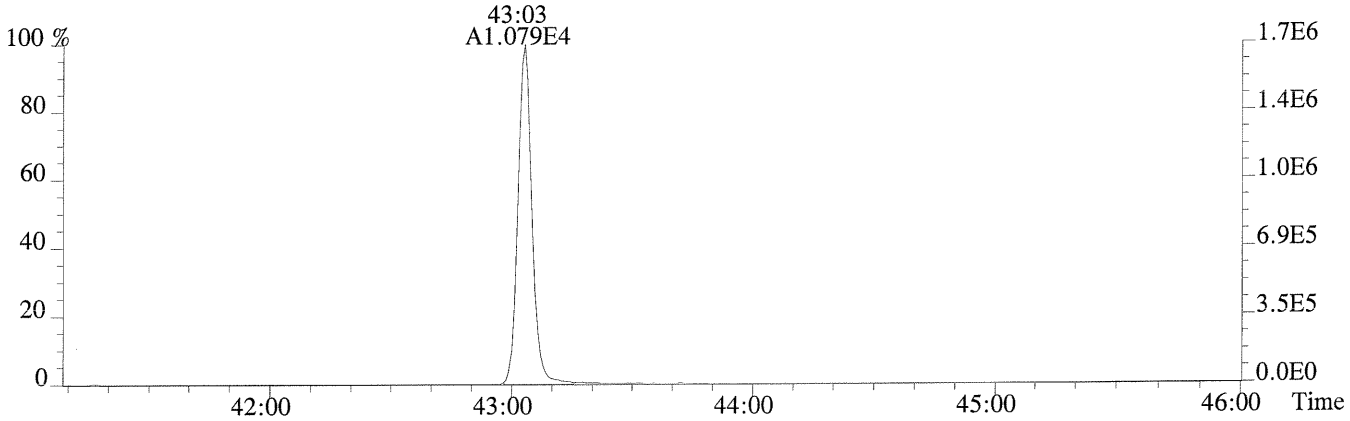
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,332.0,0.40%,F,T)



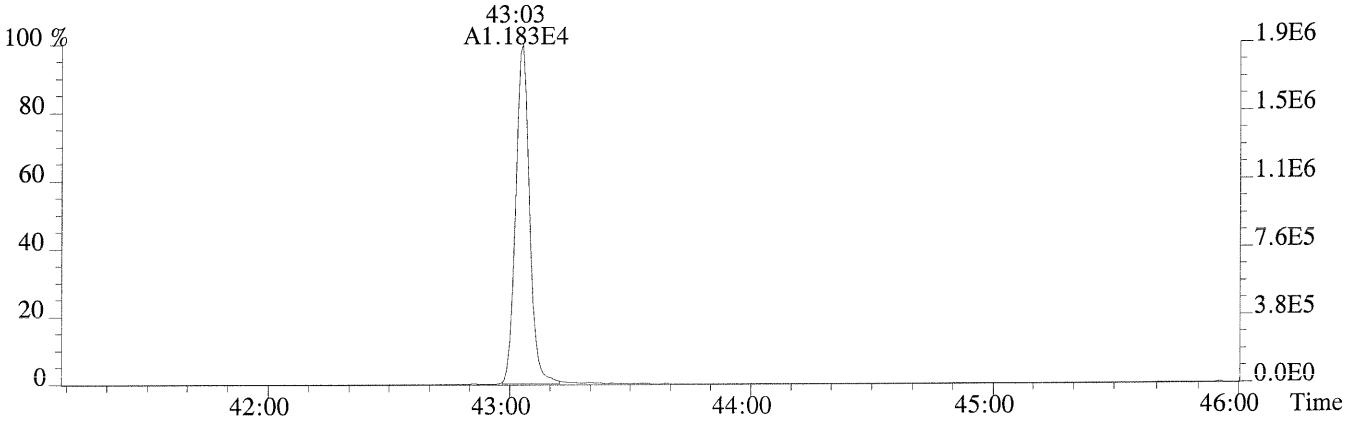
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



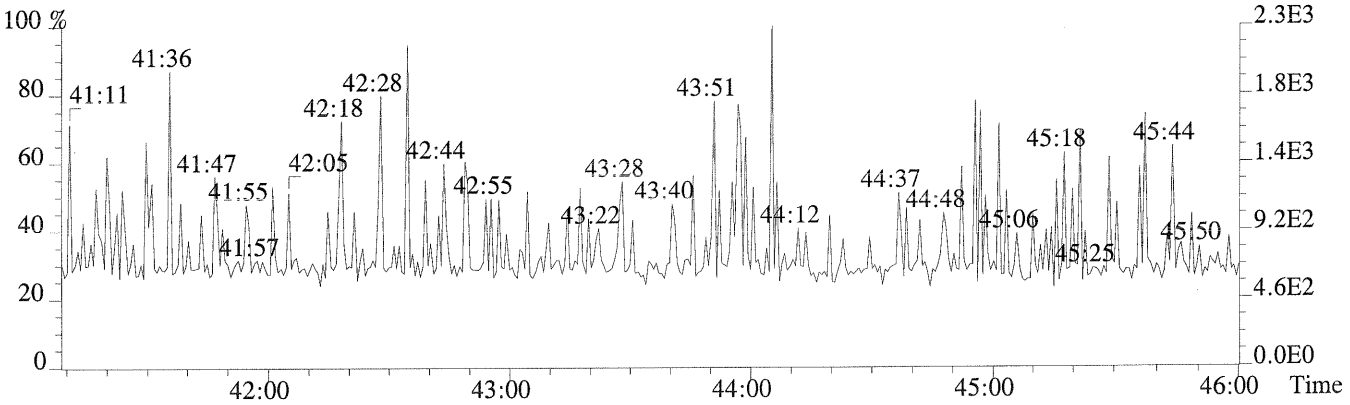
File:P171752 #1-447 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,492.0,0.40%,F,T)



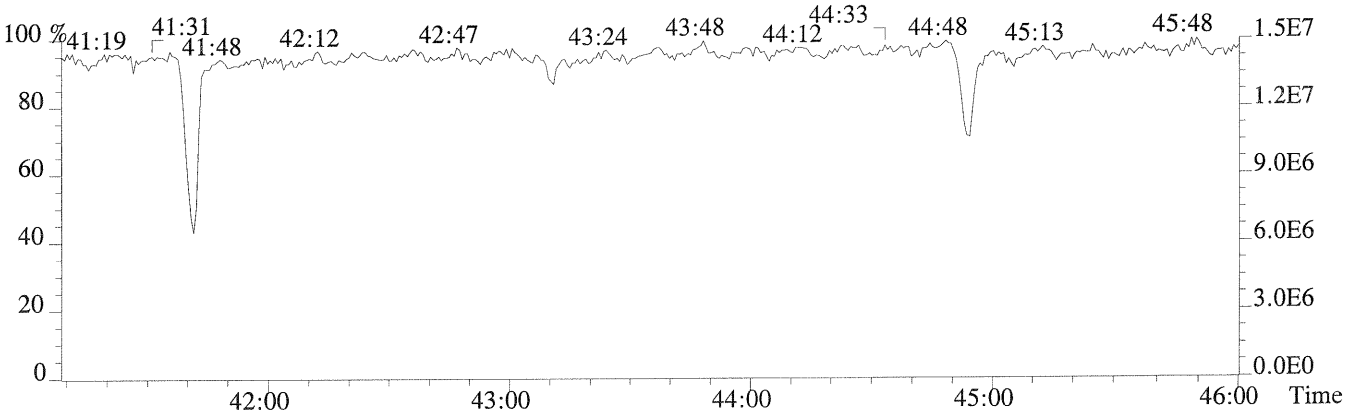
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,876.0,0.40%,F,T)



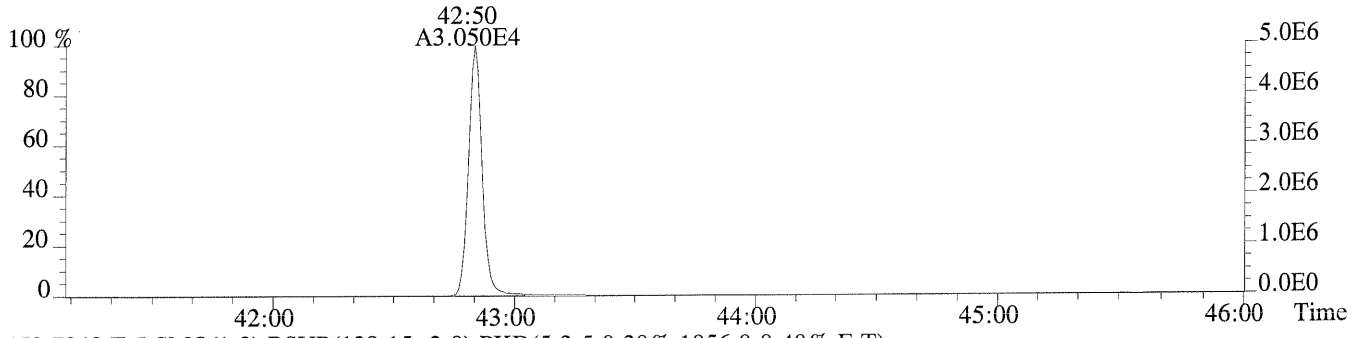
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



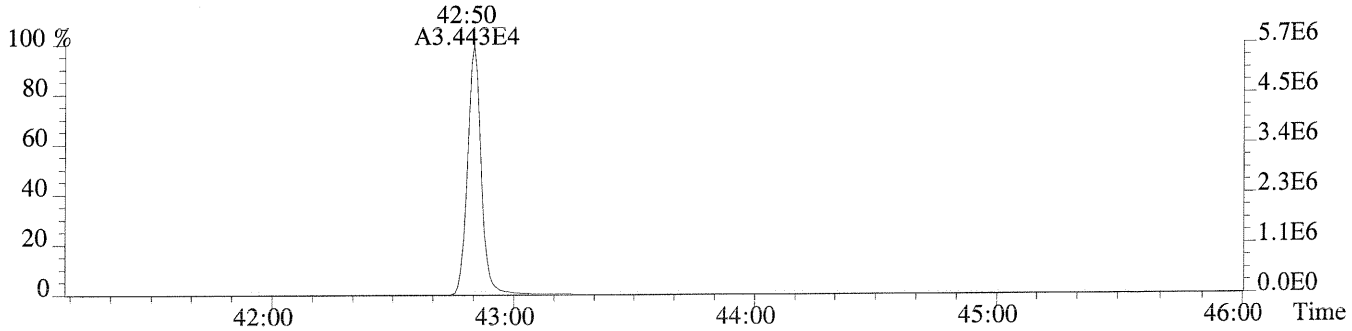
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



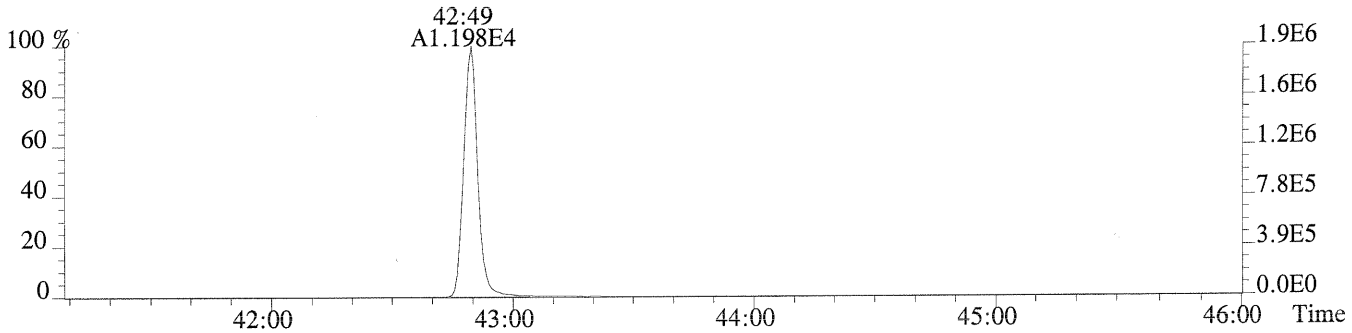
File:P171752 #1-447 Acq:24-JUN-2014 07:03:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-03
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



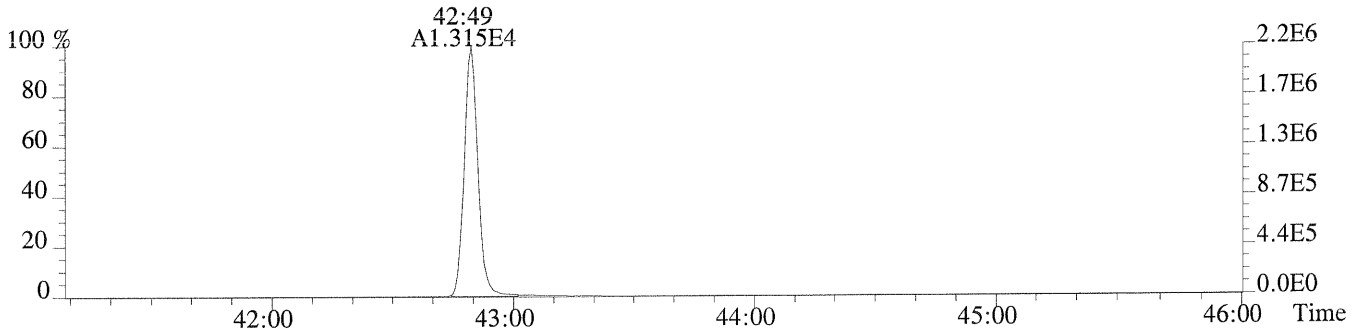
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)



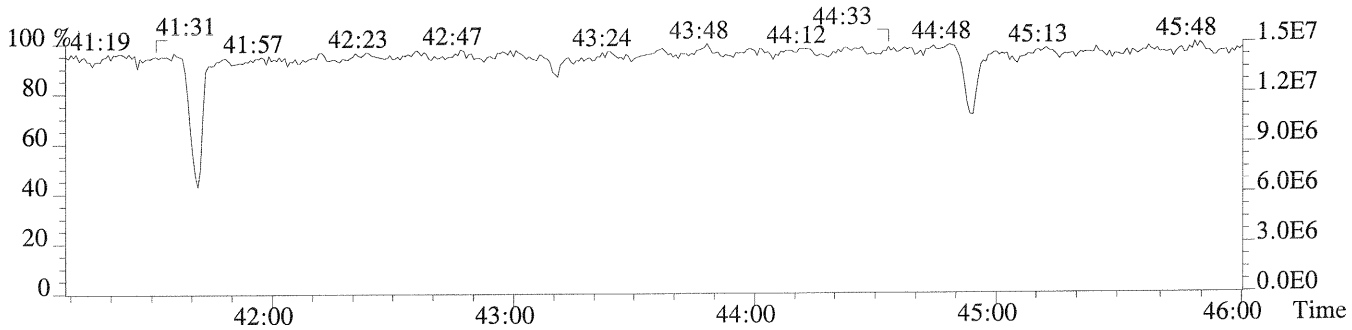
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,192.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,308.0,0.40%,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.
SYC14-AC DMS

Run #11 Filename P171753 Samp: 1 Inj: 1 Acquired: 24-JUN-14 07:51:19
Processed: 25-JUN-14 05:25:08 Sample ID: EQ1400321-04

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:01	1.057e+03	1.386e+03	0.76	yes	no	0.945
2	Unk	1,2,3,7,8-PeCDF	33:01	1.273e+04	8.021e+03	1.59	yes	no	1.017
3	Unk	2,3,4,7,8-PeCDF	33:53	1.179e+04	7.319e+03	1.61	yes	no	0.977
4	Unk	1,2,3,4,7,8-HxCDF	36:29	1.133e+04	9.146e+03	1.24	yes	no	1.241
5	Unk	1,2,3,6,7,8-HxCDF	36:35	1.216e+04	9.947e+03	1.22	yes	no	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:03	1.118e+04	9.161e+03	1.22	yes	no	1.150
7	Unk	1,2,3,7,8,9-HxCDF	37:48	9.879e+03	8.207e+03	1.20	yes	no	1.154
8	Unk	1,2,3,4,6,7,8-HpCDF	39:02	9.367e+03	9.048e+03	1.04	yes	no	1.403
9	Unk	1,2,3,4,7,8,9-HpCDF	40:28	8.355e+03	8.023e+03	1.04	yes	no	1.324
10	Unk	OCDF	43:03	1.162e+04	1.263e+04	0.92	yes	no	1.307
11	Unk	2,3,7,8-TCDD	29:45	8.214e+02	1.094e+03	0.75	yes	no	1.037
12	Unk	1,2,3,7,8-PeCDD	34:09	8.275e+03	5.191e+03	1.59	yes	no	0.938
13	Unk	1,2,3,4,7,8-HxCDD	37:11	7.723e+03	6.031e+03	1.28	yes	no	1.041
14	Unk	1,2,3,6,7,8-HxCDD	37:16	7.322e+03	5.680e+03	1.29	yes	no	0.990
15	Unk	1,2,3,7,8,9-HxCDD	37:30	8.224e+03	6.618e+03	1.24	yes	no	1.094
16	Unk	1,2,3,4,6,7,8-HpCDD	39:58	9.676e+03	9.335e+03	1.04	yes	no	1.016
17	Unk	OCDD	42:49	3.909e+04	4.365e+04	0.90	yes	no	1.079
18	IS	13C-2,3,7,8-TCDF	29:00	9.442e+03	1.252e+04	0.75	yes	no	1.452
19	IS	13C-1,2,3,7,8-PeCDF	33:00	1.834e+04	1.163e+04	1.58	yes	no	1.849
20	IS	13C-2,3,4,7,8-PeCDF	33:52	1.828e+04	1.161e+04	1.58	yes	no	1.800
21	IS	13C-1,2,3,4,7,8-HxCDF	36:28	8.467e+03	1.642e+04	0.52	yes	no	1.045
22	IS	13C-1,2,3,6,7,8-HxCDF	36:34	1.082e+04	2.088e+04	0.52	yes	no	1.202
23	IS	13C-2,3,4,6,7,8-HxCDF	37:03	1.011e+04	1.982e+04	0.51	yes	no	1.120
24	IS	13C-1,2,3,7,8,9-HxCDF	37:48	8.520e+03	1.625e+04	0.52	yes	no	1.028
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:02	6.204e+03	1.436e+04	0.43	yes	no	0.908
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:27	5.904e+03	1.341e+04	0.44	yes	no	0.814
27	IS	13C-2,3,7,8-TCDD	29:44	6.706e+03	8.568e+03	0.78	yes	no	1.049
28	IS	13C-1,2,3,7,8-PeCDD	34:08	1.477e+04	9.395e+03	1.57	yes	no	1.320
29	IS	13C-1,2,3,4,7,8-HxCDD	37:11	1.275e+04	1.000e+04	1.28	yes	no	0.859
30	IS	13C-1,2,3,6,7,8-HxCDD	37:15	1.183e+04	9.463e+03	1.25	yes	no	0.946
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:57	1.015e+04	9.468e+03	1.07	yes	no	0.862
32	IS	13C-OCDD	42:49	1.244e+04	1.412e+04	0.88	yes	no	0.758
33	RS/RT	13C-1,2,3,4-TCDD	29:12	1.280e+04	1.599e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:29	1.888e+04	1.522e+04	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:45	5.468e+03				no	1.125

$$\text{OCDD} = \frac{(3.909e+04 + 4.365e+04) \times 4000\ \text{pg} \times 1}{(1.244e+04 + 1.412e+04) \times 10.182 \times 45.4 \times 1.079} = 2810\ \text{pg/g}$$

06/26/14

1613RESP1

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-AC DMS

Run #11 Filename P171753 Samp: 1 Inj: 1 Acquired: 24-JUN-14 07:51:19
Processed: 25-JUN-14 05:25:081 LAB. ID: EQ1400321-04

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.20e+05	1.36e+02	1.6e+03	2.84e+05	8.36e+02	3.4e+02
2	1,2,3,7,8-PeCDF	2.40e+06	9.68e+02	2.5e+03	1.52e+06	8.96e+02	1.7e+03
3	2,3,4,7,8-PeCDF	2.36e+06	9.68e+02	2.4e+03	1.45e+06	8.96e+02	1.6e+03
4	1,2,3,4,7,8-HxCDF	2.40e+06	8.76e+02	2.7e+03	1.93e+06	6.36e+02	3.0e+03
5	1,2,3,6,7,8-HxCDF	2.54e+06	8.76e+02	2.9e+03	2.08e+06	6.36e+02	3.3e+03
6	2,3,4,6,7,8-HxCDF	2.49e+06	8.76e+02	2.8e+03	1.99e+06	6.36e+02	3.1e+03
7	1,2,3,7,8,9-HxCDF	2.06e+06	8.76e+02	2.4e+03	1.69e+06	6.36e+02	2.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.96e+06	7.96e+02	2.5e+03	1.93e+06	7.84e+02	2.5e+03
9	1,2,3,4,7,8,9-HpCDF	1.56e+06	7.96e+02	2.0e+03	1.51e+06	7.84e+02	1.9e+03
10	OCDF	1.89e+06	5.76e+02	3.3e+03	2.02e+06	7.96e+02	2.5e+03
11	2,3,7,8-TCDD	1.82e+05	4.00e+02	4.6e+02	2.34e+05	2.08e+02	1.1e+03
12	1,2,3,7,8-PeCDD	1.65e+06	6.16e+02	2.7e+03	1.02e+06	2.04e+02	5.0e+03
13	1,2,3,4,7,8-HxCDD	1.68e+06	1.34e+03	1.3e+03	1.31e+06	7.00e+02	1.9e+03
14	1,2,3,6,7,8-HxCDD	1.59e+06	1.34e+03	1.2e+03	1.27e+06	7.00e+02	1.8e+03
15	1,2,3,7,8,9-HxCDD	1.69e+06	1.34e+03	1.3e+03	1.38e+06	7.00e+02	2.0e+03
16	1,2,3,4,6,7,8-HpCDD	1.94e+06	1.17e+03	1.7e+03	1.85e+06	1.46e+03	1.3e+03
17	OCDD	6.51e+06	4.40e+02	1.5e+04	7.18e+06	1.08e+03	6.6e+03
18	13C-2,3,7,8-TCDF	1.93e+06	8.44e+02	2.3e+03	2.52e+06	4.68e+02	5.4e+03
19	13C-1,2,3,7,8-PeCDF	3.44e+06	9.20e+01	3.7e+04	2.19e+06	2.04e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	3.63e+06	9.20e+01	3.9e+04	2.31e+06	2.04e+02	1.1e+04
21	13C-1,2,3,4,7,8-HxCDF	1.80e+06	1.72e+02	1.0e+04	3.43e+06	5.60e+02	6.1e+03
22	13C-1,2,3,6,7,8-HxCDF	2.28e+06	1.72e+02	1.3e+04	4.44e+06	5.60e+02	7.9e+03
23	13C-2,3,4,6,7,8-HxCDF	2.23e+06	1.72e+02	1.3e+04	4.31e+06	5.60e+02	7.7e+03
24	13C-1,2,3,7,8,9-HxCDF	1.77e+06	1.72e+02	1.0e+04	3.29e+06	5.60e+02	5.9e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.32e+06	1.02e+03	1.3e+03	3.04e+06	1.38e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.12e+06	1.02e+03	1.1e+03	2.52e+06	1.38e+03	1.8e+03
27	13C-2,3,7,8-TCDD	1.45e+06	2.16e+03	6.7e+02	1.85e+06	7.40e+02	2.5e+03
28	13C-1,2,3,7,8-PeCDD	2.82e+06	5.04e+02	5.6e+03	1.84e+06	2.92e+02	6.3e+03
29	13C-1,2,3,4,7,8-HxCDD	2.80e+06	3.76e+02	7.4e+03	2.14e+06	3.32e+02	6.5e+03
30	13C-1,2,3,6,7,8-HxCDD	2.62e+06	3.76e+02	7.0e+03	2.09e+06	3.32e+02	6.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.05e+06	5.32e+02	3.8e+03	1.90e+06	4.72e+02	4.0e+03
32	13C-OCDD	2.04e+06	5.28e+02	3.9e+03	2.36e+06	4.08e+02	5.8e+03
33	13C-1,2,3,4-TCDD	2.73e+06	2.16e+03	1.3e+03	3.39e+06	7.40e+02	4.6e+03
34	13C-1,2,3,7,8,9-HxCDD	3.89e+06	3.76e+02	1.0e+04	3.17e+06	3.32e+02	9.5e+03
35	37Cl-2,3,7,8-TCDD	1.16e+06	2.12e+02	5.5e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 36 Totals Name: Total Tetra-Furans

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 1
Llim: 24:43 Ulim: 30:56
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 303.9020 305.8990 Tot Response: 2.44e+03 RRF: 0.9451

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:01	1.06e+03	1.39e+03 0.76	yes	2.44e+03	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 1
Llim: 26:34 Ulim: 30:47
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 319.8970 321.8940 Tot Response: 2.35e+03 RRF: 1.037

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:36	1.35e+01	1.88e+01	0.72	yes	3.23e+01		n	n
2	26:55	1.30e+01	1.95e+01	0.66	yes	3.25e+01		n	n
3	27:58	1.67e+02	2.04e+02	0.82	yes	3.71e+02		n	n
4	29:45	8.21e+02	1.09e+03	0.75	yes	1.92e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 38 Totals Name: Total Penta-Furan1

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 1
Llim: 30:40 Ulim: 34:58
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 339.8600 341.8570 Tot Response: 8.65e+01 RRF: 0.9970

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:43	5.17e+01	3.48e+01 1.49	yes	8.65e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 39 Totals Name: Total Penta-Furan2

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 2
Llim: 30:40 Ulim: 34:58
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 339.8600 341.8570 Tot Response: 3.99e+04 RRF: 0.9970

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:01	1.27e+04	8.02e+03 1.59	yes	2.07e+04	1,2,3,7,8-PeCDF	n	n
2	33:53	1.18e+04	7.32e+03 1.61	yes	1.91e+04	2,3,4,7,8-PeCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 2
Llim: 32:06 Ulim: 34:43
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 355.8550 357.8520 Tot Response: 1.39e+04 RRF: 0.9375

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:09	2.35e+02	1.59e+02	1.48	yes	3.94e+02		n	n
2	33:16	2.48e+01	1.65e+01	1.50	yes	4.13e+01		n	n
3	34:09	8.28e+03	5.19e+03	1.59	yes	1.35e+04	1,2,3,7,8-PeCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 41 Totals Name: Total Hexa-Furans

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 3
Llim: 35:22 Ulim: 38:02
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 373.8210 375.8180 Tot Response: 8.15e+04 RRF: 1.180

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	1.32e+02	1.22e+02	1.09	yes	2.54e+02		n	n
2	36:04	1.51e+02	1.11e+02	1.35	yes	2.62e+02		n	n
3	36:29	1.13e+04	9.15e+03	1.24	yes	2.05e+04	1,2,3,4,7,8-HxCDF	n	n
4	36:35	1.22e+04	9.95e+03	1.22	yes	2.21e+04	1,2,3,6,7,8-HxCDF	n	n
5	37:03	1.12e+04	9.16e+03	1.22	yes	2.03e+04	2,3,4,6,7,8-HxCDF	n	n
6	37:48	9.88e+03	8.21e+03	1.20	yes	1.81e+04	1,2,3,7,8,9-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 3
Llim: 35:51 Ulim: 37:38
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 389.8160 391.8130 Tot Response: 5.04e+04 RRF: 1.040

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:54	3.65e+03	2.99e+03	1.22	yes	6.64e+03		n	n
2	36:24	1.07e+02	7.71e+01	1.39	yes	1.84e+02		n	n
3	36:37	9.36e+02	7.76e+02	1.21	yes	1.71e+03		n	n
4	36:44	1.29e+02	9.30e+01	1.38	yes	2.22e+02		n	n
5	37:11	7.72e+03	6.03e+03	1.28	yes	1.38e+04	1,2,3,4,7,8-HxCDD	n	n
6	37:16	7.32e+03	5.68e+03	1.29	yes	1.30e+04	1,2,3,6,7,8-HxCDD	n	n
7	37:30	8.22e+03	6.62e+03	1.24	yes	1.48e+04	1,2,3,7,8,9-HxCDD	n	n

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10450 Stancliff Rd., Suite 115
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Peak List Summary

CLIENT ID.
SYC14-AC DMS

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 4
Llim: 39:00 Ulim: 40:41
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 407.7820 409.7790 Tot Response: 3.61e+04 RRF: 1.365

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:02	9.37e+03	9.05e+03	1.04	yes	1.84e+04	1,2,3,4,6,7,8-HpCDF	n	n
2	39:27	6.33e+02	6.47e+02	0.98	yes	1.28e+03		n	n
3	40:28	8.36e+03	8.02e+03	1.04	yes	1.64e+04	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SYC14-AC DMS

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P171753 Sample: 1 Injection: 1 Function: 4
Llim: 39:14 Ulim: 40:10
Acquired: 24-JUN-14 07:51:19 Processed: 25-JUN-14 05:25:08
Mass: 423.7770 425.7740 Tot Response: 4.55e+04 RRF: 1.016

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:17	1.35e+04	1.29e+04	1.05	yes	2.64e+04		n	n
2	39:58	9.68e+03	9.34e+03	1.04	yes	1.90e+04	1,2,3,4,6,7,8-HpCDD	n	n

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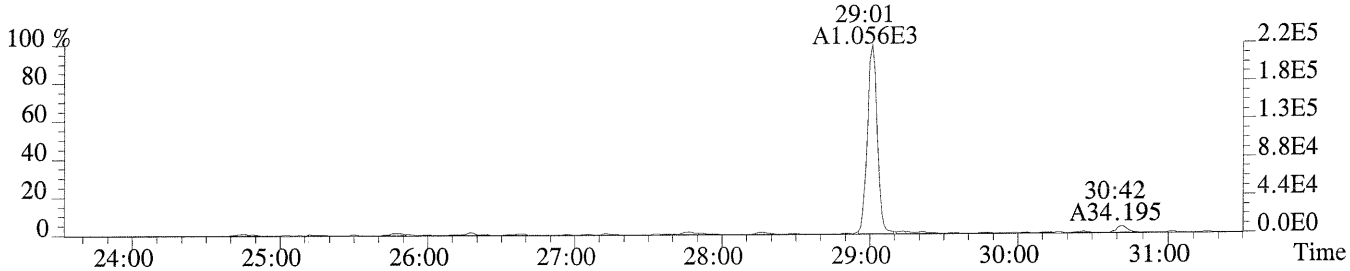
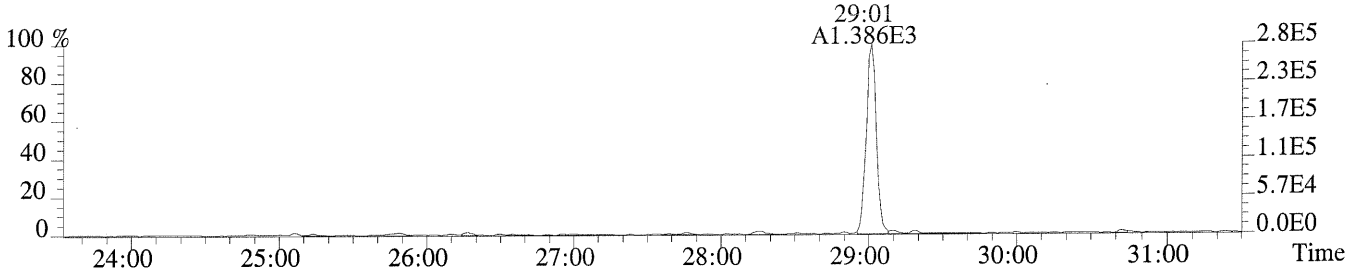
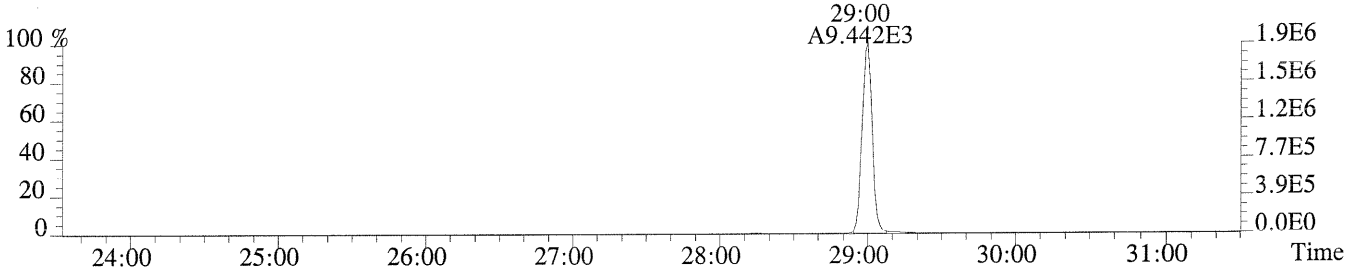
File:P171753 #1-501 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,136.0,1.00%,F,T)



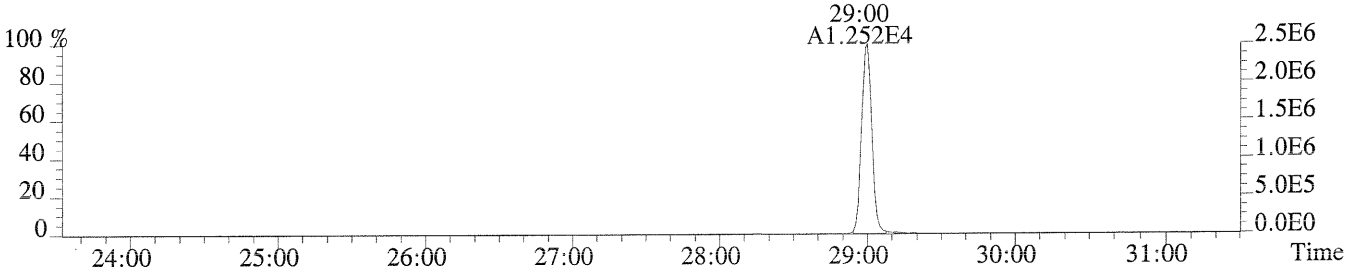
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,T)



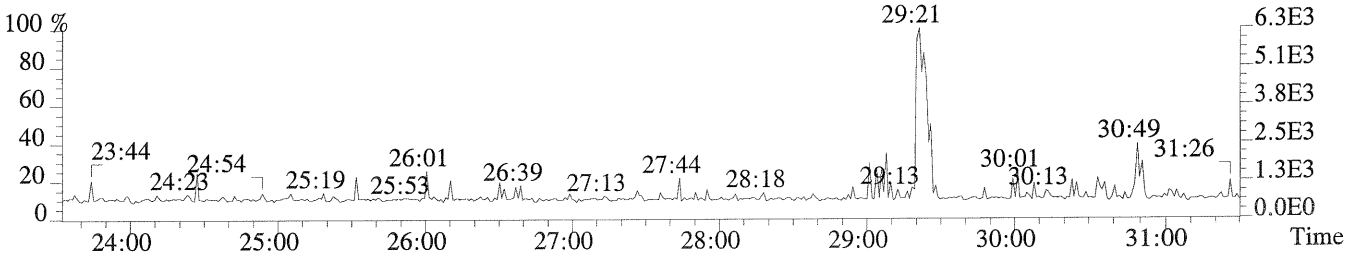
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,T)



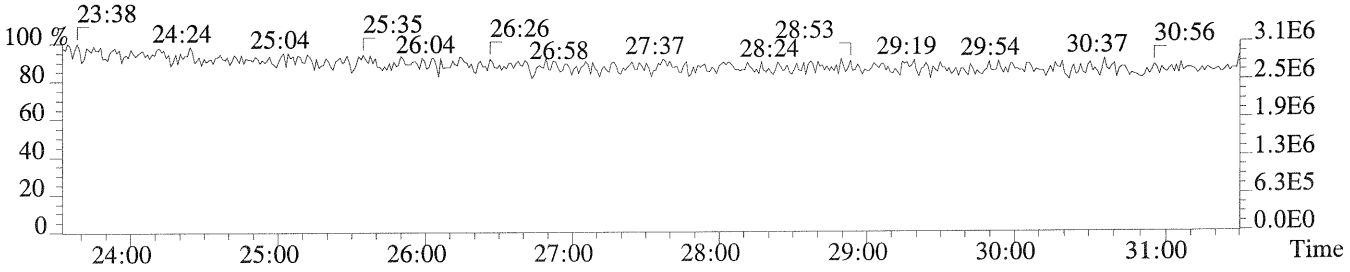
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,T)



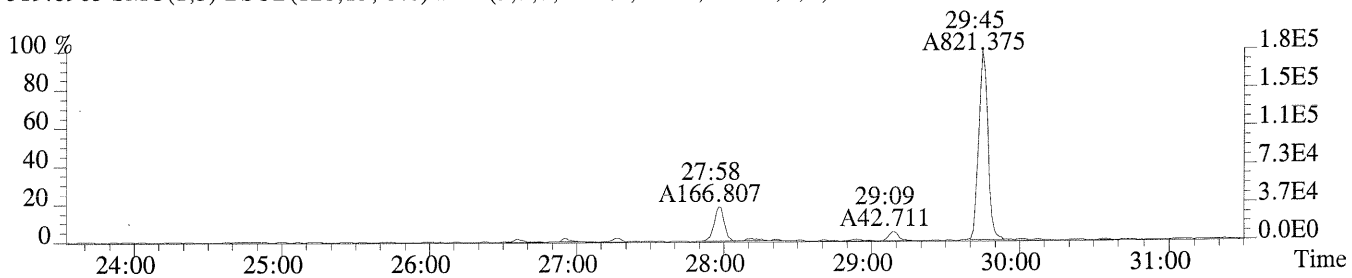
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



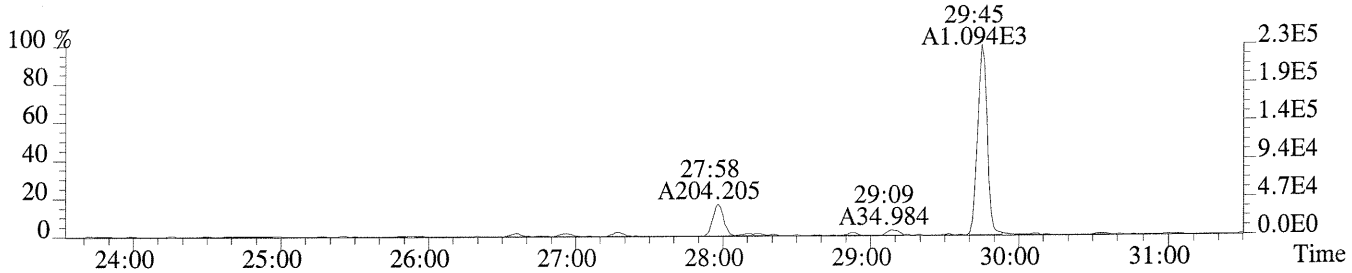
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



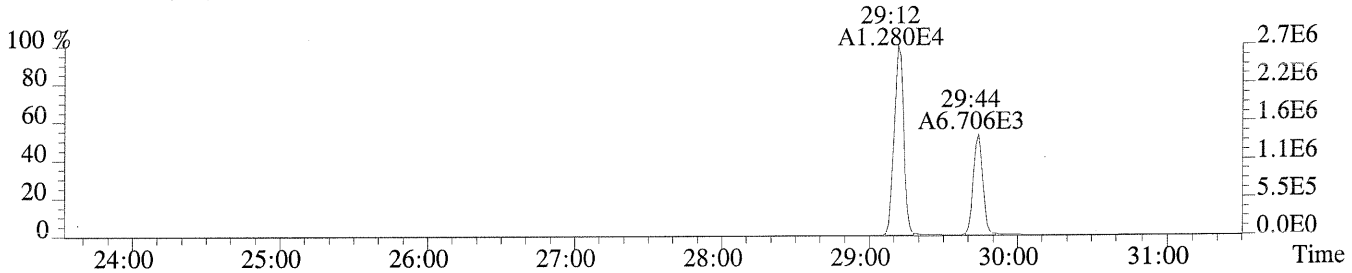
File:P171753 #1-501 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,T)



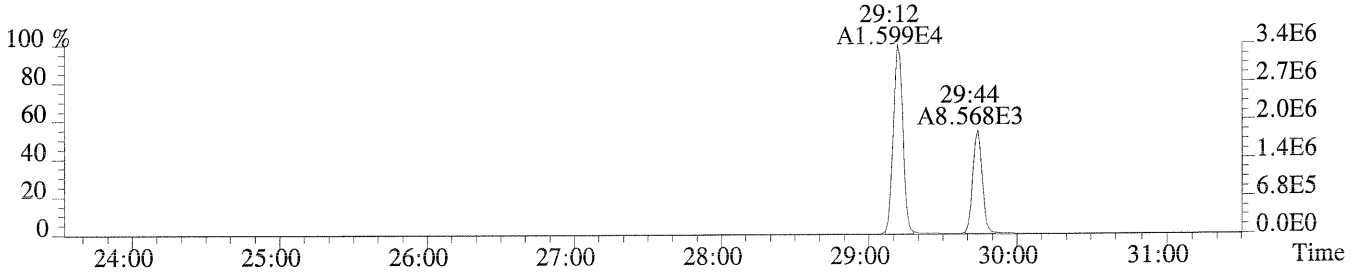
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,T)



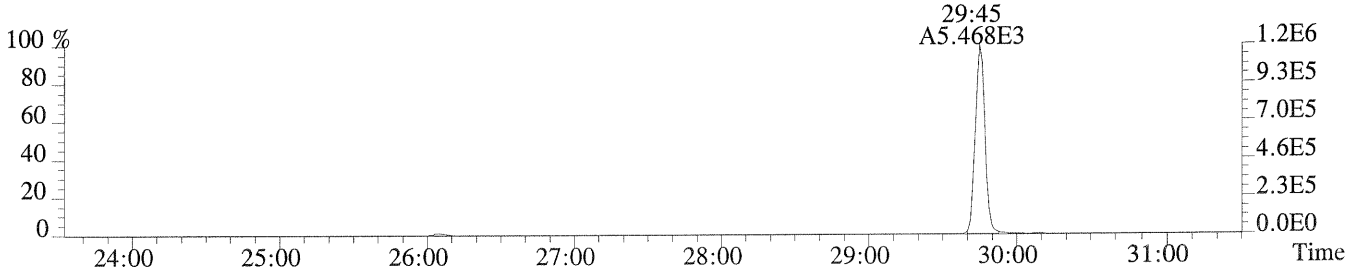
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2164.0,1.00%,F,T)



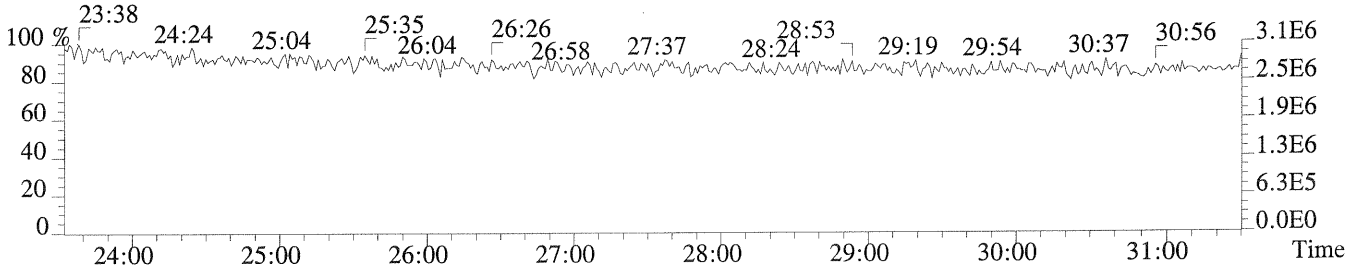
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



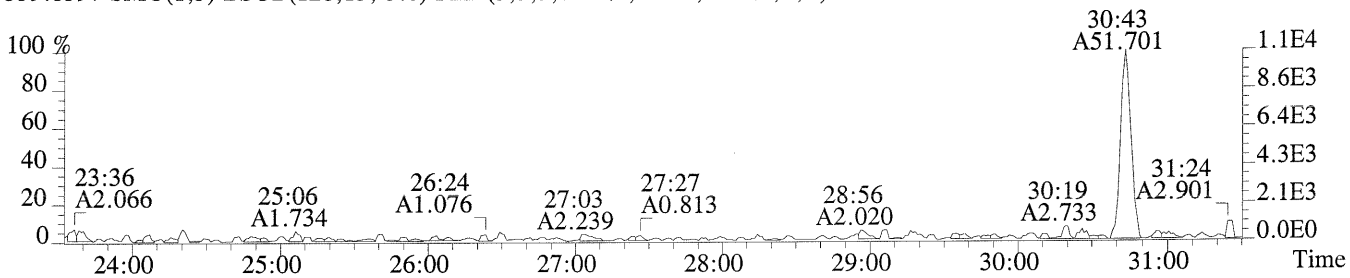
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



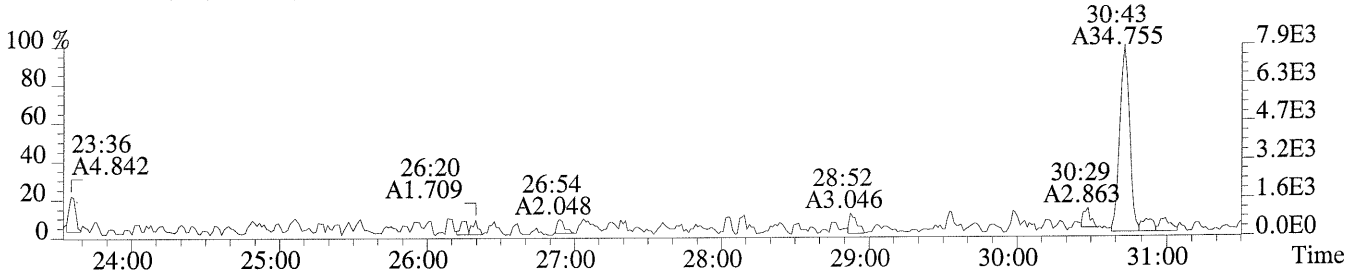
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



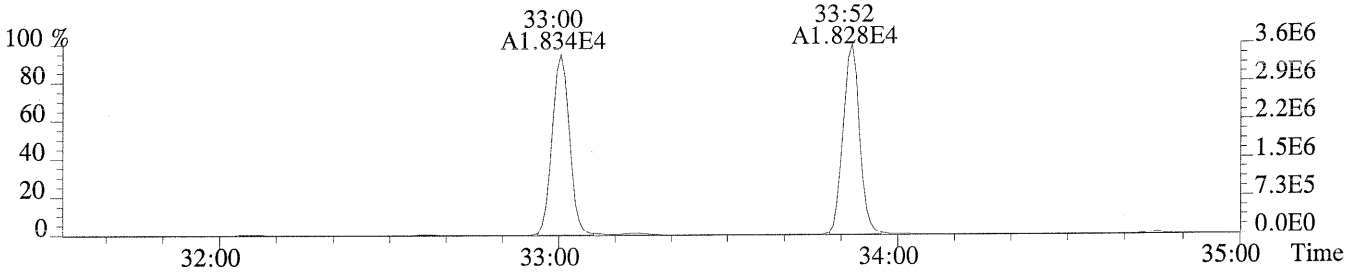
File:P171753 #1-501 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



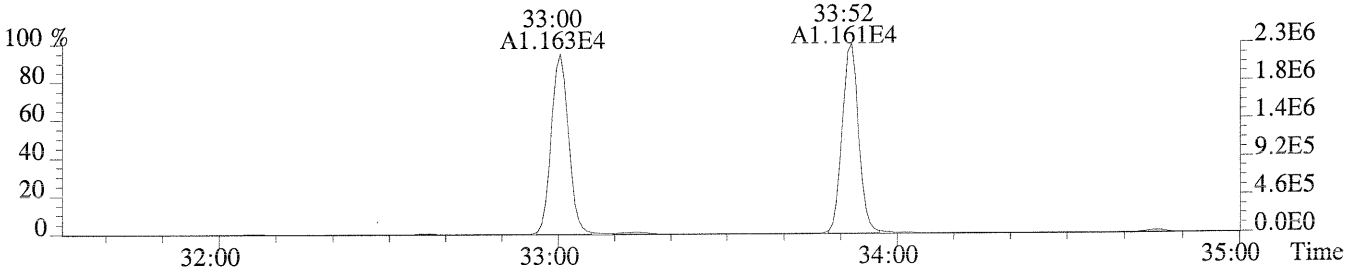
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,T)



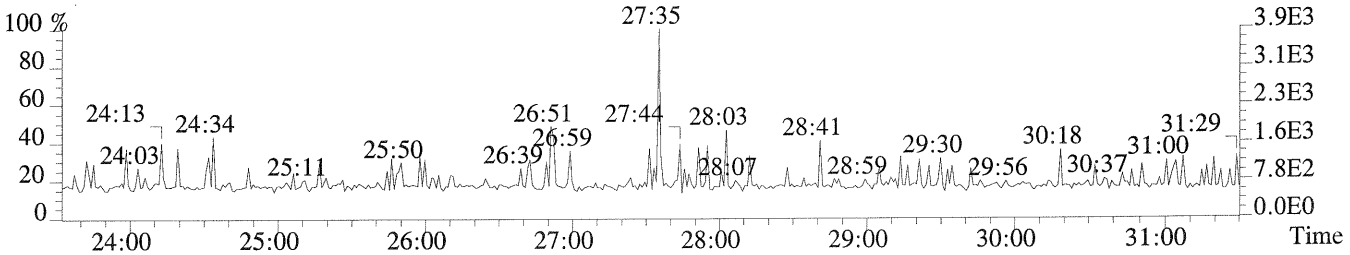
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



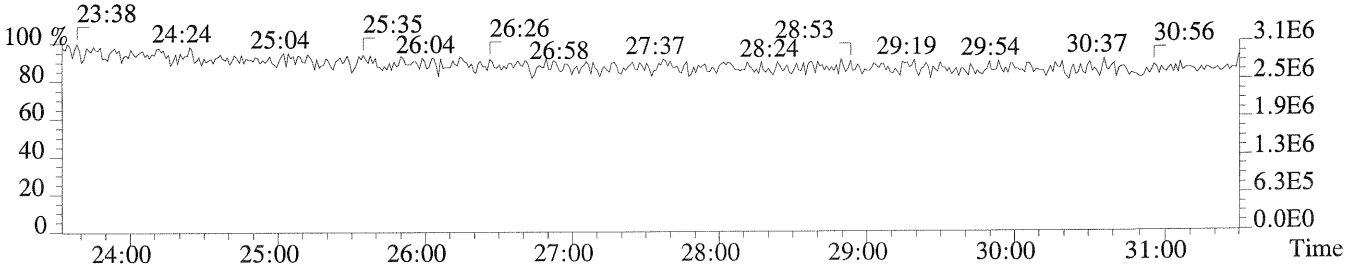
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

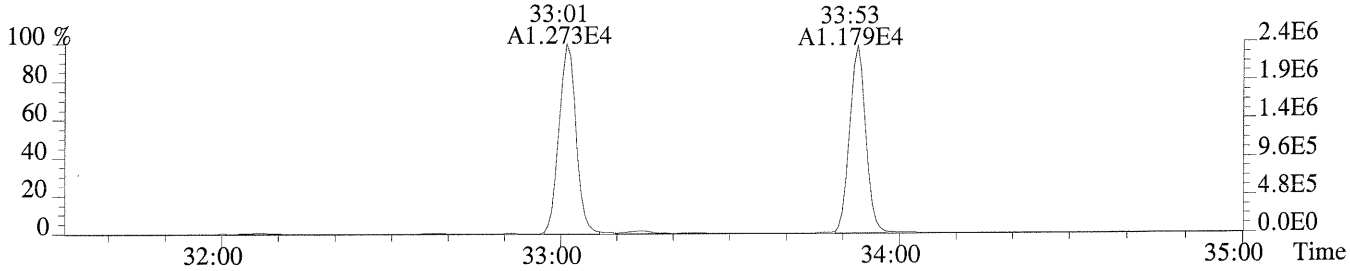


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

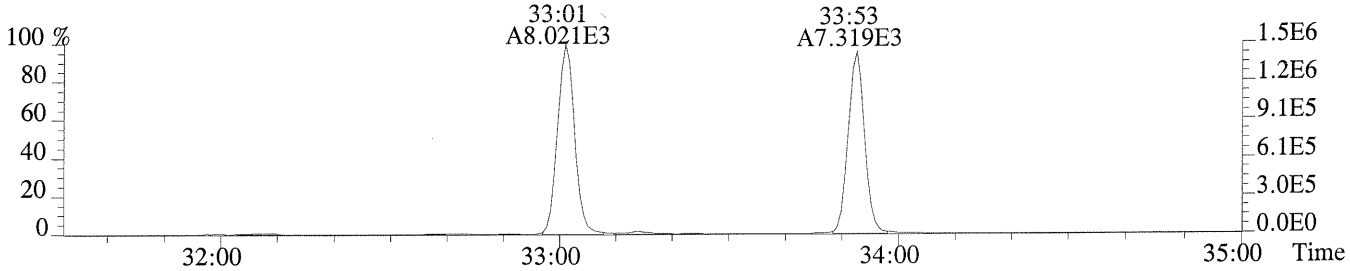


File:P171753 #1-315 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04

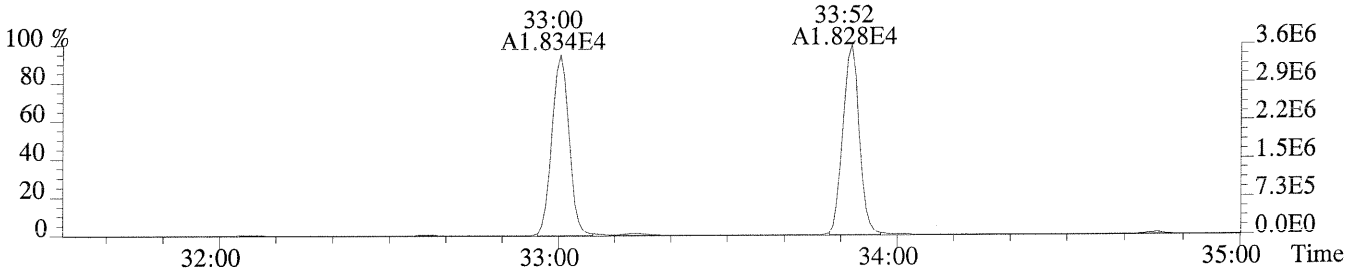
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



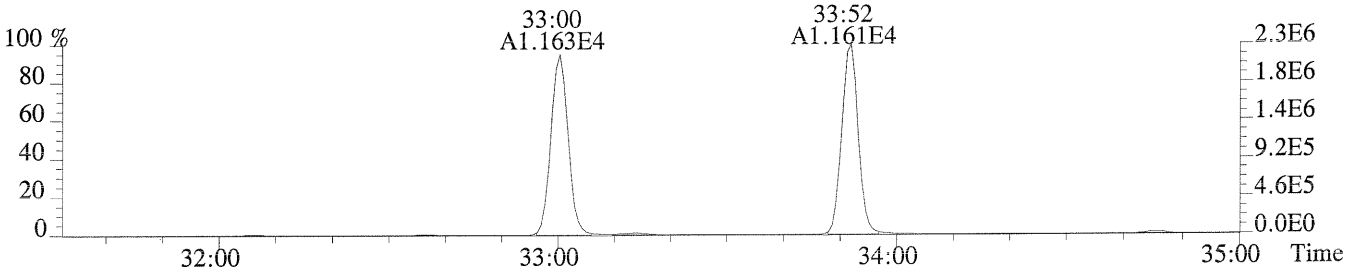
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



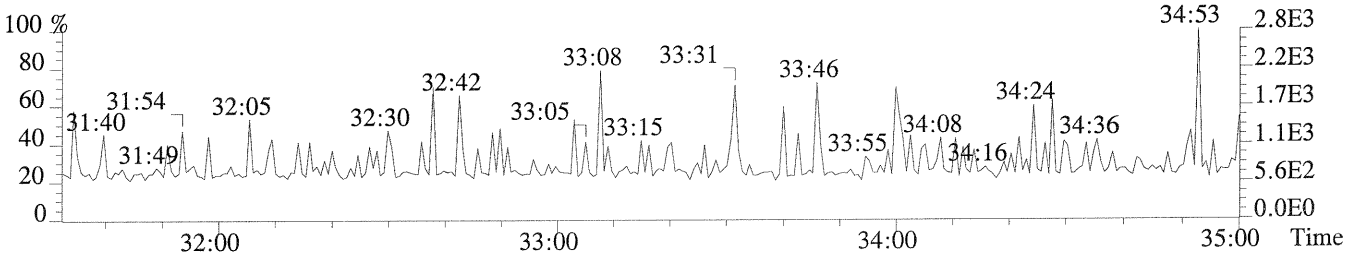
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



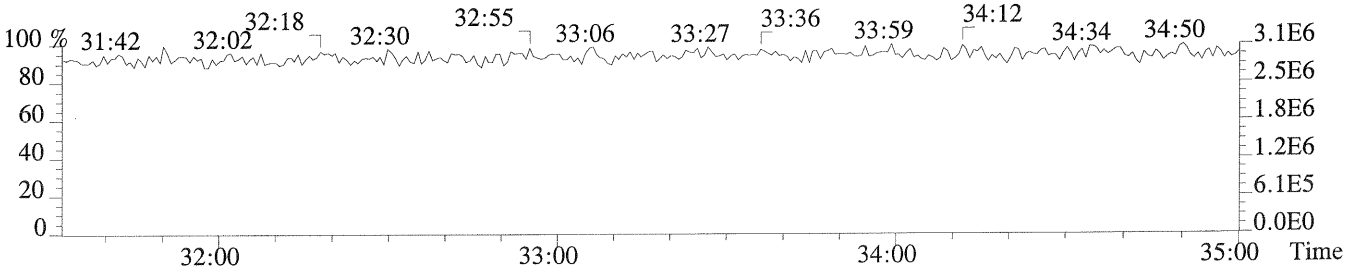
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



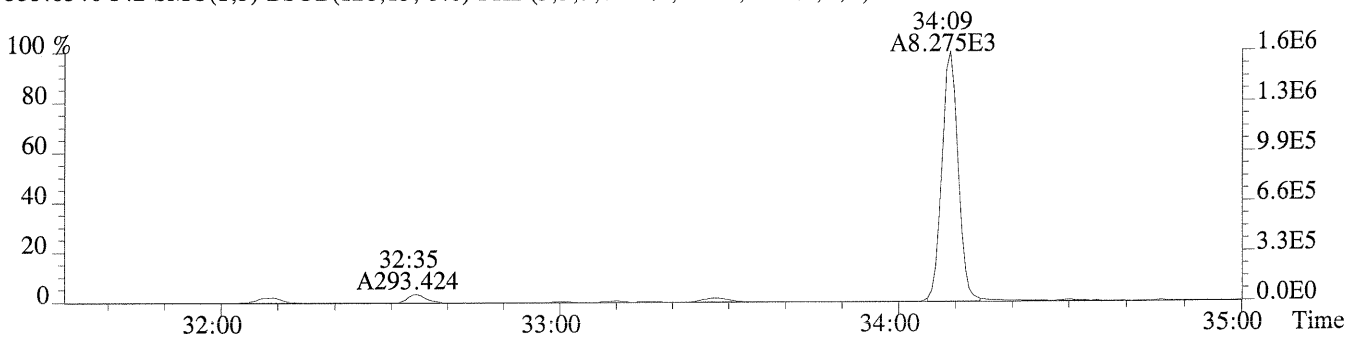
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



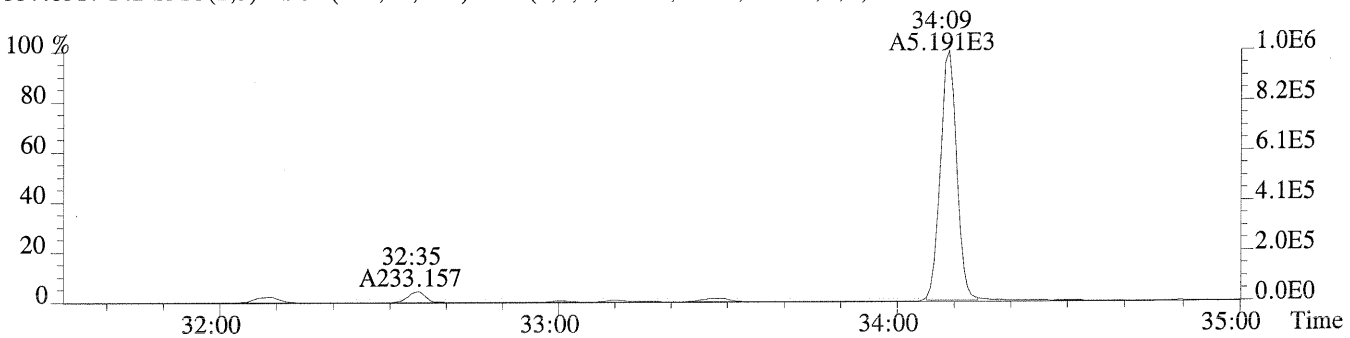
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



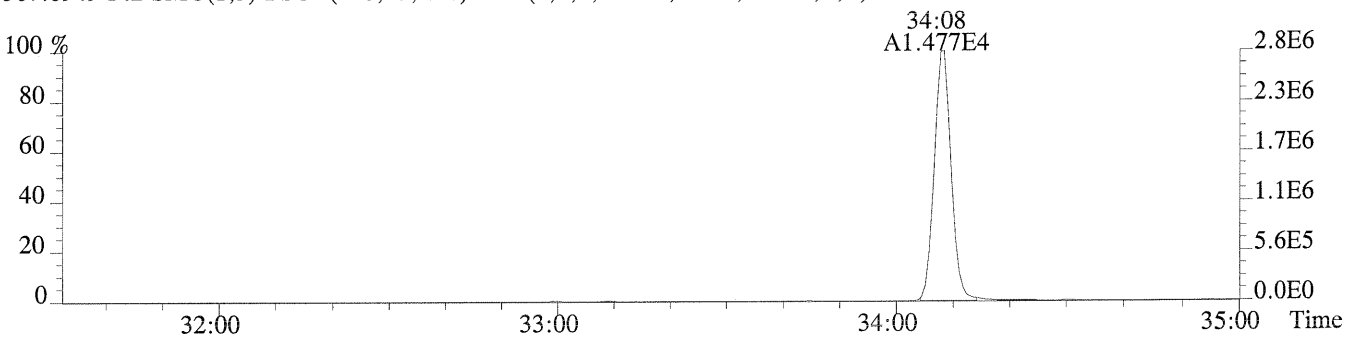
File:P171753 #1-315 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



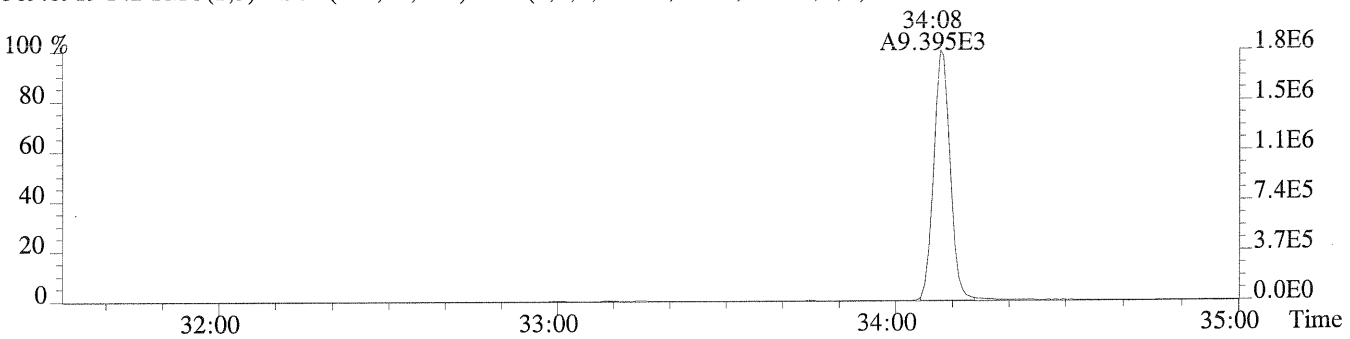
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



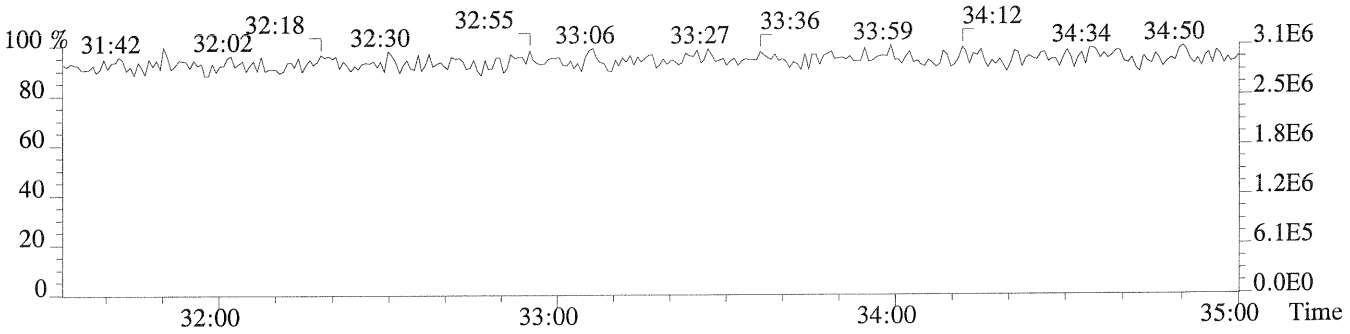
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,T)

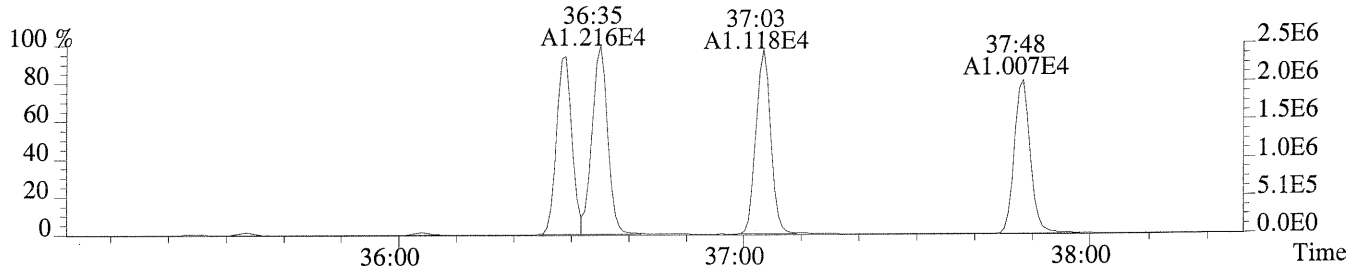


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

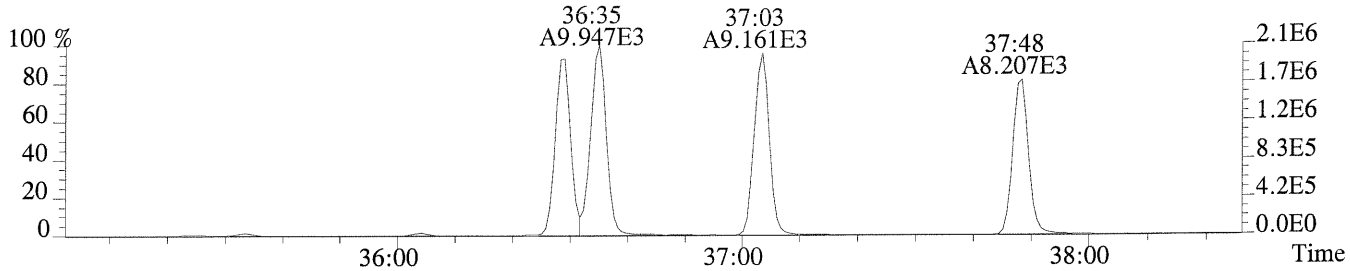


File:P171753 #1-309 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04

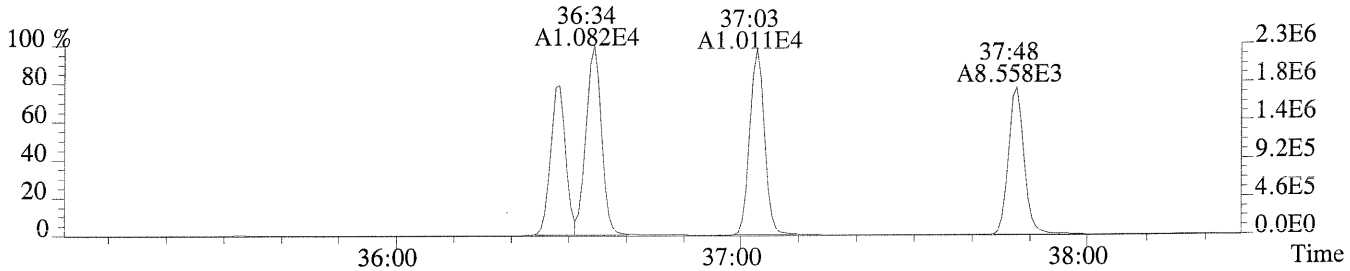
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



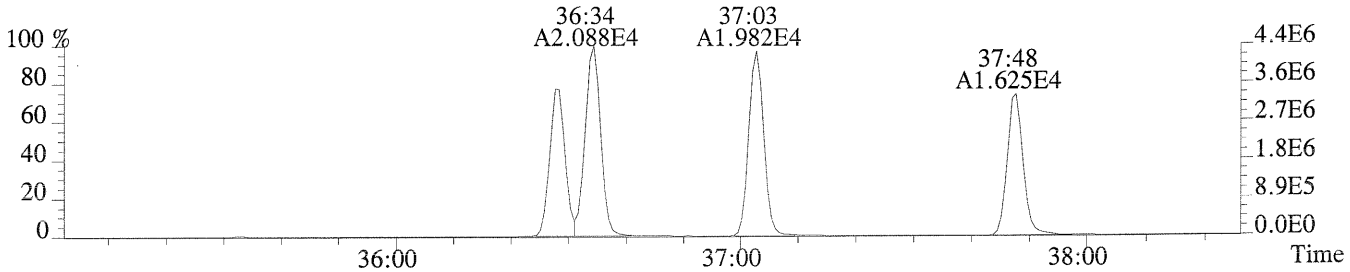
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



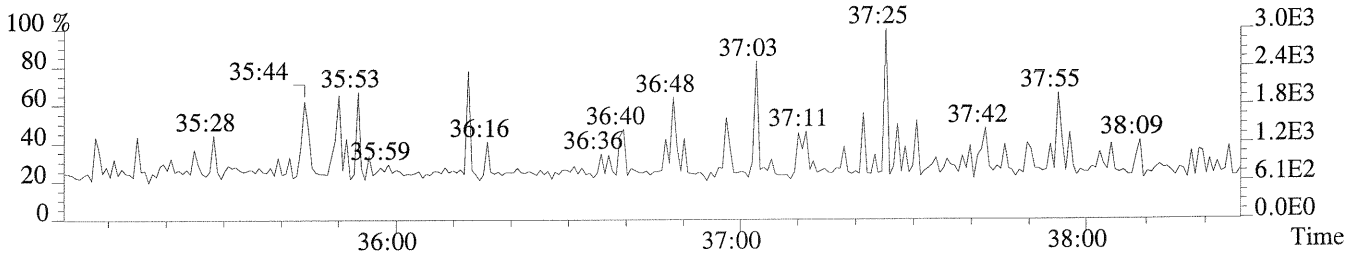
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,172.0,0.40%,F,T)



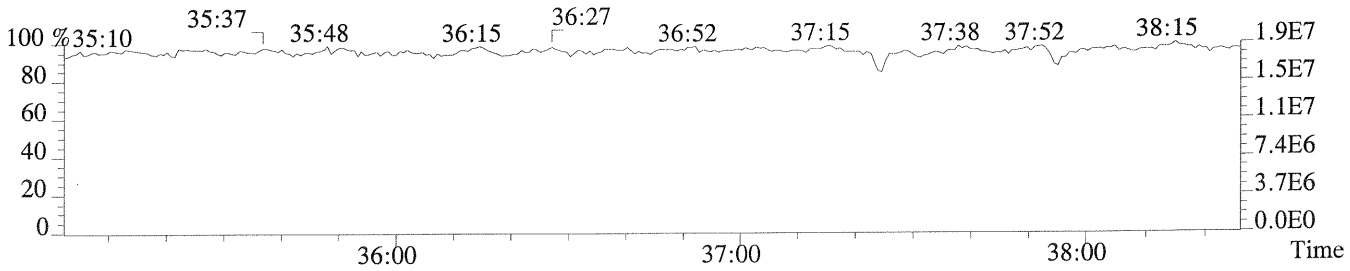
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.40%,F,T)



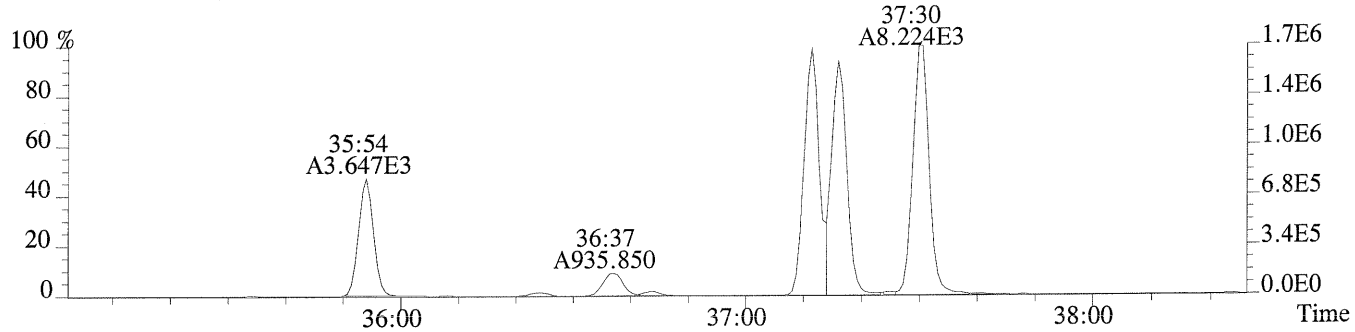
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



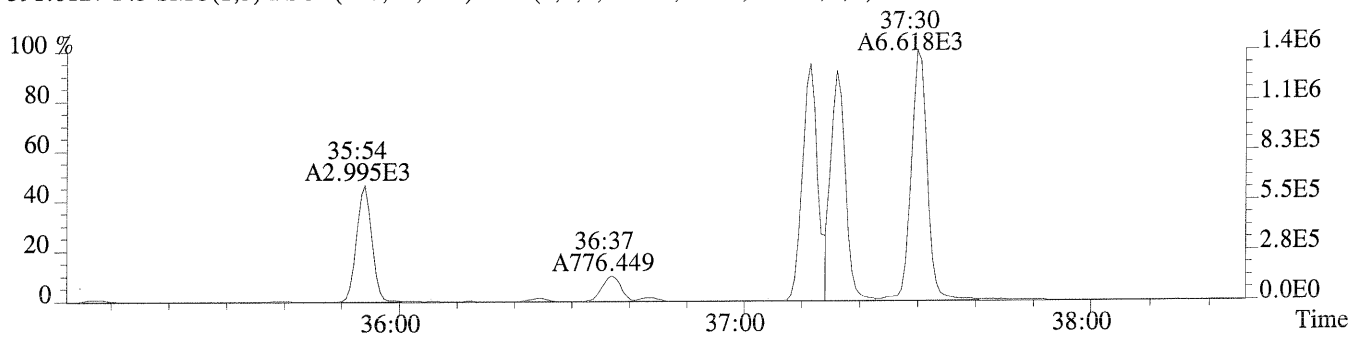
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



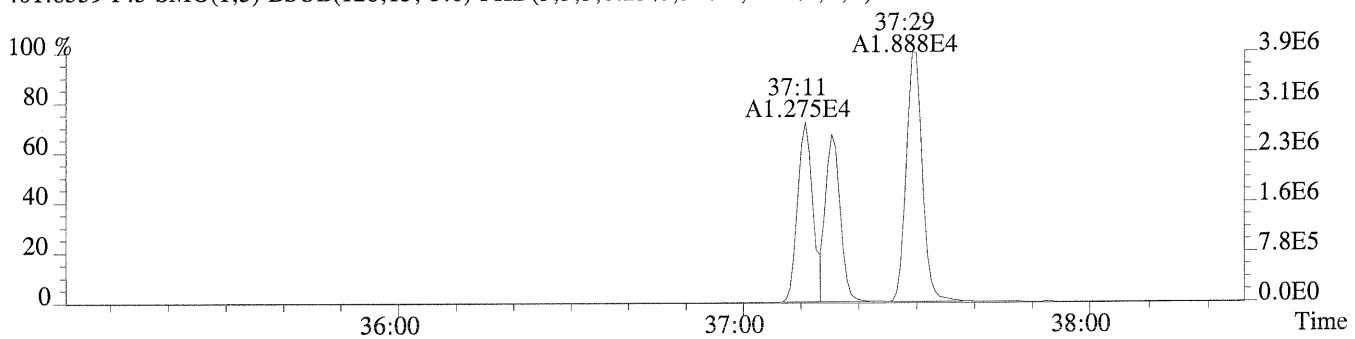
File:P171753 #1-309 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



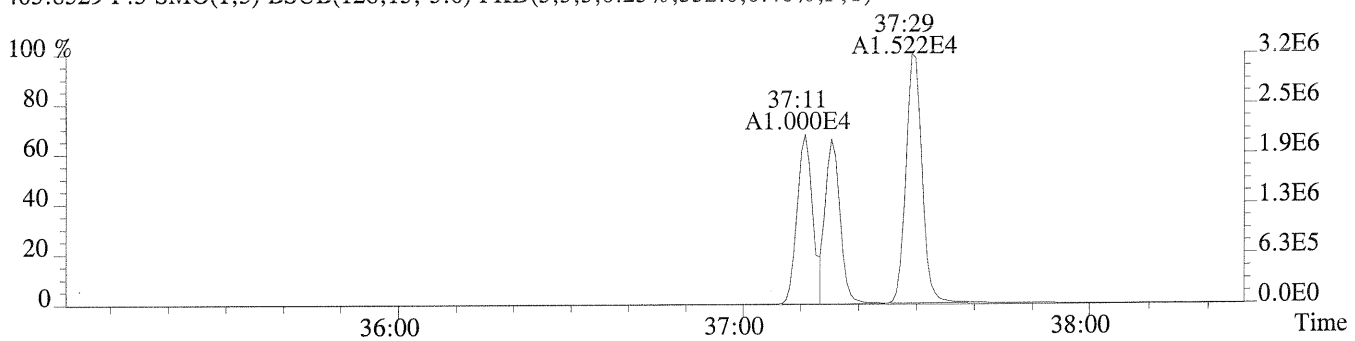
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



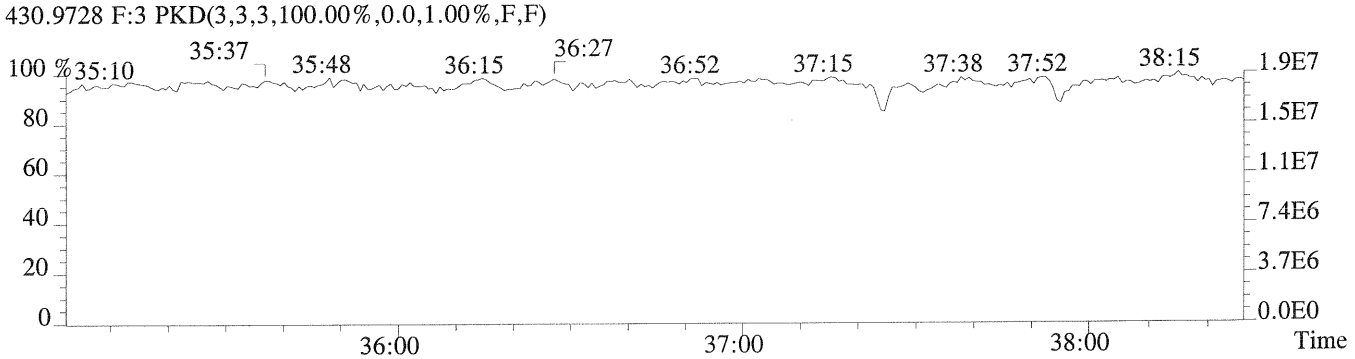
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



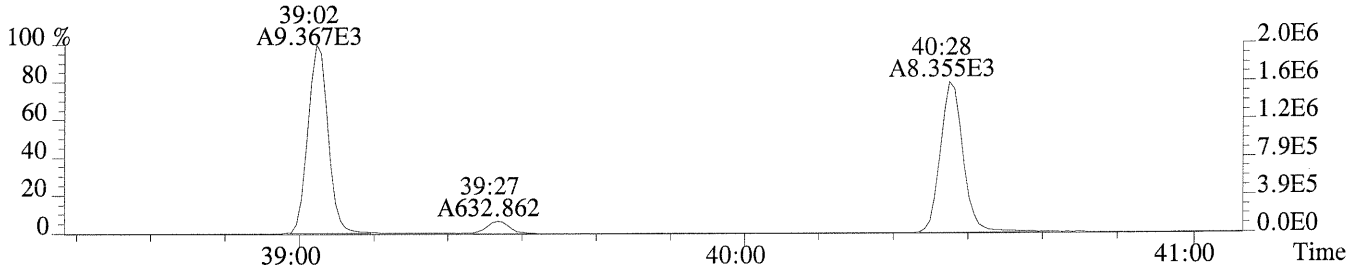
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,332.0,0.40%,F,T)



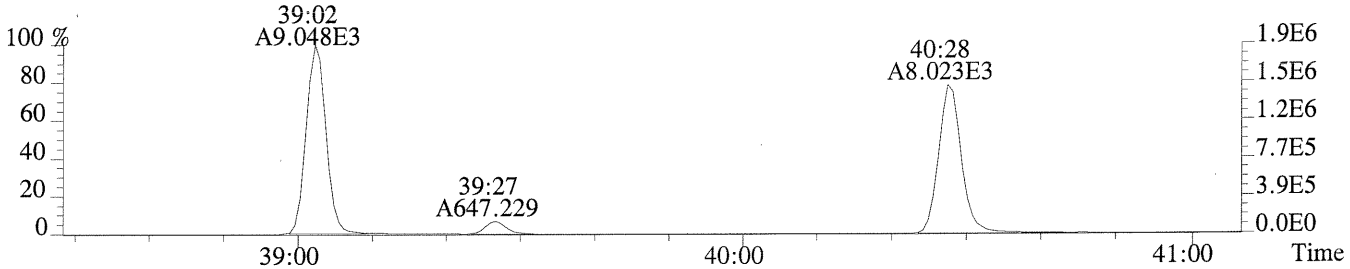
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



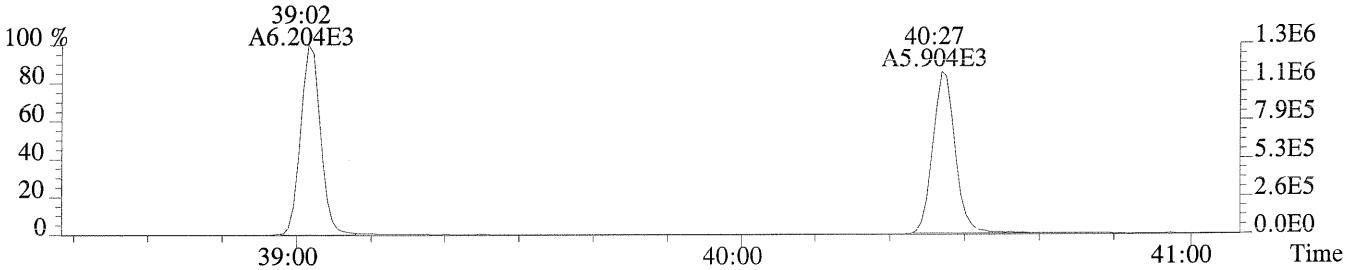
File:P171753 #1-240 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,796.0,0.50%,F,T)



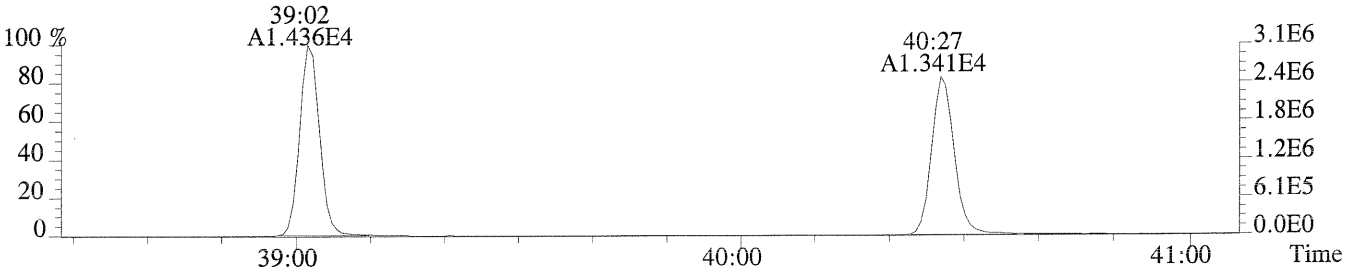
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.50%,F,T)



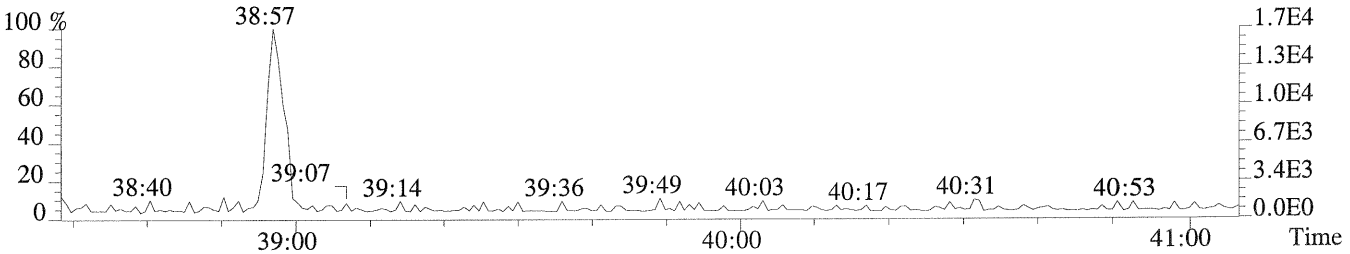
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.50%,F,T)



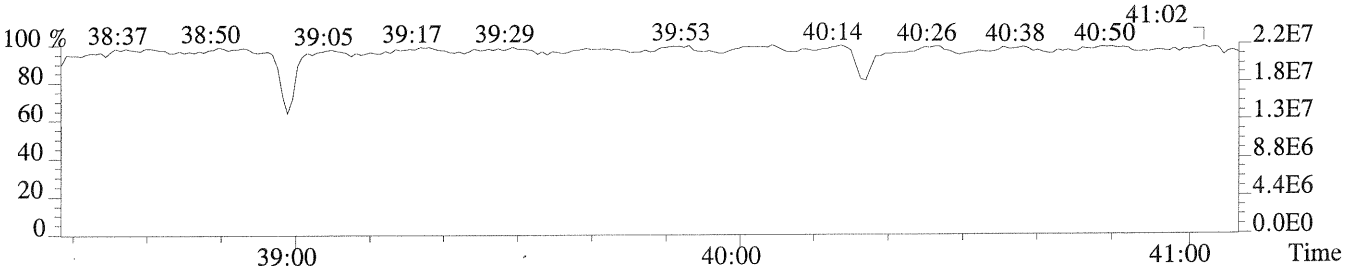
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.50%,F,T)



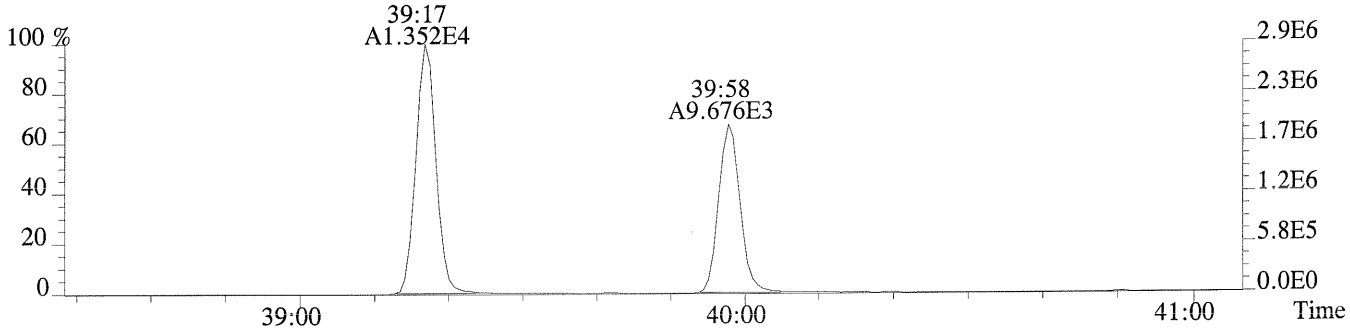
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



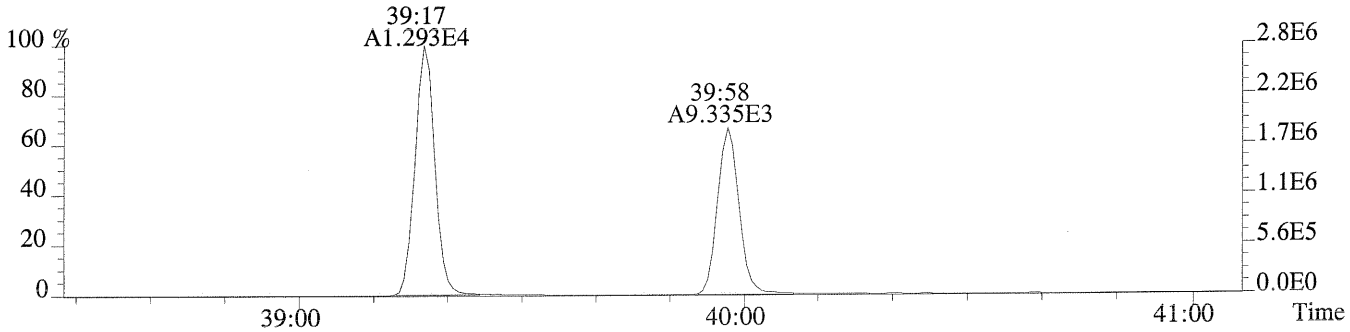
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



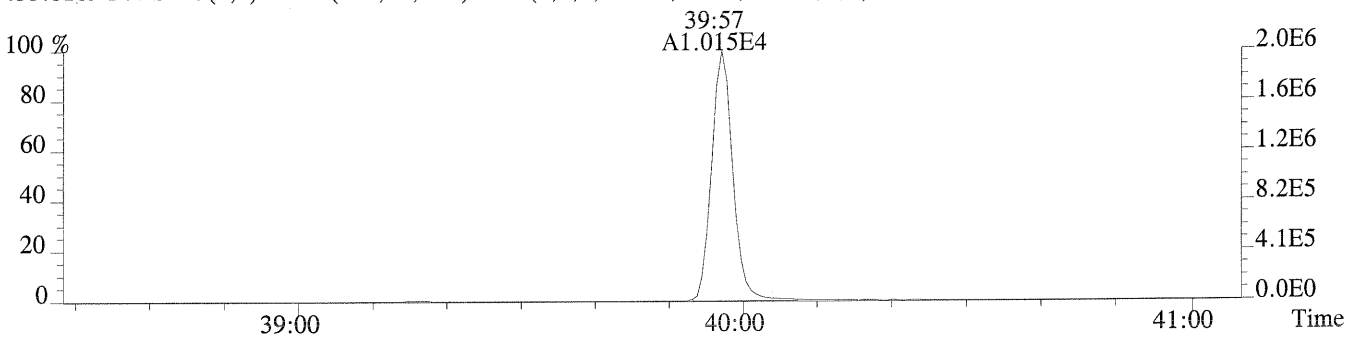
File:P171753 #1-240 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,T)



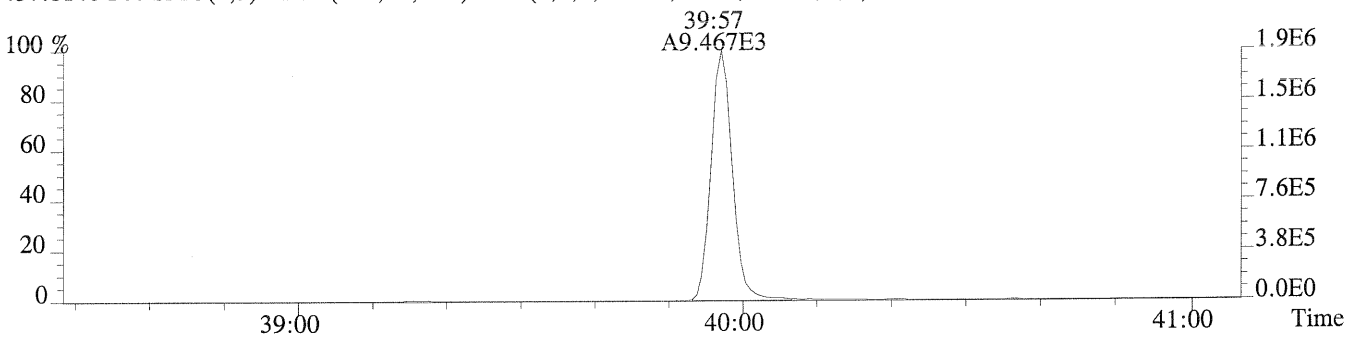
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.40%,F,T)



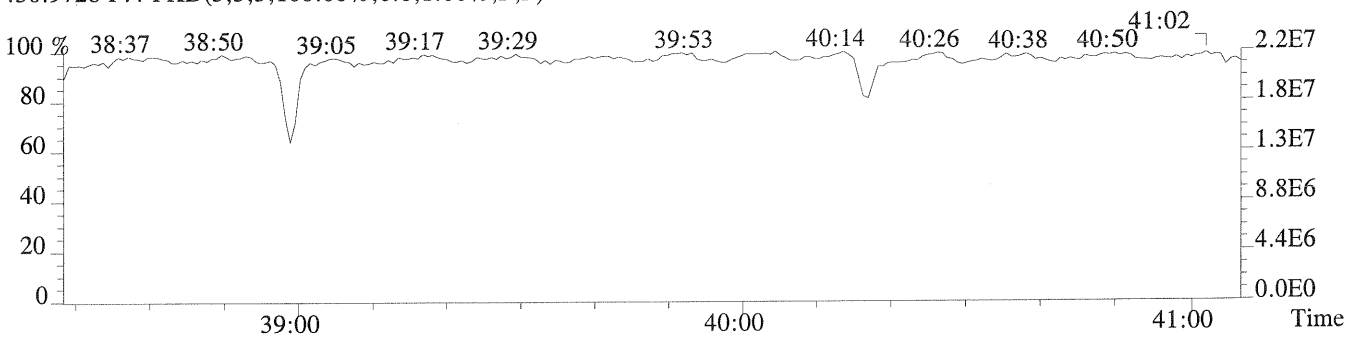
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,T)



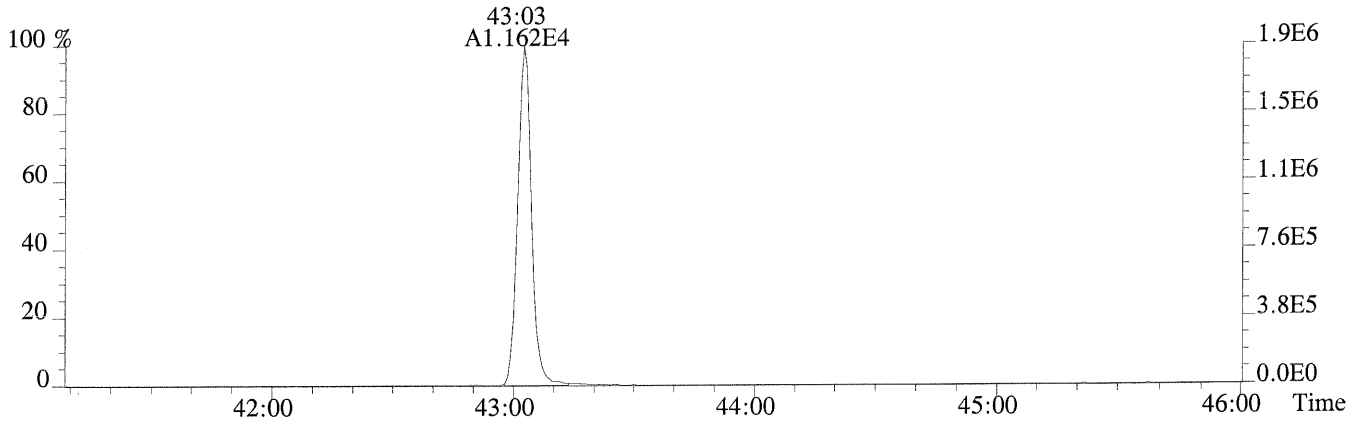
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



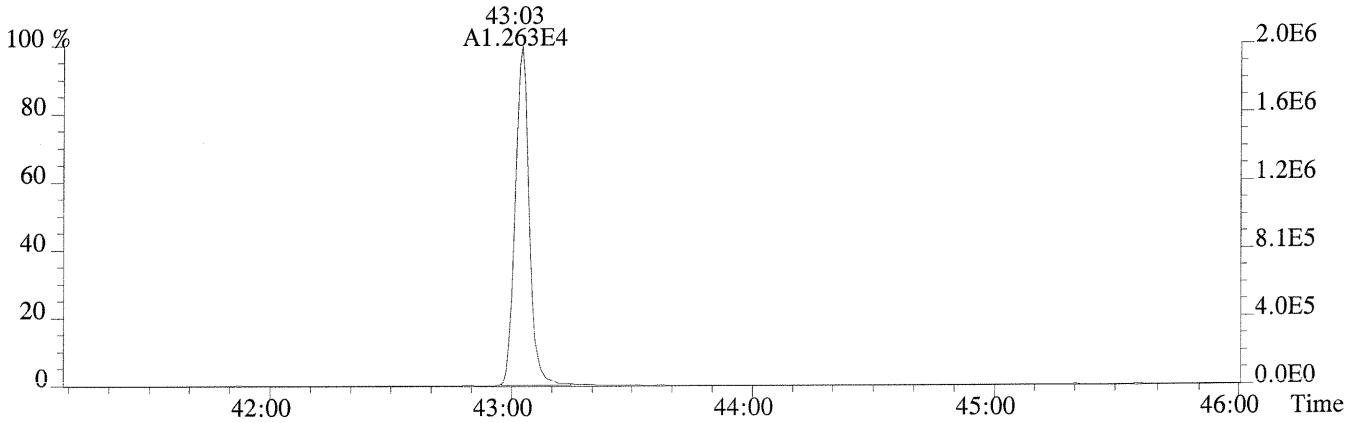
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



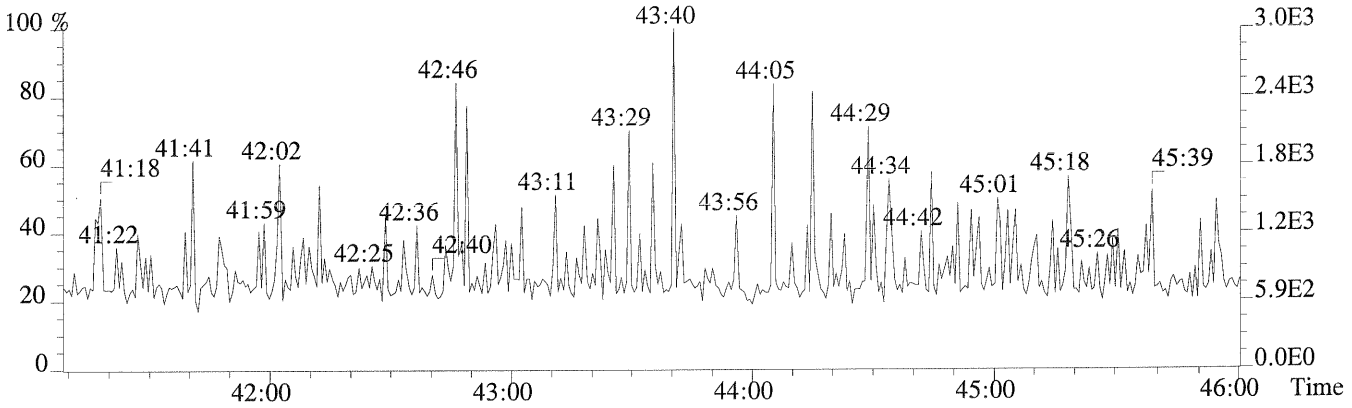
File:P171753 #1-447 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,576.0,0.40%,F,T)



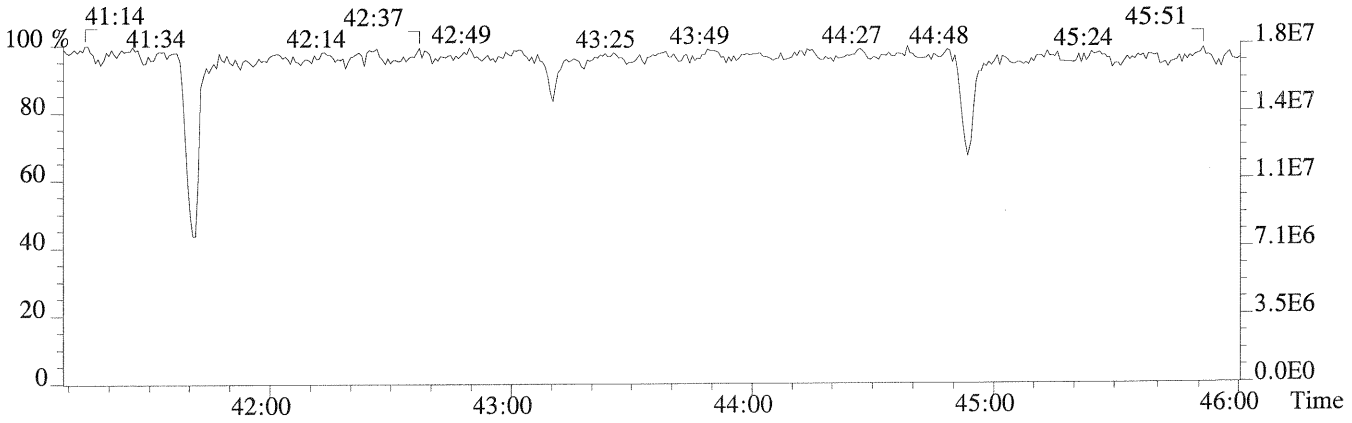
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



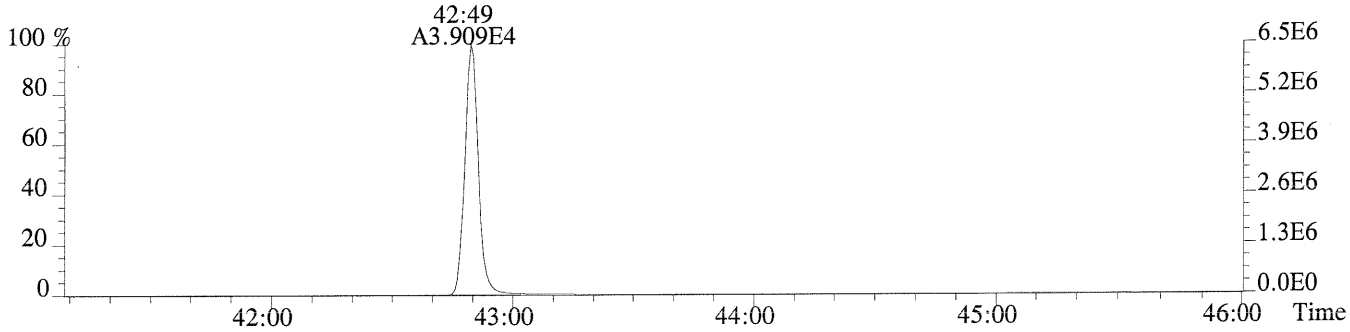
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



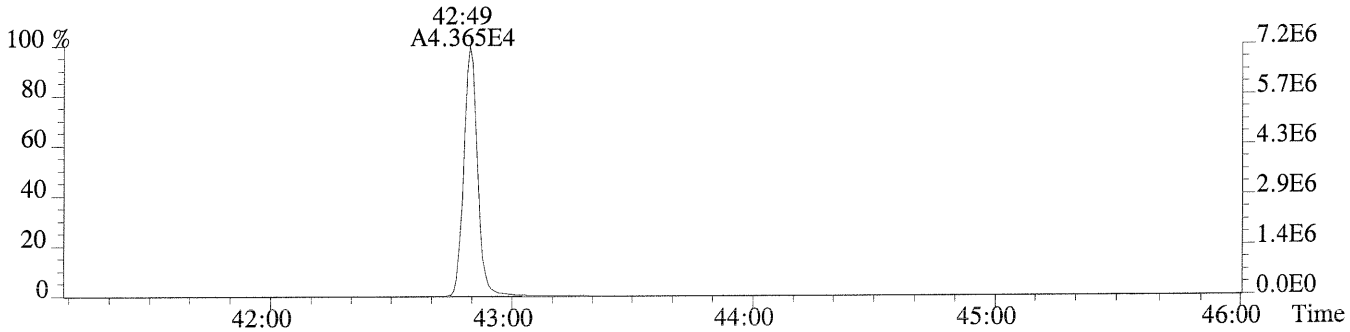
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



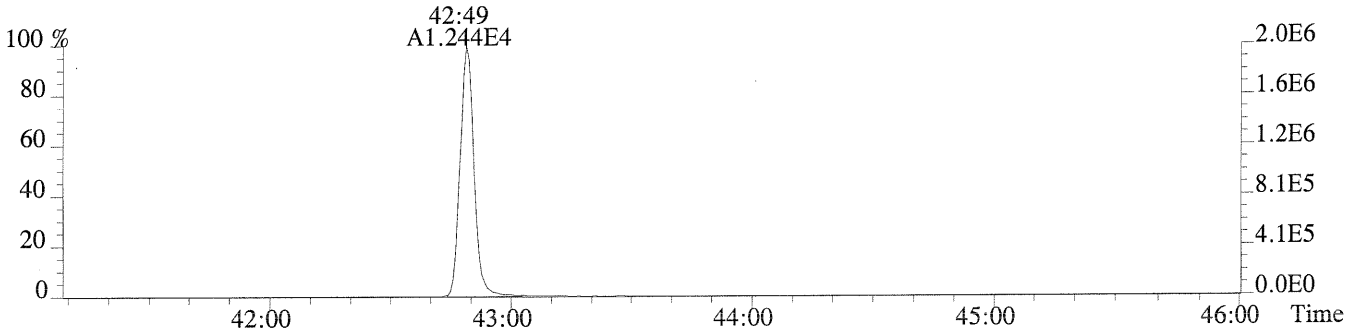
File:P171753 #1-447 Acq:24-JUN-2014 07:51:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-04
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,440.0,0.40%,F,T)



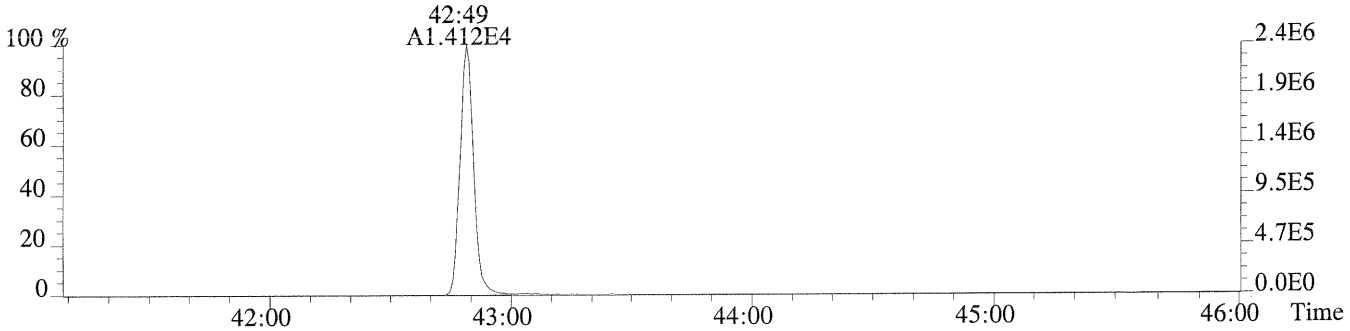
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1080.0,0.40%,F,T)



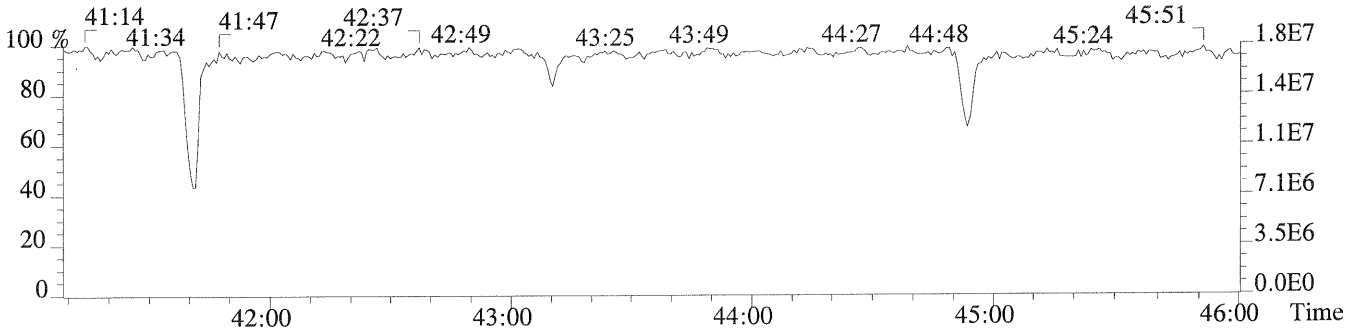
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,528.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,408.0,0.40%,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.
SYC14-AC DUP

Run #9 Filename P171751 Samp: 1 Inj: 1 Acquired: 24-JUN-14 06:15:02
Processed: 25-JUN-14 05:24:48 Sample ID: EQ1400321-05

	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	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	36:30	2.767e+01	1.526e+01	1.81	no	yes	1.241
5	Unk	1,2,3,6,7,8-HxCDF	36:35	2.405e+01	2.302e+01	1.04	no	yes	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:05	2.521e+01	1.854e+01	1.36	yes	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	39:02	2.239e+02	1.716e+02	1.30	no	no	1.403
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.324
10	Unk	OCDF	43:03	4.989e+02	5.462e+02	0.91	yes	no	1.307
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.037
12	Unk	1,2,3,7,8-PeCDD	34:09	1.840e+01	1.365e+01	1.35	yes	yes	0.938
13	Unk	1,2,3,4,7,8-HxCDD	37:11	3.473e+01	2.568e+01	1.35	yes	no	1.041
14	Unk	1,2,3,6,7,8-HxCDD	37:17	7.687e+01	6.213e+01	1.24	yes	no	0.990
15	Unk	1,2,3,7,8,9-HxCDD	37:31	9.004e+01	6.621e+01	1.36	yes	no	1.094
16	Unk	1,2,3,4,6,7,8-HpCDD	39:58	2.428e+03	2.220e+03	1.09	yes	no	1.016
17	Unk	OCDD	42:50	2.171e+04	2.455e+04	0.88	yes	no	1.079
18	IS	13C-2,3,7,8-TCDF	29:00	8.676e+03	1.135e+04	0.76	yes	no	1.452
19	IS	13C-1,2,3,7,8-PeCDF	33:00	1.559e+04	9.962e+03	1.57	yes	no	1.849
20	IS	13C-2,3,4,7,8-PeCDF	33:52	1.596e+04	1.017e+04	1.57	yes	no	1.800
21	IS	13C-1,2,3,4,7,8-HxCDF	36:28	7.215e+03	1.368e+04	0.53	yes	no	1.045
22	IS	13C-1,2,3,6,7,8-HxCDF	36:34	8.777e+03	1.798e+04	0.49	yes	no	1.202
23	IS	13C-2,3,4,6,7,8-HxCDF	37:03	8.646e+03	1.683e+04	0.51	yes	no	1.120
24	IS	13C-1,2,3,7,8,9-HxCDF	37:48	6.823e+03	1.306e+04	0.52	yes	no	1.028
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:02	5.158e+03	1.172e+04	0.44	yes	no	0.908
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:28	4.759e+03	1.093e+04	0.44	yes	no	0.814
27	IS	13C-2,3,7,8-TCDD	29:44	6.154e+03	7.917e+03	0.78	yes	no	1.049
28	IS	13C-1,2,3,7,8-PeCDD	34:08	1.294e+04	8.192e+03	1.58	yes	no	1.320
29	IS	13C-1,2,3,4,7,8-HxCDD	37:11	1.056e+04	8.425e+03	1.25	yes	no	0.859
30	IS	13C-1,2,3,6,7,8-HxCDD	37:16	1.033e+04	8.153e+03	1.27	yes	no	0.946
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:57	8.582e+03	8.054e+03	1.07	yes	no	0.862
32	IS	13C-OCDD	42:49	1.046e+04	1.190e+04	0.88	yes	no	0.758
33	RS/RT	13C-1,2,3,4-TCDD	29:12	1.097e+04	1.405e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:30	1.630e+04	1.314e+04	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:45	5.517e+03				no	1.125

$$OCDD = \frac{(2.171e+04 + 2.455e+04) \times 4000\ pg \times 1}{(1.046e+04 + 1.190e+04) \times 10.153 \times 40.4 \times 1.079} = 1870\ pg/L$$

06/26/14

1613RESP1

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
SYC14-AC DUP

Run #9 Filename P171751 Samp: 1 Inj: 1 Acquired: 24-JUN-14 06:15:02
Processed: 25-JUN-14 05:24:481 LAB. ID: EQ1400321-05

	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	*	*	7.12e+02	*
2	1,2,3,7,8-PeCDF	*	6.32e+02	*	*	5.04e+02	*
3	2,3,4,7,8-PeCDF	*	6.32e+02	*	*	5.04e+02	*
4	1,2,3,4,7,8-HxCDF	5.60e+03	1.44e+03	3.9e+00	3.34e+03	7.68e+02	4.3e+00
5	1,2,3,6,7,8-HxCDF	4.46e+03	1.44e+03	3.1e+00	2.91e+03	7.68e+02	3.8e+00
6	2,3,4,6,7,8-HxCDF	5.44e+03	1.44e+03	3.8e+00	2.87e+03	7.68e+02	3.7e+00
7	1,2,3,7,8,9-HxCDF	*	1.44e+03	*	*	7.68e+02	*
8	1,2,3,4,6,7,8-HpCDF	5.04e+04	1.72e+03	2.9e+01	3.62e+04	1.47e+03	2.5e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.72e+03	*	*	1.47e+03	*
10	OCDF	7.66e+04	6.72e+02	1.1e+02	9.07e+04	7.72e+02	1.2e+02
11	2,3,7,8-TCDD	*	3.32e+02	*	*	4.72e+02	*
12	1,2,3,7,8-PeCDD	4.21e+03	6.44e+02	6.5e+00	3.61e+03	5.00e+02	7.2e+00
13	1,2,3,4,7,8-HxCDD	7.60e+03	1.06e+03	7.2e+00	5.56e+03	1.08e+03	5.1e+00
14	1,2,3,6,7,8-HxCDD	1.36e+04	1.06e+03	1.3e+01	1.35e+04	1.08e+03	1.2e+01
15	1,2,3,7,8,9-HxCDD	1.98e+04	1.06e+03	1.9e+01	1.40e+04	1.08e+03	1.3e+01
16	1,2,3,4,6,7,8-HpCDD	4.73e+05	1.38e+03	3.4e+02	4.44e+05	1.23e+03	3.6e+02
17	OCDD	3.53e+06	5.76e+02	6.1e+03	4.03e+06	7.16e+02	5.6e+03
18	13C-2,3,7,8-TCDF	1.75e+06	4.40e+02	4.0e+03	2.30e+06	4.00e+02	5.8e+03
19	13C-1,2,3,7,8-PeCDF	2.87e+06	3.40e+02	8.4e+03	1.81e+06	1.28e+02	1.4e+04
20	13C-2,3,4,7,8-PeCDF	3.09e+06	3.40e+02	9.1e+03	1.97e+06	1.28e+02	1.5e+04
21	13C-1,2,3,4,7,8-HxCDF	1.51e+06	1.84e+02	8.2e+03	2.95e+06	5.84e+02	5.1e+03
22	13C-1,2,3,6,7,8-HxCDF	1.86e+06	1.84e+02	1.0e+04	3.74e+06	5.84e+02	6.4e+03
23	13C-2,3,4,6,7,8-HxCDF	1.87e+06	1.84e+02	1.0e+04	3.64e+06	5.84e+02	6.2e+03
24	13C-1,2,3,7,8,9-HxCDF	1.41e+06	1.84e+02	7.7e+03	2.69e+06	5.84e+02	4.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.09e+06	9.32e+02	1.2e+03	2.45e+06	1.29e+03	1.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.76e+05	9.32e+02	9.4e+02	2.06e+06	1.29e+03	1.6e+03
27	13C-2,3,7,8-TCDD	1.30e+06	1.44e+03	9.1e+02	1.66e+06	5.20e+02	3.2e+03
28	13C-1,2,3,7,8-PeCDD	2.50e+06	1.64e+02	1.5e+04	1.57e+06	1.32e+02	1.2e+04
29	13C-1,2,3,4,7,8-HxCDD	2.32e+06	3.56e+02	6.5e+03	1.86e+06	3.44e+02	5.4e+03
30	13C-1,2,3,6,7,8-HxCDD	2.12e+06	3.56e+02	6.0e+03	1.69e+06	3.44e+02	4.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.65e+06	4.24e+02	3.9e+03	1.56e+06	1.64e+02	9.5e+03
32	13C-OCDD	1.70e+06	3.96e+02	4.3e+03	1.98e+06	3.68e+02	5.4e+03
33	13C-1,2,3,4-TCDD	2.25e+06	1.44e+03	1.6e+03	2.92e+06	5.20e+02	5.6e+03
34	13C-1,2,3,7,8,9-HxCDD	3.51e+06	3.56e+02	9.9e+03	2.79e+06	3.44e+02	8.1e+03
35	37Cl-2,3,7,8-TCDD	1.15e+06	2.00e+02	5.7e+03			

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 1
Llim: 26:34 Ulim: 30:47
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 319.8970 321.8940 Tot Response: 6.92e+01 RRF: 1.037

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:09	2.78e+01	4.14e+01 0.67	yes	6.92e+01		n	n

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 39 Totals Name: Total Penta-Furan2

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 2
Llim: 30:40 Ulim: 34:58
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 339.8600 341.8570 Tot Response: 7.77e+01 RRF: 0.9970

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:08	4.76e+01	3.02e+01 1.58	yes	7.77e+01		n	n

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 2
Llim: 32:06 Ulim: 34:43
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 355.8550 357.8520 Tot Response: 7.50e+02 RRF: 0.9375

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:09	1.96e+02	1.17e+02 1.67	yes	3.13e+02		n	n
2	32:35	2.26e+02	1.35e+02 1.67	yes	3.61e+02		n	n
3	34:09	1.84e+01	1.37e+01 1.35	yes	3.21e+01	1,2,3,7,8-PeCDD	y	y
4	34:12	9.85e+00	6.68e+00 1.47	yes	1.65e+01		y	y
5	34:31	1.70e+01	1.06e+01 1.61	yes	2.76e+01		y	y

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 41 Totals Name: Total Hexa-Furans

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 3
Llim: 35:22 Ulim: 38:02
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 373.8210 375.8180 Tot Response: 4.43e+02 RRF: 1.180

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	9.89e+01	7.78e+01	1.27	yes	1.77e+02		n	n
2	36:04	1.22e+02	1.01e+02	1.20	yes	2.23e+02		n	n
3	37:05	2.52e+01	1.85e+01	1.36	yes	4.38e+01	2,3,4,6,7,8-HxCDF	y	y

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 3
Llim: 35:51 Ulim: 37:38
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 389.8160 391.8130 Tot Response: 6.66e+03 RRF: 1.040

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:54	2.61e+03	1.97e+03	1.32	yes	4.58e+03		n	n
2	36:24	1.03e+02	8.92e+01	1.15	yes	1.92e+02		n	n
3	36:37	6.89e+02	5.21e+02	1.32	yes	1.21e+03		n	n
4	36:44	1.27e+02	1.12e+02	1.14	yes	2.39e+02		n	n
5	37:11	3.47e+01	2.57e+01	1.35	yes	6.04e+01	1,2,3,4,7,8-HxCDD	n	n
6	37:17	7.69e+01	6.21e+01	1.24	yes	1.39e+02	1,2,3,6,7,8-HxCDD	n	n
7	37:25	4.43e+01	3.18e+01	1.40	yes	7.61e+01		n	n
8	37:31	9.00e+01	6.62e+01	1.36	yes	1.56e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 43 Totals Name: Total Hepta-Furans

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 4
Llim: 39:00 Ulim: 40:41
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 407.7820 409.7790 Tot Response: 9.36e+02 RRF: 1.365

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:27	4.79e+02	4.57e+02 1.05	yes	9.36e+02		n	n

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Peak List Summary

CLIENT ID.
SYC14-AC DUP

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 9 File: P171751 Sample: 1 Injection: 1 Function: 4
Llim: 39:14 Ulim: 40:10
Acquired: 24-JUN-14 06:15:02 Processed: 25-JUN-14 05:24:48
Mass: 423.7770 425.7740 Tot Response: 2.73e+04 RRF: 1.016

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:17	1.16e+04	1.11e+04 1.04	yes	2.27e+04		n	n
2	39:58	2.43e+03	2.22e+03 1.09	yes	4.65e+03	1,2,3,4,6,7,8-HpCDD	n	n

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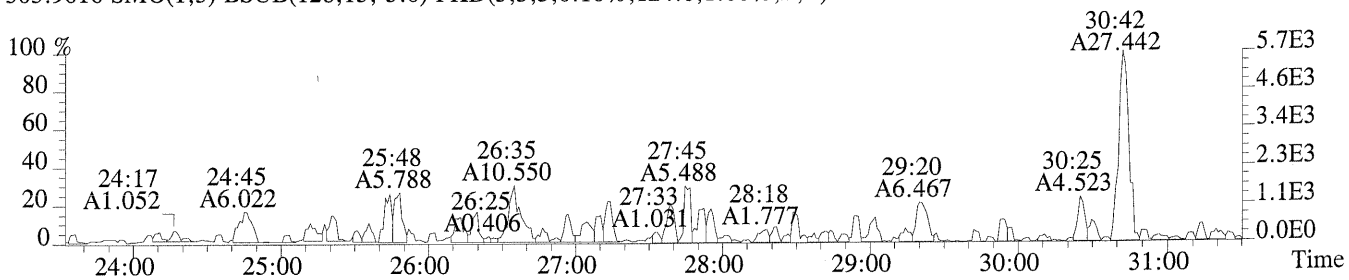
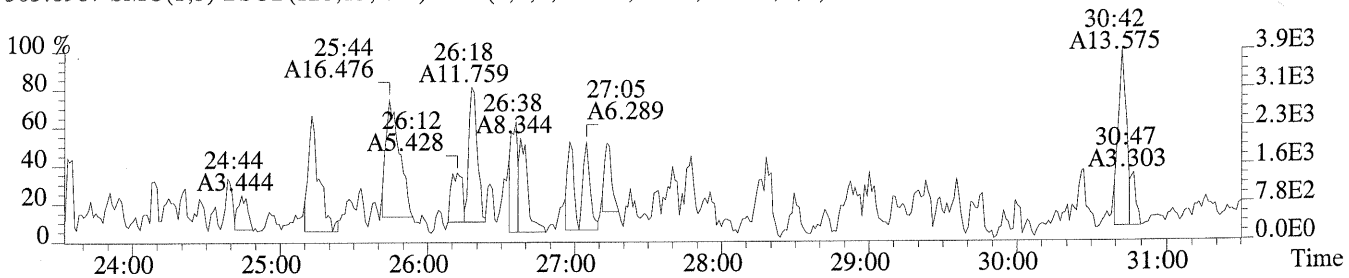
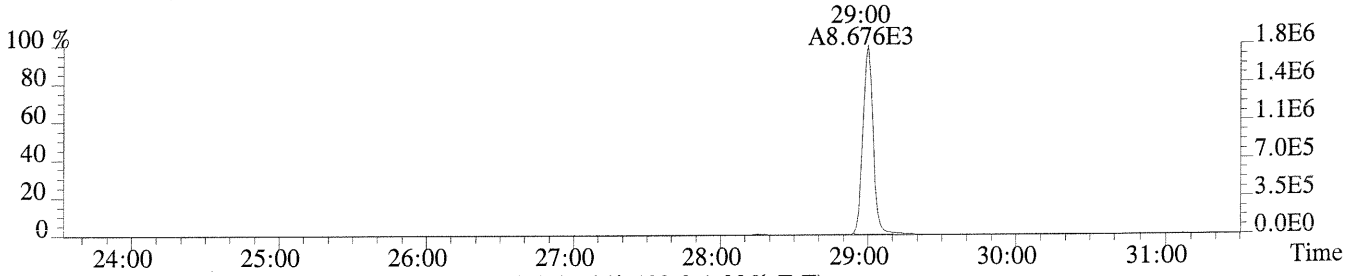
File:P171751 #1-501 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,124.0,1.00%,F,T)



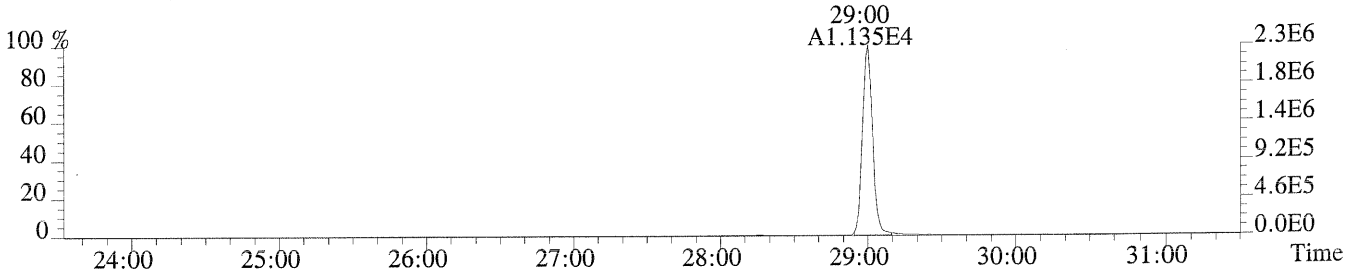
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



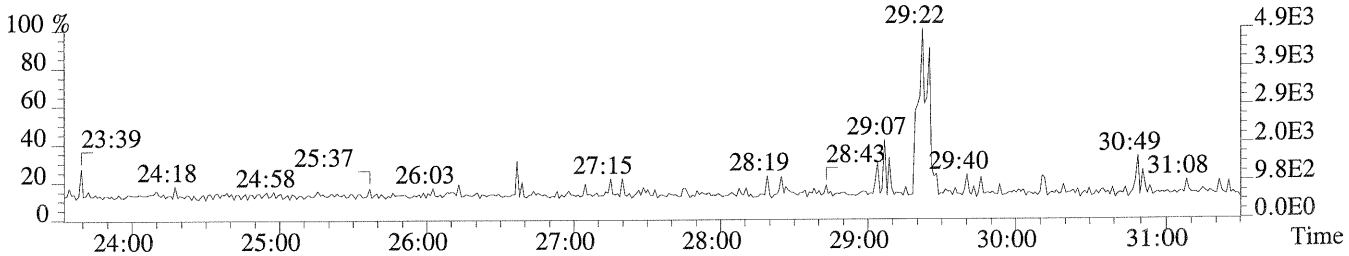
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



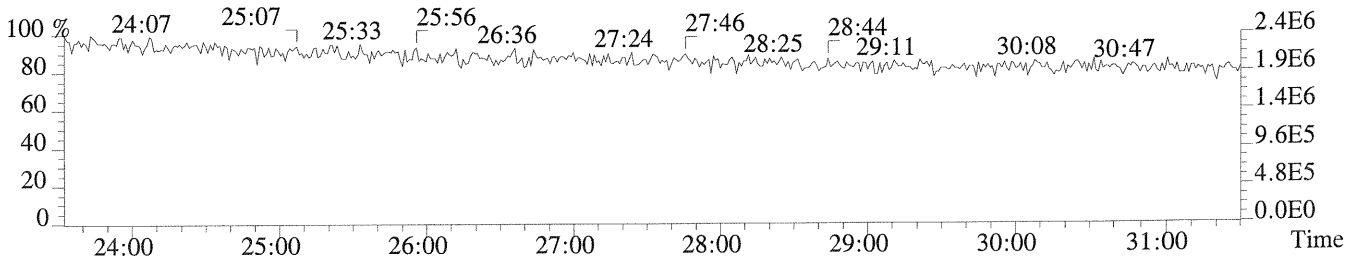
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,T)



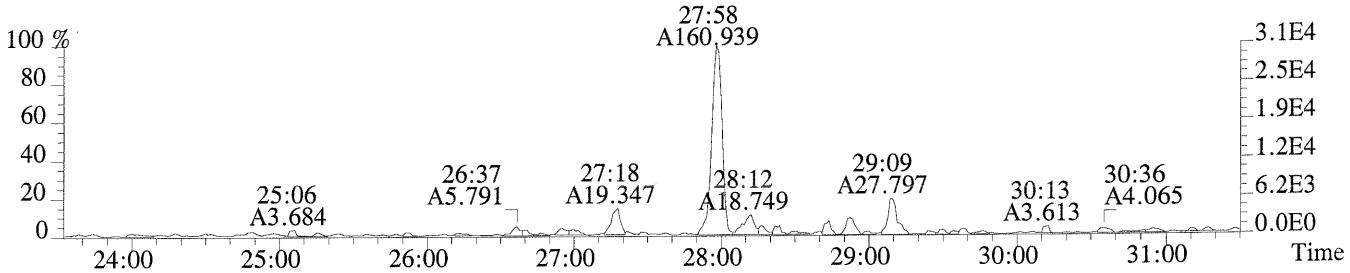
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



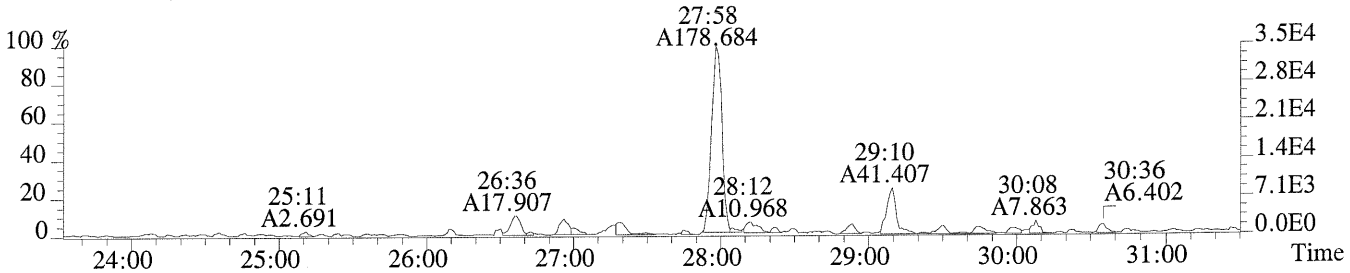
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



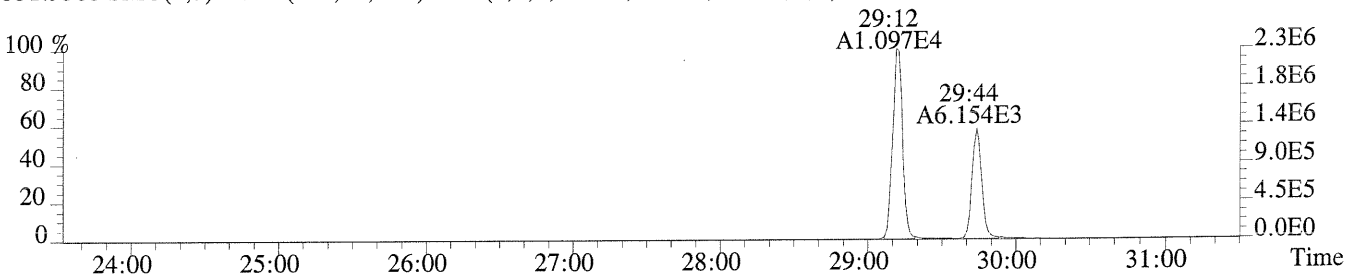
File:P171751 #1-501 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,332.0,1.00%,F,T)



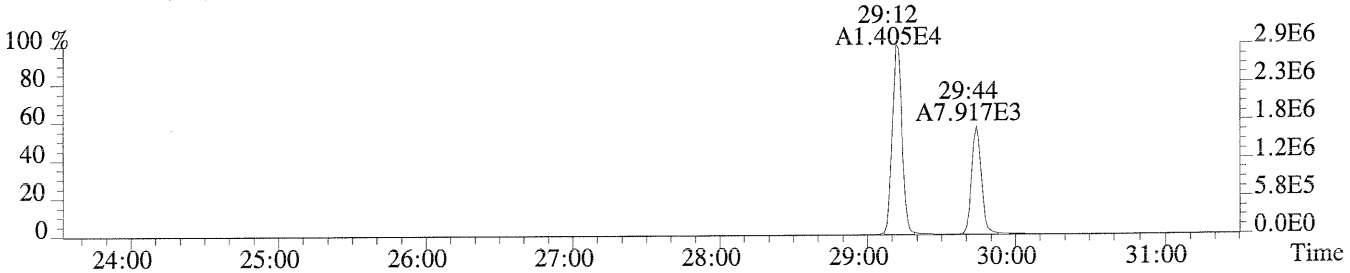
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



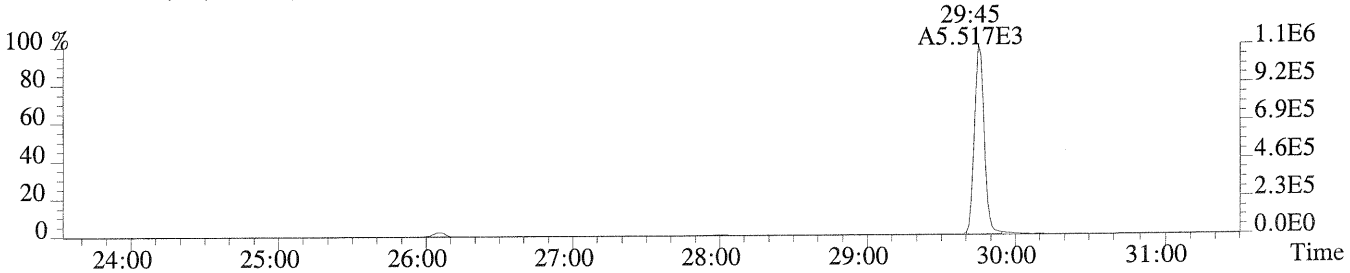
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



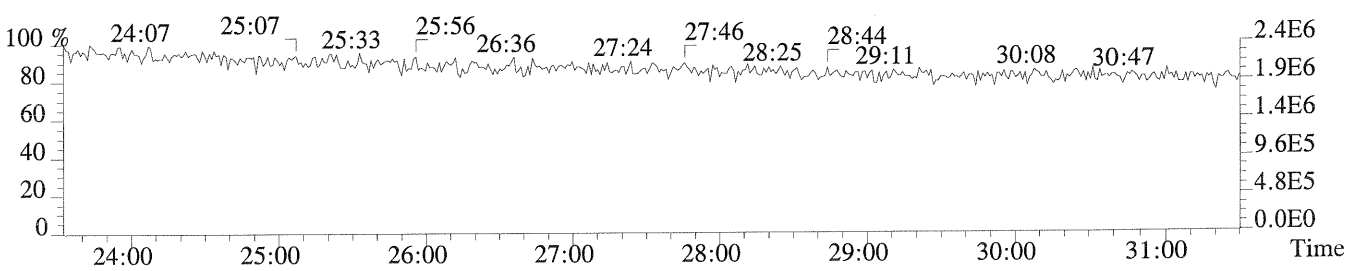
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



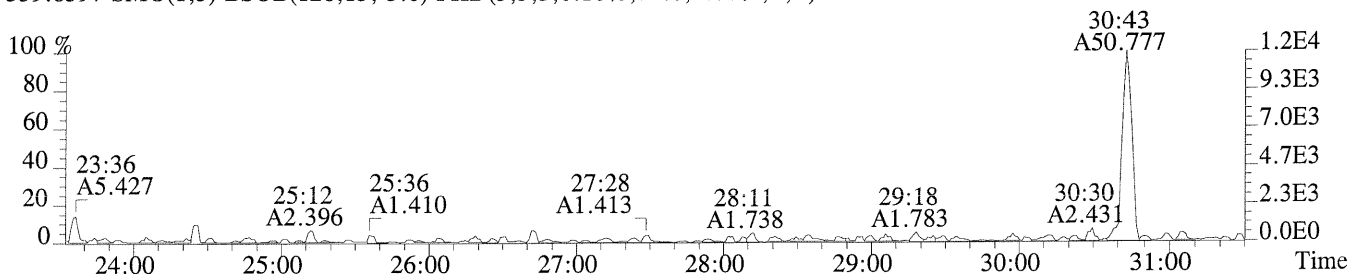
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



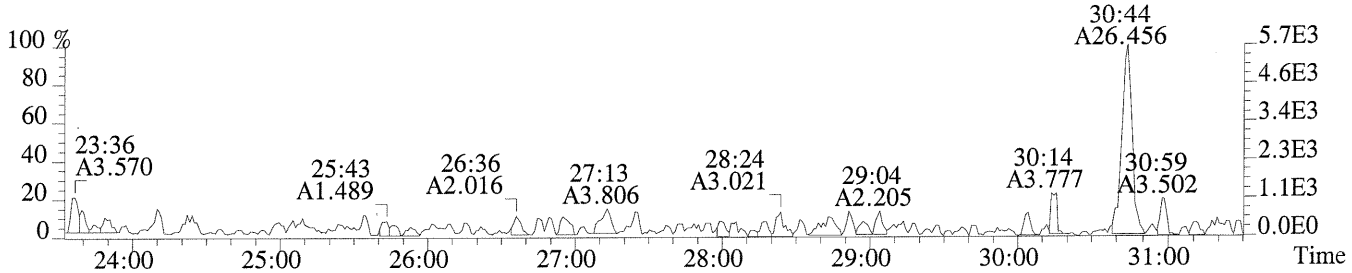
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



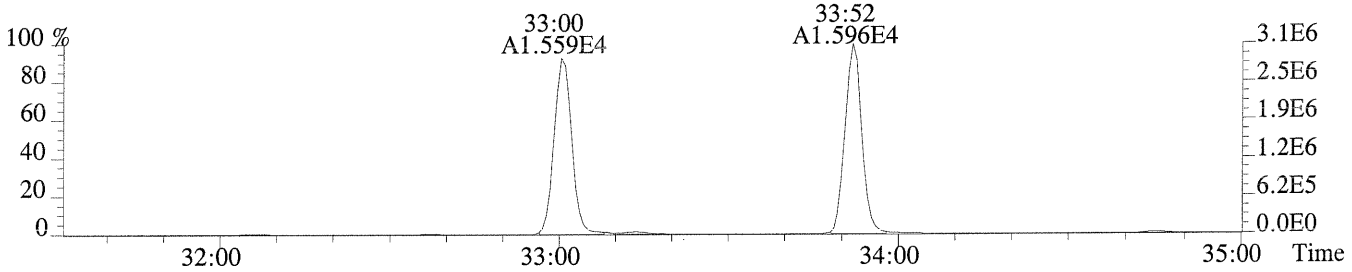
File:P171751 #1-501 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,T)



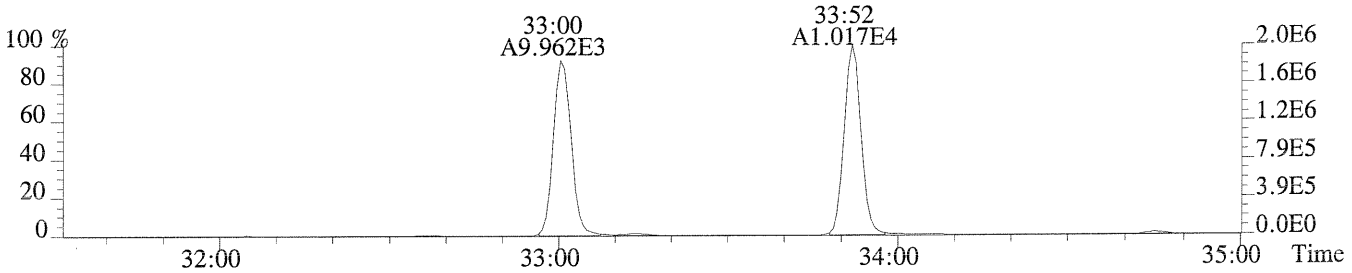
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,248.0,1.00%,F,T)



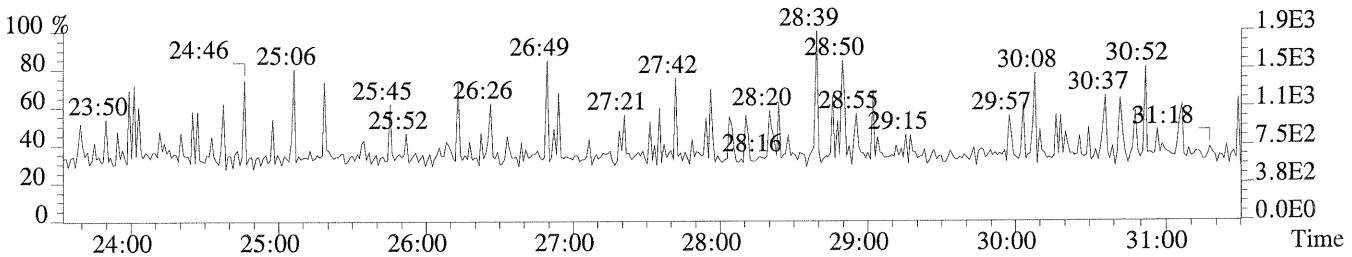
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



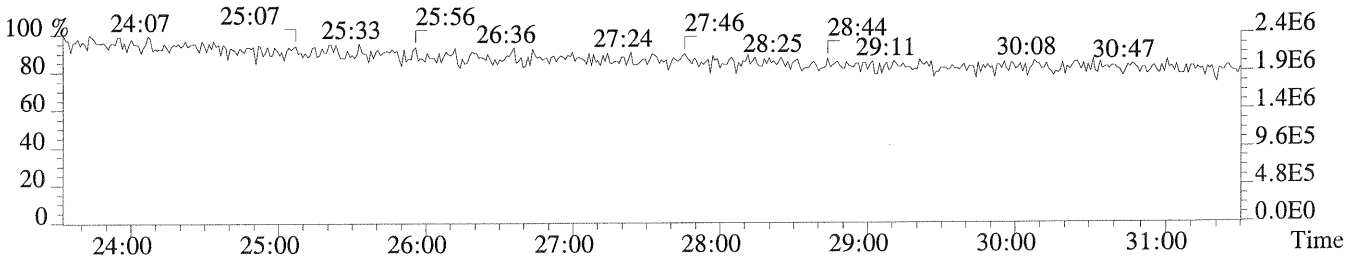
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



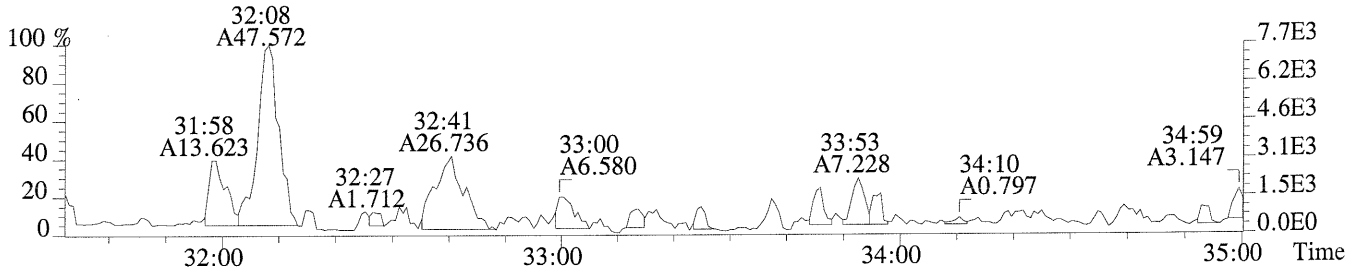
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



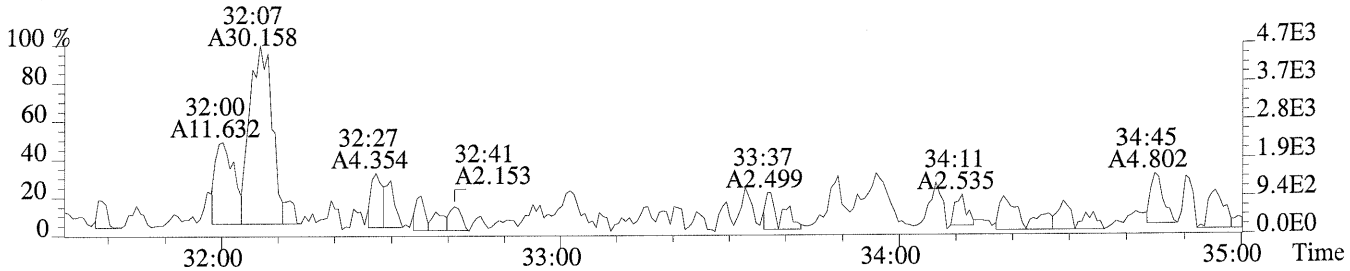
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



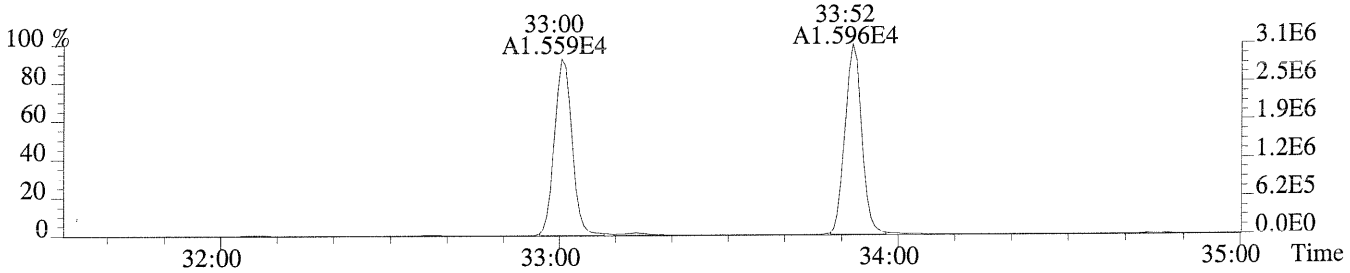
File:P171751 #1-315 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



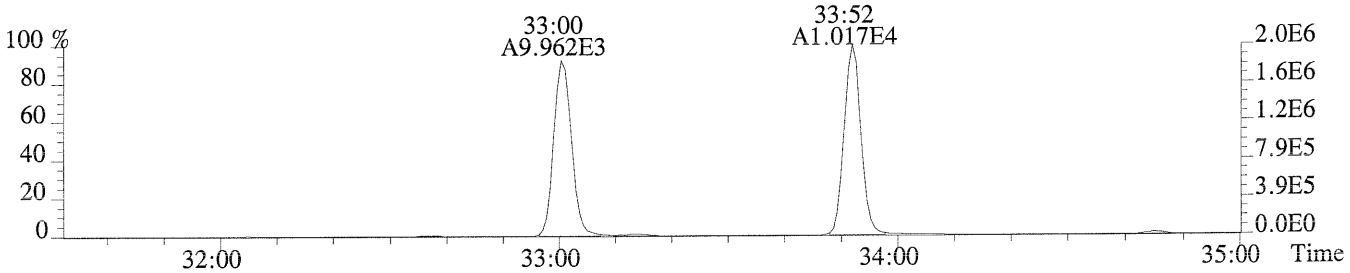
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



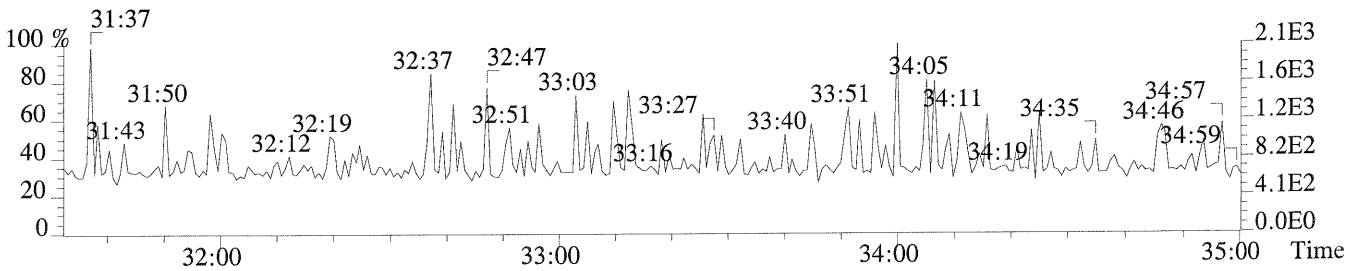
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



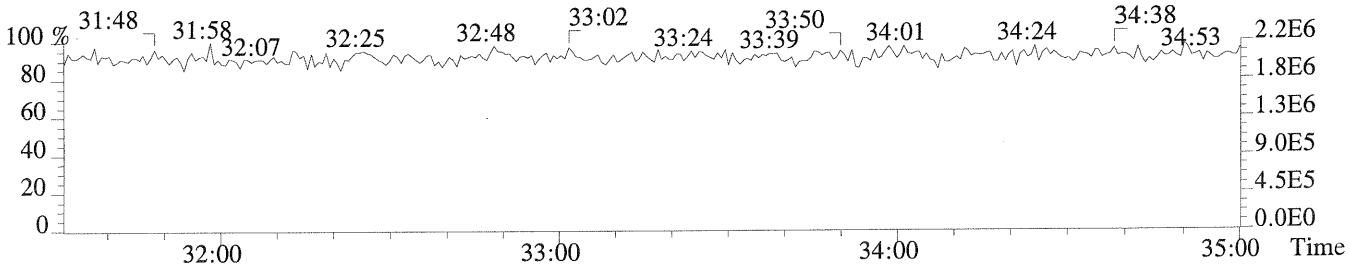
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



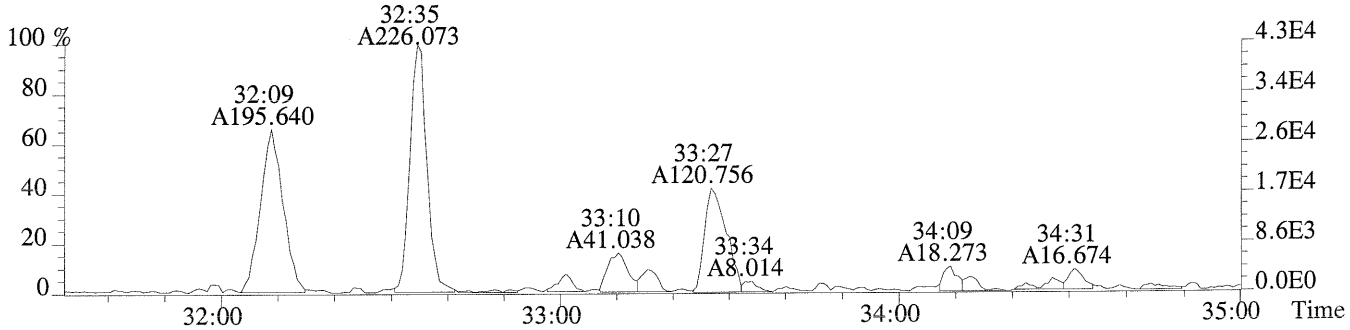
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



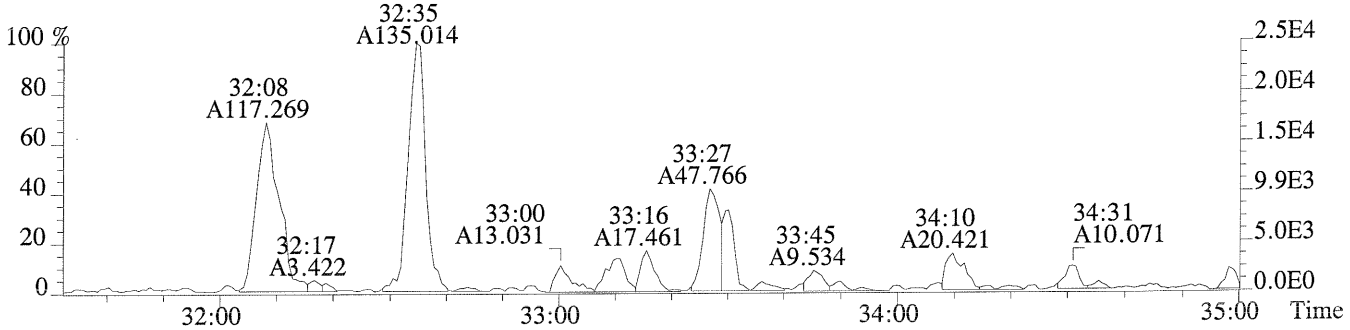
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



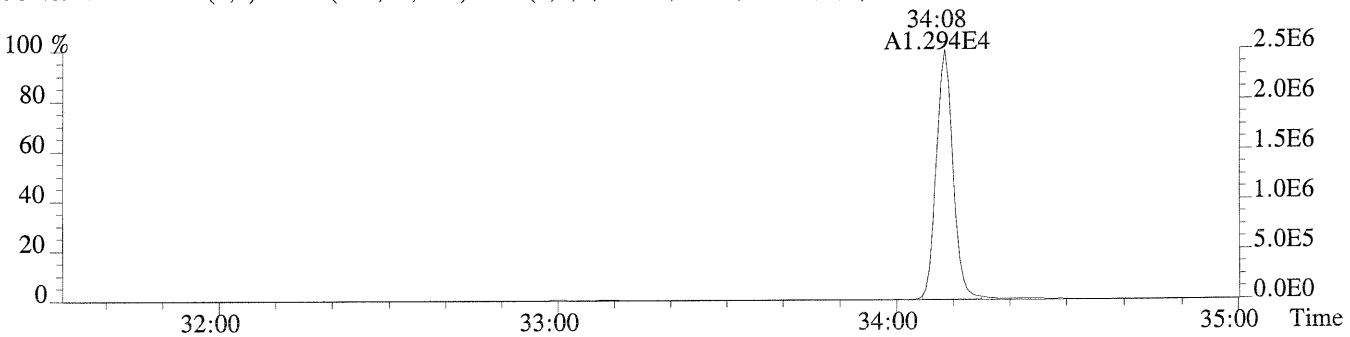
File:P171751 #1-315 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



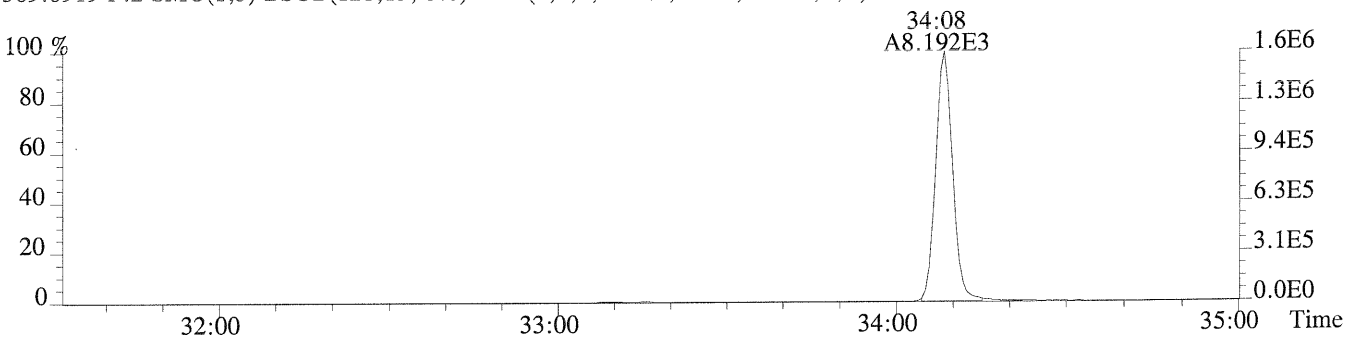
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)



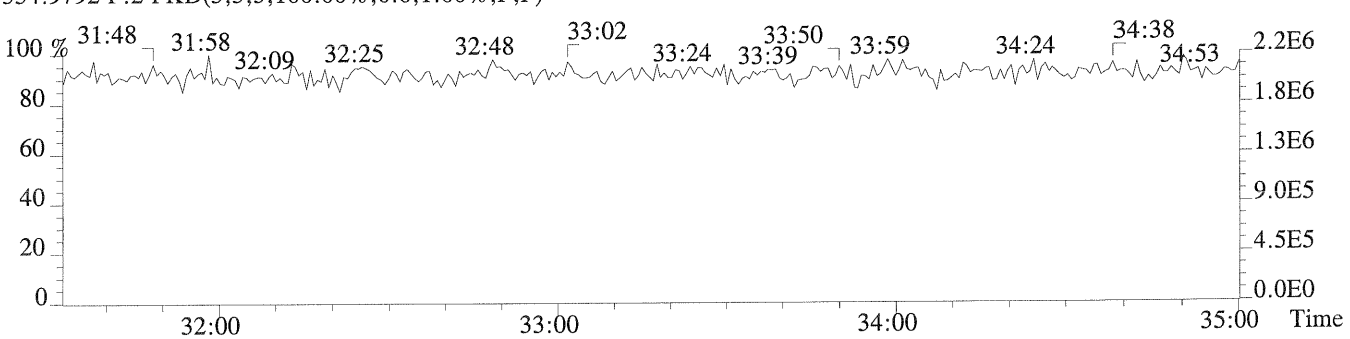
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,164.0,1.00%,F,T)



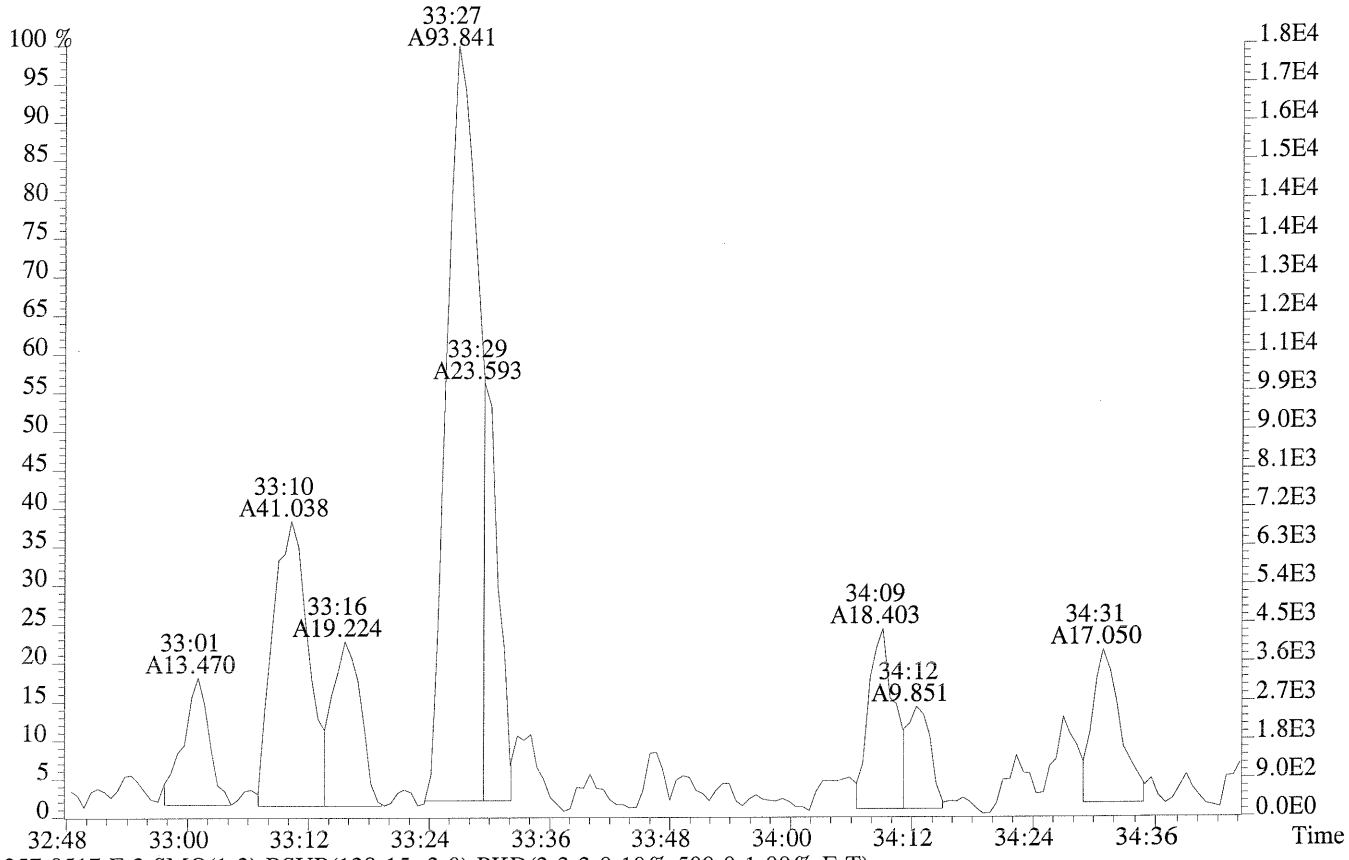
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)



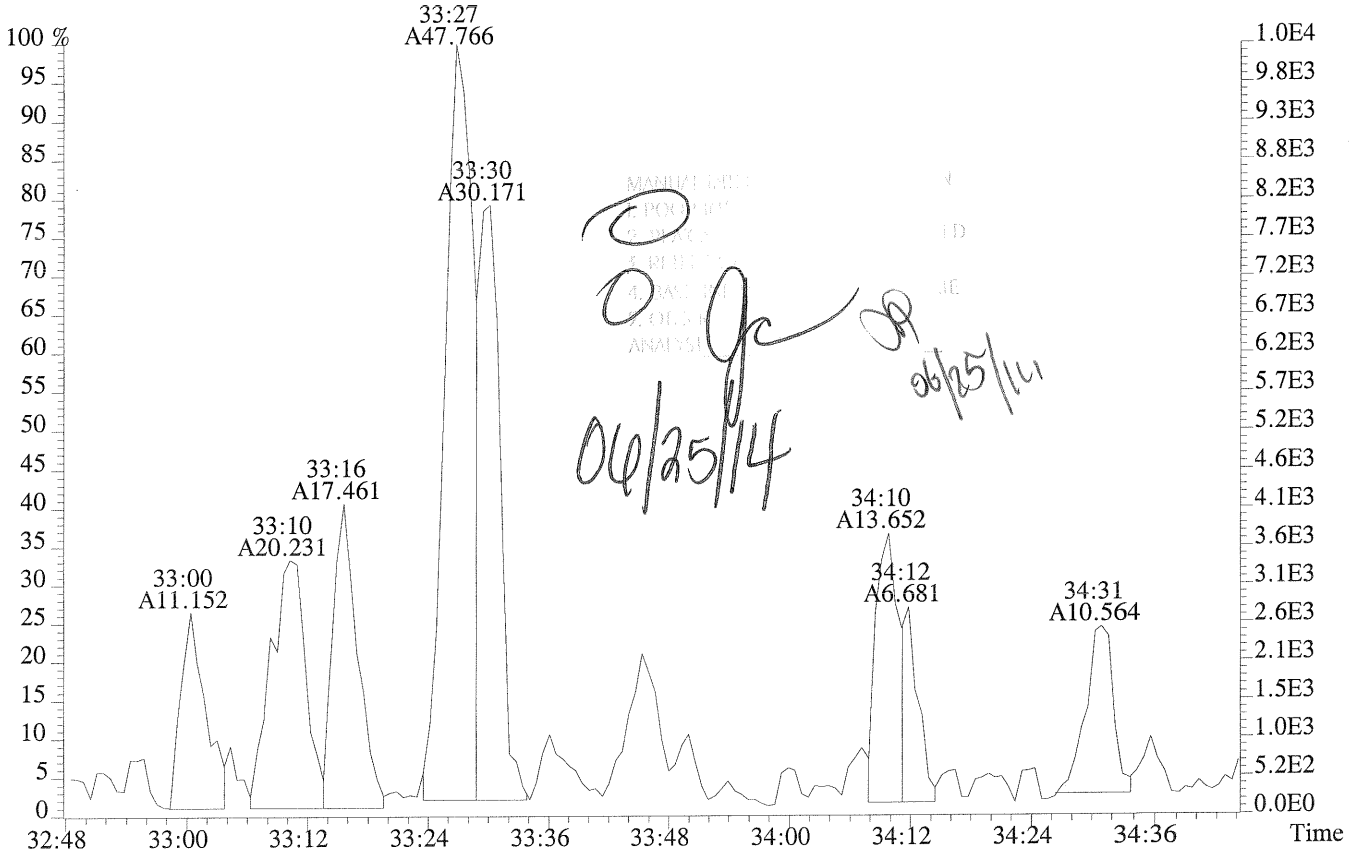
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P171751 #1-315 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)

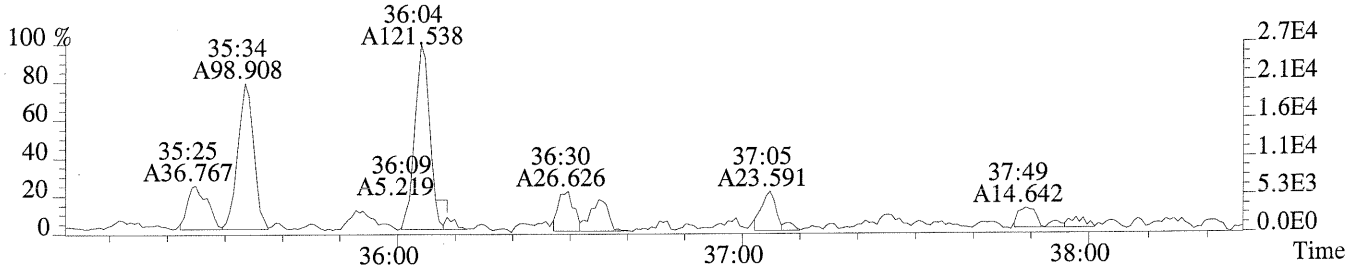


357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,T)

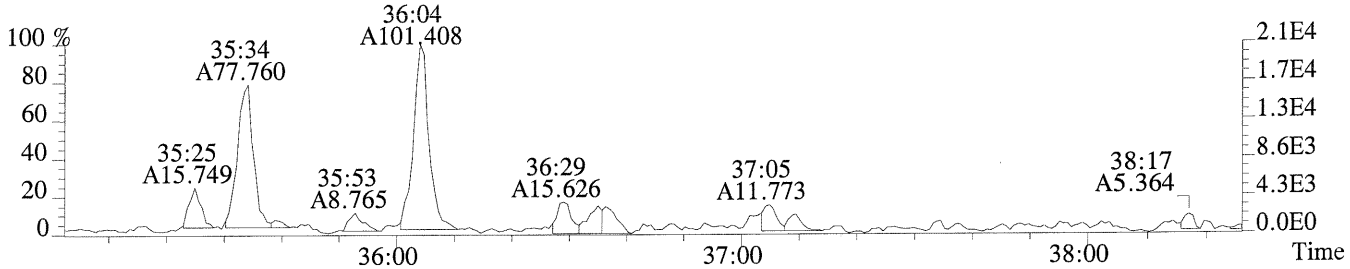


06/25/14

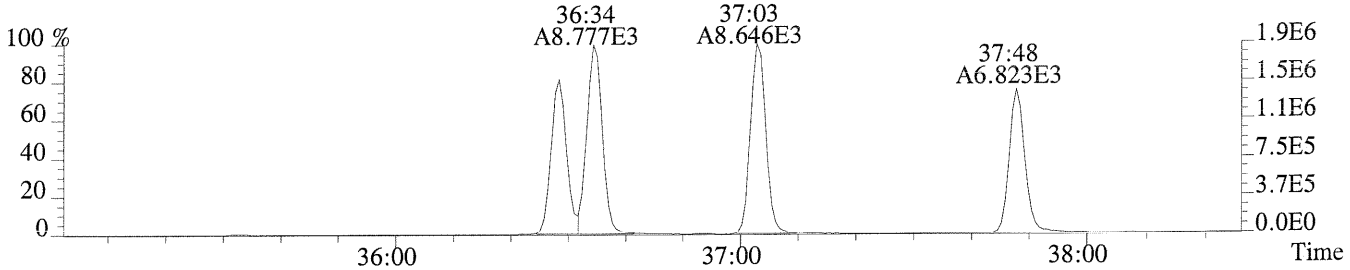
File:P171751 #1-309 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1444.0,0.40%,F,T)



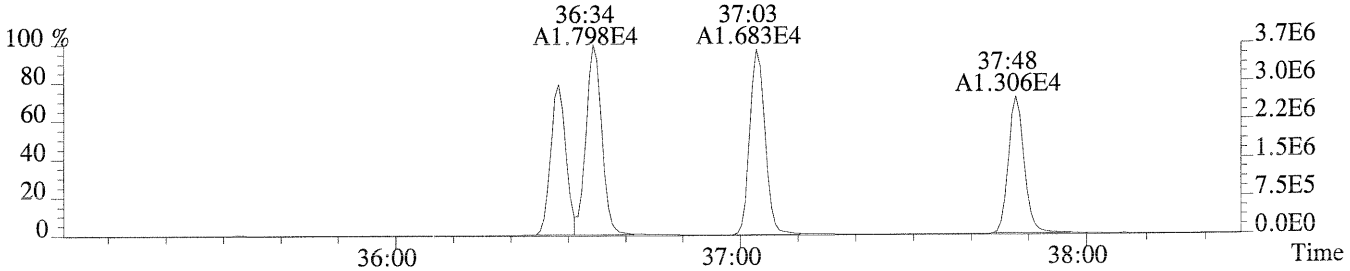
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



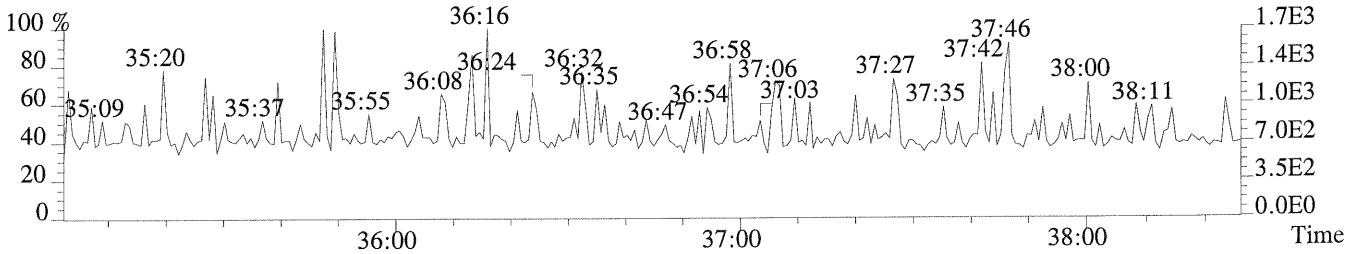
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



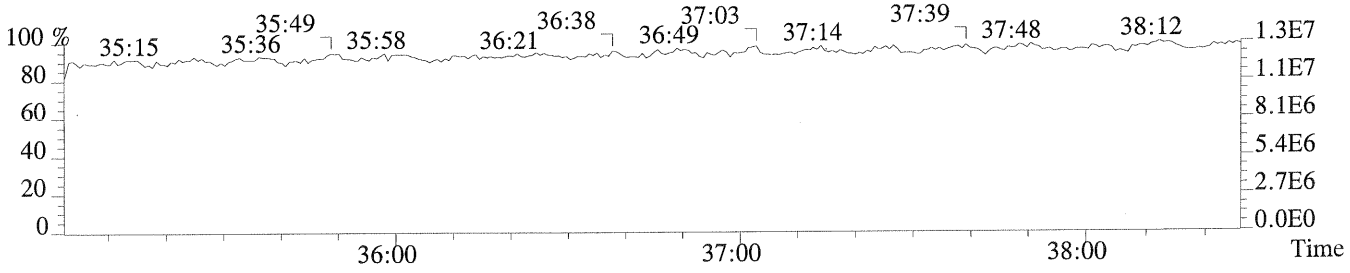
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,584.0,0.40%,F,T)



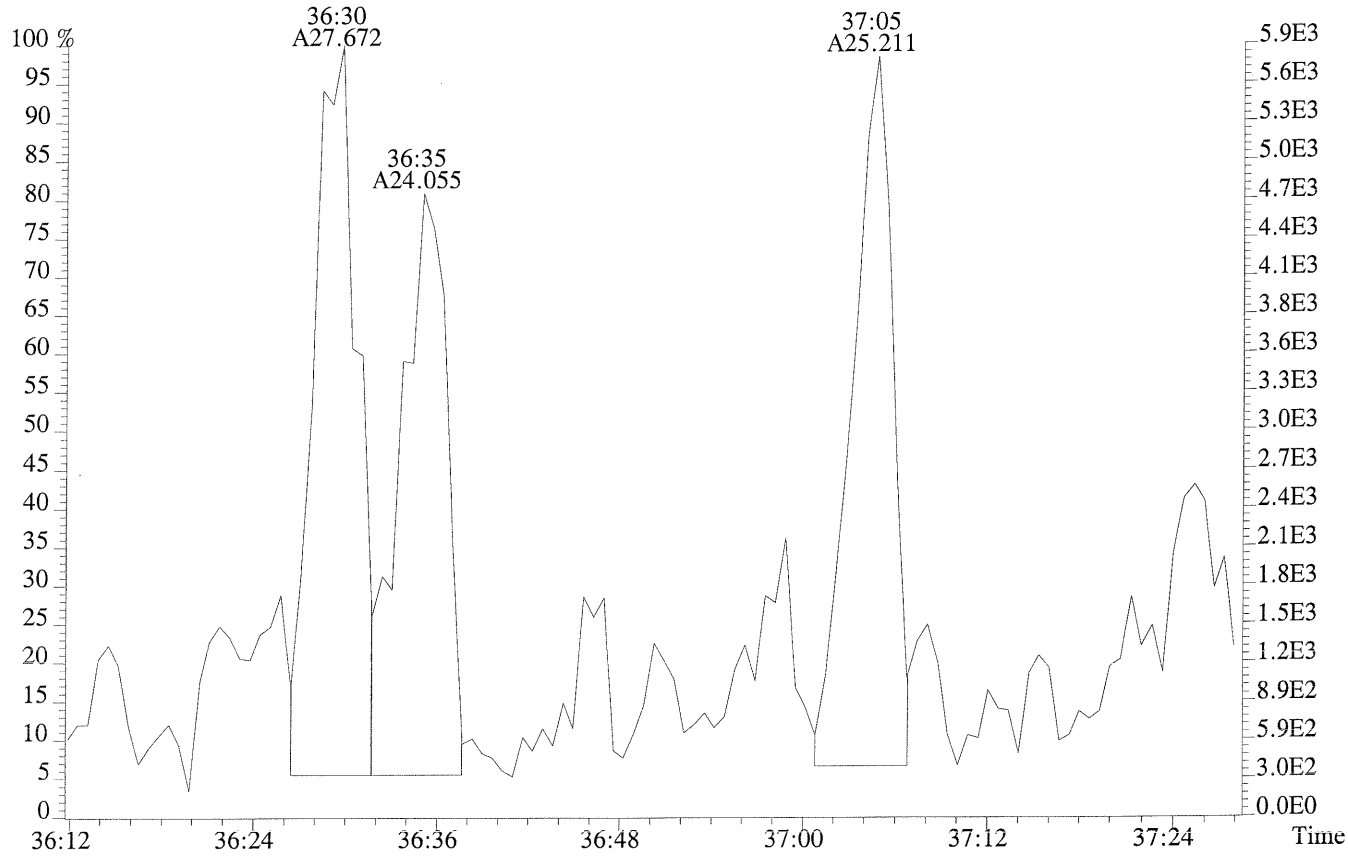
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



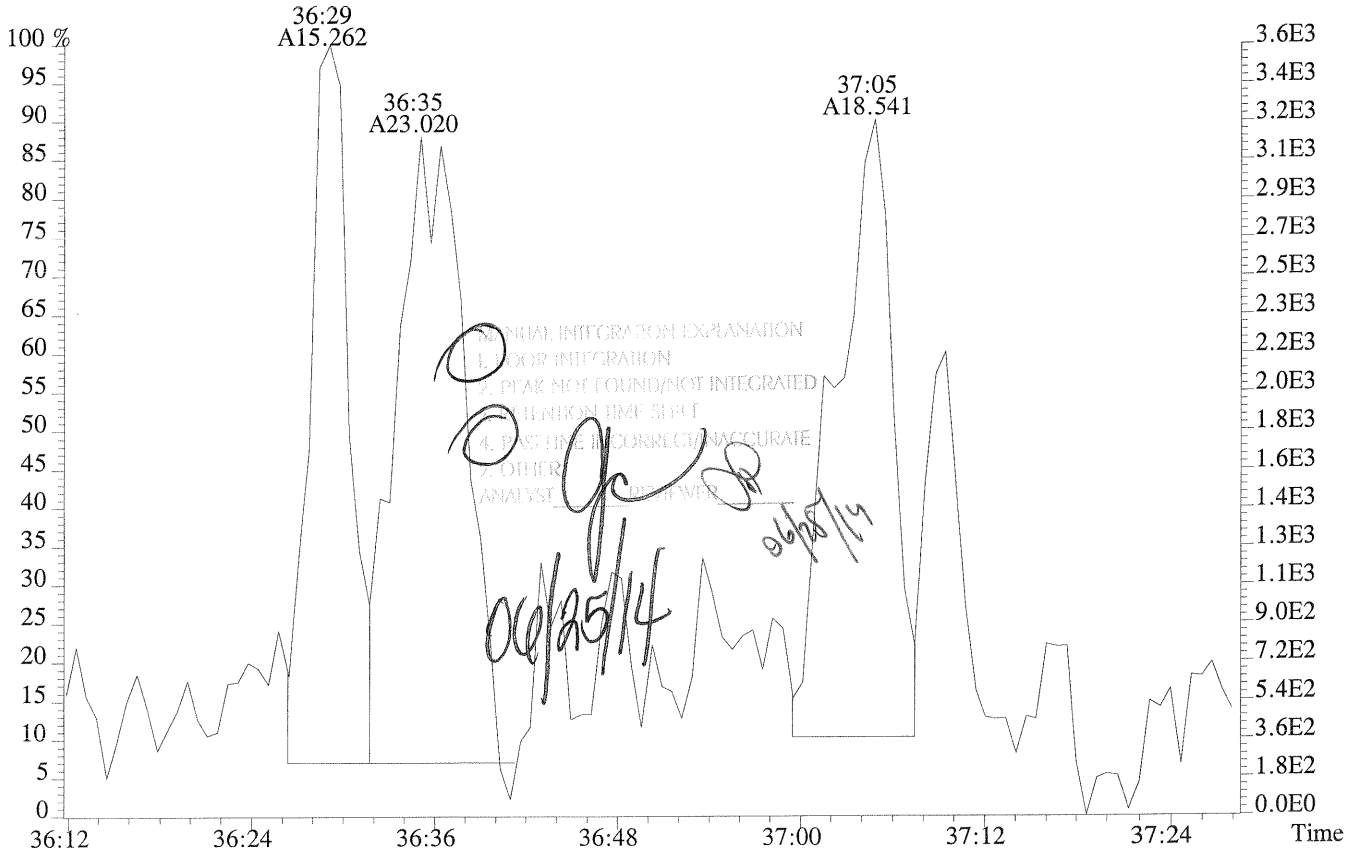
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



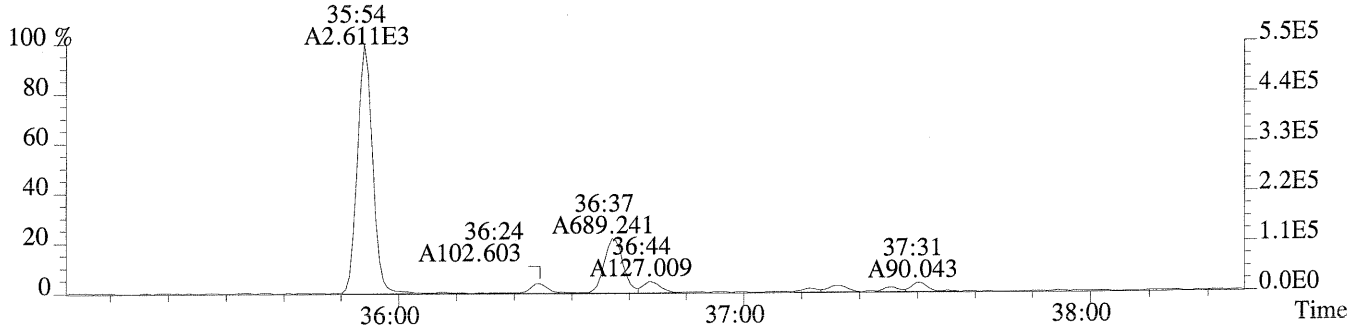
File:P171751 #1-309 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1444.0,0.40%,F,T)



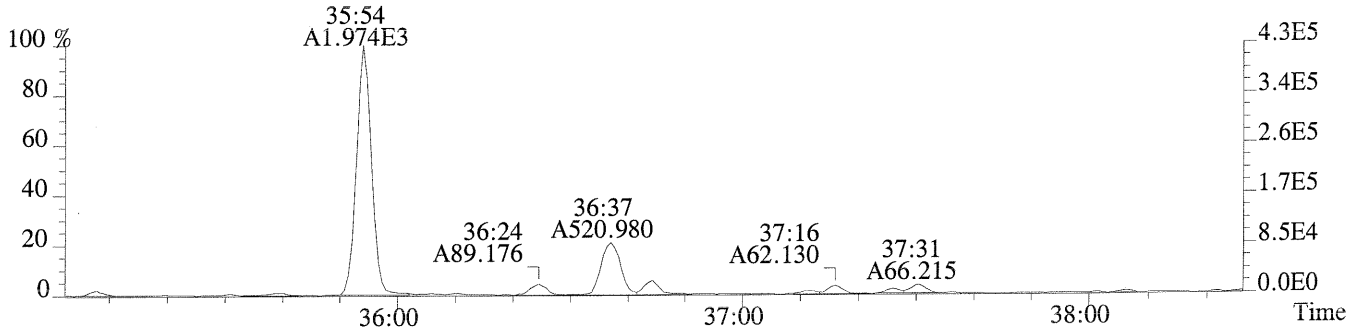
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



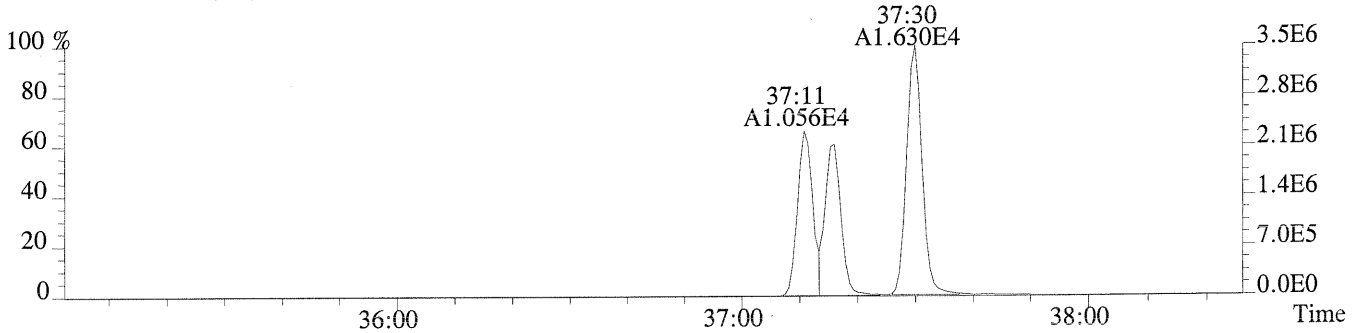
File:P171751 #1-309 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,T)



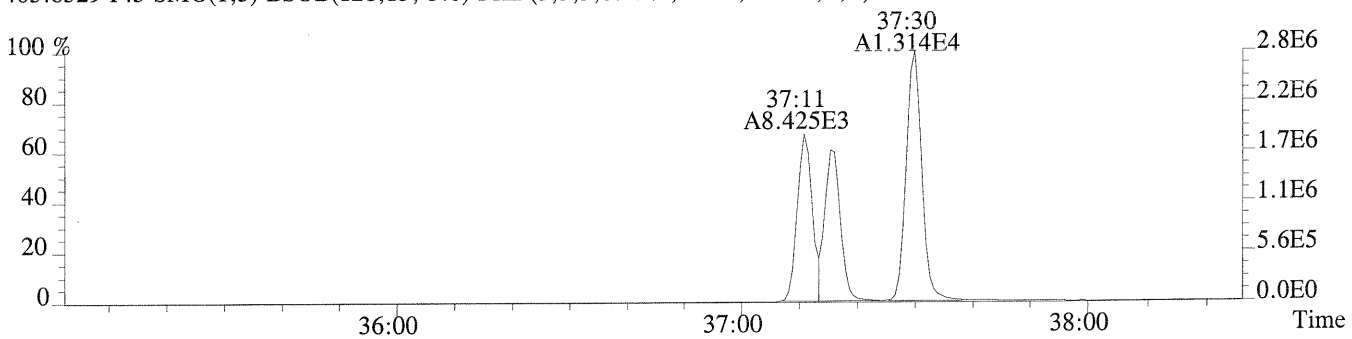
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.40%,F,T)



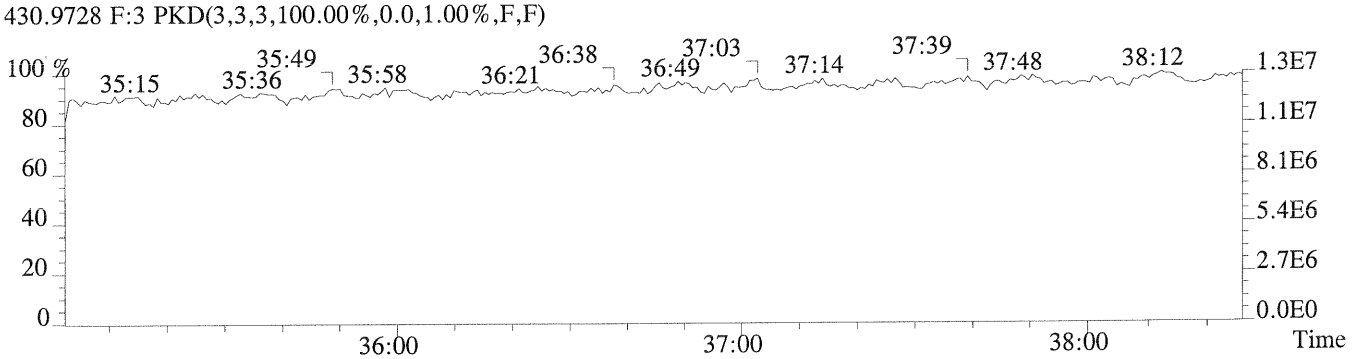
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,356.0,0.40%,F,T)



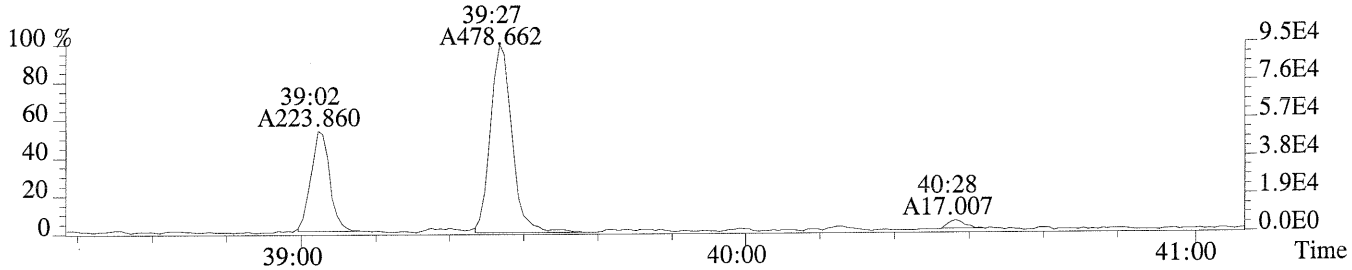
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,T)



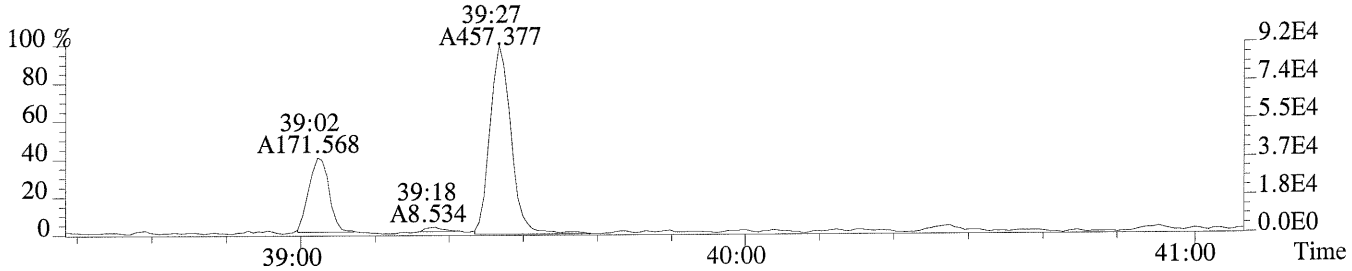
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



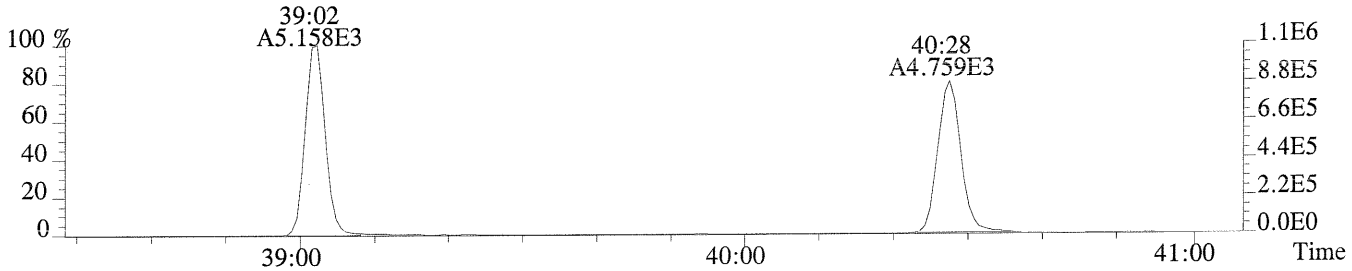
File:P171751 #1-240 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1724.0,0.50%,F,T)



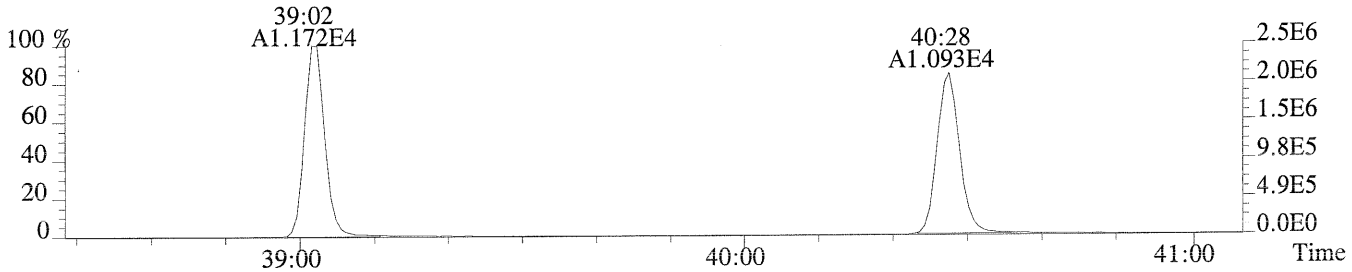
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1468.0,0.50%,F,T)



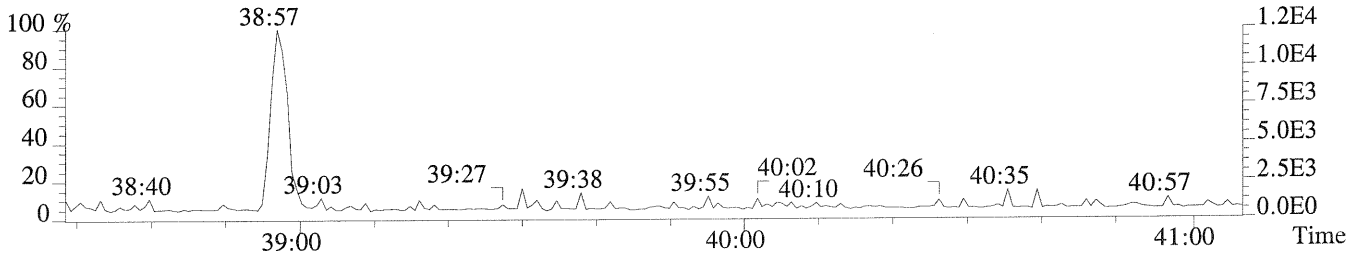
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.50%,F,T)



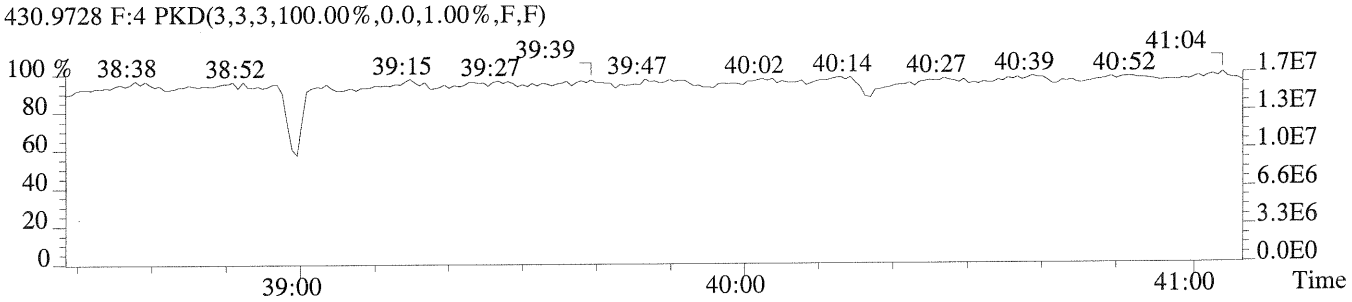
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.50%,F,T)



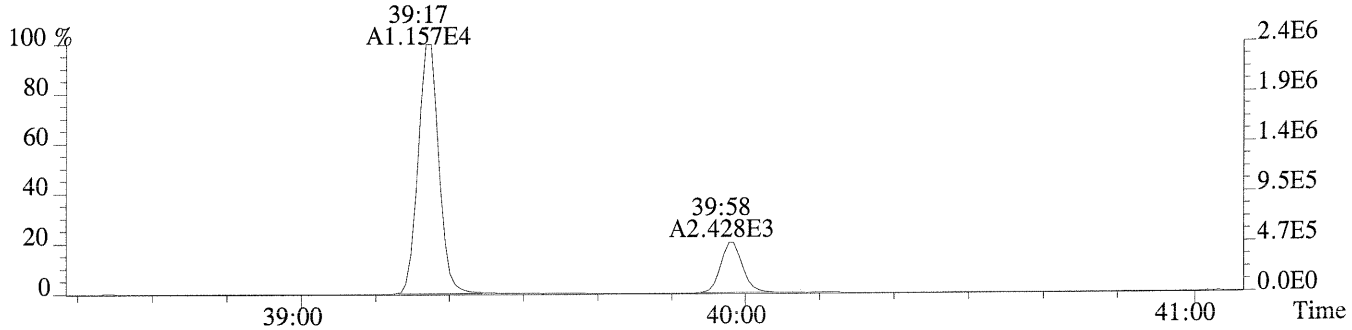
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



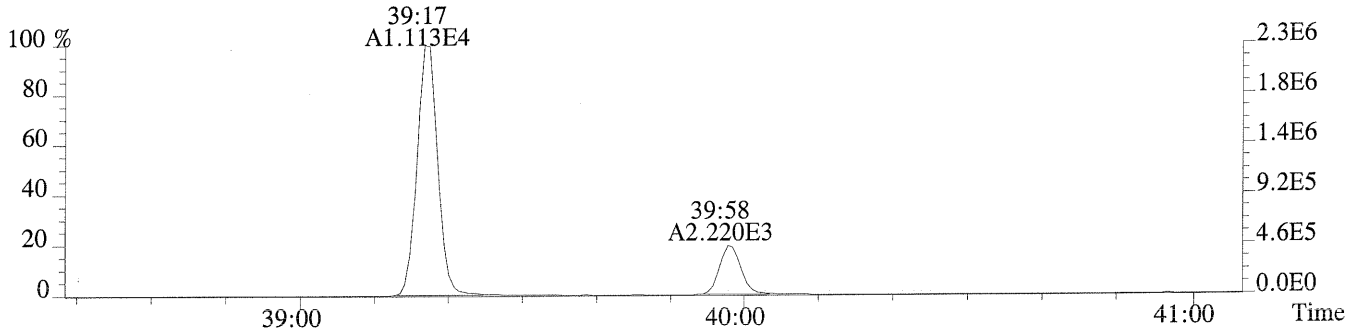
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



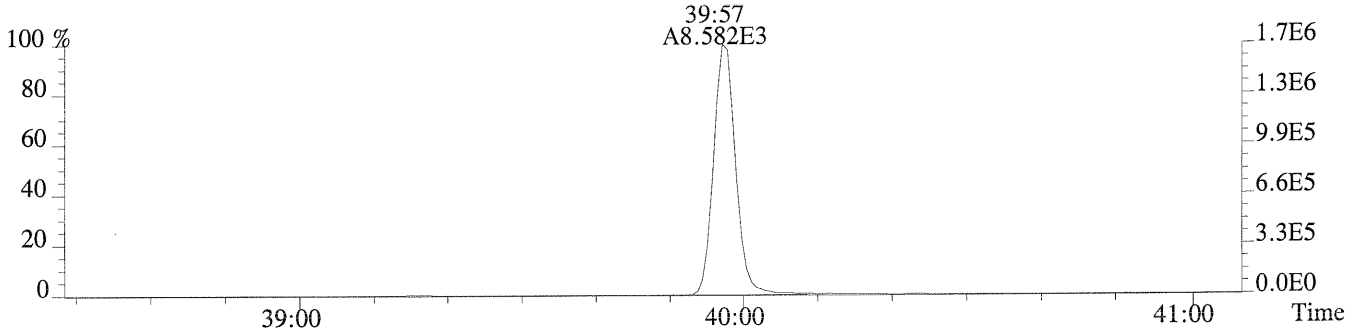
File:P171751 #1-240 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,T)



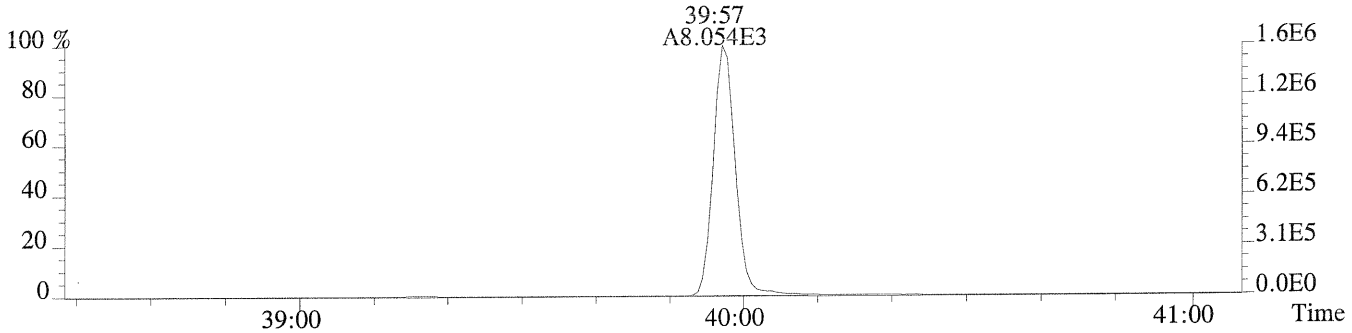
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



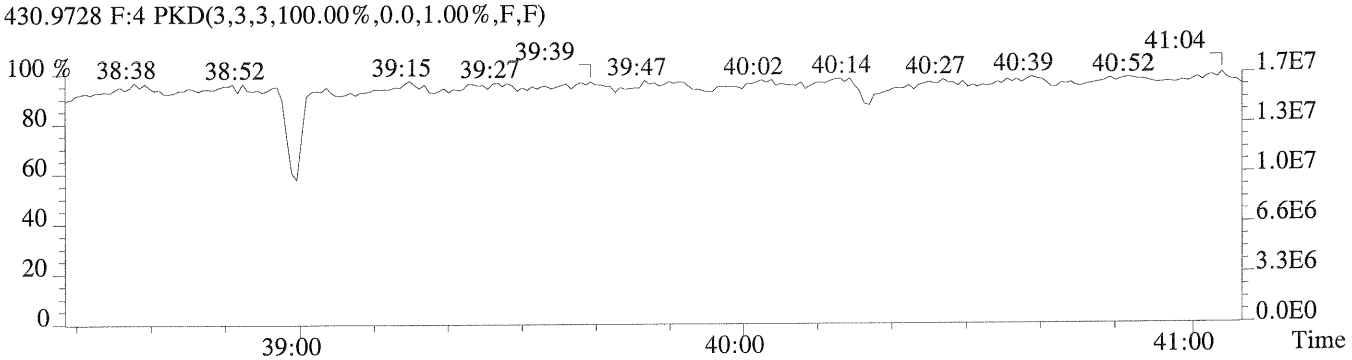
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,424.0,0.40%,F,T)



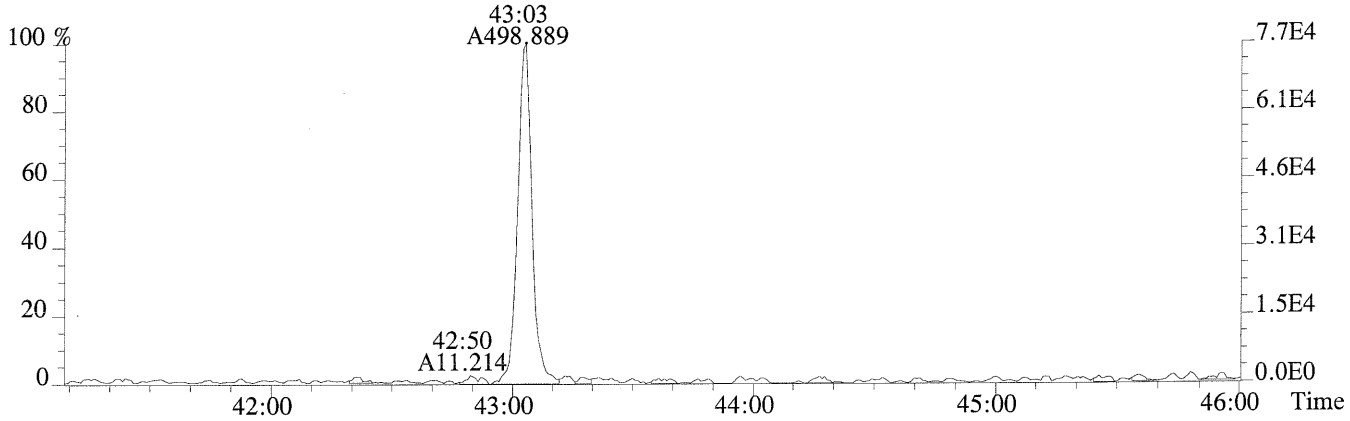
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,164.0,0.40%,F,T)



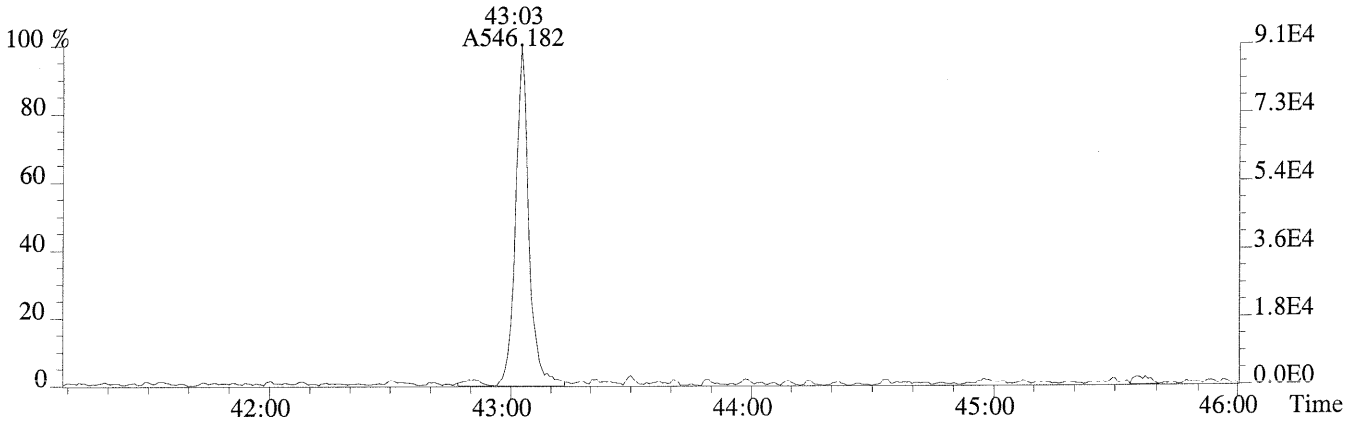
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



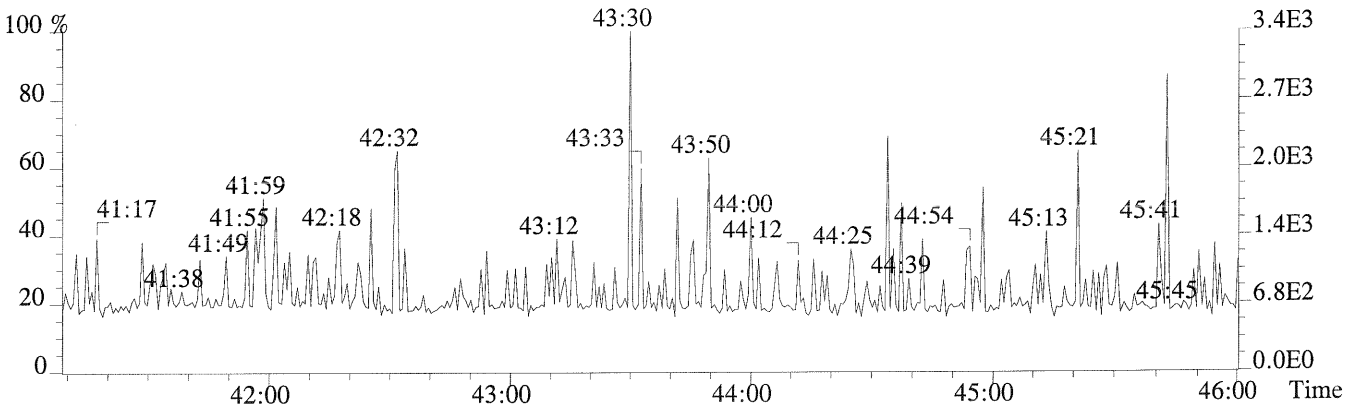
File:P171751 #1-447 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,672.0,0.40%,F,T)



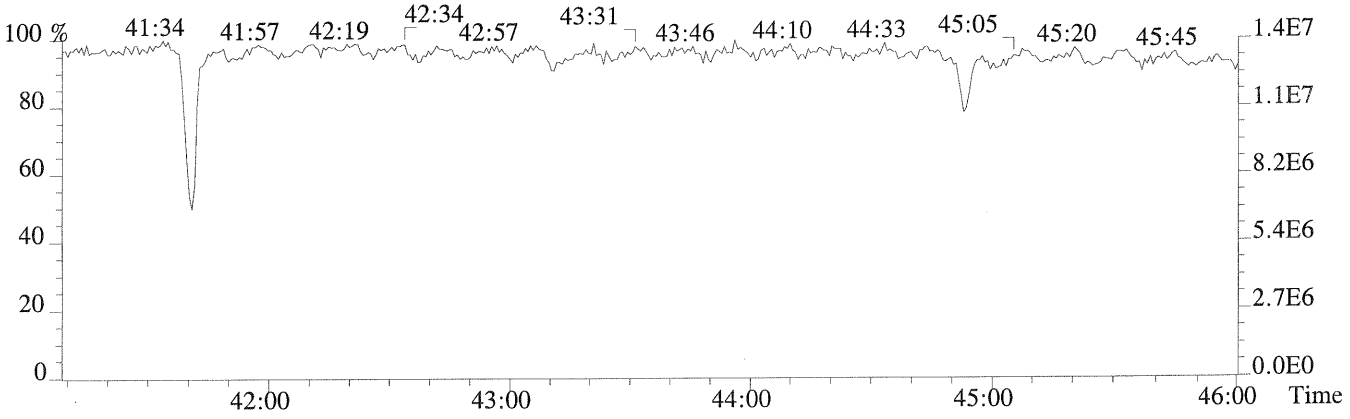
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,772.0,0.40%,F,T)



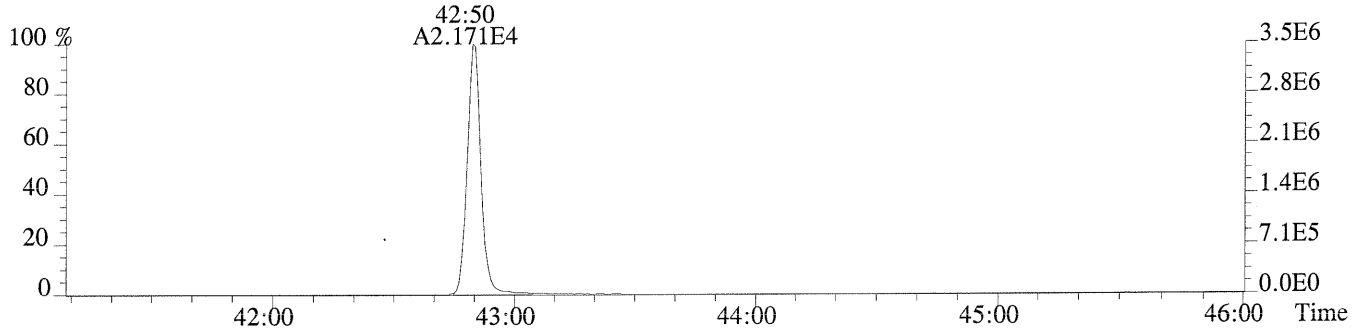
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



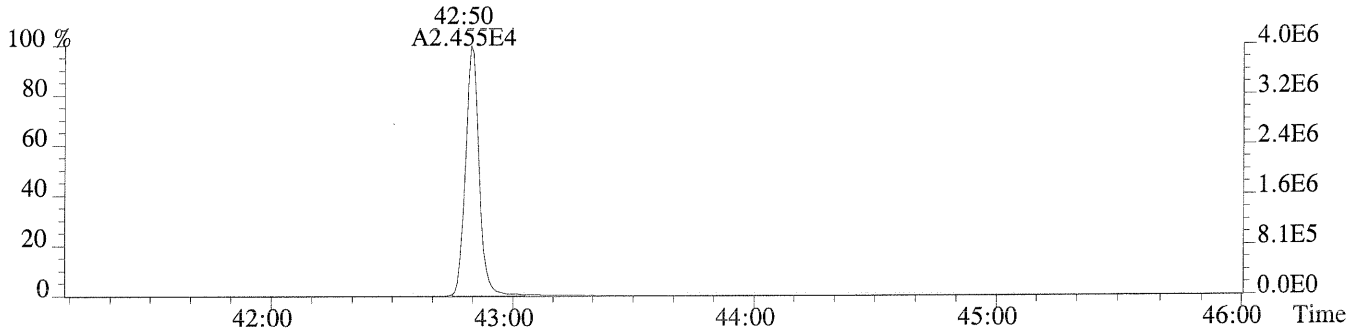
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



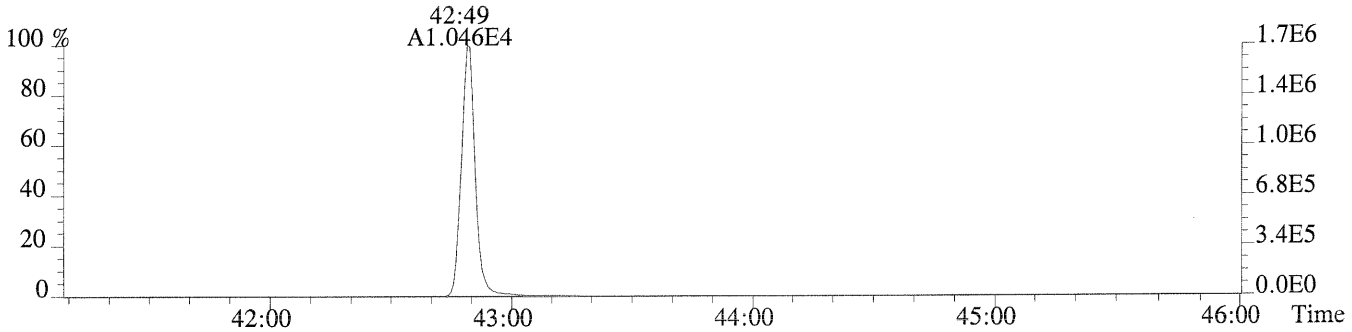
File:P171751 #1-447 Acq:24-JUN-2014 06:15:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1400321-05
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,576.0,0.40%,F,T)



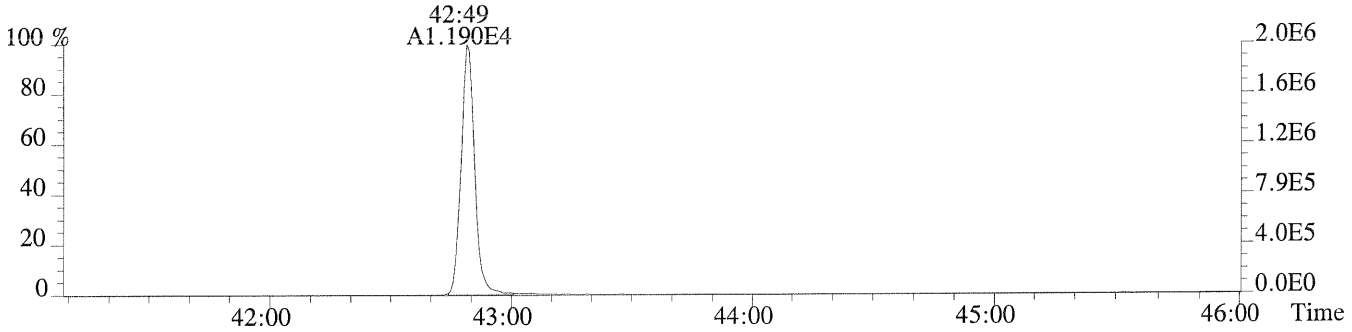
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,716.0,0.40%,F,T)



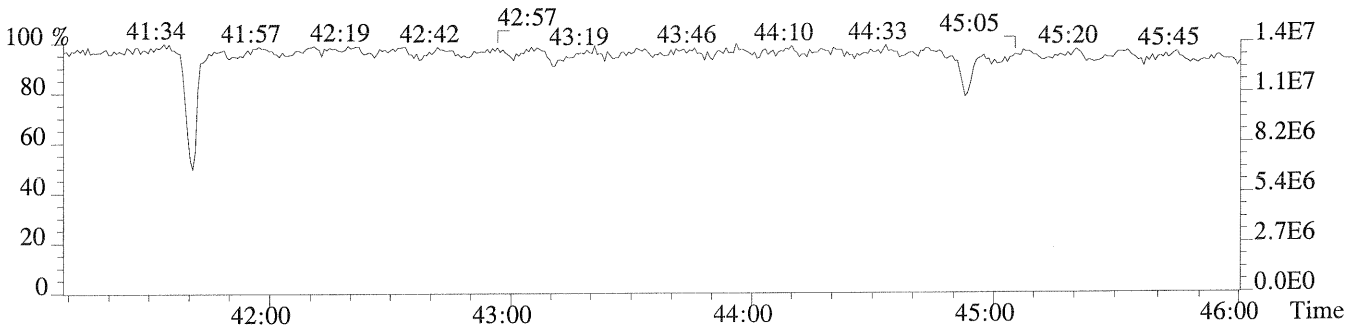
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,396.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,368.0,0.40%,F,T)



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

CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P171748-P171759

Date: 06/24/14

Circle one: (Beginning) / (Ending)

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: DS

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: 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	P171749	24-JUN-14	04:38:46
66131	CCAL HRCC3/CS3	P171748	24-JUN-14	03:50:38
METHOD BLANK	EQ1400321-01	P171750	24-JUN-14	05:26:54
SYC14-AC DUP	EQ1400321-05	P171751	24-JUN-14	06:15:02
SYC14-AC MS	EQ1400321-03	P171752	24-JUN-14	07:03:11
SYC14-AC DMS	EQ1400321-04	P171753	24-JUN-14	07:51:19
CRS14-1 MS	EQ1400322-05	P171754	24-JUN-14	08:52:02
CRS14-1 DMS	EQ1400322-06	P171755	24-JUN-14	09:39:03
MW21-GW-0614 MS	EQ1400320-03	P171756	24-JUN-14	10:31:58
MW21-GW-0614 DMS	DO NOT USE	P171757	24-JUN-14	11:18:54
LCS	EQ1400320-02	P171758	24-JUN-14	12:07:02
66131	CCAL HRCC3/CS3	P171759	24-JUN-14	12:55:10
MW21-GW-0614 DMS	EQ1400320-04	P171757	24-JUN-14	11:18:54

Sample List: C:\MassLynx\CASHOUSTON:PRO\SampleDB\P1140623C.SPL

Last Modified: Tuesday, June 24, 2014 14:04:29 Central Daylight Time

Printed: Tuesday, June 24, 2014 14:04:48 Central Daylight Time

Page Position (1, 1)

e: P171748res

	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	06/24/14	03:50	P171748	CCAL HRCC3/CS3	66131	JC	HRMS CHECK 08:48	8290cas
2		04:38	P171749	WINDOW DEFINE	63680			8290cas
3		05:26	P171750	EQ1400321-01MB	MB			8290cas
4		06:15	P171751	EQ1400321-05	EQ1400321-05			8290cas
5		07:03	P171752	EQ1400321-03	EQ1400321-03			8290cas
6		07:51	P171753	EQ1400321-04	EQ1400321-04			8290cas
7		08:52	P171754	EQ1400322-05	EQ1400322-05			8290cas
8		09:39	P171755	EQ1400322-06	EQ1400322-06			8290cas
9		10:31	P171756	EQ1400320-03	EQ1400320-03			8290cas
10		11:18	P171757	EQ1400320-04	EQ1400320-04			8290cas
11		12:07	P171758	EQ1400320-02	EQ1400320-02		HRMS CHECK 13:52	8290cas
12		12:55	P171759	CCAL HRCC3/CS3	66131			8290cas
13			---	---	---			8290cas
14			---	---	---			8290cas
15			---	---	---			8290cas
16	---	---	---	---		---	---	8290cas
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Reviewed By: JC 06/25/14

093

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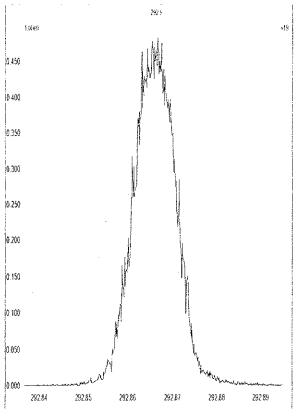

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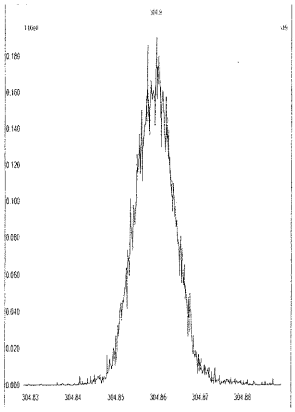

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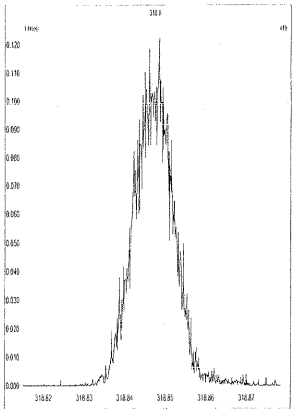

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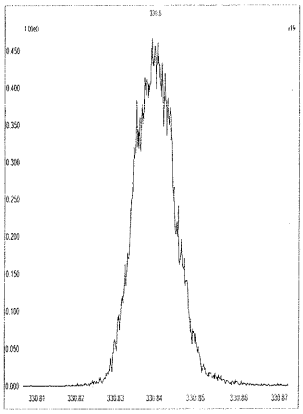
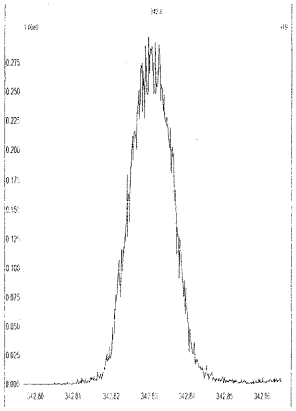


M 342.9792 R 13895



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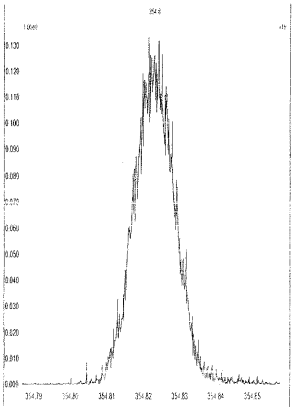
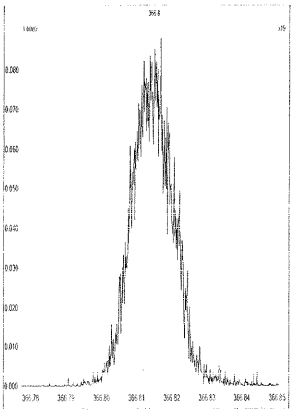


M 366.9792 R 14495



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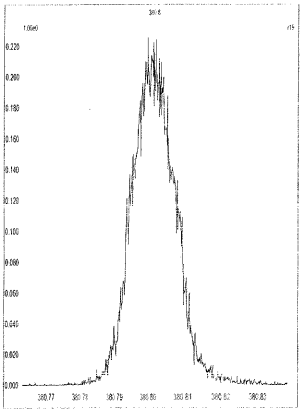

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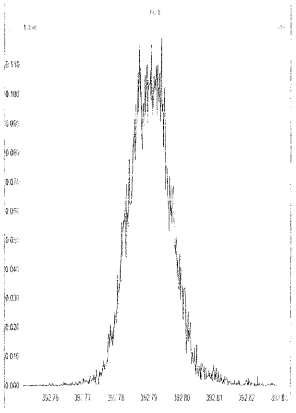

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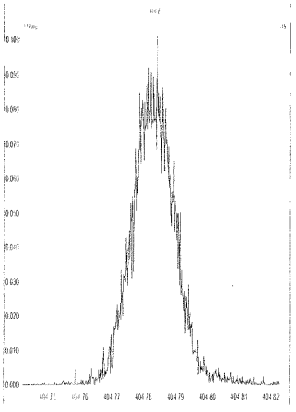
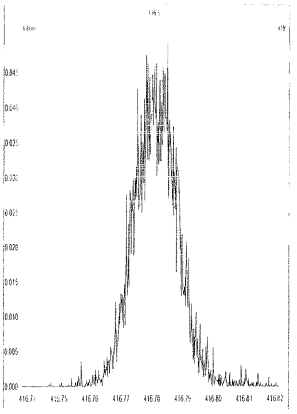
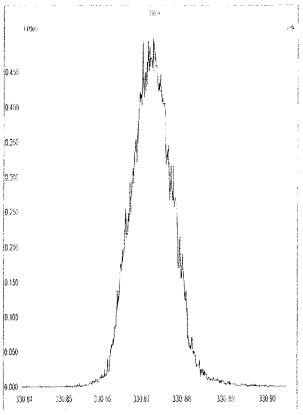


M 416.9760 R 14931



M 330.9792 R 14371



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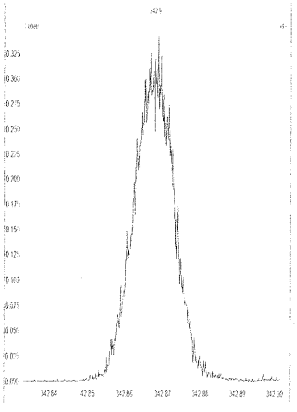

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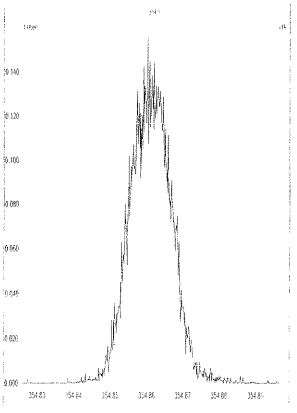

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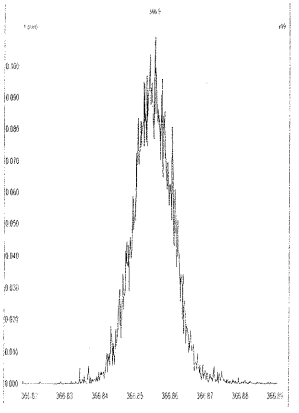

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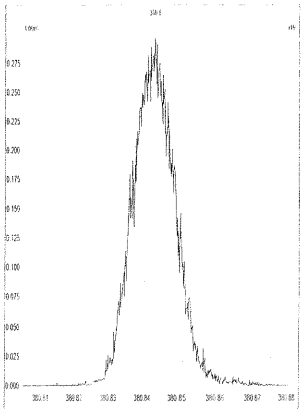

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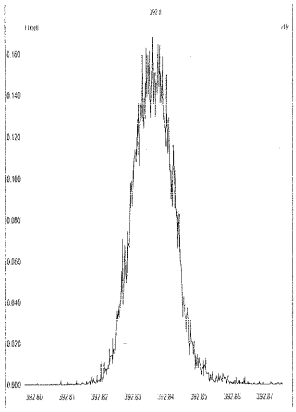
M 392.9760 R 14755



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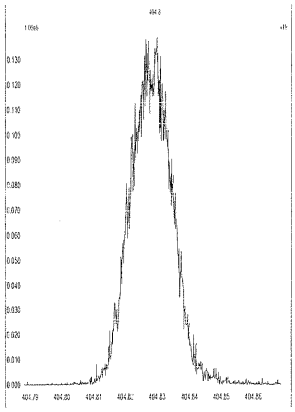

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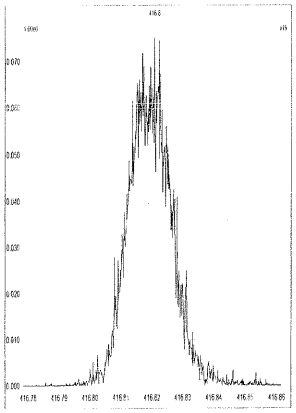

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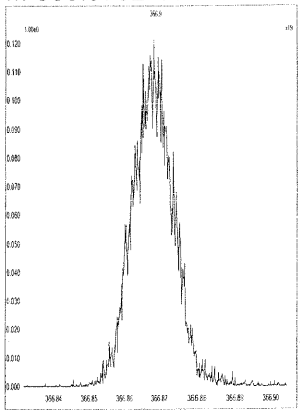

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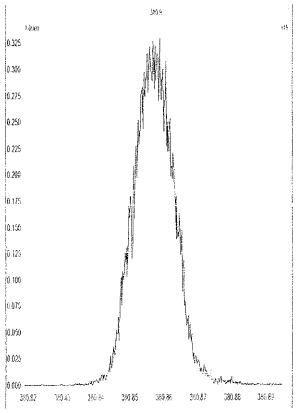

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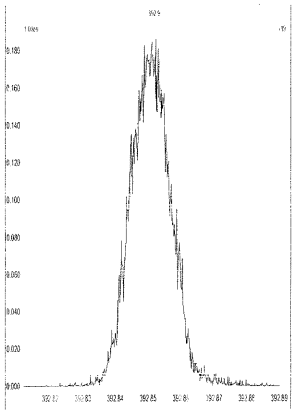

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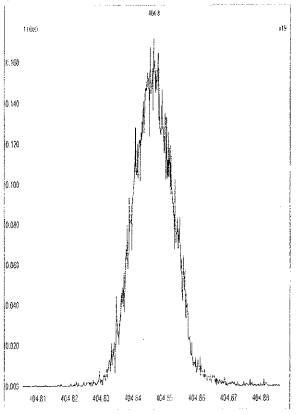
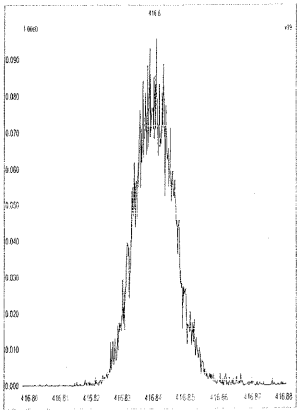
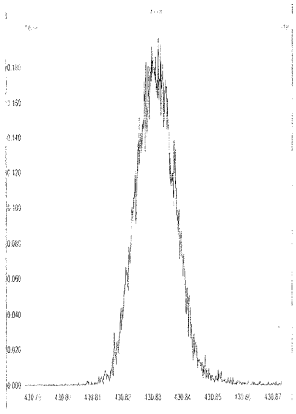


M 416.9760 R 15079



M 430.9728 R 14705



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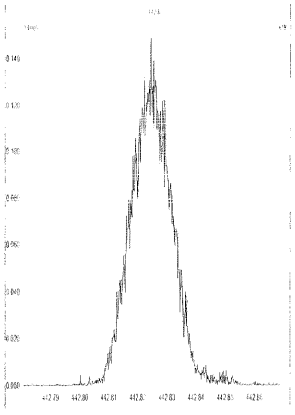
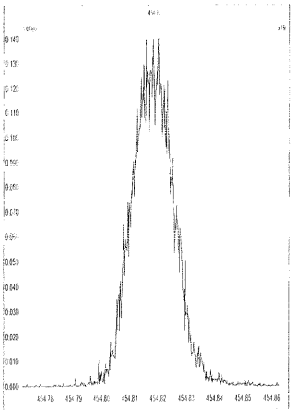
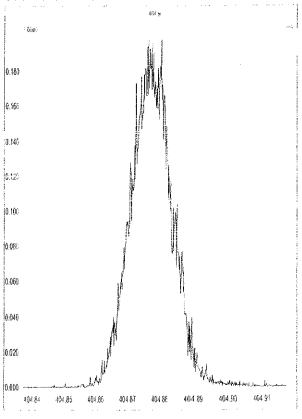


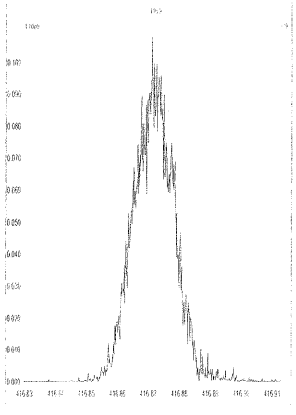
M 454.9728 R 14131



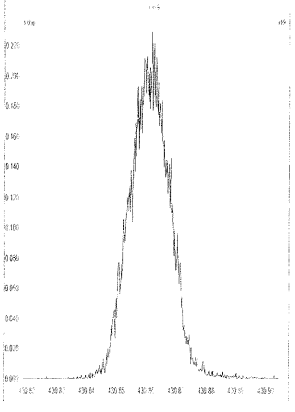
M 404.9760 R 14882



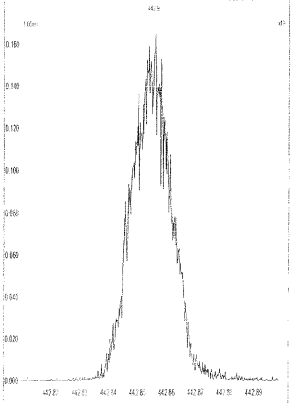
M 416.9760 R 15045



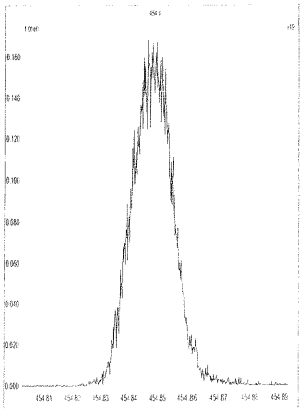
M 430.9728 R 14244



M 442.9728 R 14974



M 454.9728 R 14749



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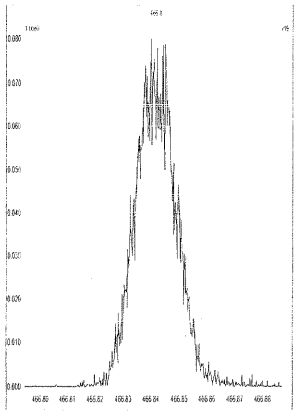
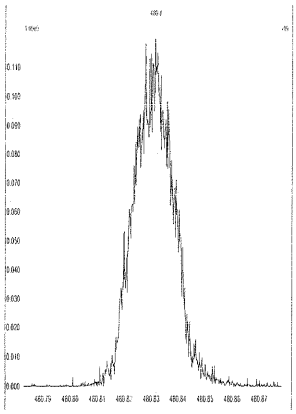
M 466.9728 R 15201



M 480.9696 R 15432



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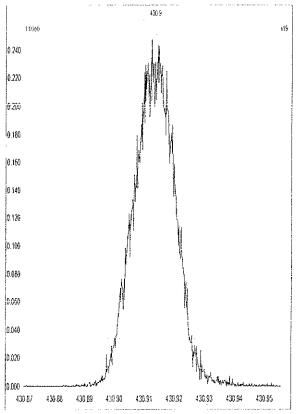
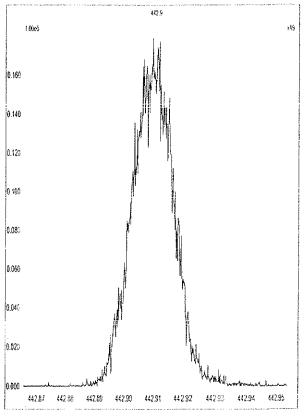


M 442.9728 R 14839



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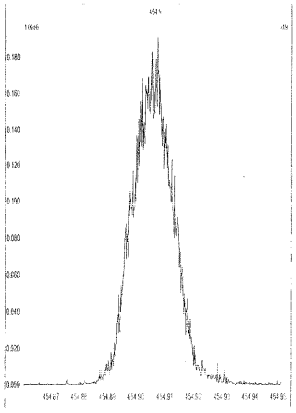

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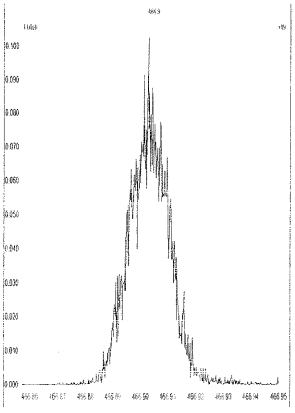

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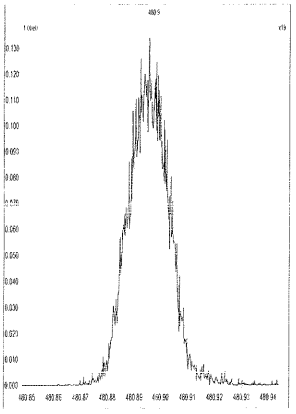

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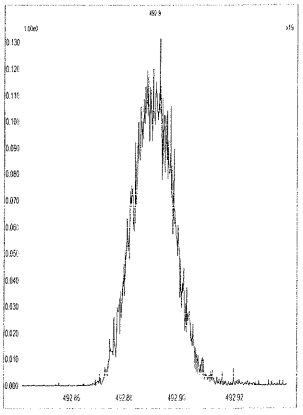
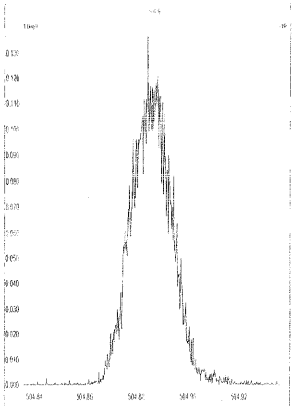


M 504.9696 R 13892



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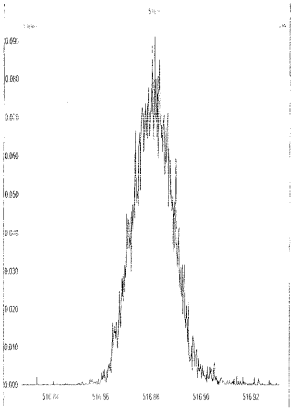

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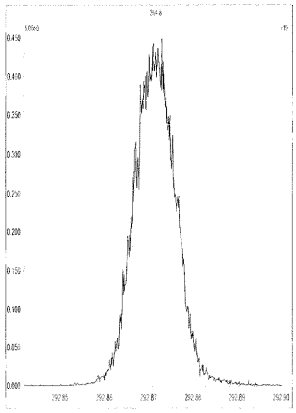
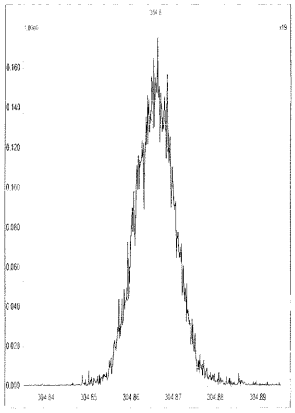
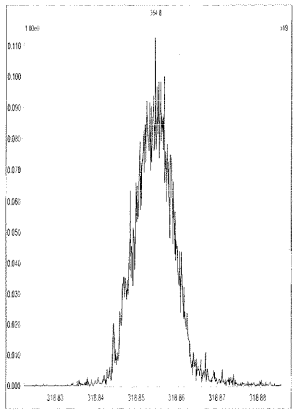


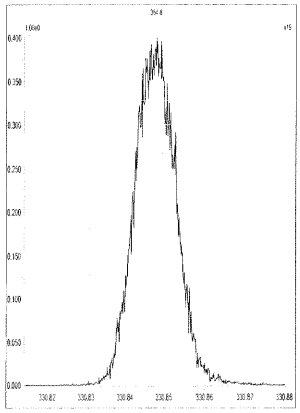
M 304.9824 R 14974



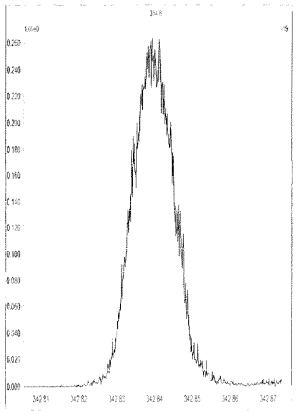
M 318.9792 R 16239



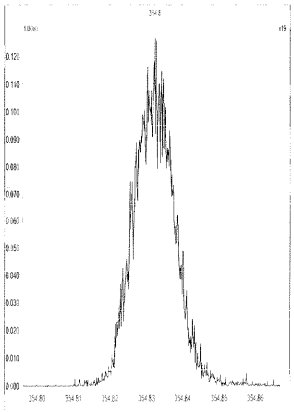
M 330.9792 R 14468



M 342.9792 R 14048



M 354.9792 R 14285



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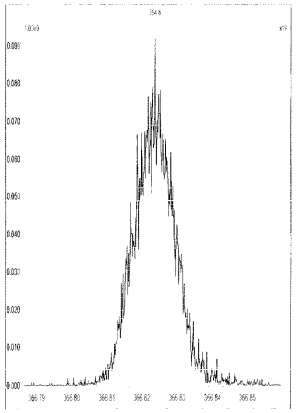
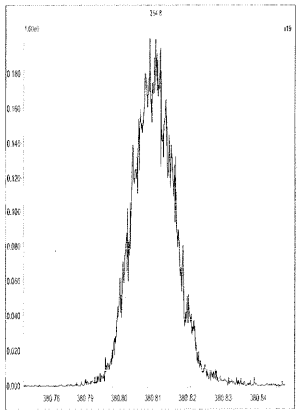


M 380.9760 R 13892



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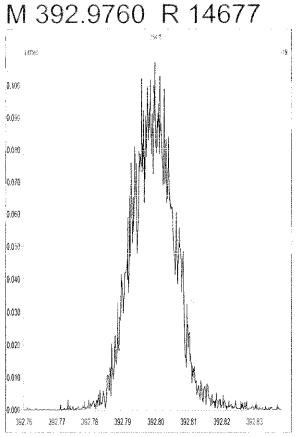

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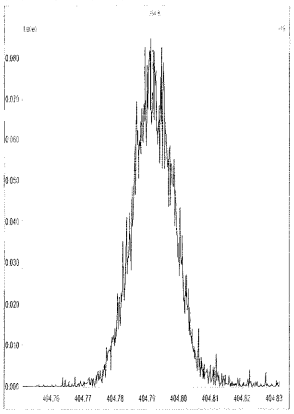
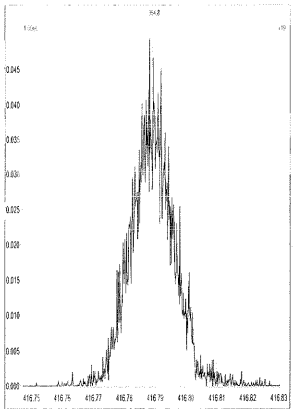
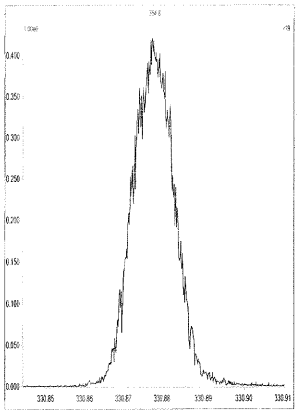


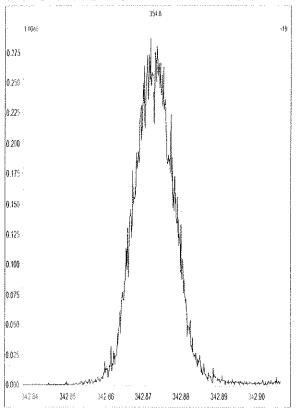
M 416.9760 R 14542



M 330.9792 R 14637



M 342.9792 R 14289



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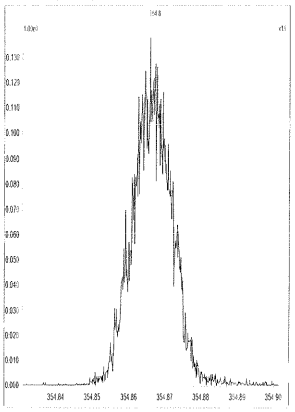
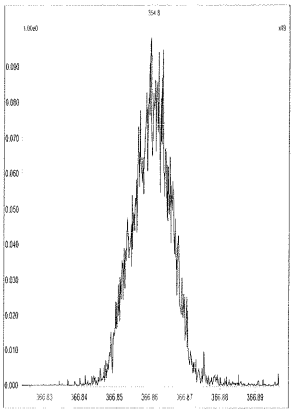
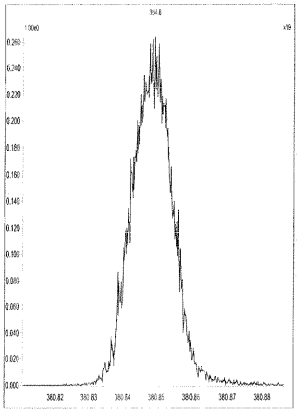


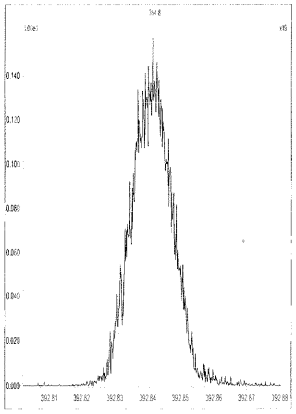
M 366.9792 R 14409



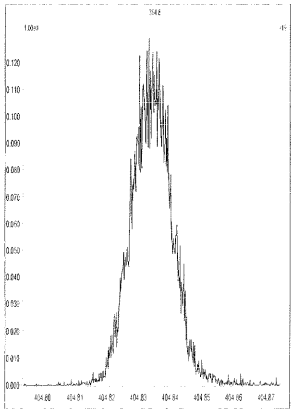
M 380.9760 R 14621



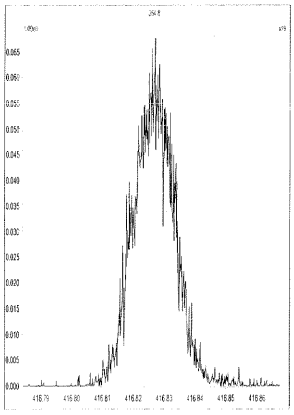
M 392.9760 R 15290



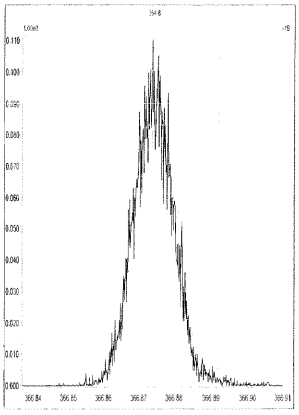
M 404.9760 R 14244



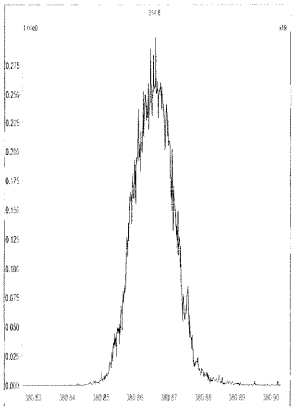
M 416.9760 R 14865



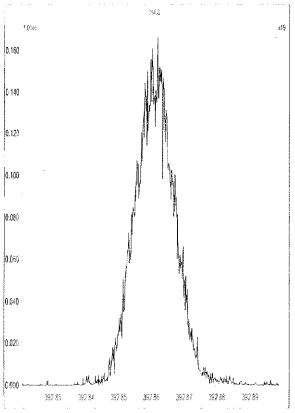
M 366.9792 R 14842



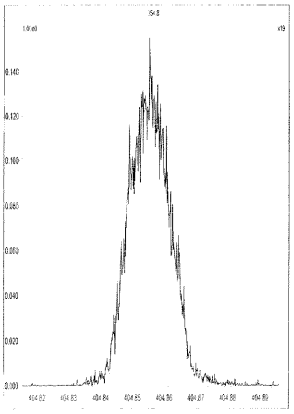
M 380.9760 R 14710



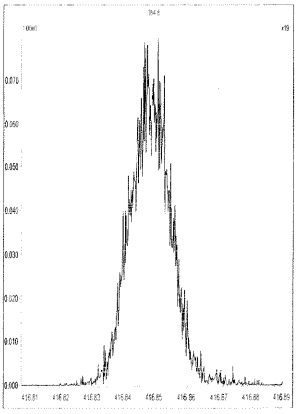
M 392.9760 R 15346



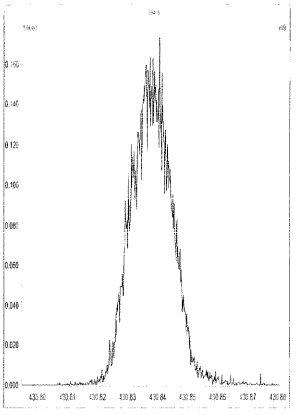
M 404.9760 R 14852



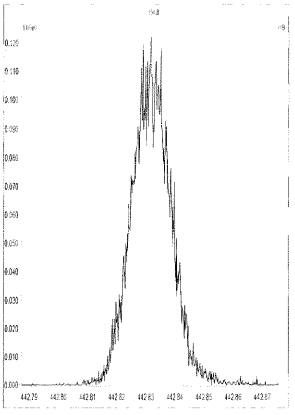
M 416.9760 R 14881



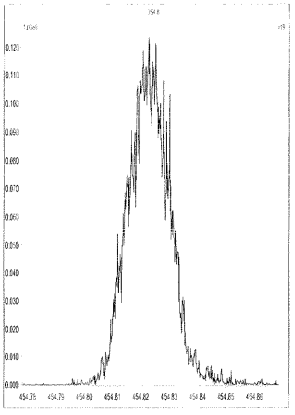
M 430.9728 R 14619



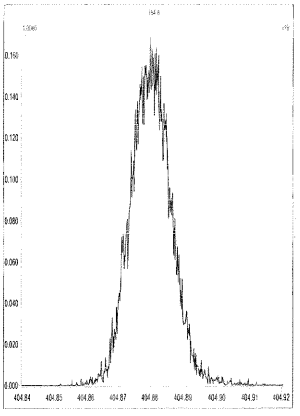
M 442.9728 R 14493



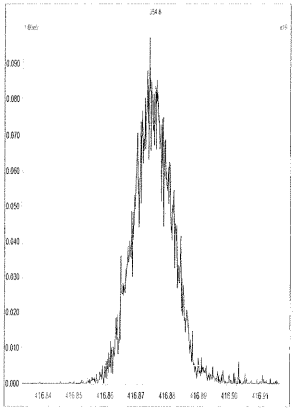
M 454.9728 R 14044



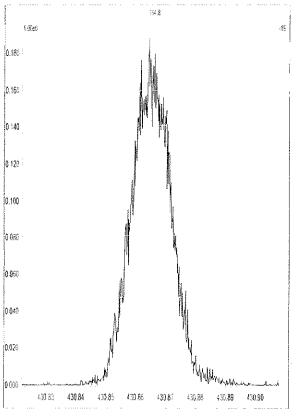
M 404.9760 R 15156



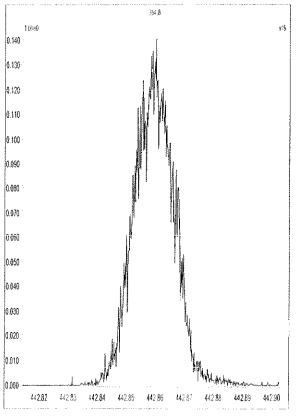
M 416.9760 R 15923



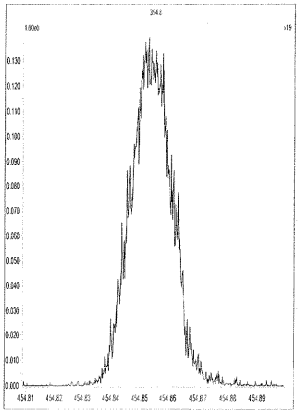
M 430.9728 R 14970



M 442.9728 R 15197

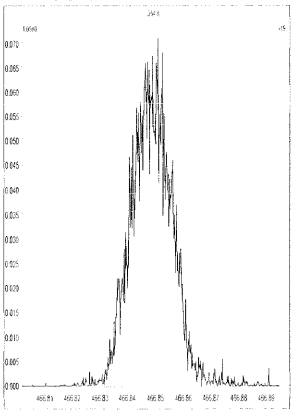


M 454.9728 R 14632

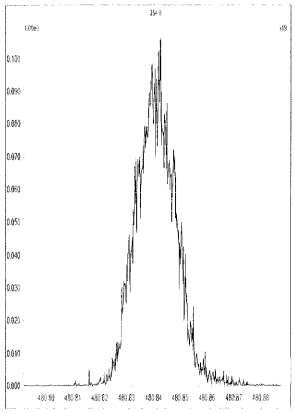


Printed: Tuesday, June 24, 2014 13:52:00 Central Daylight Time

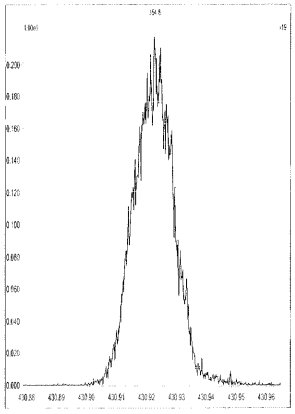
M 466.9728 R 15776



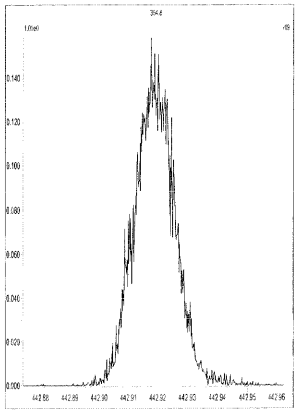
M 480.9696 R 15627



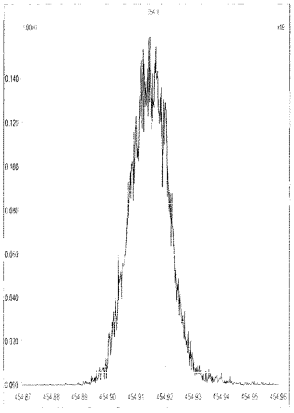
M 430.9728 R 14797



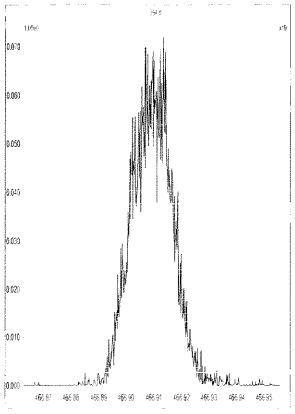
M 442.9728 R 14885



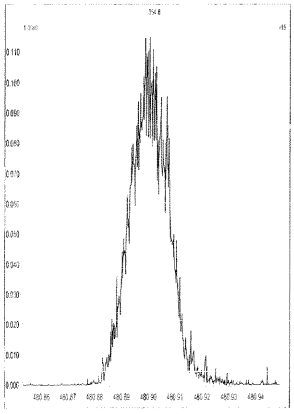
M 454.9728 R 15017



M 466.9728 R 14794



M 480.9696 R 15151



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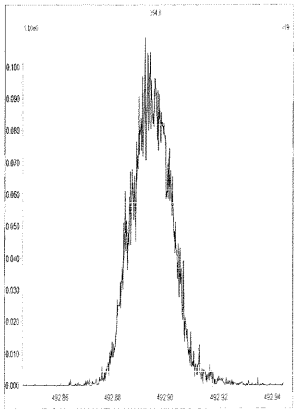

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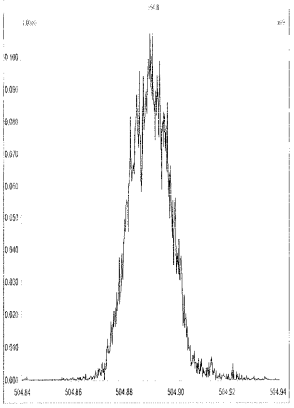

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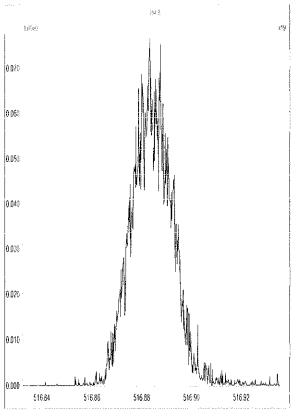


5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

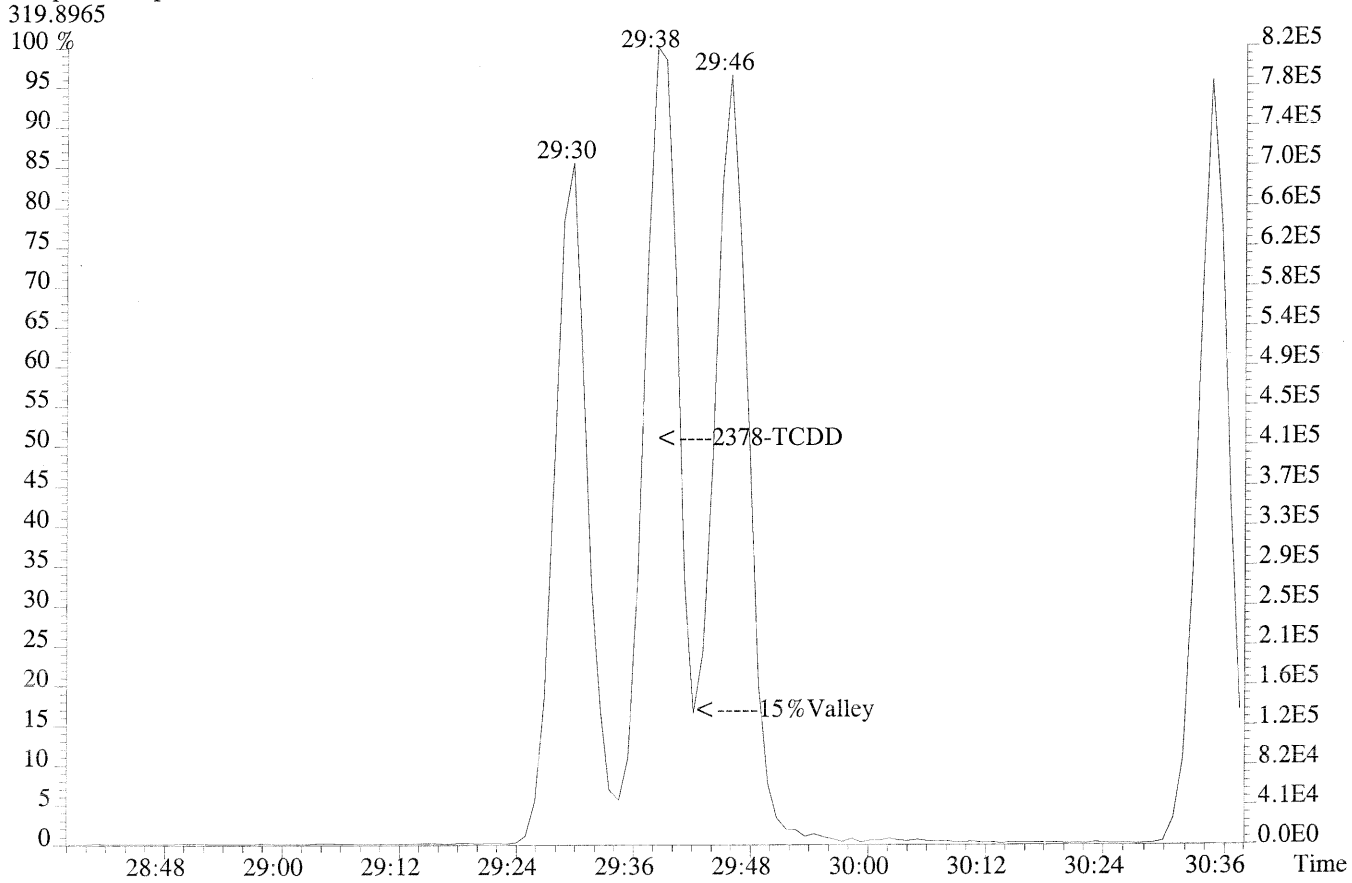
WDM

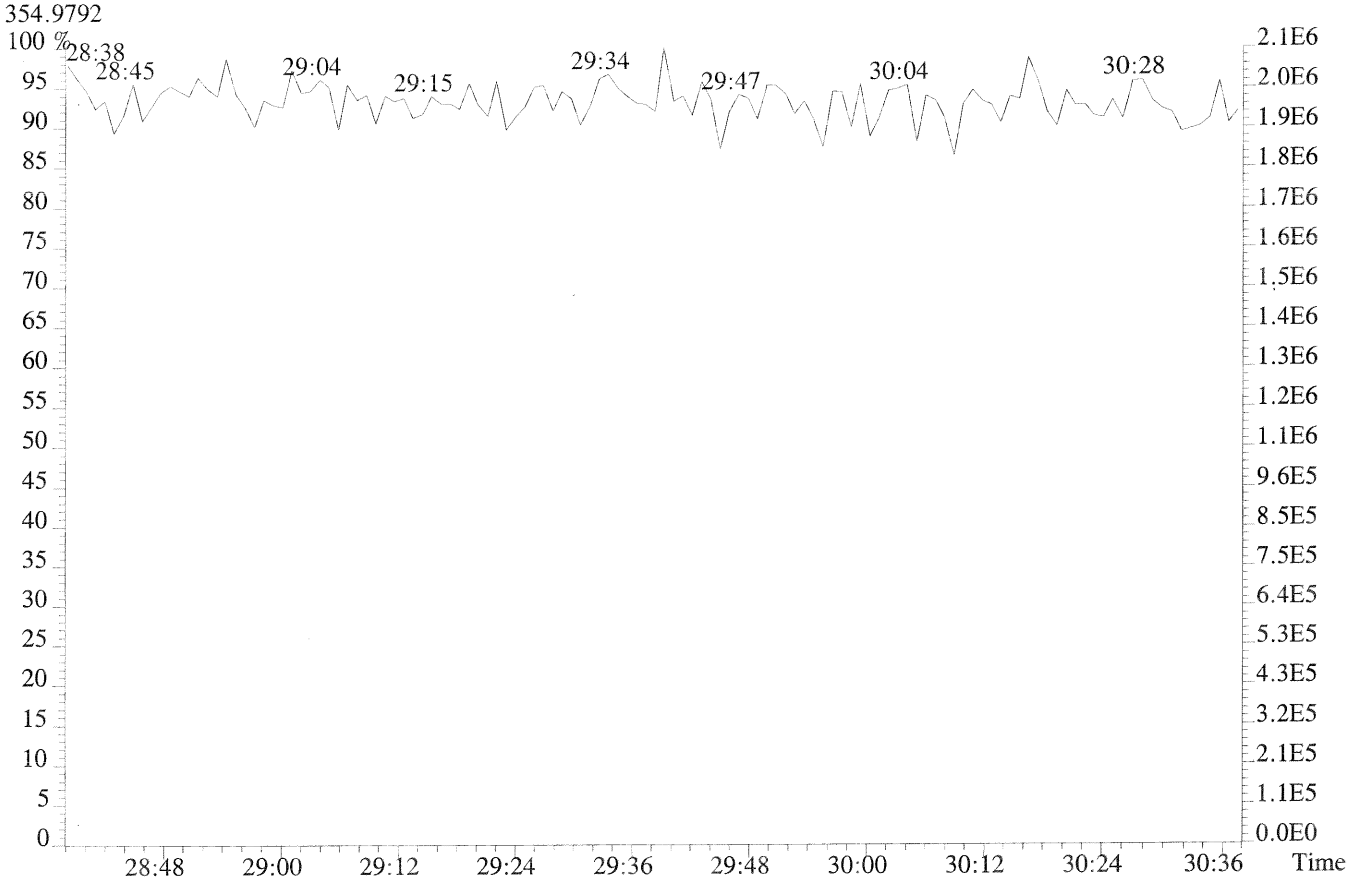
Lab Name: ALS ENVIRONMENTAL
Lab Code: TX01411 Case No.: _____ SDG No.:
GC Column: DB-5msUI ID: 0.25 (mm) Lab File ID: P171749
Date Analyzed: 24-JUN-2014
Time Analyzed: 04:38:46

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:45	30:45
TCDD	26:37	30:35
PeCDF	30:43	34:47
PeCDD	32:09	34:31
HxCDF	35:25	37:50
HxCDD	35:55	37:27
HpCDF	39:03	40:29
HpCDD	39:17	39:58

% Valley 2378-TCDD: 15 %

File:P171749 #1-501 Acq:24-JUN-2014 04:38:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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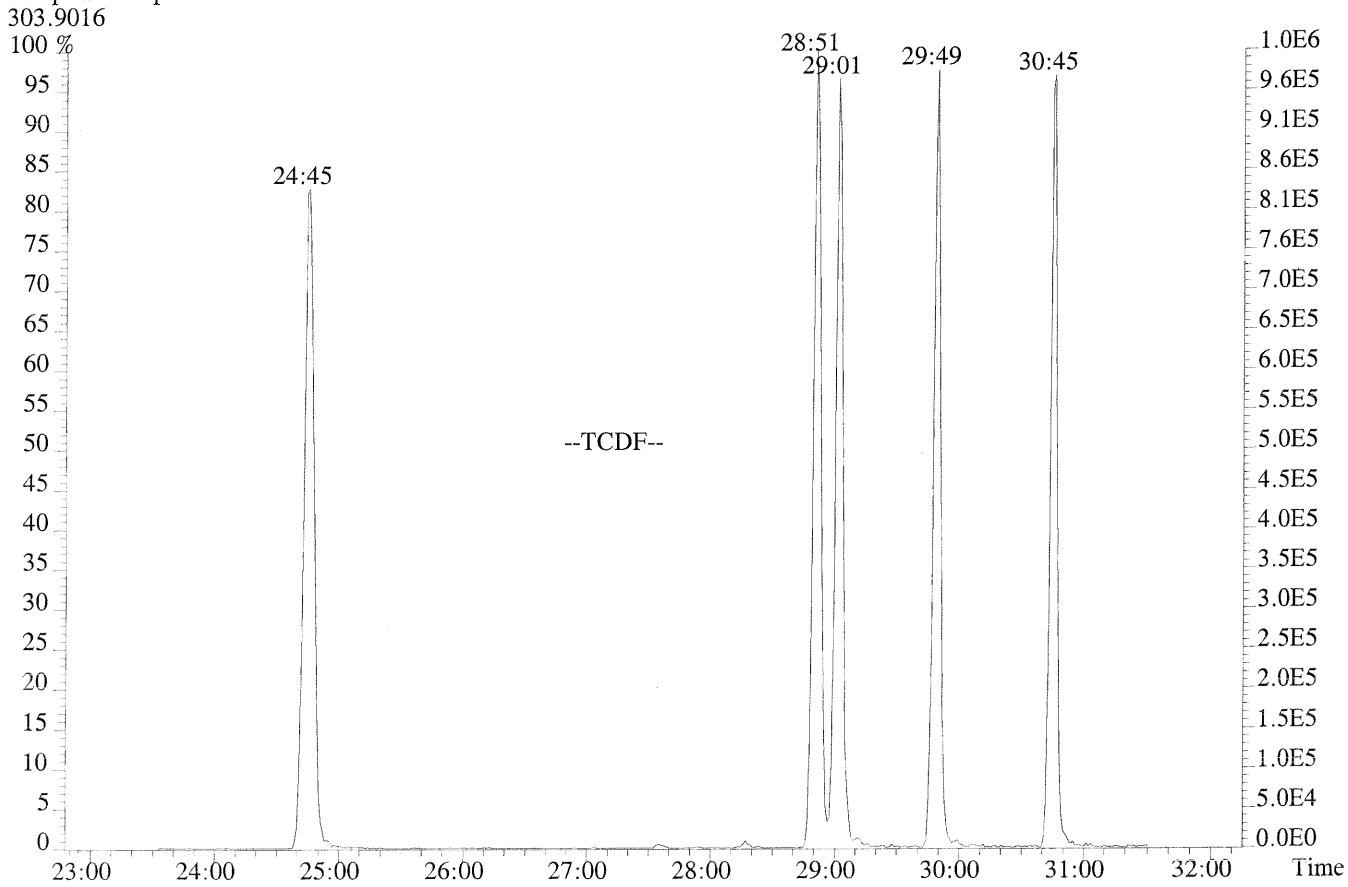
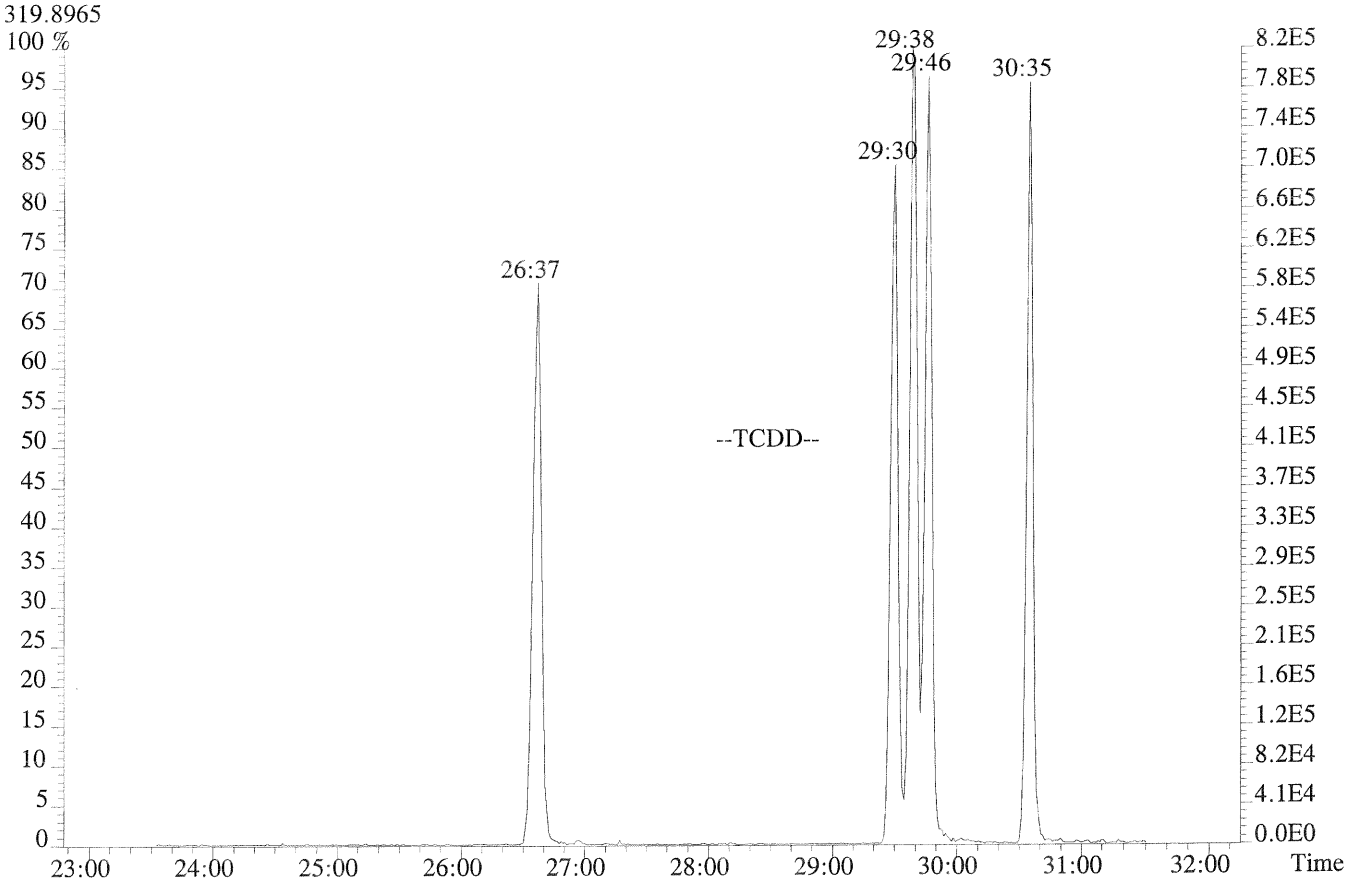
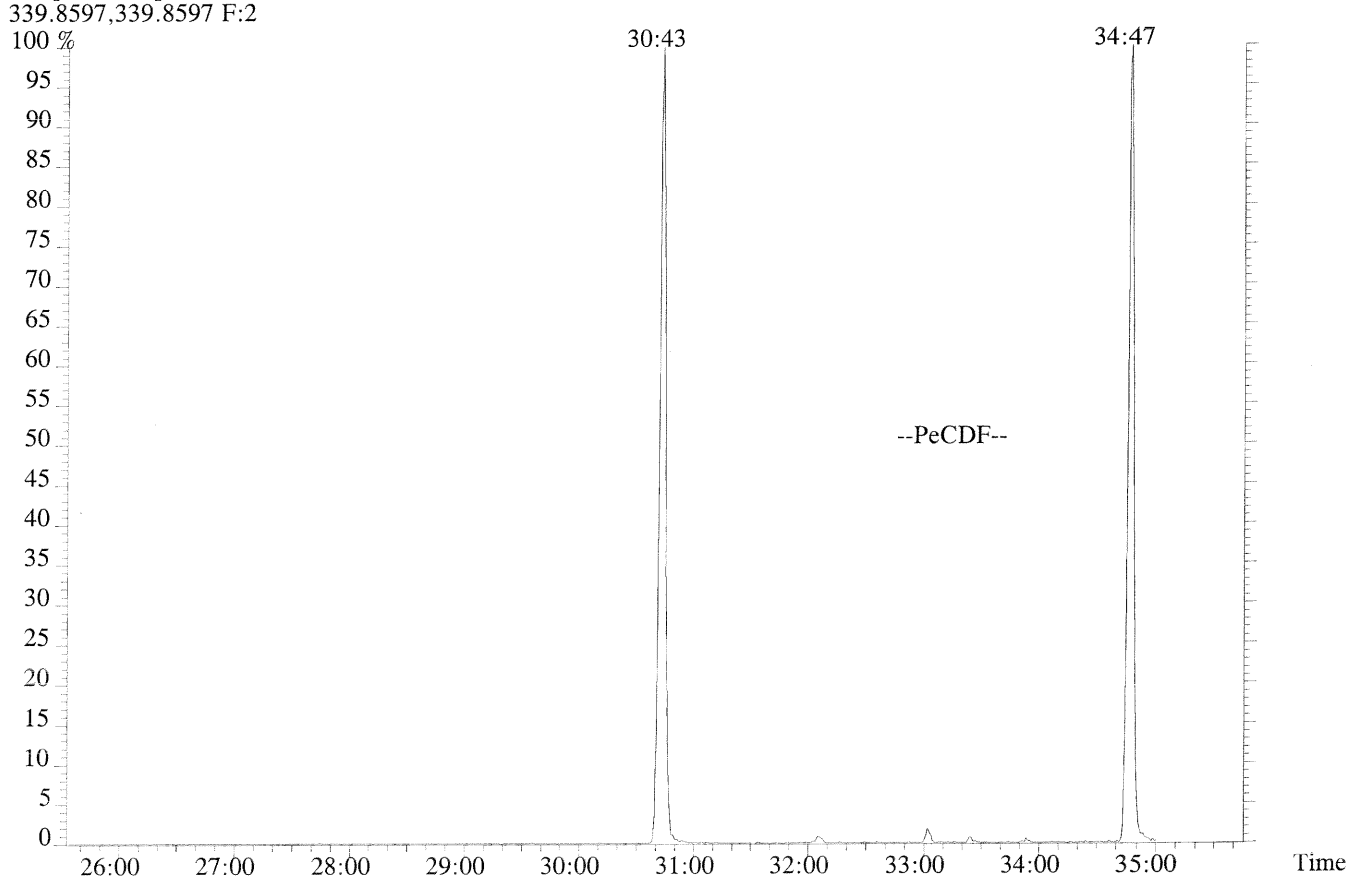
Sample#1 Exp:WINDOW DEFINE

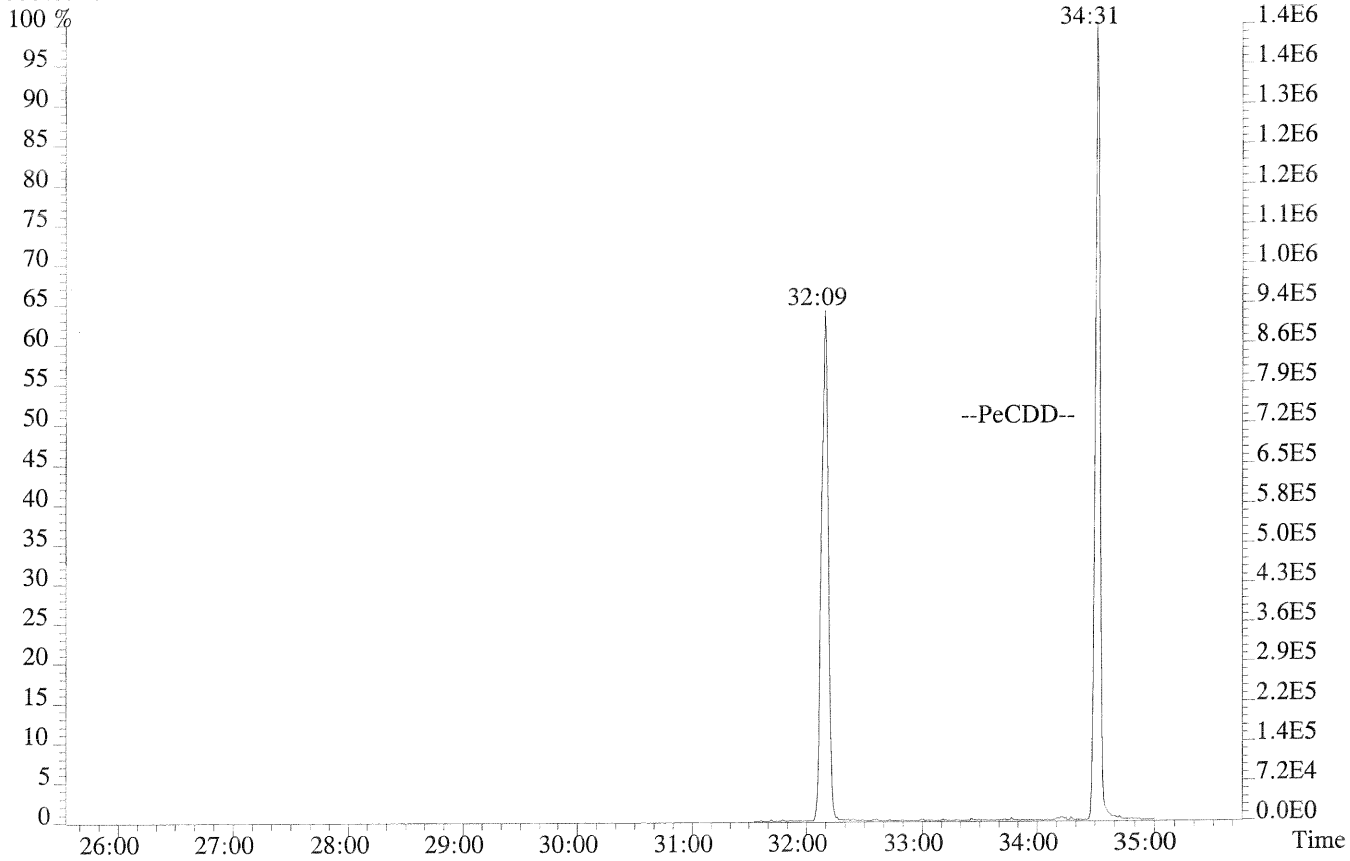




File:P171749 #1-501 Acq:24-JUN-2014 04:38:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2

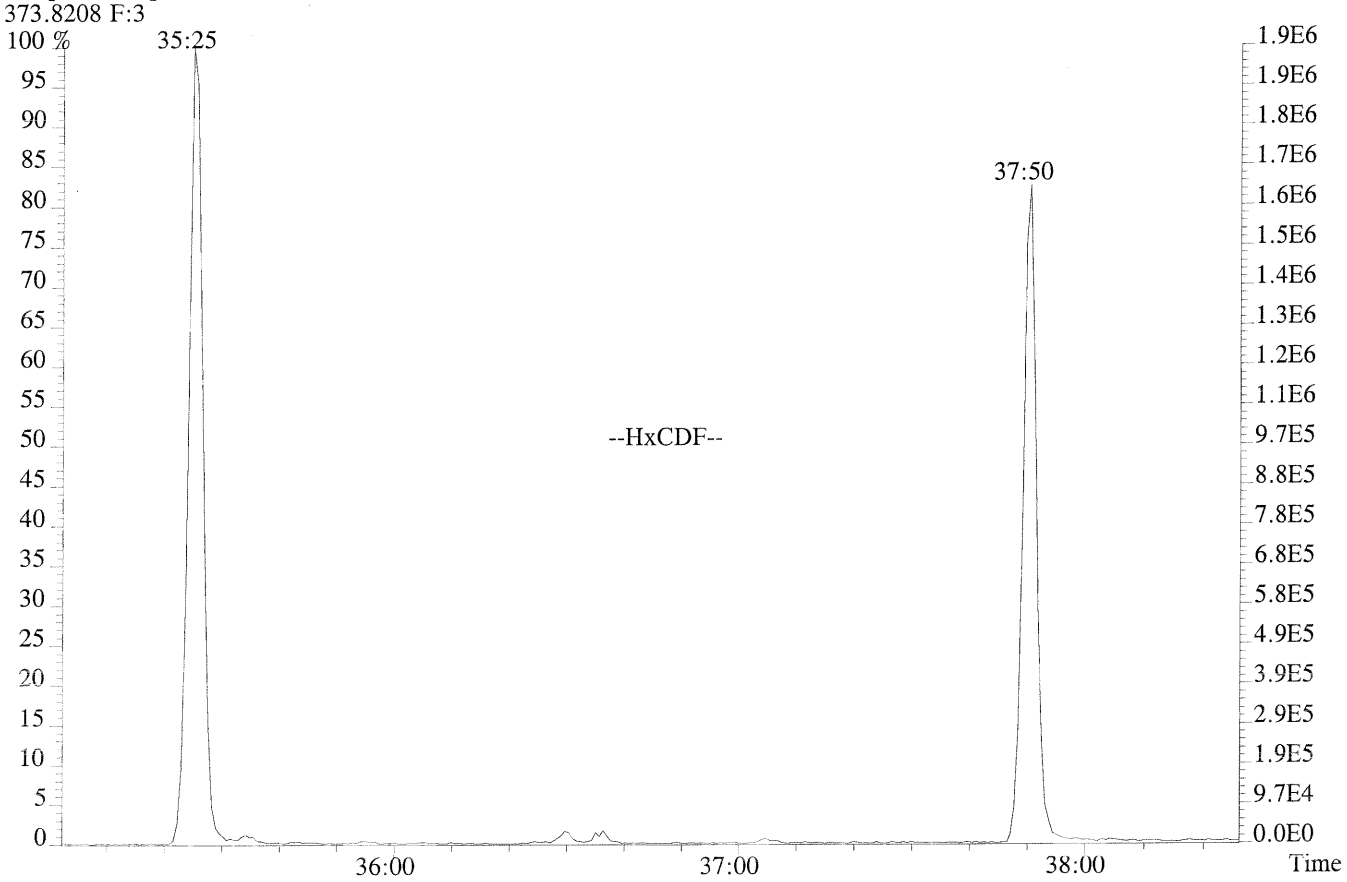


355.8546 F:2

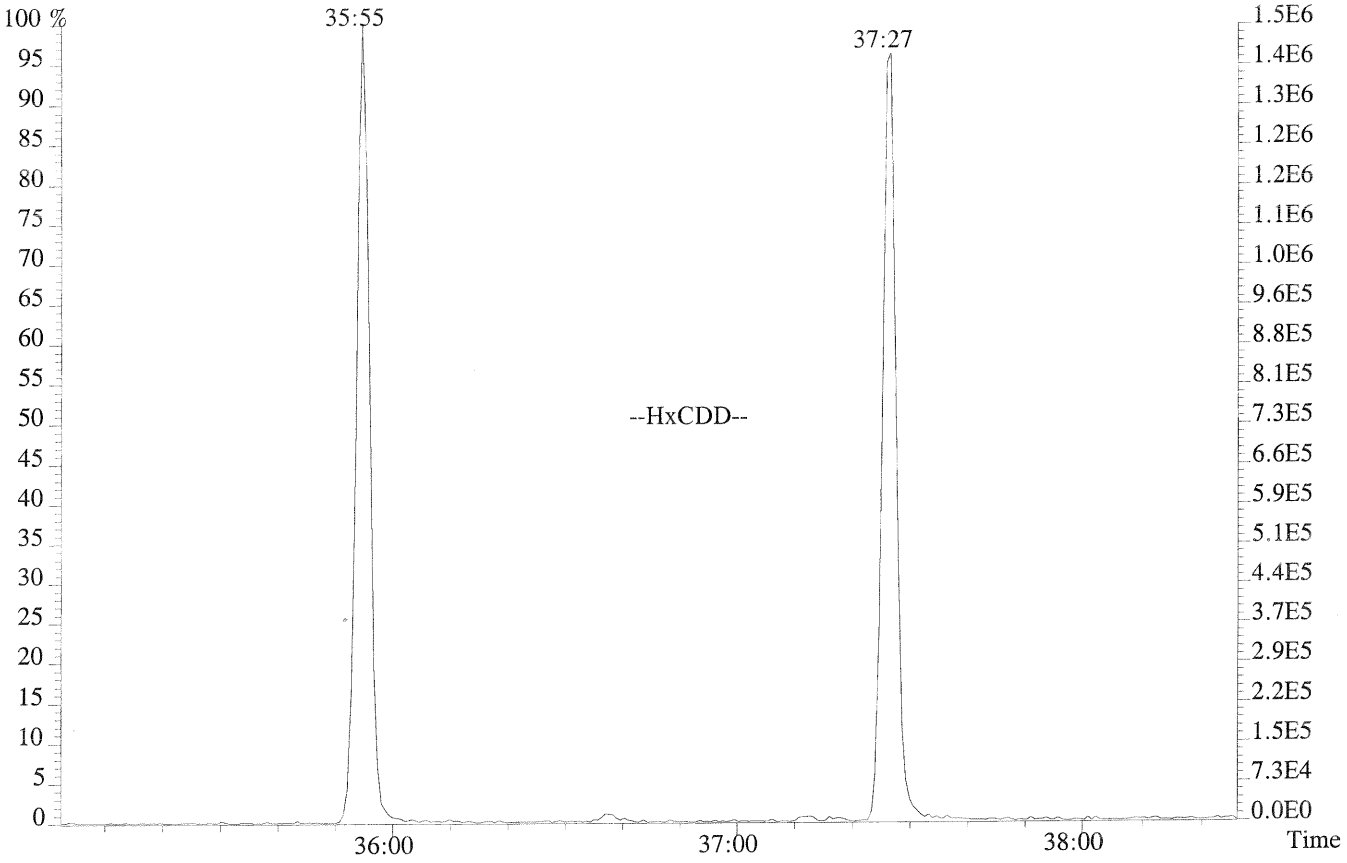


File:P171749 #1-309 Acq:24-JUN-2014 04:38:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

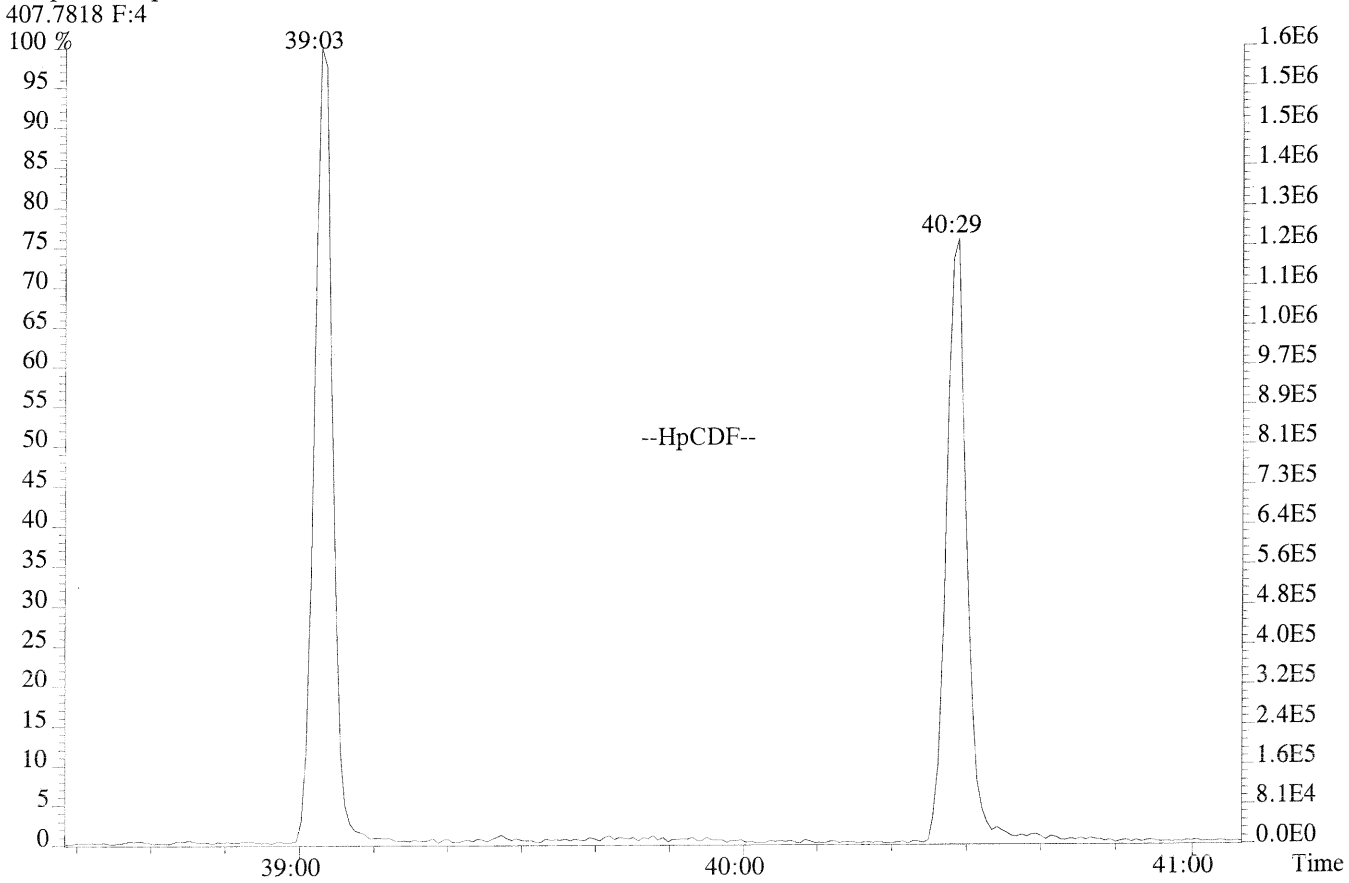
373.8208 F:3

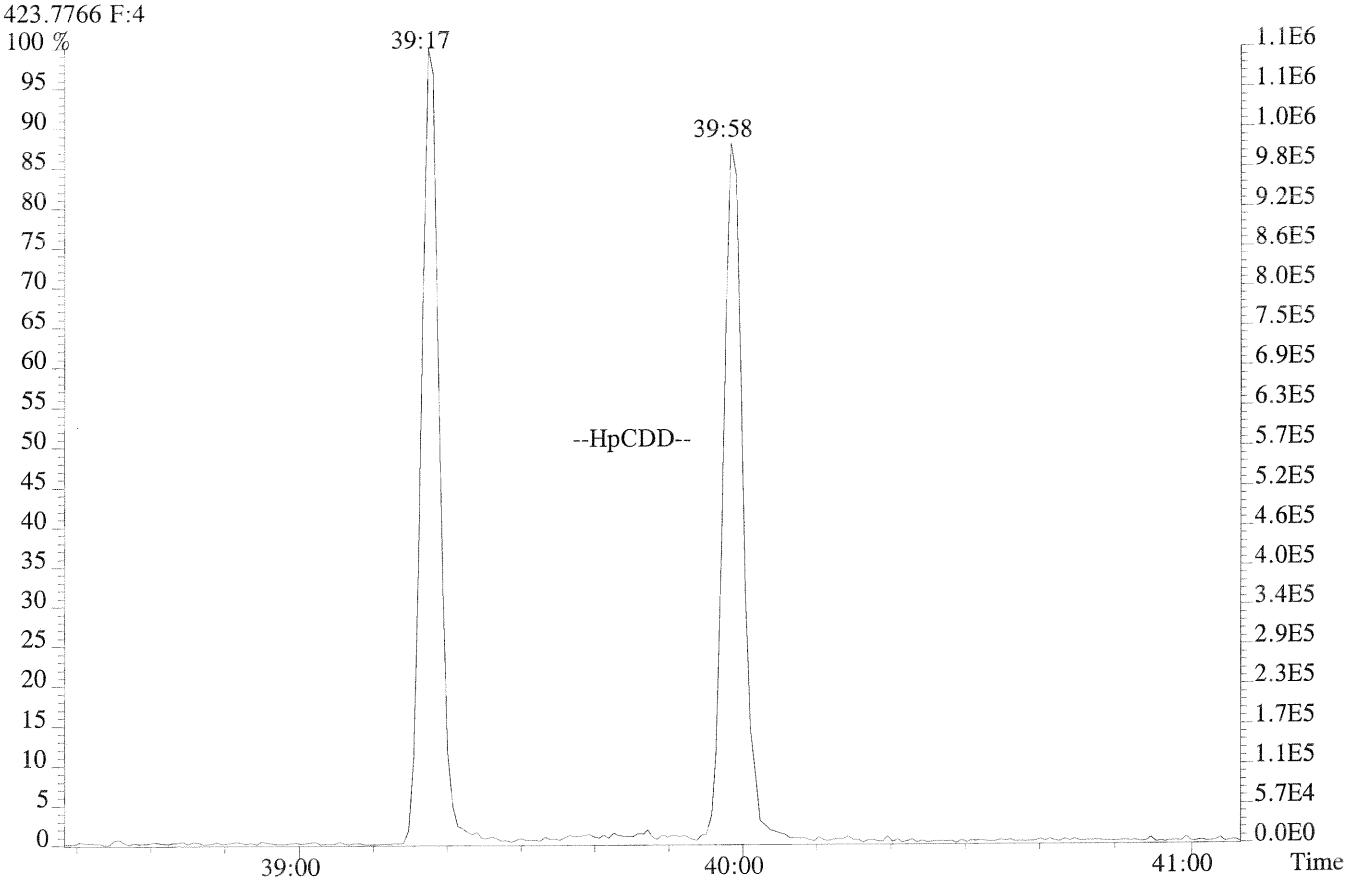


389.8157 F:3



File:P171749 #1-240 Acq:24-JUN-2014 04:38:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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: P171748 Analysis Date: 24-JUN-14 Time: 03:50:38

	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	0.76	0.65-0.89	9.4	7.8 - 12.9	-5.8
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	51	39 - 65	1.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	51	39 - 64	1.5
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	54	39 - 64	7.3
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	52	41 - 61	4.9
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	53	43 - 58	5.5
OCDD	M+2/M+4	0.89	0.76-1.02	107	79 - 126	7.5
2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	9.5	8.4 - 12.0	-4.5
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	55	41 - 60	9.3
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	53	41 - 61	6.5
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	54	45 - 56	7.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	52	44 - 57	3.6
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	55	45 - 56	9.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	54	44 - 57	7.2
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	53	45 - 55	5.9
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	53	43 - 58	6.9
OCDF	M+2/M+4	0.91	0.76-1.02	111	63 - 159	11.4

(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.

(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: P171748 Analysis Date: 24-JUN-14 Time: 03:50:38

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	94	82 - 121	-5.5
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	104	62 - 160	3.9
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	105	85 - 117	4.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	96	85 - 118	-4.3
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	106	72 - 138	5.6
13C-OCDD	M+2/M+4	0.89	0.76-1.02	188	96 - 415	-6.1
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	94	71 - 140	-5.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	101	76 - 130	0.7
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	105	77 - 130	5.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	105	76 - 131	4.5
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	102	70 - 143	1.9
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	105	74 - 135	5.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	105	73 - 137	5.2
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	110	78 - 129	9.7
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	109	77 - 129	8.7
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.3	7.8 - 12.7	-6.8

(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 beginnning 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.
66131

Run #7 Filename P171748 Samp: 1 Inj: 1 Acquired: 24-JUN-14 03:50:38
Processed: 25-JUN-14 05:24:29 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:01	1.915e+03	2.631e+03	0.73	yes	no	0.945
2	Unk	1,2,3,7,8-PeCDF	33:02	2.339e+04	1.469e+04	1.59	yes	no	1.017
3	Unk	2,3,4,7,8-PeCDF	33:53	2.215e+04	1.399e+04	1.58	yes	no	0.977
4	Unk	1,2,3,4,7,8-HxCDF	36:29	2.205e+04	1.765e+04	1.25	yes	no	1.241
5	Unk	1,2,3,6,7,8-HxCDF	36:35	2.265e+04	1.823e+04	1.24	yes	no	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:03	2.222e+04	1.750e+04	1.27	yes	no	1.150
7	Unk	1,2,3,7,8,9-HxCDF	37:48	2.070e+04	1.641e+04	1.26	yes	no	1.154
8	Unk	1,2,3,4,6,7,8-HpCDF	39:03	2.074e+04	1.975e+04	1.05	yes	no	1.403
9	Unk	1,2,3,4,7,8,9-HpCDF	40:28	1.752e+04	1.674e+04	1.05	yes	no	1.324
10	Unk	OCDF	43:03	2.696e+04	2.967e+04	0.91	yes	no	1.307
11	Unk	2,3,7,8-TCDD	29:46	1.542e+03	2.018e+03	0.76	yes	no	1.037
12	Unk	1,2,3,7,8-PeCDD	34:09	1.471e+04	9.184e+03	1.60	yes	no	0.938
13	Unk	1,2,3,4,7,8-HxCDD	37:11	1.443e+04	1.149e+04	1.26	yes	no	1.041
14	Unk	1,2,3,6,7,8-HxCDD	37:17	1.471e+04	1.159e+04	1.27	yes	no	0.990
15	Unk	1,2,3,7,8,9-HxCDD	37:31	1.584e+04	1.246e+04	1.27	yes	no	1.094
16	Unk	1,2,3,4,6,7,8-HpCDD	39:58	1.378e+04	1.291e+04	1.07	yes	no	1.016
17	Unk	OCDD	42:50	2.125e+04	2.388e+04	0.89	yes	no	1.079
18	IS	13C-2,3,7,8-TCDF	29:00	2.170e+04	2.867e+04	0.76	yes	no	1.452
19	IS	13C-1,2,3,7,8-PeCDF	33:01	4.160e+04	2.689e+04	1.55	yes	no	1.849
20	IS	13C-2,3,4,7,8-PeCDF	33:52	4.228e+04	2.721e+04	1.55	yes	no	1.800
21	IS	13C-1,2,3,4,7,8-HxCDF	36:28	2.021e+04	3.953e+04	0.51	yes	no	1.045
22	IS	13C-1,2,3,6,7,8-HxCDF	36:34	2.285e+04	4.413e+04	0.52	yes	no	1.202
23	IS	13C-2,3,4,6,7,8-HxCDF	37:03	2.199e+04	4.246e+04	0.52	yes	no	1.120
24	IS	13C-1,2,3,7,8,9-HxCDF	37:48	2.016e+04	3.883e+04	0.52	yes	no	1.028
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:02	1.678e+04	3.770e+04	0.45	yes	no	0.908
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:28	1.484e+04	3.358e+04	0.44	yes	no	0.814
27	IS	13C-2,3,7,8-TCDD	29:44	1.598e+04	2.047e+04	0.78	yes	no	1.049
28	IS	13C-1,2,3,7,8-PeCDD	34:08	3.084e+04	1.955e+04	1.58	yes	no	1.320
29	IS	13C-1,2,3,4,7,8-HxCDD	37:11	2.741e+04	2.170e+04	1.26	yes	no	0.859
30	IS	13C-1,2,3,6,7,8-HxCDD	37:16	2.754e+04	2.199e+04	1.25	yes	no	0.946
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:58	2.561e+04	2.420e+04	1.06	yes	no	0.862
32	IS	13C-OCDD	42:49	3.657e+04	4.126e+04	0.89	yes	no	0.758
33	RS/RT	13C-1,2,3,4-TCDD	29:13	1.618e+04	2.058e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:30	3.005e+04	2.463e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:45	3.853e+03				no	1.125

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
66131

Run #7 Filename P171748 Samp: 1 Inj: 1 Acquired: 24-JUN-14 03:50:38
Processed: 25-JUN-14 05:24:291 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	3.81e+05	9.20e+01	4.1e+03	5.17e+05	4.08e+02	1.3e+03
2	1,2,3,7,8-PeCDF	4.34e+06	5.32e+02	8.1e+03	2.71e+06	9.12e+02	3.0e+03
3	2,3,4,7,8-PeCDF	4.29e+06	5.32e+02	8.1e+03	2.71e+06	9.12e+02	3.0e+03
4	1,2,3,4,7,8-HxCDF	4.75e+06	1.96e+03	2.4e+03	3.79e+06	1.52e+03	2.5e+03
5	1,2,3,6,7,8-HxCDF	4.71e+06	1.96e+03	2.4e+03	3.80e+06	1.52e+03	2.5e+03
6	2,3,4,6,7,8-HxCDF	4.68e+06	1.96e+03	2.4e+03	3.75e+06	1.52e+03	2.5e+03
7	1,2,3,7,8,9-HxCDF	4.31e+06	1.96e+03	2.2e+03	3.45e+06	1.52e+03	2.3e+03
8	1,2,3,4,6,7,8-HpCDF	4.34e+06	1.23e+04	3.5e+02	4.15e+06	1.62e+04	2.6e+02
9	1,2,3,4,7,8,9-HpCDF	3.36e+06	1.23e+04	2.7e+02	3.18e+06	1.62e+04	2.0e+02
10	OCDF	4.36e+06	2.13e+03	2.0e+03	4.83e+06	1.83e+03	2.6e+03
11	2,3,7,8-TCDD	3.10e+05	2.56e+02	1.2e+03	4.17e+05	3.52e+02	1.2e+03
12	1,2,3,7,8-PeCDD	2.90e+06	7.44e+02	3.9e+03	1.83e+06	5.56e+02	3.3e+03
13	1,2,3,4,7,8-HxCDD	3.21e+06	1.77e+03	1.8e+03	2.53e+06	1.63e+03	1.6e+03
14	1,2,3,6,7,8-HxCDD	3.08e+06	1.77e+03	1.7e+03	2.45e+06	1.63e+03	1.5e+03
15	1,2,3,7,8,9-HxCDD	3.40e+06	1.77e+03	1.9e+03	2.66e+06	1.63e+03	1.6e+03
16	1,2,3,4,6,7,8-HpCDD	2.78e+06	6.30e+03	4.4e+02	2.57e+06	7.26e+03	3.5e+02
17	OCDD	3.49e+06	9.12e+02	3.8e+03	3.86e+06	1.11e+03	3.5e+03
18	13C-2,3,7,8-TCDF	4.39e+06	2.88e+02	1.5e+04	5.83e+06	4.44e+02	1.3e+04
19	13C-1,2,3,7,8-PeCDF	7.58e+06	5.32e+02	1.4e+04	4.90e+06	4.44e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	8.23e+06	5.32e+02	1.5e+04	5.38e+06	4.44e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	4.36e+06	4.72e+02	9.2e+03	8.40e+06	1.26e+03	6.7e+03
22	13C-1,2,3,6,7,8-HxCDF	4.72e+06	4.72e+02	1.0e+04	9.23e+06	1.26e+03	7.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.57e+06	4.72e+02	9.7e+03	8.93e+06	1.26e+03	7.1e+03
24	13C-1,2,3,7,8,9-HxCDF	4.25e+06	4.72e+02	9.0e+03	8.14e+06	1.26e+03	6.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.57e+06	1.81e+03	2.0e+03	7.93e+06	2.84e+03	2.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.84e+06	1.81e+03	1.6e+03	6.38e+06	2.84e+03	2.2e+03
27	13C-2,3,7,8-TCDD	3.33e+06	1.26e+03	2.6e+03	4.33e+06	4.60e+02	9.4e+03
28	13C-1,2,3,7,8-PeCDD	6.11e+06	3.64e+02	1.7e+04	3.92e+06	7.60e+01	5.2e+04
29	13C-1,2,3,4,7,8-HxCDD	6.03e+06	5.80e+02	1.0e+04	4.78e+06	6.16e+02	7.8e+03
30	13C-1,2,3,6,7,8-HxCDD	5.79e+06	5.80e+02	1.0e+04	4.62e+06	6.16e+02	7.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.04e+06	2.09e+03	2.4e+03	4.79e+06	1.33e+03	3.6e+03
32	13C-OCDD	5.96e+06	1.38e+03	4.3e+03	6.83e+06	9.92e+02	6.9e+03
33	13C-1,2,3,4-TCDD	3.42e+06	1.26e+03	2.7e+03	4.38e+06	4.60e+02	9.5e+03
34	13C-1,2,3,7,8,9-HxCDD	6.58e+06	5.80e+02	1.1e+04	5.28e+06	6.16e+02	8.6e+03
35	37Cl-2,3,7,8-TCDD	7.89e+05	1.60e+02	4.9e+03			

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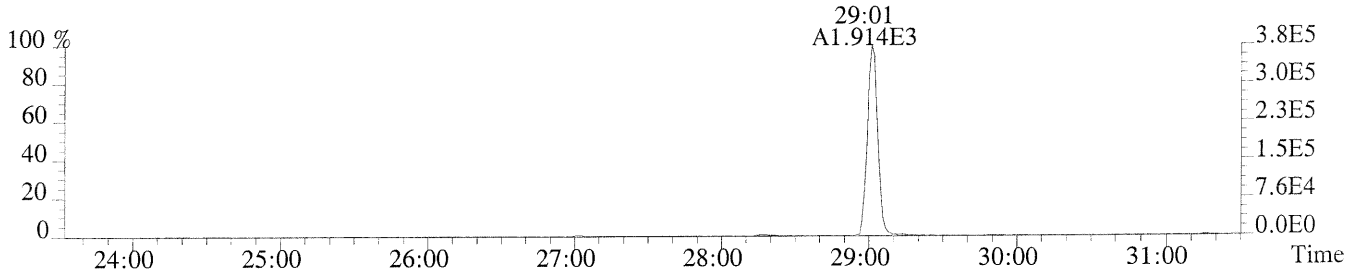
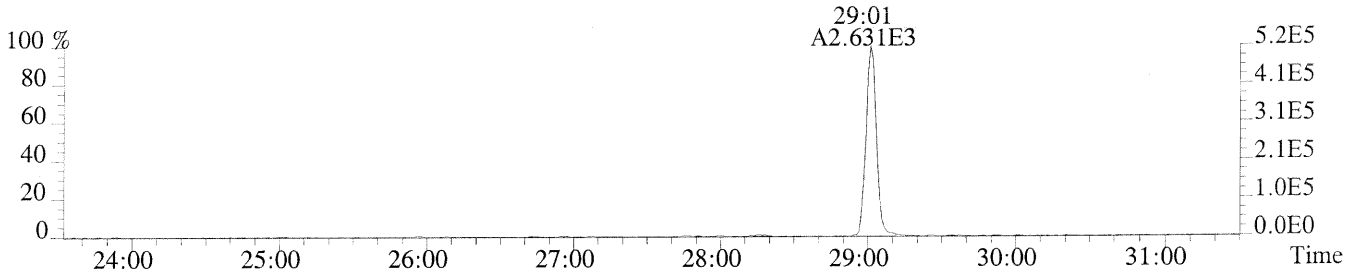
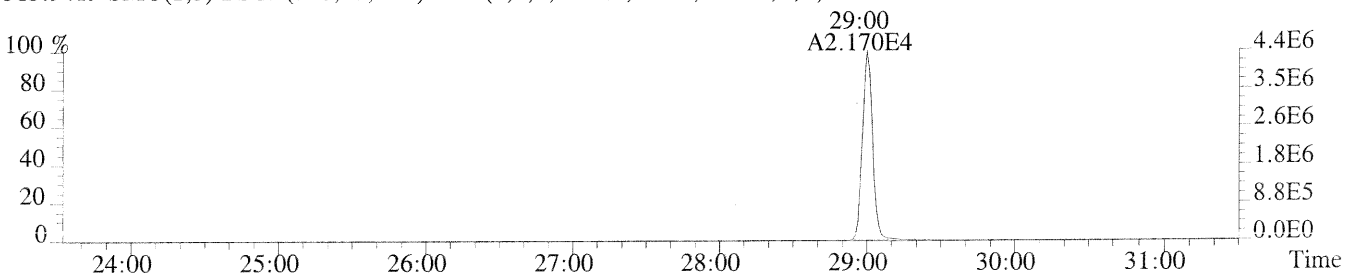
File:P171748 #1-501 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)



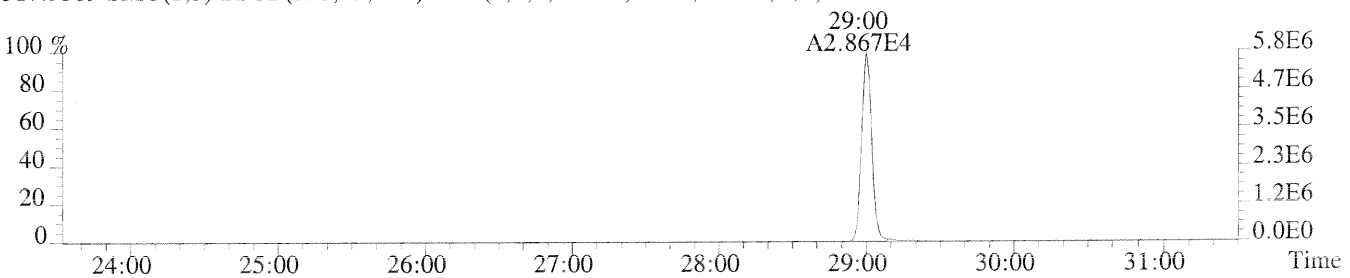
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



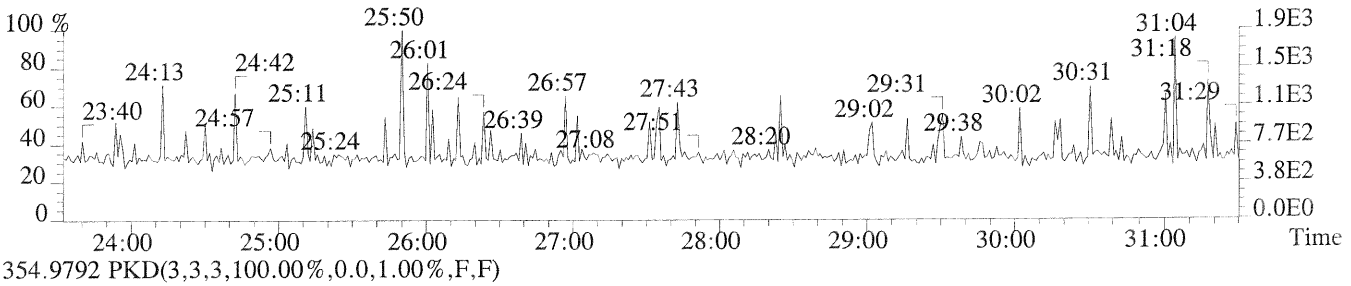
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



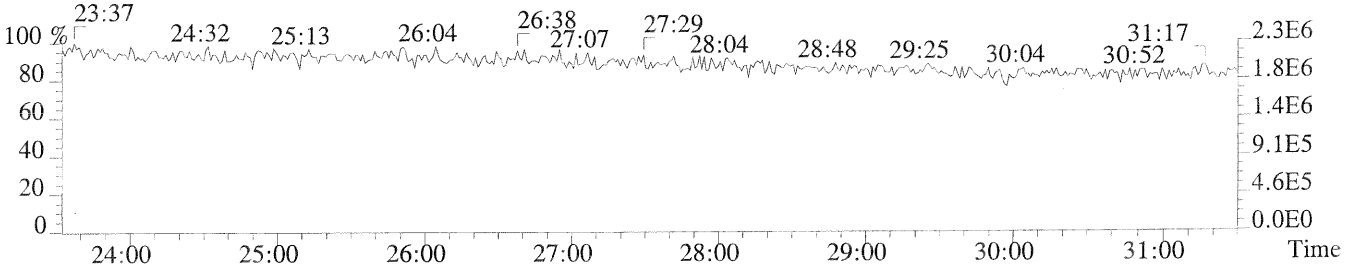
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,T)



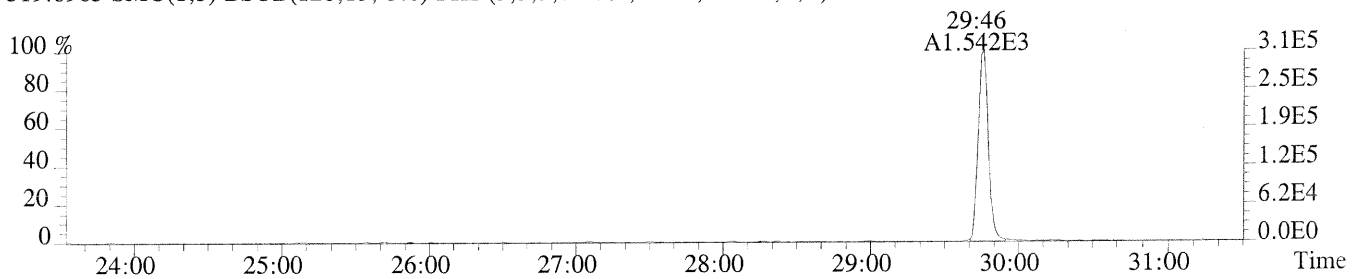
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



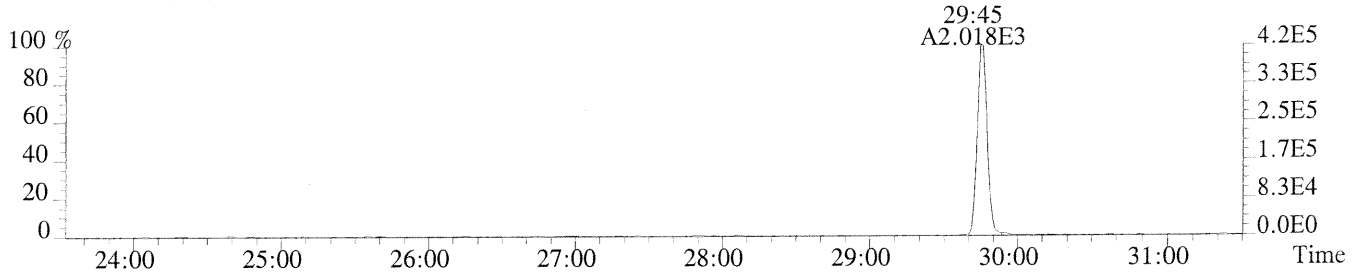
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



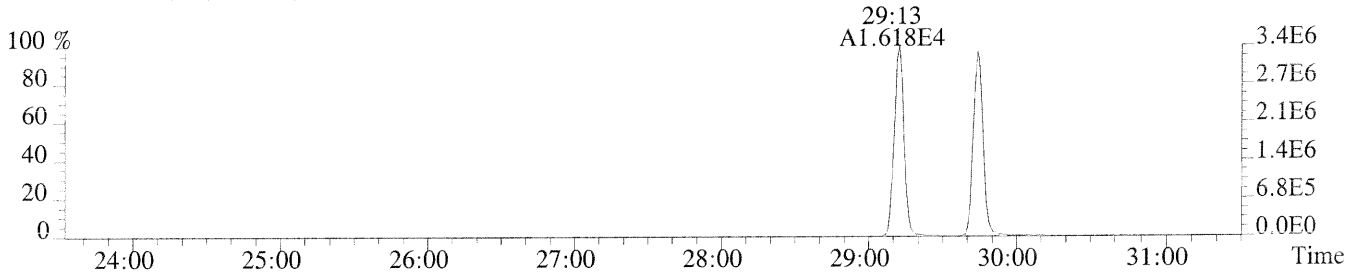
File:P171748 #1-501 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,256.0,1.00%,F,T)



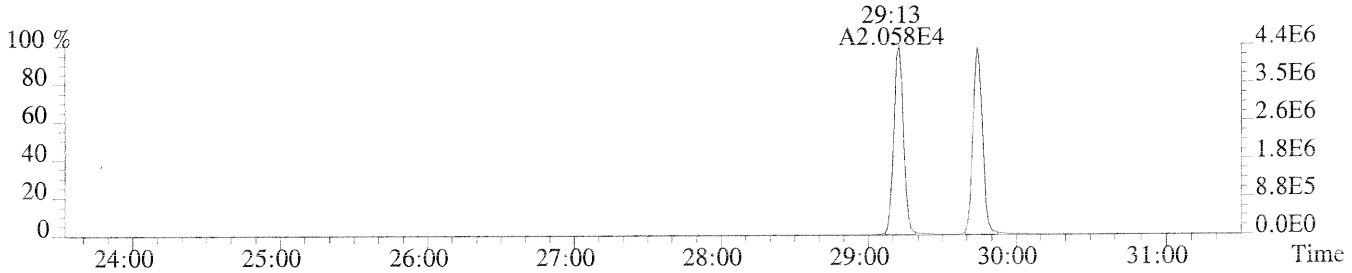
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



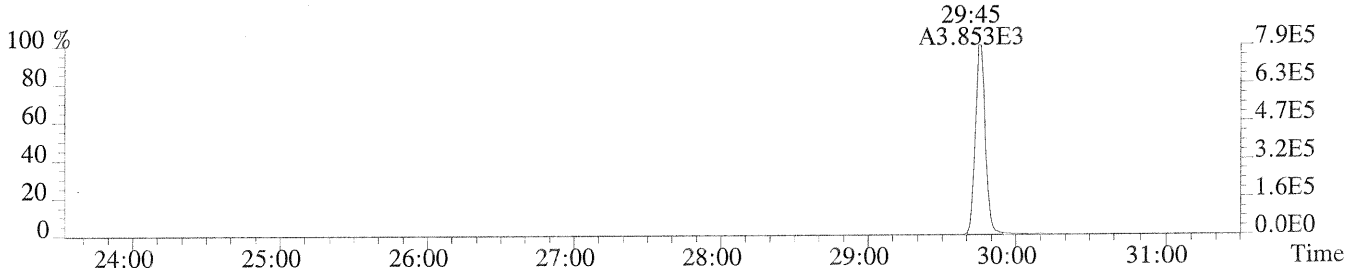
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



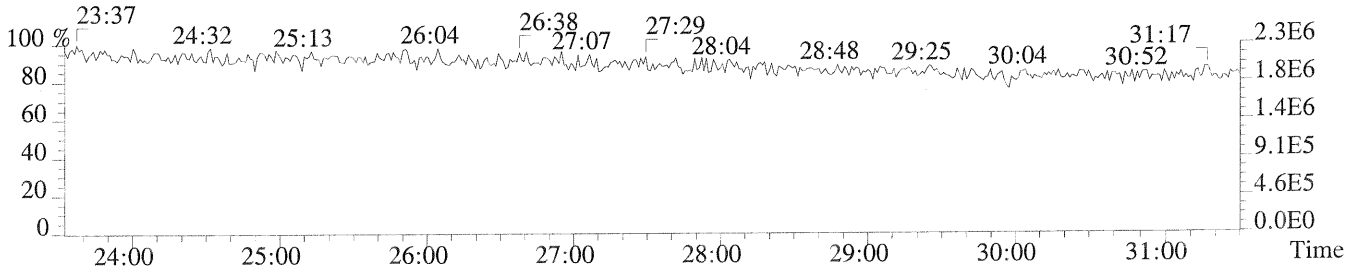
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,T)



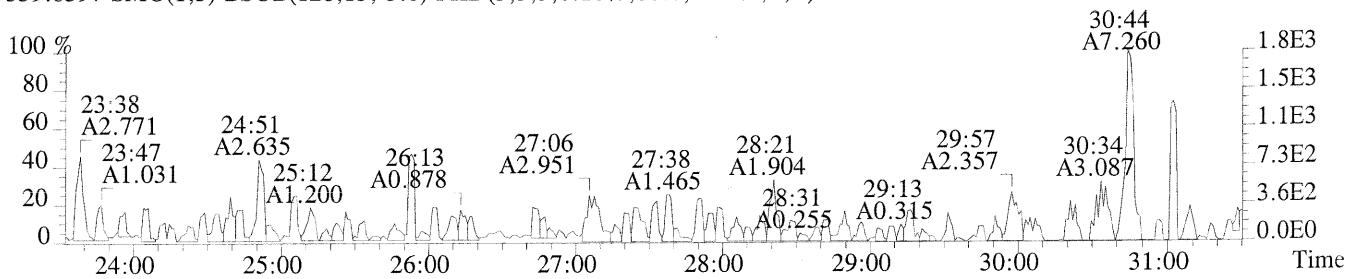
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



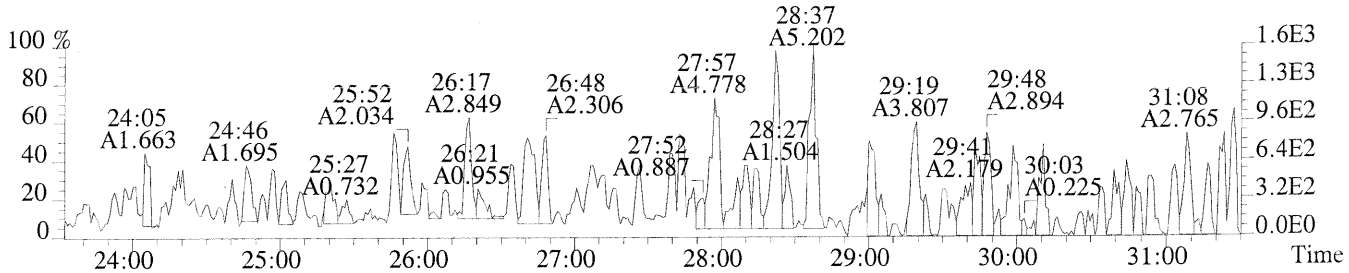
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



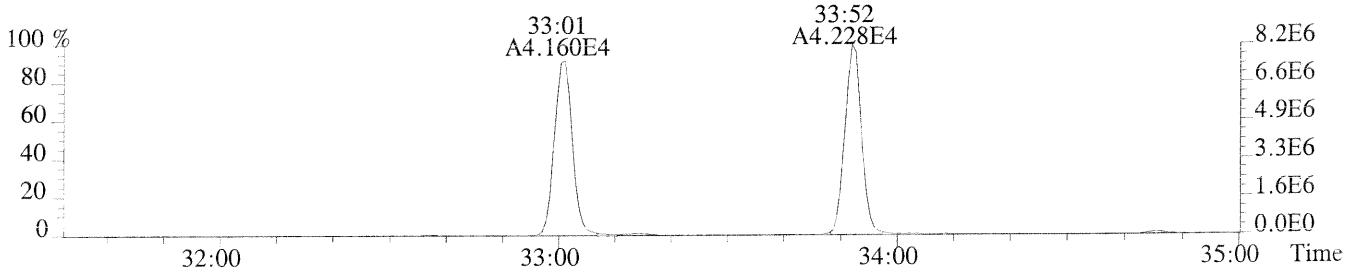
File:P171748 #1-501 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



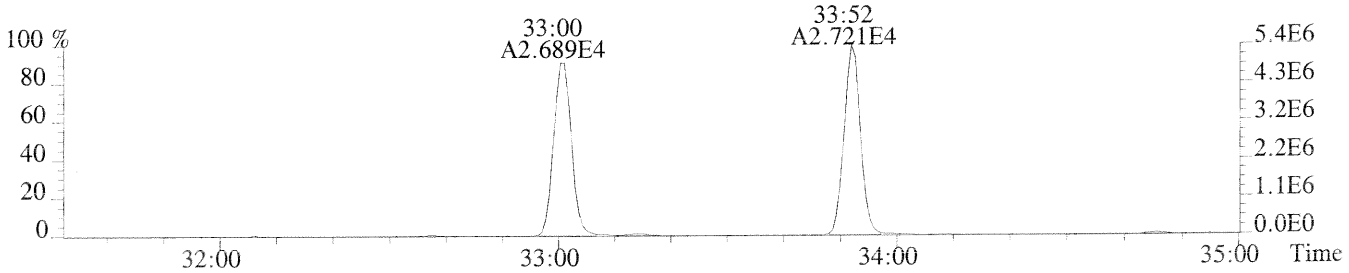
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,T)



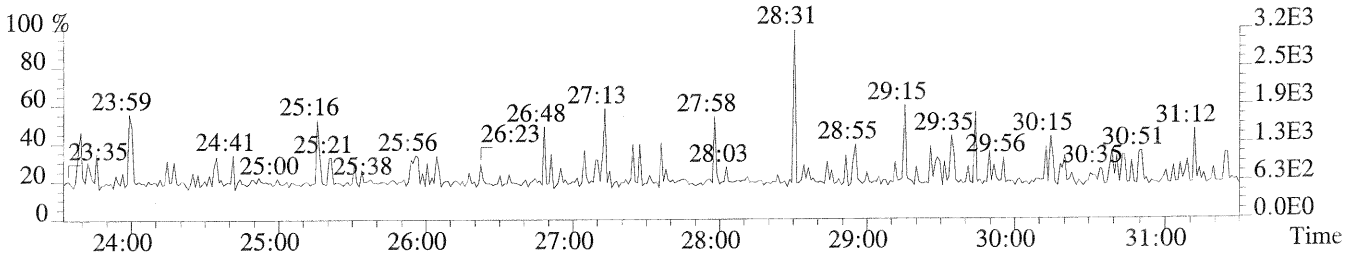
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



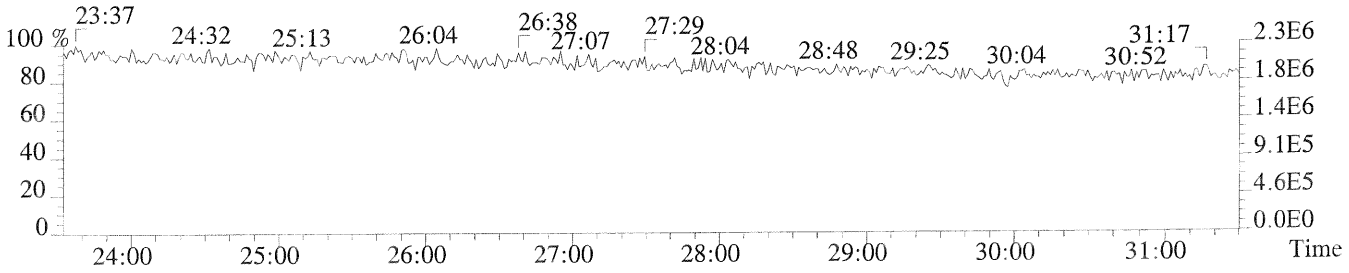
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

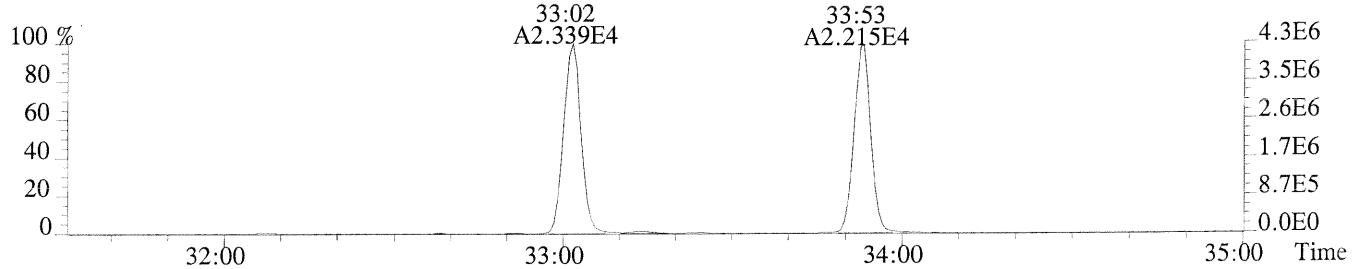


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

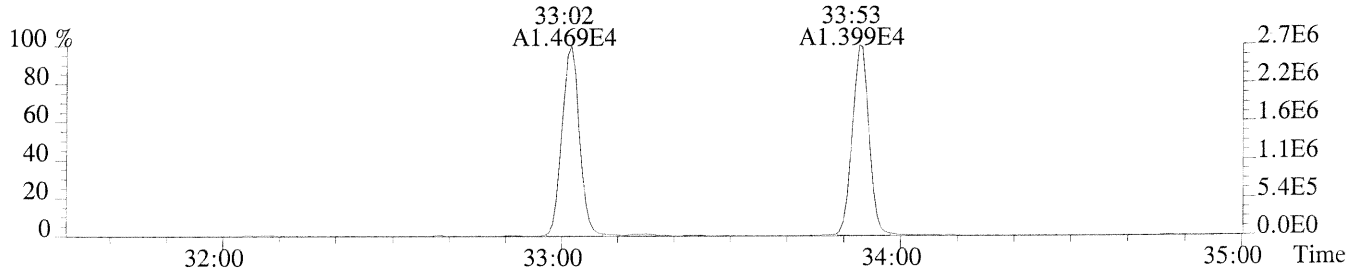


File:P171748 #1-315 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

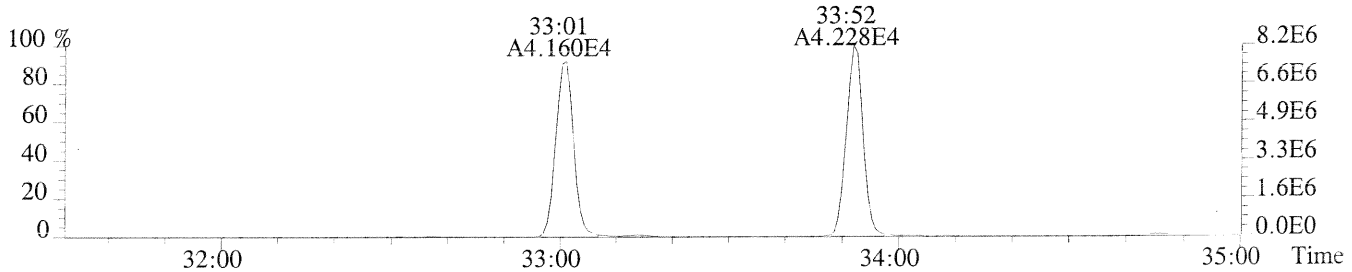
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



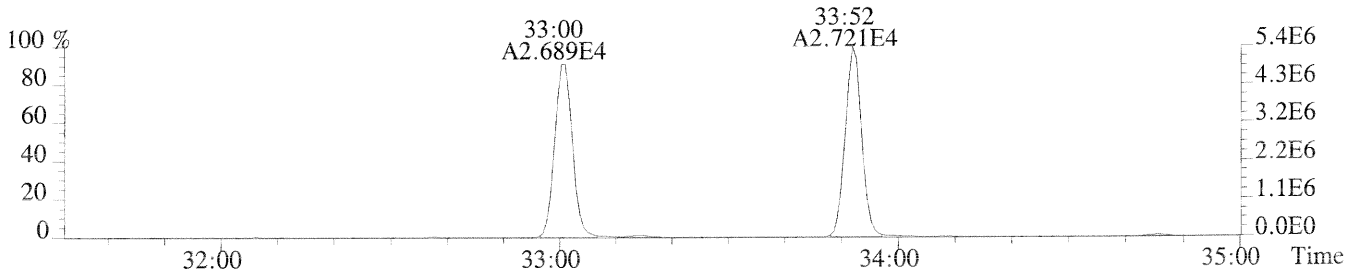
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



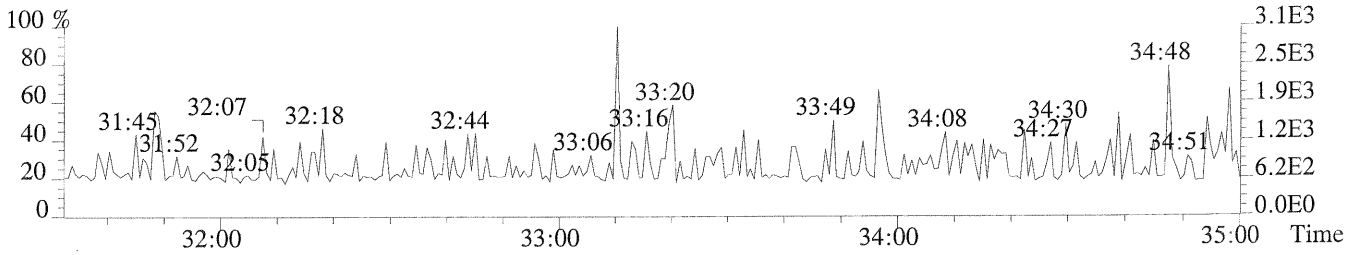
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



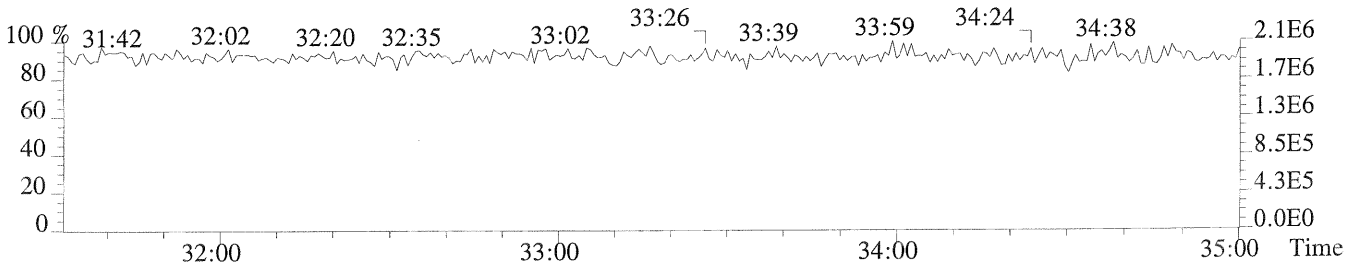
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,T)



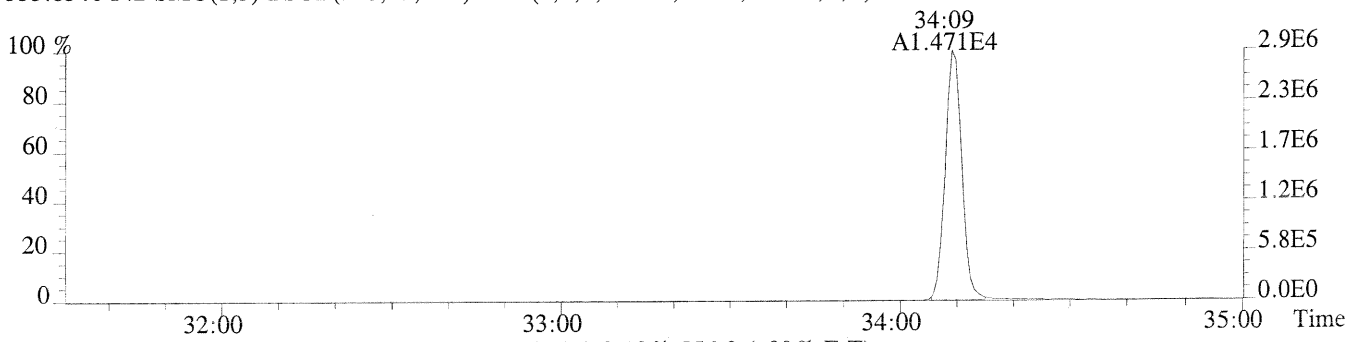
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



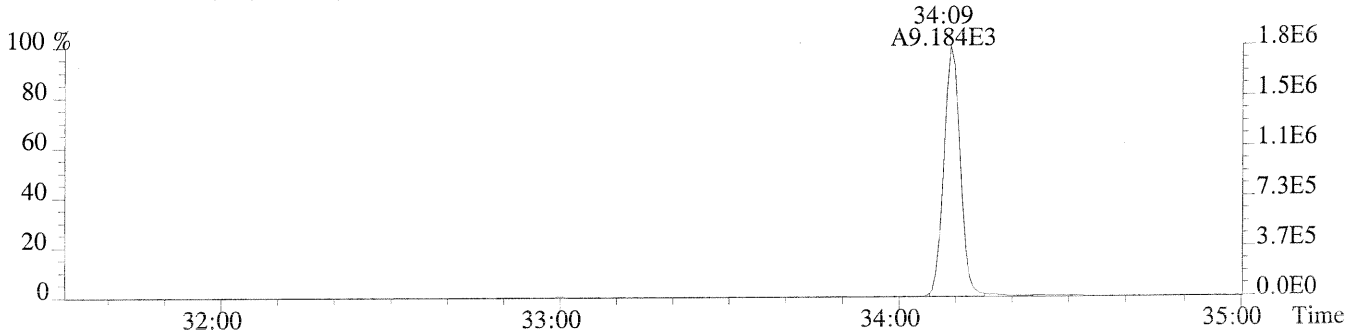
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



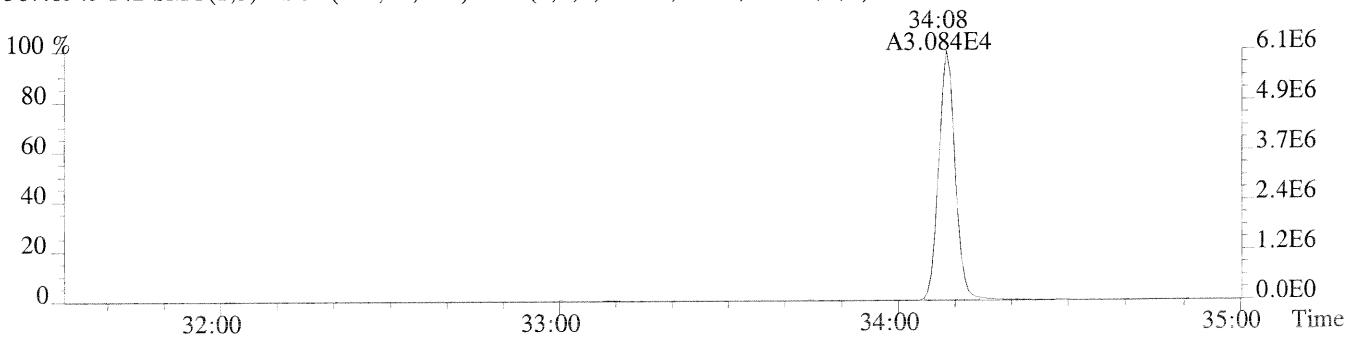
File:P171748 #1-315 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



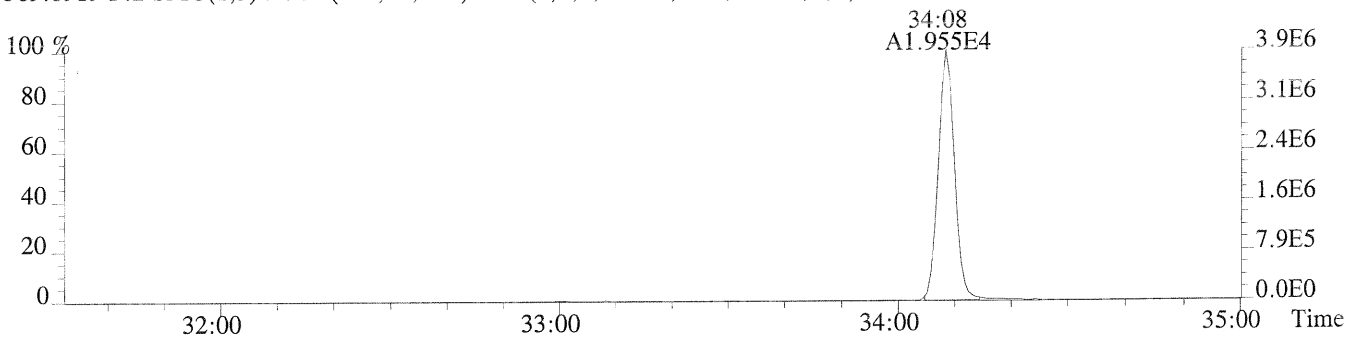
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



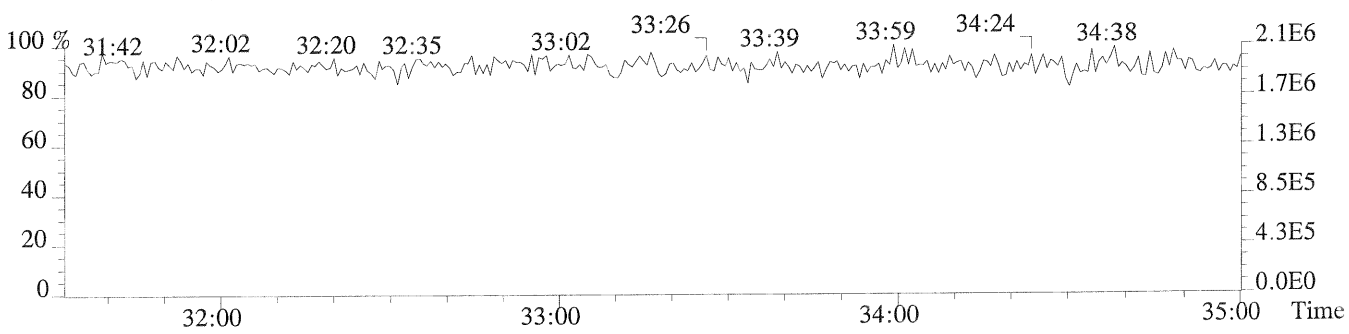
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,364.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,T)

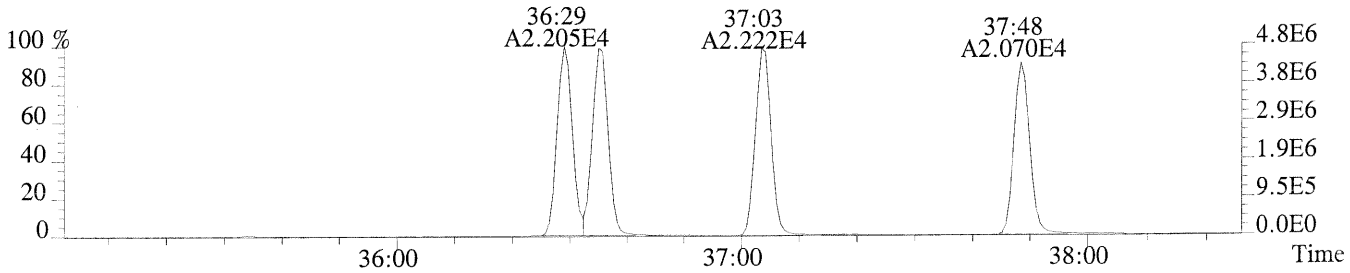


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

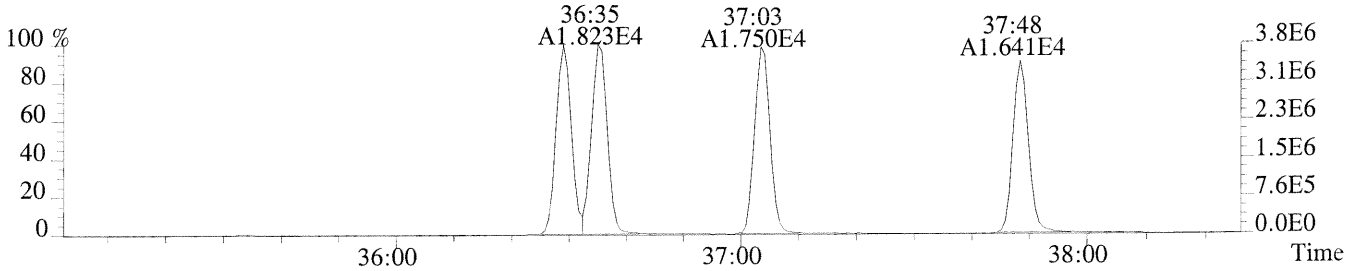


File:P171748 #1-309 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

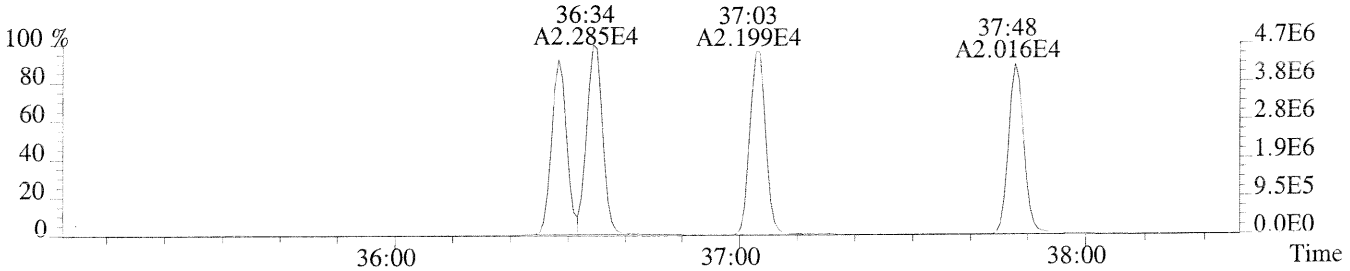
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1964.0,0.40%,F,T)



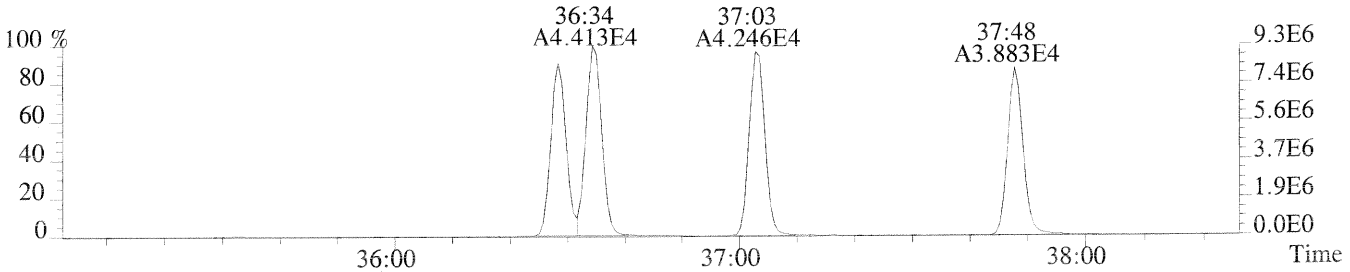
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.40%,F,T)



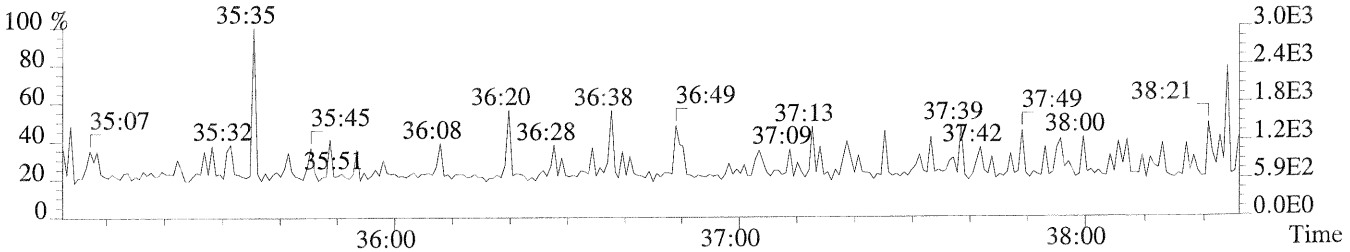
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



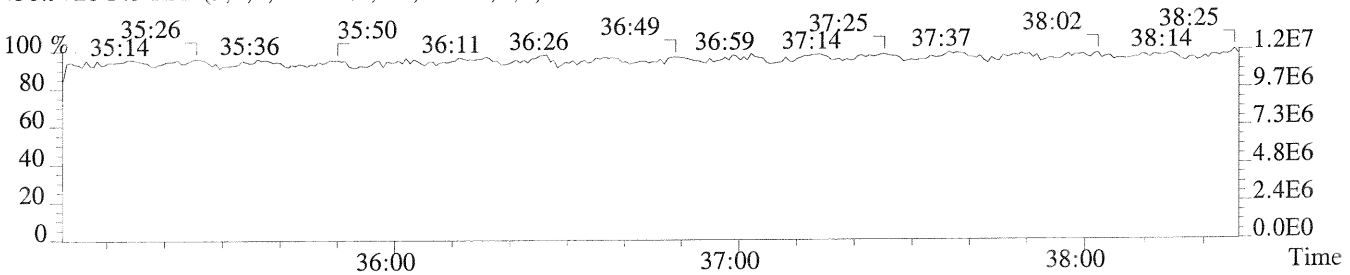
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,T)



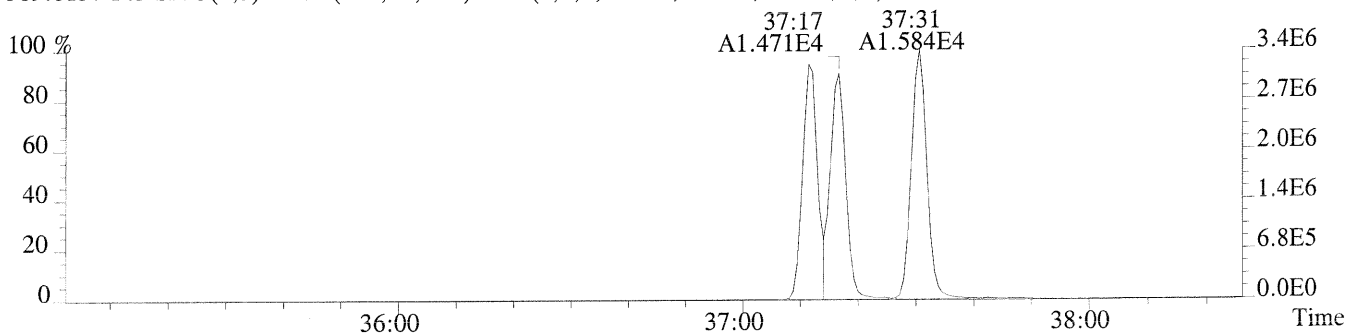
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



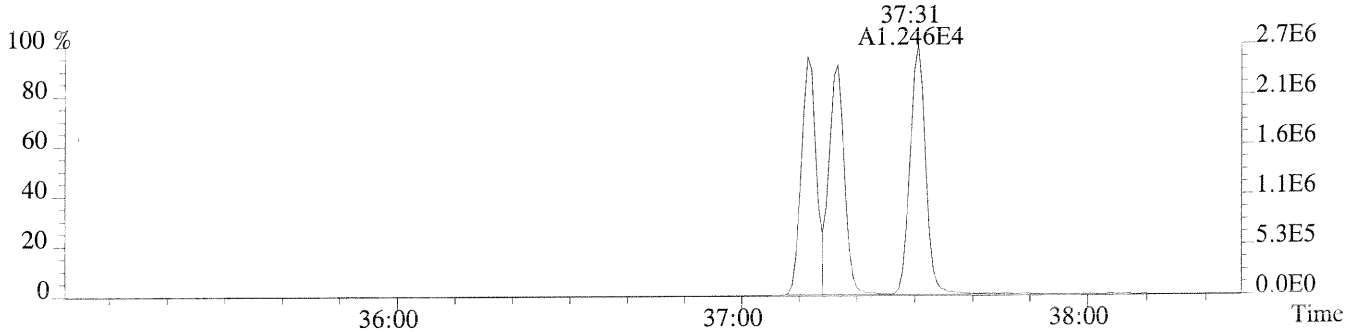
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



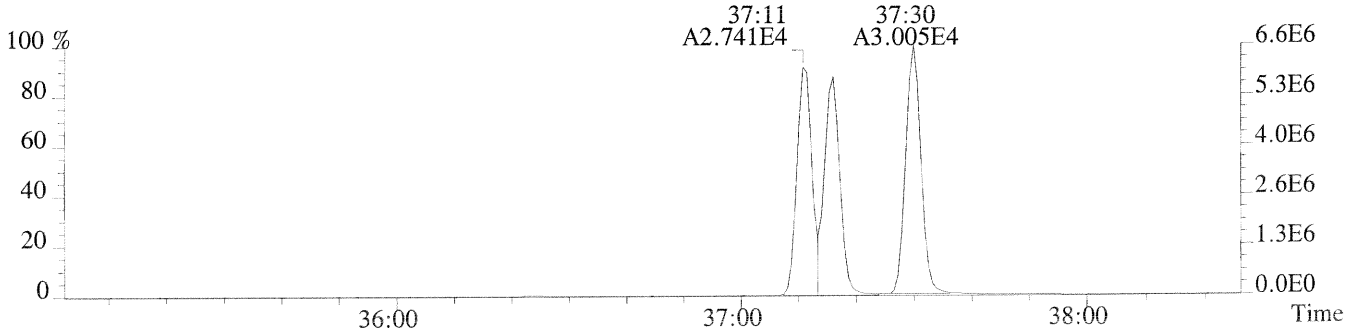
File:P171748 #1-309 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1772.0,0.40%,F,T)



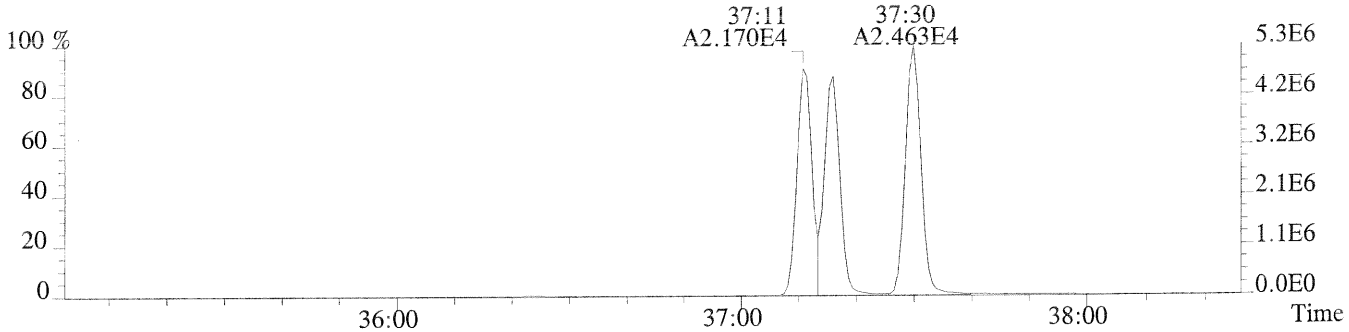
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1632.0,0.40%,F,T)



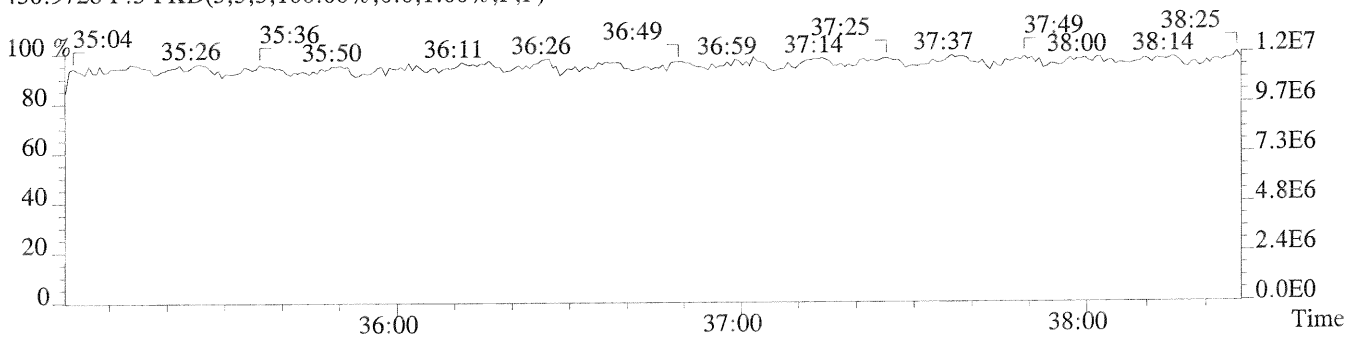
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



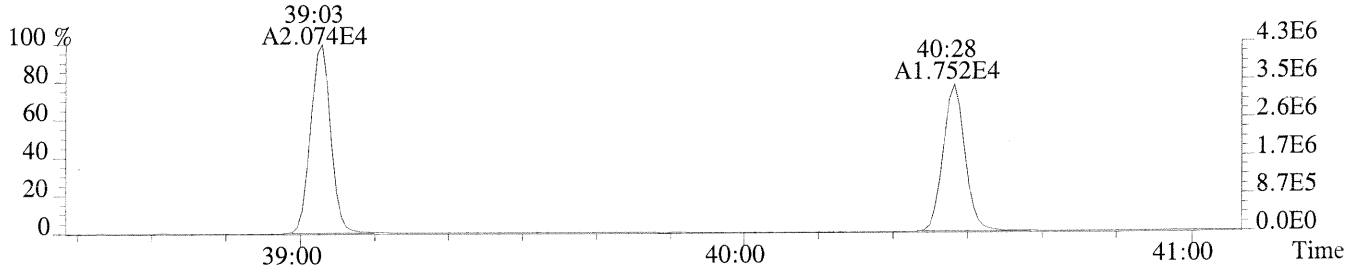
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,616.0,0.40%,F,T)



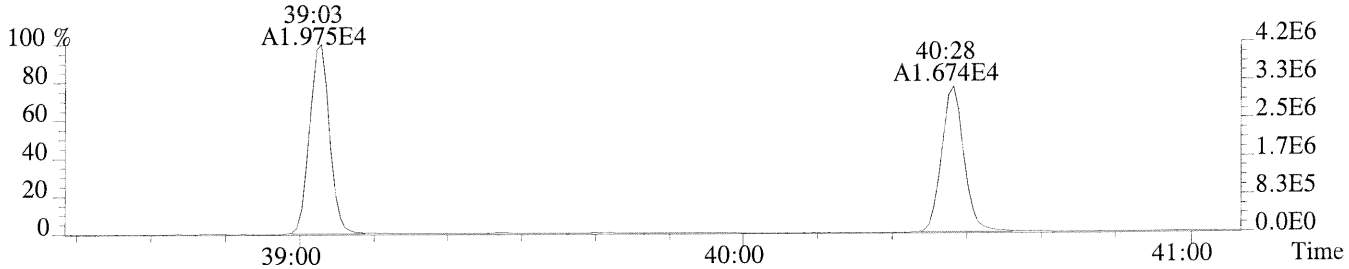
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



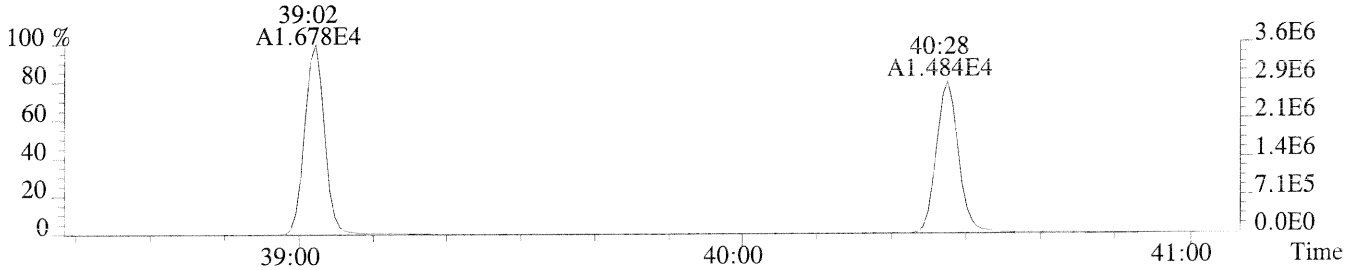
File:P171748 #1-240 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12288.0,0.50%,F,T)



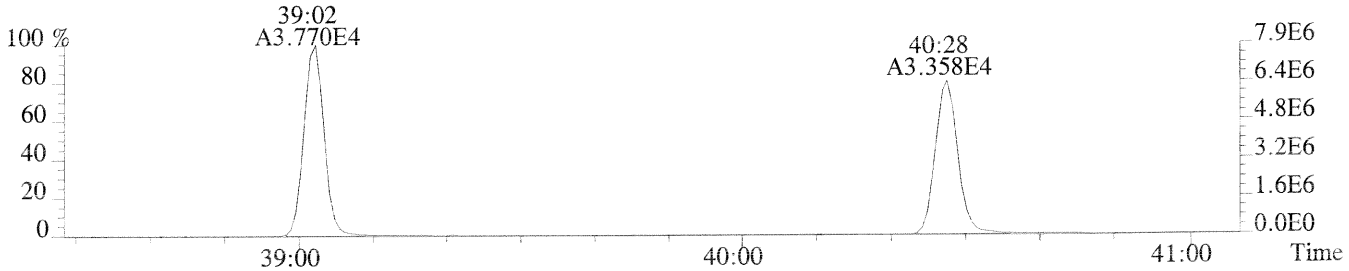
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,16244.0,0.50%,F,T)



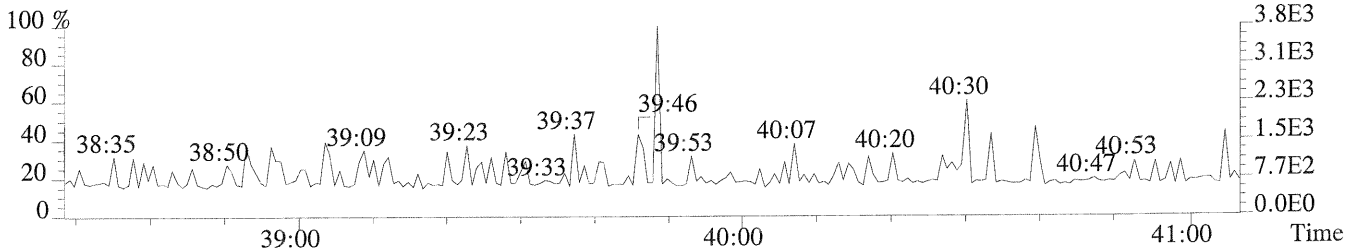
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1808.0,0.50%,F,T)



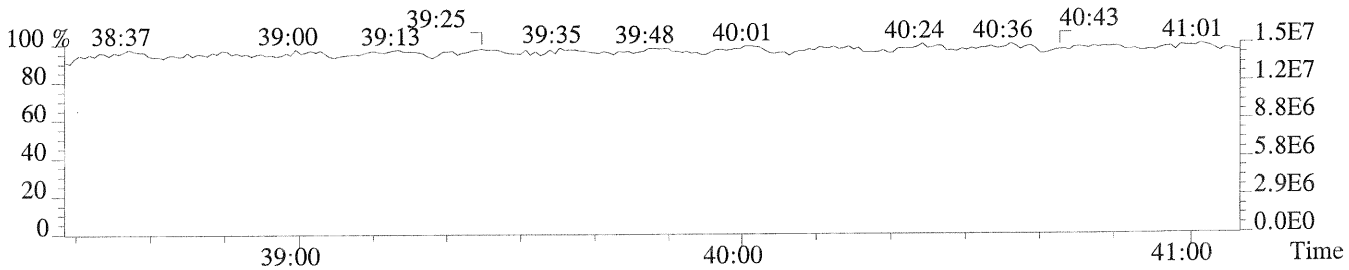
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2840.0,0.50%,F,T)



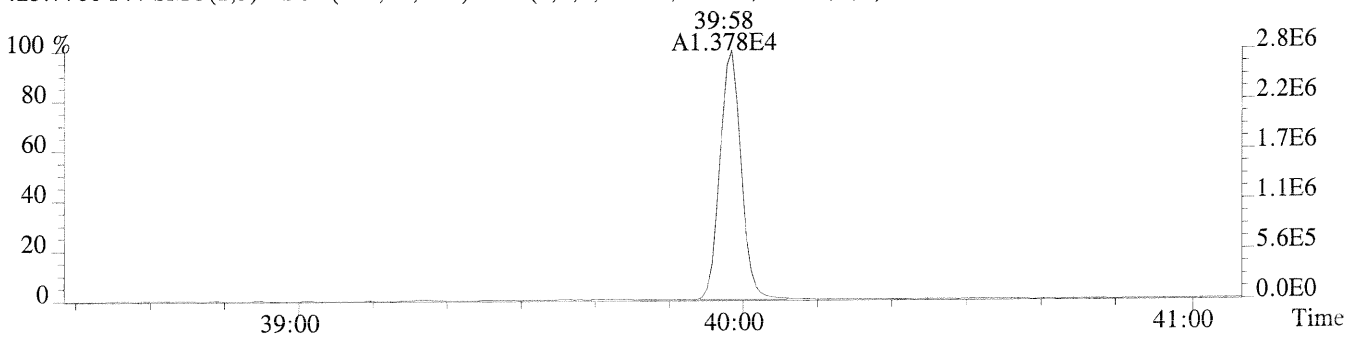
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



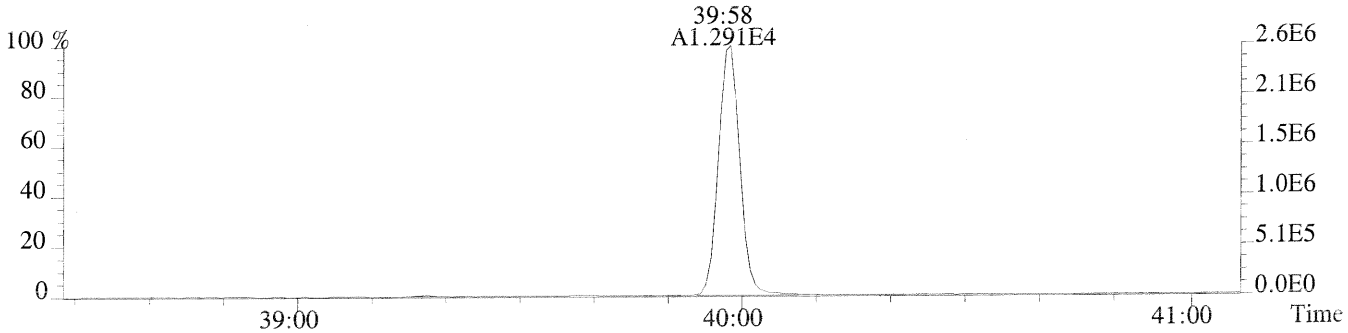
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



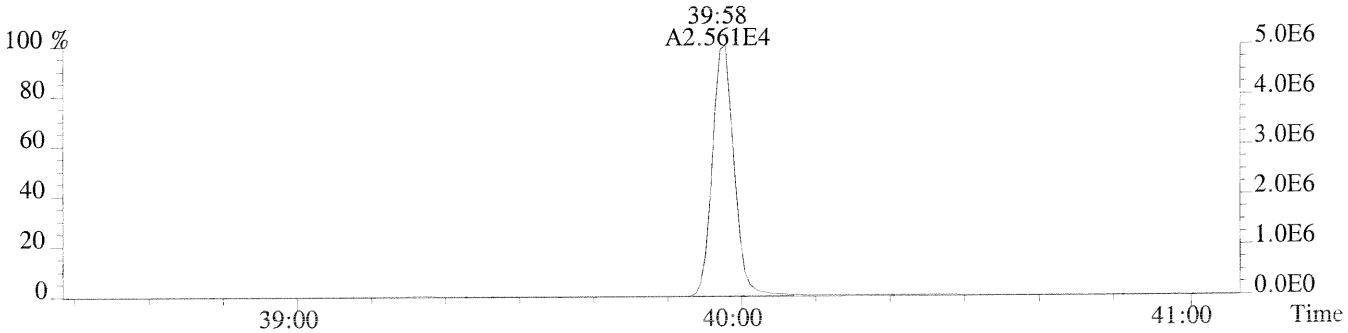
File:P171748 #1-240 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6304.0,0.40%,F,T)



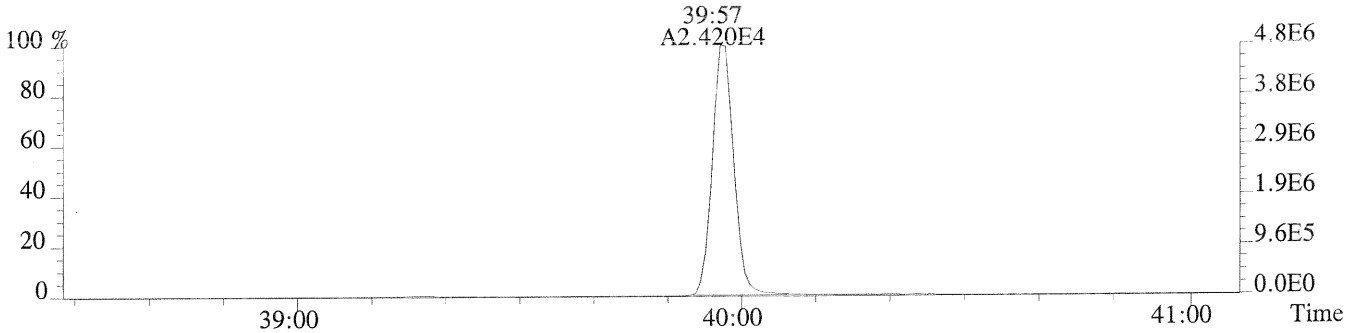
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7260.0,0.40%,F,T)



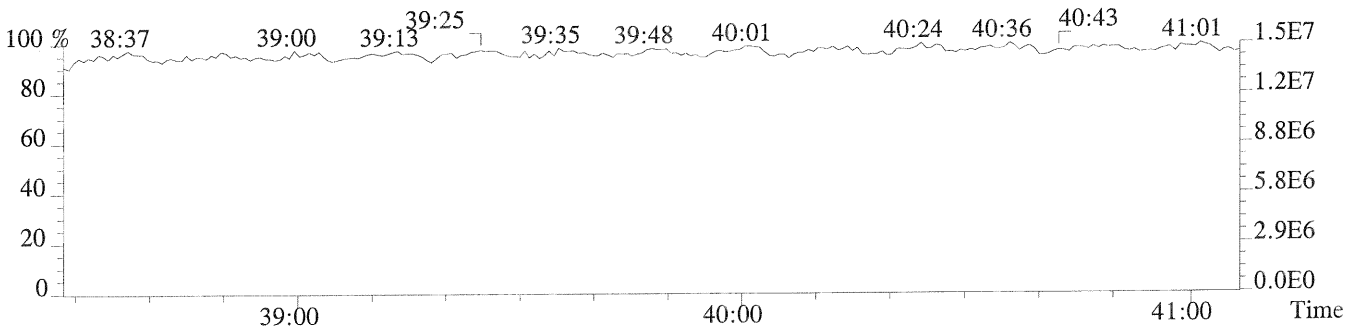
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2092.0,0.40%,F,T)



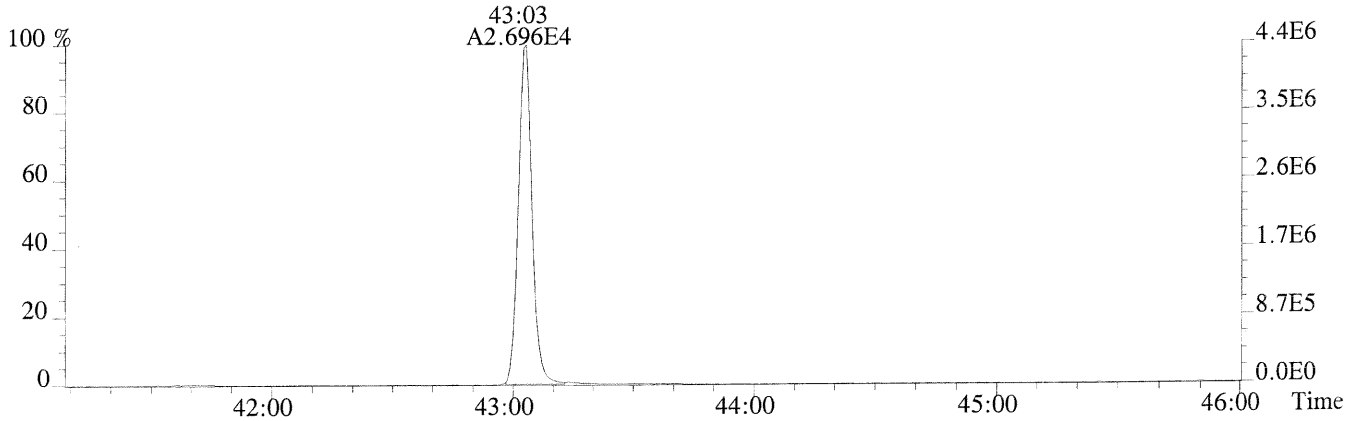
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1332.0,0.40%,F,T)



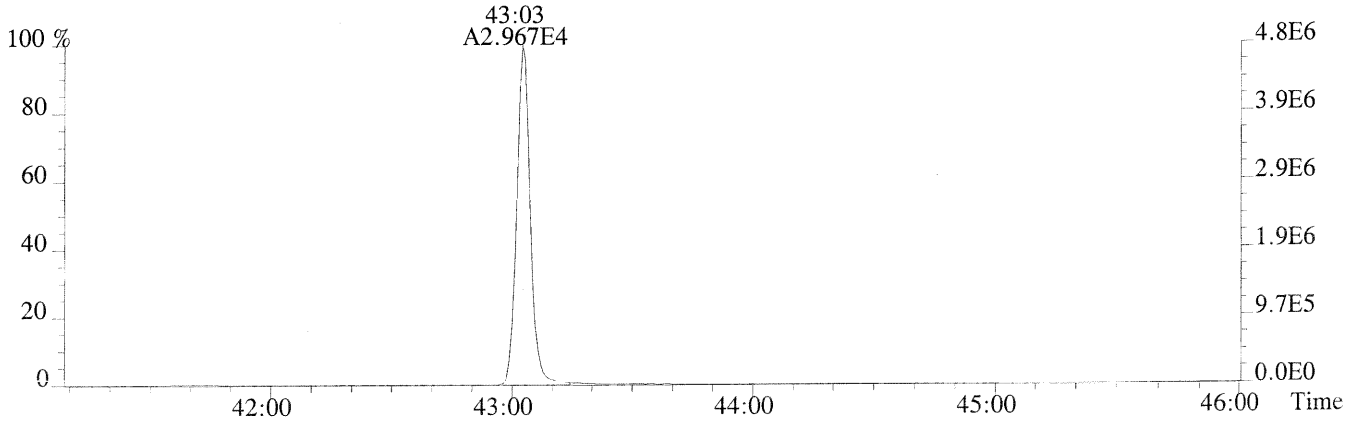
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



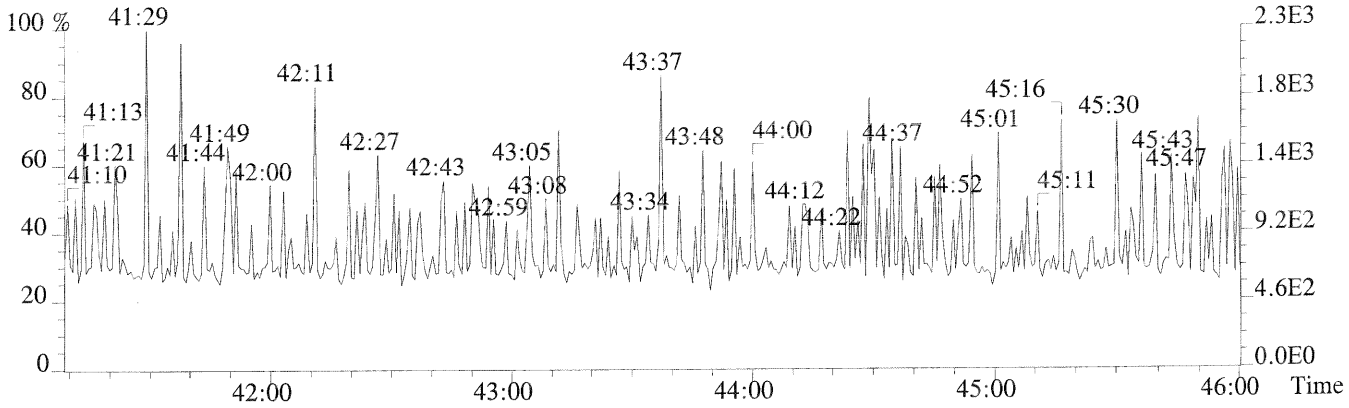
File:P171748 #1-447 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2132.0,0.40%,F,T)



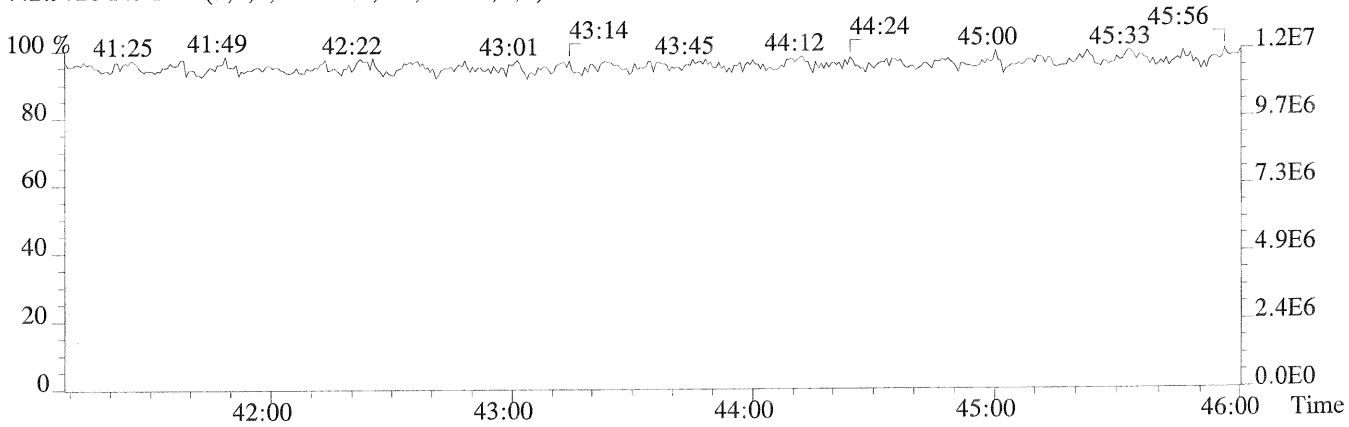
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1832.0,0.40%,F,T)



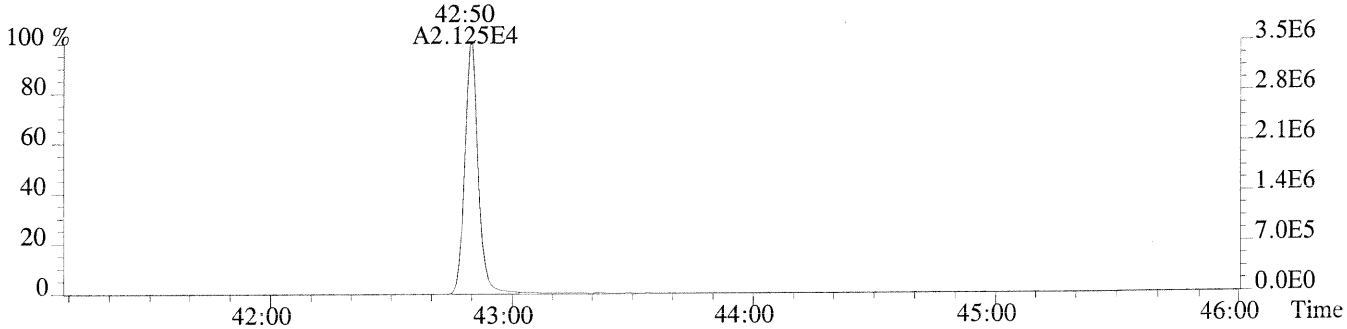
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



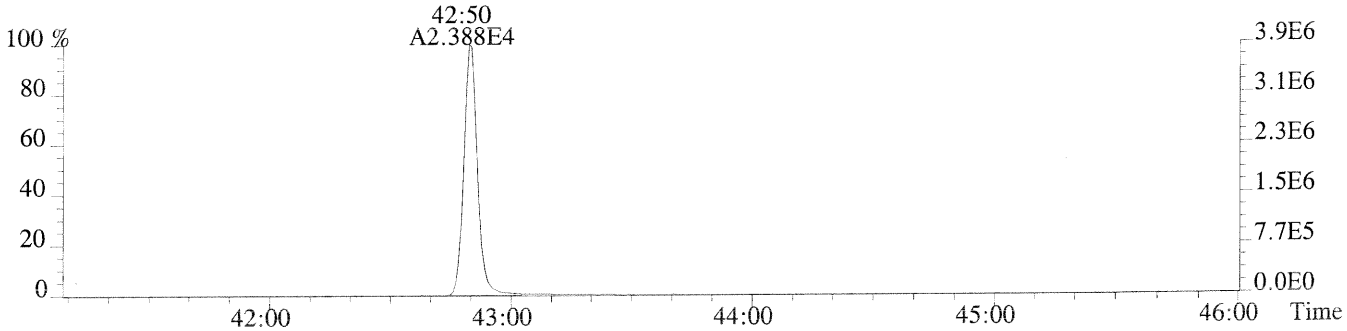
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



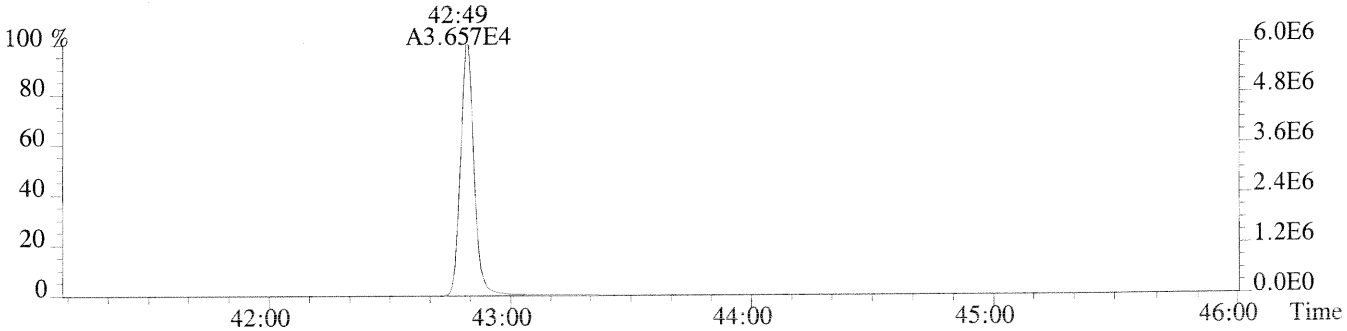
File:P171748 #1-447 Acq:24-JUN-2014 03:50:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,912.0,0.40%,F,T)



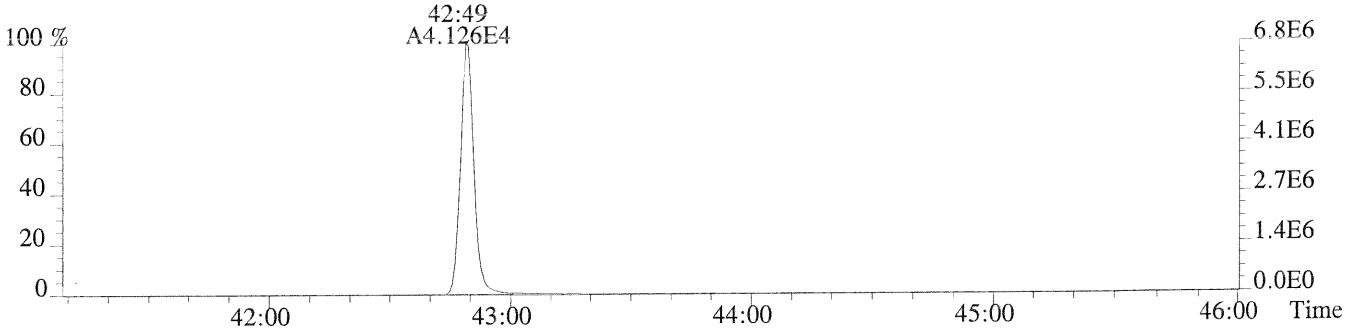
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1108.0,0.40%,F,T)



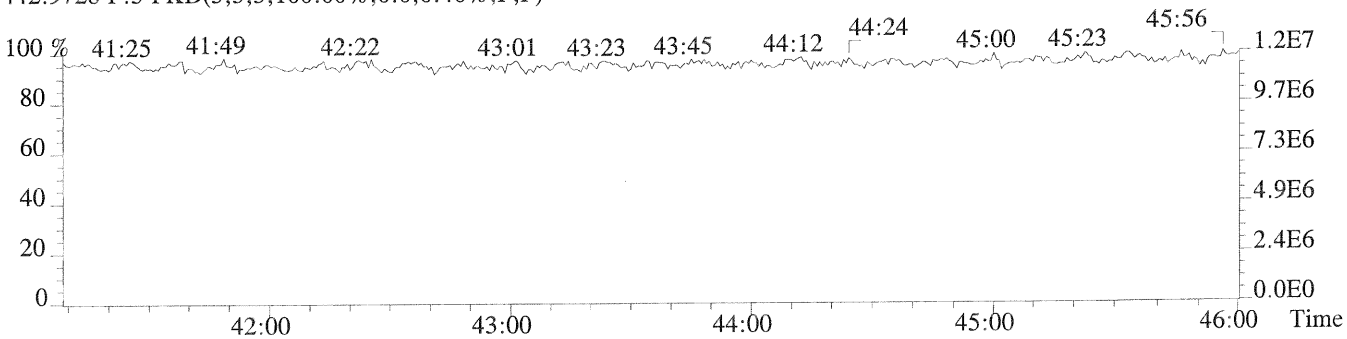
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1376.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,992.0,0.40%,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: P171759 Analysis Date: 24-JUN-14 Time: 12:55:10

	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	0.77	0.65-0.89	9.8	7.8 - 12.9	-1.9
1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32-1.78	51	39 - 65	2.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	51	39 - 64	1.7
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	53	39 - 64	5.9
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05-1.43	52	41 - 61	3.3
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	52	43 - 58	4.4
OCDD	M+2/M+4	0.89	0.76-1.02	107	79 - 126	6.6
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	9.5	8.4 - 12.0	-4.8
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	55	41 - 60	10.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	54	41 - 61	8.4
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	54	45 - 56	7.3
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	53	44 - 57	5.1
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	55	45 - 56	9.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	53	44 - 57	6.1
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	53	45 - 55	6.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	53	43 - 58	6.4
OCDF	M+2/M+4	0.91	0.76-1.02	111	63 - 159	11.1

(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: P171759 Analysis Date: 24-JUN-14 Time: 12:55:10

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	96	82 - 121	-4.0
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	100	62 - 160	0.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	106	85 - 117	6.1
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	95	85 - 118	-4.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	106	72 - 138	6.0
13C-OCDD	M+2/M+4	0.88	0.76-1.02	191	96 - 415	-4.4
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	96	71 - 140	-4.1
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	98	76 - 130	-1.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	101	77 - 130	1.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	106	76 - 131	6.3
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	103	70 - 143	3.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	105	74 - 135	4.8
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	106	73 - 137	6.3
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	110	78 - 129	9.7
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	110	77 - 129	9.9
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.3	7.8 - 12.7	-6.8

(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 beginnning 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.
66131

Run #17 Filename P171759 Samp: 1 Inj: 1 Acquired: 24-JUN-14 12:55:10
Processed: 25-JUN-14 05:26:06 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:02	3.159e+03	4.212e+03	0.75	yes	no	0.945
2	Unk	1,2,3,7,8-PeCDF	33:02	3.678e+04	2.311e+04	1.59	yes	no	1.017
3	Unk	2,3,4,7,8-PeCDF	33:54	3.463e+04	2.209e+04	1.57	yes	no	0.977
4	Unk	1,2,3,4,7,8-HxCDF	36:30	3.263e+04	2.625e+04	1.24	yes	no	1.241
5	Unk	1,2,3,6,7,8-HxCDF	36:36	3.382e+04	2.714e+04	1.25	yes	no	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:04	3.173e+04	2.605e+04	1.22	yes	no	1.150
7	Unk	1,2,3,7,8,9-HxCDF	37:49	2.977e+04	2.415e+04	1.23	yes	no	1.154
8	Unk	1,2,3,4,6,7,8-HpCDF	39:03	3.016e+04	2.884e+04	1.05	yes	no	1.403
9	Unk	1,2,3,4,7,8,9-HpCDF	40:28	2.570e+04	2.450e+04	1.05	yes	no	1.324
10	Unk	OCDF	43:03	3.982e+04	4.388e+04	0.91	yes	no	1.307
11	Unk	2,3,7,8-TCDD	29:46	2.614e+03	3.415e+03	0.77	yes	no	1.037
12	Unk	1,2,3,7,8-PeCDD	34:10	2.307e+04	1.422e+04	1.62	yes	no	0.938
13	Unk	1,2,3,4,7,8-HxCDD	37:12	2.155e+04	1.684e+04	1.28	yes	no	1.041
14	Unk	1,2,3,6,7,8-HxCDD	37:17	2.113e+04	1.648e+04	1.28	yes	no	0.990
15	Unk	1,2,3,7,8,9-HxCDD	37:31	2.296e+04	1.779e+04	1.29	yes	no	1.094
16	Unk	1,2,3,4,6,7,8-HpCDD	39:58	1.984e+04	1.872e+04	1.06	yes	no	1.016
17	Unk	OCDD	42:49	3.116e+04	3.513e+04	0.89	yes	no	1.079
18	IS	13C-2,3,7,8-TCDF	29:01	3.549e+04	4.647e+04	0.76	yes	no	1.452
19	IS	13C-1,2,3,7,8-PeCDF	33:02	6.486e+04	4.222e+04	1.54	yes	no	1.849
20	IS	13C-2,3,4,7,8-PeCDF	33:53	6.499e+04	4.217e+04	1.54	yes	no	1.800
21	IS	13C-1,2,3,4,7,8-HxCDF	36:29	2.978e+04	5.867e+04	0.51	yes	no	1.045
22	IS	13C-1,2,3,6,7,8-HxCDF	36:35	3.394e+04	6.455e+04	0.53	yes	no	1.202
23	IS	13C-2,3,4,6,7,8-HxCDF	37:03	3.262e+04	6.211e+04	0.53	yes	no	1.120
24	IS	13C-1,2,3,7,8,9-HxCDF	37:48	2.937e+04	5.635e+04	0.52	yes	no	1.028
25	IS	13C-1,2,3,4,6,7,8-HpCDF	39:02	2.436e+04	5.493e+04	0.44	yes	no	0.908
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:28	2.174e+04	4.950e+04	0.44	yes	no	0.814
27	IS	13C-2,3,7,8-TCDD	29:45	2.590e+04	3.338e+04	0.78	yes	no	1.049
28	IS	13C-1,2,3,7,8-PeCDD	34:10	4.701e+04	3.066e+04	1.53	yes	no	1.320
29	IS	13C-1,2,3,4,7,8-HxCDD	37:11	4.030e+04	3.223e+04	1.25	yes	no	0.859
30	IS	13C-1,2,3,6,7,8-HxCDD	37:17	3.978e+04	3.196e+04	1.24	yes	no	0.946
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:58	3.754e+04	3.519e+04	1.07	yes	no	0.862
32	IS	13C-OCDD	42:49	5.381e+04	6.149e+04	0.88	yes	no	0.758
33	RS/RT	13C-1,2,3,4-TCDD	29:13	2.614e+04	3.270e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:31	4.363e+04	3.595e+04	1.21	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:46	6.169e+03				no	1.125

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
66131

Run #17 Filename P171759 Samp: 1 Inj: 1 Acquired: 24-JUN-14 12:55:10
Processed: 25-JUN-14 05:26:061 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	6.34e+05	1.44e+02	4.4e+03	8.48e+05	7.88e+02	1.1e+03
2	1,2,3,7,8-PeCDF	6.84e+06	9.60e+01	7.1e+04	4.37e+06	5.20e+02	8.4e+03
3	2,3,4,7,8-PeCDF	6.86e+06	9.60e+01	7.1e+04	4.37e+06	5.20e+02	8.4e+03
4	1,2,3,4,7,8-HxCDF	7.17e+06	4.48e+02	1.6e+04	5.80e+06	3.76e+02	1.5e+04
5	1,2,3,6,7,8-HxCDF	7.12e+06	4.48e+02	1.6e+04	5.82e+06	3.76e+02	1.5e+04
6	2,3,4,6,7,8-HxCDF	6.90e+06	4.48e+02	1.5e+04	5.70e+06	3.76e+02	1.5e+04
7	1,2,3,7,8,9-HxCDF	6.40e+06	4.48e+02	1.4e+04	5.10e+06	3.76e+02	1.4e+04
8	1,2,3,4,6,7,8-HpCDF	6.56e+06	1.34e+03	4.9e+03	6.28e+06	2.58e+03	2.4e+03
9	1,2,3,4,7,8,9-HpCDF	4.99e+06	1.34e+03	3.7e+03	4.72e+06	2.58e+03	1.8e+03
10	OCDF	6.35e+06	3.64e+02	1.7e+04	7.09e+06	7.28e+02	9.7e+03
11	2,3,7,8-TCDD	5.35e+05	1.28e+02	4.2e+03	7.04e+05	2.28e+02	3.1e+03
12	1,2,3,7,8-PeCDD	4.59e+06	4.44e+02	1.0e+04	2.84e+06	8.00e+01	3.5e+04
13	1,2,3,4,7,8-HxCDD	4.80e+06	6.32e+02	7.6e+03	3.78e+06	3.32e+02	1.1e+04
14	1,2,3,6,7,8-HxCDD	4.49e+06	6.32e+02	7.1e+03	3.51e+06	3.32e+02	1.1e+04
15	1,2,3,7,8,9-HxCDD	4.86e+06	6.32e+02	7.7e+03	3.77e+06	3.32e+02	1.1e+04
16	1,2,3,4,6,7,8-HpCDD	4.04e+06	9.96e+02	4.1e+03	3.80e+06	6.56e+02	5.8e+03
17	OCDD	5.11e+06	4.00e+02	1.3e+04	5.79e+06	3.44e+02	1.7e+04
18	13C-2,3,7,8-TCDF	7.06e+06	3.76e+02	1.9e+04	9.19e+06	6.40e+02	1.4e+04
19	13C-1,2,3,7,8-PeCDF	1.22e+07	1.32e+02	9.2e+04	7.91e+06	3.04e+02	2.6e+04
20	13C-2,3,4,7,8-PeCDF	1.27e+07	1.32e+02	9.6e+04	8.19e+06	3.04e+02	2.7e+04
21	13C-1,2,3,4,7,8-HxCDF	6.56e+06	2.04e+02	3.2e+04	1.29e+07	2.76e+02	4.7e+04
22	13C-1,2,3,6,7,8-HxCDF	7.10e+06	2.04e+02	3.5e+04	1.37e+07	2.76e+02	4.9e+04
23	13C-2,3,4,6,7,8-HxCDF	7.13e+06	2.04e+02	3.5e+04	1.35e+07	2.76e+02	4.9e+04
24	13C-1,2,3,7,8,9-HxCDF	6.24e+06	2.04e+02	3.1e+04	1.20e+07	2.76e+02	4.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	5.26e+06	3.02e+03	1.7e+03	1.18e+07	2.45e+03	4.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.21e+06	3.02e+03	1.4e+03	9.41e+06	2.45e+03	3.8e+03
27	13C-2,3,7,8-TCDD	5.49e+06	2.14e+03	2.6e+03	7.05e+06	6.84e+02	1.0e+04
28	13C-1,2,3,7,8-PeCDD	9.10e+06	3.64e+02	2.5e+04	5.86e+06	9.20e+01	6.4e+04
29	13C-1,2,3,4,7,8-HxCDD	8.94e+06	2.72e+02	3.3e+04	7.21e+06	2.40e+02	3.0e+04
30	13C-1,2,3,6,7,8-HxCDD	8.27e+06	2.72e+02	3.0e+04	6.74e+06	2.40e+02	2.8e+04
31	13C-1,2,3,4,6,7,8-HpCDD	7.60e+06	3.88e+02	2.0e+04	7.02e+06	2.56e+02	2.7e+04
32	13C-OCDD	8.62e+06	2.12e+02	4.1e+04	9.91e+06	4.12e+02	2.4e+04
33	13C-1,2,3,4-TCDD	5.34e+06	2.14e+03	2.5e+03	6.65e+06	6.84e+02	9.7e+03
34	13C-1,2,3,7,8,9-HxCDD	9.37e+06	2.72e+02	3.4e+04	7.60e+06	2.40e+02	3.2e+04
35	37Cl-2,3,7,8-TCDD	1.31e+06	2.32e+02	5.6e+03			

ALS ENVIRONMENTAL
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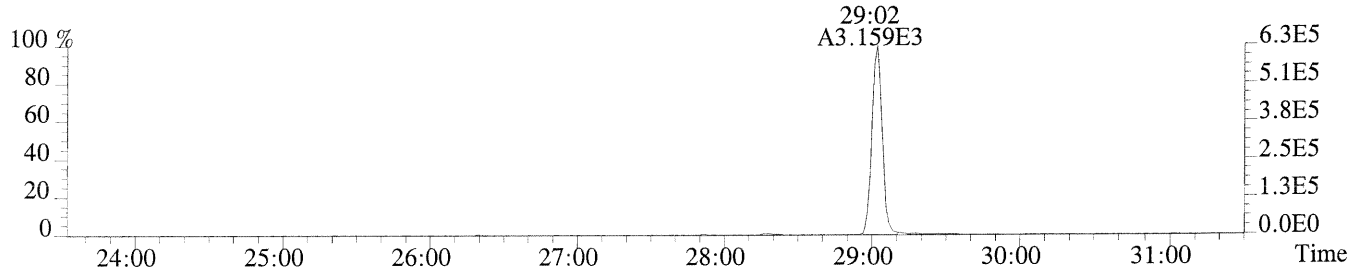
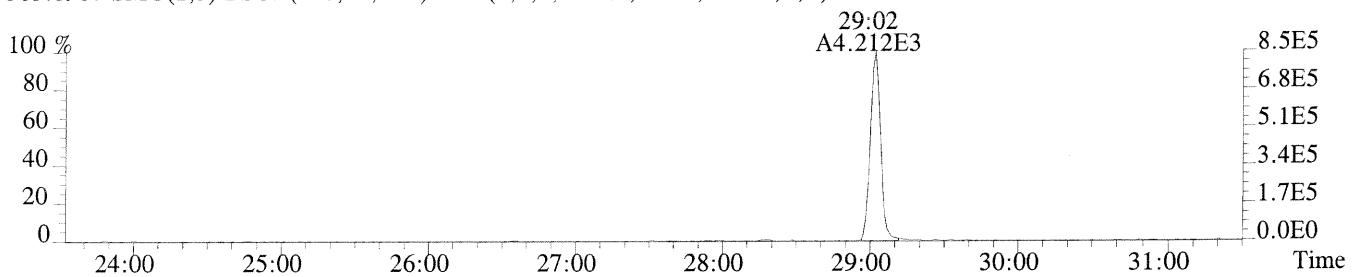
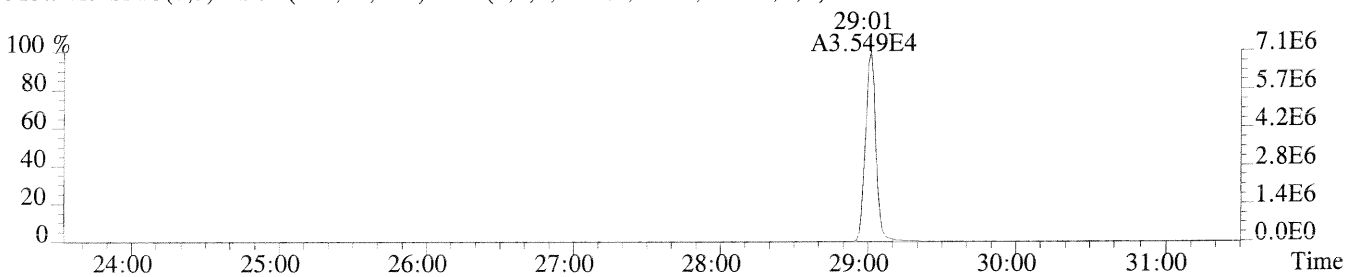
File:P171759 #1-501 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,144.0,1.00%,F,T)



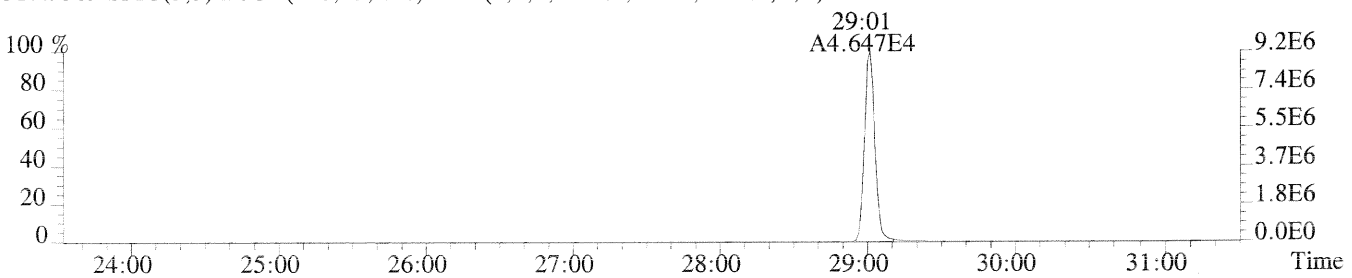
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



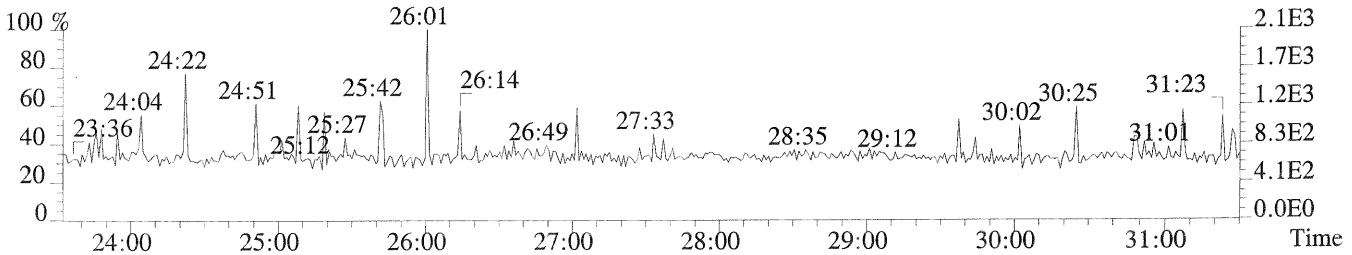
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



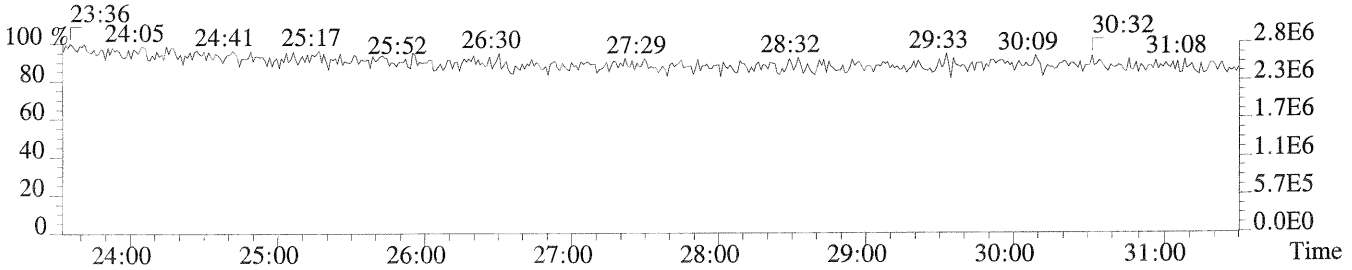
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

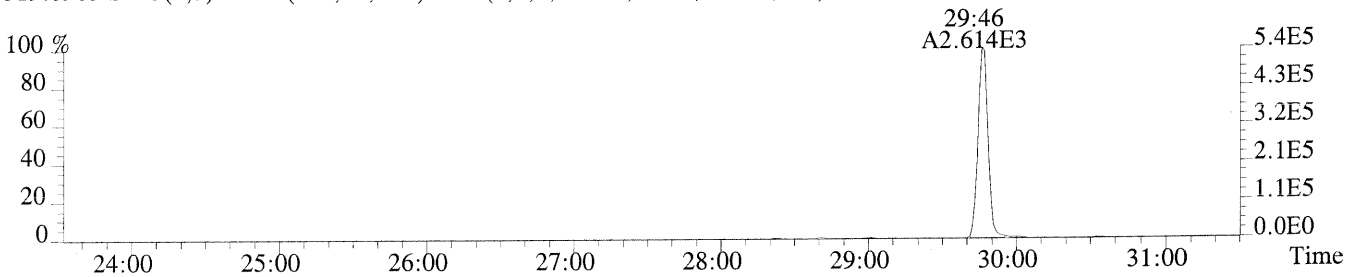


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

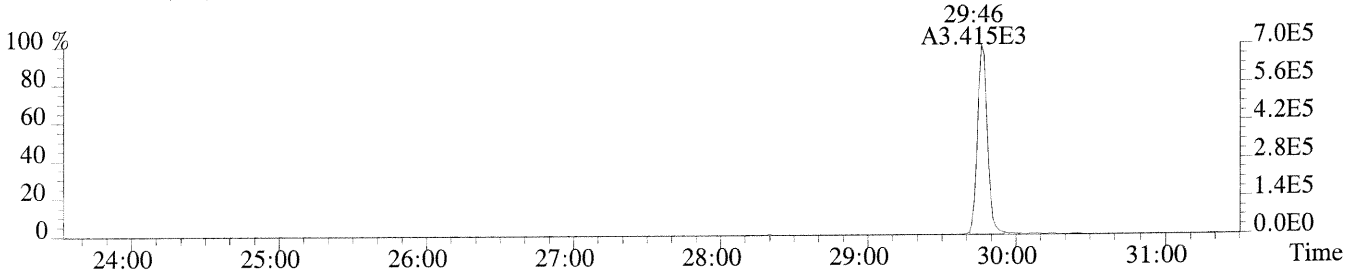


File:P171759 #1-501 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

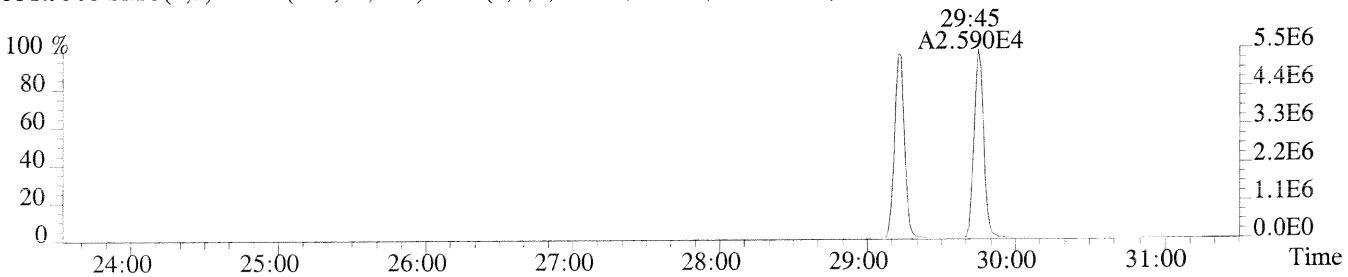
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



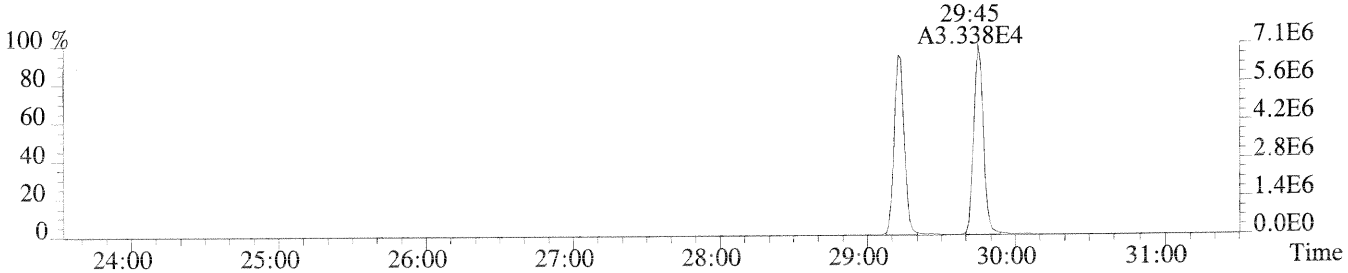
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



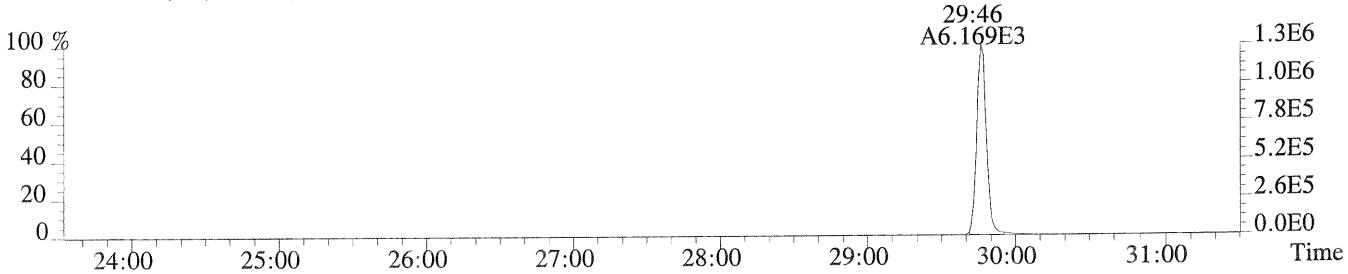
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2140.0,1.00%,F,T)



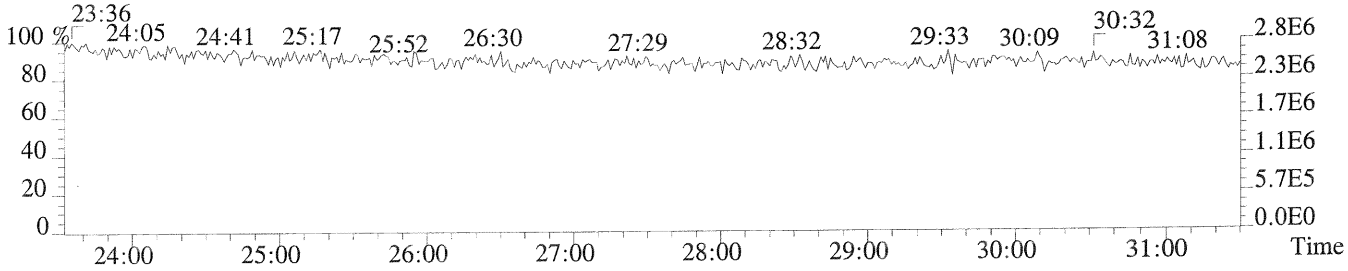
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



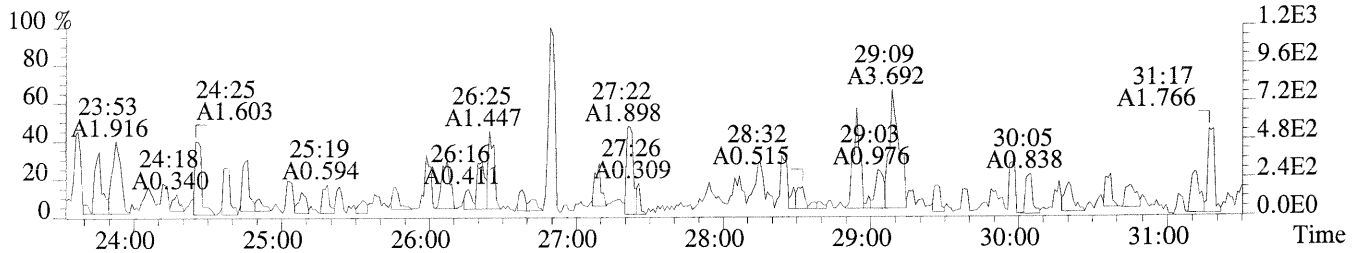
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



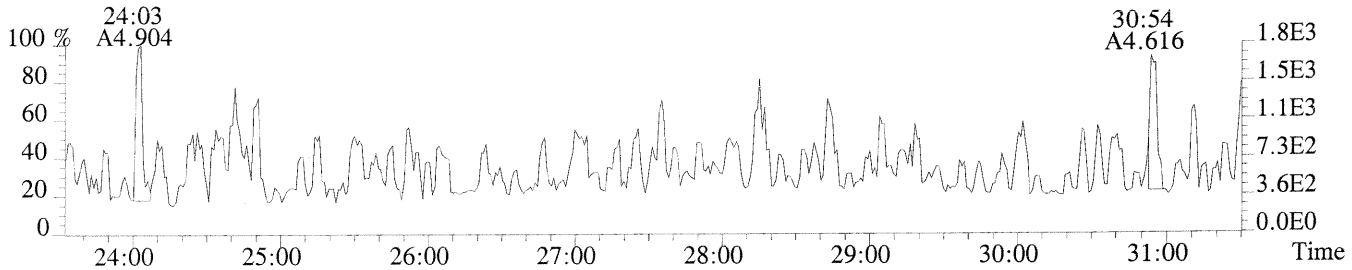
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



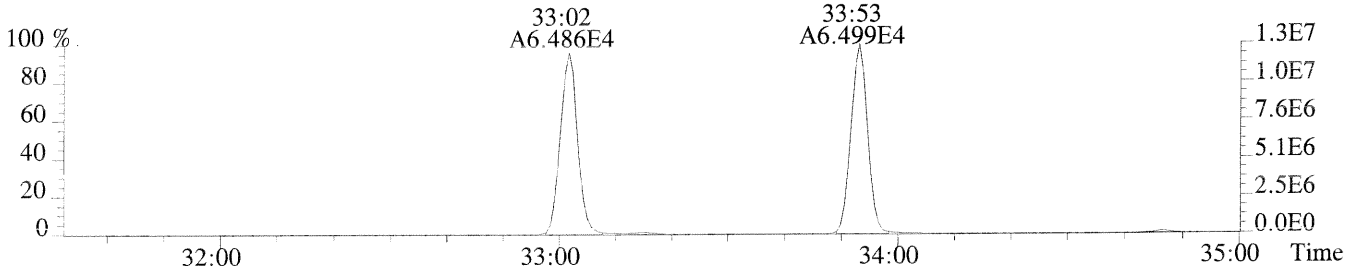
File:P171759 #1-501 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,T)



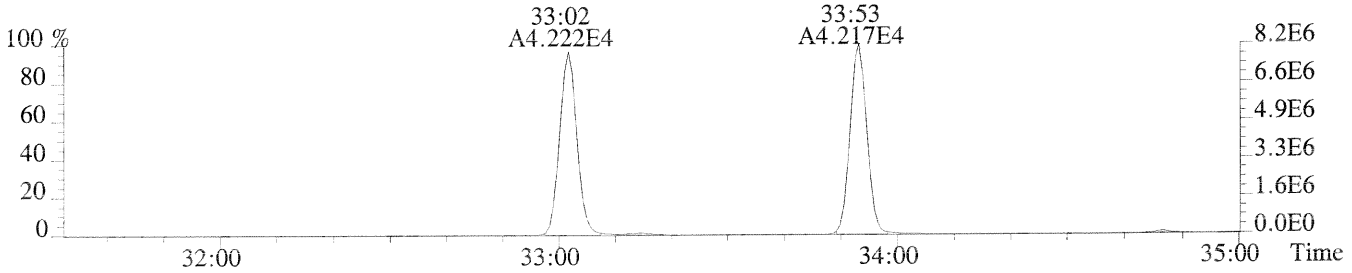
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,T)



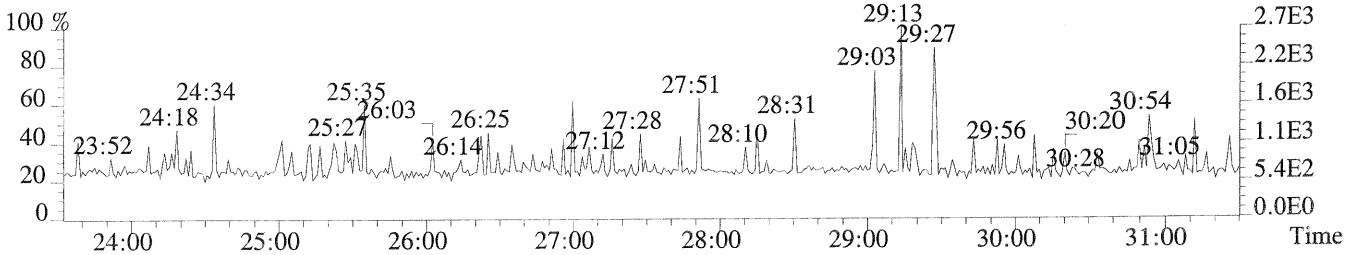
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)



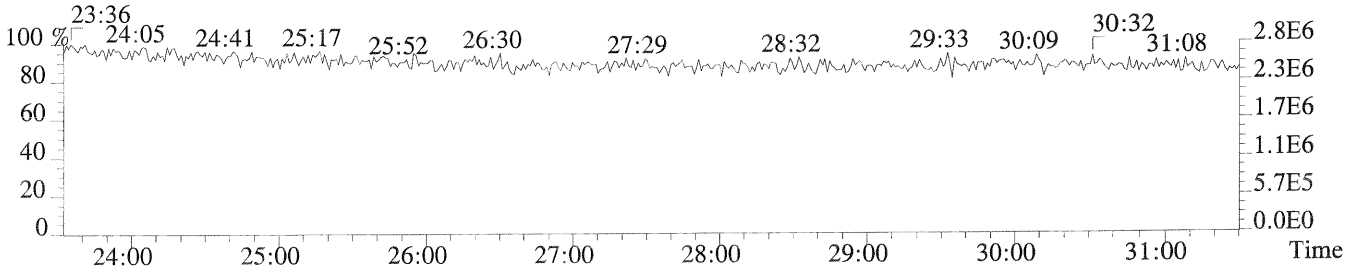
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

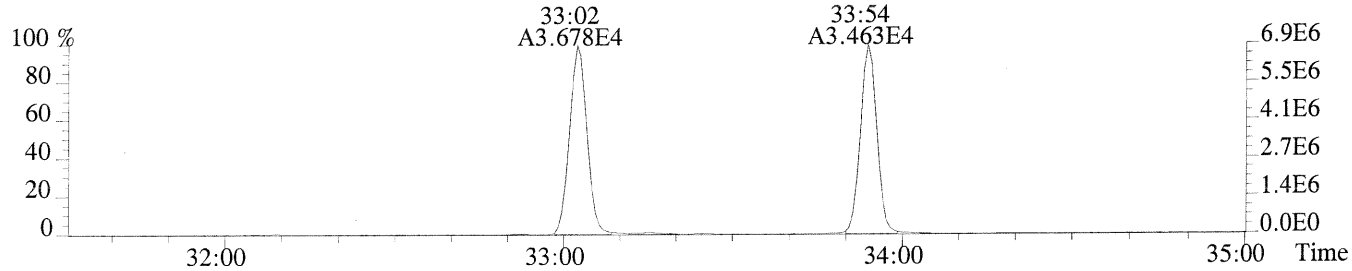


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

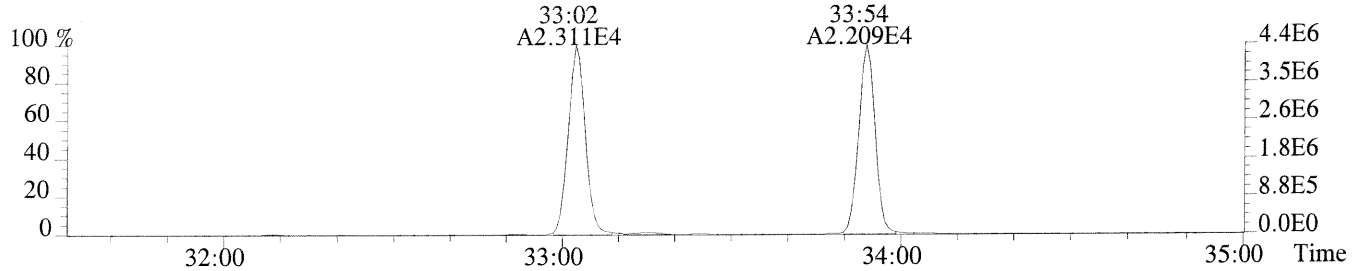


File:P171759 #1-315 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

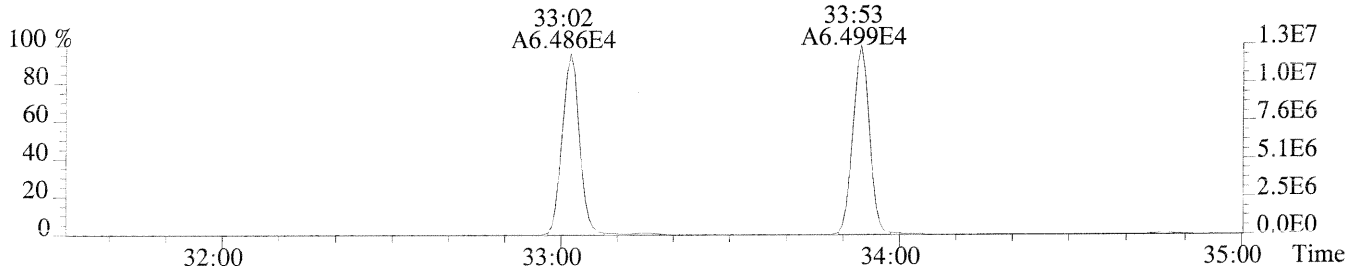
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,T)



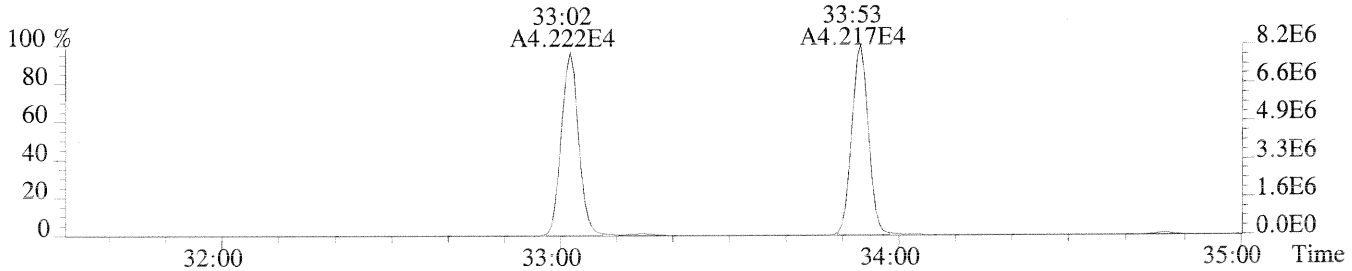
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



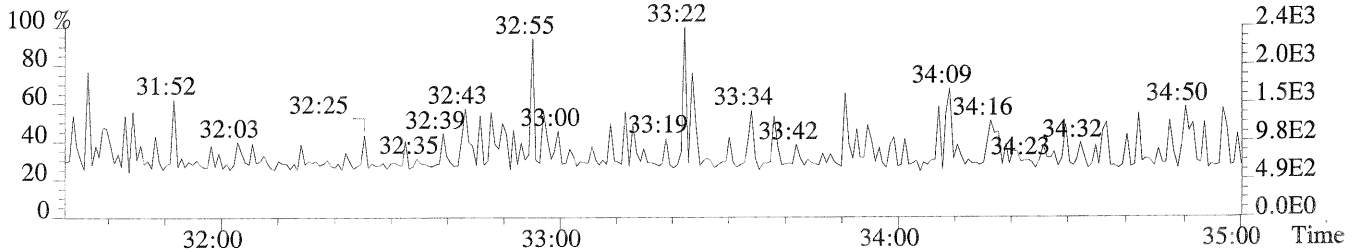
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)



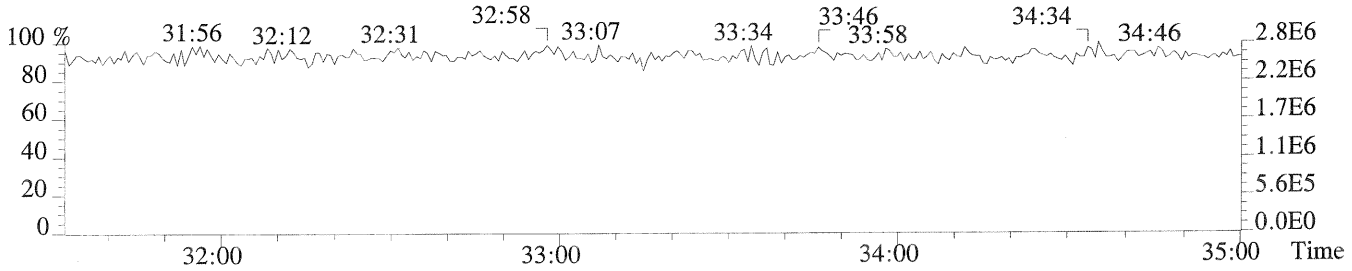
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



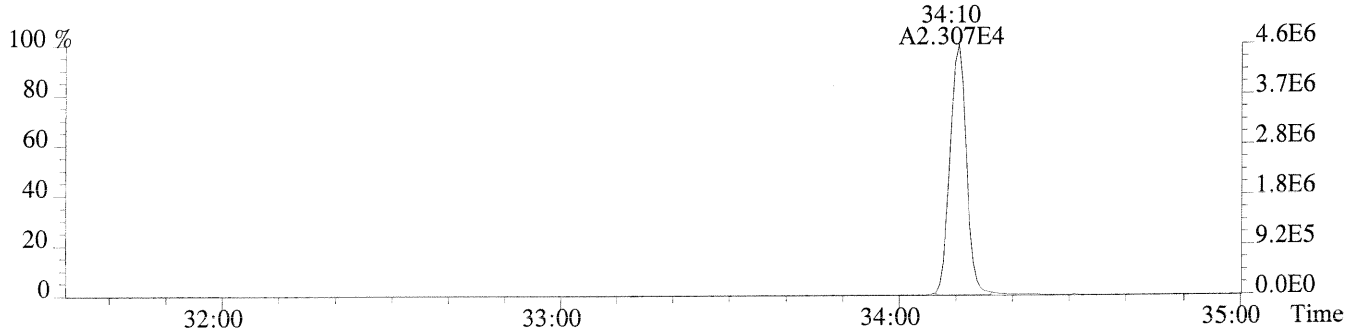
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



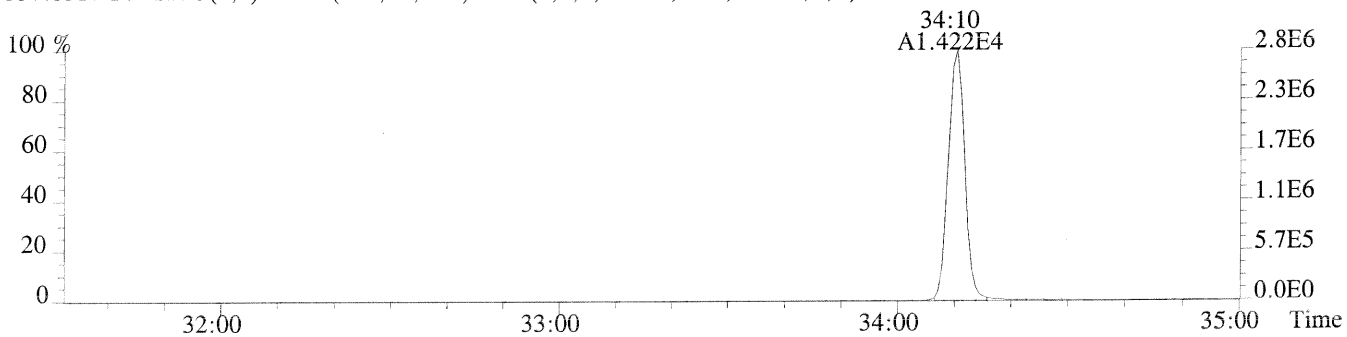
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



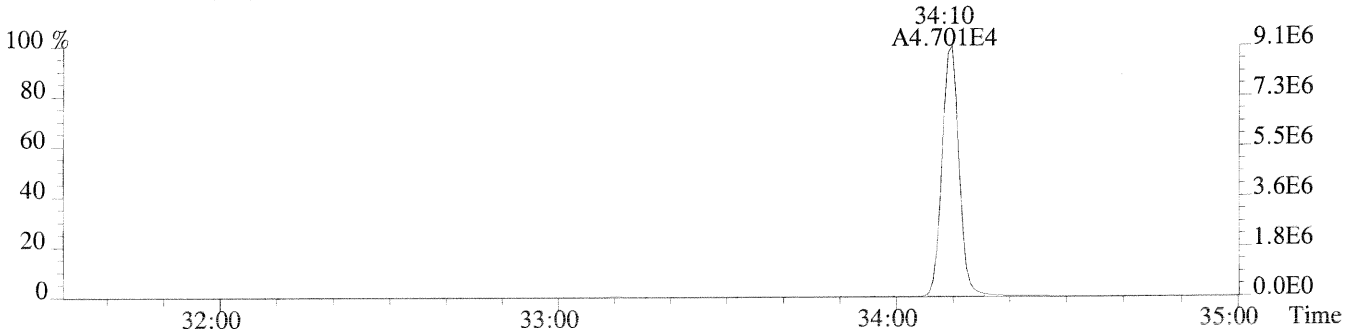
File:P171759 #1-315 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,T)



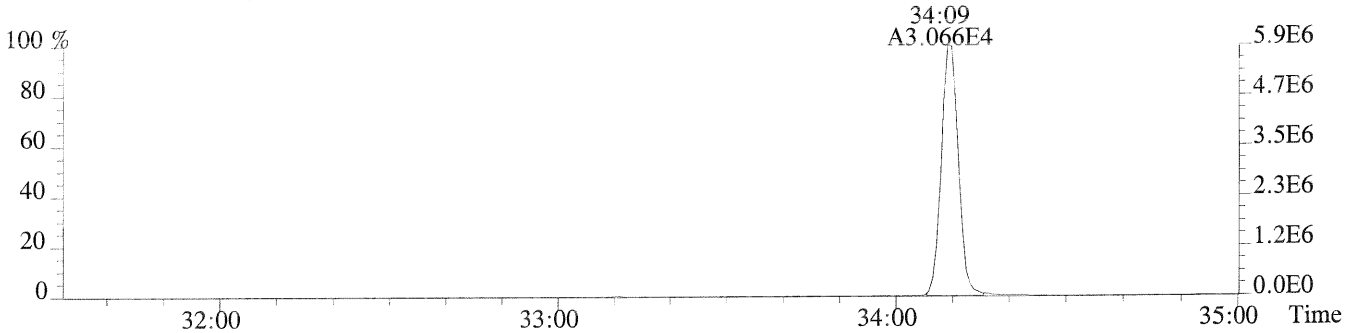
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,T)



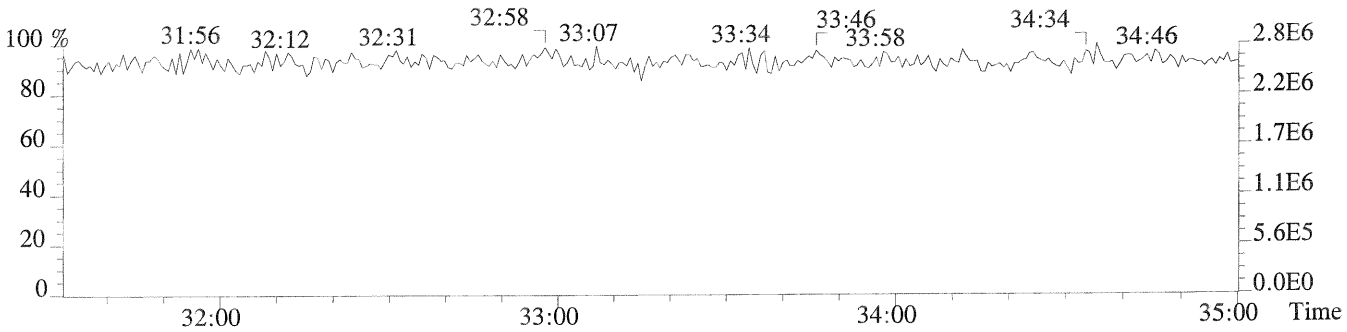
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,364.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,T)

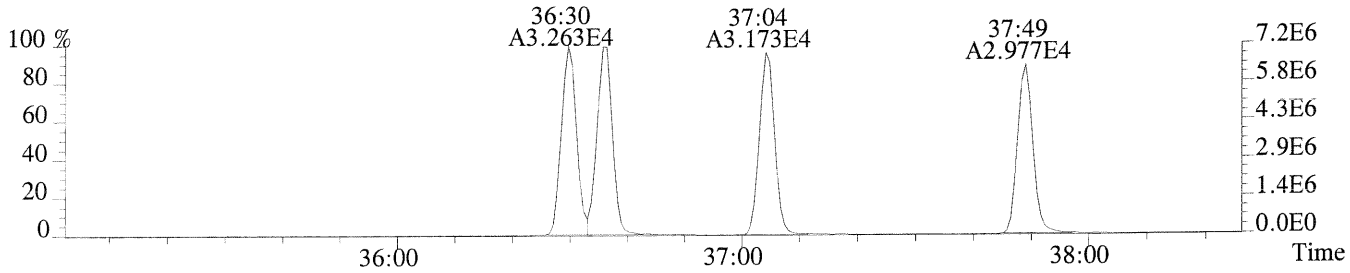


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

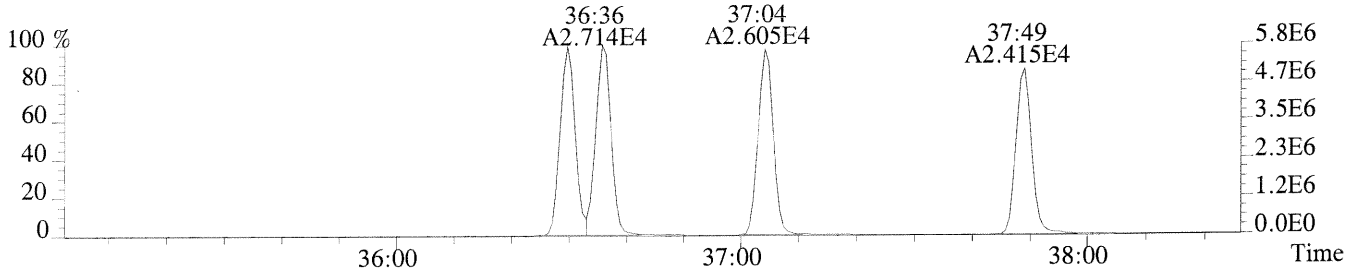


File:P171759 #1-309 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

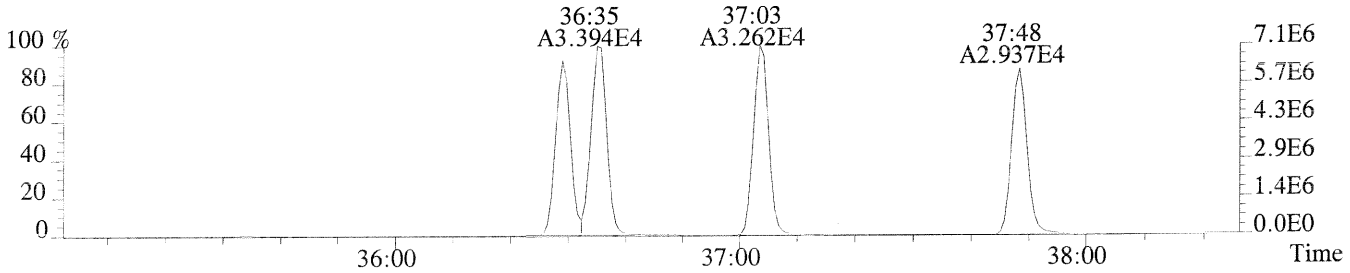
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,448.0,0.40%,F,T)



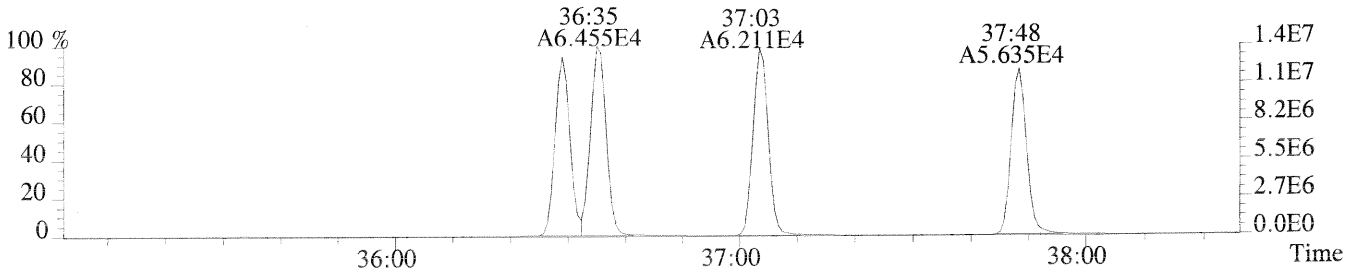
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



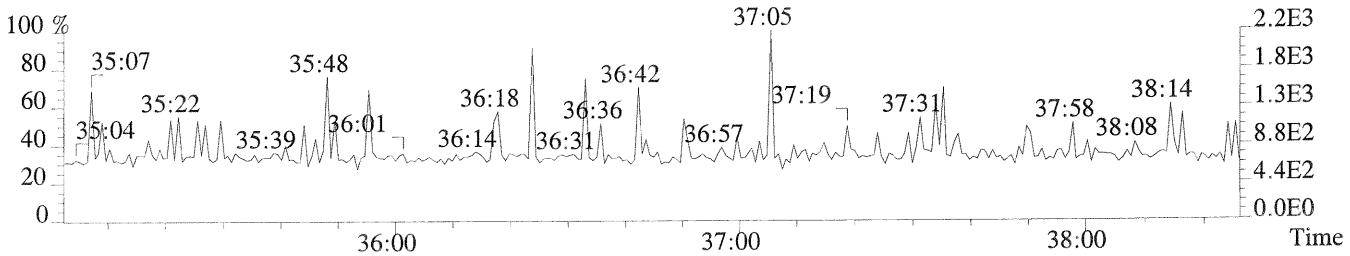
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,204.0,0.40%,F,T)



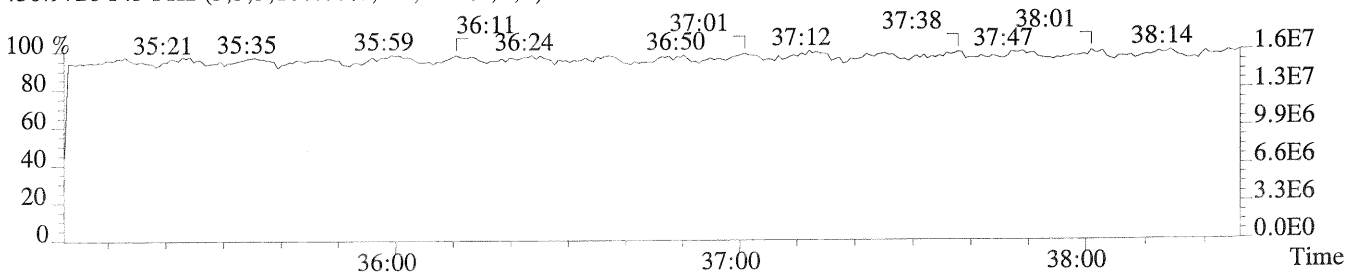
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)



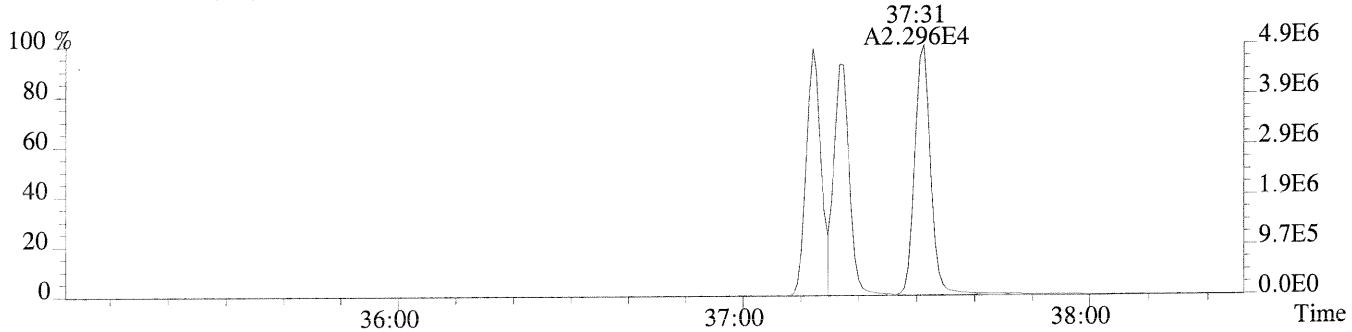
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



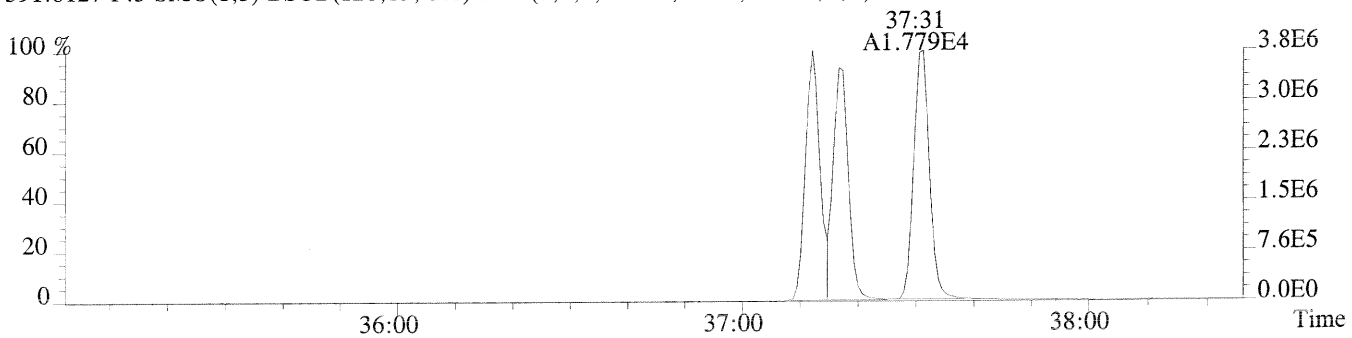
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



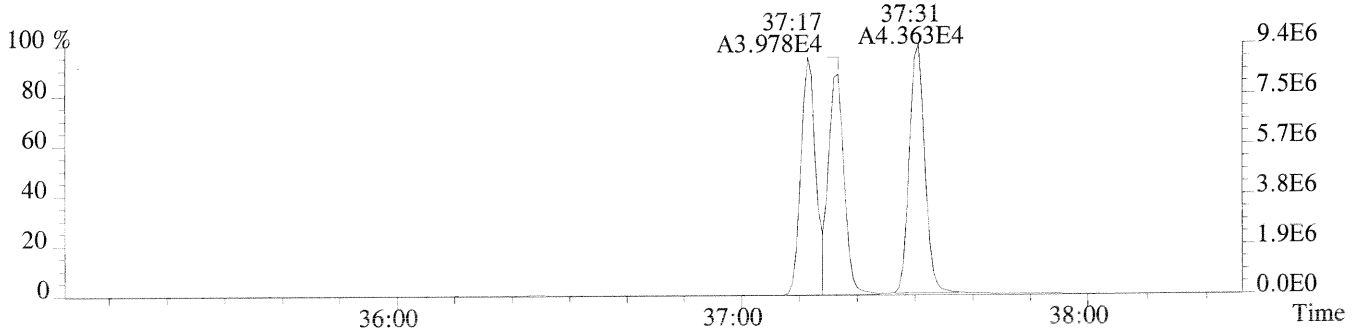
File:P171759 #1-309 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,632.0,0.40%,F,T)



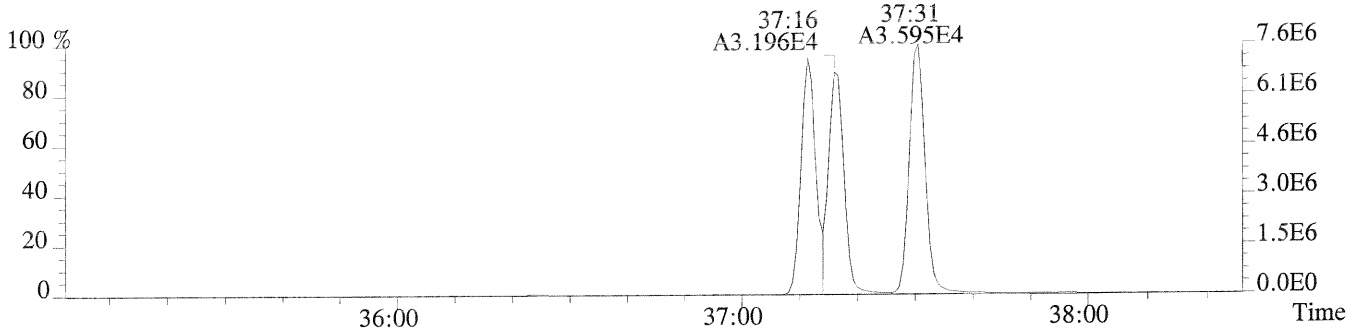
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,332.0,0.40%,F,T)



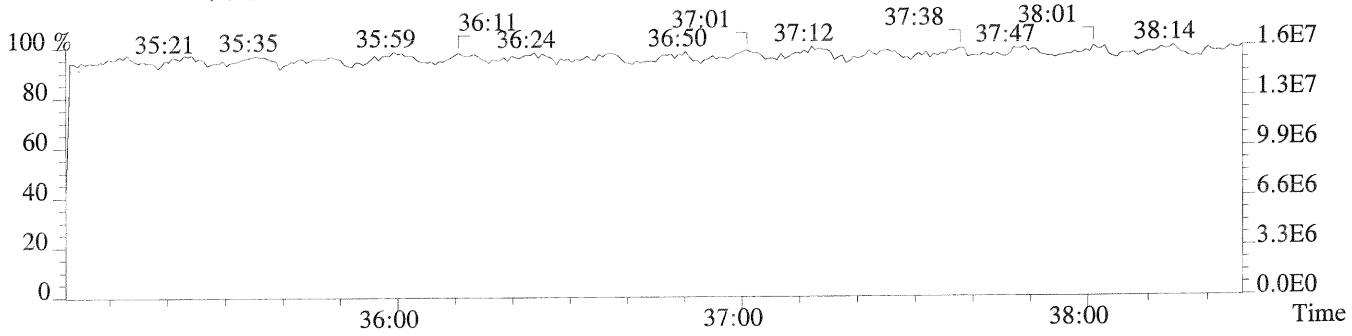
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,T)



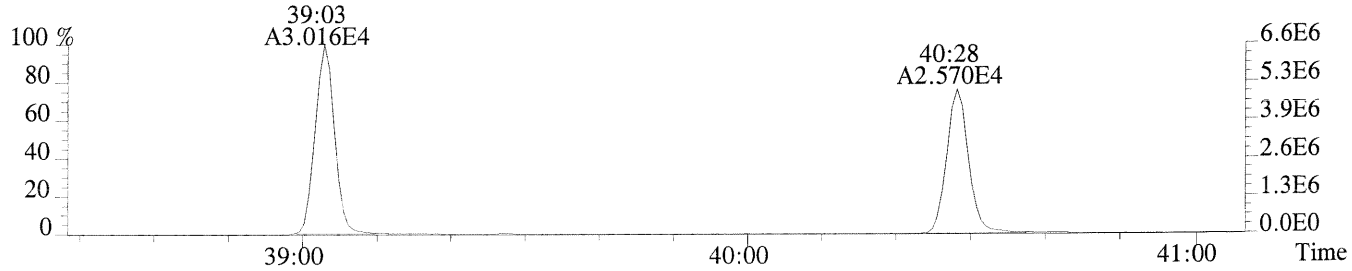
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.40%,F,T)



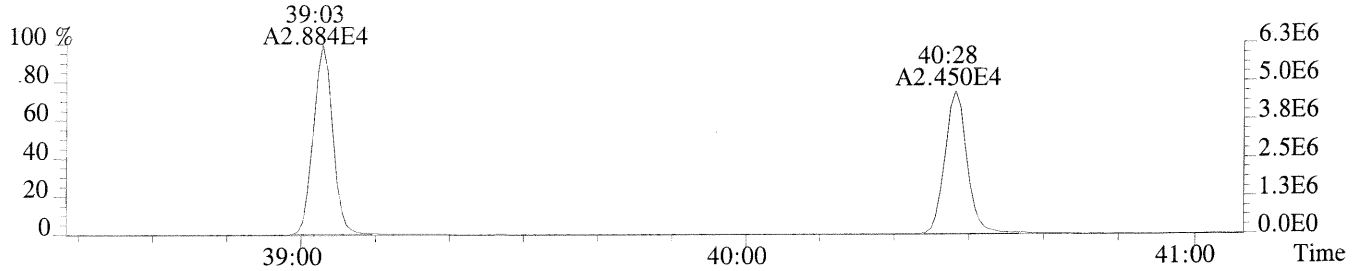
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



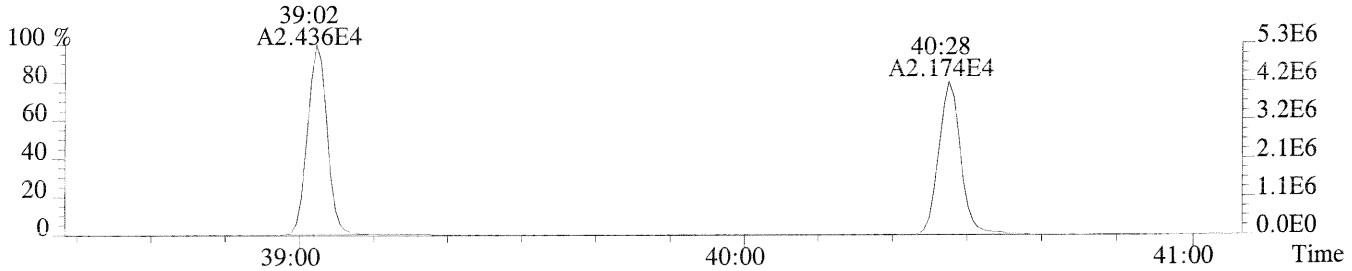
File:P171759 #1-240 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1344.0,0.50%,F,T)



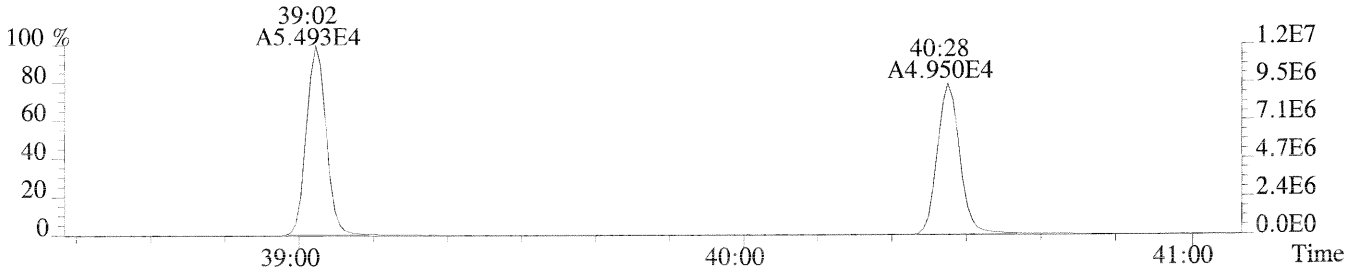
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2584.0,0.50%,F,T)



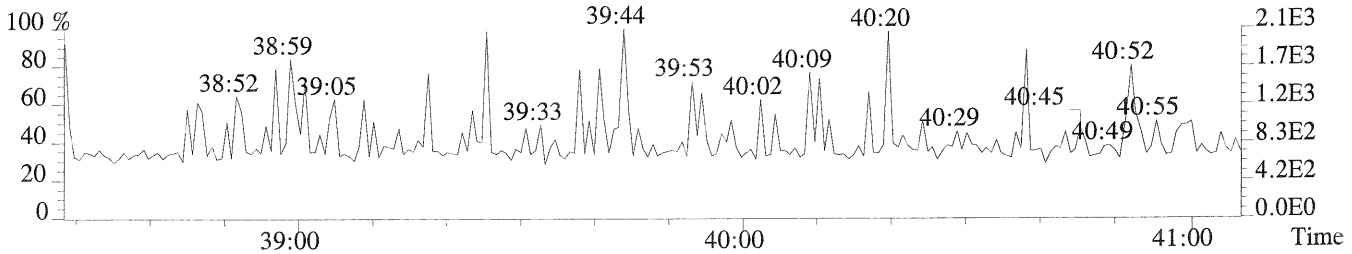
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3020.0,0.50%,F,T)



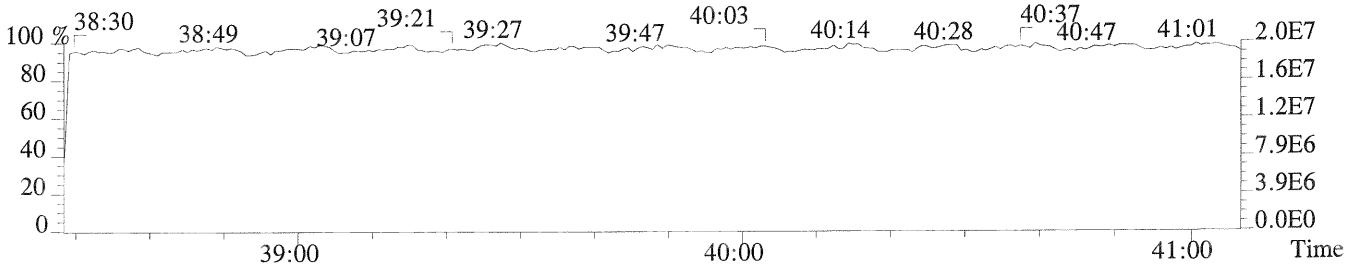
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2448.0,0.50%,F,T)



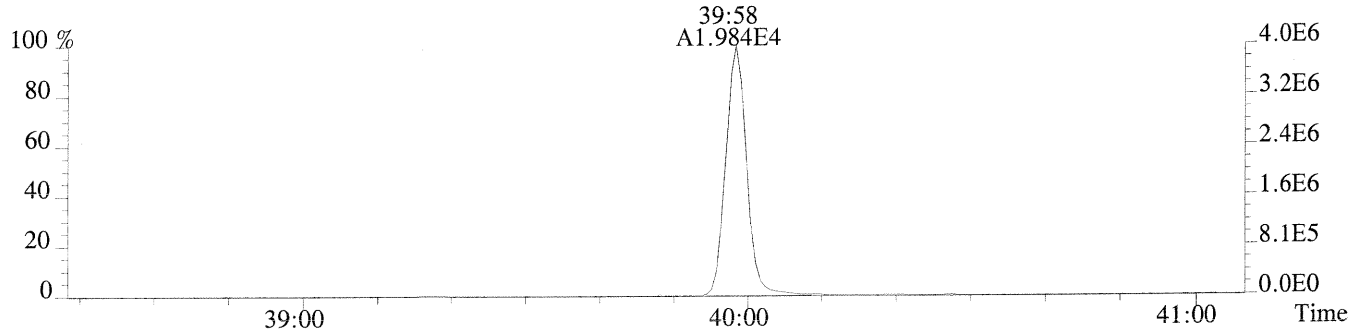
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



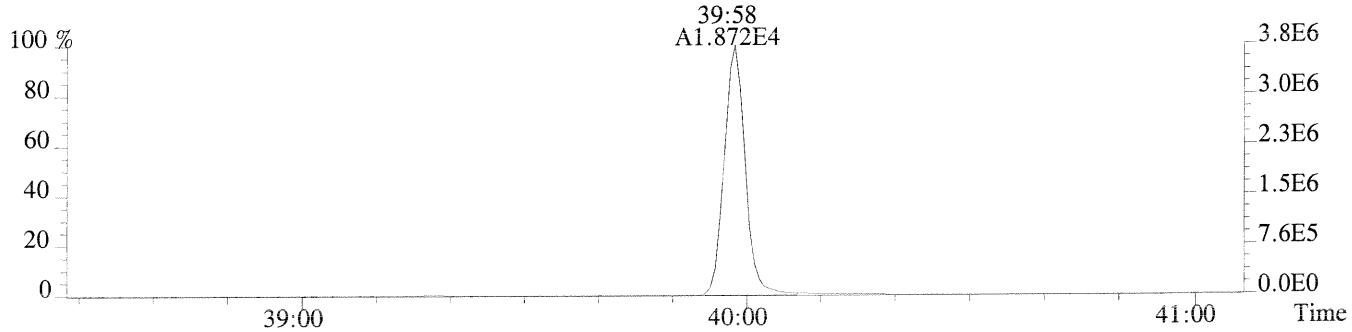
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



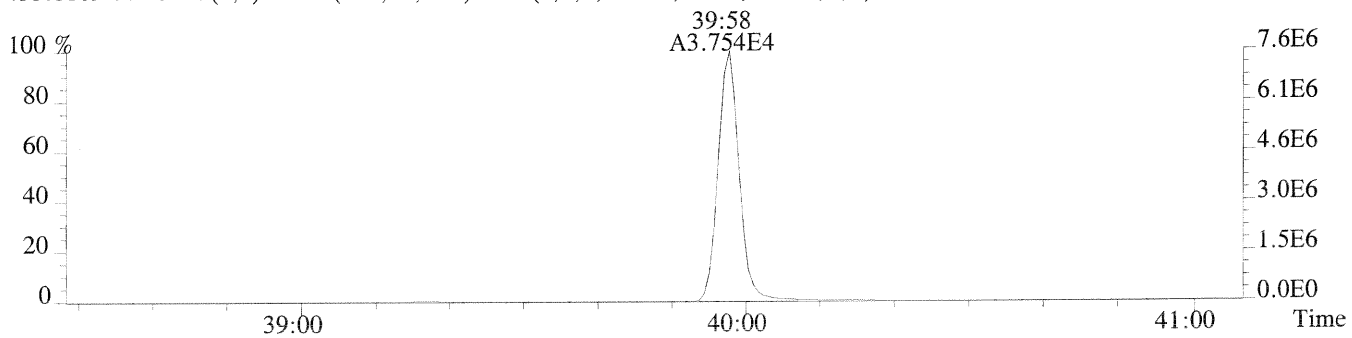
File:P171759 #1-240 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.40%,F,T)



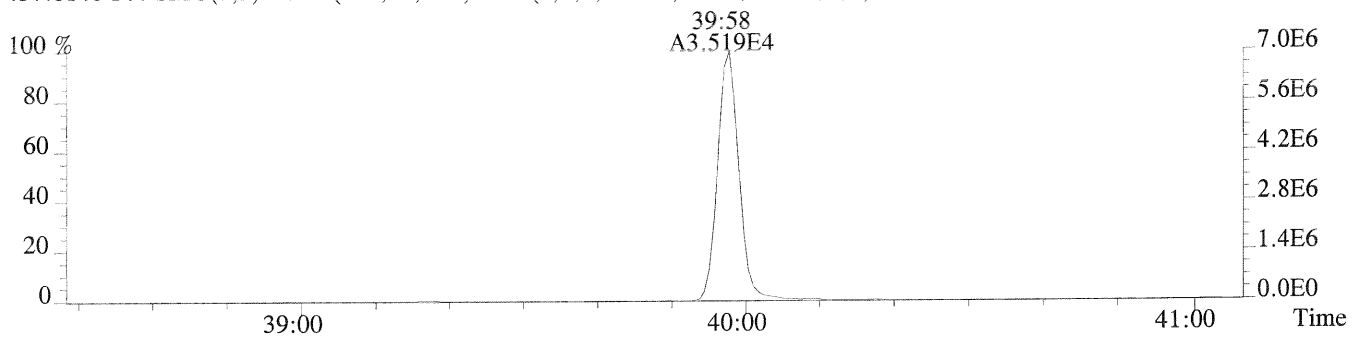
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)



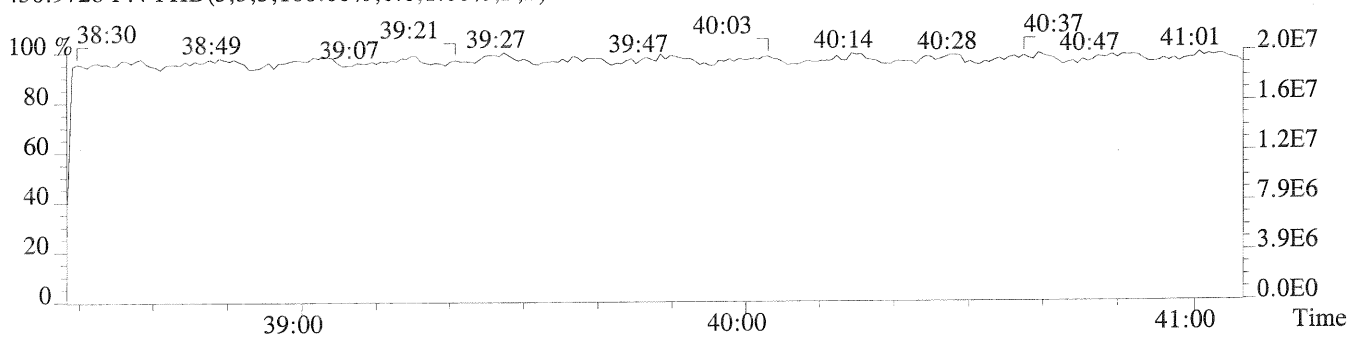
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,388.0,0.40%,F,T)



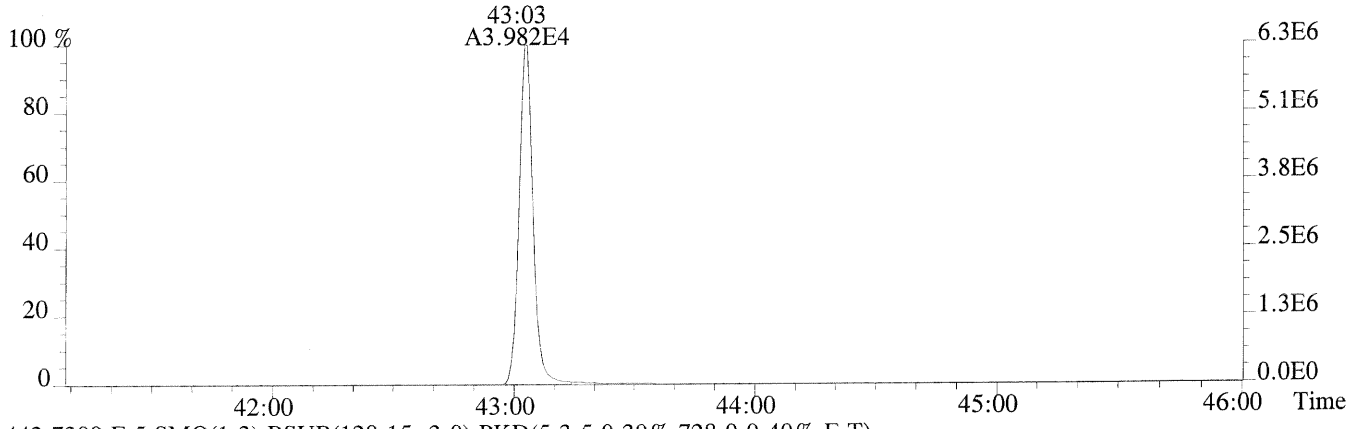
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



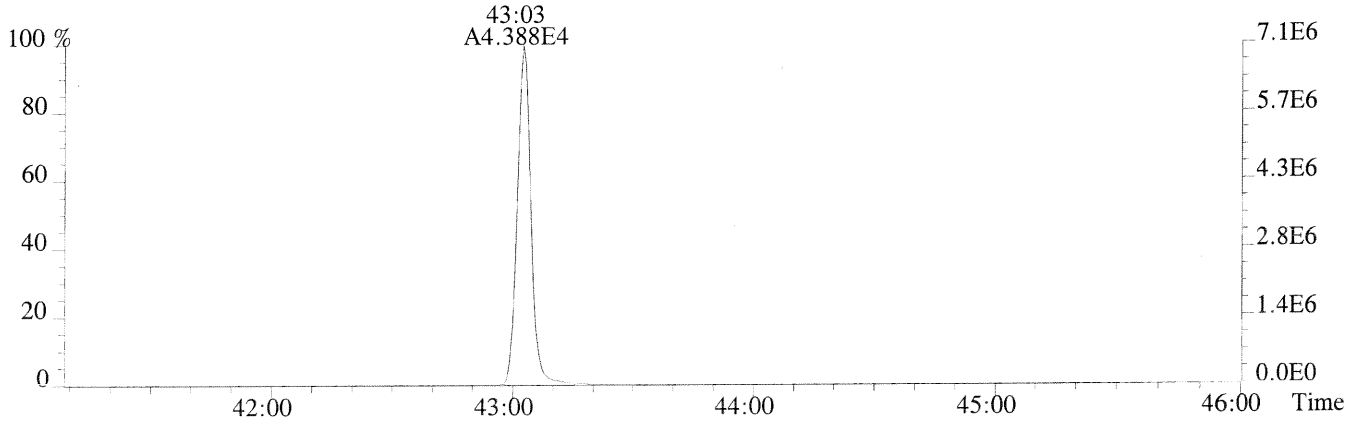
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



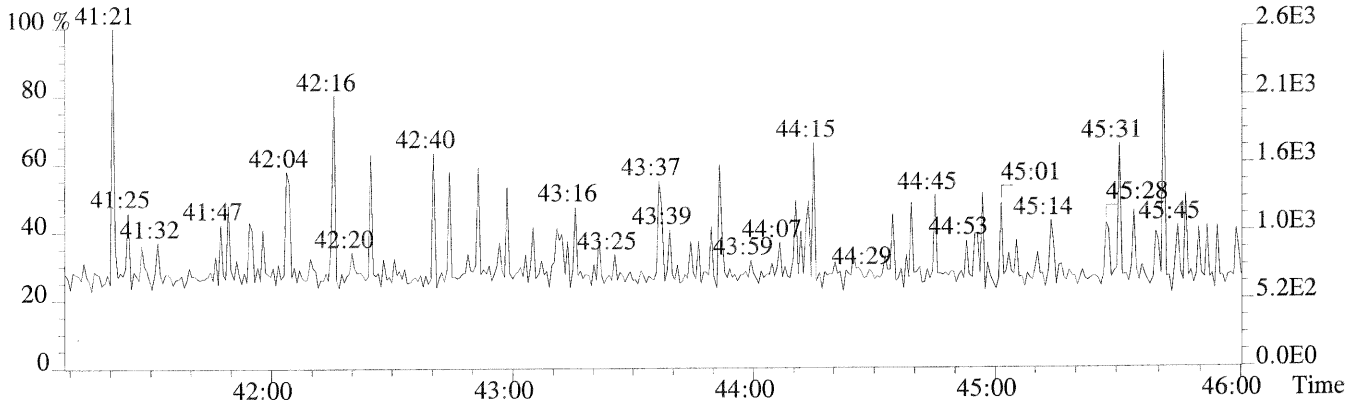
File:P171759 #1-447 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,364.0,0.40%,F,T)



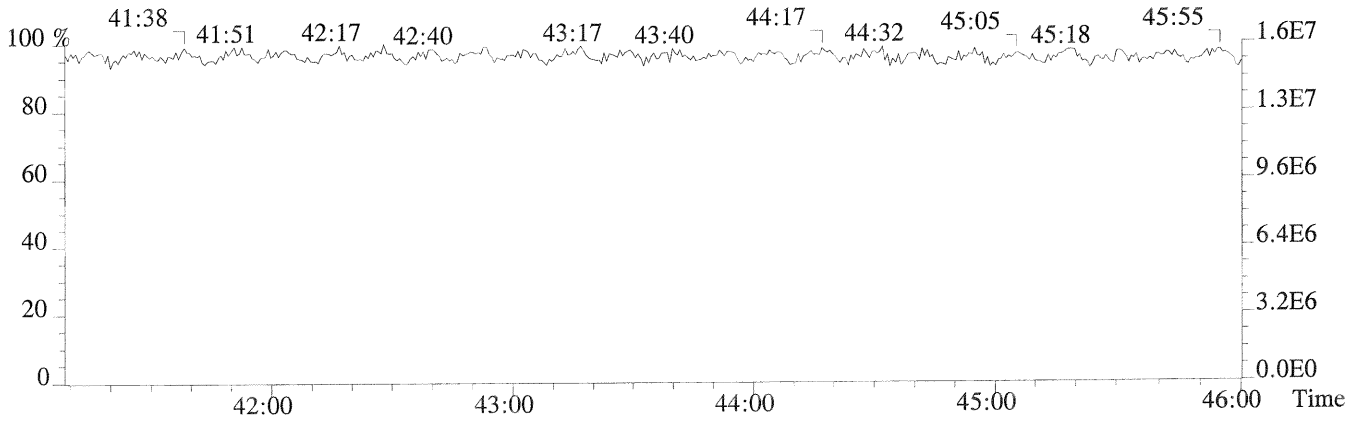
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



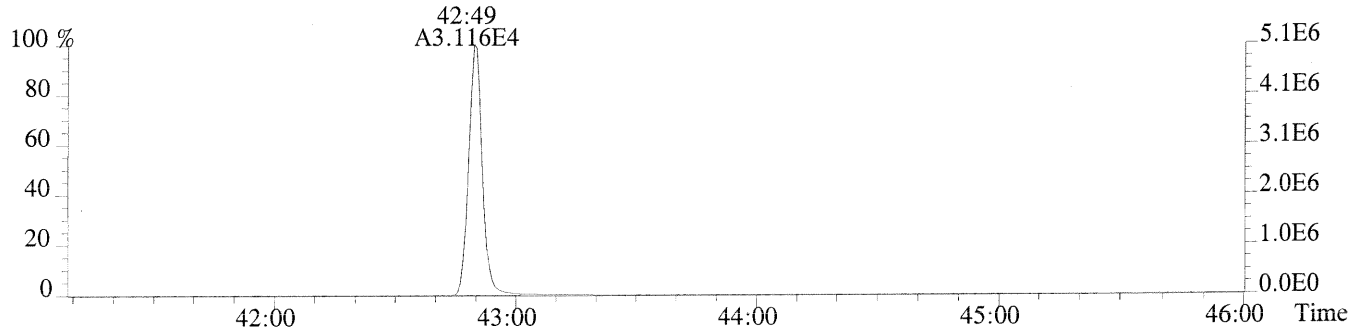
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



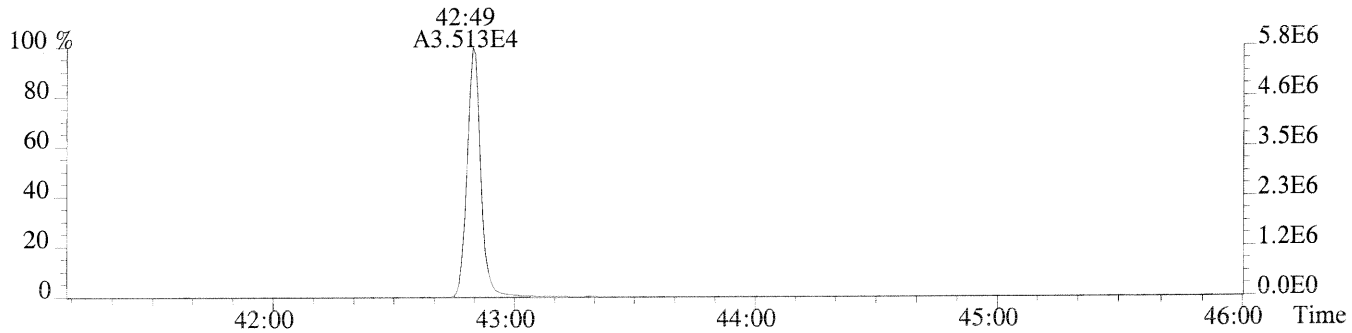
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



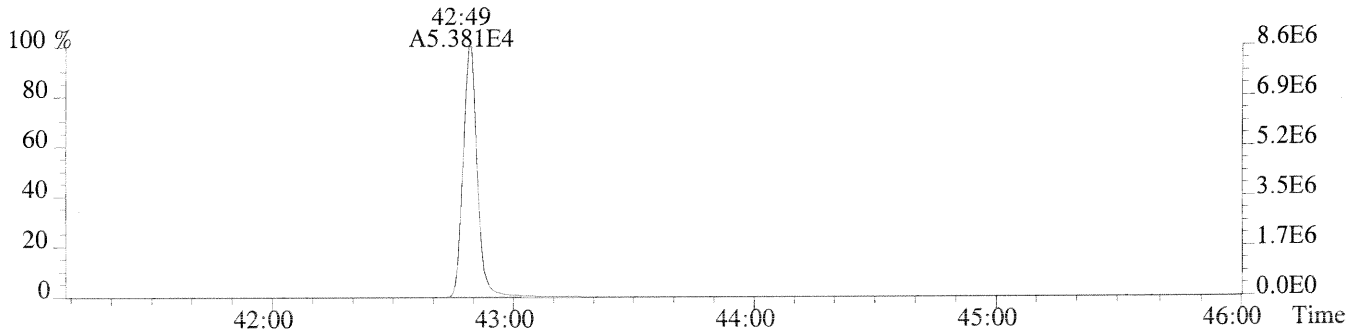
File:P171759 #1-447 Acq:24-JUN-2014 12:55:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,400.0,0.40%,F,T)



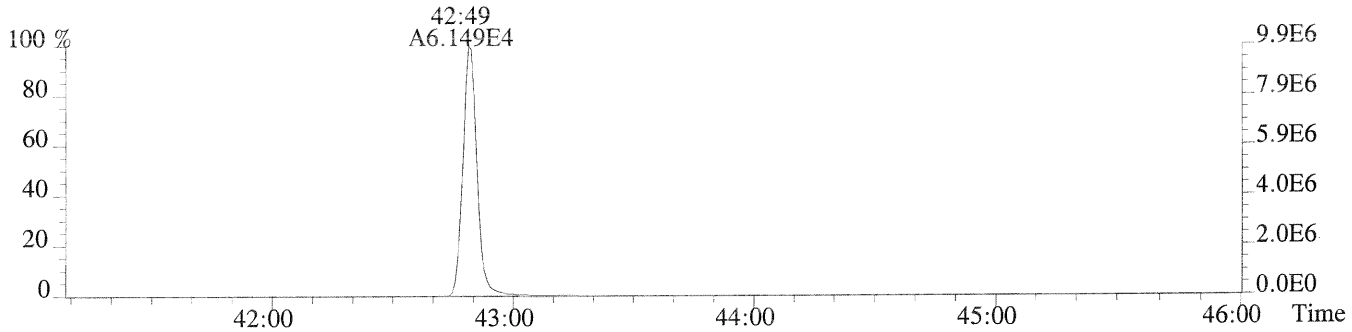
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,344.0,0.40%,F,T)



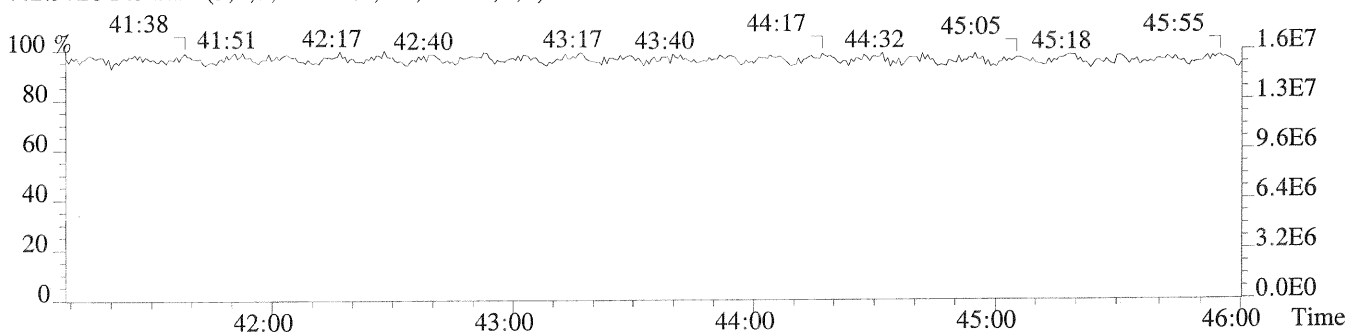
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,212.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,412.0,0.40%,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: U149679-U149686 Circle one: (Beginning) / (Ending)

Date: 06/23/14

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: JA

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: 05/21/2014

Init. Calib.Times: 13:12

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	U149680	23-JUN-14	10:24:32
66131	CCAL HRCC3/CS3	U149679	23-JUN-14	09:34:14
METHOD BLANK	EQ1400318-01	U149681	23-JUN-14	11:14:07
COMPOSITE	K1405697-007	U149682	23-JUN-14	12:01:07
SYC14-AC	K1405833-001	U149683	23-JUN-14	12:49:48
SYC14-TB	K1405833-002	U149684	23-JUN-14	13:38:28
SYC14-REF	K1405833-003	U149685	23-JUN-14	14:27:09
66131	CCAL HRCC3/CS3	U149686	23-JUN-14	15:16:33

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\U1140623.SPL
Last Modified: Monday, June 23, 2014 15:03:26 Central Daylight Time
Printed: Monday, June 23, 2014 16:56:23 Central Daylight Time

Page Position (1, 1)

K1405833

255 of 598

e:U1149679res

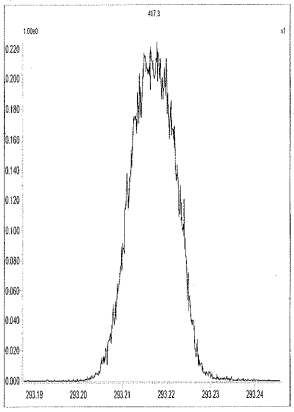
	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	06/23/14	09:34	U149679	CCAL HRCC3/CS3	66131	JC	HRMS CHECK 09:28	8290cas
2		10:24	U149680	WINDOW DEFINE	63680			8290cas
3		11:14	U149681	EQ1400318-01	MB			8290cas
4		12:01	U149682	K1405697-007	K1405697-007			8290cas
5		12:49	U149683	K1405833-001	K1405833-001			8290cas
6		13:38	U149684	K1405833-002	K1405833-002			8290cas
7		14:27	U149685	K1405833-003	K1405833-003			8290cas
8		15:16	U149686	CCAL HRCC3/CS3	66131		HRMS CHEC 16:13	8290cas
9			---	---	---			8290cas
10			---	---	---			8290cas
11			---	---	---			8290cas
12			---	---	---			8290cas
13			---	---	---			8290cas
14			---	---	---			8290cas
15			---	---	---			8290cas
16			---	---	---			8290cas
17			---	---	---			8290cas
18			---	---	---			8290cas
19			---	---	---			8290cas
20			---	---	---			8290cas
21			---	---	---			8290cas
22			---	---	---			8290cas
23			---	---	---			1668EPA
24			---	---	---			1668EPA
25			---	---	---			1668EPA
26			---	---	---			1668EPA
27			---	---	---			1668EPA
28			---	---	---			1668EPA
29			---	---	---			1668EPA
30			---	---	---			---
31			---	---	---			---
32			---	---	---			TCDFCAS
33			---	---	---			TCDFCAS
34			---	---	---			TCDFCAS
35			---	---	---			TCDFCAS
36			---	---	---			TCDFCAS
37			---	---	---			TCDFCAS
38			---	---	---			TCDFCAS
39			---	---	---			TCDFCAS

= 05

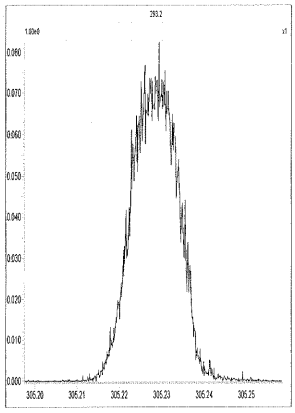
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, June 23, 2014 09:28:13 Central Daylight Time

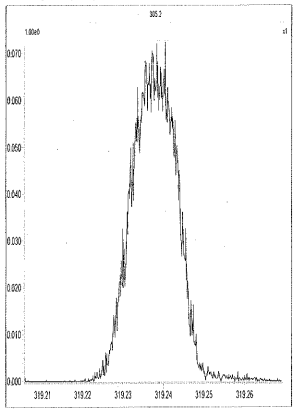
M 292.9824 R 13302



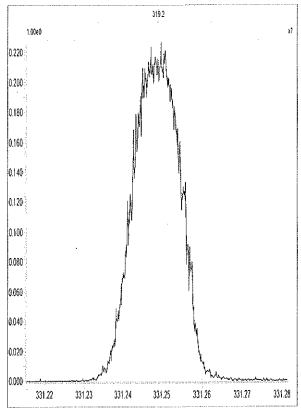
M 304.9824 R 13300



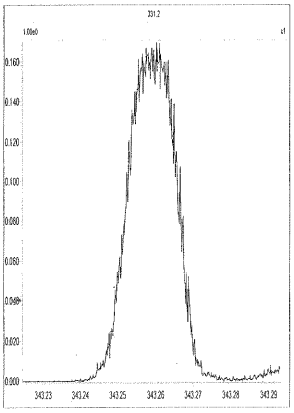
M 318.9792 R 14045



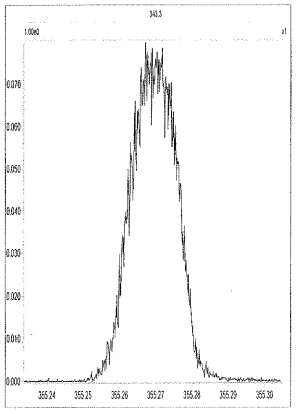
M 330.9792 R 13512



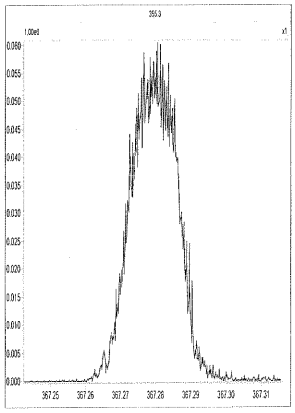
M 342.9792 R 14121



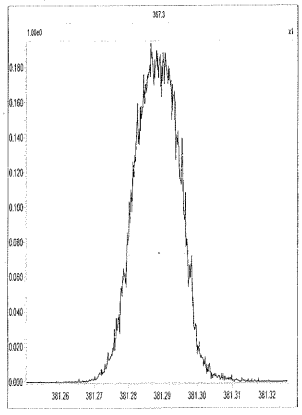
M 354.9792 R 14119



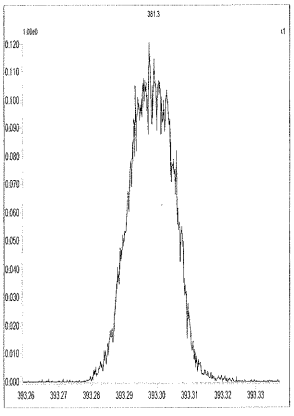
M 366.9792 R 13888



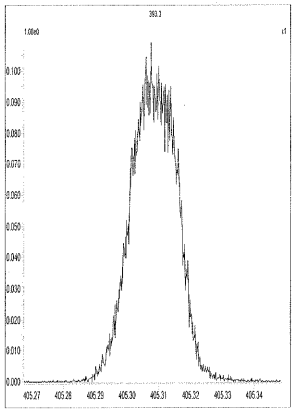
M 380.9760 R 13585



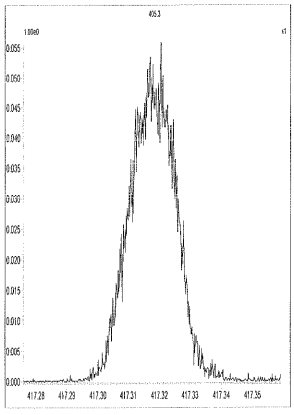
M 392.9760 R 13739



M 404.9760 R 12887



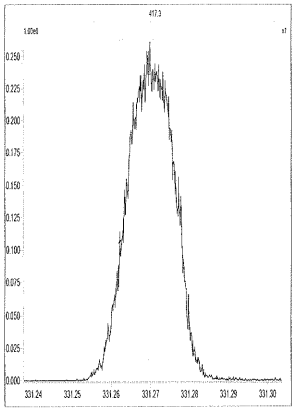
M 416.9760 R 13440



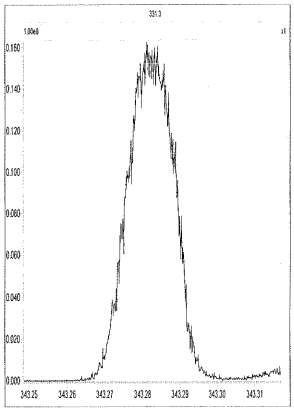
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, June 23, 2014 09:29:07 Central Daylight Time

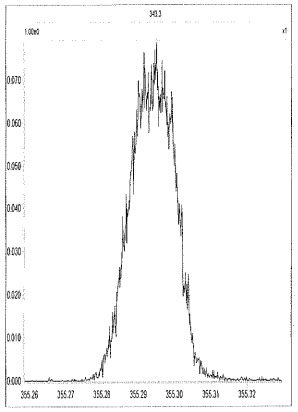
M 330.9792 R 13297



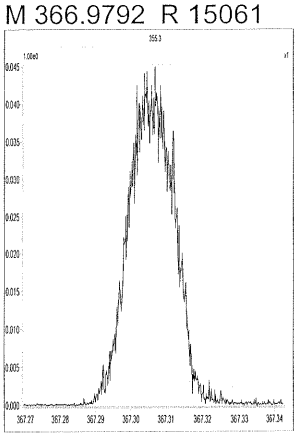
M 342.9792 R 13439



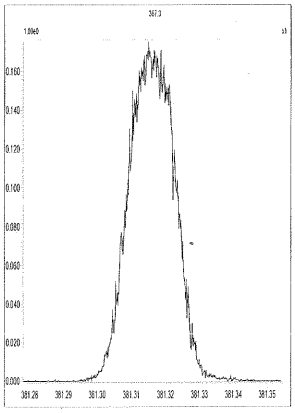
M 354.9792 R 13294



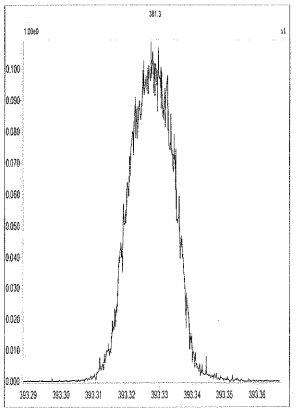
M 366.9792 R 15061



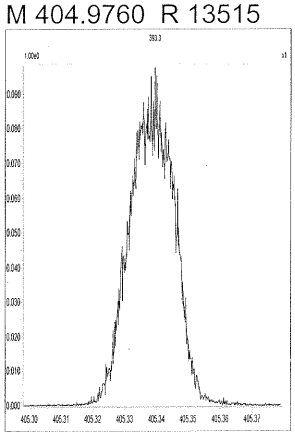
M 380.9760 R 13227



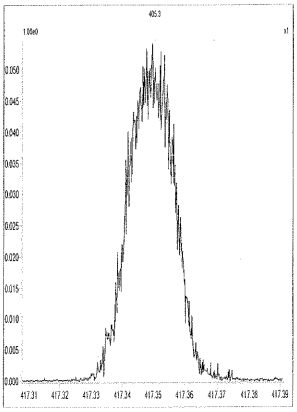
M 392.9760 R 14202



M 404.9760 R 13515



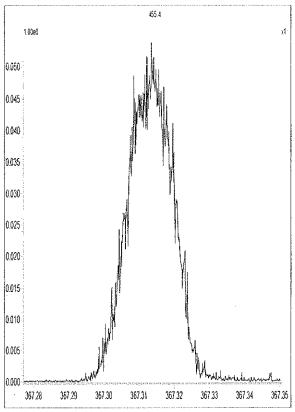
M 416.9760 R 13812



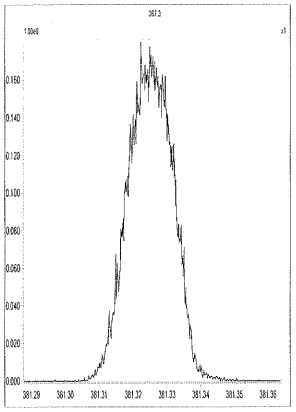
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, June 23, 2014 09:29:55 Central Daylight Time

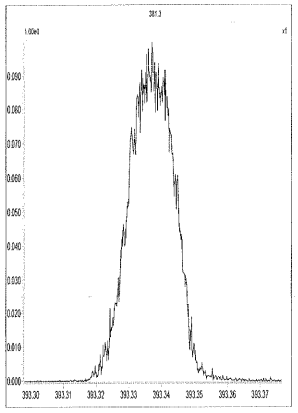
M 366.9792 R 13967



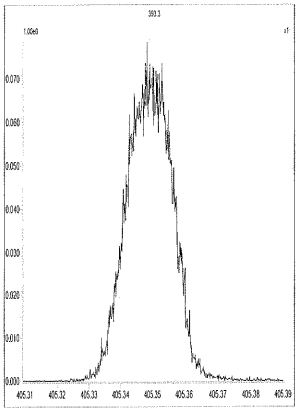
M 380.9760 R 13369



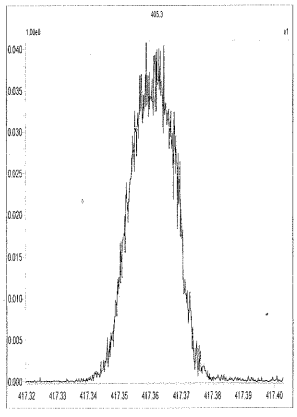
M 392.9760 R 13585



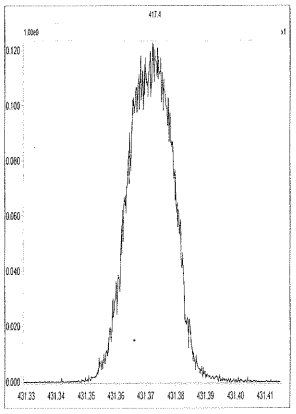
M 404.9760 R 13443



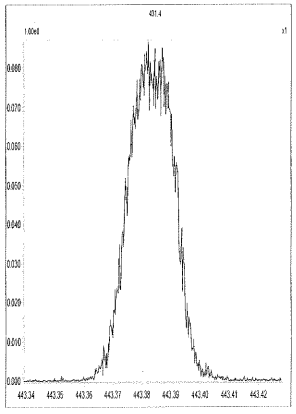
M 416.9760 R 14368



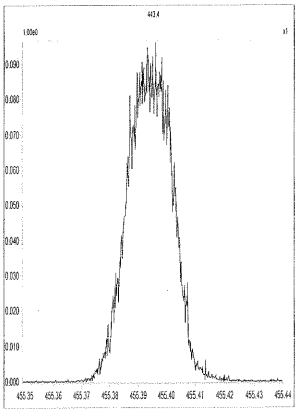
M 430.9728 R 13889



M 442.9728 R 14123



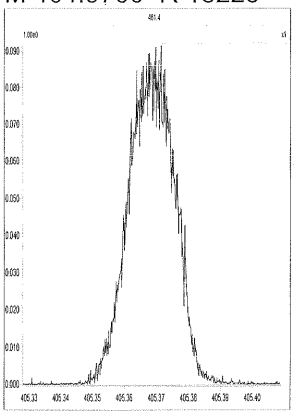
M 454.9728 R 13733



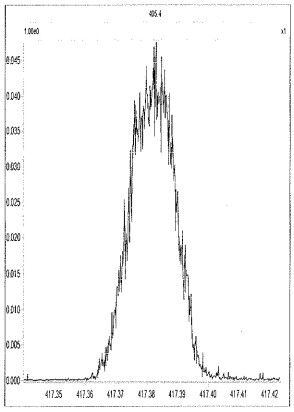
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, June 23, 2014 09:30:47 Central Daylight Time

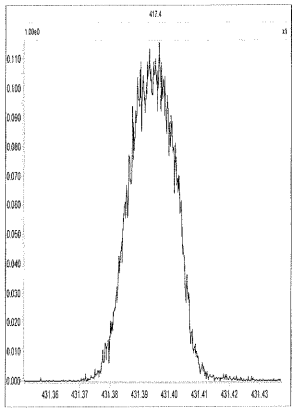
M 404.9760 R 13225



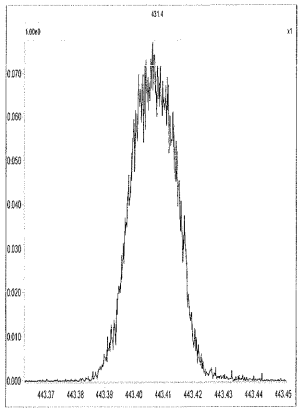
M 416.9760 R 13437



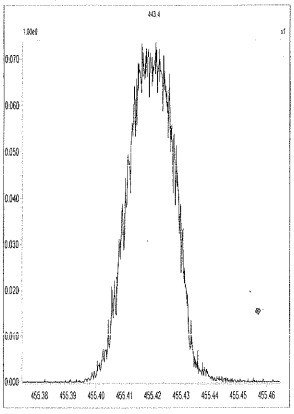
M 430.9728 R 13021



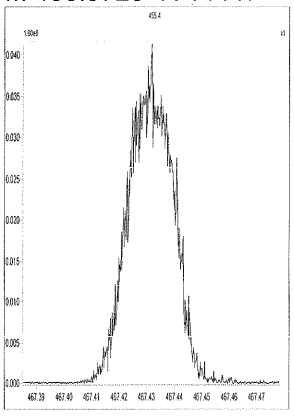
M 442.9728 R 13440



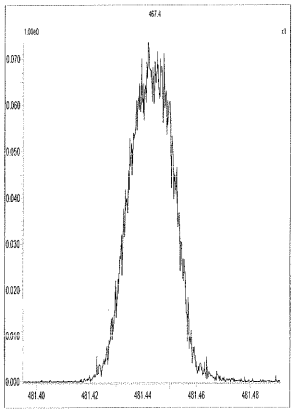
M 454.9728 R 13964



M 466.9728 R 14447



M 480.9696 R 13587



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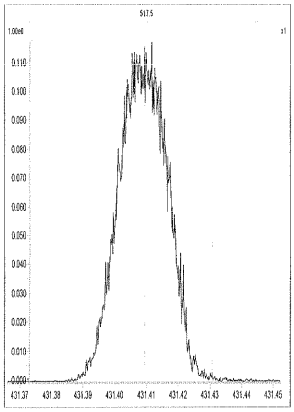
M 430.9728 R 13224



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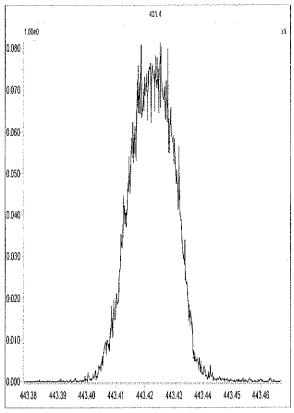
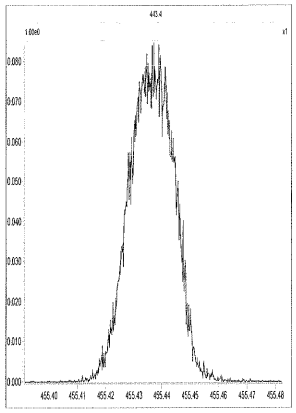
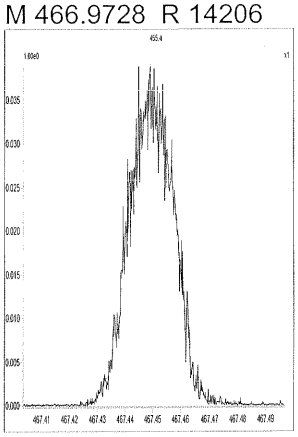


M 454.9728 R 13156



M 466.9728 R 14206



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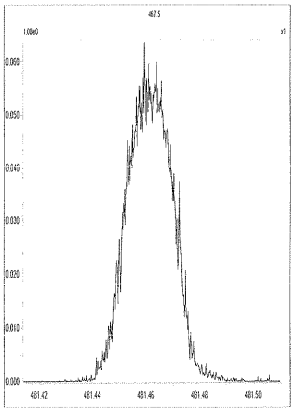
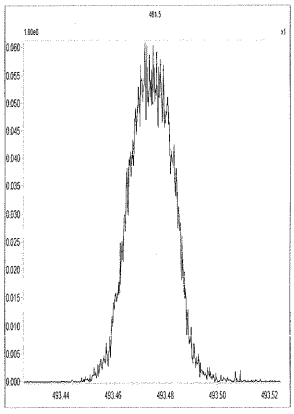
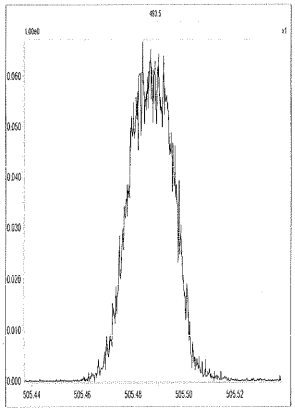


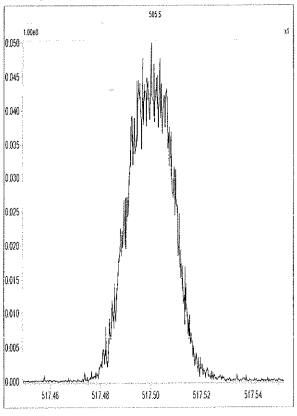
M 492.9696 R 13227



M 504.9696 R 14879



M 516.9697 R 13810



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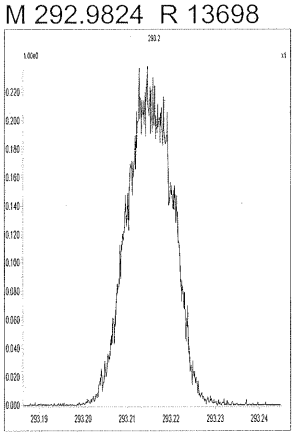
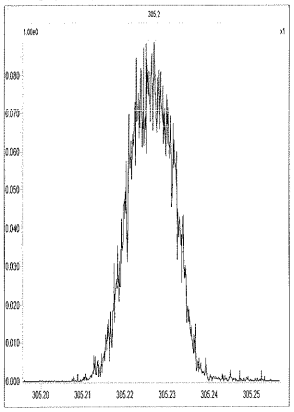
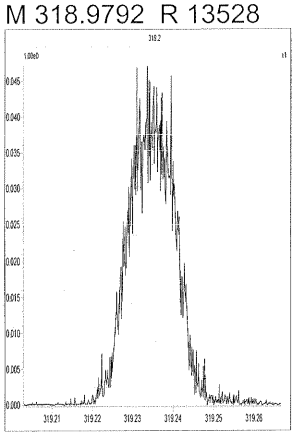
M 292.9824 R 13698



M 304.9824 R 13623



M 318.9792 R 13528



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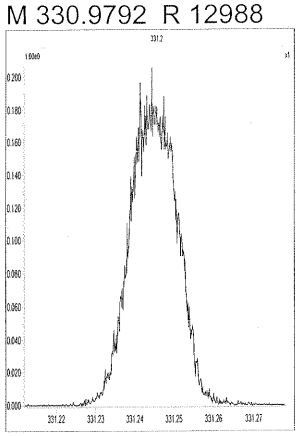

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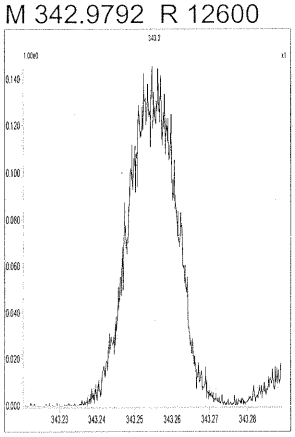

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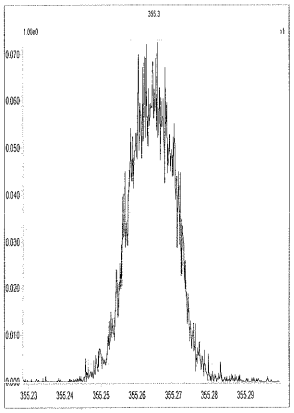

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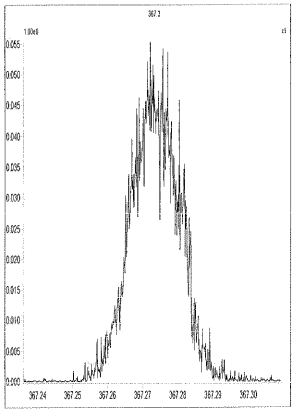

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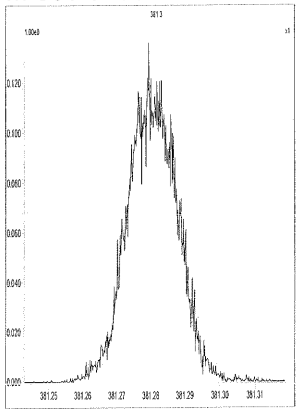

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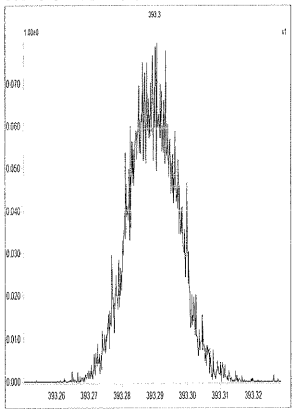

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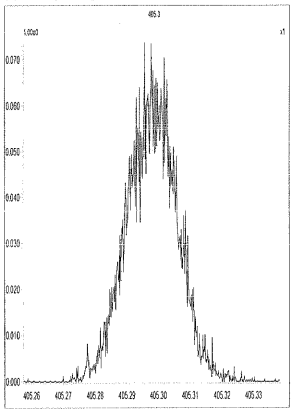

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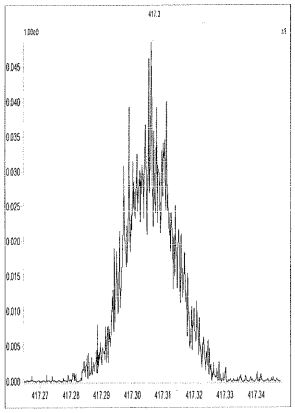

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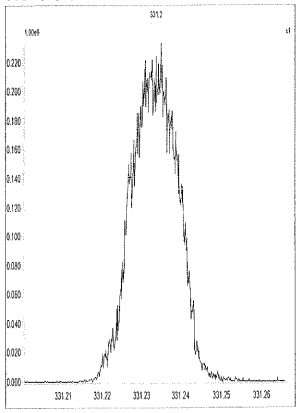

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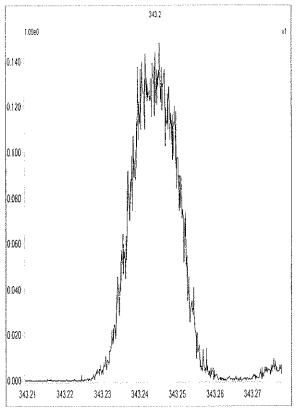

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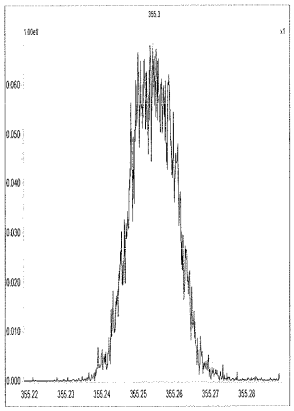

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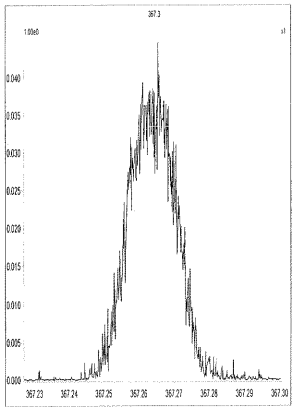

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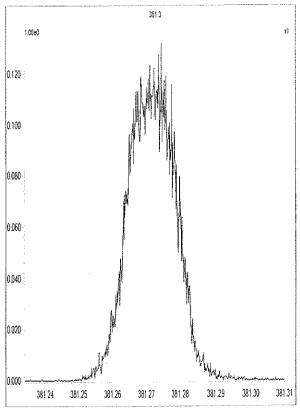

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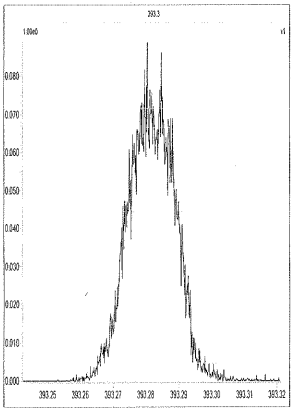

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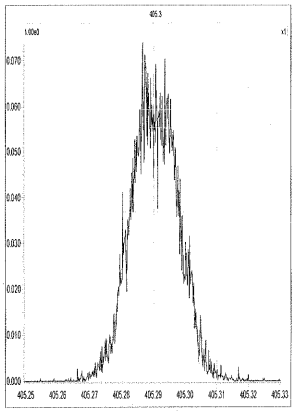
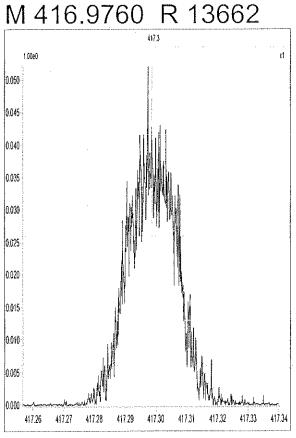


M 416.9760 R 13662



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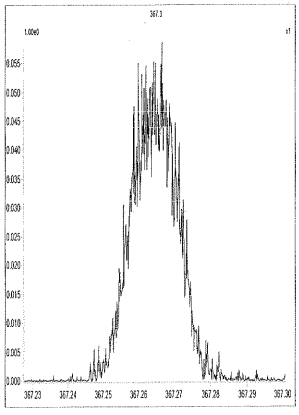
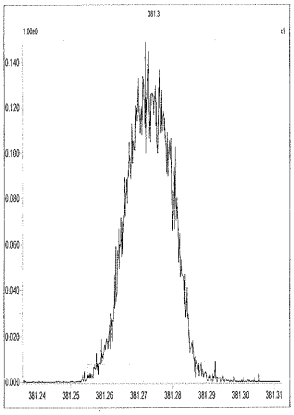
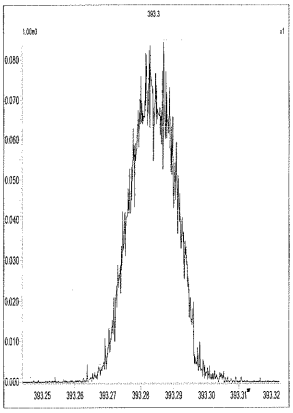


M 380.9760 R 13371



M 392.9760 R 13890



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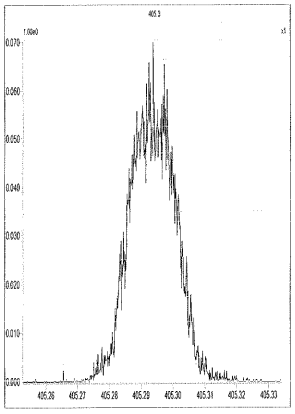
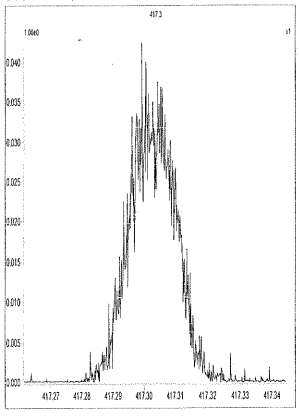
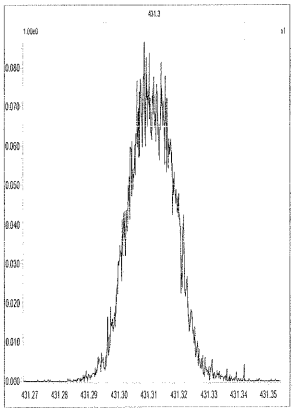


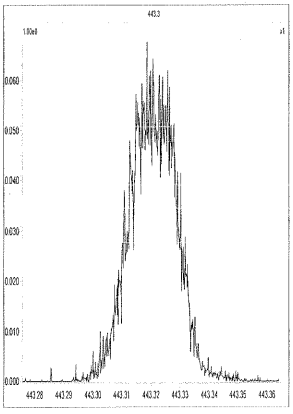
M 416.9760 R 14080



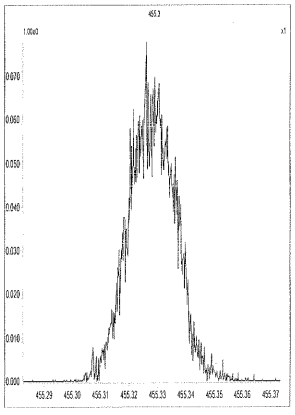
M 430.9728 R 13158



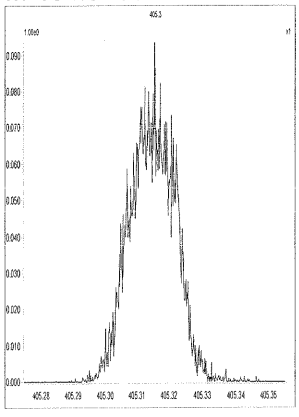
M 442.9728 R 13776



M 454.9728 R 13240



M 404.9760 R 13778



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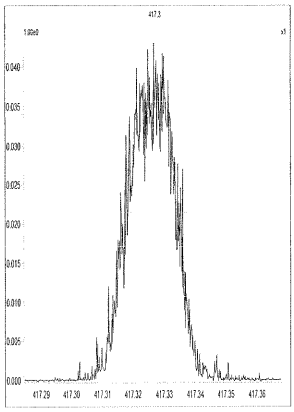

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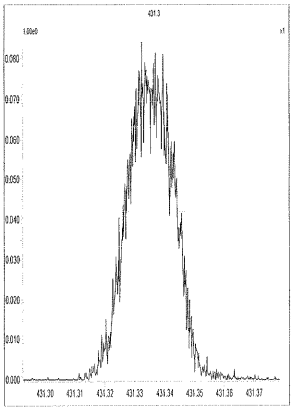

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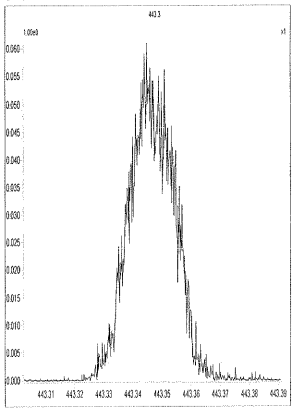
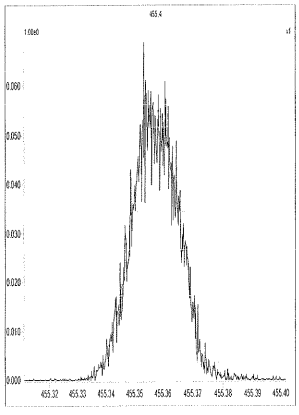


M 454.9728 R 13552



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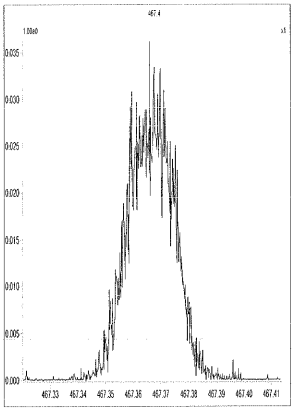
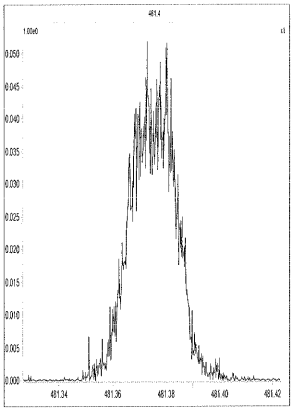
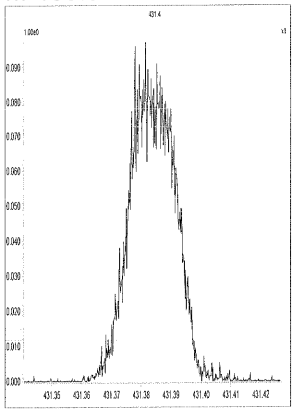


M 480.9696 R 13662



M 430.9728 R 13928



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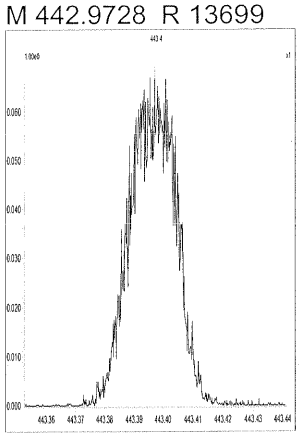

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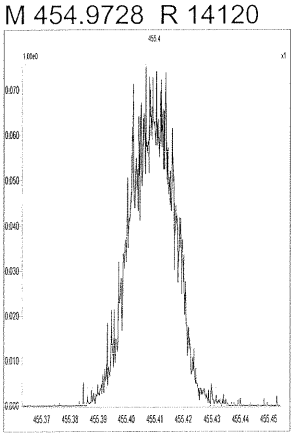

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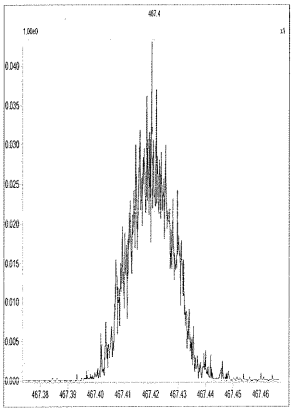
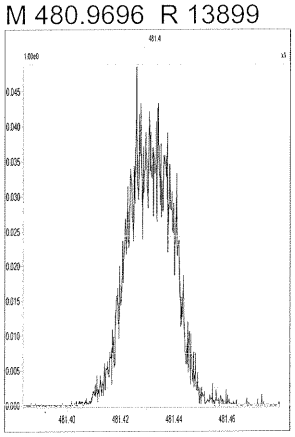


M 480.9696 R 13899



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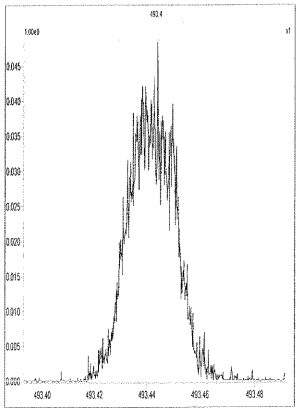
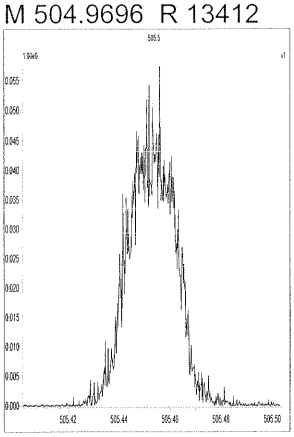


M 504.9696 R 13412



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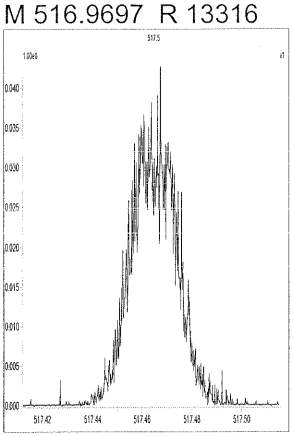


5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

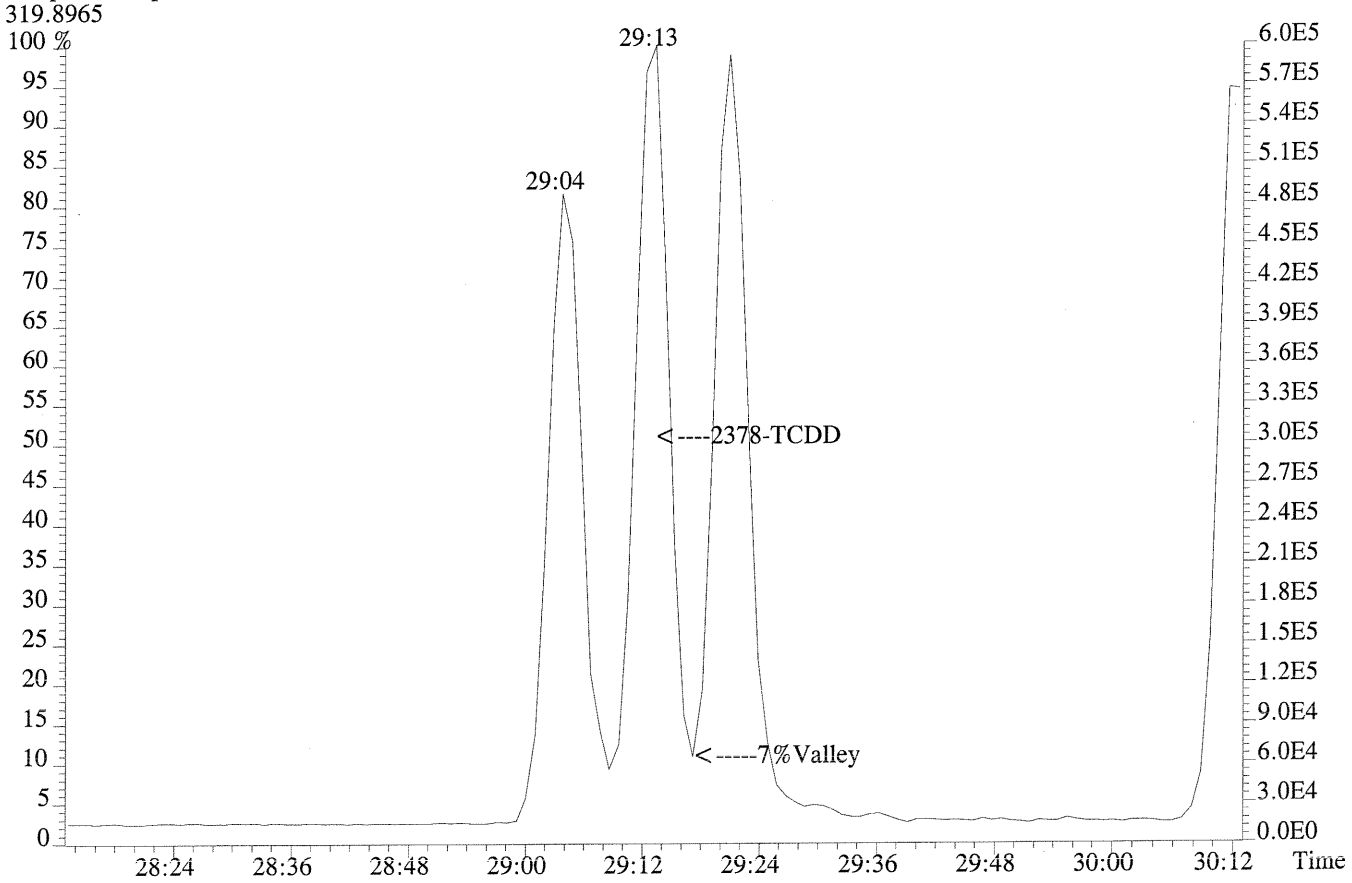
WDM

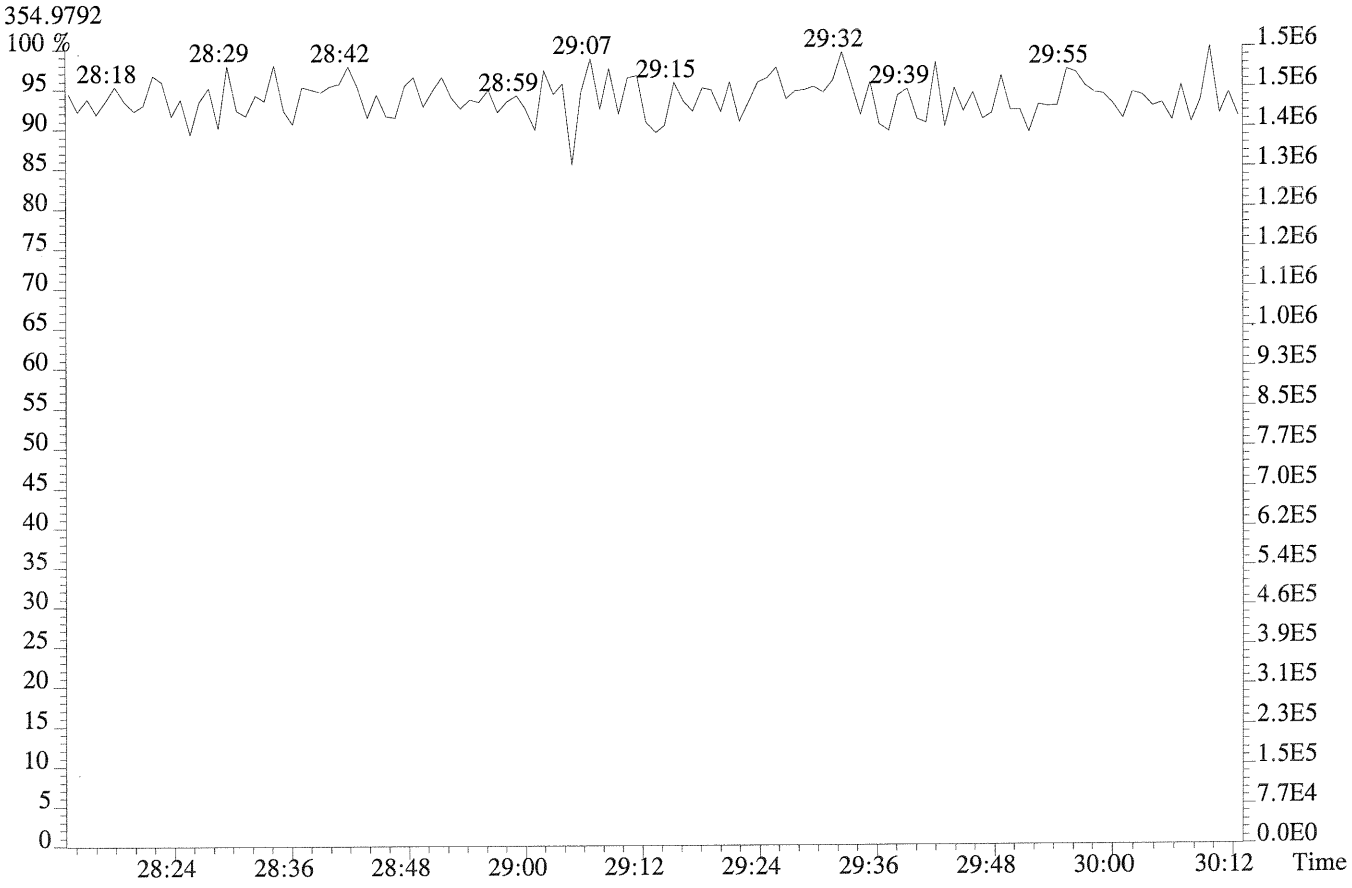
Lab Name: ALS ENVIRONMENTAL
Lab Code: TX01411 Case No.: _____ SDG No.:
GC Column: DB-5msUI ID: 0.25 (mm) Lab File ID: U149680
Date Analyzed: 23-JUN-2014
Time Analyzed: 10:24:32

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:06	30:23
TCDD	26:00	30:12
PeCDF	30:17	34:30
PeCDD	31:48	34:14
HxCDF	35:08	37:39
HxCDD	35:38	37:13
HpCDF	38:51	40:18
HpCDD	39:06	39:48

% Valley 2378-TCDD: 7 %

File:U149680 #1-627 Acq:23-JUN-2014 10:24:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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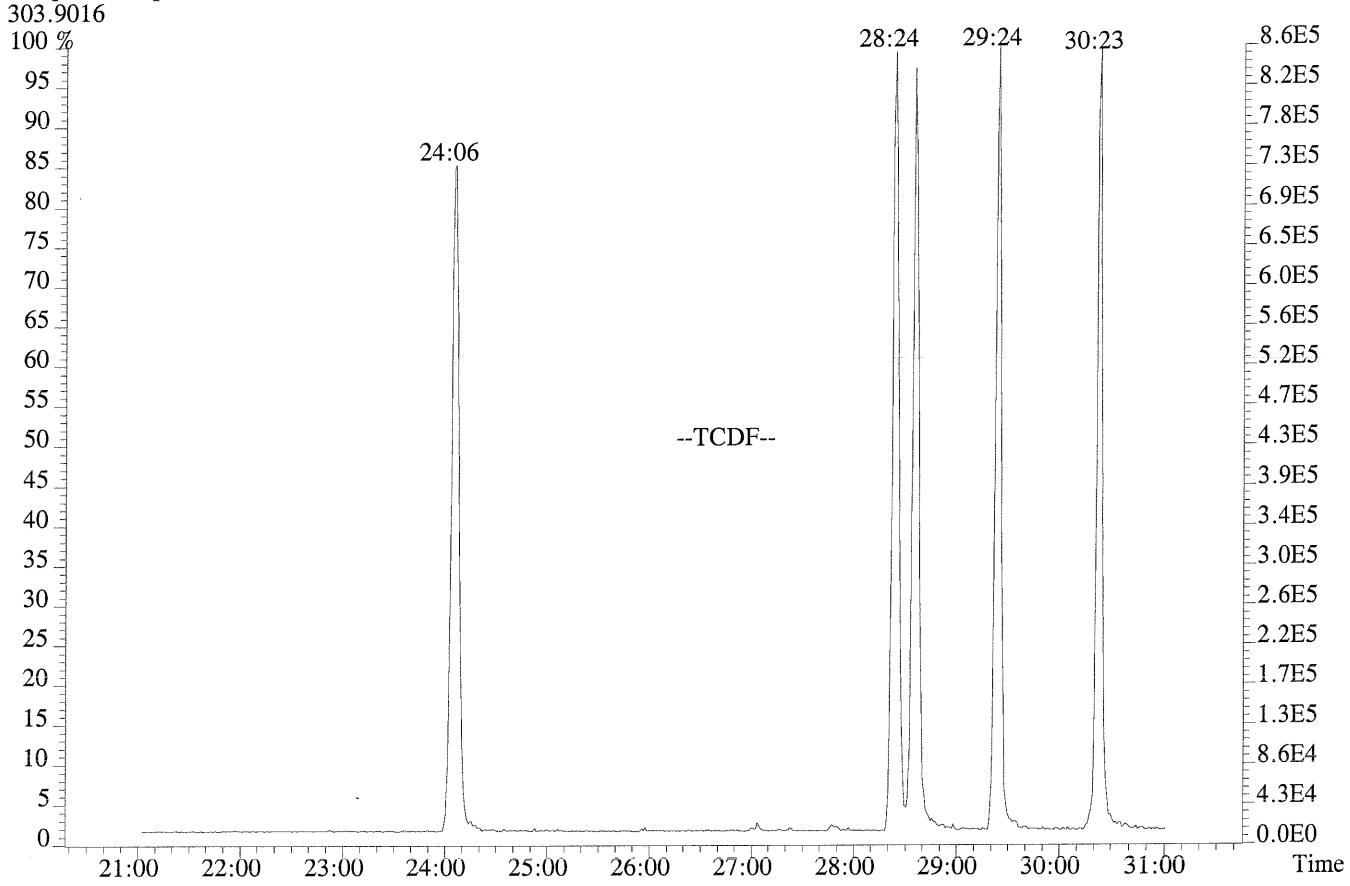
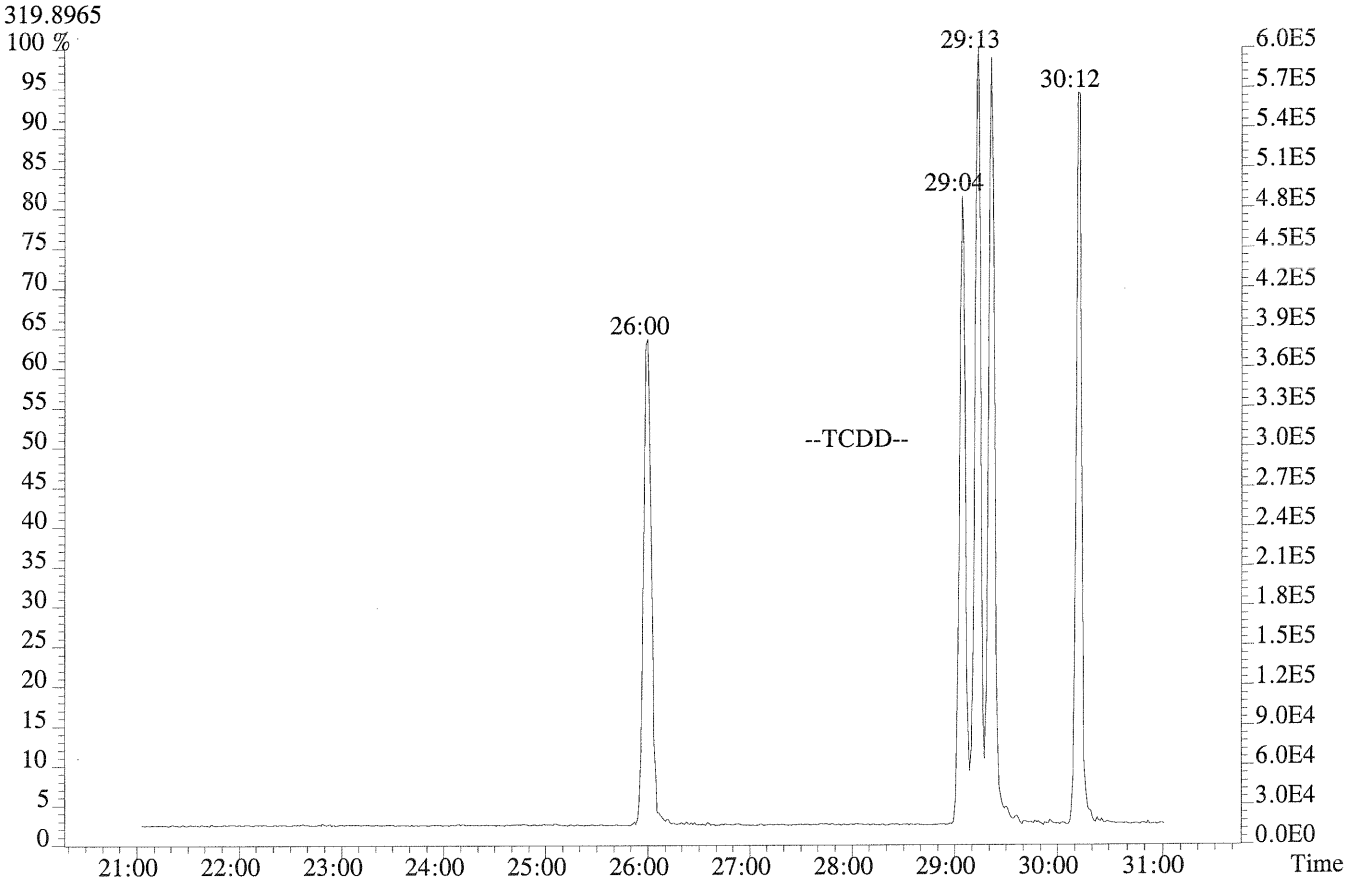
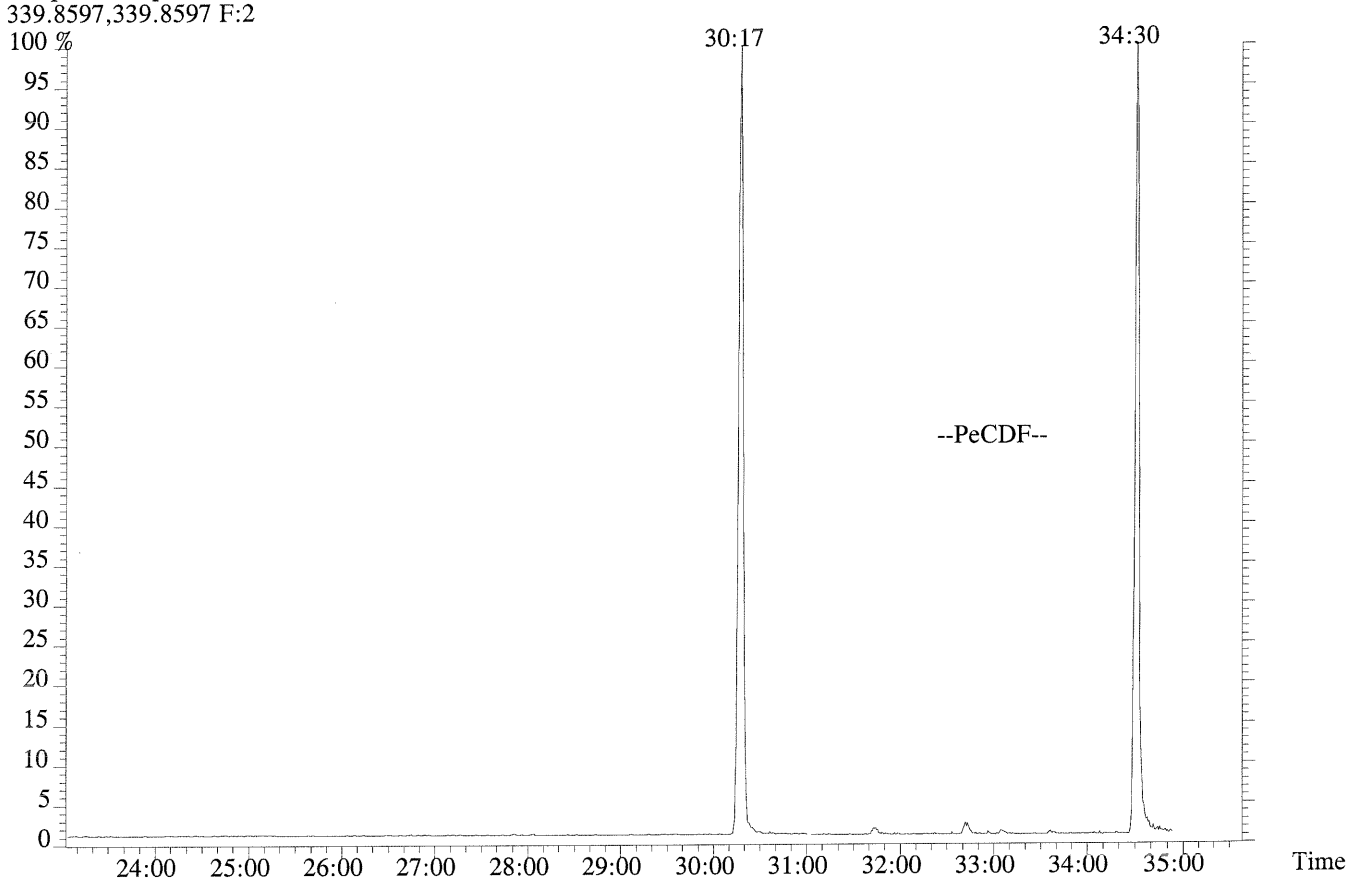
Sample#1 Exp:WINDOW DEFINE

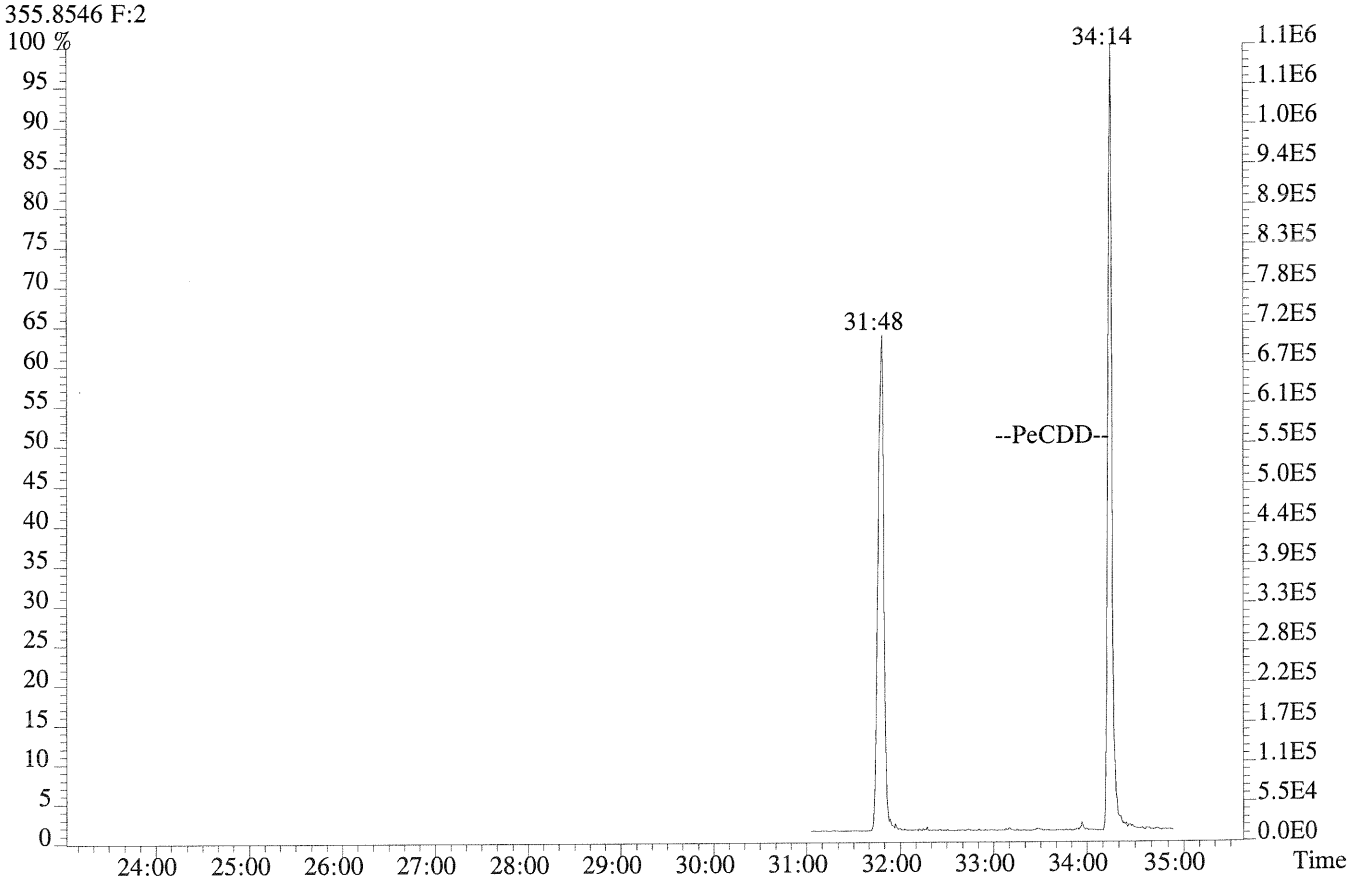




File:U149680 #1-627 Acq:23-JUN-2014 10:24:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



355.8546 F:2



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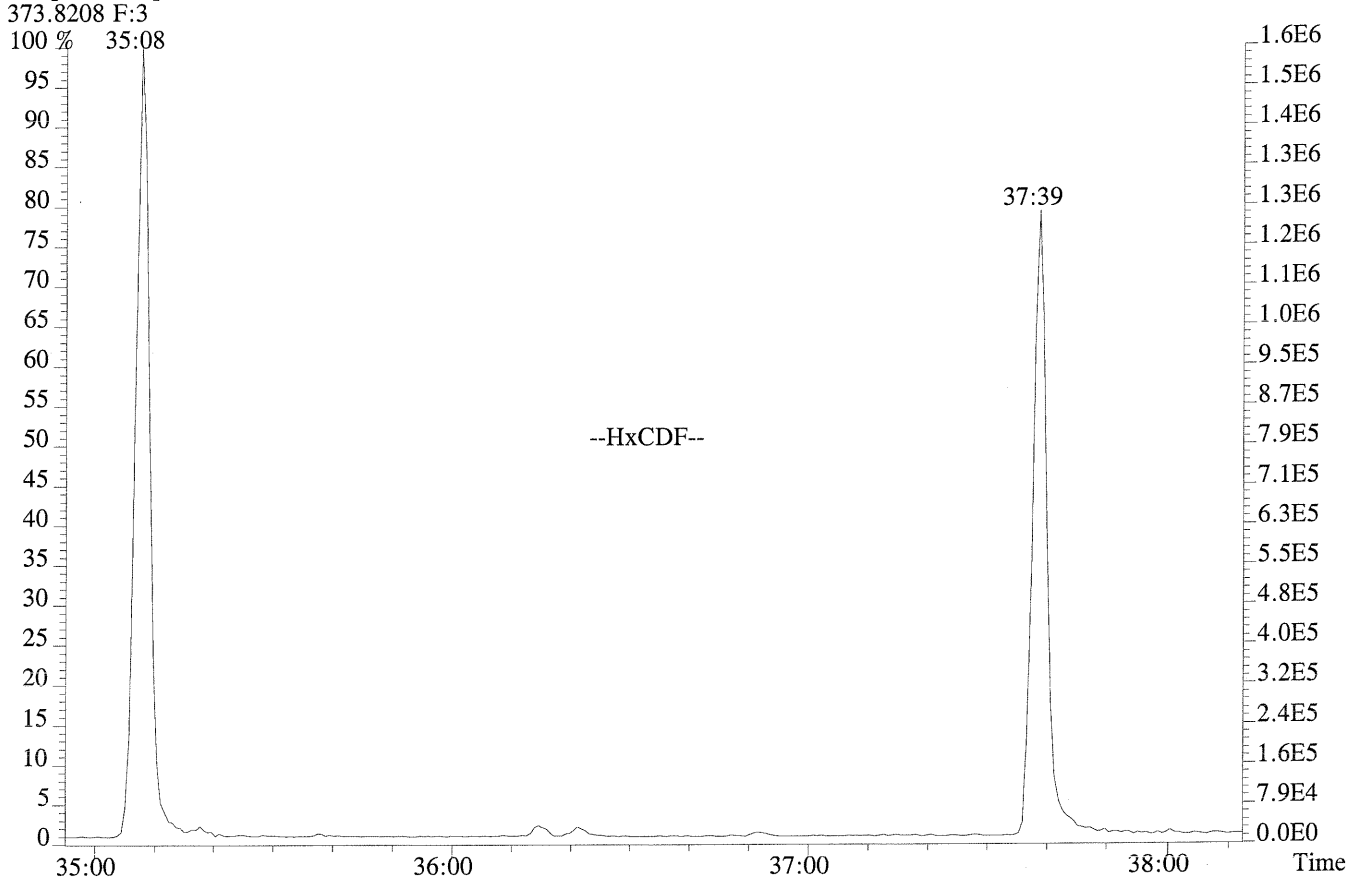
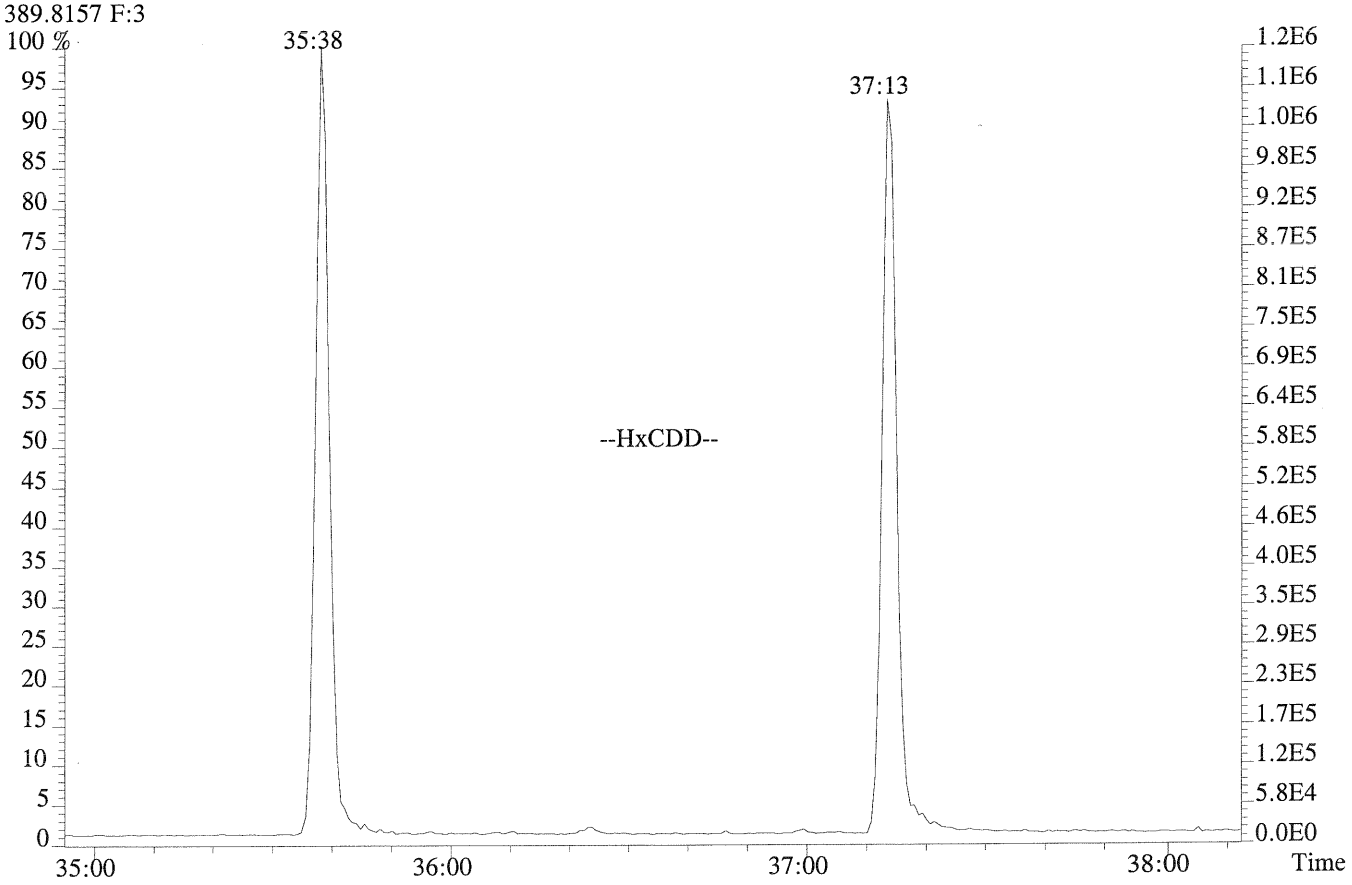
Sample#1 Exp:WINDOW DEFINE





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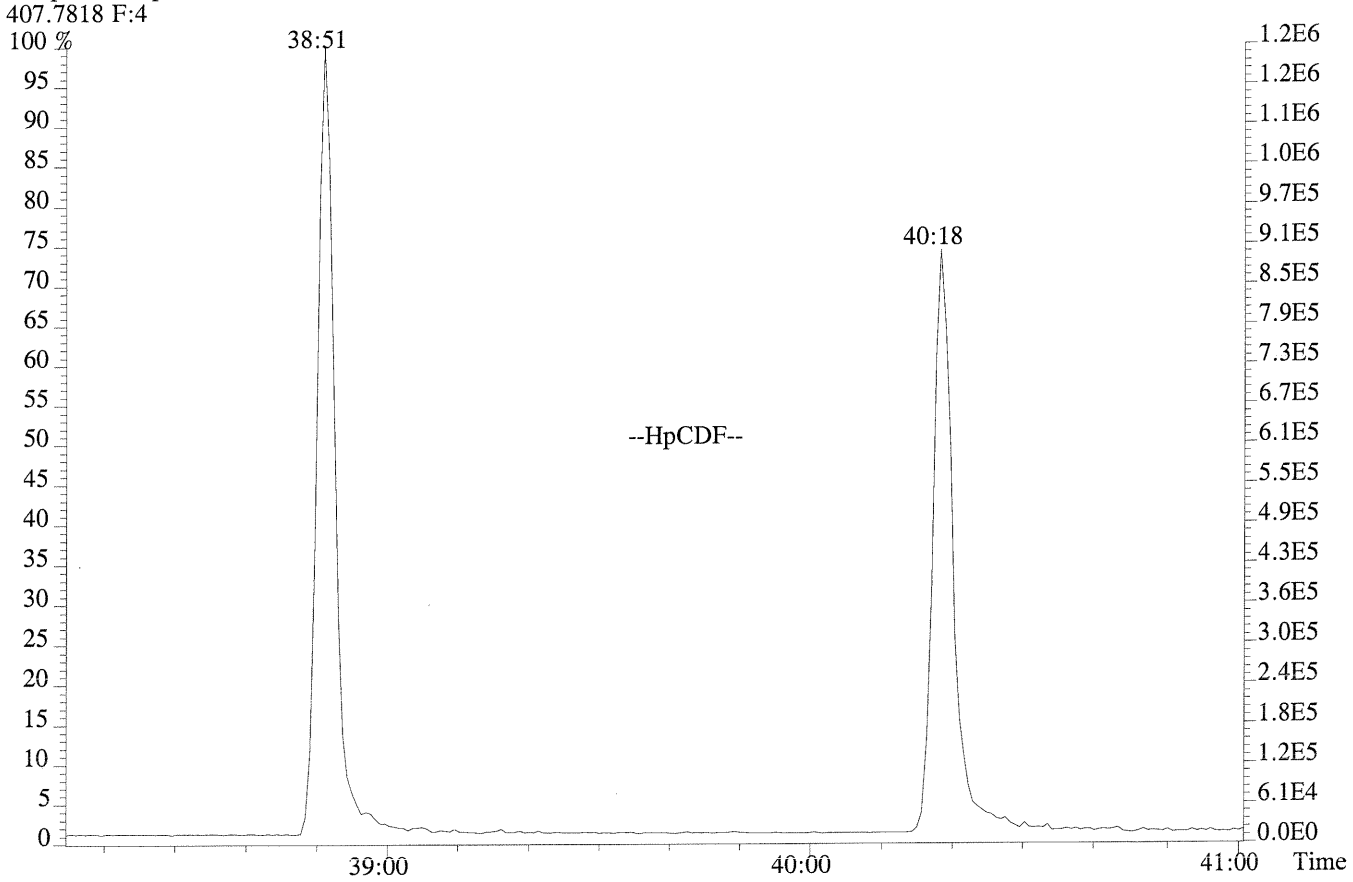
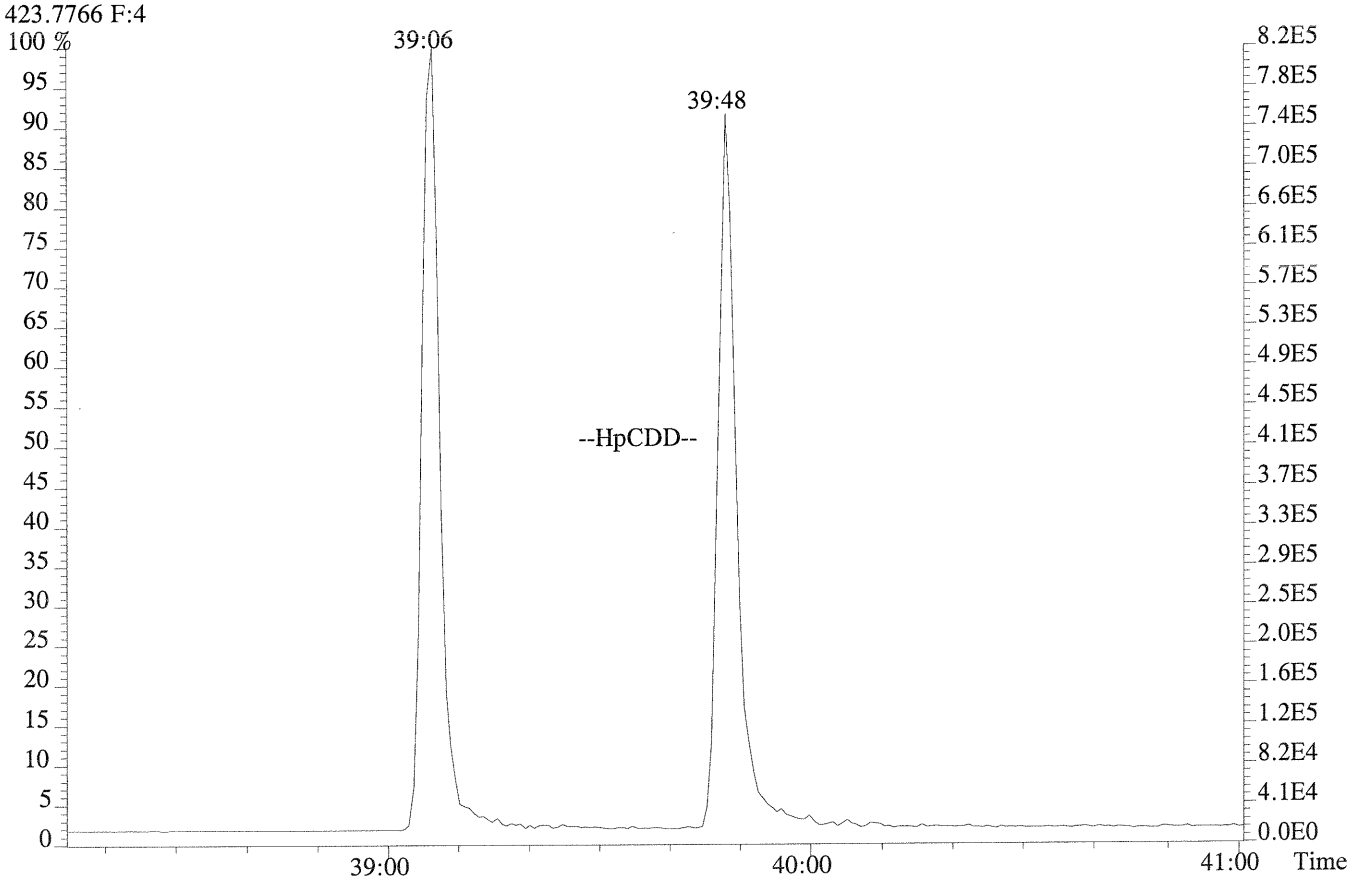
Sample#1 Exp:WINDOW DEFINE





USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149679 Analysis Date: 23-JUN-14 Time: 09:34:14

	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	0.81	0.65-0.89	10.1	7.8 - 12.9	1.4
1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32-1.78	52	39 - 65	3.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	54	39 - 64	7.3
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	55	39 - 64	9.1
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	55	41 - 61	9.9
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.3
OCDD	M+2/M+4	0.89	0.76-1.02	105	79 - 126	4.6
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	11.1	8.4 - 12.0	10.5
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	56	41 - 60	11.3
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	54	41 - 61	8.6
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	53	45 - 56	6.3
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	53	44 - 57	6.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	54	45 - 56	7.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	54	44 - 57	7.9
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	52	45 - 55	4.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.9
OCDF	M+2/M+4	0.91	0.76-1.02	116	63 - 159	15.8

(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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149679 Analysis Date: 23-JUN-14 Time: 09:34:14

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	96	82 - 121	-3.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	107	62 - 160	7.4
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	102	85 - 117	1.7
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	96	85 - 118	-3.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88-1.20	106	72 - 138	5.6
13C-OCDD	M+2/M+4	0.91	0.76-1.02	190	96 - 415	-4.8
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	106	71 - 140	5.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	110	76 - 130	9.8
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	116	77 - 130	15.6
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	106	76 - 131	6.3
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	107	70 - 143	7.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	112	74 - 135	12.3
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	109	73 - 137	9.3
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	114	78 - 129	14.1
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	116	77 - 129	16.3
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.1	7.8 - 12.7	0.7

(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 beginnning 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.
66131

Run #7 Filename U149679 Samp: 1 Inj: 1 Acquired: 23-JUN-14 09:34:14
Processed: 24-JUN-14 06:27:02 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:36	2.541e+03	3.266e+03	0.78	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:43	2.572e+04	1.635e+04	1.57	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:37	2.483e+04	1.566e+04	1.59	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	2.300e+04	1.825e+04	1.26	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:22	2.497e+04	1.992e+04	1.25	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:52	2.341e+04	1.886e+04	1.24	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:37	2.235e+04	1.798e+04	1.24	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	2.133e+04	2.046e+04	1.04	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	1.885e+04	1.796e+04	1.05	yes	no	1.358
10	Unk	OCDF	42:54	2.660e+04	2.930e+04	0.91	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:22	1.709e+03	2.118e+03	0.81	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:53	1.592e+04	9.900e+03	1.61	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:00	1.525e+04	1.215e+04	1.26	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:05	1.567e+04	1.246e+04	1.26	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:19	1.697e+04	1.369e+04	1.24	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	1.418e+04	1.350e+04	1.05	yes	no	1.065
17	Unk	OCDD	42:41	2.078e+04	2.324e+04	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:35	2.496e+04	3.066e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:42	4.765e+04	2.975e+04	1.60	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	4.874e+04	3.058e+04	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:15	2.173e+04	4.156e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	2.538e+04	4.764e+04	0.53	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:51	2.367e+04	4.533e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	2.242e+04	4.291e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	1.756e+04	3.858e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.639e+04	3.578e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:20	1.625e+04	2.100e+04	0.77	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:52	2.991e+04	1.883e+04	1.59	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:59	2.555e+04	1.952e+04	1.31	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	2.637e+04	2.032e+04	1.30	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	2.638e+04	2.396e+04	1.10	yes	no	0.936
32	IS	13C-OCDD	42:40	3.399e+04	3.754e+04	0.91	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:46	1.609e+04	2.062e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:18	2.870e+04	2.222e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.863e+03				no	1.044

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.
66131

Run #7 Filename U149679 Samp: 1 Inj: 1 Acquired: 23-JUN-14 09:34:14
Processed: 24-JUN-14 06:27:021 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	5.43e+05	6.48e+02	8.4e+02	6.89e+05	9.08e+02	7.6e+02
2	1,2,3,7,8-PeCDF	5.11e+06	1.03e+03	5.0e+03	3.27e+06	6.64e+02	4.9e+03
3	2,3,4,7,8-PeCDF	5.04e+06	1.03e+03	4.9e+03	3.21e+06	6.64e+02	4.8e+03
4	1,2,3,4,7,8-HxCDF	5.06e+06	8.20e+02	6.2e+03	4.00e+06	1.31e+03	3.1e+03
5	1,2,3,6,7,8-HxCDF	5.20e+06	8.20e+02	6.3e+03	4.16e+06	1.31e+03	3.2e+03
6	2,3,4,6,7,8-HxCDF	5.04e+06	8.20e+02	6.1e+03	4.06e+06	1.31e+03	3.1e+03
7	1,2,3,7,8,9-HxCDF	4.67e+06	8.20e+02	5.7e+03	3.73e+06	1.31e+03	2.9e+03
8	1,2,3,4,6,7,8-HpCDF	4.62e+06	3.51e+03	1.3e+03	4.34e+06	2.94e+03	1.5e+03
9	1,2,3,4,7,8,9-HpCDF	3.53e+06	3.51e+03	1.0e+03	3.32e+06	2.94e+03	1.1e+03
10	OCDF	4.34e+06	3.65e+03	1.2e+03	4.73e+06	3.44e+03	1.4e+03
11	2,3,7,8-TCDD	3.72e+05	7.36e+02	5.0e+02	4.55e+05	8.16e+02	5.6e+02
12	1,2,3,7,8-PeCDD	3.20e+06	8.48e+02	3.8e+03	1.97e+06	7.88e+02	2.5e+03
13	1,2,3,4,7,8-HxCDD	3.48e+06	1.79e+03	1.9e+03	2.75e+06	2.02e+03	1.4e+03
14	1,2,3,6,7,8-HxCDD	3.32e+06	1.79e+03	1.8e+03	2.64e+06	2.02e+03	1.3e+03
15	1,2,3,7,8,9-HxCDD	3.56e+06	1.79e+03	2.0e+03	2.86e+06	2.02e+03	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	2.83e+06	5.19e+03	5.5e+02	2.67e+06	3.96e+03	6.7e+02
17	OCDD	3.46e+06	1.31e+04	2.6e+02	3.82e+06	1.45e+04	2.6e+02
18	13C-2,3,7,8-TCDF	5.25e+06	1.30e+03	4.0e+03	6.41e+06	6.68e+02	9.6e+03
19	13C-1,2,3,7,8-PeCDF	9.43e+06	5.72e+02	1.6e+04	5.84e+06	8.56e+02	6.8e+03
20	13C-2,3,4,7,8-PeCDF	9.95e+06	5.72e+02	1.7e+04	6.24e+06	8.56e+02	7.3e+03
21	13C-1,2,3,4,7,8-HxCDF	4.80e+06	9.80e+02	4.9e+03	9.18e+06	1.58e+03	5.8e+03
22	13C-1,2,3,6,7,8-HxCDF	5.36e+06	9.80e+02	5.5e+03	9.95e+06	1.58e+03	6.3e+03
23	13C-2,3,4,6,7,8-HxCDF	5.13e+06	9.80e+02	5.2e+03	9.82e+06	1.58e+03	6.2e+03
24	13C-1,2,3,7,8,9-HxCDF	4.59e+06	9.80e+02	4.7e+03	8.77e+06	1.58e+03	5.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.80e+06	2.98e+03	1.3e+03	8.27e+06	3.39e+03	2.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.05e+06	2.98e+03	1.0e+03	6.70e+06	3.39e+03	2.0e+03
27	13C-2,3,7,8-TCDD	3.61e+06	1.58e+03	2.3e+03	4.68e+06	9.00e+02	5.2e+03
28	13C-1,2,3,7,8-PeCDD	5.95e+06	5.12e+02	1.2e+04	3.79e+06	4.40e+02	8.6e+03
29	13C-1,2,3,4,7,8-HxCDD	5.80e+06	1.40e+03	4.1e+03	4.41e+06	1.22e+03	3.6e+03
30	13C-1,2,3,6,7,8-HxCDD	5.54e+06	1.40e+03	3.9e+03	4.28e+06	1.22e+03	3.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.19e+06	1.60e+03	3.2e+03	4.70e+06	1.22e+03	3.8e+03
32	13C-OCDD	5.56e+06	4.10e+03	1.4e+03	6.08e+06	4.90e+03	1.2e+03
33	13C-1,2,3,4-TCDD	3.52e+06	1.58e+03	2.2e+03	4.48e+06	9.00e+02	5.0e+03
34	13C-1,2,3,7,8,9-HxCDD	6.06e+06	1.40e+03	4.3e+03	4.69e+06	1.22e+03	3.8e+03
35	37Cl-2,3,7,8-TCDD	8.30e+05	7.00e+02	1.2e+03			

ALS ENVIRONMENTAL
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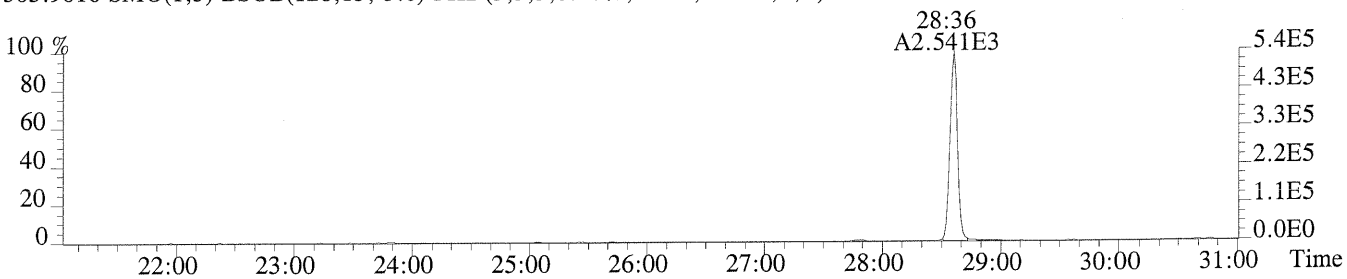
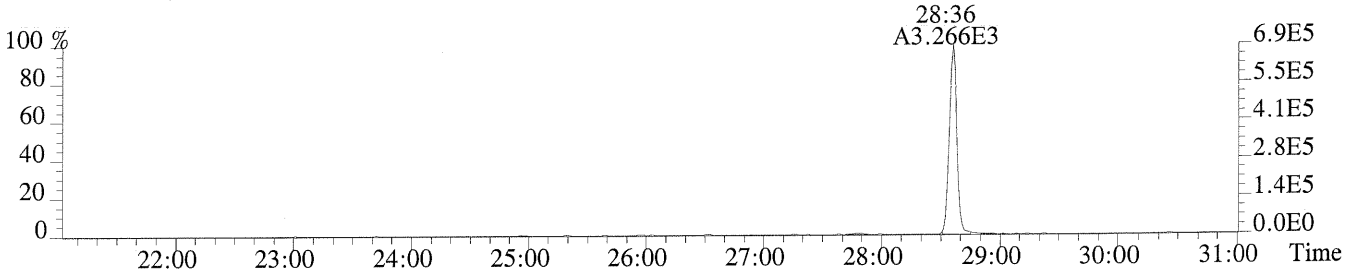
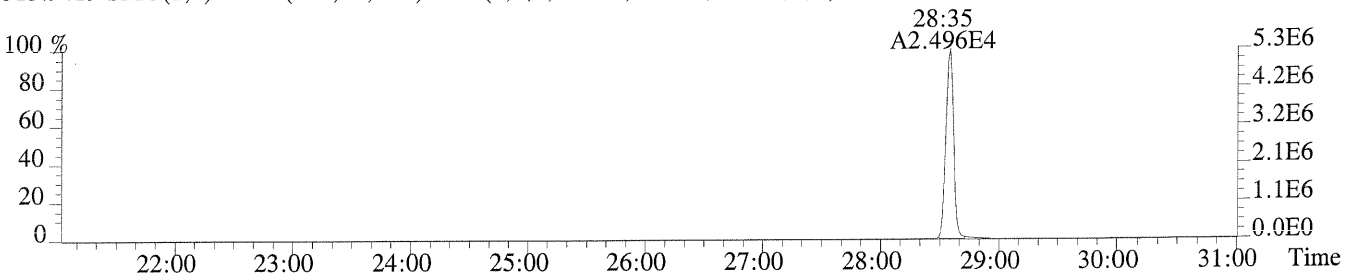
File:U149679 #1-627 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



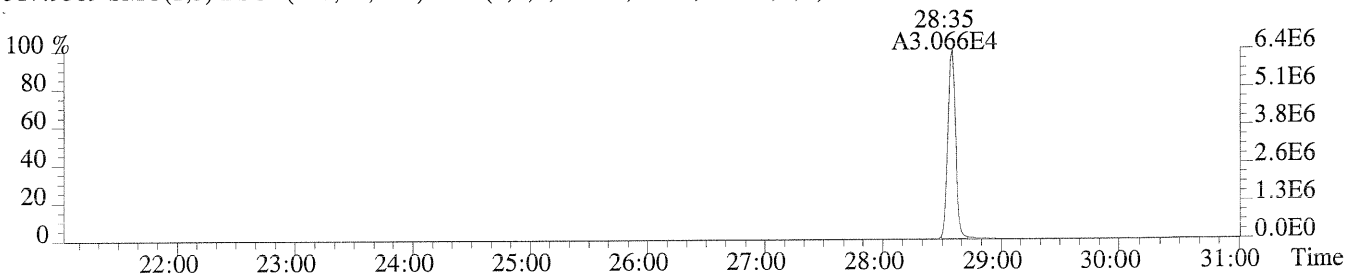
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



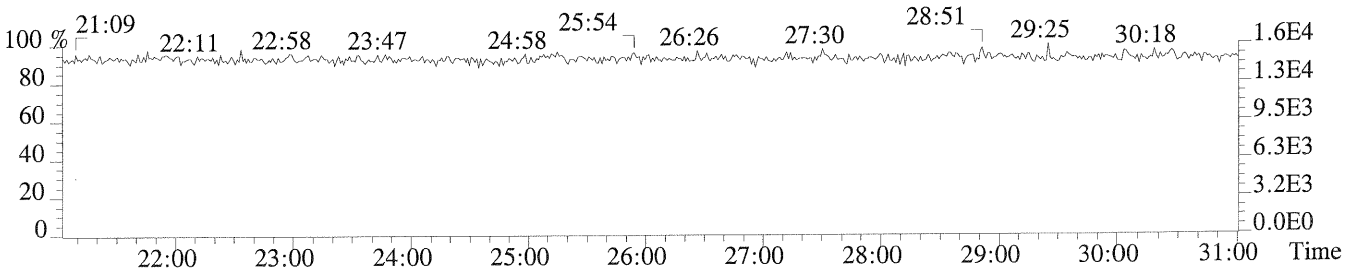
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



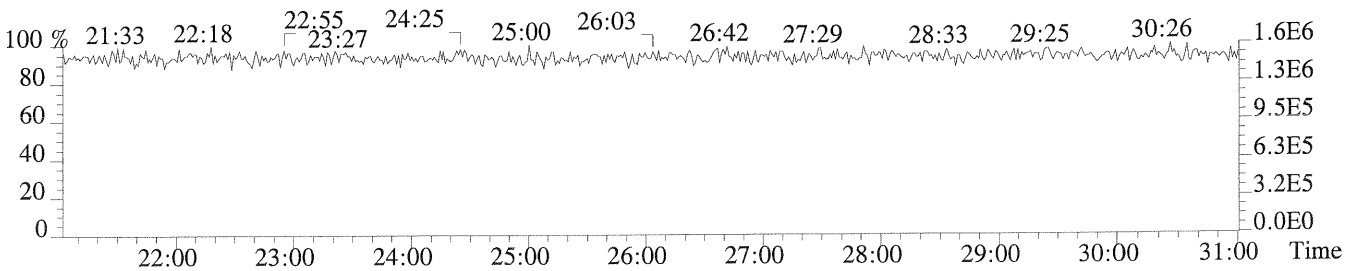
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,T)



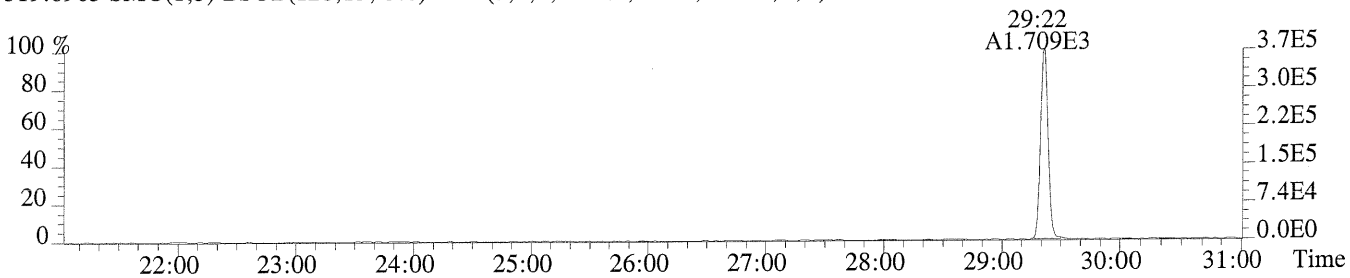
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



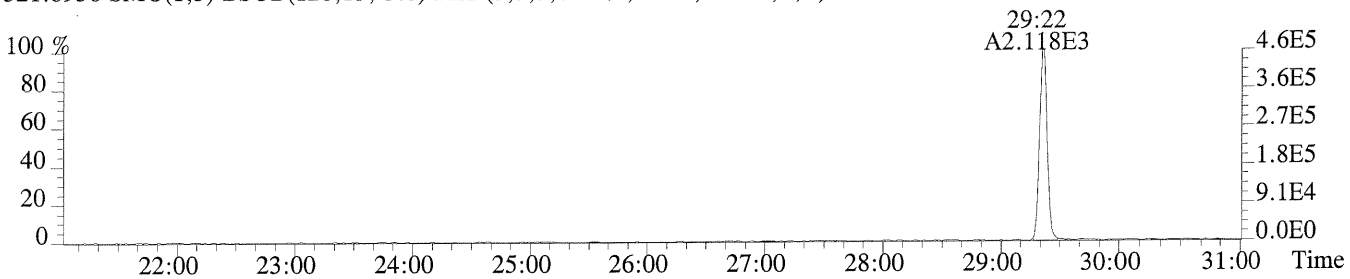
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



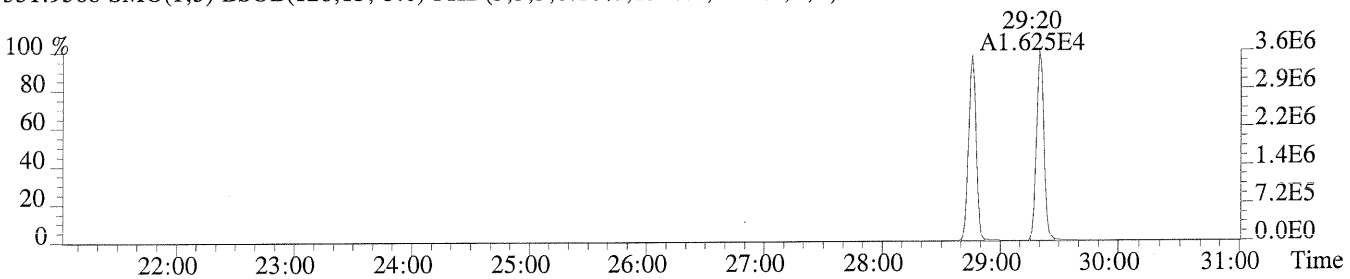
File:U149679 #1-627 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



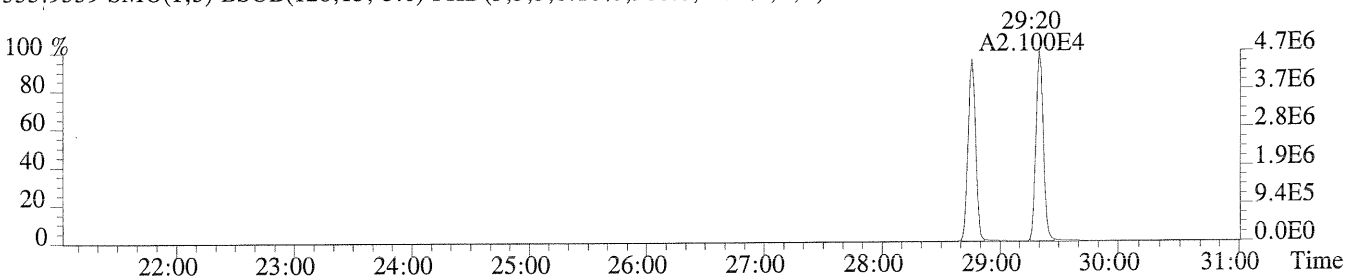
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



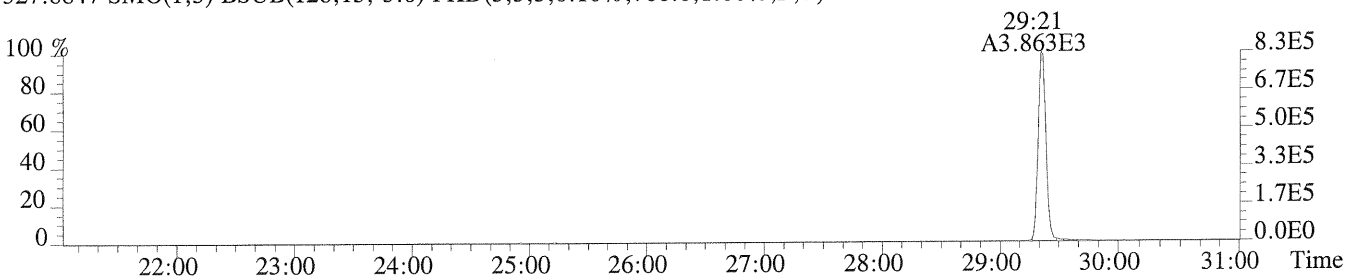
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1576.0,1.00%,F,T)



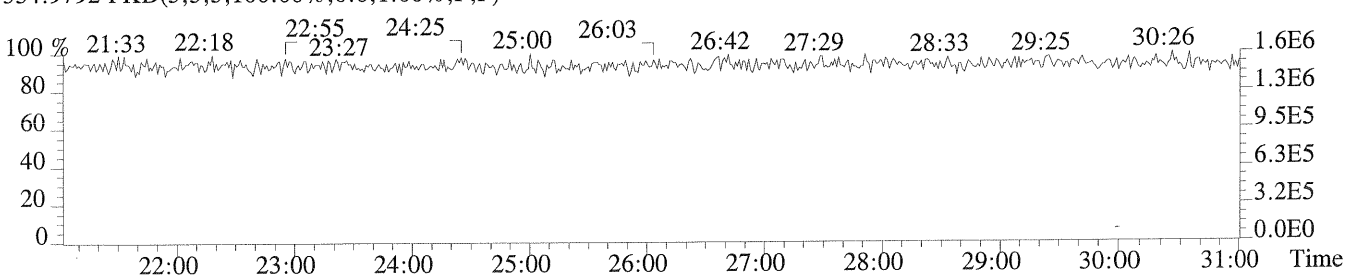
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



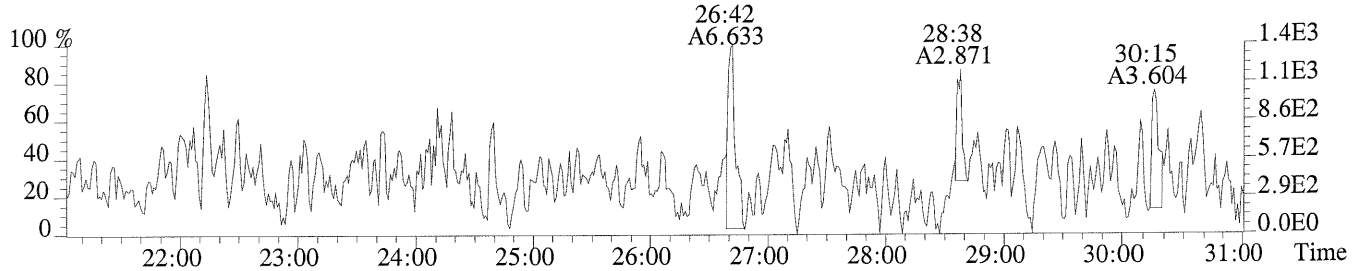
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



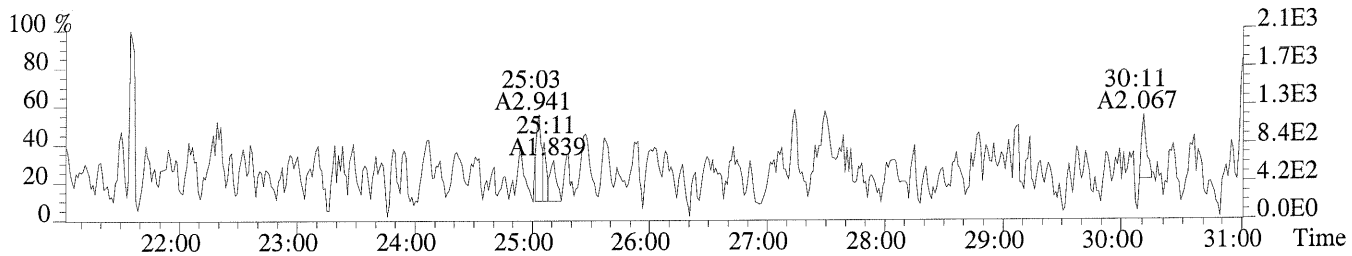
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



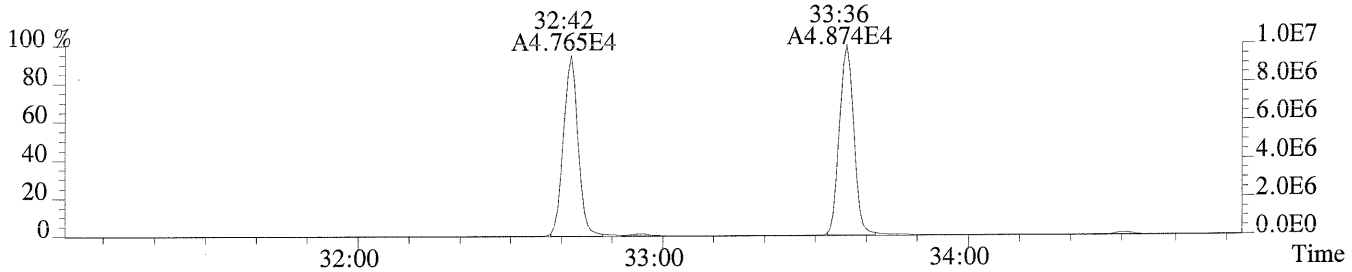
File:U149679 #1-627 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,T)



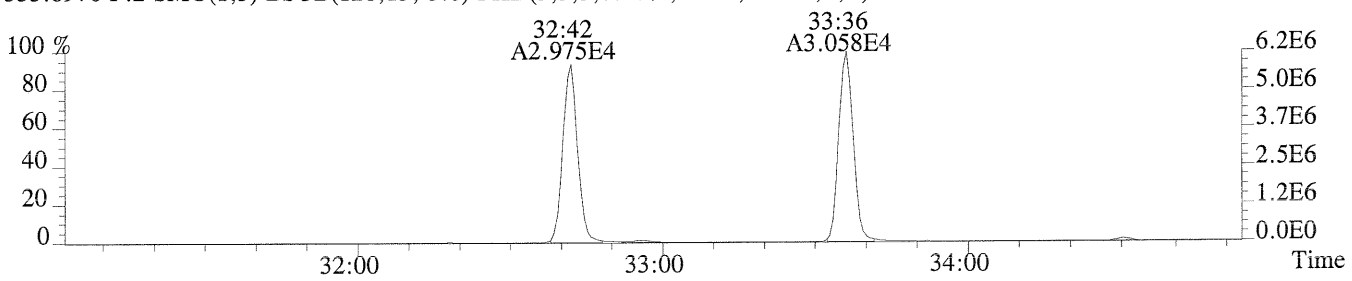
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



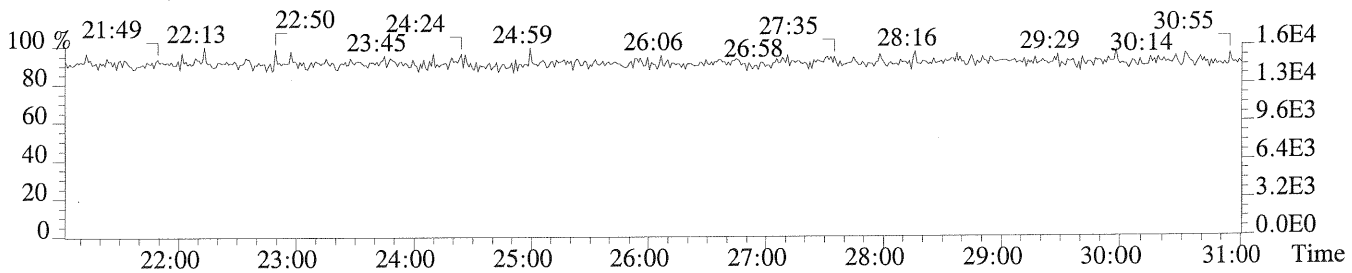
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



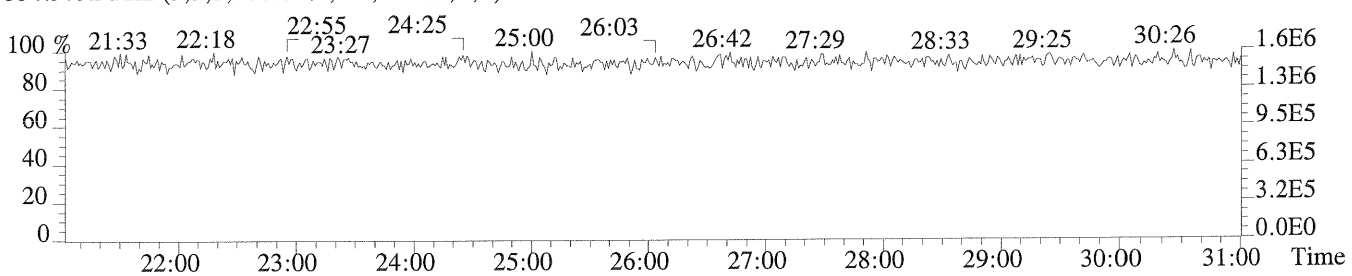
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

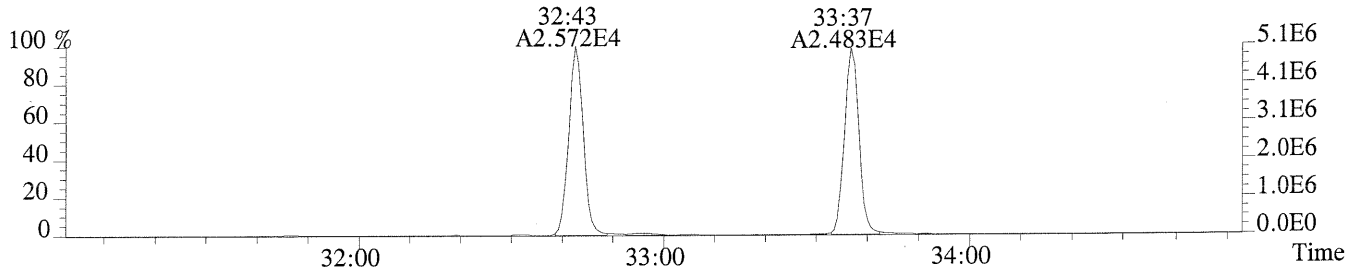


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

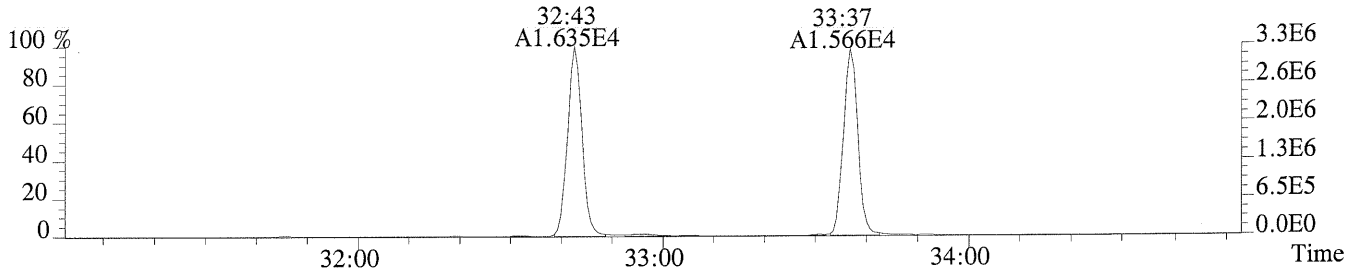


File:U149679 #1-349 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

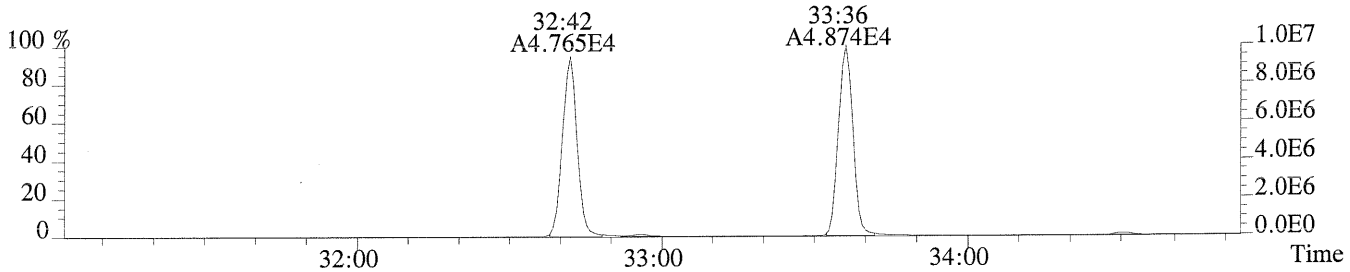
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



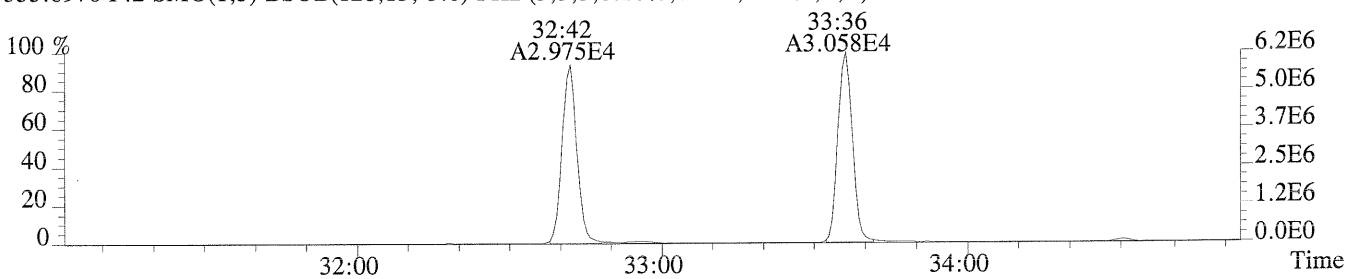
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



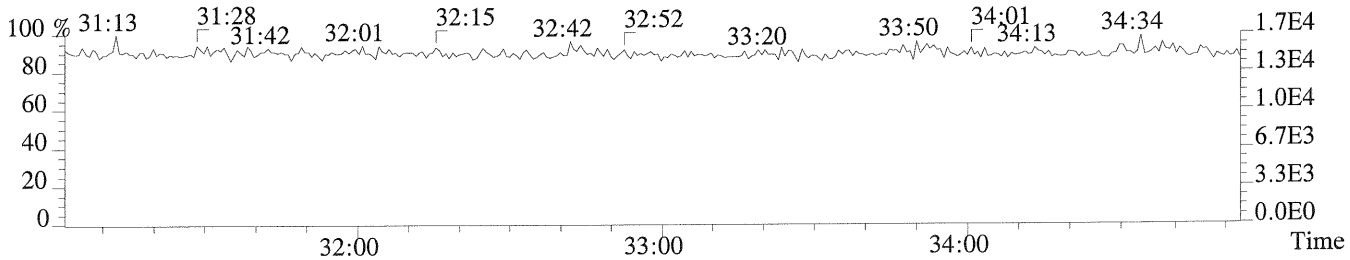
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



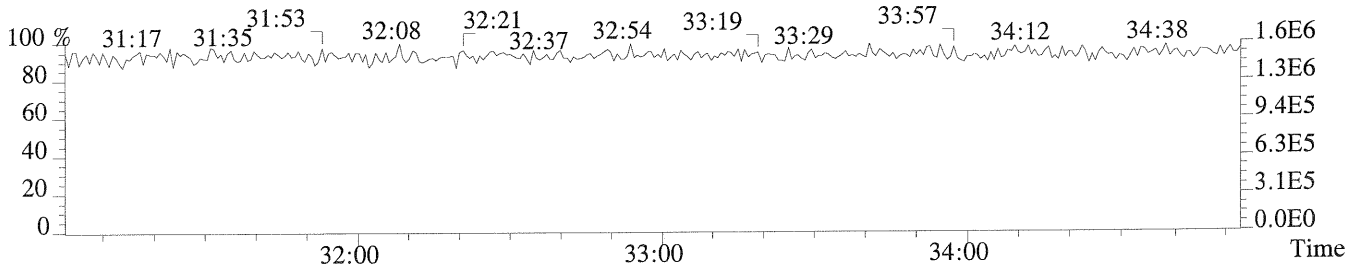
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



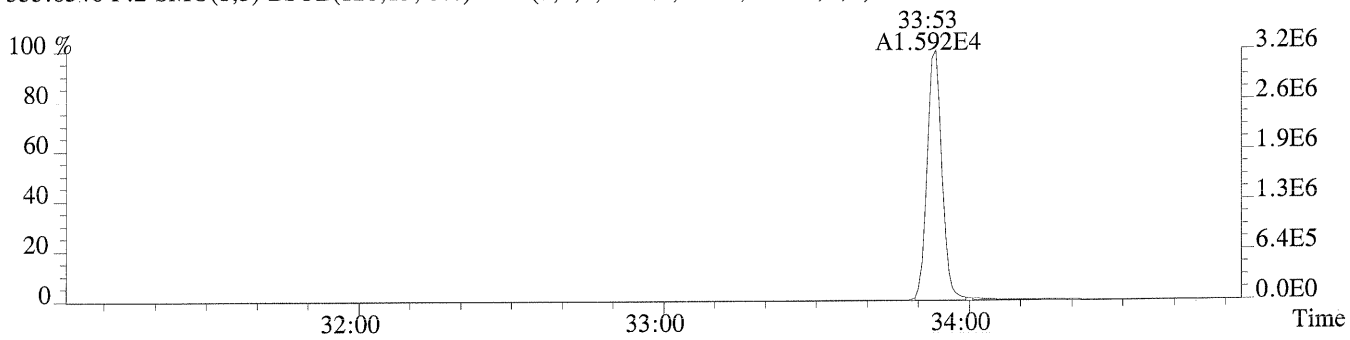
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



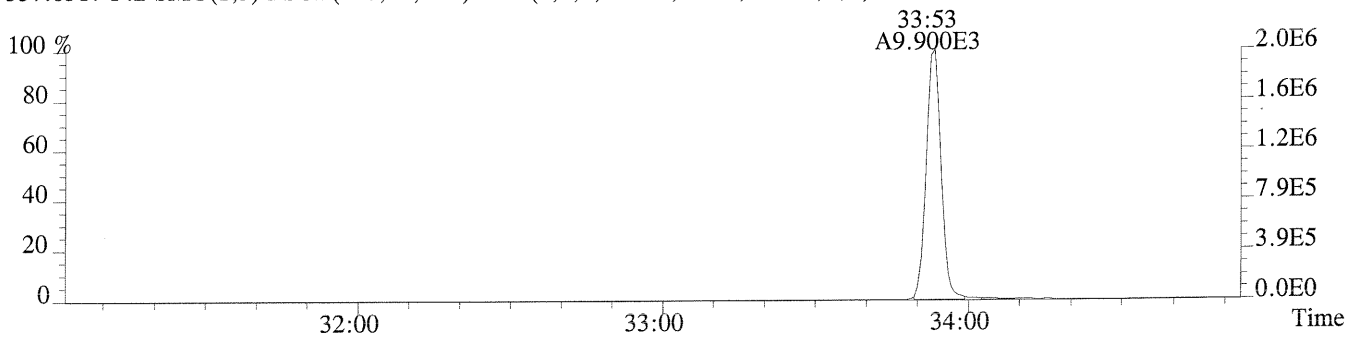
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



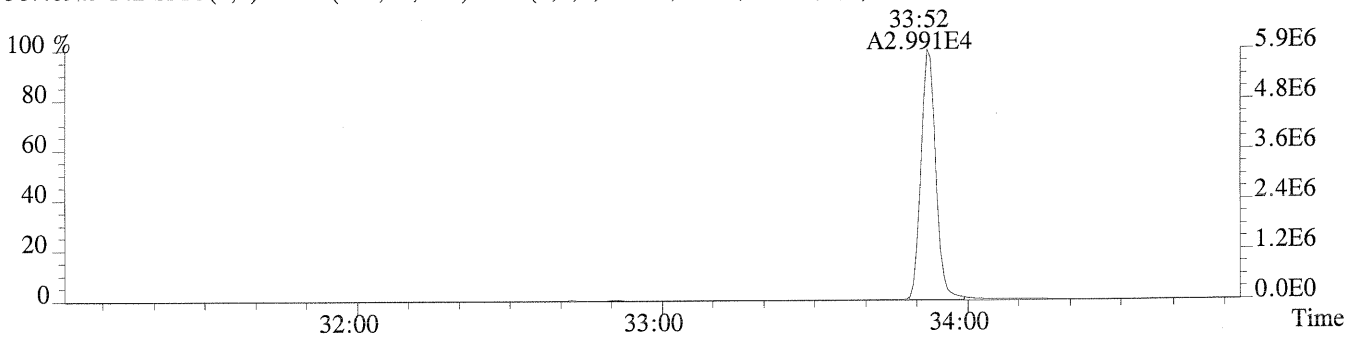
File:U149679 #1-349 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



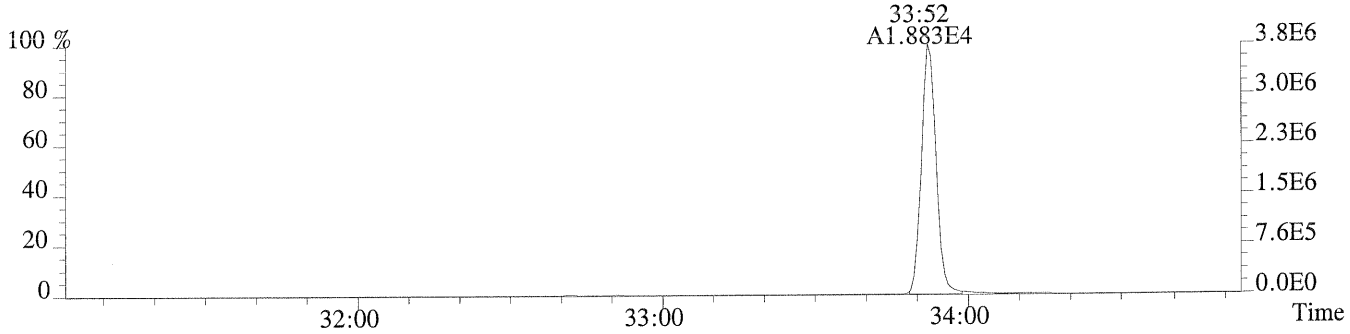
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



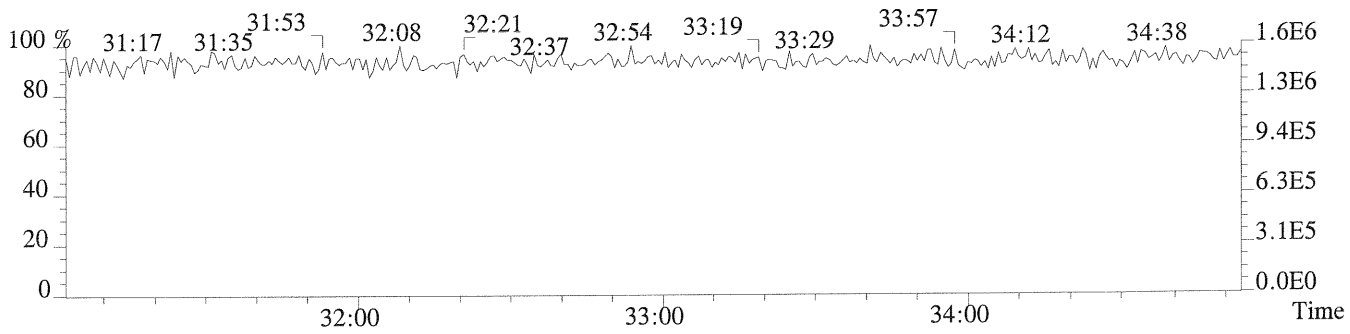
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,T)



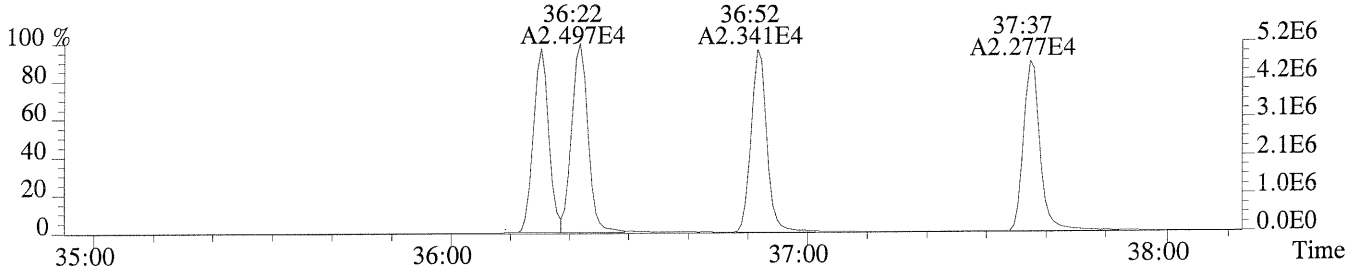
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



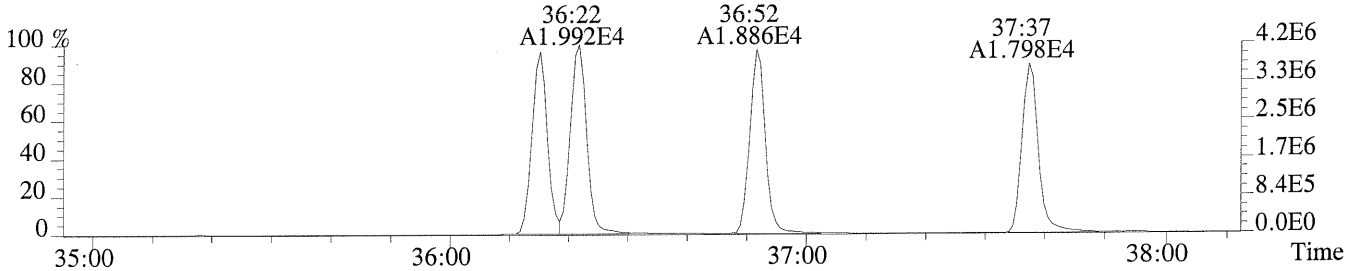
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



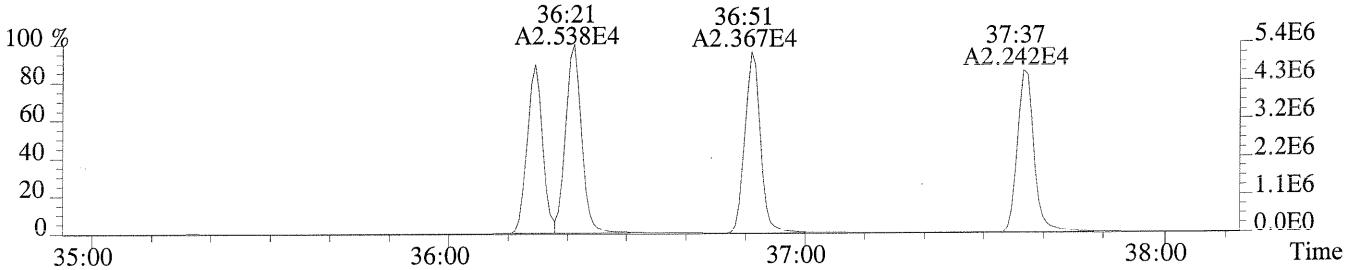
File:U149679 #1-299 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)



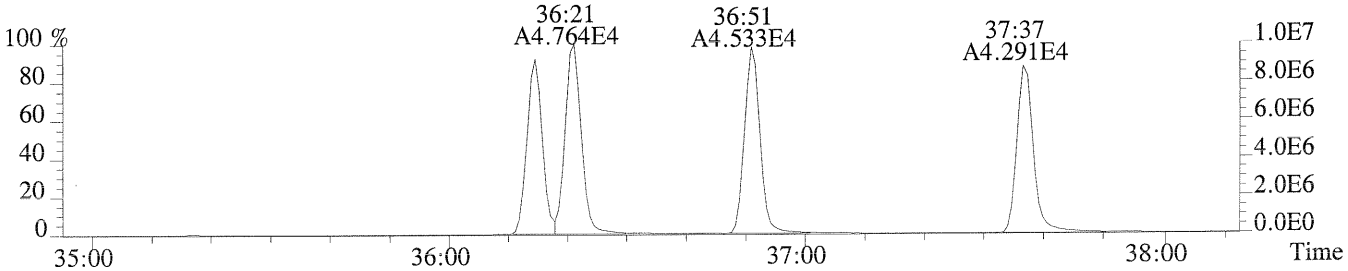
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



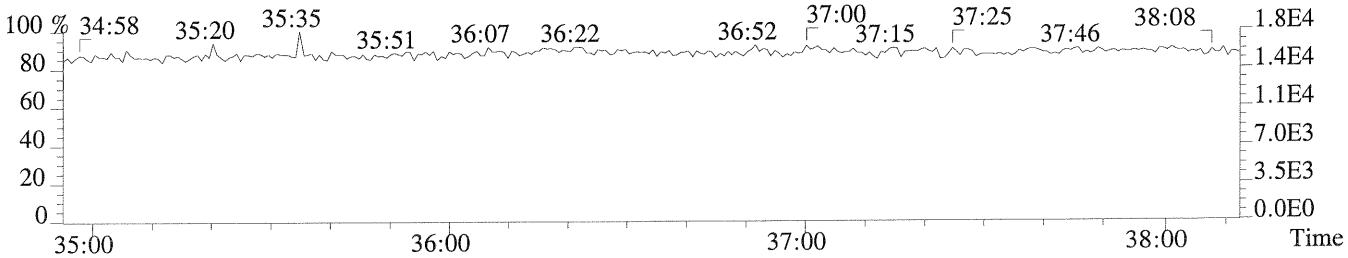
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



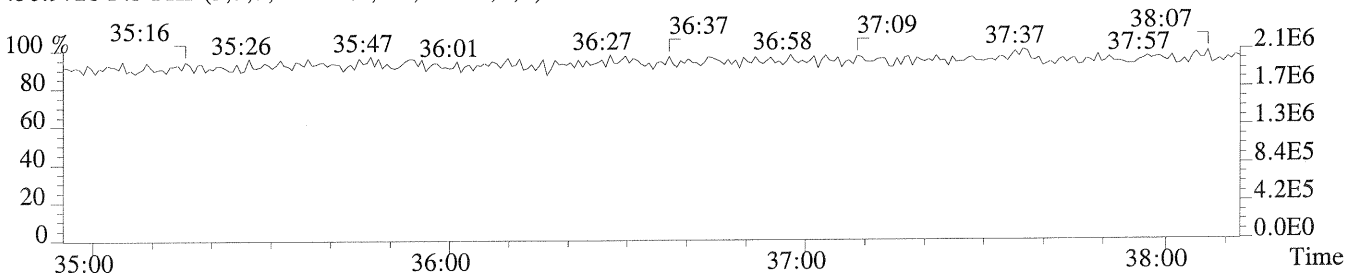
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1576.0,0.40%,F,T)



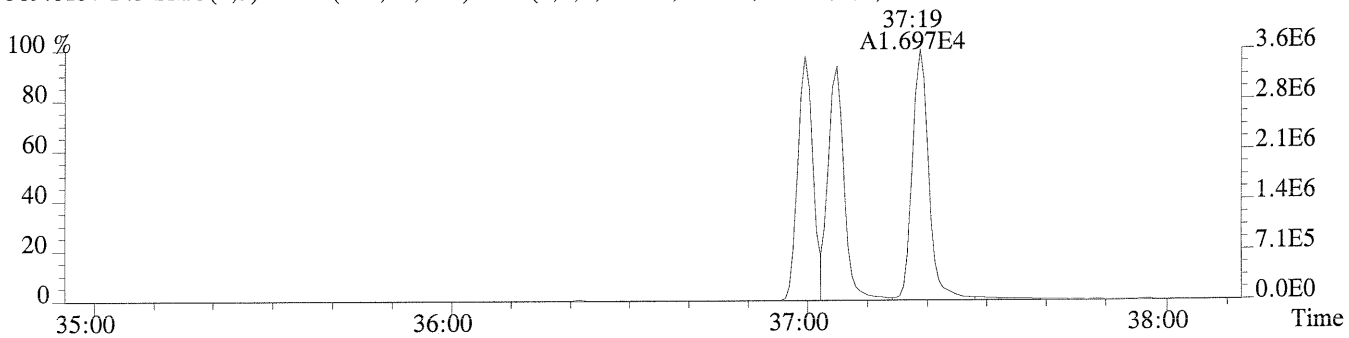
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



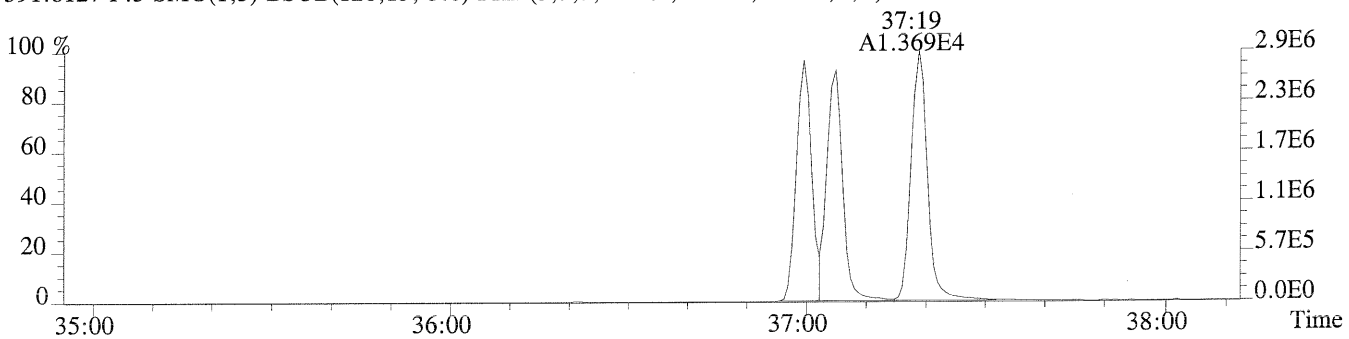
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



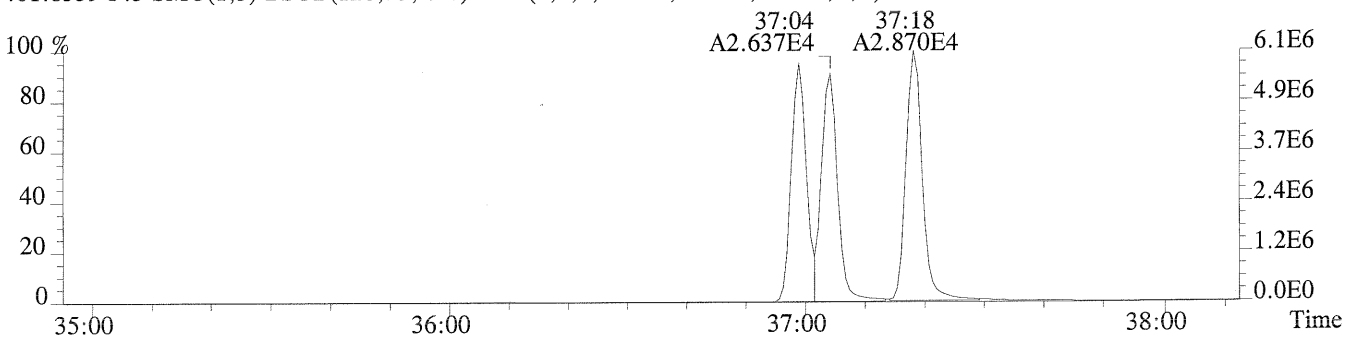
File:U149679 #1-299 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



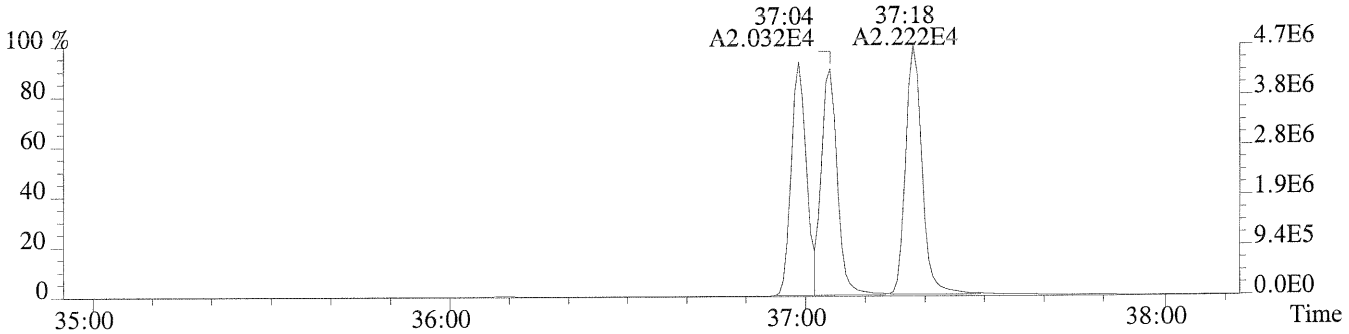
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2024.0,0.40%,F,T)



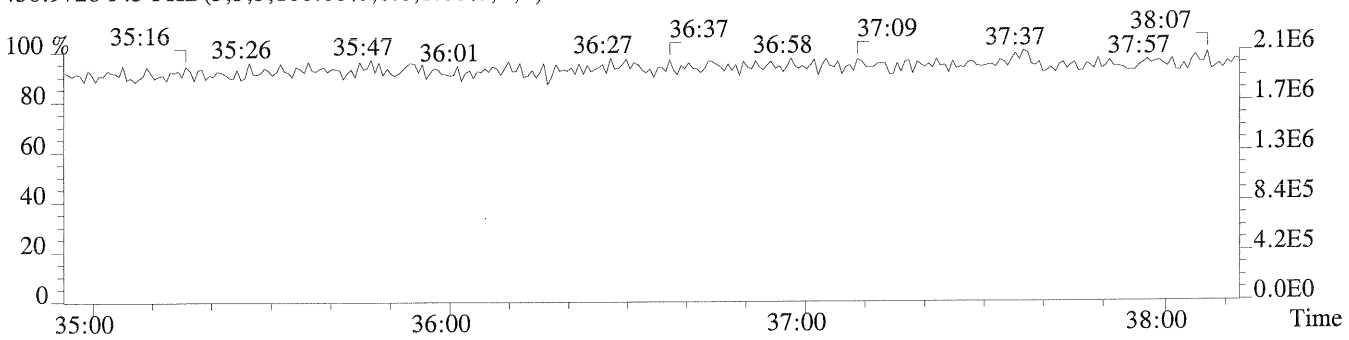
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1404.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)

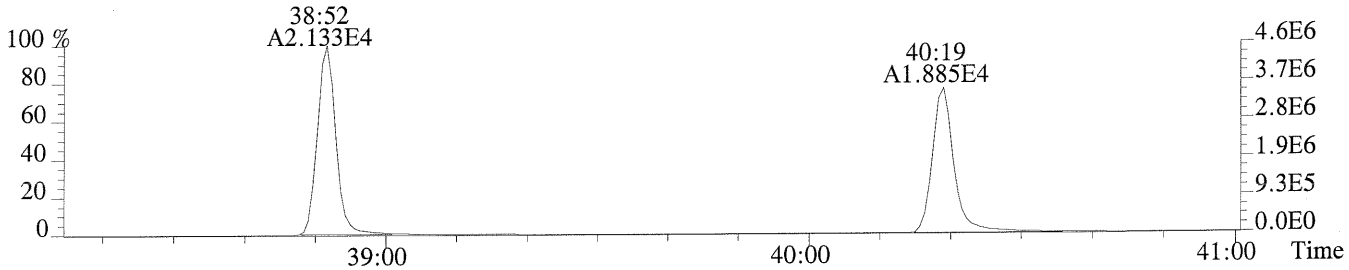


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

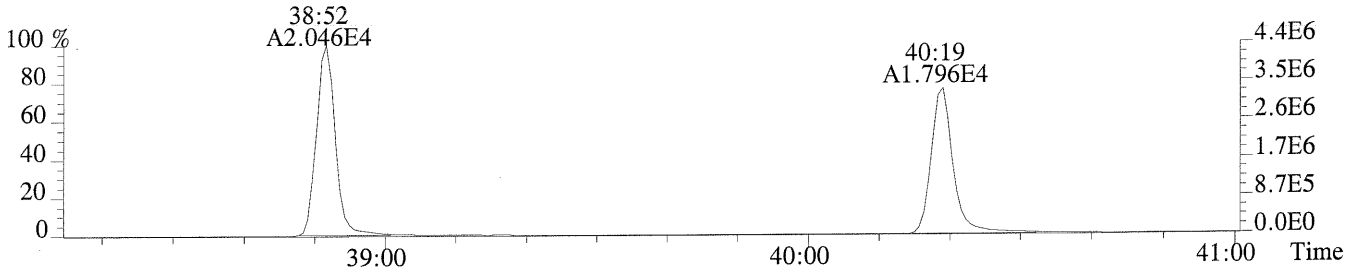


File:U149679 #1-252 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

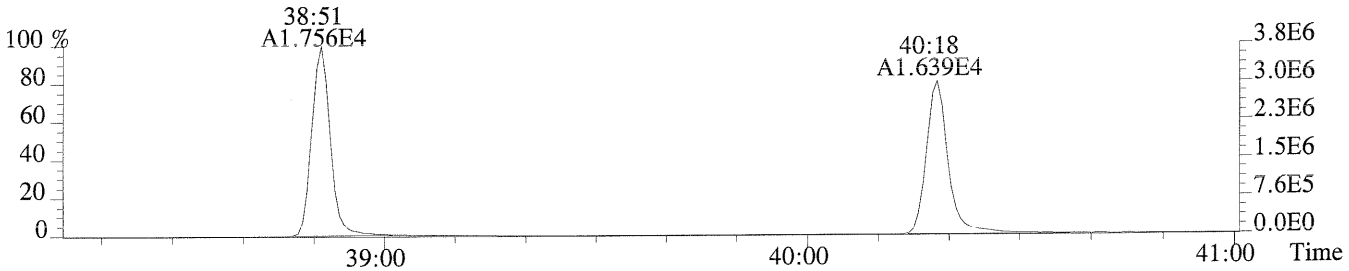
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3512.0,0.50%,F,T)



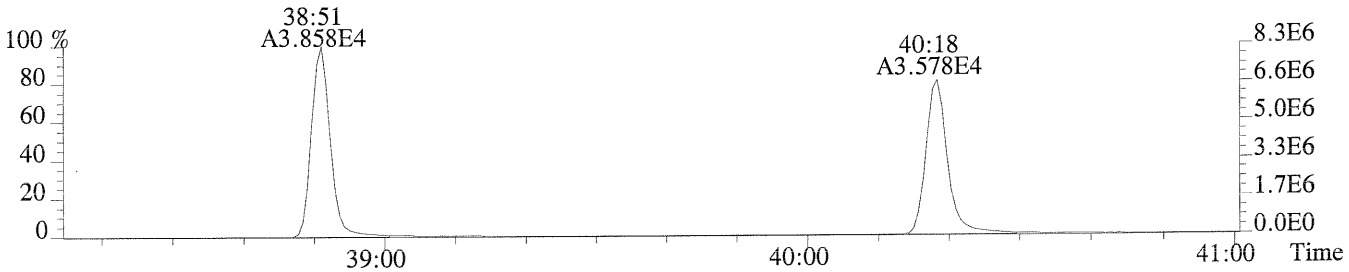
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2944.0,0.50%,F,T)



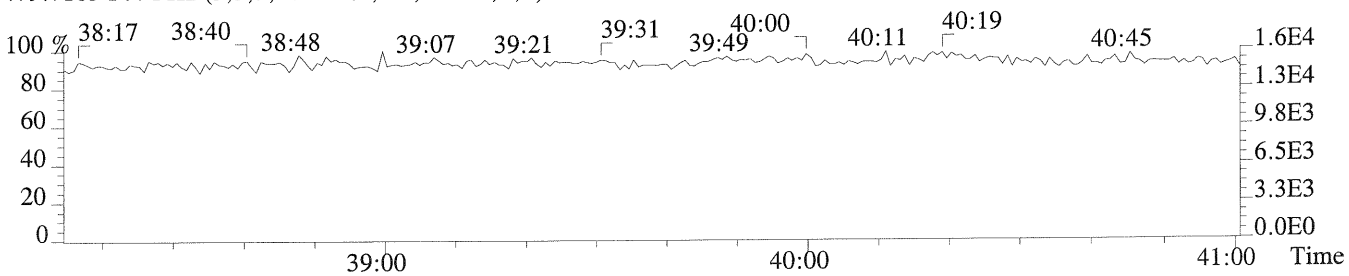
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2980.0,0.50%,F,T)



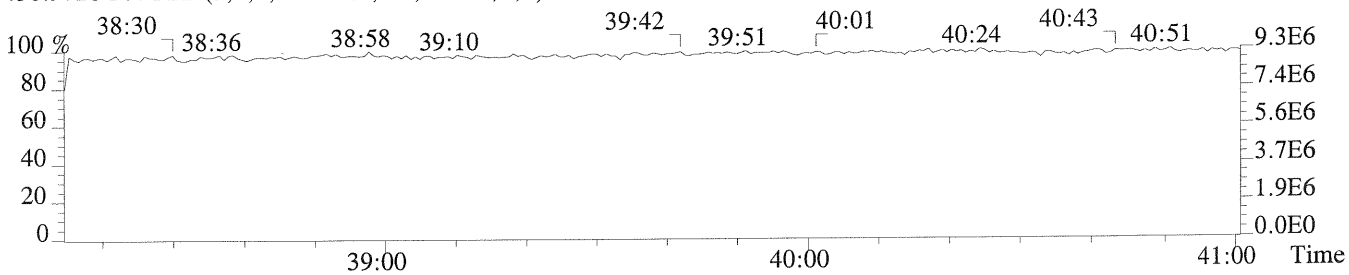
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3388.0,0.50%,F,T)



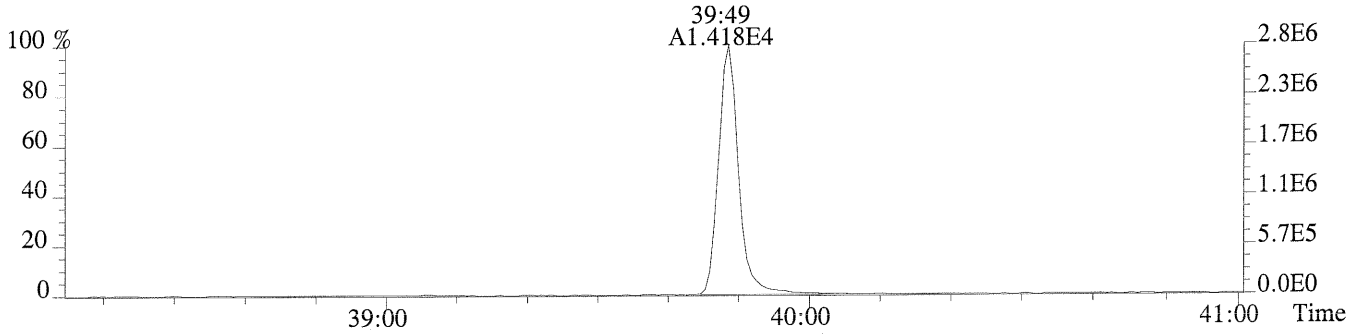
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



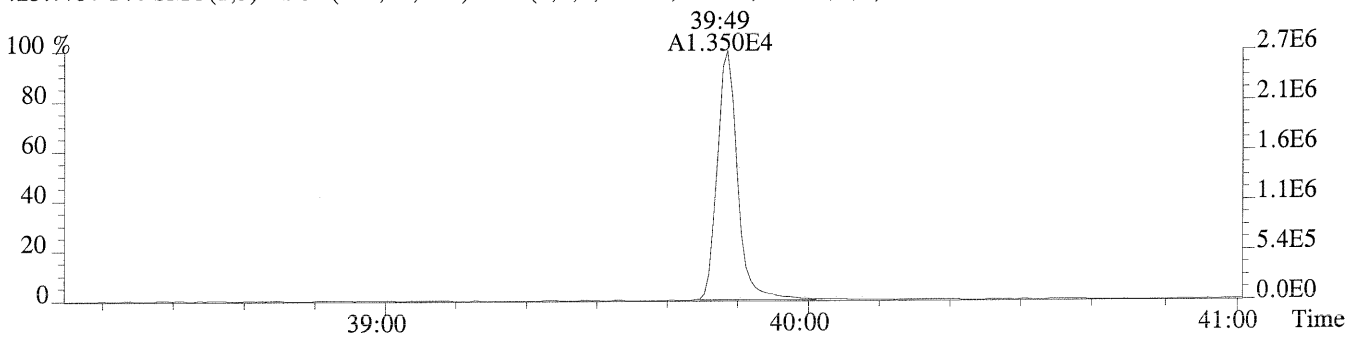
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



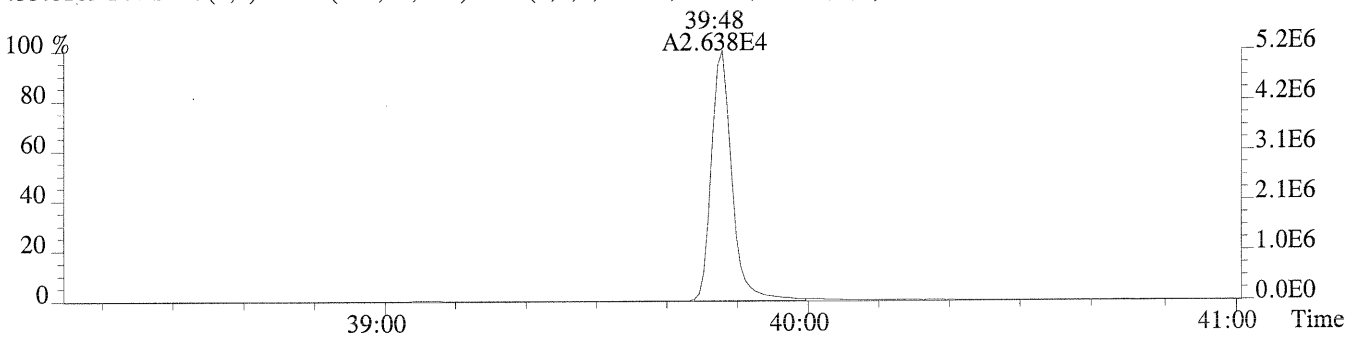
File:U149679 #1-252 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5192.0,0.40%,F,T)



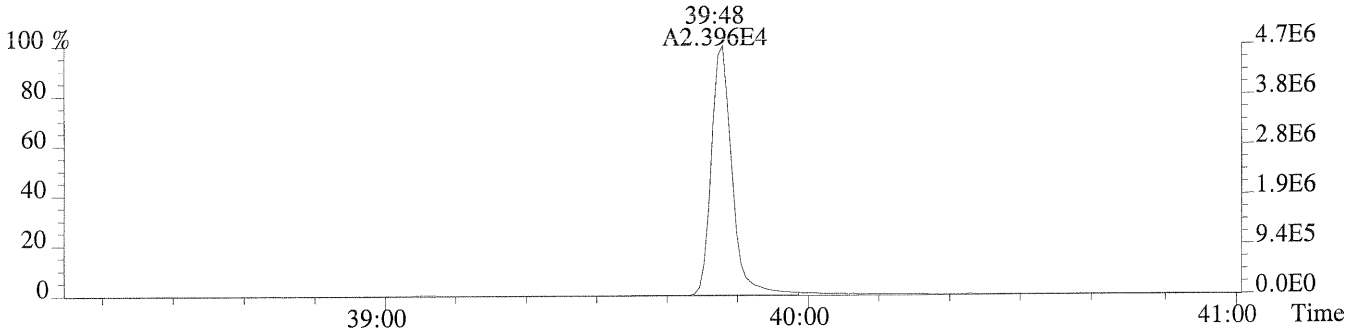
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3960.0,0.40%,F,T)



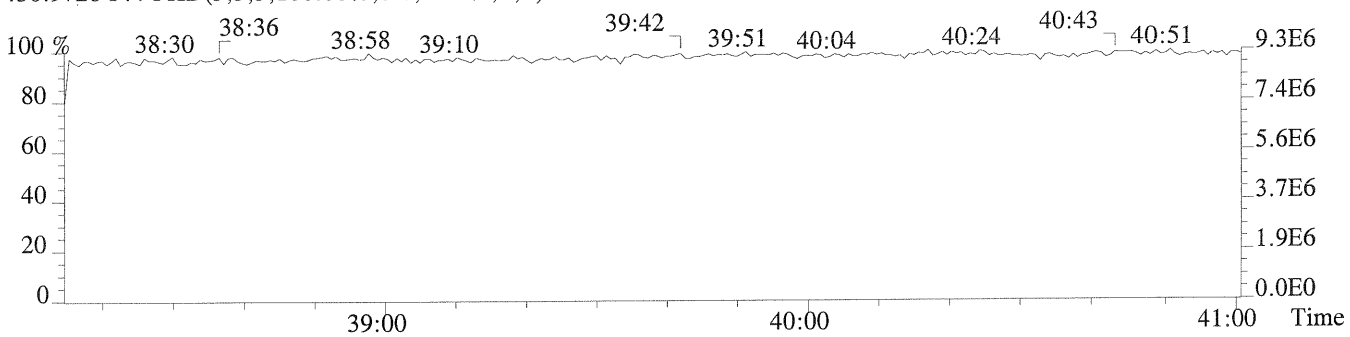
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,T)



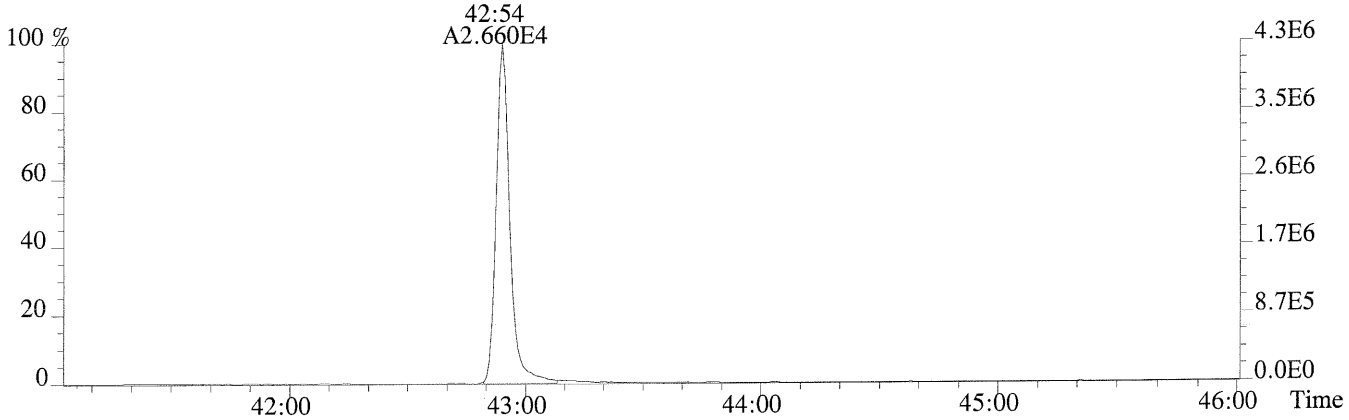
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,T)



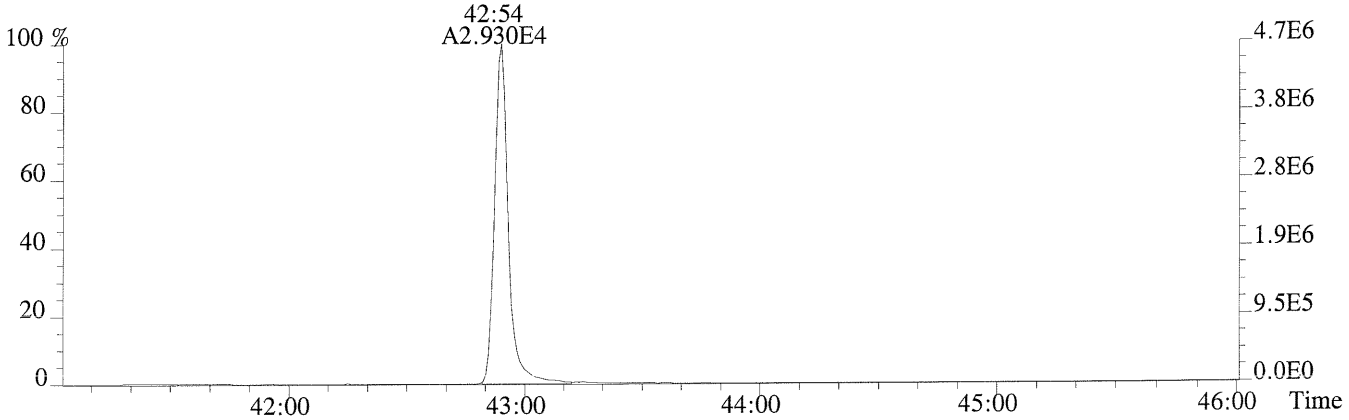
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



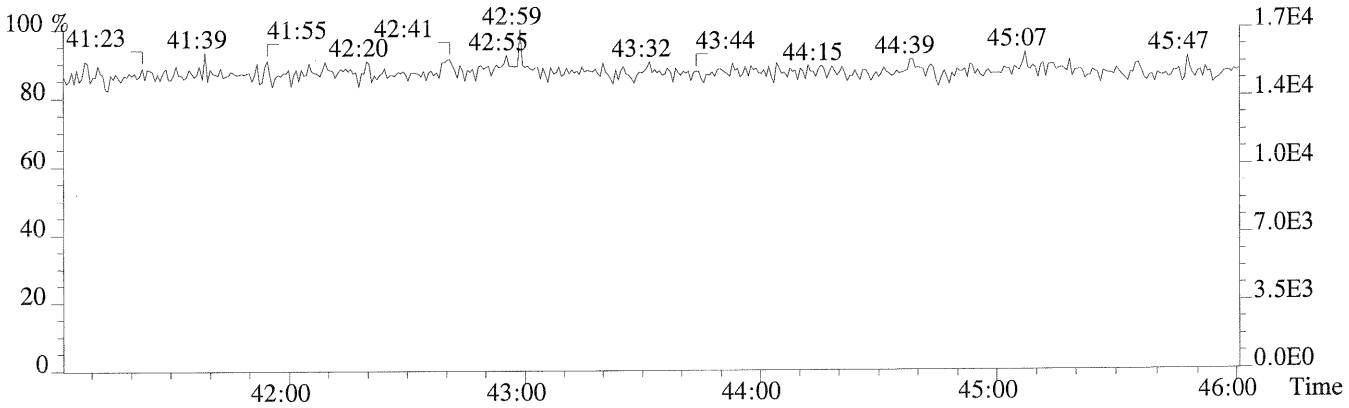
File:U149679 #1-451 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3648.0,0.40%,F,T)



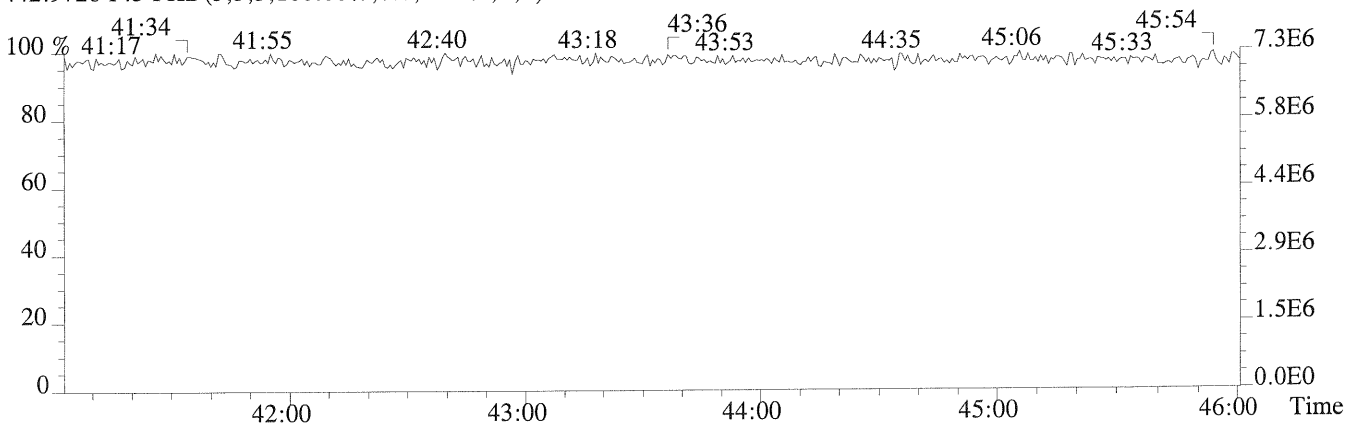
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3444.0,0.40%,F,T)



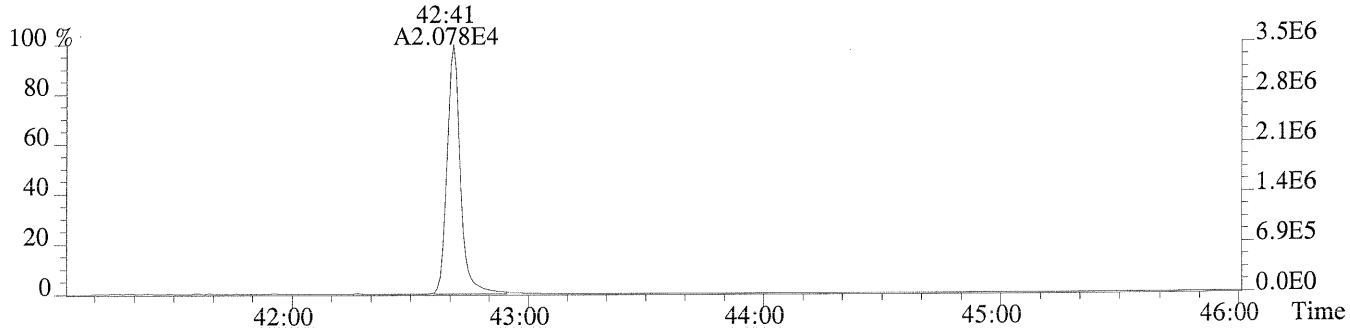
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



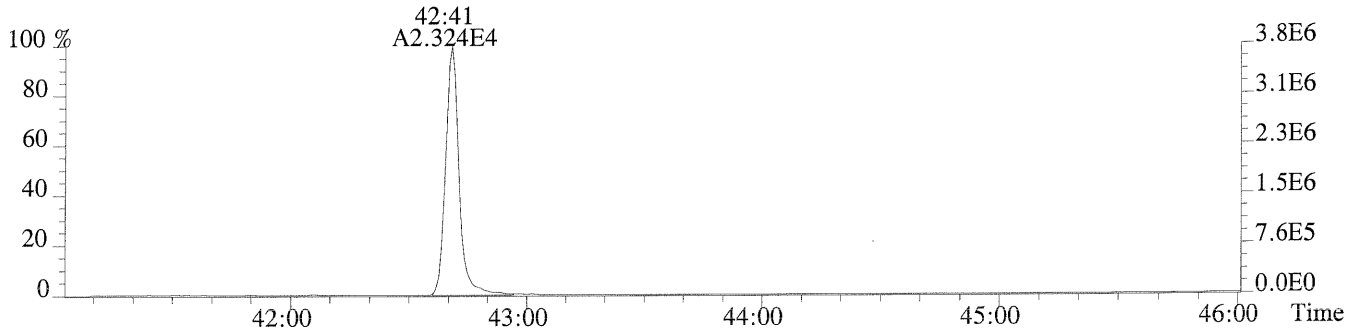
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



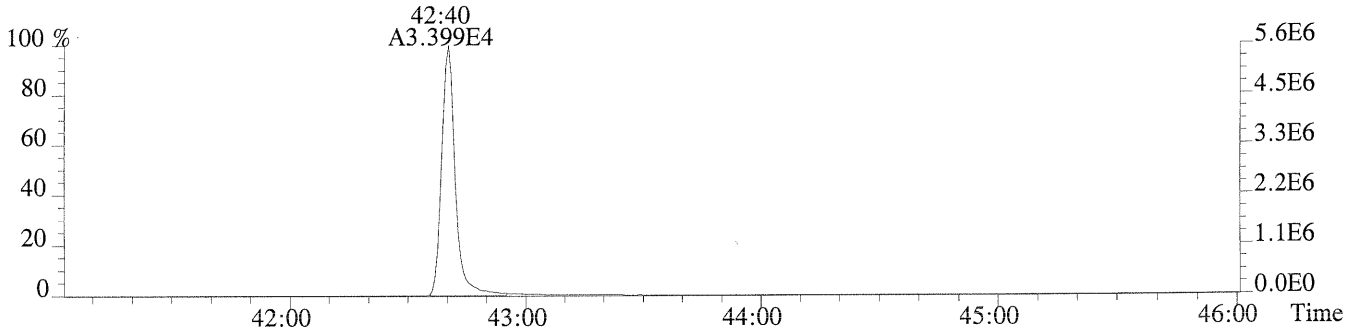
File:U149679 #1-451 Acq:23-JUN-2014 09:34:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,13088.0,0.40%,F,T)



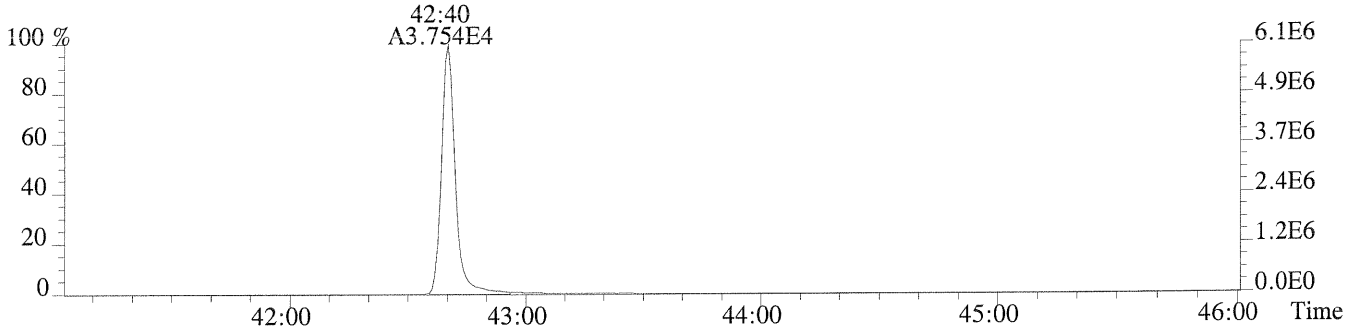
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14500.0,0.40%,F,T)



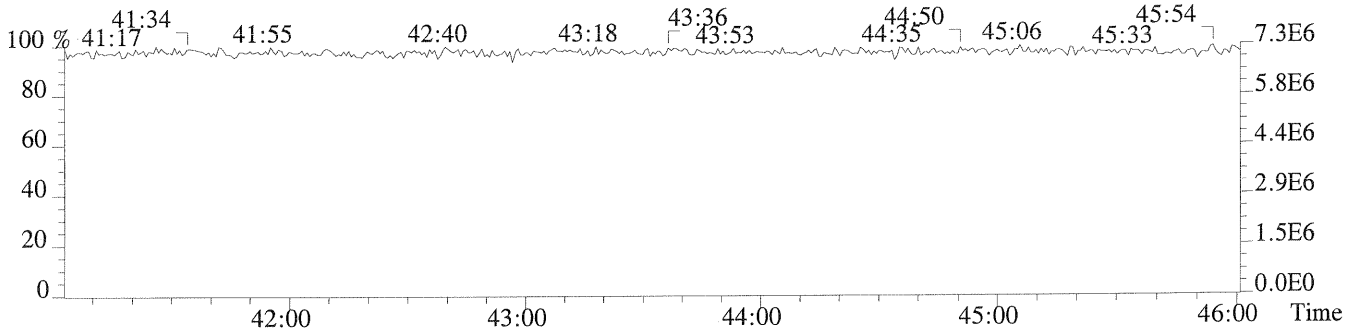
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4104.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4896.0,0.40%,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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149686 Analysis Date: 23-JUN-14 Time: 15:16:33

	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	0.78	0.65-0.89	10.3	7.8 - 12.9	2.5
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	53	39 - 65	5.1
1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	54	39 - 64	7.8
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	56	39 - 64	11.7
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	54	41 - 61	7.7
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.5
OCDD	M+2/M+4	0.90	0.76-1.02	107	79 - 126	7.3
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	11.2	8.4 - 12.0	12.1
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	57	41 - 60	13.3
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	55	41 - 61	9.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	54	45 - 56	8.9
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	53	44 - 57	6.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	54	45 - 56	8.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	55	44 - 57	9.2
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	53	45 - 55	5.8
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.4
OCDF	M+2/M+4	0.91	0.76-1.02	119	63 - 159	19.3

(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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149686 Analysis Date: 23-JUN-14 Time: 15:16:33

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	96	82 - 121	-3.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	108	62 - 160	8.1
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.35	1.05-1.43	101	85 - 117	1.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	96	85 - 118	-3.9
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	104	72 - 138	4.5
13C-OCDD	M+2/M+4	0.92	0.76-1.02	177	96 - 415	-11.4
13C-2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	107	71 - 140	7.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	112	76 - 130	12.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	118	77 - 130	18.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	107	76 - 131	7.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	110	70 - 143	10.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	115	74 - 135	14.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	112	73 - 137	12.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	116	78 - 129	16.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	116	77 - 129	16.3
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.2	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 beginnning 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.
66131

Run #13 Filename U149686 Samp: 1 Inj: 1 Acquired: 23-JUN-14 15:16:33
Processed: 24-JUN-14 06:27:10 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:35	2.300e+03	3.037e+03	0.76	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:42	2.398e+04	1.519e+04	1.58	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:36	2.286e+04	1.460e+04	1.57	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	2.188e+04	1.733e+04	1.26	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:21	2.361e+04	1.878e+04	1.26	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:51	2.250e+04	1.779e+04	1.26	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:37	2.123e+04	1.682e+04	1.26	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:50	2.030e+04	1.940e+04	1.05	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	1.719e+04	1.644e+04	1.05	yes	no	1.358
10	Unk	OCDF	42:53	2.345e+04	2.579e+04	0.91	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:21	1.510e+03	1.948e+03	0.78	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:52	1.469e+04	8.955e+03	1.64	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	36:59	1.435e+04	1.076e+04	1.33	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	1.433e+04	1.209e+04	1.18	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:18	1.533e+04	1.214e+04	1.26	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:47	1.290e+04	1.231e+04	1.05	yes	no	1.065
17	Unk	OCDD	42:40	1.826e+04	2.032e+04	0.90	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	2.287e+04	2.755e+04	0.83	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	4.350e+04	2.728e+04	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	4.445e+04	2.804e+04	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:14	2.029e+04	3.841e+04	0.53	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:20	2.330e+04	4.562e+04	0.51	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:50	2.258e+04	4.235e+04	0.53	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:36	2.099e+04	4.022e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:50	1.657e+04	3.605e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:17	1.493e+04	3.296e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:19	1.456e+04	1.873e+04	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:51	2.702e+04	1.685e+04	1.60	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:58	2.361e+04	1.747e+04	1.35	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:03	2.353e+04	1.927e+04	1.22	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	2.378e+04	2.196e+04	1.08	yes	no	0.936
32	IS	13C-OCDD	42:39	2.933e+04	3.179e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:45	1.431e+04	1.852e+04	0.77	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:17	2.581e+04	2.095e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:20	3.495e+03				no	1.044

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.
66131

Run #13 Filename U149686 Samp: 1 Inj: 1 Acquired: 23-JUN-14 15:16:33
Processed: 24-JUN-14 06:27:101 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	4.68e+05	6.60e+02	7.1e+02	6.16e+05	7.92e+02	7.8e+02
2	1,2,3,7,8-PeCDF	4.44e+06	6.88e+02	6.5e+03	2.85e+06	6.96e+02	4.1e+03
3	2,3,4,7,8-PeCDF	4.58e+06	6.88e+02	6.6e+03	2.93e+06	6.96e+02	4.2e+03
4	1,2,3,4,7,8-HxCDF	4.64e+06	7.12e+02	6.5e+03	3.66e+06	7.68e+02	4.8e+03
5	1,2,3,6,7,8-HxCDF	4.77e+06	7.12e+02	6.7e+03	3.84e+06	7.68e+02	5.0e+03
6	2,3,4,6,7,8-HxCDF	4.87e+06	7.12e+02	6.8e+03	3.88e+06	7.68e+02	5.1e+03
7	1,2,3,7,8,9-HxCDF	4.31e+06	7.12e+02	6.0e+03	3.42e+06	7.68e+02	4.5e+03
8	1,2,3,4,6,7,8-HpCDF	4.24e+06	1.50e+03	2.8e+03	4.07e+06	3.11e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	3.21e+06	1.50e+03	2.1e+03	3.04e+06	3.11e+03	9.8e+02
10	OCDF	3.67e+06	5.68e+02	6.5e+03	4.01e+06	4.72e+02	8.5e+03
11	2,3,7,8-TCDD	3.14e+05	5.76e+02	5.4e+02	4.03e+05	5.72e+02	7.0e+02
12	1,2,3,7,8-PeCDD	2.91e+06	6.16e+02	4.7e+03	1.81e+06	4.56e+02	4.0e+03
13	1,2,3,4,7,8-HxCDD	3.04e+06	7.16e+02	4.2e+03	2.38e+06	9.16e+02	2.6e+03
14	1,2,3,6,7,8-HxCDD	2.94e+06	7.16e+02	4.1e+03	2.40e+06	9.16e+02	2.6e+03
15	1,2,3,7,8,9-HxCDD	3.16e+06	7.16e+02	4.4e+03	2.51e+06	9.16e+02	2.7e+03
16	1,2,3,4,6,7,8-HpCDD	2.48e+06	7.08e+02	3.5e+03	2.36e+06	5.96e+02	4.0e+03
17	OCDD	2.90e+06	6.32e+02	4.6e+03	3.22e+06	6.12e+02	5.3e+03
18	13C-2,3,7,8-TCDF	4.67e+06	9.24e+02	5.1e+03	5.58e+06	6.60e+02	8.5e+03
19	13C-1,2,3,7,8-PeCDF	8.06e+06	5.44e+02	1.5e+04	5.10e+06	2.88e+02	1.8e+04
20	13C-2,3,4,7,8-PeCDF	8.86e+06	5.44e+02	1.6e+04	5.53e+06	2.88e+02	1.9e+04
21	13C-1,2,3,4,7,8-HxCDF	4.27e+06	7.68e+02	5.6e+03	8.24e+06	9.72e+02	8.5e+03
22	13C-1,2,3,6,7,8-HxCDF	4.75e+06	7.68e+02	6.2e+03	9.25e+06	9.72e+02	9.5e+03
23	13C-2,3,4,6,7,8-HxCDF	4.84e+06	7.68e+02	6.3e+03	9.19e+06	9.72e+02	9.4e+03
24	13C-1,2,3,7,8,9-HxCDF	4.26e+06	7.68e+02	5.5e+03	8.15e+06	9.72e+02	8.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.43e+06	1.44e+03	2.4e+03	7.45e+06	2.89e+03	2.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.71e+06	1.44e+03	1.9e+03	6.11e+06	2.89e+03	2.1e+03
27	13C-2,3,7,8-TCDD	3.11e+06	8.56e+02	3.6e+03	4.05e+06	1.02e+03	4.0e+03
28	13C-1,2,3,7,8-PeCDD	5.44e+06	6.56e+02	8.3e+03	3.40e+06	5.92e+02	5.7e+03
29	13C-1,2,3,4,7,8-HxCDD	5.04e+06	7.68e+02	6.6e+03	3.86e+06	9.04e+02	4.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.91e+06	7.68e+02	6.4e+03	3.83e+06	9.04e+02	4.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.55e+06	6.68e+02	6.8e+03	4.13e+06	6.88e+02	6.0e+03
32	13C-OCDD	4.60e+06	5.12e+02	9.0e+03	4.97e+06	5.04e+02	9.9e+03
33	13C-1,2,3,4-TCDD	3.11e+06	8.56e+02	3.6e+03	3.99e+06	1.02e+03	3.9e+03
34	13C-1,2,3,7,8,9-HxCDD	5.34e+06	7.68e+02	7.0e+03	4.17e+06	9.04e+02	4.6e+03
35	37Cl-2,3,7,8-TCDD	7.33e+05	5.76e+02	1.3e+03			

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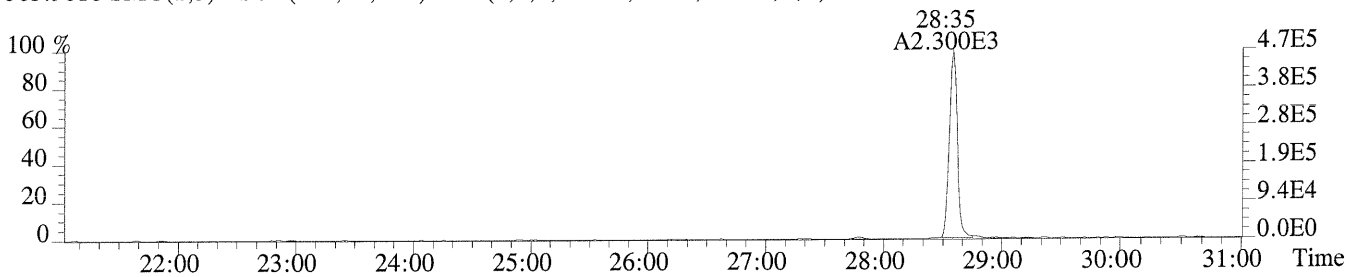
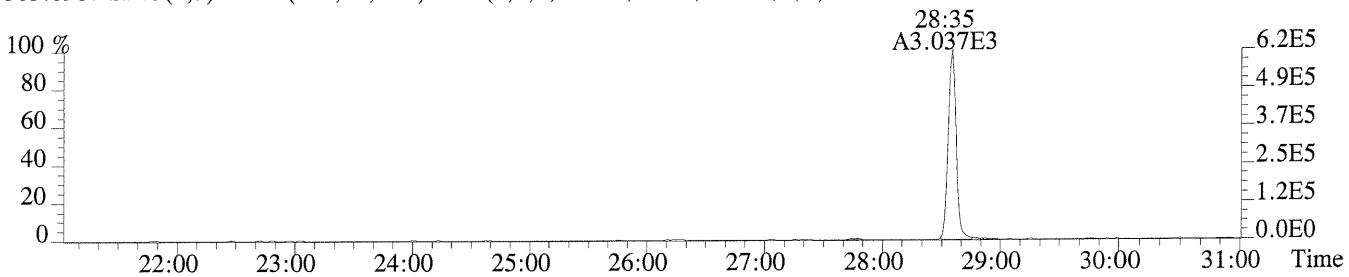
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

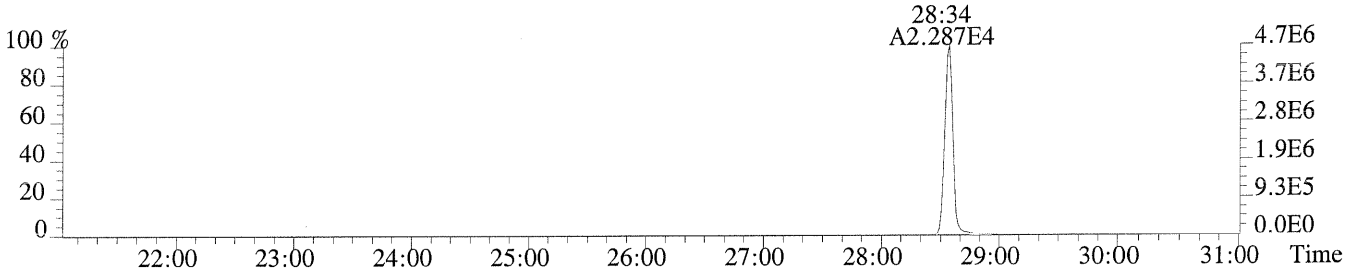
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,T)



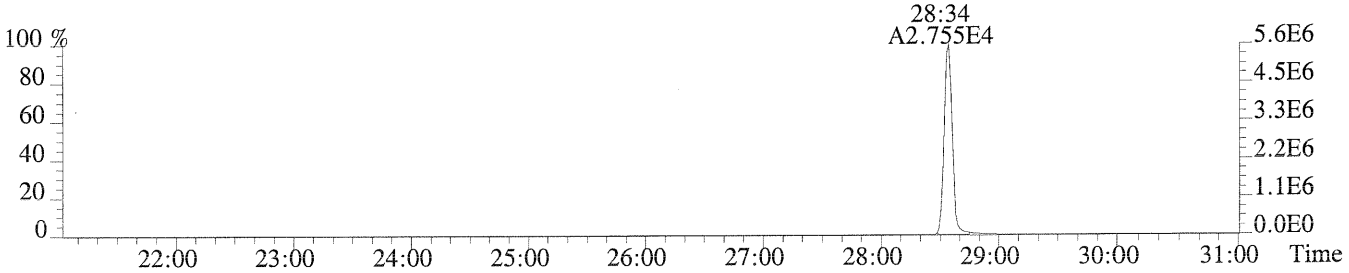
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



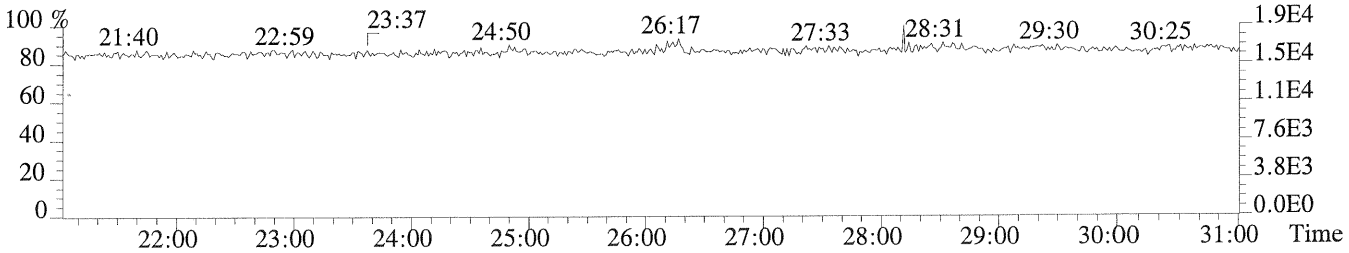
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



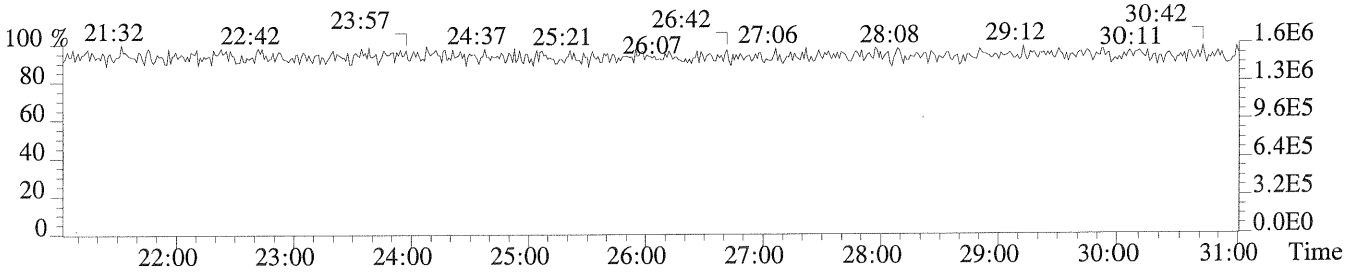
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,T)



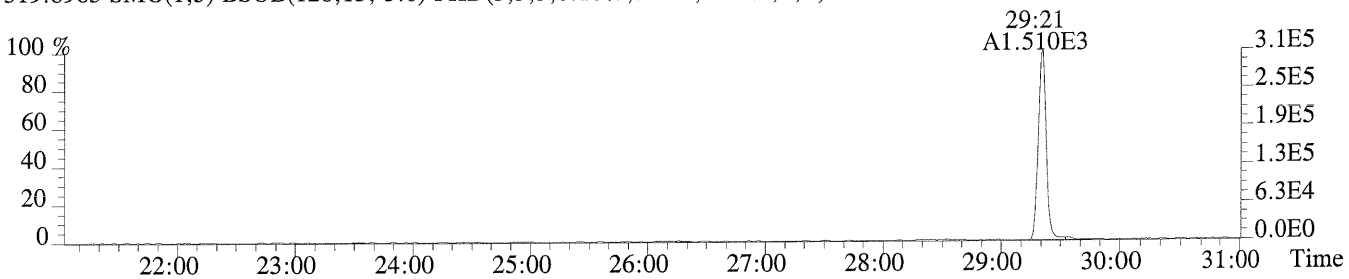
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



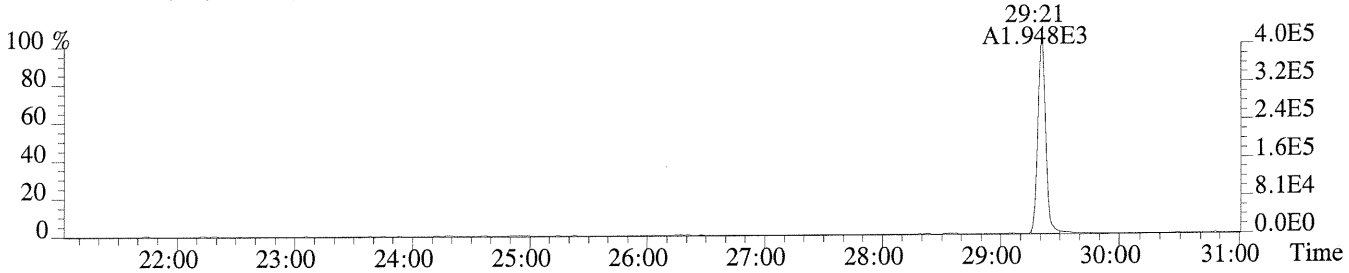
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



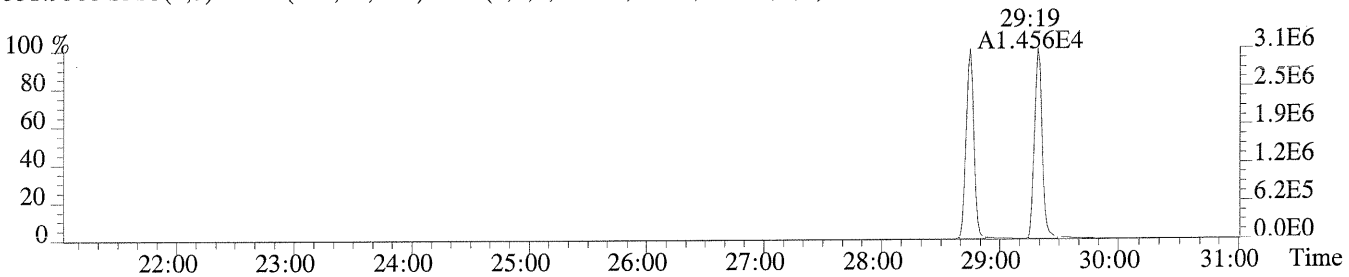
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



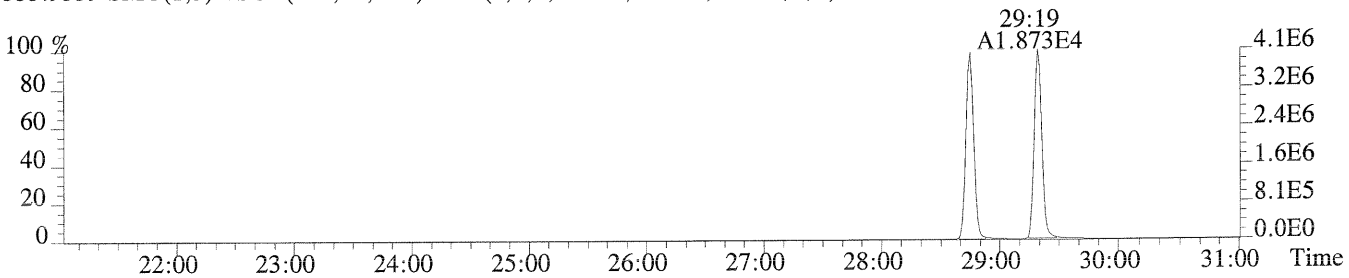
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



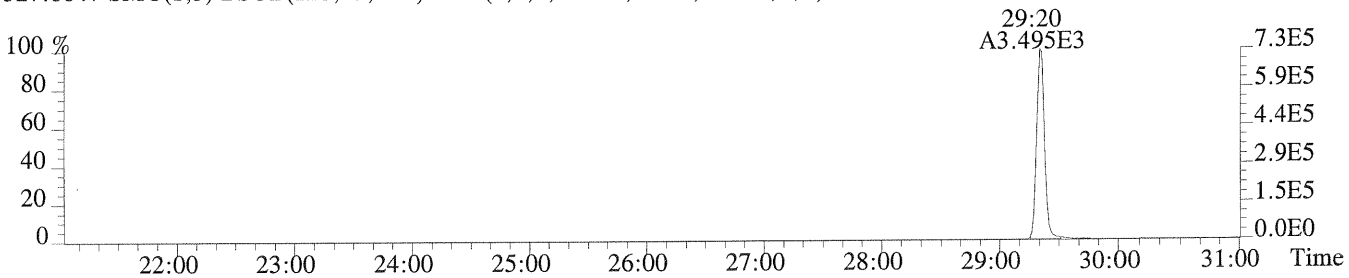
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



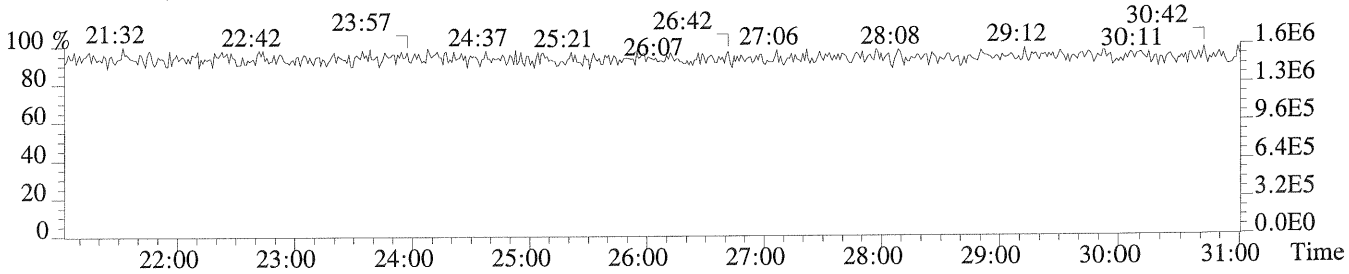
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



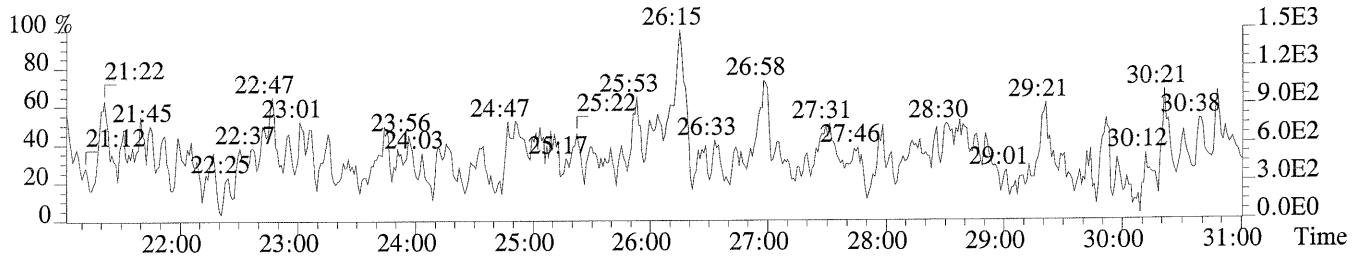
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



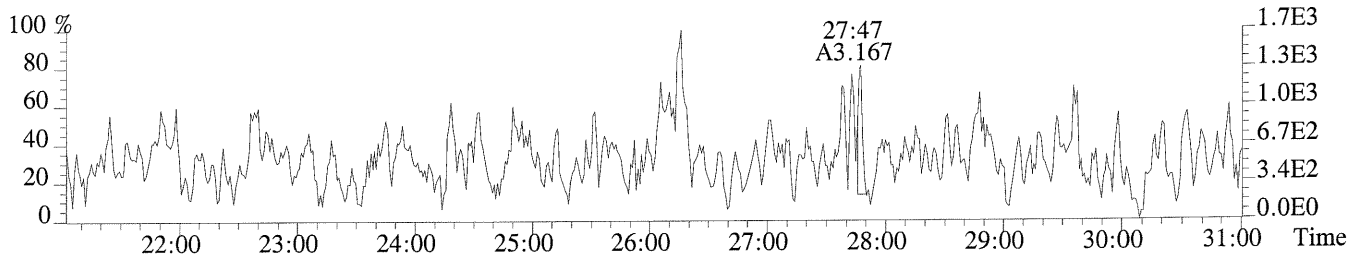
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



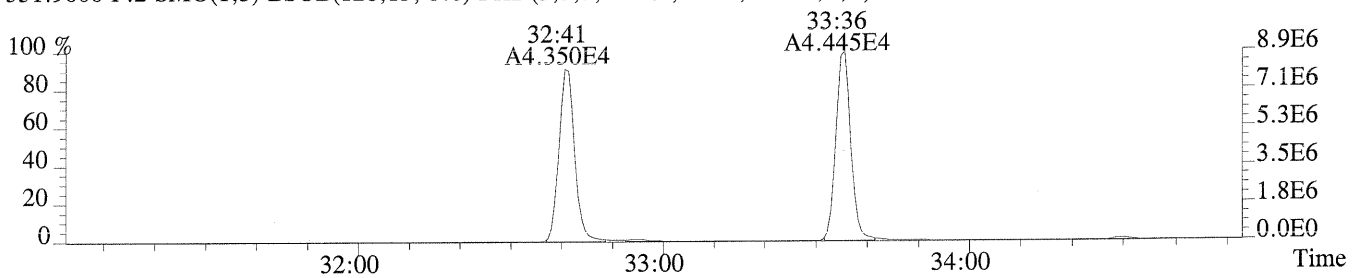
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



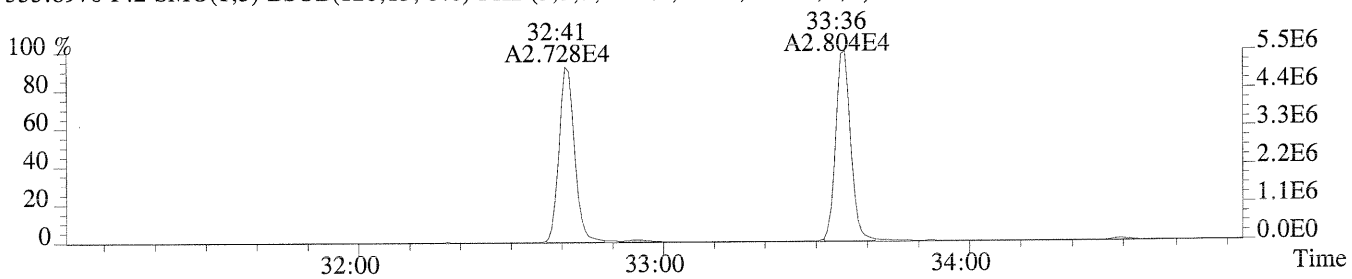
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



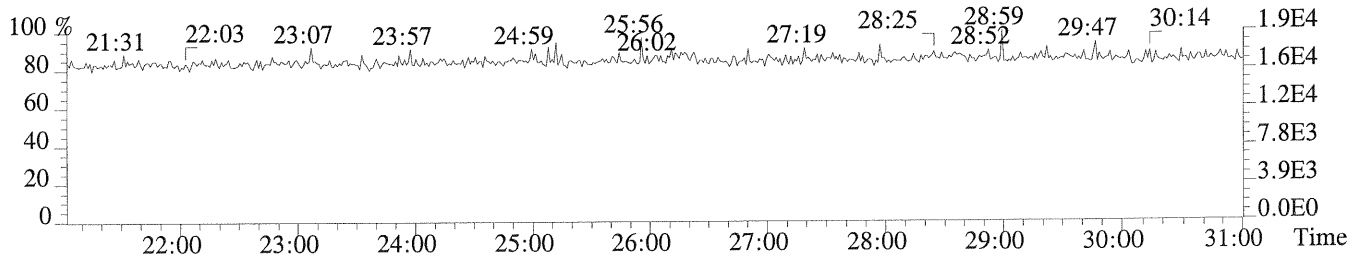
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



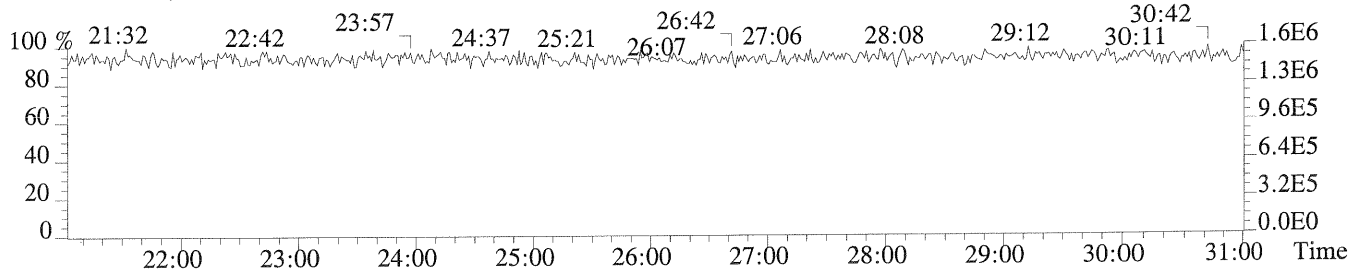
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



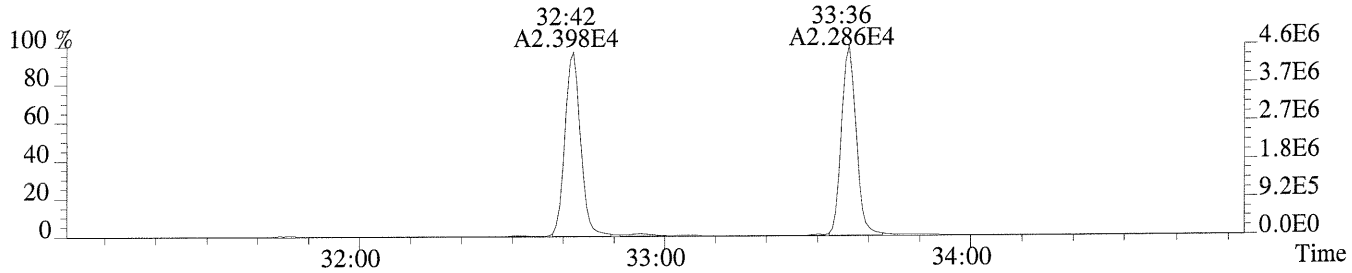
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



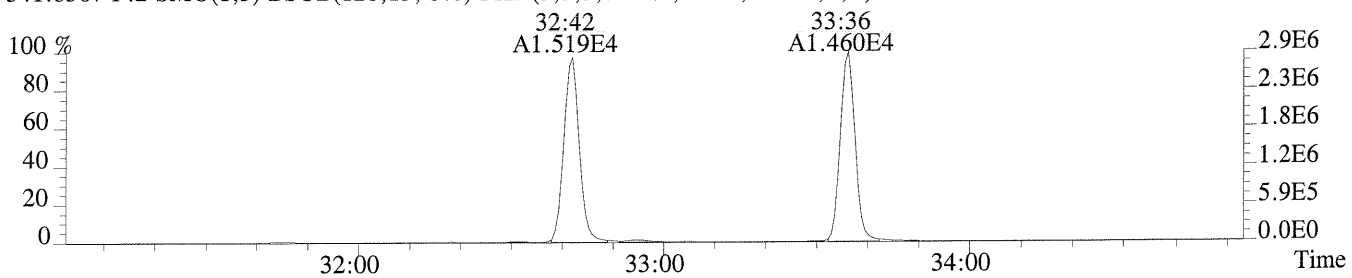
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



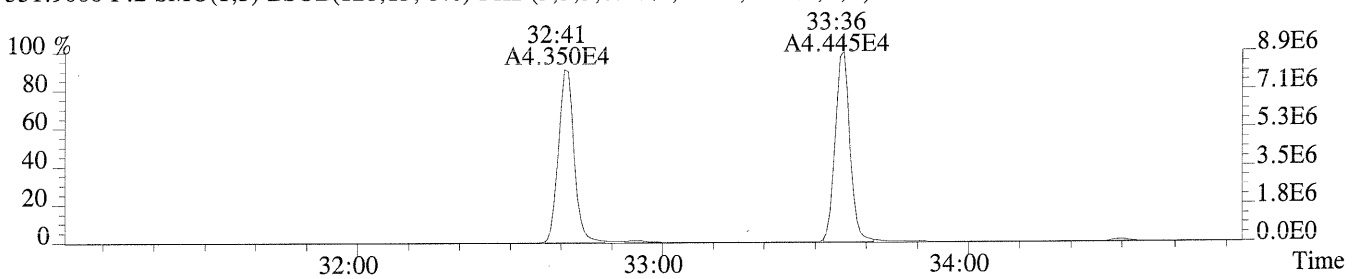
File:U149686 #1-349 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



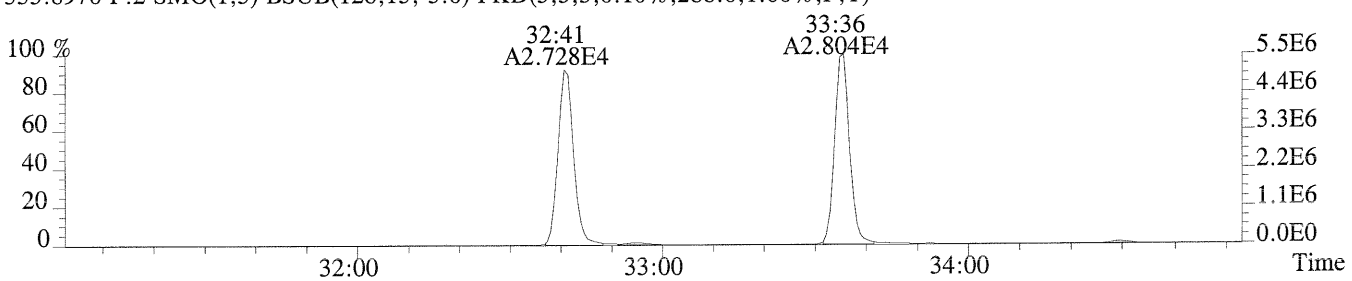
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



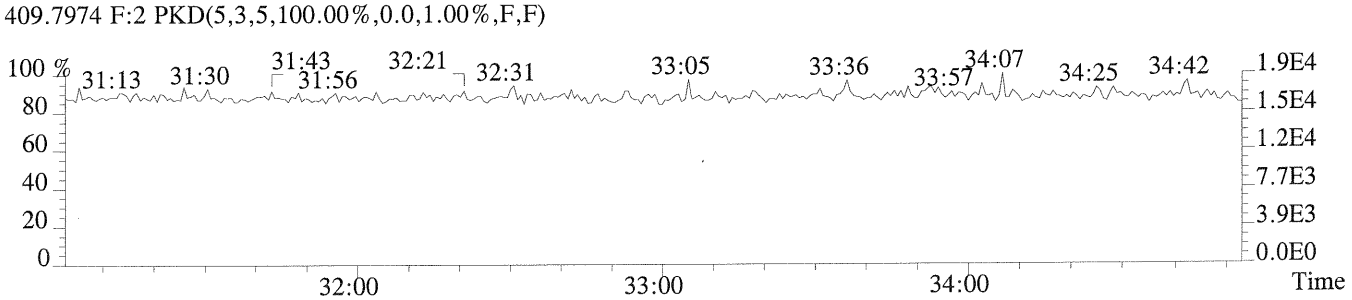
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



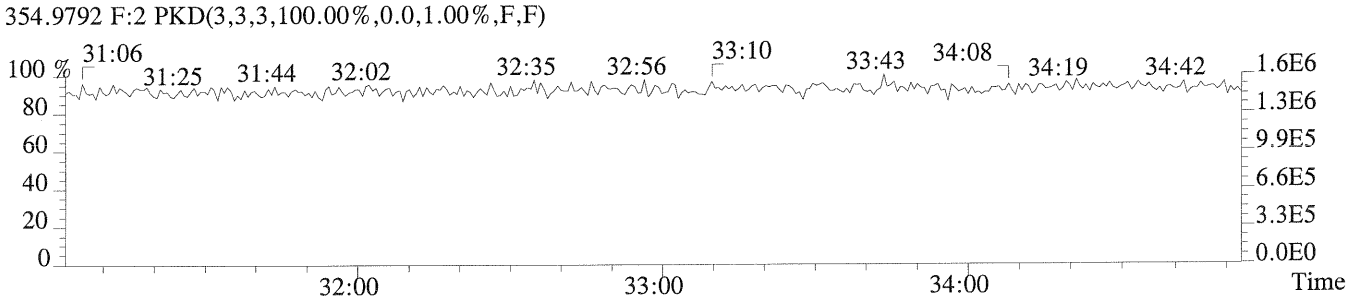
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



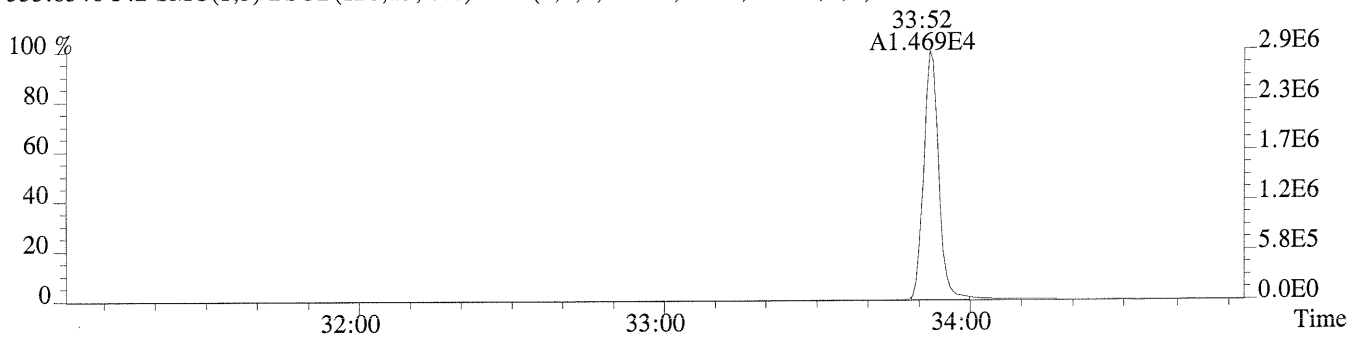
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



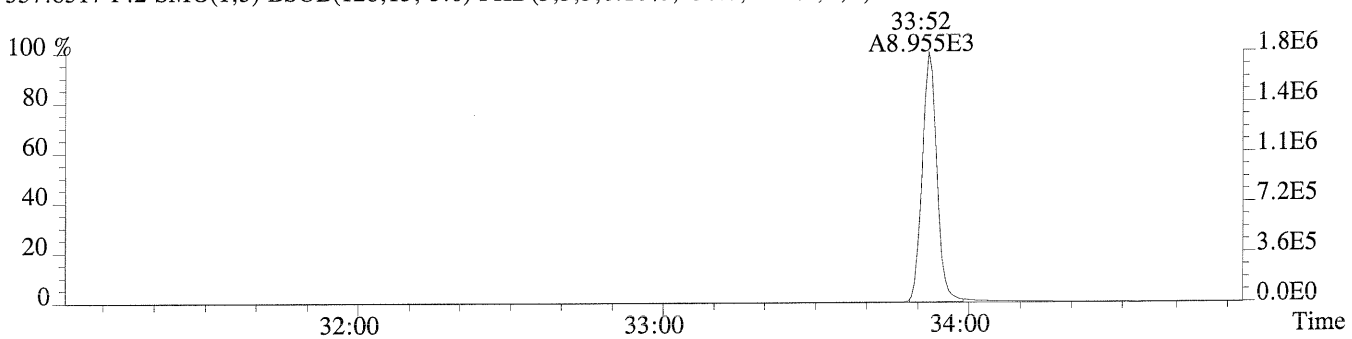
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



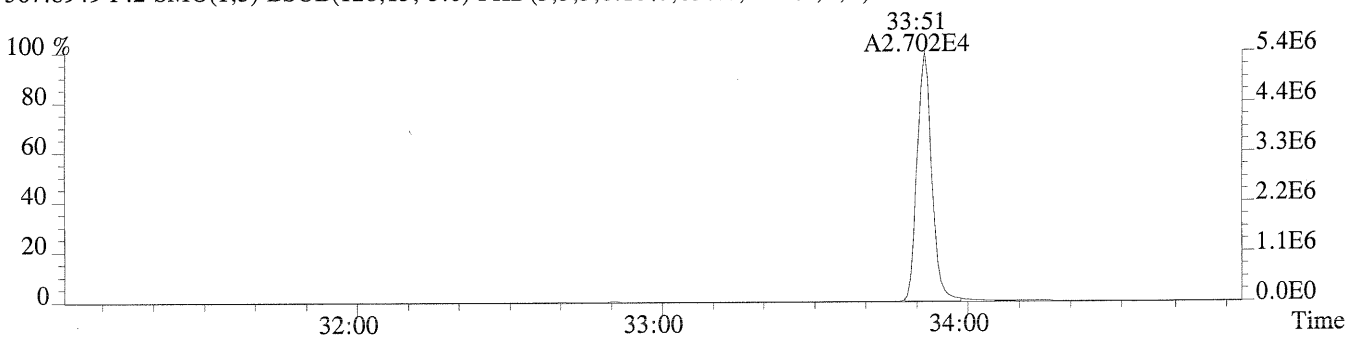
File:U149686 #1-349 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



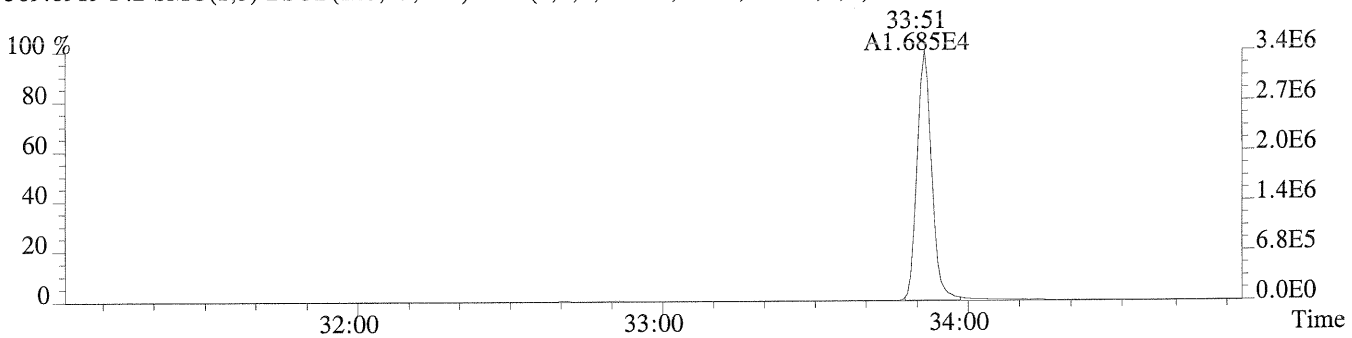
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,456.0,1.00%,F,T)



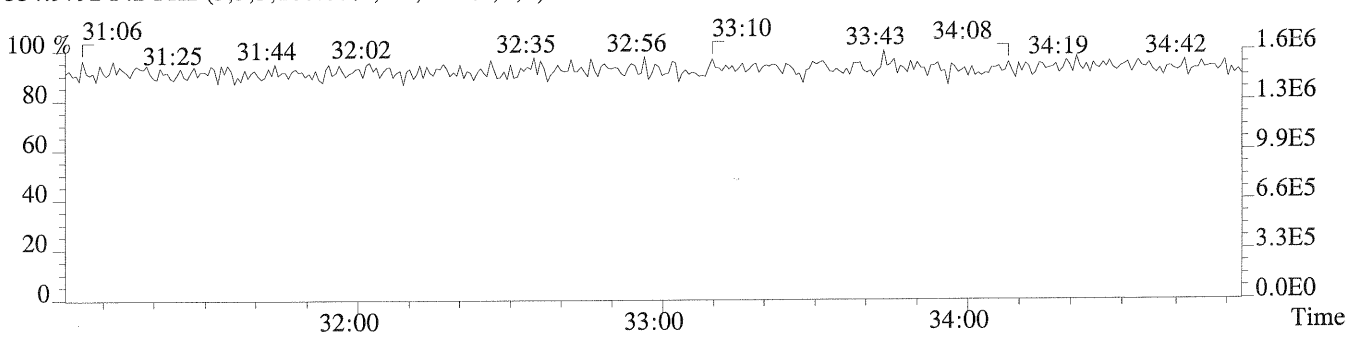
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)

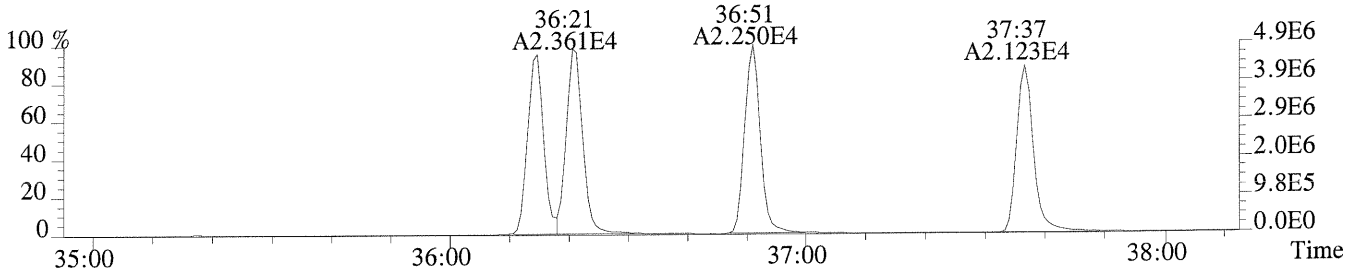


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

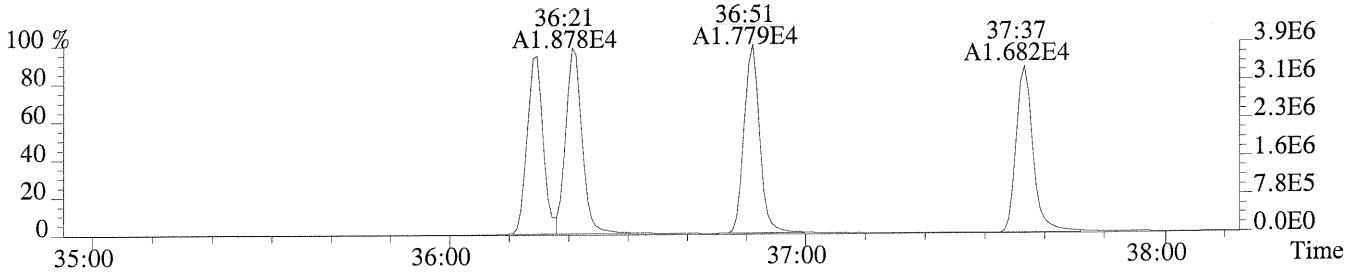


File:U149686 #1-299 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

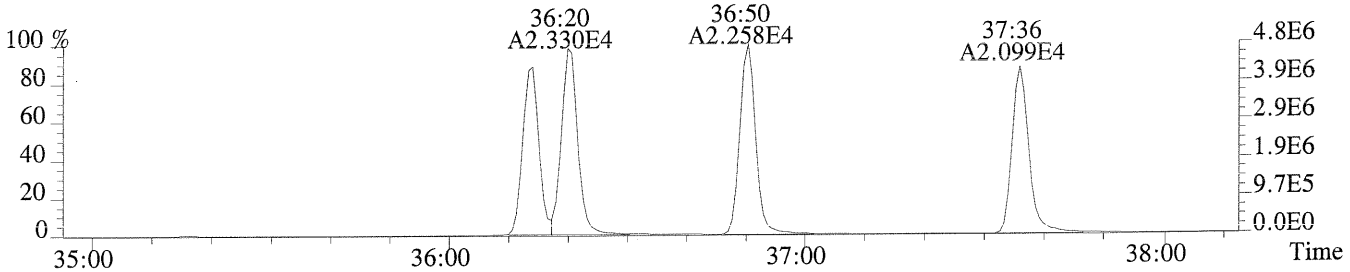
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



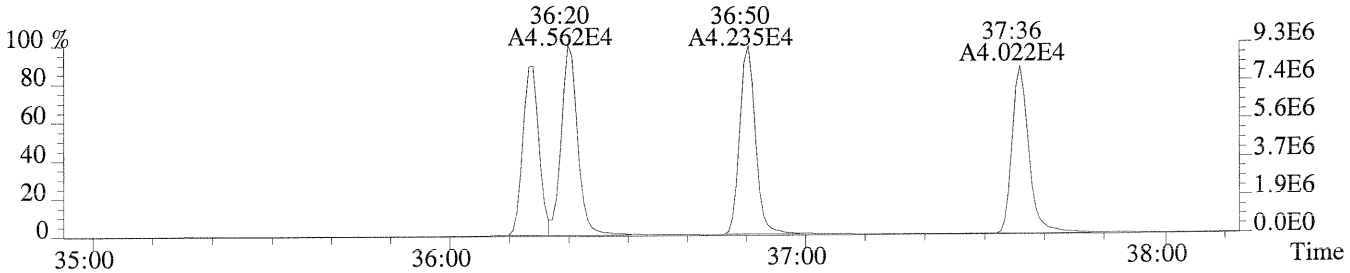
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



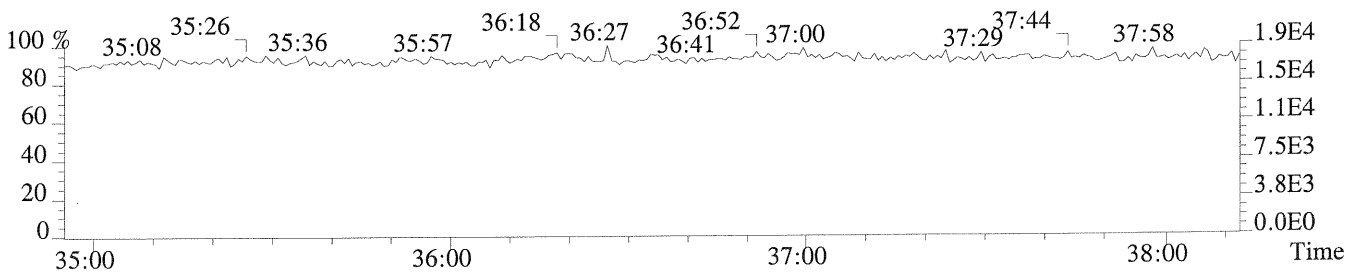
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



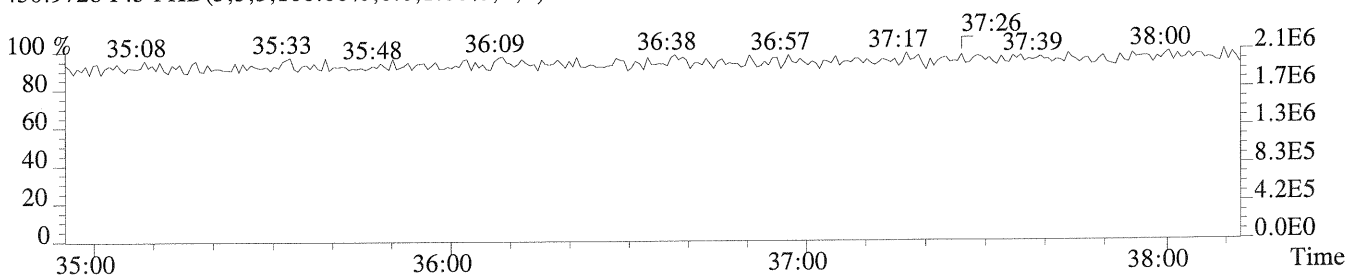
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)



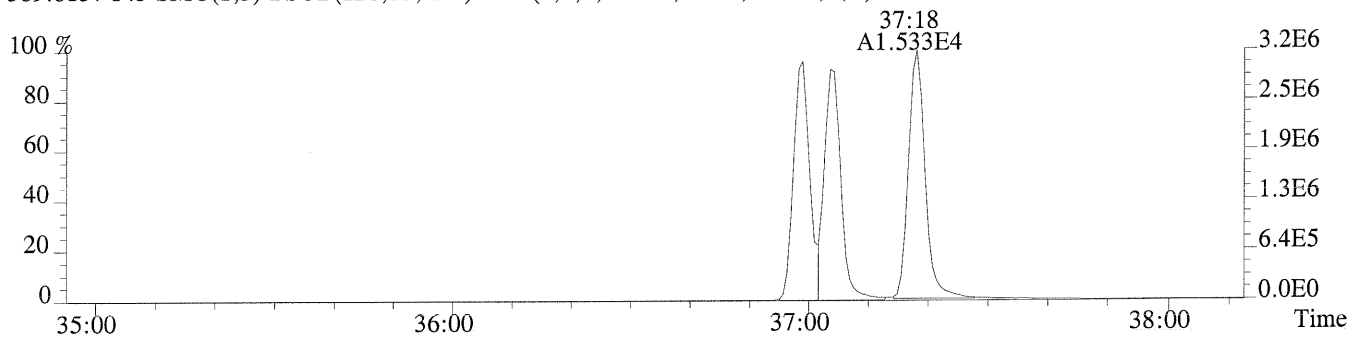
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



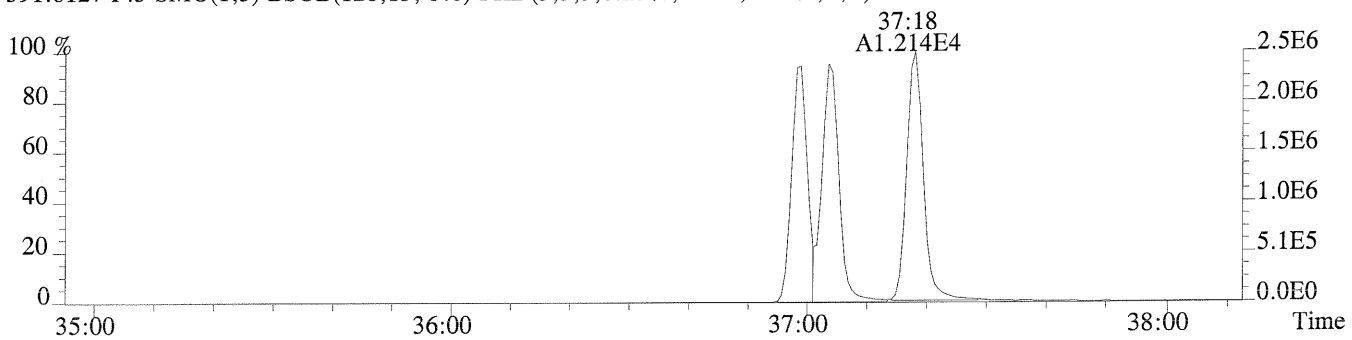
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



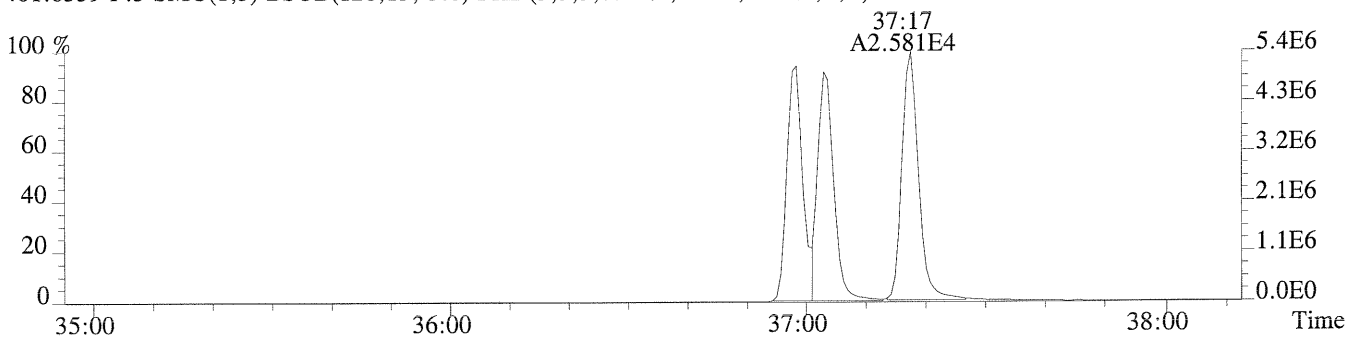
File:U149686 #1-299 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,716.0,0.40%,F,T)



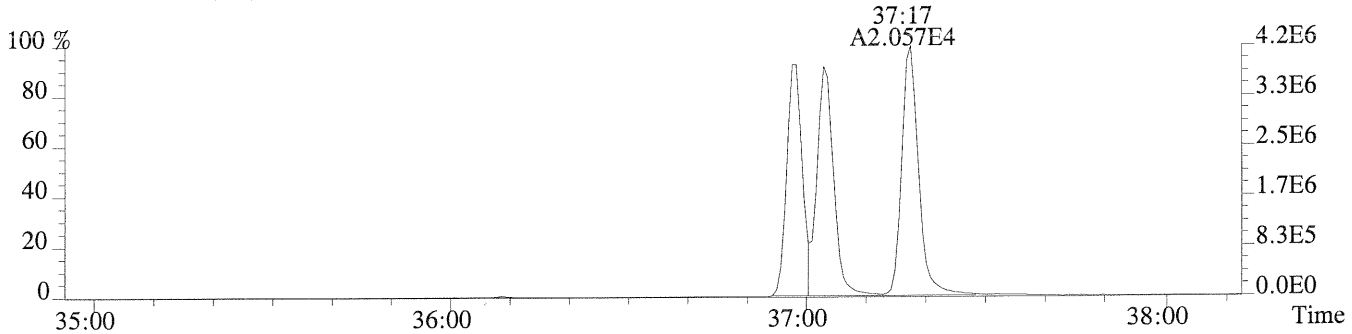
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.40%,F,T)



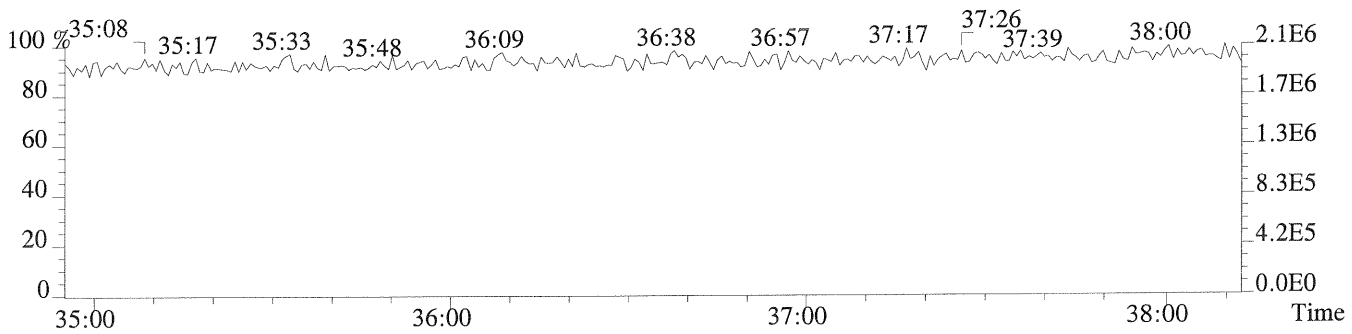
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



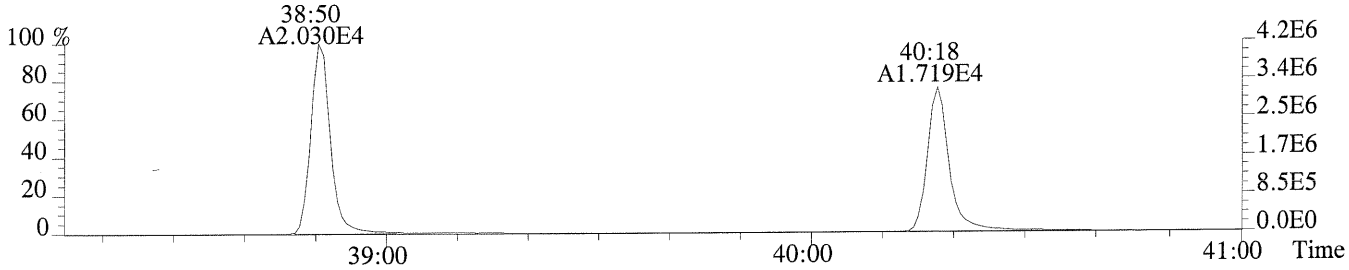
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



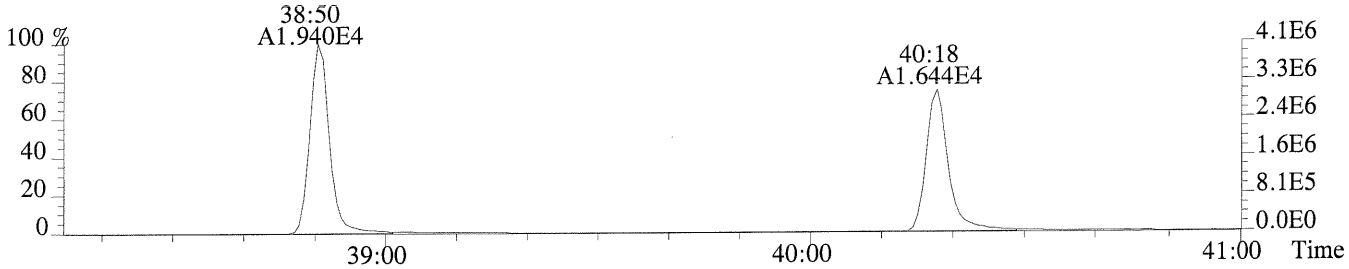
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



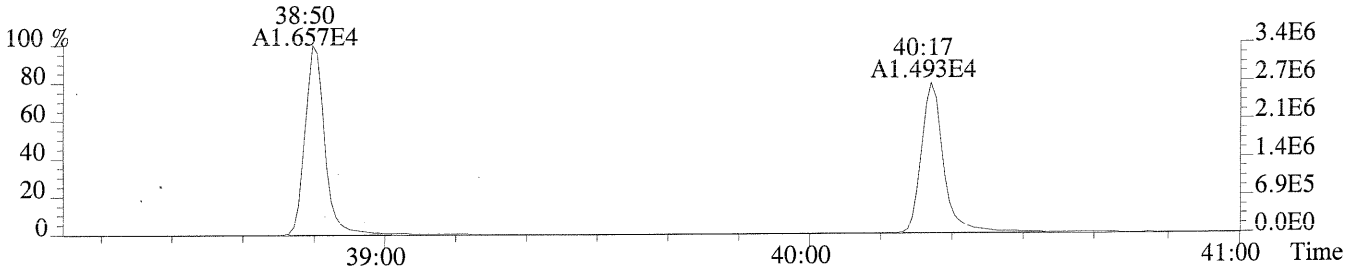
File:U149686 #1-251 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.50%,F,T)



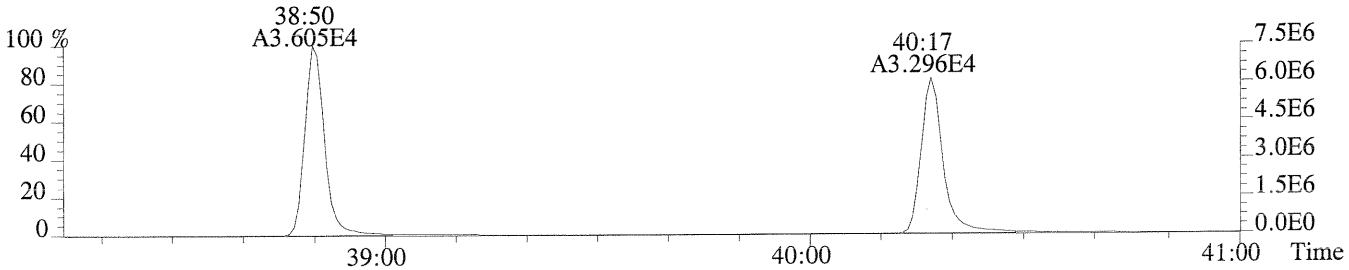
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3112.0,0.50%,F,T)



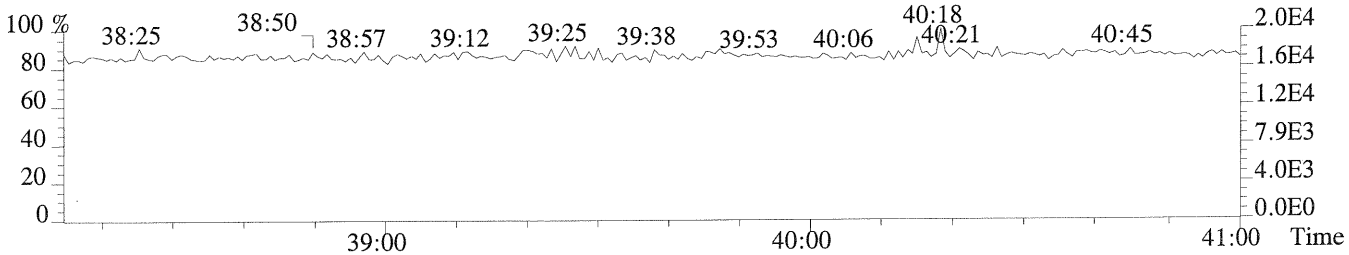
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1436.0,0.50%,F,T)



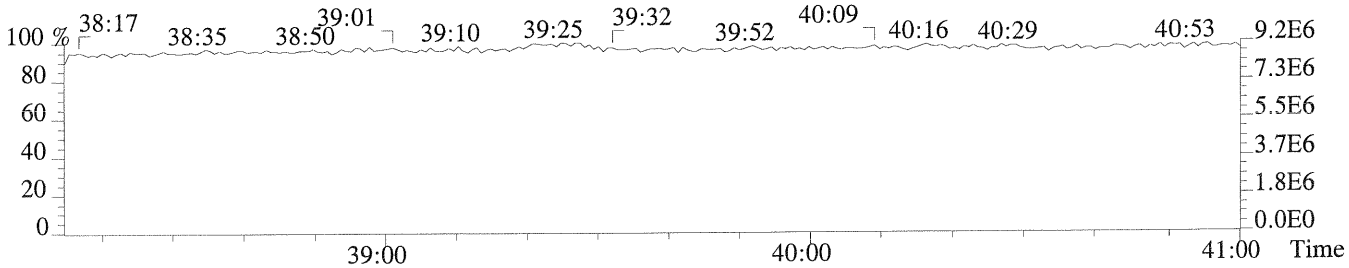
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2892.0,0.50%,F,T)



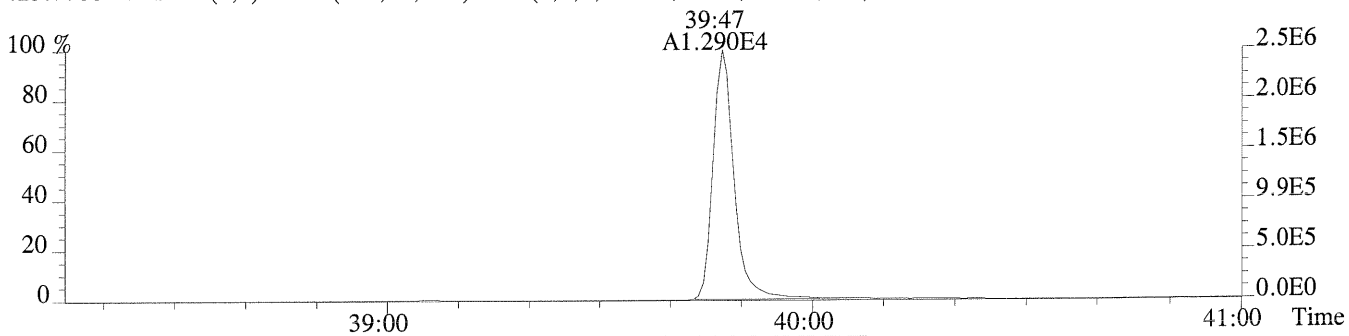
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



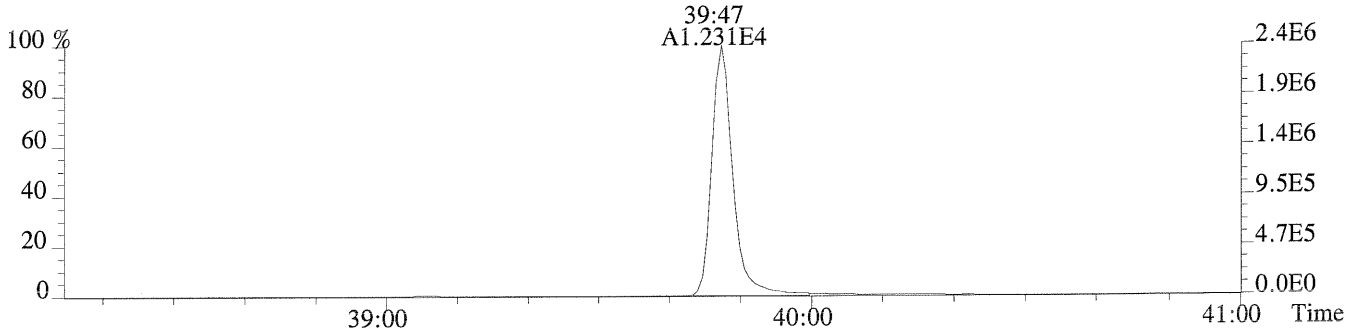
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



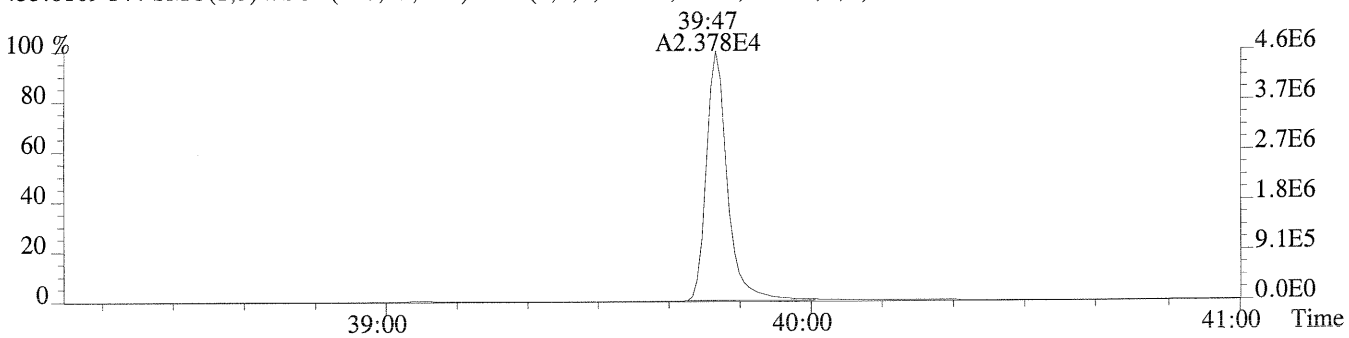
File:U149686 #1-251 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



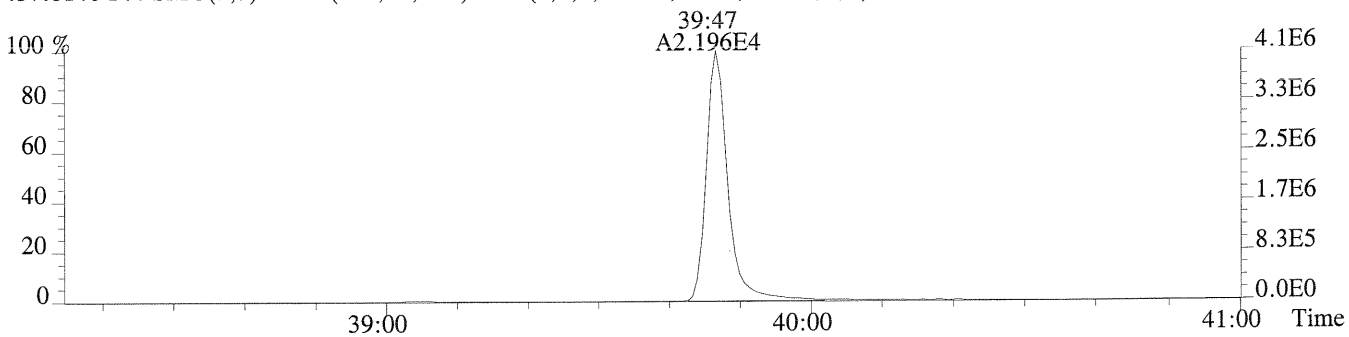
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,596.0,0.40%,F,T)



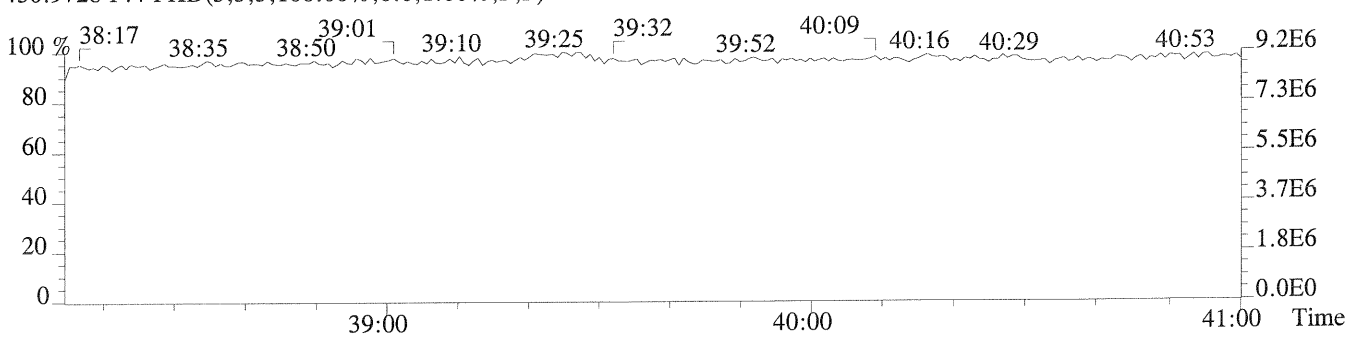
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,668.0,0.40%,F,T)



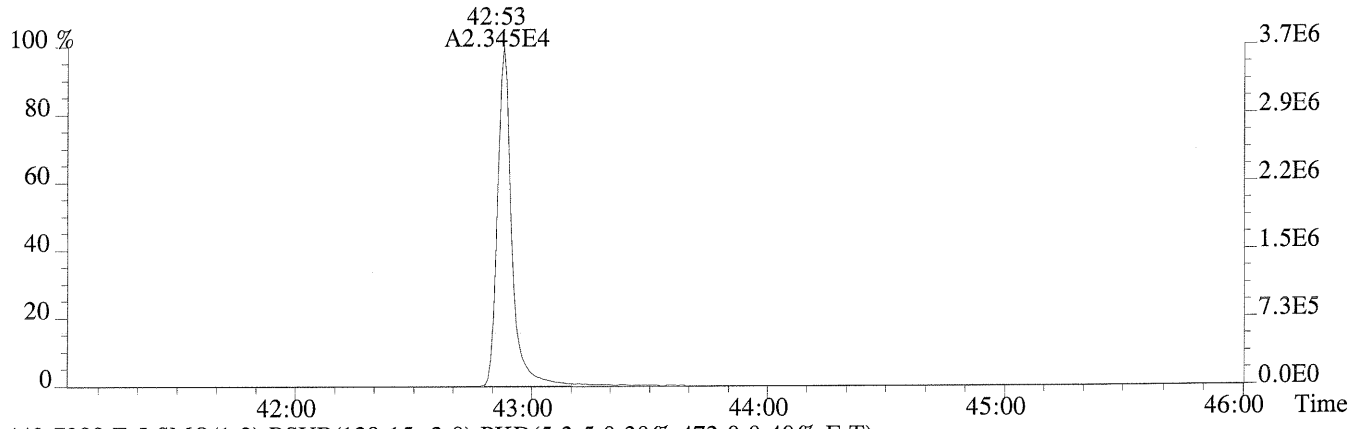
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



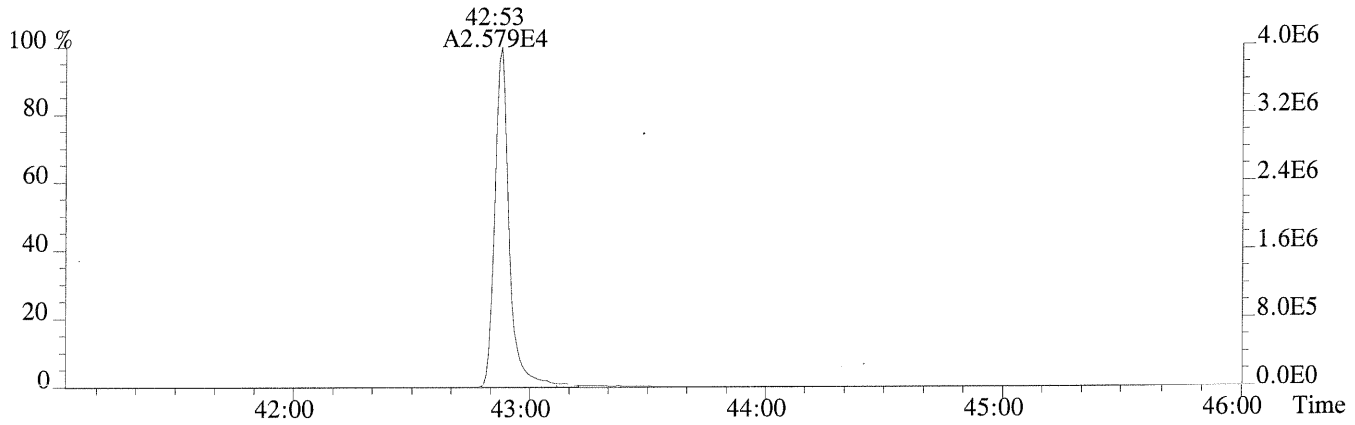
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



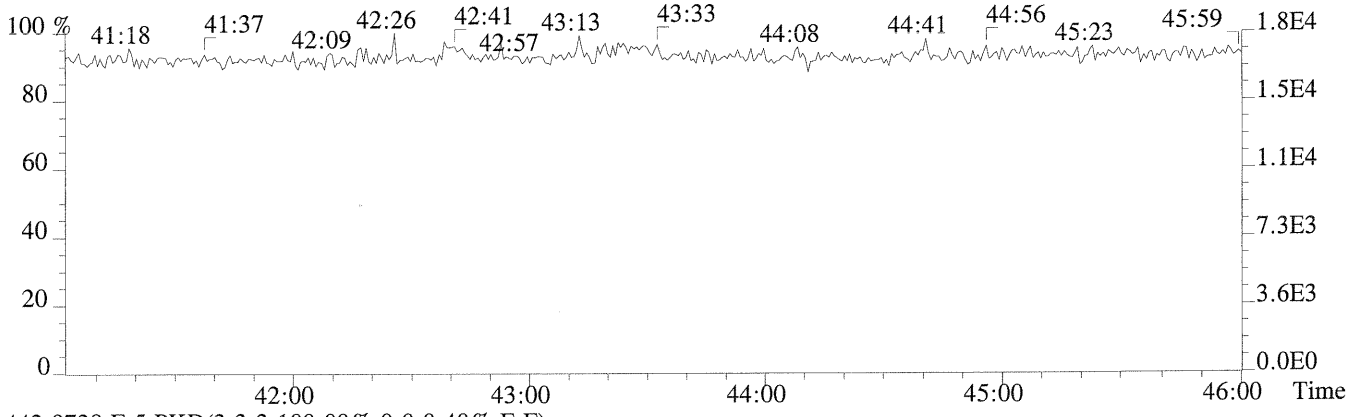
File:U149686 #1-451 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



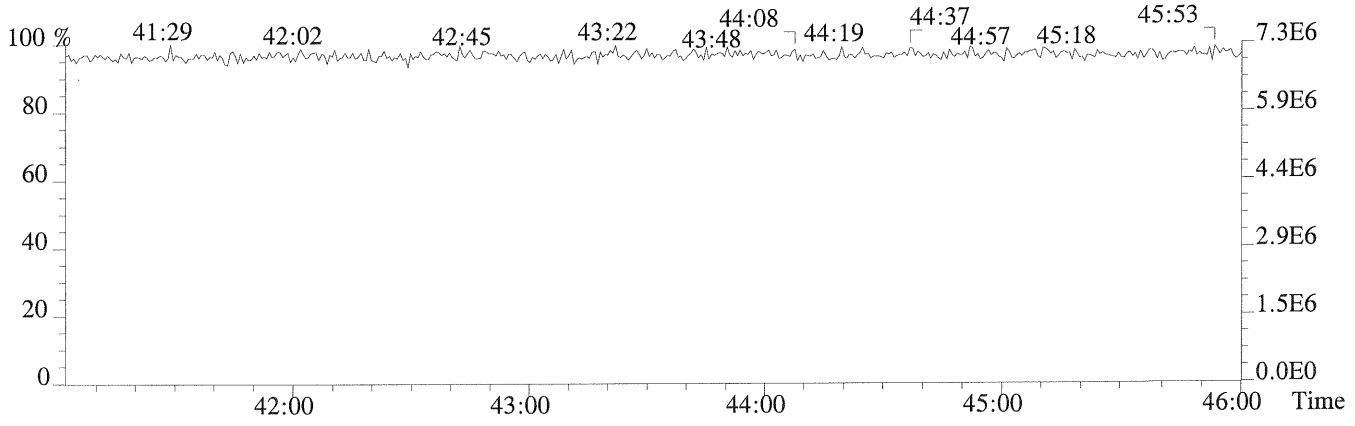
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,T)



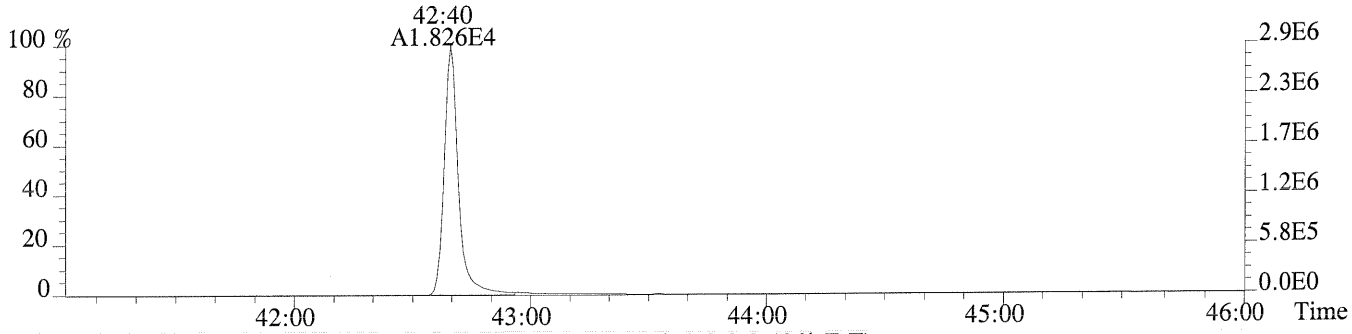
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



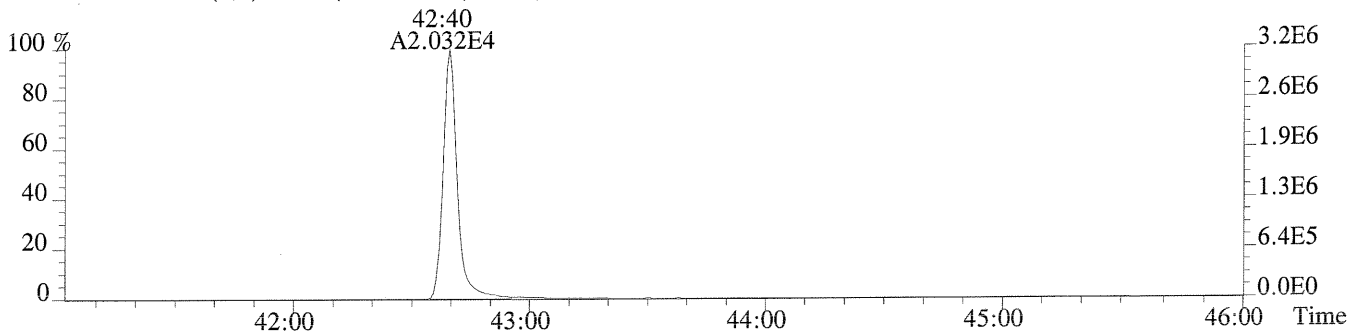
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



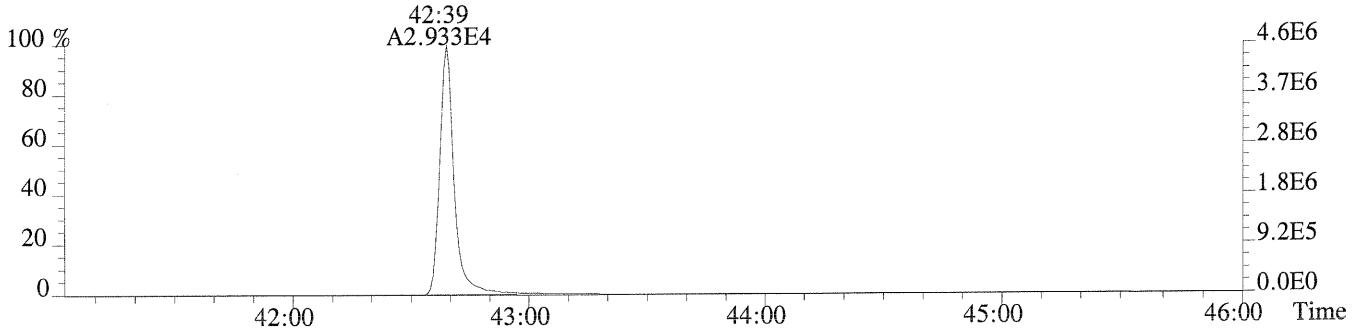
File:U149686 #1-451 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,F,T)



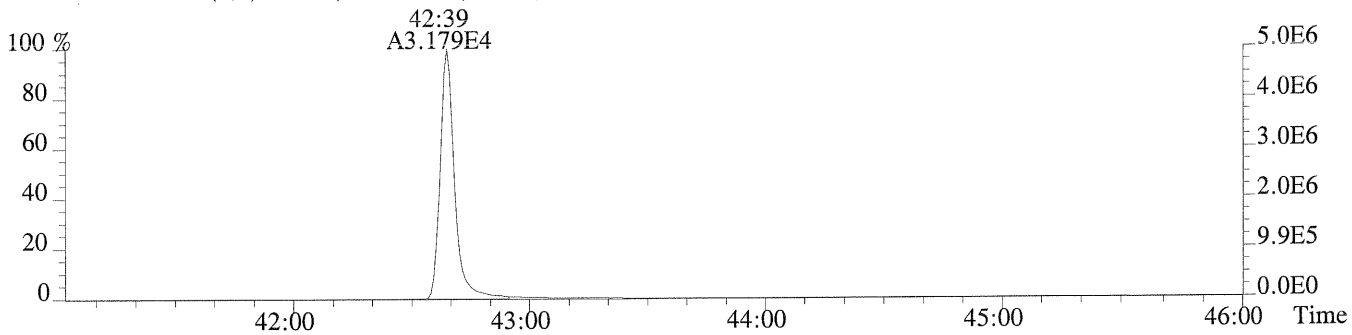
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,612.0,0.40%,F,T)



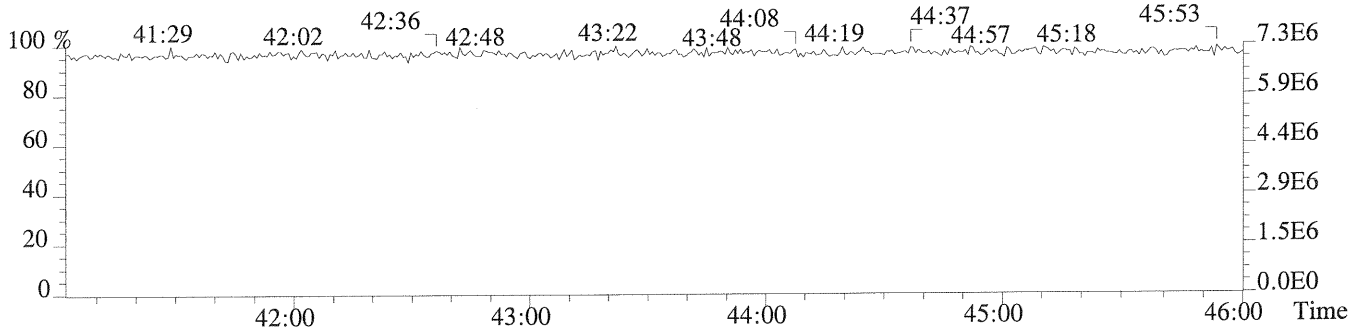
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,504.0,0.40%,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: U1149686-U1149697

Date: 06/23/14-06/24/14

Circle one: (Beginning) / (Ending)

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: LKL

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: 05/21/2014

Init. Calib.Times: 13:12

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	U149687	23-JUN-14	16:35:39
66131	CCAL HRCC3/CS3	U149686	23-JUN-14	15:16:33
METHOD BLANK	EQ1400321-01	U149688	23-JUN-14	17:25:41
9030O	J1404236-001	U149689	23-JUN-14	18:13:17
9031O	J1404236-002	U149690	23-JUN-14	19:01:57
9032O	J1404236-003	U149691	23-JUN-14	19:50:38
A0610-31	E1400659-001	U149692	23-JUN-14	20:39:19
COMPOSITE	K1405323-008	U149693	23-JUN-14	21:27:59
COMPOSITE	K1405695-007	U149694	23-JUN-14	22:16:39
LCS	EQ1400321-02	U149695	23-JUN-14	23:05:19
66131	DO NOT USE	U149696	23-JUN-14	23:53:59
66131	CCAL HRCC3/CS3	U149697	24-JUN-14	00:42:40

K1405833

e: U149686res

	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	06/23/14	15:16	U149686	CCAL HRCC3/CS3	66131	JC	HRMS Check 16:14	8290cas
2		16:35	U149687	WINDOW DEFINE	63680			8290cas
3		17:25	U149688	EQ1400321-01	MB			8290cas
4		18:13	U149689	J1404236-001	J1404236-001			8290cas
5		19:01	U149690	J1404236-002	J1404236-002			8290cas
6		19:50	U149691	J1404236-003	J1404236-003			8290cas
7		20:39	U149692	E1400659-001	E1400659-001			8290cas
8		21:27	U149693	K1405323-008	K1405323-008			8290cas
9		22:16	U149694	K1405695-007	K1405695-007			8290cas
10		23:05	U149695	EQ1400321-02	EQ1400321-02			8290cas
11		23:53	U149696	CCAL HRCC3/CS4	66131			8290cas
12	06/24/14	00:42	U149697	CCAL HRCC3/CS3	66131		HRMS Check 07:48	8290cas
13			---	---	---			8290cas
14			---	---	---			8290cas
15			---	---	---			8290cas
16			---	---	---			8290cas
17			---	---	---			8290cas
18			---	---	---			8290cas
19			---	---	---			8290cas
20			---	---	---			8290cas
21			---	---	---			8290cas
22			---	---	---			8290cas
23			---	---	---			8290cas
24			---	---	---			1668EPA
25			---	---	---			1668EPA
26			---	---	---			1668EPA
27			---	---	---			1668EPA
28			---	---	---			1668EPA
29			---	---	---			1668EPA
30			---	---	---			1668EPA
31			---	---	---			---
32			---	---	---			---
33			---	---	---			TCDFCAS
34			---	---	---			TCDFCAS
35			---	---	---			TCDFCAS
36			---	---	---			TCDFCAS
37			---	---	---			TCDFCAS
38			---	---	---			TCDFCAS
39			---	---	---			TCDFCAS

JC 06/24/14

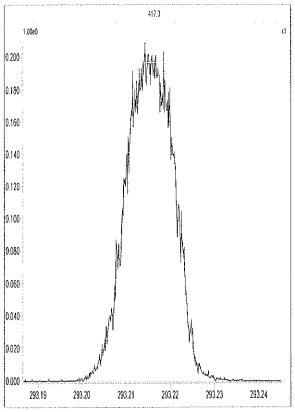
056

3042598

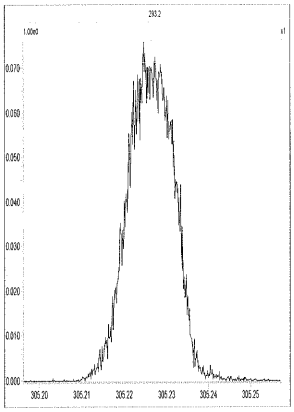
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, June 23, 2014 16:14:58 Central Daylight Time

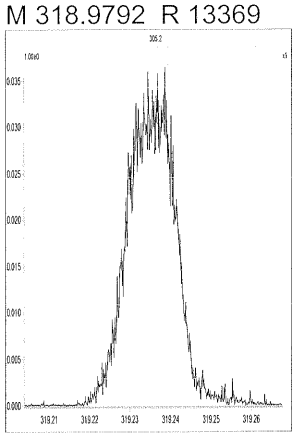
M 292.9824 R 13584



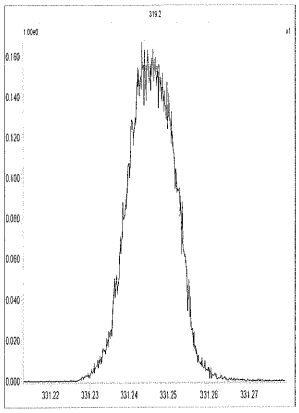
M 304.9824 R 14047



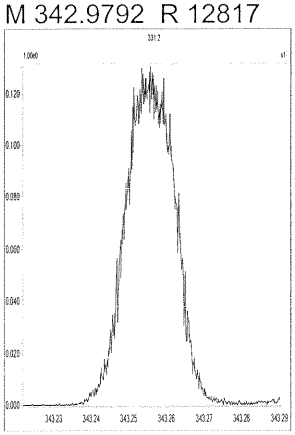
M 318.9792 R 13369



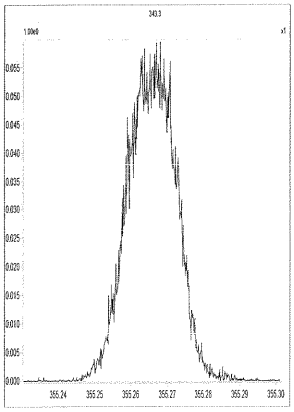
M 330.9792 R 12754



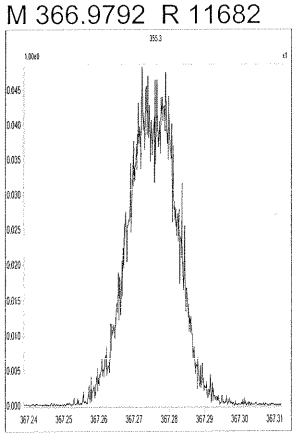
M 342.9792 R 12817



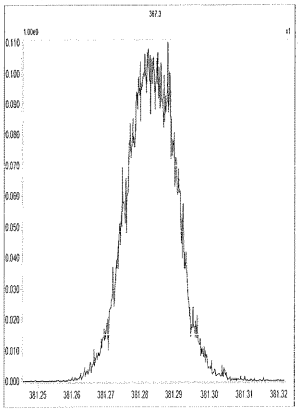
M 354.9792 R 12501



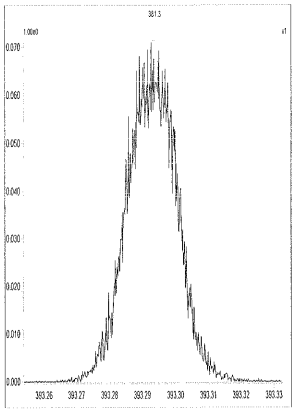
M 366.9792 R 11682



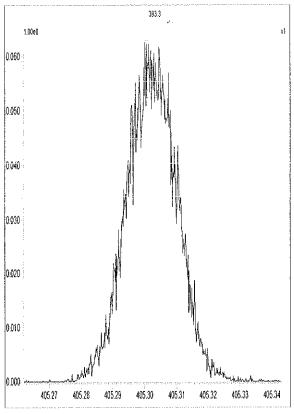
M 380.9760 R 11681



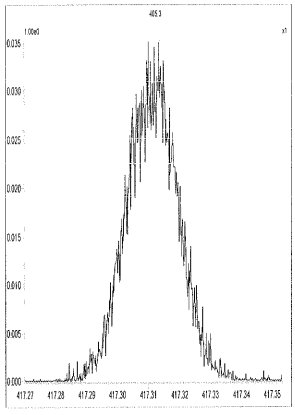
M 392.9760 R 11365



M 404.9760 R 11313



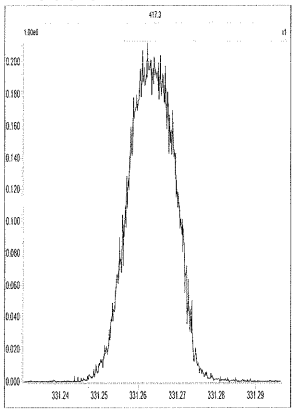
M 416.9760 R 11210



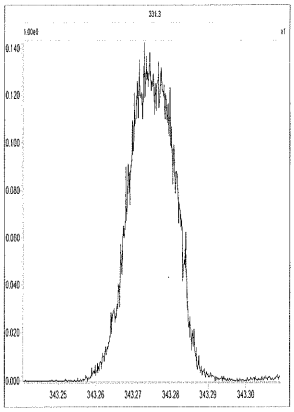
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, June 23, 2014 16:16:13 Central Daylight Time

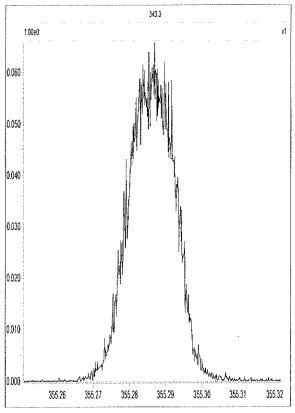
M 330.9792 R 13440



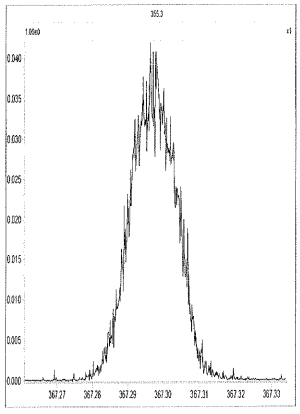
M 342.9792 R 13444



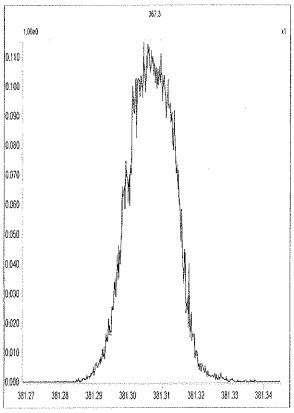
M 354.9792 R 13085



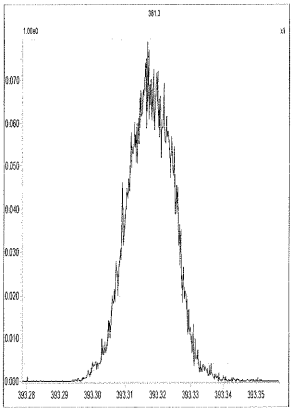
M 366.9792 R 13298



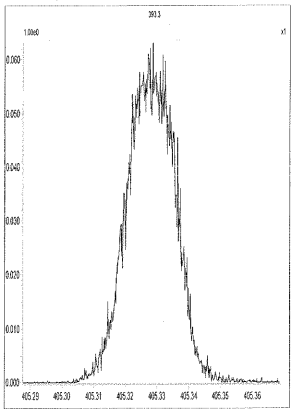
M 380.9760 R 13020



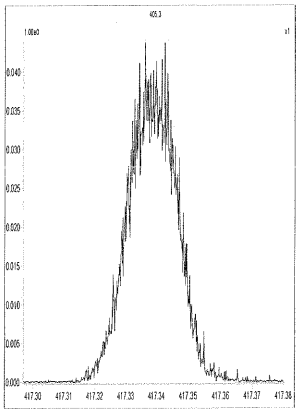
M 392.9760 R 12693



M 404.9760 R 12752



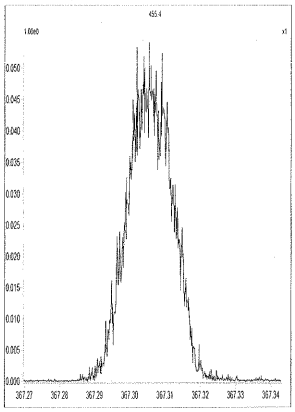
M 416.9760 R 12195



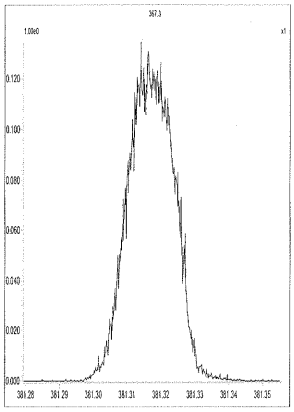
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, June 23, 2014 16:17:01 Central Daylight Time

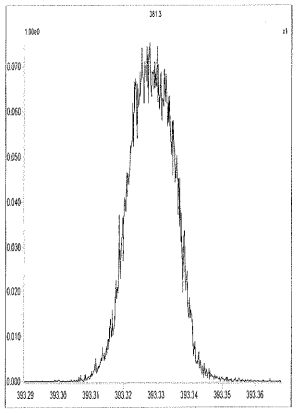
M 366.9792 R 13813



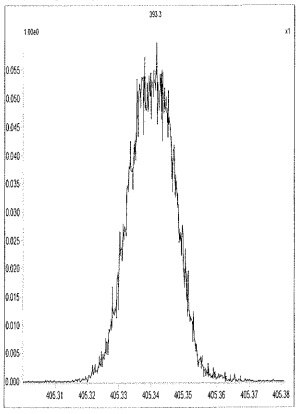
M 380.9760 R 13440



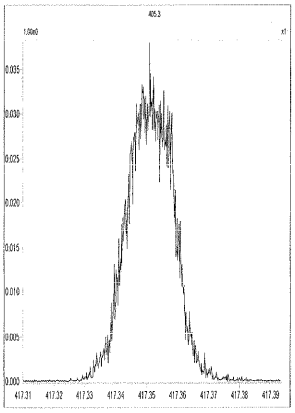
M 392.9760 R 12819



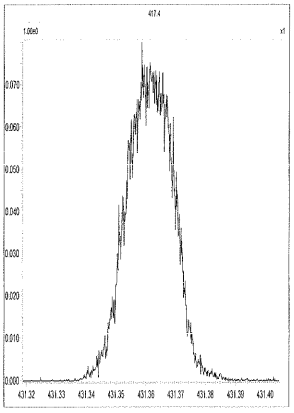
M 404.9760 R 12687



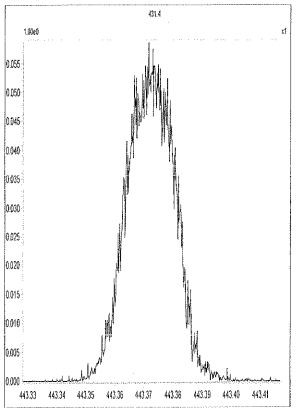
M 416.9760 R 12255



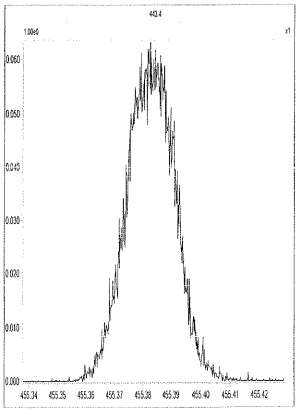
M 430.9728 R 13157



M 442.9728 R 12253



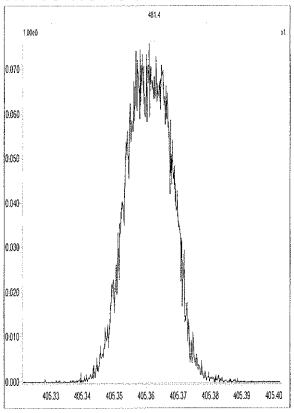
M 454.9728 R 11790



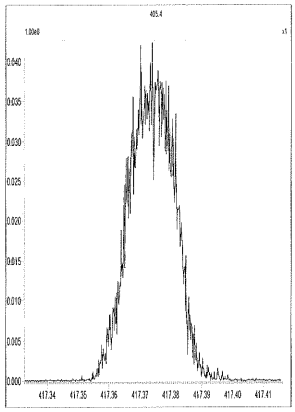
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, June 23, 2014 16:17:42 Central Daylight Time

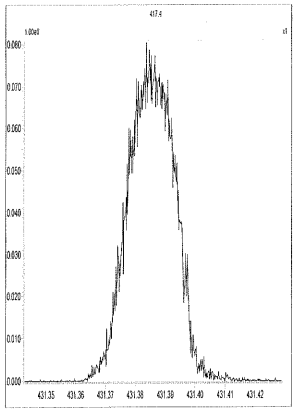
M 404.9760 R 13371



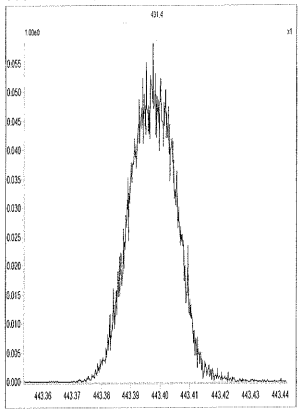
M 416.9760 R 13588



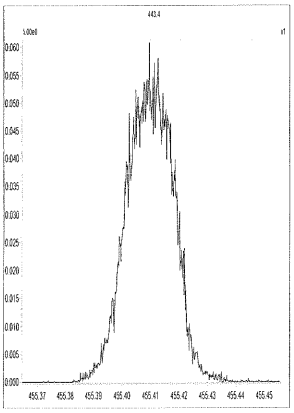
M 430.9728 R 13293



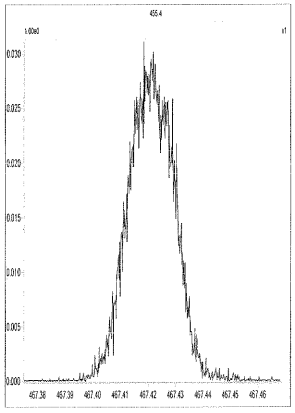
M 442.9728 R 13088



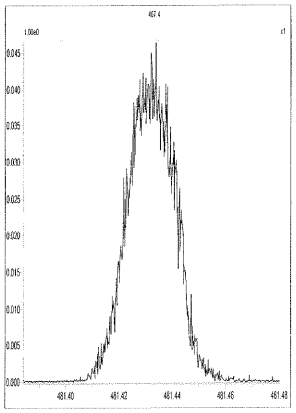
M 454.9728 R 12628



M 466.9728 R 12687



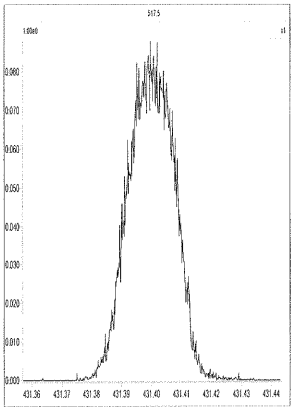
M 480.9696 R 13227



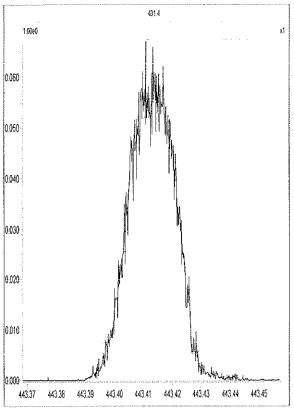
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Monday, June 23, 2014 16:18:43 Central Daylight Time

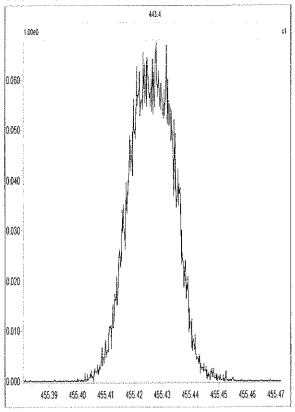
M 430.9728 R 12883



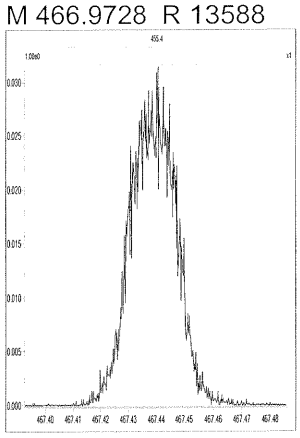
M 442.9728 R 13660



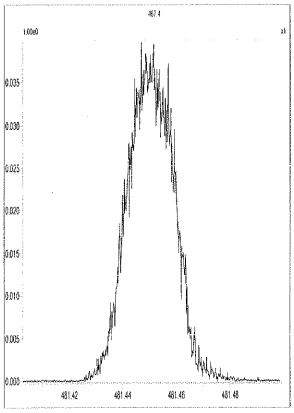
M 454.9728 R 12885



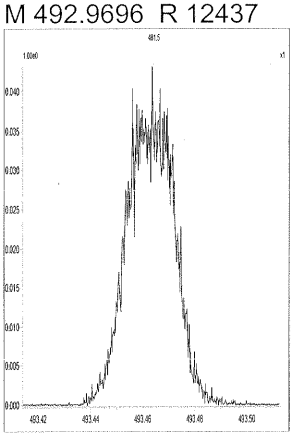
M 466.9728 R 13588



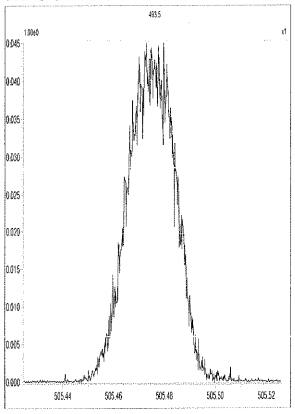
M 480.9696 R 13294



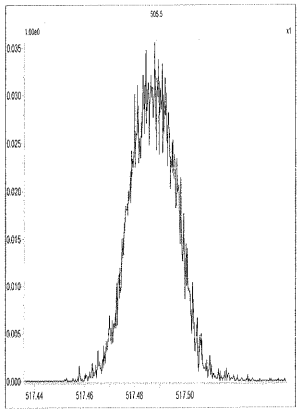
M 492.9696 R 12437



M 504.9696 R 13087



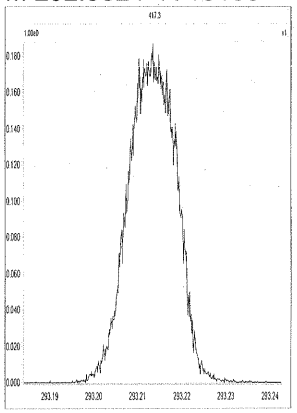
M 516.9697 R 13584



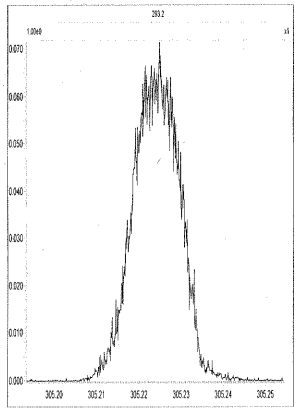
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, June 24, 2014 07:48:14 Central Daylight Time

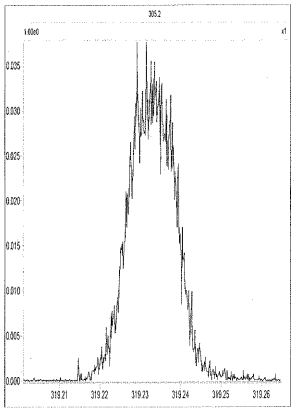
M 292.9824 R 13155



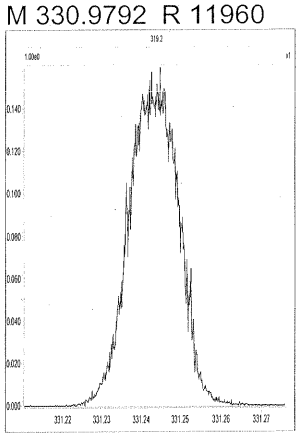
M 304.9824 R 13371



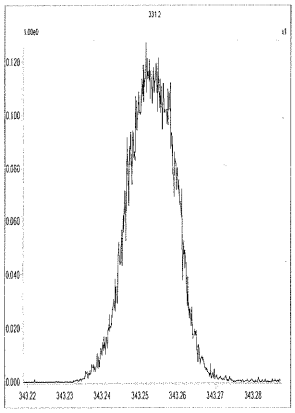
M 318.9792 R 13089



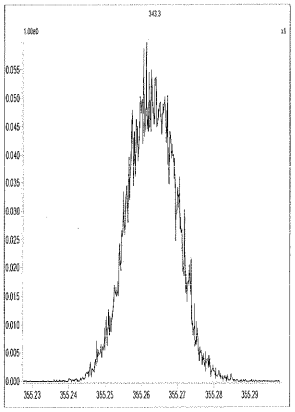
M 330.9792 R 11960



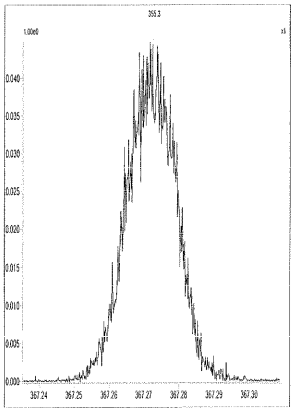
M 342.9792 R 11734



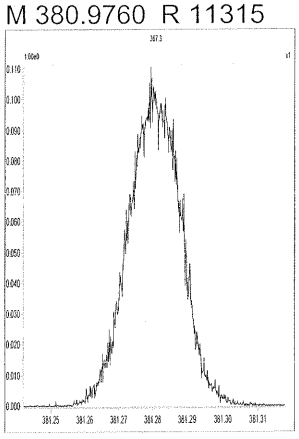
M 354.9792 R 11575



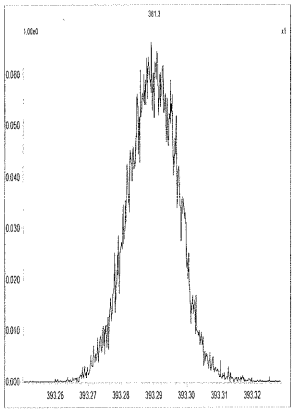
M 366.9792 R 11573



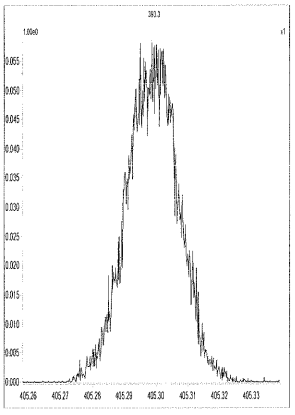
M 380.9760 R 11315



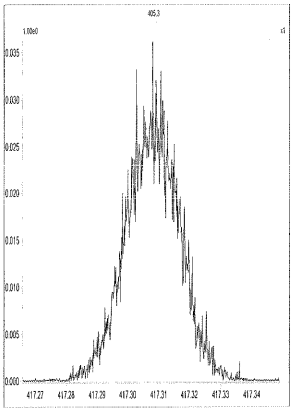
M 392.9760 R 10914



M 404.9760 R 11111



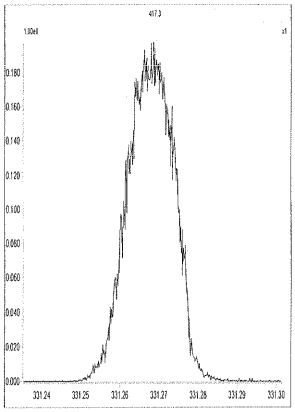
M 416.9760 R 11210



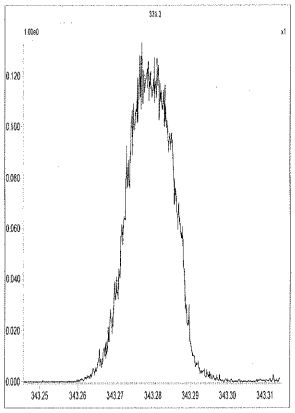
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, June 24, 2014 07:48:35 Central Daylight Time

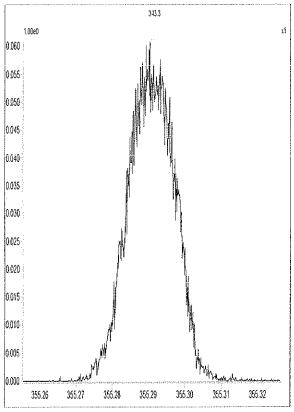
M 330.9792 R 13088



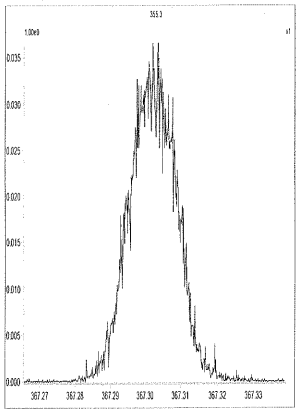
M 342.9792 R 13302



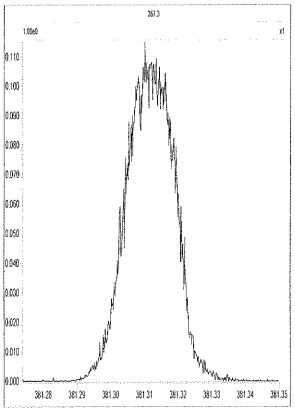
M 354.9792 R 13085



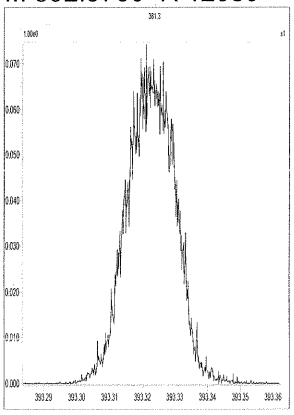
M 366.9792 R 14205



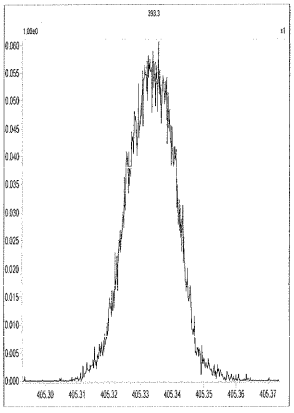
M 380.9760 R 12499



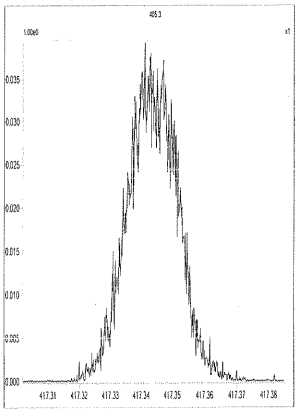
M 392.9760 R 12080



M 404.9760 R 12373



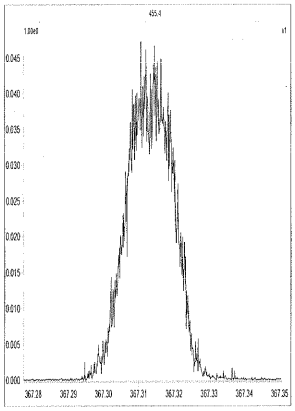
M 416.9760 R 12019



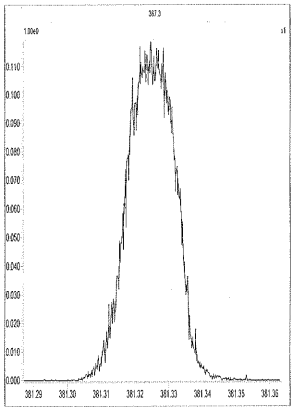
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, June 24, 2014 07:48:57 Central Daylight Time

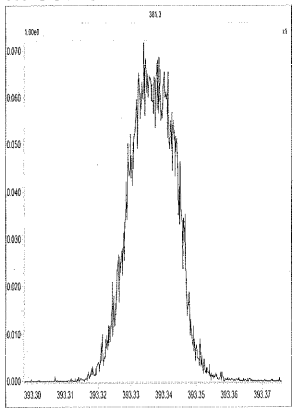
M 366.9792 R 14046



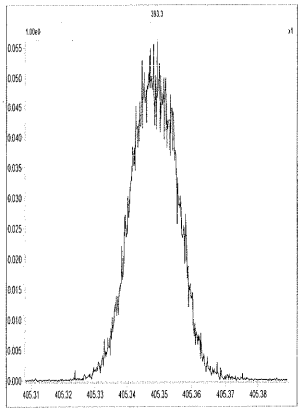
M 380.9760 R 13158



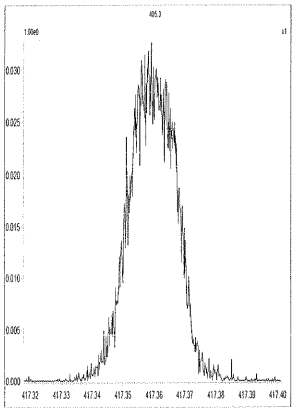
M 392.9760 R 12503



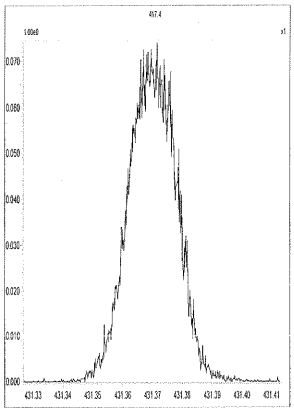
M 404.9760 R 12687



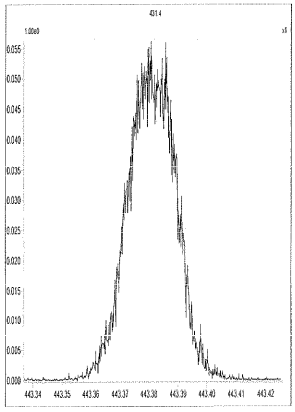
M 416.9760 R 12887



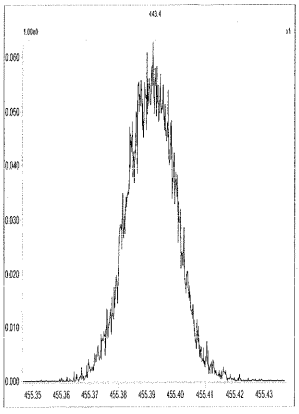
M 430.9728 R 12886



M 442.9728 R 12885



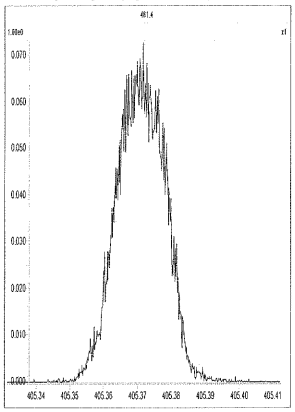
M 454.9728 R 11846



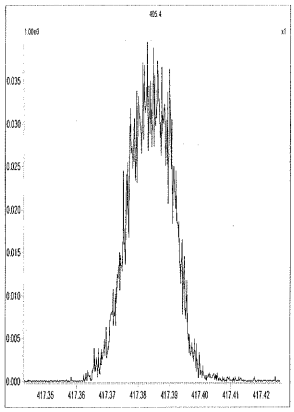
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, June 24, 2014 07:49:14 Central Daylight Time

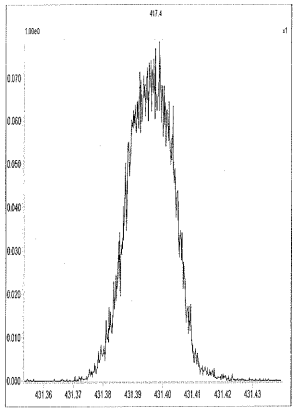
M 404.9760 R 13225



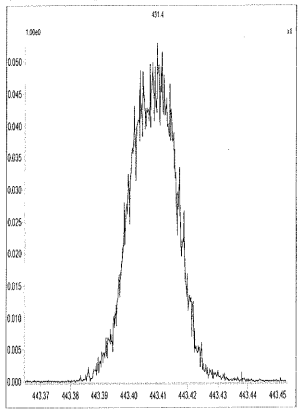
M 416.9760 R 13442



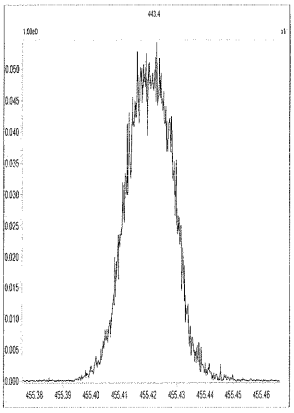
M 430.9728 R 12751



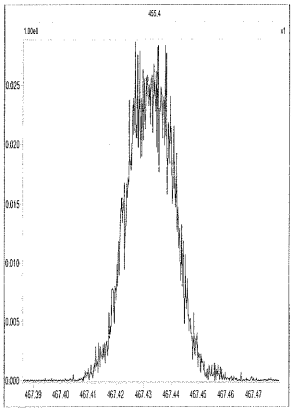
M 442.9728 R 12689



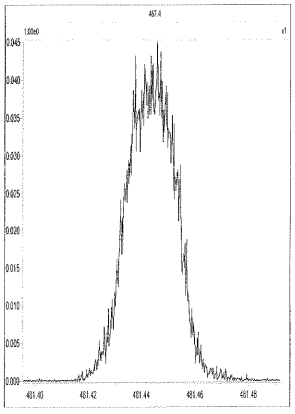
M 454.9728 R 12693



M 466.9728 R 12627



M 480.9696 R 12255



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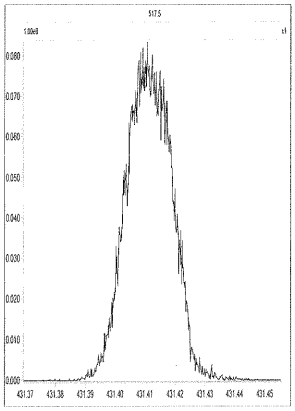
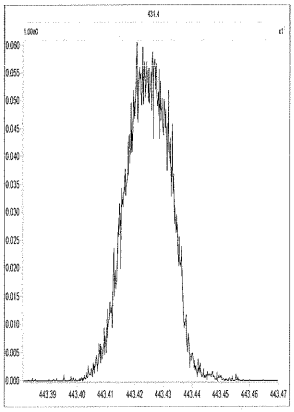
Printed: Tuesday, June 24, 2014 07:49:32 Central Daylight Time

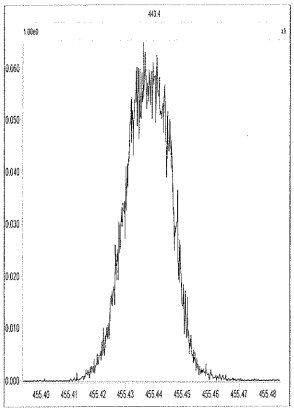
M 430.9728 R 13090



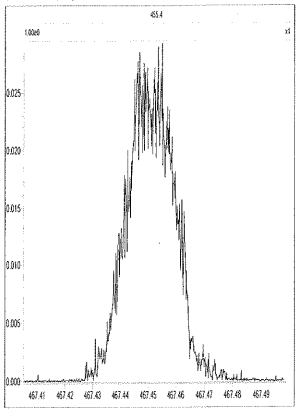
M 442.9728 R 13227



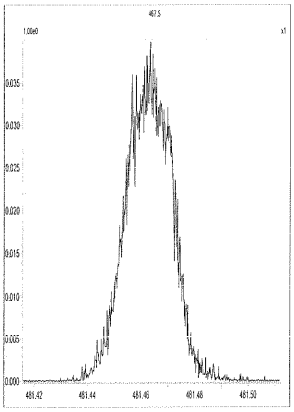
M 454.9728 R 12754



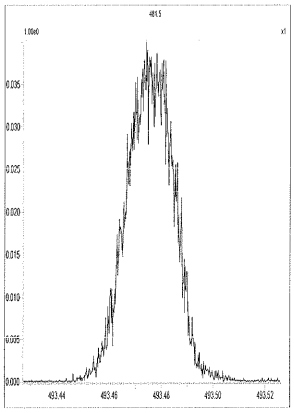
M 466.9728 R 13018



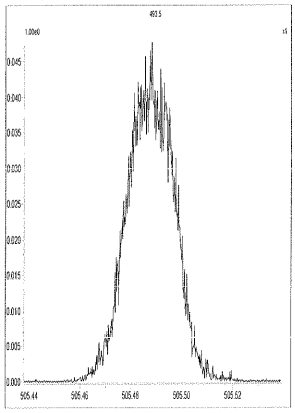
M 480.9696 R 13017



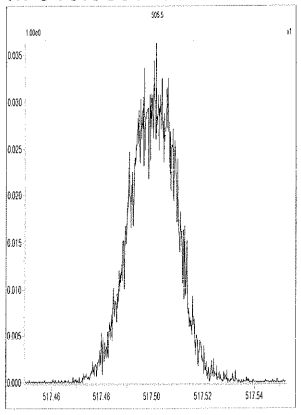
M 492.9696 R 13089



M 504.9696 R 12254



M 516.9697 R 12959



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

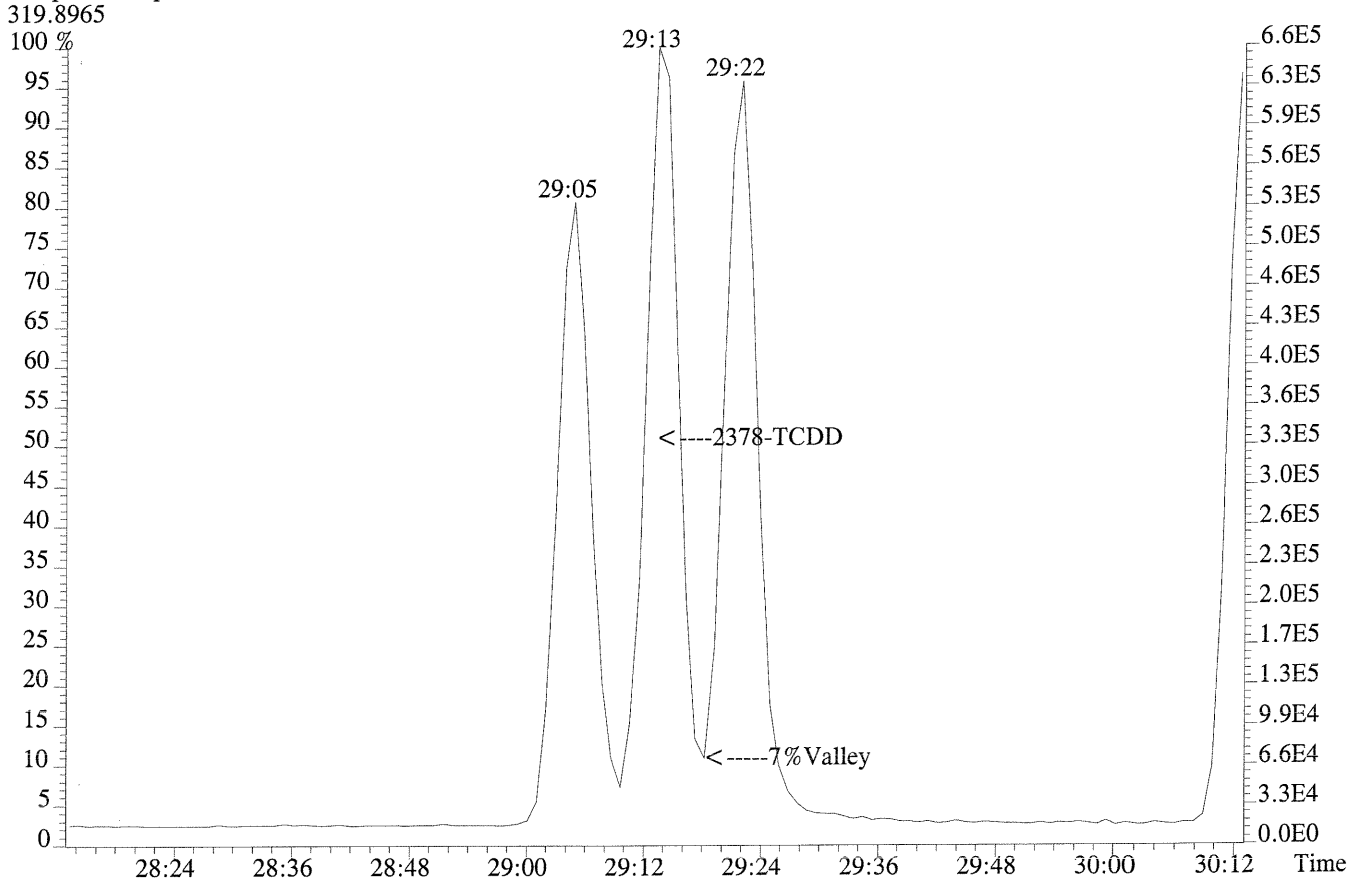
Lab Name: ALS ENVIRONMENTAL
Lab Code: TX01411
GC Column: DB-5msUI

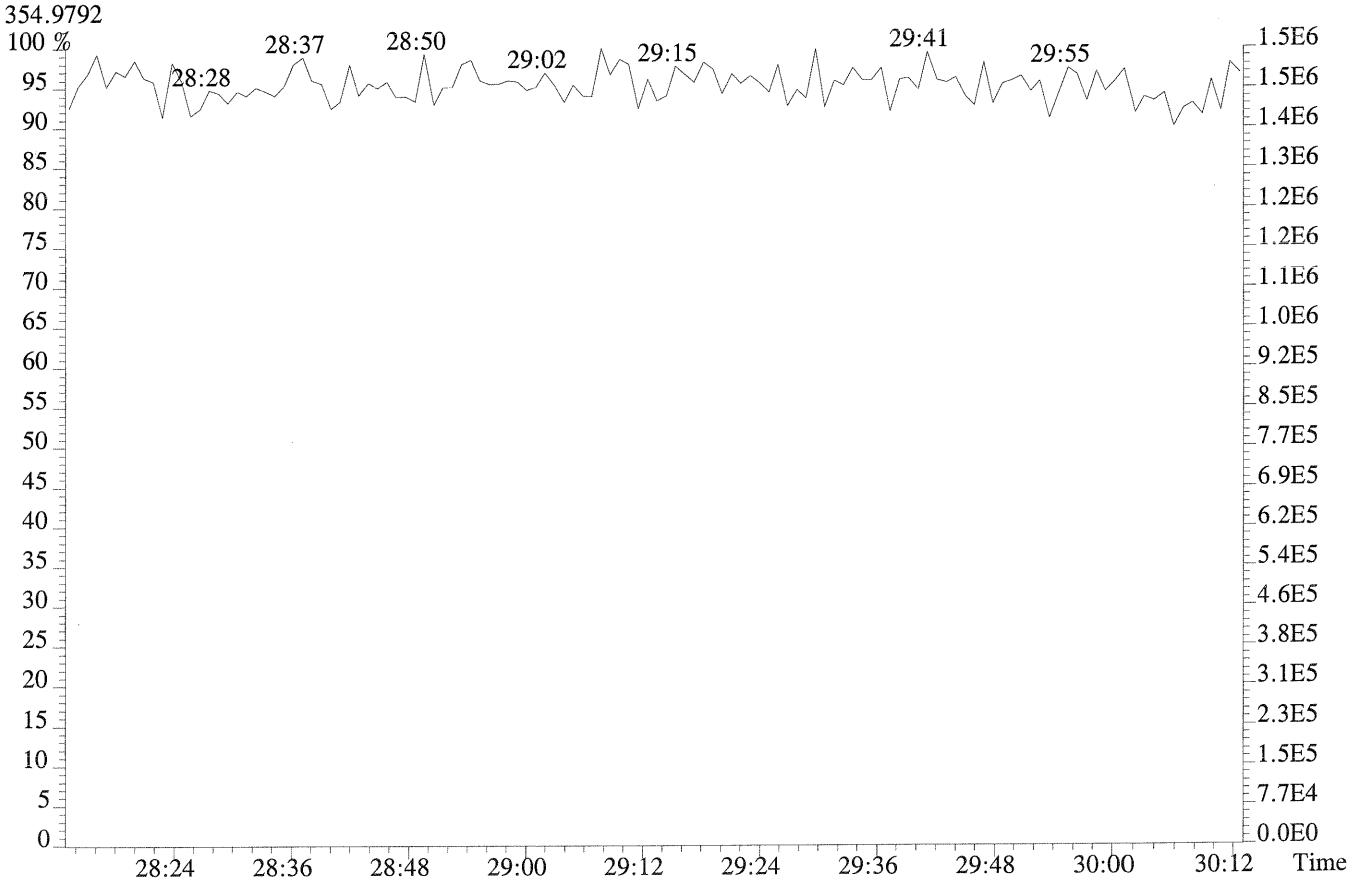
Case No.: _____ SDG No.:
ID: 0.25 (mm) Lab File ID: U149687
Date Analyzed: 23-JUN-2014
Time Analyzed: 16:35:39

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:06	30:23
TCDD	26:01	30:13
PeCDF	30:18	34:31
PeCDD	31:48	34:15
HxCDF	35:09	37:39
HxCDD	35:39	37:14
HpCDF	38:51	40:19
HpCDD	39:06	39:48

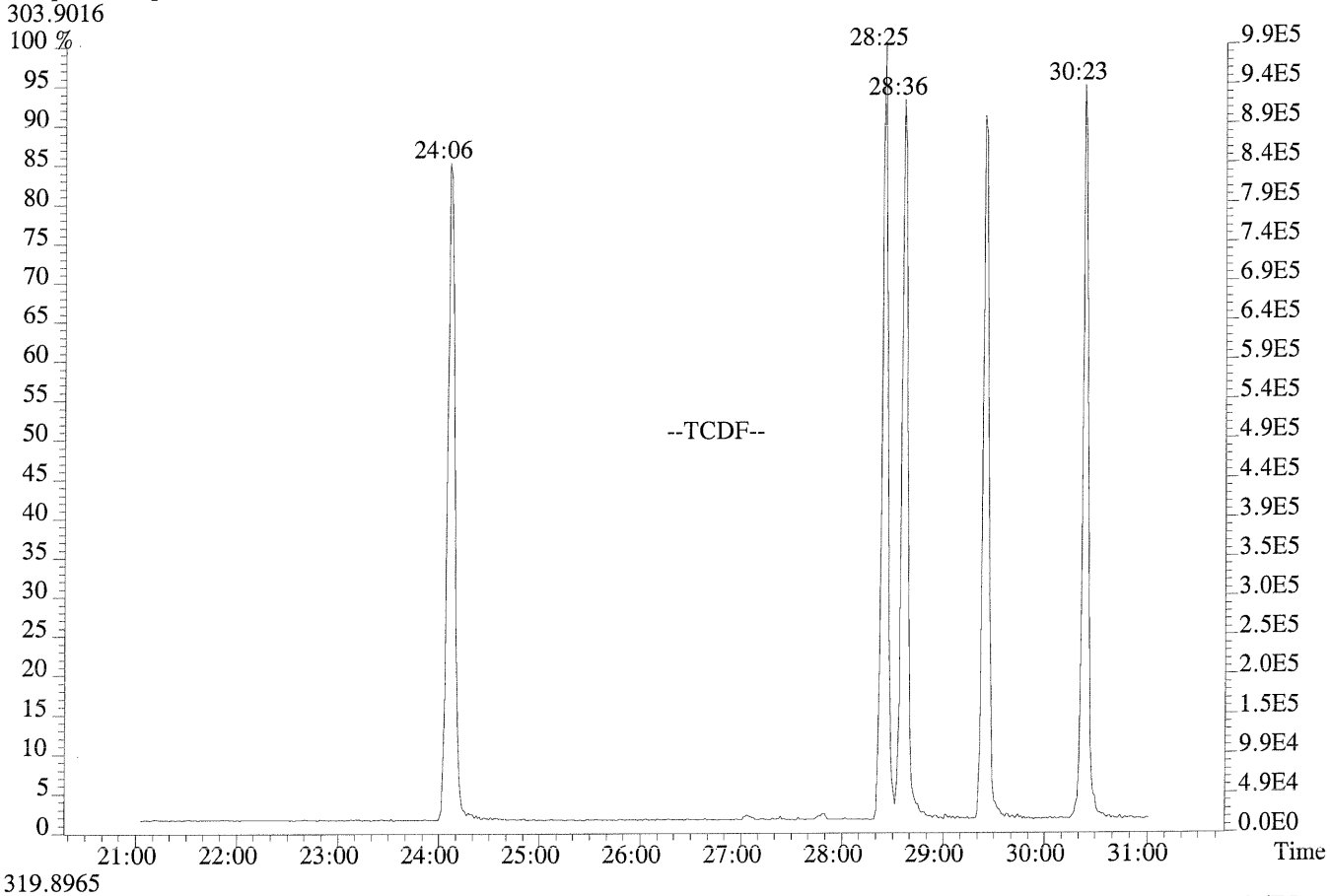
% Valley 2378-TCDD: 7 %

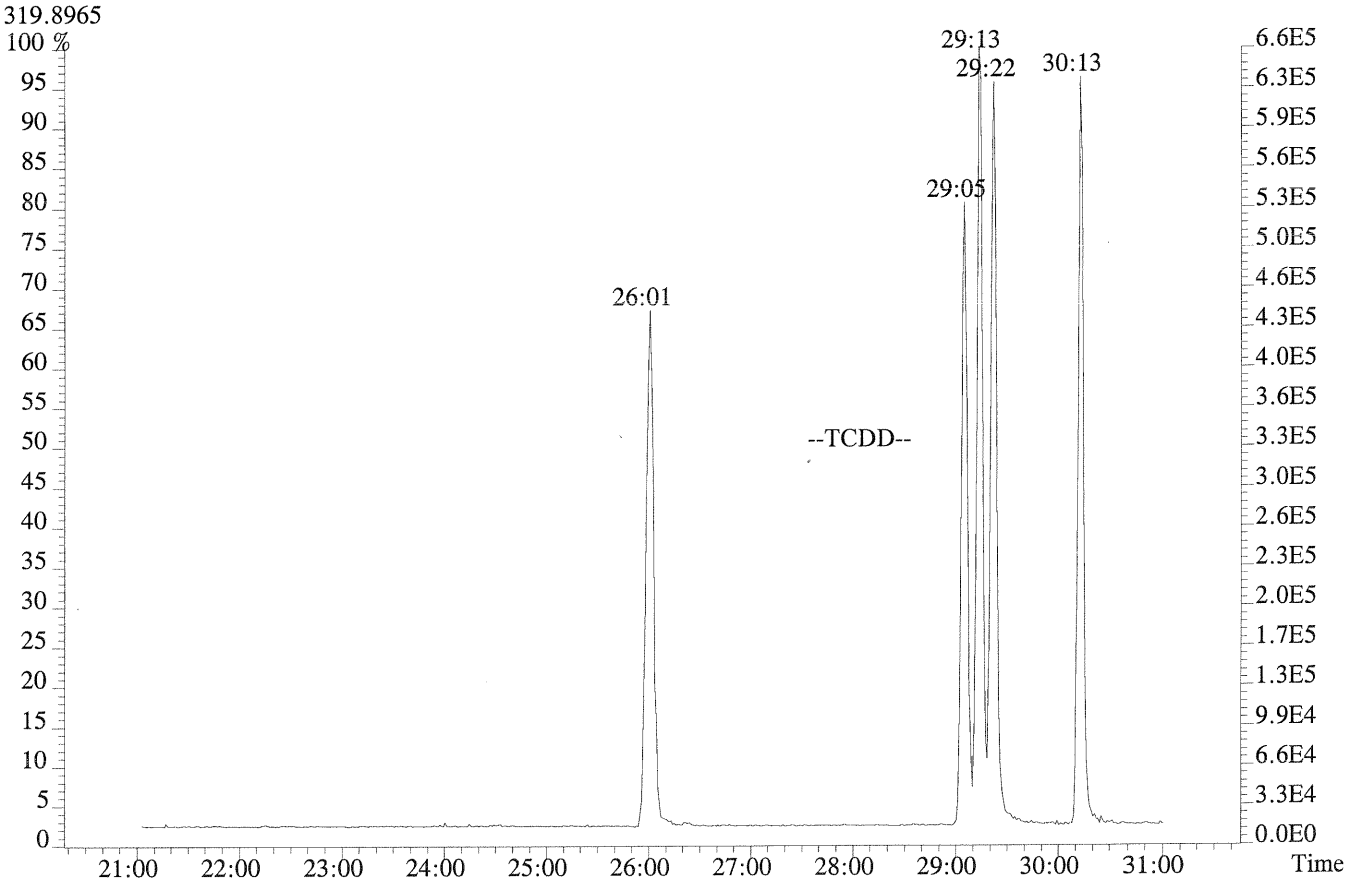
File:U149687 #1-627 Acq:23-JUN-2014 16:35:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





File:U149687 #1-627 Acq:23-JUN-2014 16:35:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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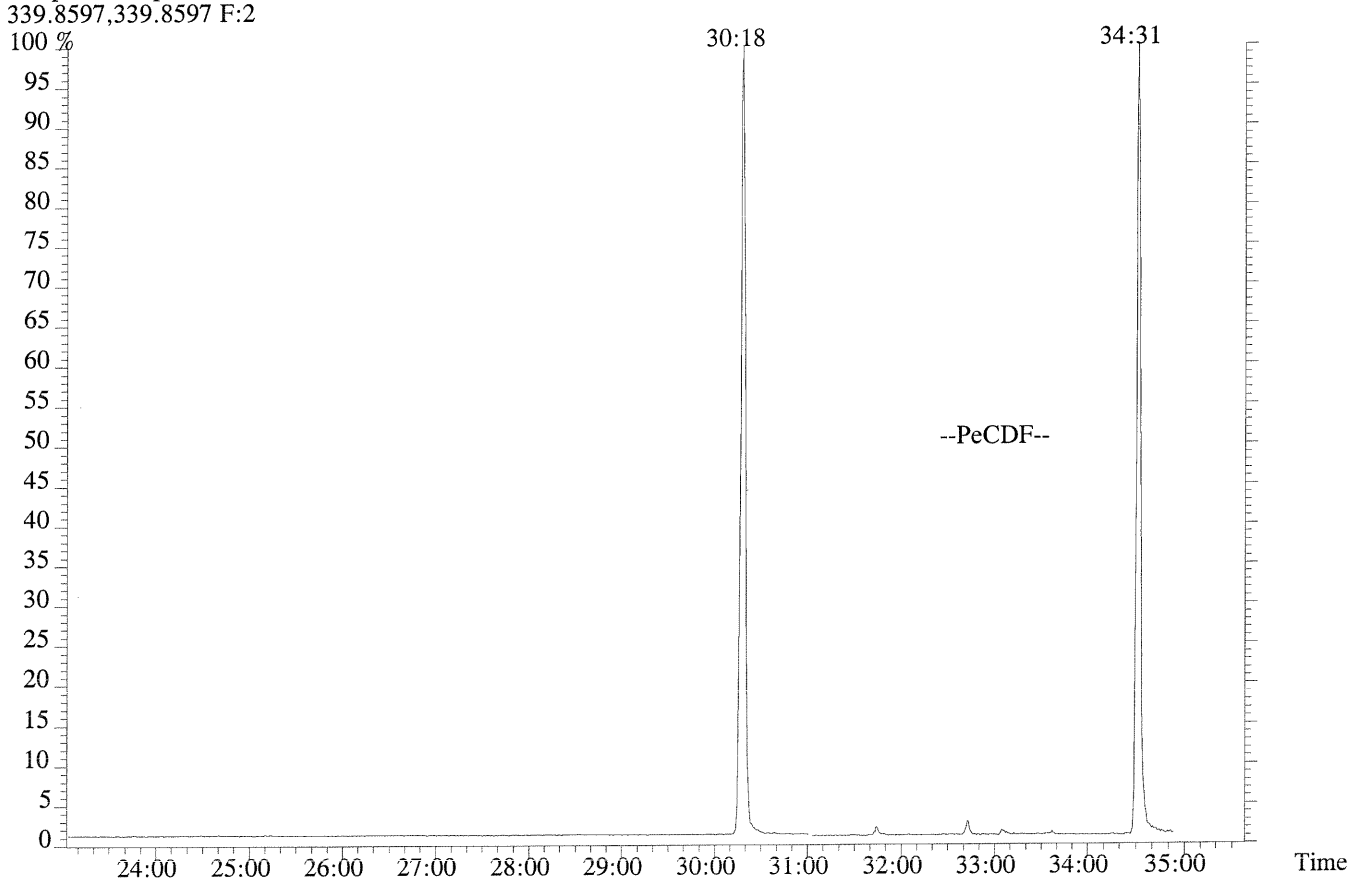
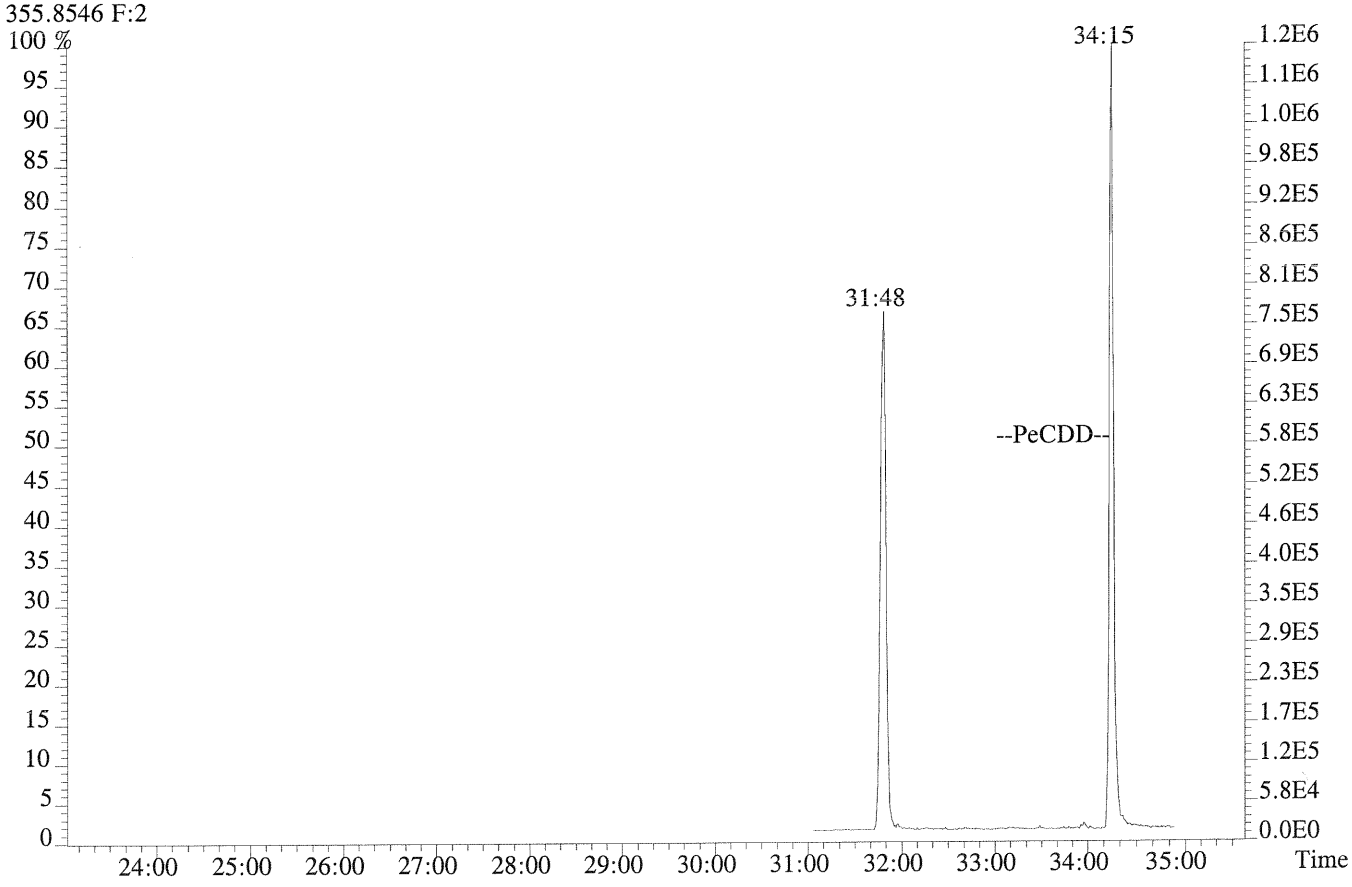
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



355.8546 F:2



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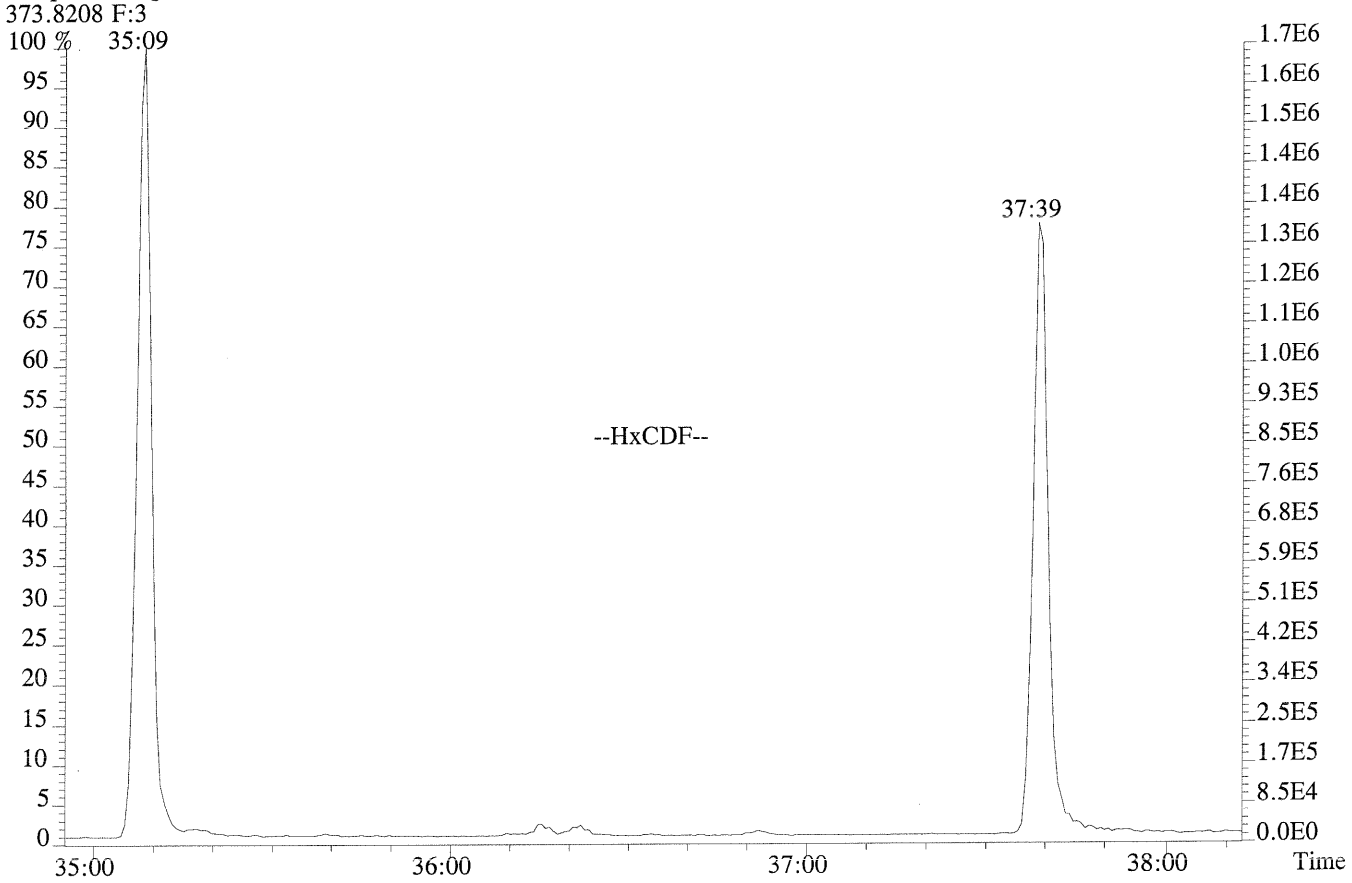
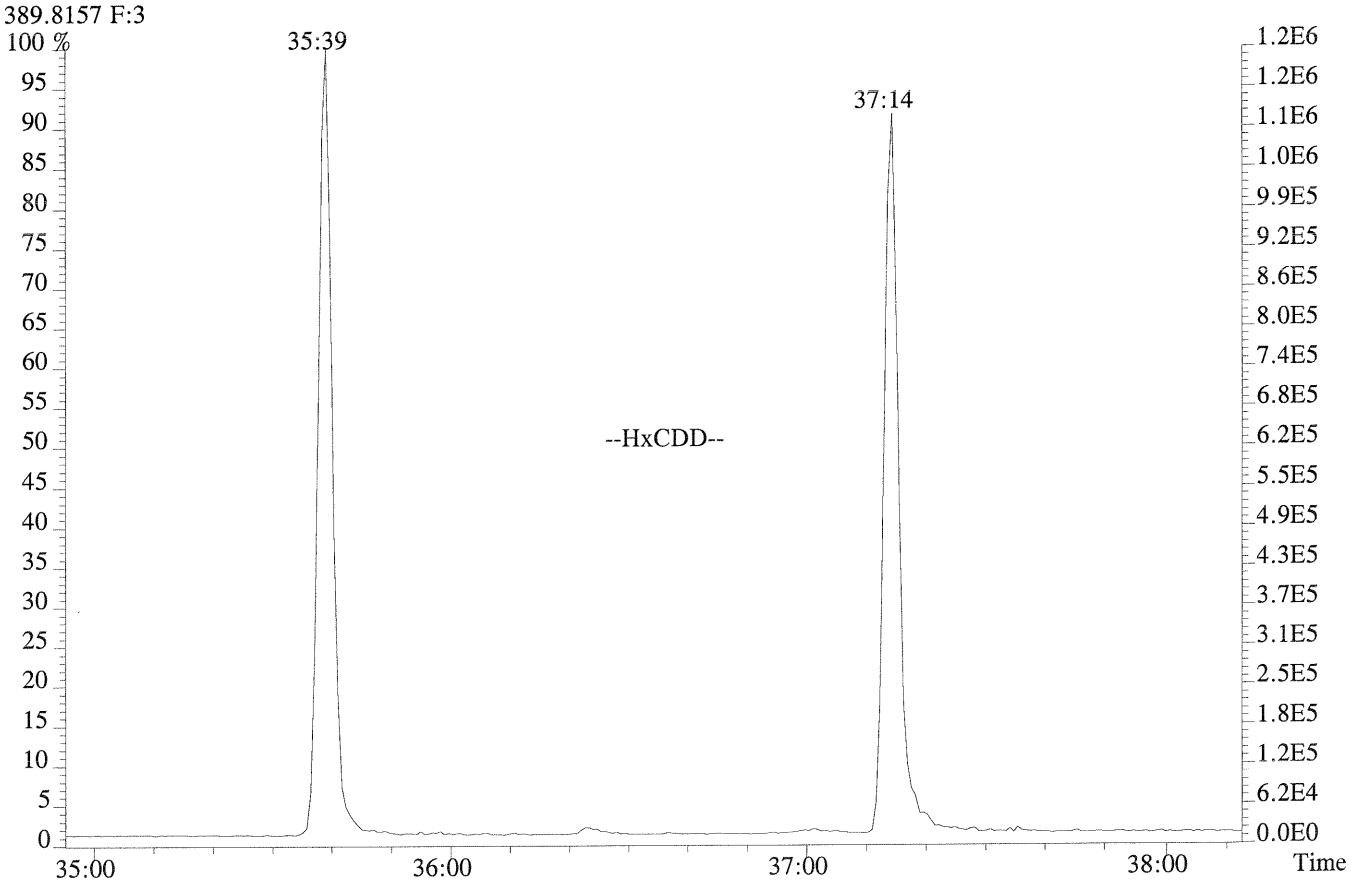
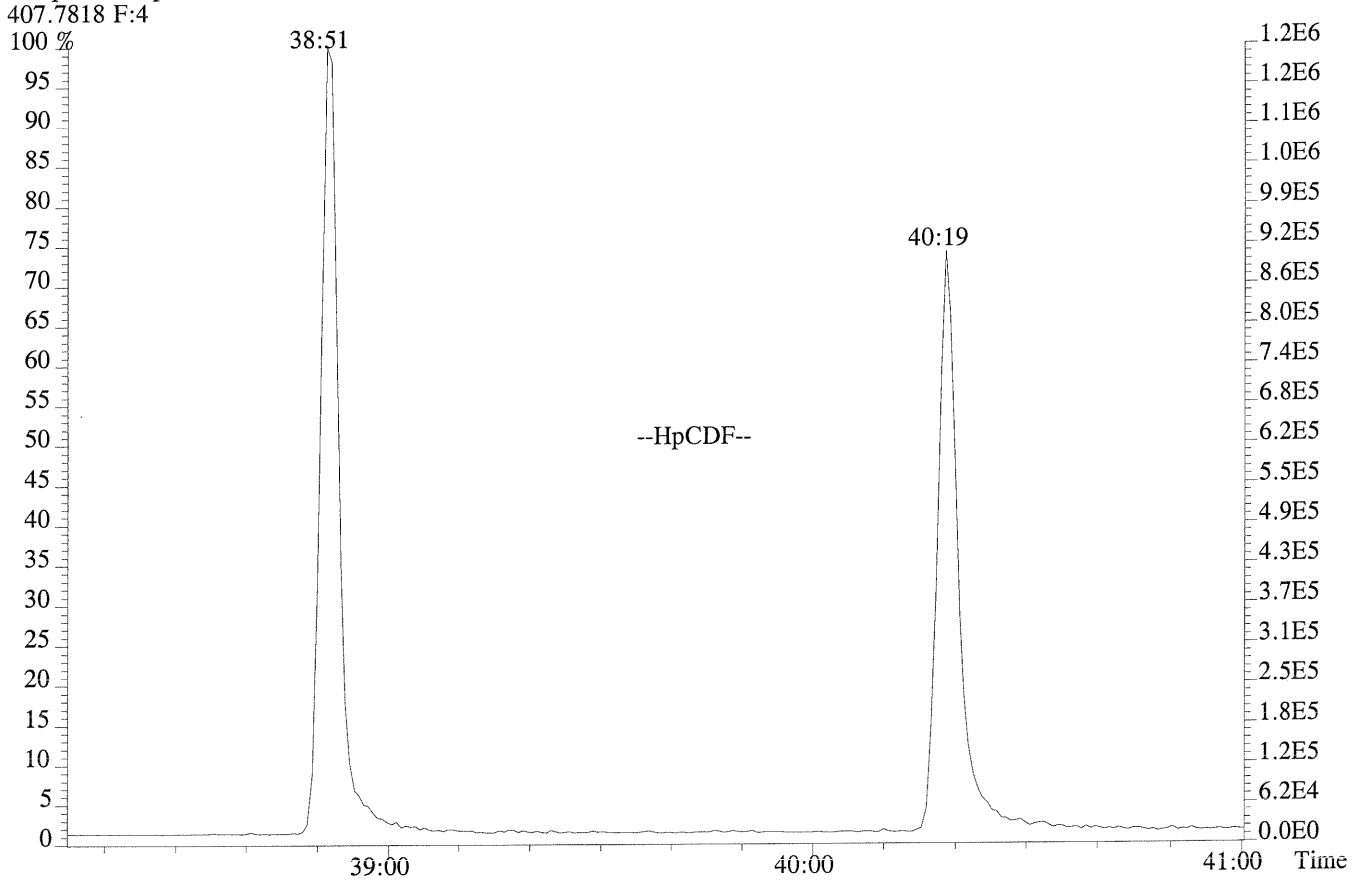
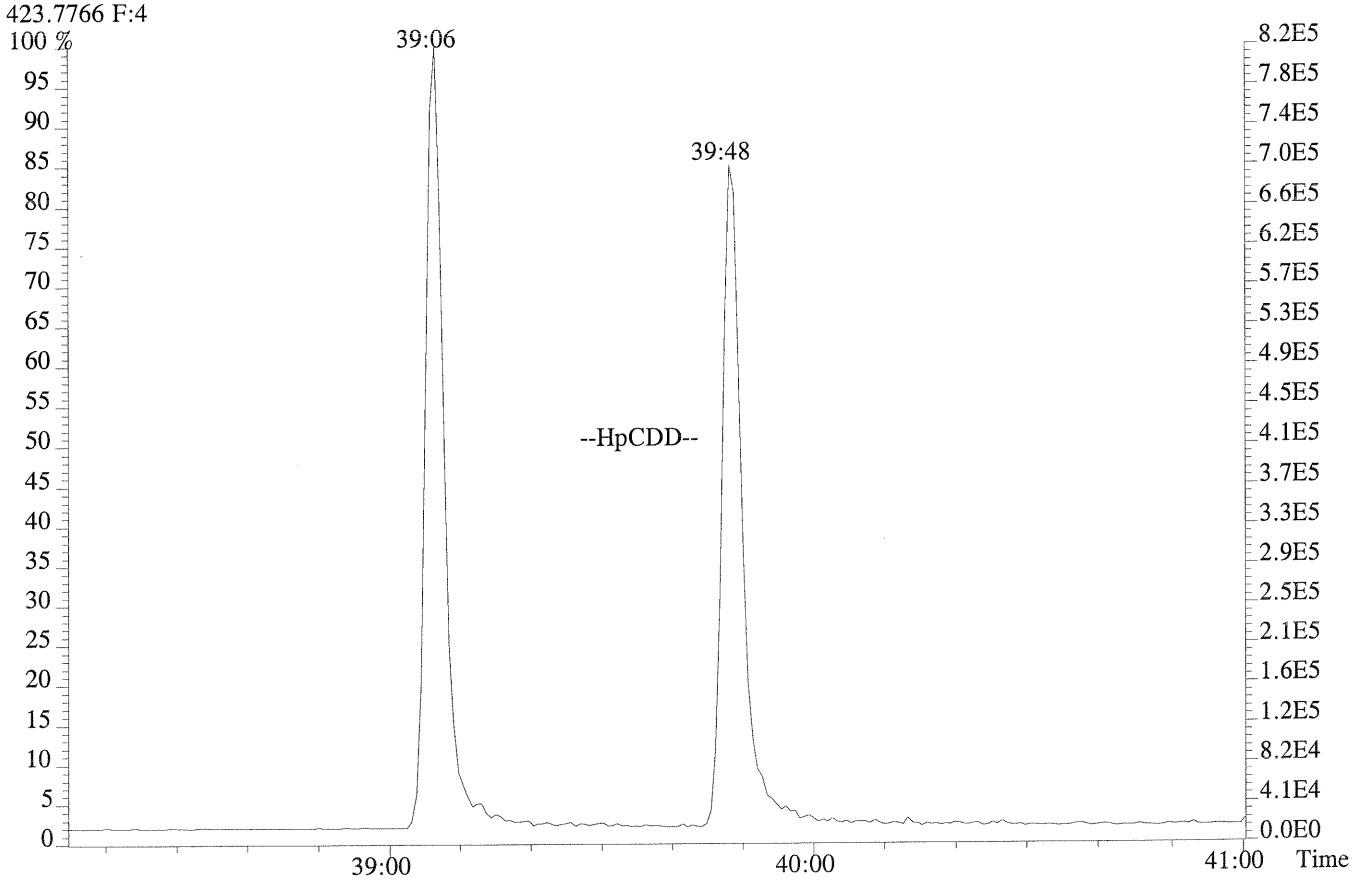
Sample#1 Exp:WINDOW DEFINE





File:U149687 #1-251 Acq:23-JUN-2014 16:35:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION
METHOD 1613B/8290A

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149686 Analysis Date: 23-JUN-14 Time: 15:16:33

	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	0.78	0.65-0.89	10.3	7.8 - 12.9	2.5
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	53	39 - 65	5.1
1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	54	39 - 64	7.8
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	56	39 - 64	11.7
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	54	41 - 61	7.7
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.5
OCDD	M+2/M+4	0.90	0.76-1.02	107	79 - 126	7.3
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	11.2	8.4 - 12.0	12.1
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	57	41 - 60	13.3
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	55	41 - 61	9.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	54	45 - 56	8.9
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	53	44 - 57	6.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	54	45 - 56	8.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	55	44 - 57	9.2
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	53	45 - 55	5.8
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	52	43 - 58	3.4
OCDF	M+2/M+4	0.91	0.76-1.02	119	63 - 159	19.3

(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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149686 Analysis Date: 23-JUN-14 Time: 15:16:33

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	96	82 - 121	-3.7
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	108	62 - 160	8.1
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.35	1.05-1.43	101	85 - 117	1.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	96	85 - 118	-3.9
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	104	72 - 138	4.5
13C-OCDD	M+2/M+4	0.92	0.76-1.02	177	96 - 415	-11.4
13C-2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	107	71 - 140	7.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	112	76 - 130	12.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	118	77 - 130	18.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	107	76 - 131	7.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	110	70 - 143	10.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	115	74 - 135	14.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	112	73 - 137	12.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	116	78 - 129	16.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	116	77 - 129	16.3
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.2	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 beginnning 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.
66131

Run #7 Filename U149686 Samp: 1 Inj: 1 Acquired: 23-JUN-14 15:16:33
Processed: 24-JUN-14 08:35:00 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:35	2.300e+03	3.037e+03	0.76	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:42	2.398e+04	1.519e+04	1.58	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:36	2.286e+04	1.460e+04	1.57	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	2.188e+04	1.733e+04	1.26	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:21	2.361e+04	1.878e+04	1.26	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:51	2.250e+04	1.779e+04	1.26	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:37	2.123e+04	1.682e+04	1.26	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:50	2.030e+04	1.940e+04	1.05	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	1.719e+04	1.644e+04	1.05	yes	no	1.358
10	Unk	OCDF	42:53	2.345e+04	2.579e+04	0.91	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:21	1.510e+03	1.948e+03	0.78	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:52	1.469e+04	8.955e+03	1.64	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	36:59	1.435e+04	1.076e+04	1.33	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	1.433e+04	1.209e+04	1.18	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:18	1.533e+04	1.214e+04	1.26	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:47	1.290e+04	1.231e+04	1.05	yes	no	1.065
17	Unk	OCDD	42:40	1.826e+04	2.032e+04	0.90	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	2.287e+04	2.755e+04	0.83	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	4.350e+04	2.728e+04	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	4.445e+04	2.804e+04	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:14	2.029e+04	3.841e+04	0.53	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:20	2.330e+04	4.562e+04	0.51	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:50	2.258e+04	4.235e+04	0.53	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:36	2.099e+04	4.022e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:50	1.657e+04	3.605e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:17	1.493e+04	3.296e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:19	1.456e+04	1.873e+04	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:51	2.702e+04	1.685e+04	1.60	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:58	2.361e+04	1.747e+04	1.35	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:03	2.353e+04	1.927e+04	1.22	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	2.378e+04	2.196e+04	1.08	yes	no	0.936
32	IS	13C-OCDD	42:39	2.933e+04	3.179e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:45	1.431e+04	1.852e+04	0.77	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:17	2.581e+04	2.095e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:20	3.495e+03				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
66131

Run #7 Filename U149686 Samp: 1 Inj: 1 Acquired: 23-JUN-14 15:16:33
Processed: 24-JUN-14 08:35:001 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	4.68e+05	6.60e+02	7.1e+02	6.16e+05	7.92e+02	7.8e+02
2	1,2,3,7,8-PeCDF	4.44e+06	6.88e+02	6.5e+03	2.85e+06	6.96e+02	4.1e+03
3	2,3,4,7,8-PeCDF	4.58e+06	6.88e+02	6.6e+03	2.93e+06	6.96e+02	4.2e+03
4	1,2,3,4,7,8-HxCDF	4.64e+06	7.12e+02	6.5e+03	3.66e+06	7.68e+02	4.8e+03
5	1,2,3,6,7,8-HxCDF	4.77e+06	7.12e+02	6.7e+03	3.84e+06	7.68e+02	5.0e+03
6	2,3,4,6,7,8-HxCDF	4.87e+06	7.12e+02	6.8e+03	3.88e+06	7.68e+02	5.1e+03
7	1,2,3,7,8,9-HxCDF	4.31e+06	7.12e+02	6.0e+03	3.42e+06	7.68e+02	4.5e+03
8	1,2,3,4,6,7,8-HpCDF	4.24e+06	1.50e+03	2.8e+03	4.07e+06	3.11e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	3.21e+06	1.50e+03	2.1e+03	3.04e+06	3.11e+03	9.8e+02
10	OCDF	3.67e+06	5.68e+02	6.5e+03	4.01e+06	4.72e+02	8.5e+03
11	2,3,7,8-TCDD	3.14e+05	5.76e+02	5.4e+02	4.03e+05	5.72e+02	7.0e+02
12	1,2,3,7,8-PeCDD	2.91e+06	6.16e+02	4.7e+03	1.81e+06	4.56e+02	4.0e+03
13	1,2,3,4,7,8-HxCDD	3.04e+06	7.16e+02	4.2e+03	2.38e+06	9.16e+02	2.6e+03
14	1,2,3,6,7,8-HxCDD	2.94e+06	7.16e+02	4.1e+03	2.40e+06	9.16e+02	2.6e+03
15	1,2,3,7,8,9-HxCDD	3.16e+06	7.16e+02	4.4e+03	2.51e+06	9.16e+02	2.7e+03
16	1,2,3,4,6,7,8-HpCDD	2.48e+06	7.08e+02	3.5e+03	2.36e+06	5.96e+02	4.0e+03
17	OCDD	2.90e+06	6.32e+02	4.6e+03	3.22e+06	6.12e+02	5.3e+03
18	13C-2,3,7,8-TCDF	4.67e+06	9.24e+02	5.1e+03	5.58e+06	6.60e+02	8.5e+03
19	13C-1,2,3,7,8-PeCDF	8.06e+06	5.44e+02	1.5e+04	5.10e+06	2.88e+02	1.8e+04
20	13C-2,3,4,7,8-PeCDF	8.86e+06	5.44e+02	1.6e+04	5.53e+06	2.88e+02	1.9e+04
21	13C-1,2,3,4,7,8-HxCDF	4.27e+06	7.68e+02	5.6e+03	8.24e+06	9.72e+02	8.5e+03
22	13C-1,2,3,6,7,8-HxCDF	4.75e+06	7.68e+02	6.2e+03	9.25e+06	9.72e+02	9.5e+03
23	13C-2,3,4,6,7,8-HxCDF	4.84e+06	7.68e+02	6.3e+03	9.19e+06	9.72e+02	9.4e+03
24	13C-1,2,3,7,8,9-HxCDF	4.26e+06	7.68e+02	5.5e+03	8.15e+06	9.72e+02	8.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.43e+06	1.44e+03	2.4e+03	7.45e+06	2.89e+03	2.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.71e+06	1.44e+03	1.9e+03	6.11e+06	2.89e+03	2.1e+03
27	13C-2,3,7,8-TCDD	3.11e+06	8.56e+02	3.6e+03	4.05e+06	1.02e+03	4.0e+03
28	13C-1,2,3,7,8-PeCDD	5.44e+06	6.56e+02	8.3e+03	3.40e+06	5.92e+02	5.7e+03
29	13C-1,2,3,4,7,8-HxCDD	5.04e+06	7.68e+02	6.6e+03	3.86e+06	9.04e+02	4.3e+03
30	13C-1,2,3,6,7,8-HxCDD	4.91e+06	7.68e+02	6.4e+03	3.83e+06	9.04e+02	4.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.55e+06	6.68e+02	6.8e+03	4.13e+06	6.88e+02	6.0e+03
32	13C-OCDD	4.60e+06	5.12e+02	9.0e+03	4.97e+06	5.04e+02	9.9e+03
33	13C-1,2,3,4-TCDD	3.11e+06	8.56e+02	3.6e+03	3.99e+06	1.02e+03	3.9e+03
34	13C-1,2,3,7,8,9-HxCDD	5.34e+06	7.68e+02	7.0e+03	4.17e+06	9.04e+02	4.6e+03
35	37Cl-2,3,7,8-TCDD	7.33e+05	5.76e+02	1.3e+03			

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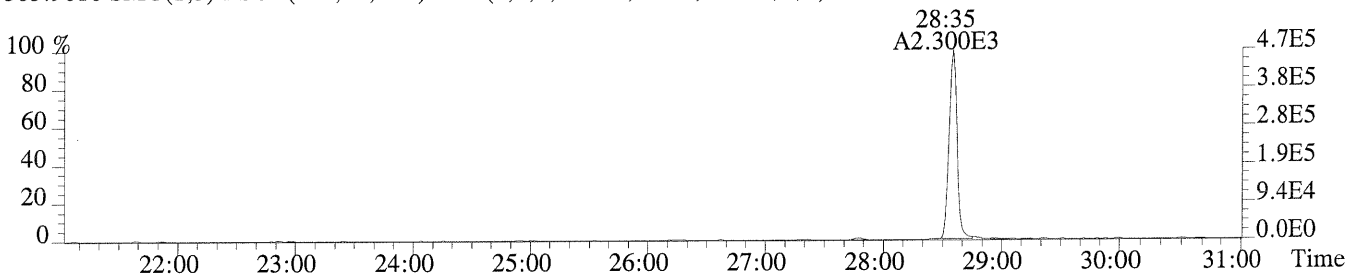
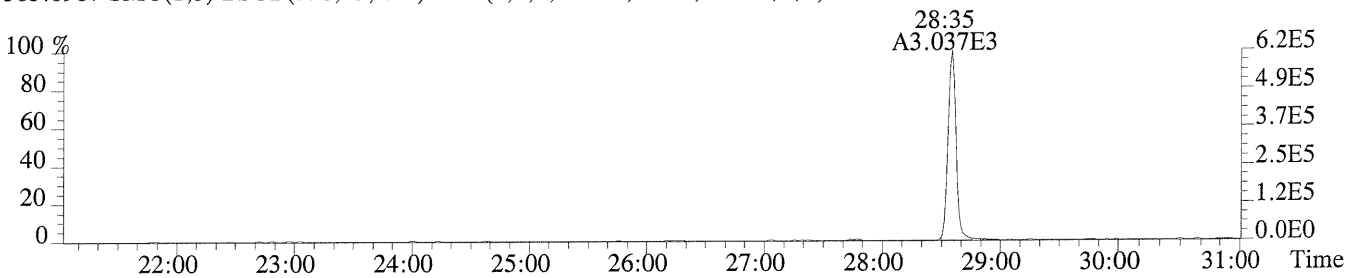
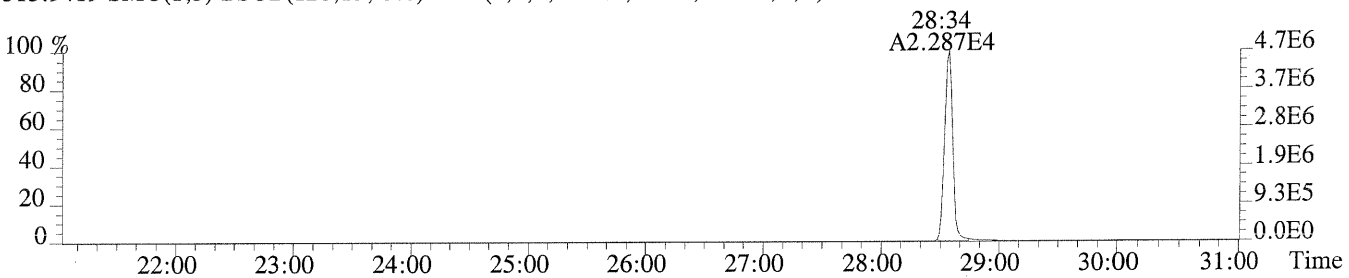
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,T)



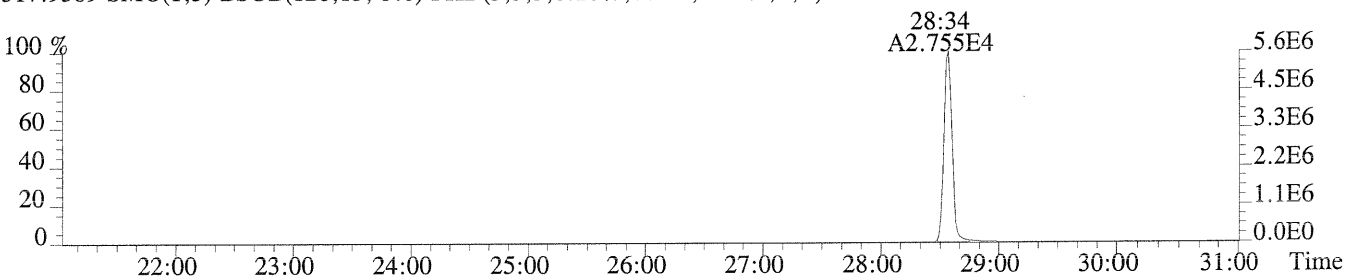
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



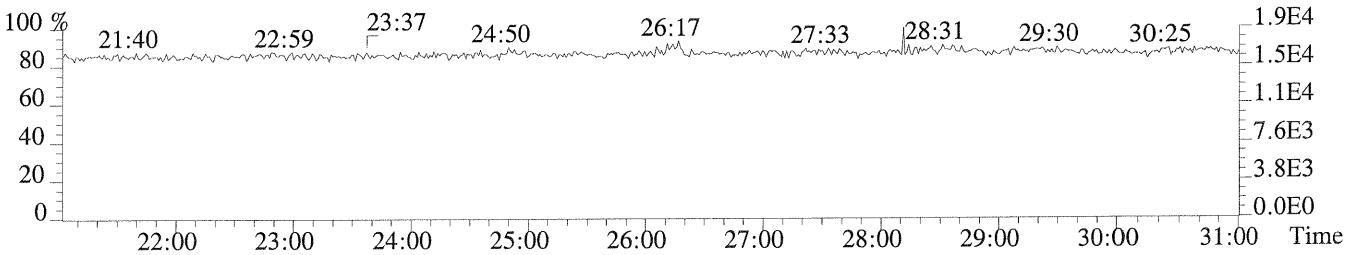
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



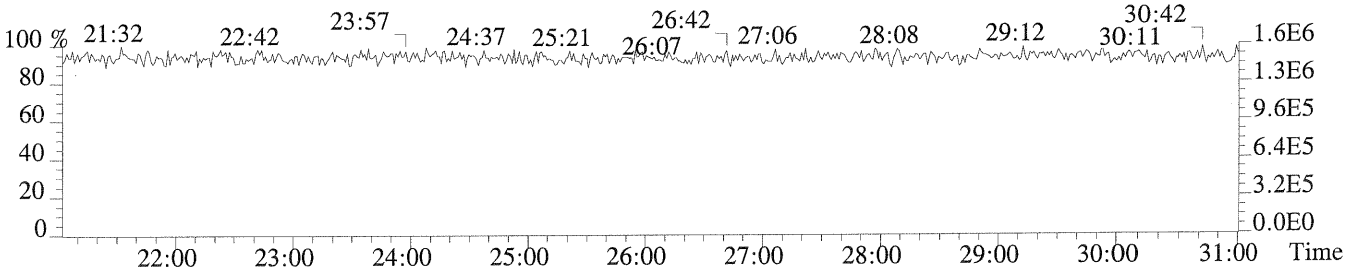
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,T)



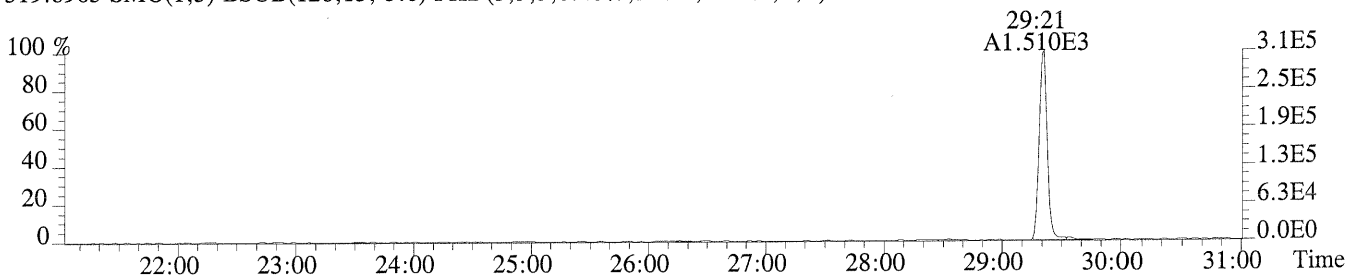
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



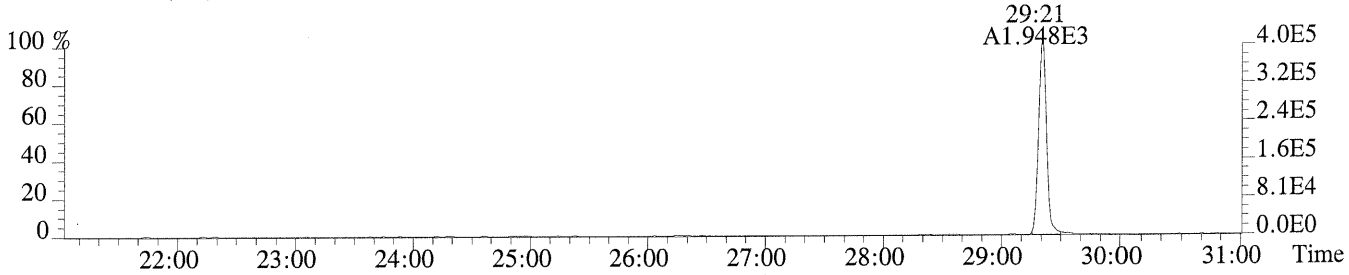
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



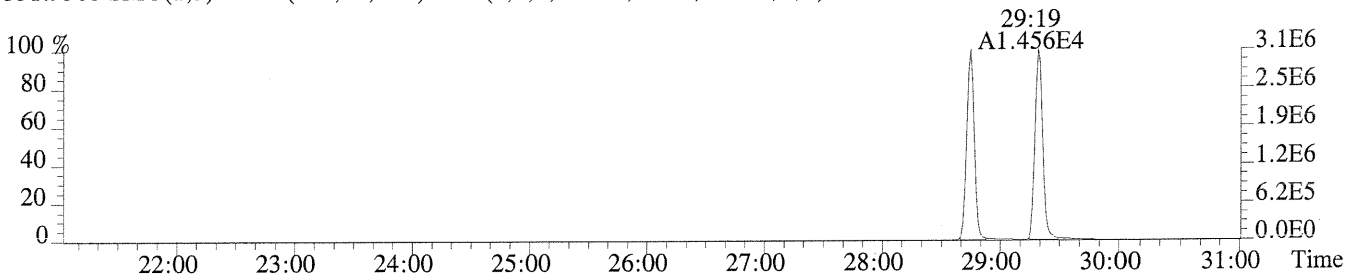
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



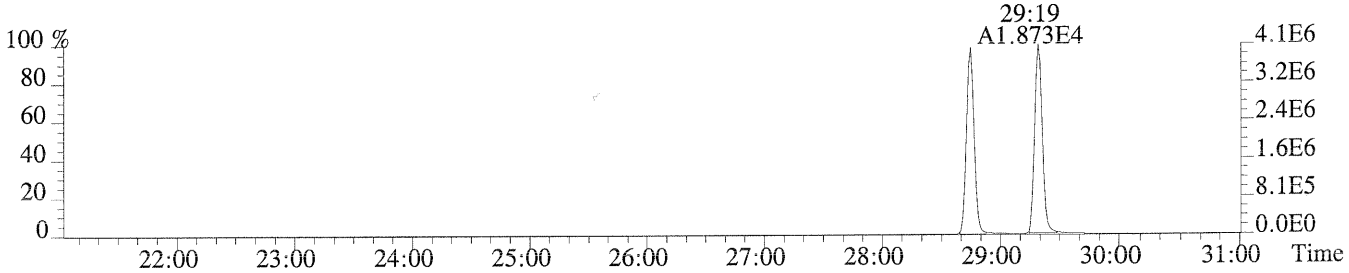
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



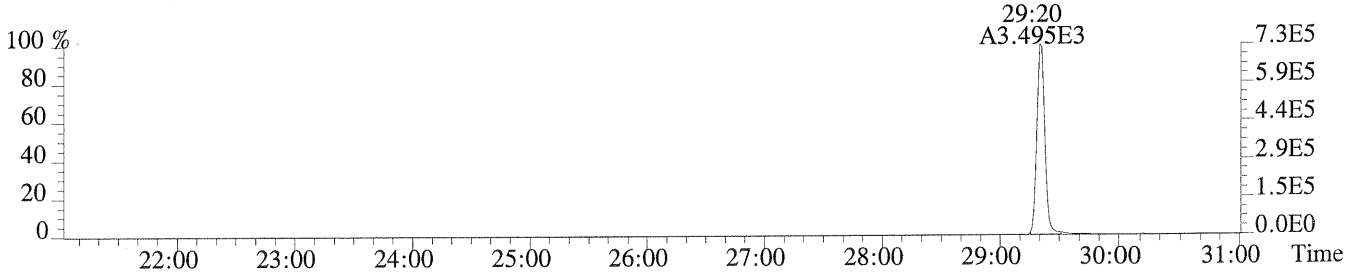
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



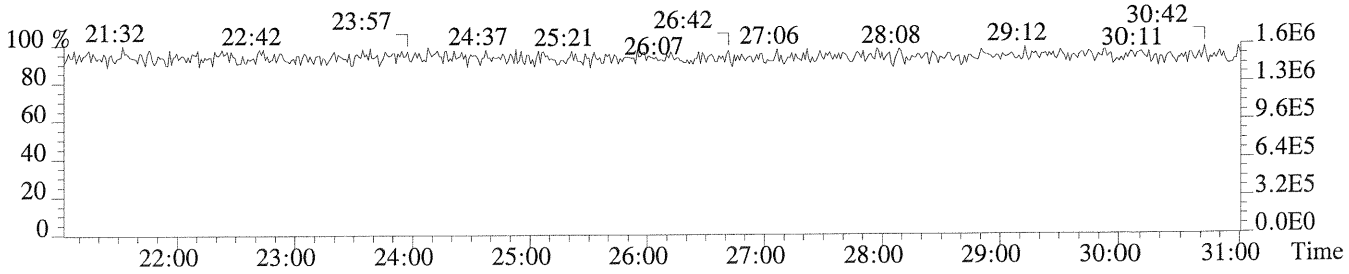
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



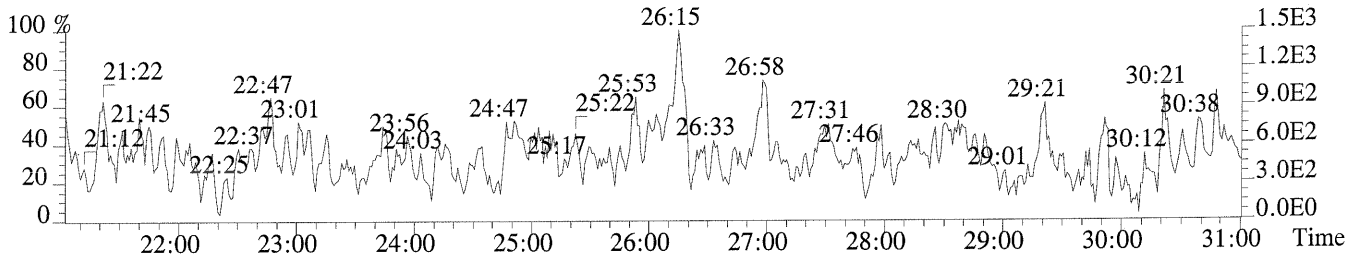
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



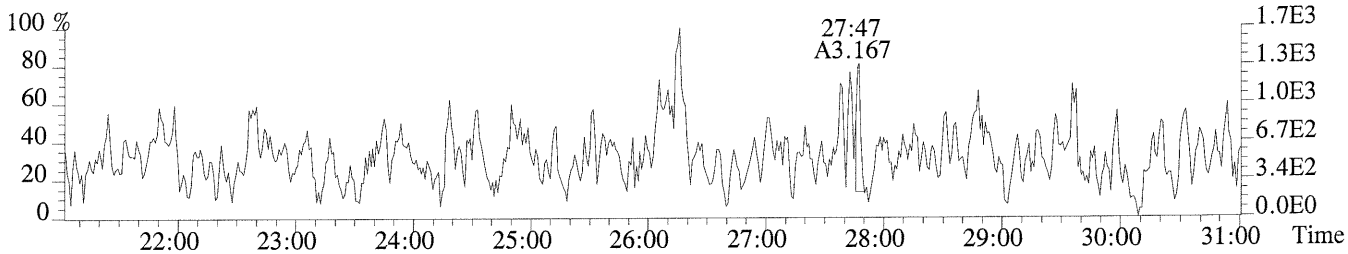
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



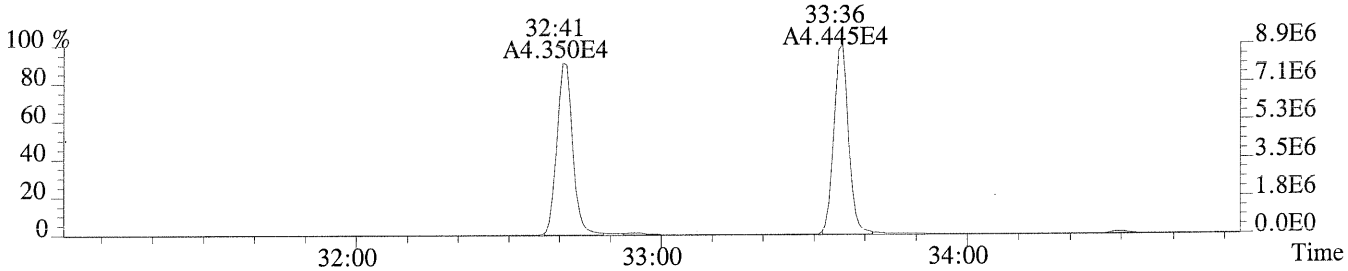
File:U149686 #1-627 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



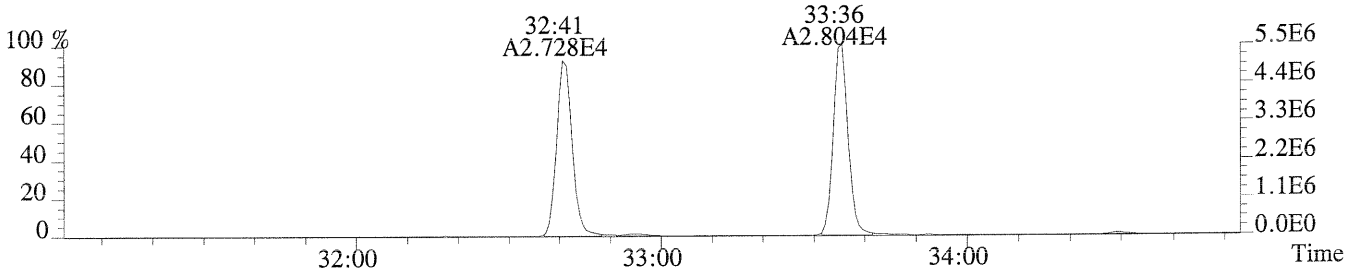
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



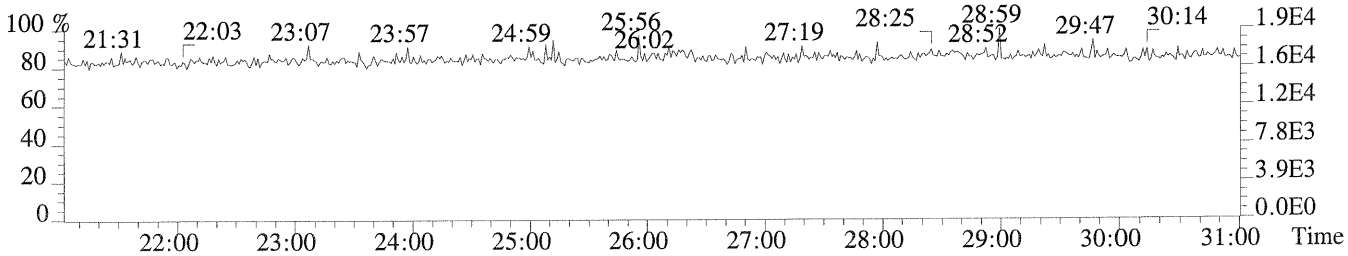
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



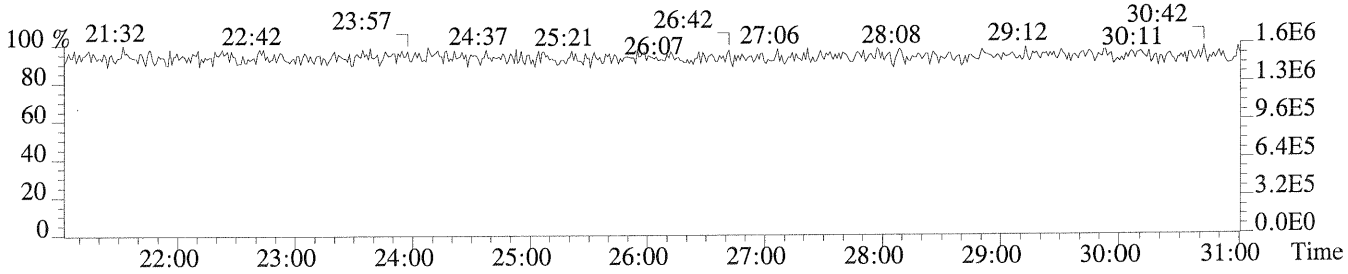
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

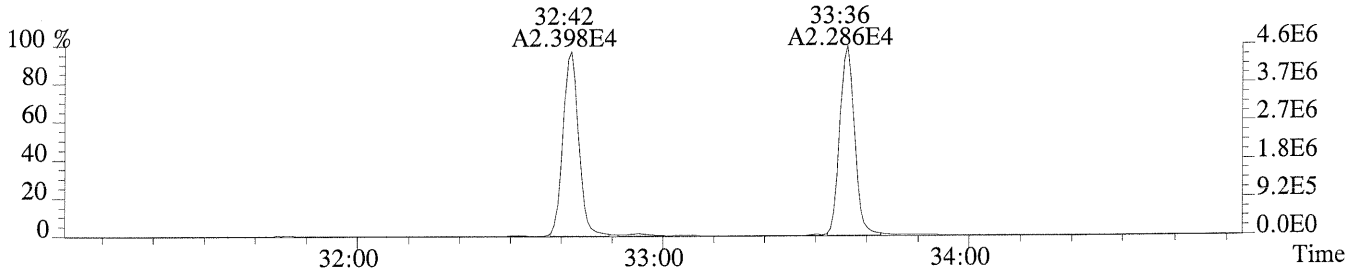


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

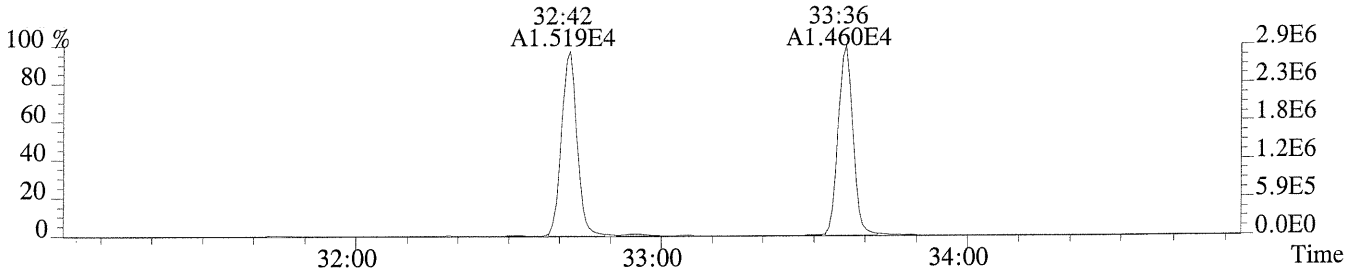


File:U149686 #1-349 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

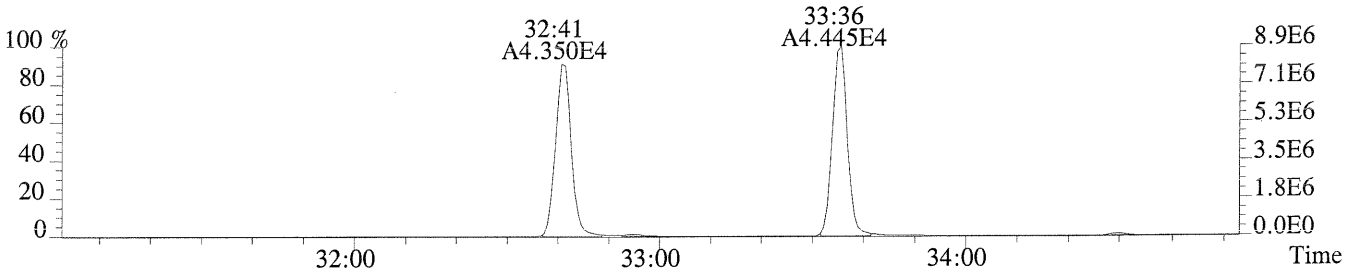
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



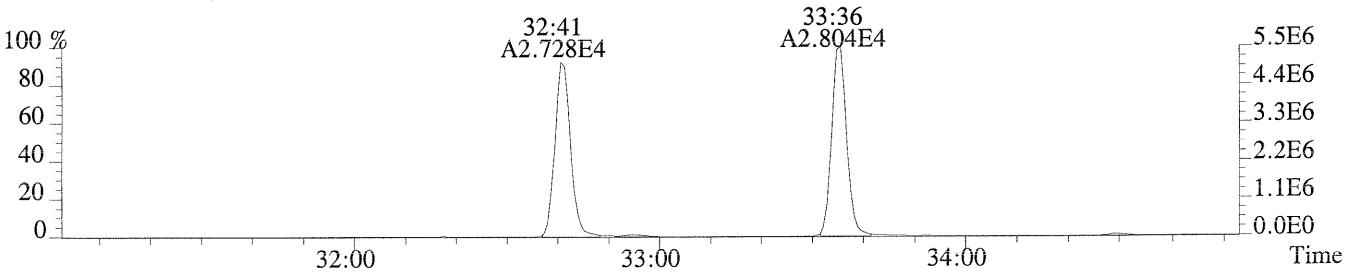
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



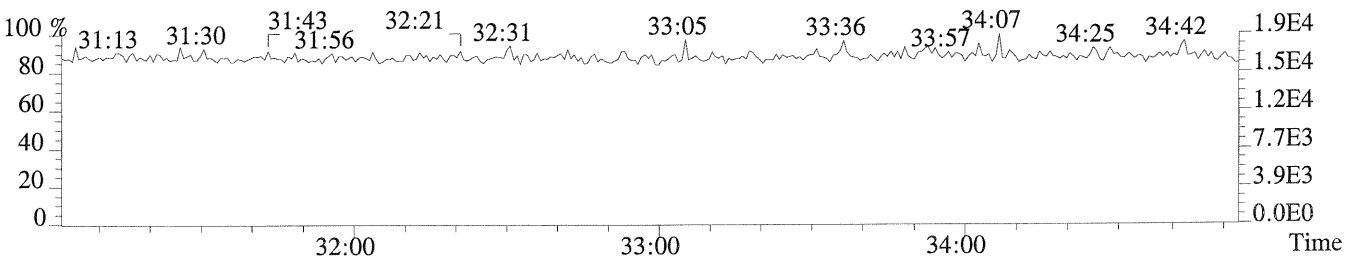
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,T)



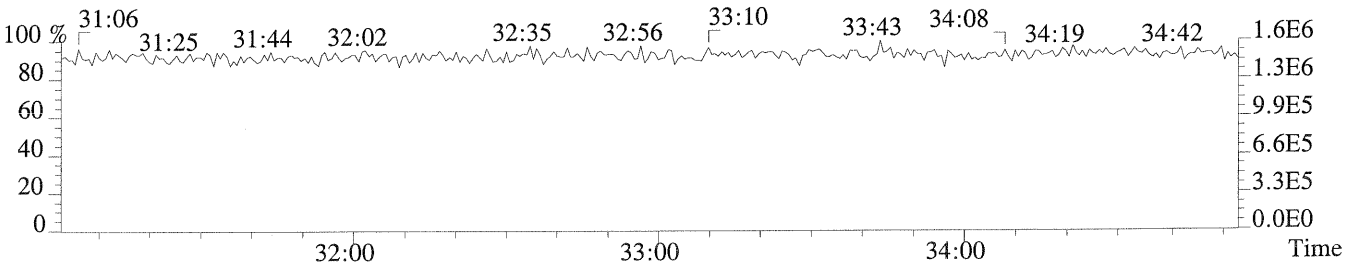
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)



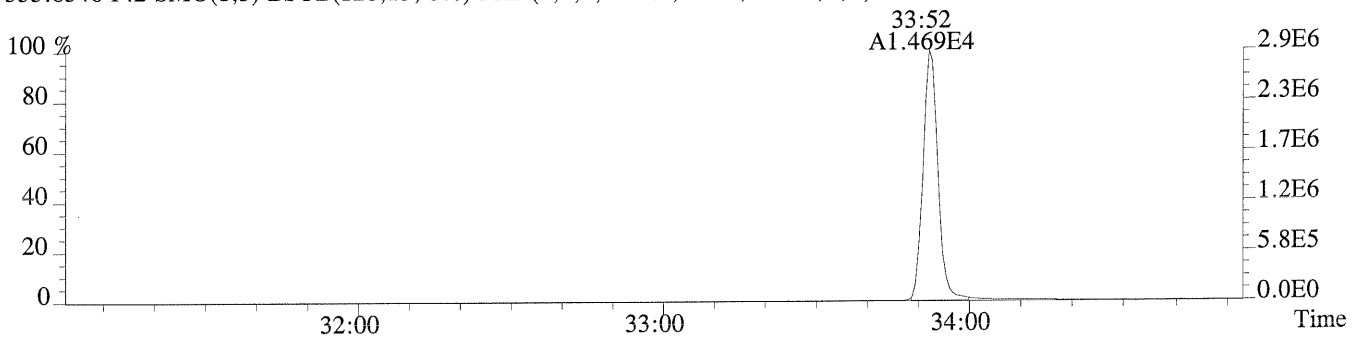
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



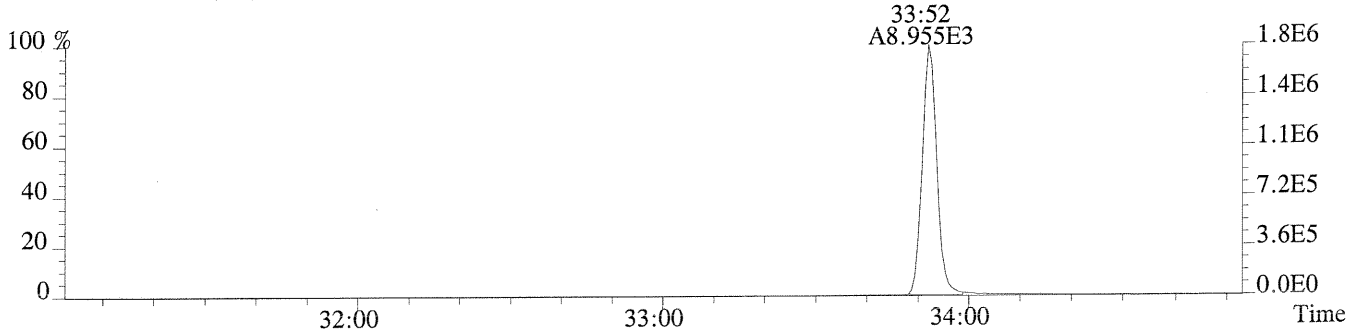
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



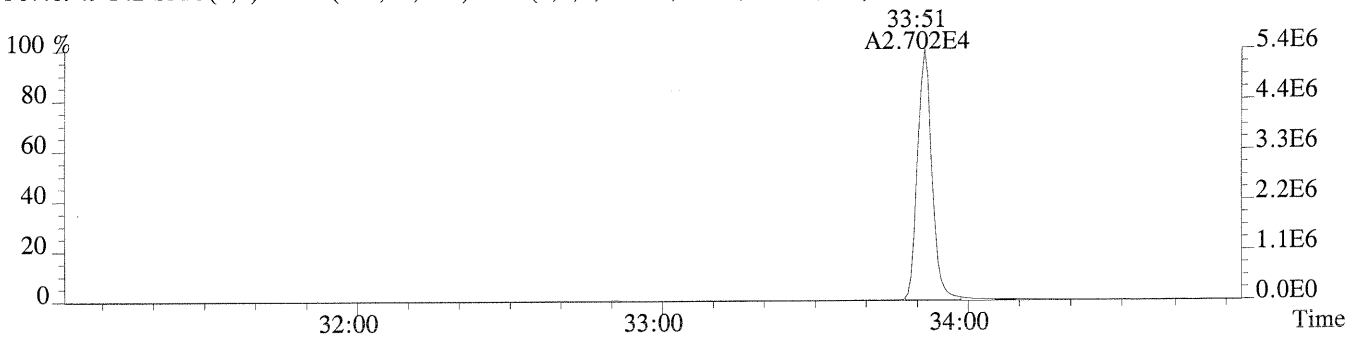
File:U149686 #1-349 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



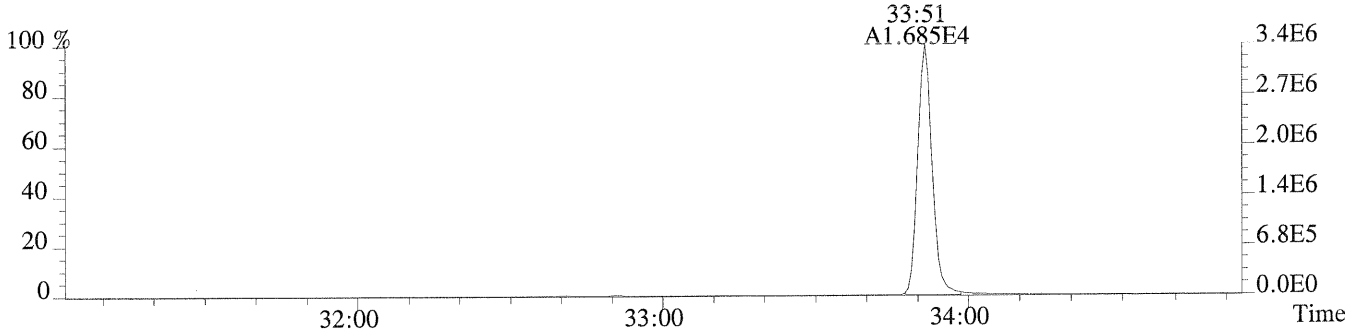
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,456.0,1.00%,F,T)



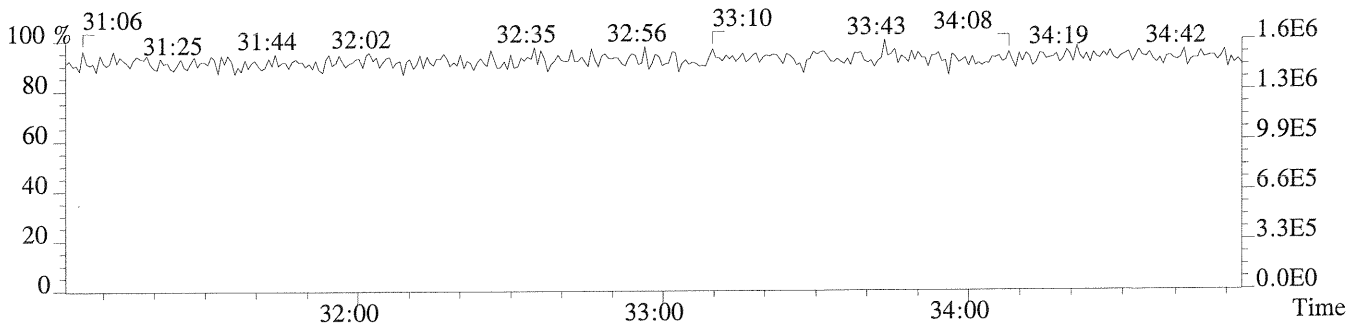
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



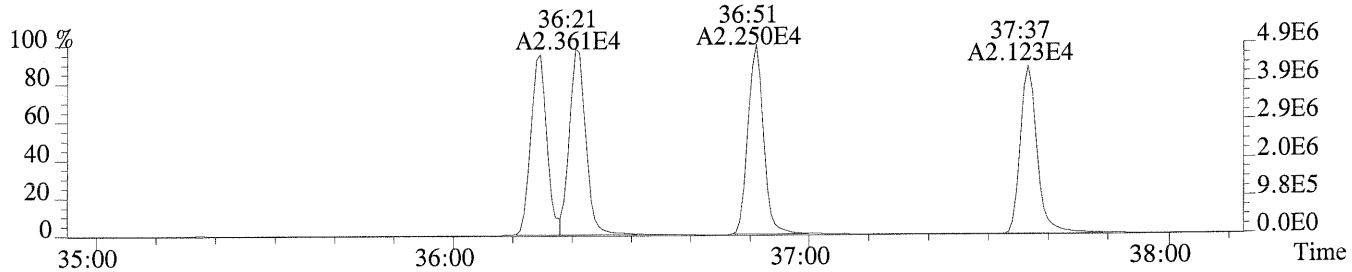
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)



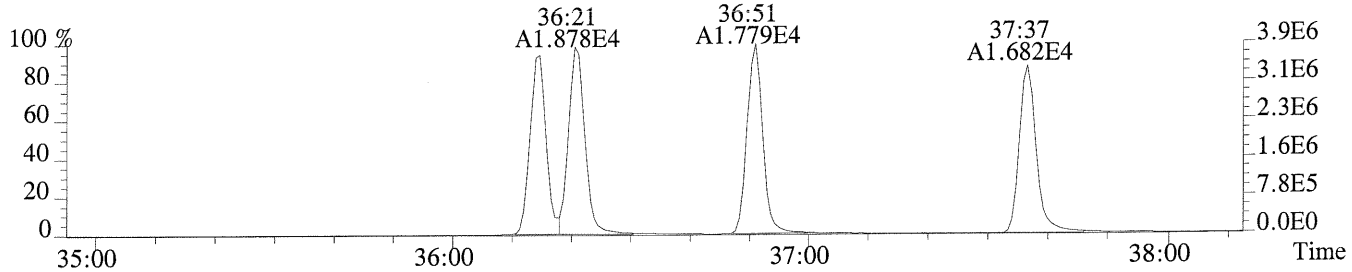
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



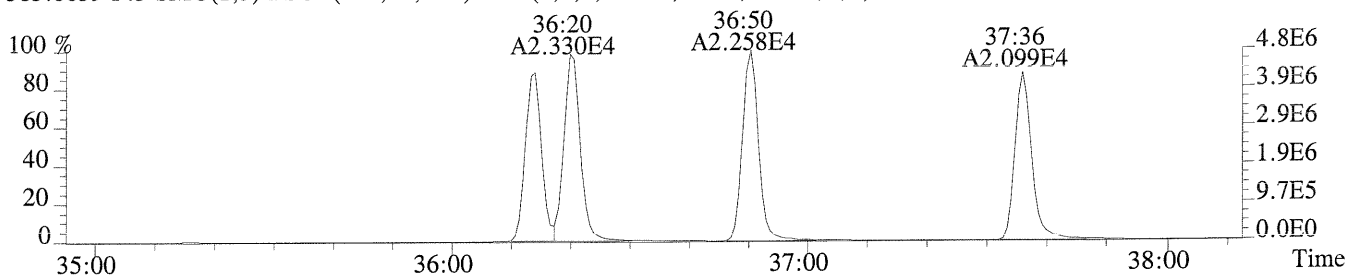
File:U149686 #1-299 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



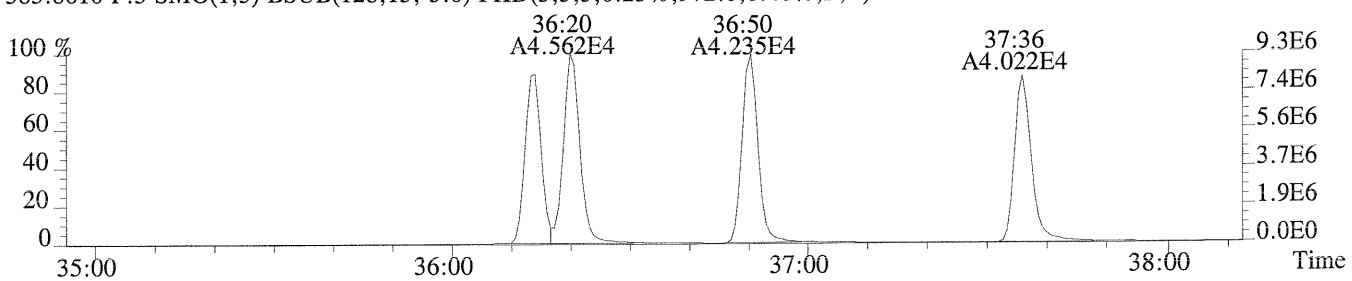
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



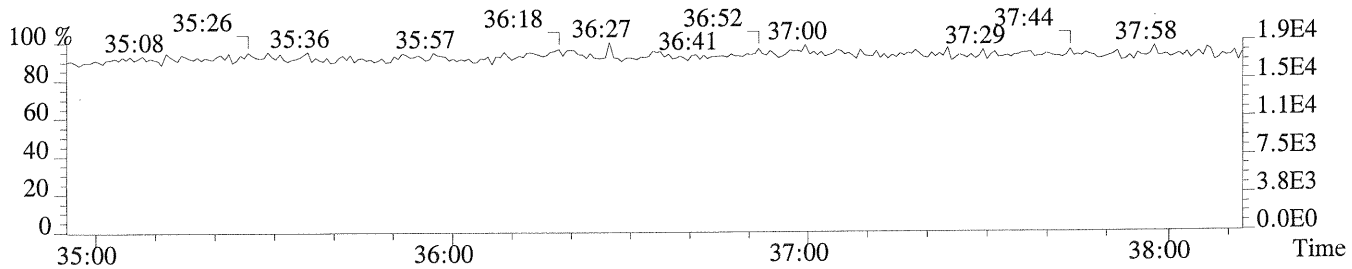
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



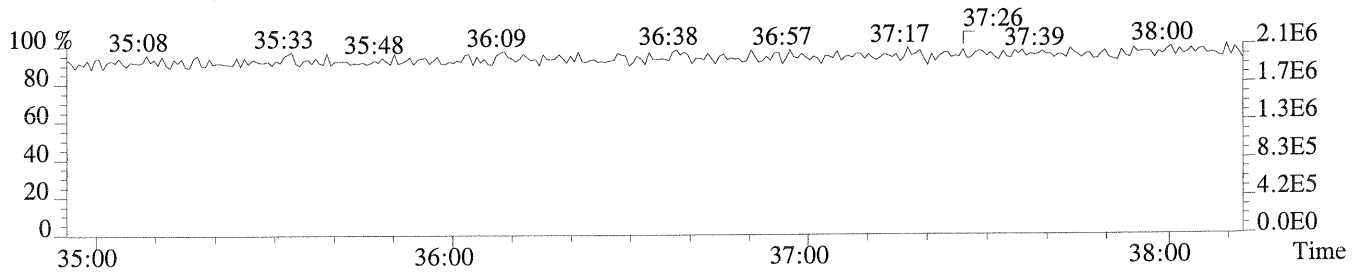
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)



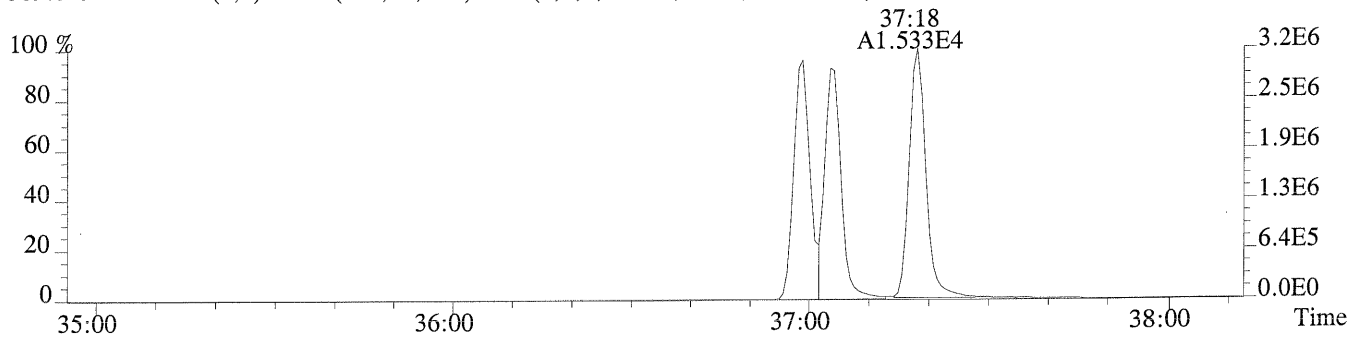
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



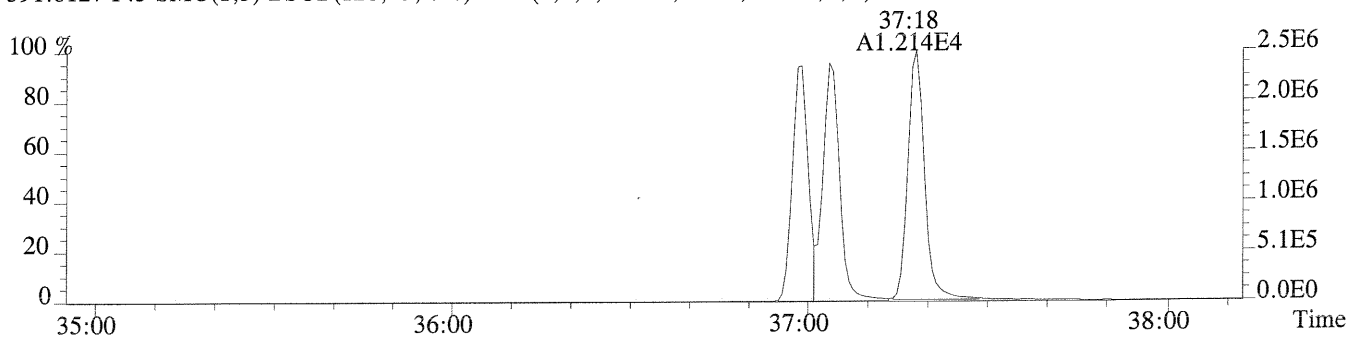
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



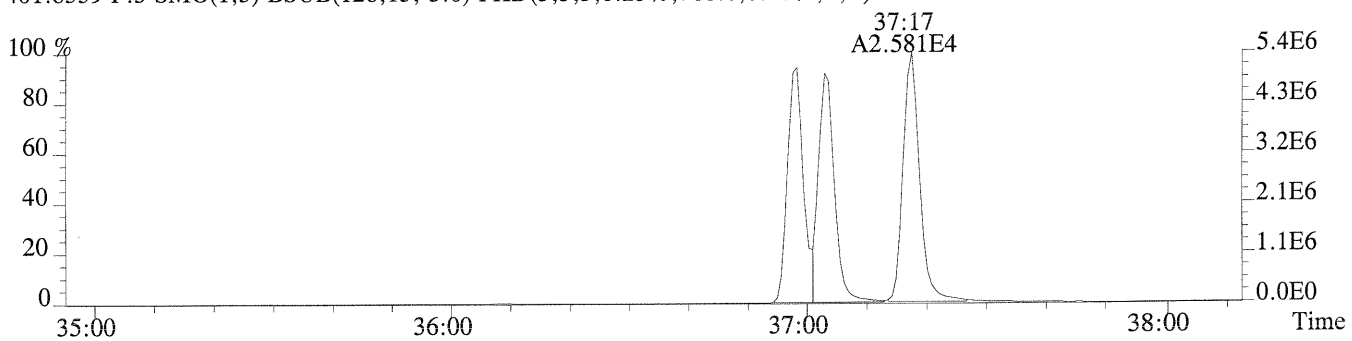
File:U149686 #1-299 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,716.0,0.40%,F,T)



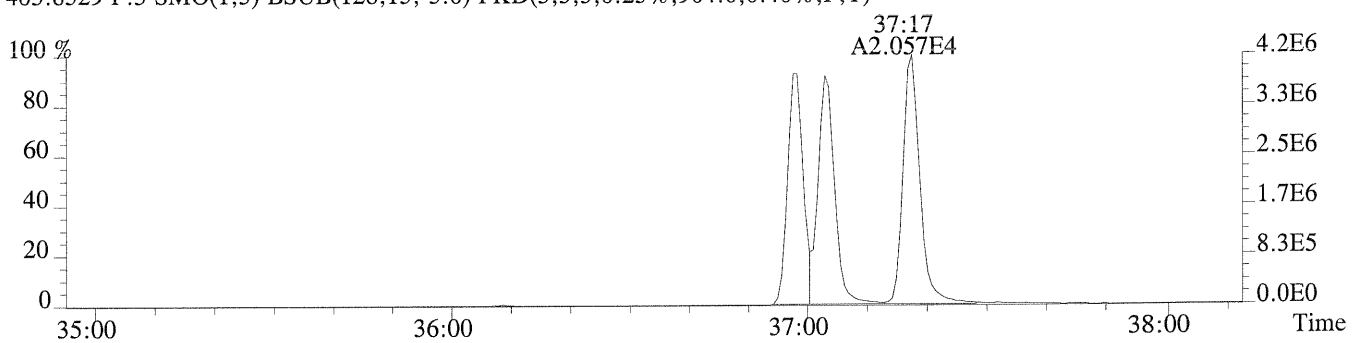
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.40%,F,T)



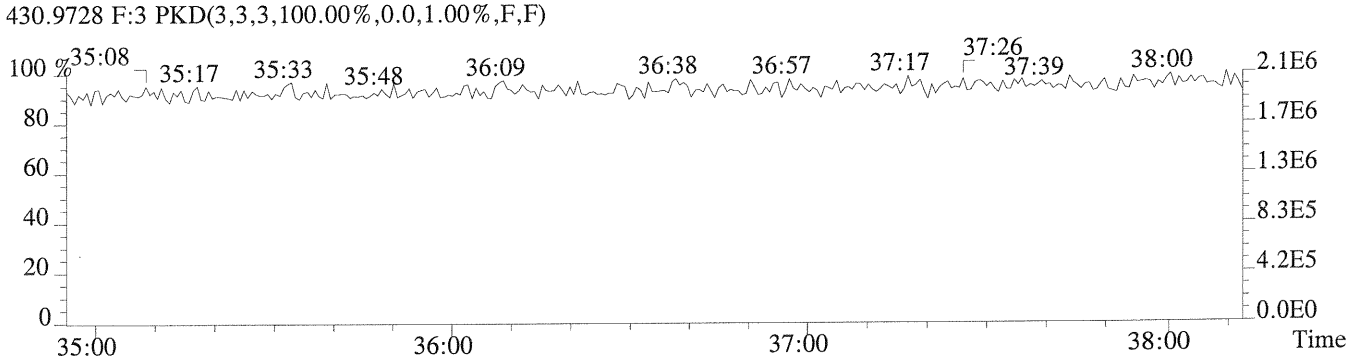
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



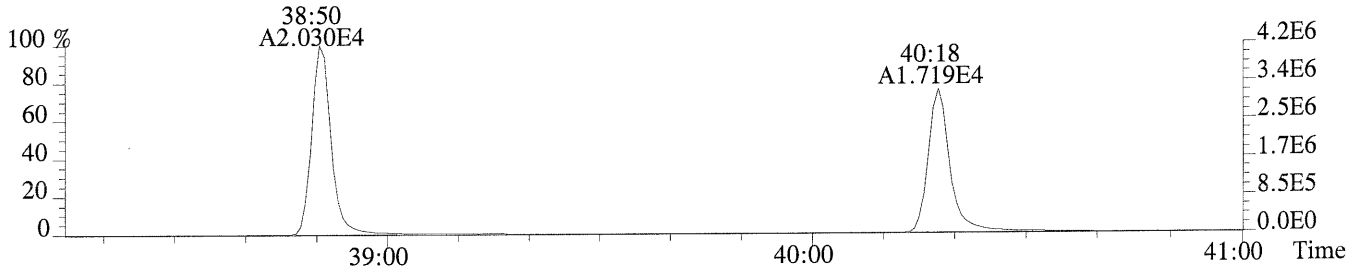
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



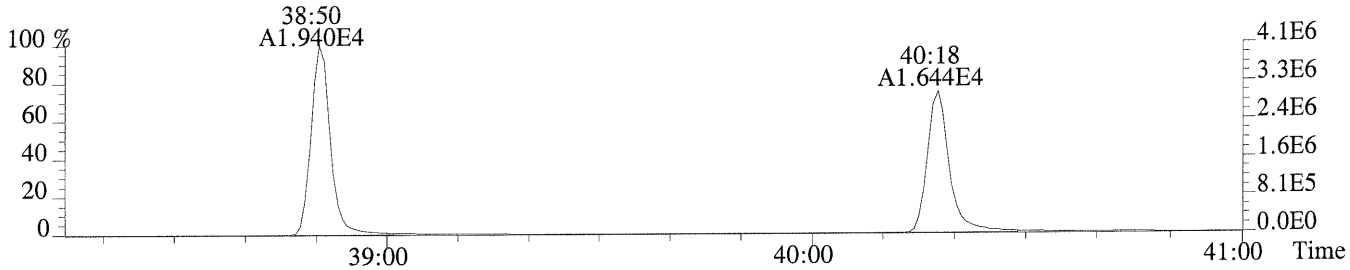
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



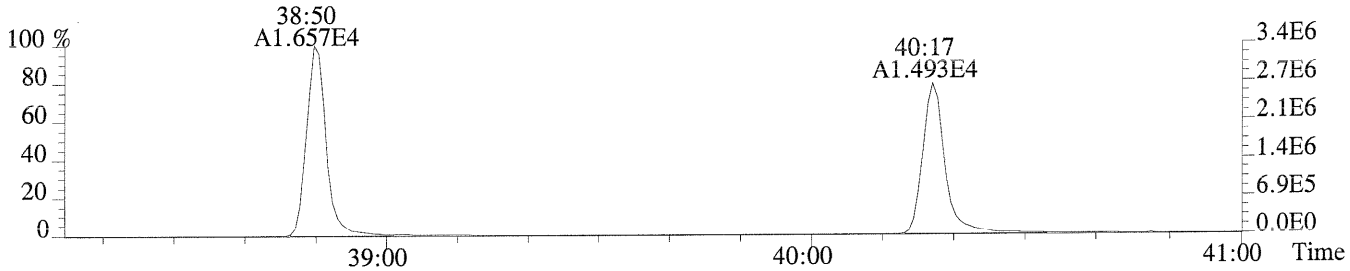
File:U149686 #1-251 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.50%,F,T)



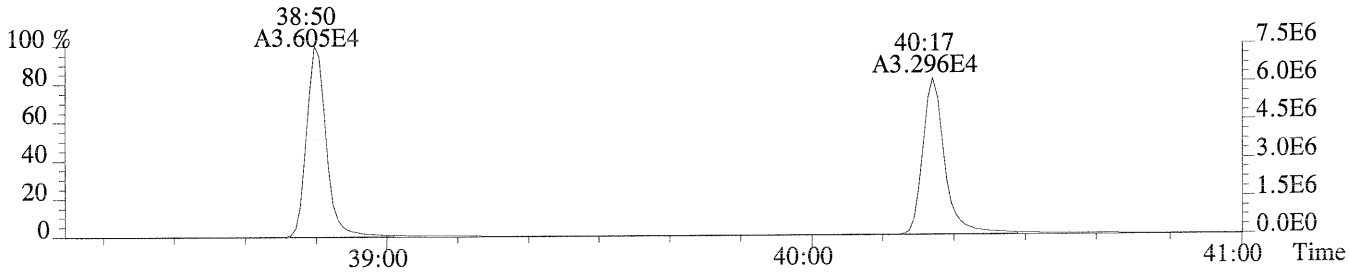
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3112.0,0.50%,F,T)



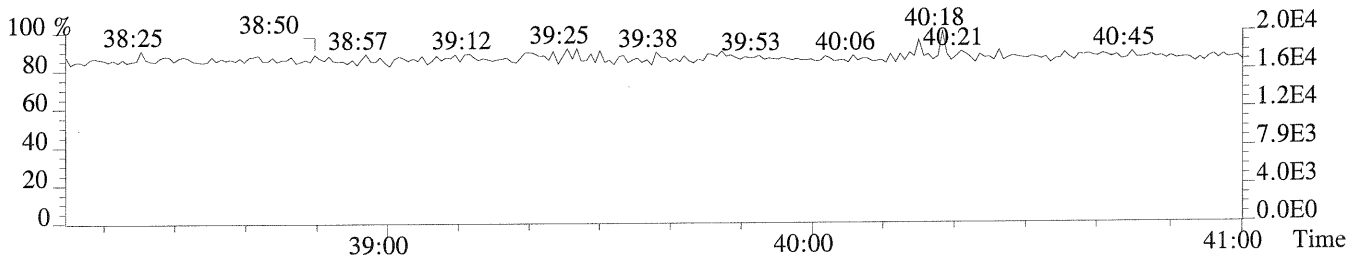
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1436.0,0.50%,F,T)



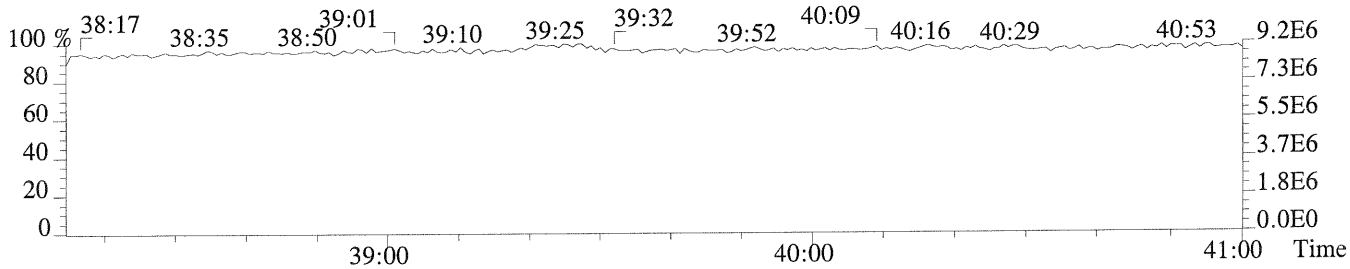
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2892.0,0.50%,F,T)



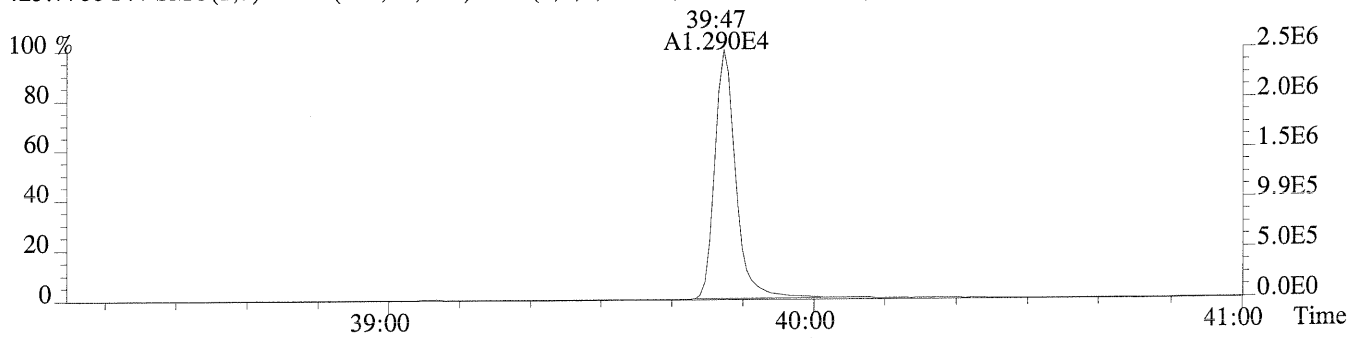
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



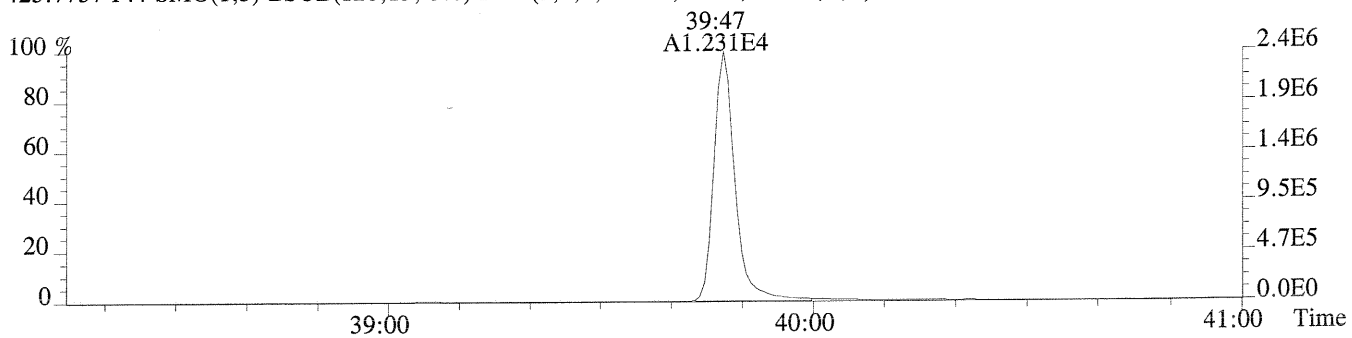
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



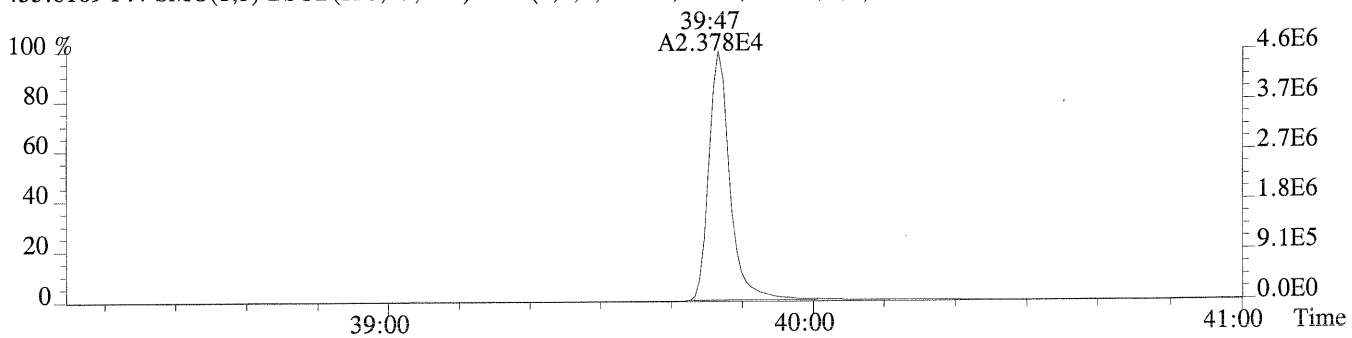
File:U149686 #1-251 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



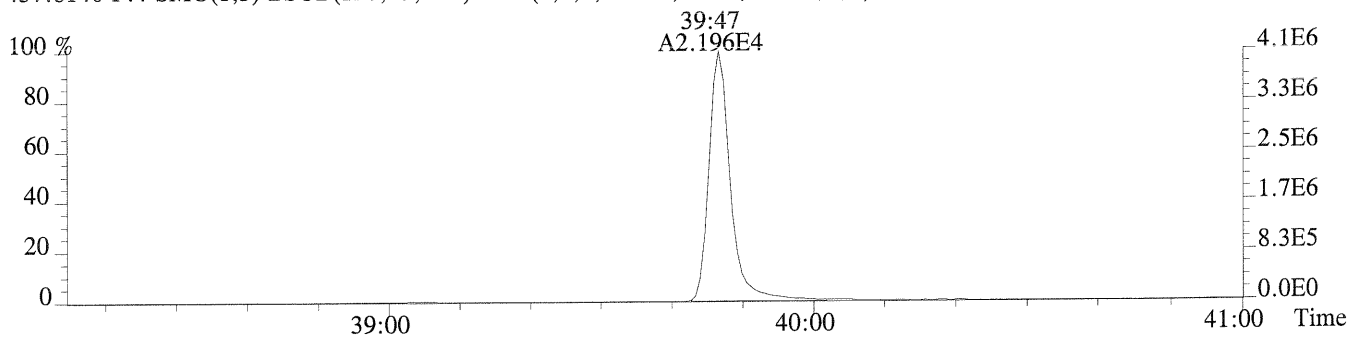
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,596.0,0.40%,F,T)



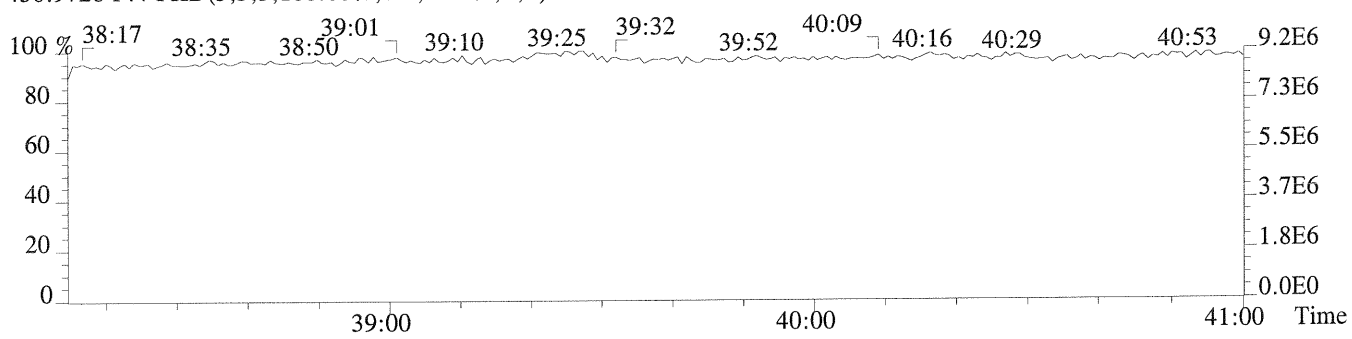
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,668.0,0.40%,F,T)



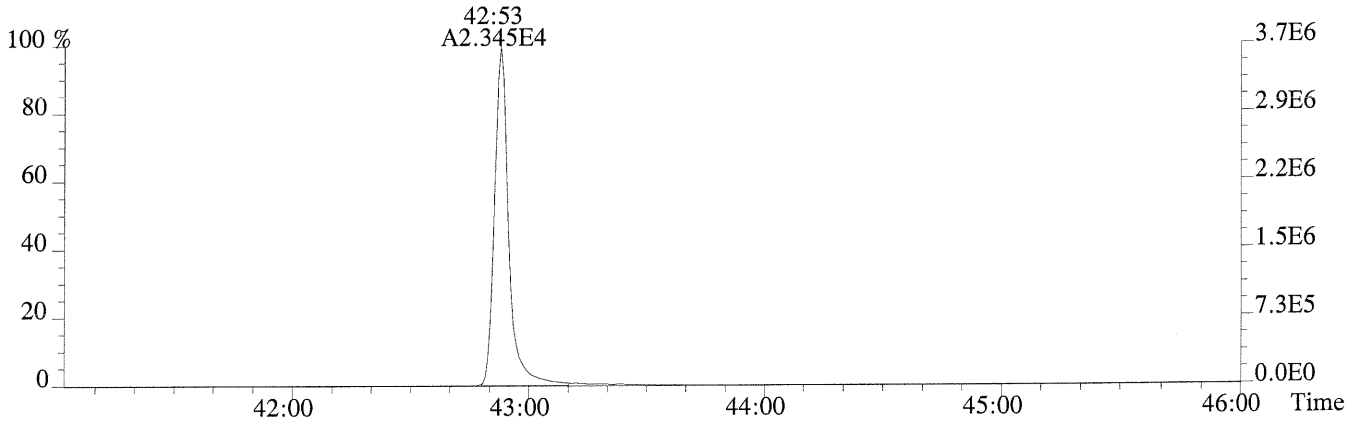
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



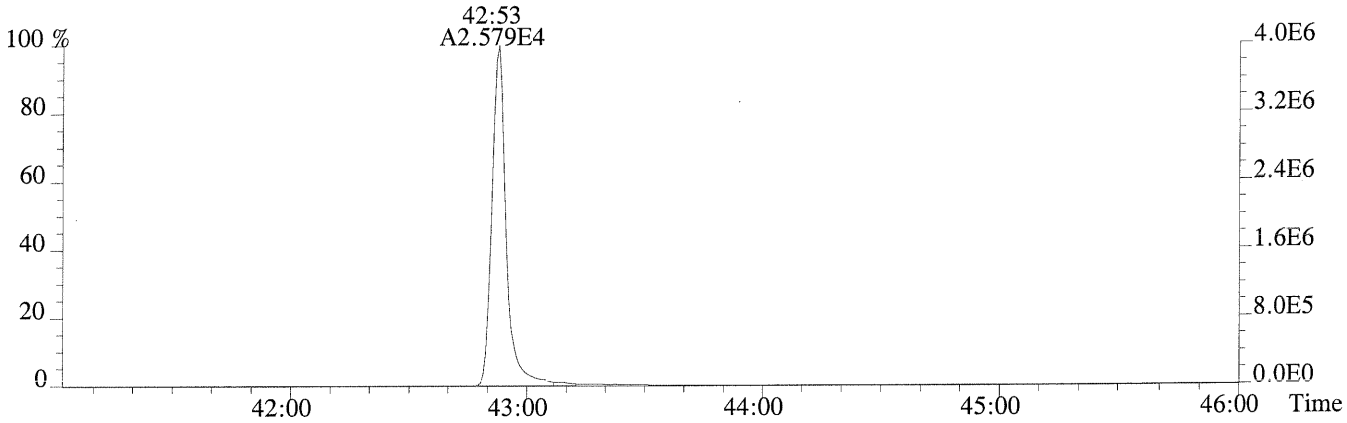
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



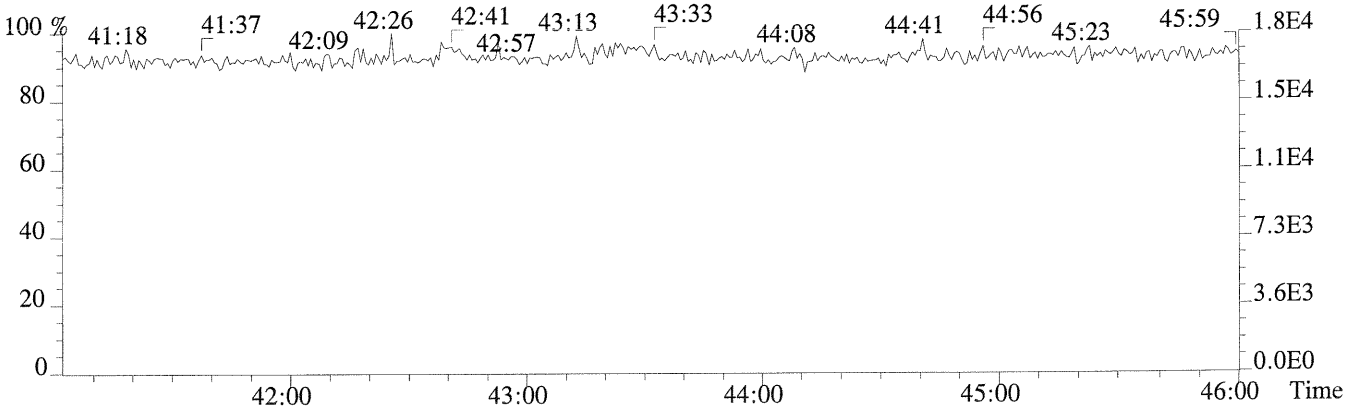
File:U149686 #1-451 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



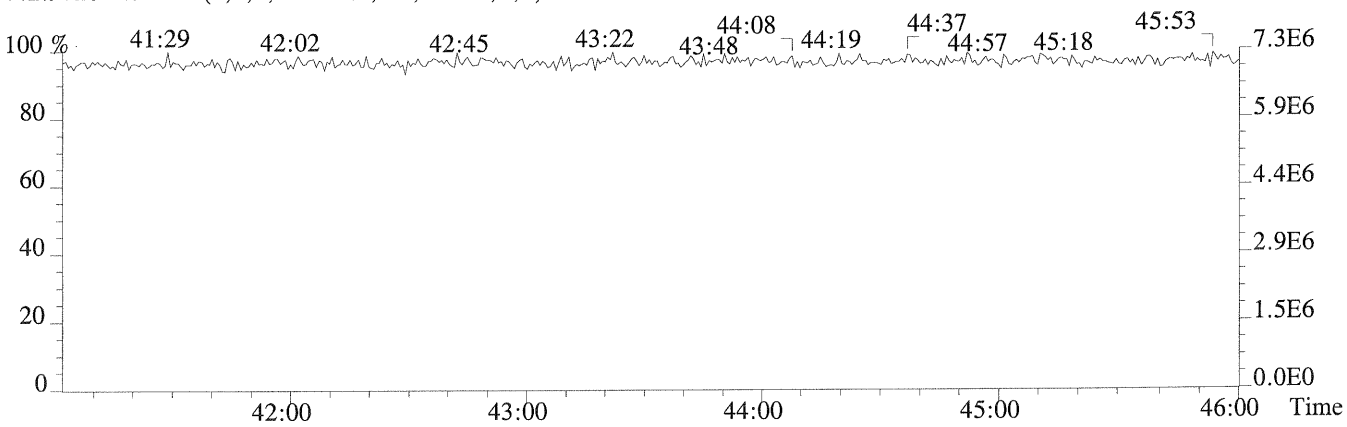
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,T)



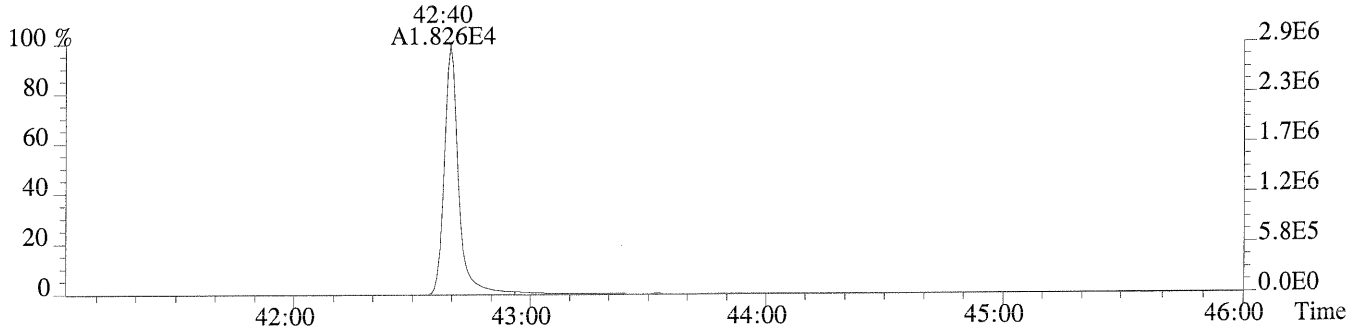
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



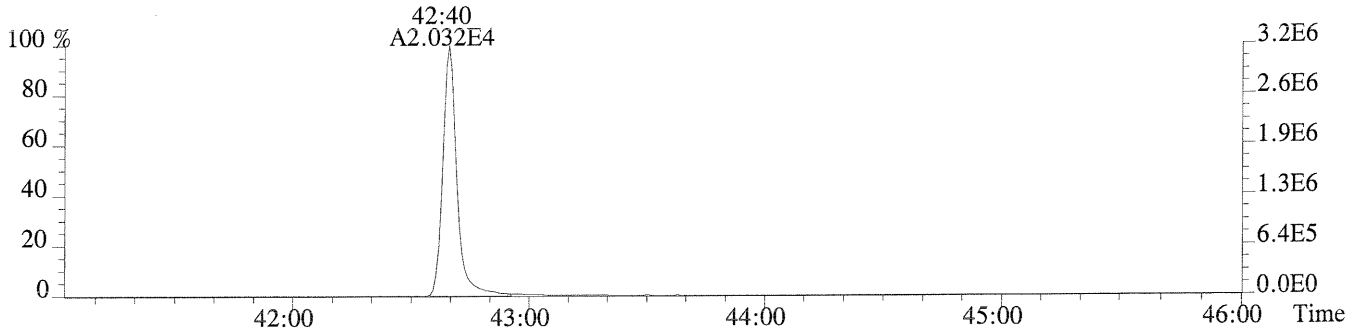
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



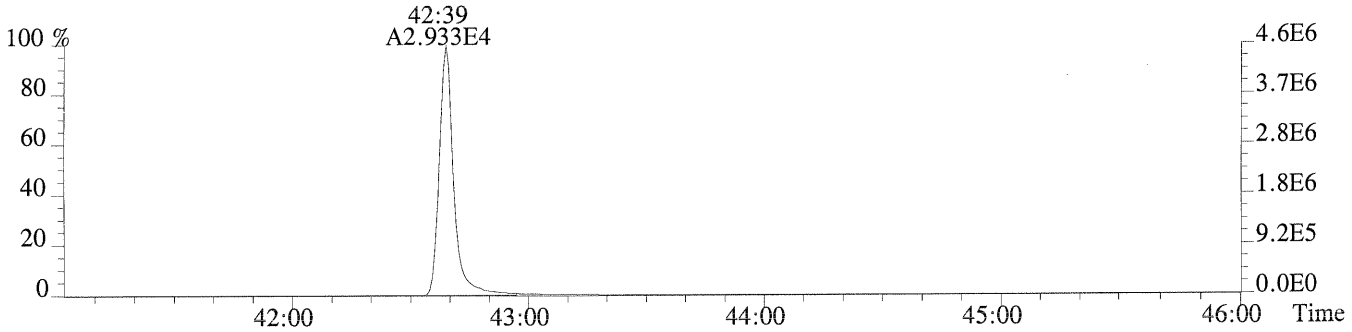
File:U149686 #1-451 Acq:23-JUN-2014 15:16:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,F,T)



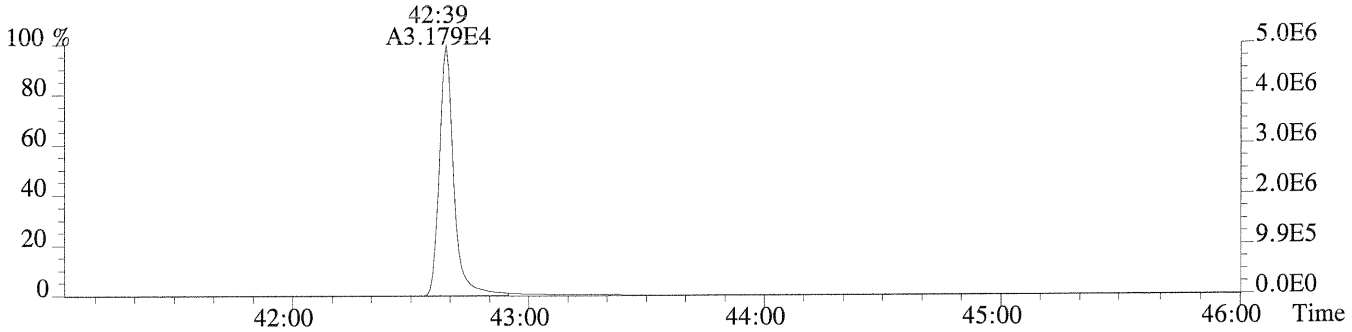
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,612.0,0.40%,F,T)



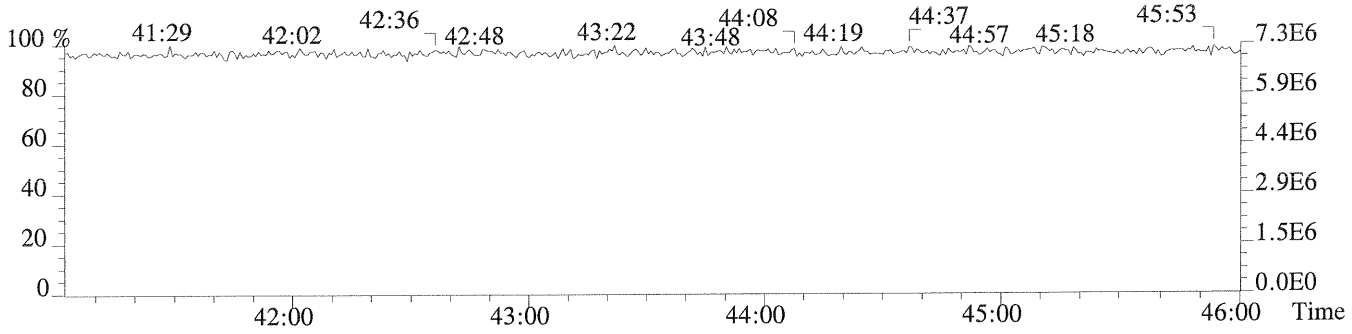
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,504.0,0.40%,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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149697 Analysis Date: 24-JUN-14 Time: 00:42:40

	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	0.82	0.65-0.89	10.1	7.8 - 12.9	1.3
1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32-1.78	53	39 - 65	5.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	54	39 - 64	7.1
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	55	39 - 64	10.4
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	54	41 - 61	8.6
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	52	43 - 58	4.7
OCDD	M+2/M+4	0.89	0.76-1.02	108	79 - 126	8.1
2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	11.3	8.4 - 12.0	12.8
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	56	41 - 60	12.7
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	56	41 - 61	11.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	54	45 - 56	8.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	54	44 - 57	8.3
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	55	45 - 56	10.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	54	44 - 57	8.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	53	45 - 55	5.3
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	52	43 - 58	4.4
OCDF	M+2/M+4	0.90	0.76-1.02	119	63 - 159	19.3

(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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149697 Analysis Date: 24-JUN-14 Time: 00:42:40

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	98	82 - 121	-2.1
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	102	62 - 160	2.4
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	97	85 - 117	-2.5
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	96	85 - 118	-3.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	94	72 - 138	-5.7
13C-OCDD	M+2/M+4	0.92	0.76-1.02	155	96 - 415	-22.7
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	109	71 - 140	8.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	110	76 - 130	10.4
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	113	77 - 130	12.9
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	107	76 - 131	6.7
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	110	70 - 143	10.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	109	74 - 135	9.4
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	111	73 - 137	10.5
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	109	78 - 129	9.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	105	77 - 129	4.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.3	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 beginnning 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.
66131

Run #17 Filename U149697 Samp: 1 Inj: 1 Acquired: 24-JUN-14 00:42:40
Processed: 24-JUN-14 08:35:12 Sample ID: CCAL HRCC3/CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:35	2.425e+03	3.002e+03	0.81	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:42	2.333e+04	1.484e+04	1.57	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:37	2.220e+04	1.409e+04	1.58	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:15	2.007e+04	1.576e+04	1.27	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:21	2.226e+04	1.746e+04	1.27	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:52	2.023e+04	1.636e+04	1.24	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:37	1.919e+04	1.514e+04	1.27	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	1.743e+04	1.681e+04	1.04	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	1.465e+04	1.371e+04	1.07	yes	no	1.358
10	Unk	OCDF	42:55	1.882e+04	2.097e+04	0.90	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:21	1.563e+03	1.899e+03	0.82	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:53	1.384e+04	8.499e+03	1.63	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	36:59	1.244e+04	9.859e+03	1.26	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:04	1.348e+04	1.079e+04	1.25	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:19	1.388e+04	1.139e+04	1.22	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	1.080e+04	1.052e+04	1.03	yes	no	1.065
17	Unk	OCDD	42:42	1.478e+04	1.663e+04	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:34	2.281e+04	2.814e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:41	4.280e+04	2.654e+04	1.61	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:36	4.232e+04	2.665e+04	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:14	1.853e+04	3.551e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:21	2.204e+04	4.176e+04	0.53	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:51	2.036e+04	3.896e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:37	1.855e+04	3.560e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	1.426e+04	3.135e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.252e+04	2.746e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:20	1.485e+04	1.890e+04	0.79	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:52	2.543e+04	1.598e+04	1.59	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	36:58	2.073e+04	1.601e+04	1.30	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:04	2.239e+04	1.738e+04	1.29	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	1.987e+04	1.836e+04	1.08	yes	no	0.936
32	IS	13C-OCDD	42:41	2.364e+04	2.575e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:45	1.442e+04	1.829e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:18	2.424e+04	1.907e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:21	3.522e+03				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
66131

Run #17 Filename U149697 Samp: 1 Inj: 1 Acquired: 24-JUN-14 00:42:40
Processed: 24-JUN-14 08:35:121 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	4.78e+05	5.64e+02	8.5e+02	6.00e+05	7.24e+02	8.3e+02
2	1,2,3,7,8-PeCDF	4.27e+06	3.40e+02	1.3e+04	2.73e+06	8.48e+02	3.2e+03
3	2,3,4,7,8-PeCDF	4.34e+06	3.40e+02	1.3e+04	2.71e+06	8.48e+02	3.2e+03
4	1,2,3,4,7,8-HxCDF	4.32e+06	6.56e+02	6.6e+03	3.41e+06	7.20e+02	4.7e+03
5	1,2,3,6,7,8-HxCDF	4.55e+06	6.56e+02	6.9e+03	3.59e+06	7.20e+02	5.0e+03
6	2,3,4,6,7,8-HxCDF	4.28e+06	6.56e+02	6.5e+03	3.43e+06	7.20e+02	4.8e+03
7	1,2,3,7,8,9-HxCDF	3.90e+06	6.56e+02	5.9e+03	3.06e+06	7.20e+02	4.3e+03
8	1,2,3,4,6,7,8-HpCDF	3.57e+06	1.72e+03	2.1e+03	3.41e+06	2.27e+03	1.5e+03
9	1,2,3,4,7,8,9-HpCDF	2.64e+06	1.72e+03	1.5e+03	2.47e+06	2.27e+03	1.1e+03
10	OCDF	2.87e+06	6.52e+02	4.4e+03	3.15e+06	6.80e+02	4.6e+03
11	2,3,7,8-TCDD	3.30e+05	5.72e+02	5.8e+02	4.10e+05	6.44e+02	6.4e+02
12	1,2,3,7,8-PeCDD	2.76e+06	6.92e+02	4.0e+03	1.71e+06	4.88e+02	3.5e+03
13	1,2,3,4,7,8-HxCDD	2.75e+06	4.72e+02	5.8e+03	2.21e+06	5.36e+02	4.1e+03
14	1,2,3,6,7,8-HxCDD	2.74e+06	4.72e+02	5.8e+03	2.19e+06	5.36e+02	4.1e+03
15	1,2,3,7,8,9-HxCDD	2.86e+06	4.72e+02	6.1e+03	2.28e+06	5.36e+02	4.3e+03
16	1,2,3,4,6,7,8-HpCDD	2.02e+06	6.68e+02	3.0e+03	1.99e+06	5.92e+02	3.4e+03
17	OCDD	2.20e+06	5.64e+02	3.9e+03	2.52e+06	5.68e+02	4.4e+03
18	13C-2,3,7,8-TCDF	4.60e+06	7.16e+02	6.4e+03	5.70e+06	5.96e+02	9.6e+03
19	13C-1,2,3,7,8-PeCDF	8.04e+06	7.28e+02	1.1e+04	5.03e+06	6.36e+02	7.9e+03
20	13C-2,3,4,7,8-PeCDF	8.38e+06	7.28e+02	1.2e+04	5.32e+06	6.36e+02	8.4e+03
21	13C-1,2,3,4,7,8-HxCDF	3.99e+06	6.96e+02	5.7e+03	7.70e+06	6.64e+02	1.2e+04
22	13C-1,2,3,6,7,8-HxCDF	4.54e+06	6.96e+02	6.5e+03	8.60e+06	6.64e+02	1.3e+04
23	13C-2,3,4,6,7,8-HxCDF	4.34e+06	6.96e+02	6.2e+03	8.19e+06	6.64e+02	1.2e+04
24	13C-1,2,3,7,8,9-HxCDF	3.77e+06	6.96e+02	5.4e+03	7.24e+06	6.64e+02	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.95e+06	1.59e+03	1.9e+03	6.40e+06	3.00e+03	2.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.26e+06	1.59e+03	1.4e+03	4.91e+06	3.00e+03	1.6e+03
27	13C-2,3,7,8-TCDD	3.18e+06	1.20e+03	2.6e+03	4.04e+06	9.16e+02	4.4e+03
28	13C-1,2,3,7,8-PeCDD	5.12e+06	5.60e+02	9.1e+03	3.18e+06	6.92e+02	4.6e+03
29	13C-1,2,3,4,7,8-HxCDD	4.64e+06	9.32e+02	5.0e+03	3.62e+06	6.28e+02	5.8e+03
30	13C-1,2,3,6,7,8-HxCDD	4.53e+06	9.32e+02	4.9e+03	3.56e+06	6.28e+02	5.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.77e+06	7.12e+02	5.3e+03	3.46e+06	6.76e+02	5.1e+03
32	13C-OCDD	3.57e+06	4.68e+02	7.6e+03	3.90e+06	4.92e+02	7.9e+03
33	13C-1,2,3,4-TCDD	3.03e+06	1.20e+03	2.5e+03	3.85e+06	9.16e+02	4.2e+03
34	13C-1,2,3,7,8,9-HxCDD	4.87e+06	9.32e+02	5.2e+03	3.78e+06	6.28e+02	6.0e+03
35	37Cl-2,3,7,8-TCDD	7.61e+05	6.80e+02	1.1e+03			

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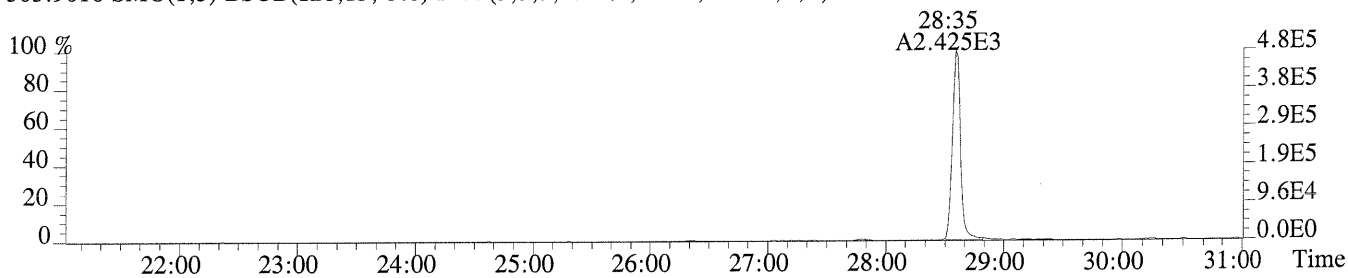
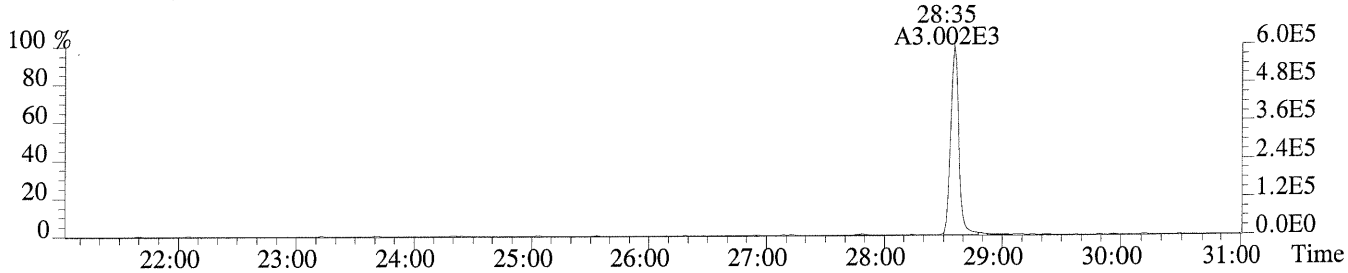
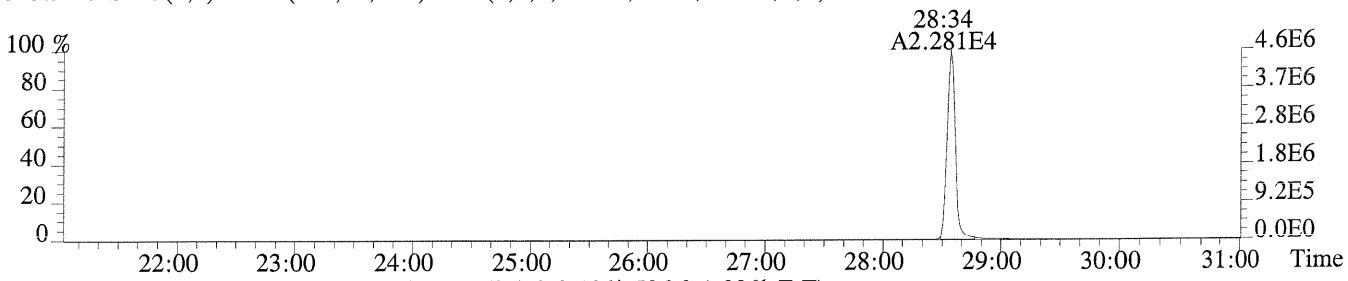
File:U149697 #1-627 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,T)



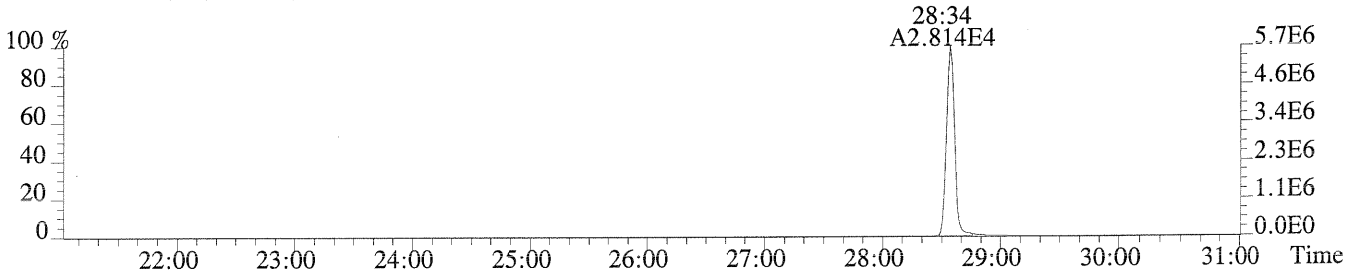
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



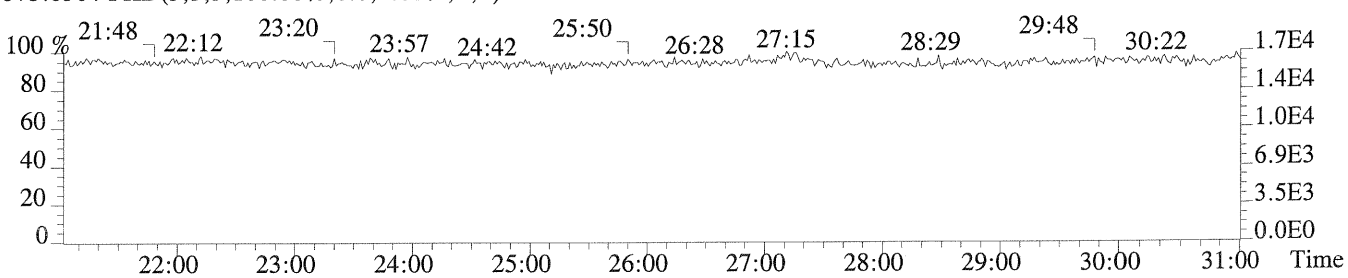
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



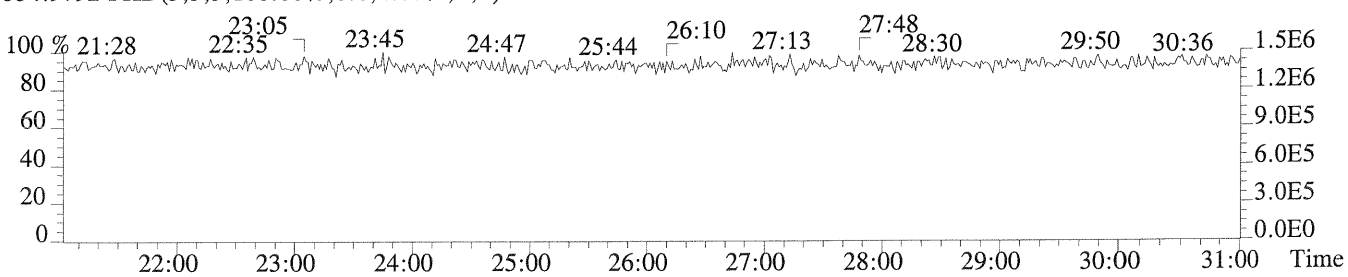
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



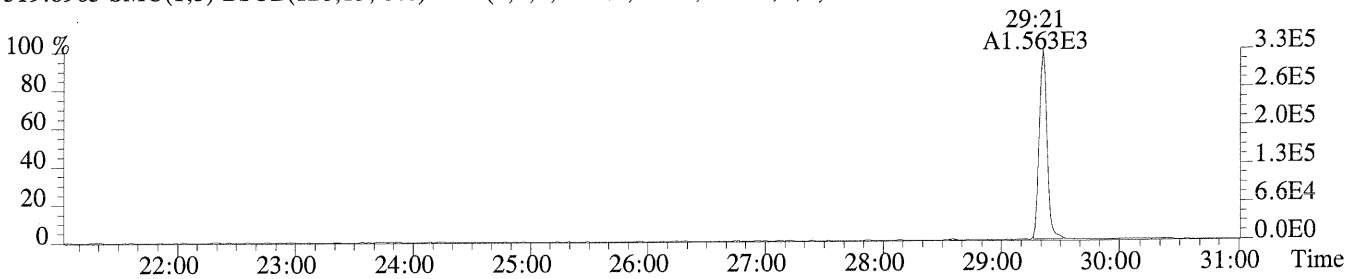
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



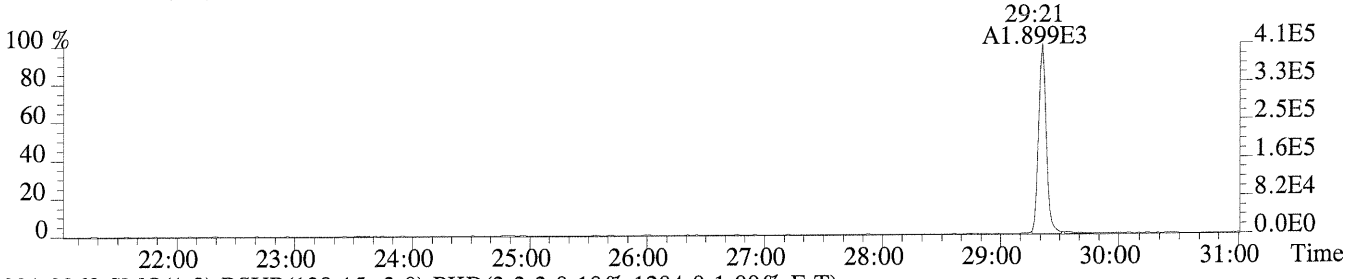
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



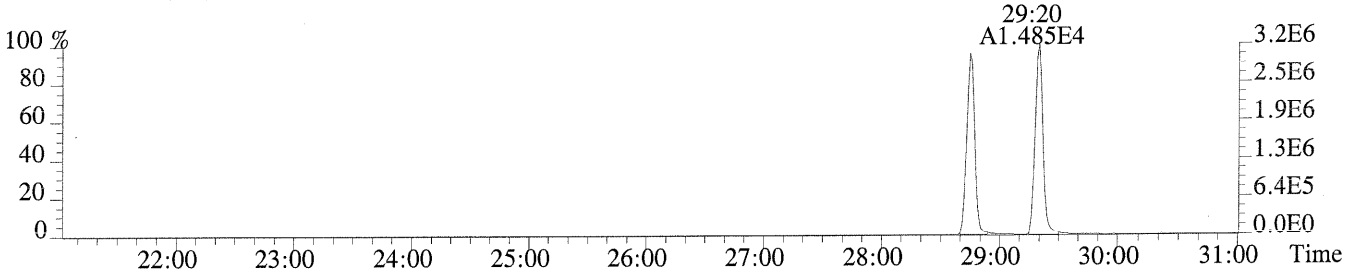
File:U149697 #1-627 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



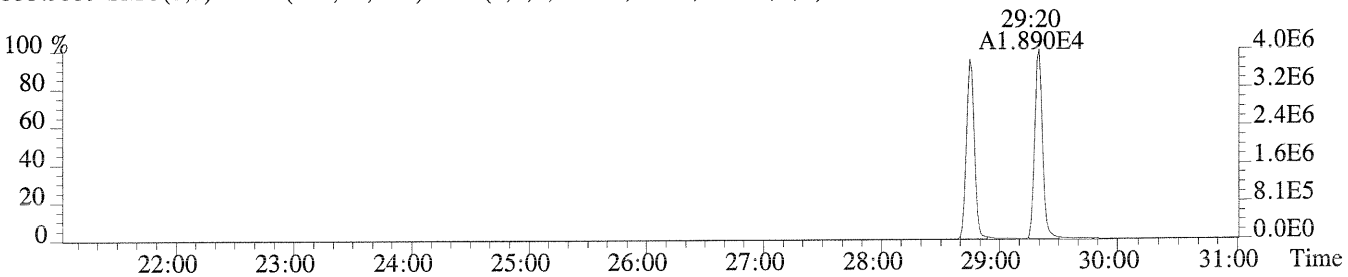
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



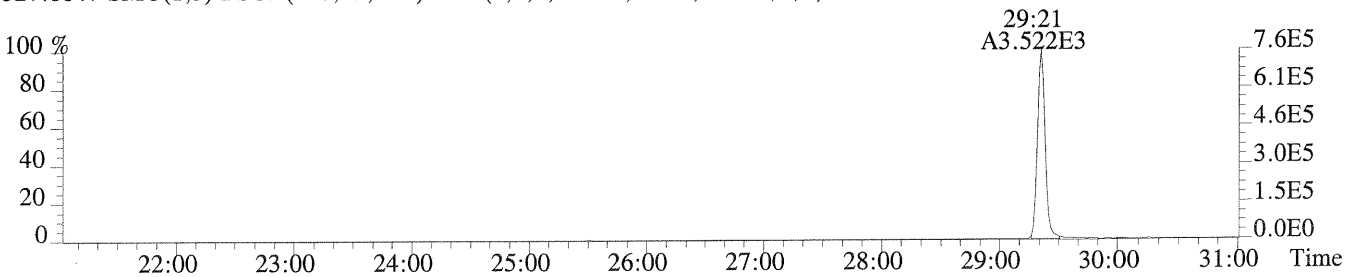
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,T)



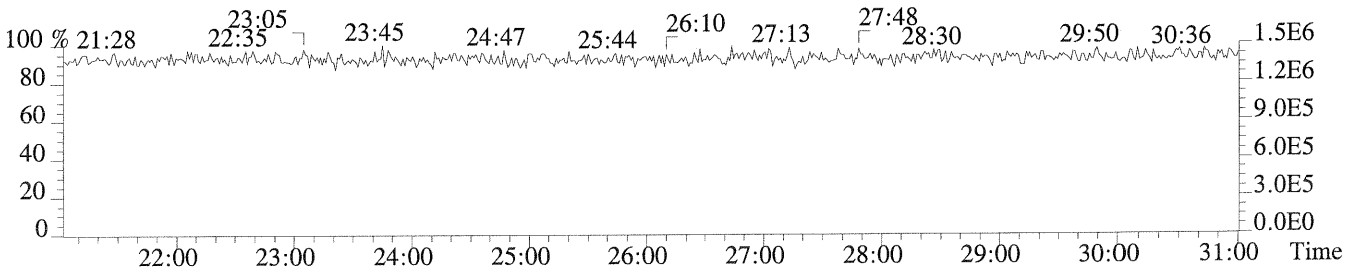
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,916.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)

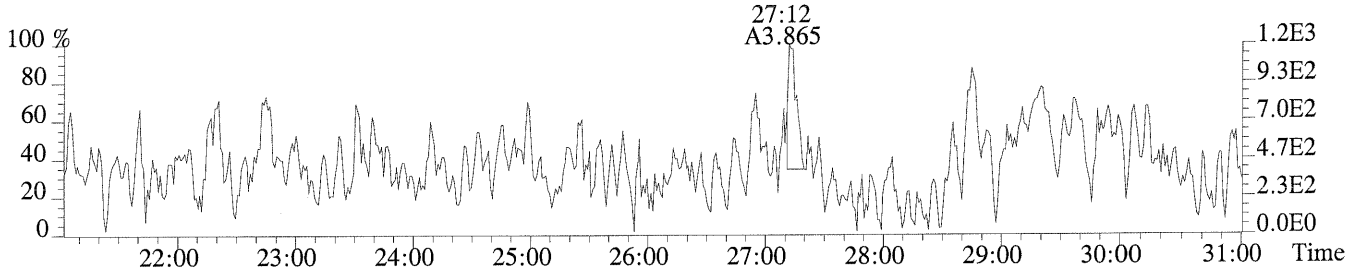


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

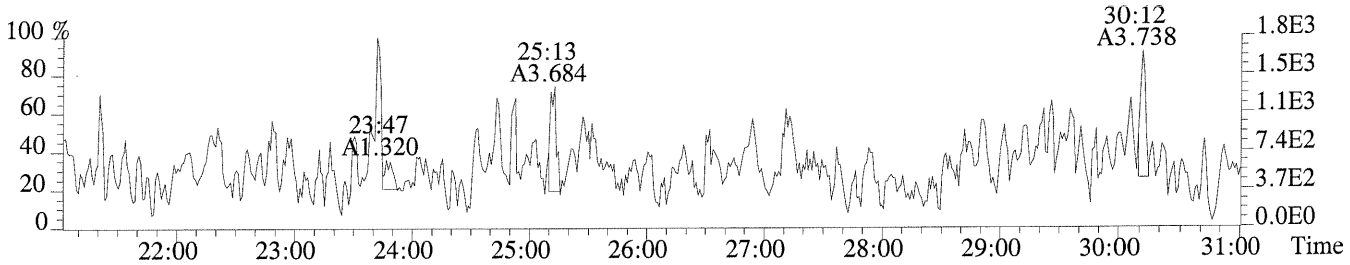


File:U149697 #1-627 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

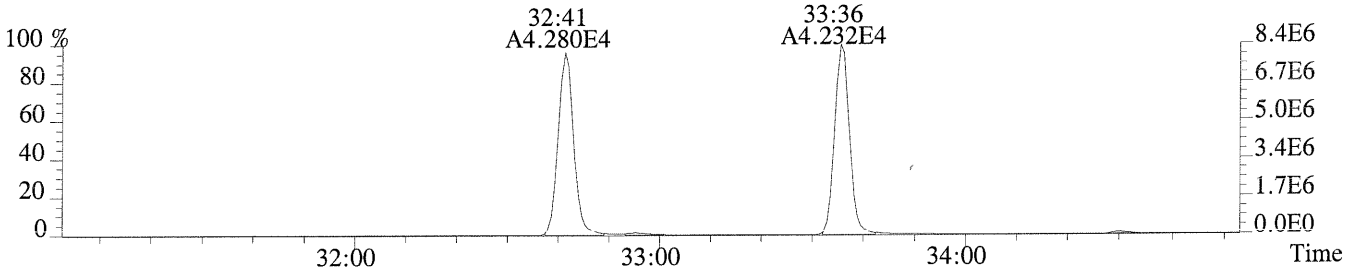
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



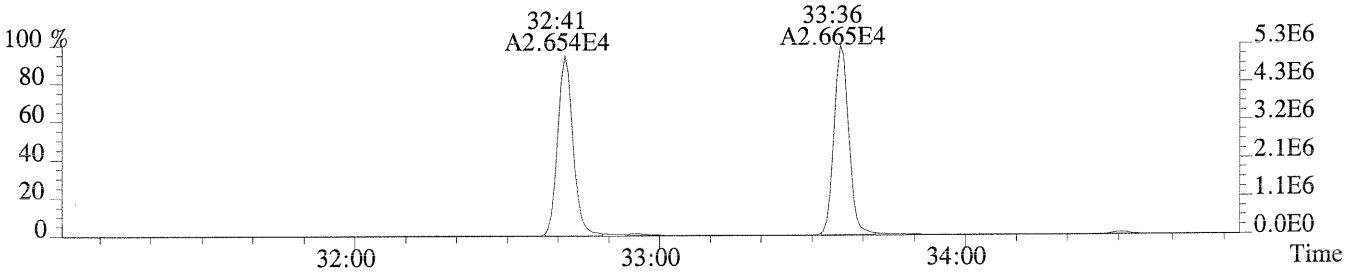
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



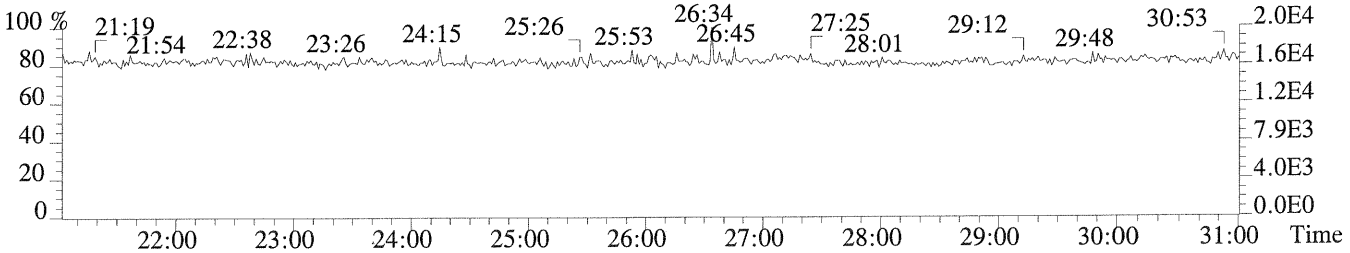
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



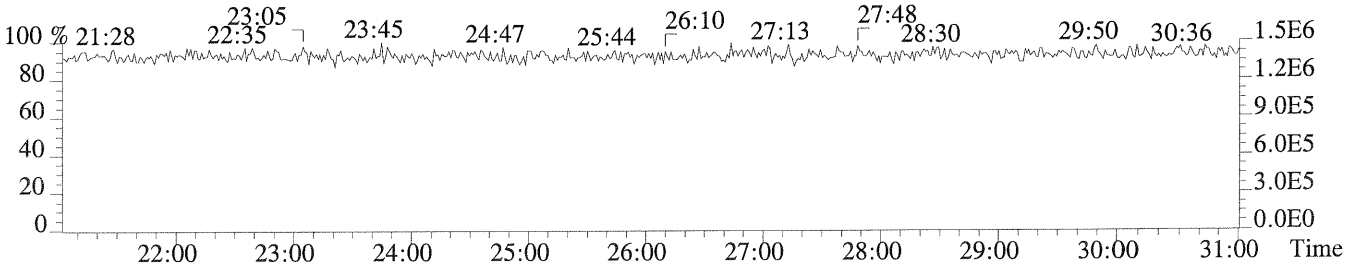
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

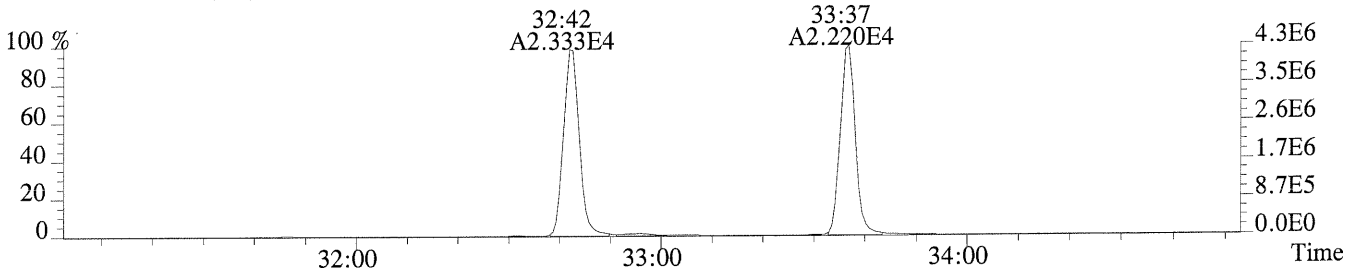


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

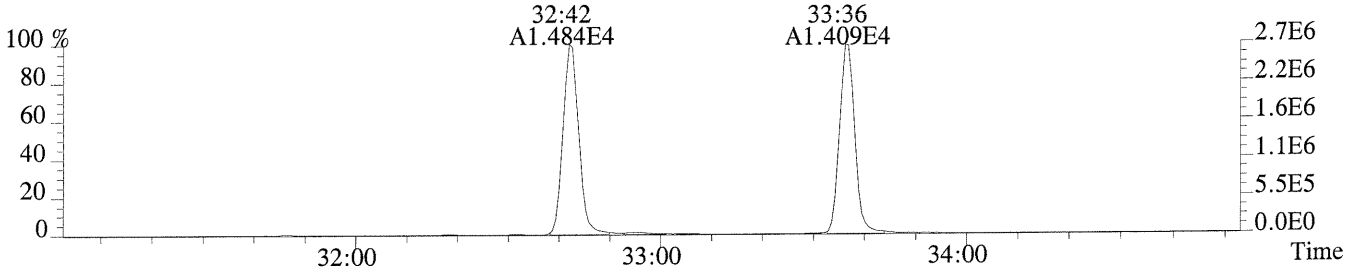


File:U149697 #1-349 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

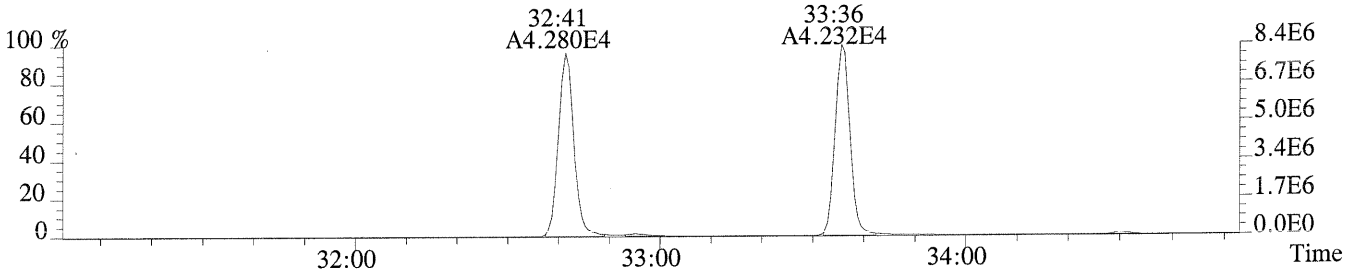
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



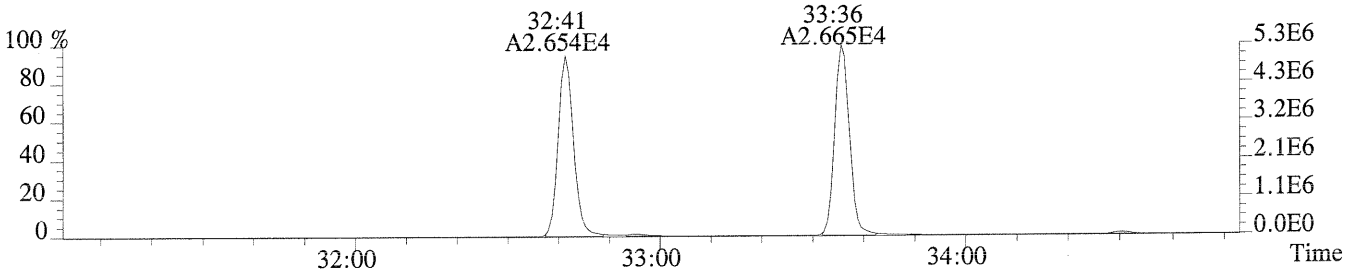
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



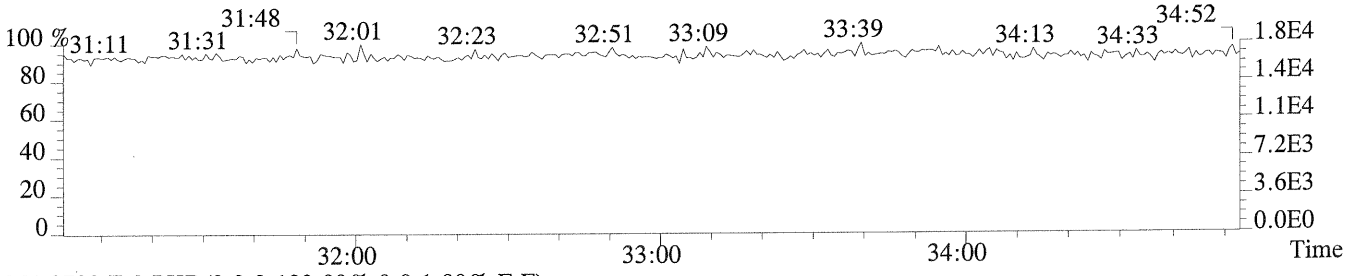
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



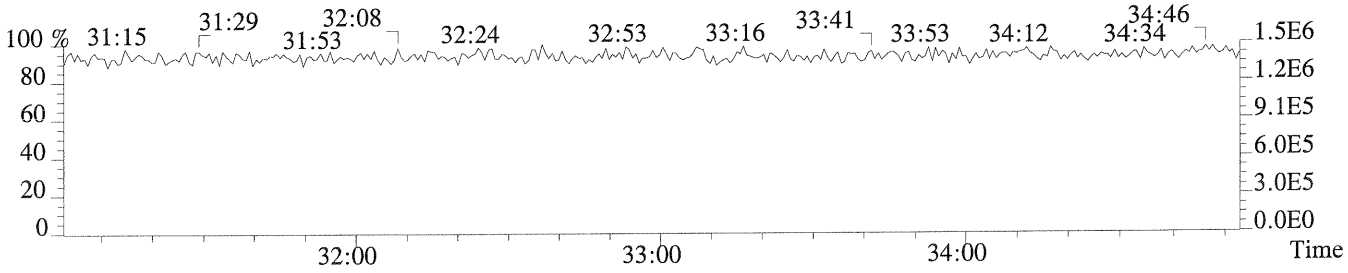
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



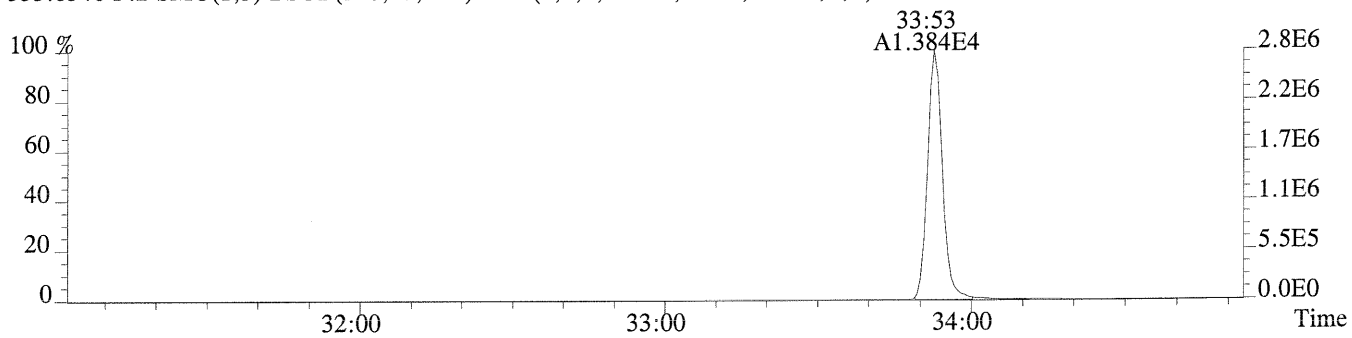
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



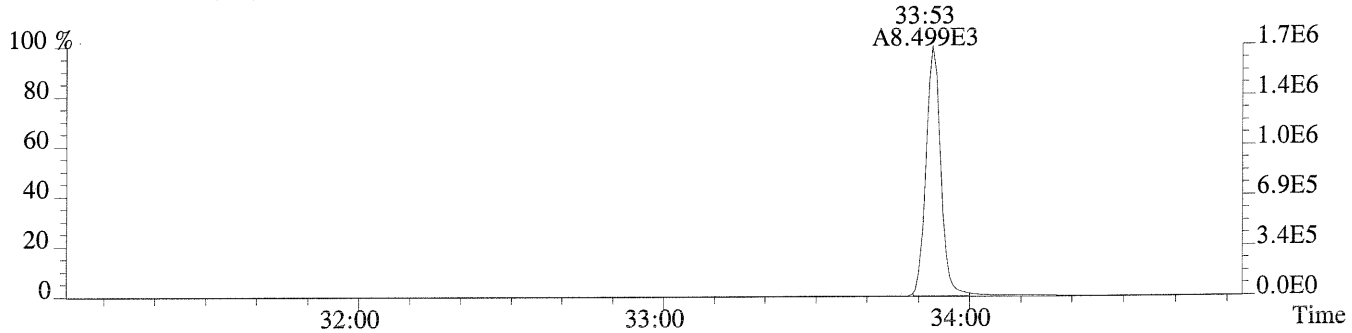
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



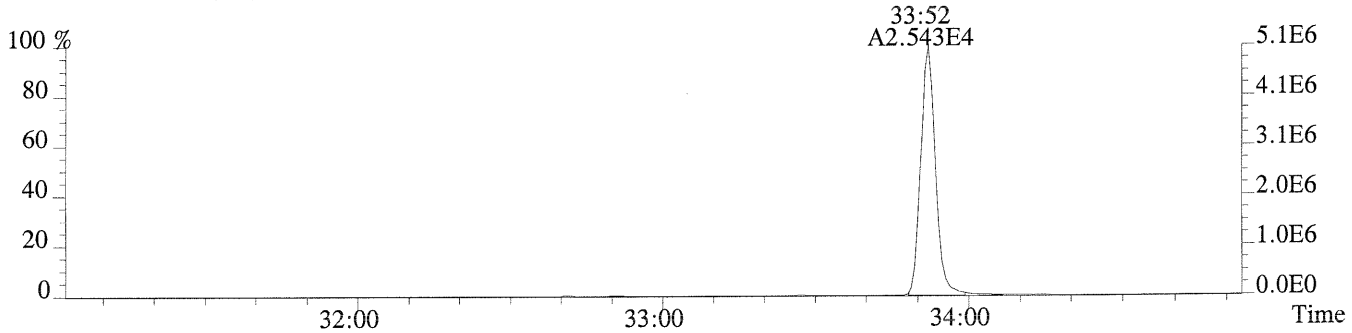
File:U149697 #1-349 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



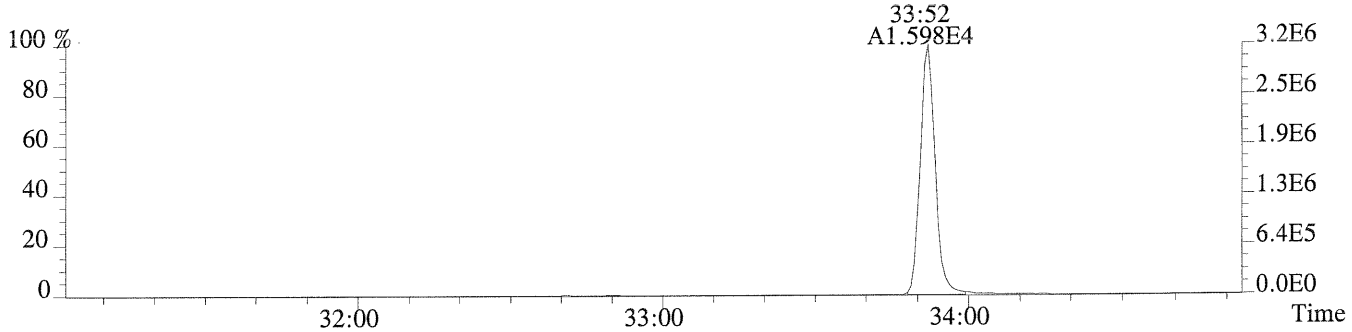
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,T)



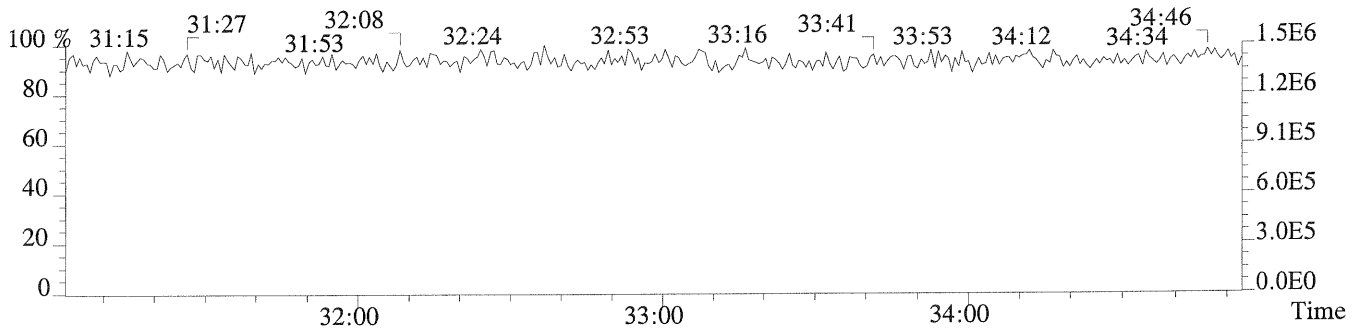
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,560.0,1.00%,F,T)



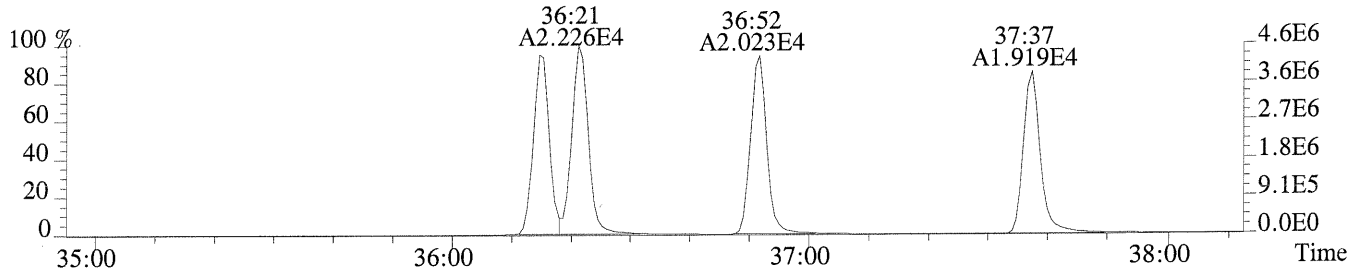
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



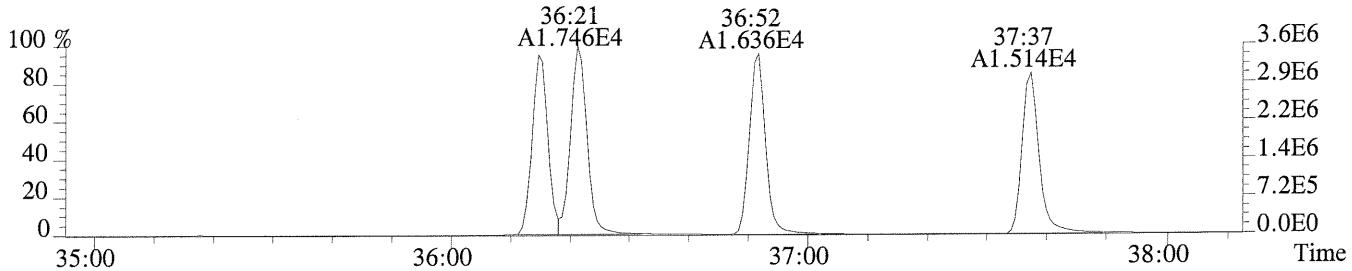
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



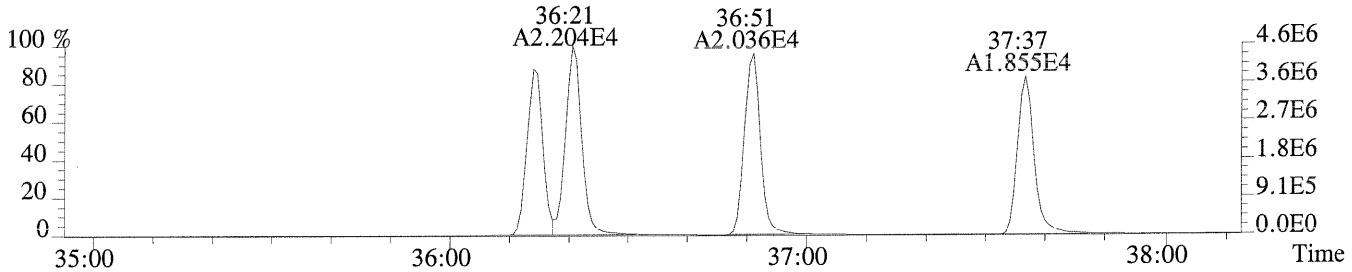
File:U149697 #1-299 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,T)



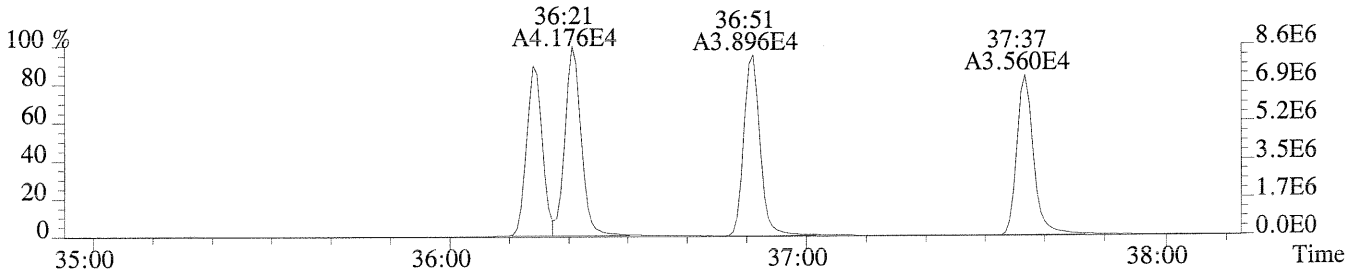
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



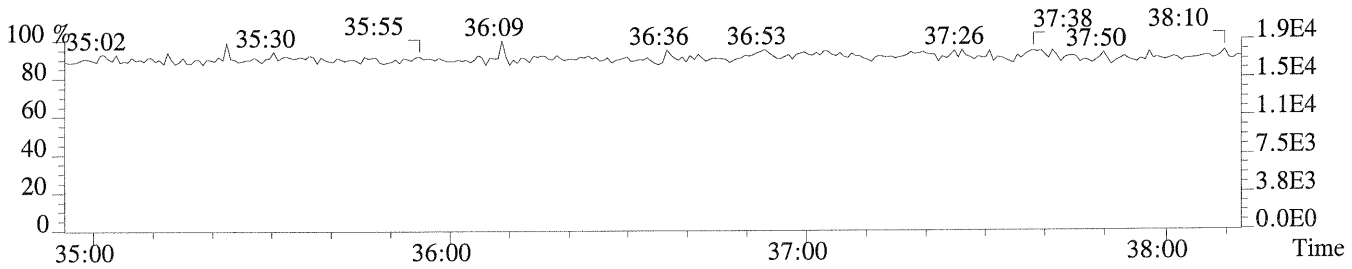
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.40%,F,T)



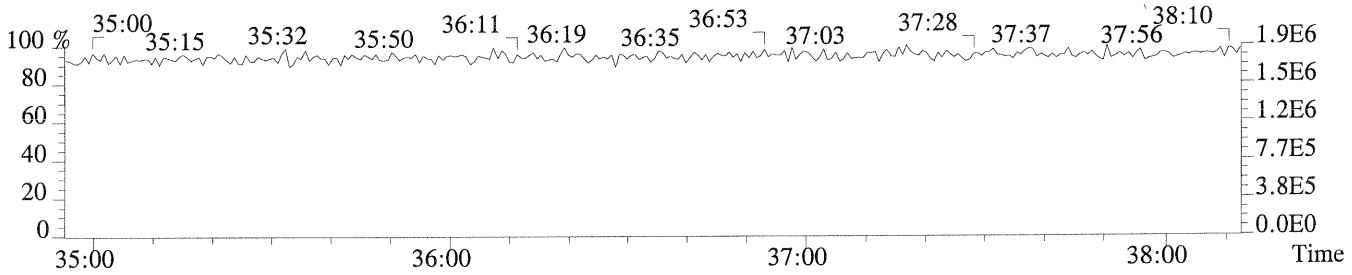
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.40%,F,T)



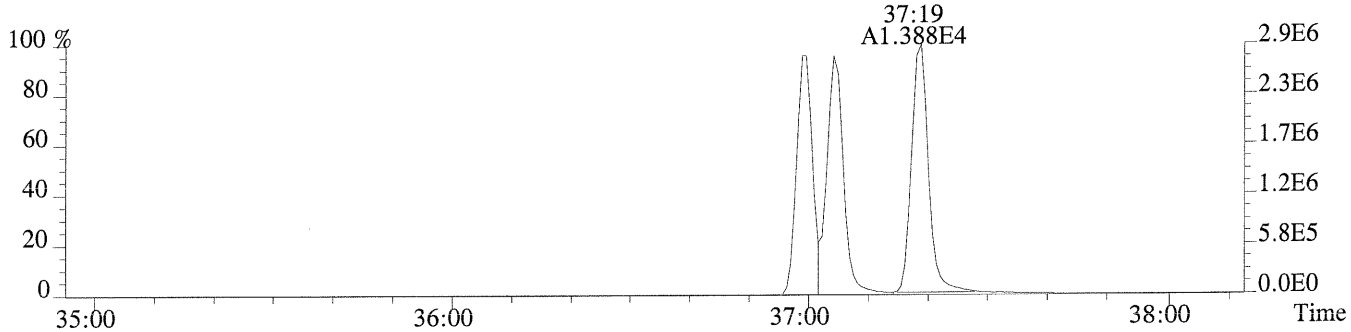
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



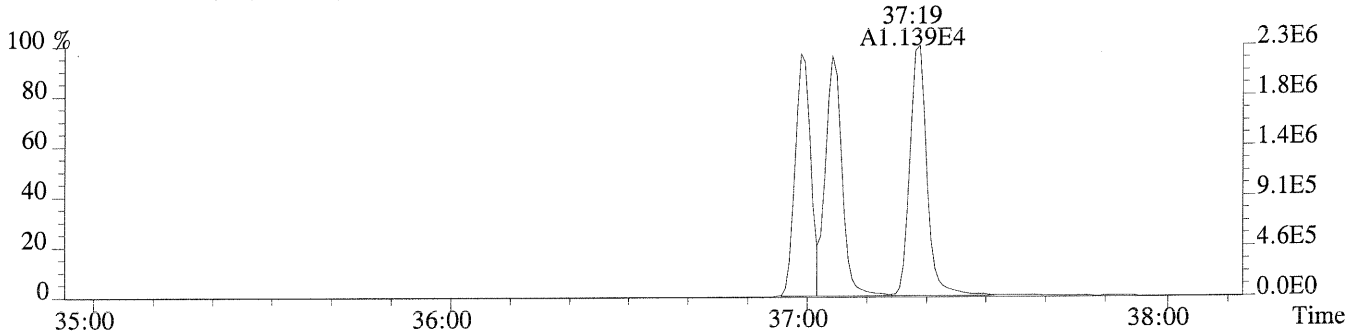
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



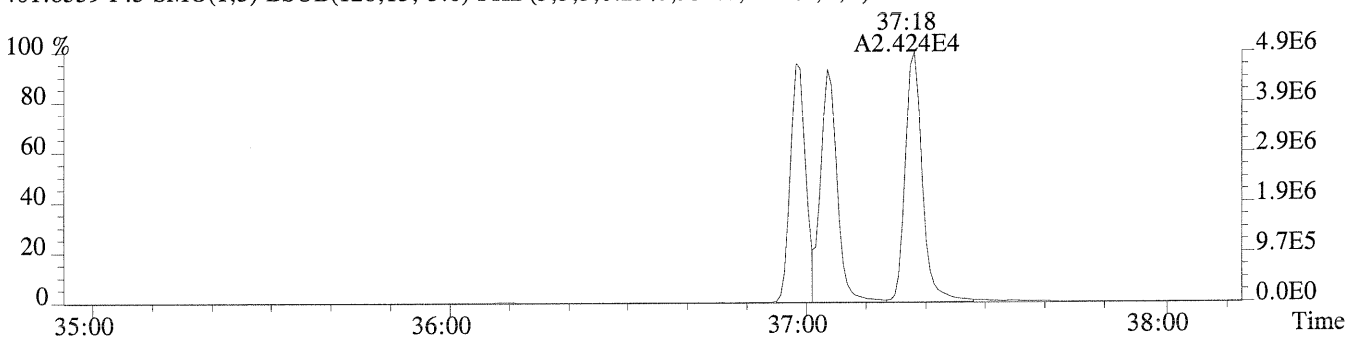
File:U149697 #1-299 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



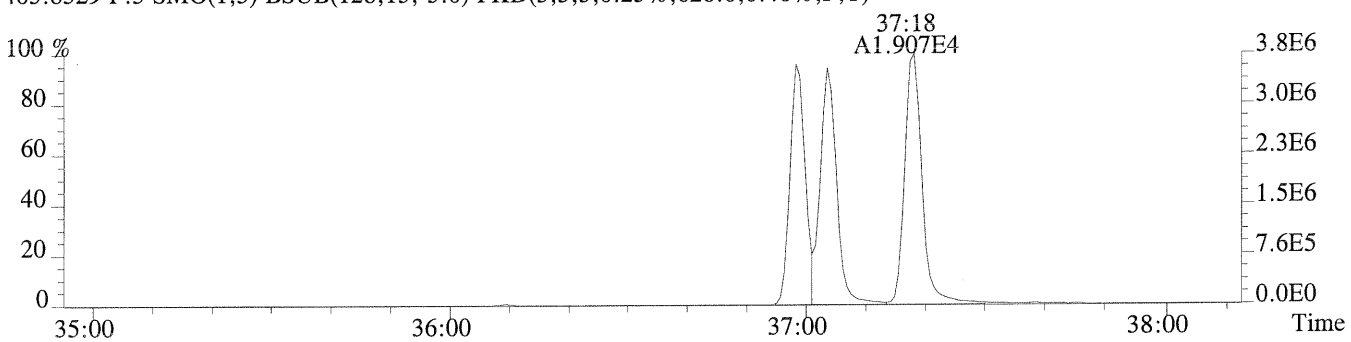
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,536.0,0.40%,F,T)



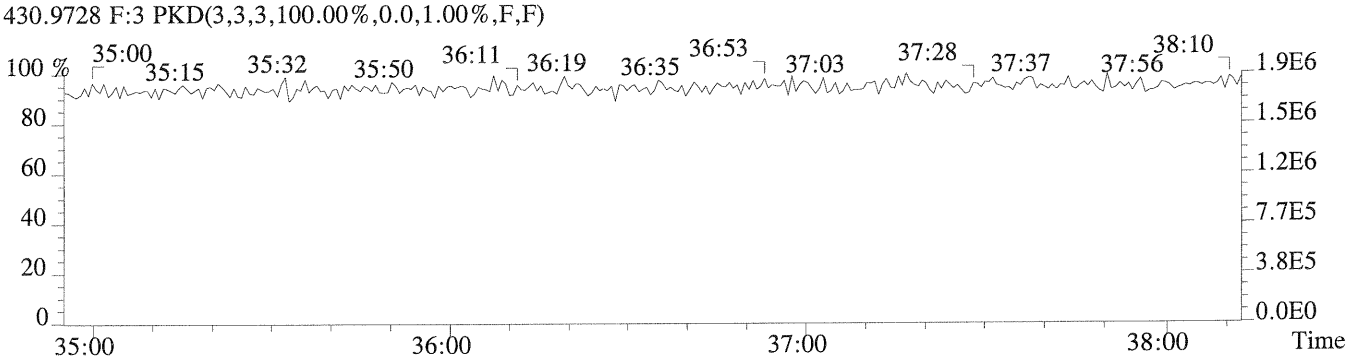
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,T)

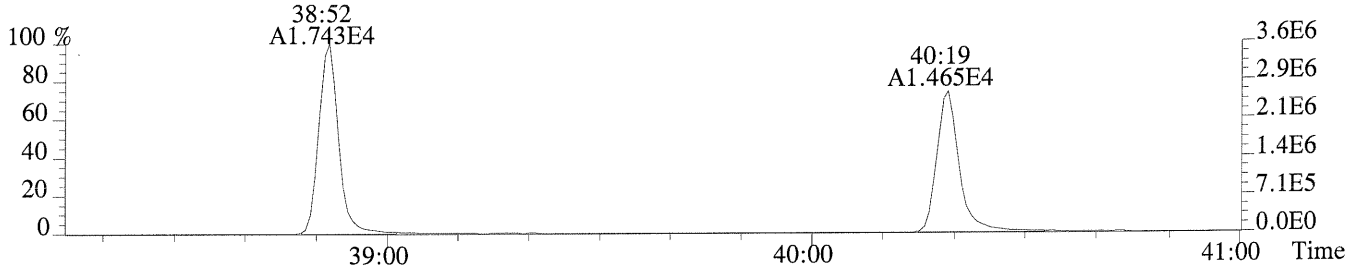


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

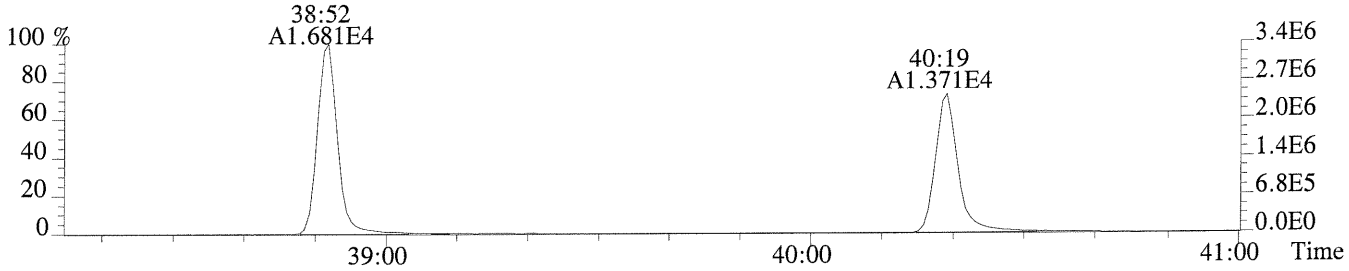


File:U149697 #1-251 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3

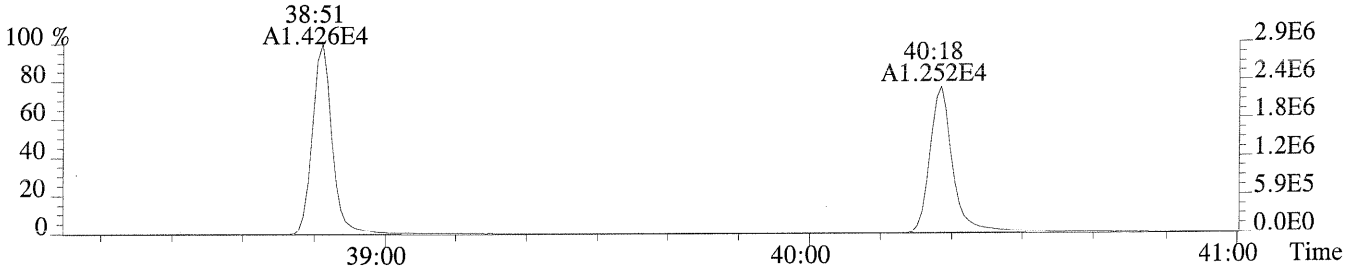
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1716.0,0.50%,F,T)



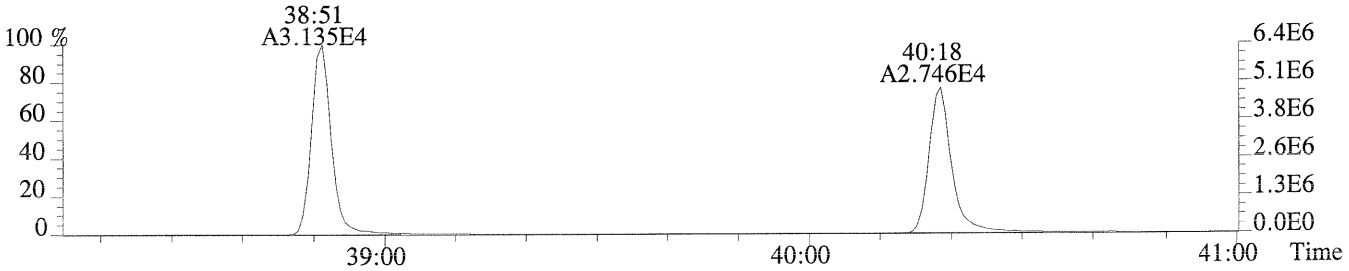
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2272.0,0.50%,F,T)



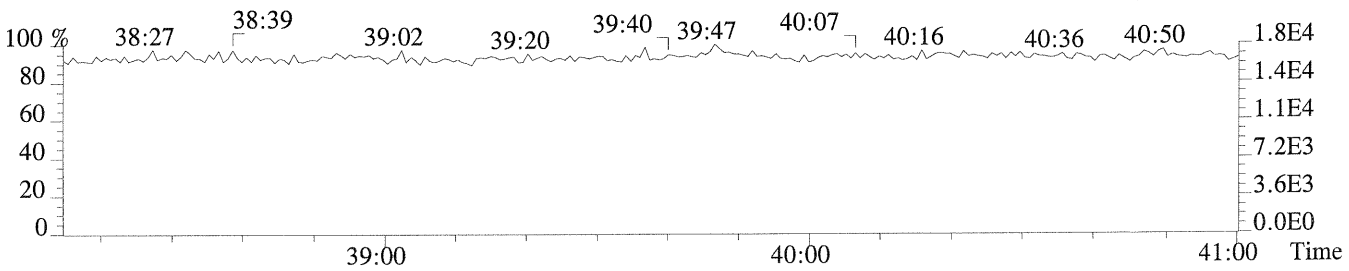
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1588.0,0.50%,F,T)



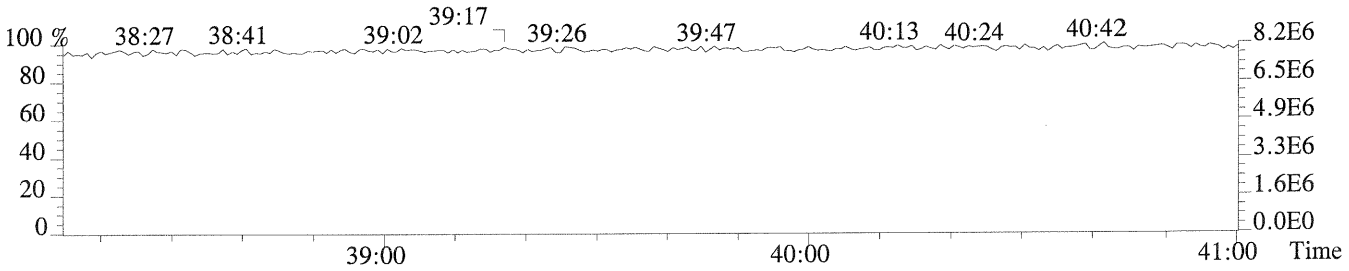
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2996.0,0.50%,F,T)



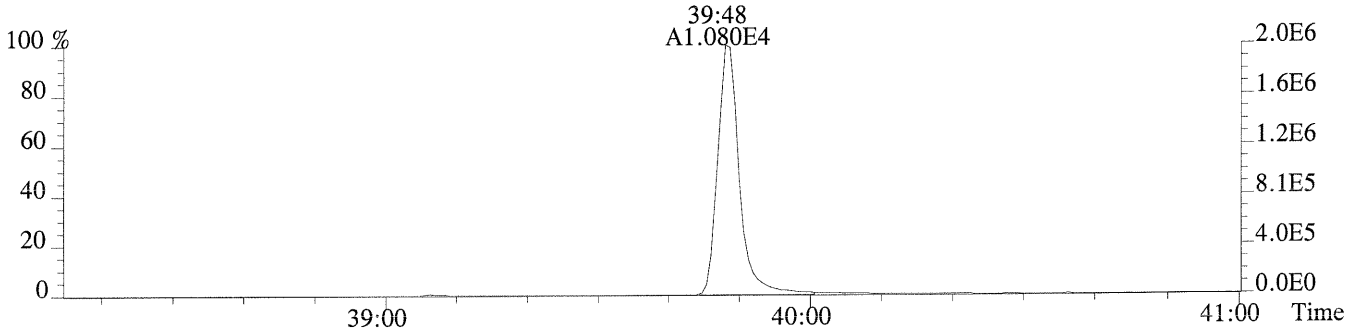
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



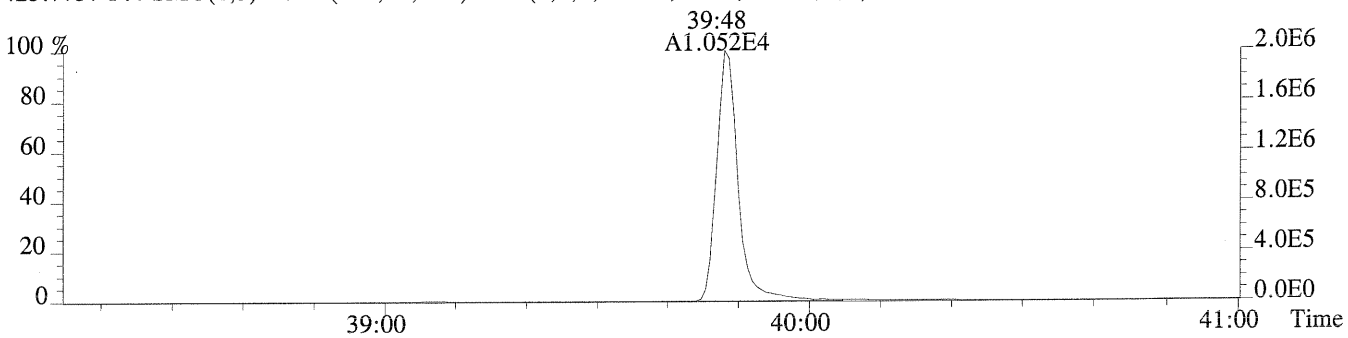
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



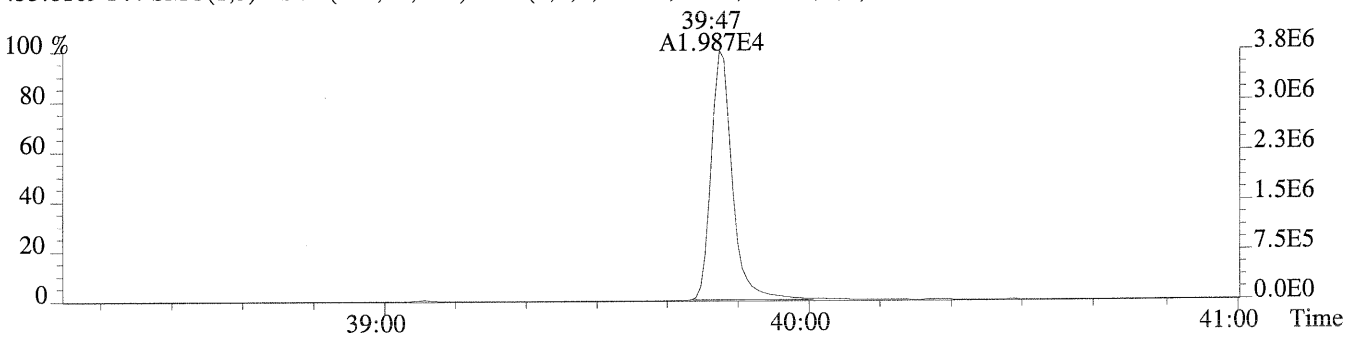
File:U149697 #1-251 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,668.0,0.40%,F,T)



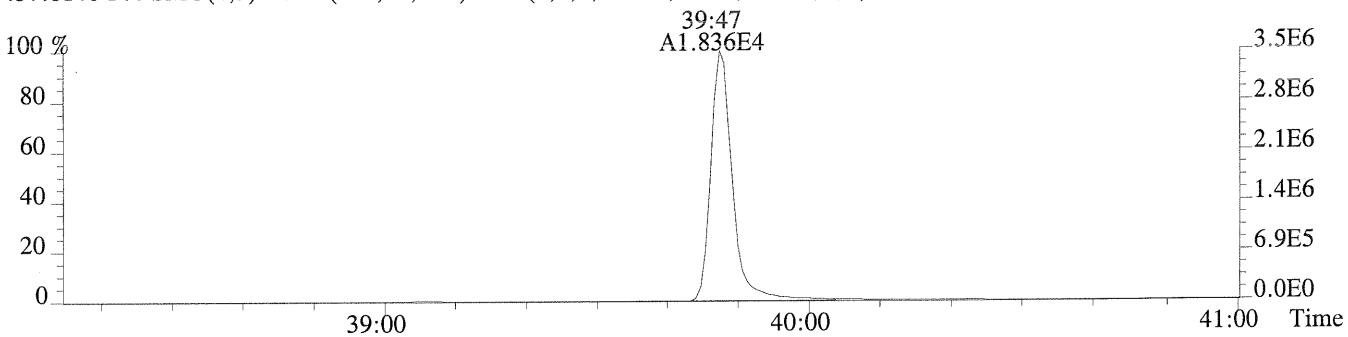
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,592.0,0.40%,F,T)



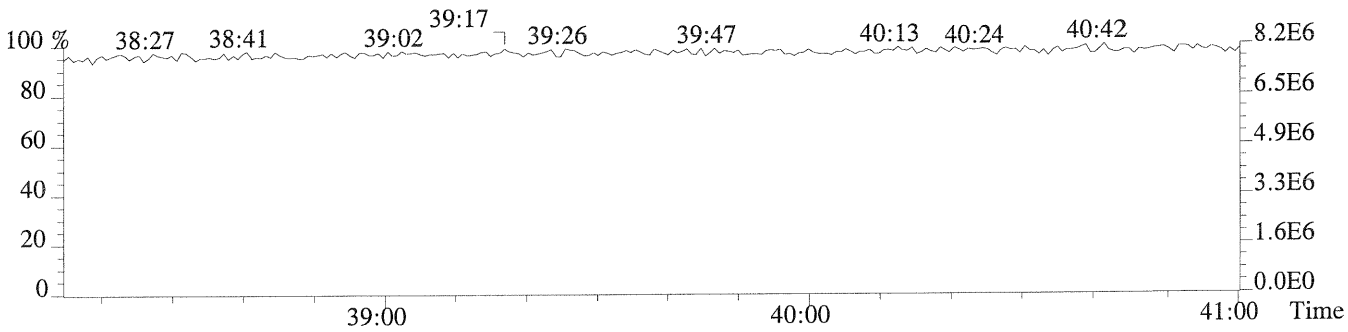
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



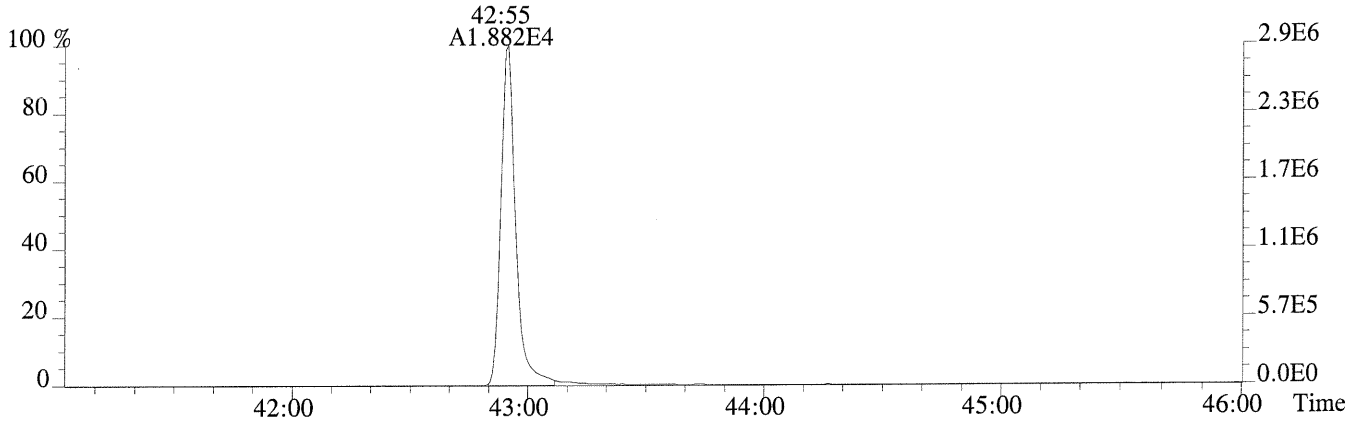
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



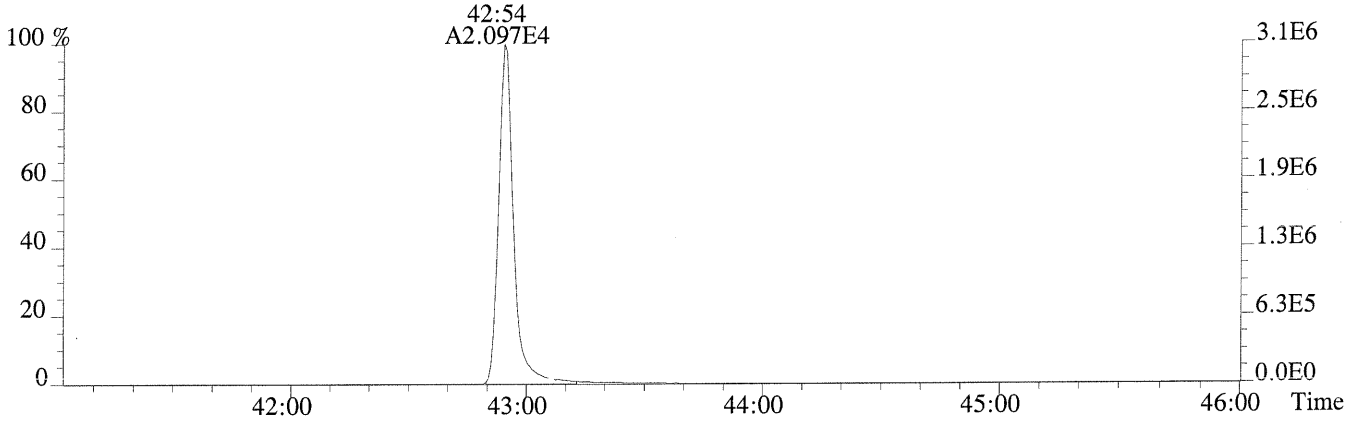
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



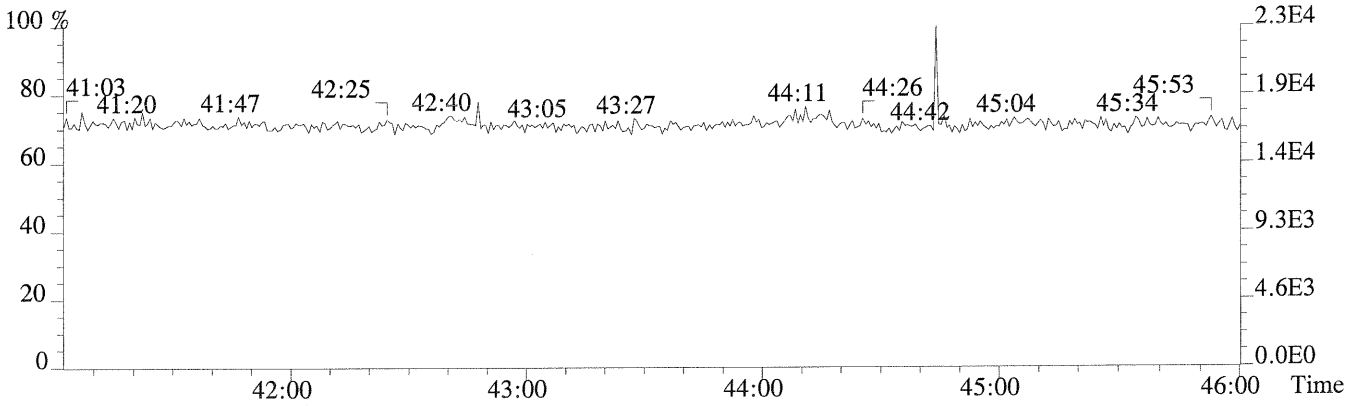
File:U149697 #1-451 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,652.0,0.40%,F,T)



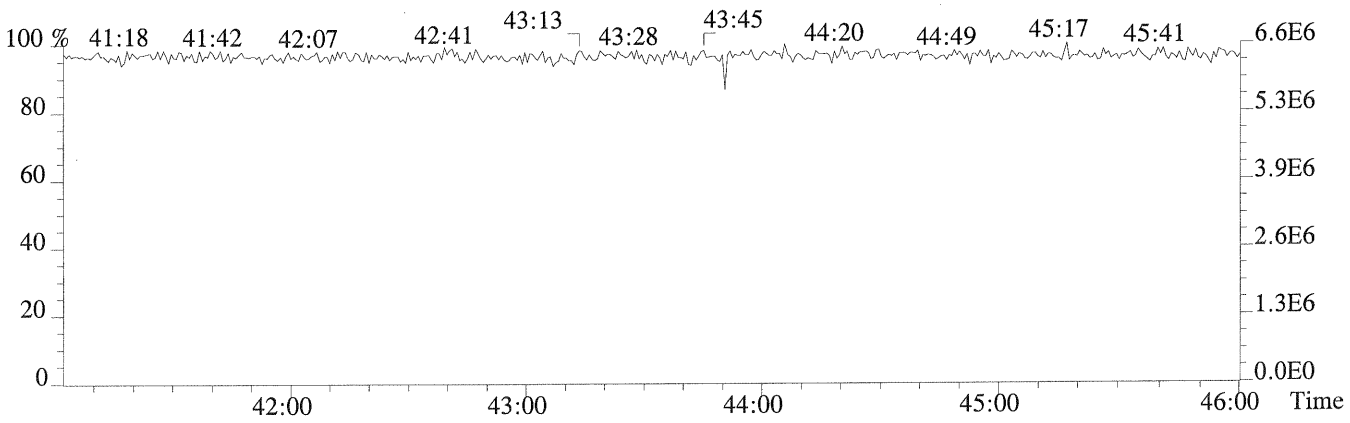
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



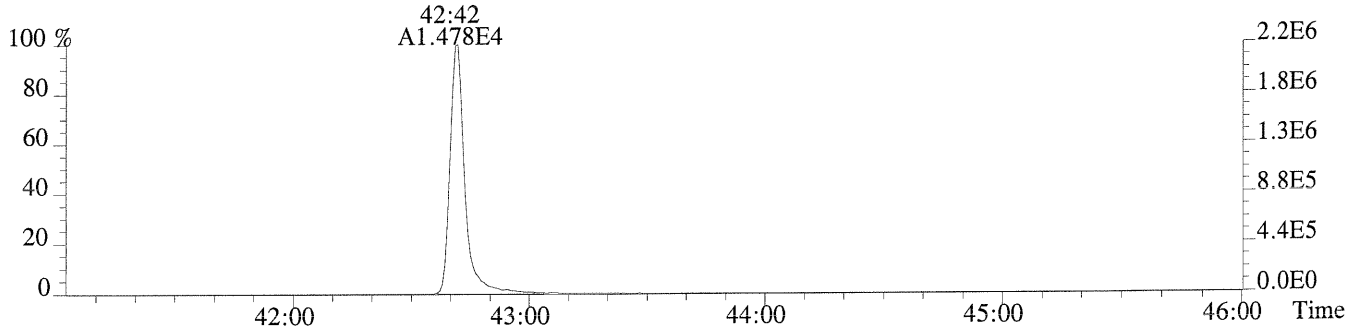
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



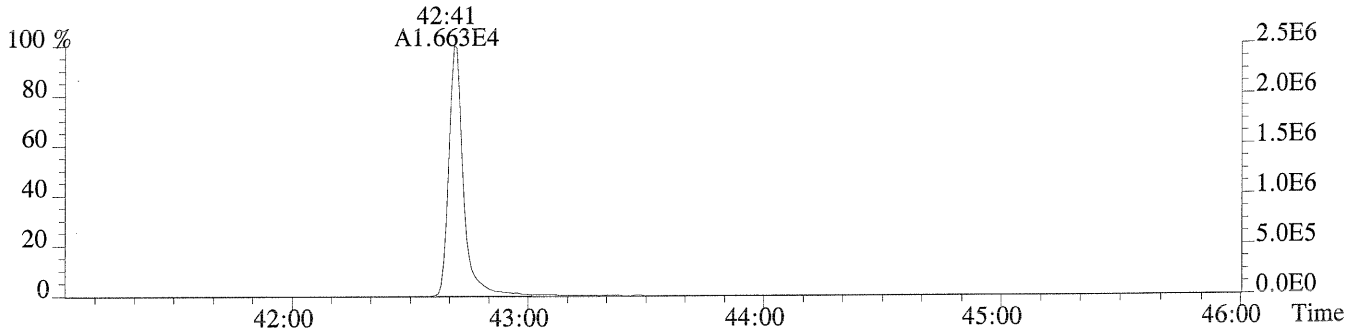
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



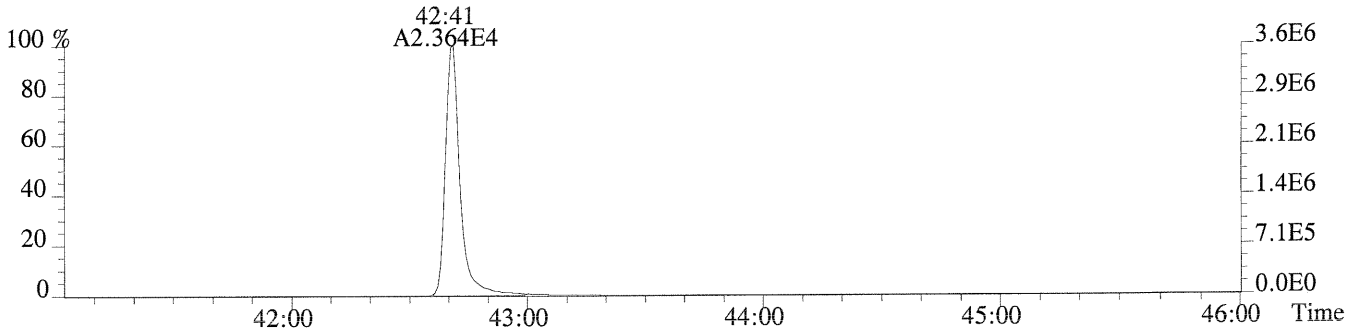
File:U149697 #1-451 Acq:24-JUN-2014 00:42:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,564.0,0.40%,F,T)



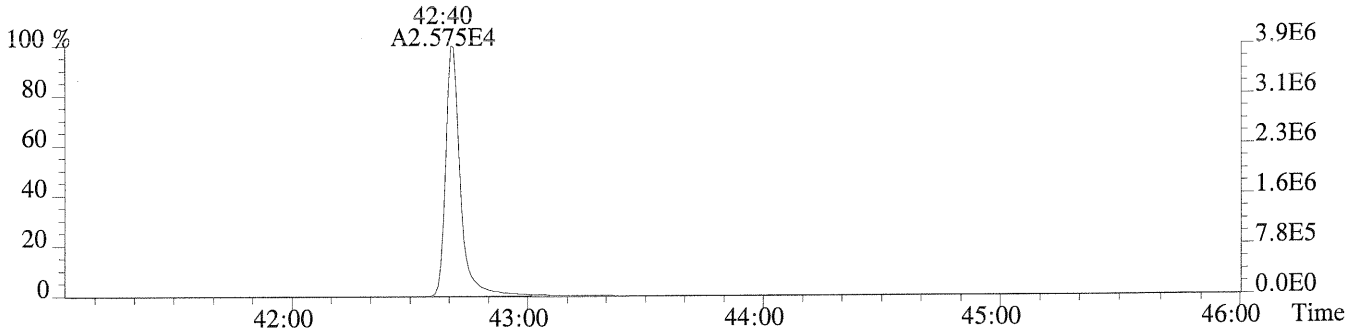
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



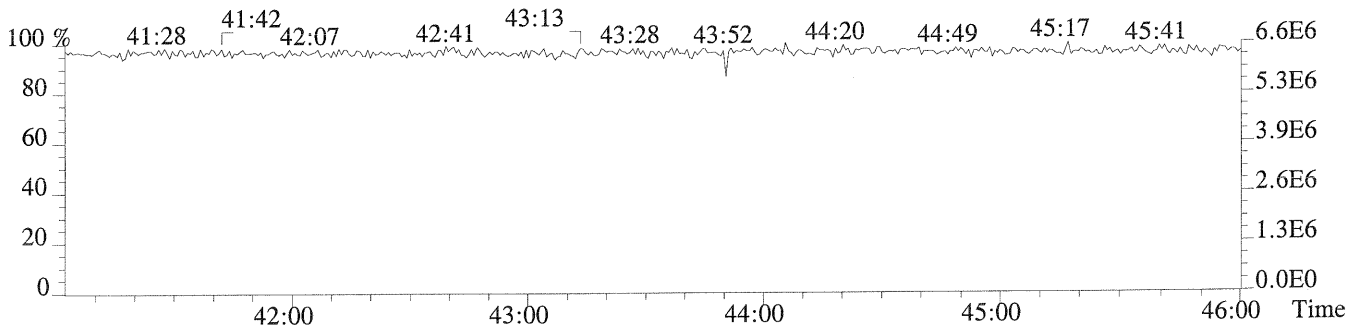
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,468.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,492.0,0.40%,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

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#**
Analytical Sequence					
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				
Mass Resolution Check					
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		
Window Define/209					
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?					
Calibration Standards					
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
Response Factors					
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				
Initial Calibration Verification					
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#[5]	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: P140325161 3I

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 / DB_5MSVI	✓	✓
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: cl 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$_{7}$	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

K1405833

354286598

Sample List Report MassLynx 4.1

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\P1140325.SPL
Last Modified: Wednesday, March 26, 2014 08:12:18 Central Daylight Time
Printed: Wednesday, March 26, 2014 11:19:50 Central Daylight Time

Page Position (1, 1)

P140325163I / P140325 #6 M23I

	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	03/25/14	15:03	P169968	WINDOW DEFINE	63680	LL	HRMS check 16:18	8290cas
2		16:28	P169969	WINDOW DEFINE	63680			8290cas
3		17:22	P169970	ICAL HRCC0.5/CS0.5	66807			8290cas
4		18:10	P169971	ICAL HRCC1/CS1	66798			8290cas
5		18:58	P169972	ICAL HRCC2/CS2	D12-90-3B			8290cas
6		19:46	P169973	ICAL HRCC3/CS3	63383			8290cas
7		20:34	P169974	ICAL HRCC4/CS4	D12-90-3D			8290cas
8		21:22	P169975	ICAL HRCC5/CS5	66799			8290cas
9		22:10	P169976	ICV2ND SOURCE	60287			8290cas
10		22:58	P169977	STD	D12-5-1B		HRMS check 07:35	8290cas
11			---	---	---			8290cas
12			---	---	---			8290cas
13			---	---	---			8290cas
14			---	---	---			8290cas
15			---	---	---			8290cas
16			---	---	---			8290cas
17			---	---	---			8290cas
18			---	---	---			8290cas
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22			---	---	---			8290cas
23			---	---	---			8290cas
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29			---	---	---			8290cas
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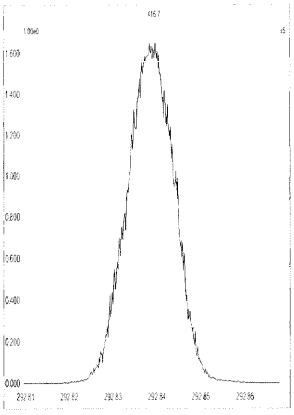
33			---	---	---			8290cas
34			---	---	---			8290cas
35	---	---	---	---	Reviewed By: lee	---	---	8290cas
36	---	---	---	---	---	---	---	8290cas
37	---	---	---	---	---	---	---	8290cas
38	---	---	---	---	---	---	---	8290cas
39	---	---	---	---	---	---	---	8290cas

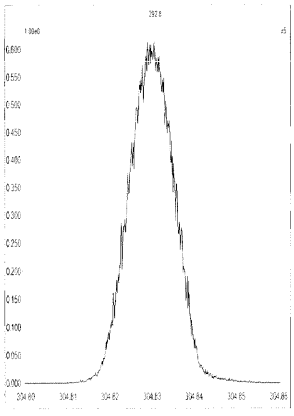
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:18:56 Central Daylight Time

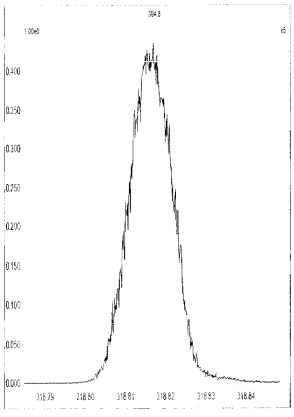
M 292.9824 R 12370



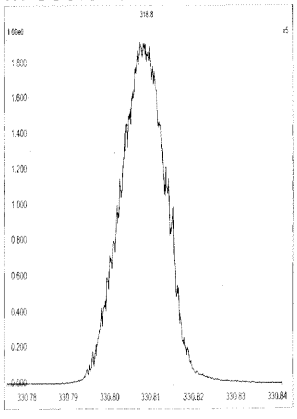
M 304.9824 R 12891



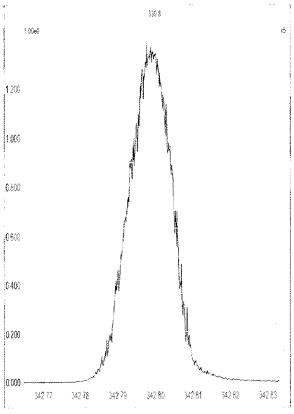
M 318.9792 R 13663



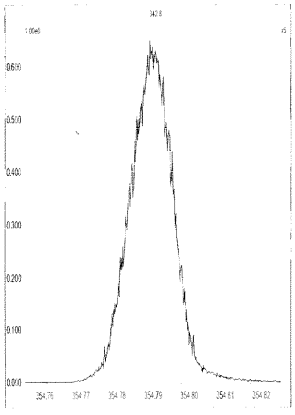
M 330.9792 R 13736



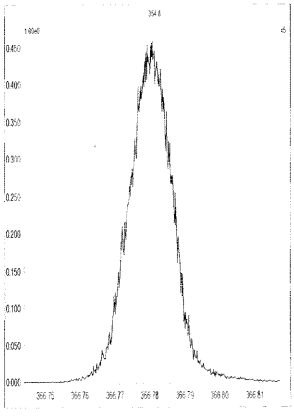
M 342.9792 R 13092



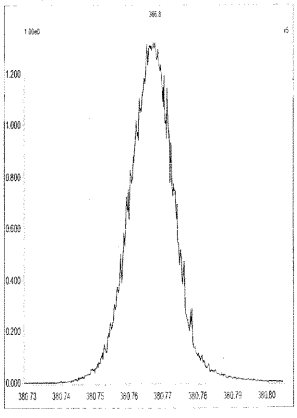
M 354.9792 R 13228



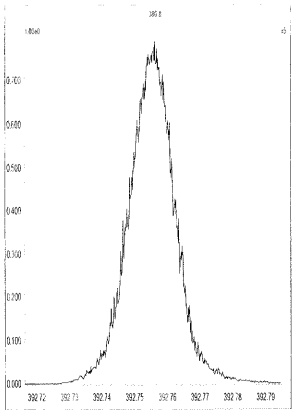
M 366.9792 R 12441



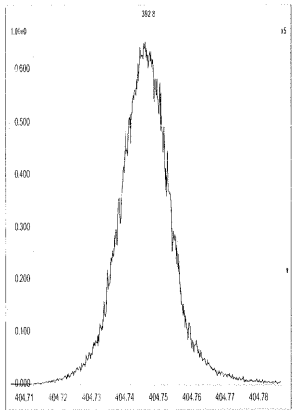
M 380.9760 R 12192



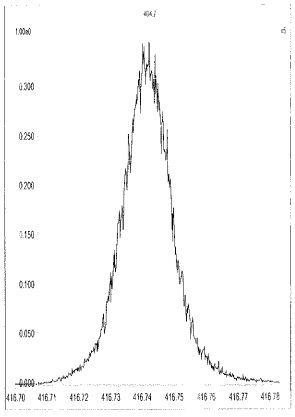
M 392.9760 R 11363



M 404.9760 R 10462



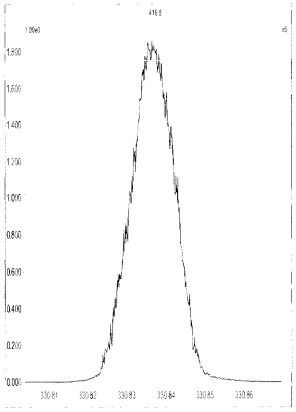
M 416.9760 R 10204



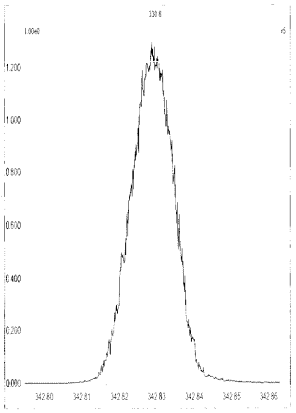
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:20:42 Central Daylight Time

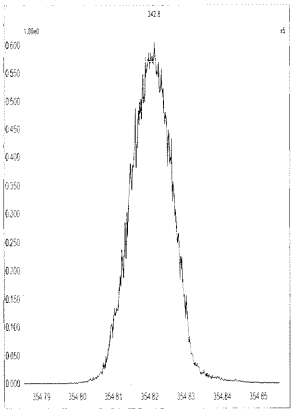
M 330.9792 R 13090



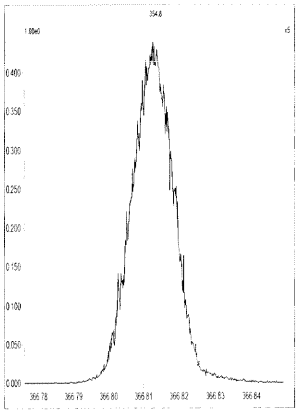
M 342.9792 R 13439



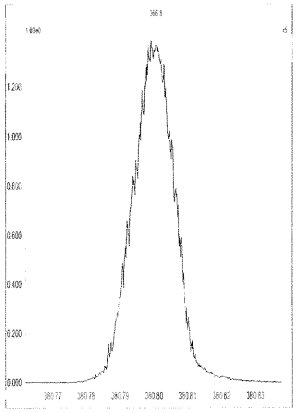
M 354.9792 R 13663



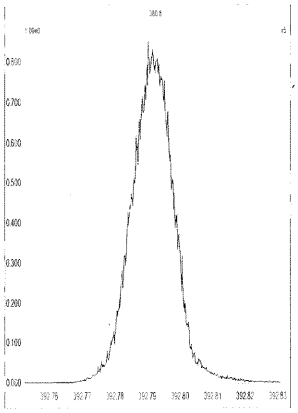
M 366.9792 R 13811



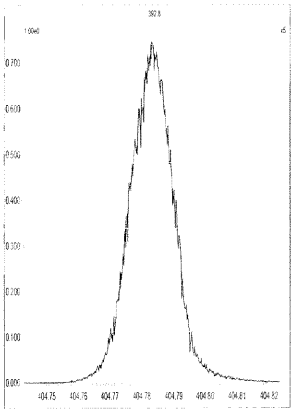
M 380.9760 R 14122



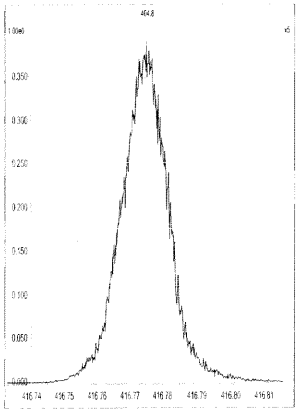
M 392.9760 R 13370



M 404.9760 R 12630



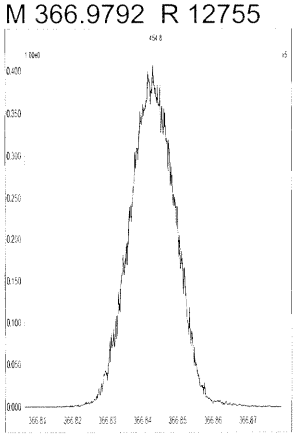
M 416.9760 R 11906



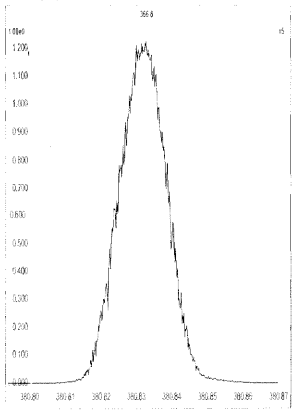
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:21:56 Central Daylight Time

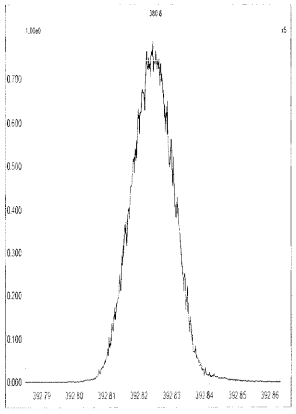
M 366.9792 R 12755



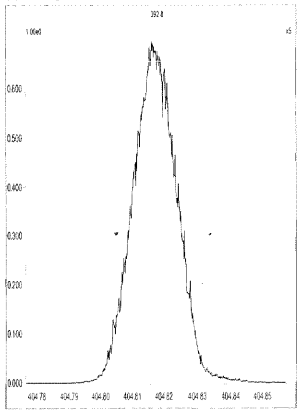
M 380.9760 R 13025



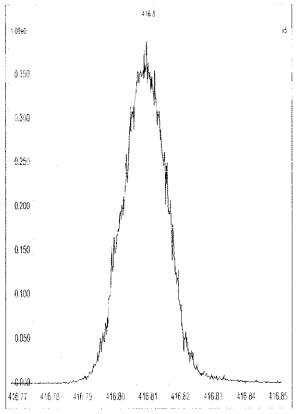
M 392.9760 R 13299



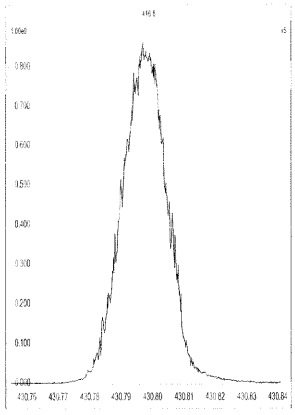
M 404.9760 R 13297



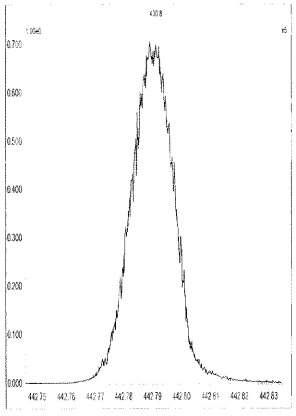
M 416.9760 R 13225



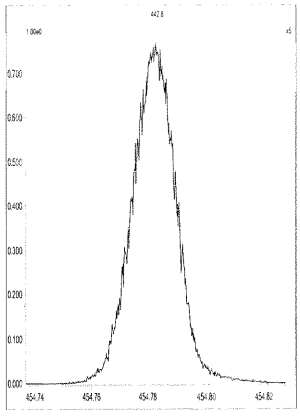
M 430.9728 R 13370



M 442.9728 R 12819



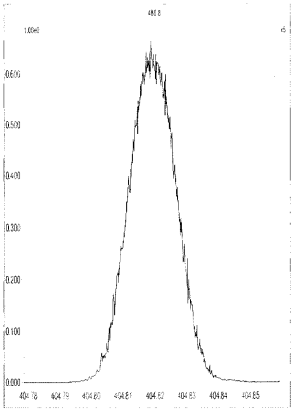
M 454.9728 R 13018



File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, March 25, 2014 16:23:14 Central Daylight Time

M 404.9760 R 12136



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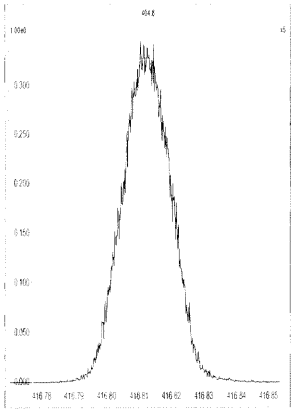
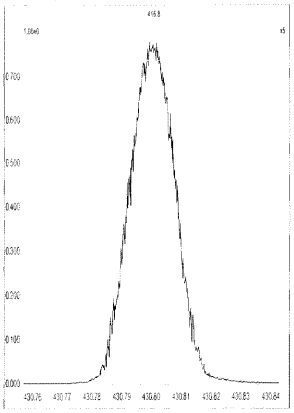
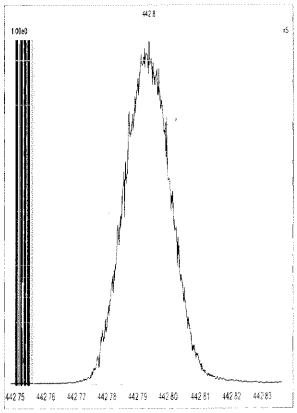


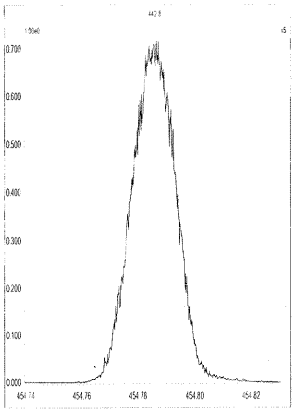
M 430.9728 R 13370



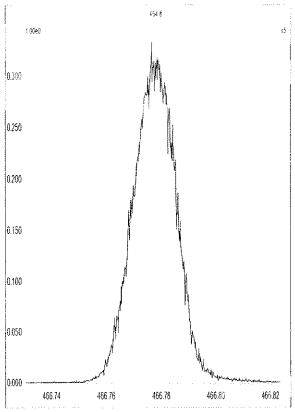
M 442.9728 R 13513



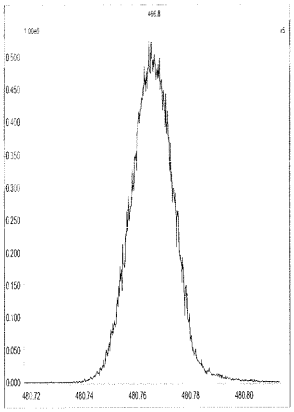
M 454.9728 R 13018



M 466.9728 R 13089



M 480.9696 R 13092

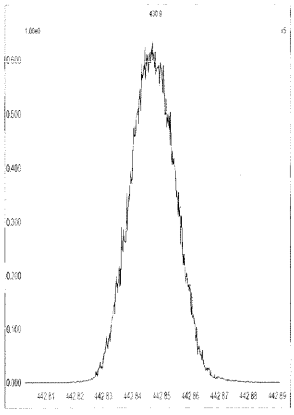


File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

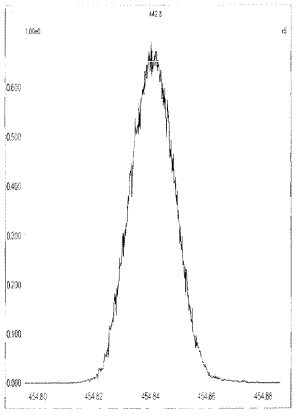
Printed: Tuesday, March 25, 2014 16:24:15 Central Daylight Time

M 430.9728 R 12021

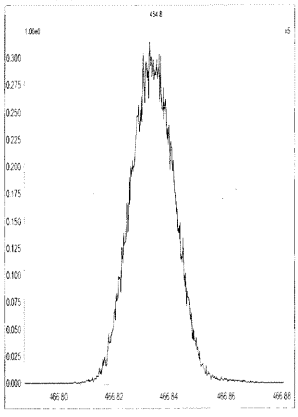
M 442.9728 R 12627



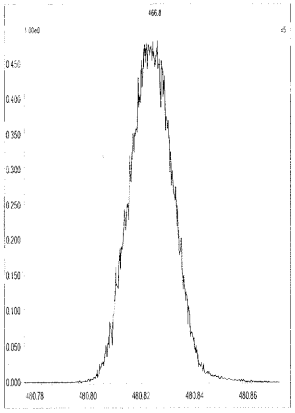
M 454.9728 R 12689



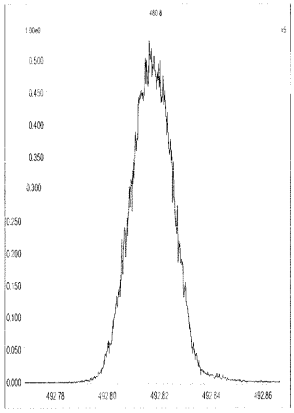
M 466.9728 R 12818



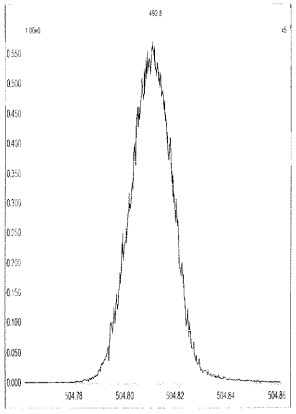
M 480.9696 R 13587



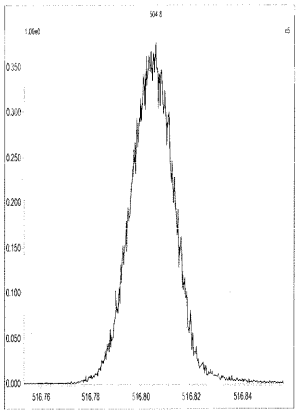
M 492.9696 R 13226



M 504.9696 R 12950



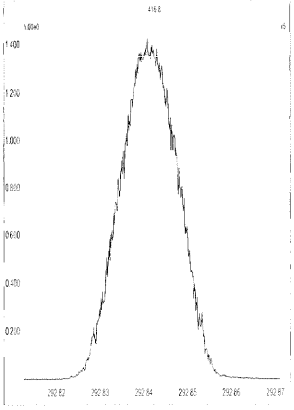
M 516.9697 R 13161



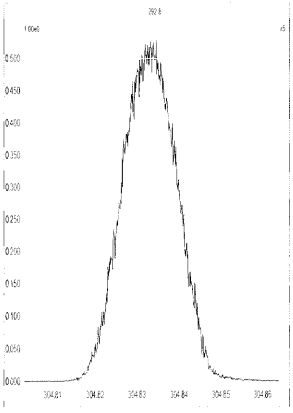
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:35:40 Central Daylight Time

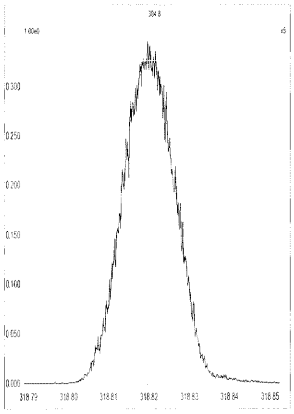
M 292.9824 R 10368



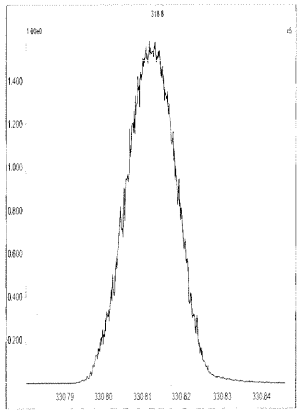
M 304.9824 R 10682



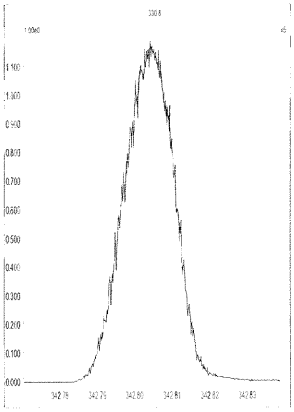
M 318.9792 R 11314



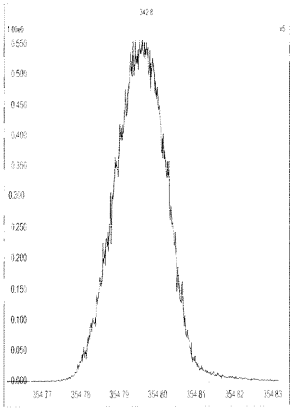
M 330.9792 R 11520



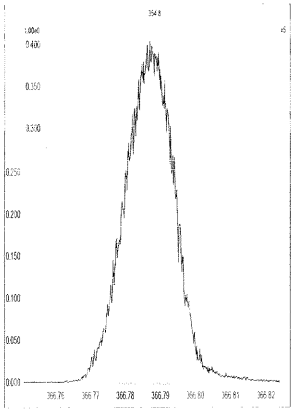
M 342.9792 R 11740



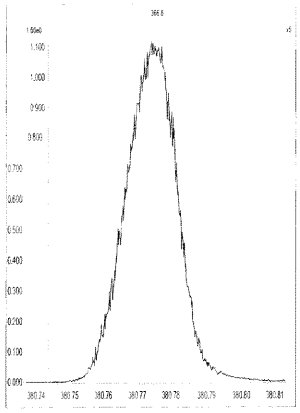
M 354.9792 R 11628



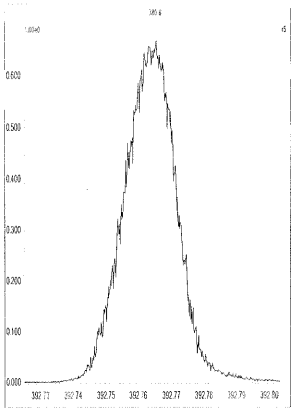
M 366.9792 R 11735



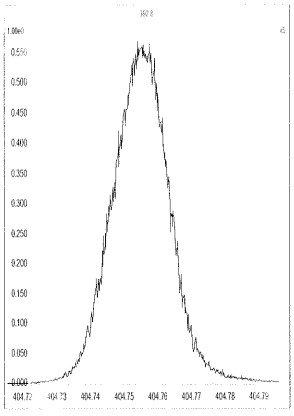
M 380.9760 R 11576



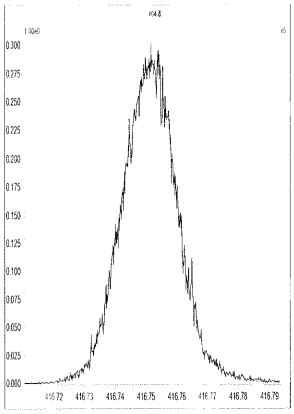
M 392.9760 R 11111



M 404.9760 R 10546



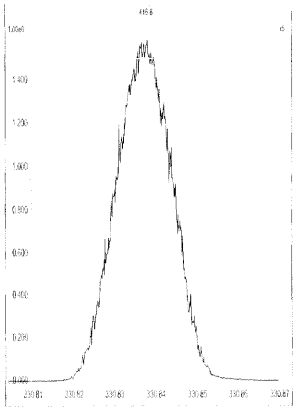
M 416.9760 R 10000



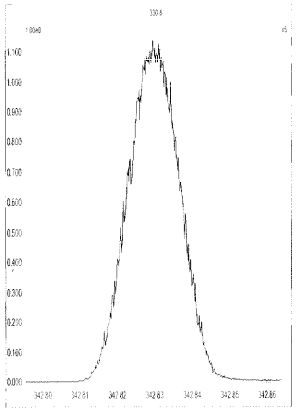
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:36:50 Central Daylight Time

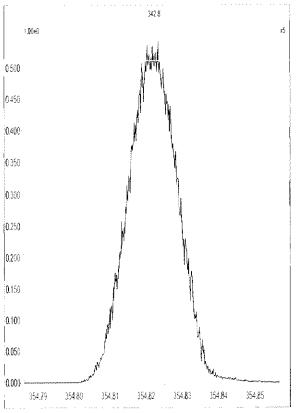
M 330.9792 R 10965



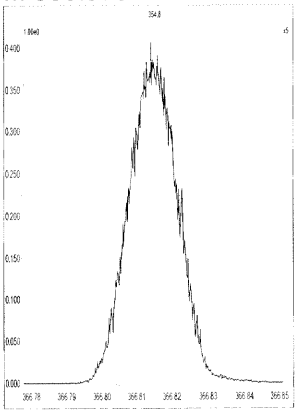
M 342.9792 R 11109



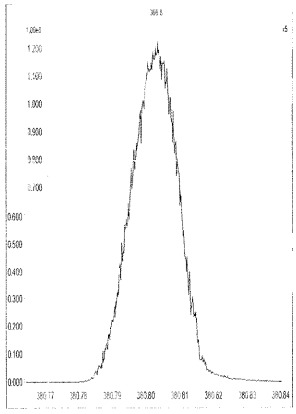
M 354.9792 R 11963



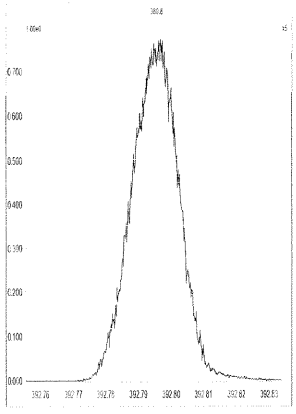
M 366.9792 R 11904



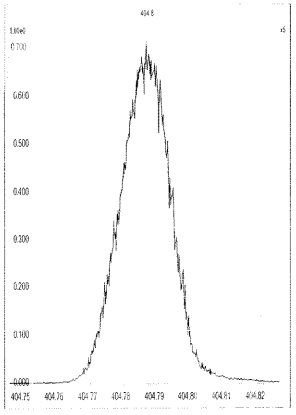
M 380.9760 R 12313



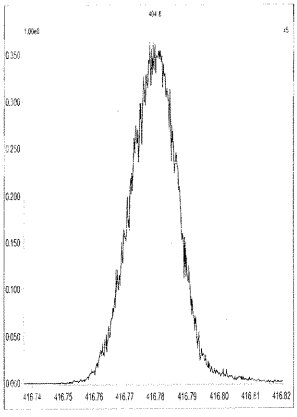
M 392.9760 R 12438



M 404.9760 R 12018



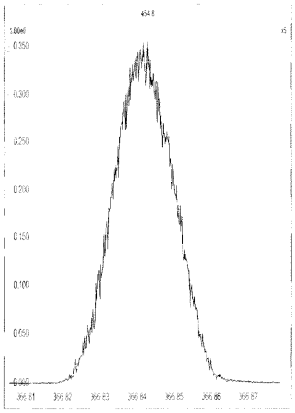
M 416.9760 R 11906



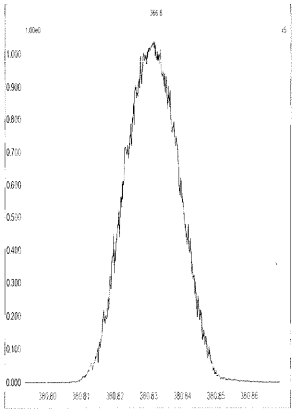
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:37:59 Central Daylight Time

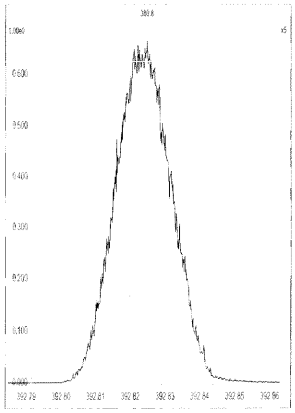
M 366.9792 R 10374



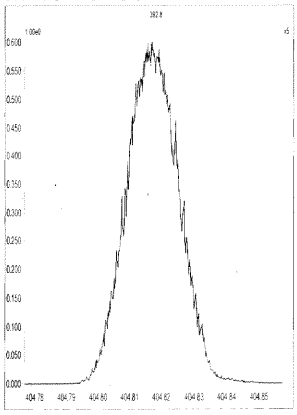
M 380.9760 R 10728



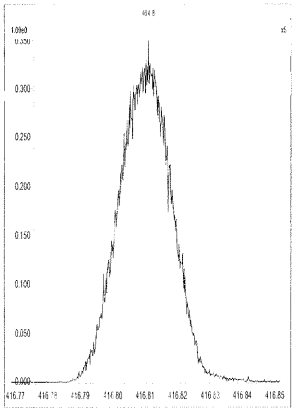
M 392.9760 R 11014



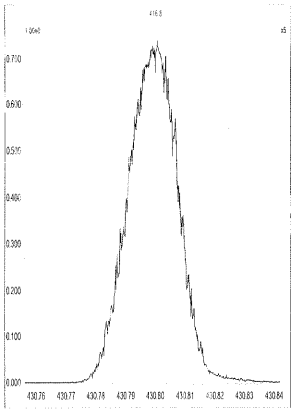
M 404.9760 R 11415



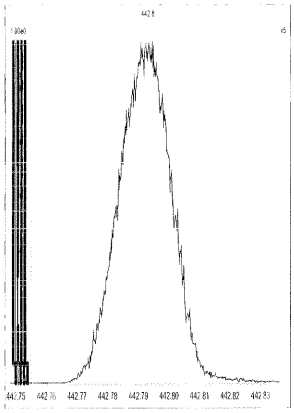
M 416.9760 R 11680



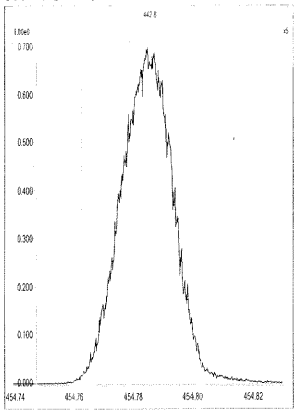
M 430.9728 R 11849



M 442.9728 R 12194



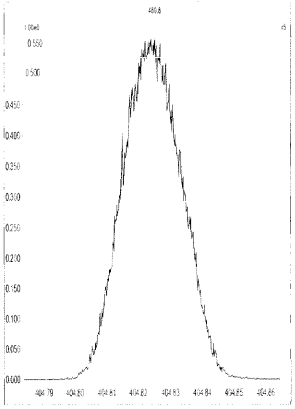
M 454.9728 R 12079



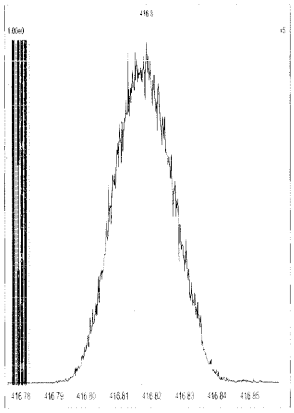
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:38:59 Central Daylight Time

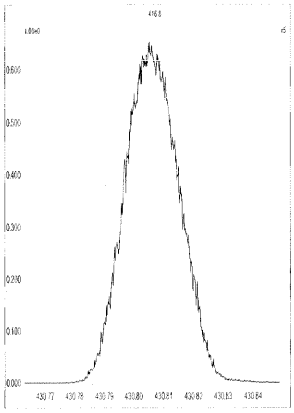
M 404.9760 R 10040



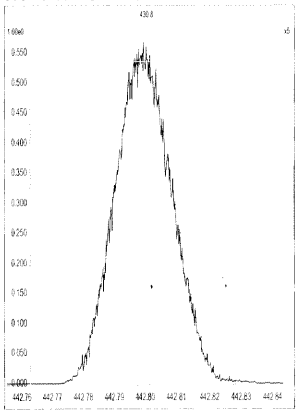
M 416.9760 R 10286



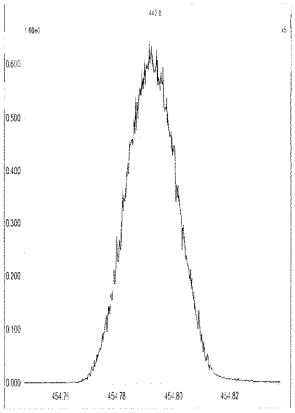
M 430.9728 R 10962



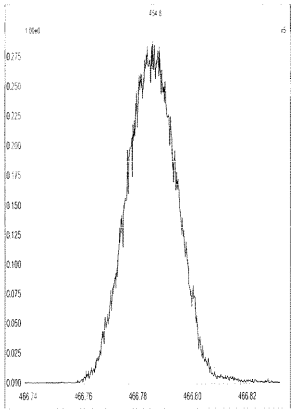
M 442.9728 R 10916



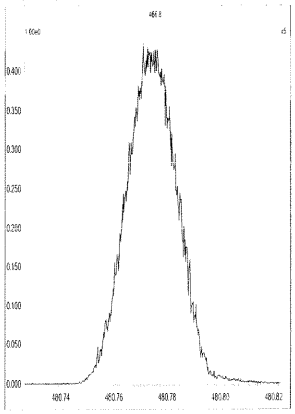
M 454.9728 R 11259



M 466.9728 R 11312



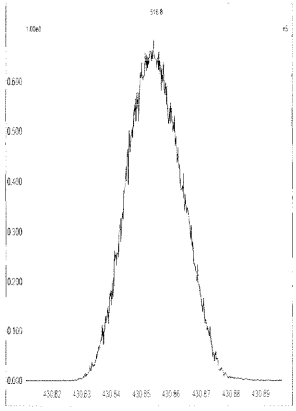
M 480.9696 R 11520



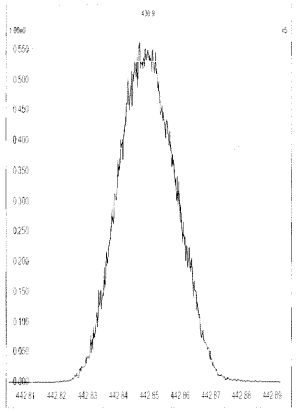
File: Experiment: 8290DB5MSUIF1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, March 26, 2014 07:43:00 Central Daylight Time

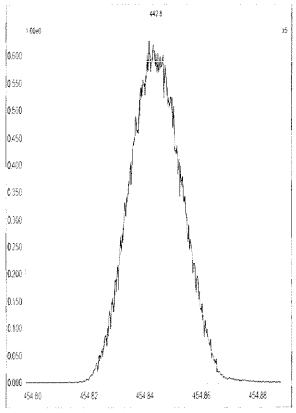
M 430.9728 R 10415



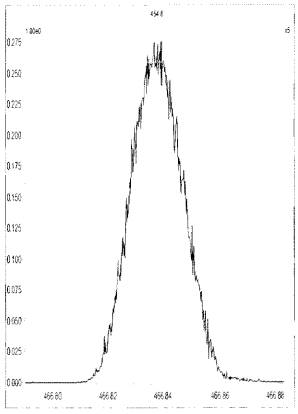
M 442.9728 R 10414



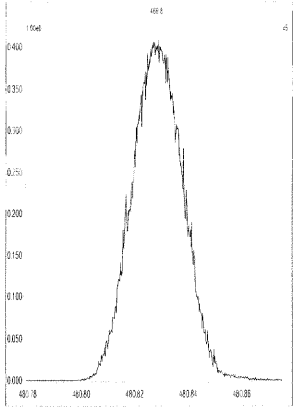
M 454.9728 R 10822



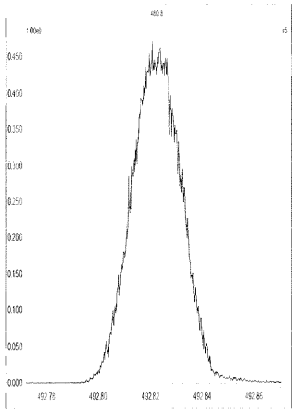
M 466.9728 R 11262



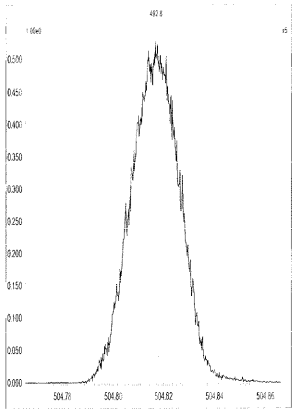
M 480.9696 R 11468



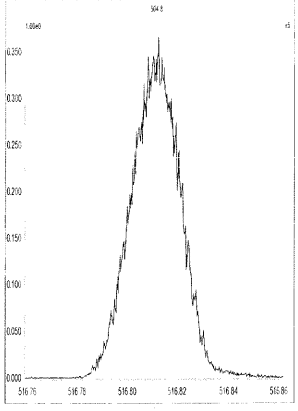
M 492.9696 R 11630



M 504.9696 R 11734



M 516.9697 R 11740



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

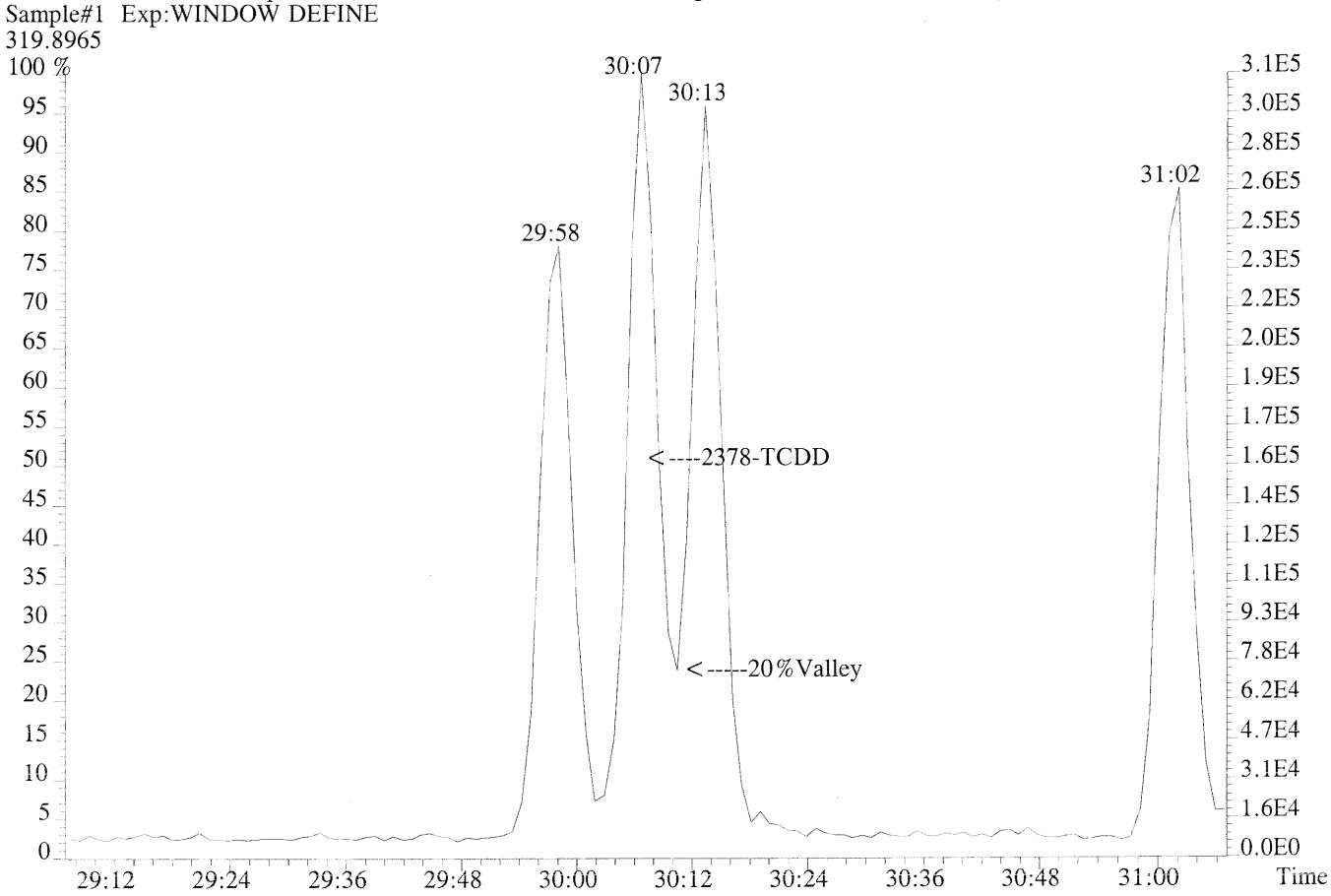
WDM

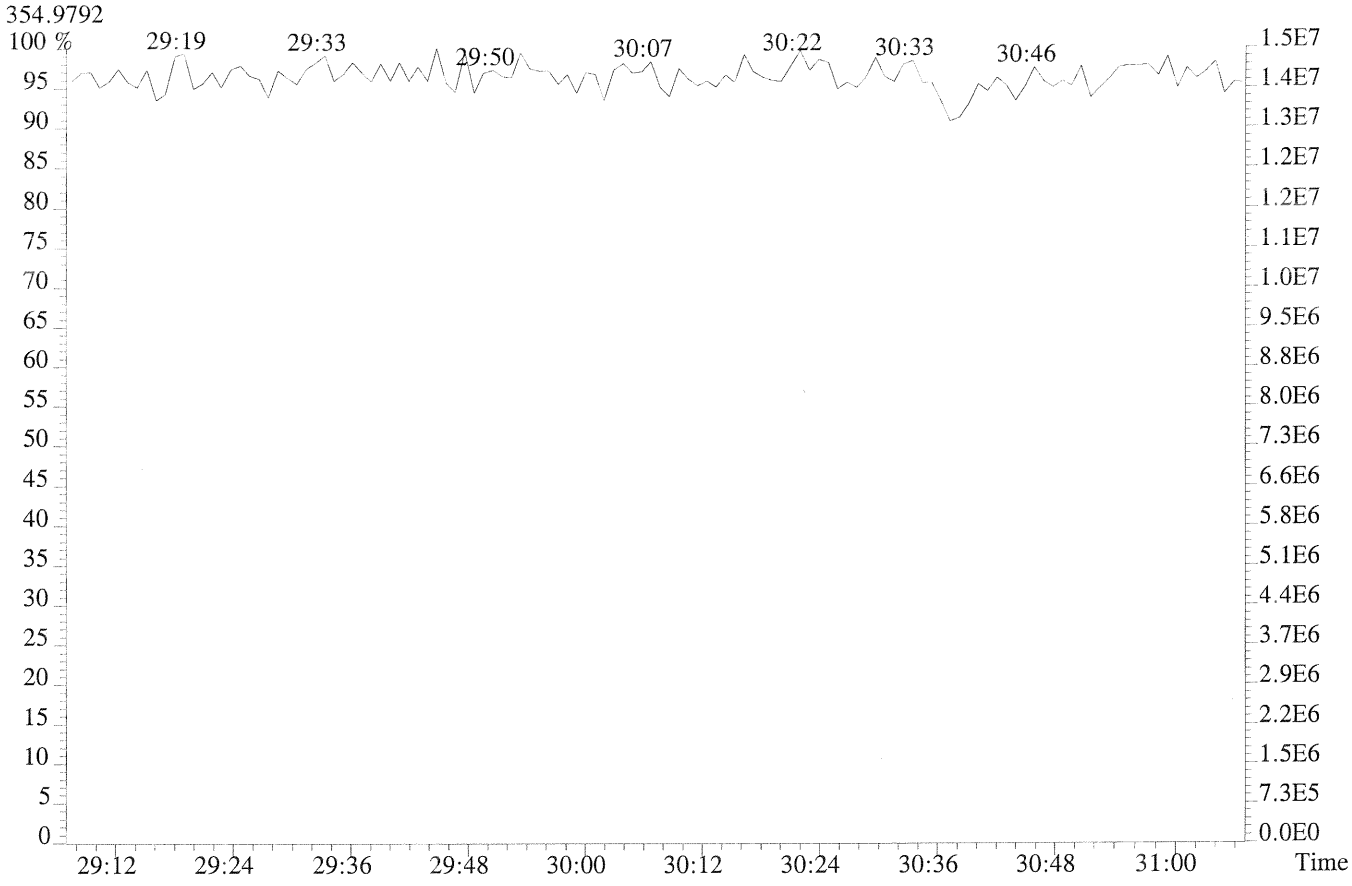
Lab Name: ALS ENVIRONMENTAL
Lab Code: TX01411 Case No.: _____ SDG No.:
GC Column: DB-5msUI ID: 0.25 (mm) Lab File ID: P169969
Date Analyzed: 25-MAR-2014
Time Analyzed: 16:28:21

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 %

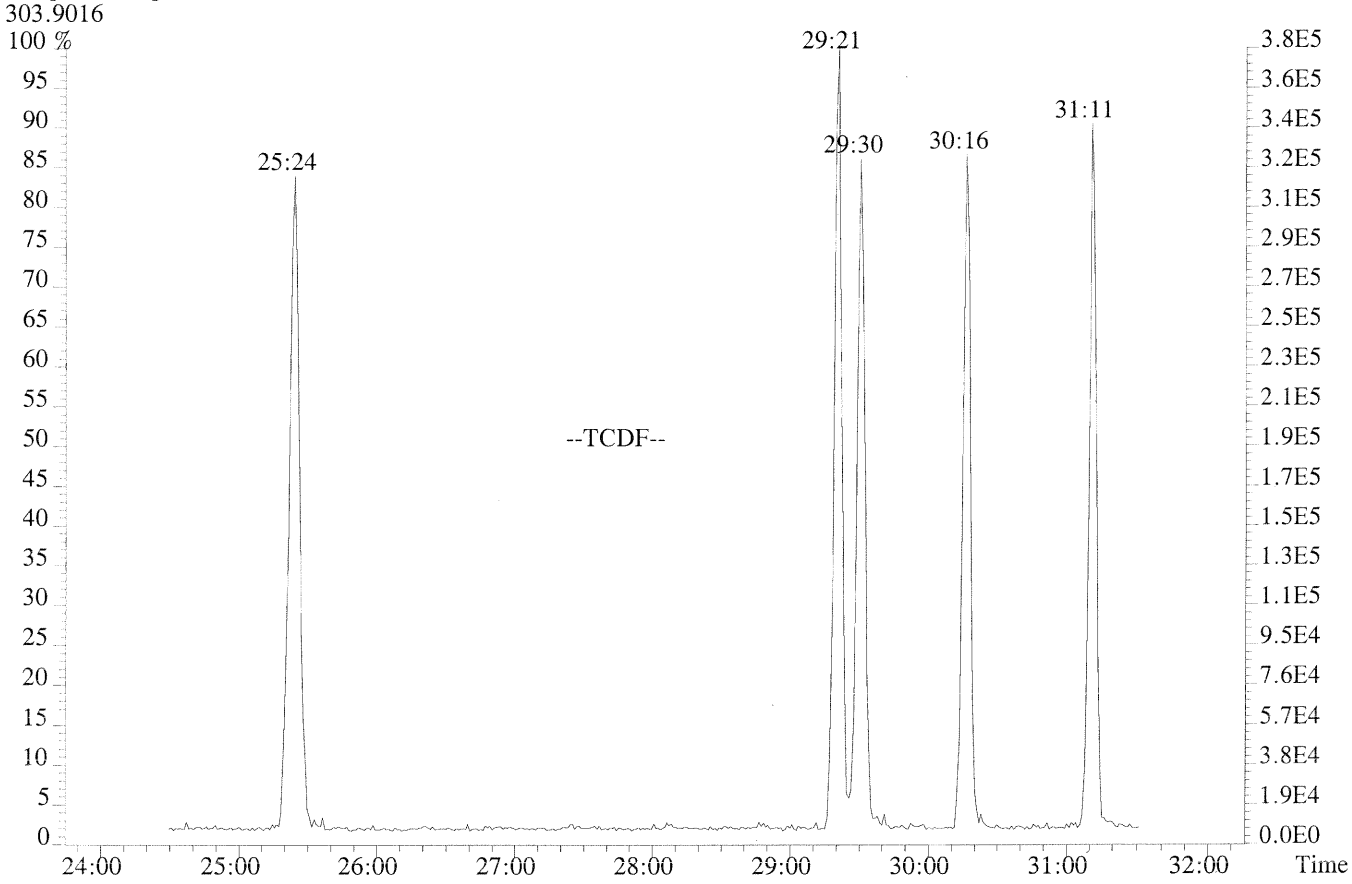
File:P169969 #1-442 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



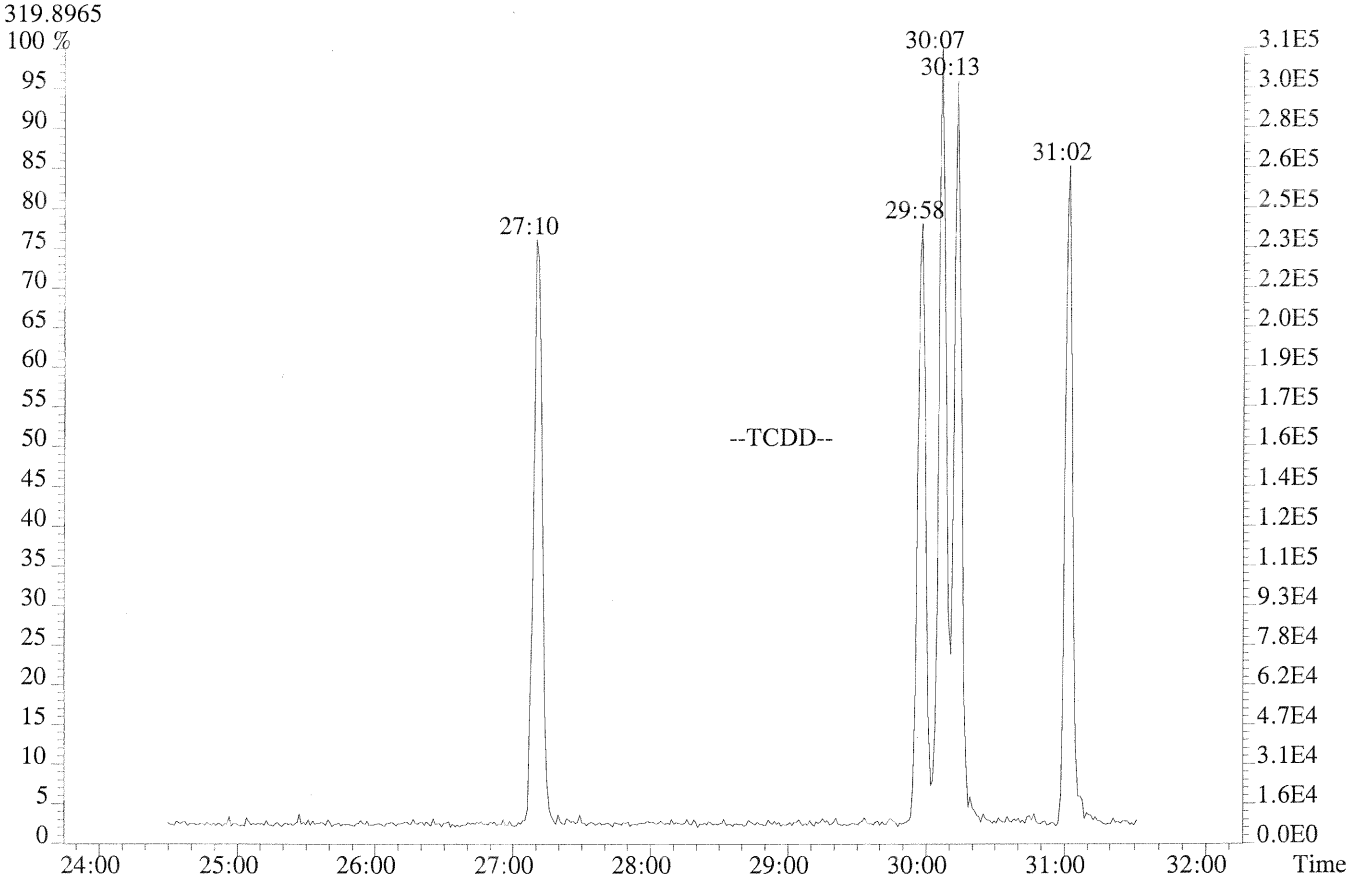


File:P169969 #1-442 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

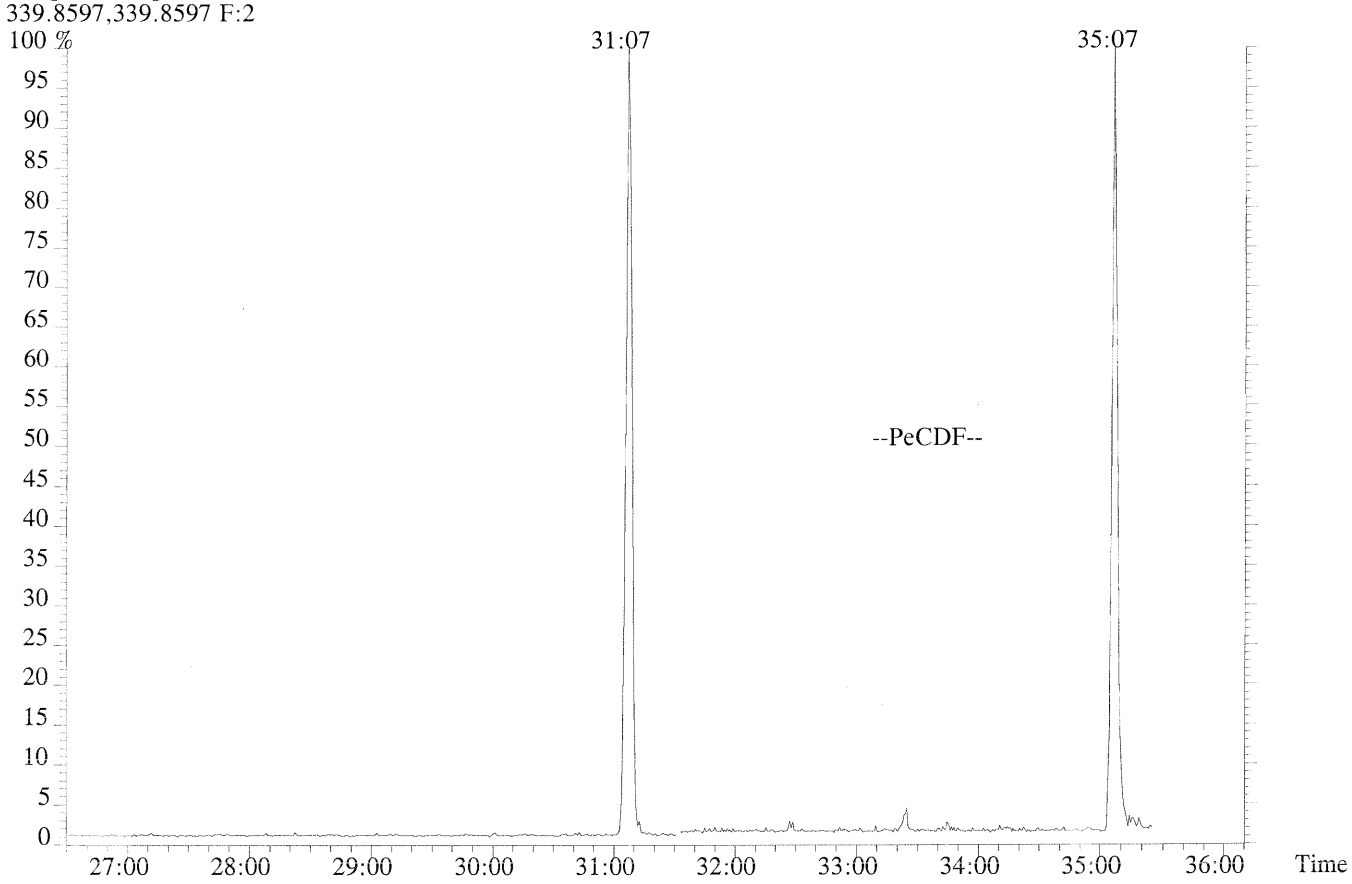
303.9016



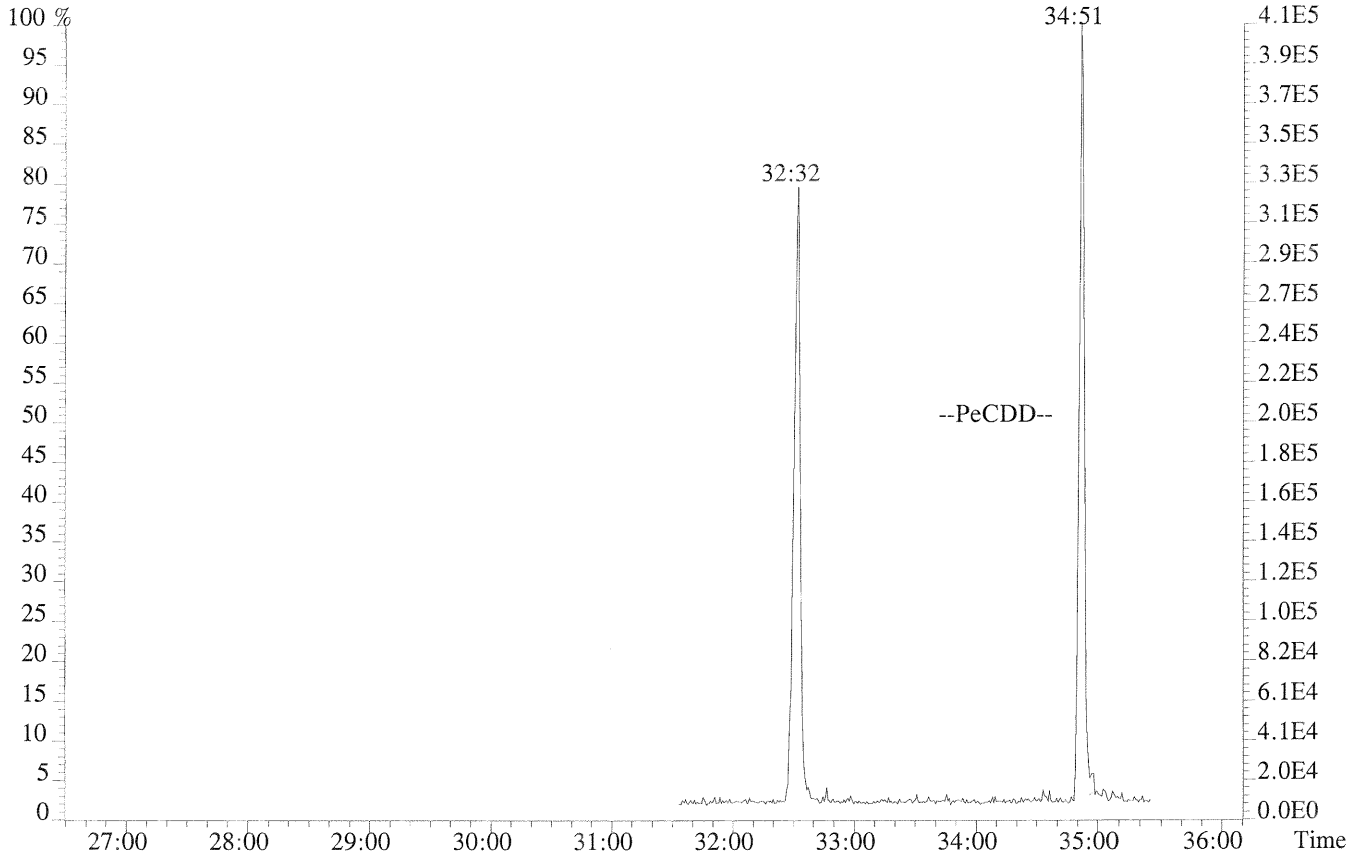
319.8965



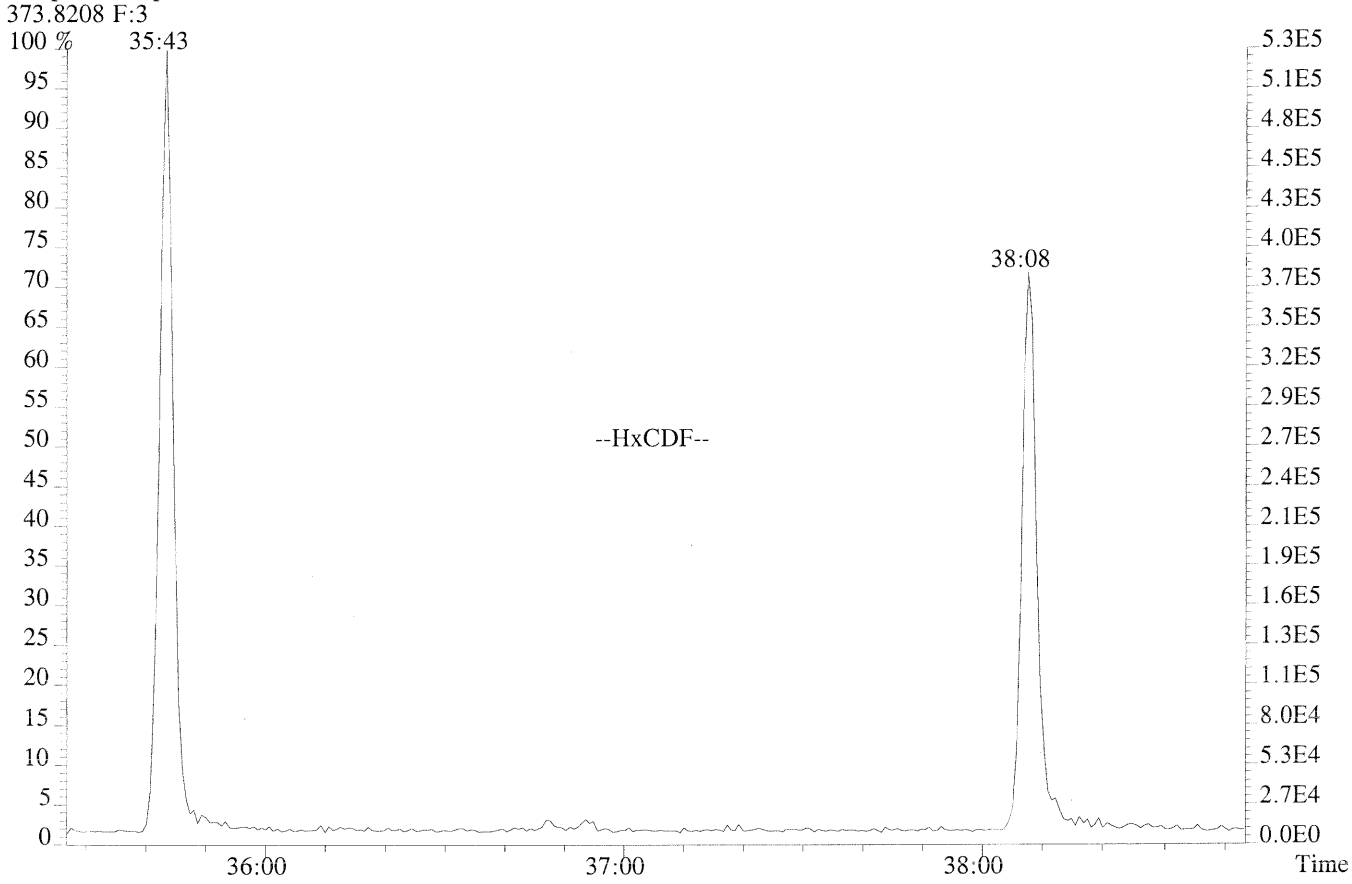
File:P169969 #1-442 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2

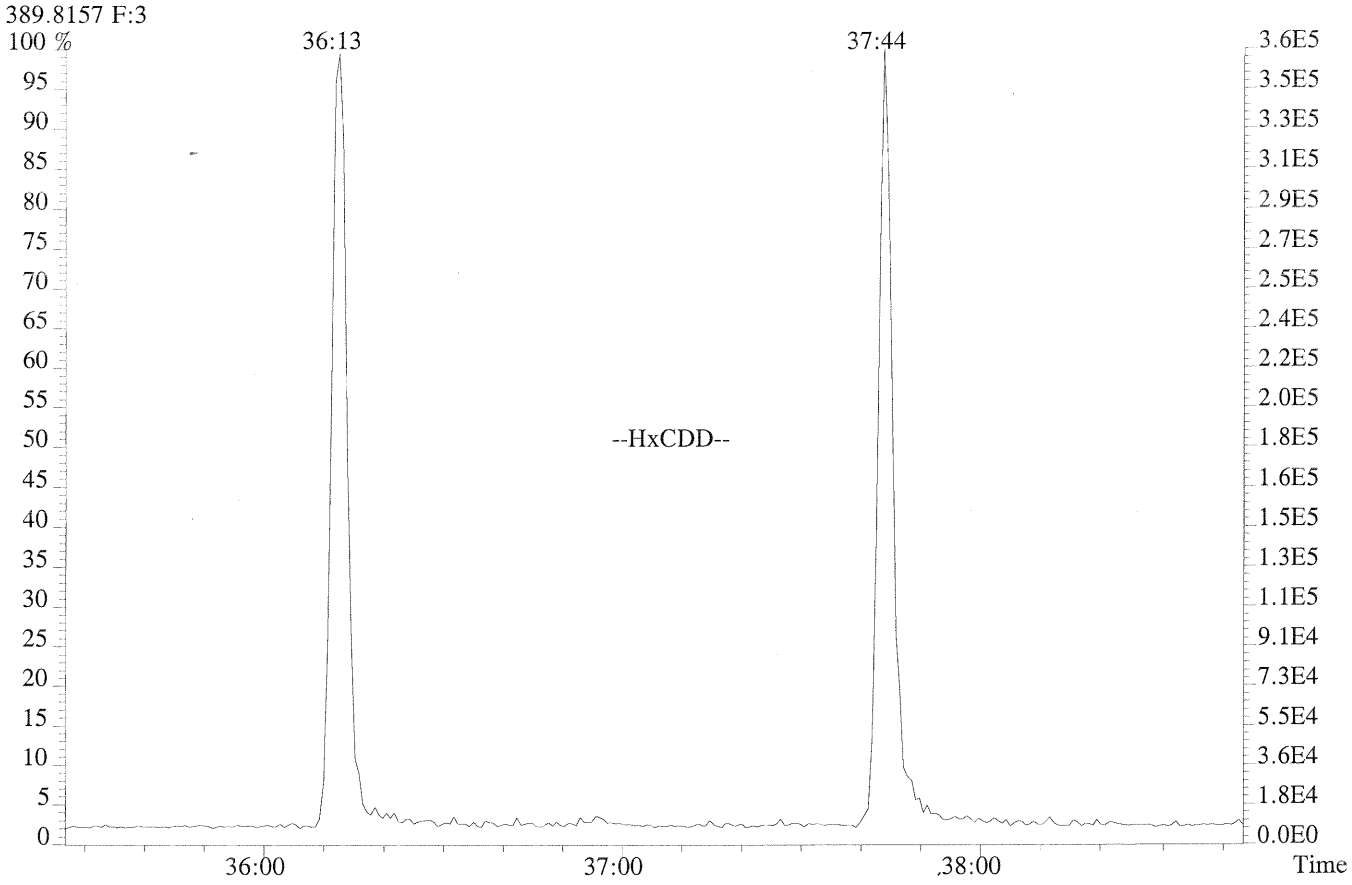


355.8546 F:2



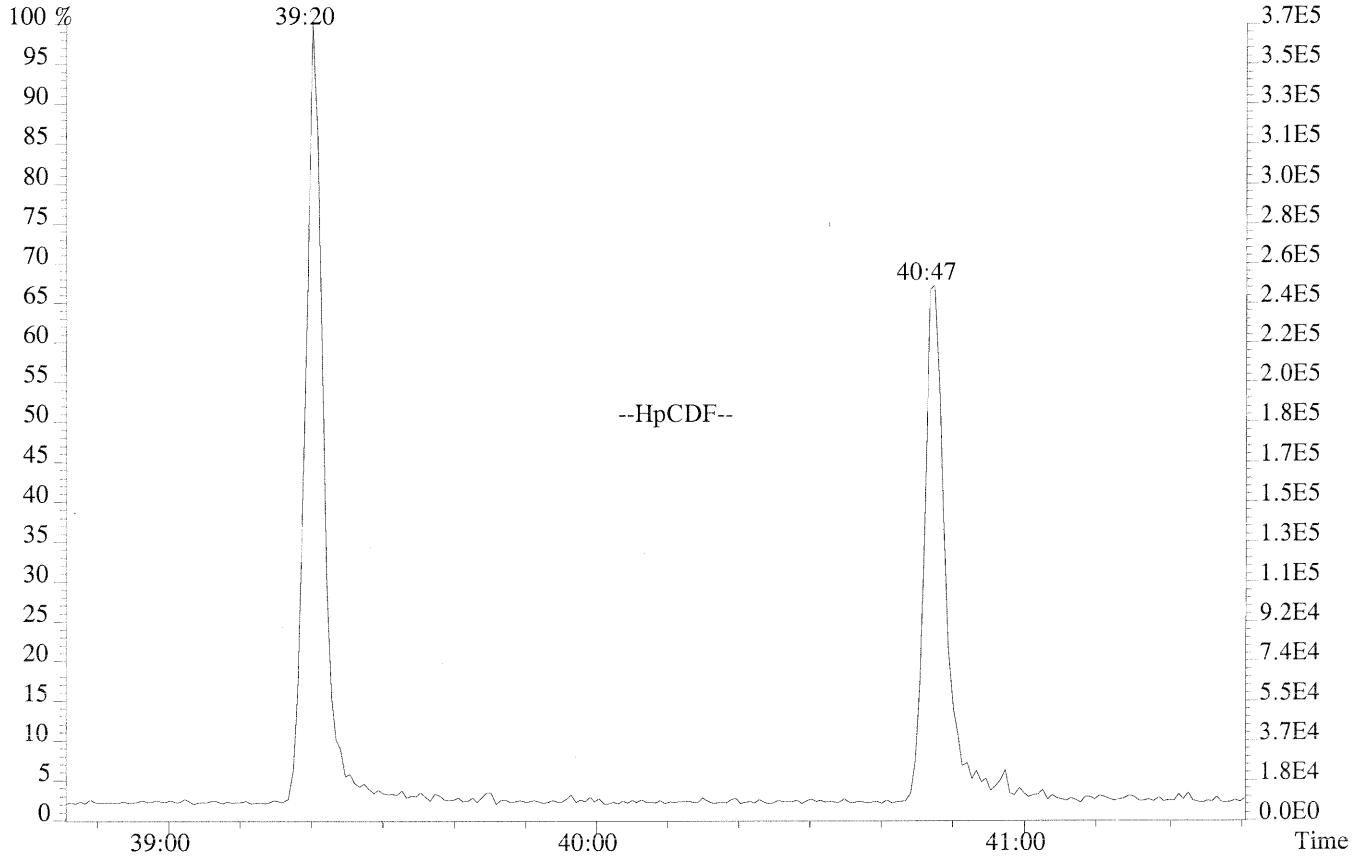
File:P169969 #1-298 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



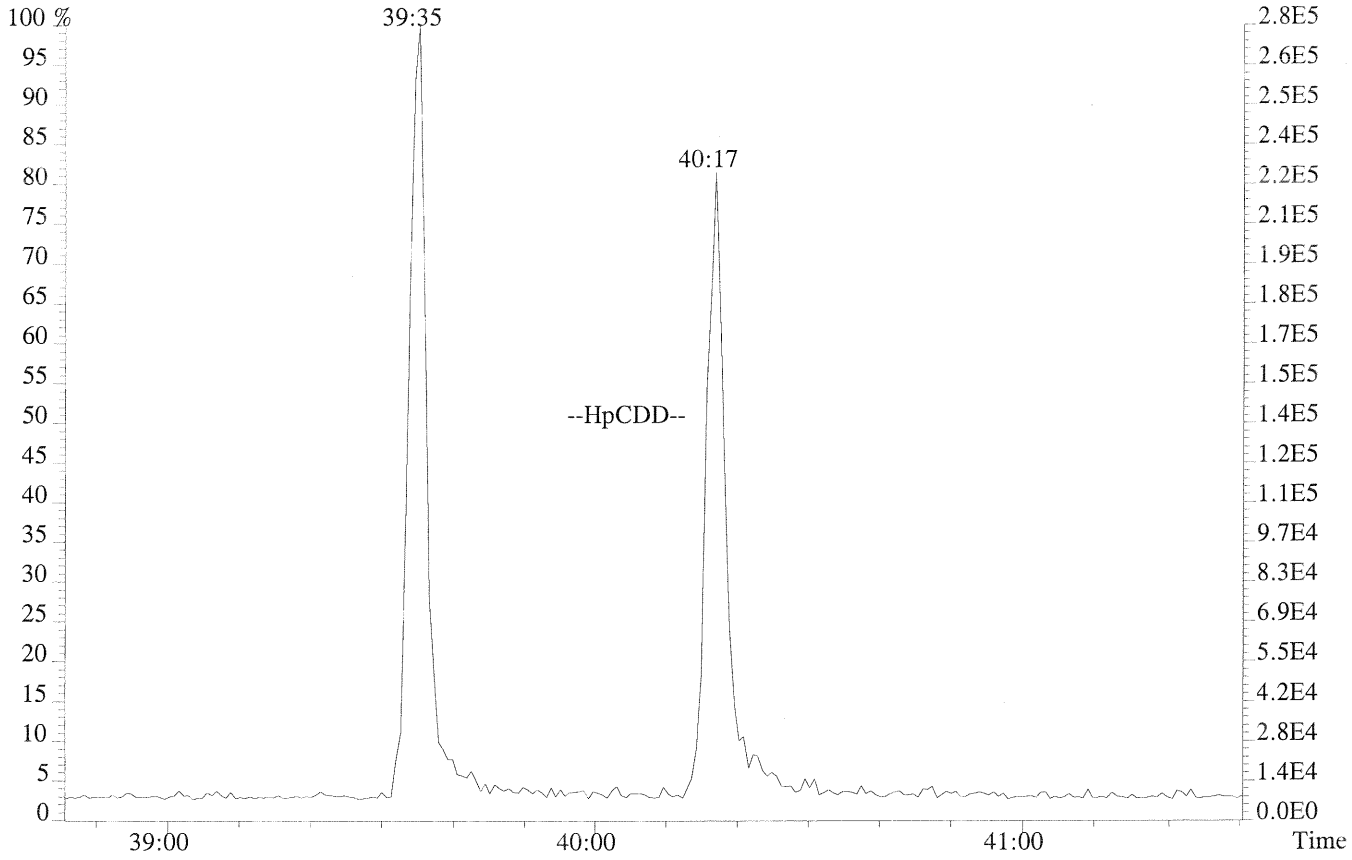


File:P169969 #1-250 Acq:25-MAR-2014 16:28:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

407.7818 F:4



423.7766 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						MEAN		
Target Analytes	CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	QC LIMITS
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

USEPA - CLP

6DFB6

CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO 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

Target Analytes	SELECTED IONS	ION ABUNDANCE RATIO CS0.5	CS1	CS2	CS3	CS4	CS5	FLAG	ION RATIO QC lIMITS
2,3,7,8-TCDF	304/306	0.73	0.80	0.75	0.75	0.76	0.78		0.65-0.89
1,2,3,7,8-PeCDF	340/342	1.45	1.53	1.61	1.59	1.58	1.56		1.32-1.78
2,3,4,7,8-PeCDF	340/342	1.47	1.67	1.52	1.55	1.59	1.57		1.32-1.78
1,2,3,4,7,8-HxCDF	374/376	1.33	1.28	1.23	1.26	1.23	1.25		1.05-1.43
1,2,3,6,7,8-HxCDF	374/376	1.20	1.16	1.22	1.22	1.23	1.24		1.05-1.43
2,3,4,6,7,8-HxCDF	374/376	1.16	1.27	1.28	1.22	1.26	1.24		1.05-1.43
1,2,3,7,8,9-HxCDF	374/376	1.34	1.24	1.19	1.22	1.24	1.24		1.05-1.43
1,2,3,4,6,7,8-HpCDF	408/410	1.08	1.09	1.01	1.04	1.04	1.04		0.88-1.20
1,2,3,4,7,8,9-HpCDF	408/410	1.16	1.02	1.04	1.03	1.04	1.04		0.88-1.20
OCDF	442/444	0.85	0.88	0.88	0.89	0.91	0.91		0.76-1.02
2,3,7,8-TCDD	320/322	0.82	0.80	0.83	0.78	0.78	0.78		0.65-0.89
1,2,3,7,8-PeCDD	356/358	1.52	1.42	1.59	1.55	1.56	1.58		1.32-1.78
1,2,3,4,7,8-HxCDD	390/392	1.17	1.40	1.24	1.24	1.24	1.25		1.05-1.43
1,2,3,6,7,8-HxCDD	390/392	1.16	1.25	1.24	1.24	1.24	1.25		1.05-1.43
1,2,3,7,8,9-HxCDD	390/392	1.23	1.24	1.21	1.21	1.23	1.26		1.05-1.43
1,2,3,4,6,7,8-HpCDD	424/426	0.98	1.14	0.99	1.06	1.04	1.05		0.88-1.20
OCDD	458/460	0.86	0.94	0.91	0.89	0.89	0.89		0.76-1.02
13C-2,3,7,8-TCDF	316/318	0.80	0.79	0.78	0.78	0.79	0.80		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.55	1.57	1.56	1.57	1.58	1.53		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.57	1.58	1.57	1.57	1.58	1.54		1.32-1.78
13C-1,2,3,4,7,8-HxCDF	384/386	0.52	0.51	0.52	0.53	0.51	0.52		0.43-0.59
13C-1,2,3,6,7,8-HxCDF	384/386	0.52	0.53	0.52	0.53	0.53	0.51		0.43-0.59
13C-2,3,4,6,7,8-HxCDF	384/386	0.52	0.52	0.51	0.52	0.53	0.52		0.43-0.59
13C-1,2,3,7,8,9-HxCDF	384/386	0.52	0.52	0.52	0.51	0.52	0.52		0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	418/420	0.44	0.44	0.44	0.45	0.44	0.44		0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	418/420	0.44	0.43	0.45	0.44	0.44	0.44		0.37-0.51
13C-2,3,7,8-TCDD	332/334	0.78	0.77	0.77	0.79	0.80	0.77		0.65-0.89
13C-1,2,3,7,8-PeCDD	368/370	1.57	1.57	1.58	1.59	1.56	1.58		1.32-1.78
13C-1,2,3,4,7,8-HxCDD	402/404	1.26	1.27	1.26	1.27	1.28	1.27		1.05-1.43
13C-1,2,3,6,7,8-HxCDD	402/404	1.27	1.28	1.27	1.29	1.27	1.27		1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	436/438	1.05	1.05	1.06	1.07	1.05	1.07		0.88-1.20
13C-OCDD	470/472	0.89	0.89	0.90	0.90	0.91	0.90		0.76-1.02
13C-1,2,3,4-TCDD	332/334	0.80	0.79	0.79	0.79	0.78	0.79		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.26	1.26	1.27	1.25	1.30	1.25		1.05-1.43
37Cl-2,3,7,8-TCDD	328								

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

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			

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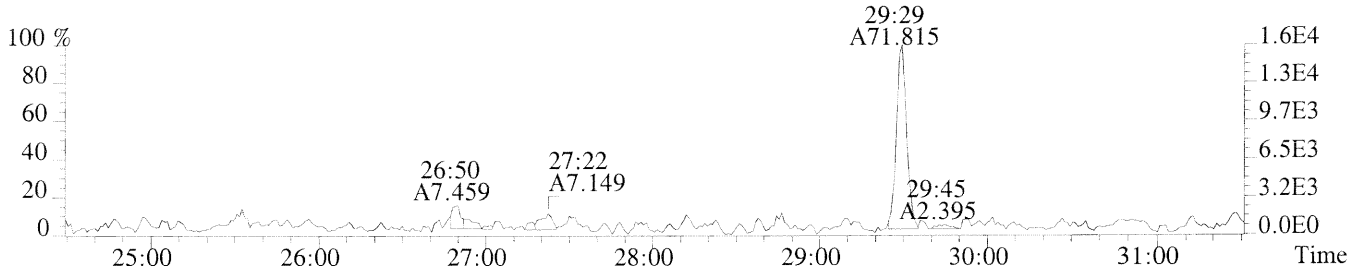
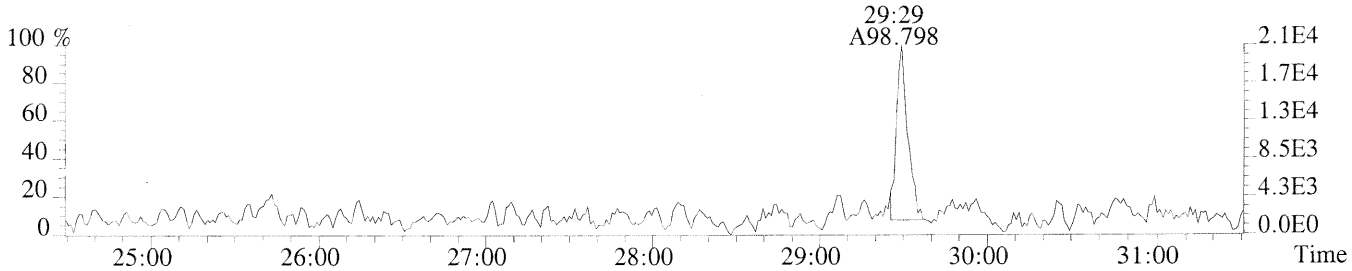
XLSN

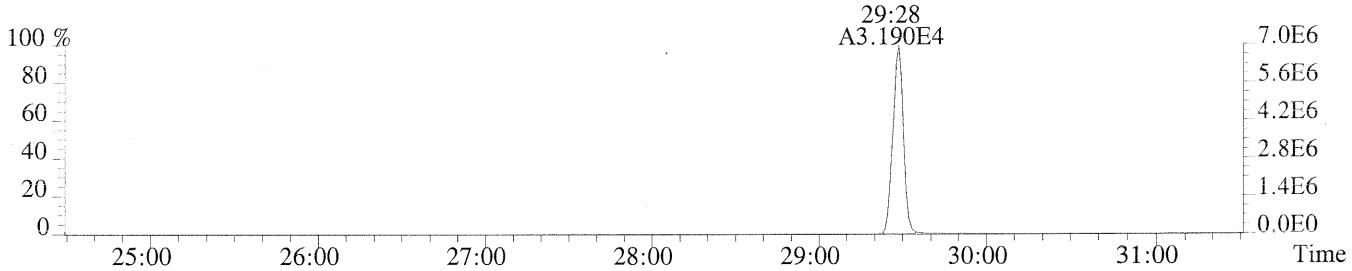
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



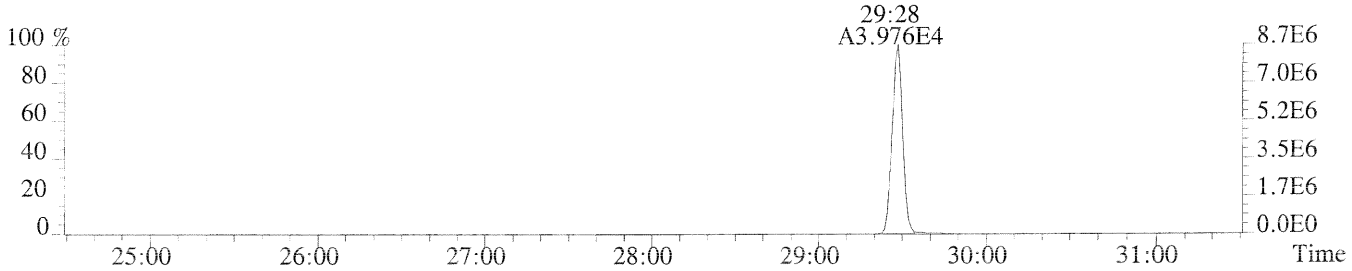
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2428.0,1.00%,F,T)



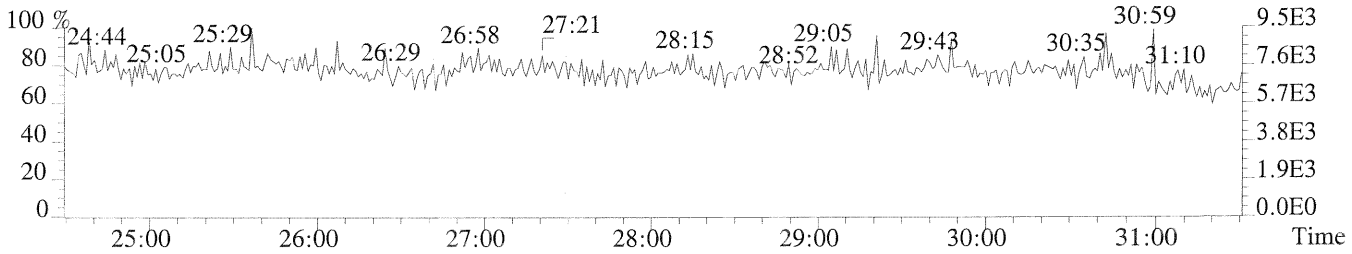
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1908.0,1.00%,F,T)



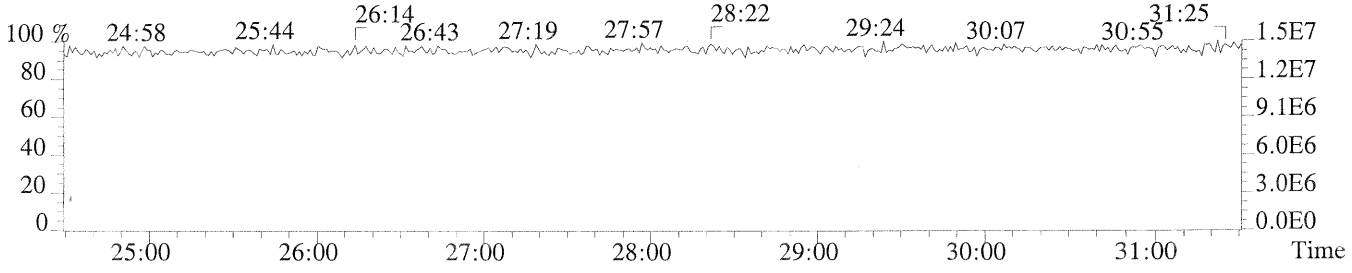
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1892.0,1.00%,F,T)



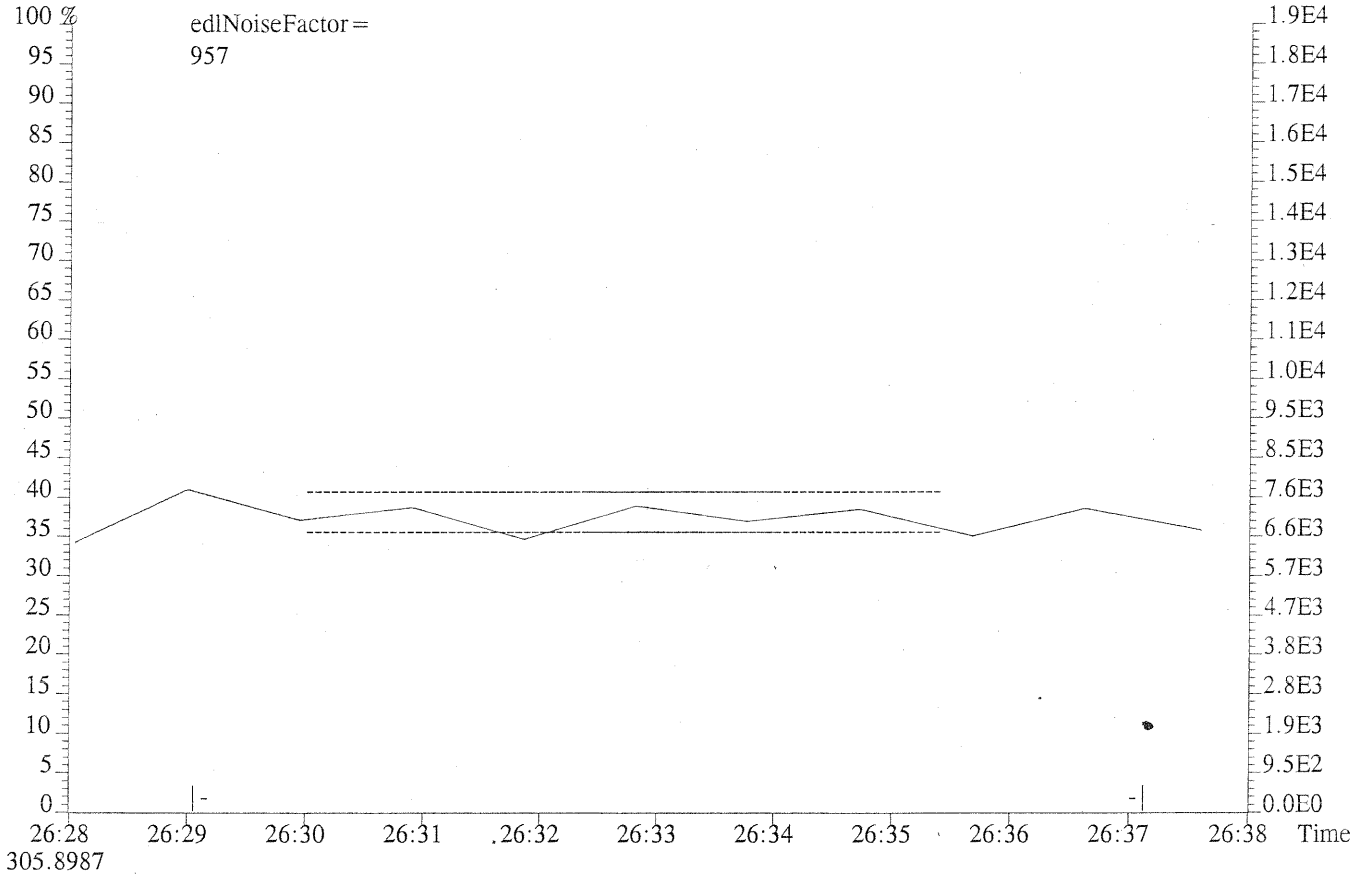
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



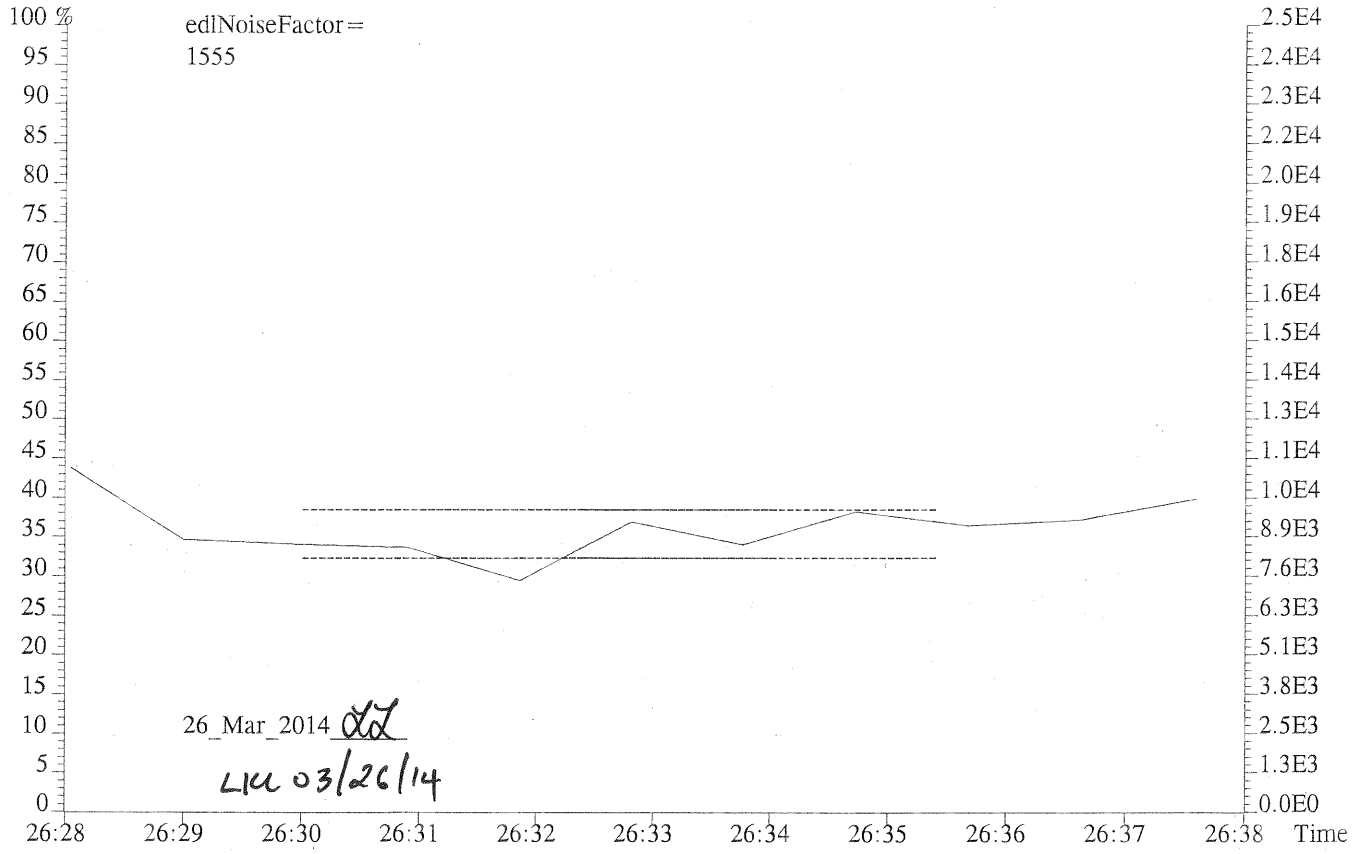
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



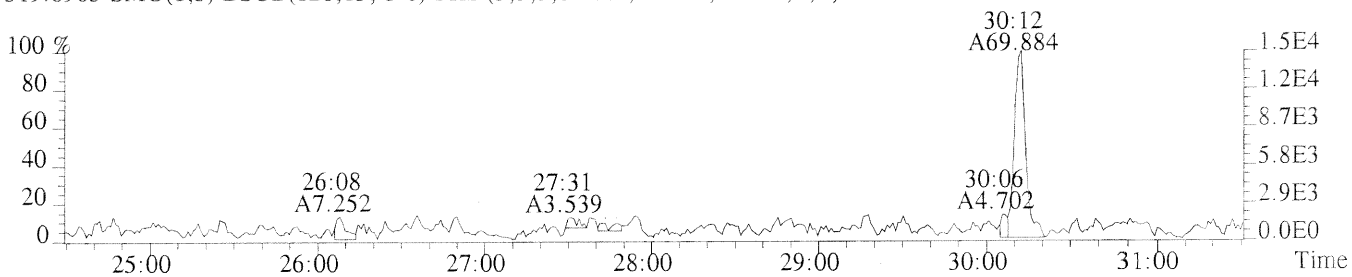
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
303.9016



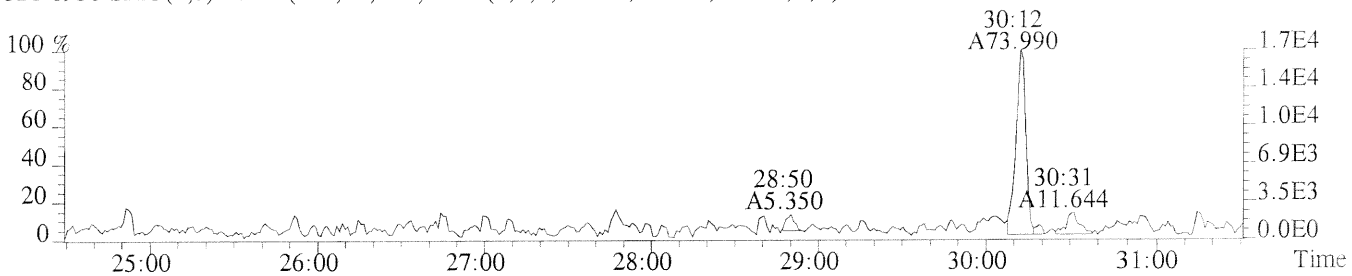
305.8987



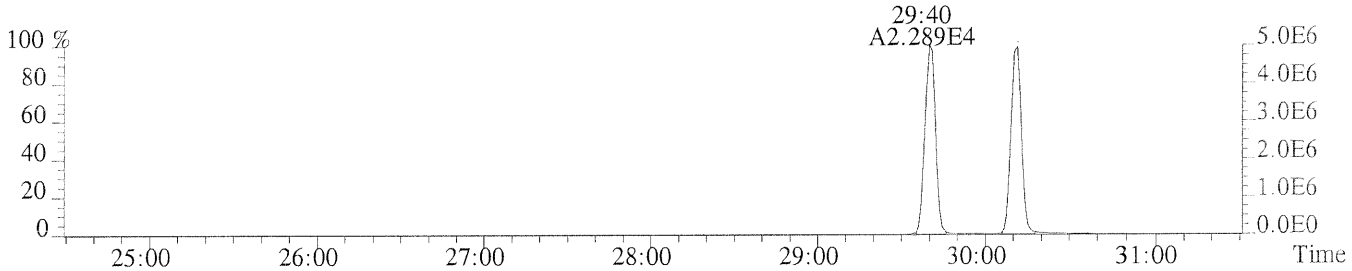
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:ICAL HRCC0.5/CS0.5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



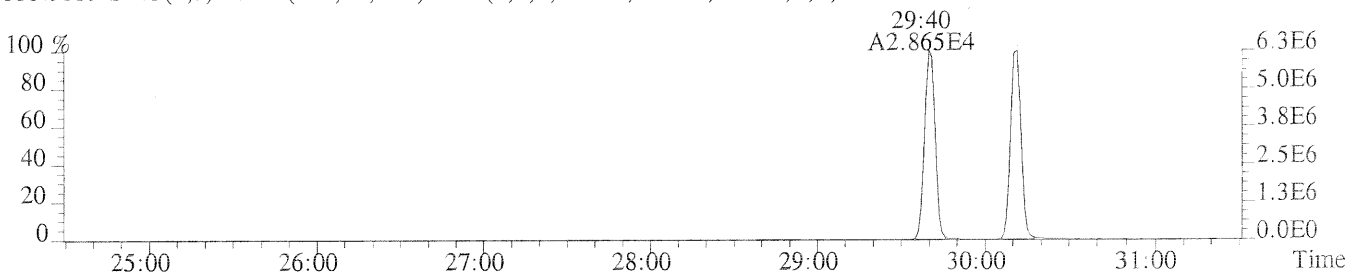
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



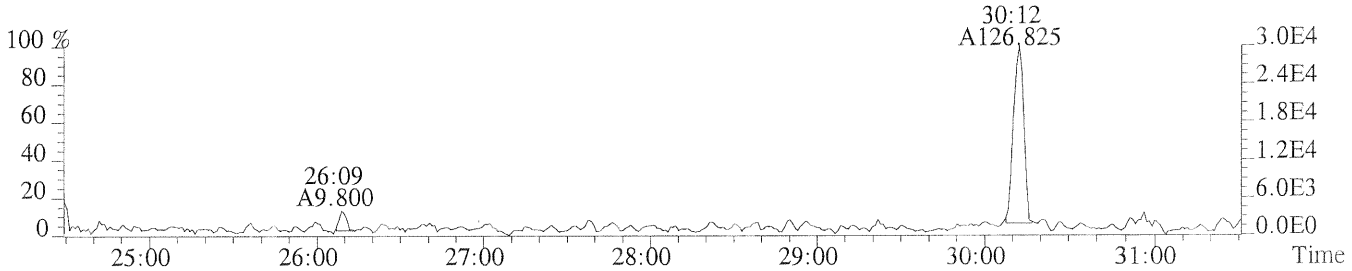
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5040.0,1.00%,F,T)



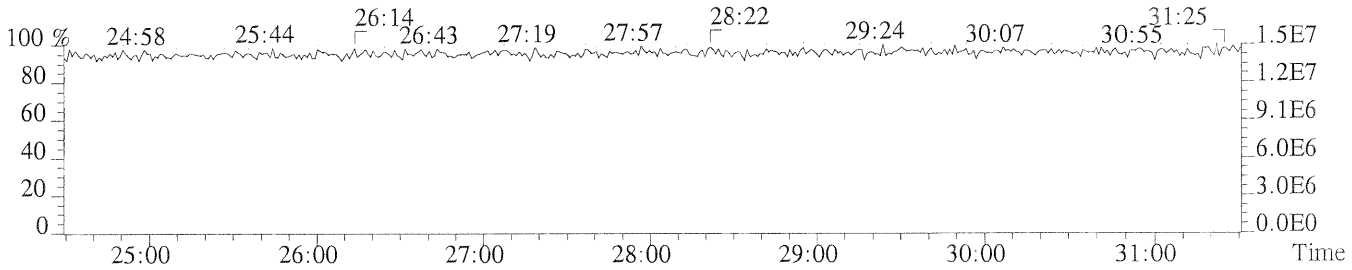
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1668.0,1.00%,F,T)



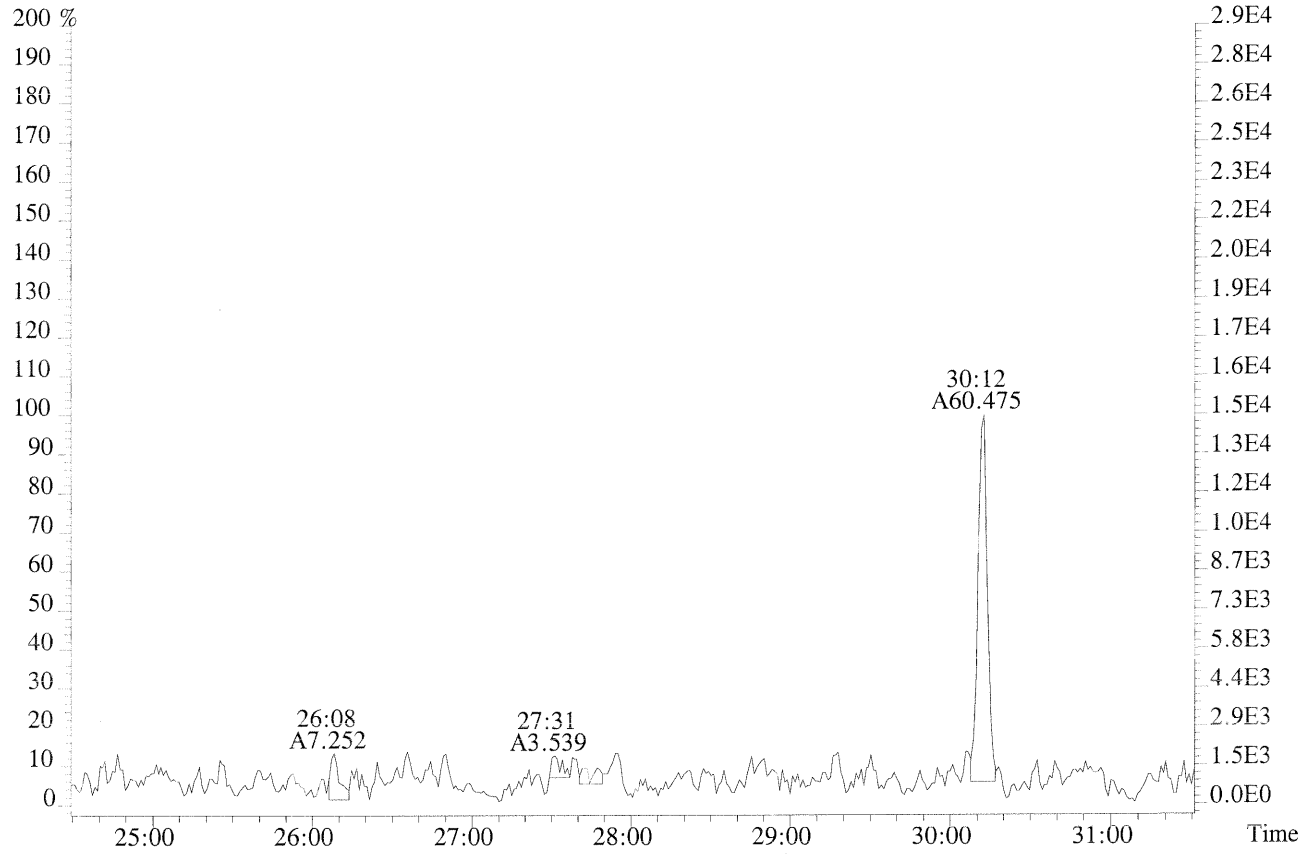
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



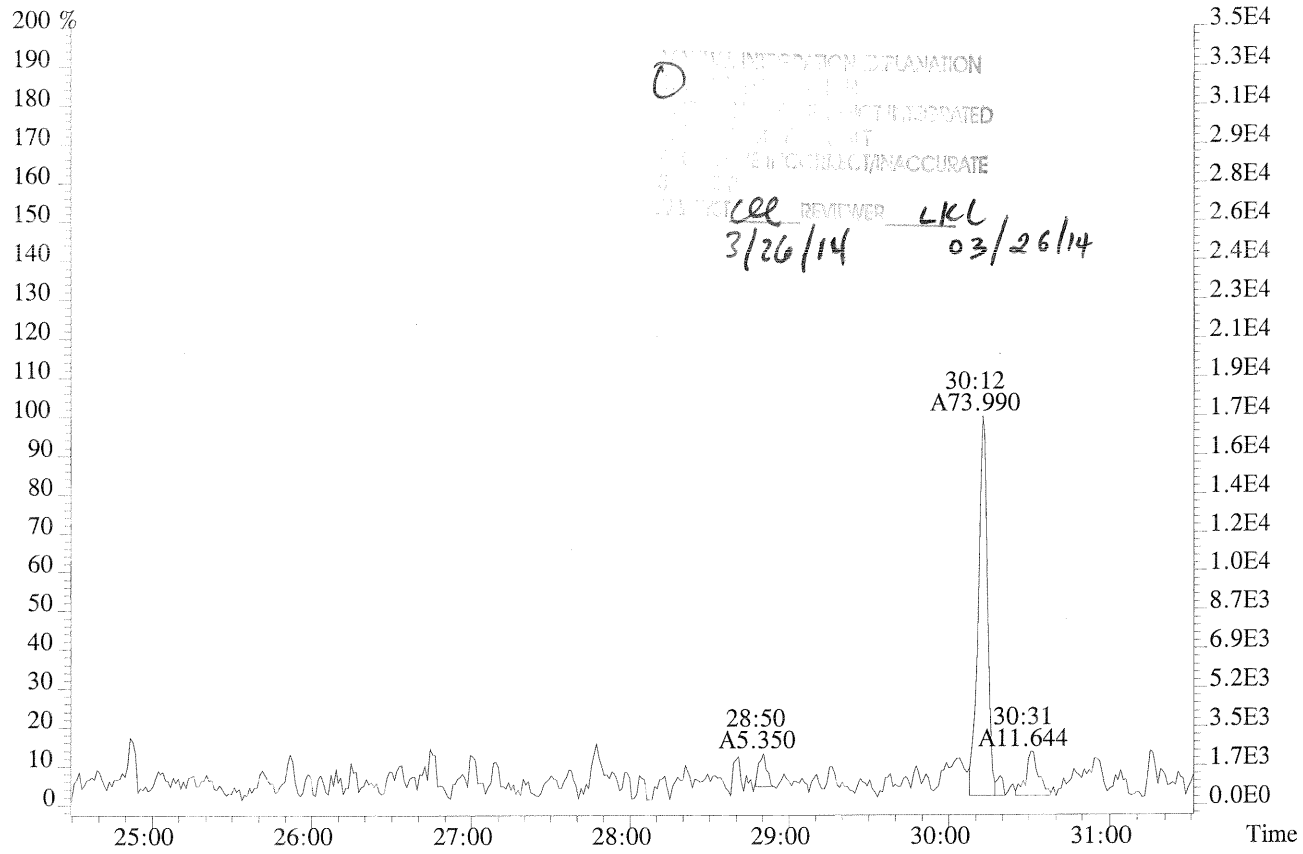
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass s£
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)

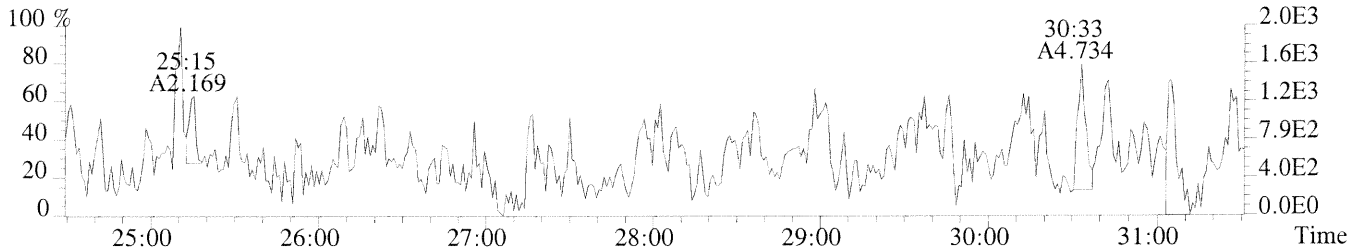


321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)

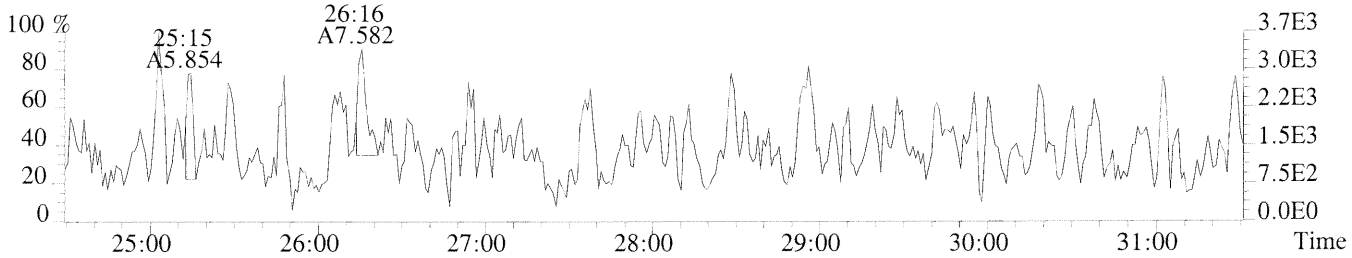


D
INTEGRATION EXPLANATION
INCORRECT/INACCURATE
REVIEWER LKL
3/26/14 03/26/14

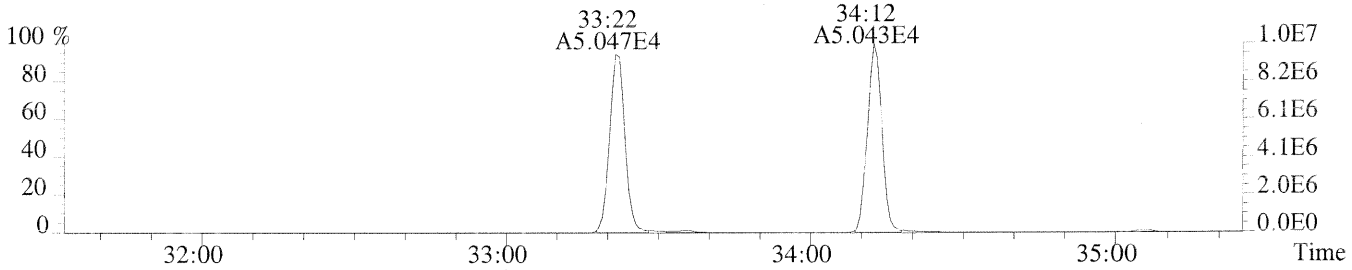
File:P169970 #1-442 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



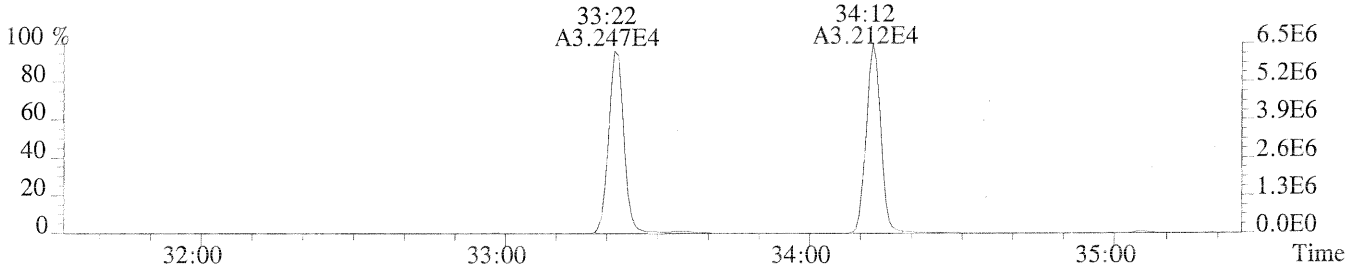
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1664.0,1.00%,F,T)



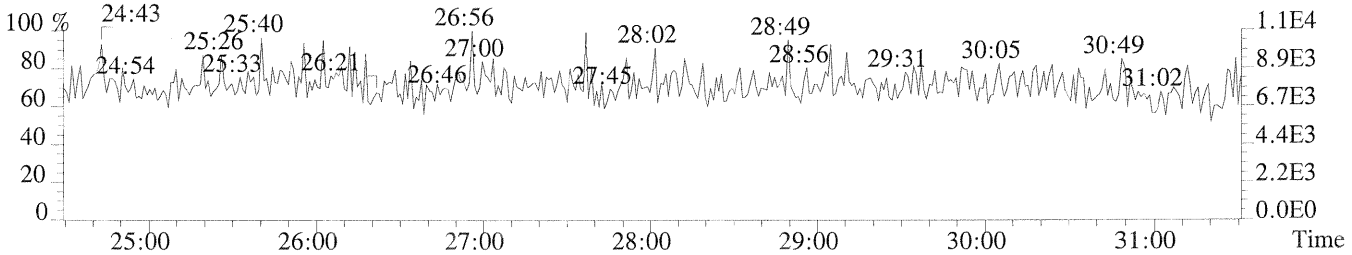
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



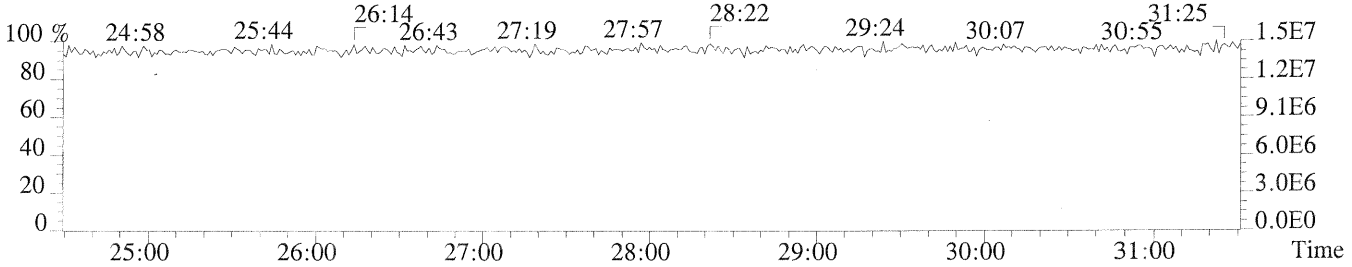
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



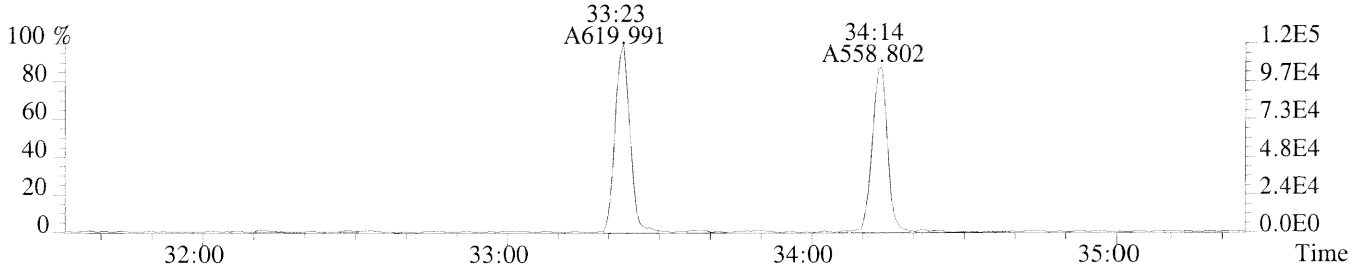
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



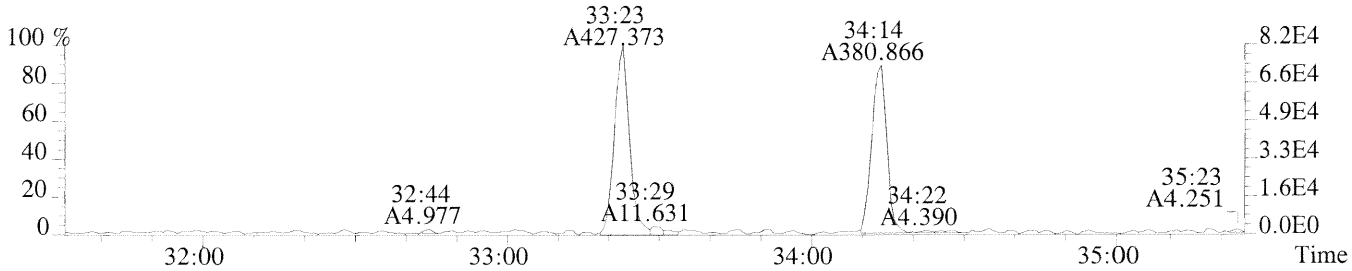
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



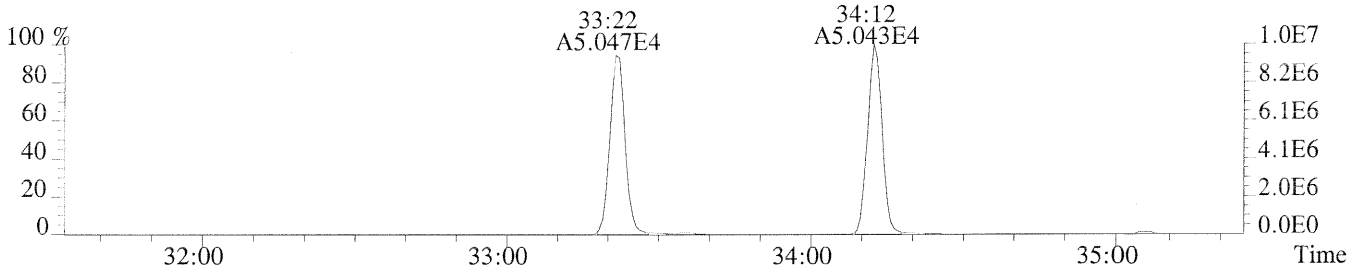
File:P169970 #1-351 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



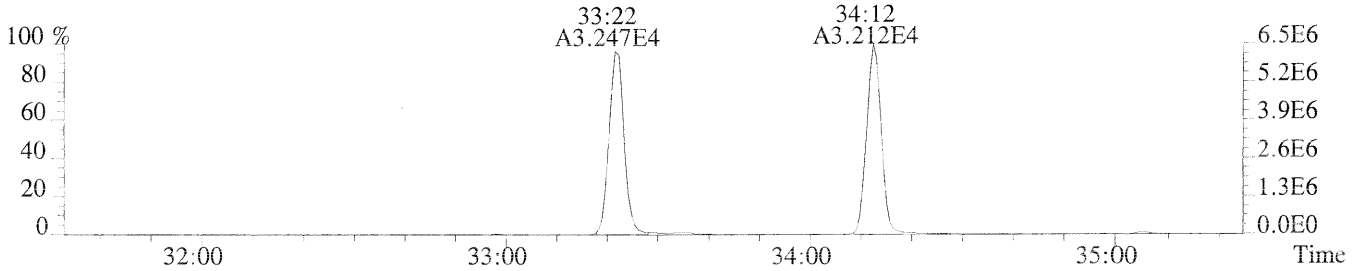
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



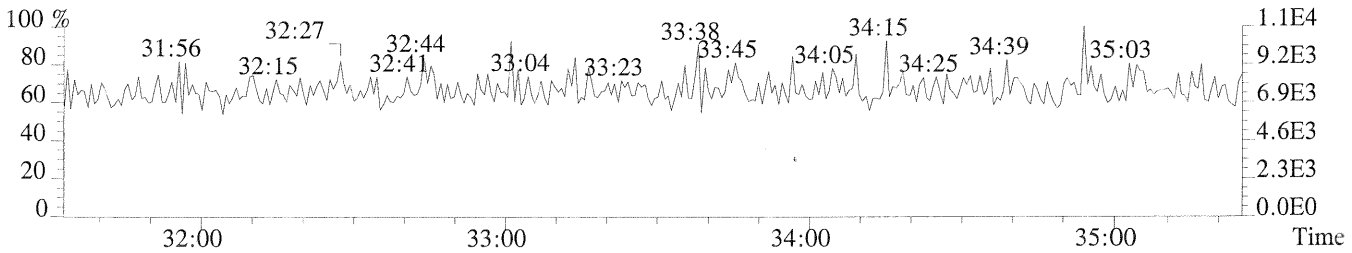
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



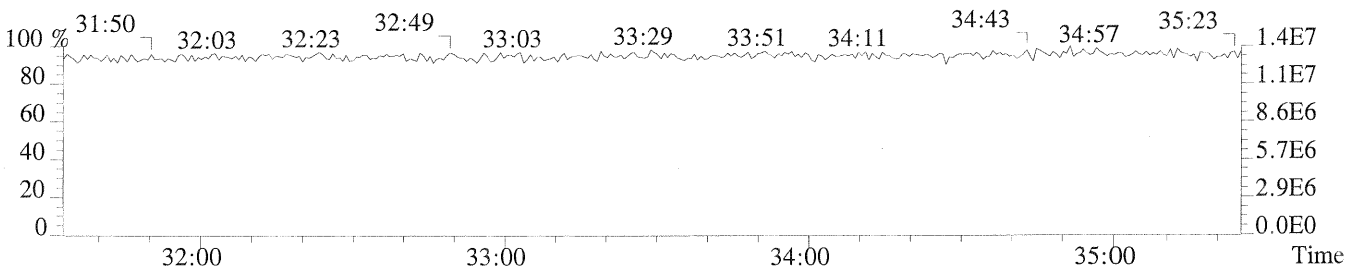
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



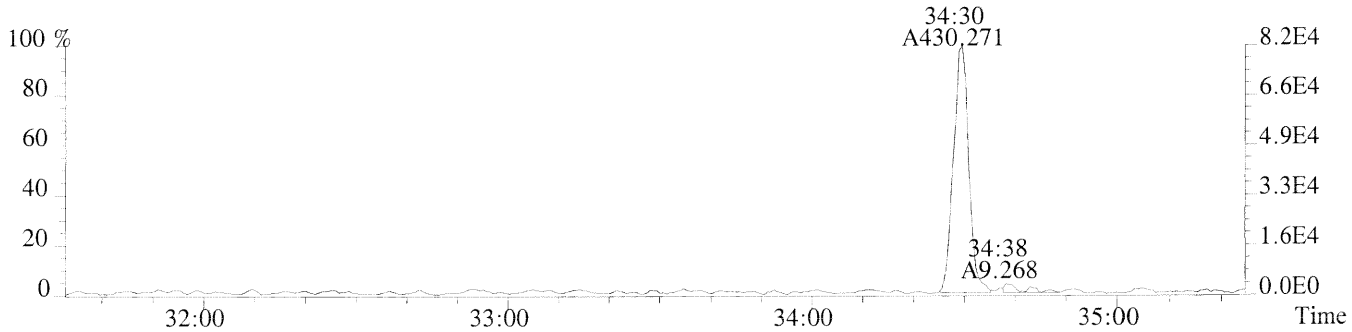
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



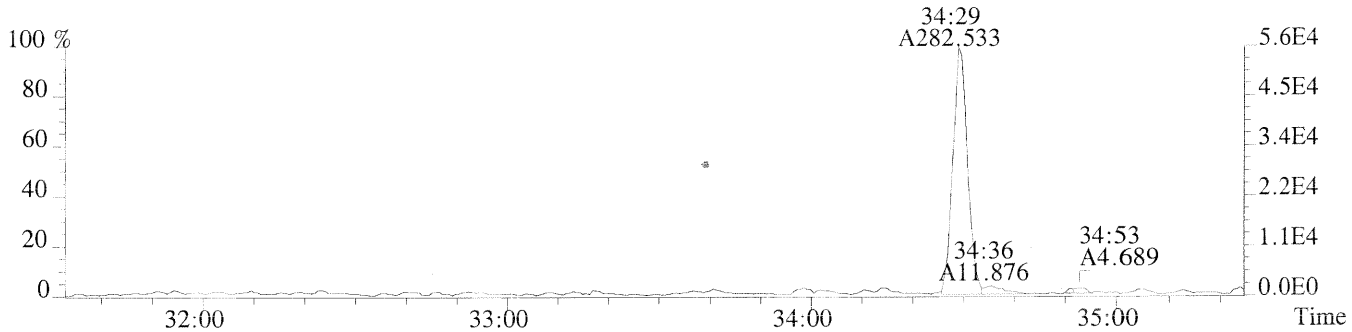
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



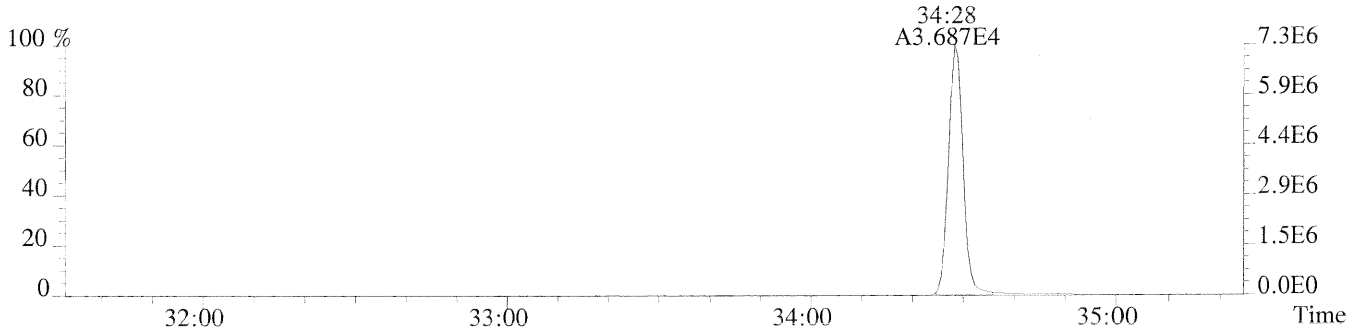
File:P169970 #1-351 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



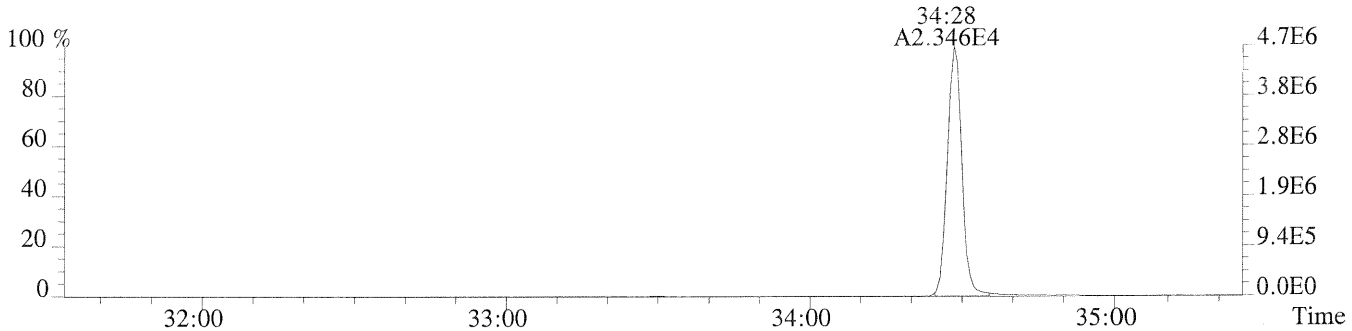
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



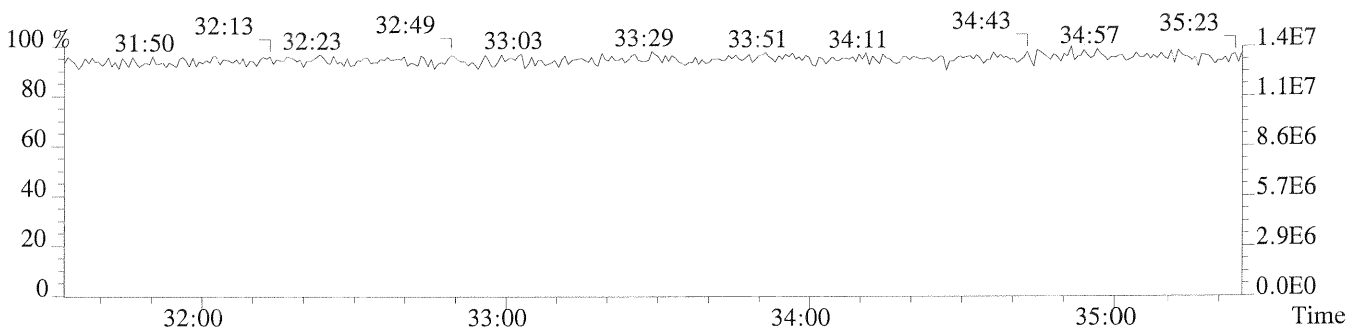
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)

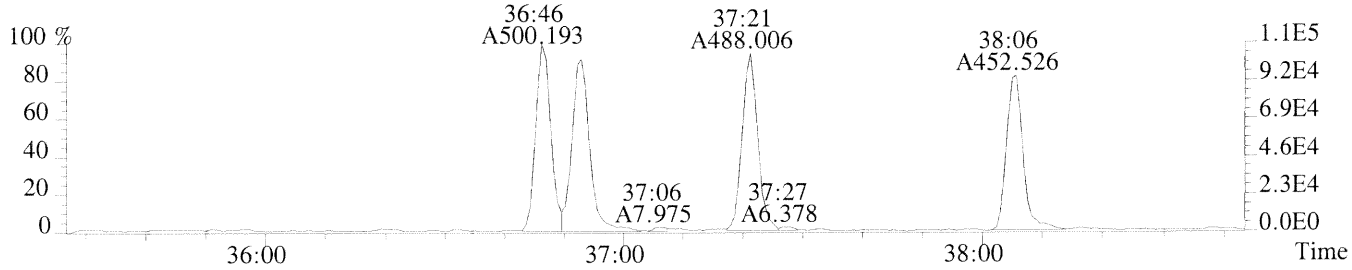


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

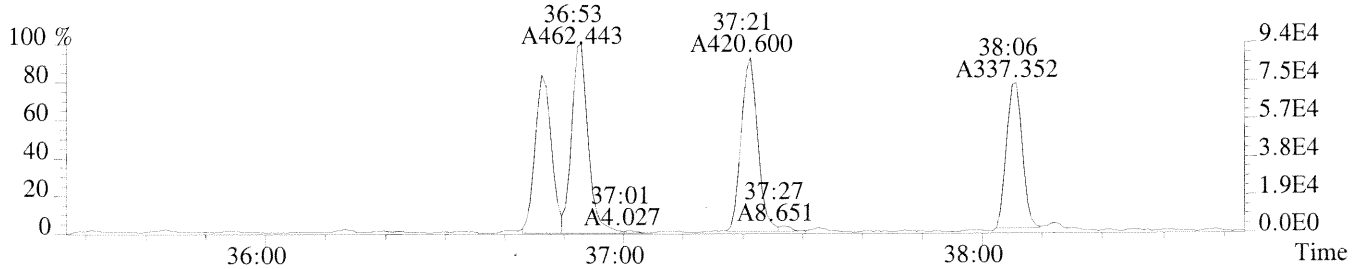


File:P169970 #1-298 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5

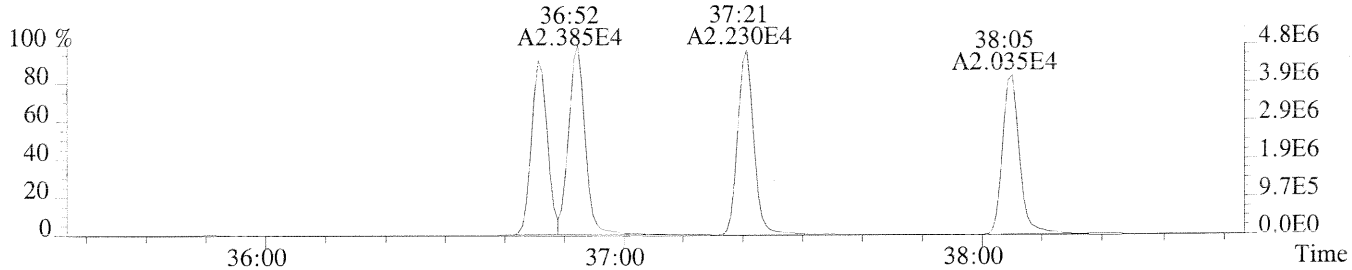
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1656.0,0.40%,F,T)



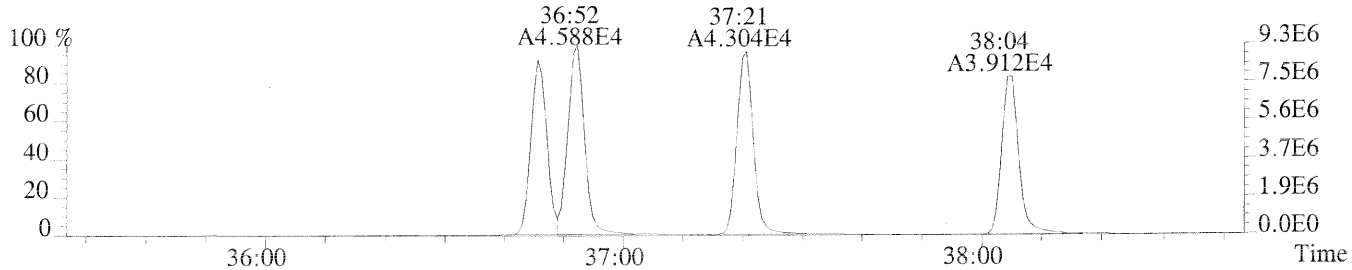
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



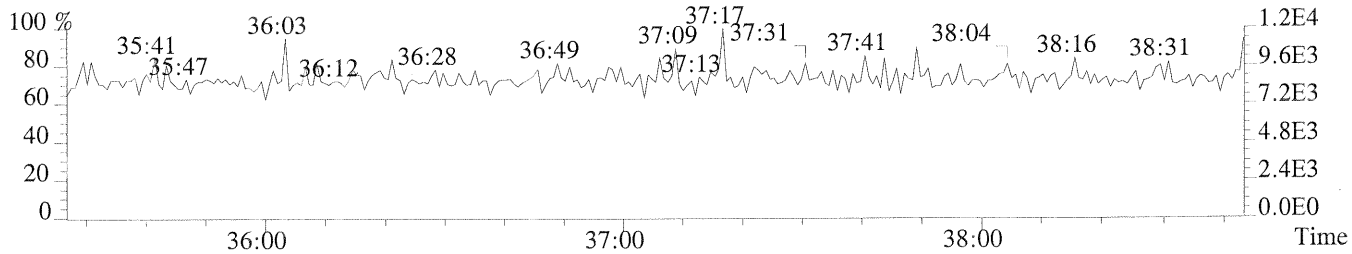
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.40%,F,T)



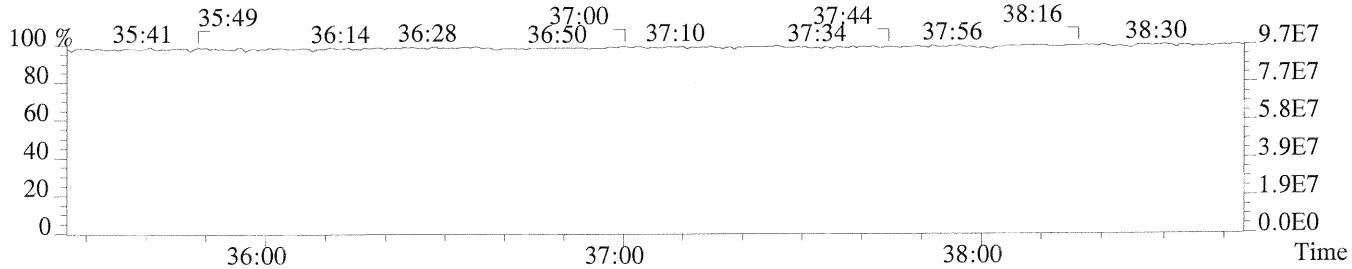
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2184.0,0.40%,F,T)



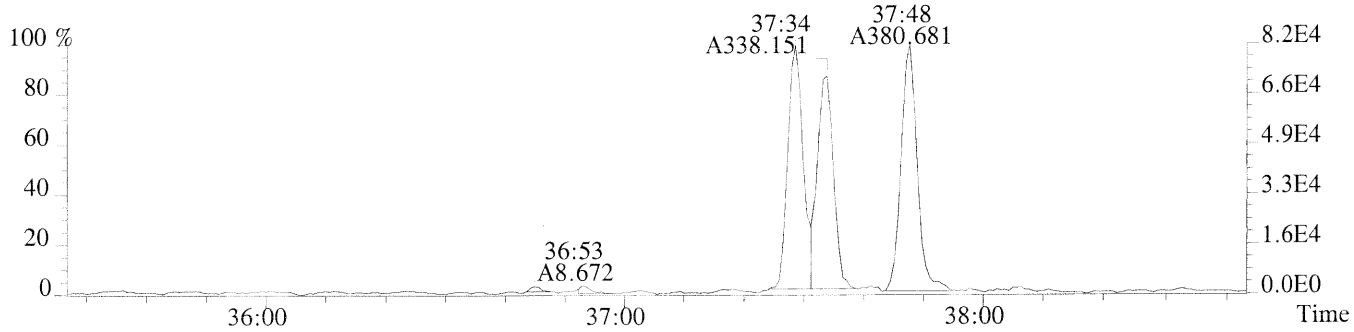
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



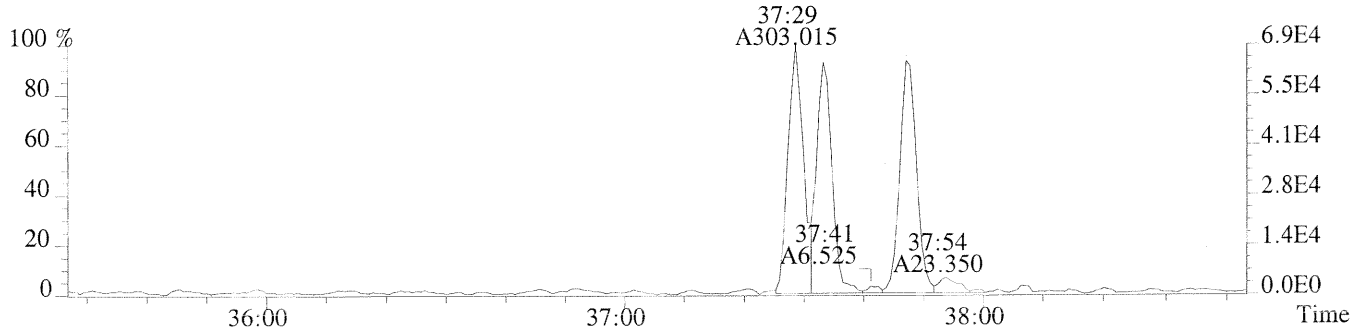
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



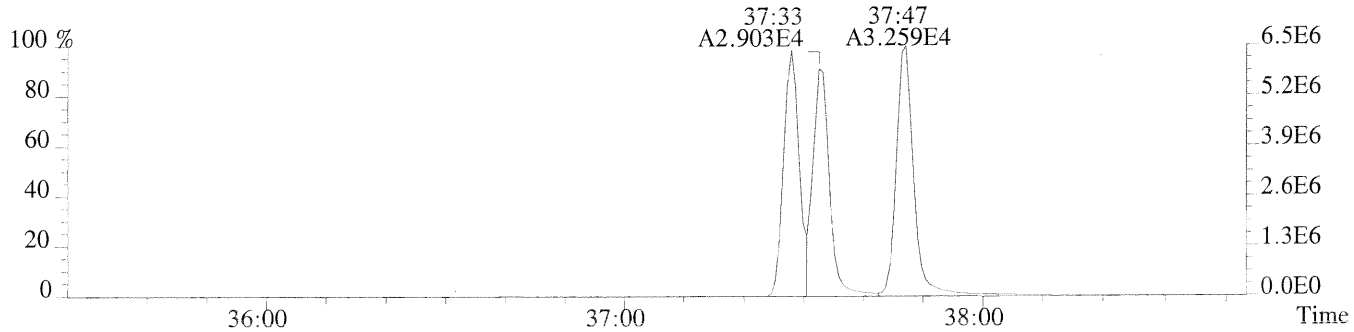
File:P169970 #1-298 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



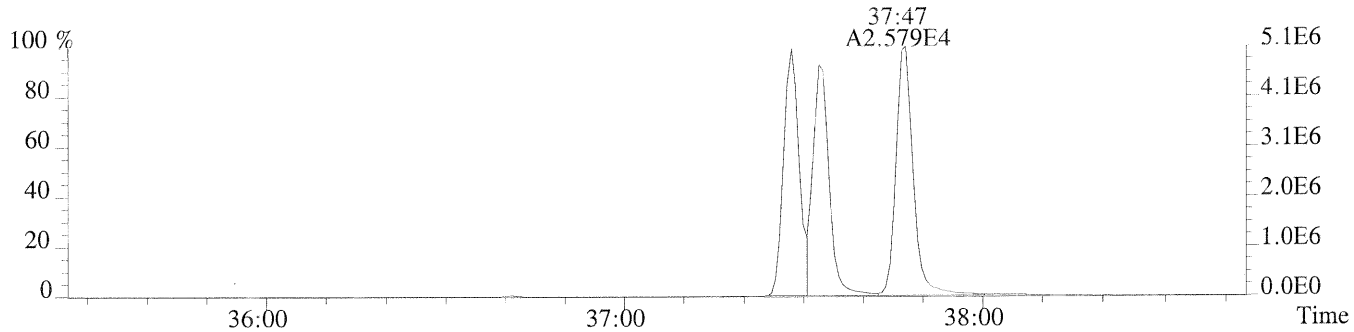
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,T)



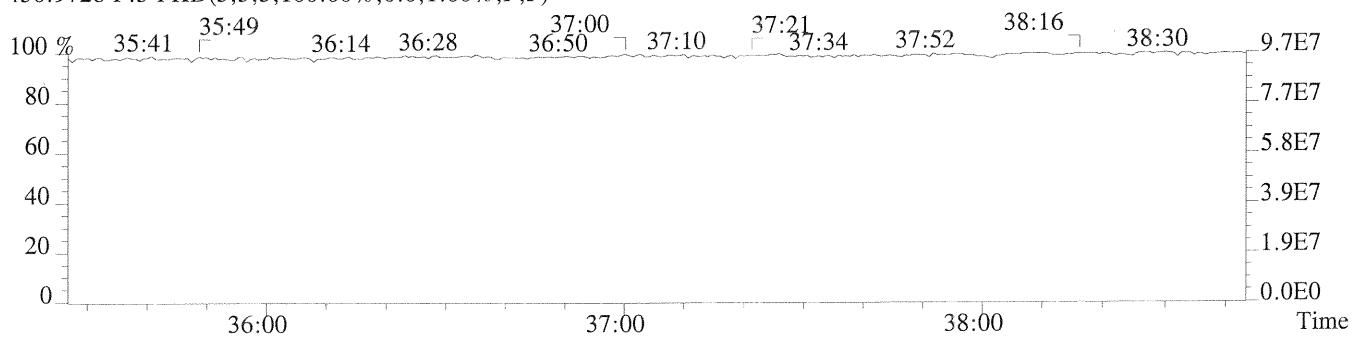
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1488.0,0.40%,F,T)

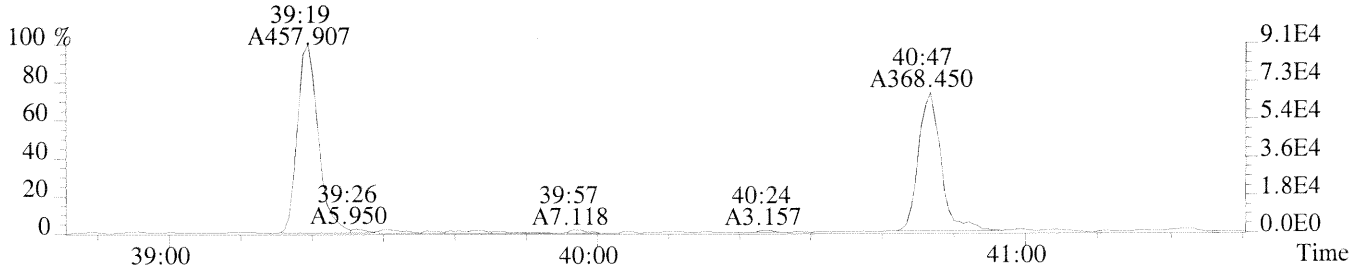


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

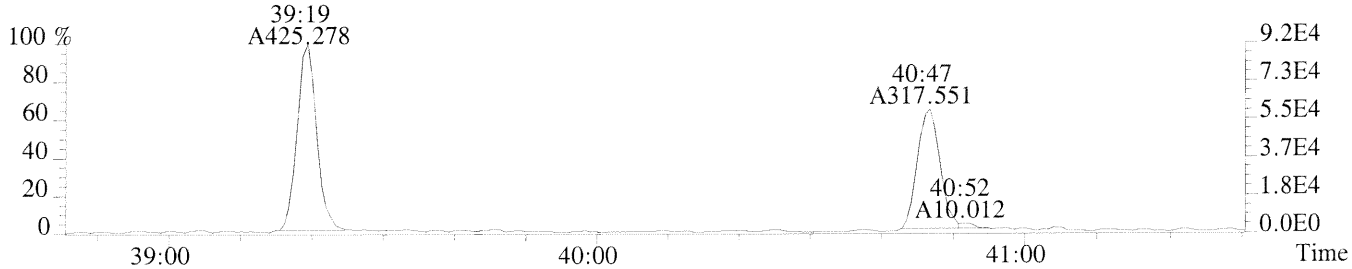


File:P169970 #1-250 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5

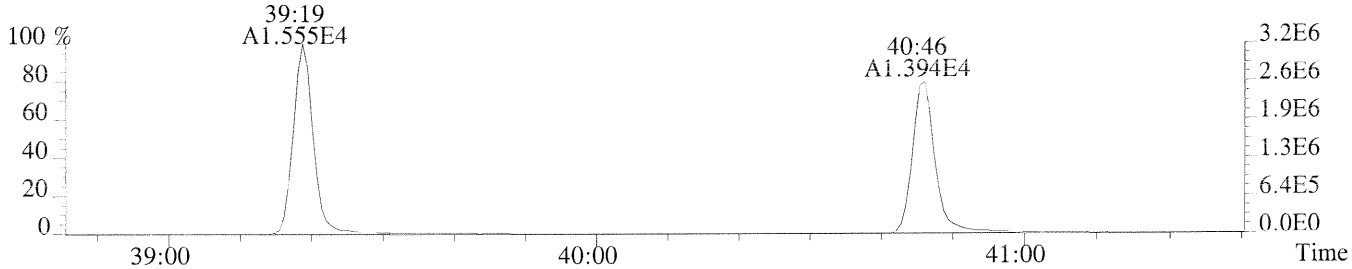
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.50%,F,T)



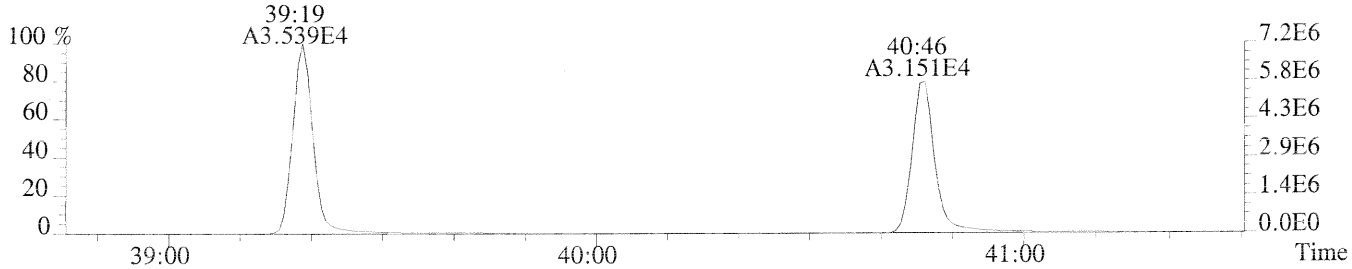
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.50%,F,T)



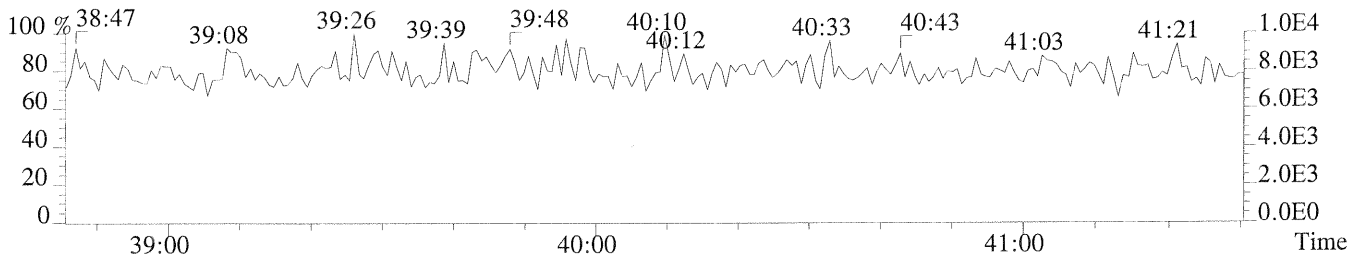
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.50%,F,T)



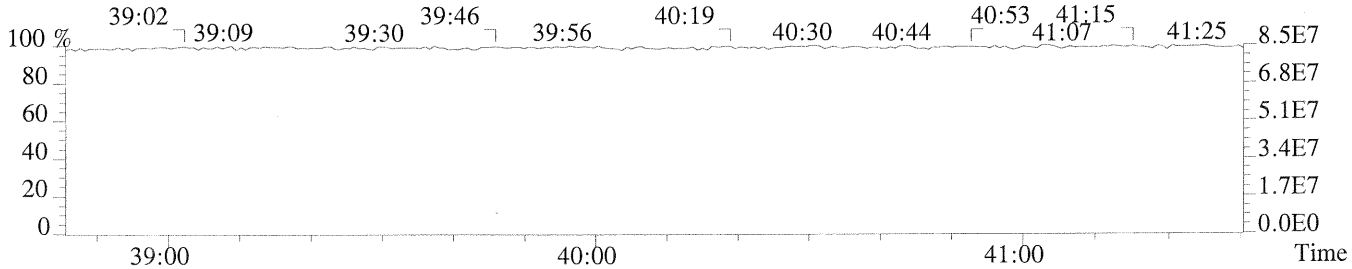
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3464.0,0.50%,F,T)



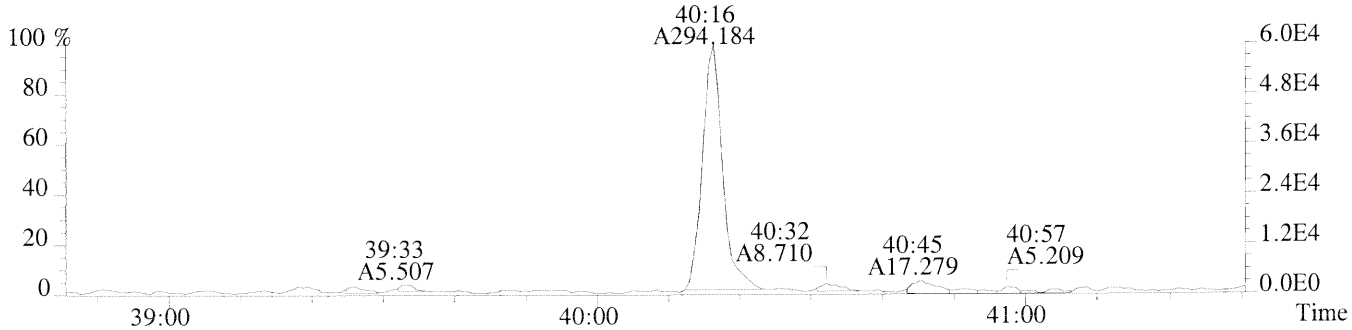
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



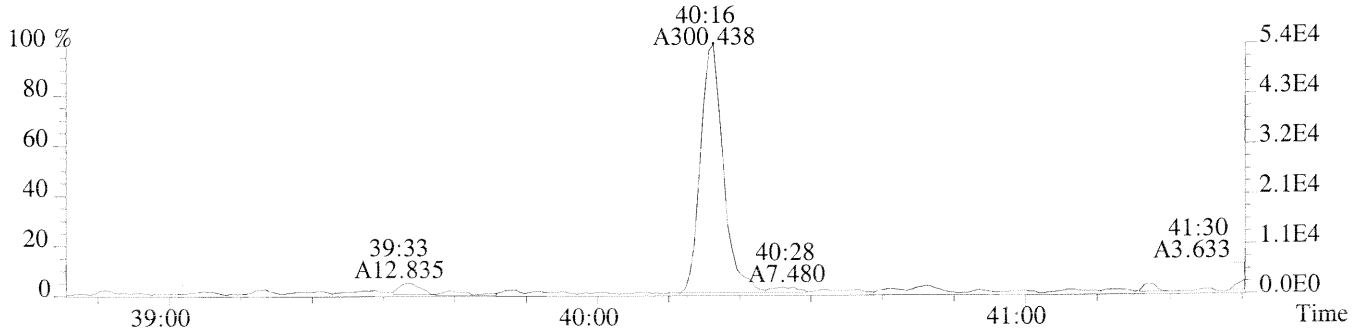
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



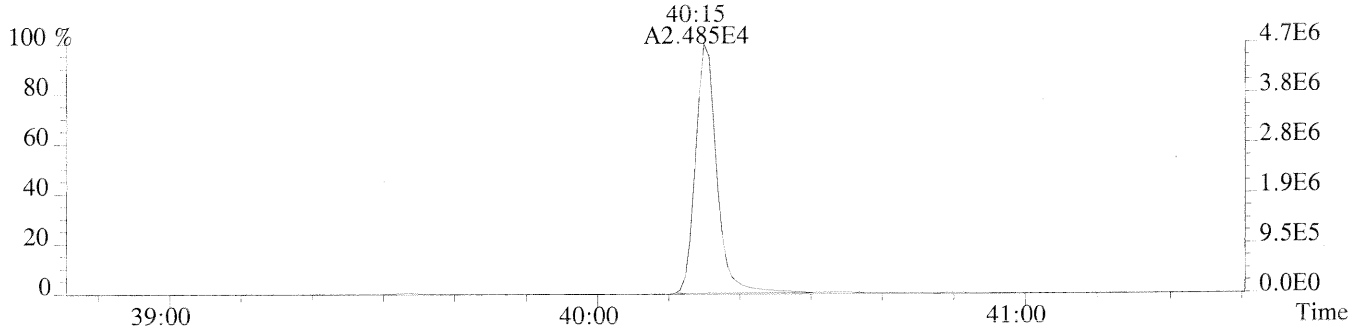
File:P169970 #1-250 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



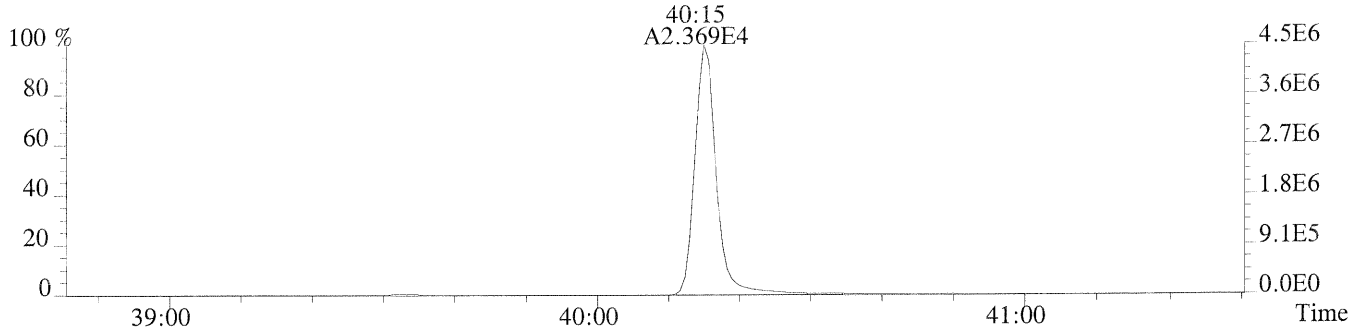
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



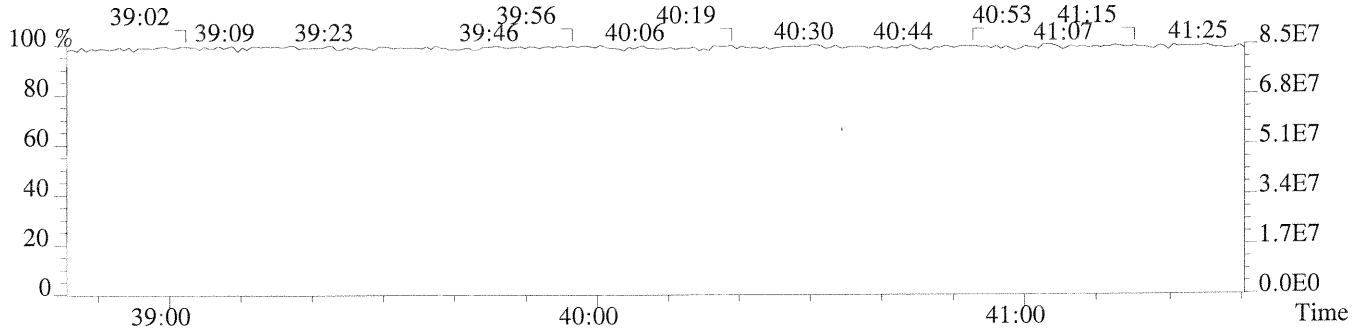
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1492.0,0.40%,F,T)



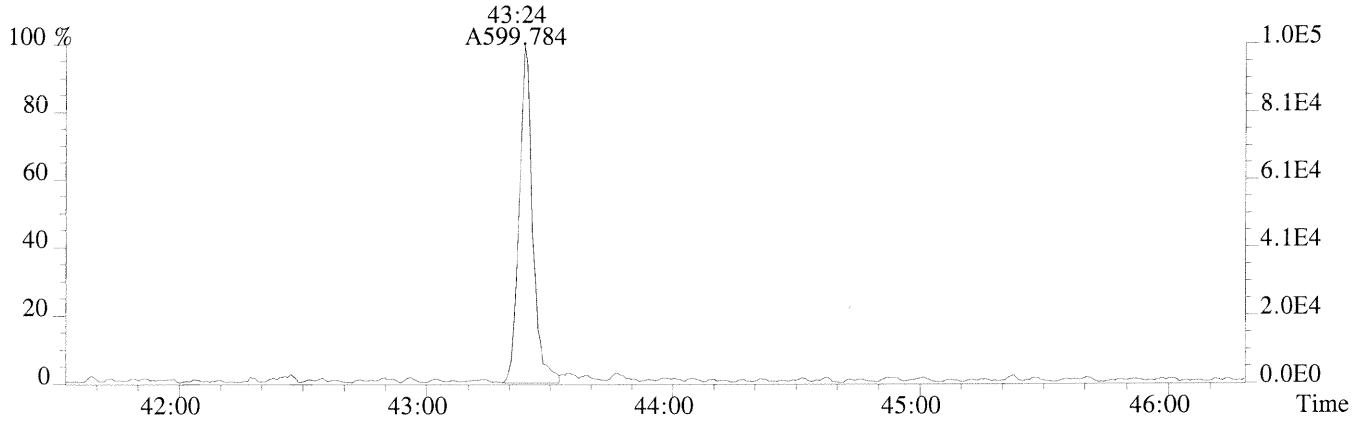
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



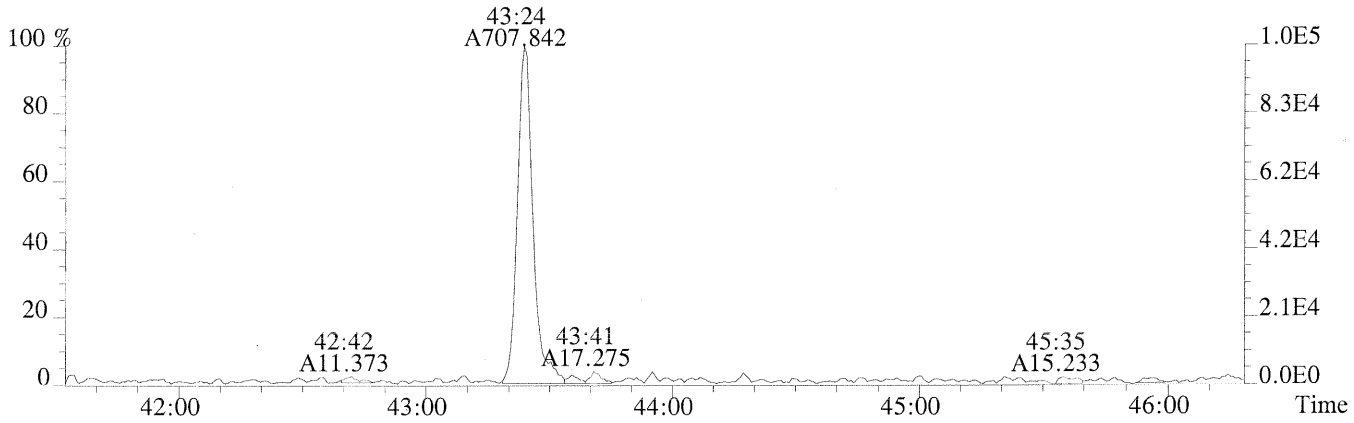
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



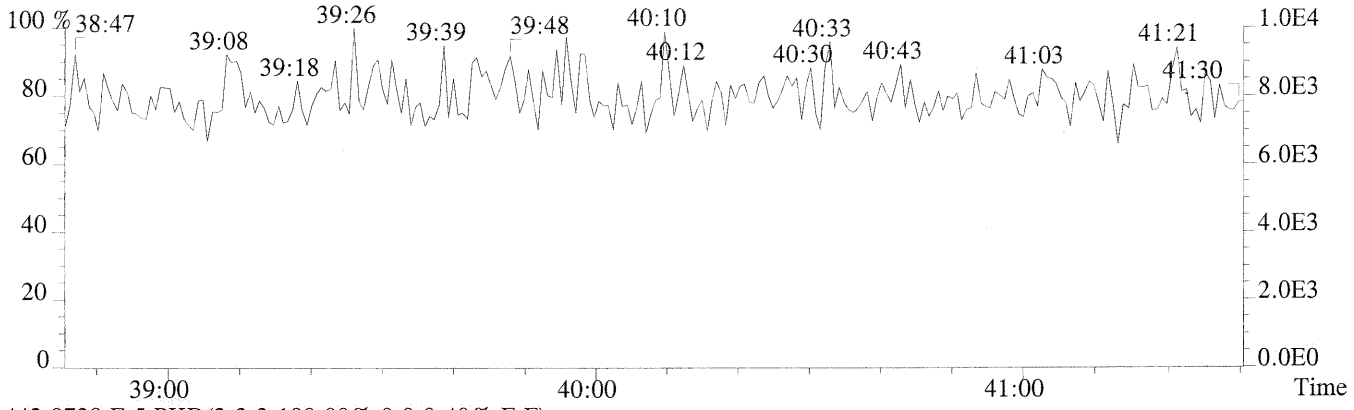
File:P169970 #1-438 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1288.0,0.40%,F,T)



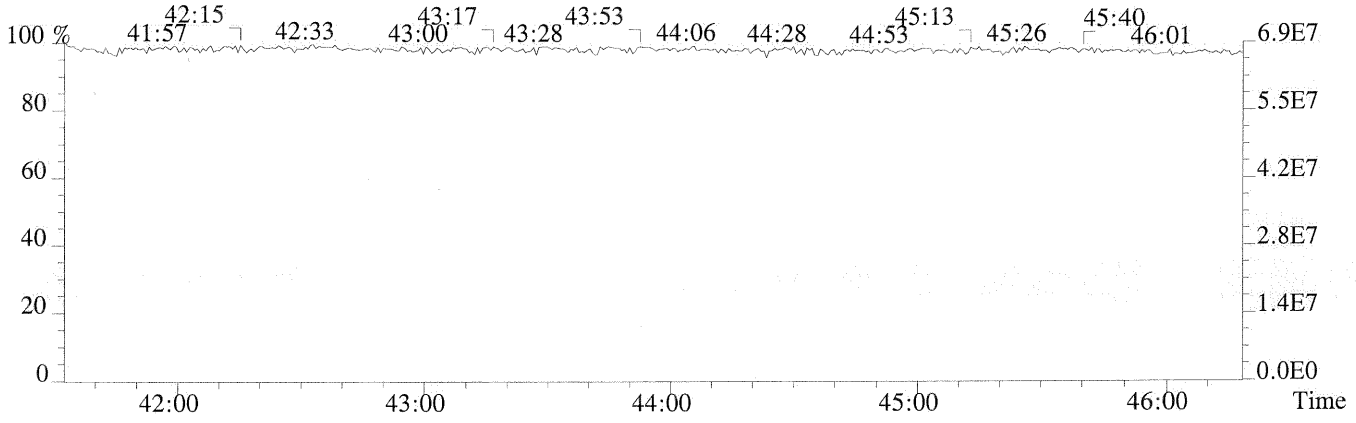
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



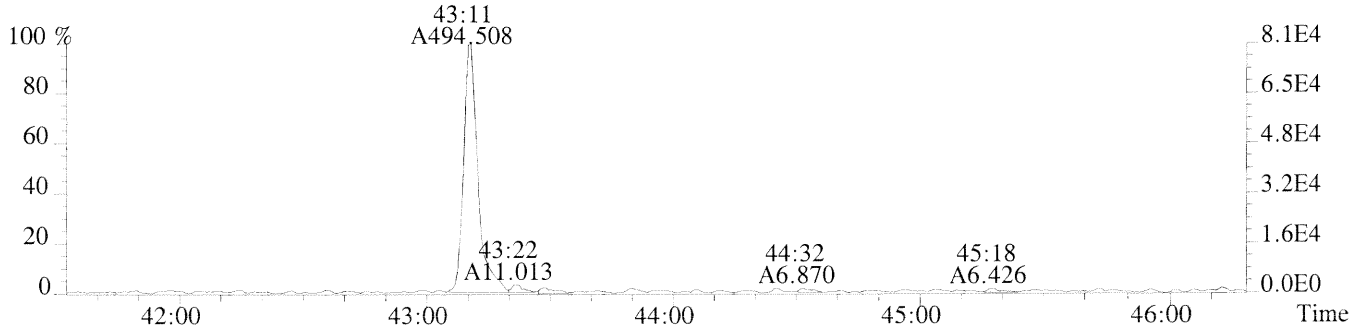
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



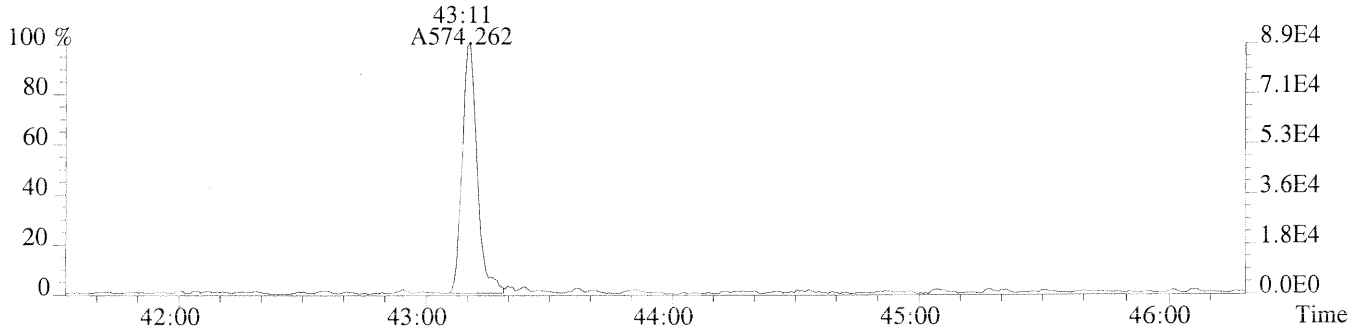
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



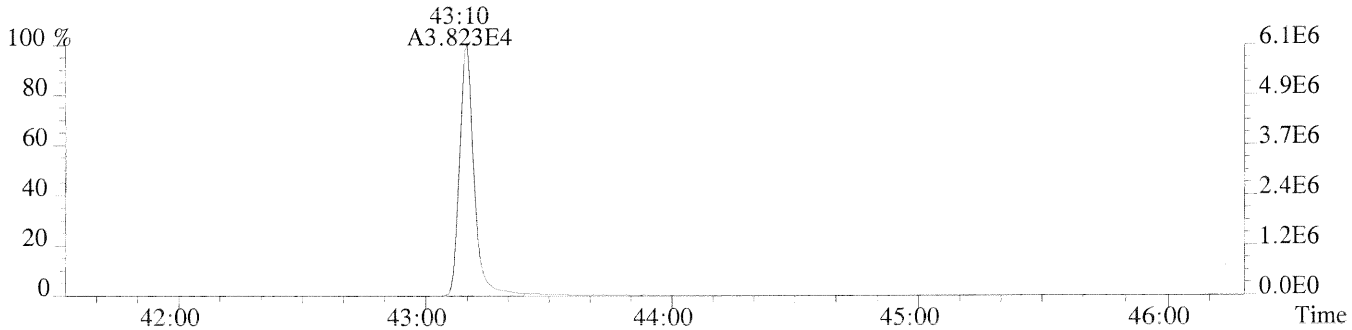
File:P169970 #1-438 Acq:25-MAR-2014 17:22:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC0.5/CS0.5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,784.0,0.40%,F,T)



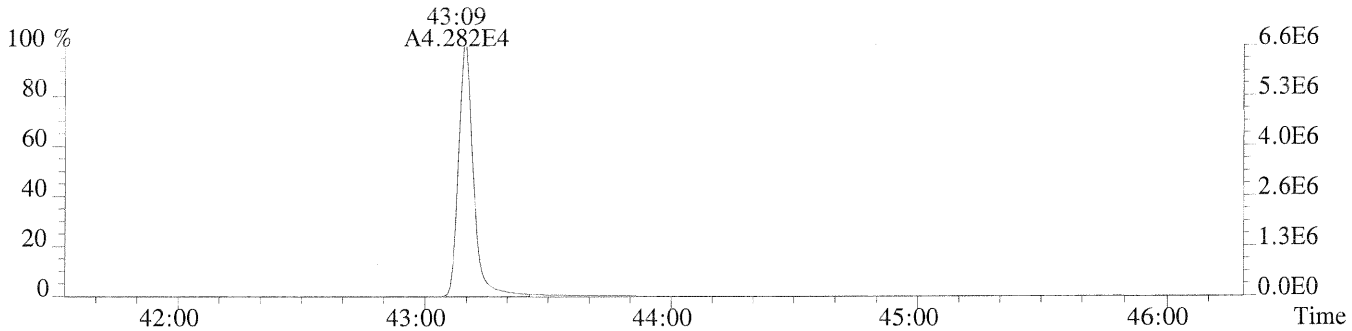
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



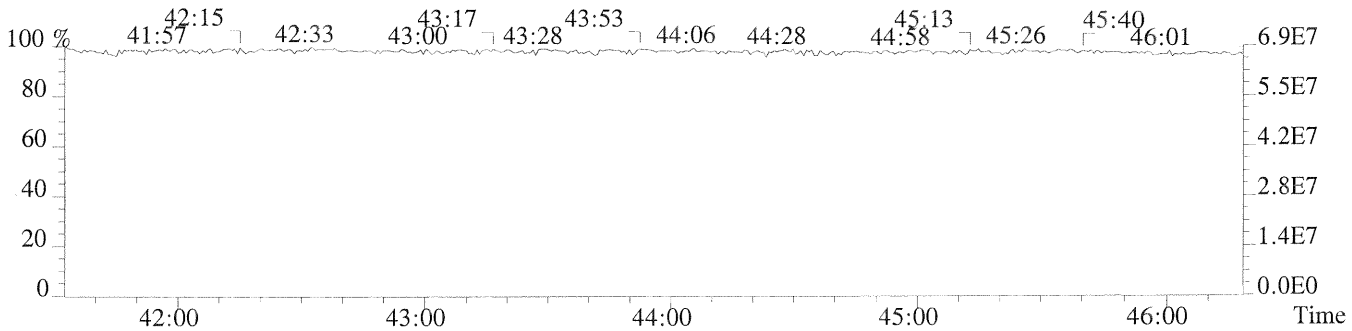
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,676.0,0.40%,F,T)



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)



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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
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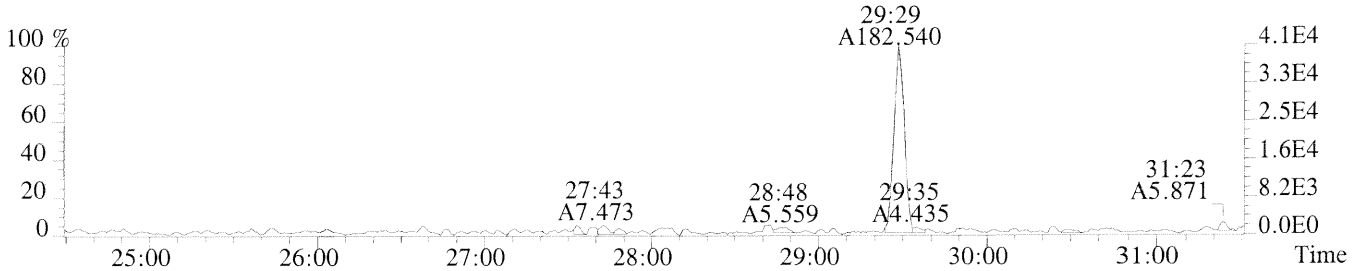
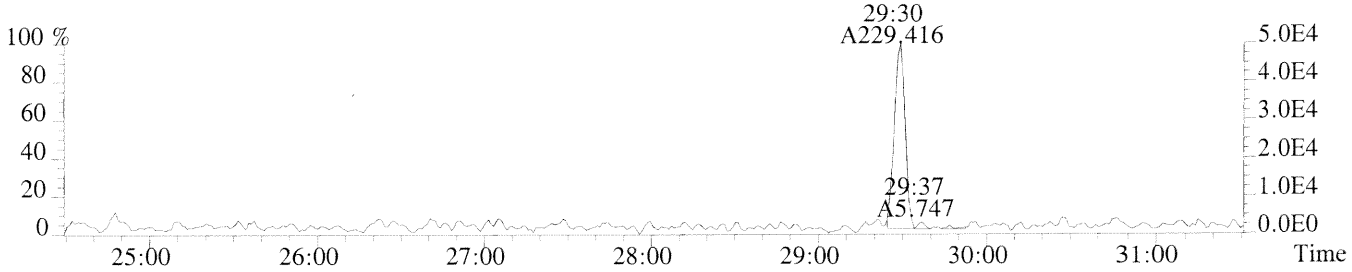
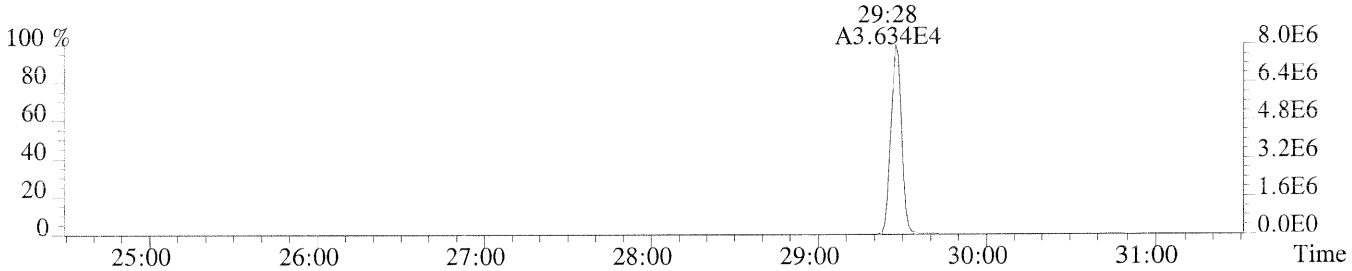
File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,T)



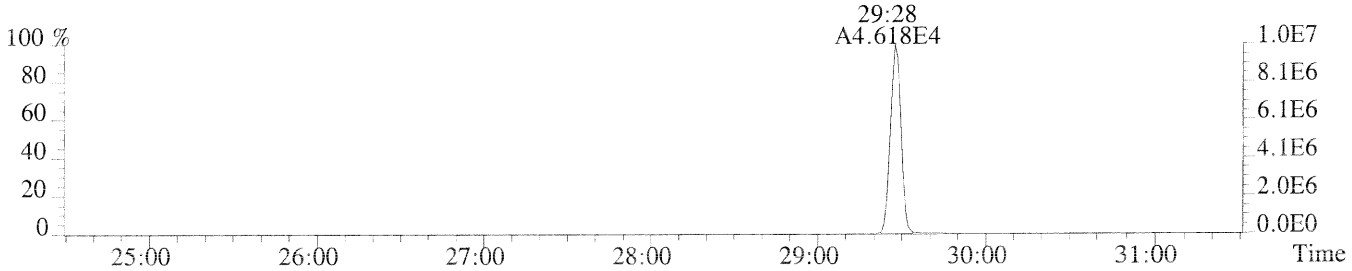
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2560.0,1.00%,F,T)



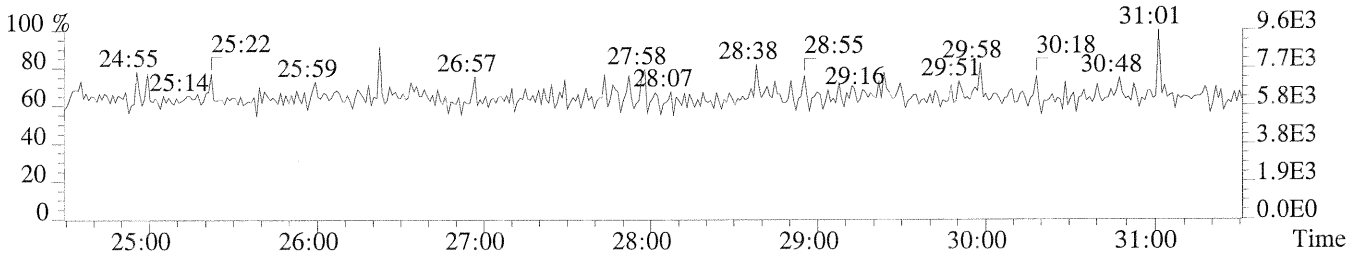
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



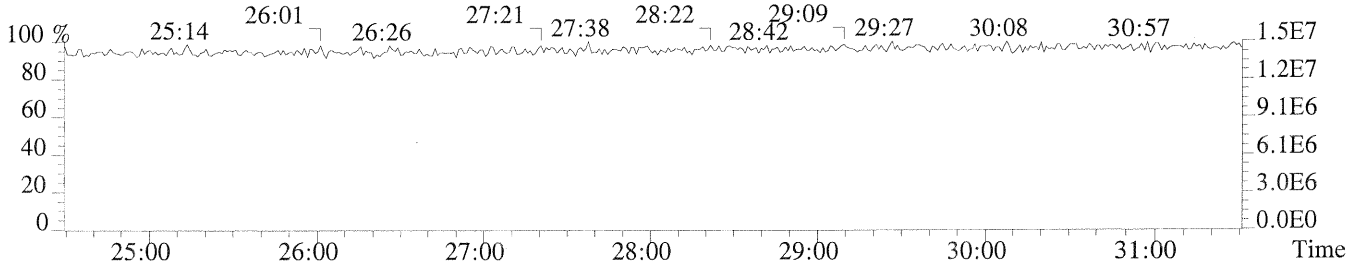
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



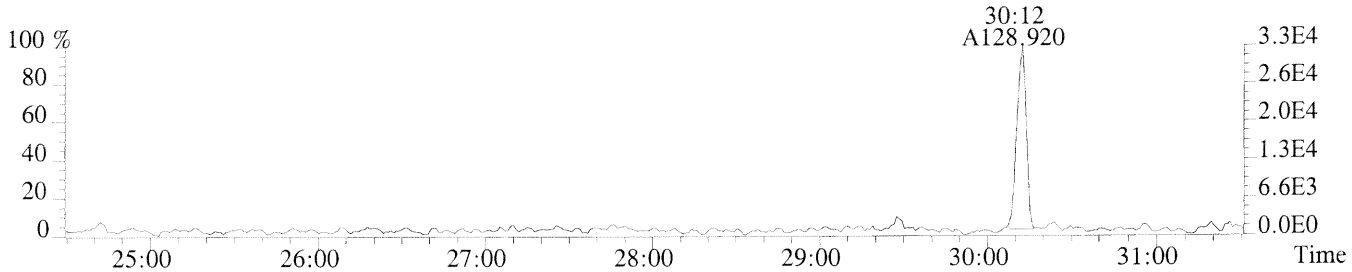
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



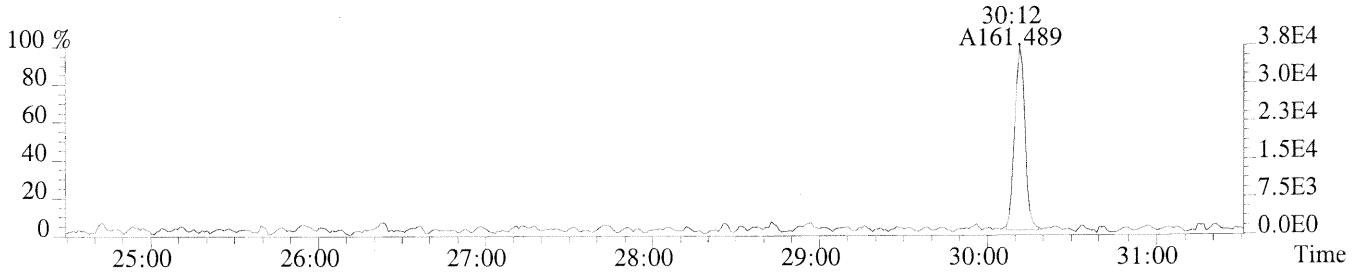
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



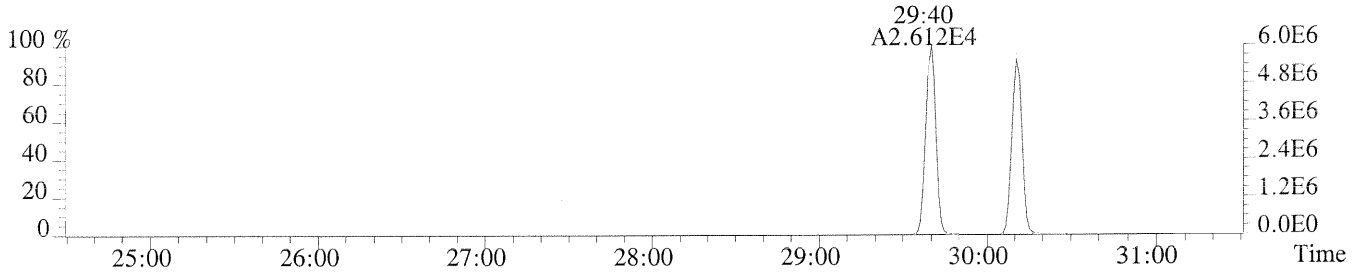
File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



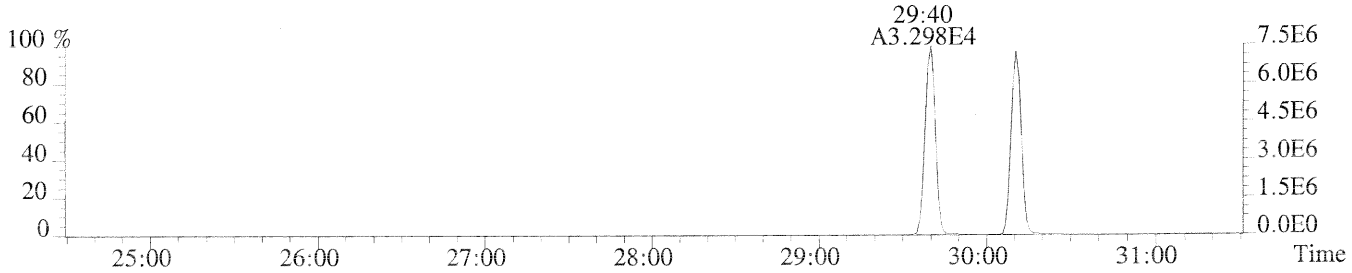
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



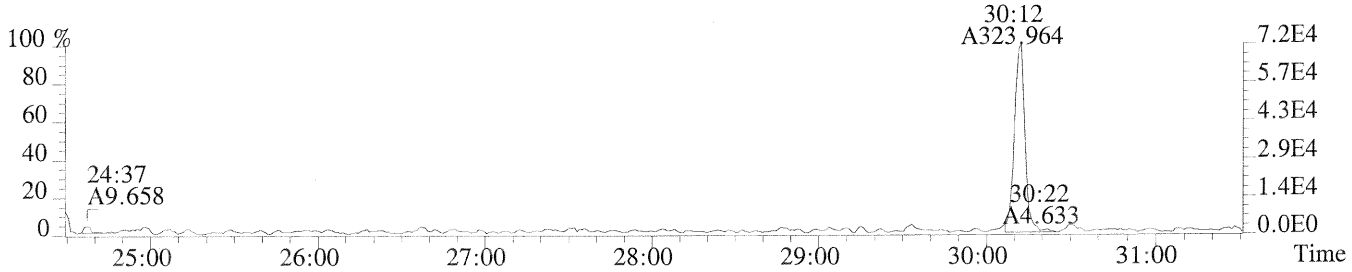
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4308.0,1.00%,F,T)



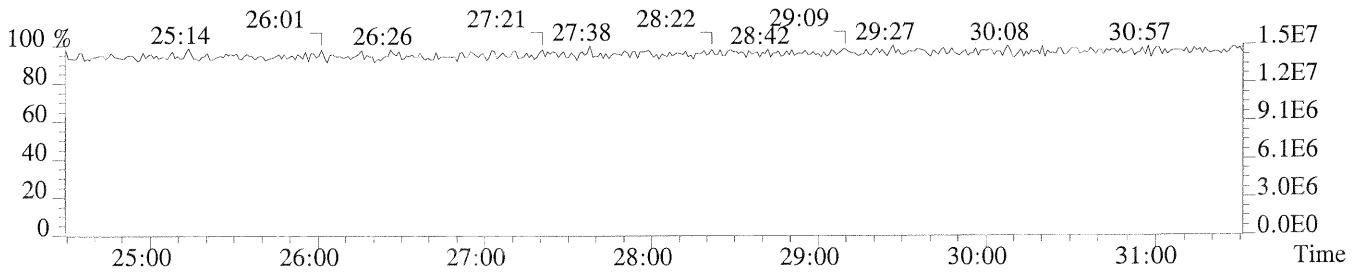
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1976.0,1.00%,F,T)



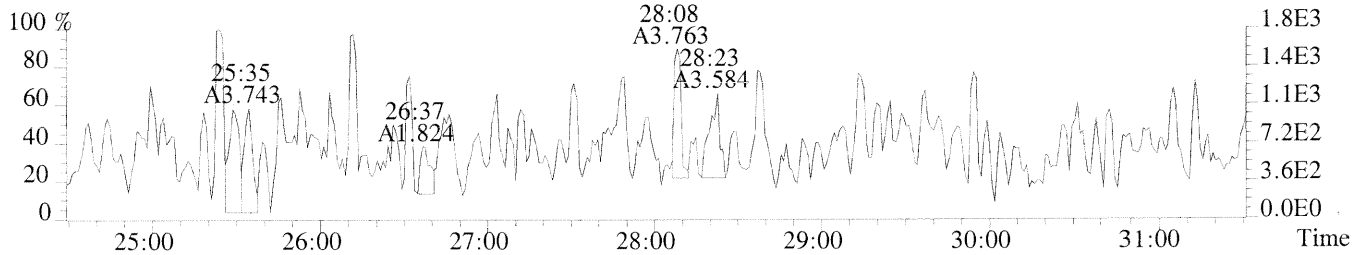
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1992.0,1.00%,F,T)



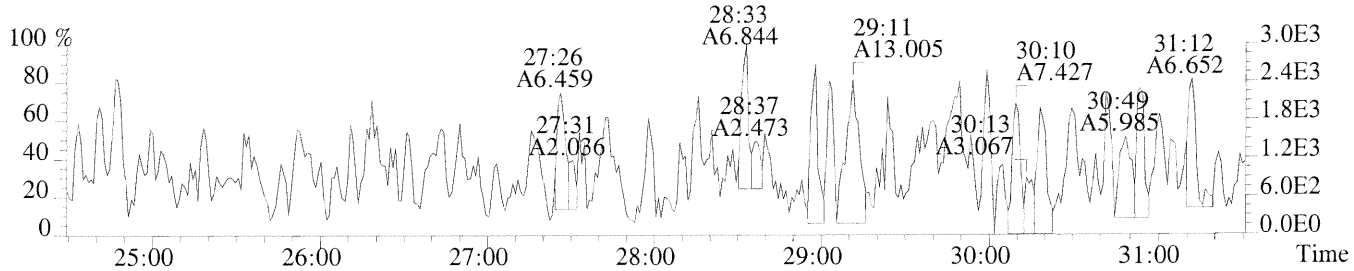
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



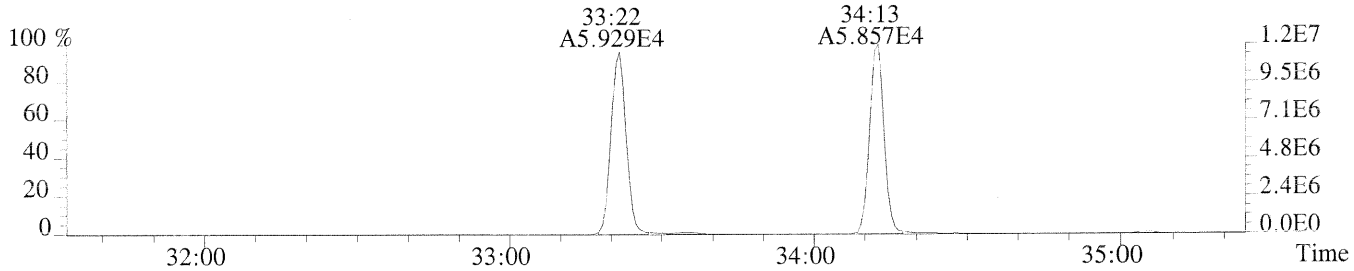
File:P169971 #1-442 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



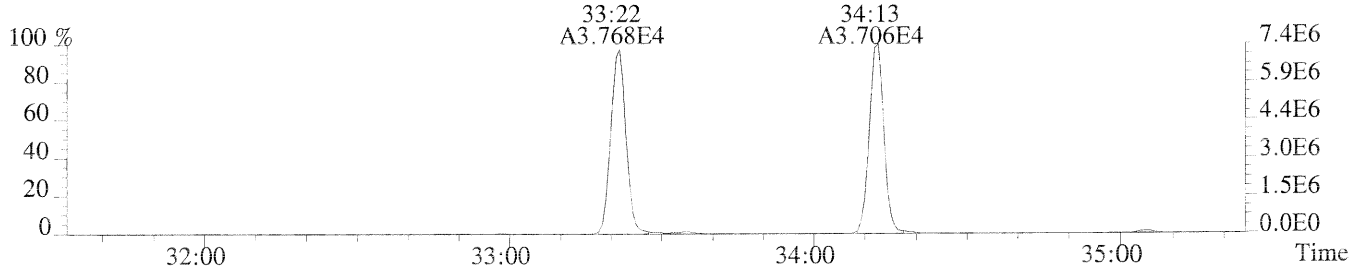
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1176.0,1.00%,F,T)



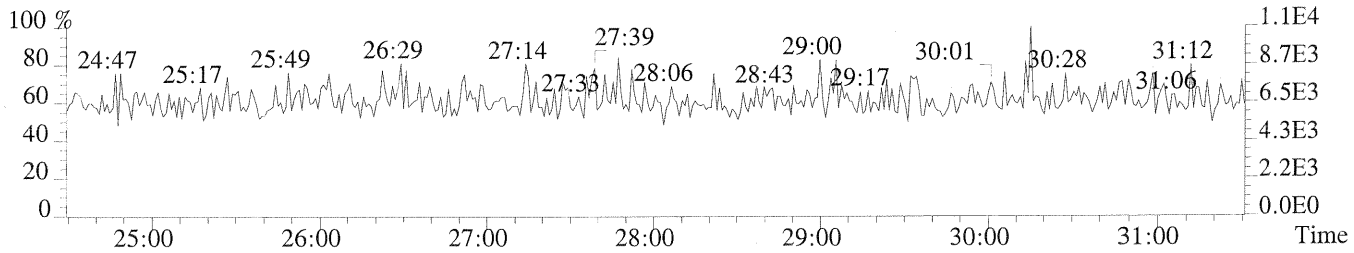
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



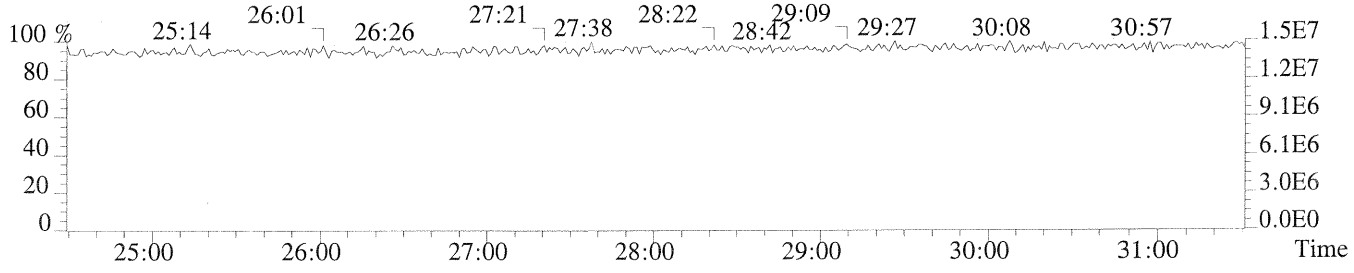
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

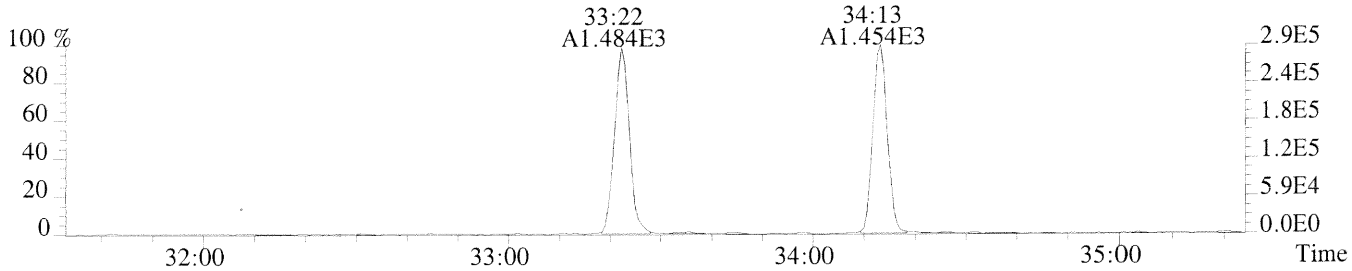


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

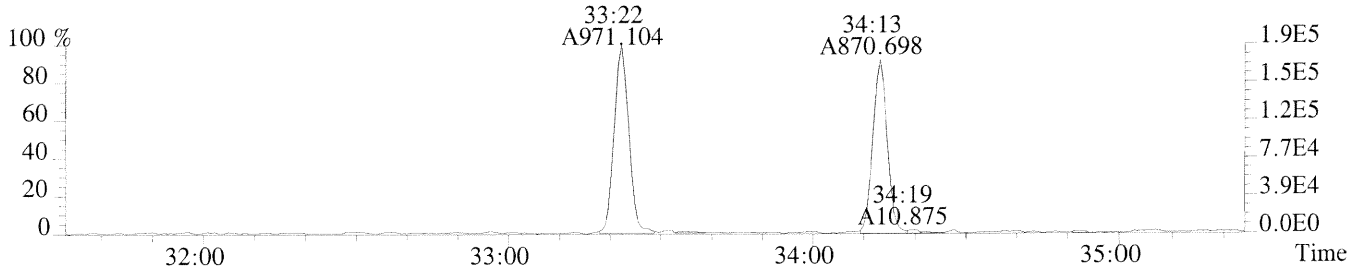


File:P169971 #1-350 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1

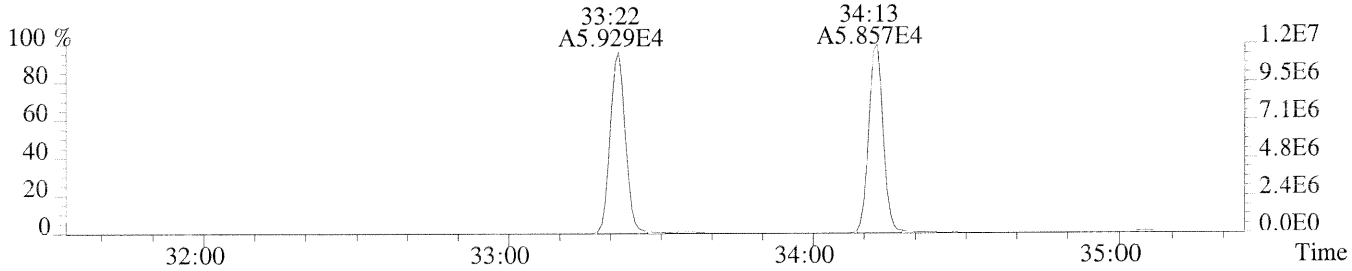
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



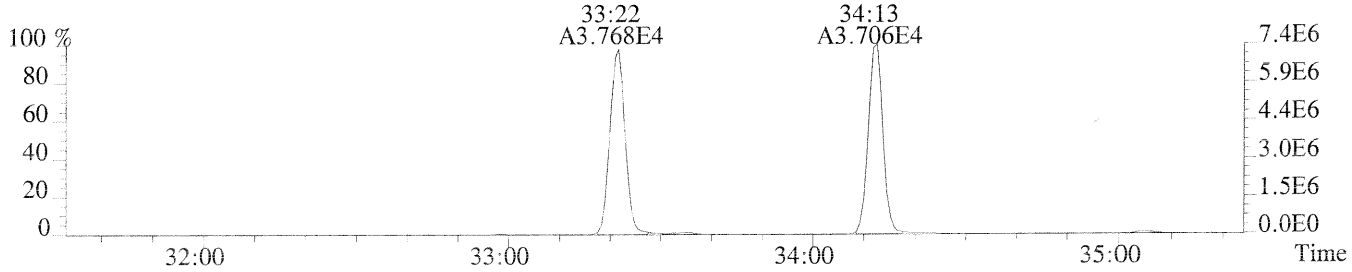
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



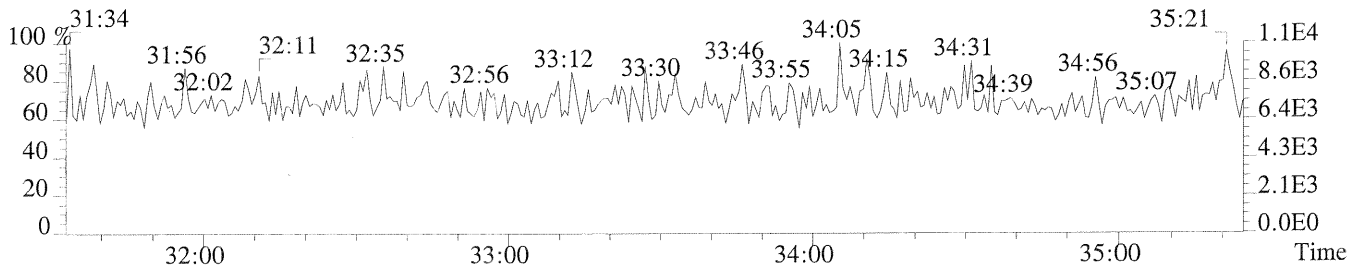
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



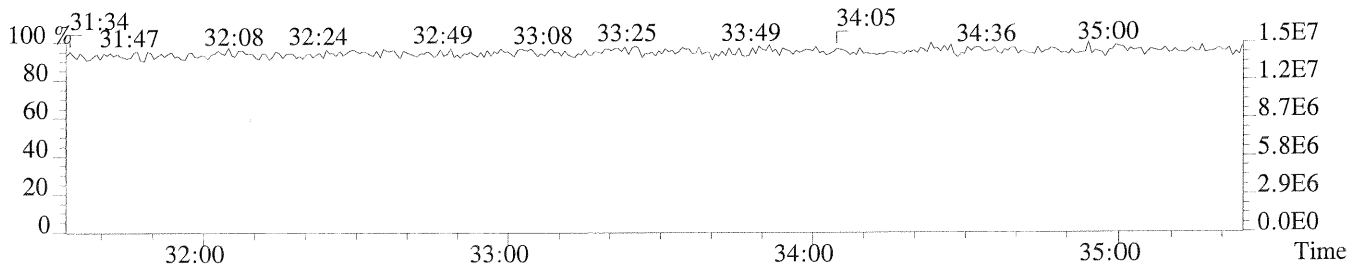
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



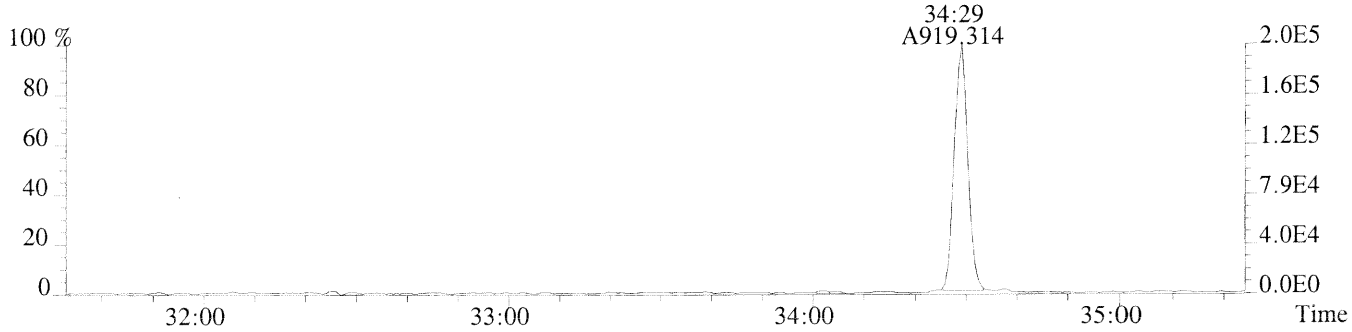
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



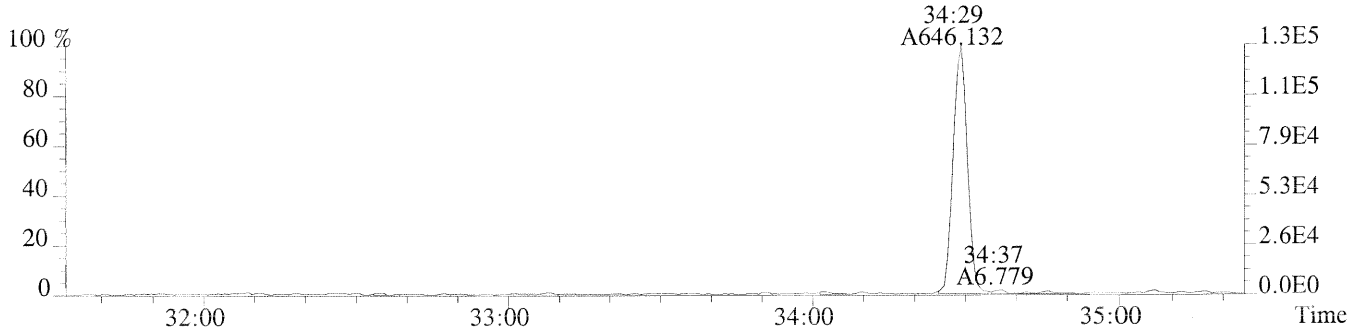
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



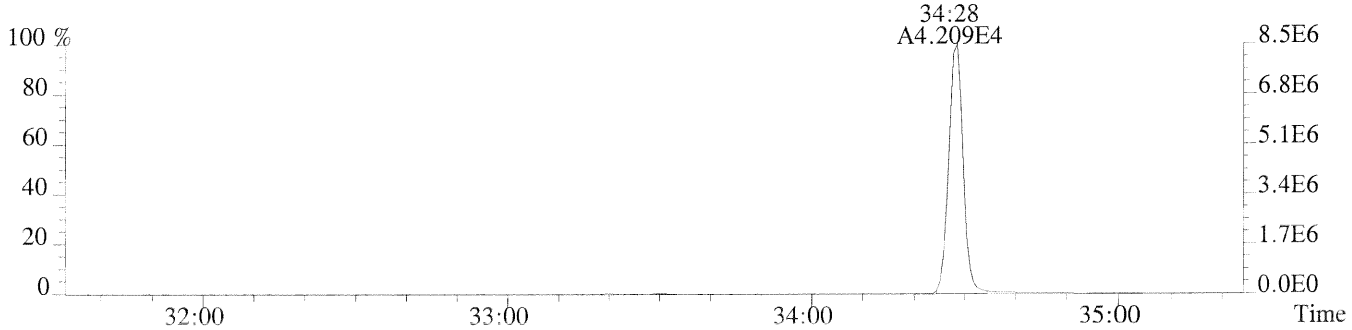
File:P169971 #1-350 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



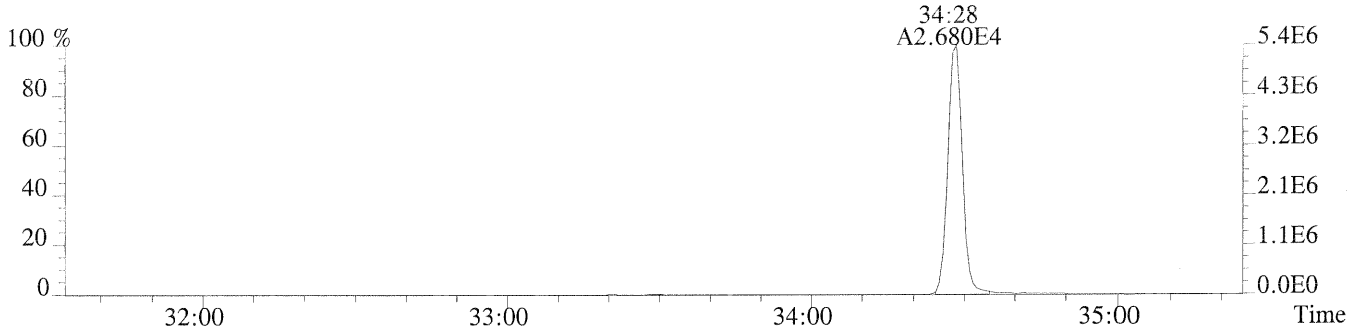
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



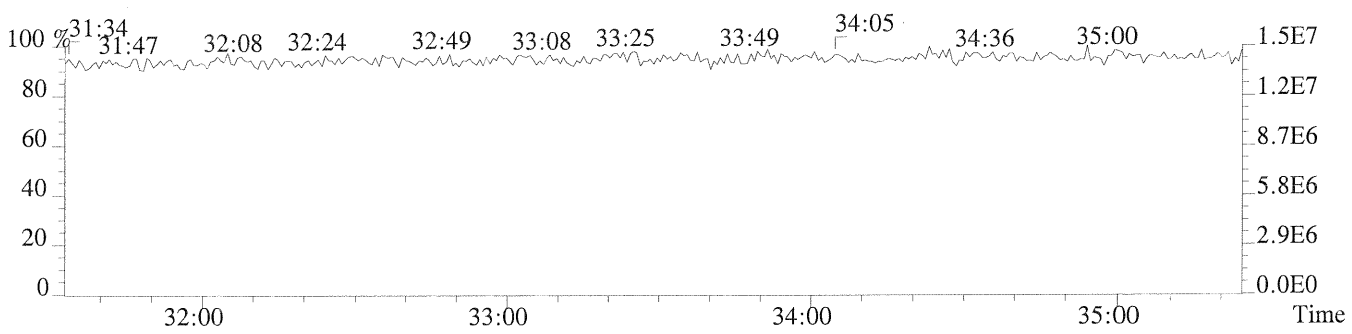
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



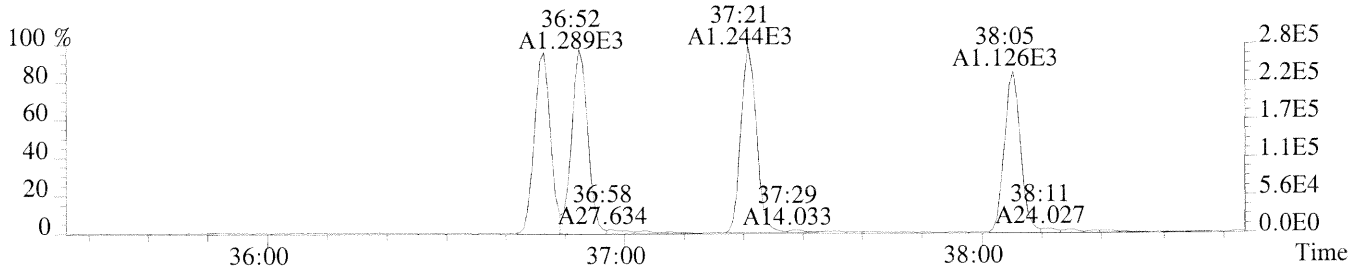
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



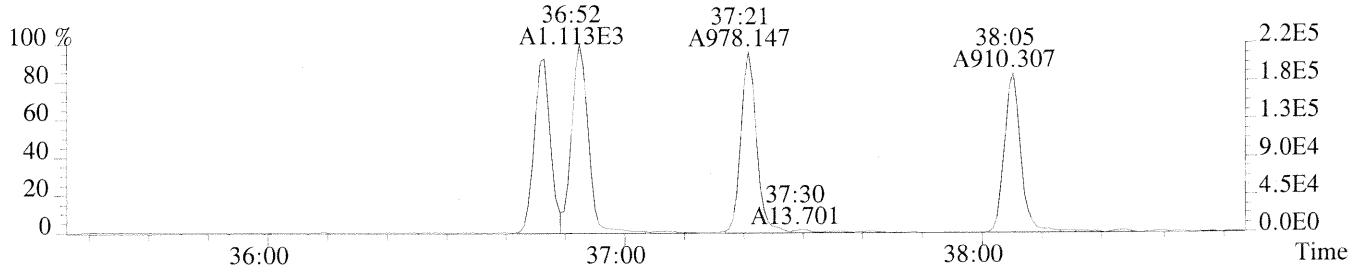
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



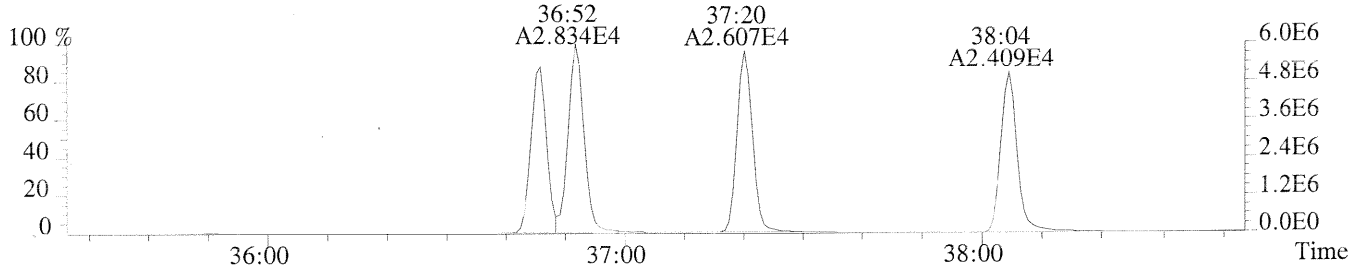
File:P169971 #1-299 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



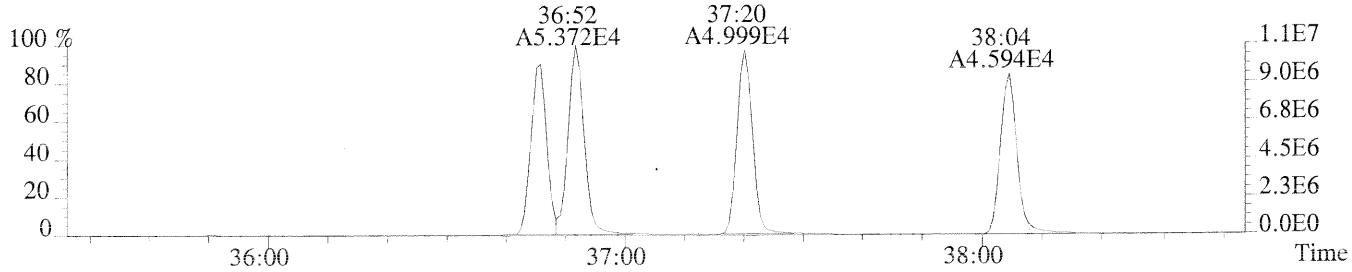
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



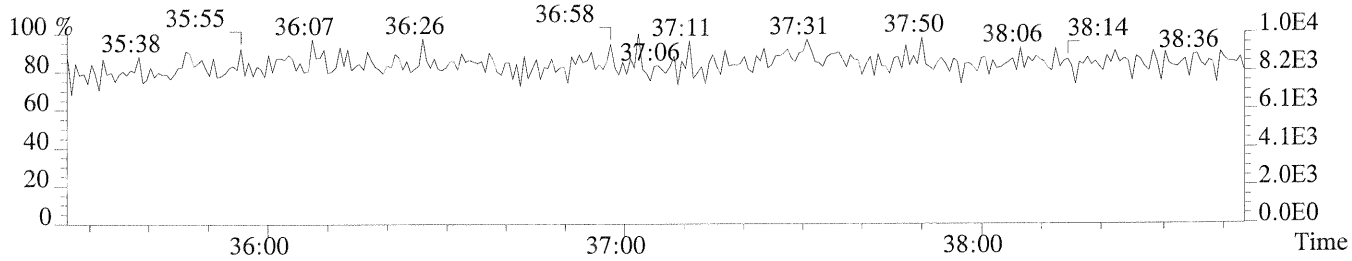
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



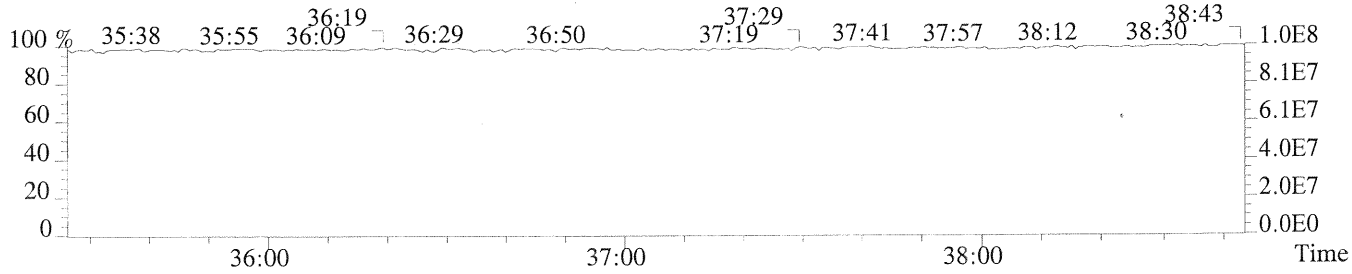
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,T)



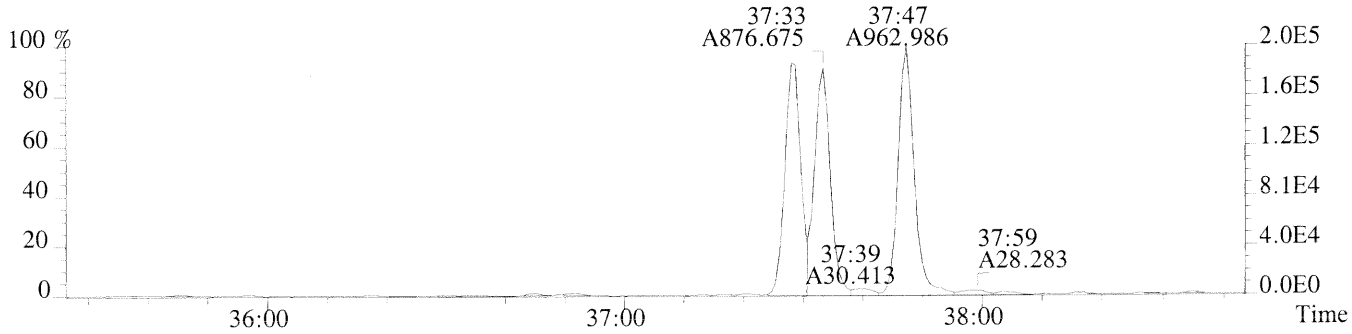
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



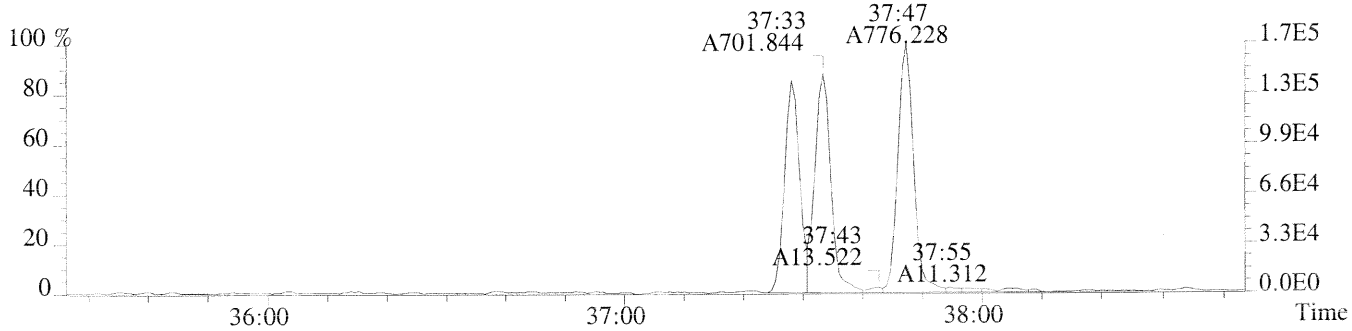
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



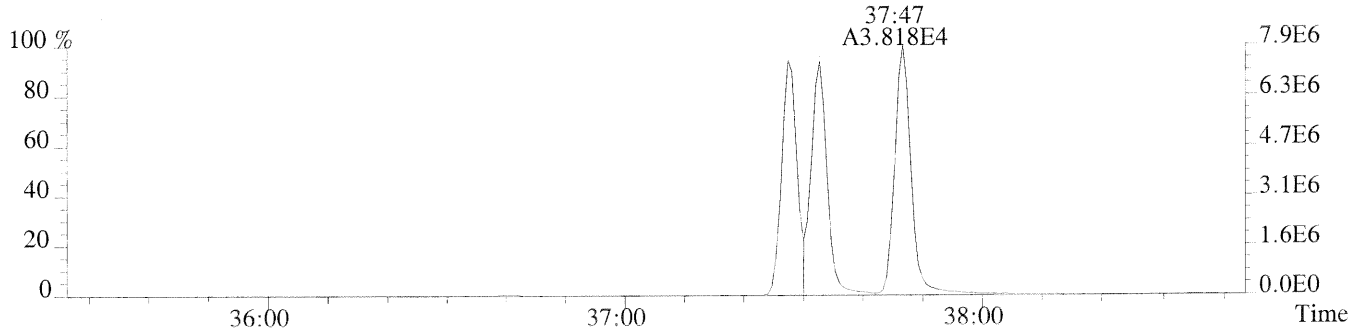
File:P169971 #1-299 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



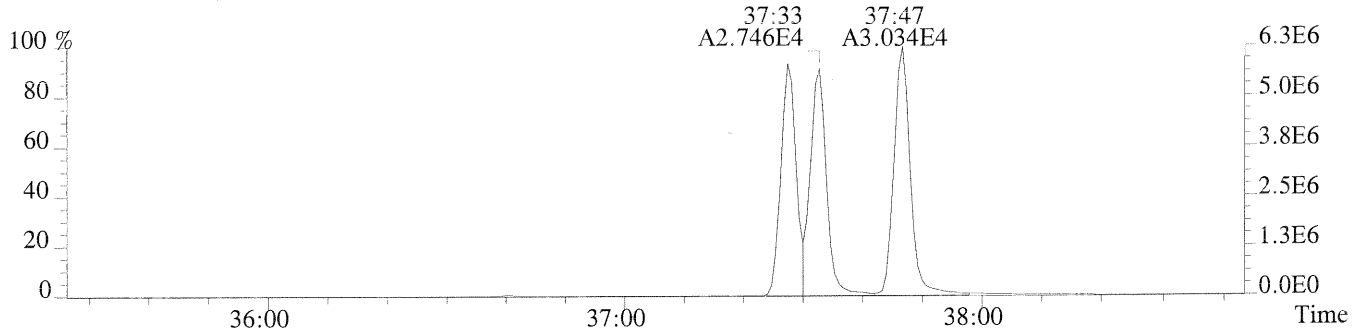
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,T)



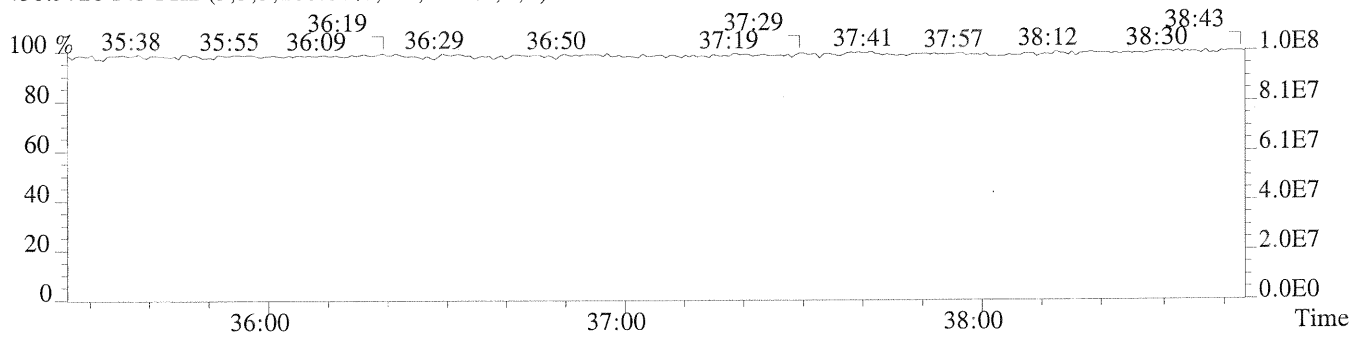
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1424.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1400.0,0.40%,F,T)

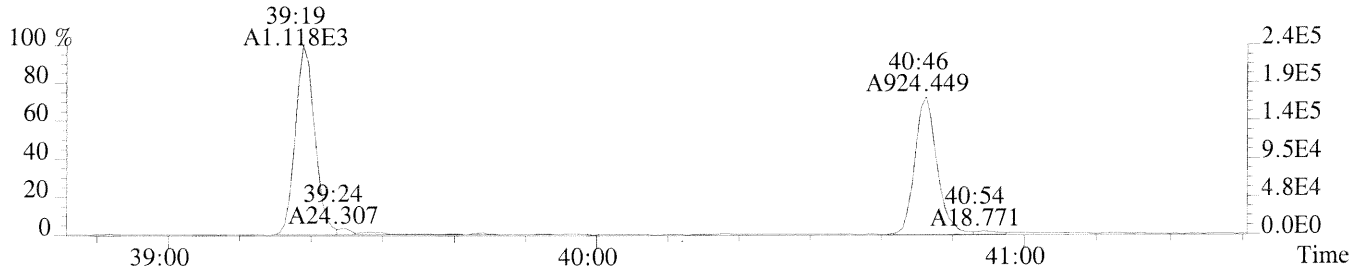


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

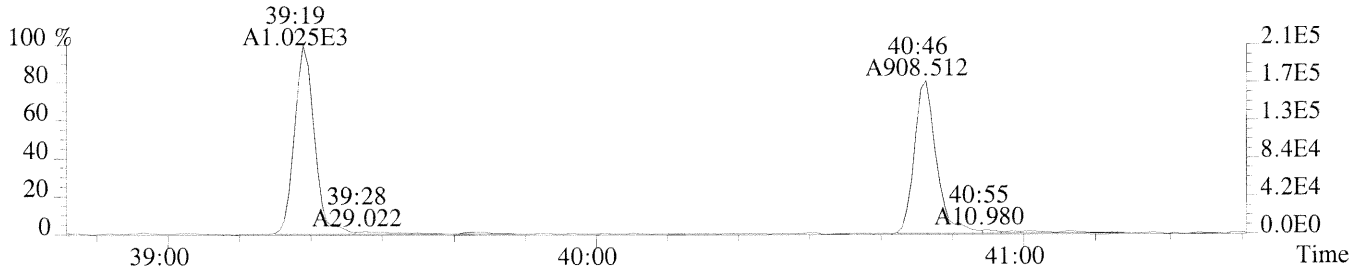


File:P169971 #1-250 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1

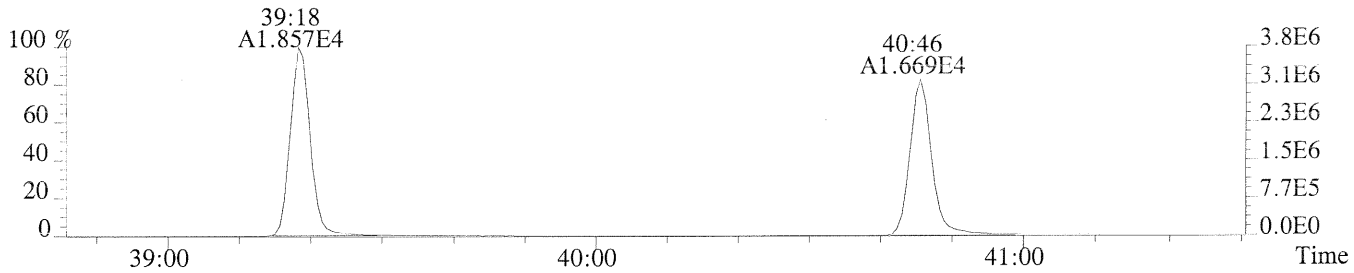
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.50%,F,T)



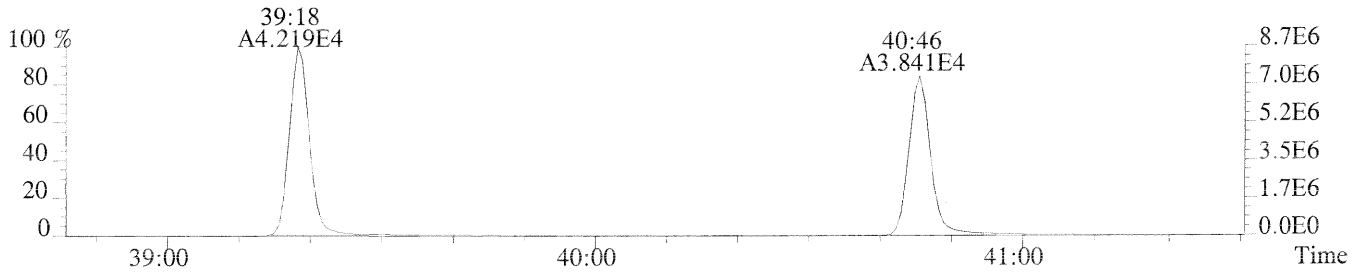
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.50%,F,T)



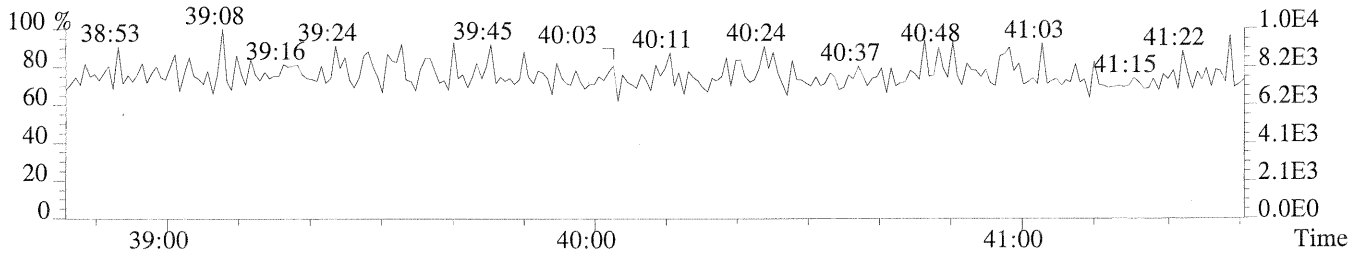
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3040.0,0.50%,F,T)



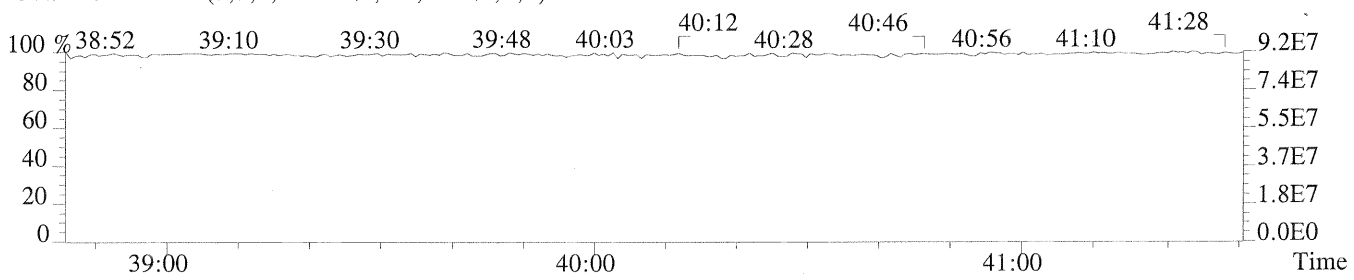
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5600.0,0.50%,F,T)



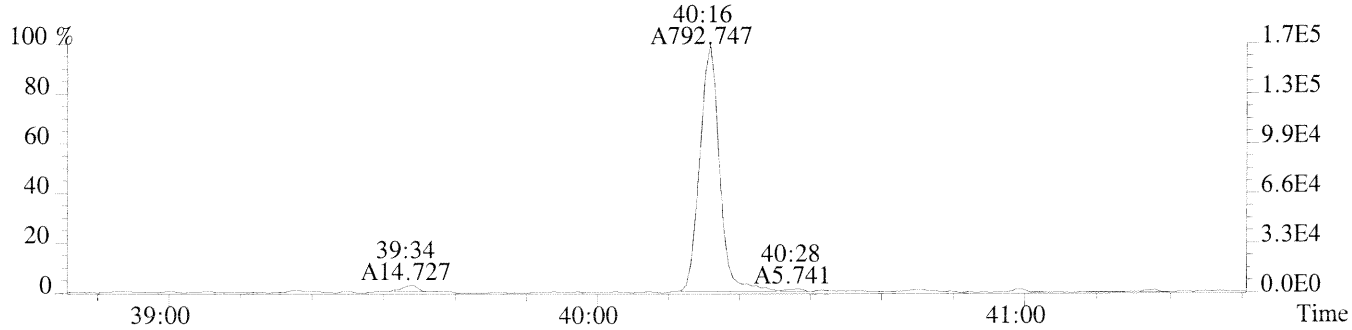
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



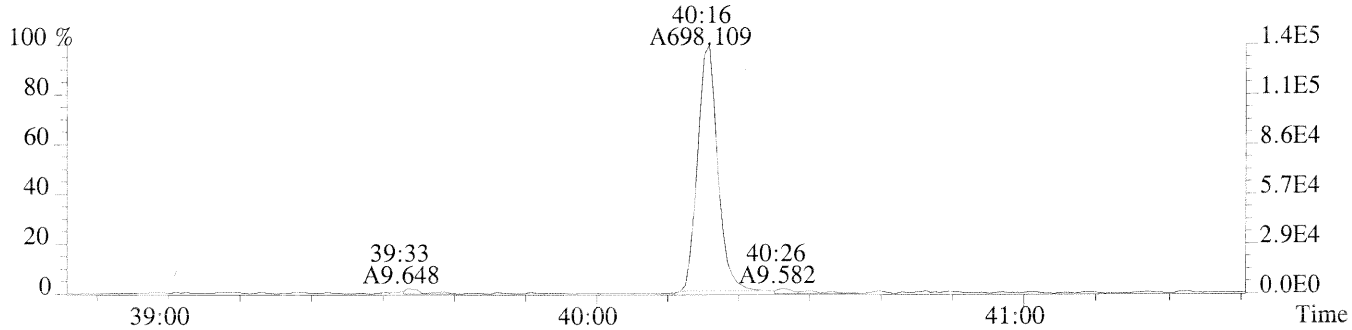
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



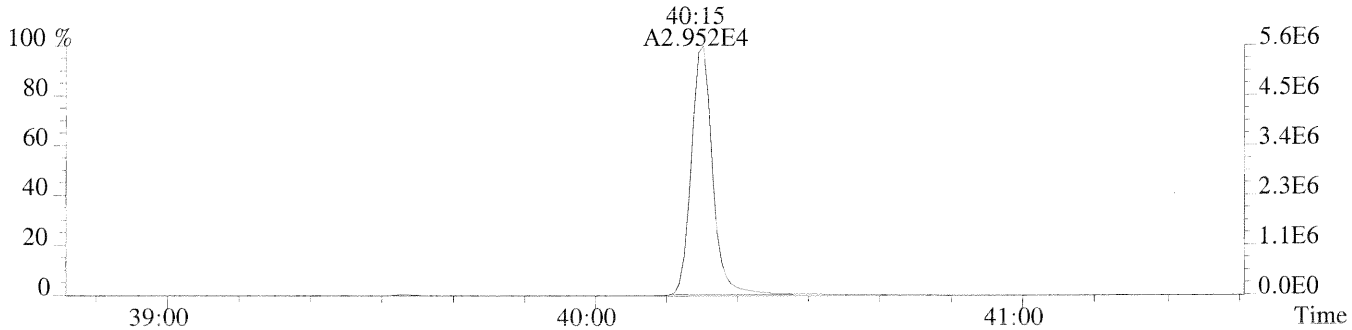
File:P169971 #1-250 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1020.0,0.40%,F,T)



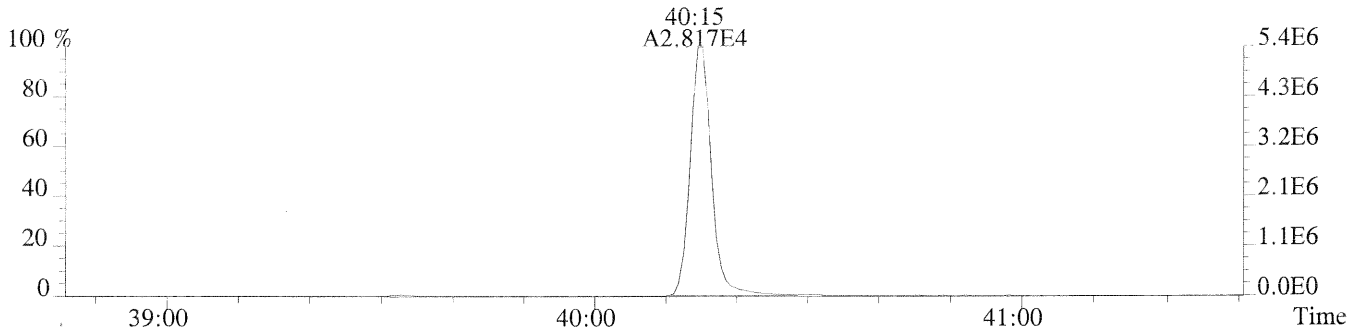
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



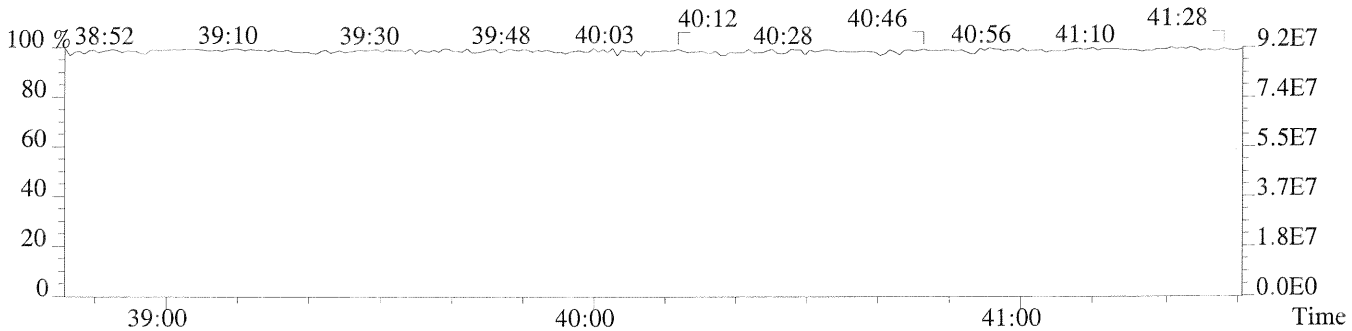
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1876.0,0.40%,F,T)



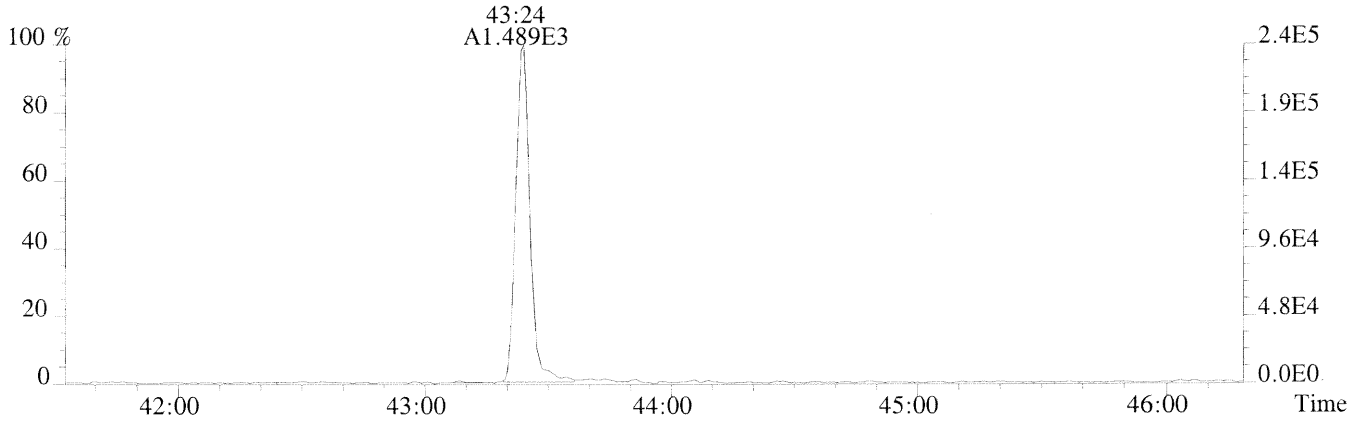
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1140.0,0.40%,F,T)



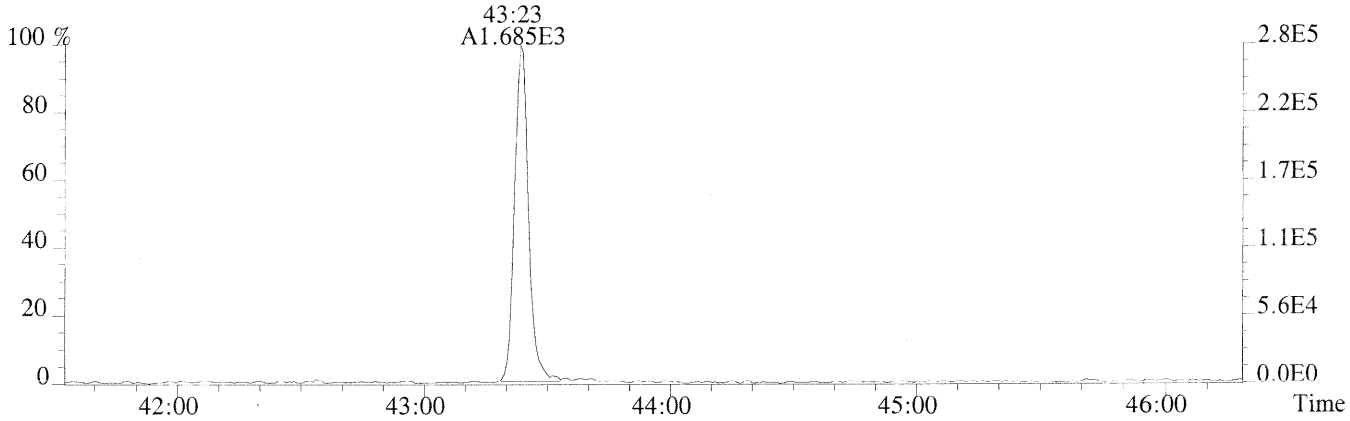
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



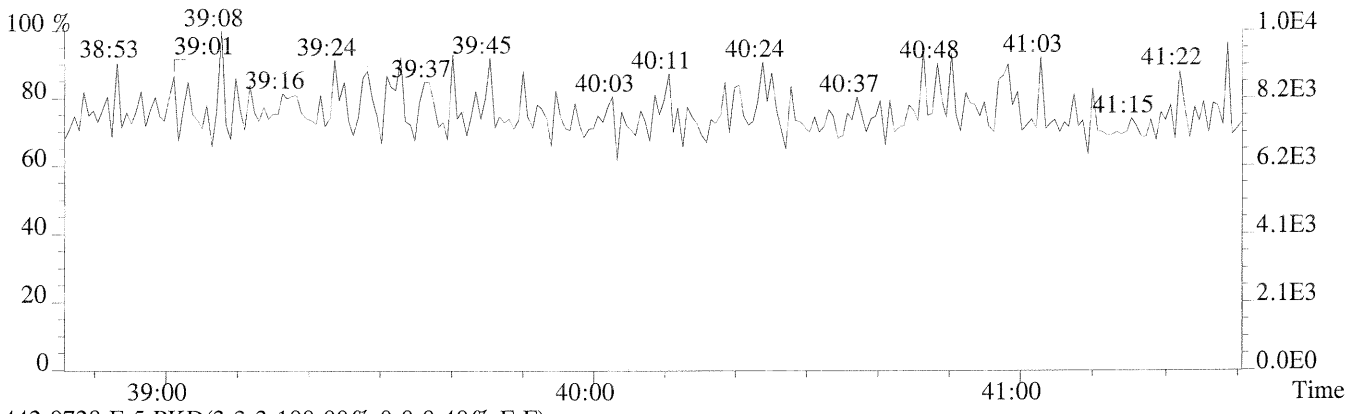
File:P169971 #1-438 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1/CS1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1236.0,0.40%,F,T)



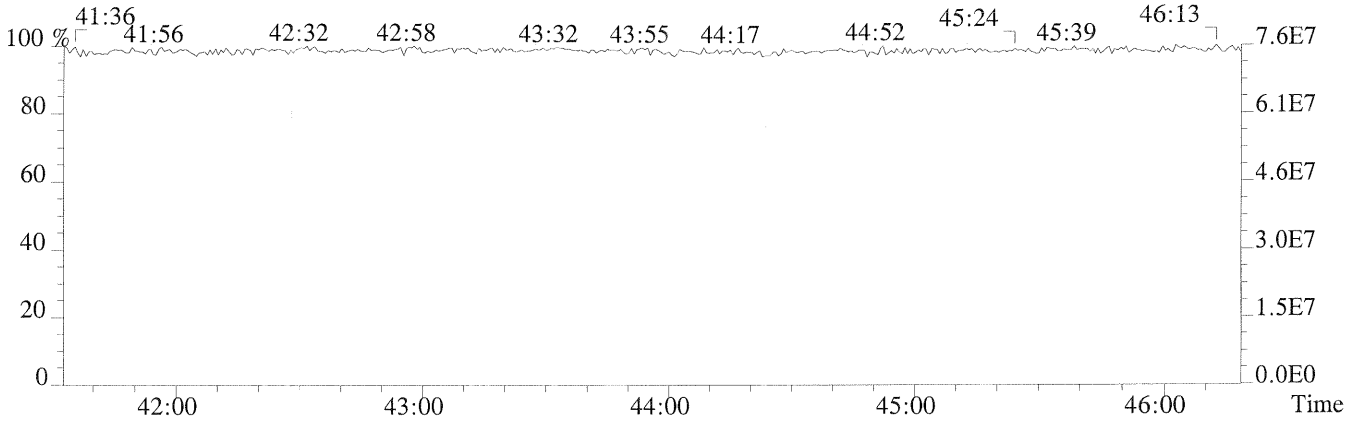
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1896.0,0.40%,F,T)



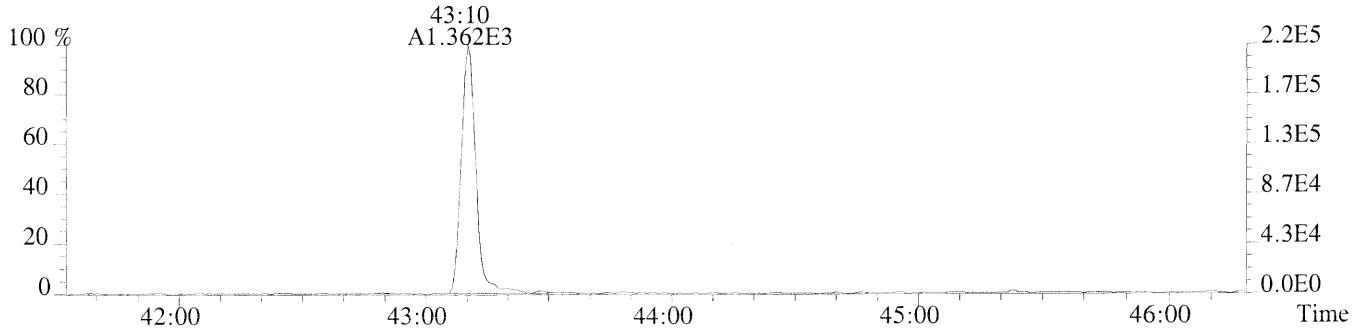
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



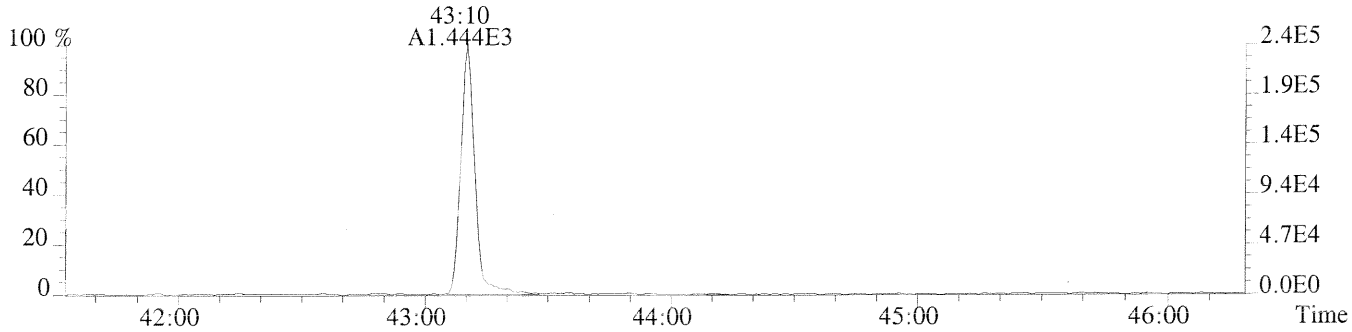
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



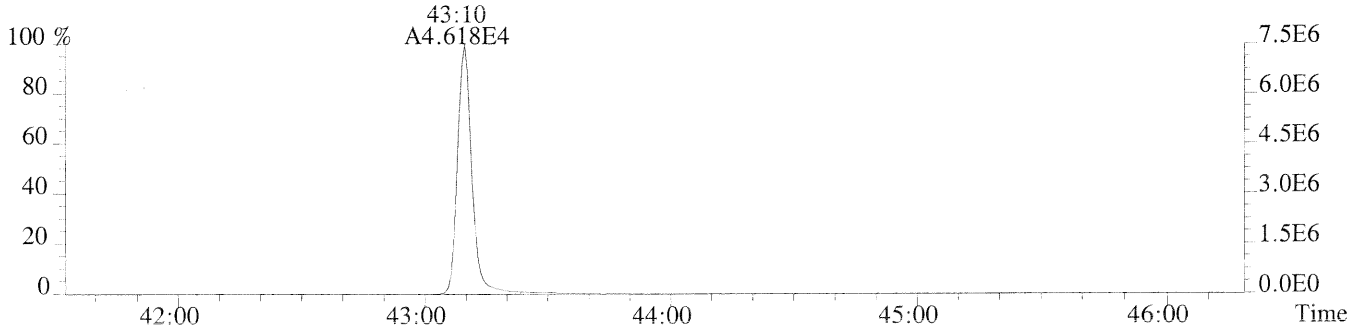
File:P169971 #1-438 Acq:25-MAR-2014 18:10:10 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:ICAL HRCC1/CS1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



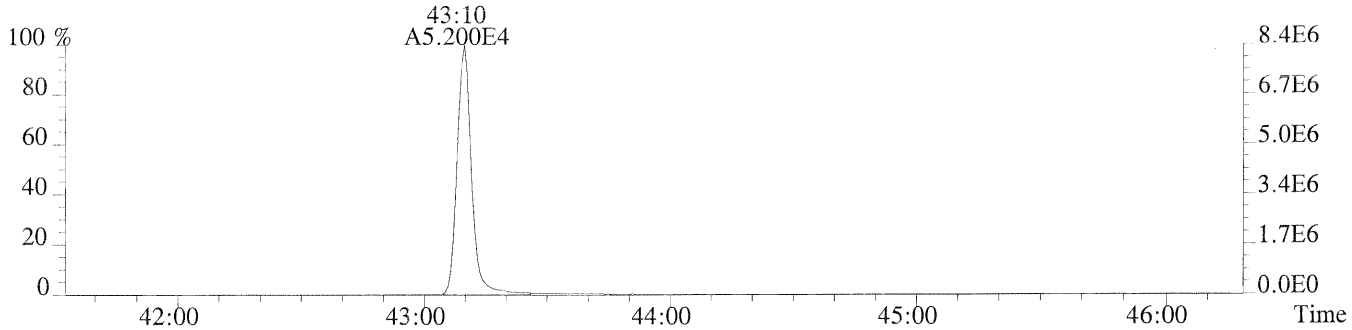
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,712.0,0.40%,F,T)



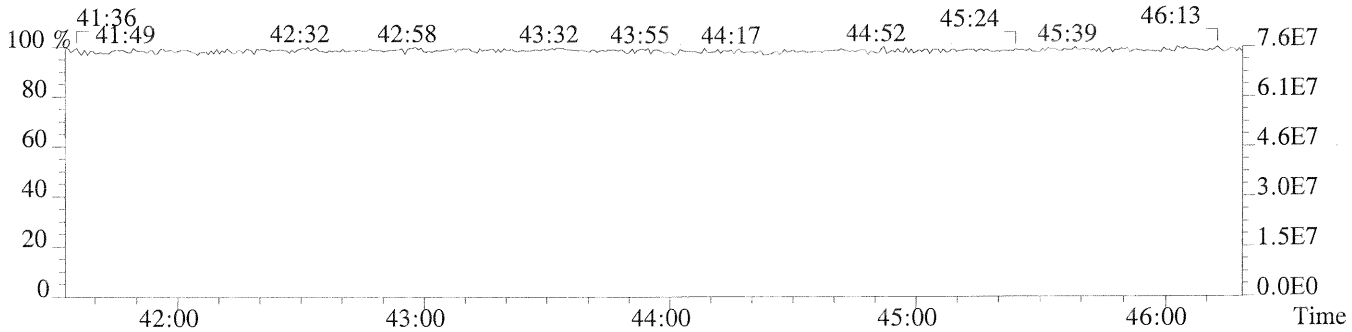
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,892.0,0.40%,F,T)



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

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.
D12-90-3B

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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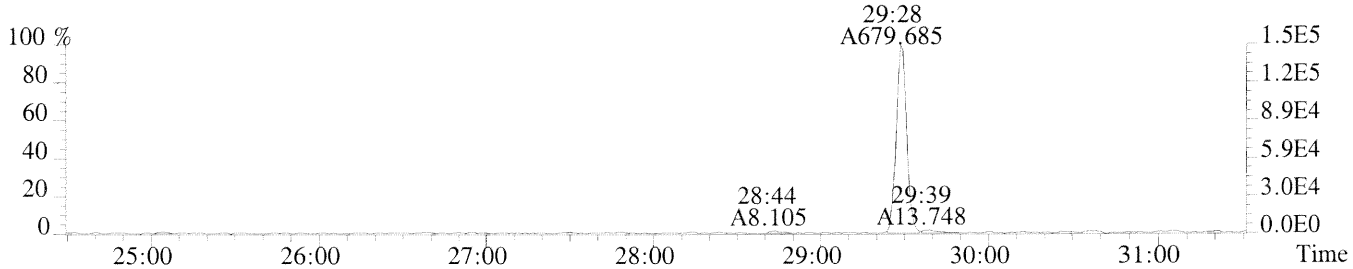
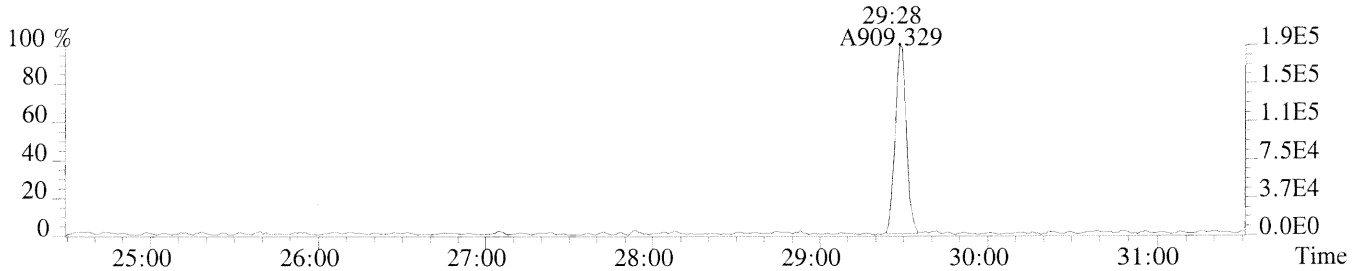
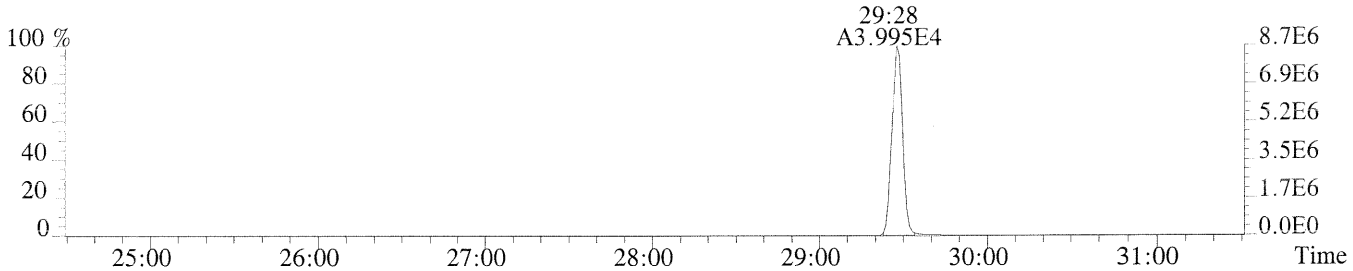
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



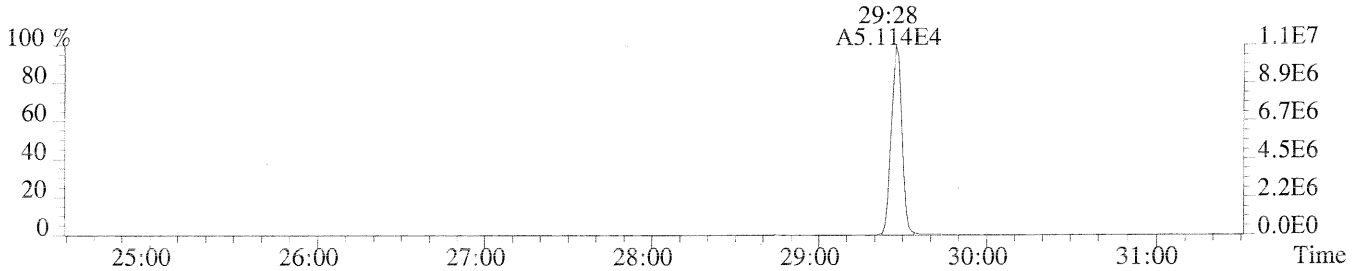
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3372.0,1.00%,F,T)



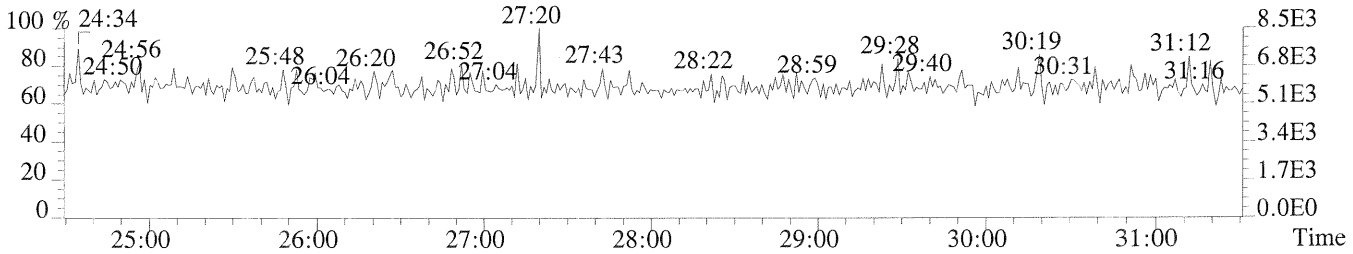
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



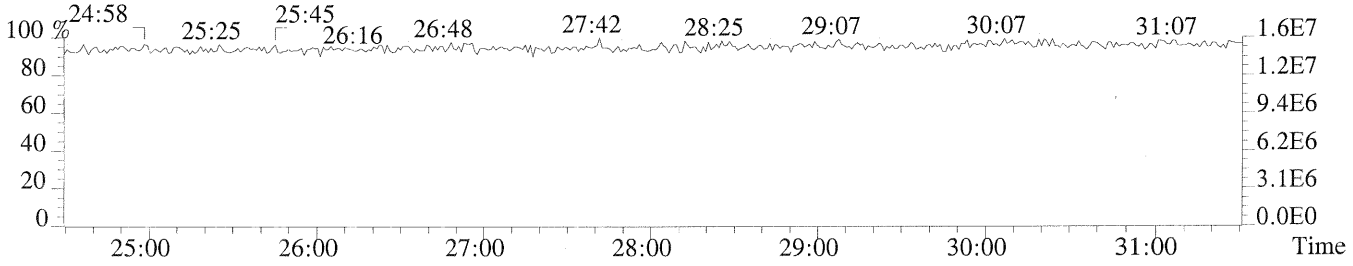
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1760.0,1.00%,F,T)



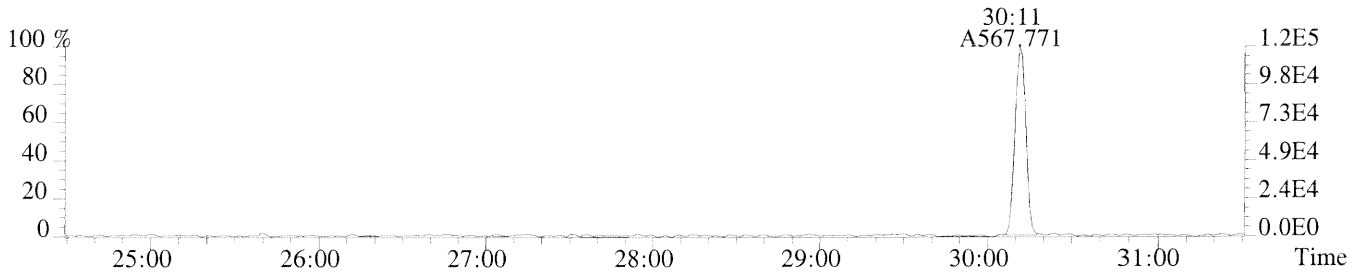
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



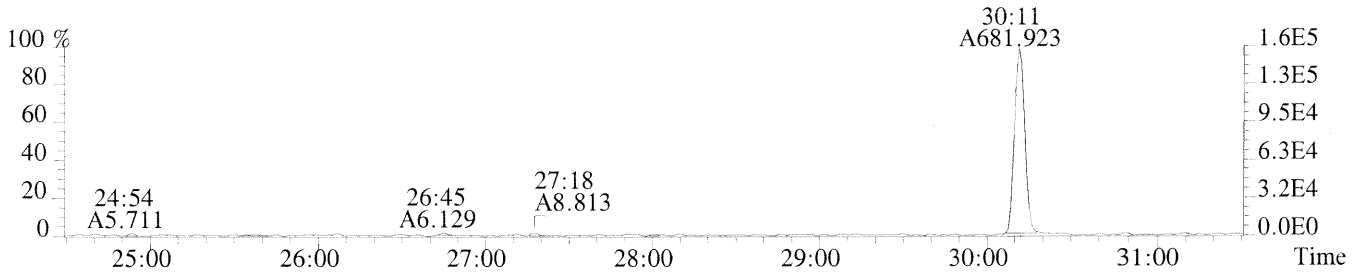
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



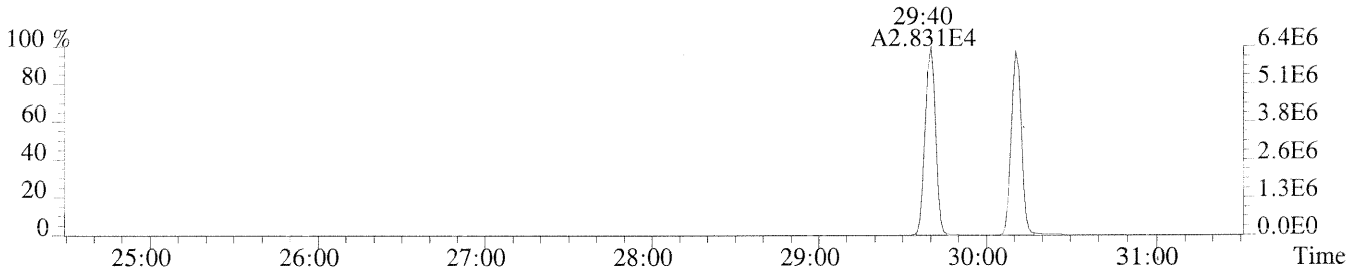
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



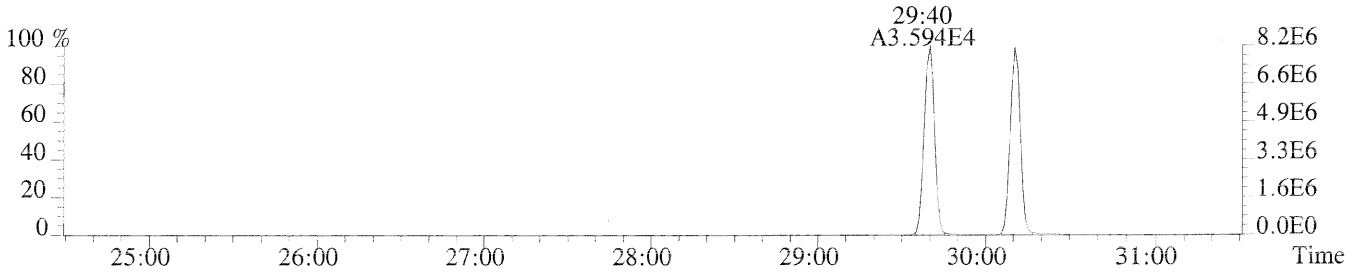
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1268.0,1.00%,F,T)



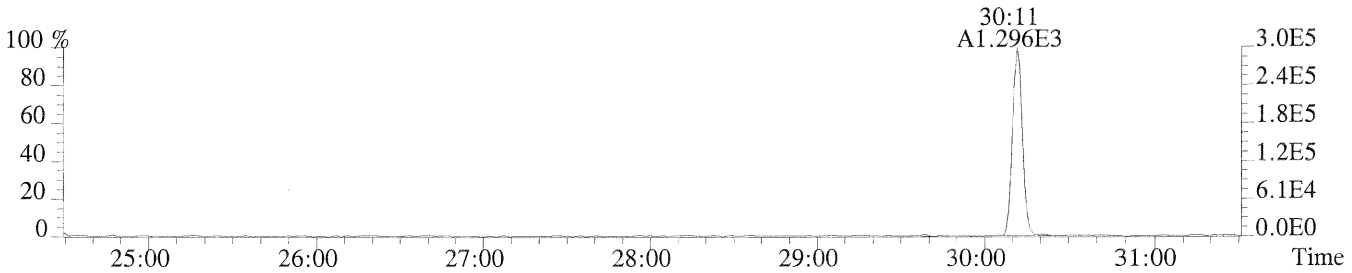
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4832.0,1.00%,F,T)



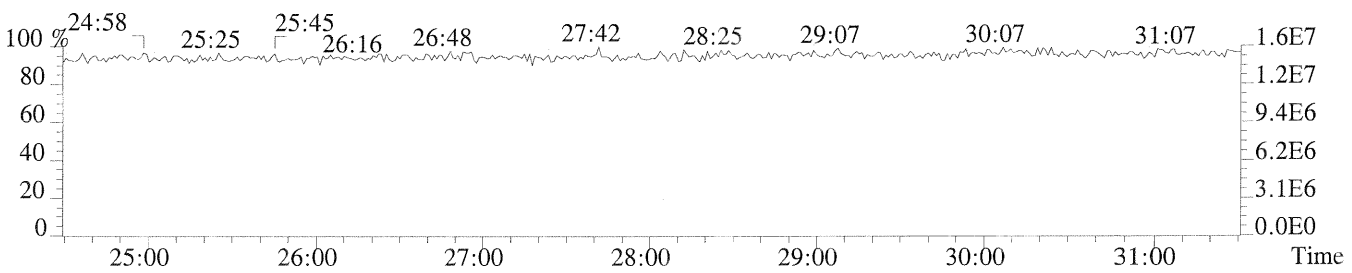
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1768.0,1.00%,F,T)



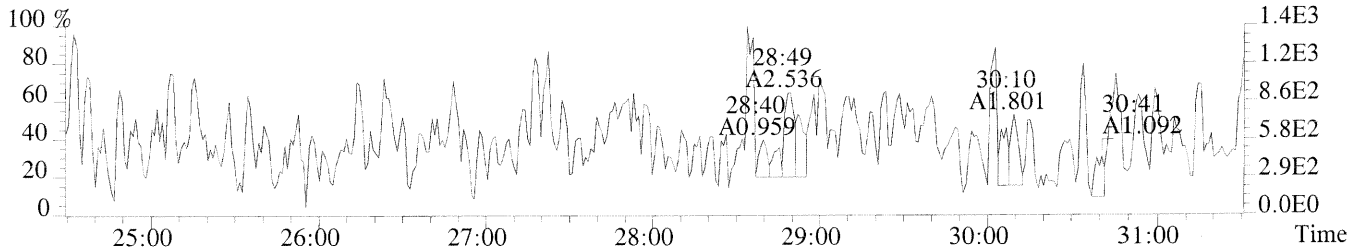
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1592.0,1.00%,F,T)



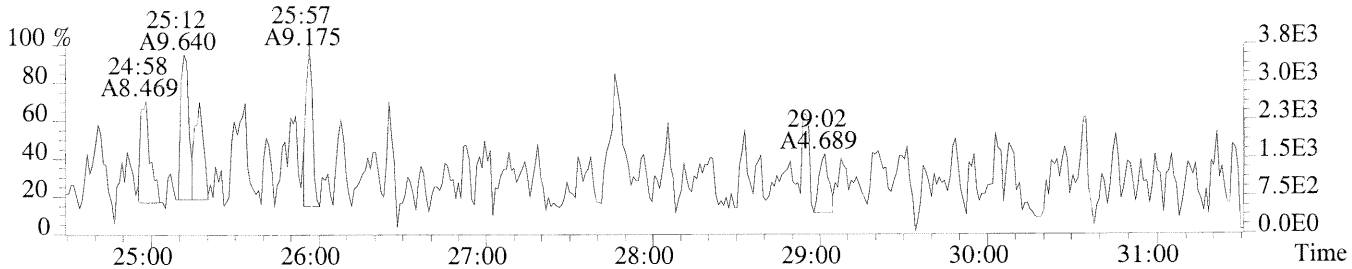
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



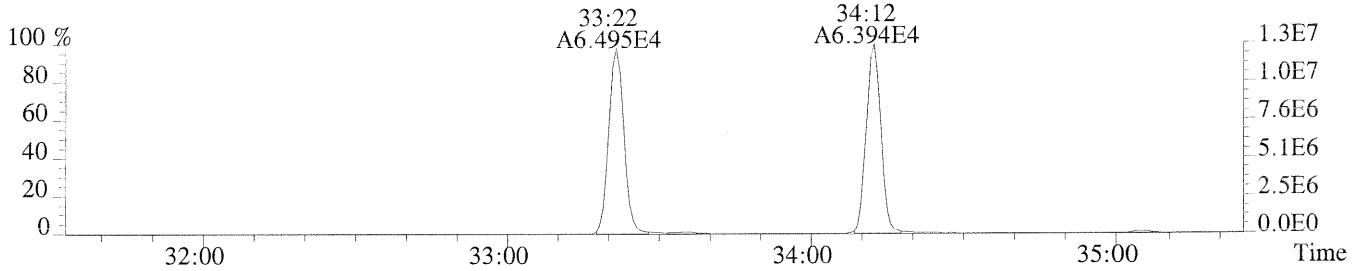
File:P169972 #1-442 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,T)



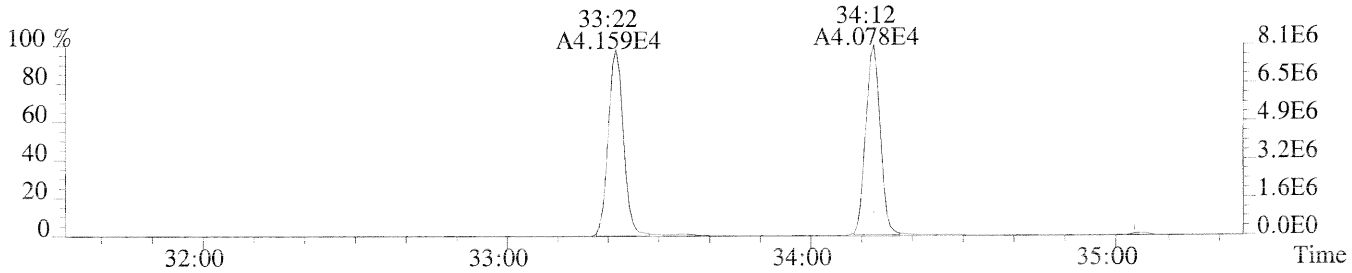
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,T)



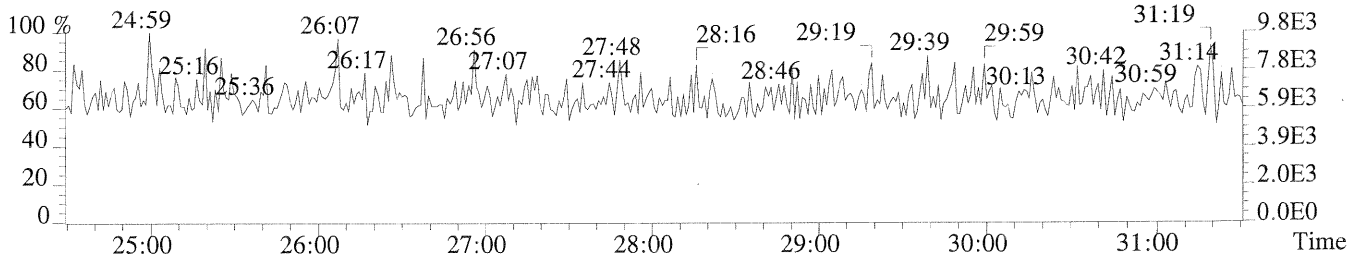
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



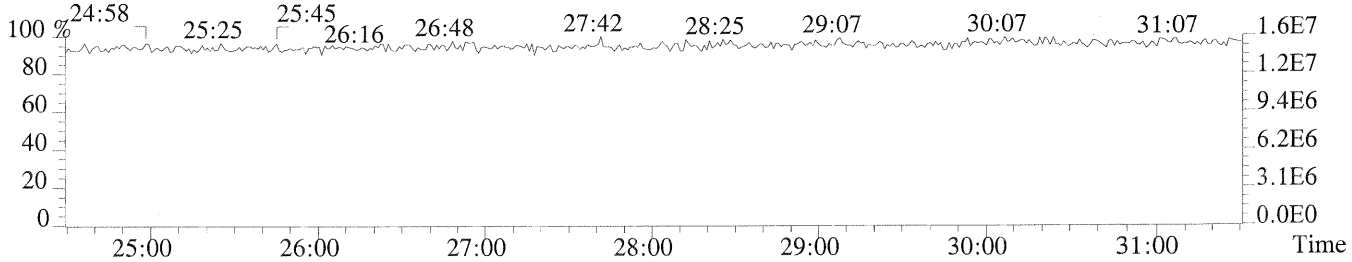
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

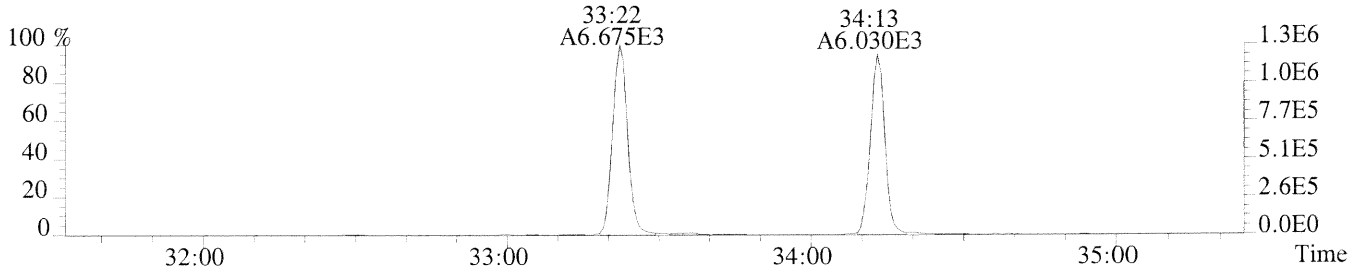


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

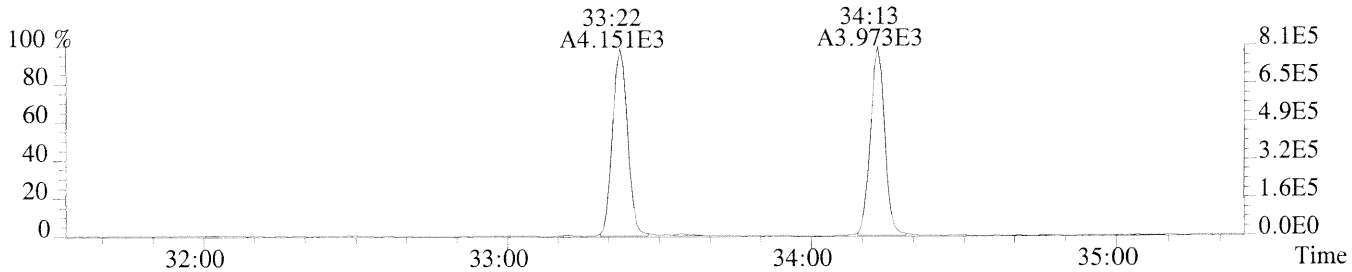


File:P169972 #1-351 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2

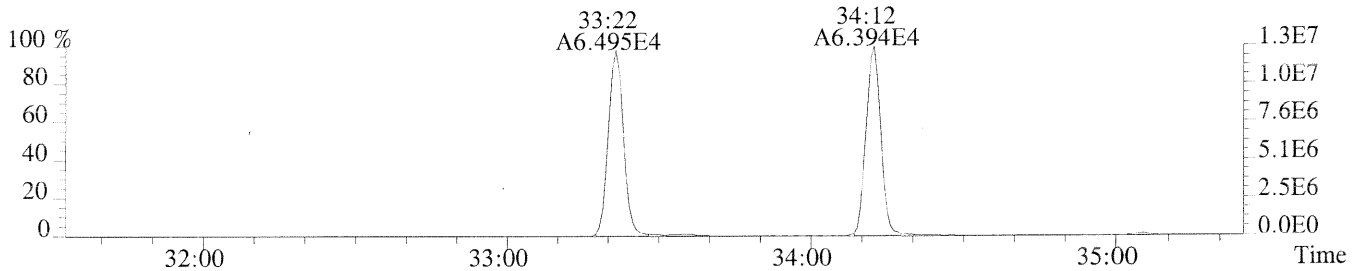
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



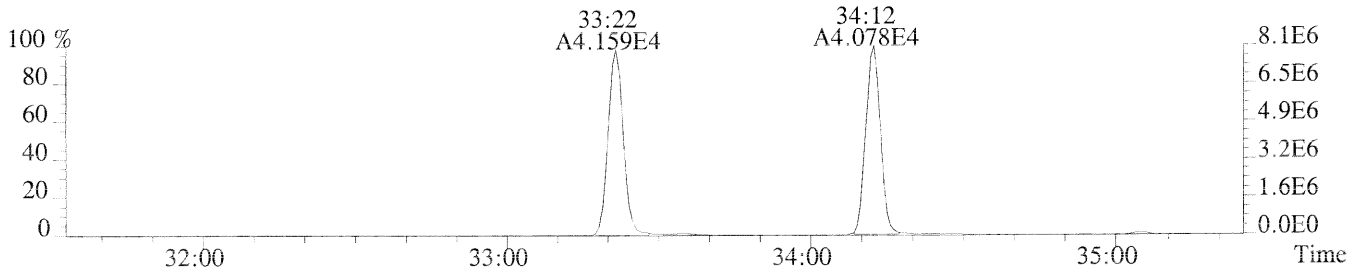
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



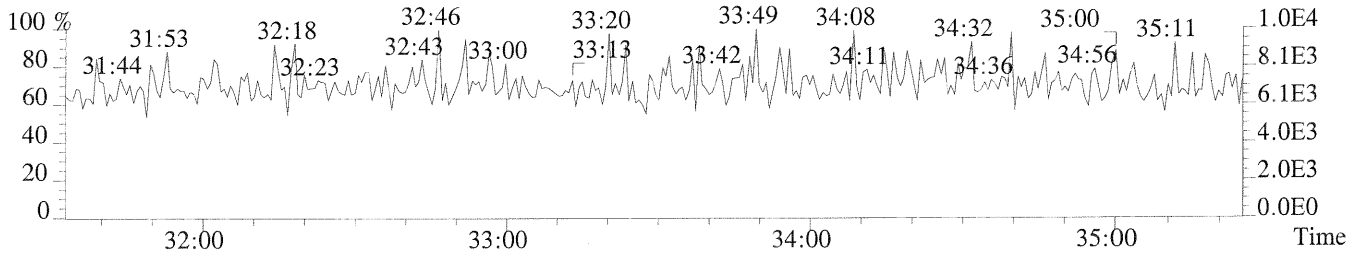
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



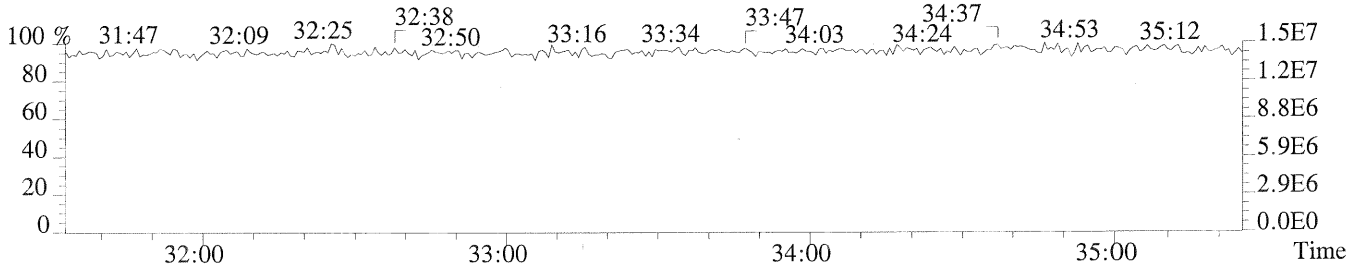
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,T)



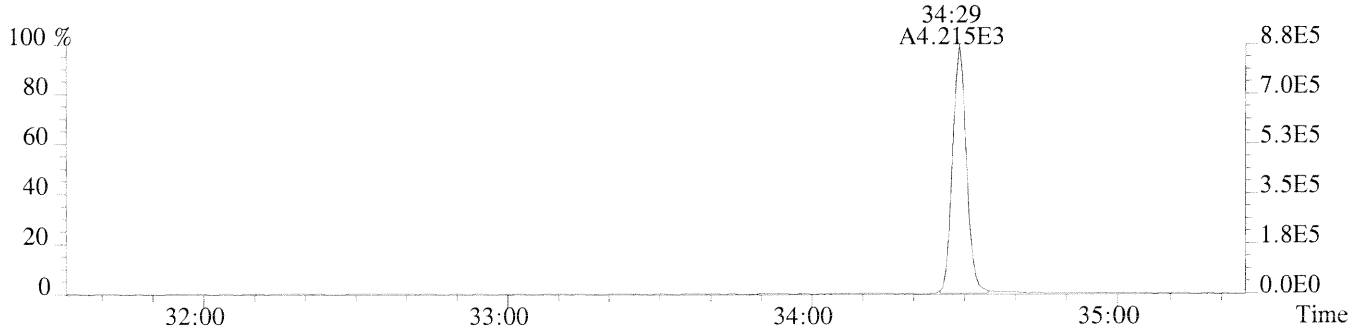
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



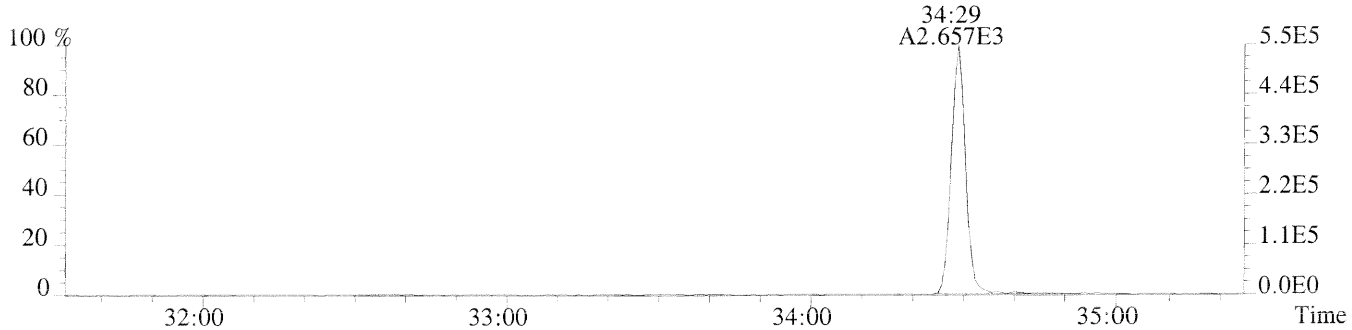
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



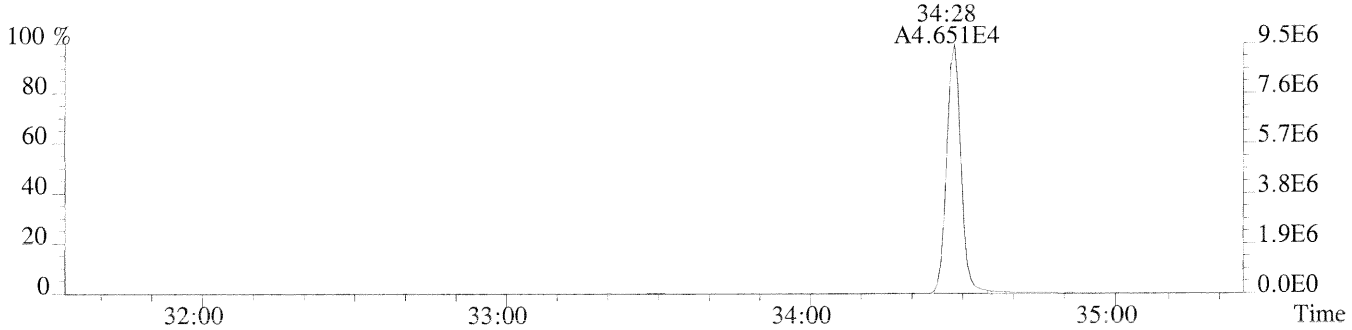
File:P169972 #1-351 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)



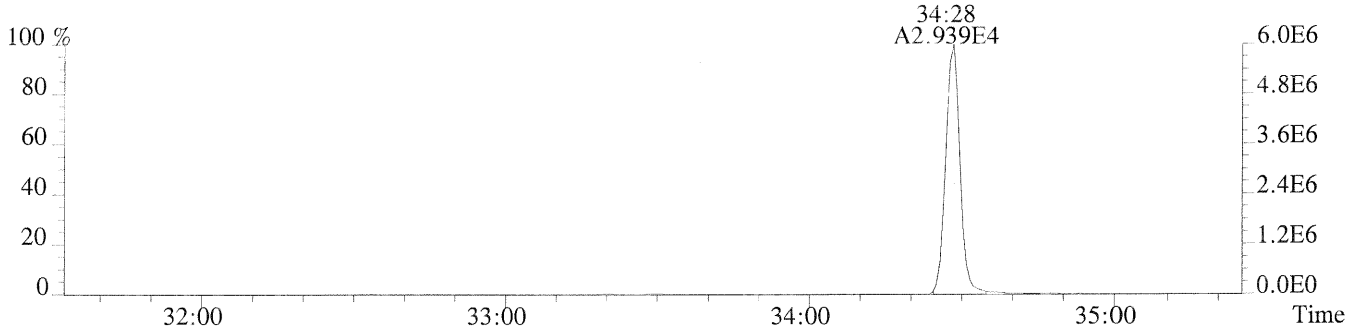
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,T)



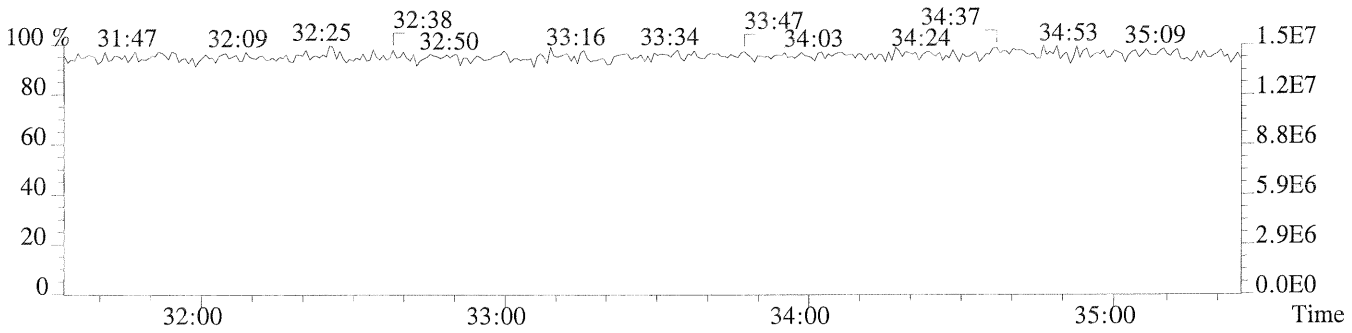
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1496.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,T)

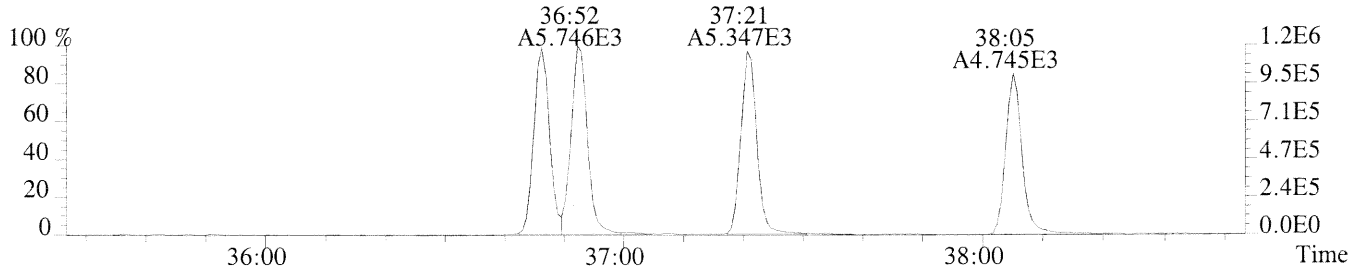


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

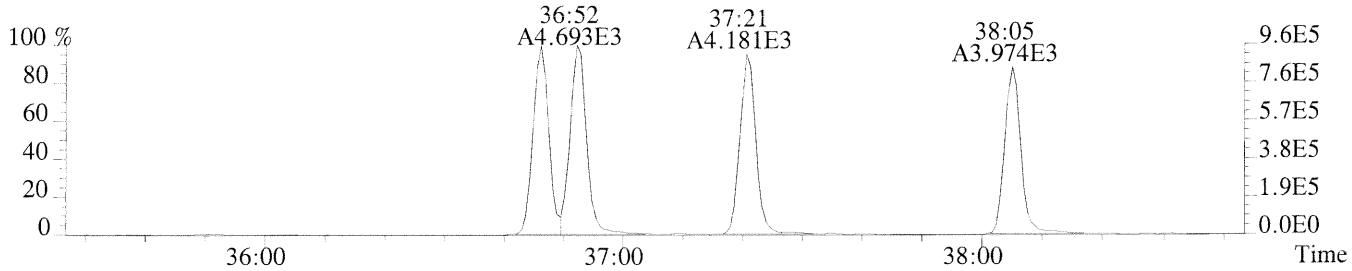


File:P169972 #1-298 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2

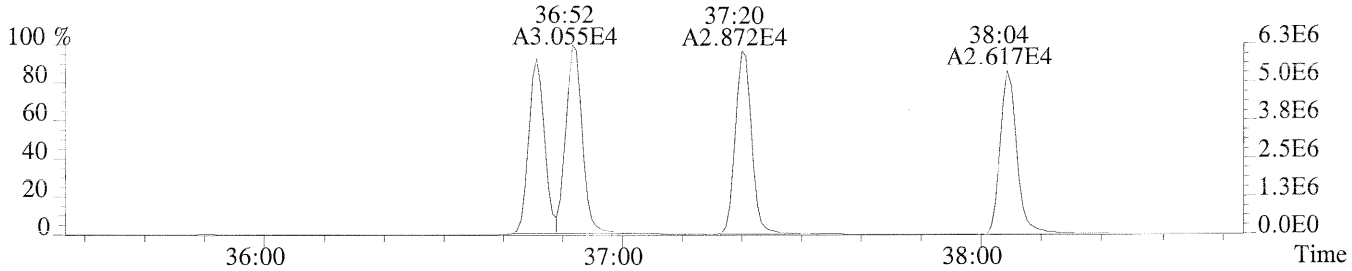
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,T)



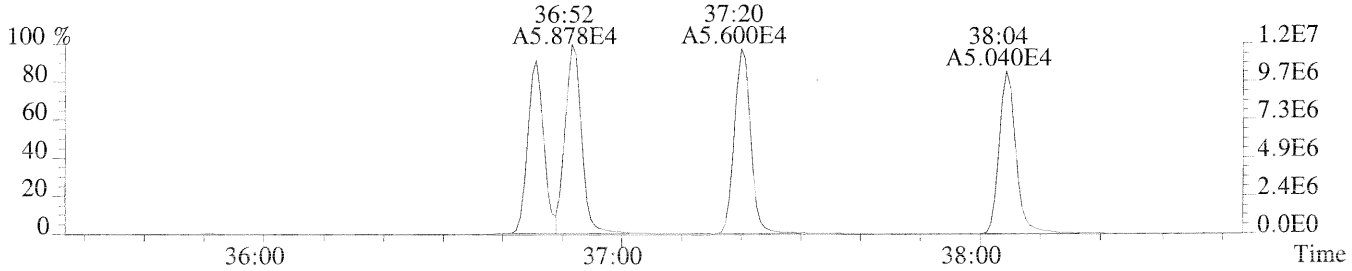
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,T)



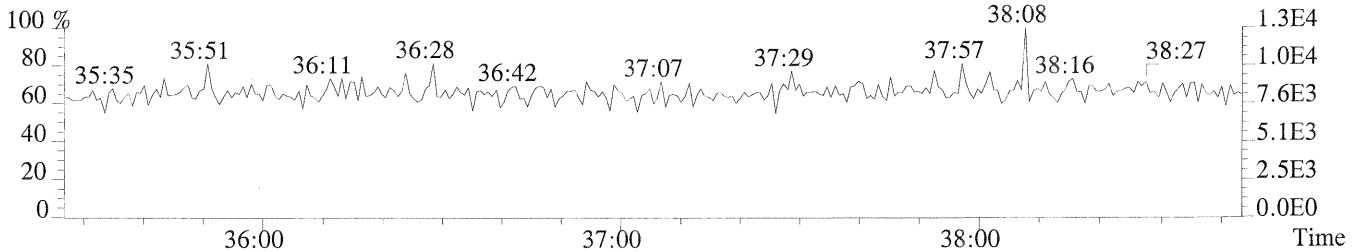
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



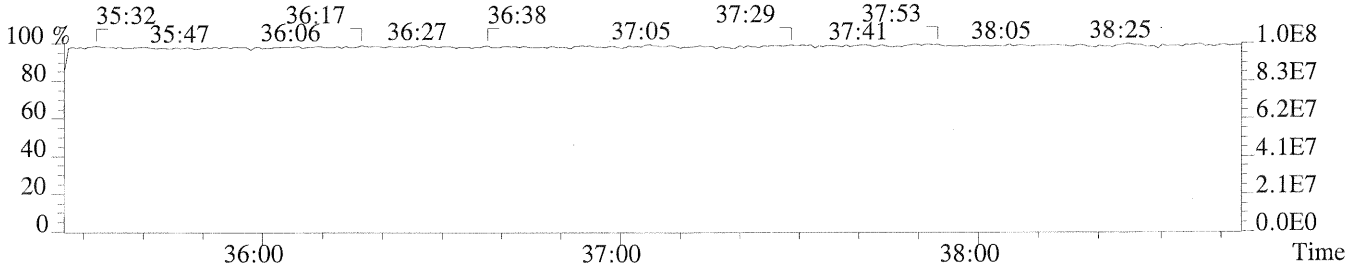
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



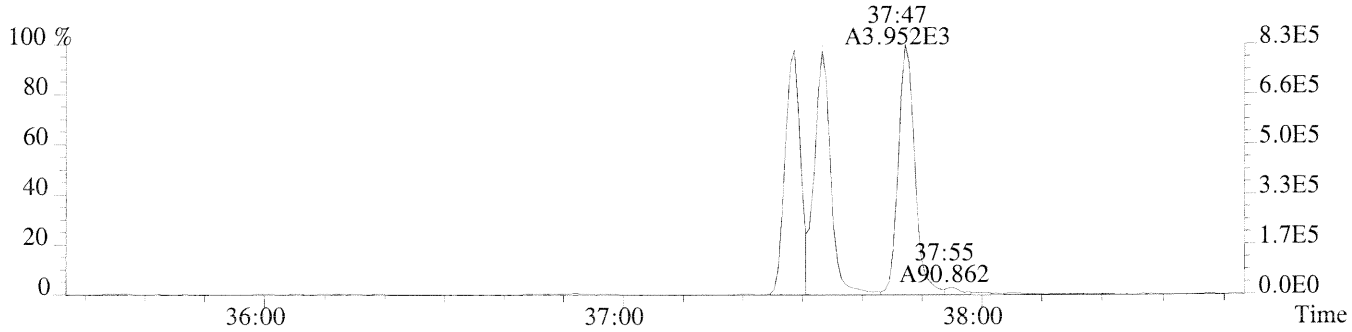
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



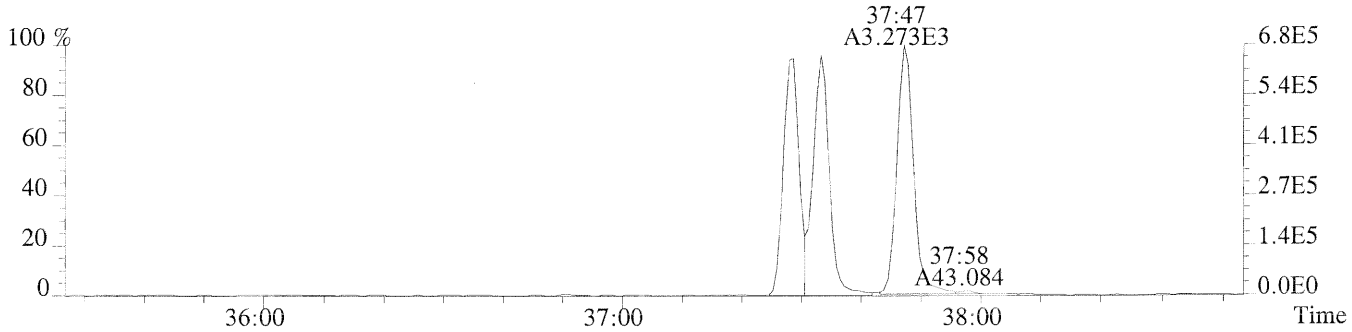
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



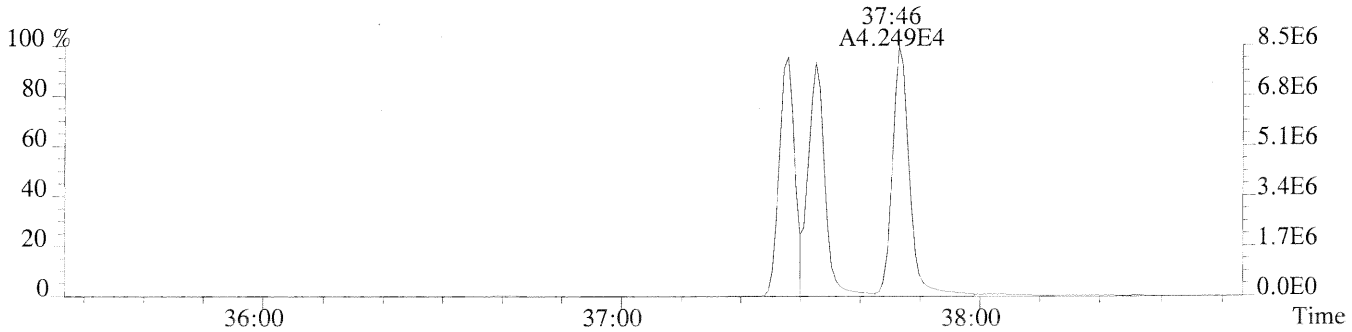
File:P169972 #1-298 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



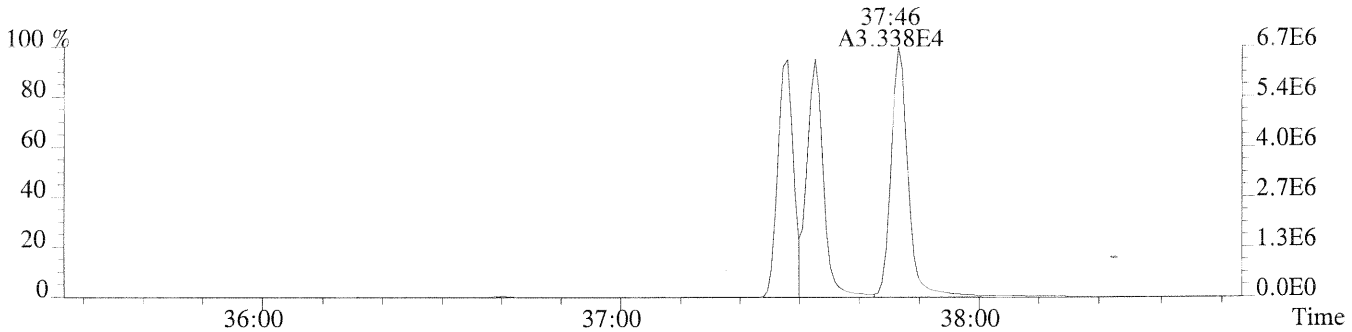
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



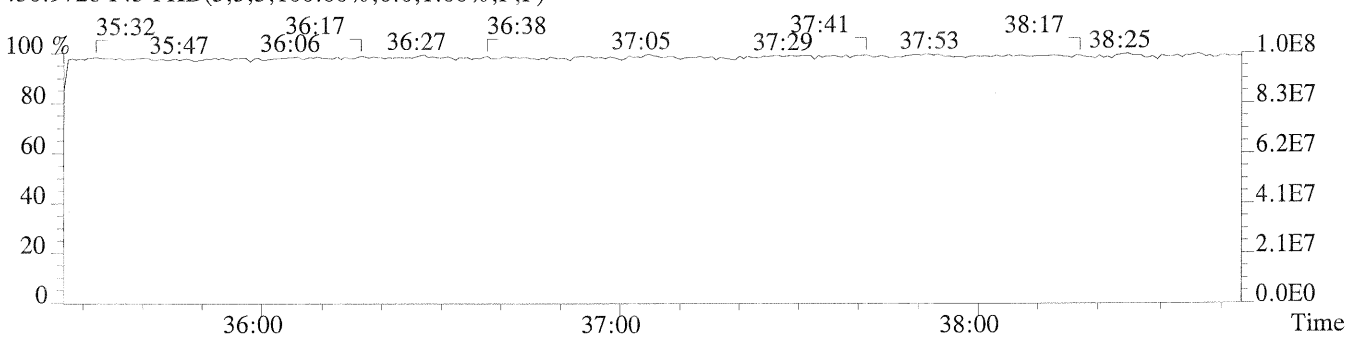
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1260.0,0.40%,F,T)



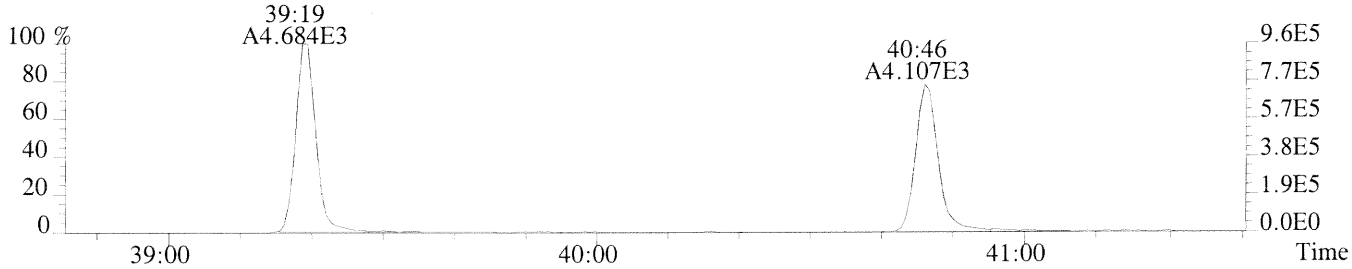
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1332.0,0.40%,F,T)



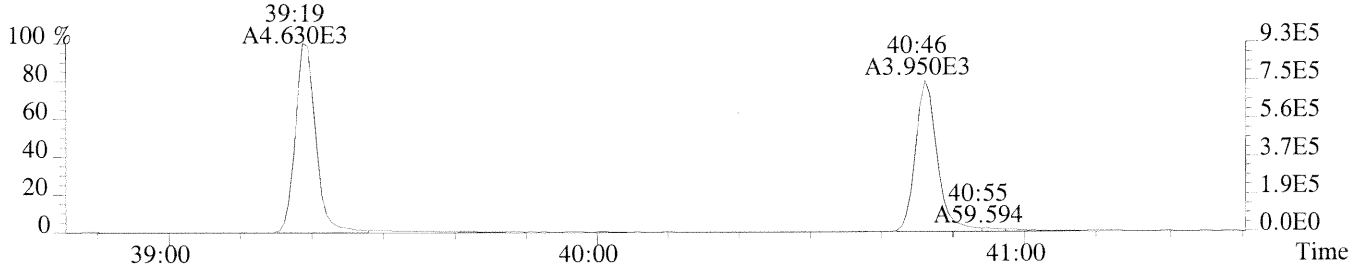
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



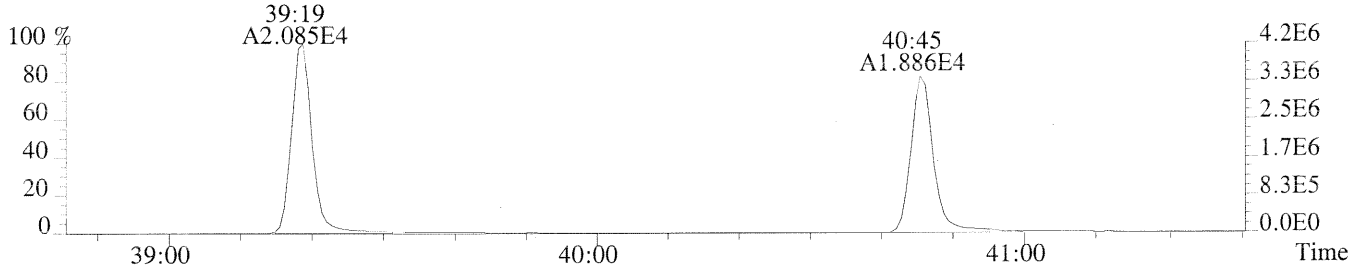
File:P169972 #1-250 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.50%,F,T)



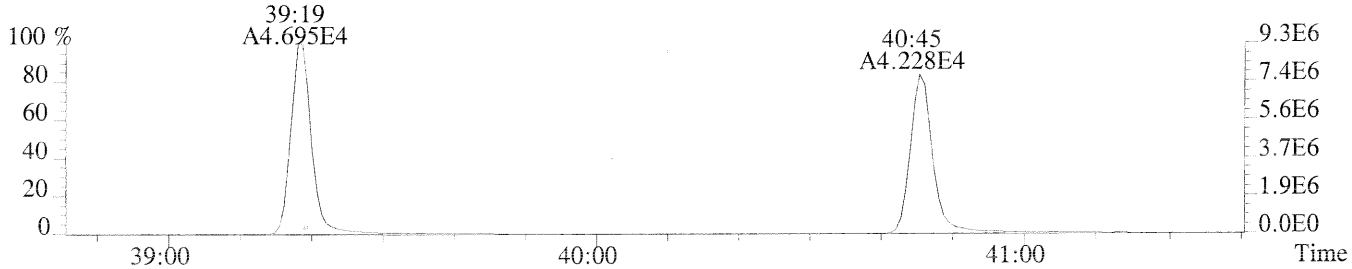
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.50%,F,T)



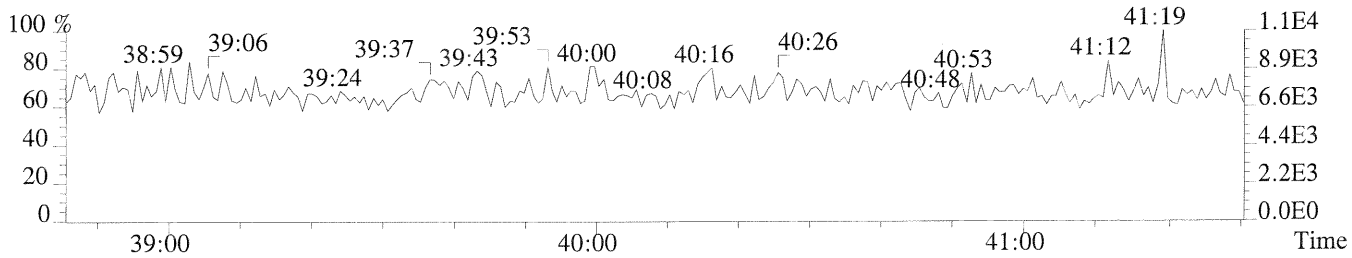
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.50%,F,T)



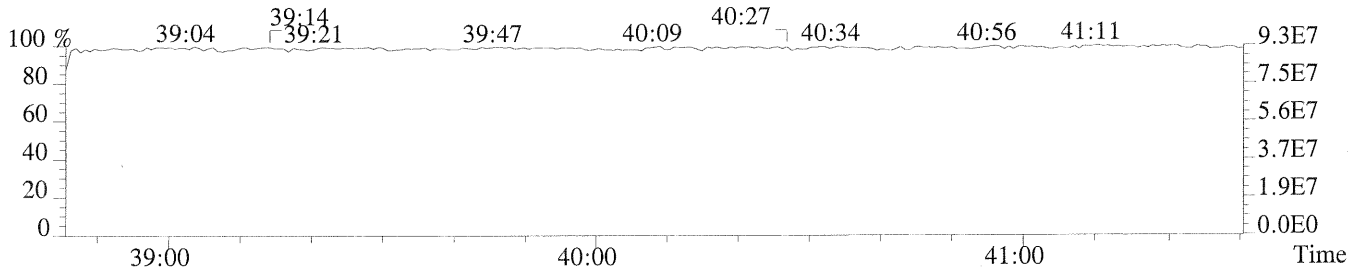
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3432.0,0.50%,F,T)



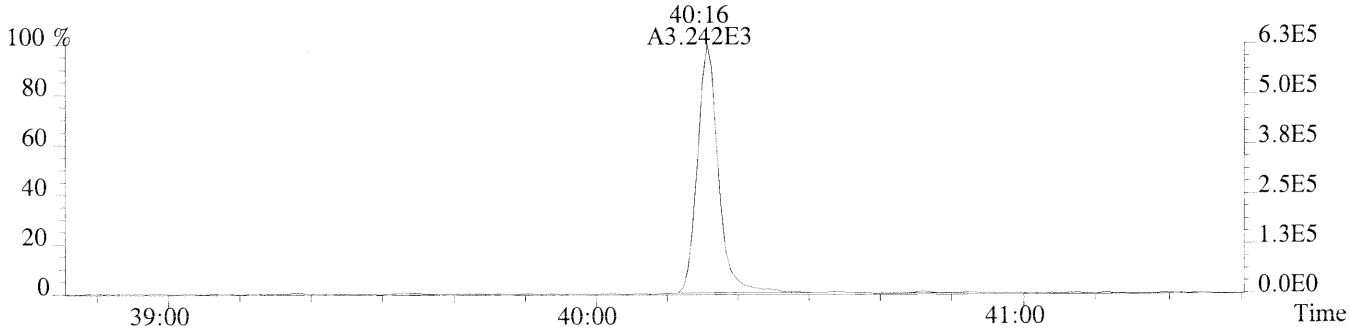
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



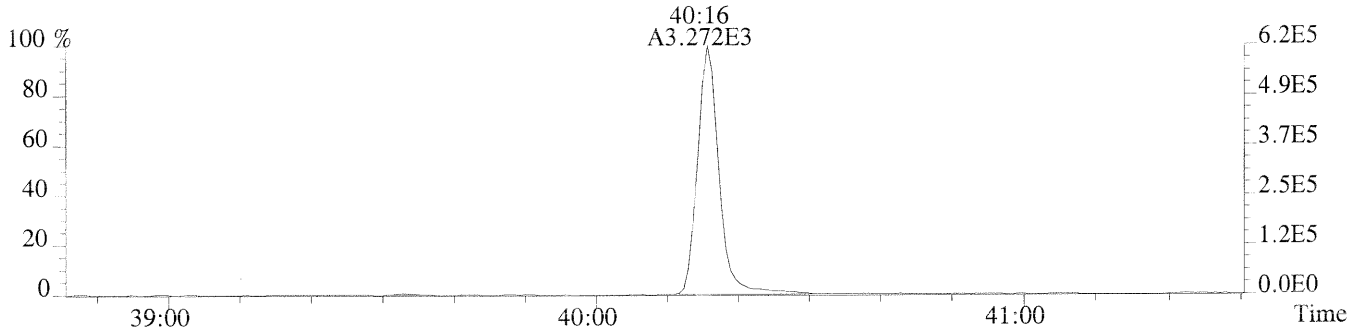
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



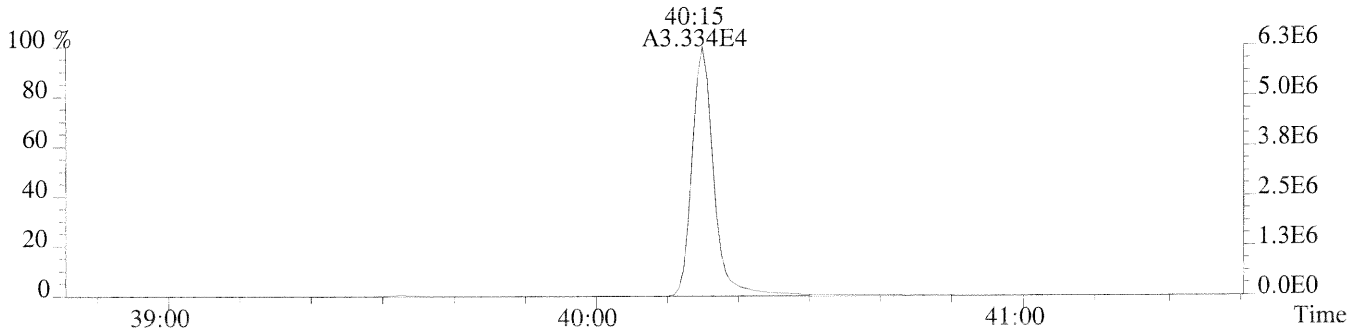
File:P169972 #1-250 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,T)



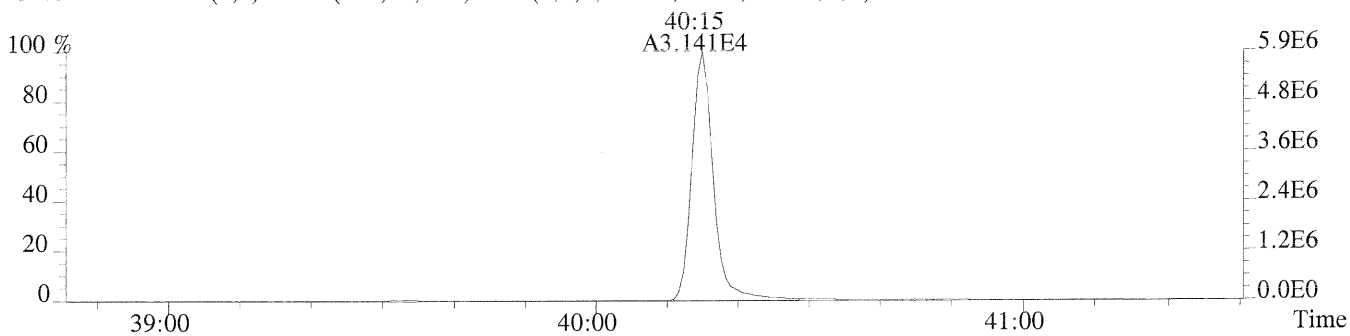
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)



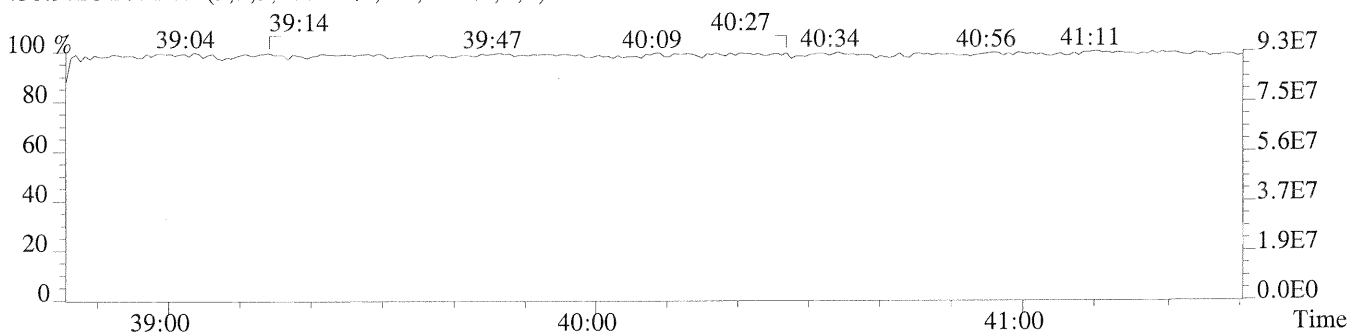
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,T)



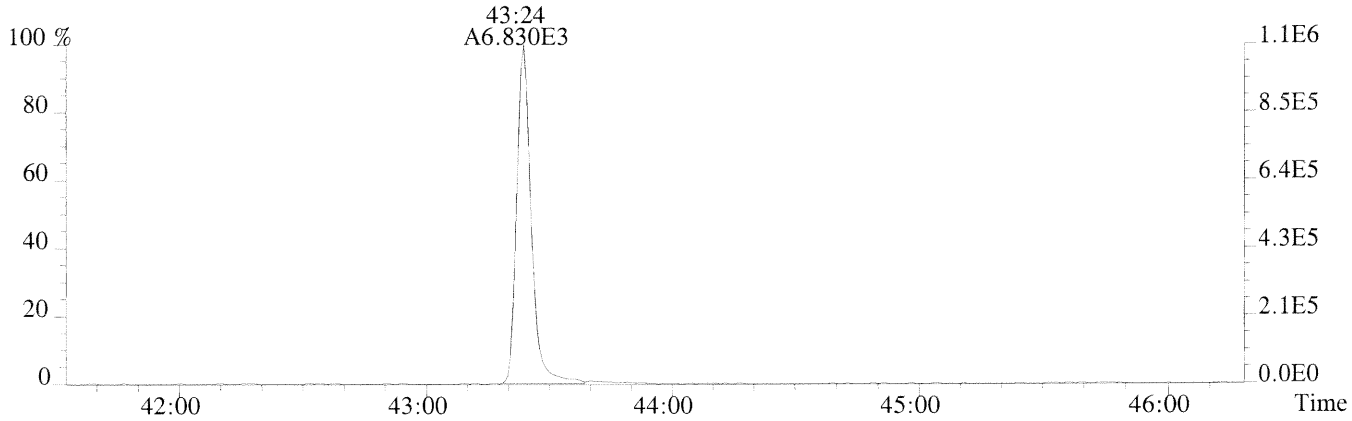
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



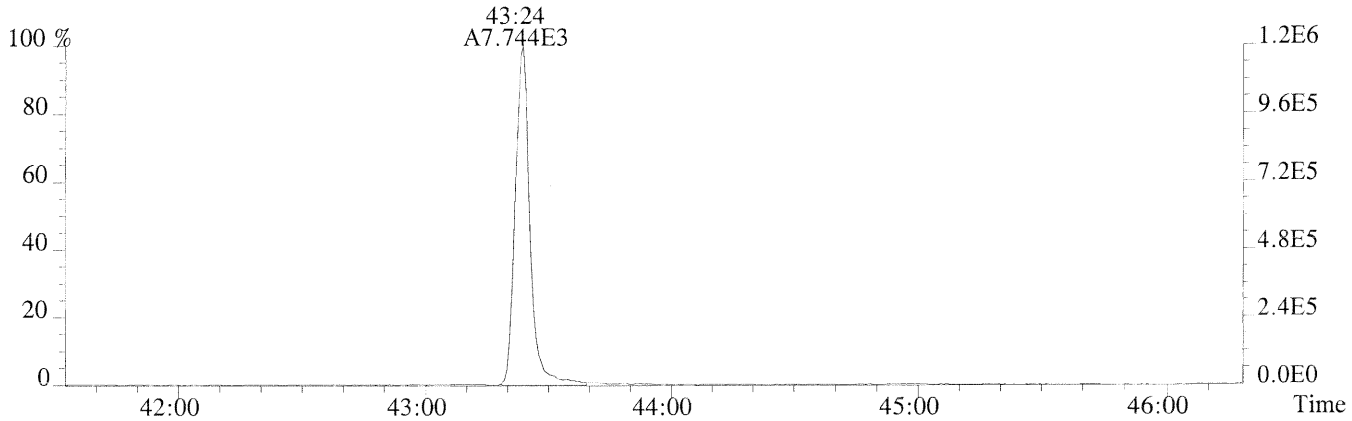
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



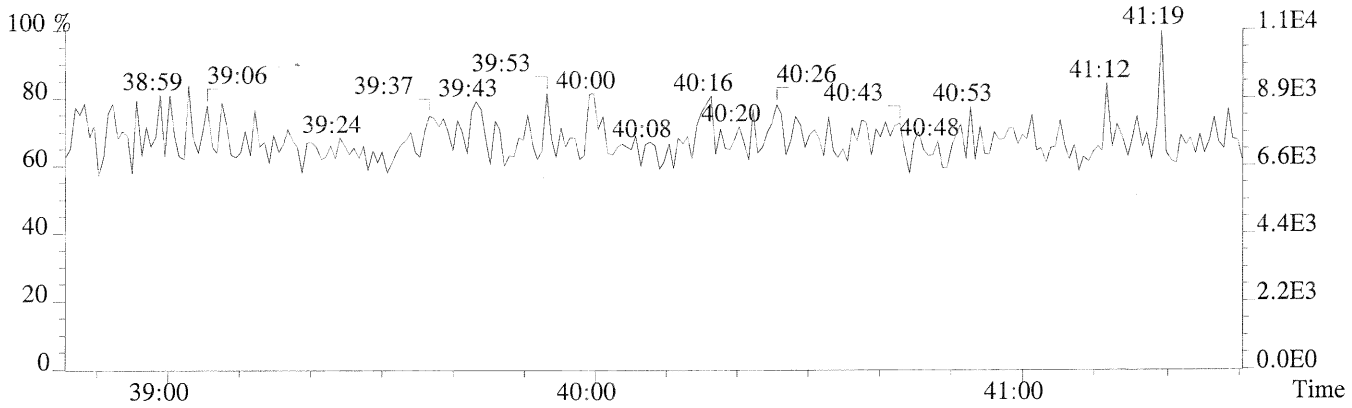
File:P169972 #1-438 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,T)



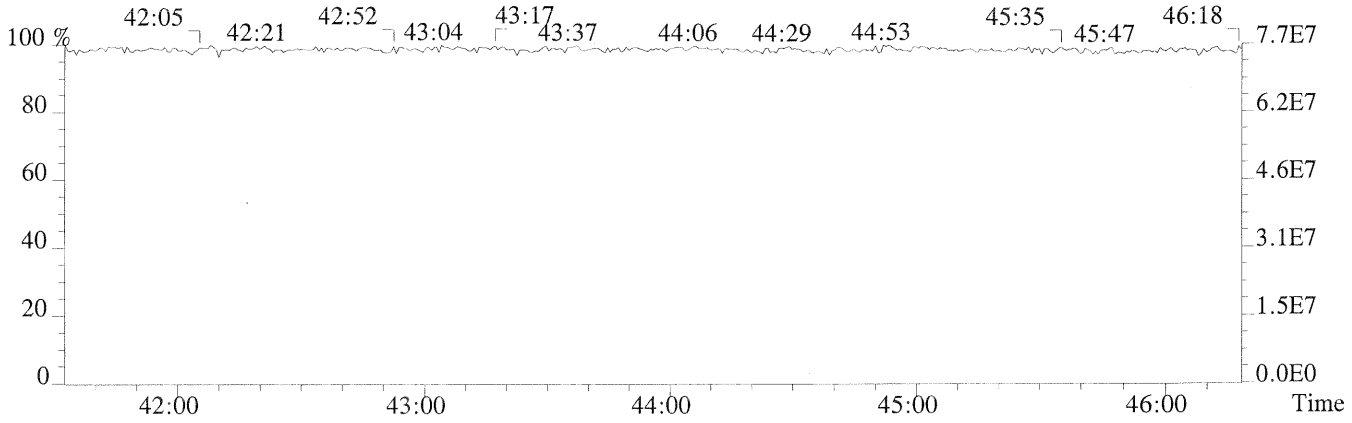
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1692.0,0.40%,F,T)



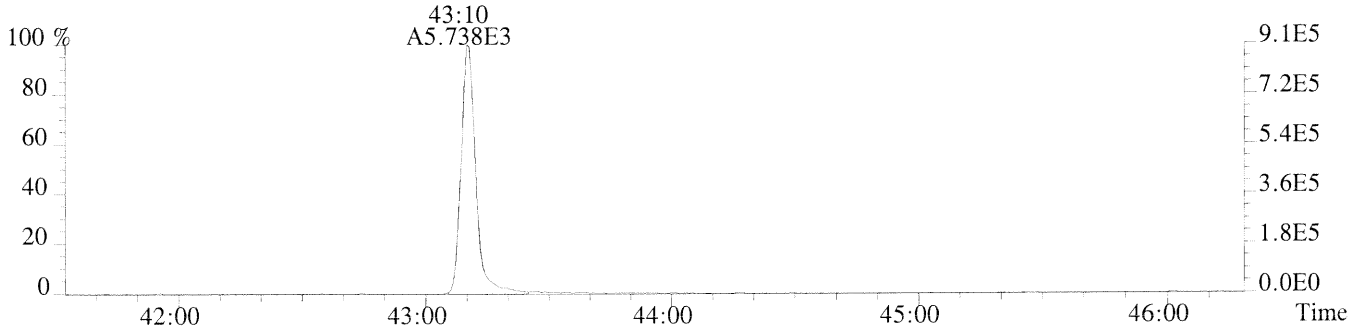
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



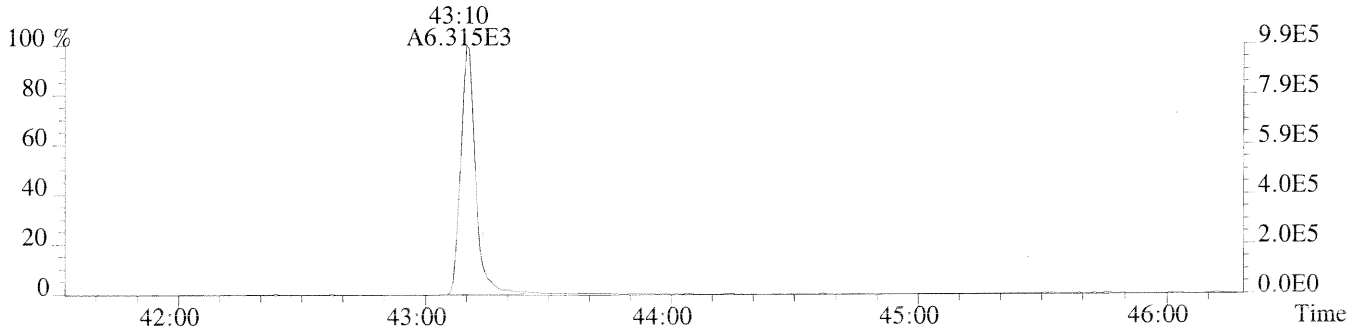
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



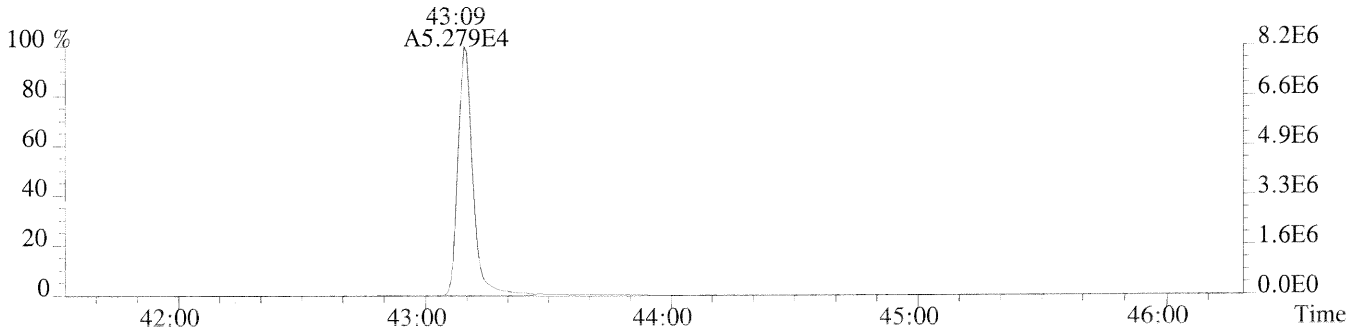
File:P169972 #1-438 Acq:25-MAR-2014 18:58:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2/CS2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



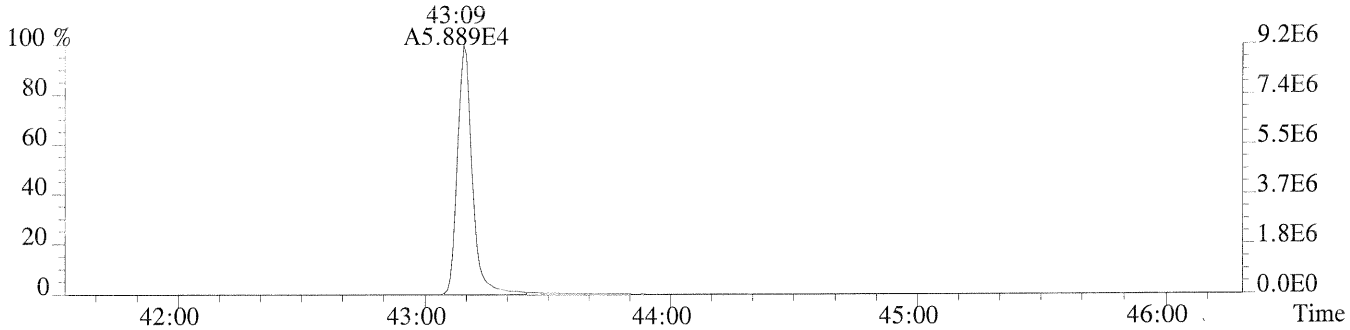
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



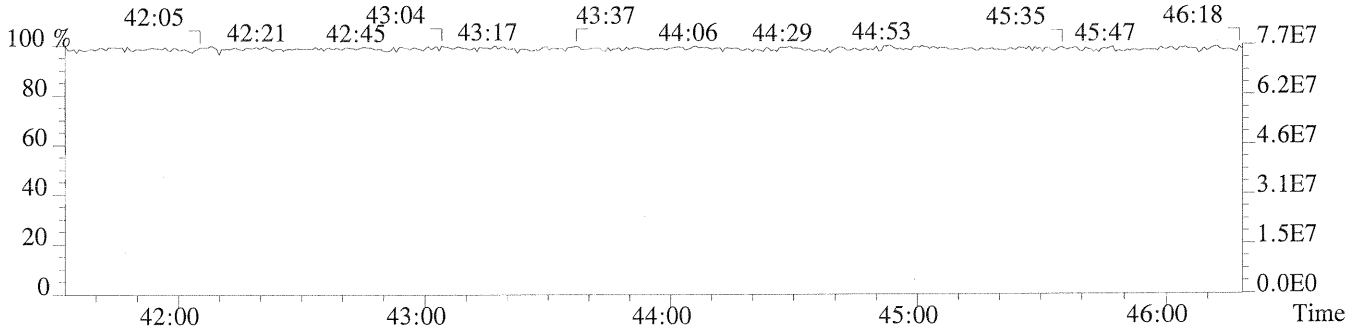
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1080.0,0.40%,F,T)



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	37Cl-2,3,7,8-TCDD	30:12	8.444e+03				no	1.125

ALS ENVIRONMENTAL
10450 Stancliff Road, Suite 115
Houston, TX 77099
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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			

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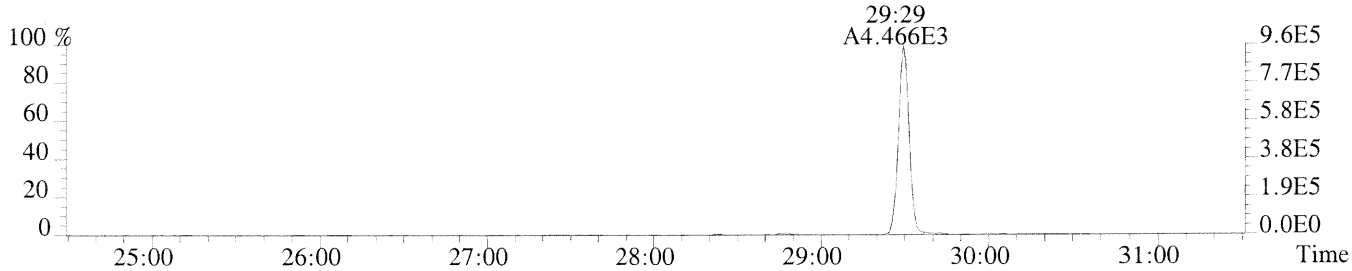
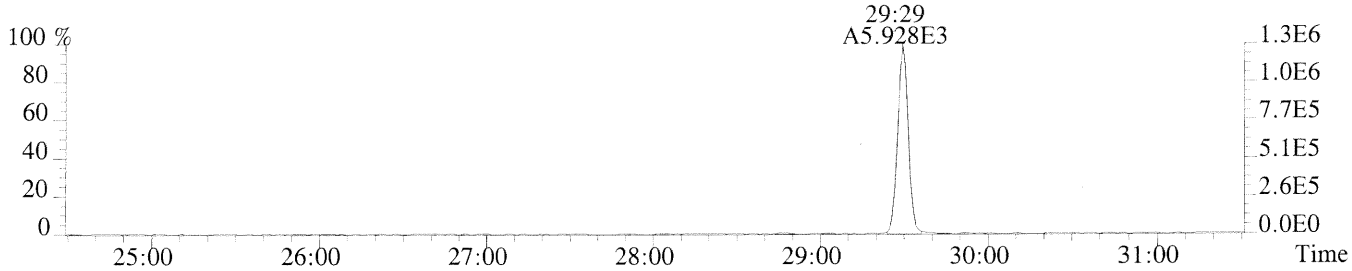
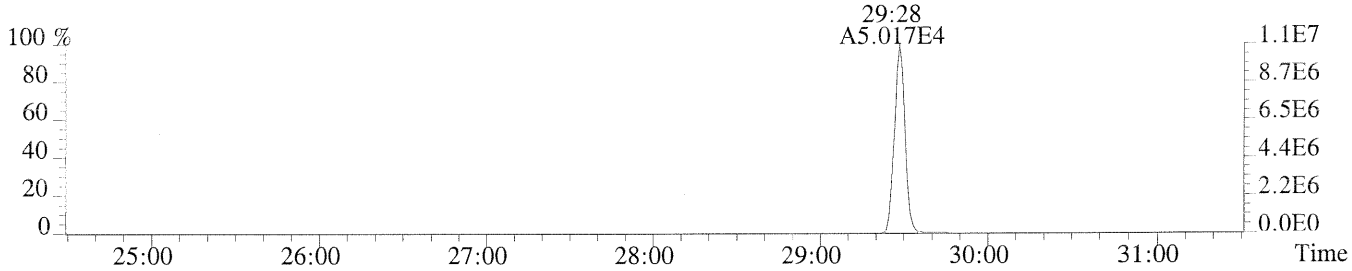
File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,T)



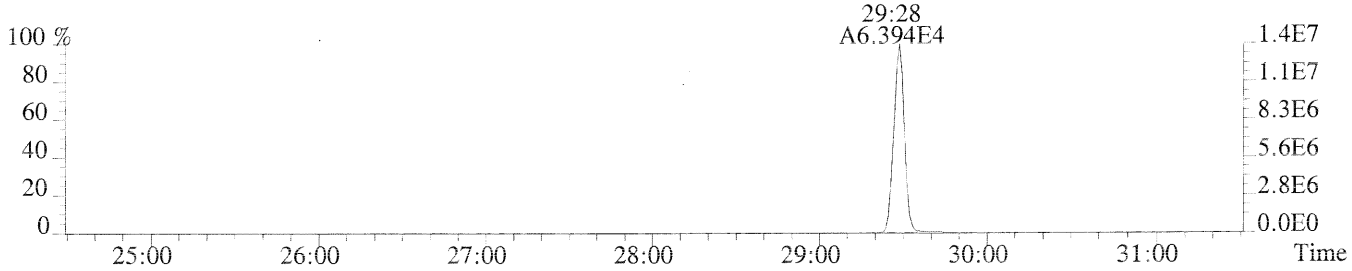
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3100.0,1.00%,F,T)



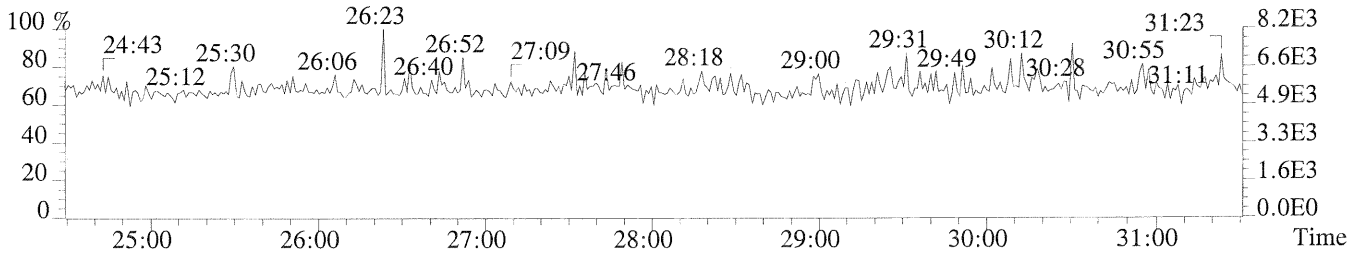
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



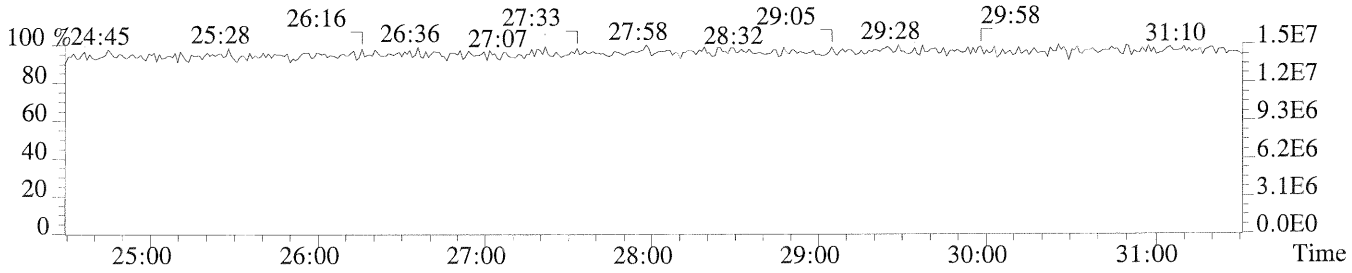
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



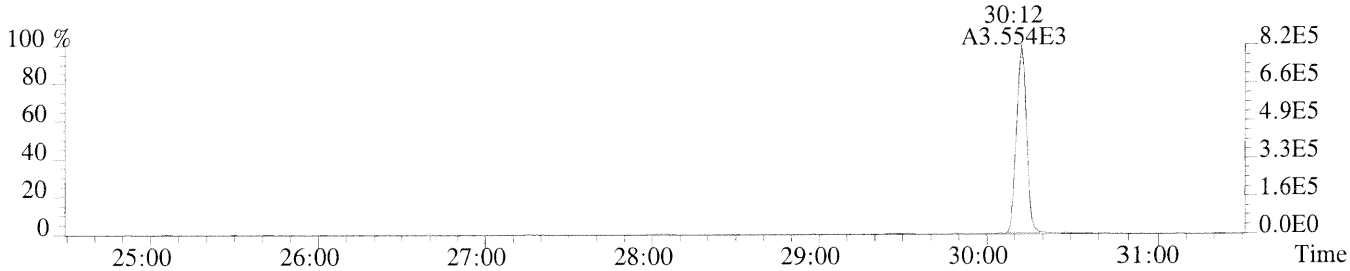
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



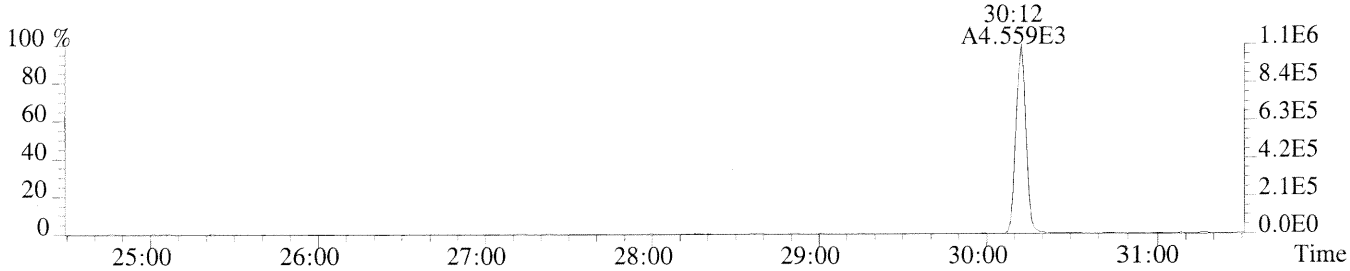
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



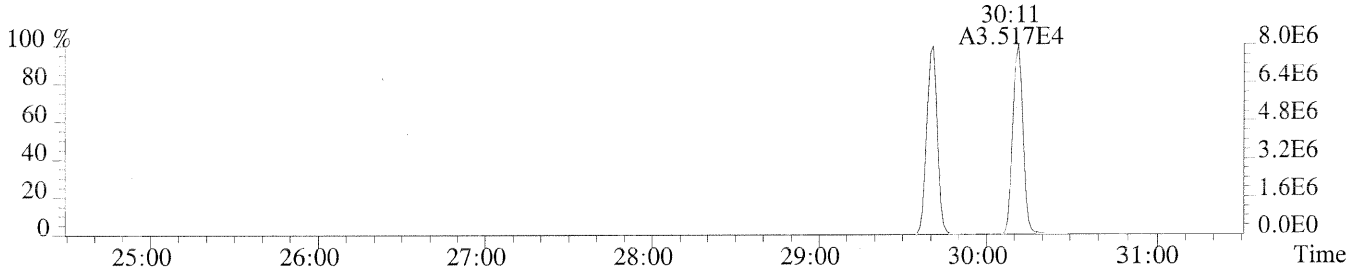
File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



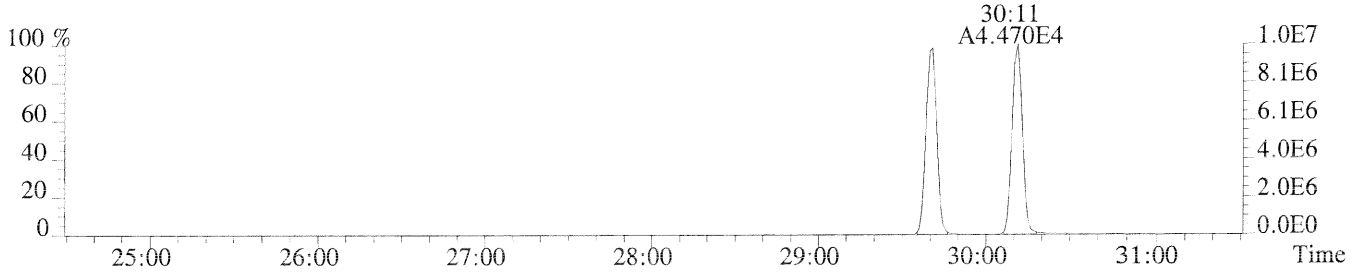
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



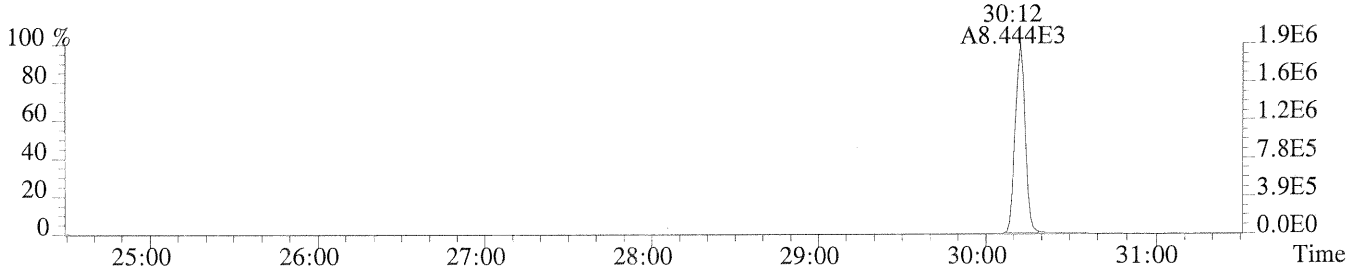
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5244.0,1.00%,F,T)



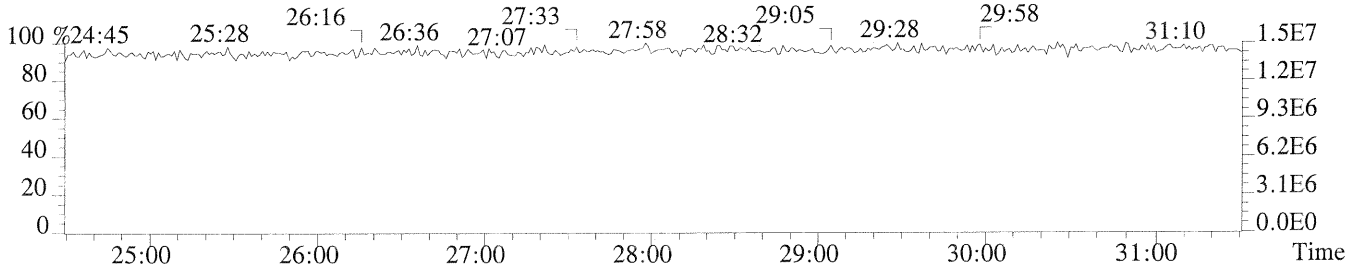
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2820.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)

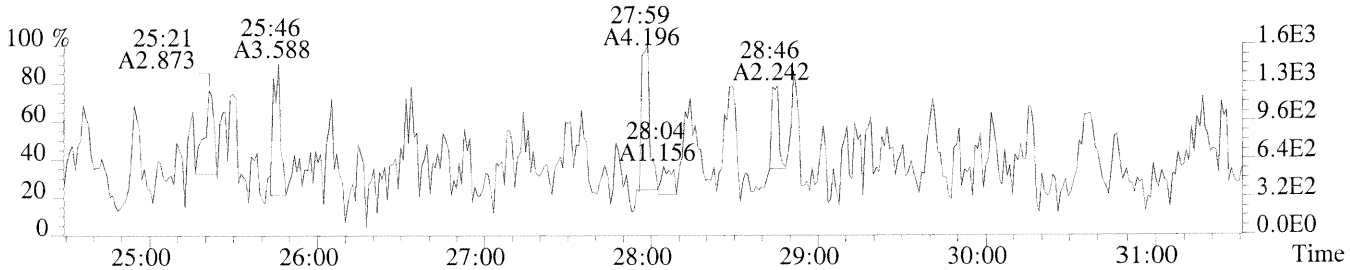


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

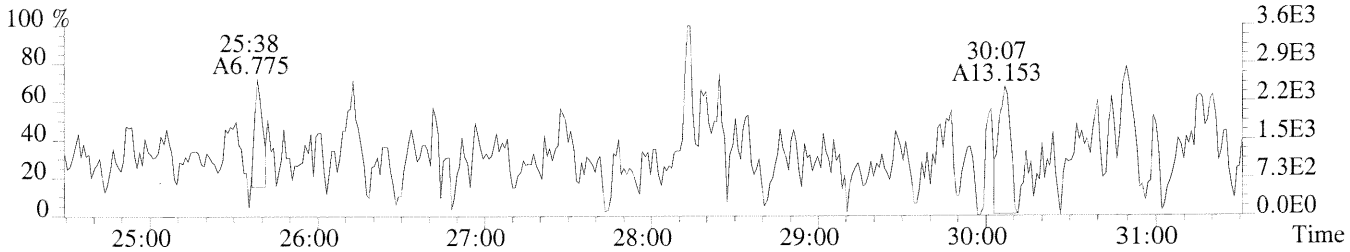


File:P169973 #1-442 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3

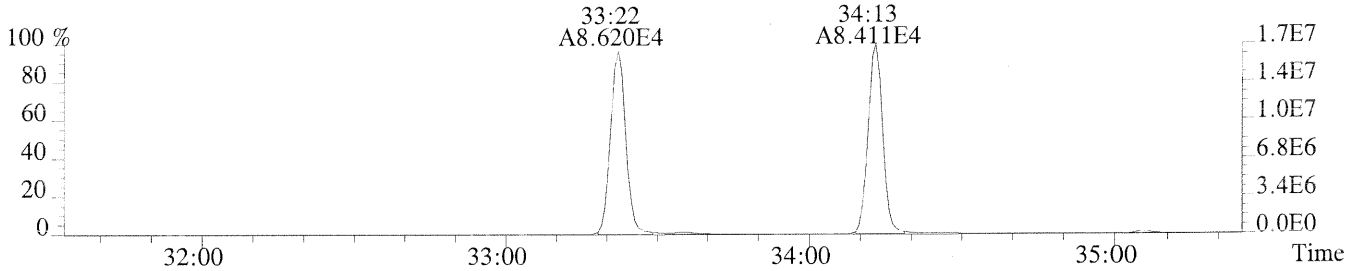
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



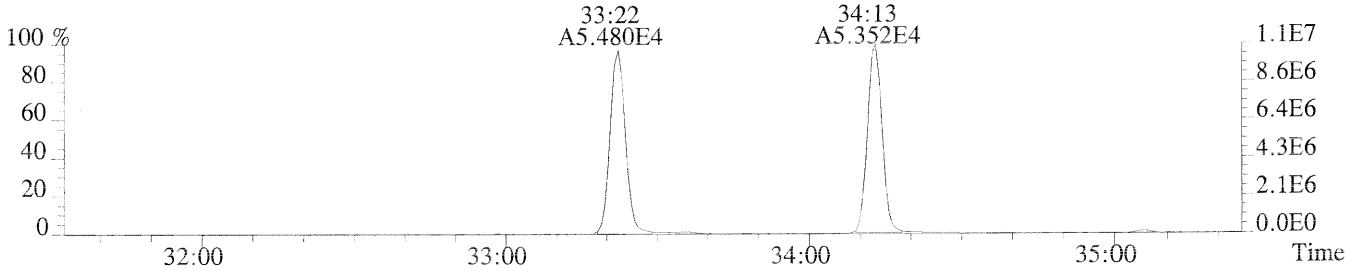
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1532.0,1.00%,F,T)



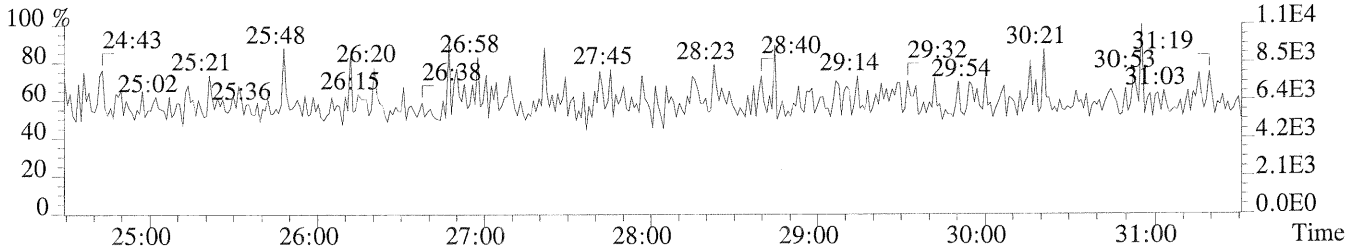
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



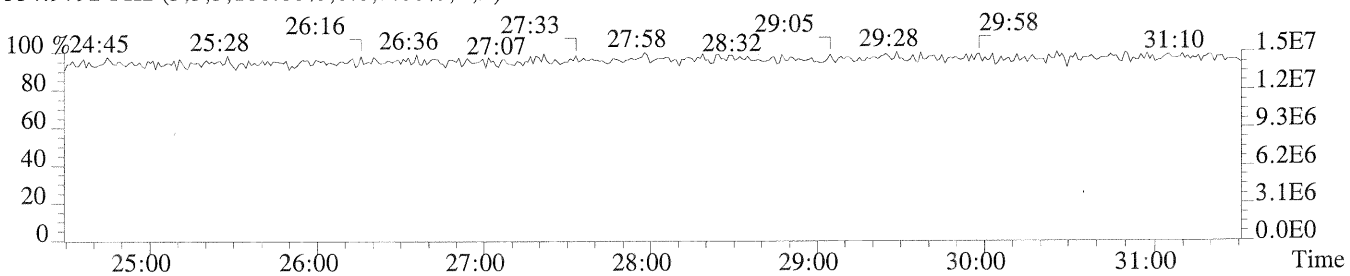
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

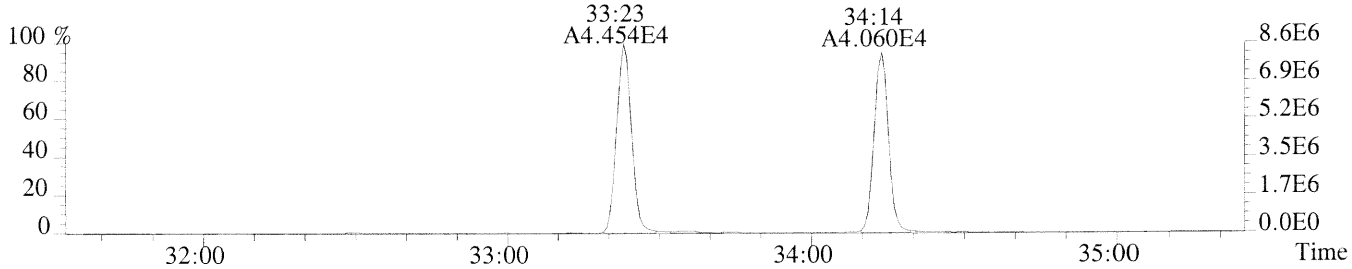


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

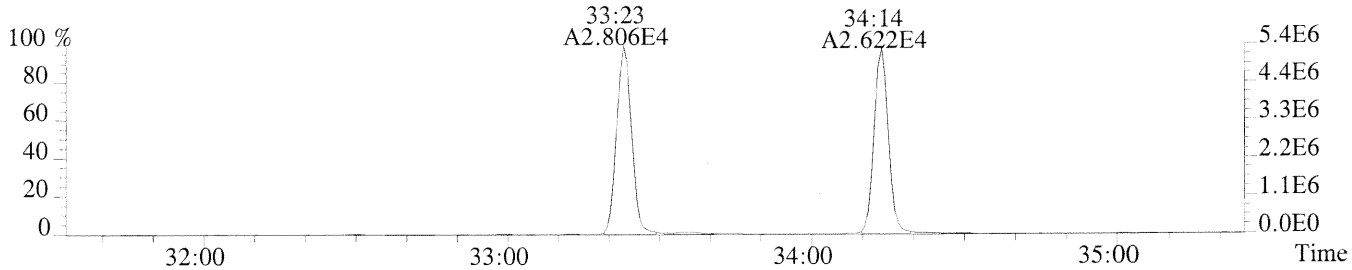


File:P169973 #1-351 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3

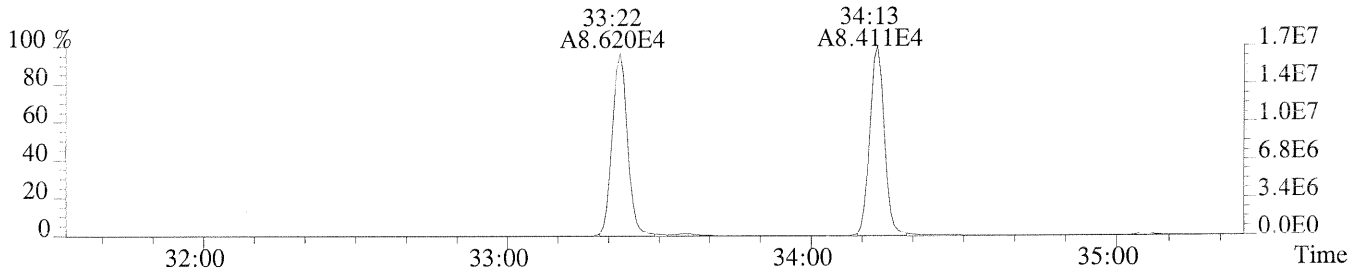
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,T)



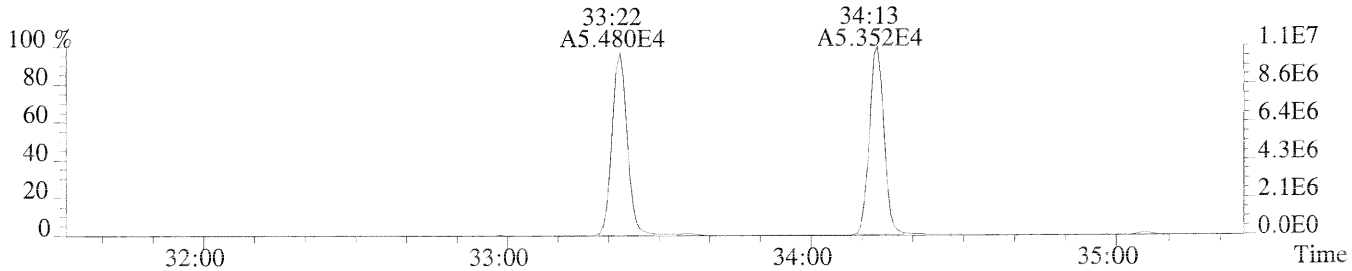
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,T)



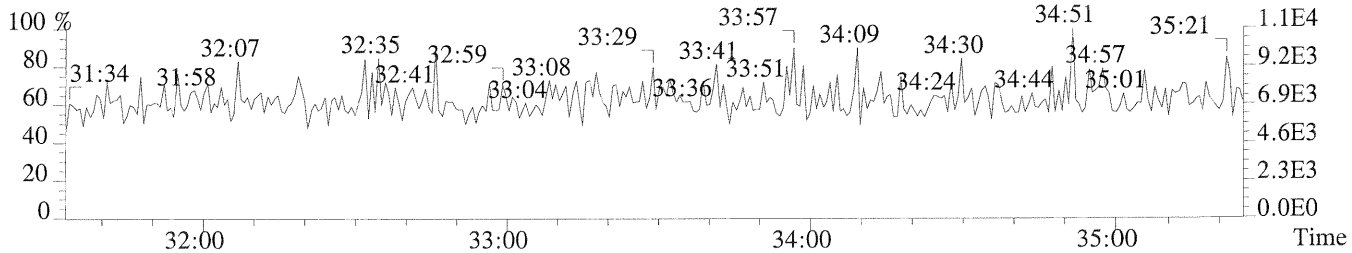
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



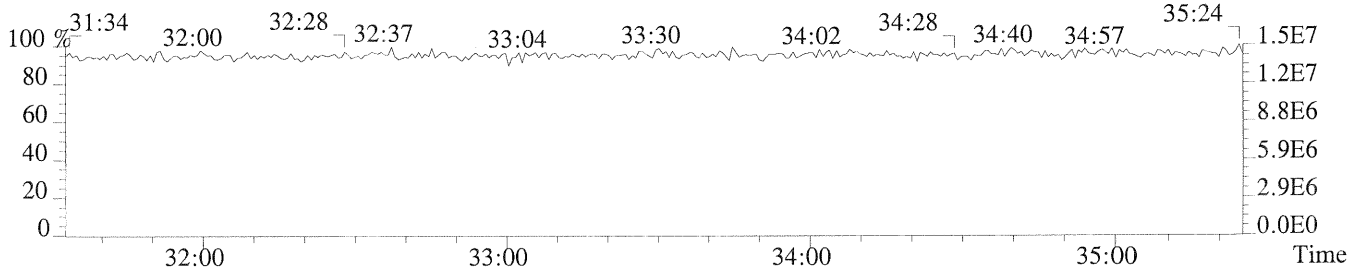
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



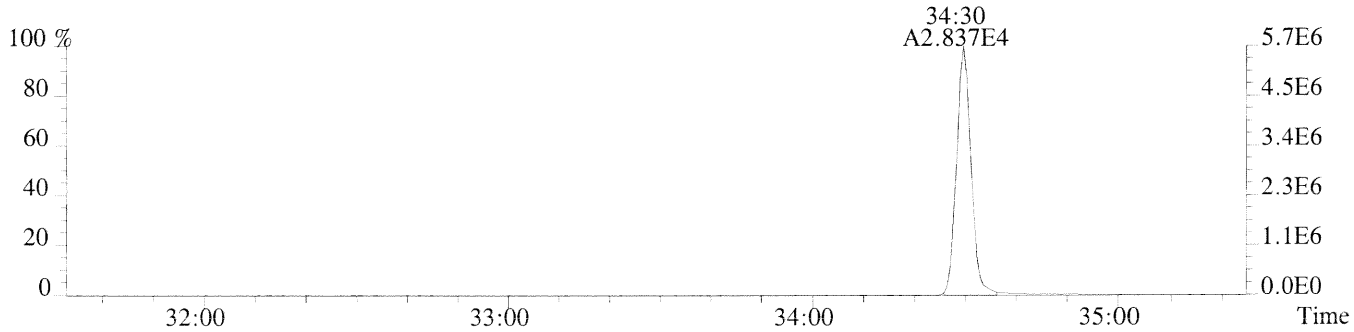
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



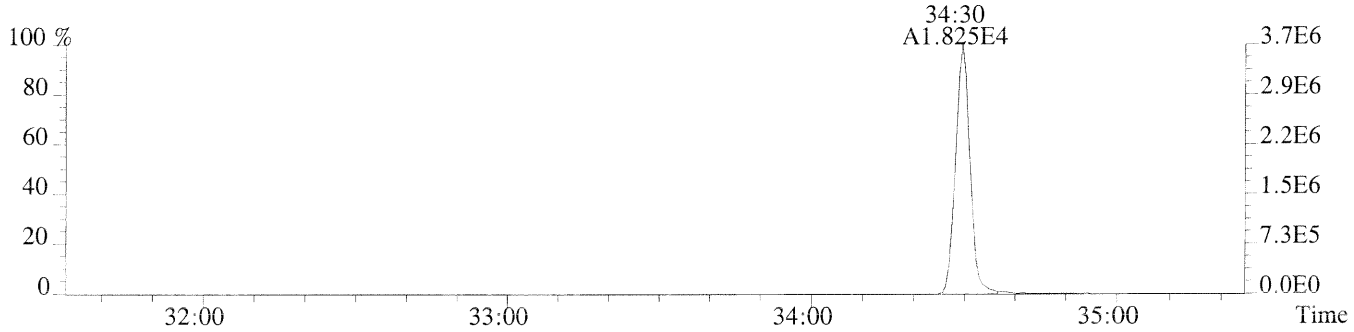
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



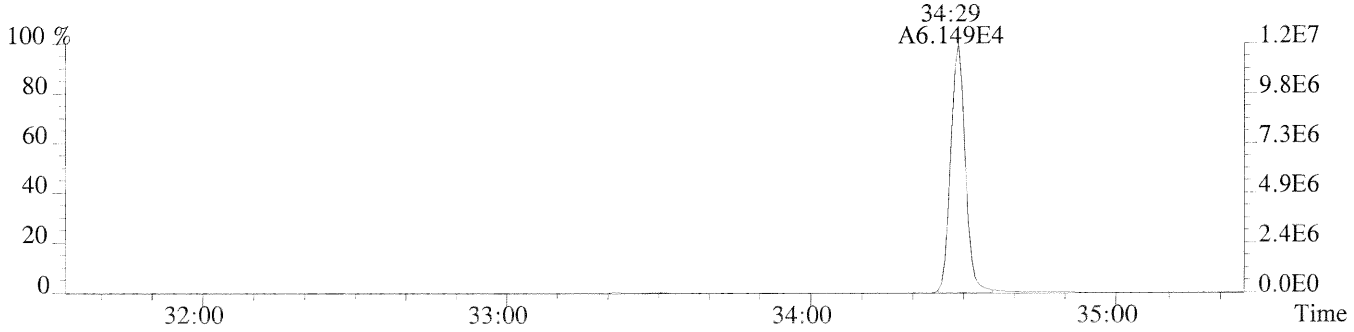
File:P169973 #1-351 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1512.0,1.00%,F,T)



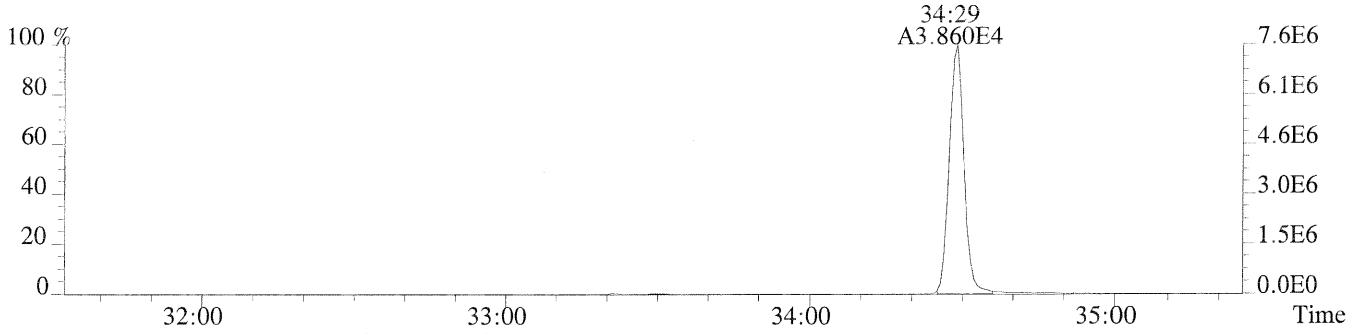
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



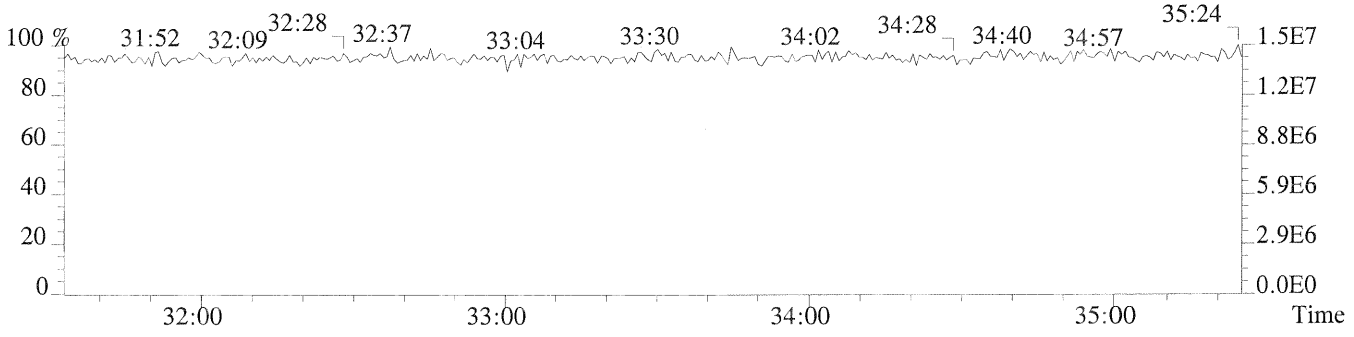
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1420.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,T)

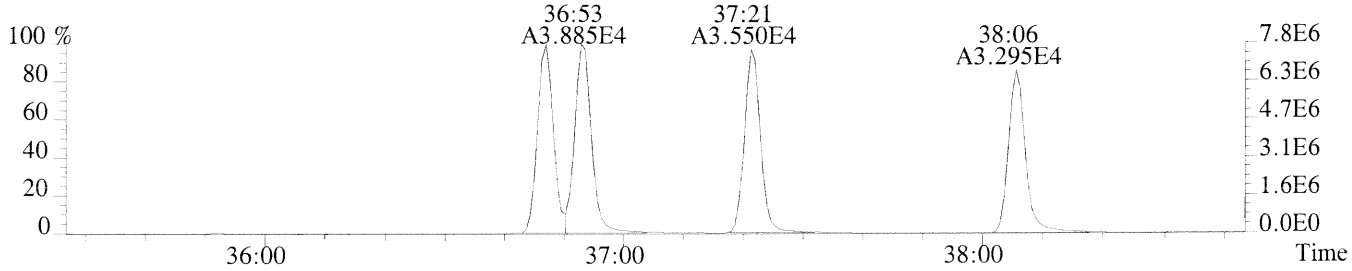


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

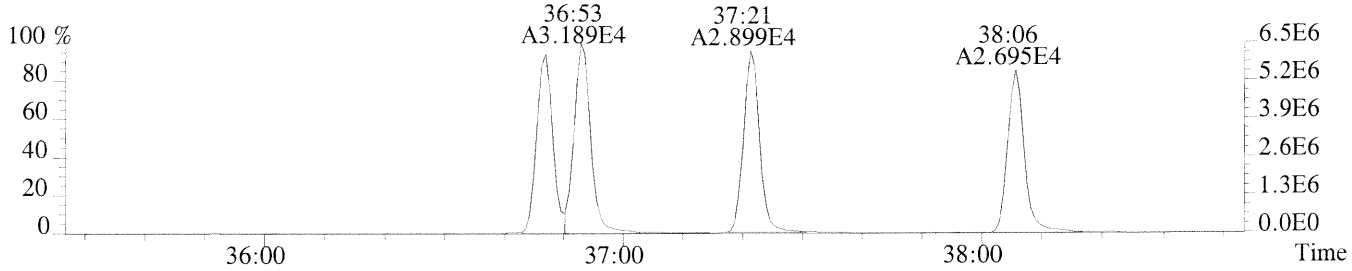


File:P169973 #1-298 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3

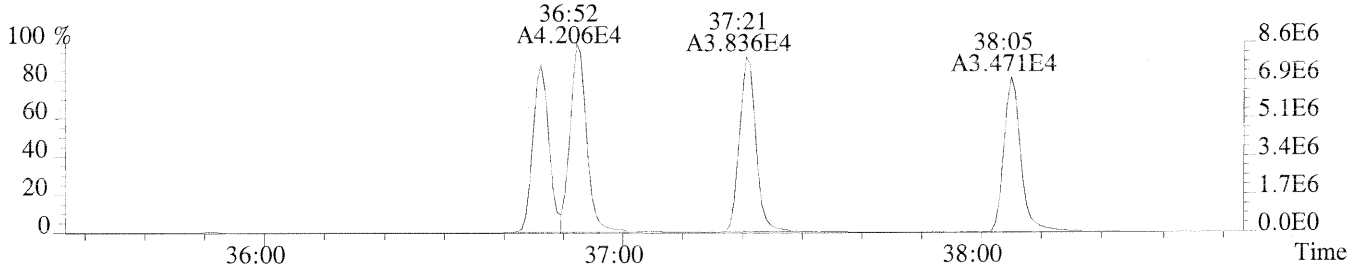
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



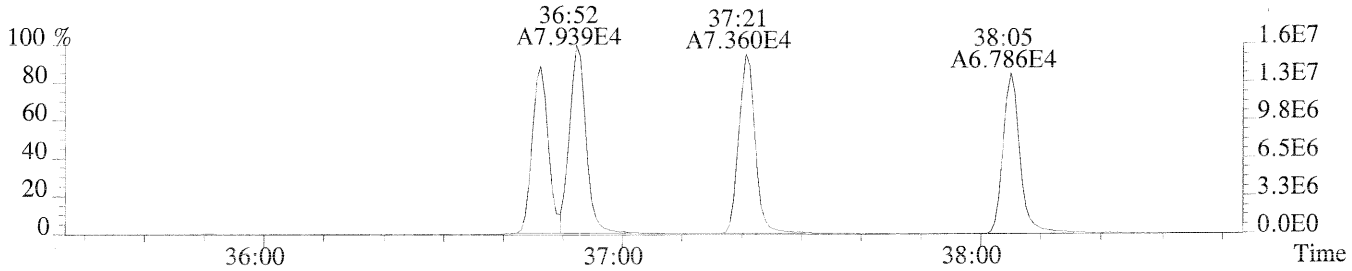
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)



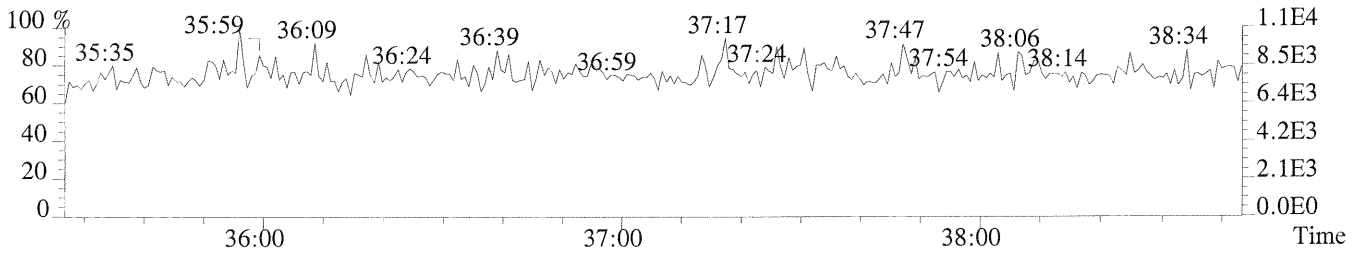
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,T)



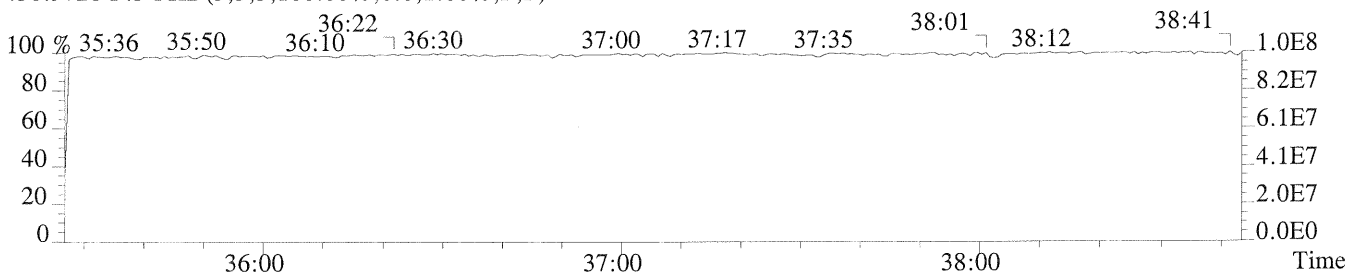
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.40%,F,T)



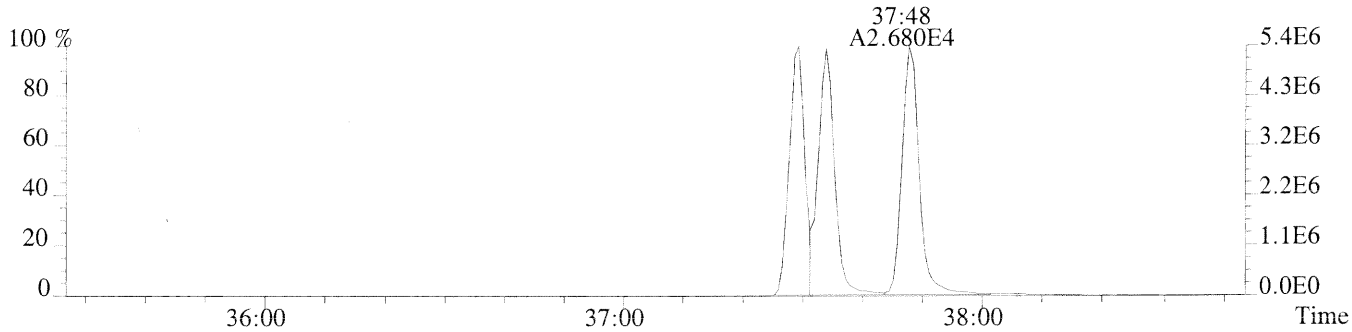
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



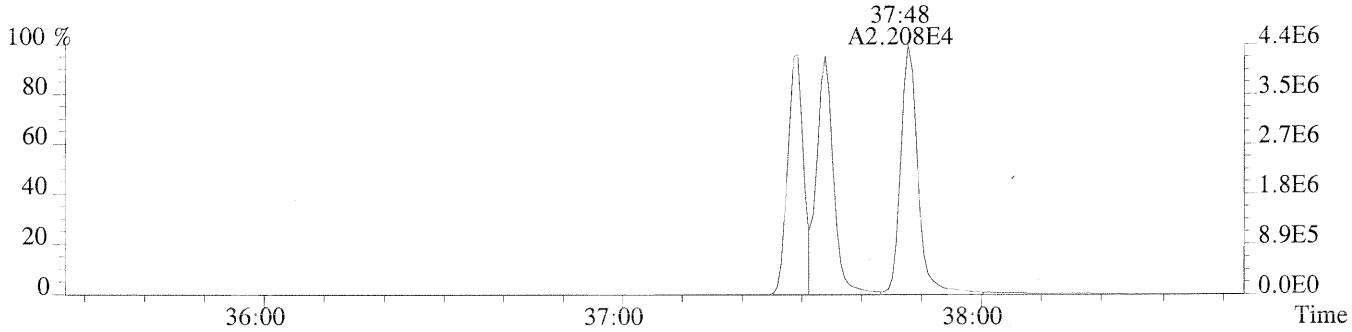
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



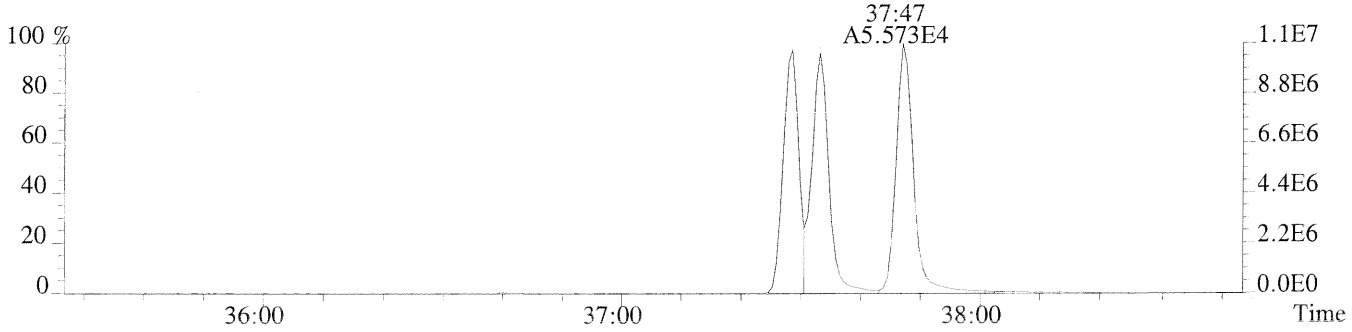
File:P169973 #1-298 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



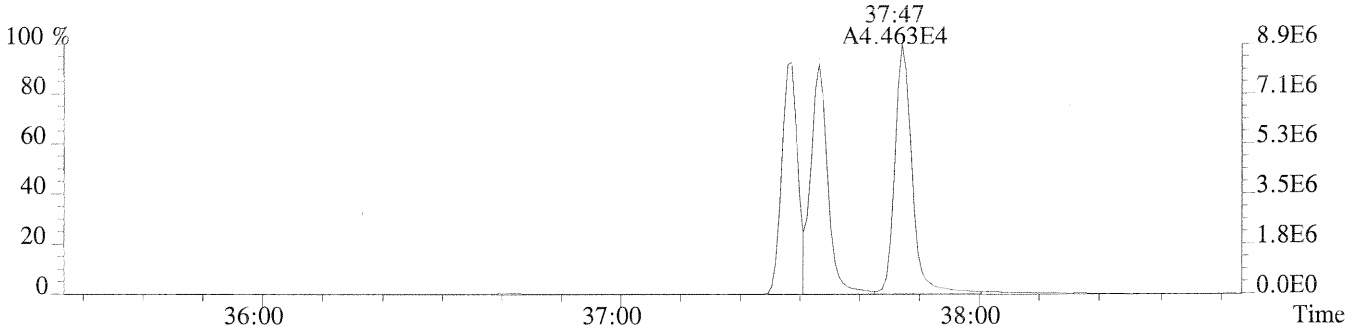
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1504.0,0.40%,F,T)



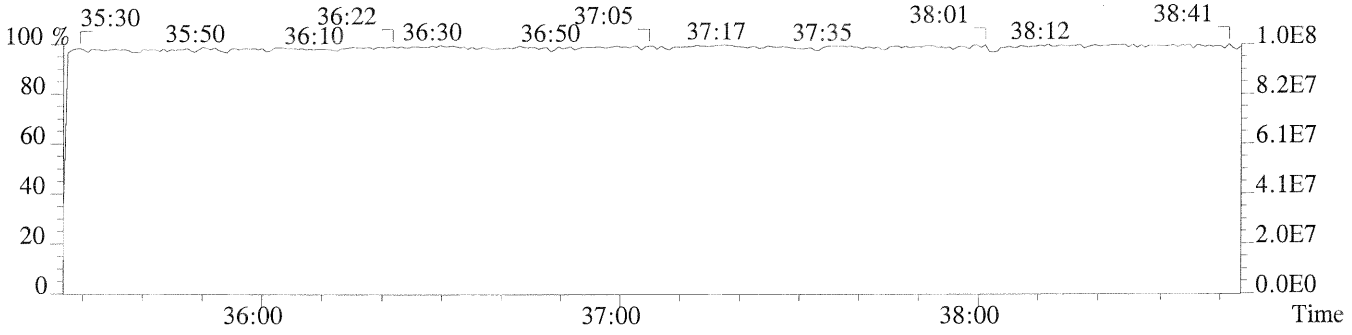
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2016.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)

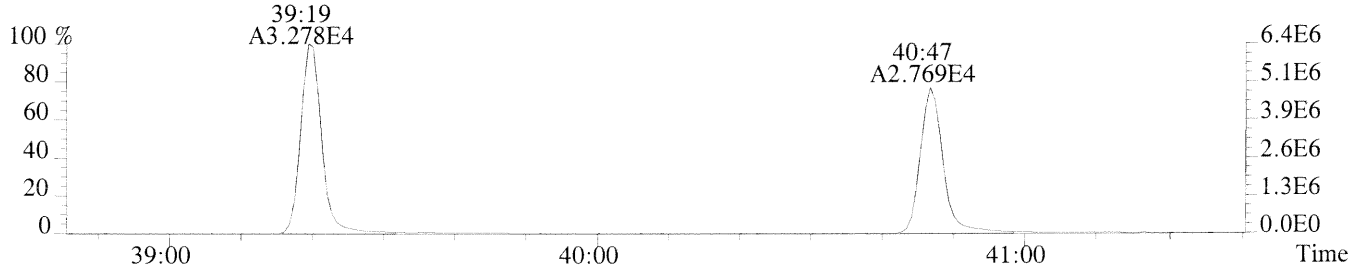


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

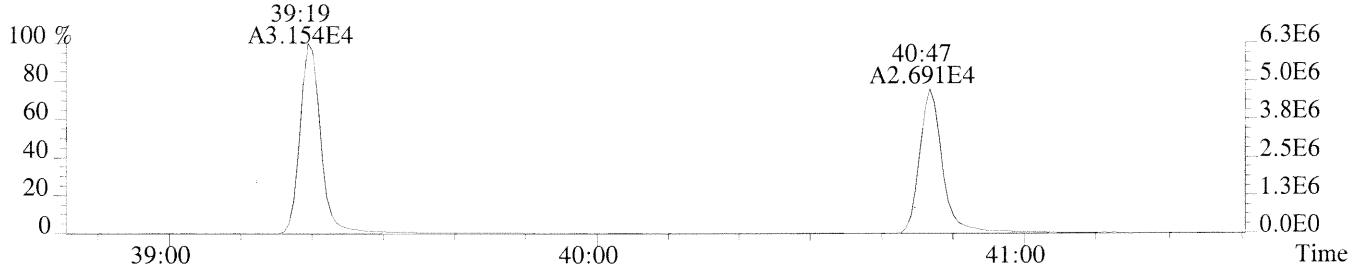


File:P169973 #1-250 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3

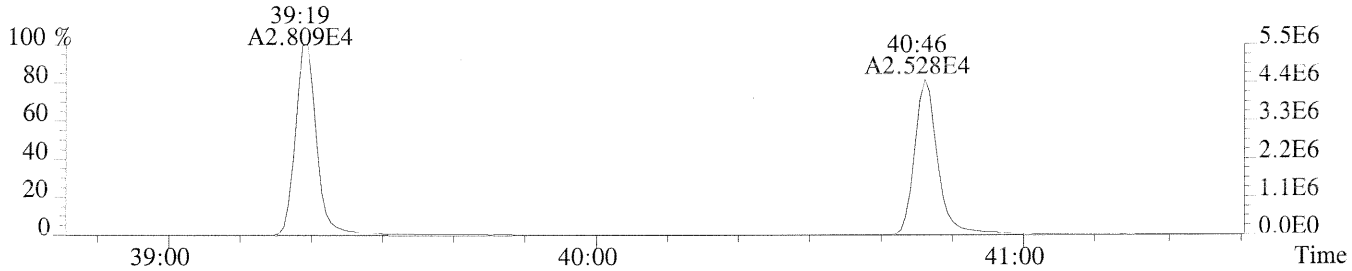
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3308.0,0.50%,F,T)



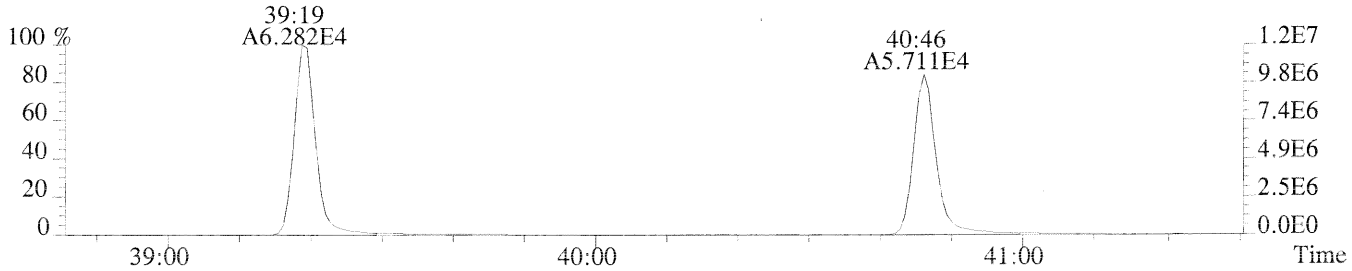
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3432.0,0.50%,F,T)



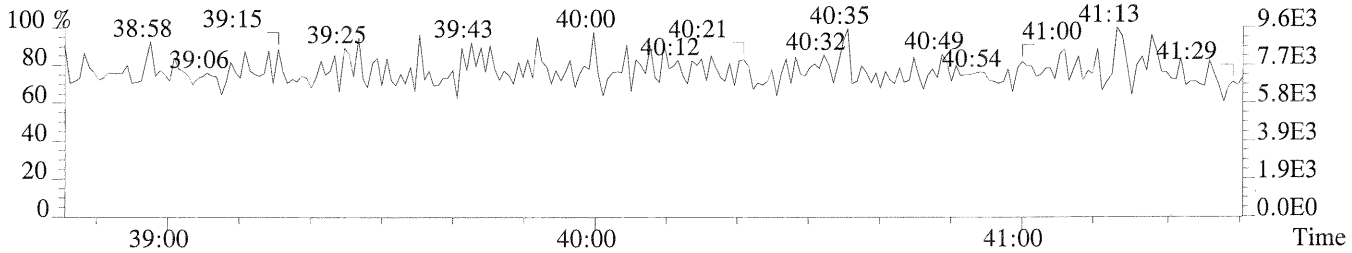
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3516.0,0.50%,F,T)



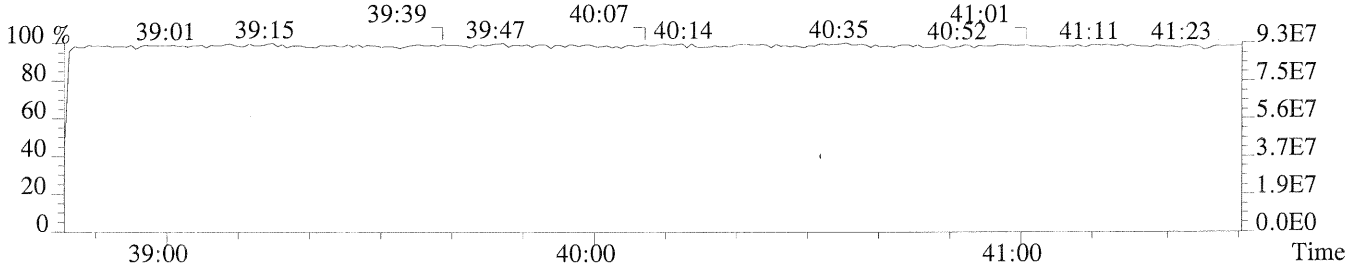
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3852.0,0.50%,F,T)



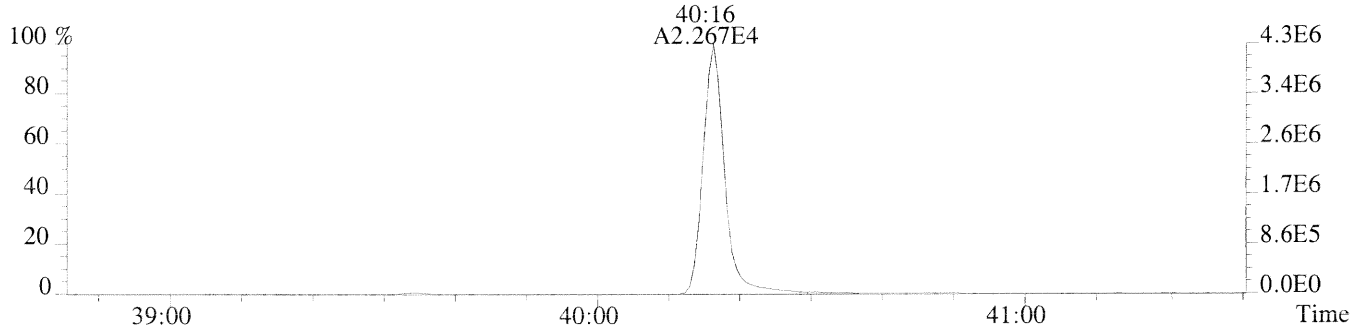
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



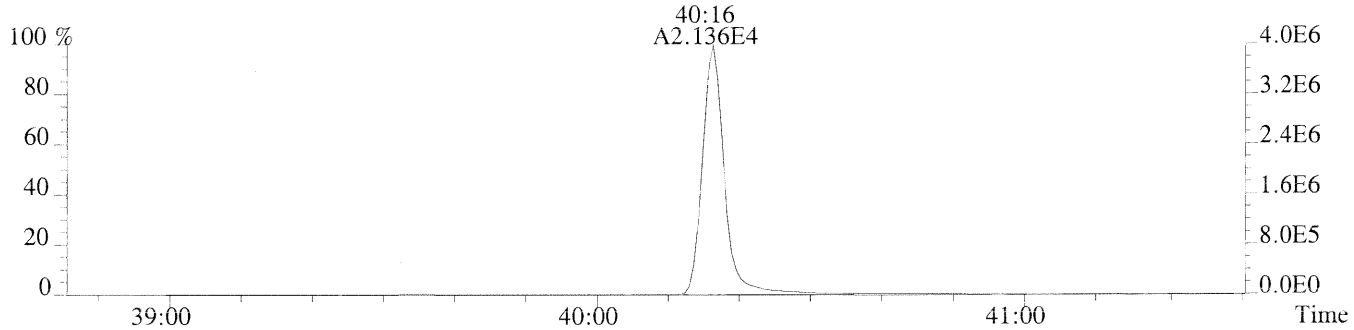
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



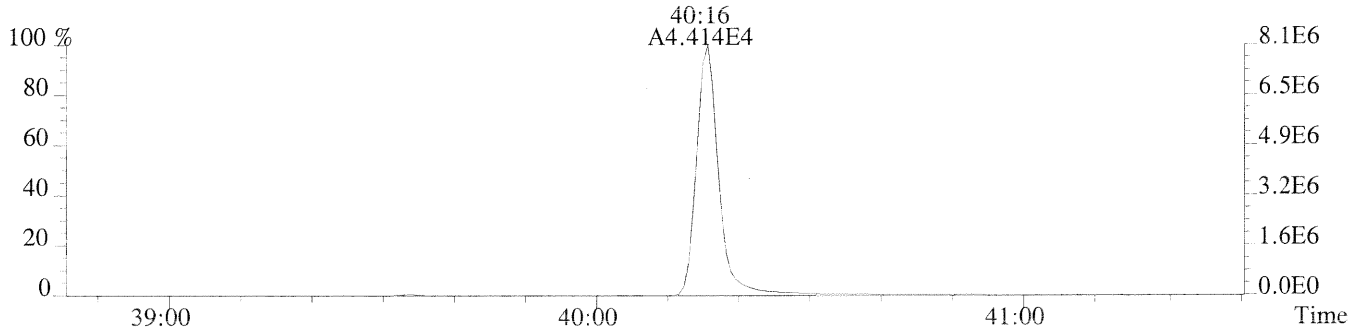
File:P169973 #1-250 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



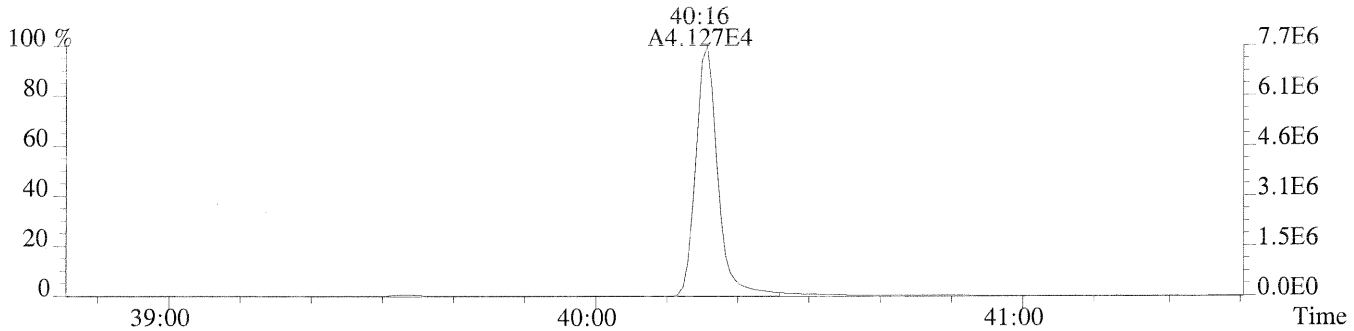
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



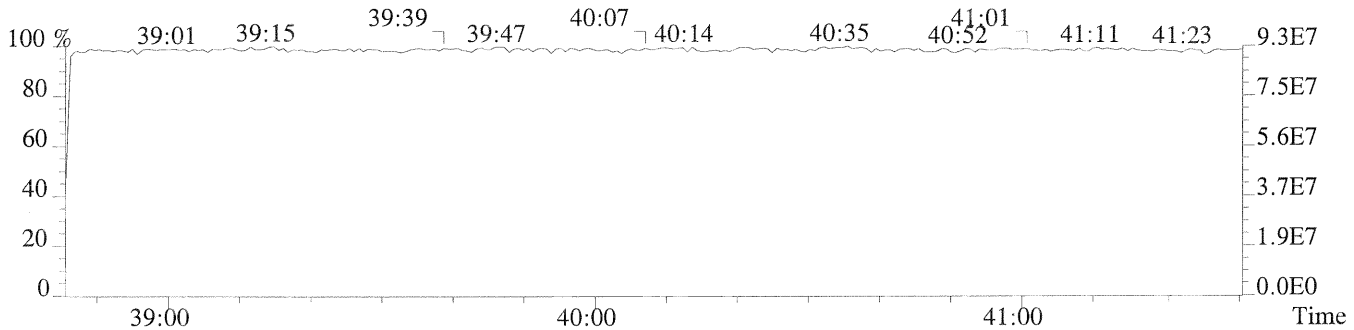
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1604.0,0.40%,F,T)



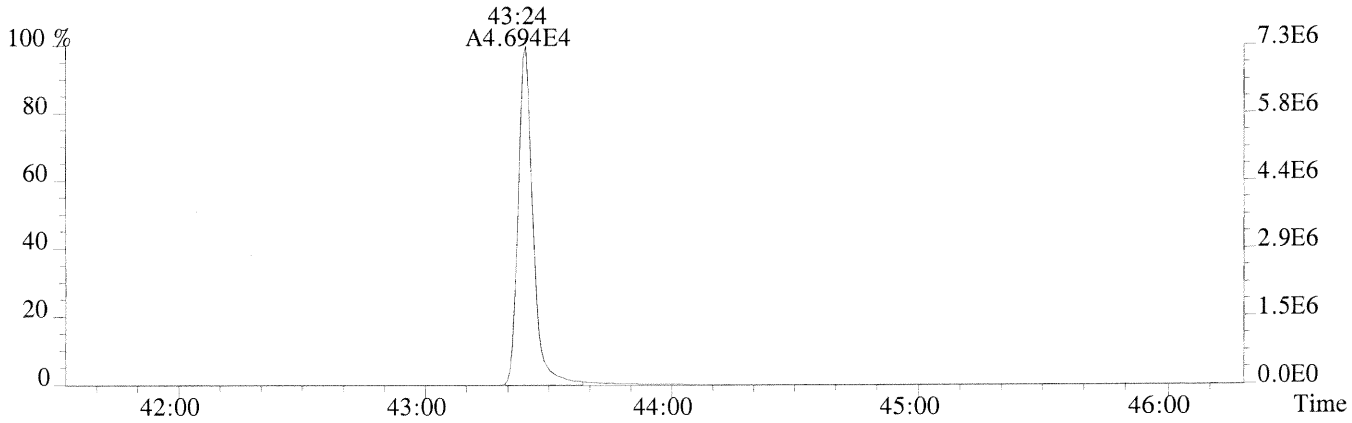
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



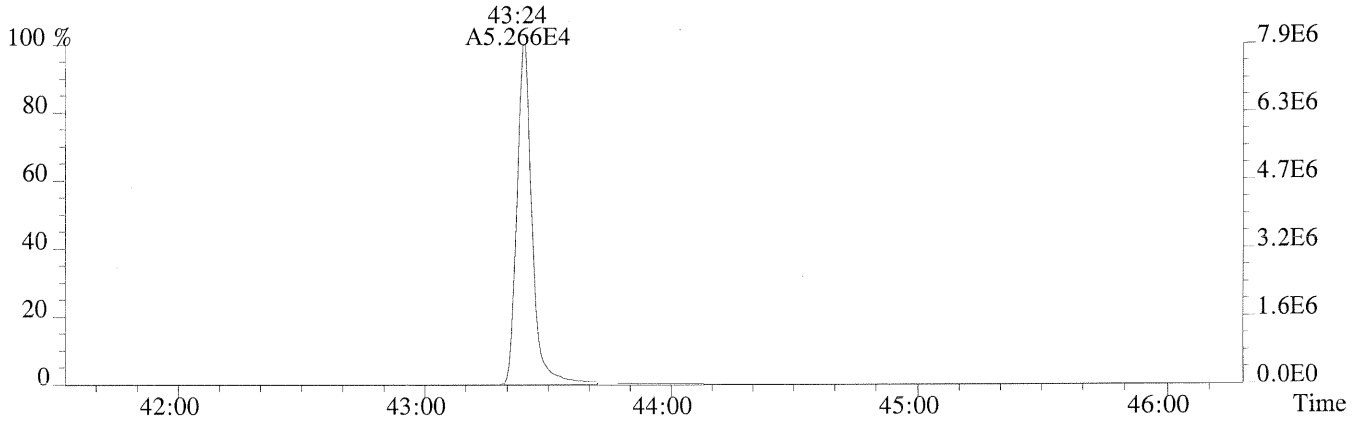
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



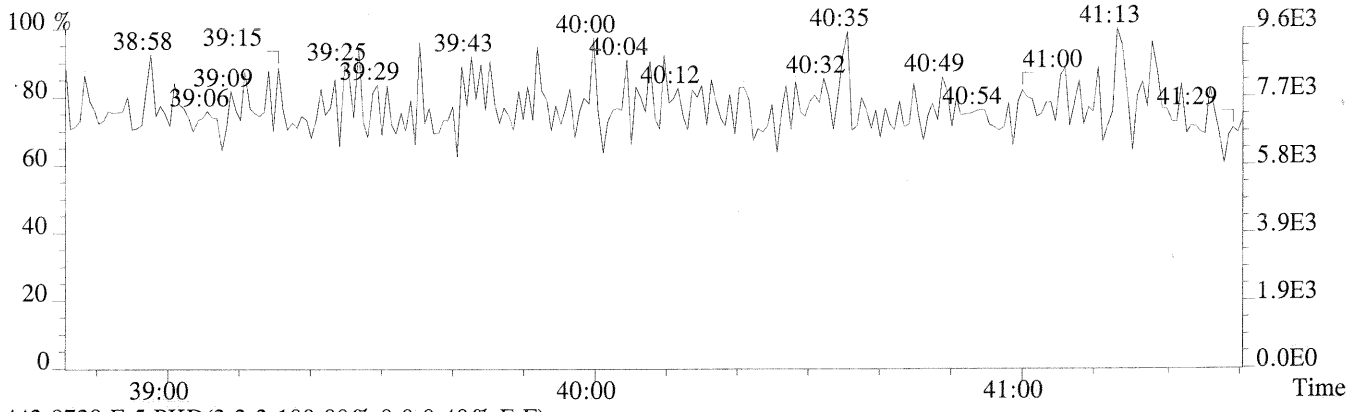
File:P169973 #1-438 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1192.0,0.40%,F,T)



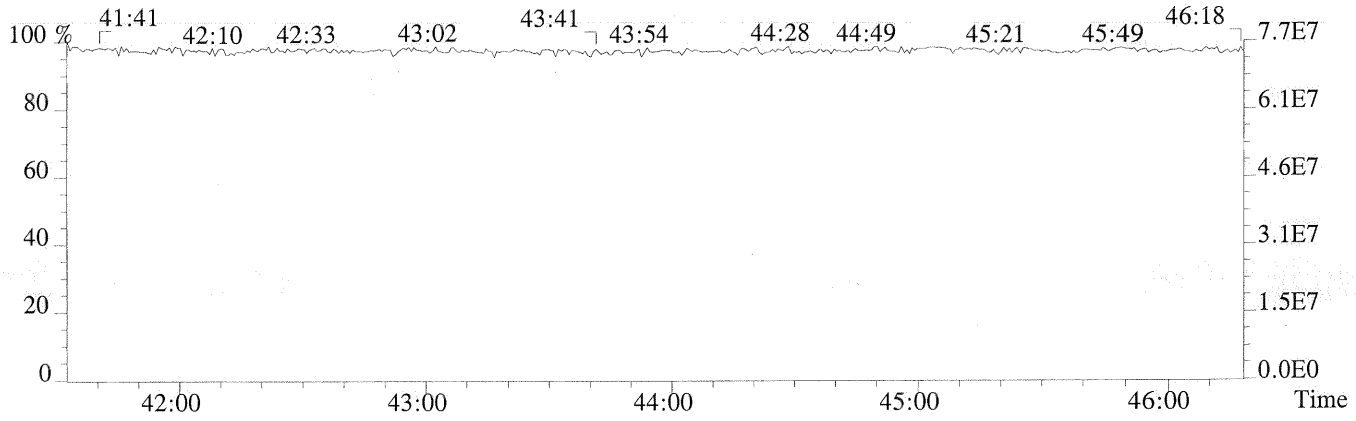
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1708.0,0.40%,F,T)



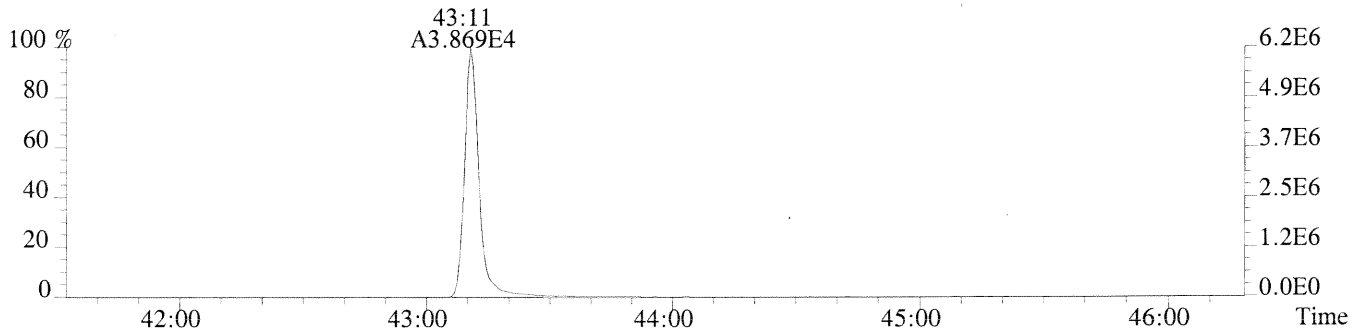
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



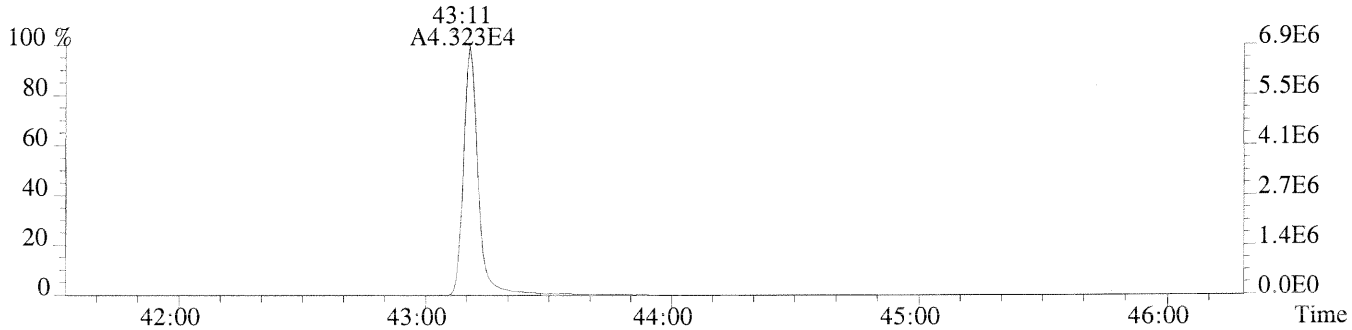
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



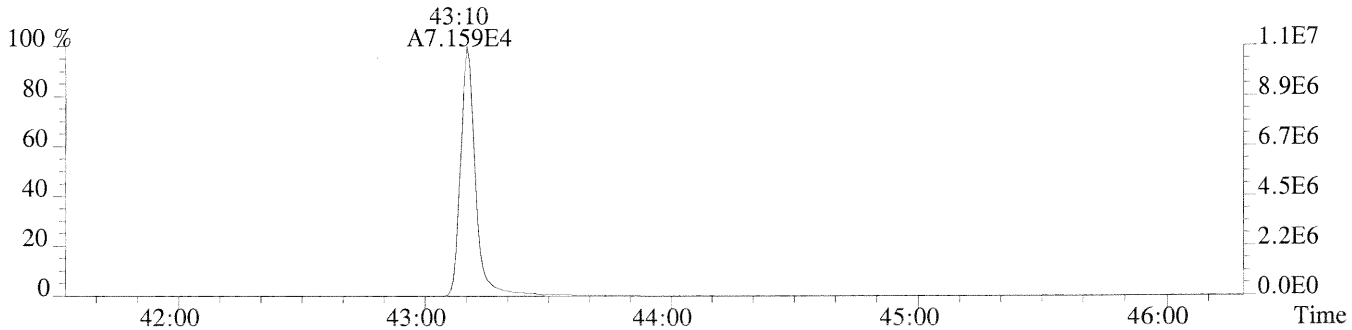
File:P169973 #1-438 Acq:25-MAR-2014 19:46:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,652.0,0.40%,F,T)



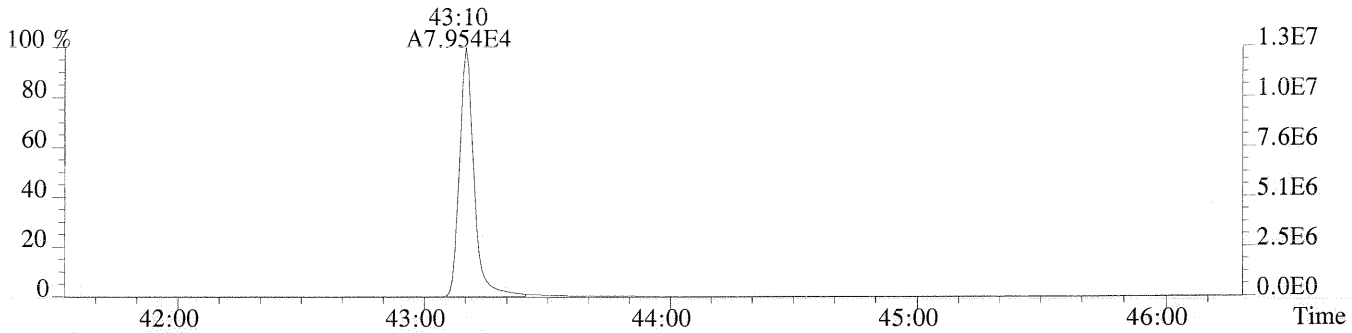
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,892.0,0.40%,F,T)



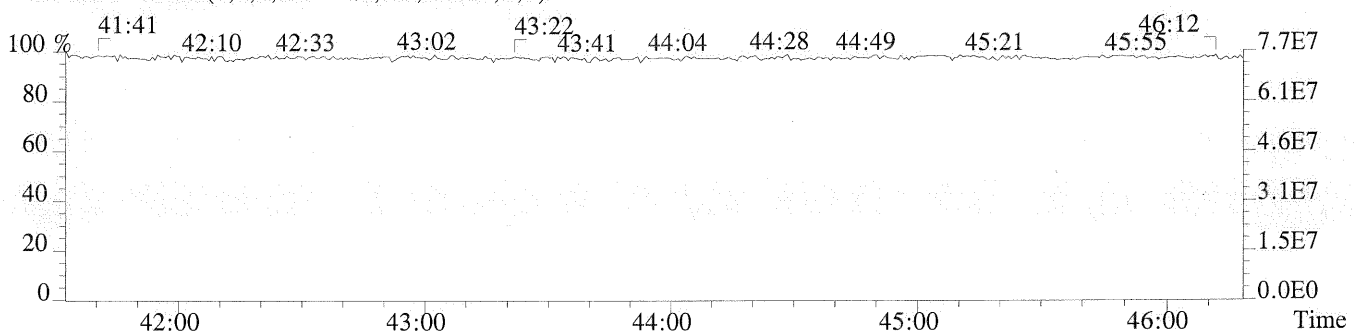
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1100.0,0.40%,F,T)



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

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.
D12-90-3D

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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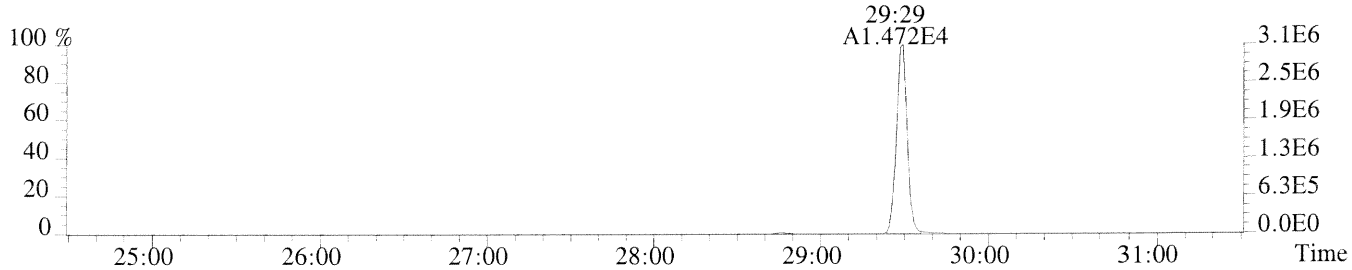
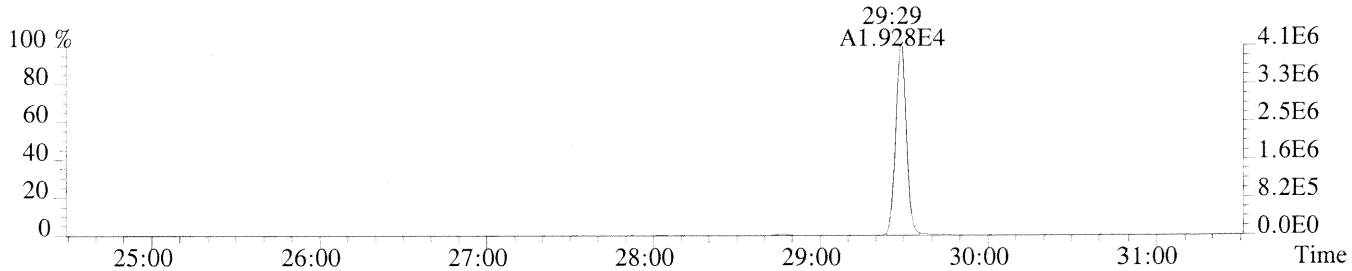
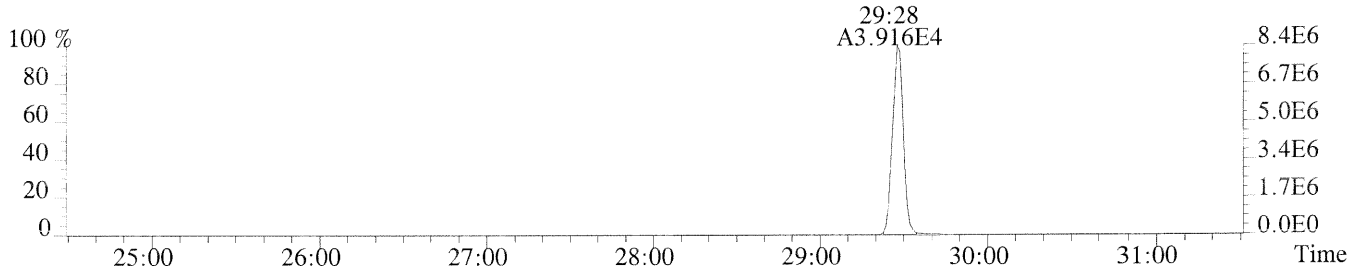
File:P169974 #1-442 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



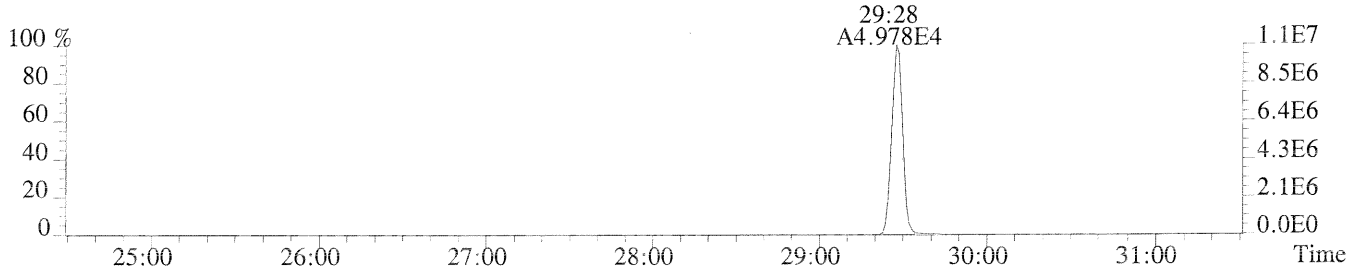
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2872.0,1.00%,F,T)



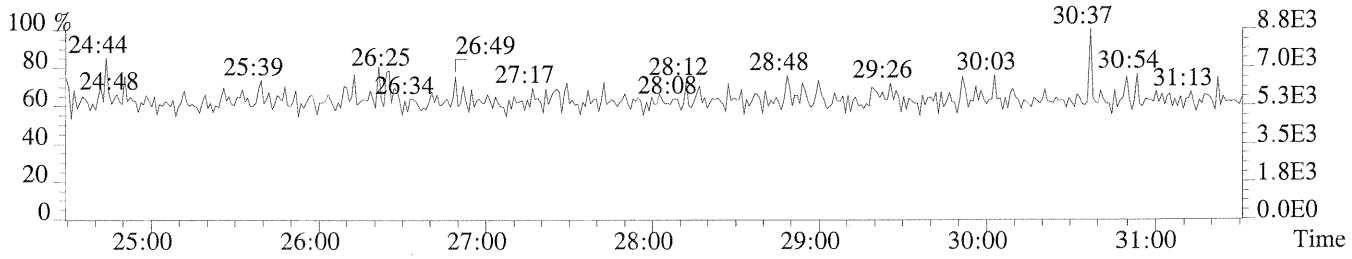
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1812.0,1.00%,F,T)



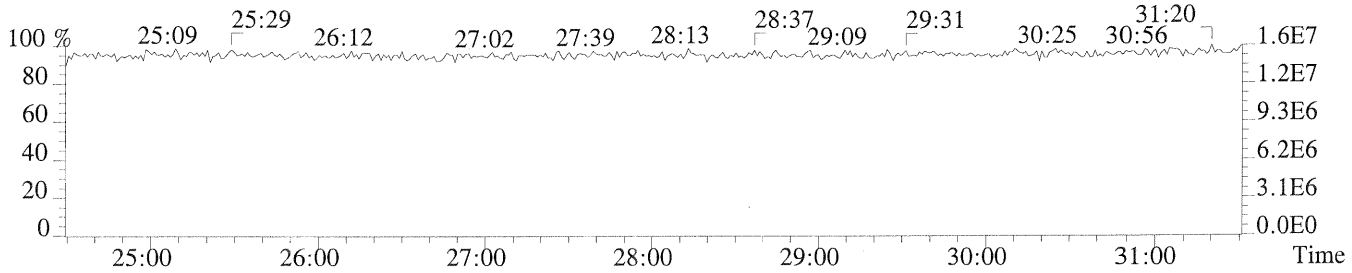
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1784.0,1.00%,F,T)



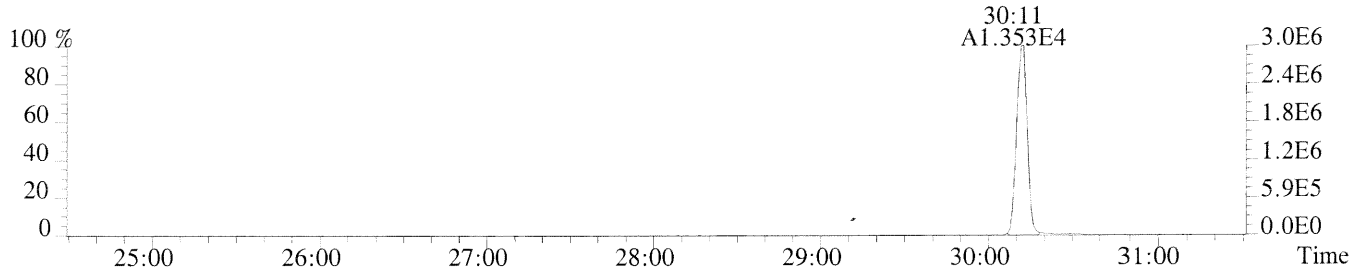
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



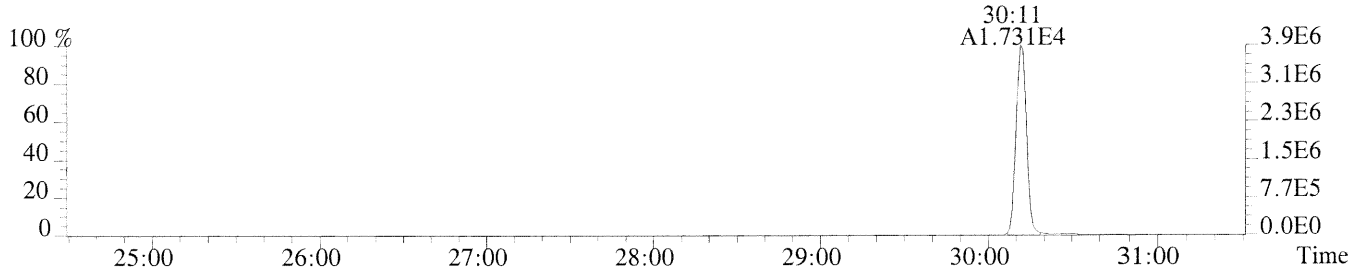
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



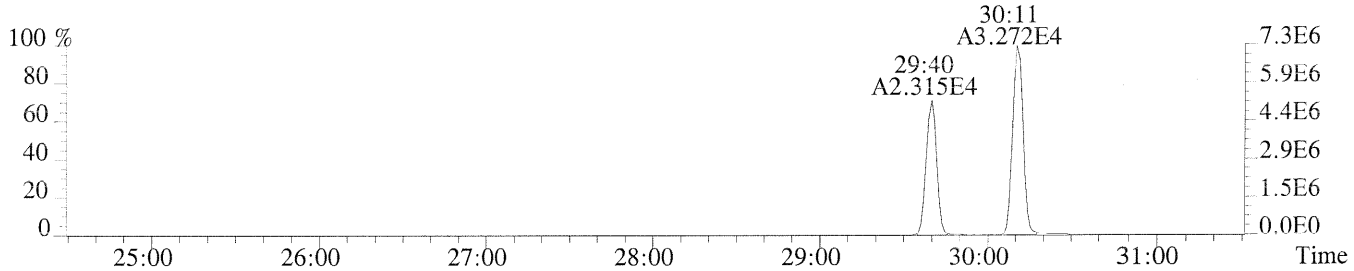
File:P169974 #1-442 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



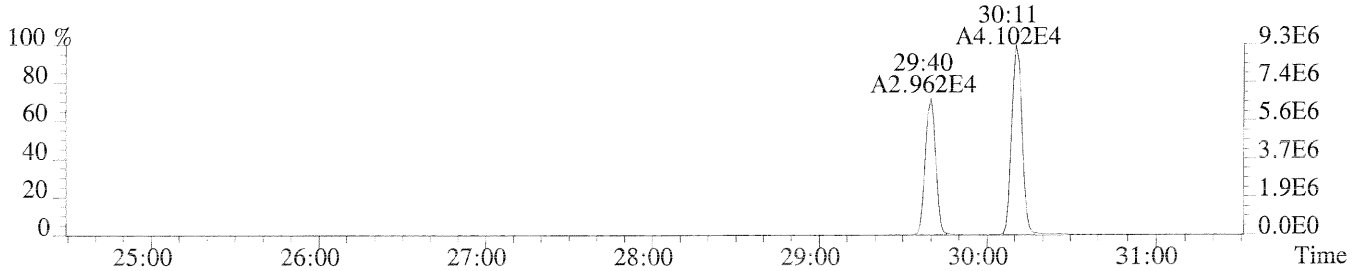
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,T)



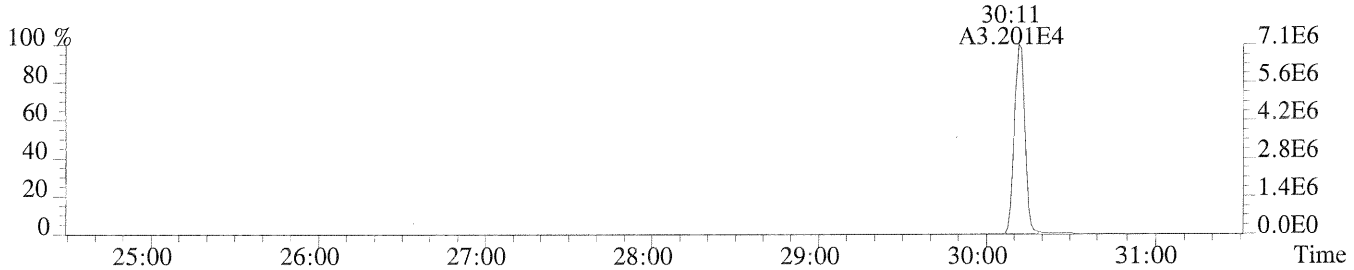
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4252.0,1.00%,F,T)



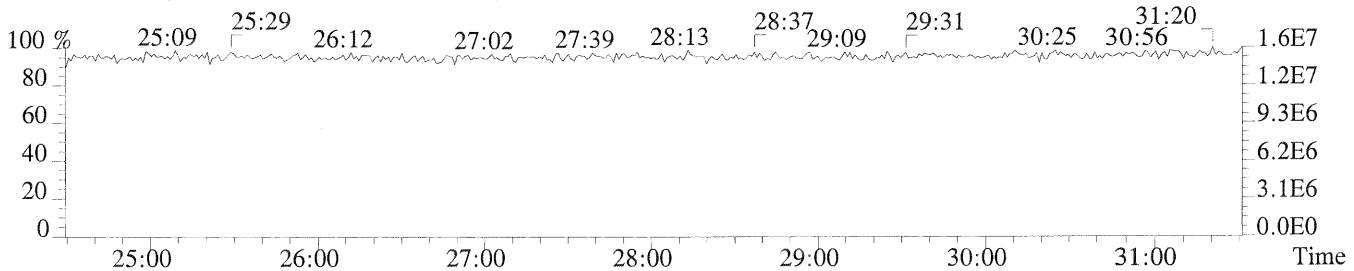
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2484.0,1.00%,F,T)



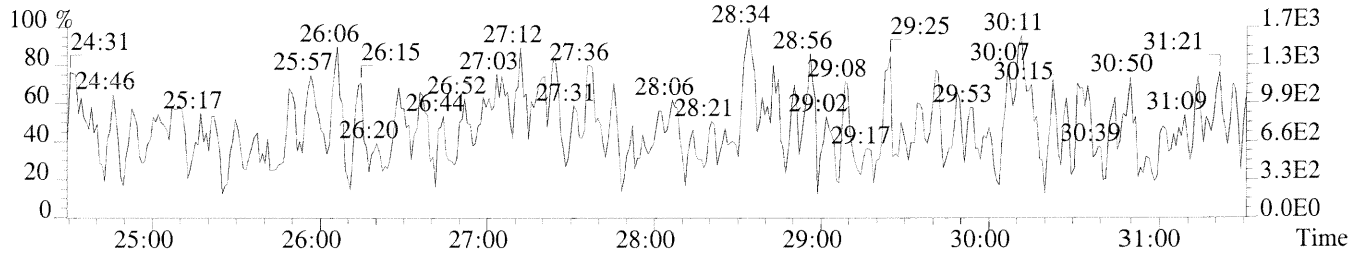
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1792.0,1.00%,F,T)



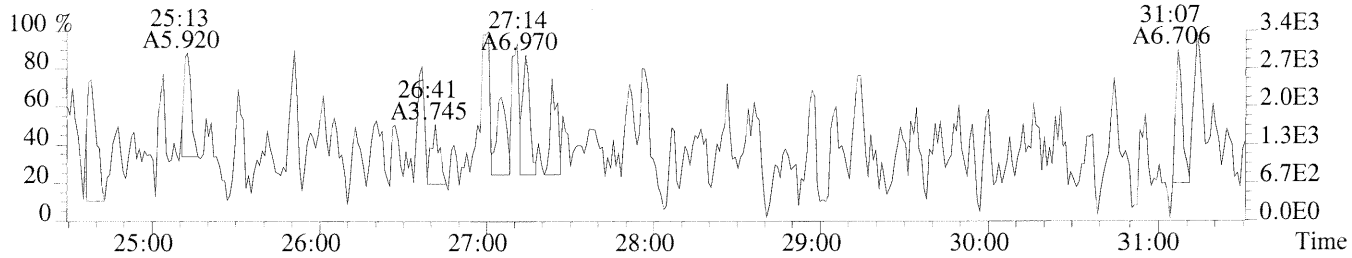
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



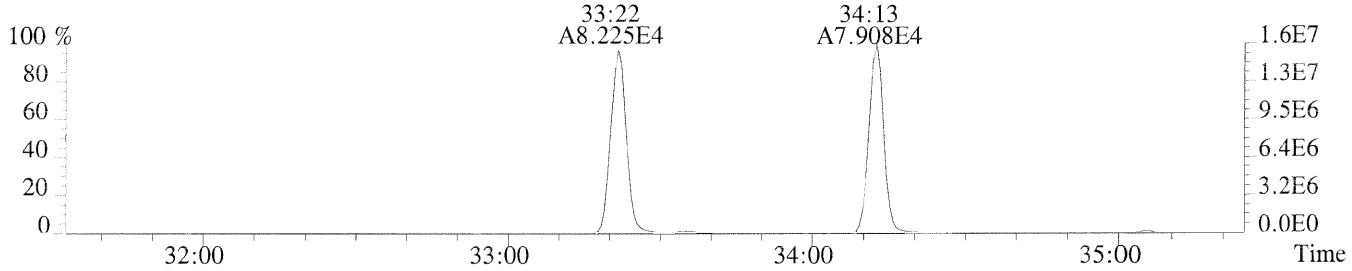
File:P169974 #1-442 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



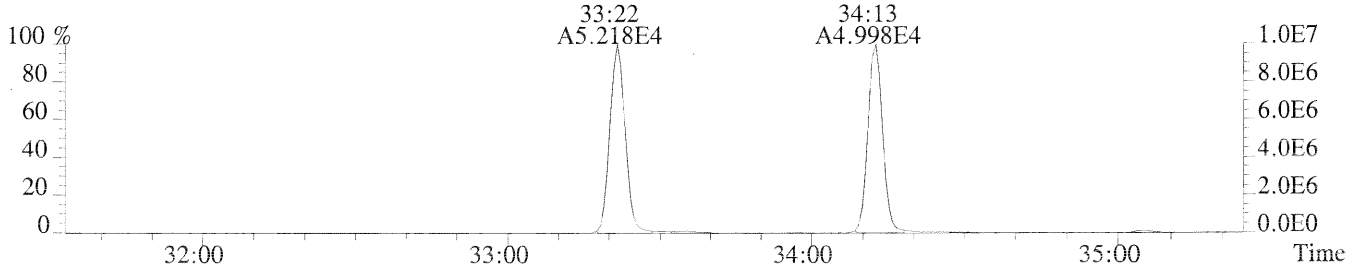
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1552.0,1.00%,F,T)



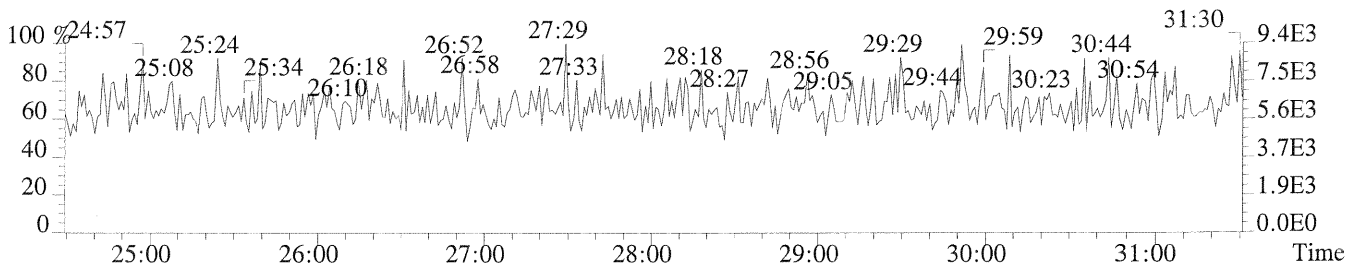
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



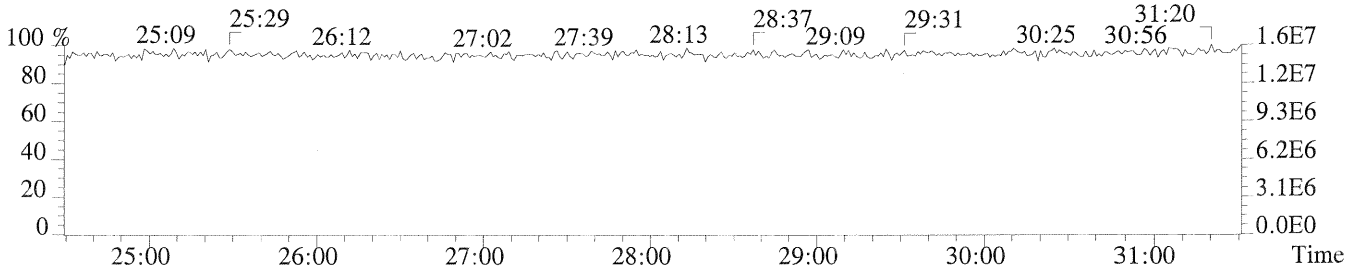
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1624.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

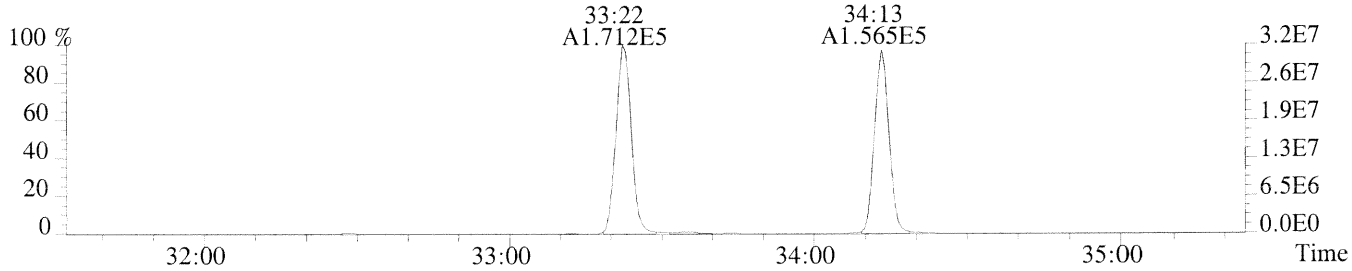


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

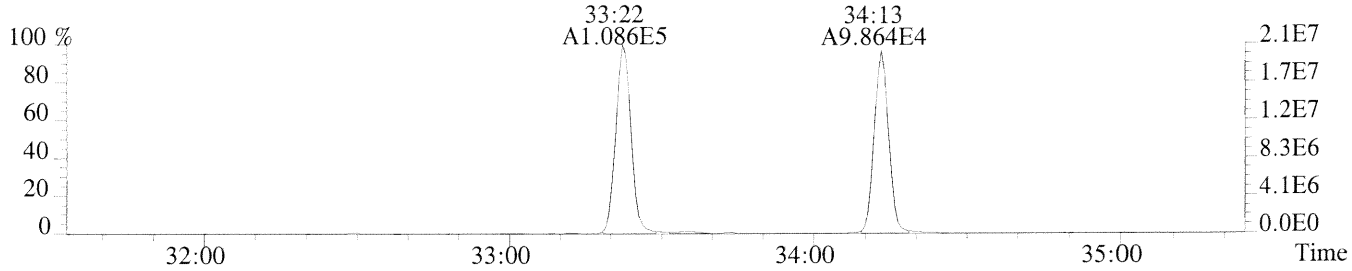


File:P169974 #1-350 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4

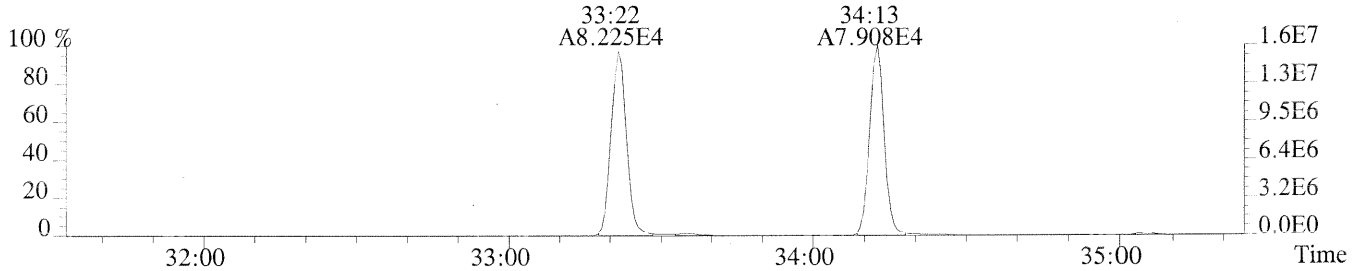
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



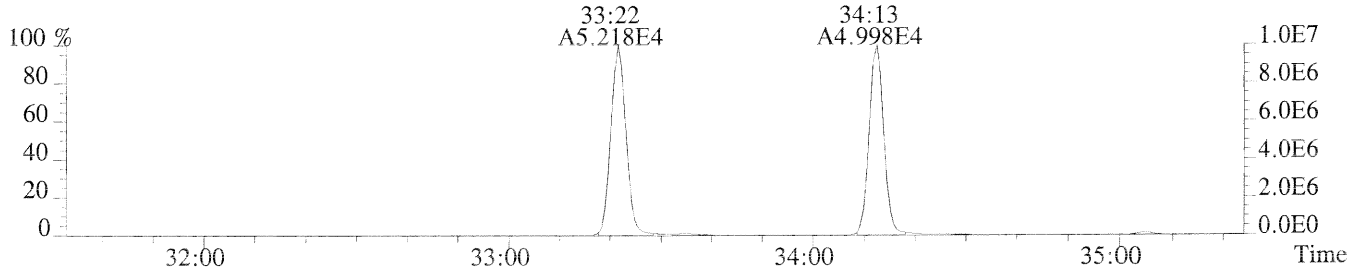
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1788.0,1.00%,F,T)



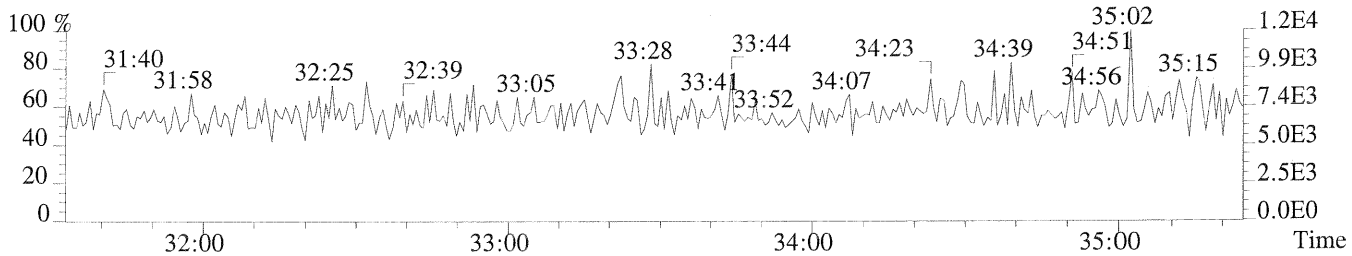
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



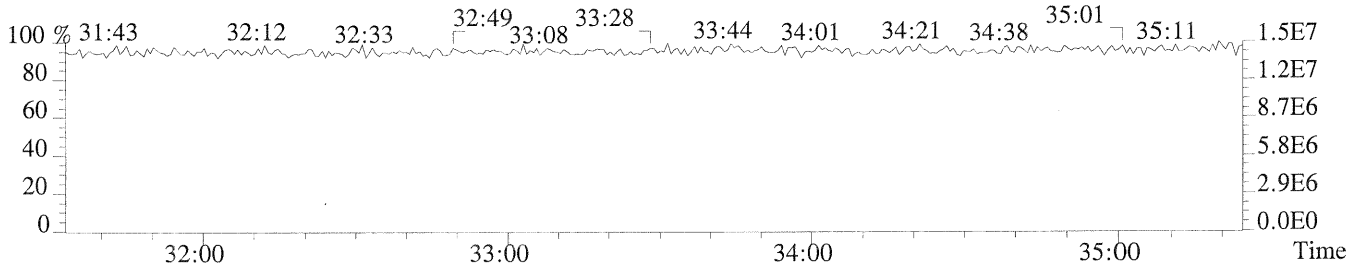
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1624.0,1.00%,F,T)



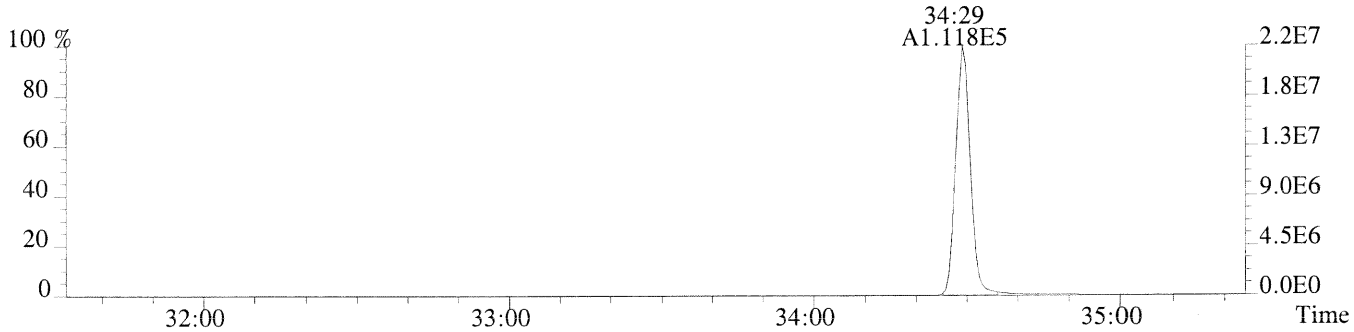
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



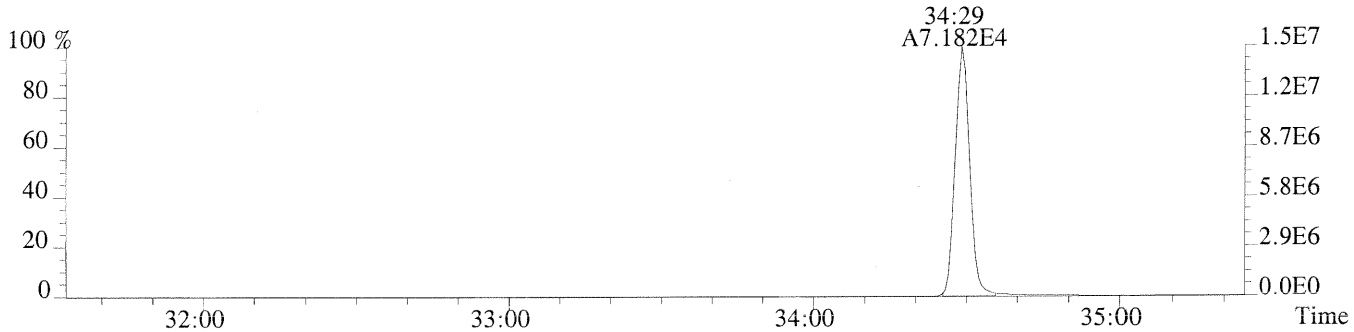
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



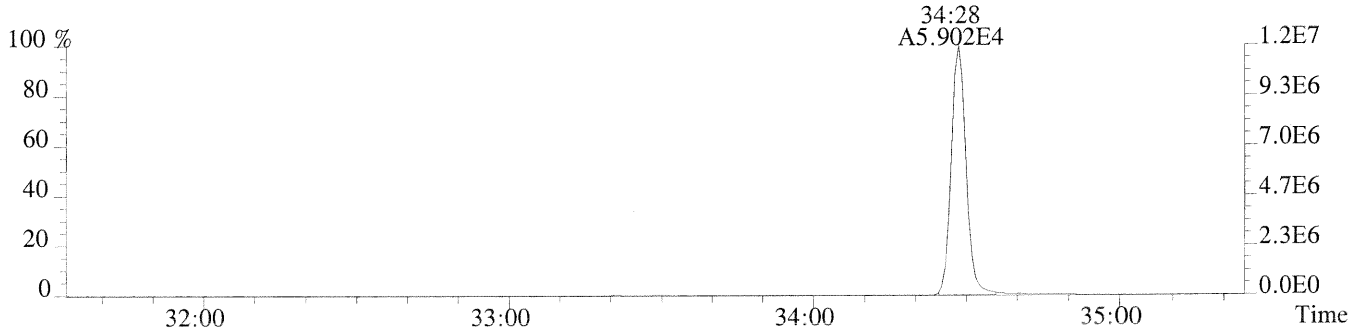
File:P169974 #1-350 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



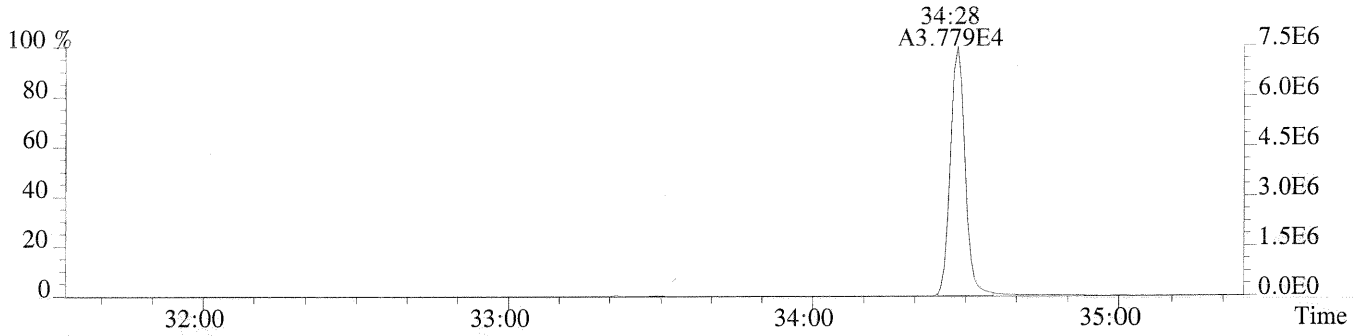
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



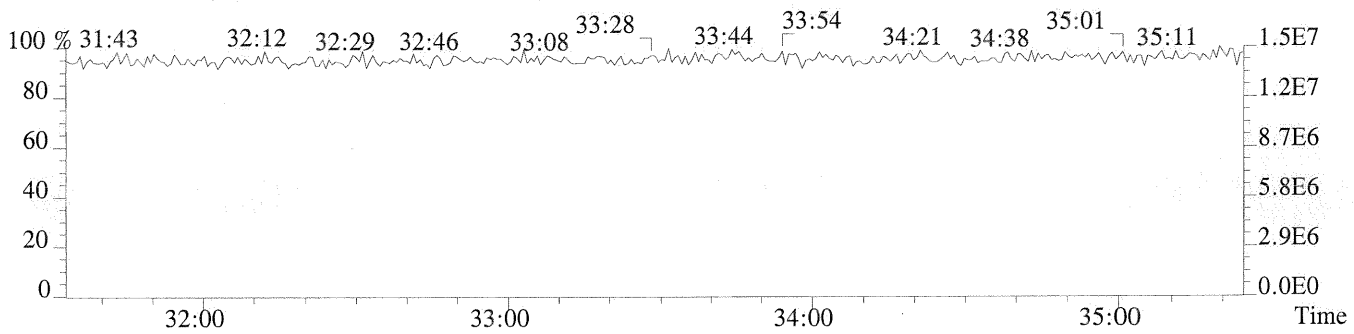
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,T)

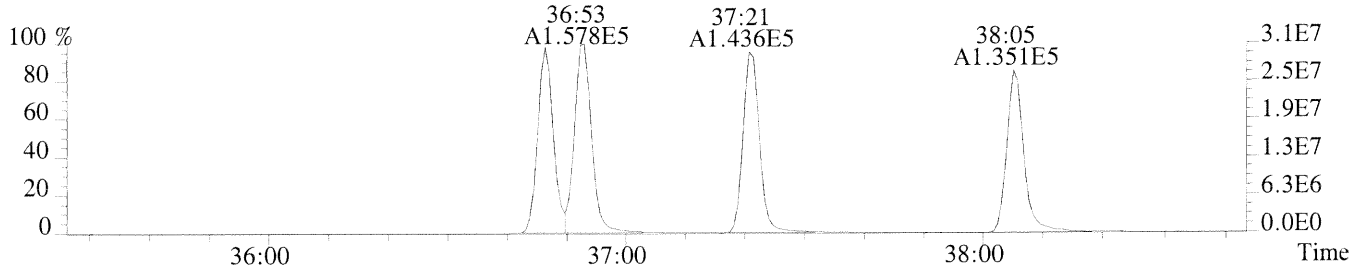


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

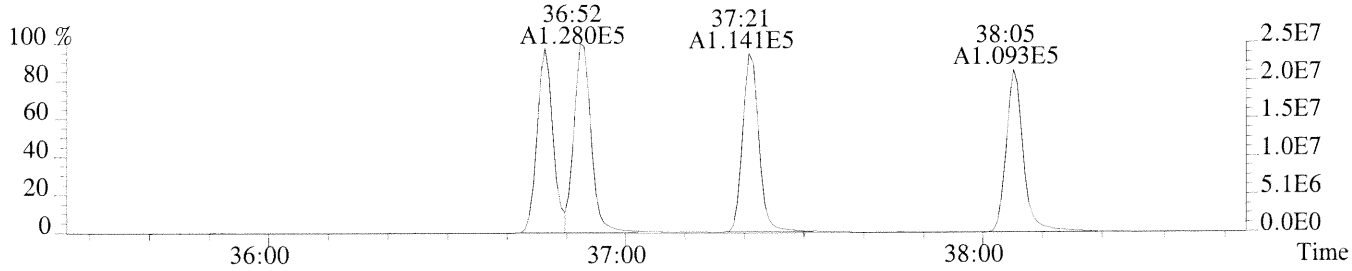


File:P169974 #1-299 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4

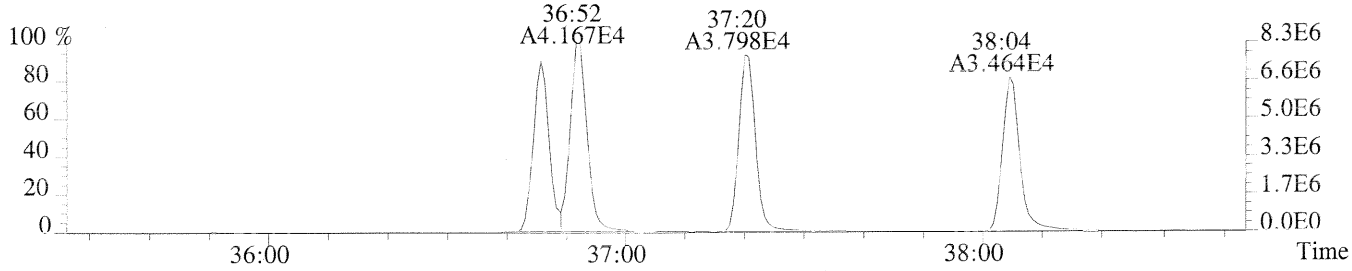
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1596.0,0.40%,F,T)



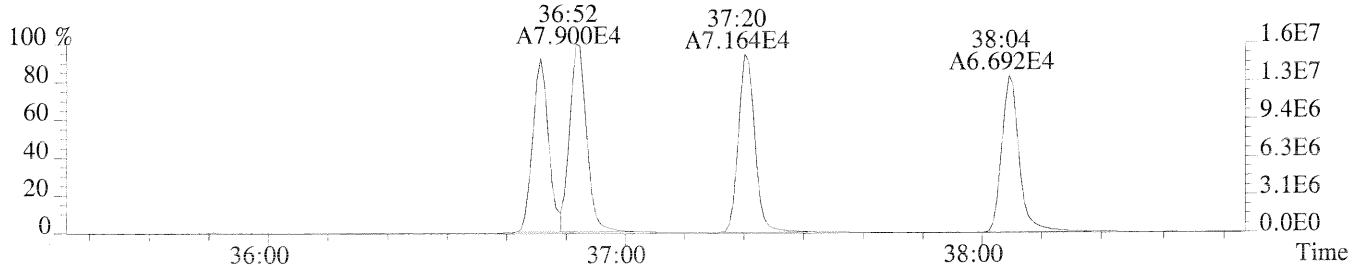
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



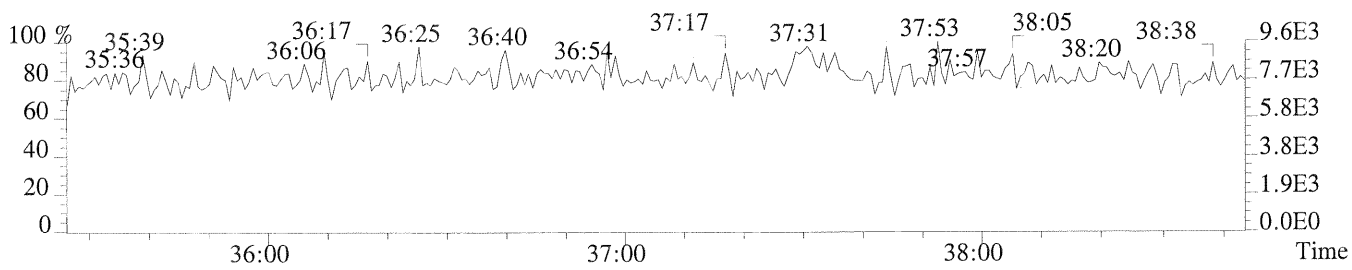
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)



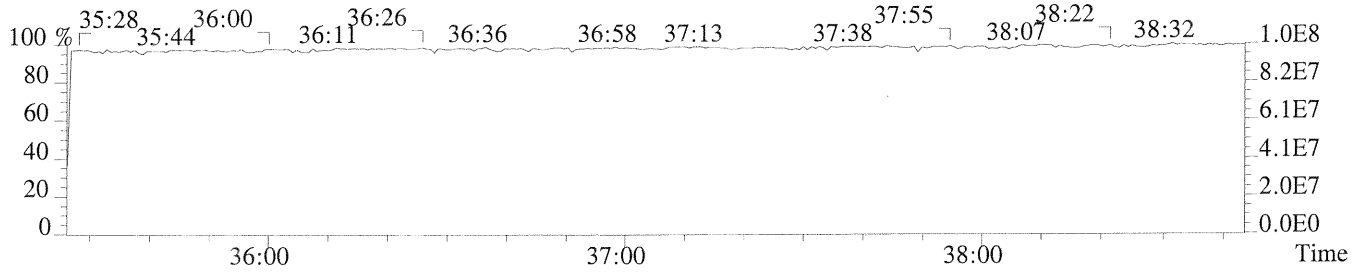
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2284.0,0.40%,F,T)



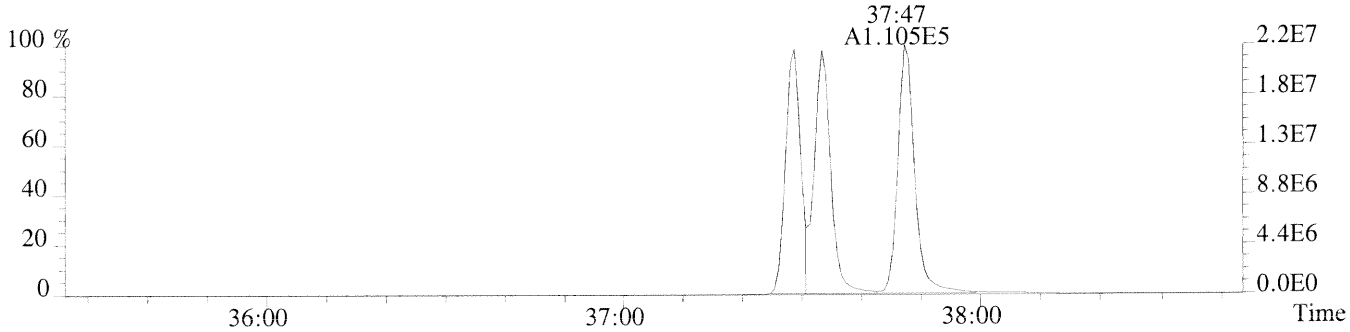
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



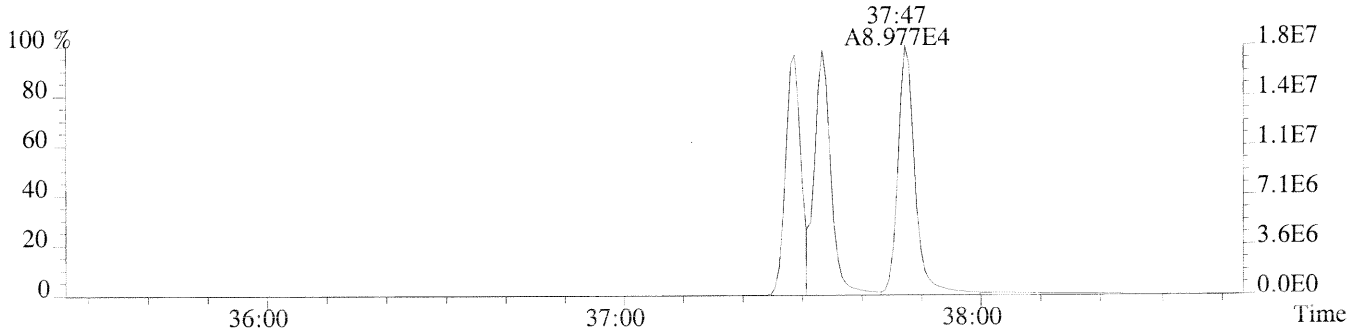
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



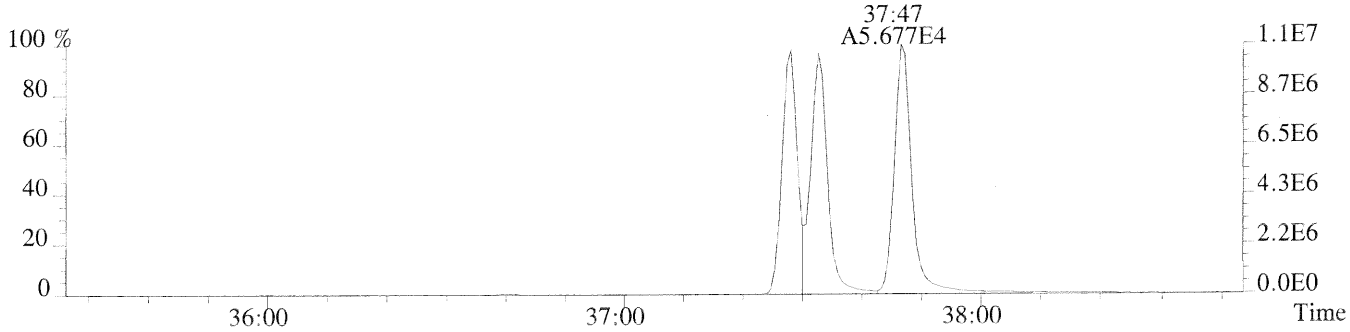
File:P169974 #1-299 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



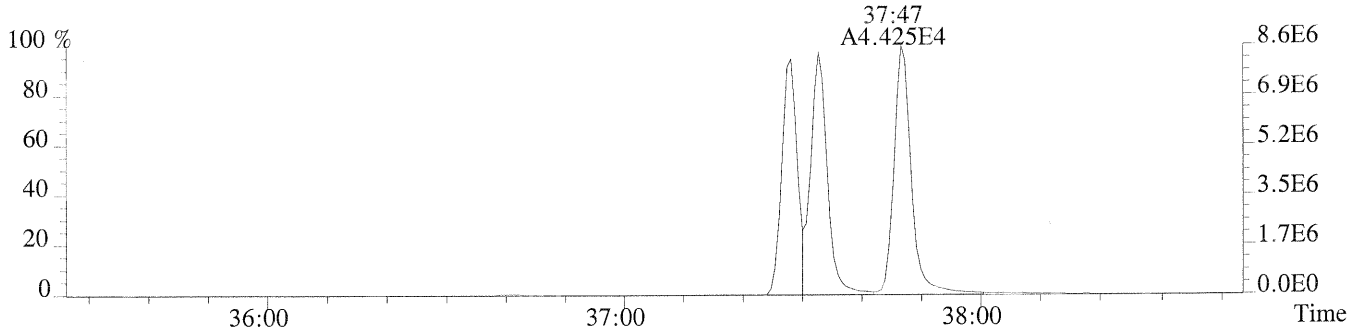
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



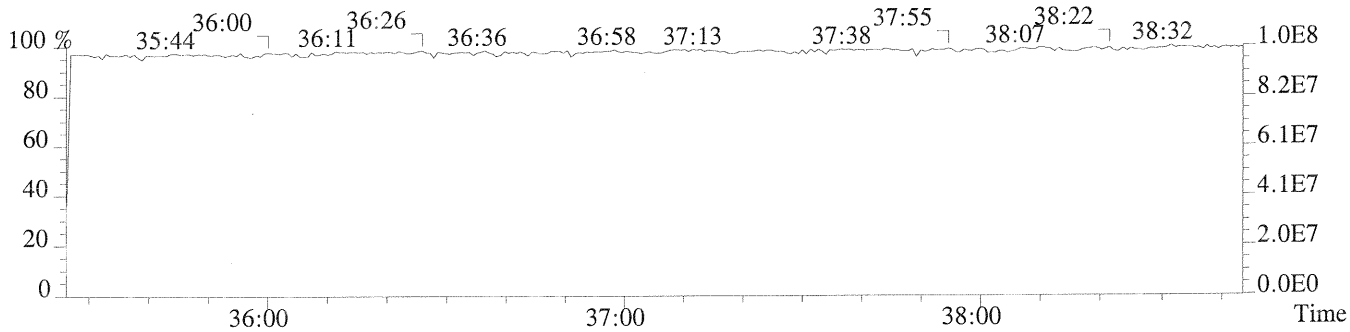
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1588.0,0.40%,F,T)

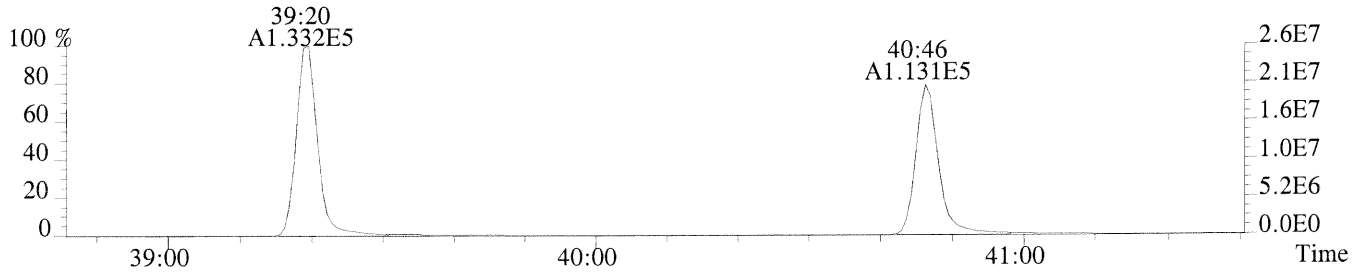


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

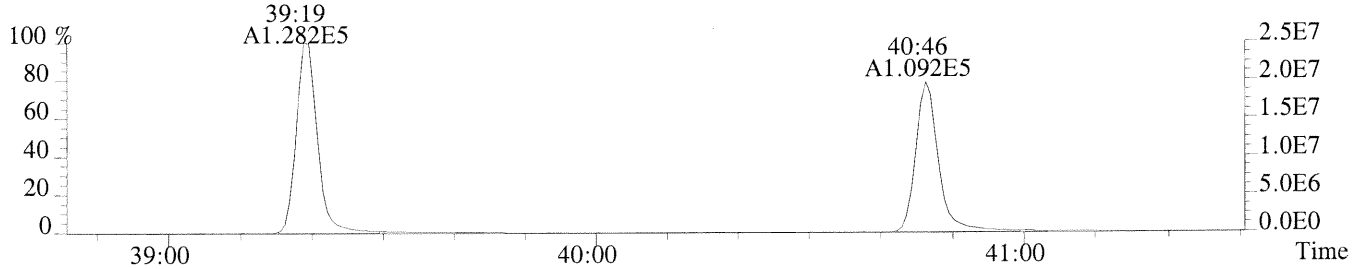


File:P169974 #1-250 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4

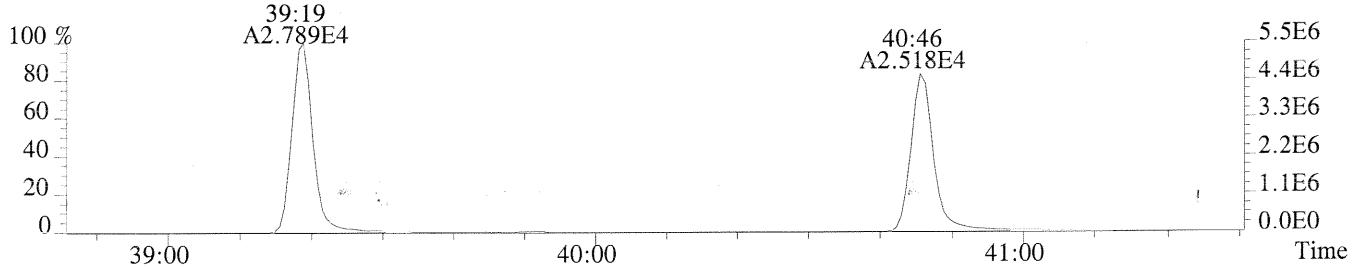
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8952.0,0.50%,F,T)



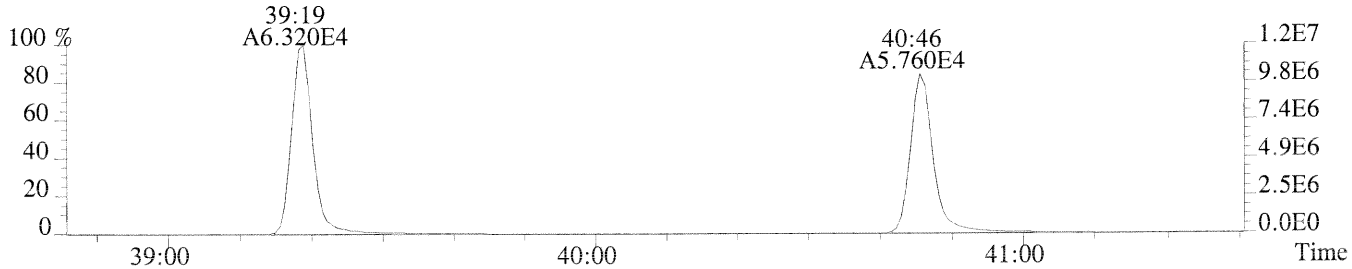
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5364.0,0.50%,F,T)



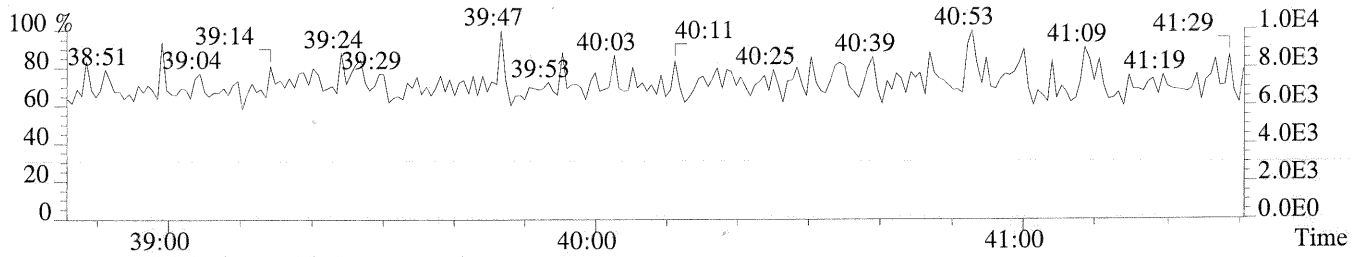
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2080.0,0.50%,F,T)



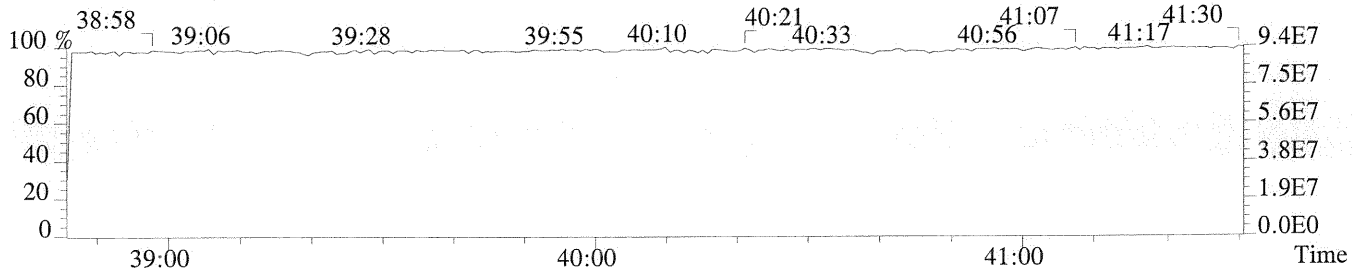
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3444.0,0.50%,F,T)



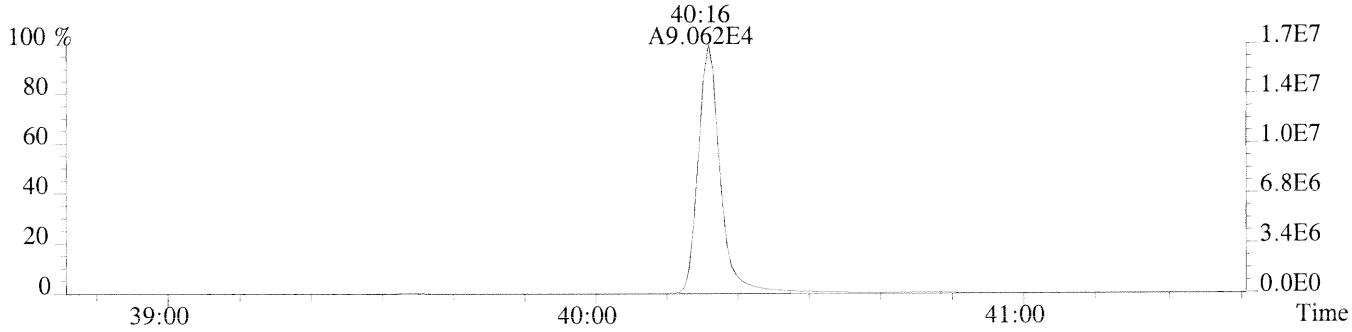
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



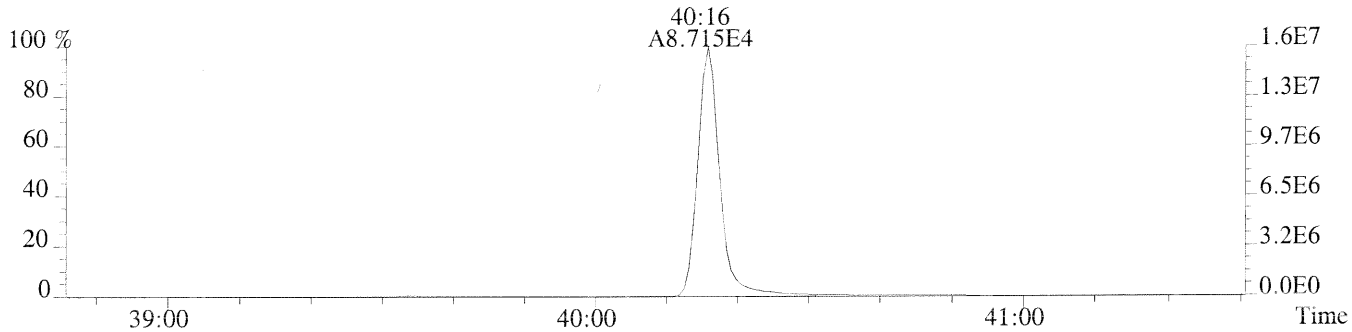
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



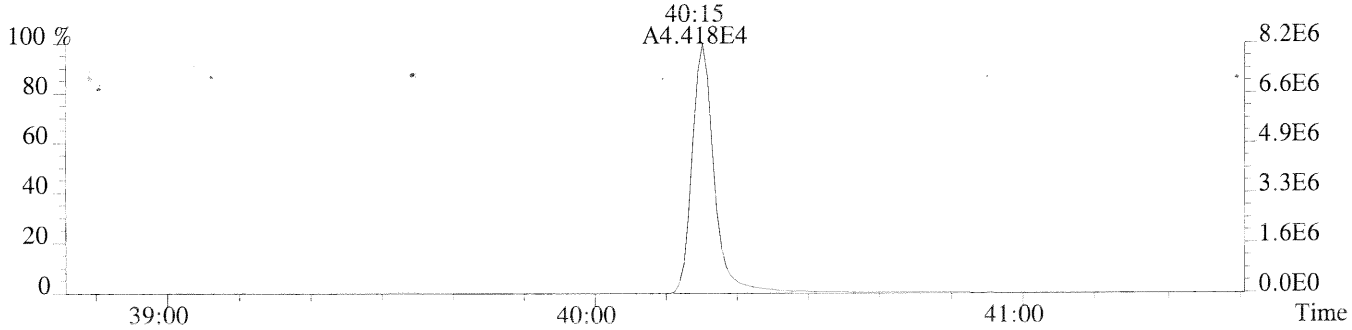
File:P169974 #1-250 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.40%,F,T)



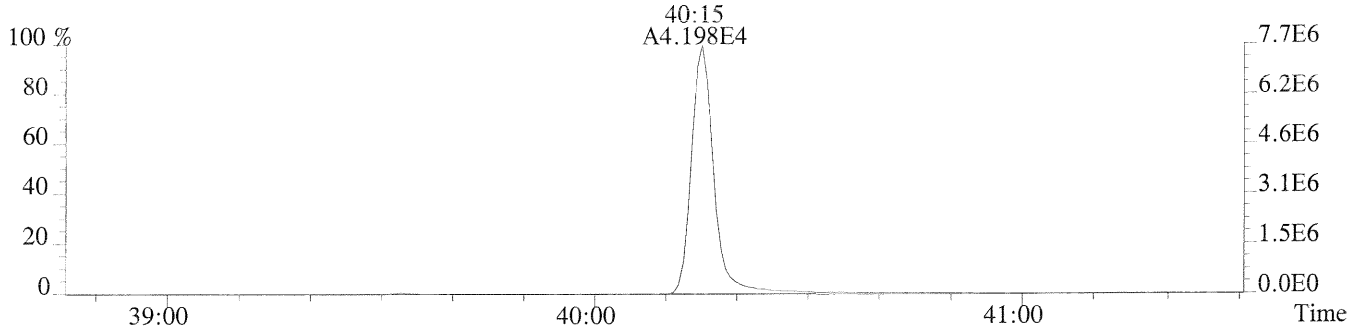
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



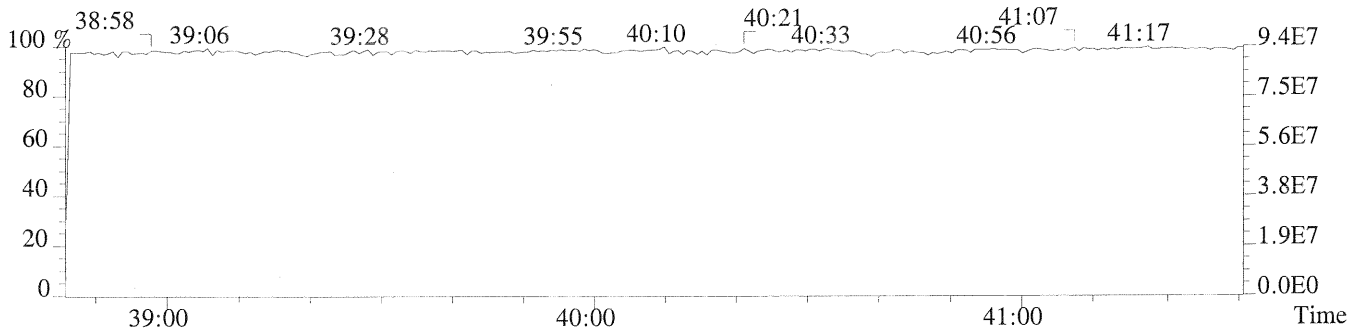
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,T)



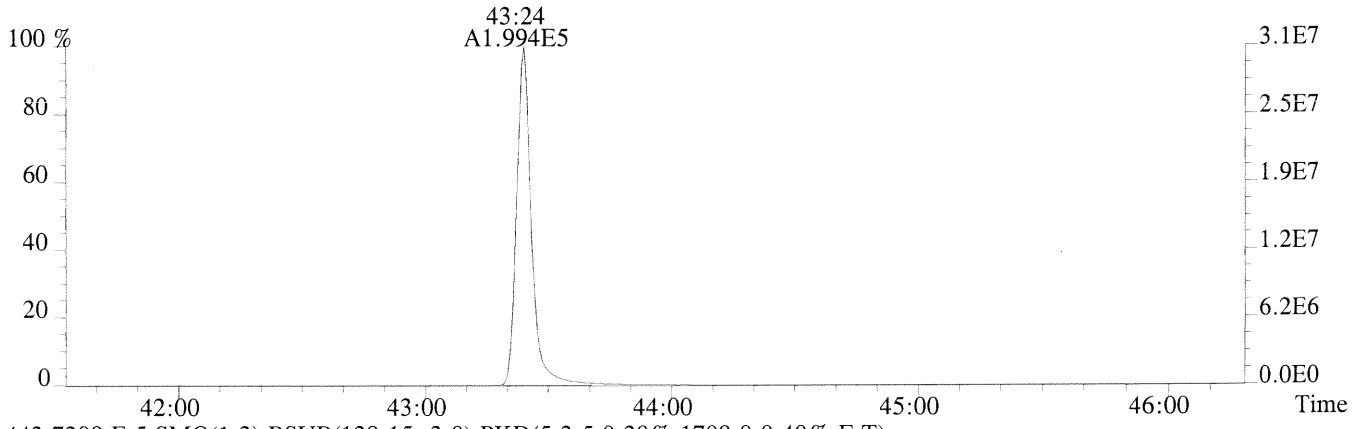
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



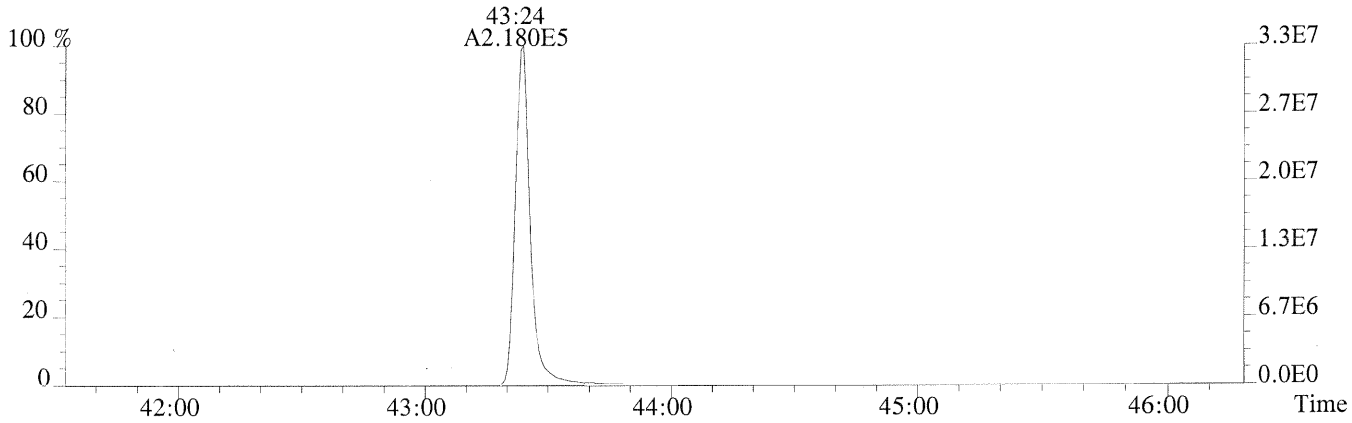
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



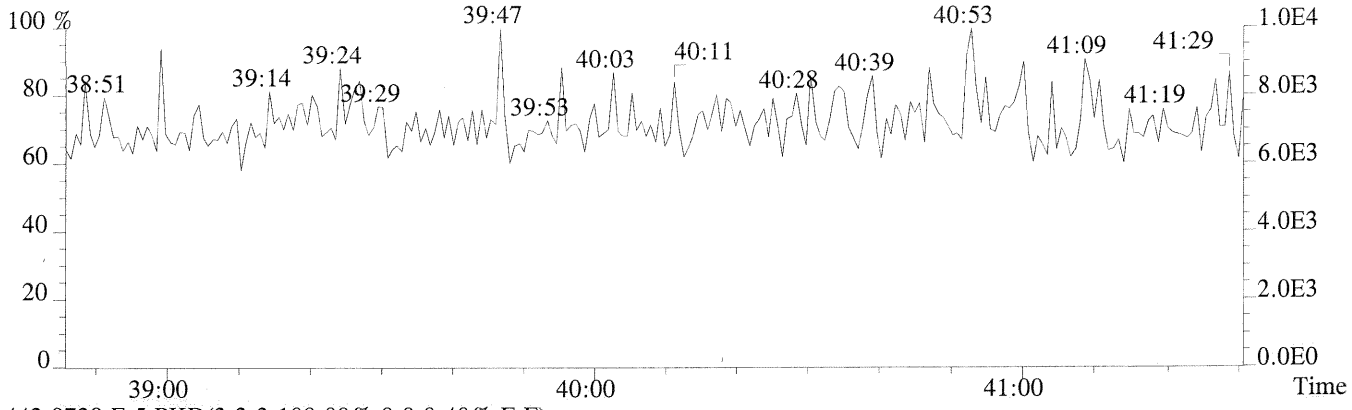
File:P169974 #1-438 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,988.0,0.40%,F,T)



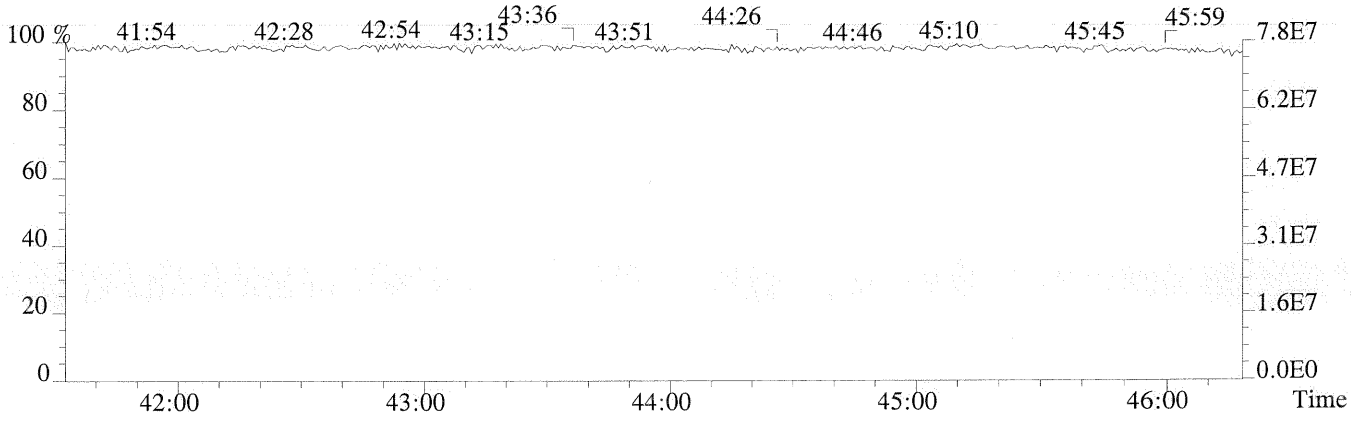
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1708.0,0.40%,F,T)



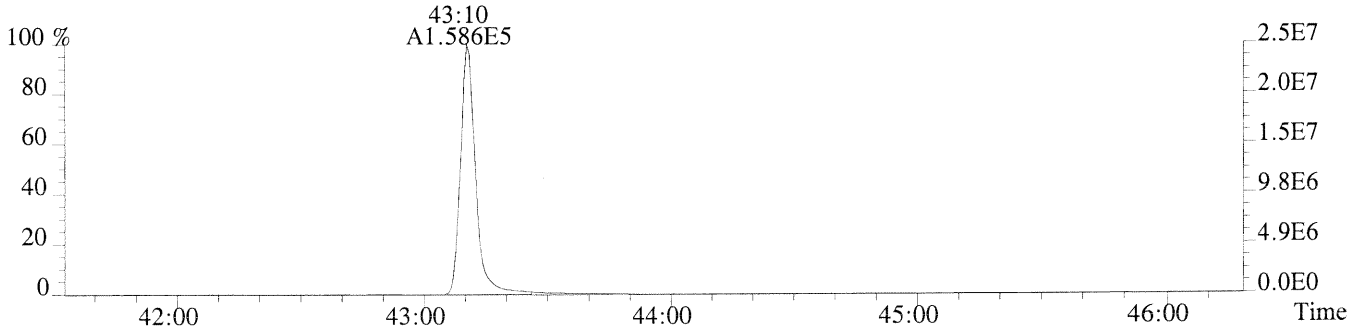
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



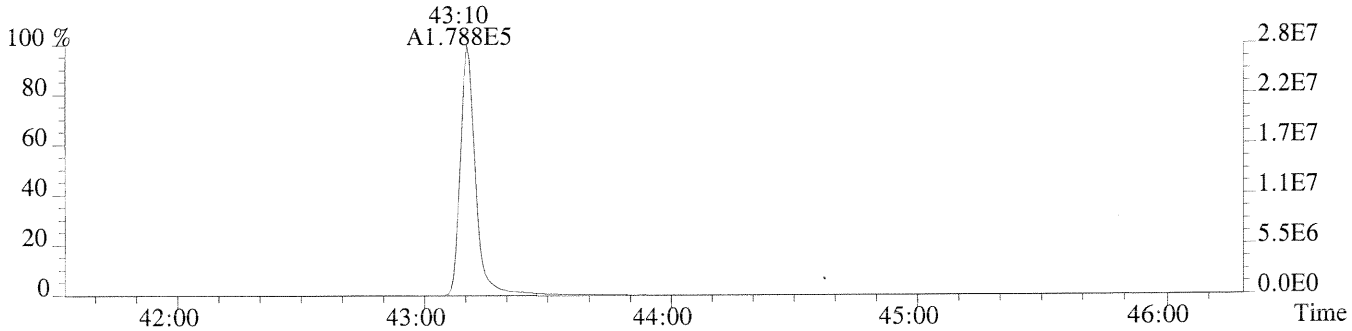
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



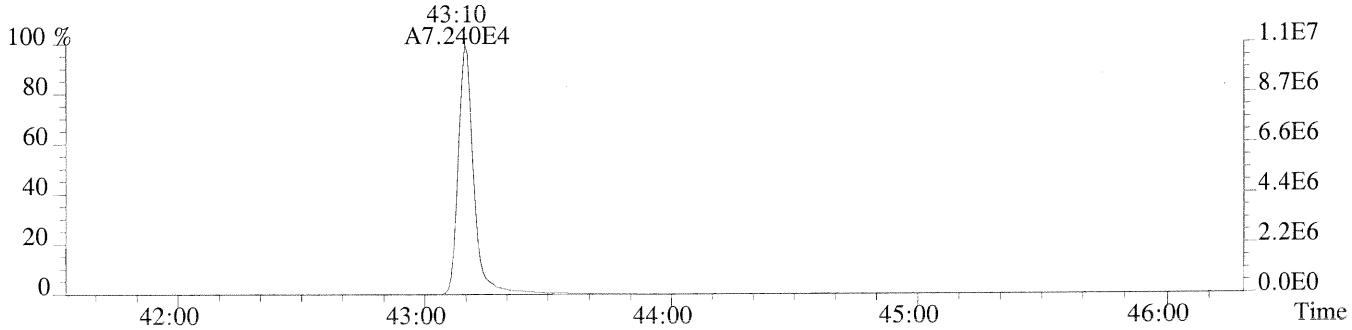
File:P169974 #1-438 Acq:25-MAR-2014 20:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4/CS4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,T)



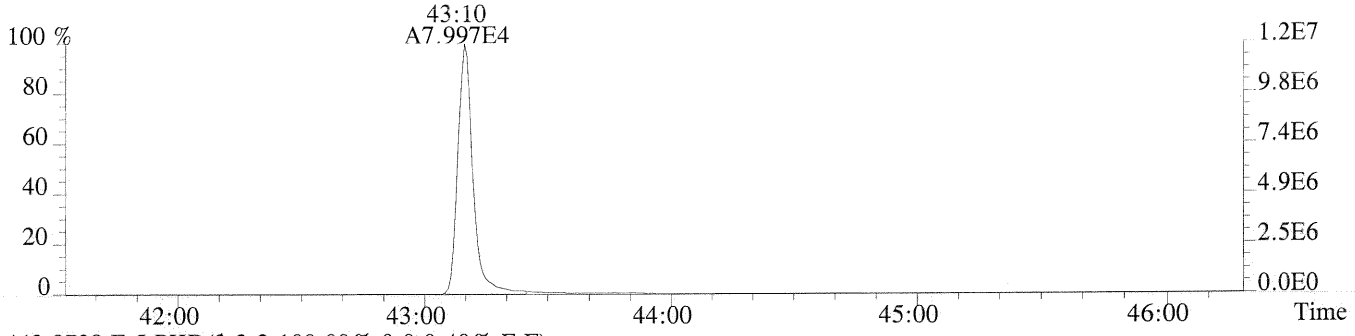
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



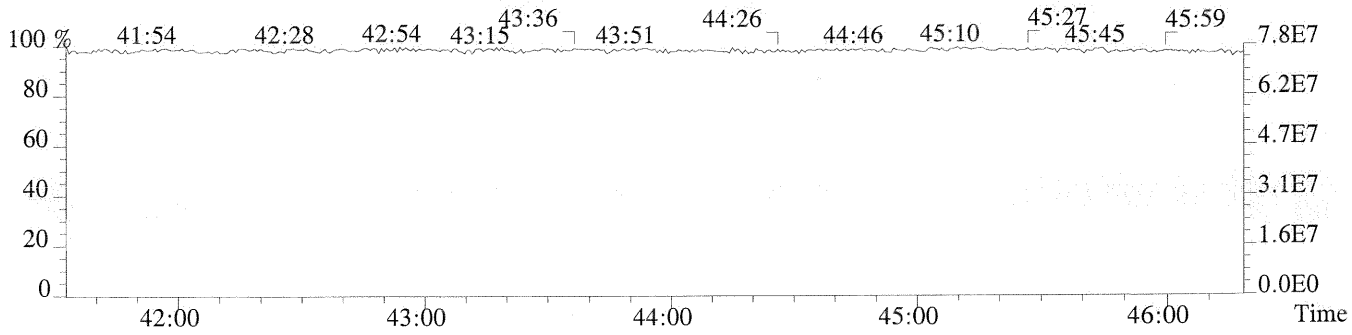
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1132.0,0.40%,F,T)



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

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.
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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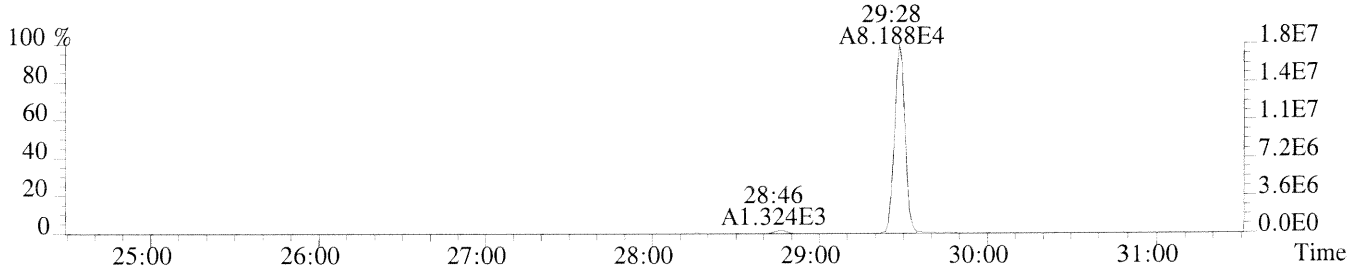
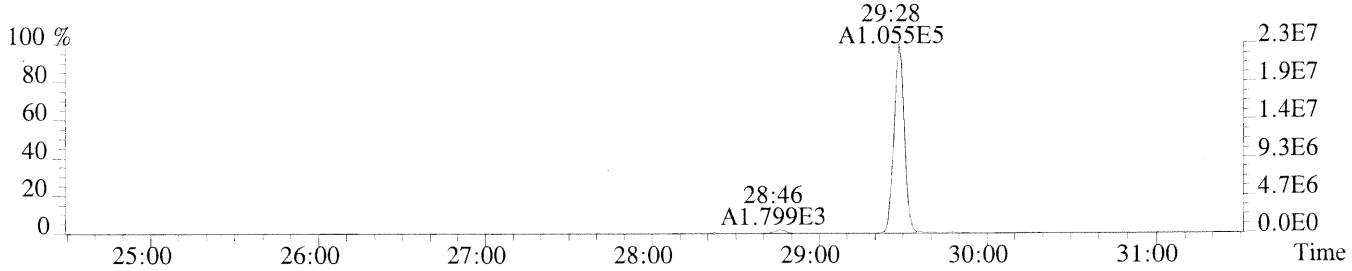
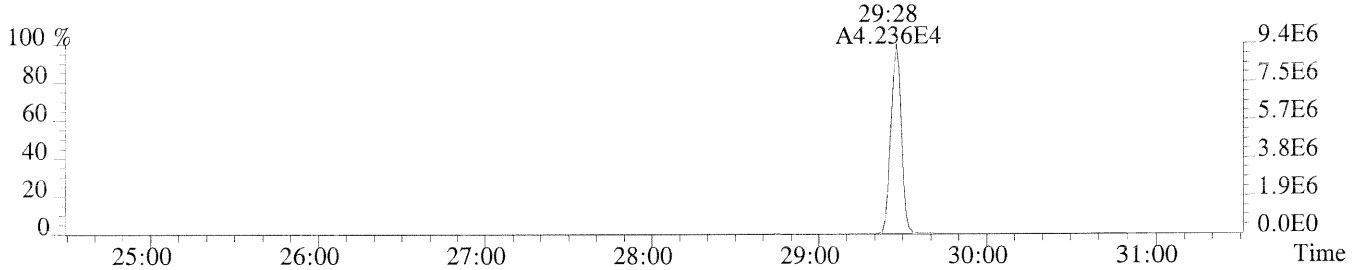
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



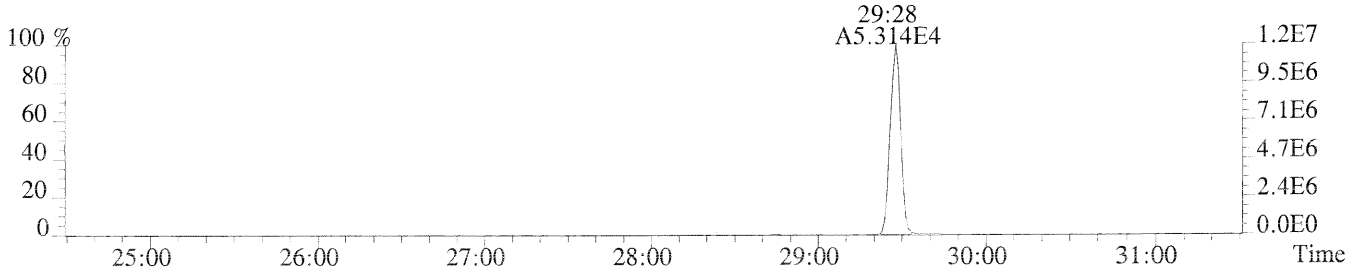
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2748.0,1.00%,F,T)



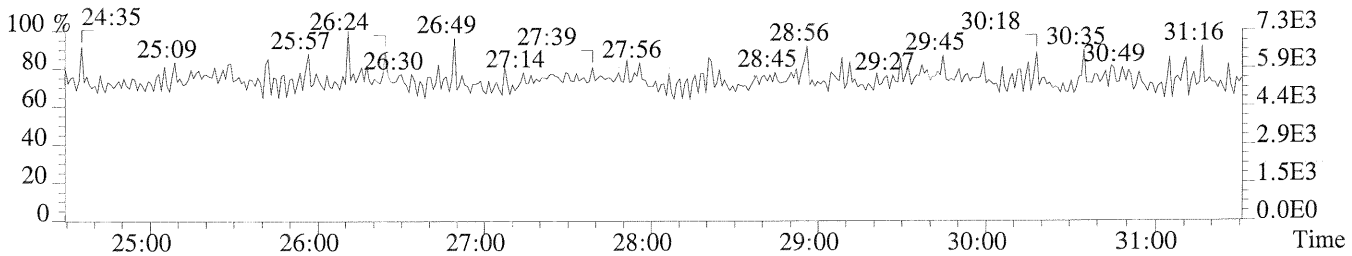
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



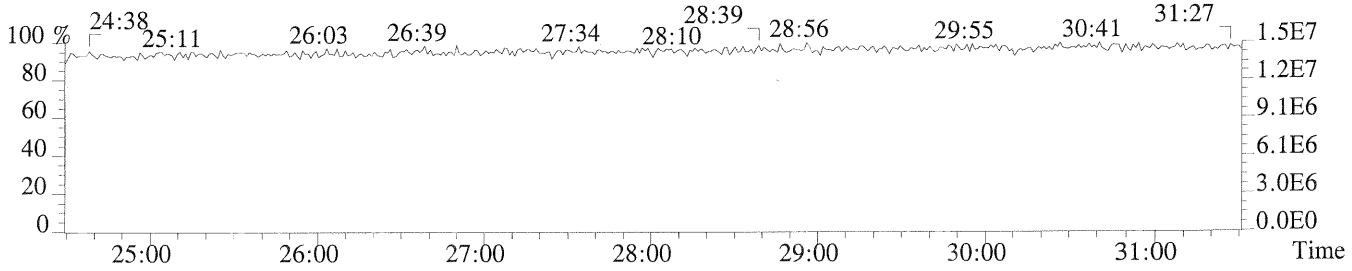
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1628.0,1.00%,F,T)



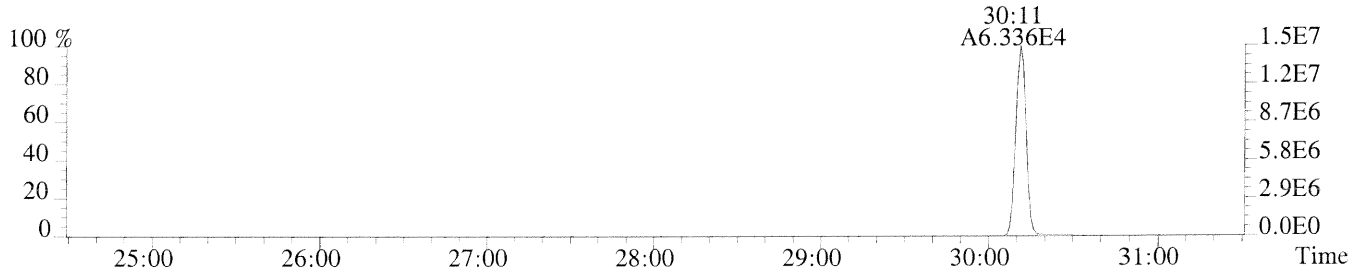
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



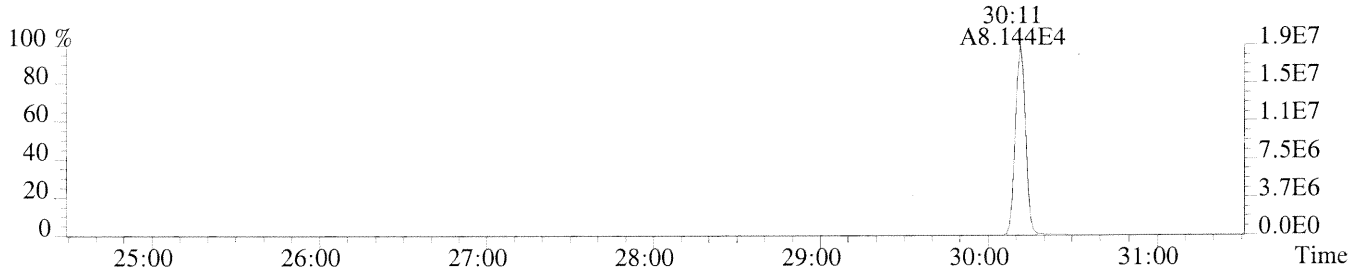
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



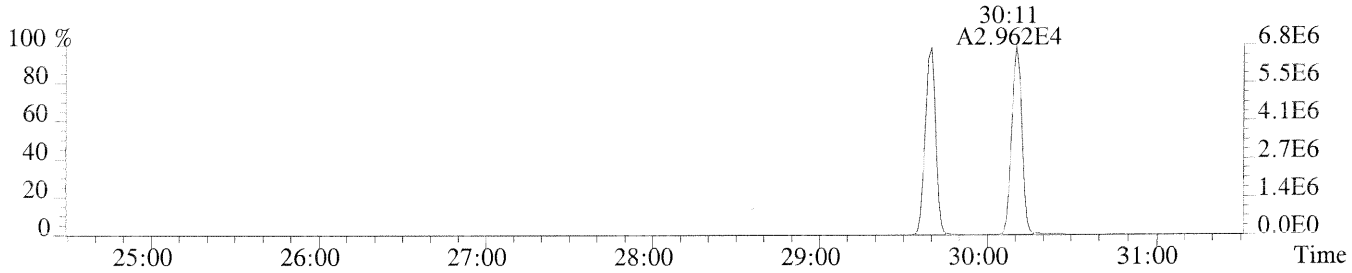
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1448.0,1.00%,F,T)



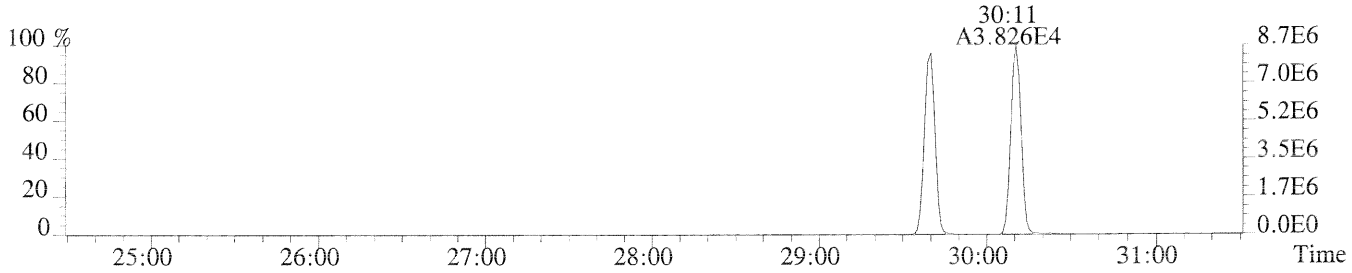
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1556.0,1.00%,F,T)



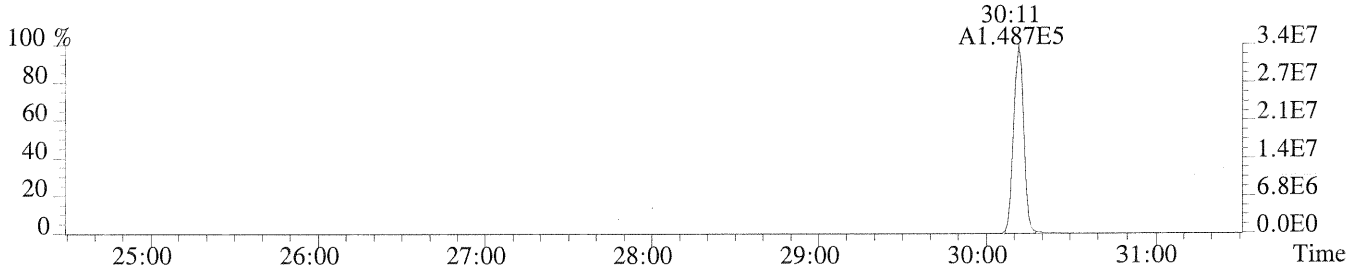
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3828.0,1.00%,F,T)



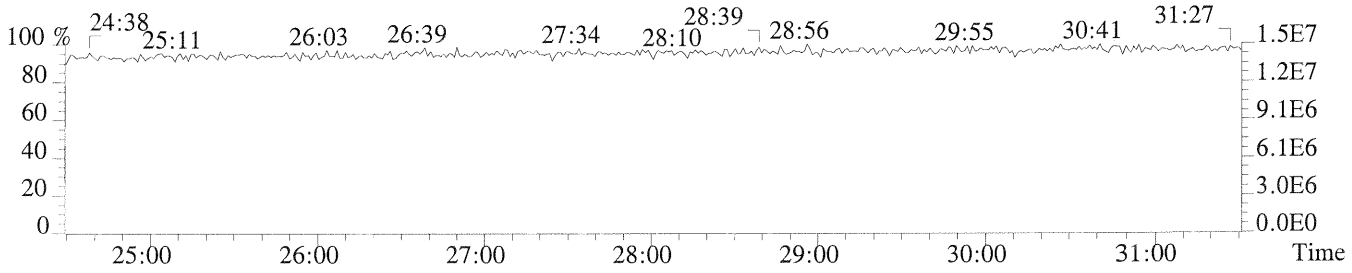
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,T)



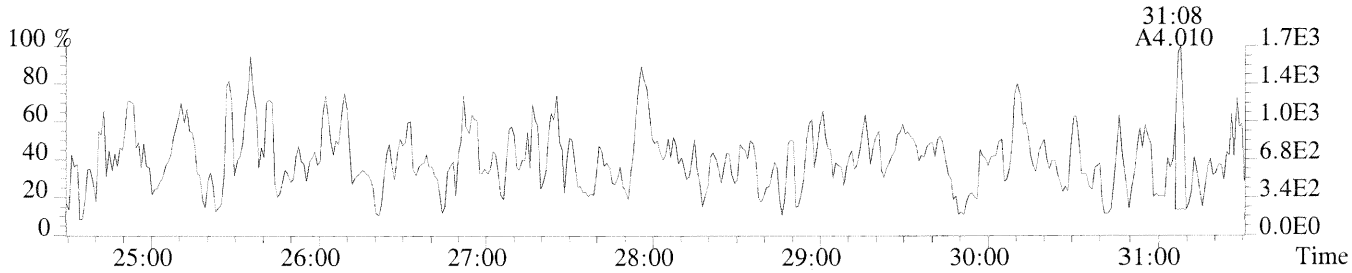
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1852.0,1.00%,F,T)



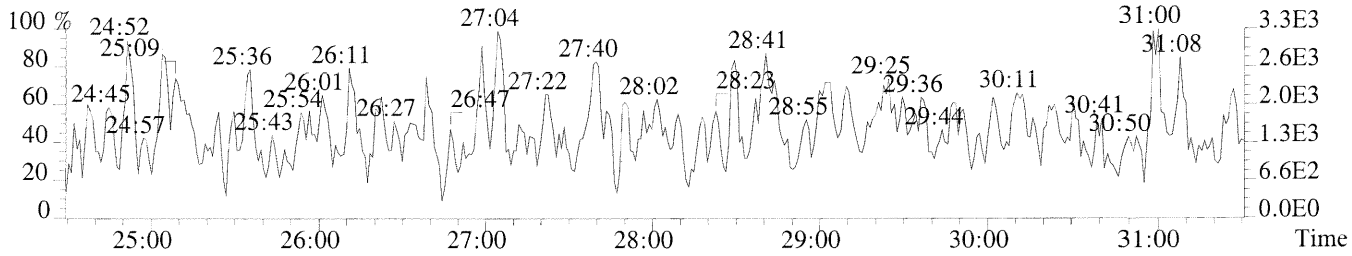
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



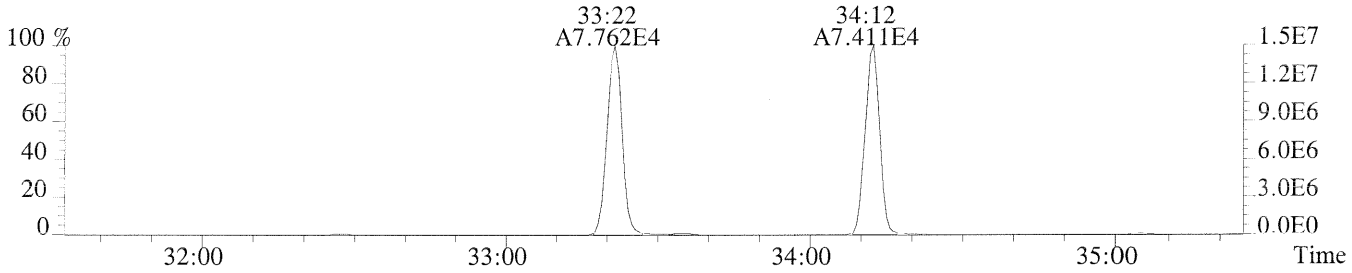
File:P169975 #1-442 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)



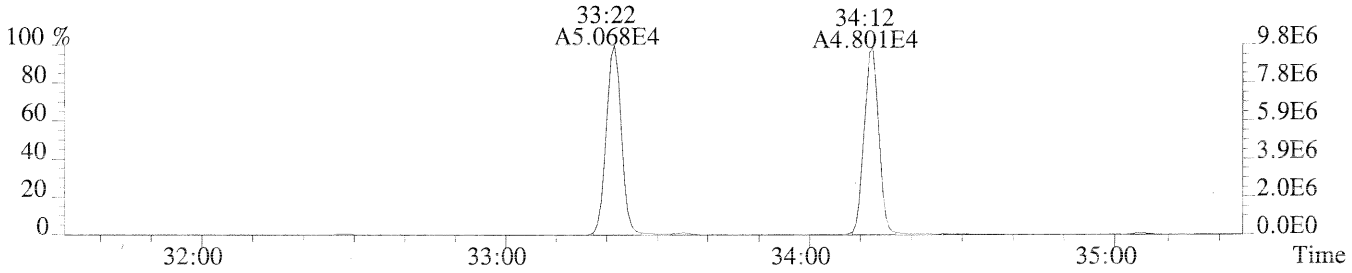
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1872.0,1.00%,F,T)



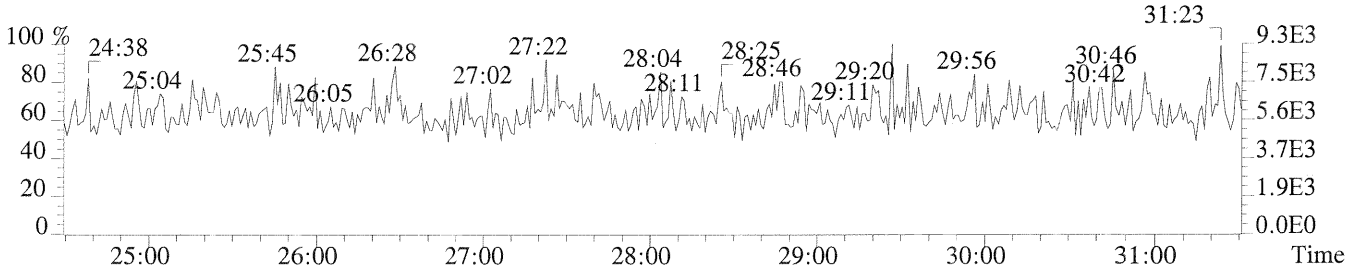
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



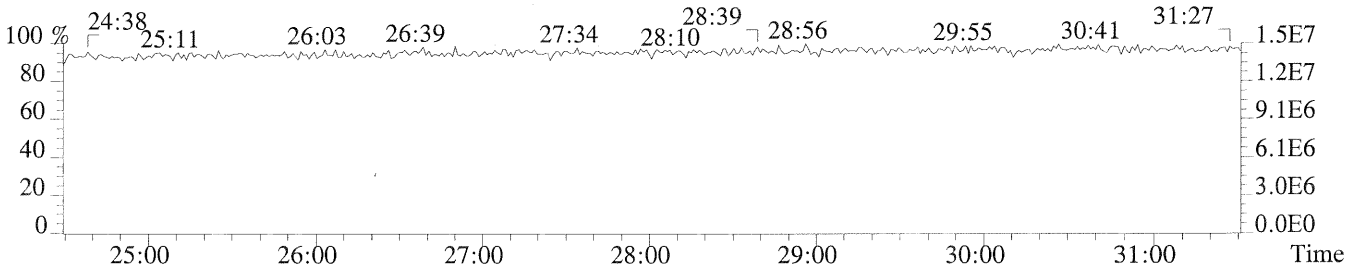
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



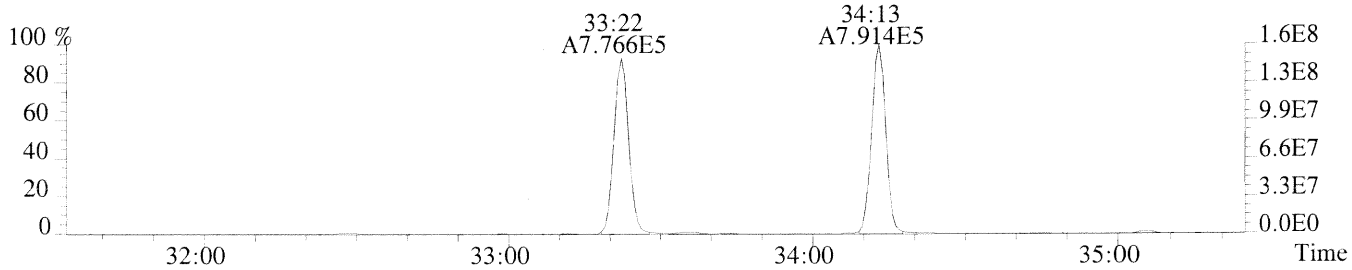
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



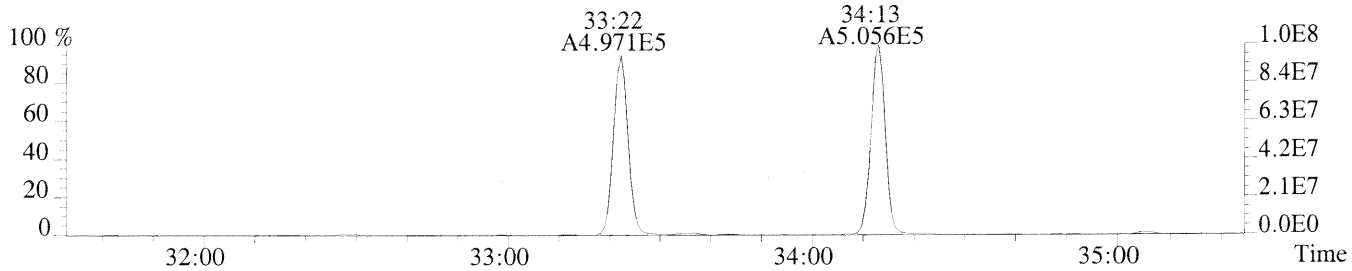
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



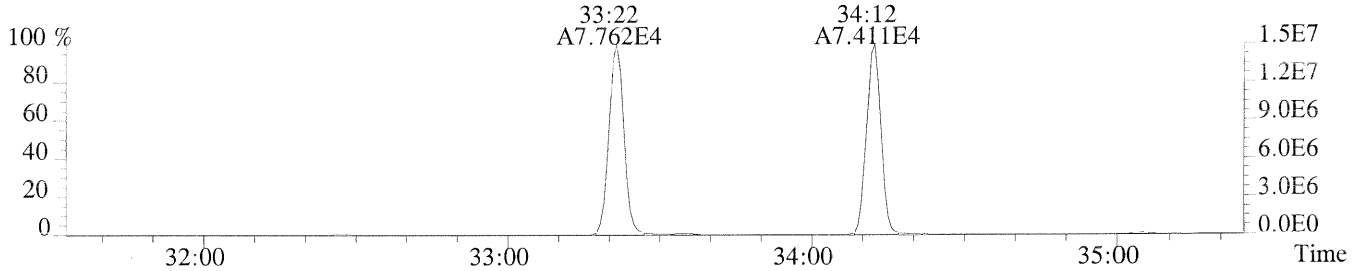
File:P169975 #1-351 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1216.0,1.00%,F,T)



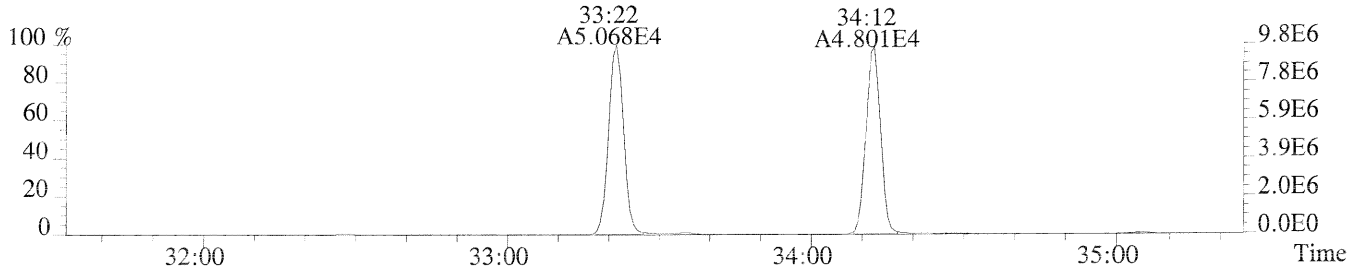
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



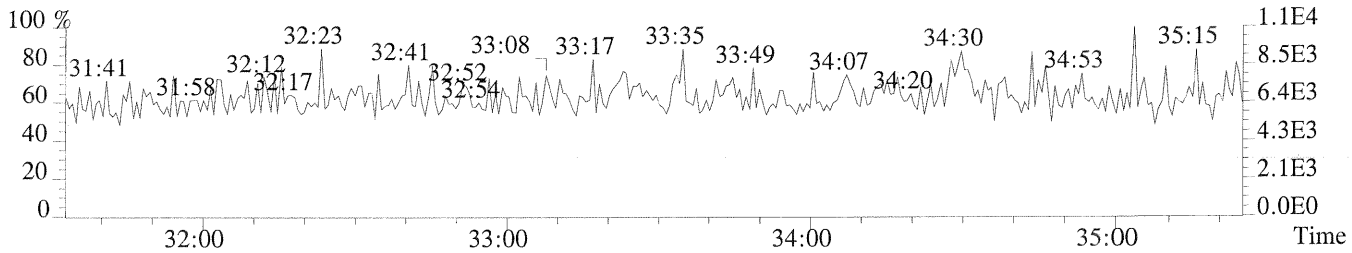
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,888.0,1.00%,F,T)



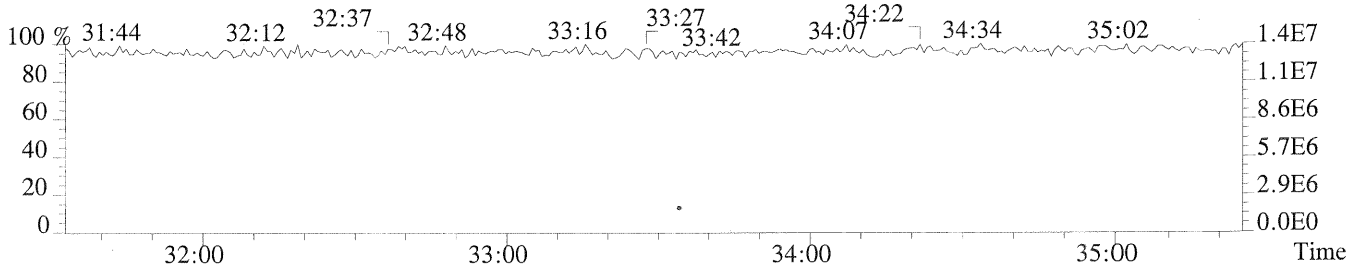
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



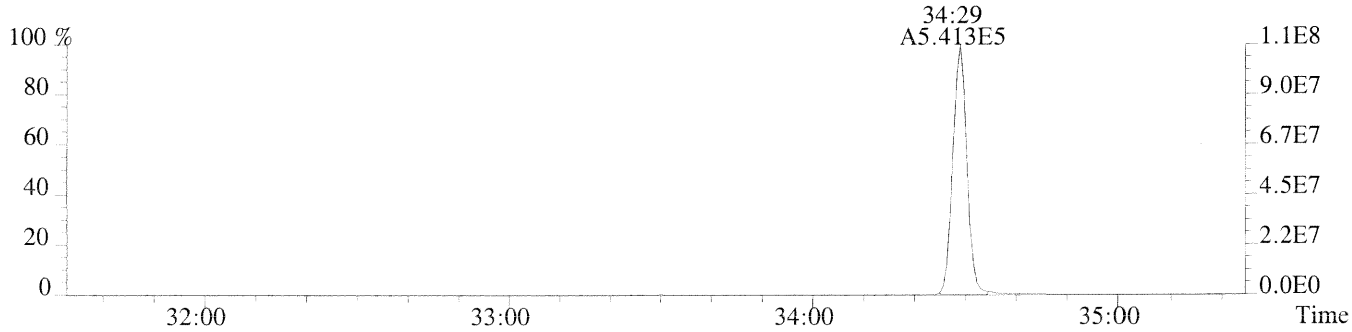
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



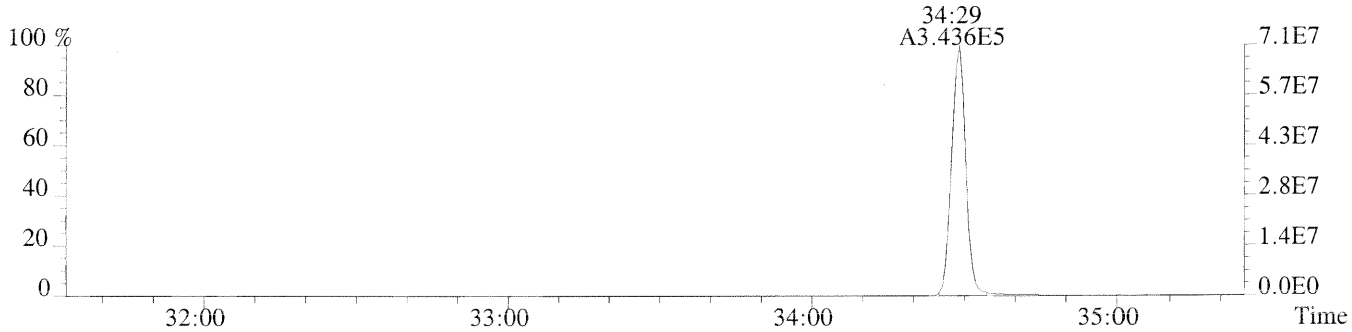
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



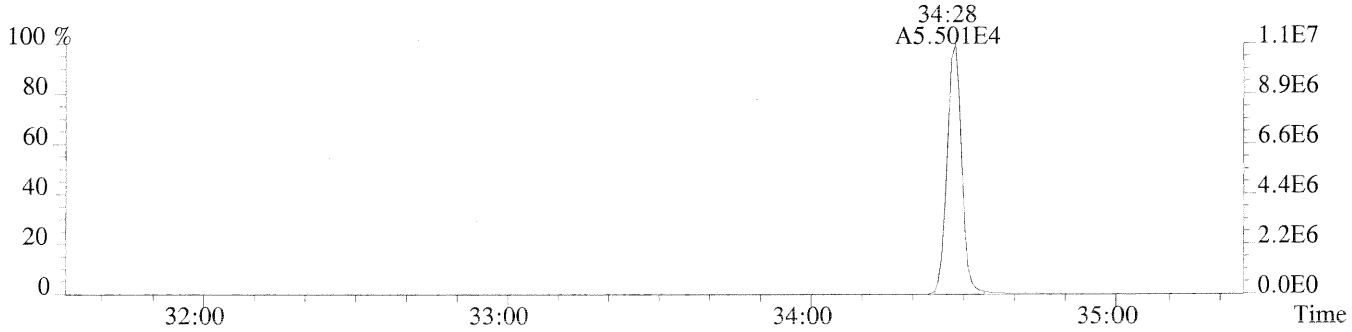
File:P169975 #1-351 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



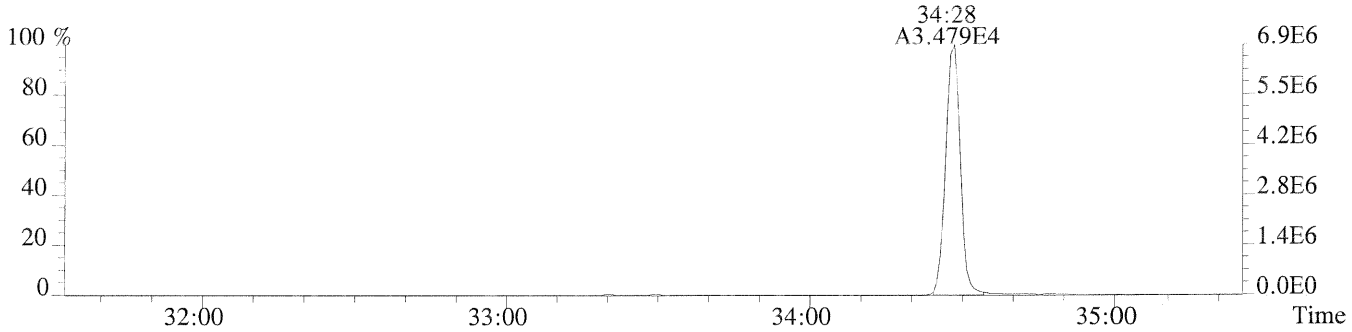
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



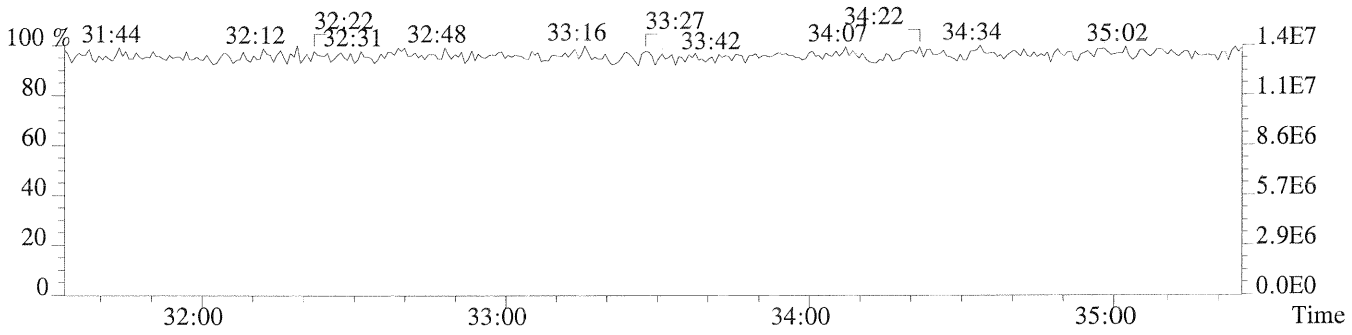
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1316.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,T)

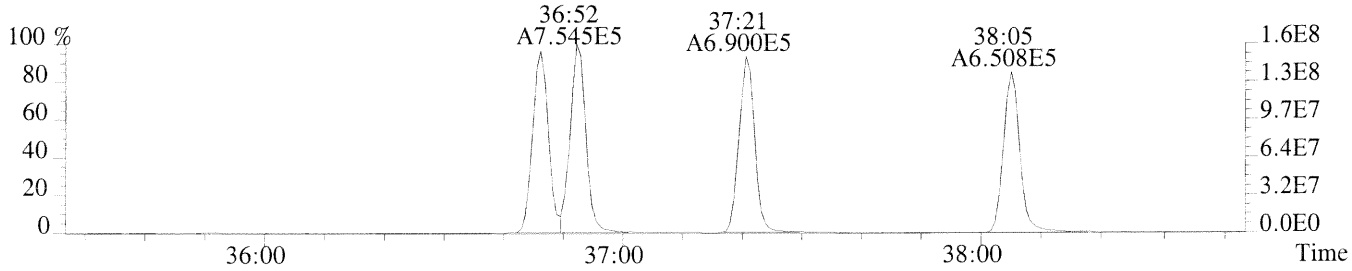


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

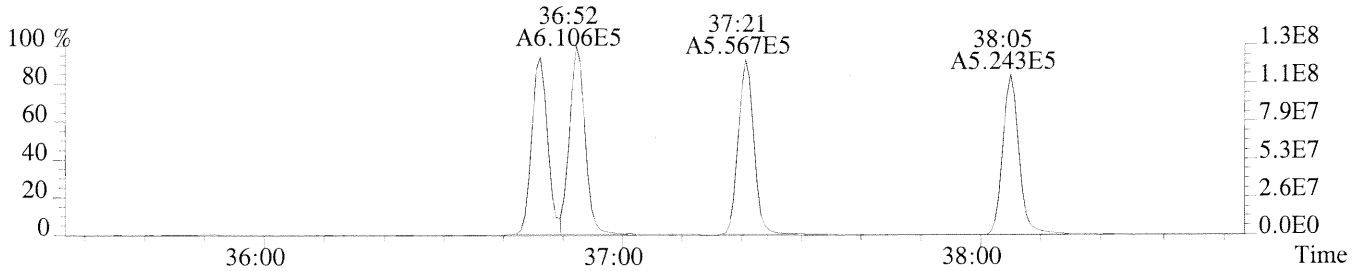


File:P169975 #1-298 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5

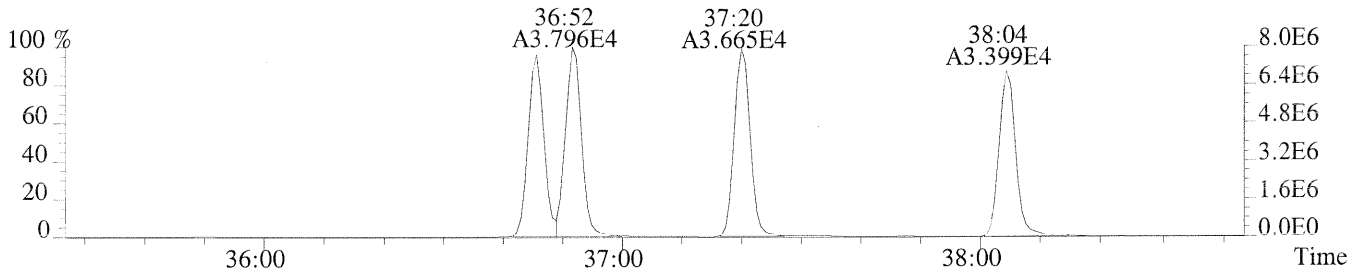
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



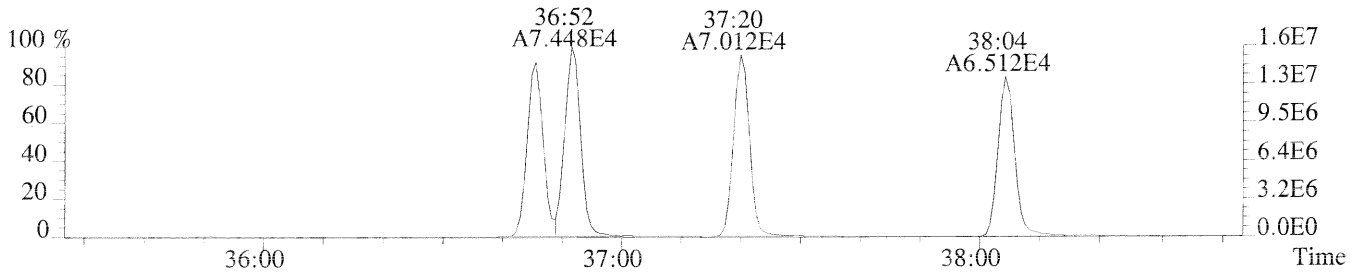
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



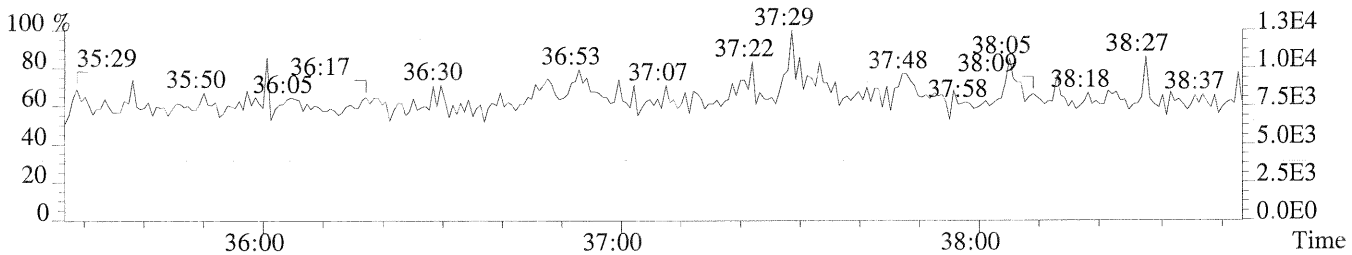
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1672.0,0.40%,F,T)



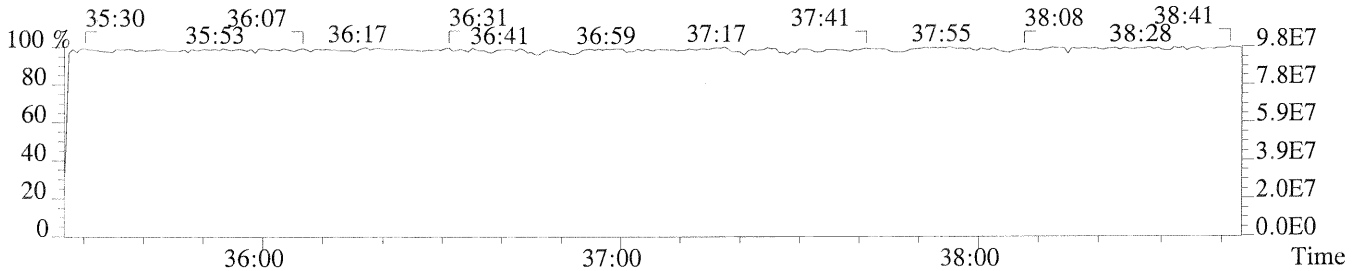
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



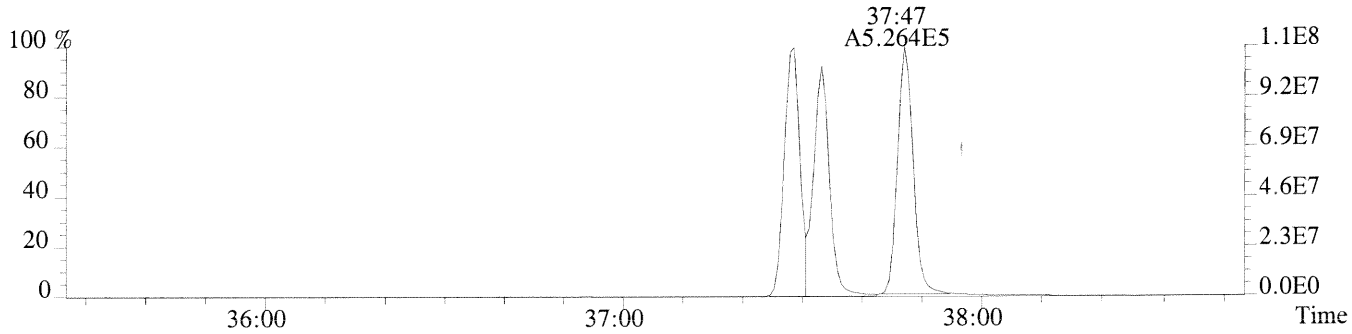
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



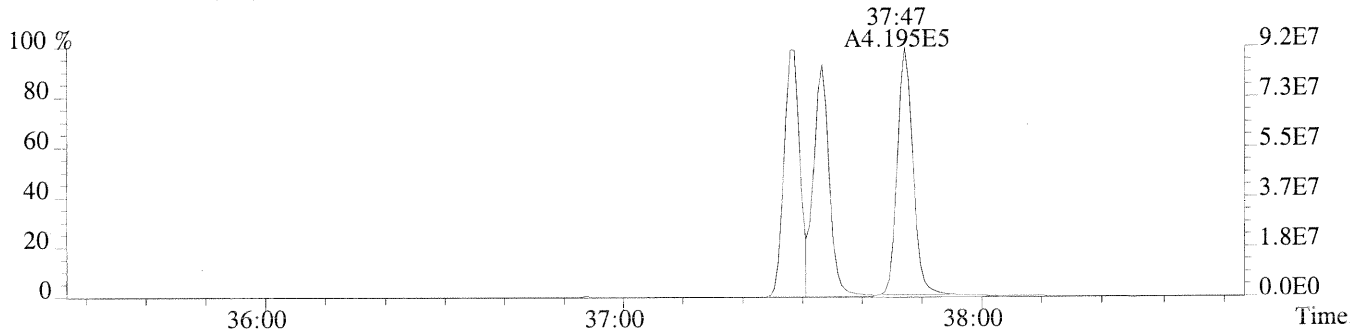
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



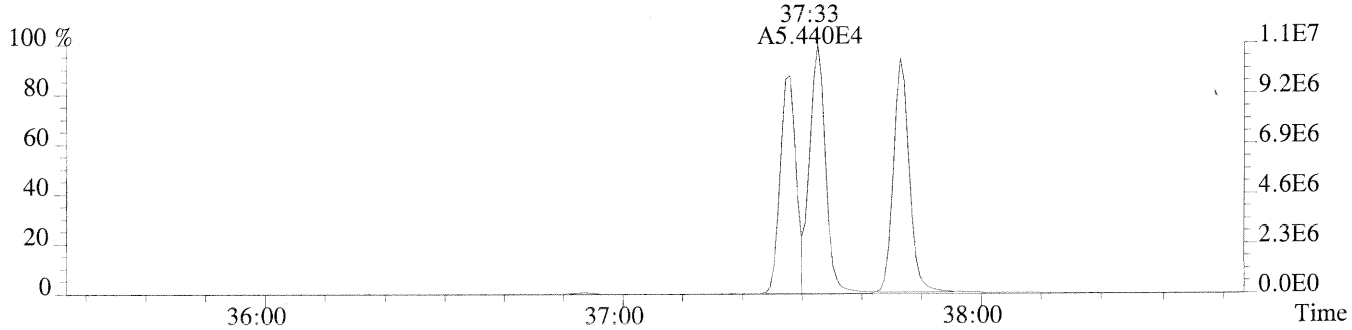
File:P169975 #1-298 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



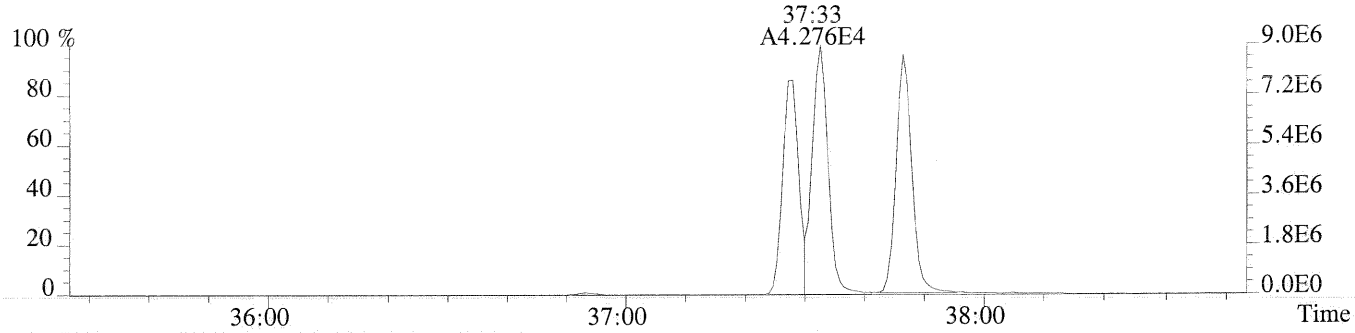
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



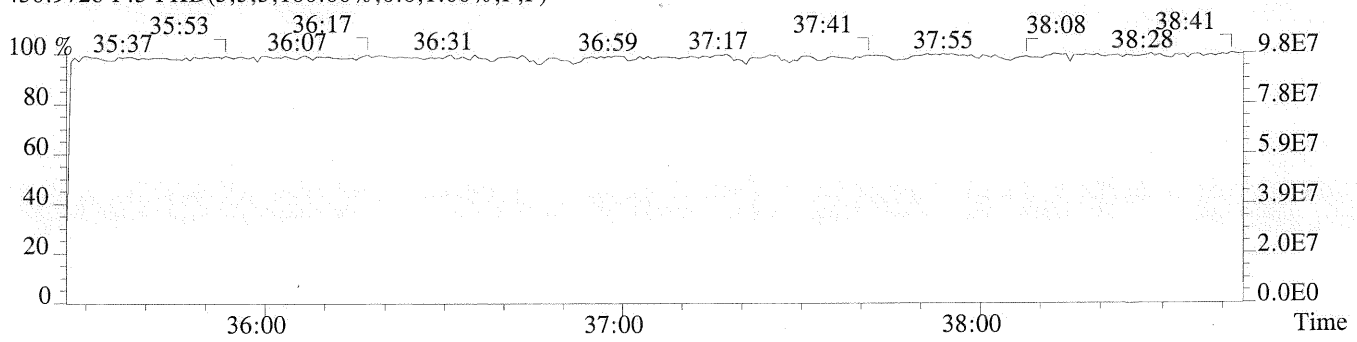
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1400.0,0.40%,F,T)

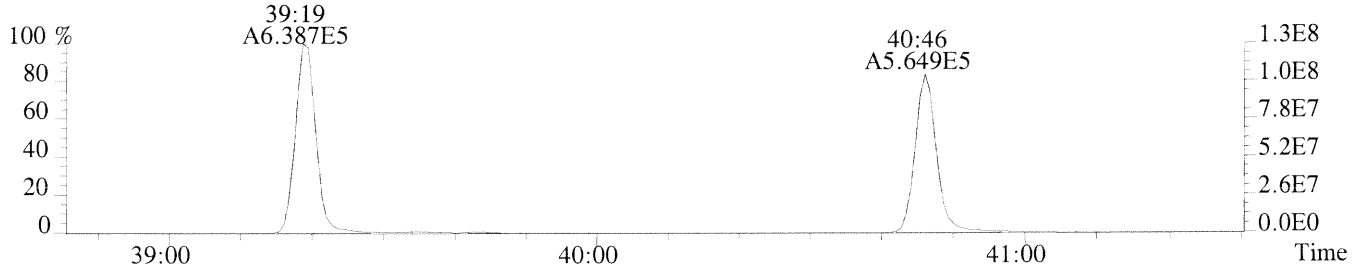


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

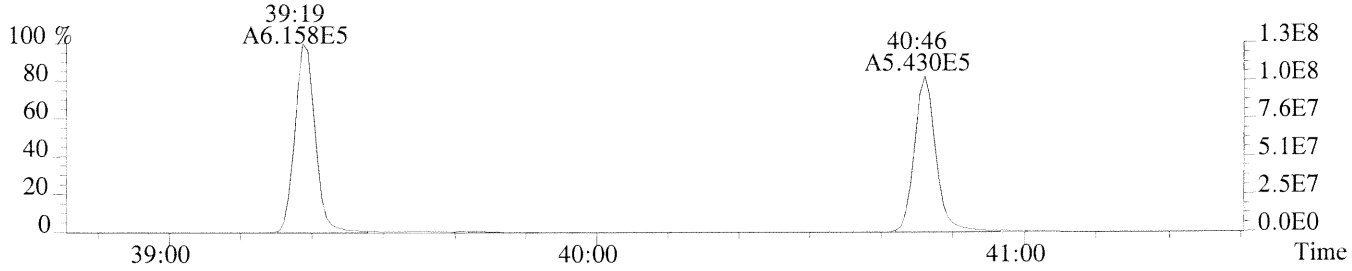


File:P169975 #1-250 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5

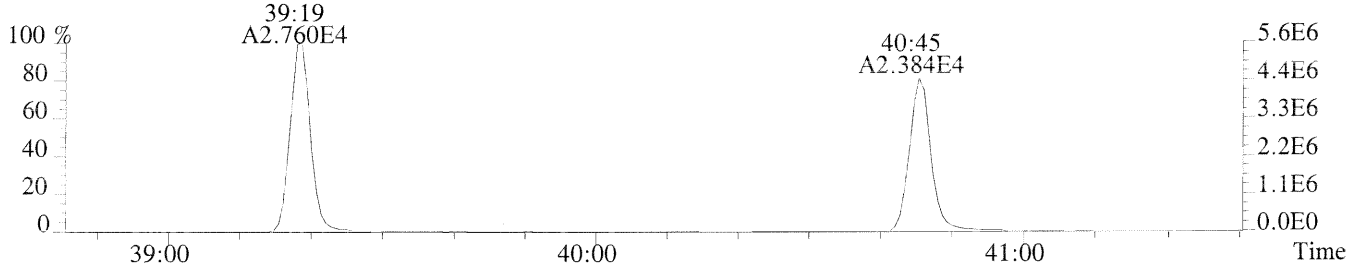
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,24704.0,0.50%,F,T)



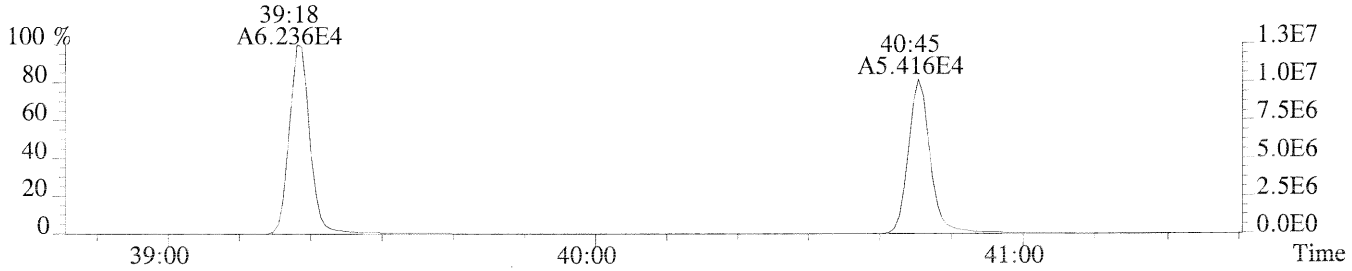
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,20332.0,0.50%,F,T)



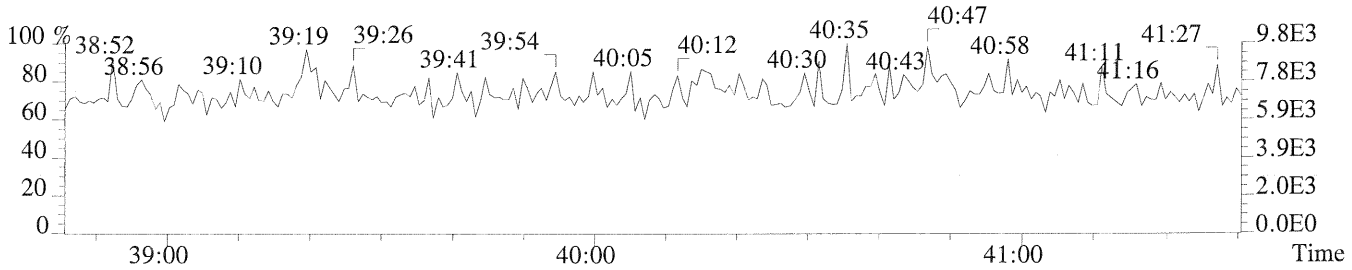
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3092.0,0.50%,F,T)



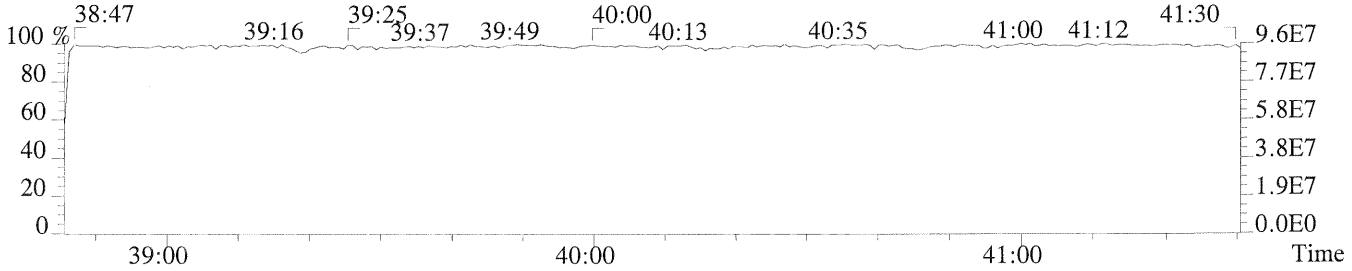
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3968.0,0.50%,F,T)



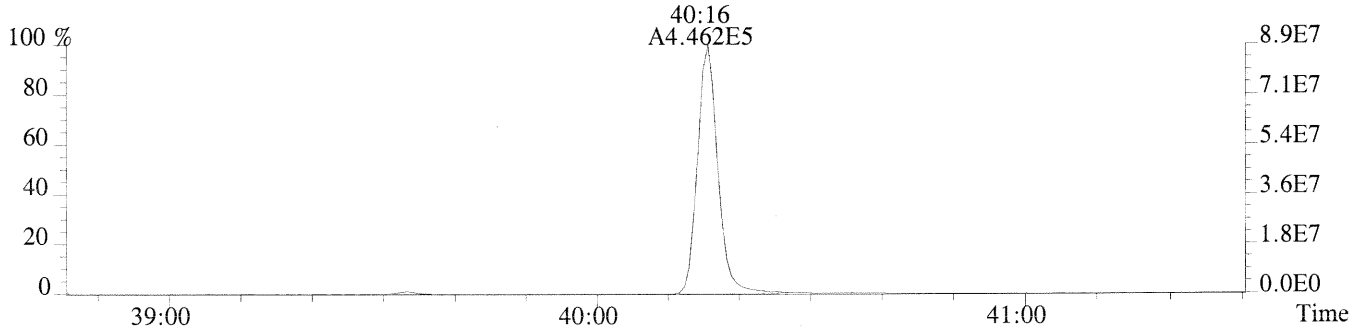
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



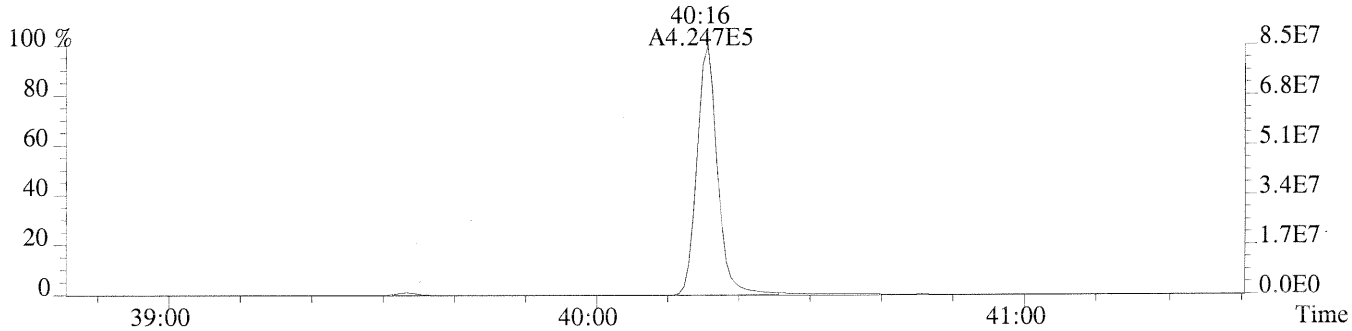
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



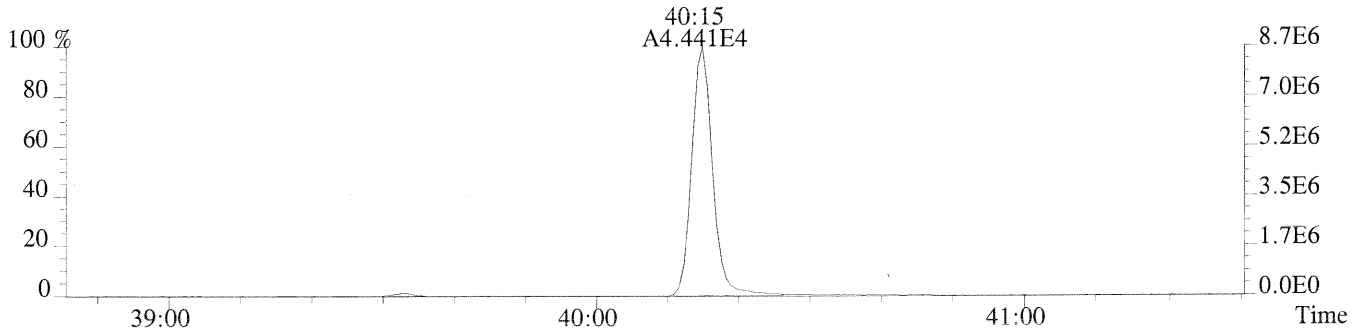
File:P169975 #1-250 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2640.0,0.40%,F,T)



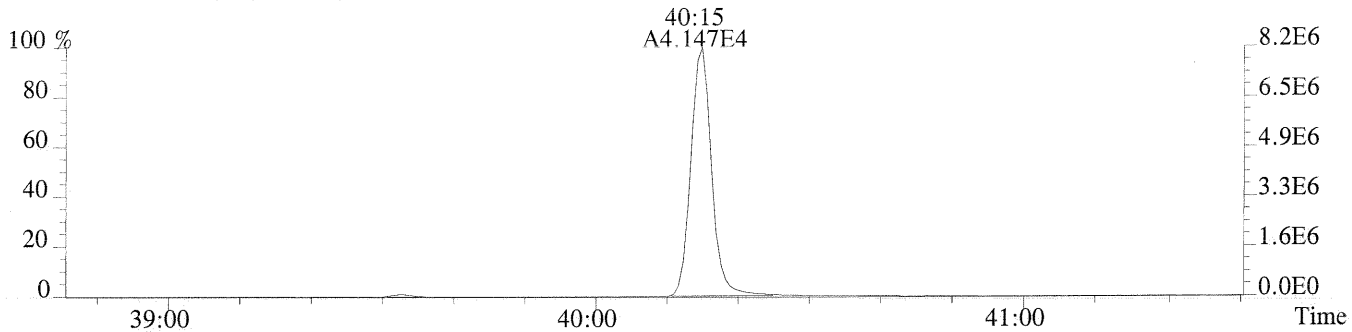
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.40%,F,T)



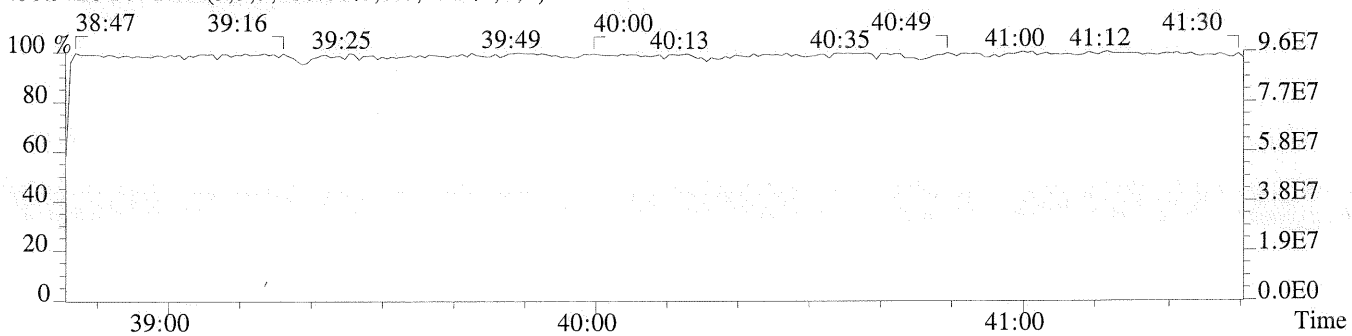
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



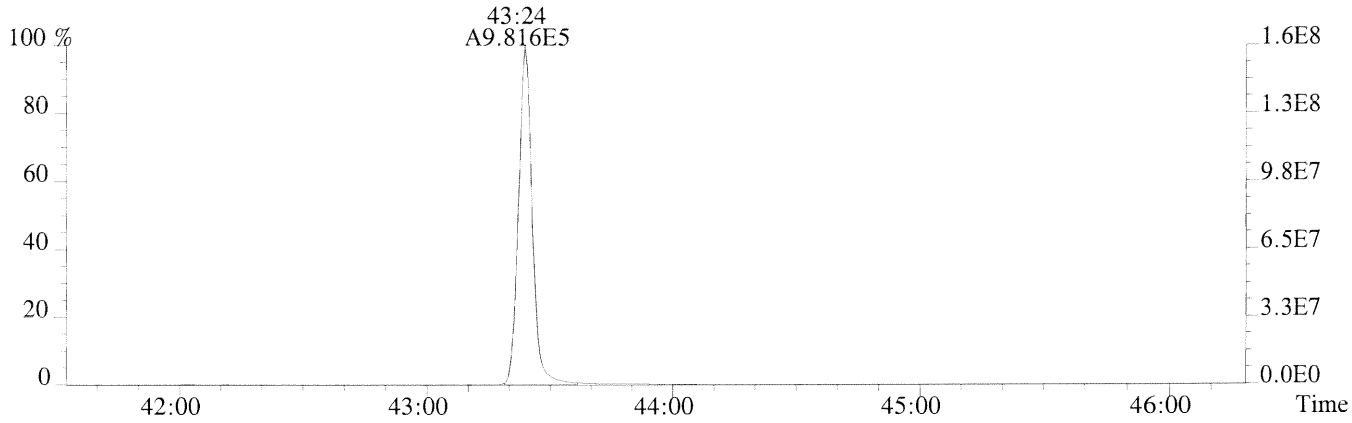
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.40%,F,T)



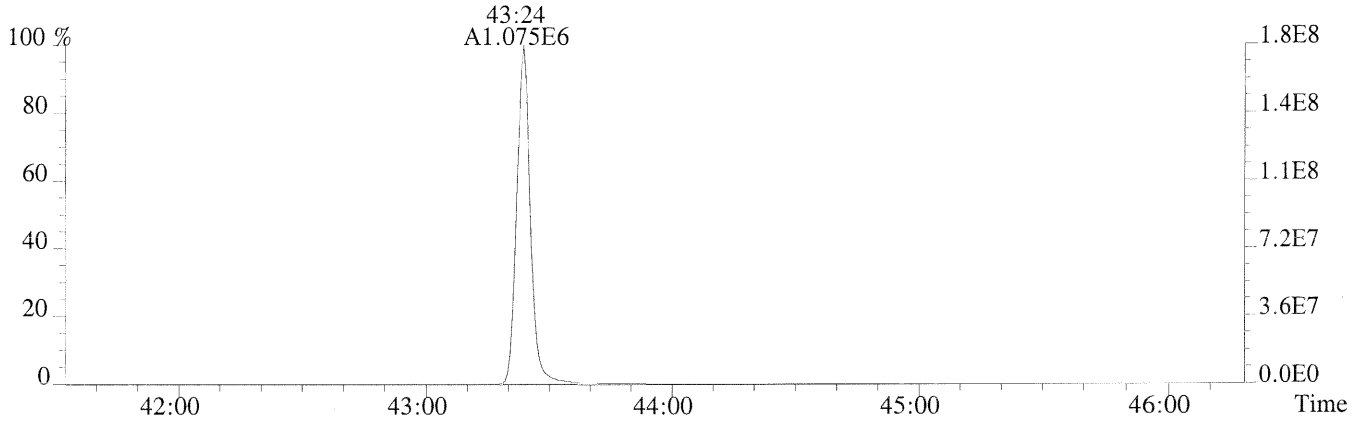
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



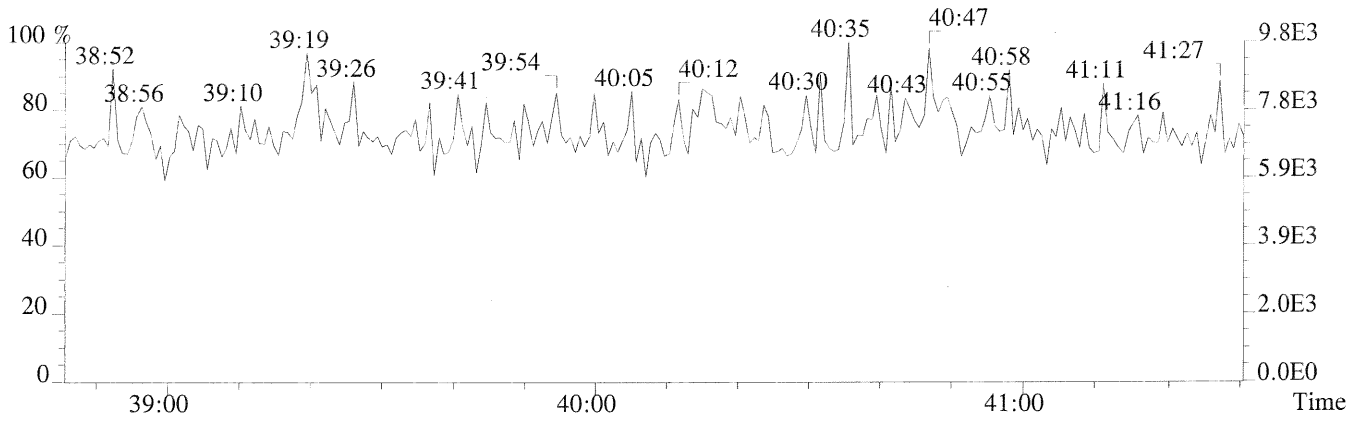
File:P169975 #1-438 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1148.0,0.40%,F,T)



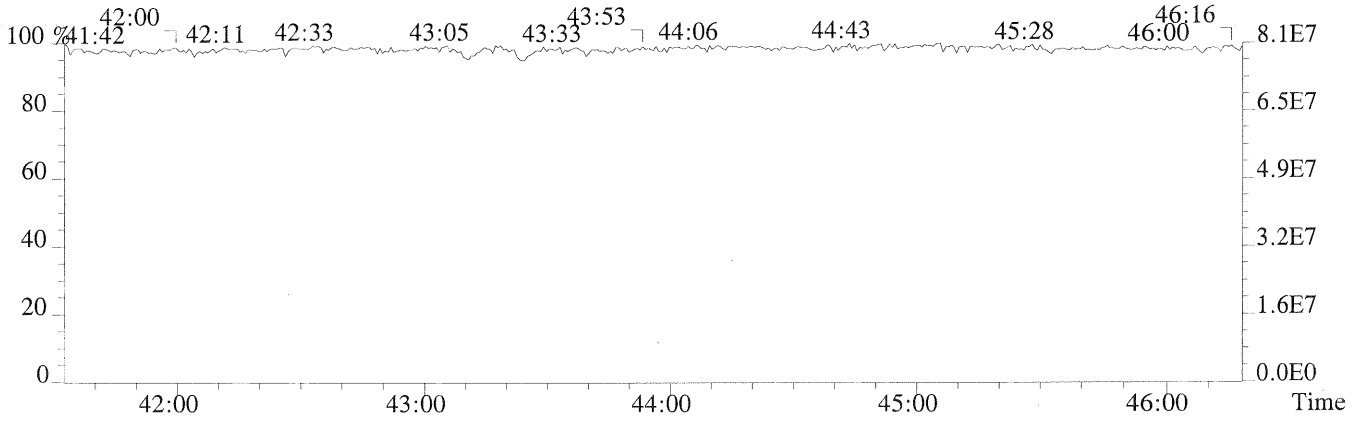
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1612.0,0.40%,F,T)



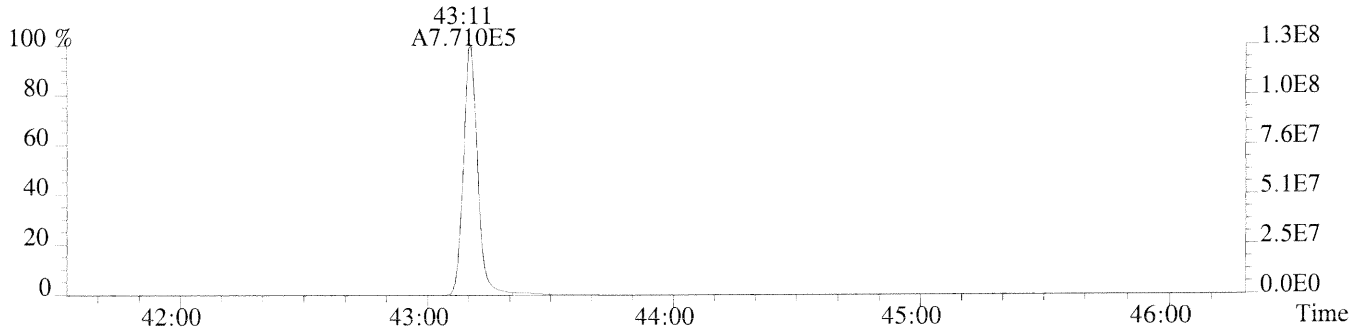
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



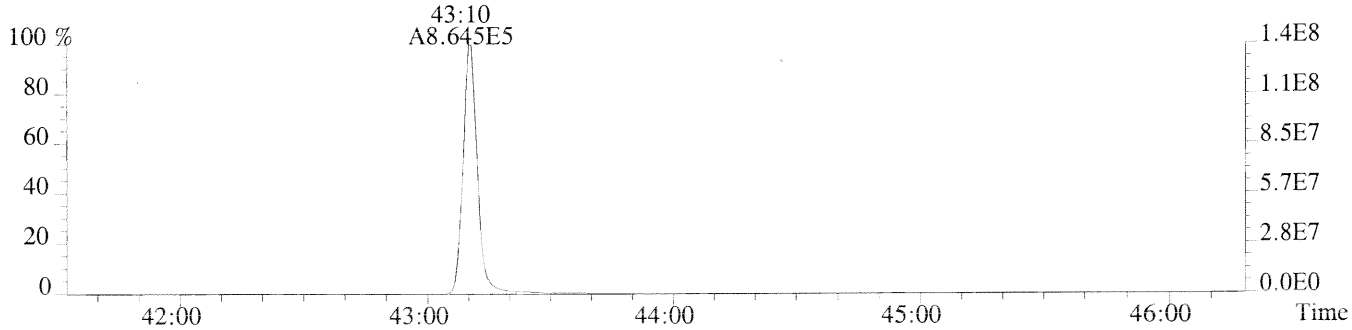
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



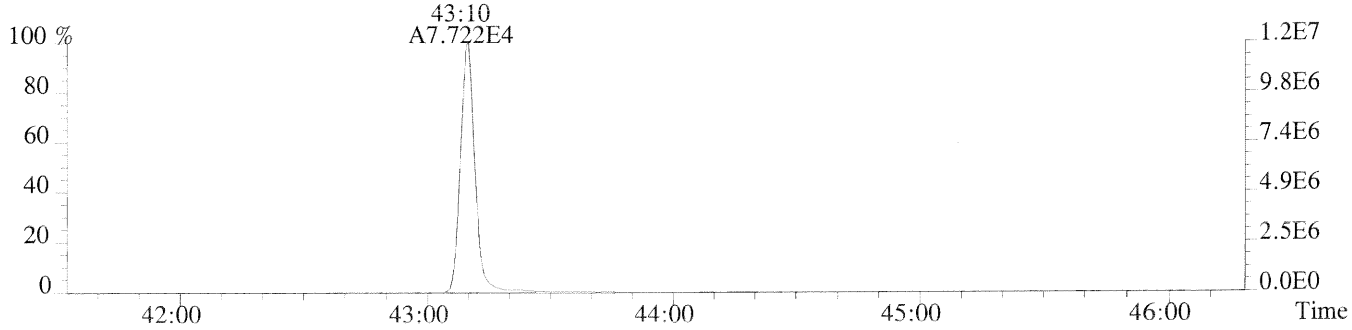
File:P169975 #1-438 Acq:25-MAR-2014 21:22:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5/CS5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



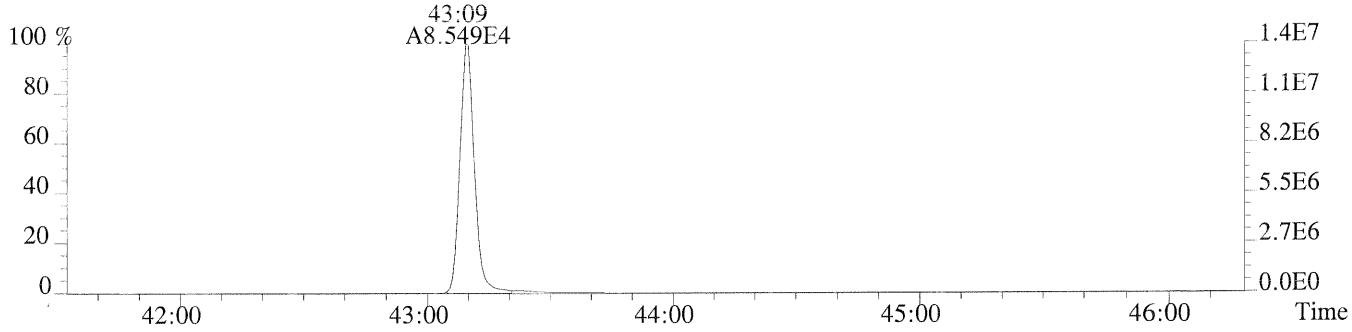
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



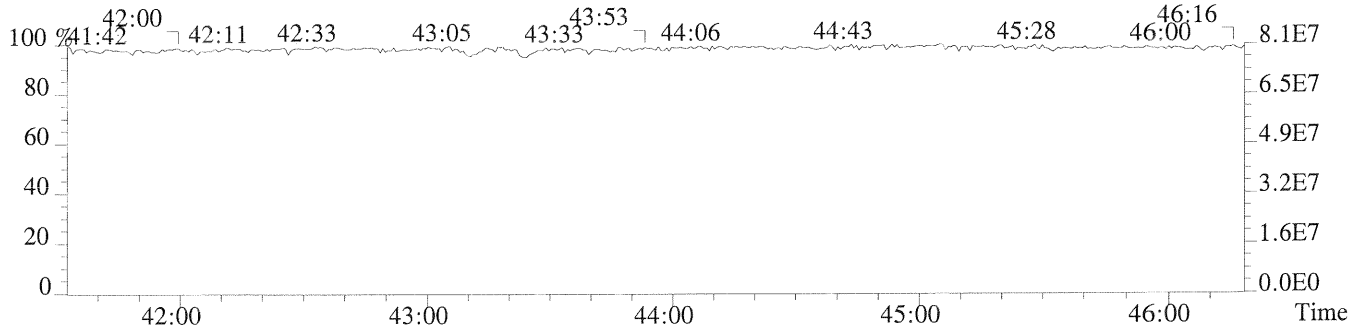
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1360.0,0.40%,F,T)



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

	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	0.78	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

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
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 beginnning 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

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.
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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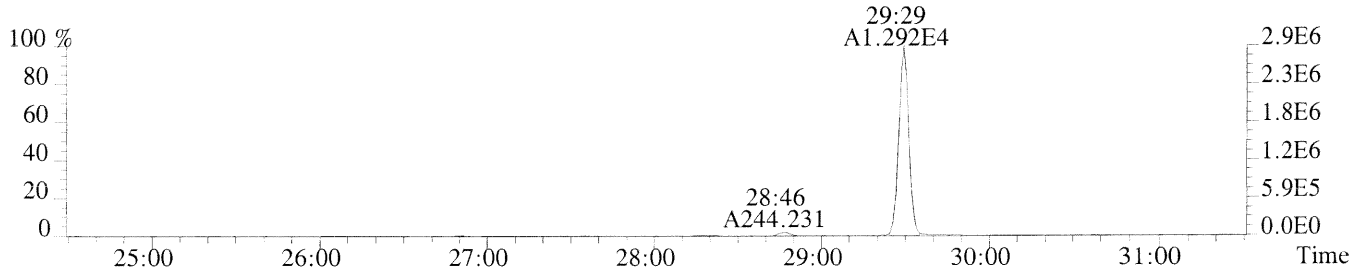
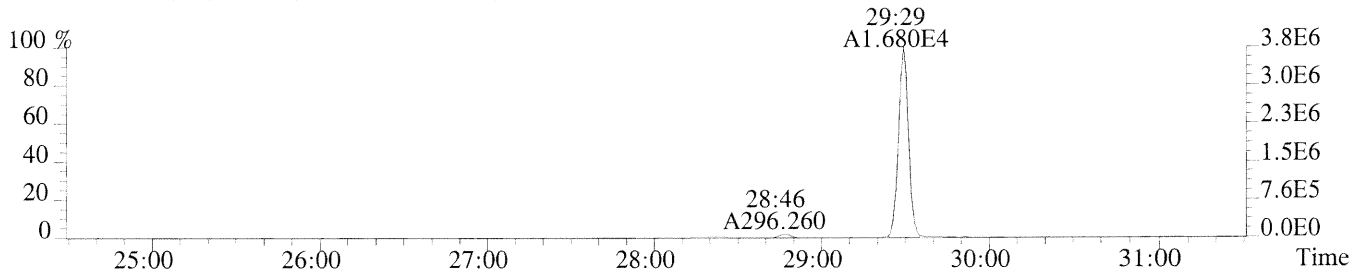
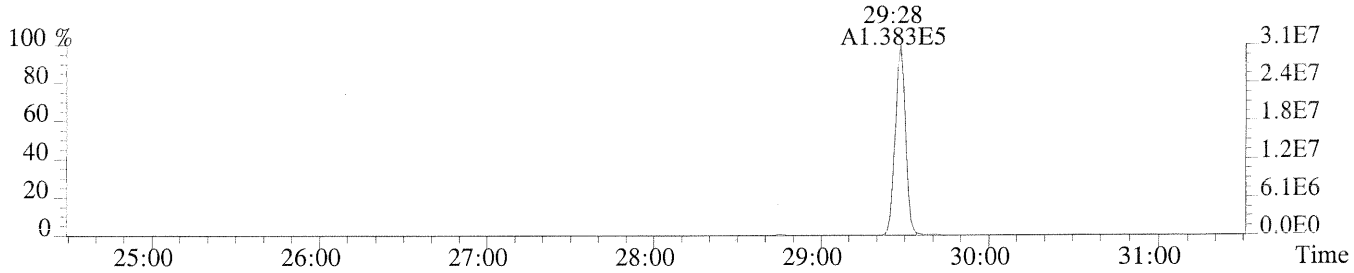
File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



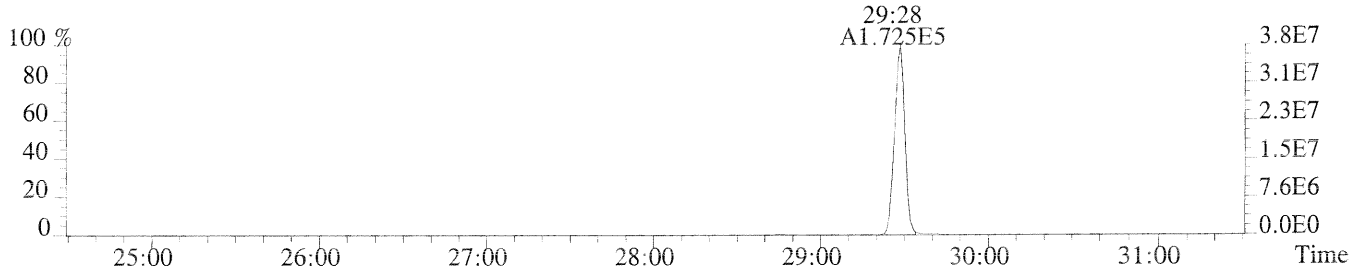
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3112.0,1.00%,F,T)



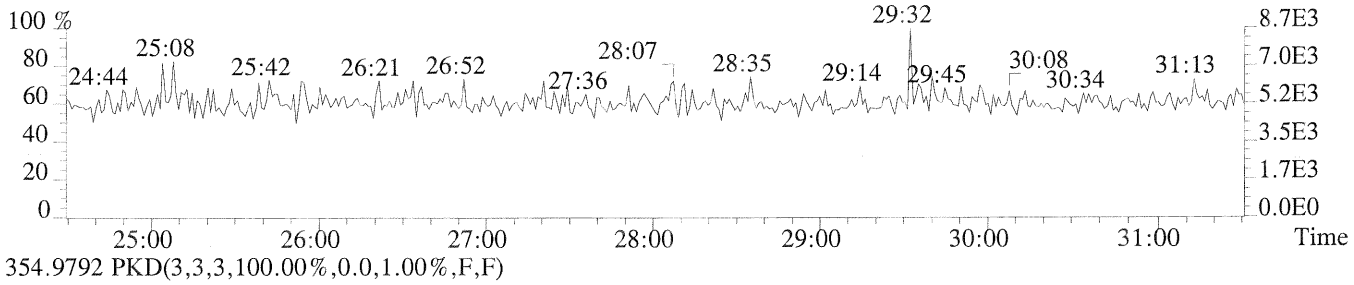
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,T)



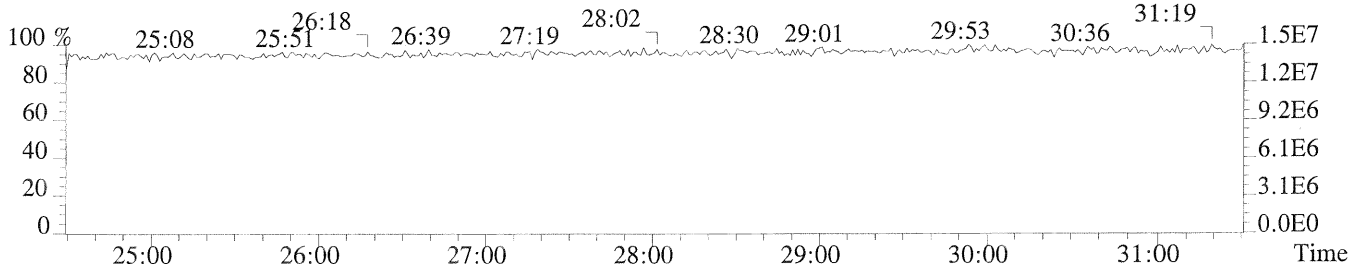
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1924.0,1.00%,F,T)



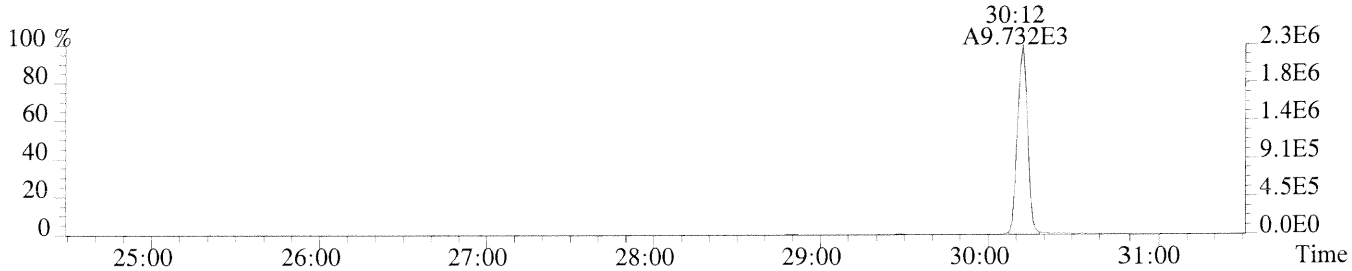
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



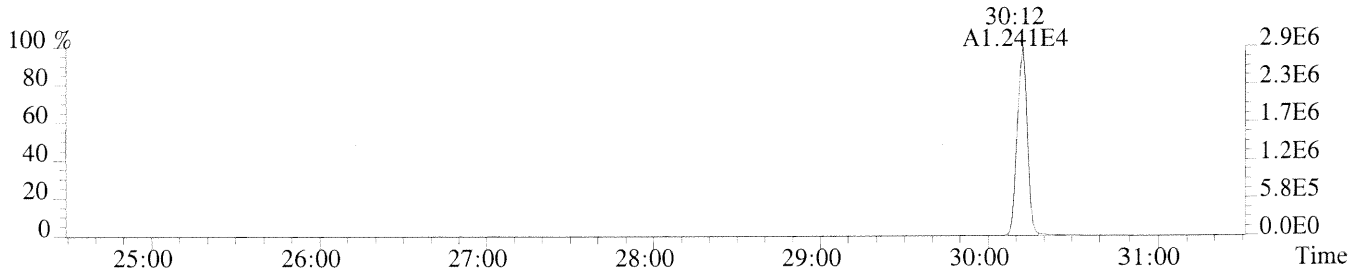
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



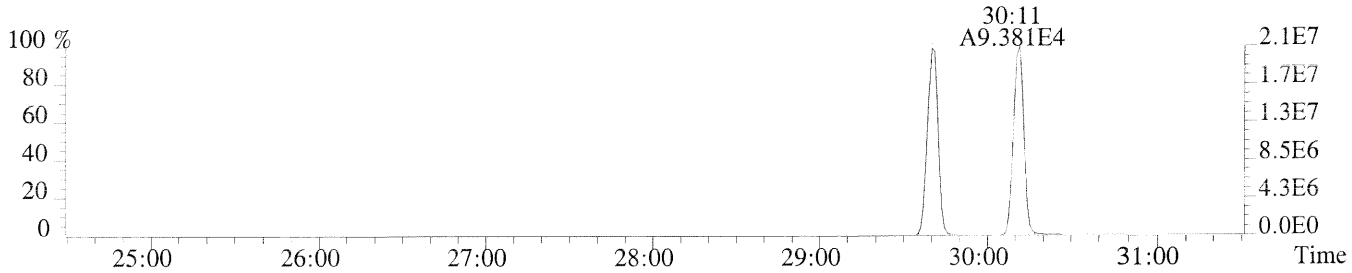
File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



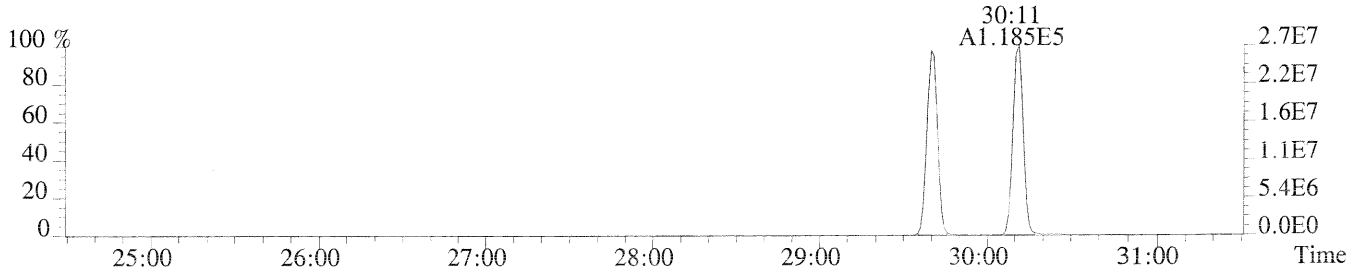
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,T)



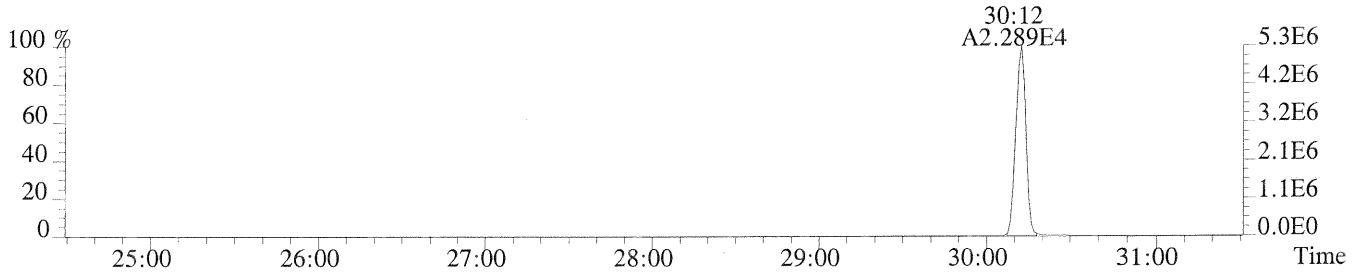
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4164.0,1.00%,F,T)



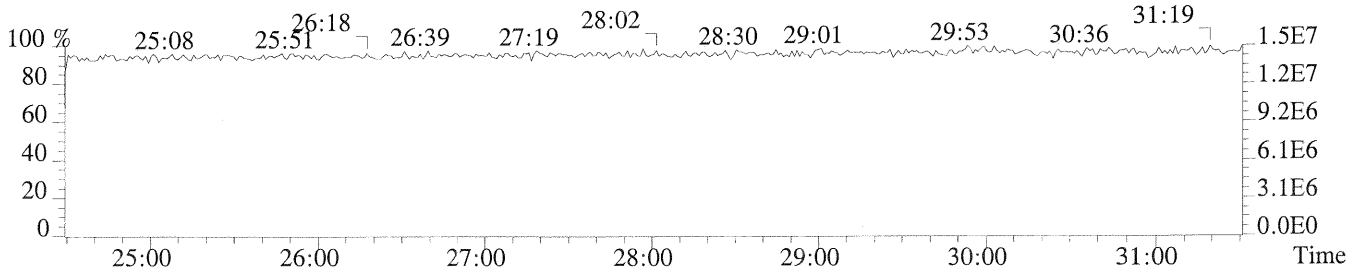
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2196.0,1.00%,F,T)



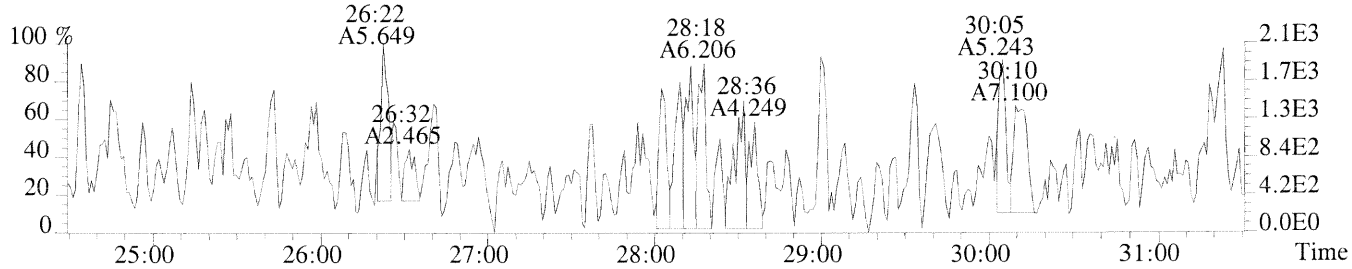
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



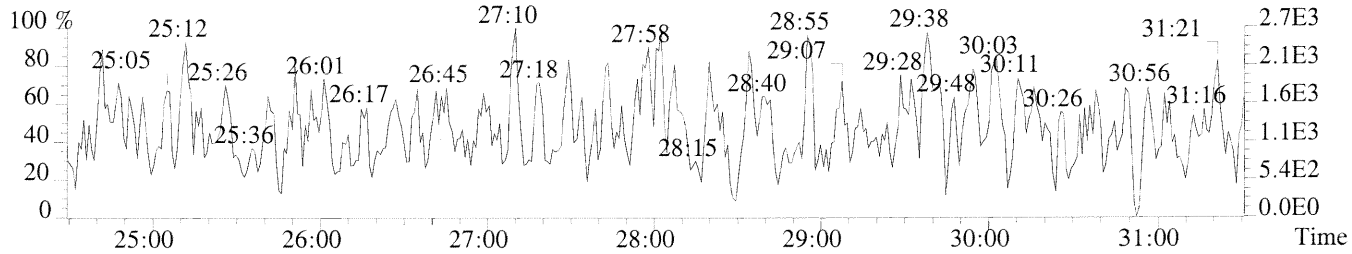
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



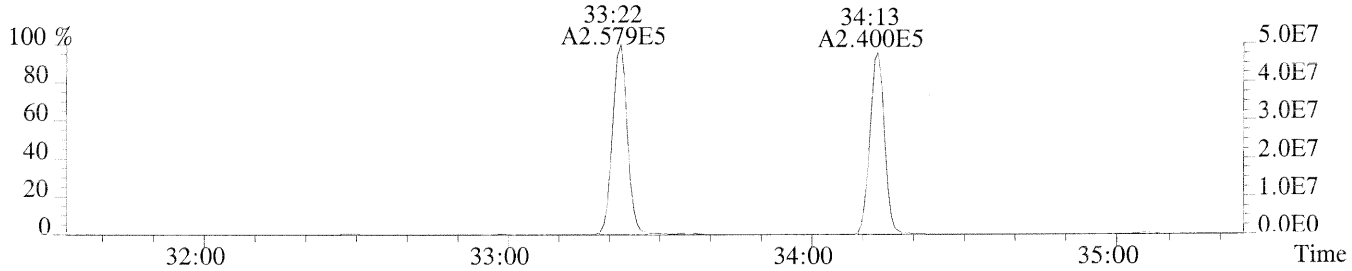
File:P169976 #1-442 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



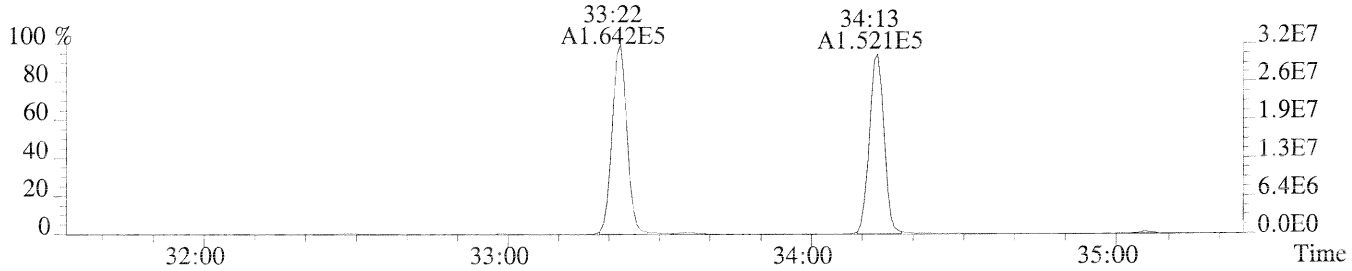
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1576.0,1.00%,F,T)



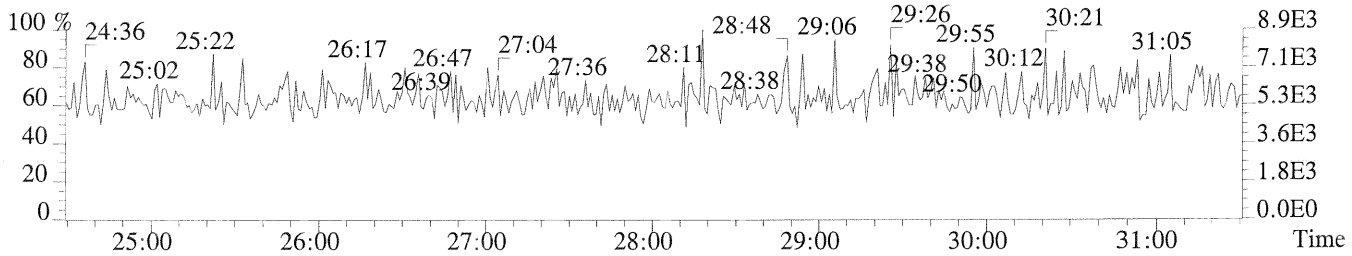
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



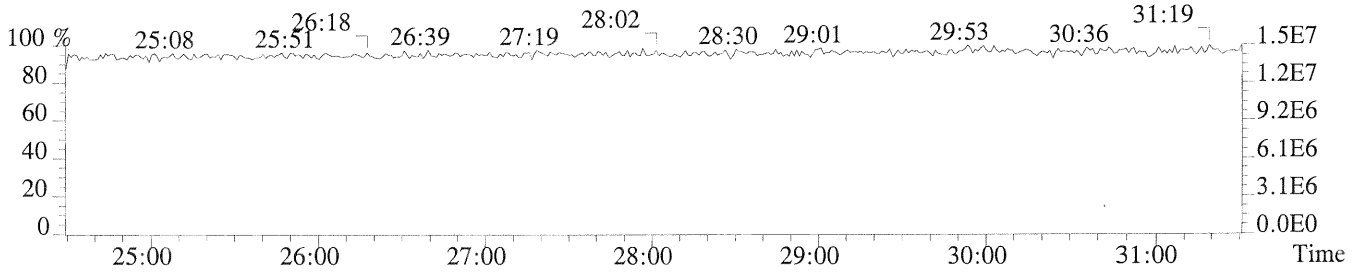
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

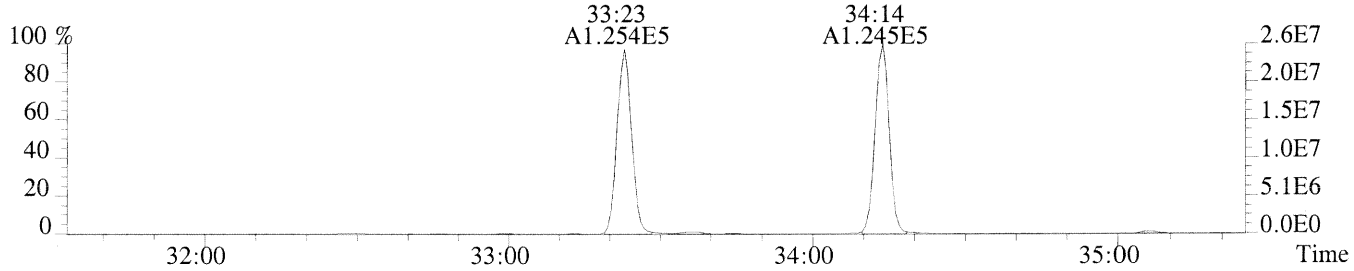


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

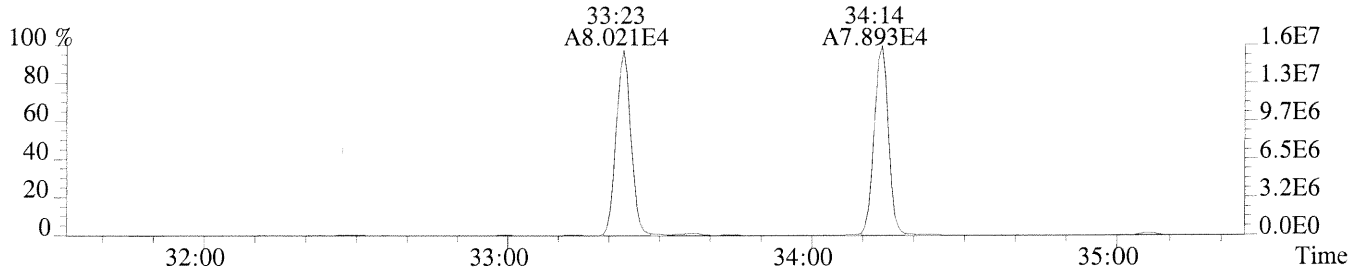


File:P169976 #1-351 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE

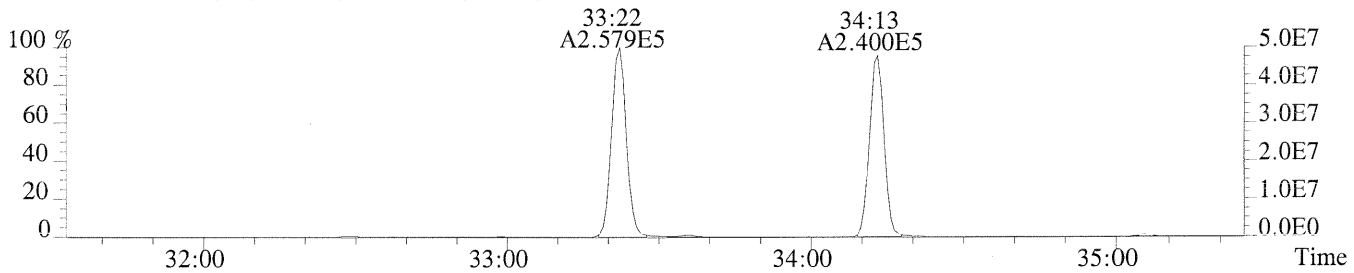
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



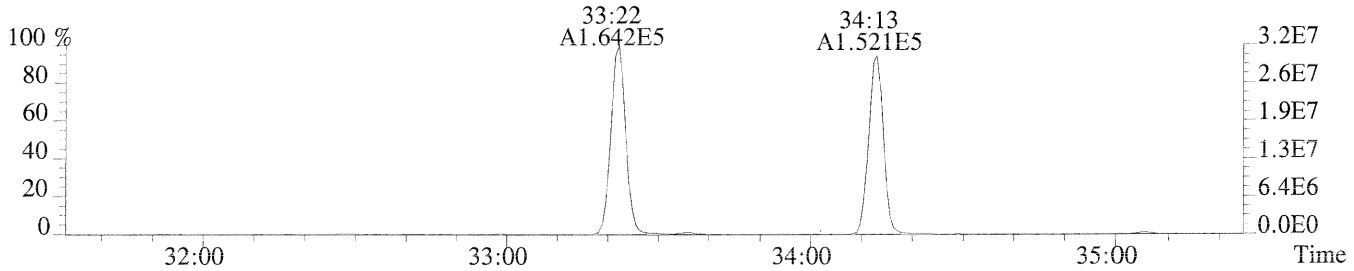
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



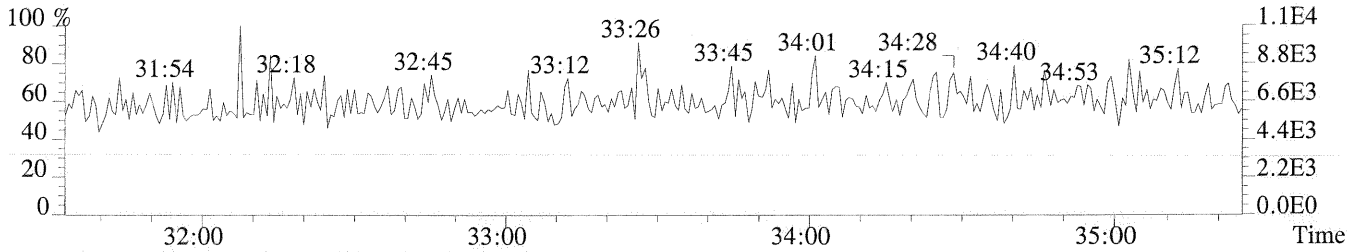
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



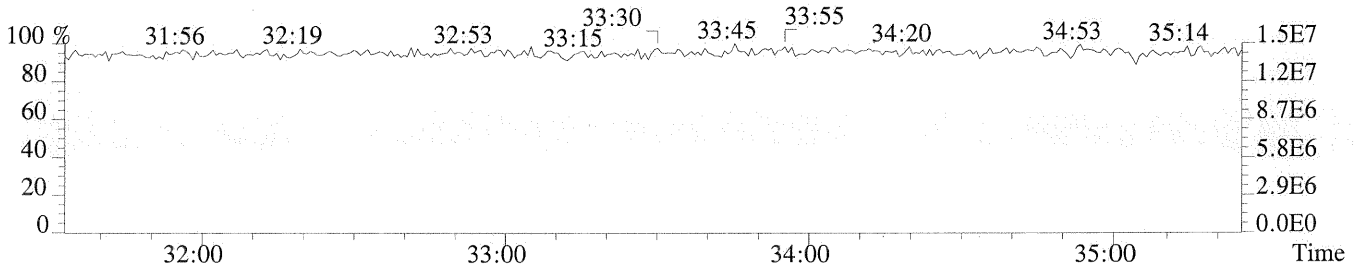
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



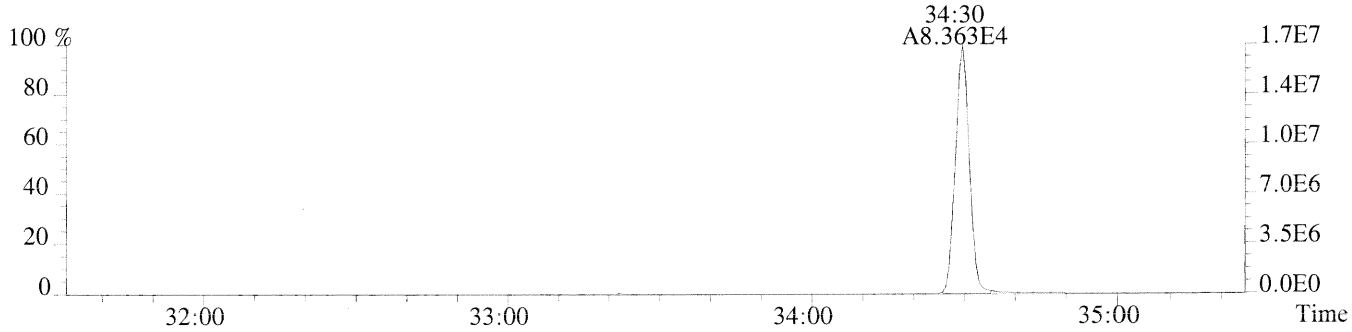
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



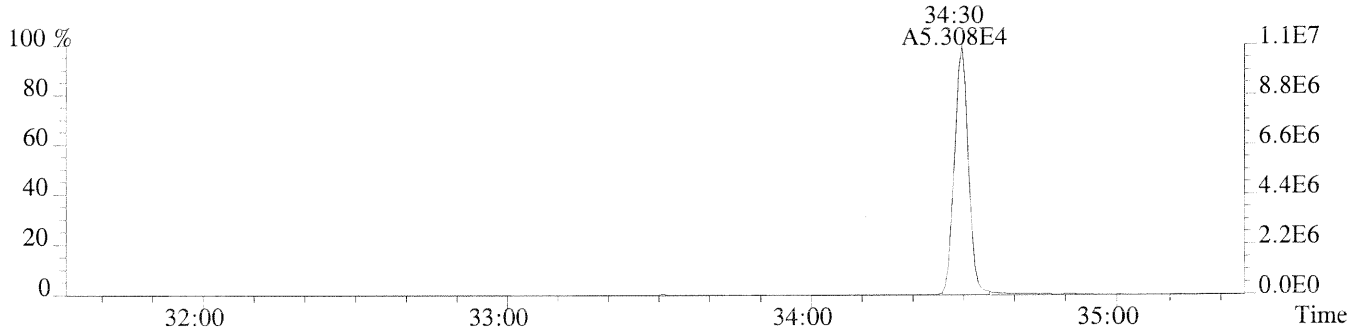
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



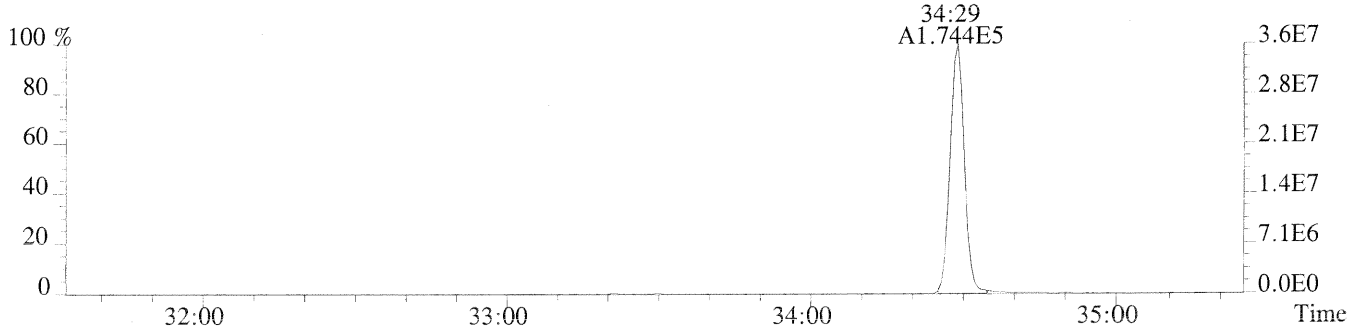
File:P169976 #1-351 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)



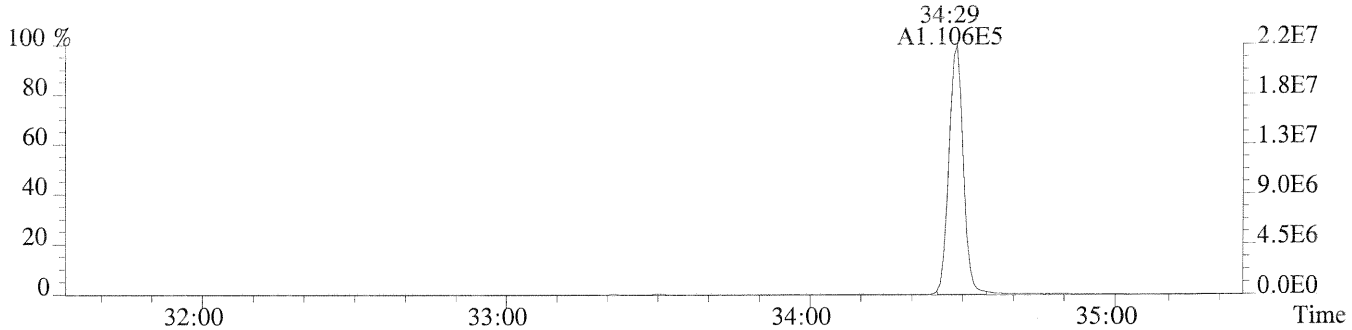
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



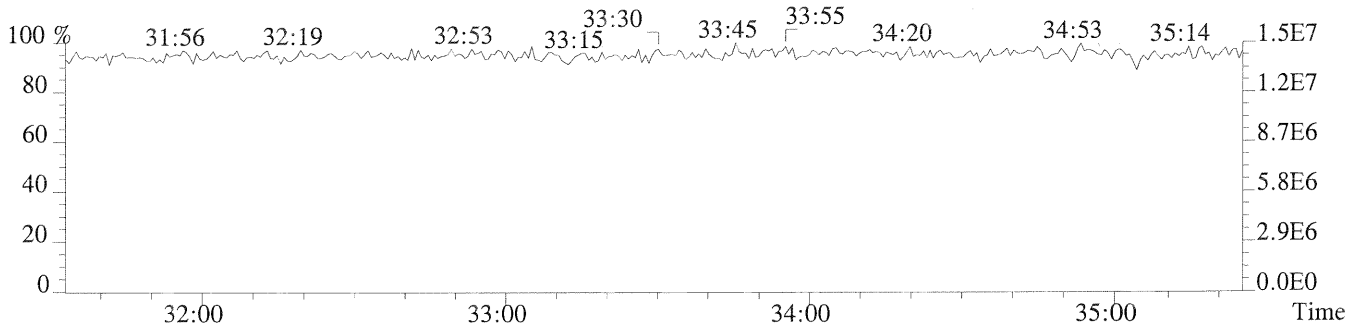
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



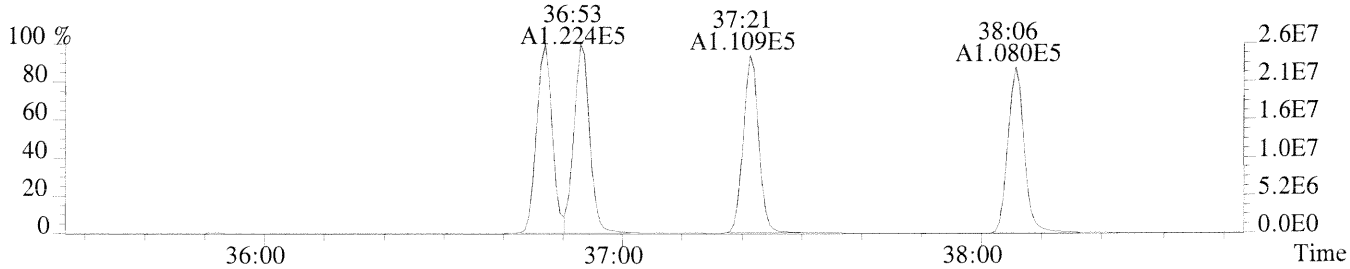
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,T)



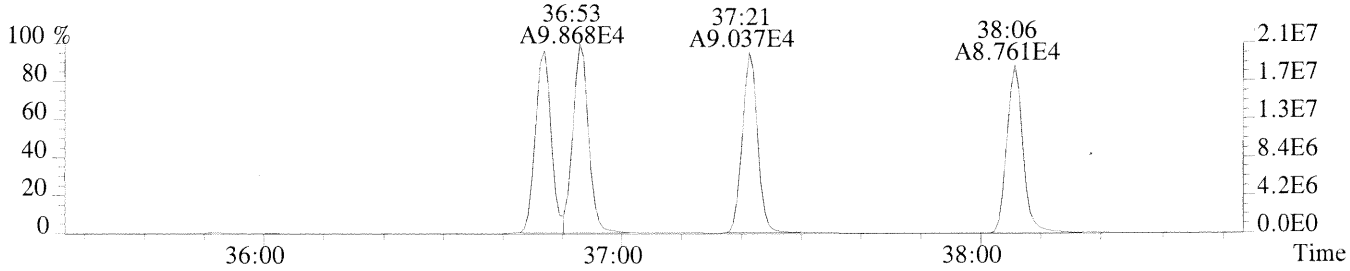
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



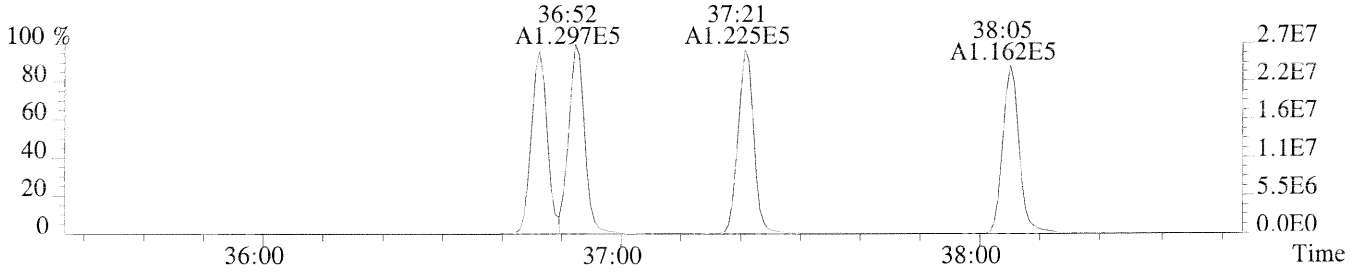
File:P169976 #1-298 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2420.0,0.40%,F,T)



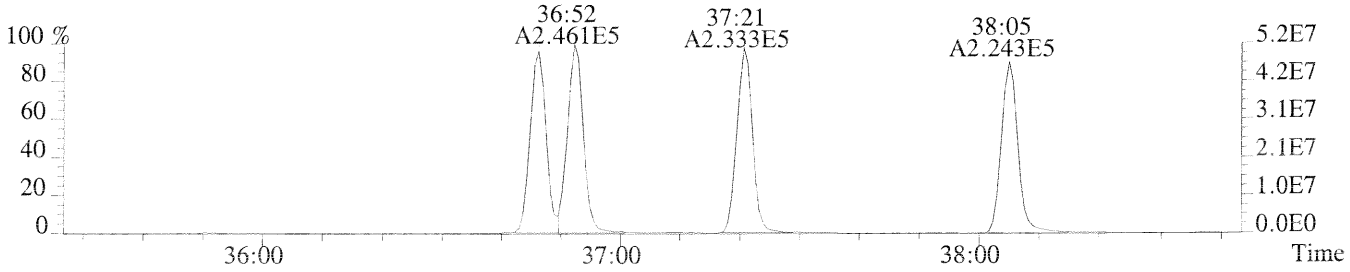
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2056.0,0.40%,F,T)



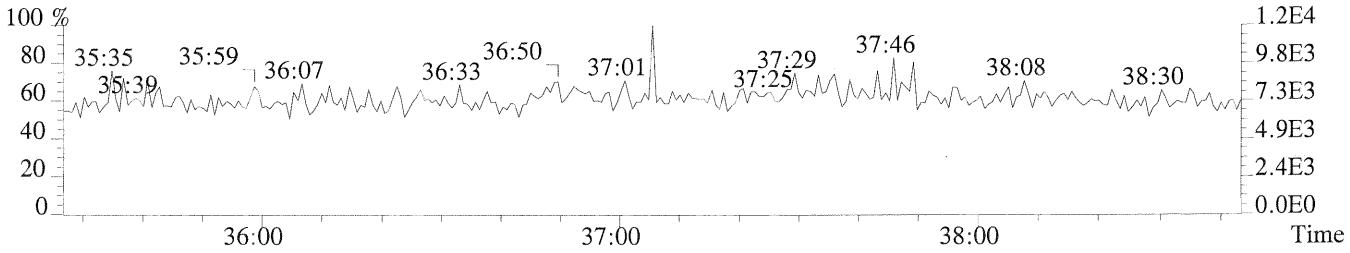
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,T)



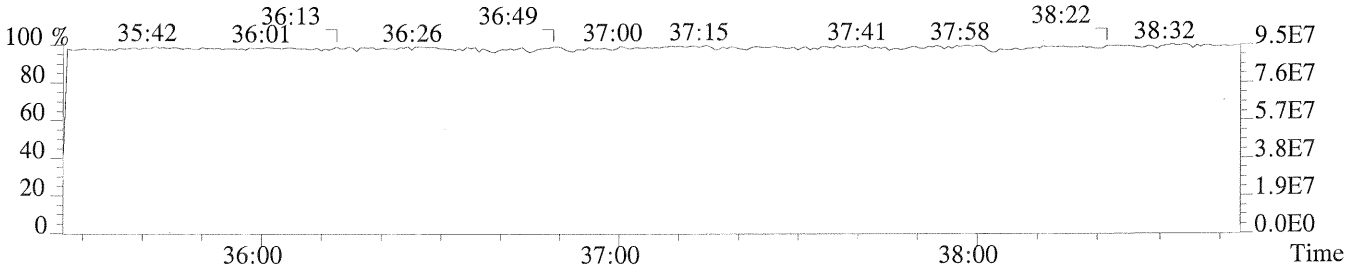
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2644.0,0.40%,F,T)



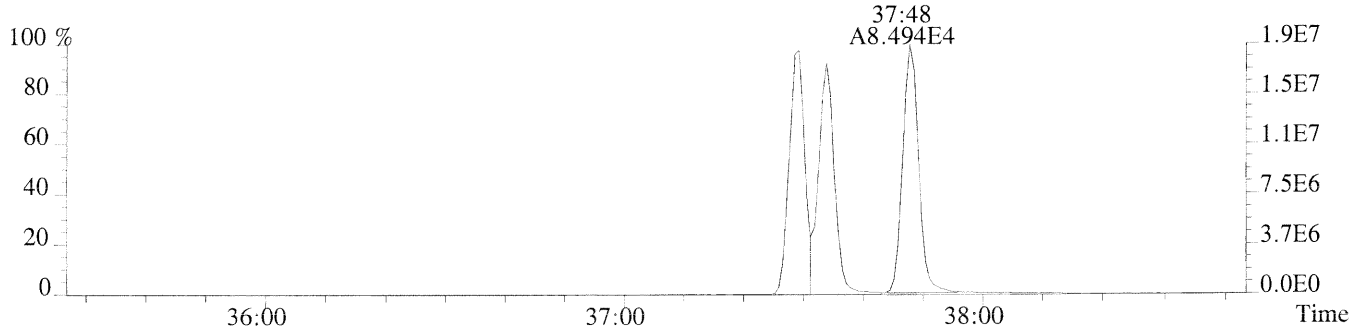
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



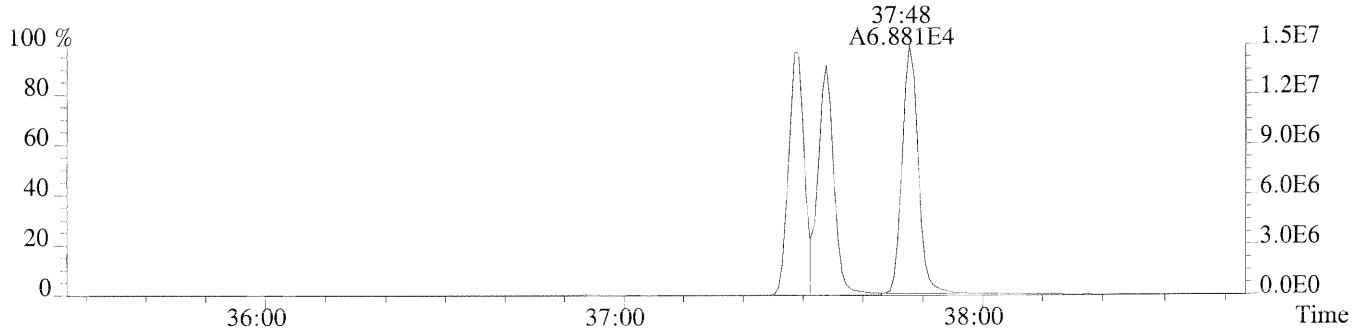
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



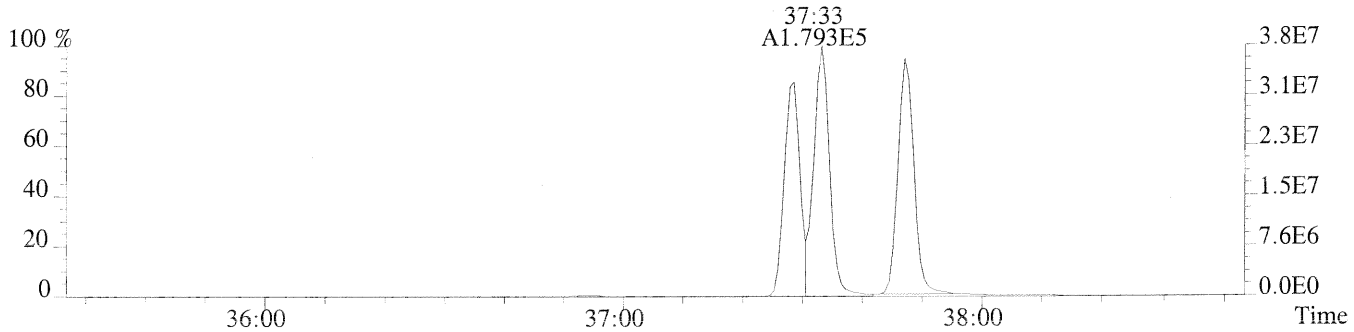
File:P169976 #1-298 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1360.0,0.40%,F,T)



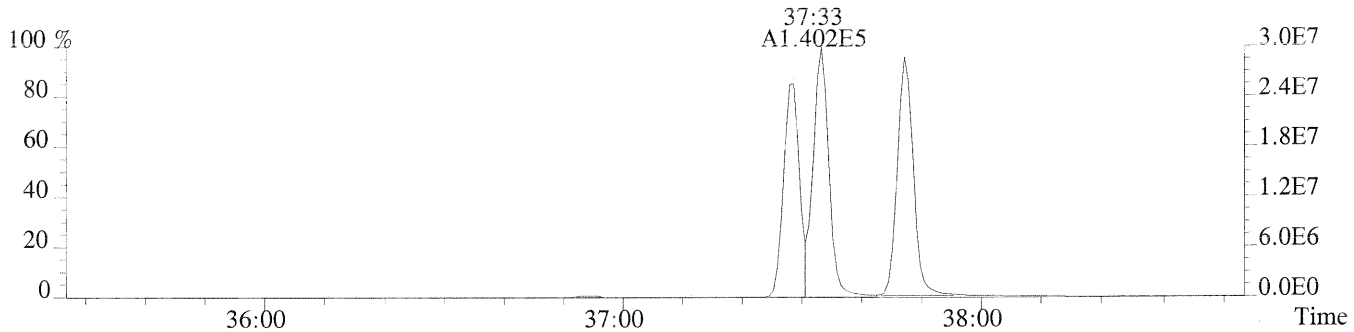
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1780.0,0.40%,F,T)



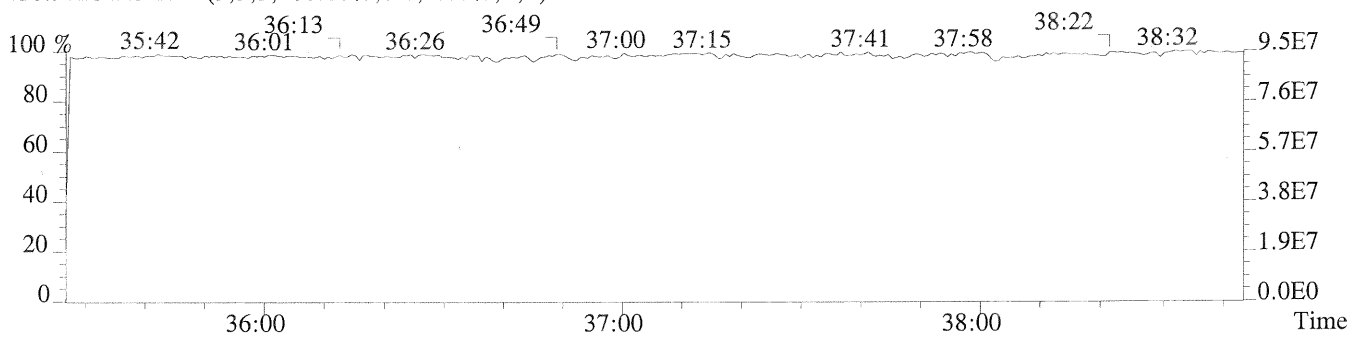
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)

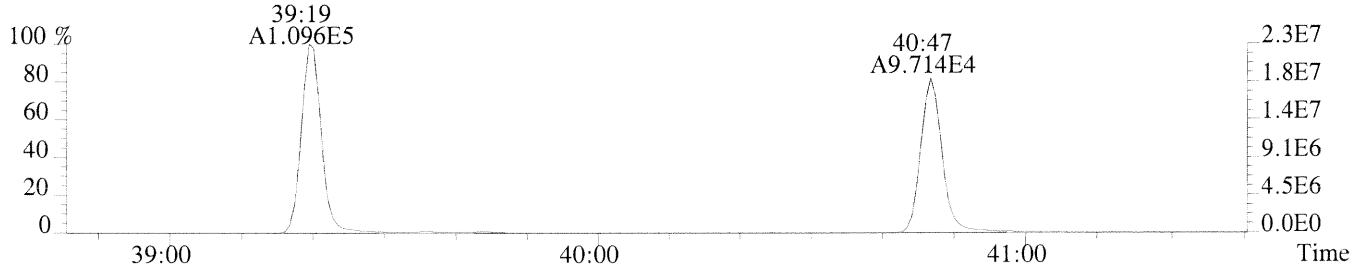


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

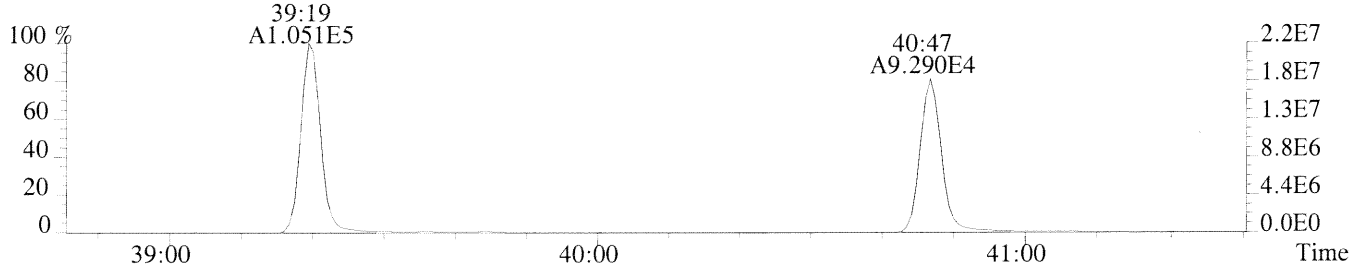


File:P169976 #1-250 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE

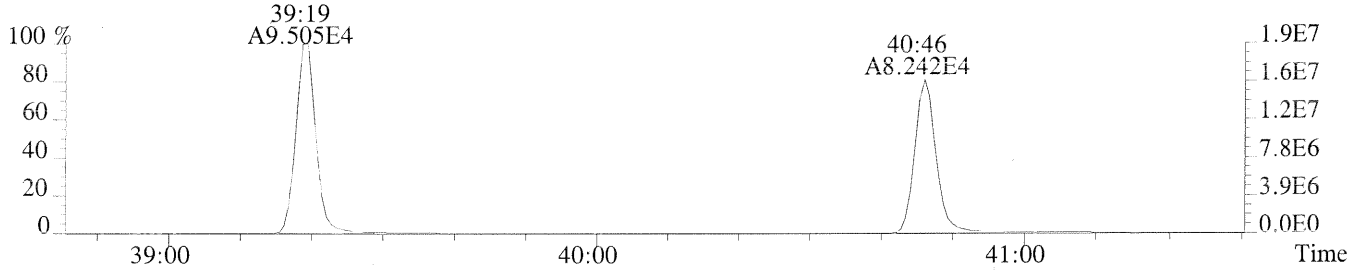
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3708.0,0.50%,F,T)



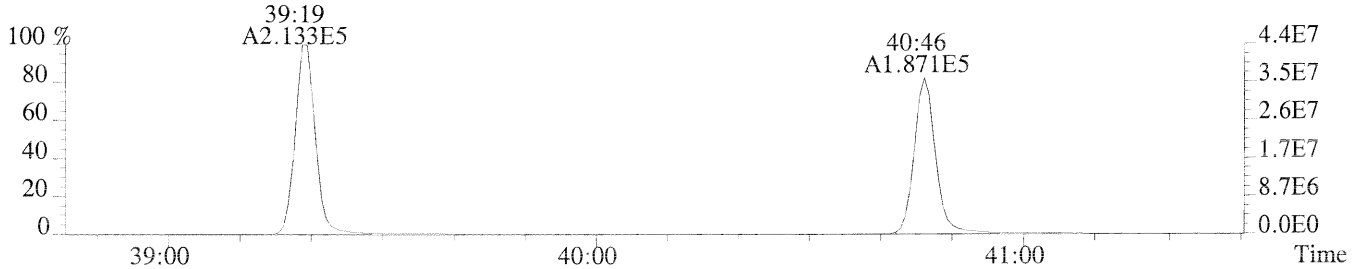
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5868.0,0.50%,F,T)



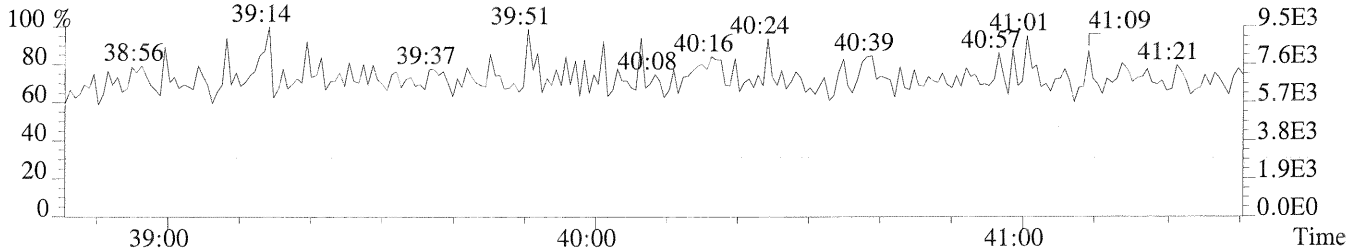
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7308.0,0.50%,F,T)



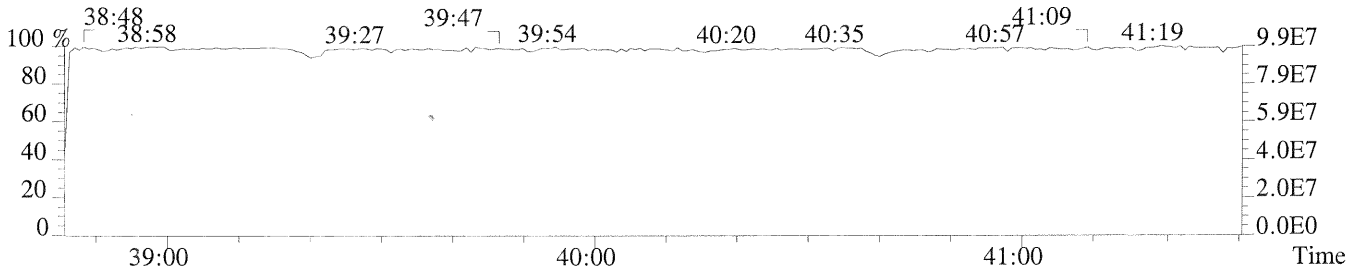
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11564.0,0.50%,F,T)



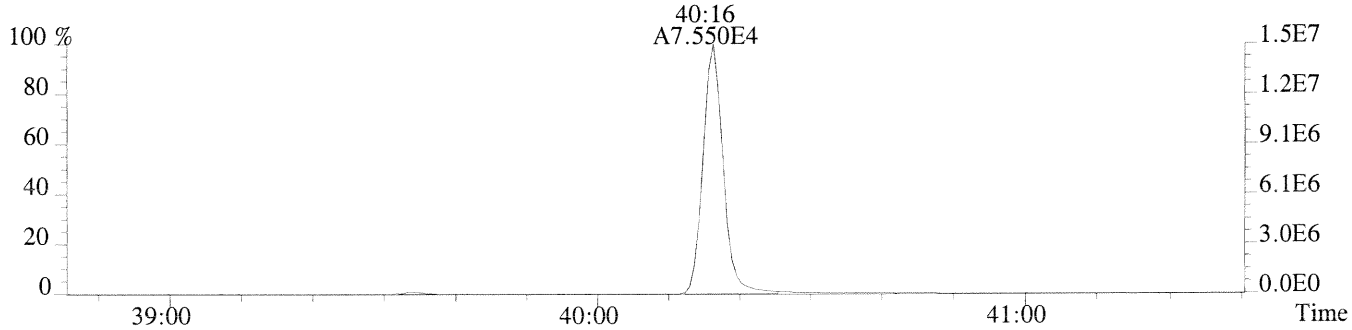
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



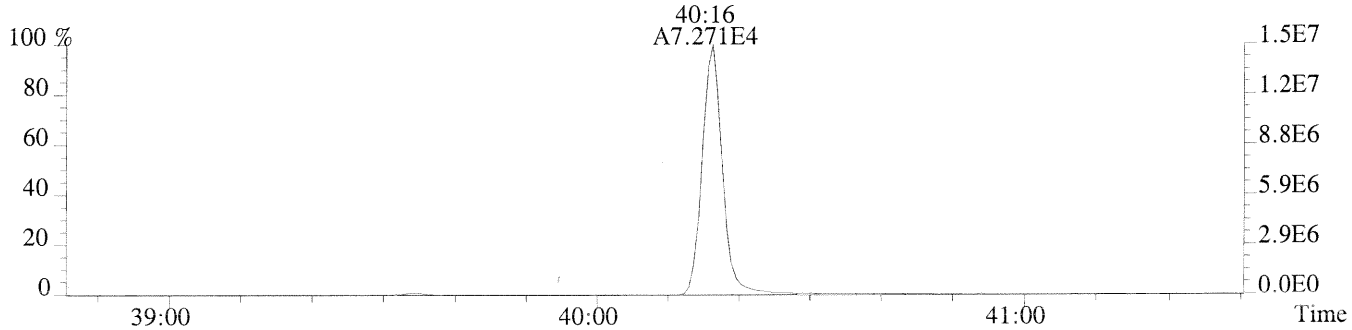
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



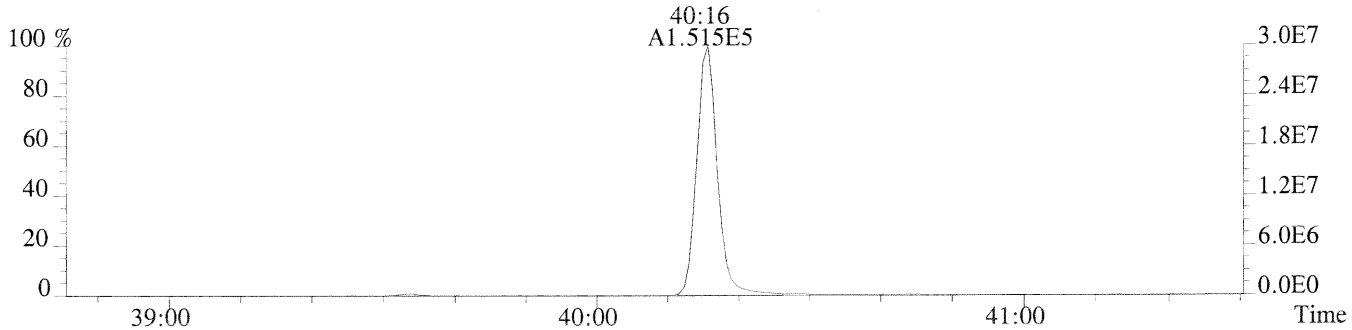
File:P169976 #1-250 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1316.0,0.40%,F,T)



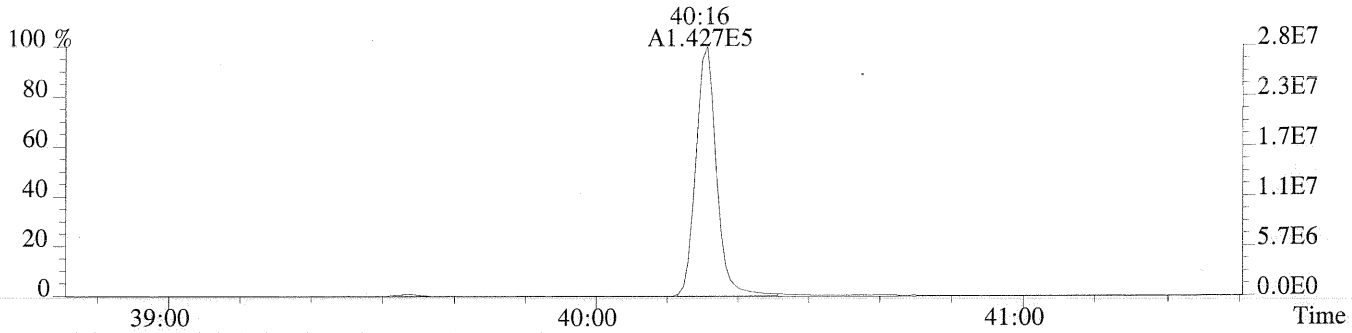
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1928.0,0.40%,F,T)



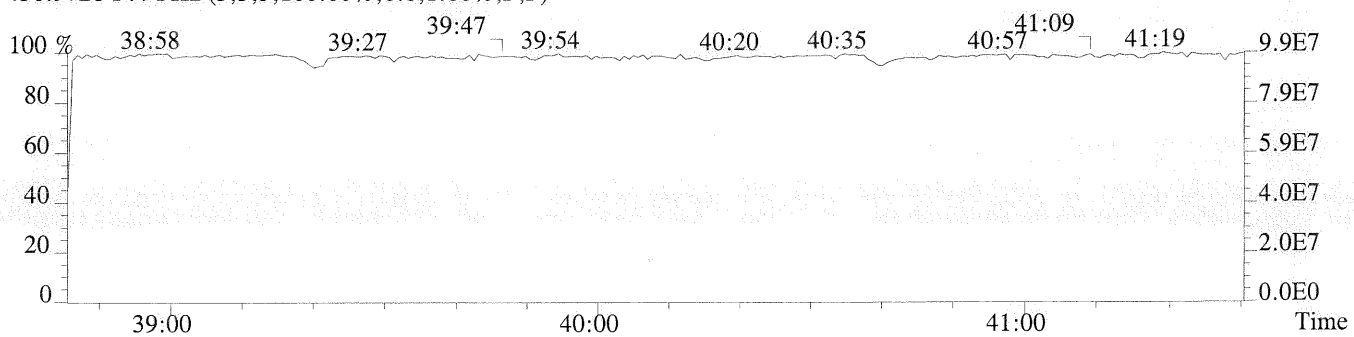
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



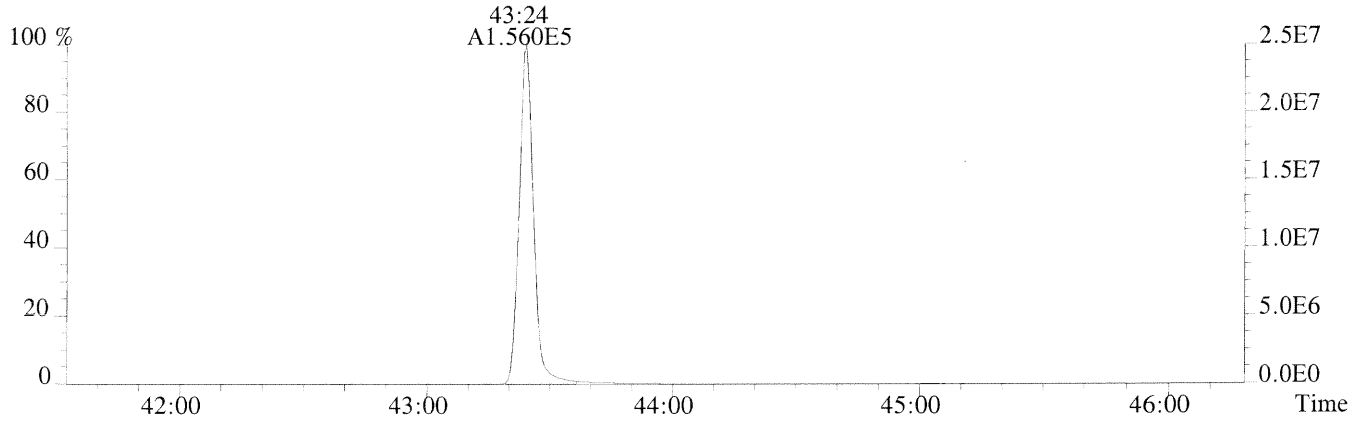
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1328.0,0.40%,F,T)



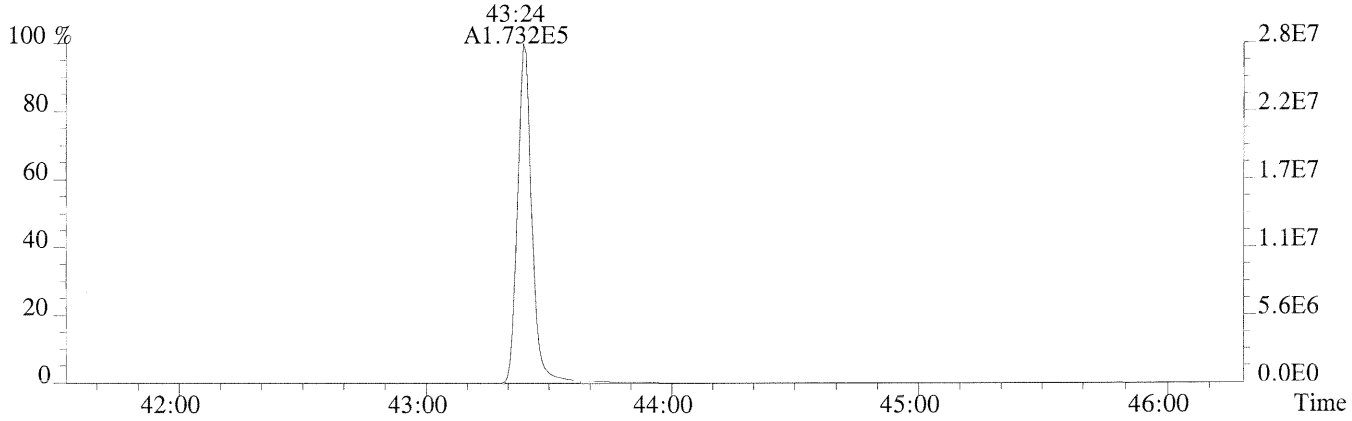
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



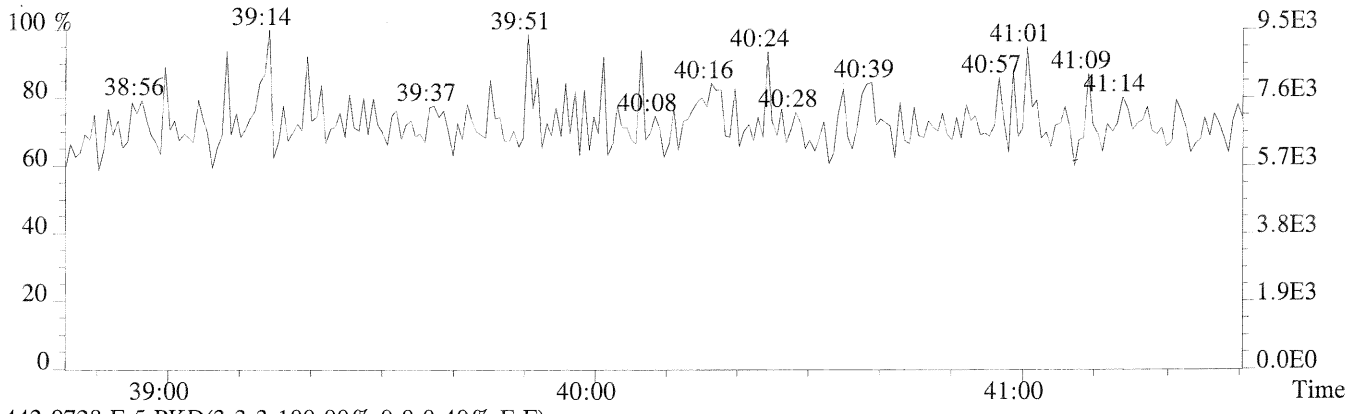
File:P169976 #1-438 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1564.0,0.40%,F,T)



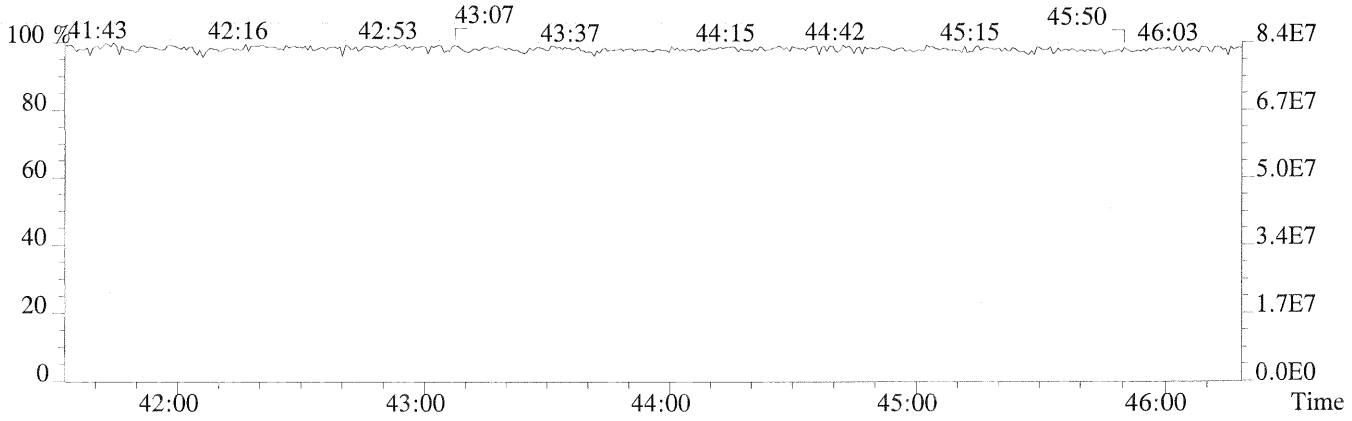
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2252.0,0.40%,F,T)



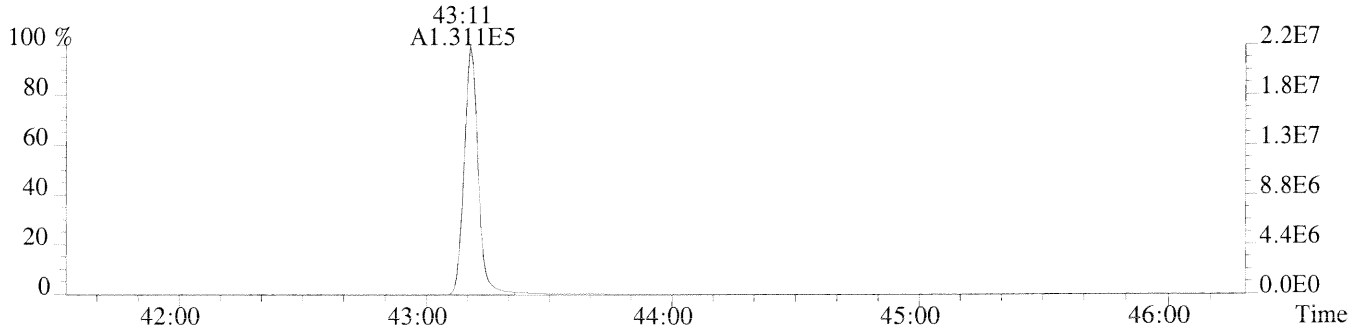
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



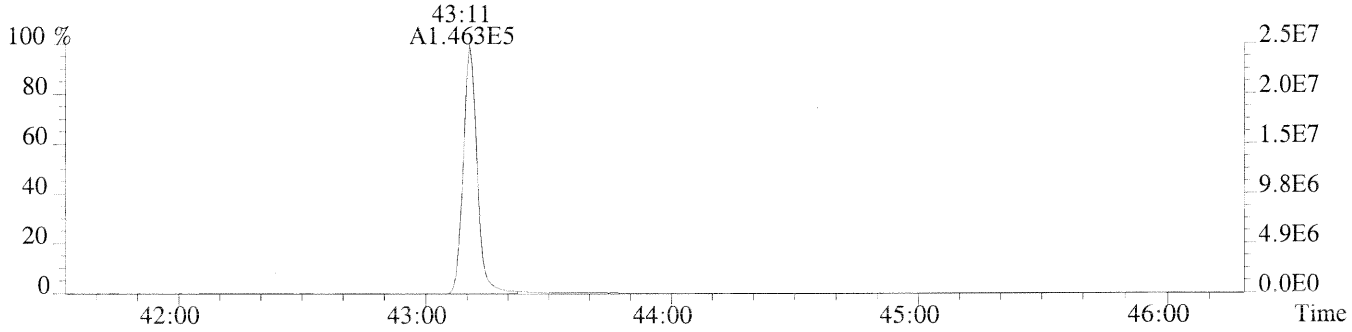
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



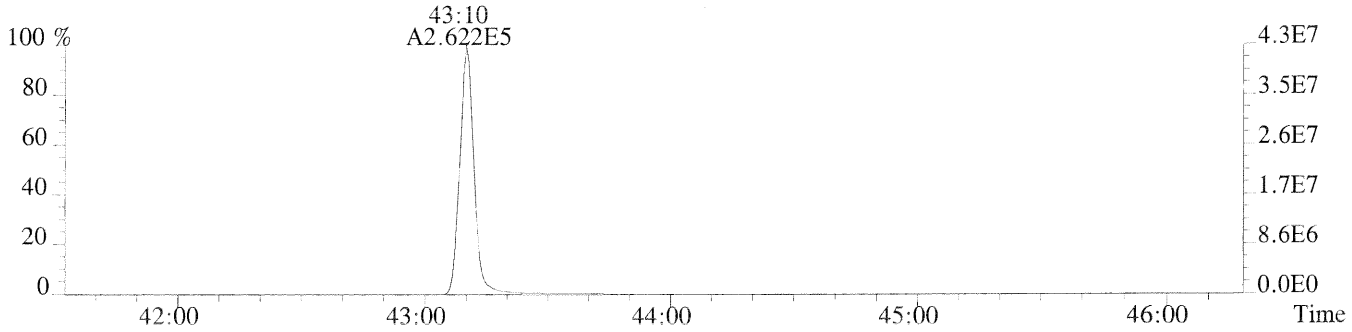
File:P169976 #1-438 Acq:25-MAR-2014 22:10:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,F,T)



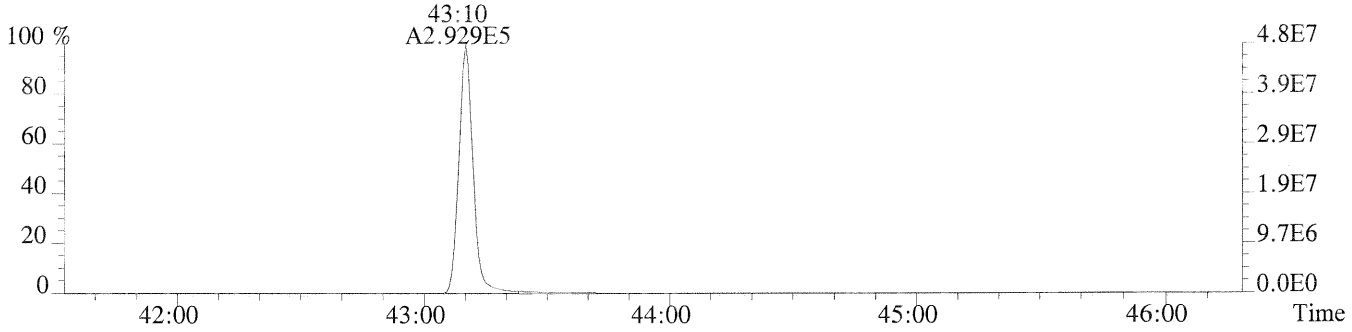
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1600.0,0.40%,F,T)



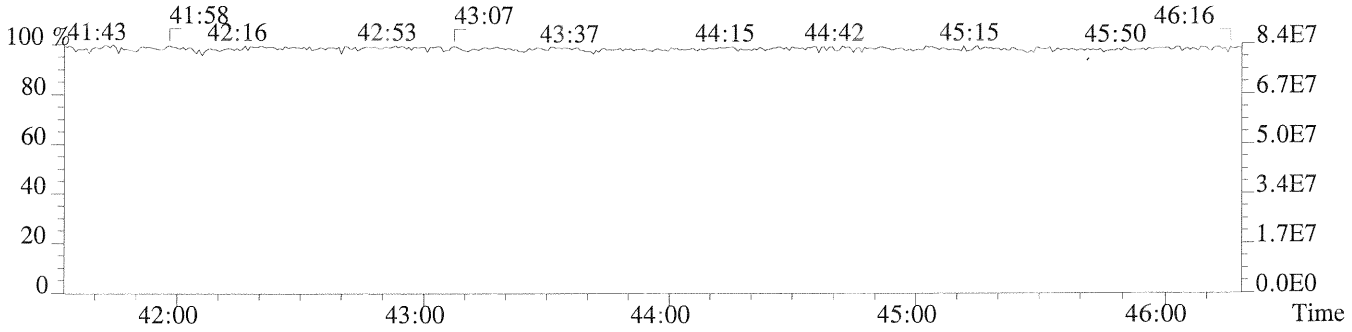
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,724.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1140.0,0.40%,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: 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

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
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 beginnning 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

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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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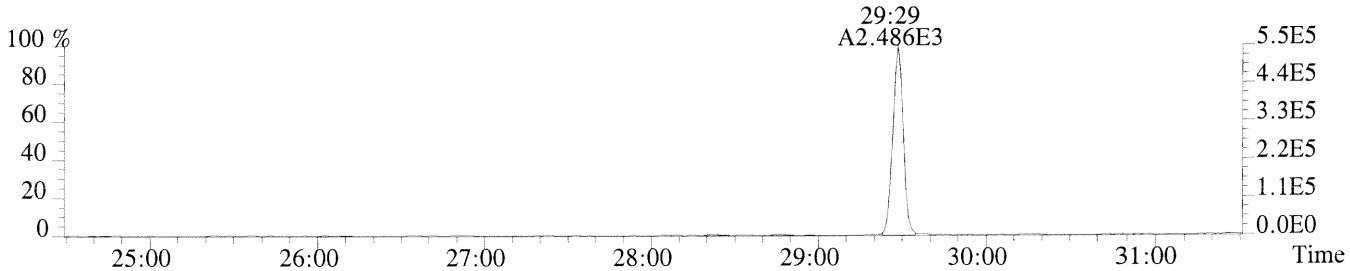
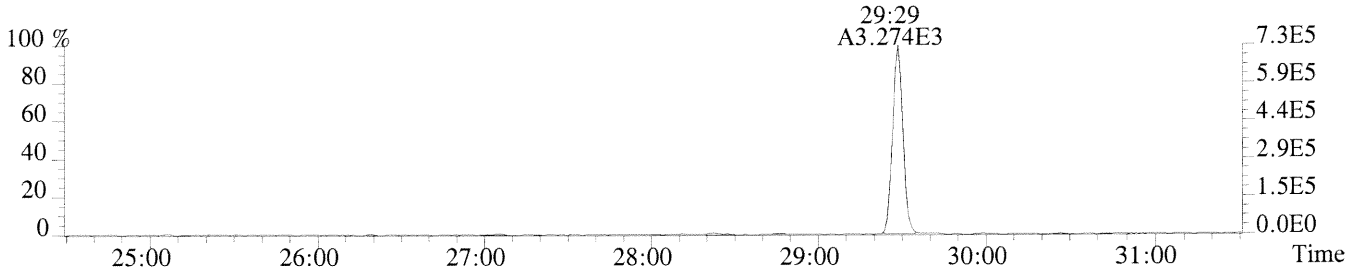
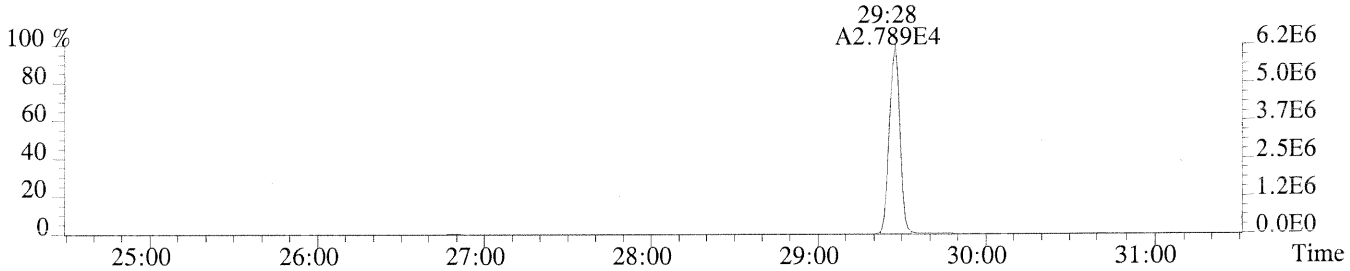
File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



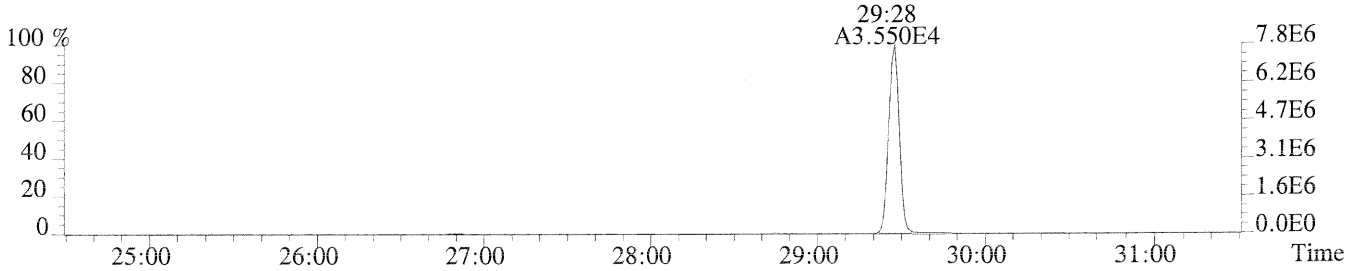
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2032.0,1.00%,F,T)



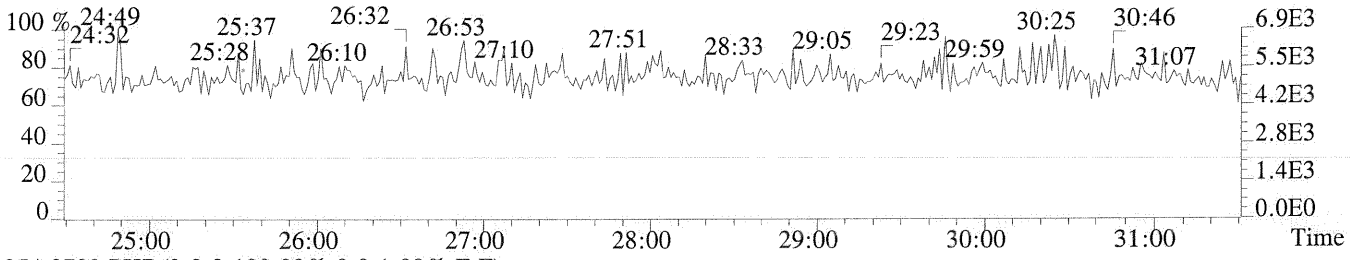
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



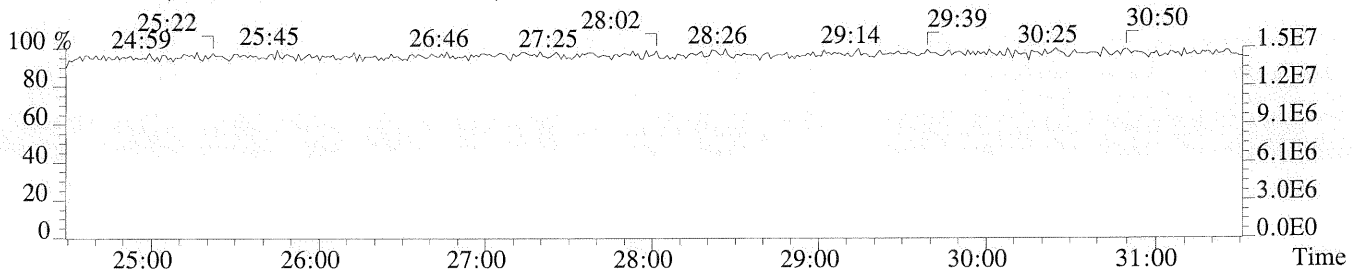
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1764.0,1.00%,F,T)



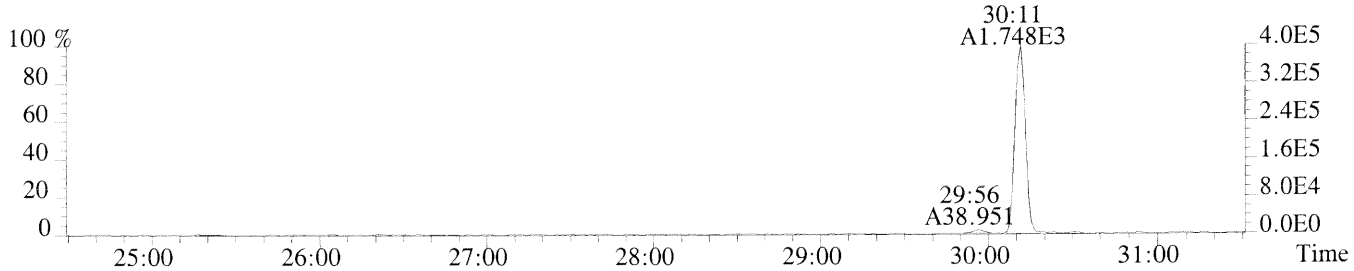
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



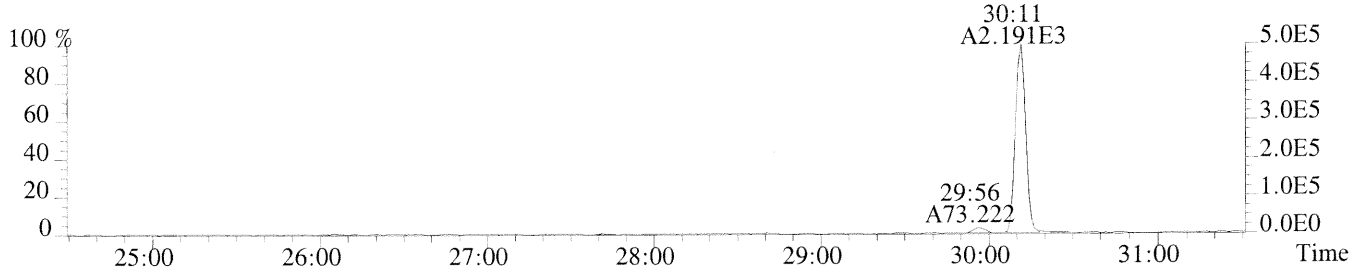
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



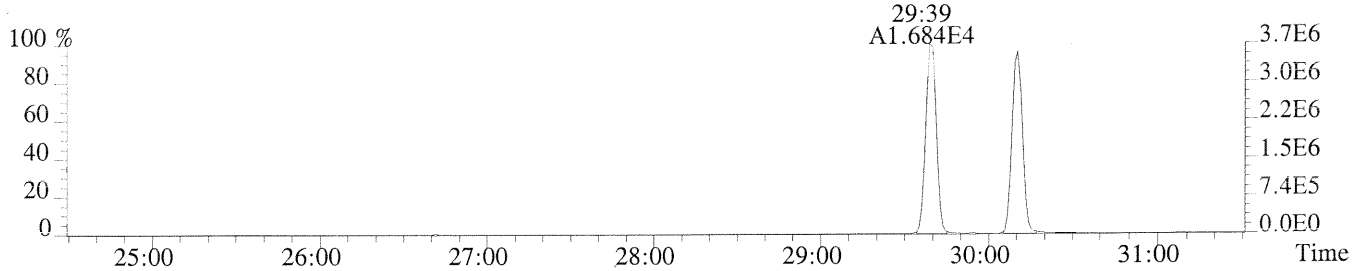
File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



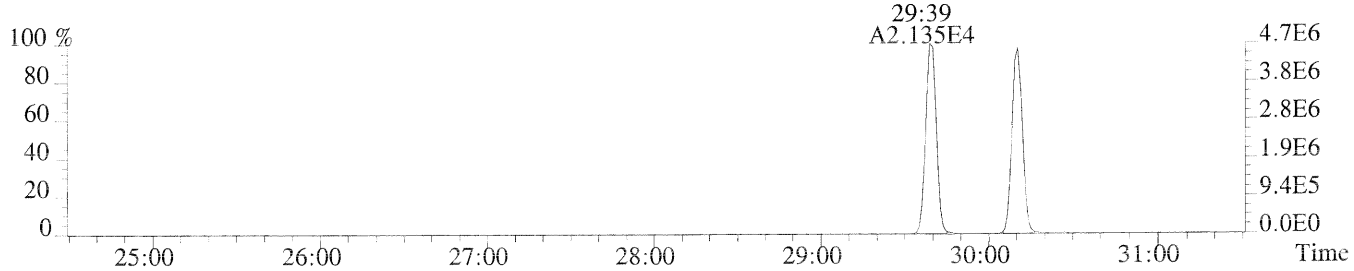
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



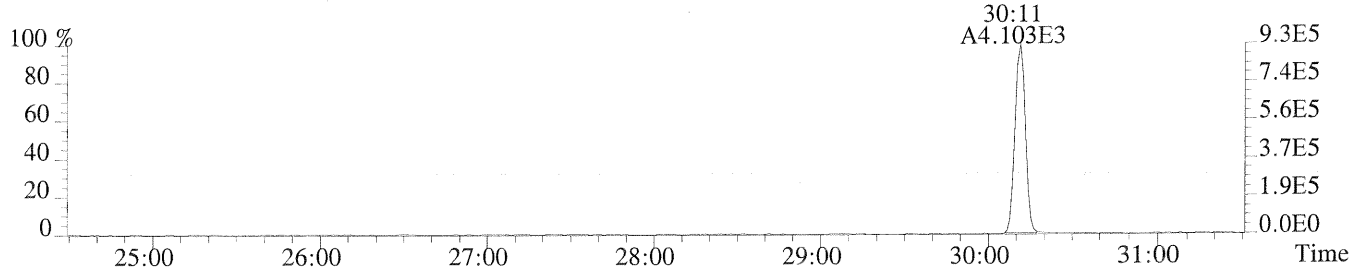
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4384.0,1.00%,F,T)



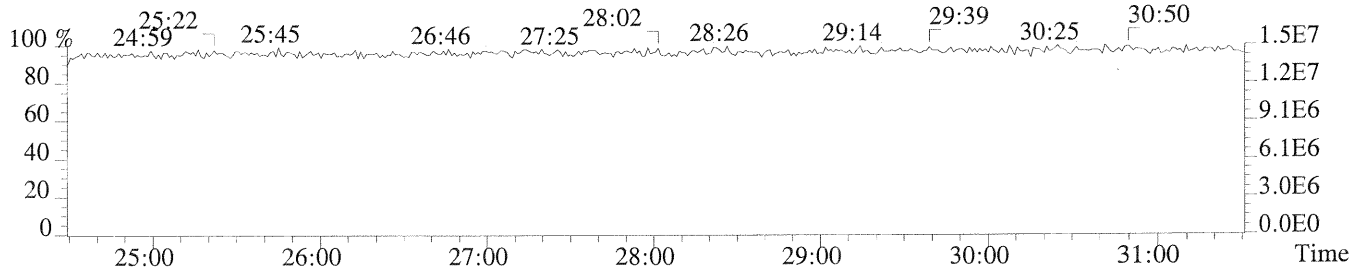
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2348.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1924.0,1.00%,F,T)

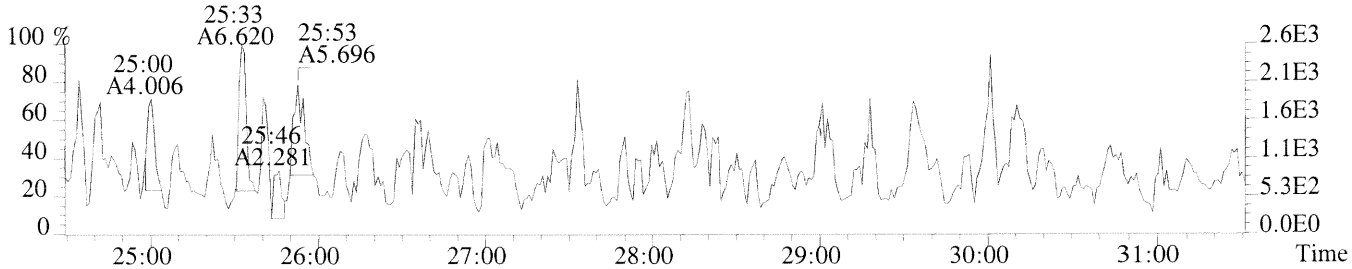


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

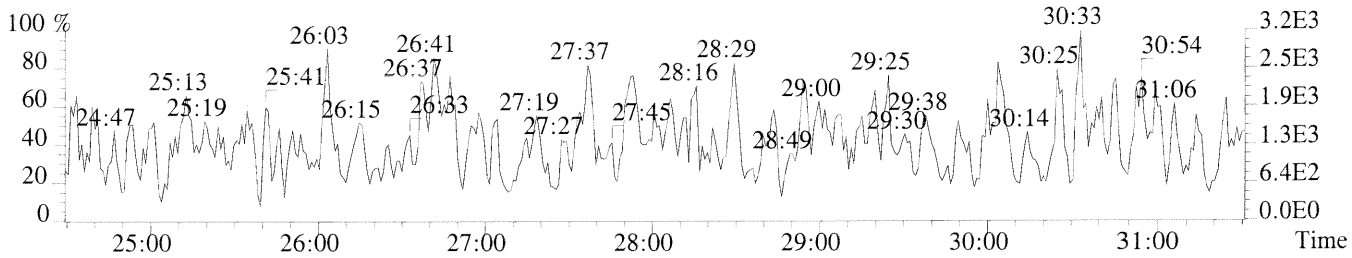


File:P169977 #1-442 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD

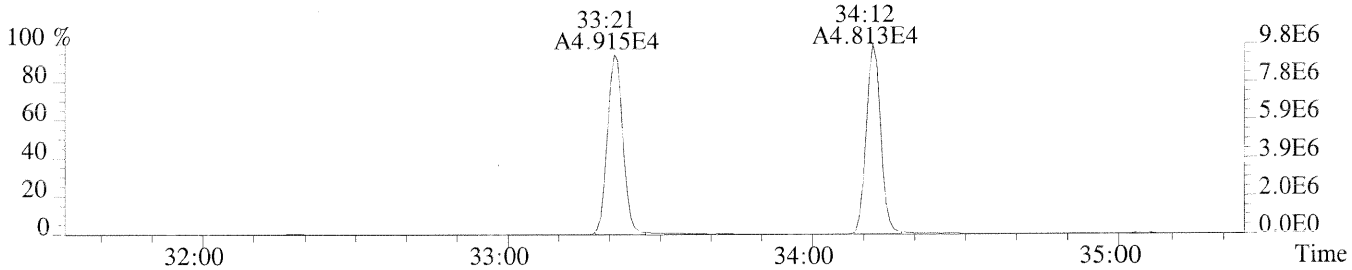
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



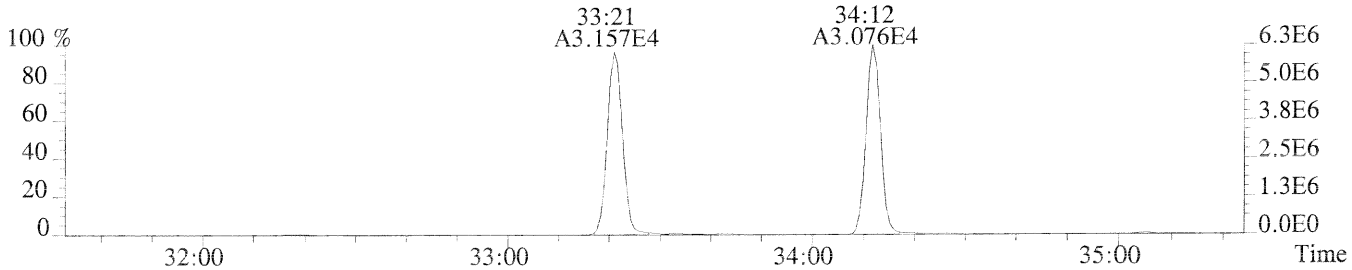
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1564.0,1.00%,F,T)



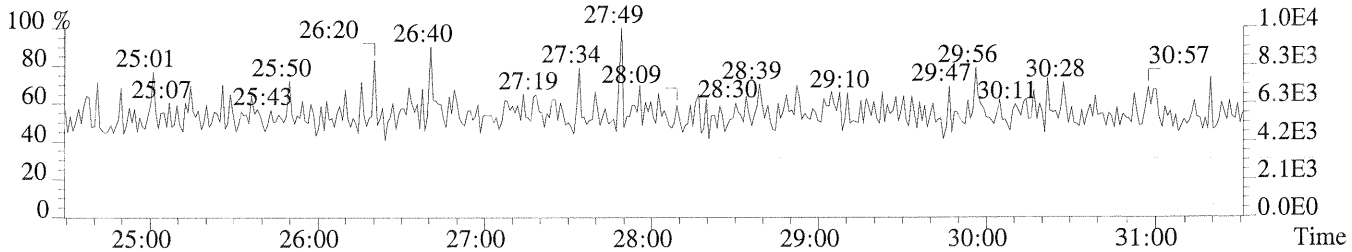
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



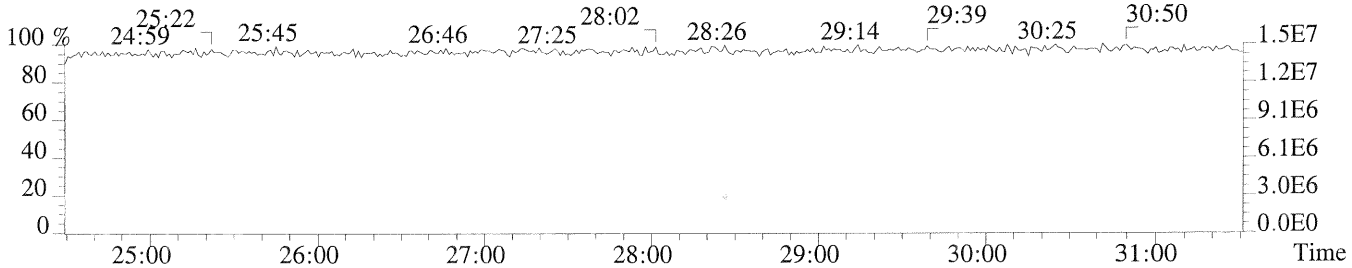
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

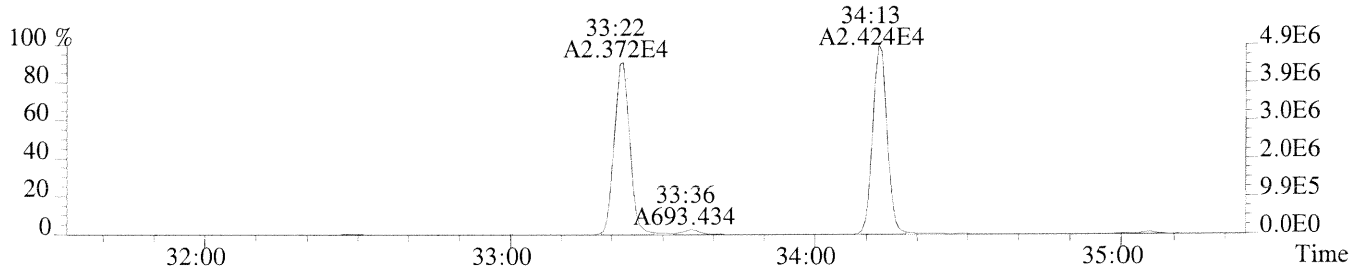


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

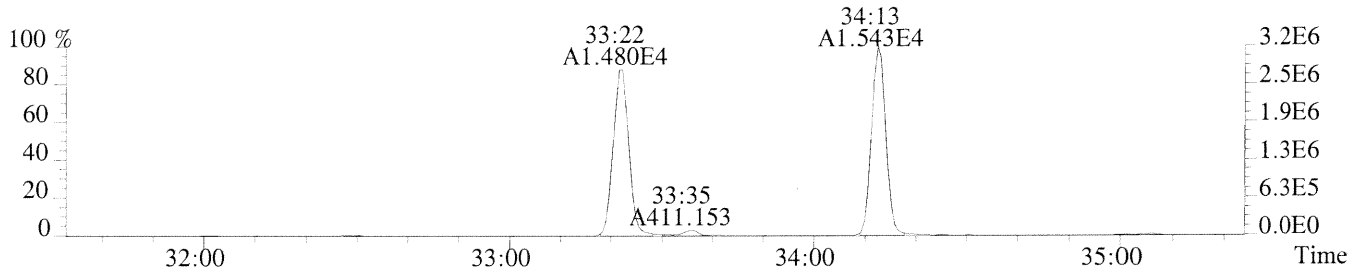


File:P169977 #1-350 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD

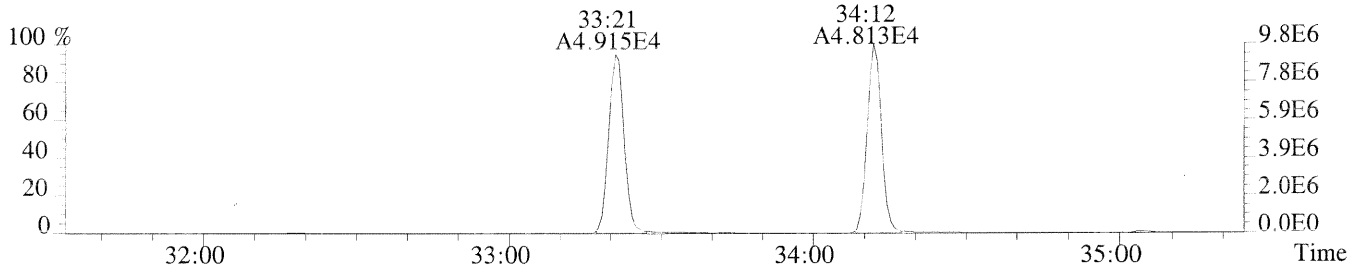
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



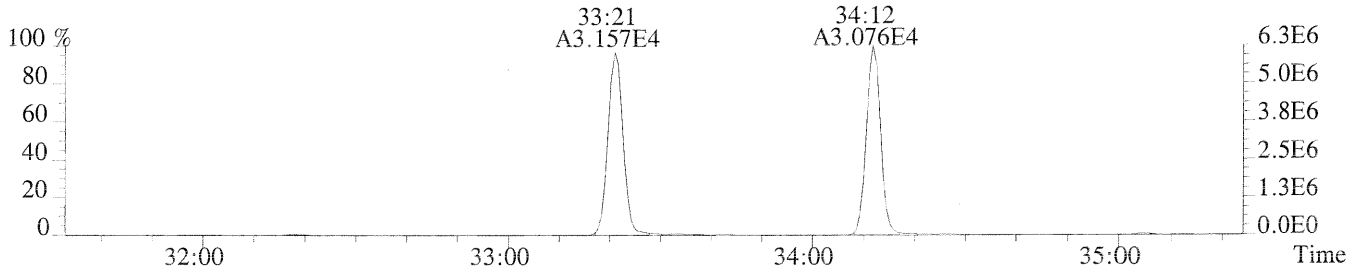
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1612.0,1.00%,F,T)



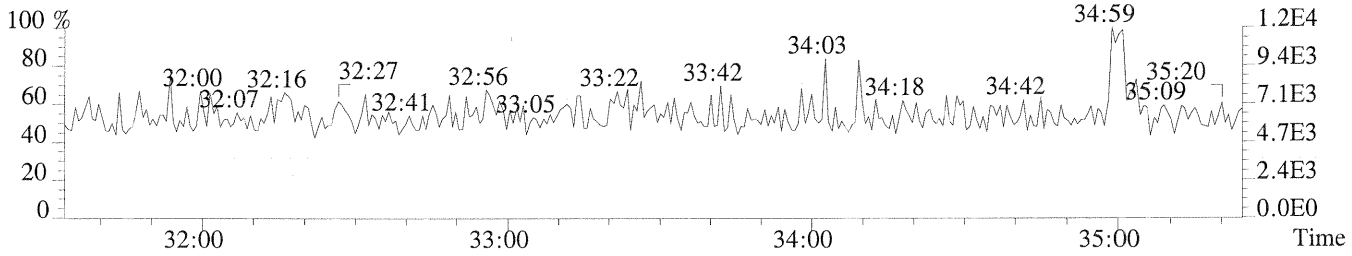
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



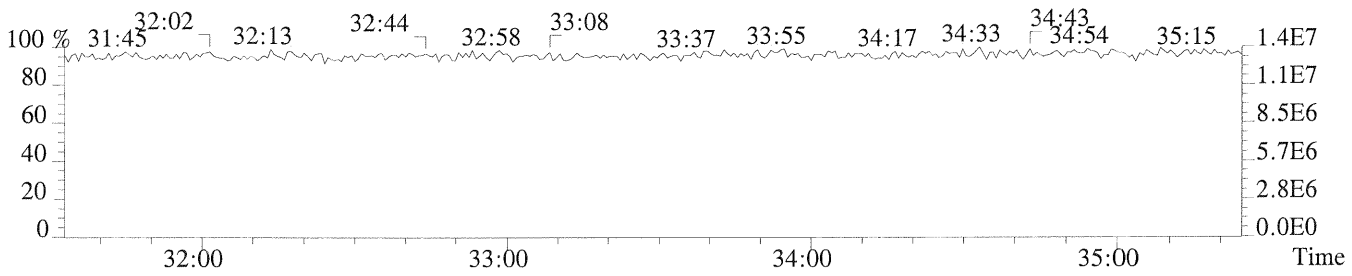
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



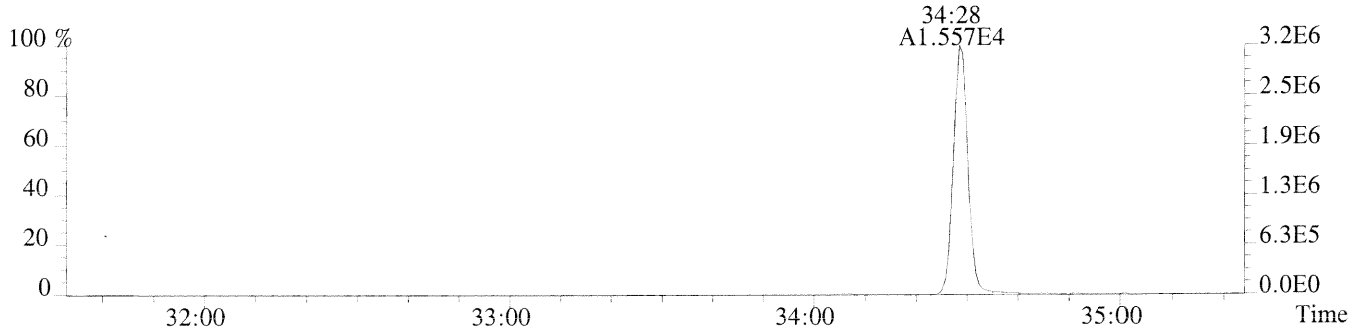
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



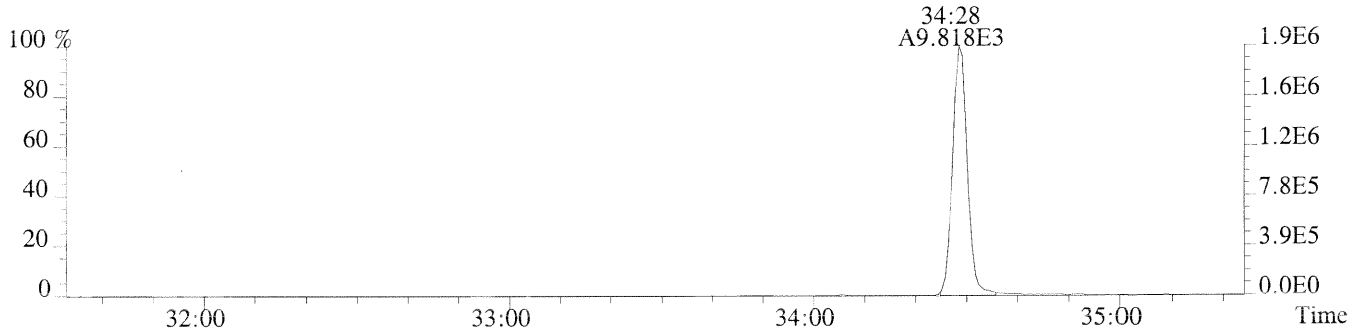
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



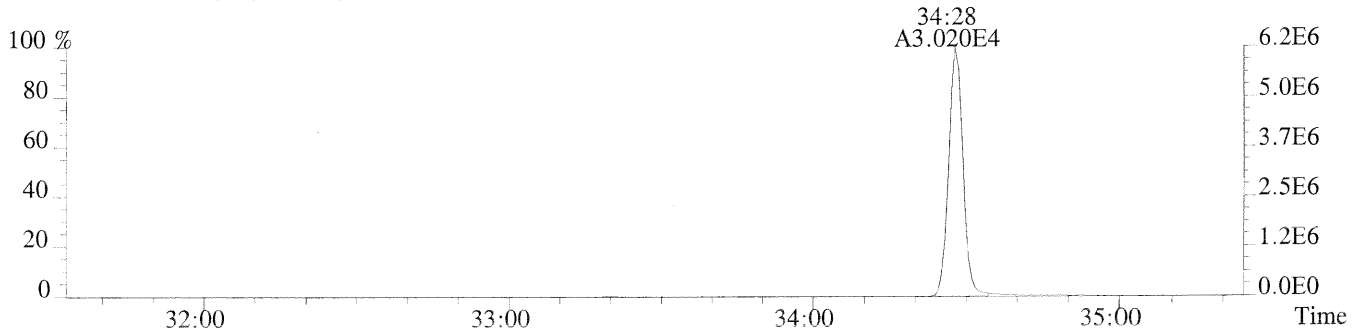
File:P169977 #1-350 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)



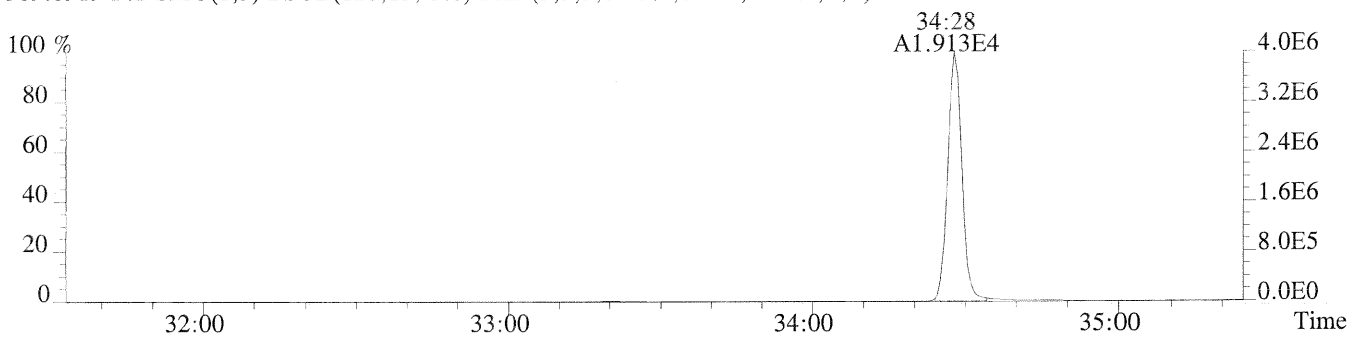
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



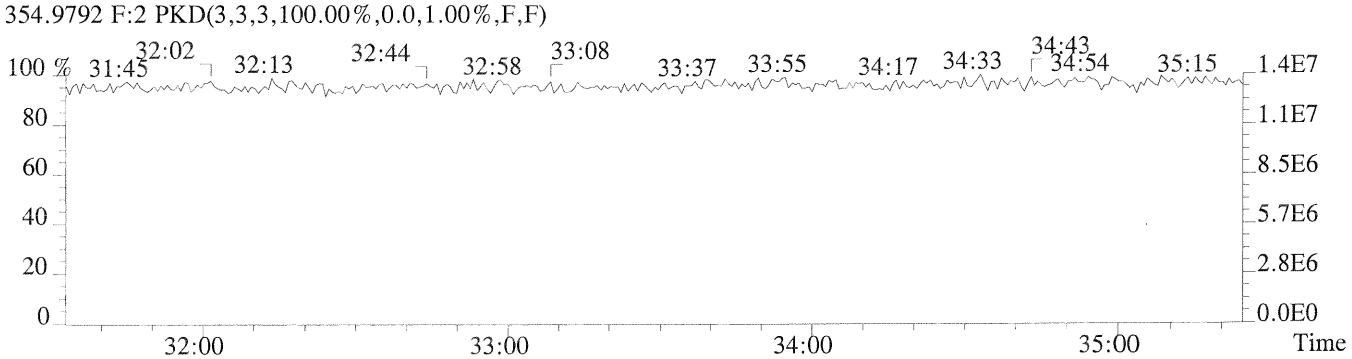
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)

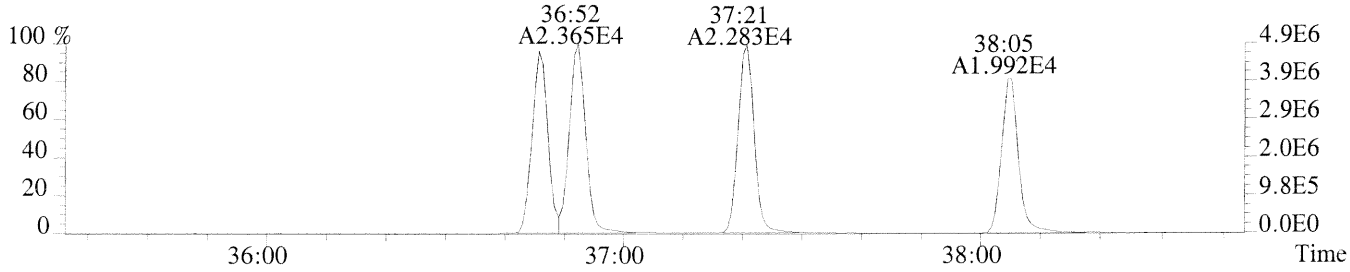


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

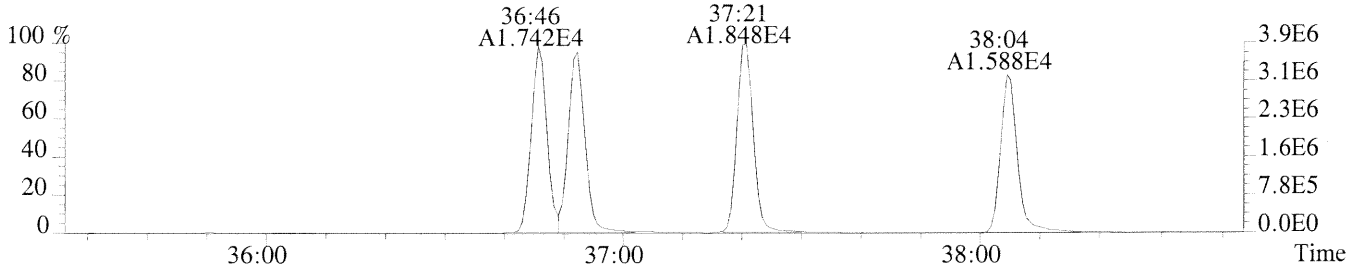


File:P169977 #1-299 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD

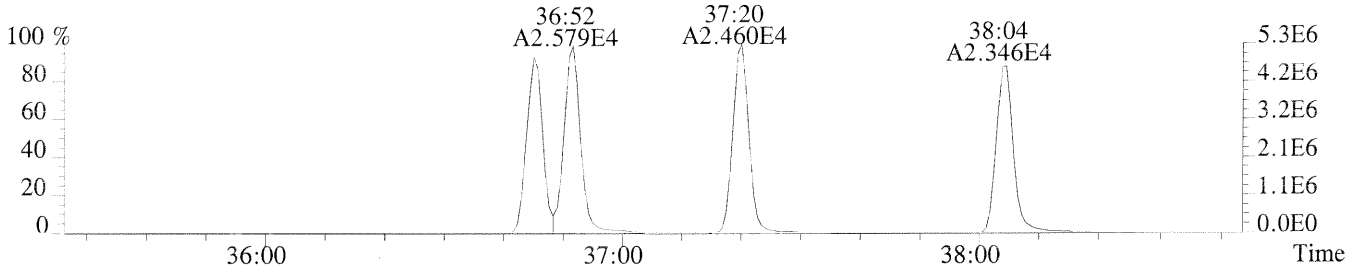
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,T)



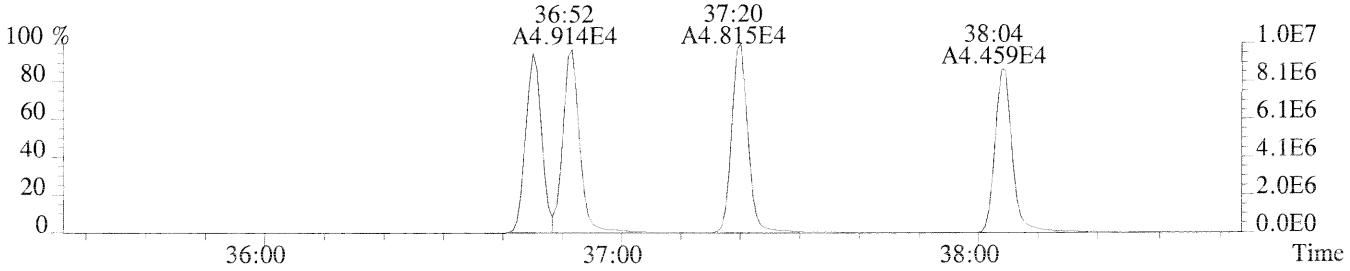
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1320.0,0.40%,F,T)



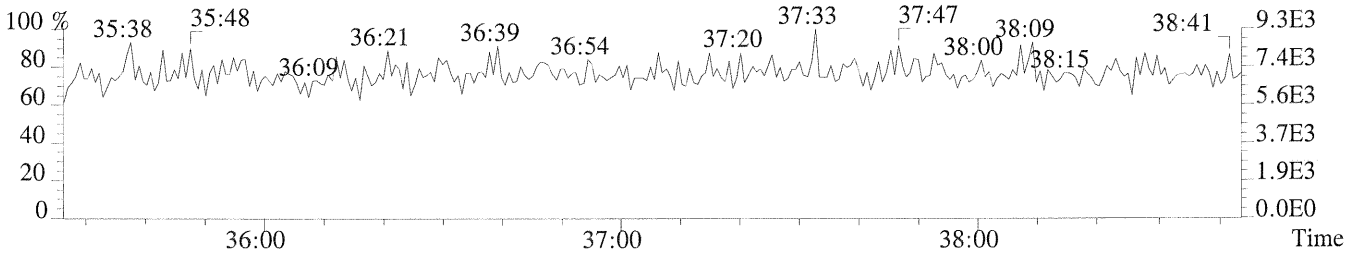
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



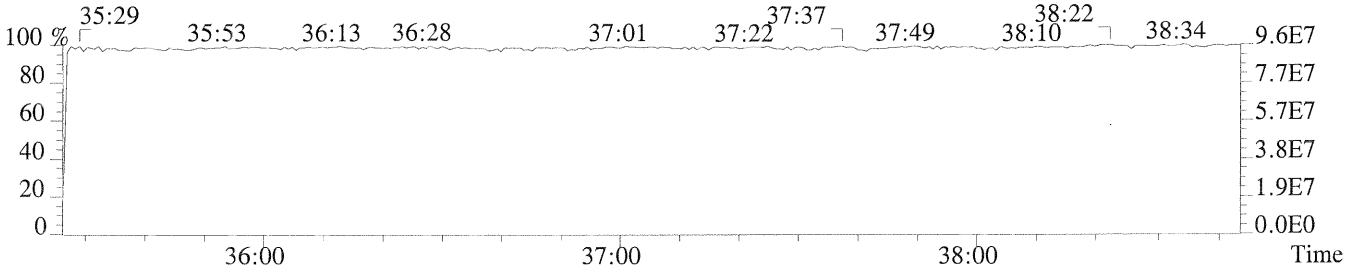
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



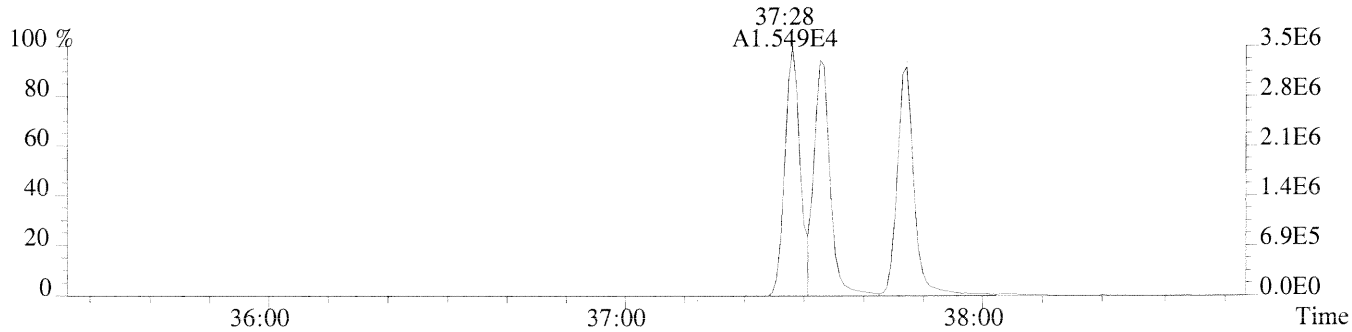
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



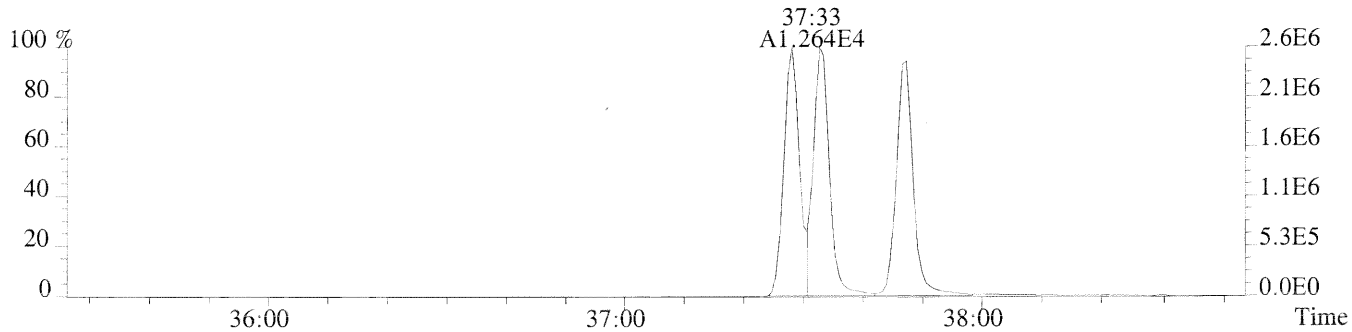
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



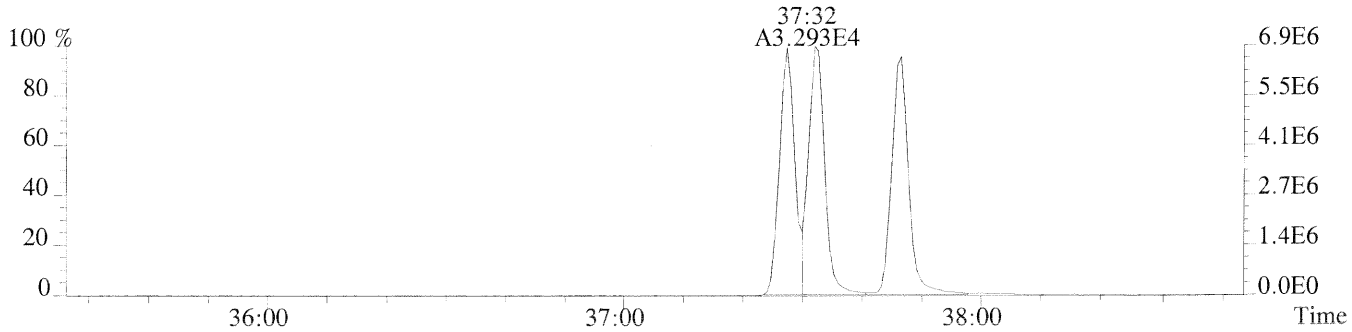
File:P169977 #1-299 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)



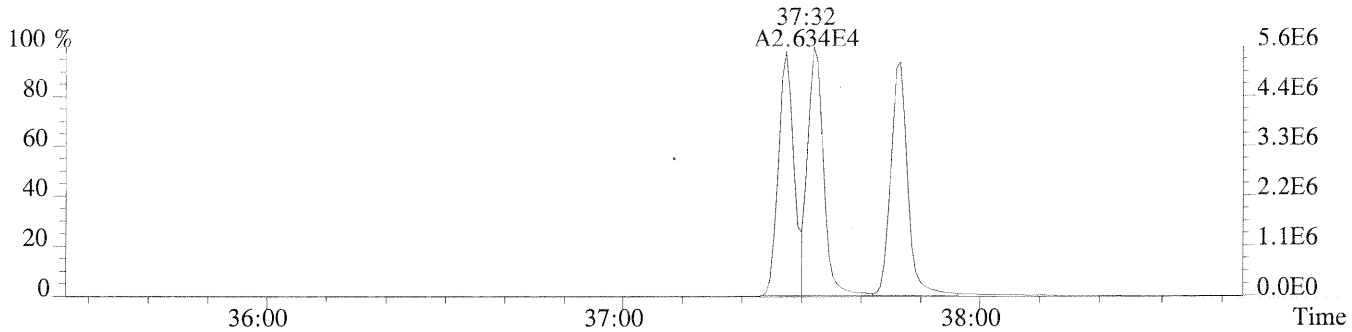
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1204.0,0.40%,F,T)



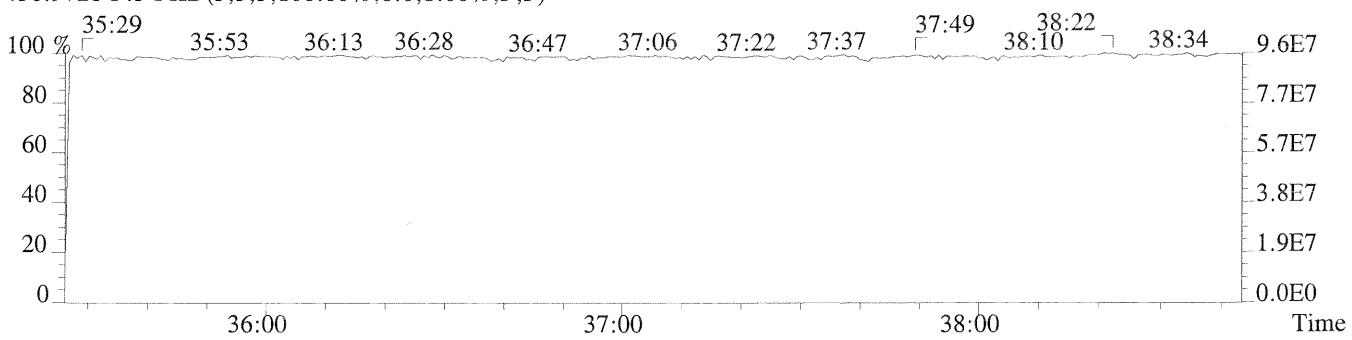
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1860.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)

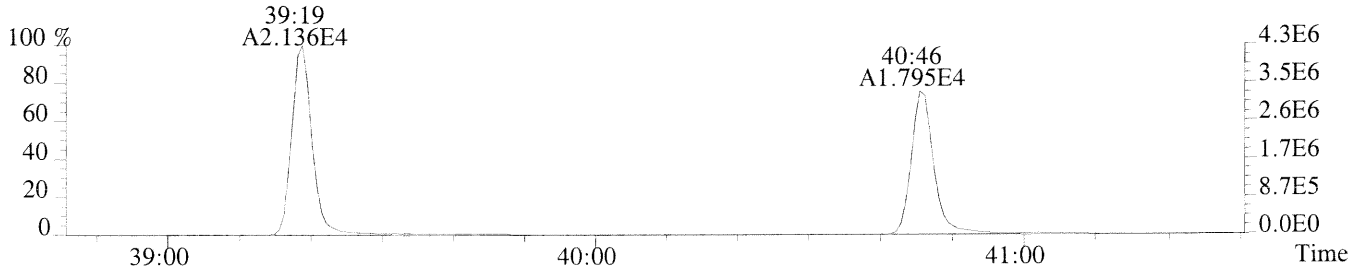


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

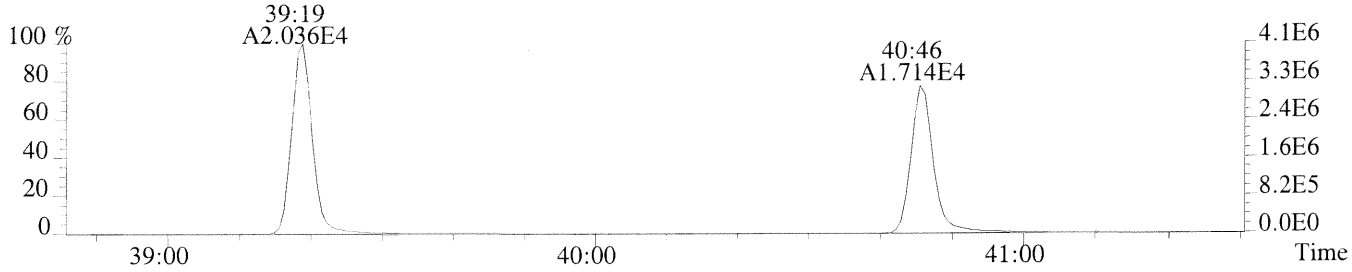


File:P169977 #1-250 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD

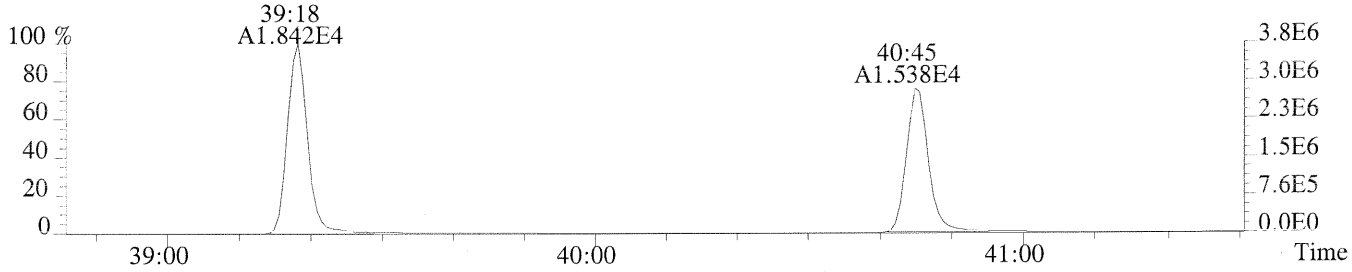
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2692.0,0.50%,F,T)



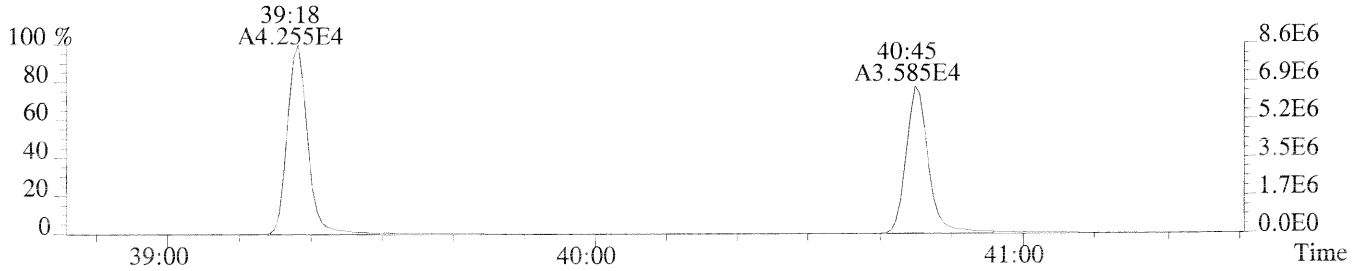
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3180.0,0.50%,F,T)



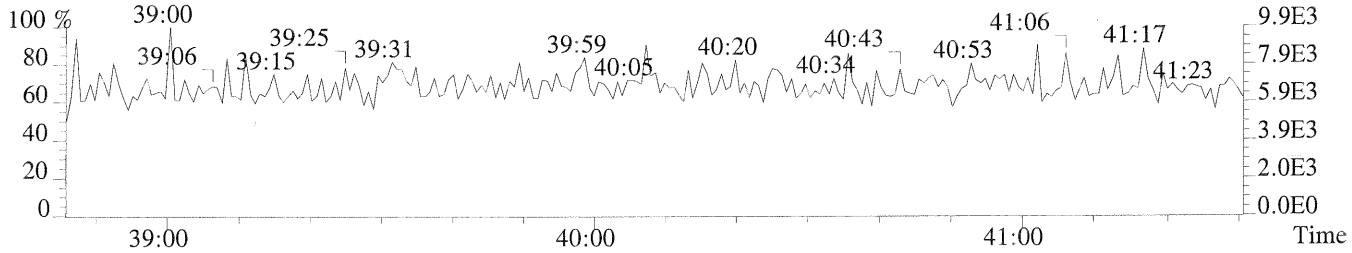
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3348.0,0.50%,F,T)



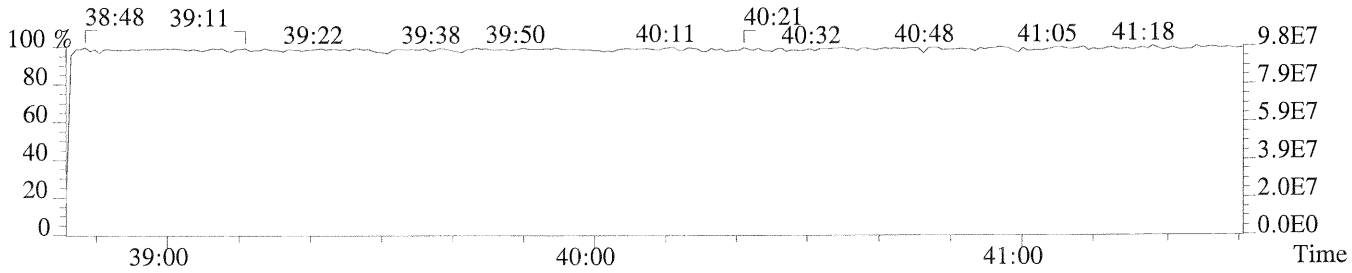
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3472.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

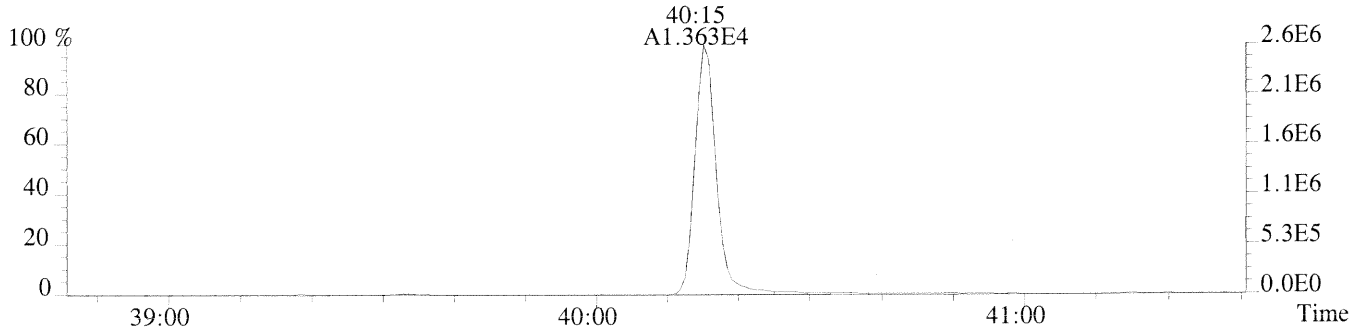


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

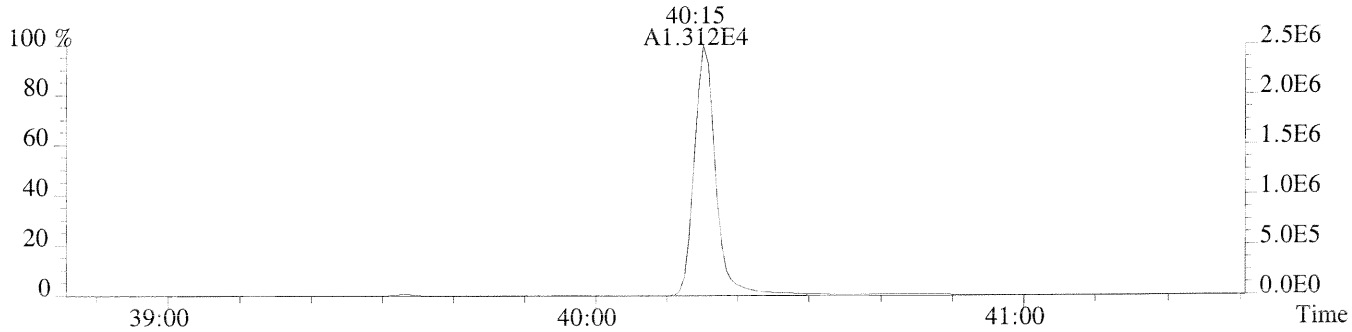


File:P169977 #1-250 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD

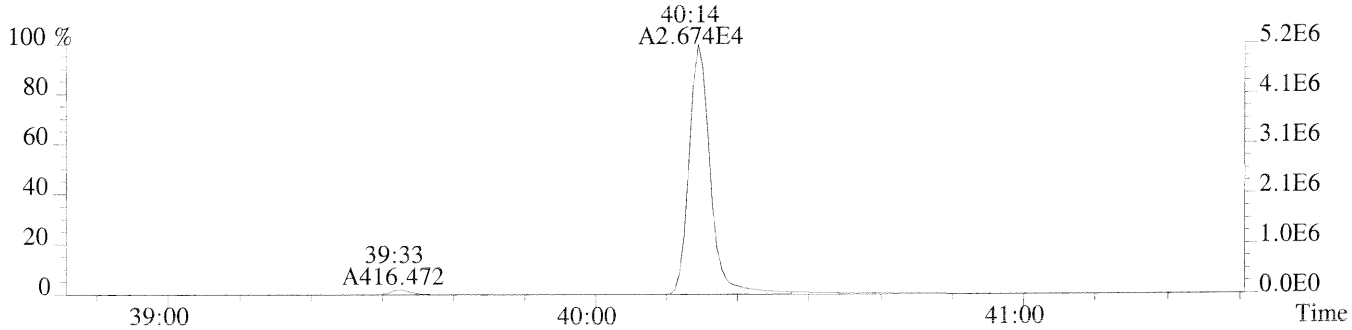
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



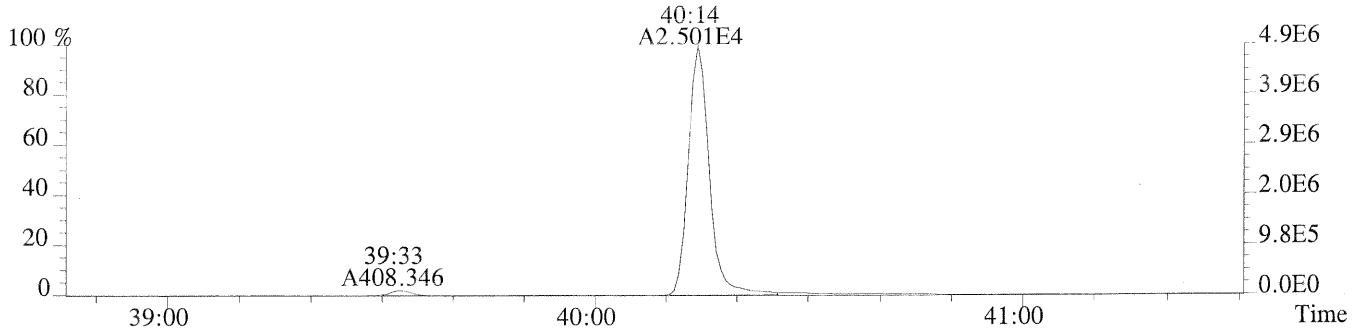
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



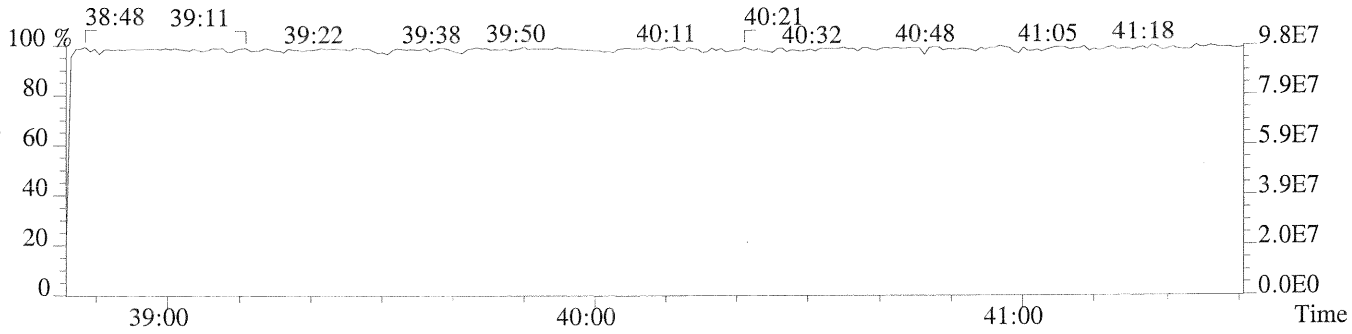
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,T)



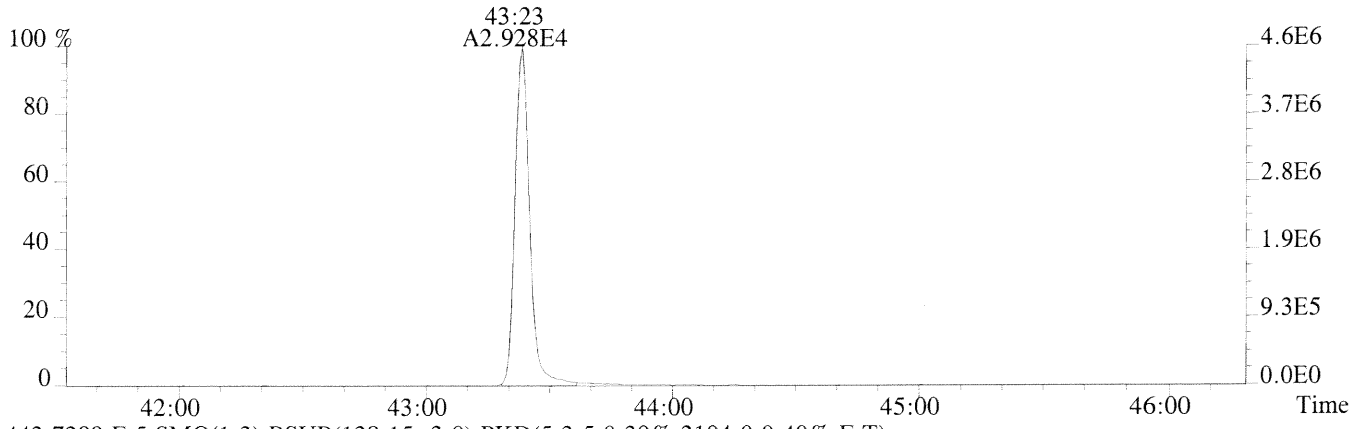
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,976.0,0.40%,F,T)



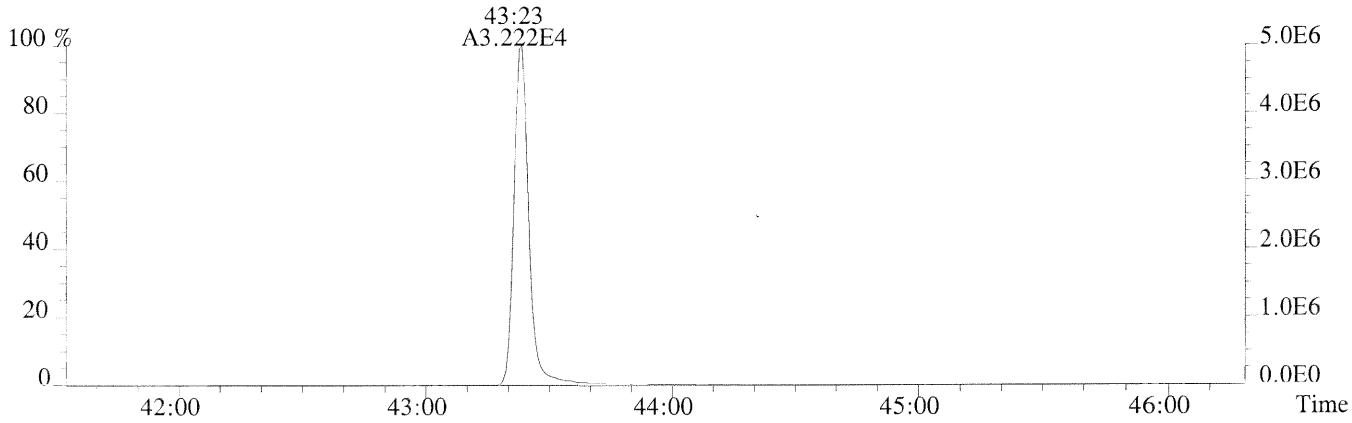
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



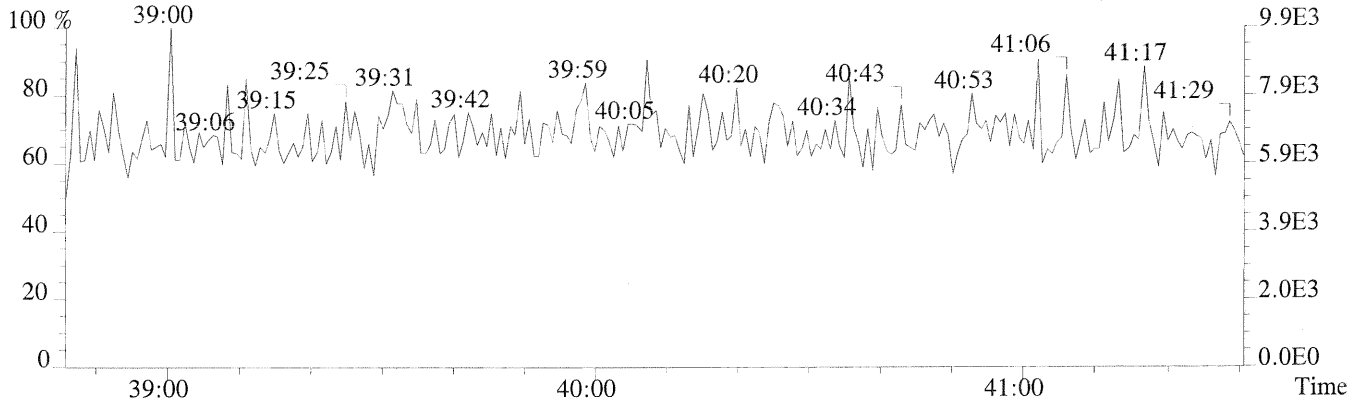
File:P169977 #1-438 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:STD
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



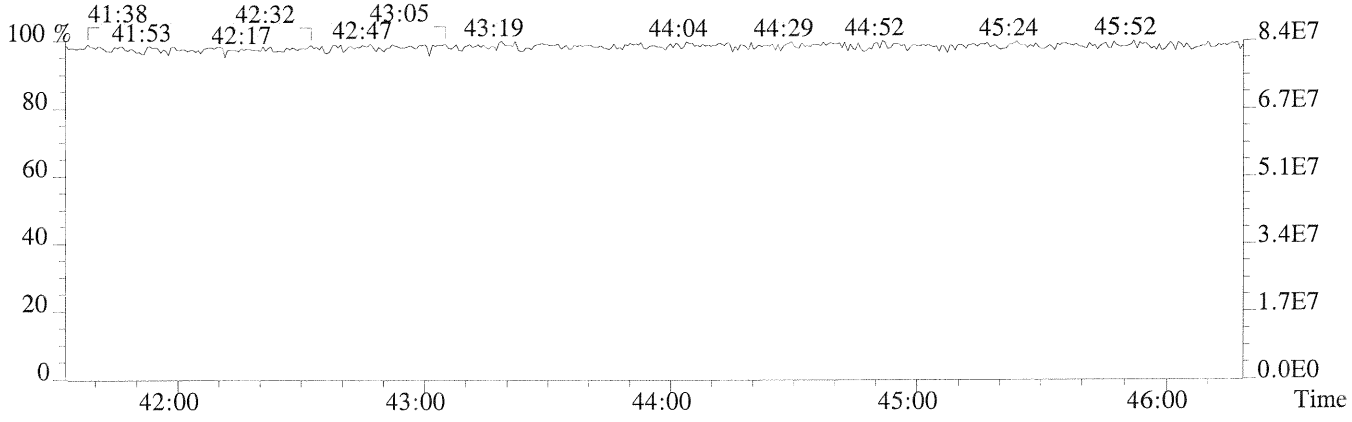
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2104.0,0.40%,F,T)



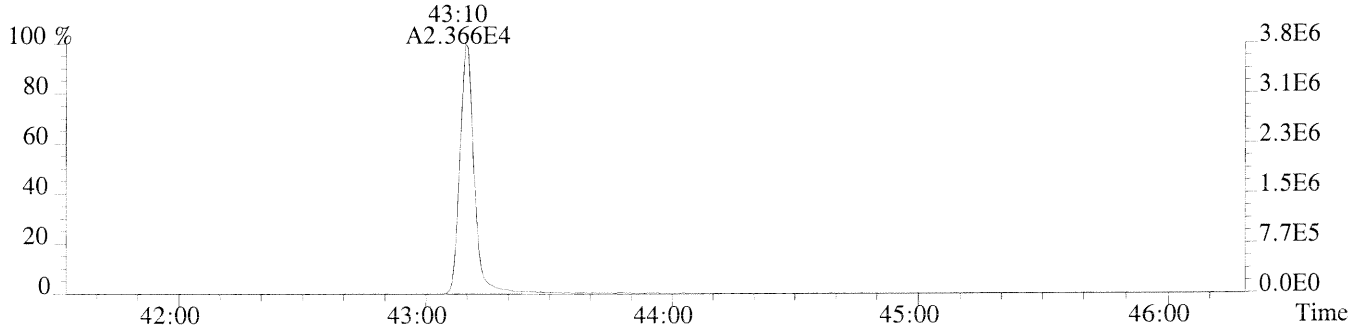
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



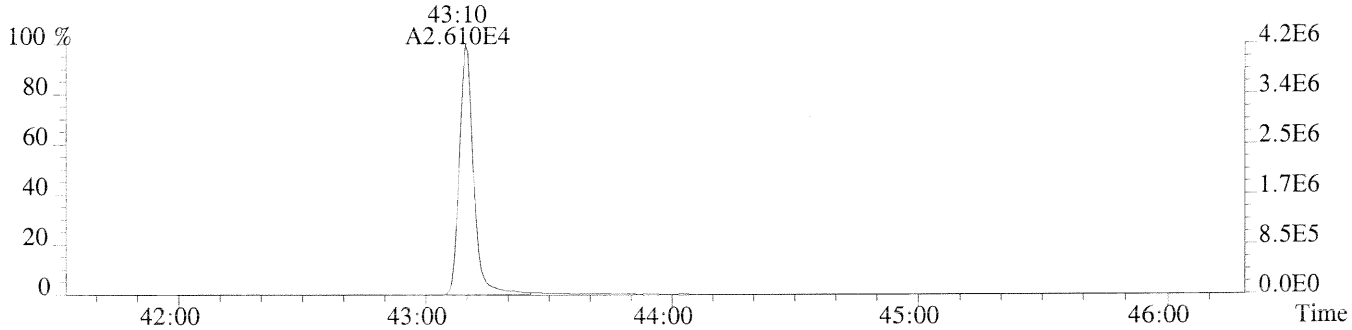
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



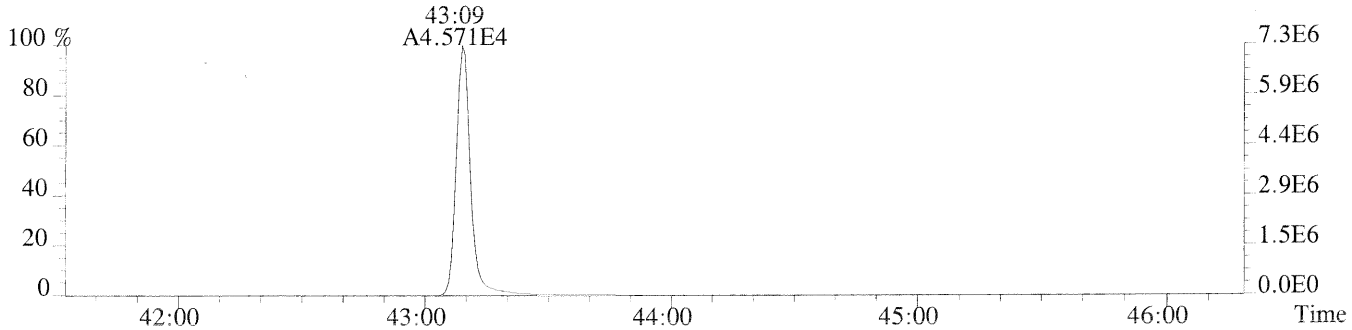
File:P169977 #1-438 Acq:25-MAR-2014 22:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:STD
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



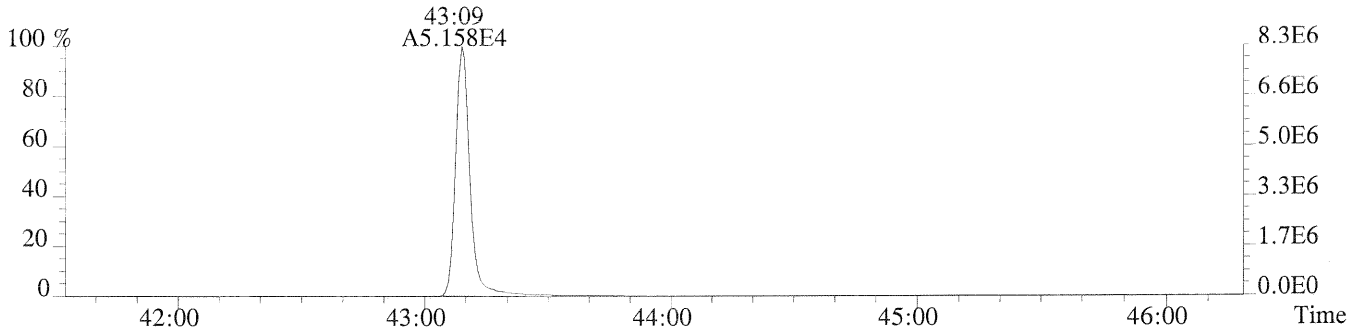
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1952.0,0.40%,F,T)



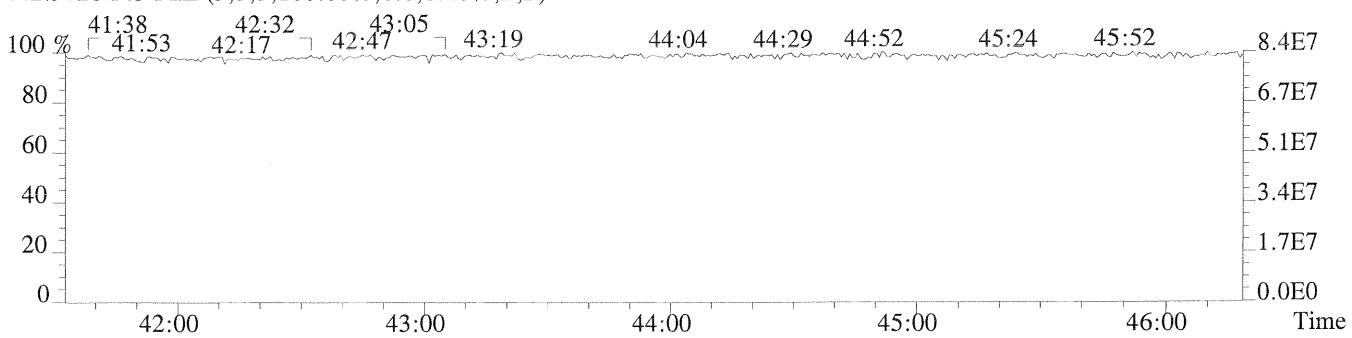
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



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: 05/22/2014				
Instrument Name: E-HRMS-01	Calibration File Name: U1405211613I				
Processor Name: Chris Elhardt	Reviewer Name: Loan Luong				
Description	**Yes**	**No**	**NA**	**NR**	**ER#**
Analytical Sequence					
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				
Mass Resolution Check					
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		
Window Define/209					
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		
Calibration Standards					
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			1

Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290		Process Date: 05/22/2014				
Instrument Name: E-HRMS-01		Calibration File Name: U1405211613I				
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		
Response Factors						
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				
Initial Calibration Verification						
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: 05/22/2014
Instrument Name: E-HRMS-01	Calibration File Name: U1405211613I
Processor Name: Chris Elhardt	Reviewer Name: Loan Luong

ER# [5]	Description
1	Ion Abundance Ratio for TCDF CS 0.5 did not meet method criteria.

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: U140521 1613I

Date: 21May14

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	x TCDF CS0.5	x TCDF CS0.5
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	✓	✓
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%	NA	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: CR Second QC: LKL

icalqc.xls 10-30-2012

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-01

Init. Calib. Date: 05/21/2014

Init. Calib.Times: 13:12:29

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	U149170	21-MAY-14	13:12:29
CS0.5	66807	U149172	21-MAY-14	14:47:46
CS1	66798	U149173	21-MAY-14	15:39:21
CS2	D12-90-3B	U149174	21-MAY-14	16:26:42
CS3	63383	U149175	21-MAY-14	17:15:15
CS4	D12-90-3D	U149176	21-MAY-14	18:03:46
CS5	66799	U149177	21-MAY-14	18:52:20
INST BLANK	INST BLANK	U149178	21-MAY-14	19:40:54
ICV 2ND SOURCE	60287	U149179	21-MAY-14	20:29:24

K1405833

487415598

Sample List Report MassLynx 4.1

Sample List: C:\MassLynx\CASHOUSTON.PRO\SampleDB\U1140521.SPL
Last Modified: Wednesday, May 21, 2014 16:50:51 Central Daylight Time
Printed: Thursday, May 22, 2014 08:36:34 Central Daylight Time

Page Position (1, 1)

c:U140521 1613I
c:U140521 M23I

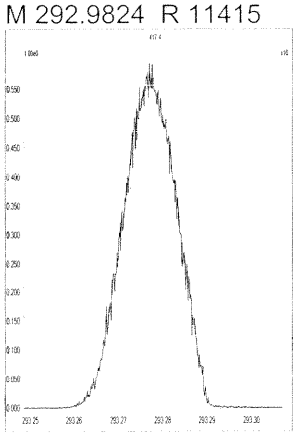
	Date	Time	File Name	Sample ID	Client ID	Analyst	Comments	GC Met
1	05/21/14	08:05	U149168	CS0.5 HRCC0.5/CS0.5	66807	JWP	DO NOT USE	8290cas
2		12:05	U149169	CS0.5 HRCC0.5/CS0.5	66807		↓	8290cas
3		13:12	U149170	WINDOW DEFINE	63680		HRMS Check 13:06	8290cas
4		13:59	U149171	INST BLANK	INST BLANK			8290cas
5		14:47	U149172	CS0.5 HRCC0.5/CS0.5	66807			8290cas
6		15:39	U149173	CS1 HRCC1/CS1	66798			8290cas
7		16:26	U149174	CS2 HRCC2/CS2	D12-90-3B			8290cas
8		17:15	U149175	CS3 HRCC3/CS3	63383			8290cas
9		18:03	U149176	CS4 HRCC4/CS4	D12-90-3D			8290cas
10		18:52	U149177	CS5 HRCC5/CS5	66799			8290cas
11		19:40	U149178	INST BLANK	INST BLANK			8290cas
12	↓	20:29	U149179	ICV 2ND SOURCE	60287	↓	HRMS Check 08:30	8290cas
13			---	---	---			8290cas
14			---	---	---			8290cas
15			---	---	---			1668EPA
16			---	---	---			1668EPA
17			---	---	---			1668EPA
18			---	---	---			1668EPA
19			---	---	---			1668EPA
20			---	---	---			1668EPA
21			---	---	---			1668EPA
22			---	---	---			1668EPA
23			---	---	---			---
24			---	---	---			---
25			---	---	---			TCDFCAS
26			---	---	---			TCDFCAS
27			---	---	---			TCDFCAS
28			---	---	---			TCDFCAS
29			---	---	---			TCDFCAS
30			---	---	---			TCDFCAS
31			---	---	---			TCDFCAS
32			---	---	---			TCDFCAS
33			---	---	---			TCDFCAS
34			---	---	---			TCDFCAS
35			---	---	---			TCDFCAS
36			---	---	---			---
37			---	---	---			1668EPA
38			---	---	---			1668EPA
39			---	---	---			---

cel
5/22/14

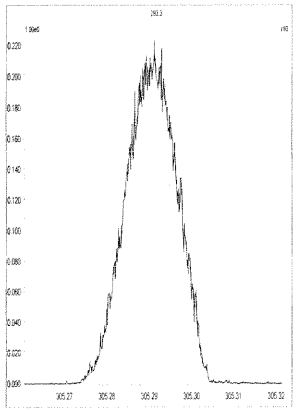
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, May 21, 2014 13:06:44 Central Daylight Time

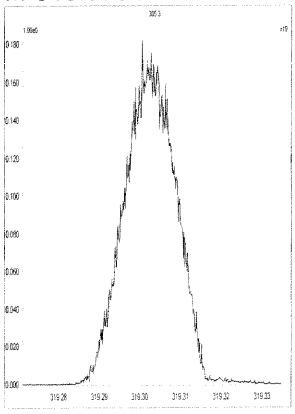
M 292.9824 R 11415



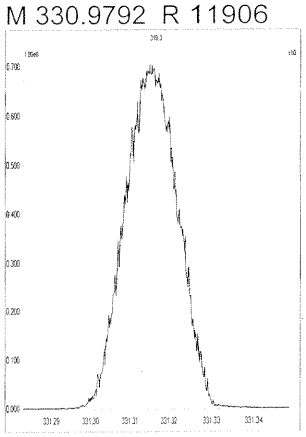
M 304.9824 R 11519



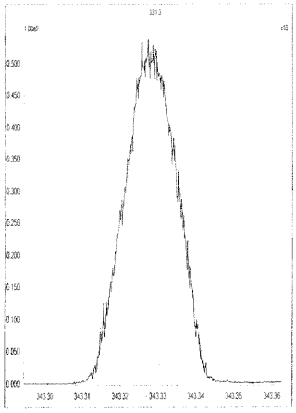
M 318.9792 R 11959



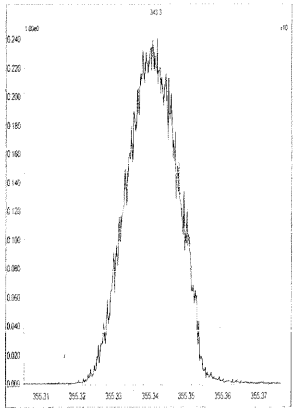
M 330.9792 R 11906



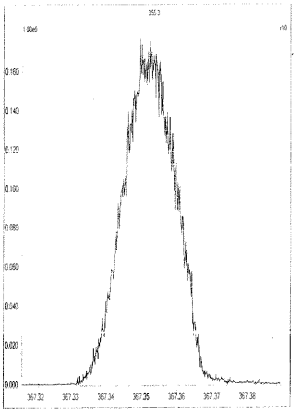
M 342.9792 R 12195



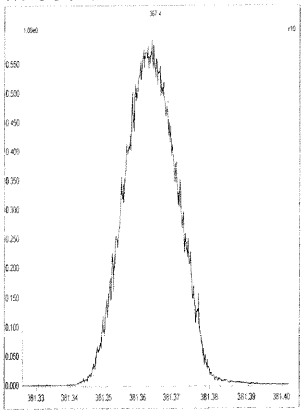
M 354.9792 R 12081



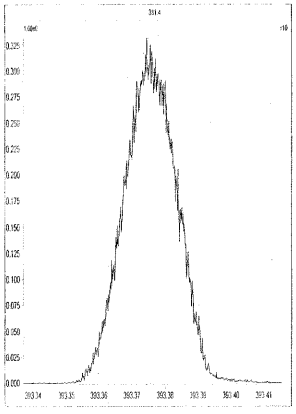
M 366.9792 R 11734



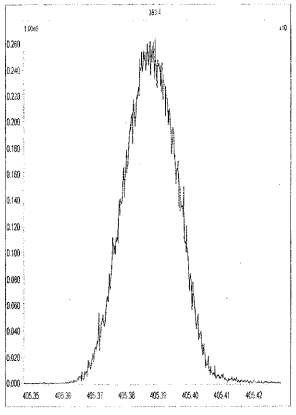
M 380.9760 R 11575



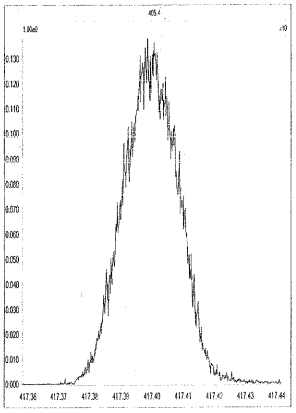
M 392.9760 R 11415



M 404.9760 R 10915



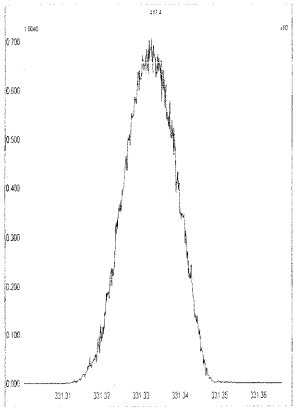
M 416.9760 R 10731



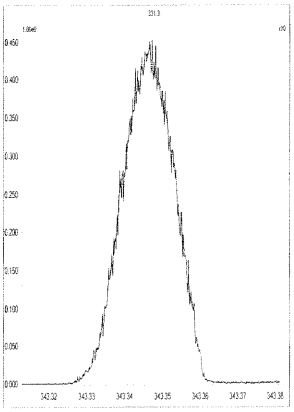
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, May 21, 2014 13:07:33 Central Daylight Time

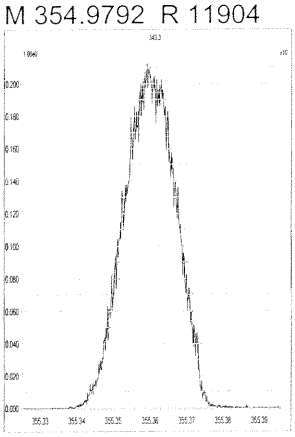
M 330.9792 R 11517



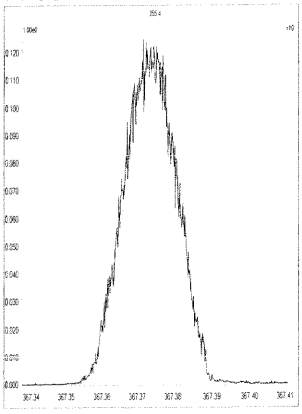
M 342.9792 R 11683



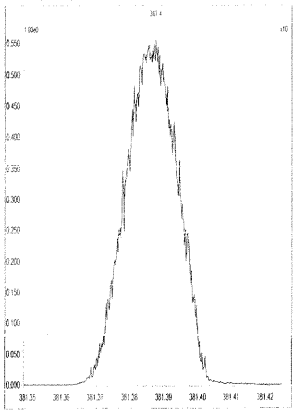
M 354.9792 R 11904



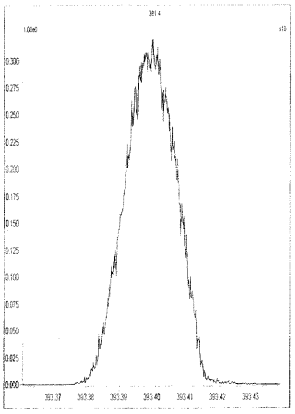
M 366.9792 R 11846



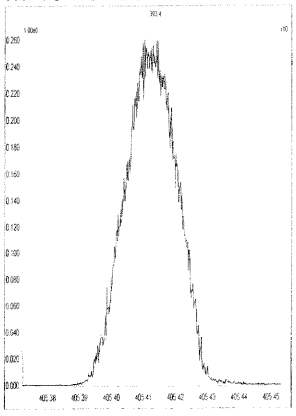
M 380.9760 R 12138



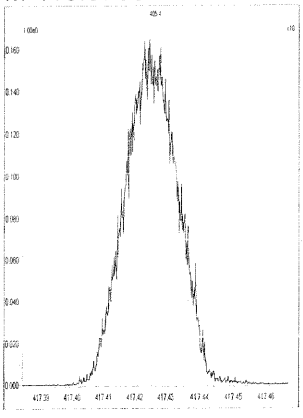
M 392.9760 R 11962



M 404.9760 R 11904



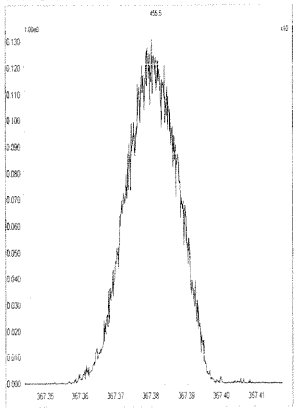
M 416.9760 R 12075



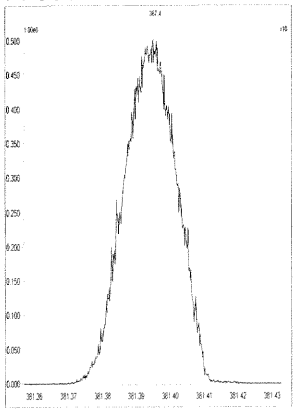
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, May 21, 2014 13:08:08 Central Daylight Time

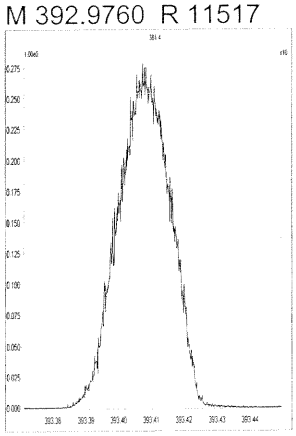
M 366.9792 R 11310



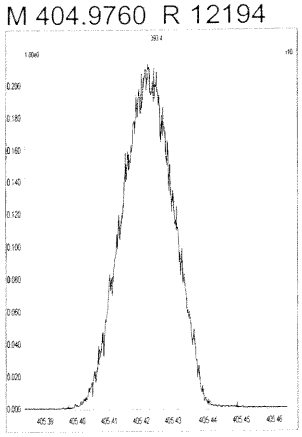
M 380.9760 R 11365



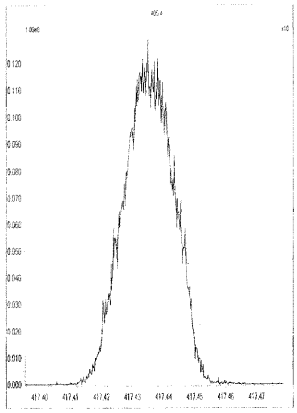
M 392.9760 R 11517



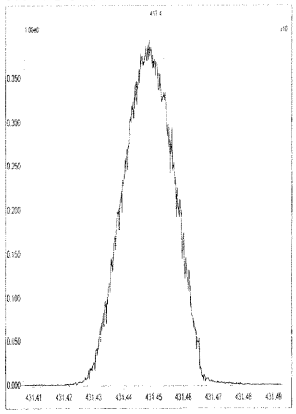
M 404.9760 R 12194



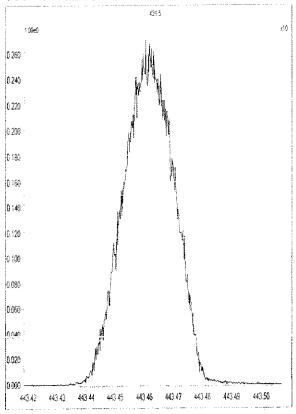
M 416.9760 R 12253



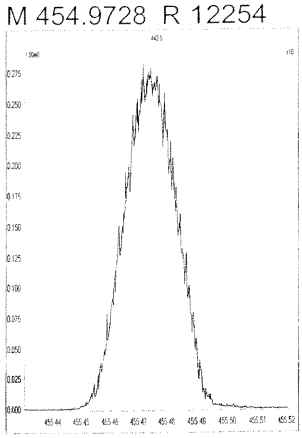
M 430.9728 R 12193



M 442.9728 R 12196



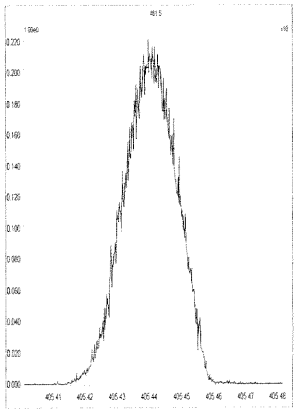
M 454.9728 R 12254



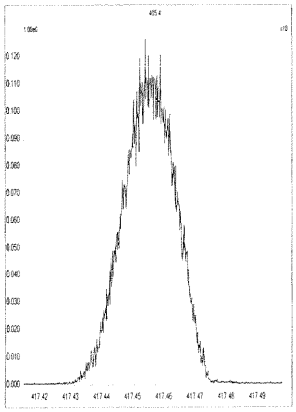
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, May 21, 2014 13:08:42 Central Daylight Time

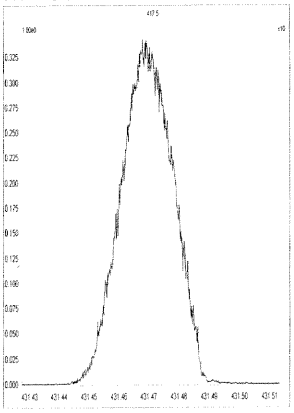
M 404.9760 R 11211



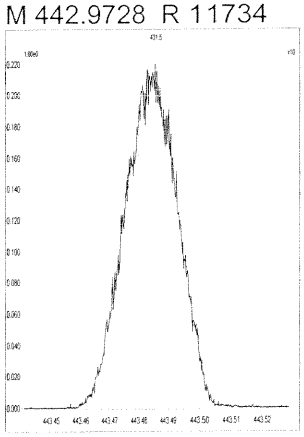
M 416.9760 R 11160



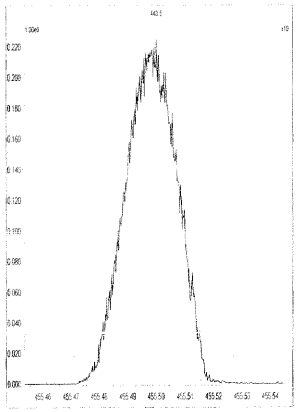
M 430.9728 R 11739



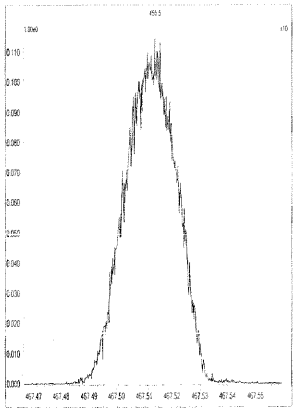
M 442.9728 R 11734



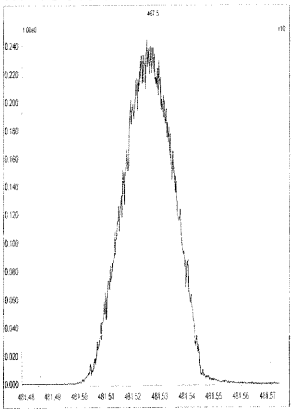
M 454.9728 R 12019



M 466.9728 R 12018



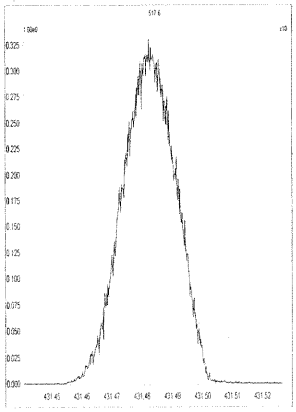
M 480.9696 R 12080



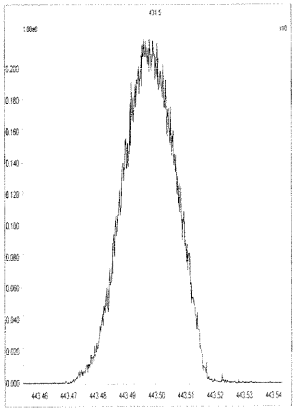
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, May 21, 2014 13:09:07 Central Daylight Time

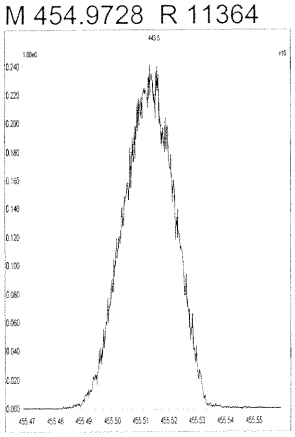
M 430.9728 R 11209



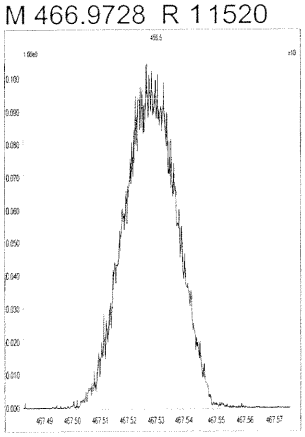
M 442.9728 R 11522



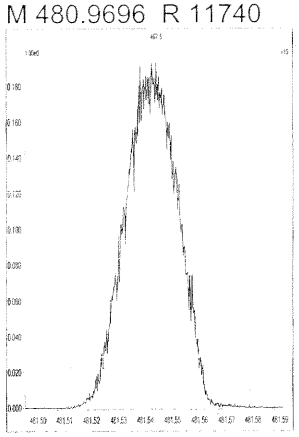
M 454.9728 R 11364



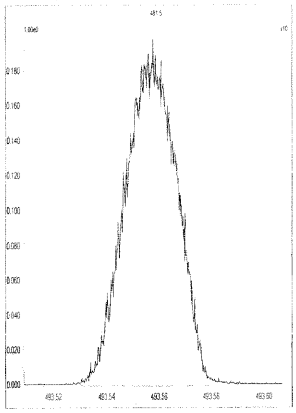
M 466.9728 R 11520



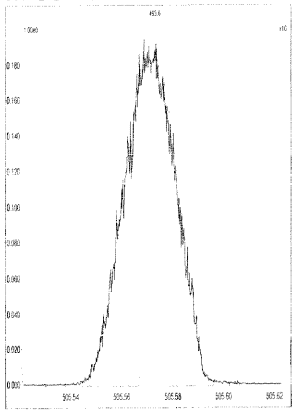
M 480.9696 R 11740



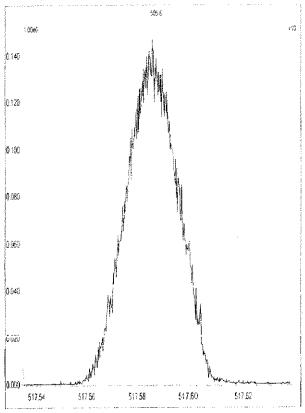
M 492.9696 R 11906



M 504.9696 R 11962



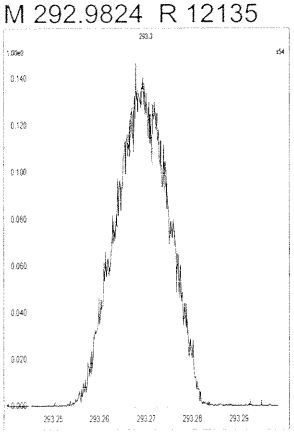
M 516.9697 R 11848



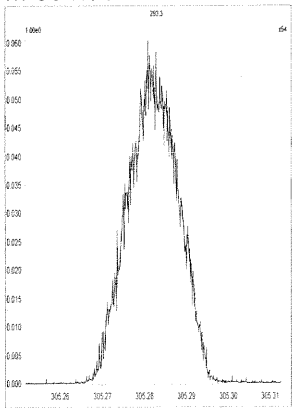
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, May 22, 2014 08:30:22 Central Daylight Time

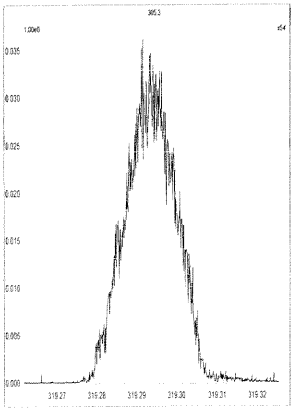
M 292.9824 R 12135



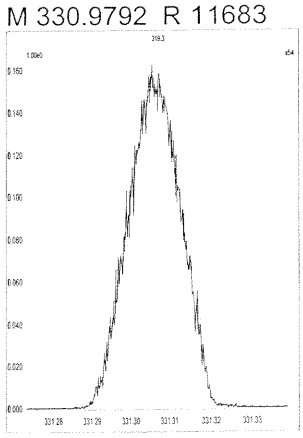
M 304.9824 R 11846



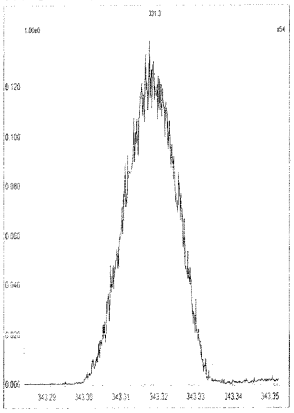
M 318.9792 R 12074



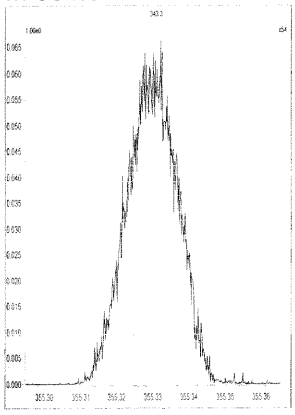
M 330.9792 R 11683



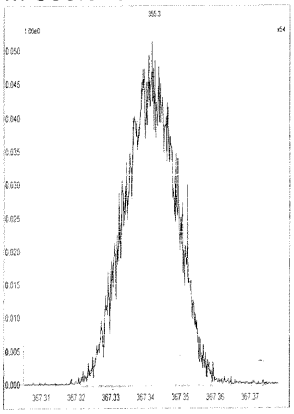
M 342.9792 R 11520



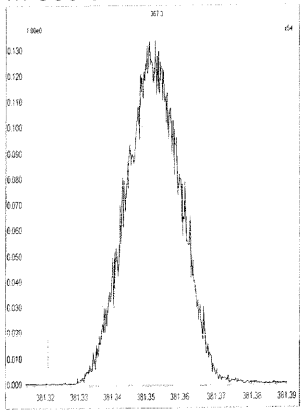
M 354.9792 R 11626



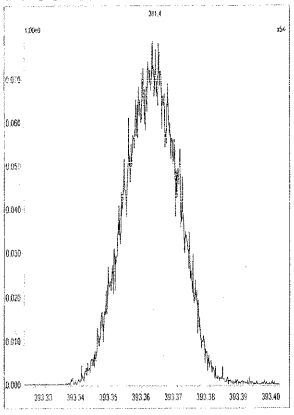
M 366.9792 R 11365



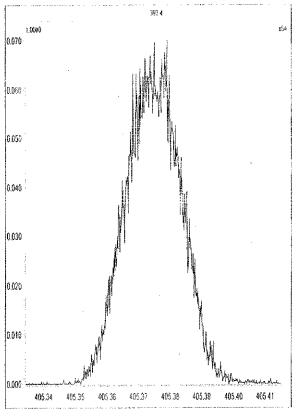
M 380.9760 R 10965



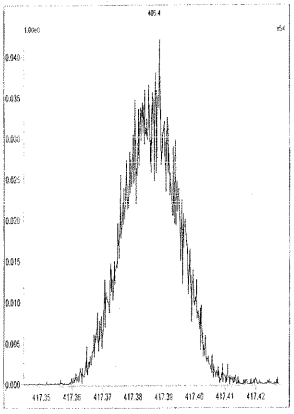
M 392.9760 R 10964



M 404.9760 R 10415



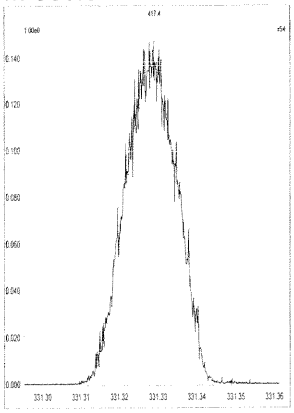
M 416.9760 R 10374



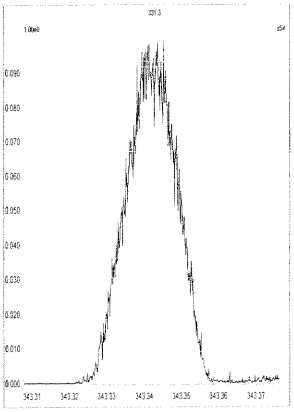
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, May 22, 2014 08:31:35 Central Daylight Time

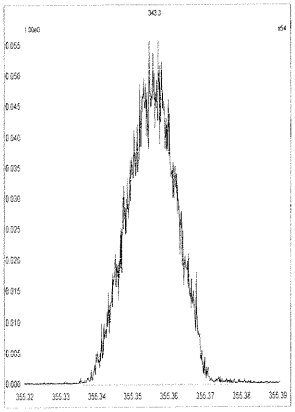
M 330.9792 R 11733



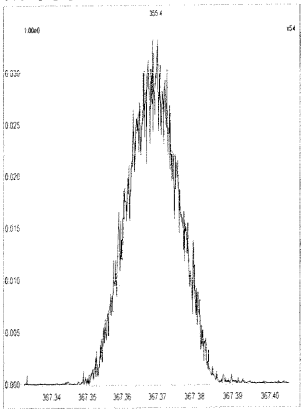
M 342.9792 R 11962



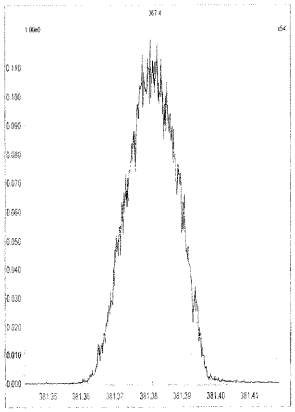
M 354.9792 R 11960



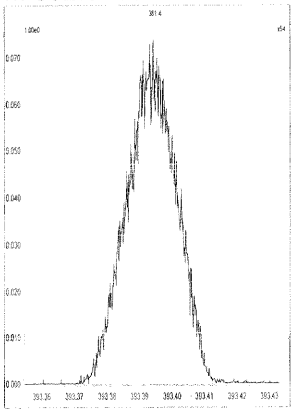
M 366.9792 R 11902



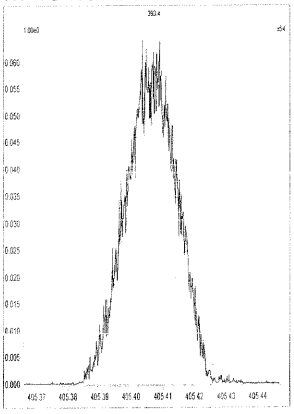
M 380.9760 R 11789



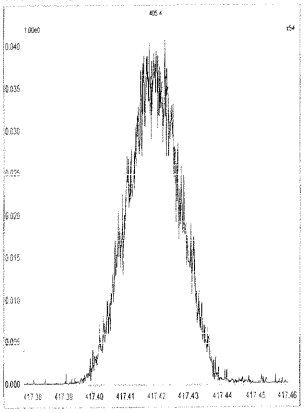
M 392.9760 R 11521



M 404.9760 R 11363



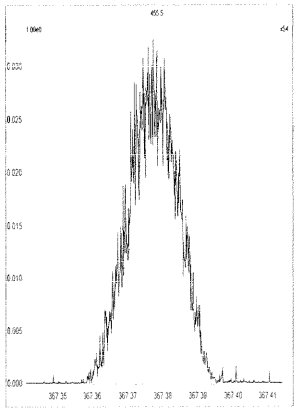
M 416.9760 R 11209



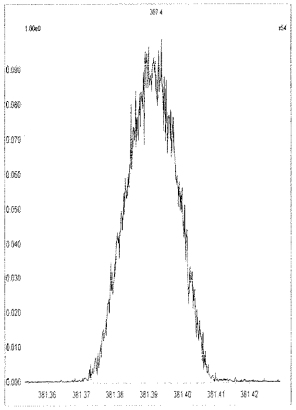
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, May 22, 2014 08:32:39 Central Daylight Time

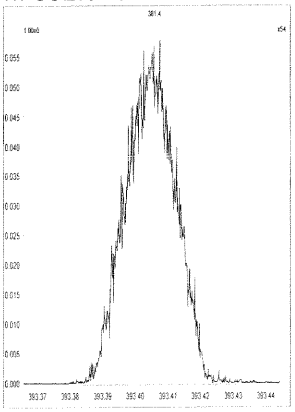
M 366.9792 R 12253



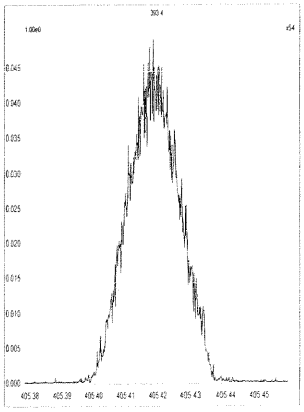
M 380.9760 R 12257



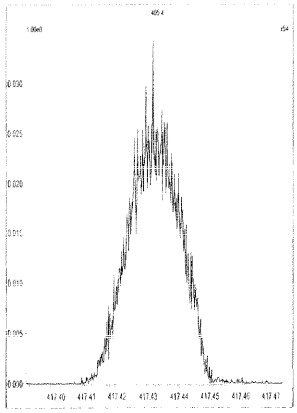
M 392.9760 R 11962



M 404.9760 R 11792

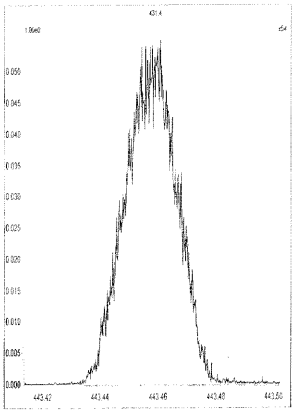


M 416.9760 R 11960

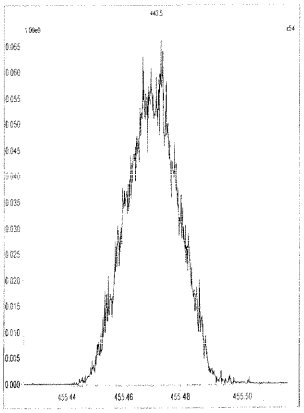


M 430.9728 R 11259

M 442.9728 R 11738



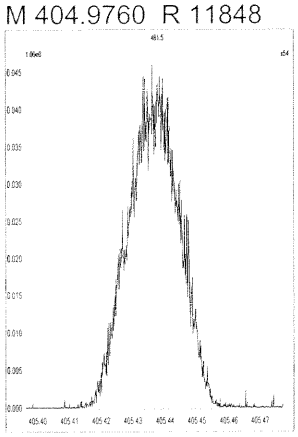
M 454.9728 R 11682



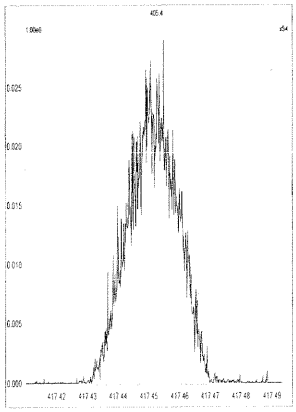
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, May 22, 2014 08:33:36 Central Daylight Time

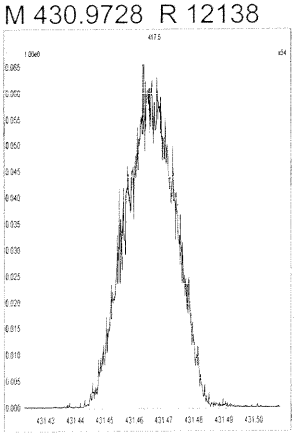
M 404.9760 R 11848



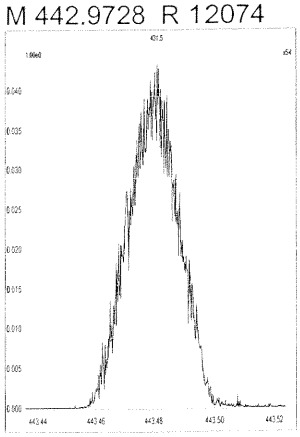
M 416.9760 R 12258



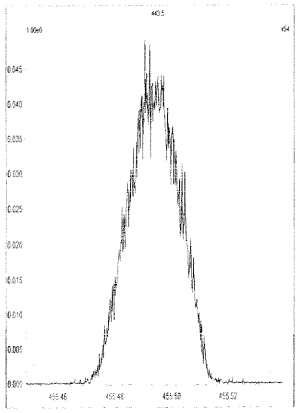
M 430.9728 R 12138



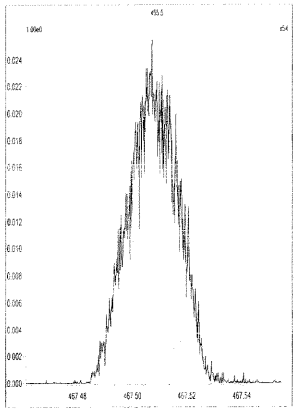
M 442.9728 R 12074



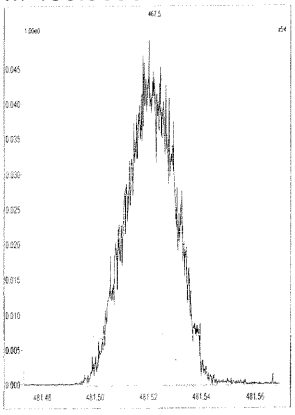
M 454.9728 R 11905



M 466.9728 R 12018



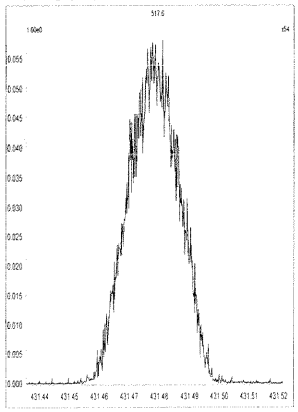
M 480.9696 R 12253



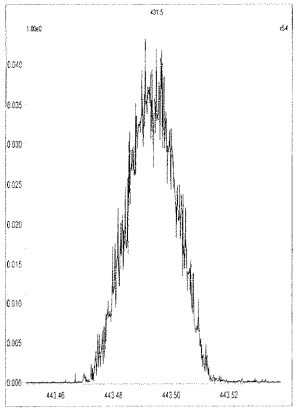
File: Experiment: 8290db5msuif1.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Thursday, May 22, 2014 08:34:33 Central Daylight Time

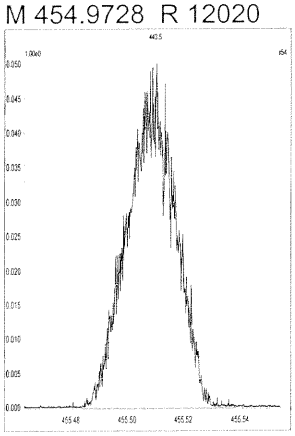
M 430.9728 R 12689



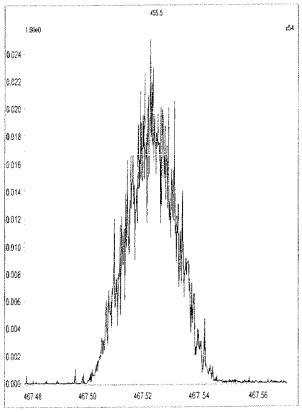
M 442.9728 R 11906



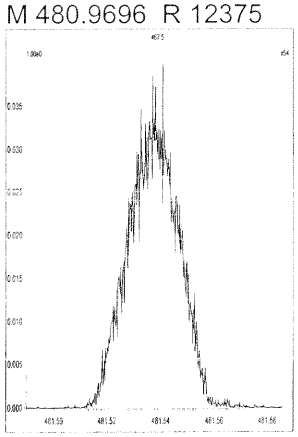
M 454.9728 R 12020



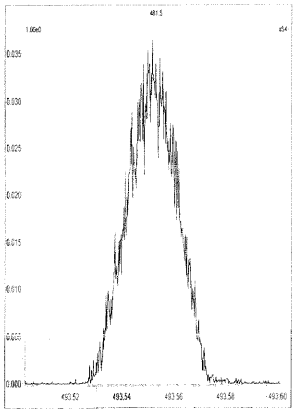
M 466.9728 R 12315



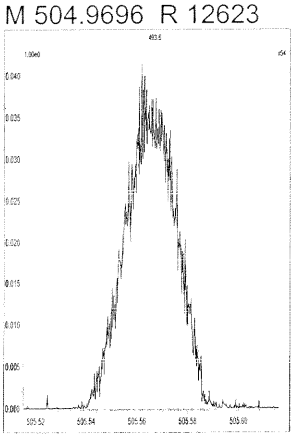
M 480.9696 R 12375



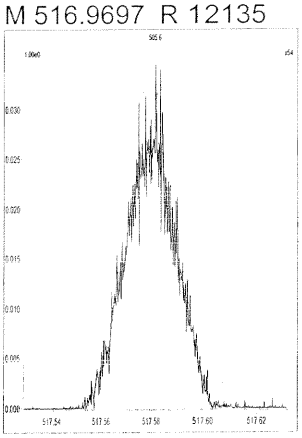
M 492.9696 R 12628



M 504.9696 R 12623



M 516.9697 R 12135



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-01
Init. Calib. Date(s).: 05/21/2014 Analyte Table: 1613u
Init. Calib. Time.: 13:12:29

	RR/RRF						MEAN		
Target Analytes	CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	QC LIMITS
2,3,7,8-TCDF	1.02	0.94	0.90	0.92	0.94	0.94	0.94	3.98	+/-20%
1,2,3,7,8-PeCDF	0.97	1.01	0.98	0.98	0.99	0.93	0.98	2.76	+/-20%
2,3,4,7,8-PeCDF	0.92	0.93	0.93	0.93	0.94	0.99	0.94	2.83	+/-20%
1,2,3,4,7,8-HxCDF	1.20	1.29	1.21	1.22	1.24	1.20	1.23	2.81	+/-20%
1,2,3,6,7,8-HxCDF	1.13	1.16	1.14	1.14	1.16	1.17	1.15	1.47	+/-20%
2,3,4,6,7,8-HxCDF	1.11	1.17	1.12	1.14	1.16	1.12	1.14	1.92	+/-20%
1,2,3,7,8,9-HxCDF	1.08	1.16	1.18	1.16	1.18	1.14	1.15	3.27	+/-20%
1,2,3,4,6,7,8-HpCDF	1.45	1.47	1.38	1.43	1.44	1.39	1.43	2.31	+/-20%
1,2,3,4,7,8,9-HpCDF	1.38	1.32	1.34	1.32	1.37	1.42	1.36	2.72	+/-20%
OCDF	1.34	1.40	1.32	1.36	1.40	1.29	1.35	3.53	+/-20%
2,3,7,8-TCDD	1.01	1.17	0.95	0.98	0.99	0.98	1.01	7.68	+/-20%
1,2,3,7,8-PeCDD	0.98	1.04	1.01	1.03	1.03	1.05	1.03	2.27	+/-20%
1,2,3,4,7,8-HxCDD	1.08	1.11	1.11	1.12	1.15	1.24	1.13	4.92	+/-20%
1,2,3,6,7,8-HxCDD	1.07	1.17	1.11	1.12	1.16	1.00	1.11	5.44	+/-20%
1,2,3,7,8,9-HxCDD	1.19	1.25	1.21	1.23	1.25	1.18	1.22	2.53	+/-20%
1,2,3,4,6,7,8-HpCDD	1.16	1.12	1.04	1.03	1.03	1.02	1.07	5.49	+/-20%
OCDD	1.22	1.23	1.17	1.18	1.19	1.07	1.18	4.76	+/-20%
13C-2,3,7,8-TCDF	1.38	1.38	1.39	1.37	1.69	1.39	1.43	8.64	+/-35%
13C-1,2,3,7,8-PeCDF	1.74	1.74	1.73	1.78	2.63	1.90	1.92	18.44	+/-35%
13C-2,3,4,7,8-PeCDF	1.72	1.71	1.71	1.75	2.52	1.81	1.87	17.14	+/-35%
13C-1,2,3,4,7,8-HxCDF	1.19	1.15	1.15	1.13	1.18	1.23	1.17	3.14	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.35	1.33	1.35	1.31	1.37	1.32	1.34	1.79	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.25	1.23	1.23	1.21	1.26	1.26	1.24	1.62	+/-35%
13C-1,2,3,7,8,9-HxCDF	1.15	1.13	1.12	1.12	1.17	1.16	1.14	1.87	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	1.00	0.96	0.88	0.95	1.00	1.01	0.97	5.01	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.90	0.88	0.82	0.88	0.93	0.87	0.88	4.20	+/-35%
13C-2,3,7,8-TCDD	0.96	0.96	0.98	0.99	1.40	1.03	1.05	16.26	+/-35%
13C-1,2,3,7,8-PeCDD	1.11	1.11	1.11	1.13	1.73	1.22	1.24	19.79	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.88	0.85	0.88	0.85	0.88	0.88	0.87	1.87	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.95	0.93	0.92	0.93	0.96	1.03	0.95	4.35	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.96	0.92	0.87	0.91	0.97	0.98	0.94	4.51	+/-35%
13C-OCDD	0.72	0.71	0.68	0.72	0.76	0.84	0.74	7.74	+/-35%
13C-1,2,3,4-TCDD	-	-	-	-	-	-	-	-	
13C-1,2,3,7,8,9-HxCDD	-	-	-	-	-	-	-	-	
37Cl-2,3,7,8-TCDD	0.92	0.91	0.98	1.00	1.43	1.04	1.04	18.58	+/-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

USEPA - CLP
6DFB6
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO 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-01
Init. Calib. Date(s).: 05/21/2014 Analyte Table: 1613u
Init. Calib. Time.: 13:12:29

Target Analytes	SELECTED IONS	ION ABUNDANCE RATIO CS0.5	CS1	CS2	CS3	CS4	CS5	FLAG	ION RATIO QC LIMITS
2,3,7,8-TCDF	304/306	0.60	0.70	0.78	0.76	0.76	0.76		0.65-0.89
1,2,3,7,8-PeCDF	340/342	1.52	1.54	1.57	1.55	1.57	1.55		1.32-1.78
2,3,4,7,8-PeCDF	340/342	1.53	1.54	1.55	1.55	1.55	1.54		1.32-1.78
1,2,3,4,7,8-HxCDF	374/376	1.33	1.26	1.24	1.21	1.25	1.23		1.05-1.43
1,2,3,6,7,8-HxCDF	374/376	1.28	1.23	1.23	1.21	1.24	1.24		1.05-1.43
2,3,4,6,7,8-HxCDF	374/376	1.10	1.19	1.23	1.22	1.23	1.21		1.05-1.43
1,2,3,7,8,9-HxCDF	374/376	1.27	1.30	1.28	1.26	1.21	1.27		1.05-1.43
1,2,3,4,6,7,8-HpCDF	408/410	0.99	1.05	1.02	1.04	1.03	1.04		0.88-1.20
1,2,3,4,7,8,9-HpCDF	408/410	1.08	1.07	1.02	1.04	1.03	1.03		0.88-1.20
OCDF	442/444	0.89	0.95	0.89	0.90	0.90	0.91		0.76-1.02
2,3,7,8-TCDD	320/322	0.75	0.81	0.83	0.80	0.80	0.80		0.65-0.89
1,2,3,7,8-PeCDD	356/358	1.69	1.61	1.60	1.57	1.60	1.59		1.32-1.78
1,2,3,4,7,8-HxCDD	390/392	1.28	1.33	1.23	1.25	1.25	1.25		1.05-1.43
1,2,3,6,7,8-HxCDD	390/392	1.26	1.29	1.24	1.26	1.25	1.25		1.05-1.43
1,2,3,7,8,9-HxCDD	390/392	1.15	1.21	1.26	1.24	1.24	1.25		1.05-1.43
1,2,3,4,6,7,8-HpCDD	424/426	0.99	0.93	1.02	1.05	1.04	1.05		0.88-1.20
OCDD	458/460	0.81	0.91	0.87	0.89	0.89	0.88		0.76-1.02
13C-2,3,7,8-TCDF	316/318	0.81	0.82	0.81	0.82	0.80	0.81		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.58	1.58	1.58	1.59	1.58	1.56		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.59	1.60	1.58	1.57	1.58	1.57		1.32-1.78
13C-1,2,3,4,7,8-HxCDF	384/386	0.51	0.51	0.52	0.53	0.52	0.52		0.43-0.59
13C-1,2,3,6,7,8-HxCDF	384/386	0.52	0.51	0.52	0.53	0.52	0.52		0.43-0.59
13C-2,3,4,6,7,8-HxCDF	384/386	0.52	0.51	0.51	0.52	0.52	0.51		0.43-0.59
13C-1,2,3,7,8,9-HxCDF	384/386	0.53	0.52	0.52	0.51	0.51	0.52		0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	418/420	0.45	0.45	0.45	0.45	0.45	0.46		0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	418/420	0.45	0.46	0.46	0.46	0.46	0.46		0.37-0.51
13C-2,3,7,8-TCDD	332/334	0.77	0.79	0.78	0.78	0.77	0.78		0.65-0.89
13C-1,2,3,7,8-PeCDD	368/370	1.58	1.56	1.58	1.58	1.57	1.58		1.32-1.78
13C-1,2,3,4,7,8-HxCDD	402/404	1.33	1.32	1.32	1.30	1.31	1.29		1.05-1.43
13C-1,2,3,6,7,8-HxCDD	402/404	1.30	1.30	1.31	1.30	1.31	1.29		1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	436/438	1.07	1.09	1.07	1.07	1.08	1.07		0.88-1.20
13C-OCDD	470/472	0.90	0.92	0.92	0.92	0.92	0.92		0.76-1.02
13C-1,2,3,4-TCDD	332/334	0.78	0.78	0.78	0.79	0.78	0.78		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.24	1.29	1.29	1.29	1.26	1.26		1.05-1.43
37Cl-2,3,7,8-TCDD	328								

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

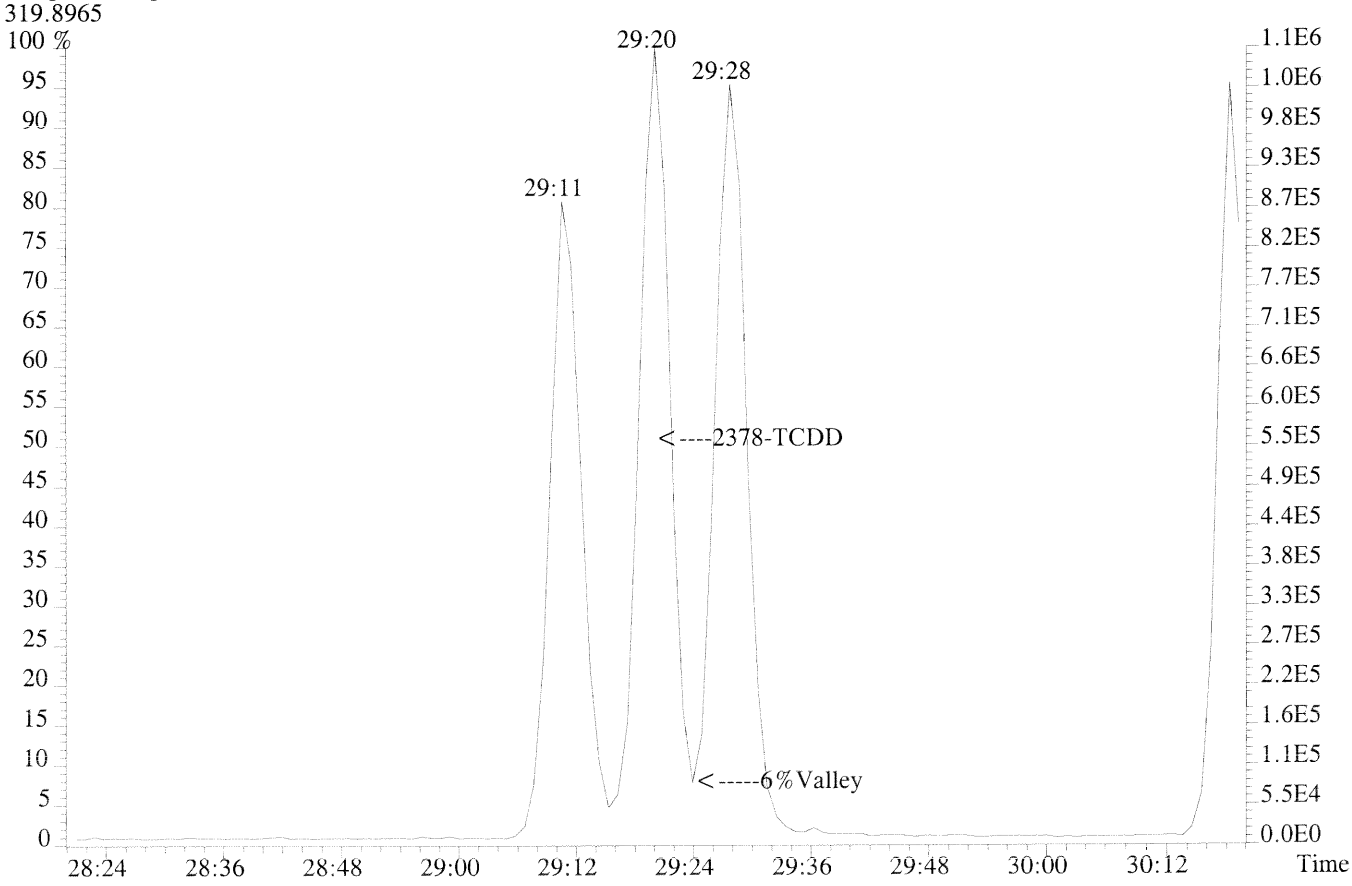
WDM

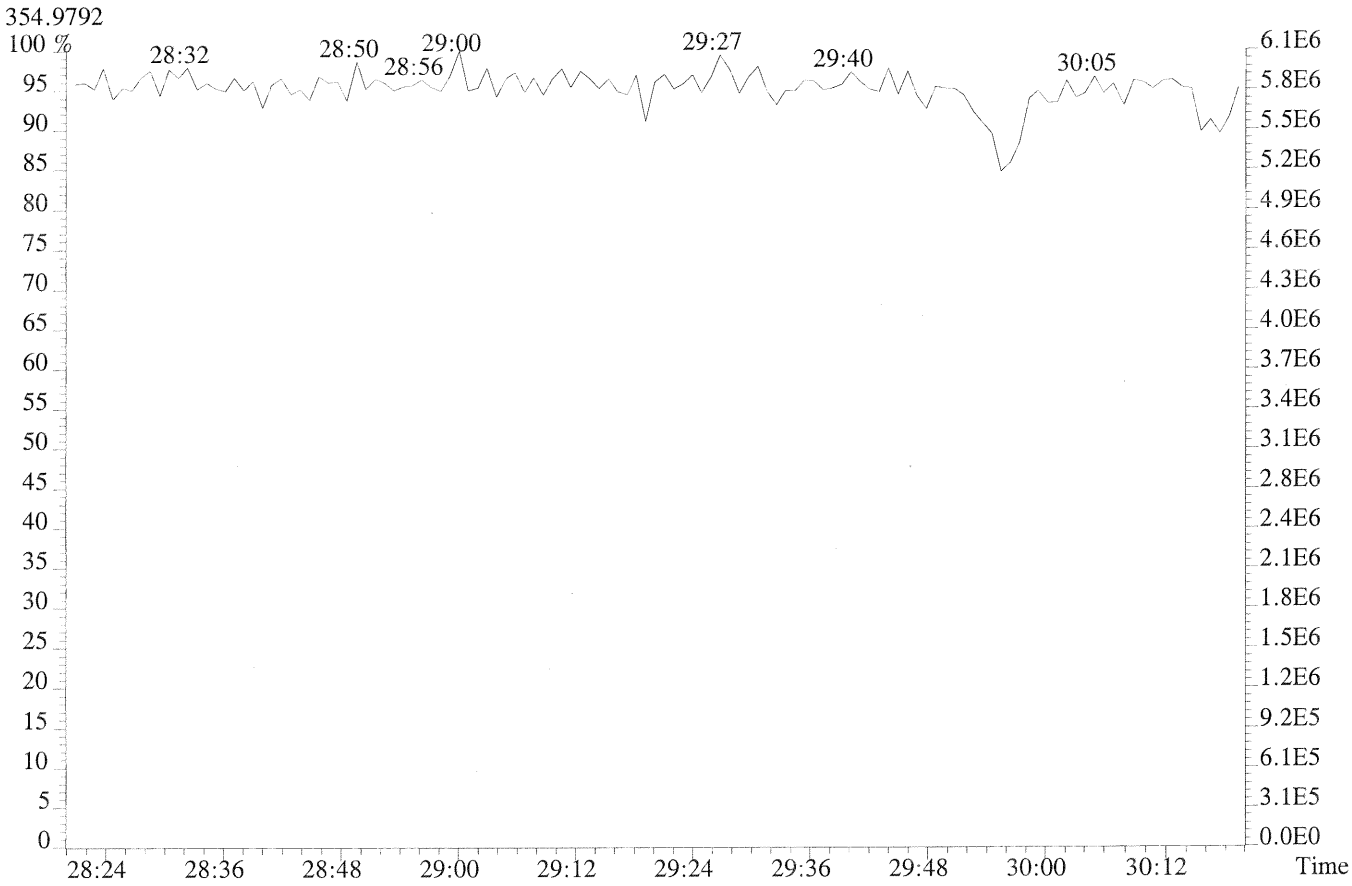
Lab Name: ALS ENVIRONMENTAL
Lab Code: TX01411 Case No.: _____ SDG No.:
GC Column: DB-5msUI ID: 0.25 (mm) Lab File ID: U149170
Date Analyzed: 21-MAY-2014
Time Analyzed: 13:12:29

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:15	30:29
TCDD	26:08	30:18
PeCDF	30:23	34:34
PeCDD	31:53	34:18
HxCDF	35:11	37:41
HxCDD	35:42	37:16
HpCDF	38:52	40:19
HpCDD	39:07	39:49

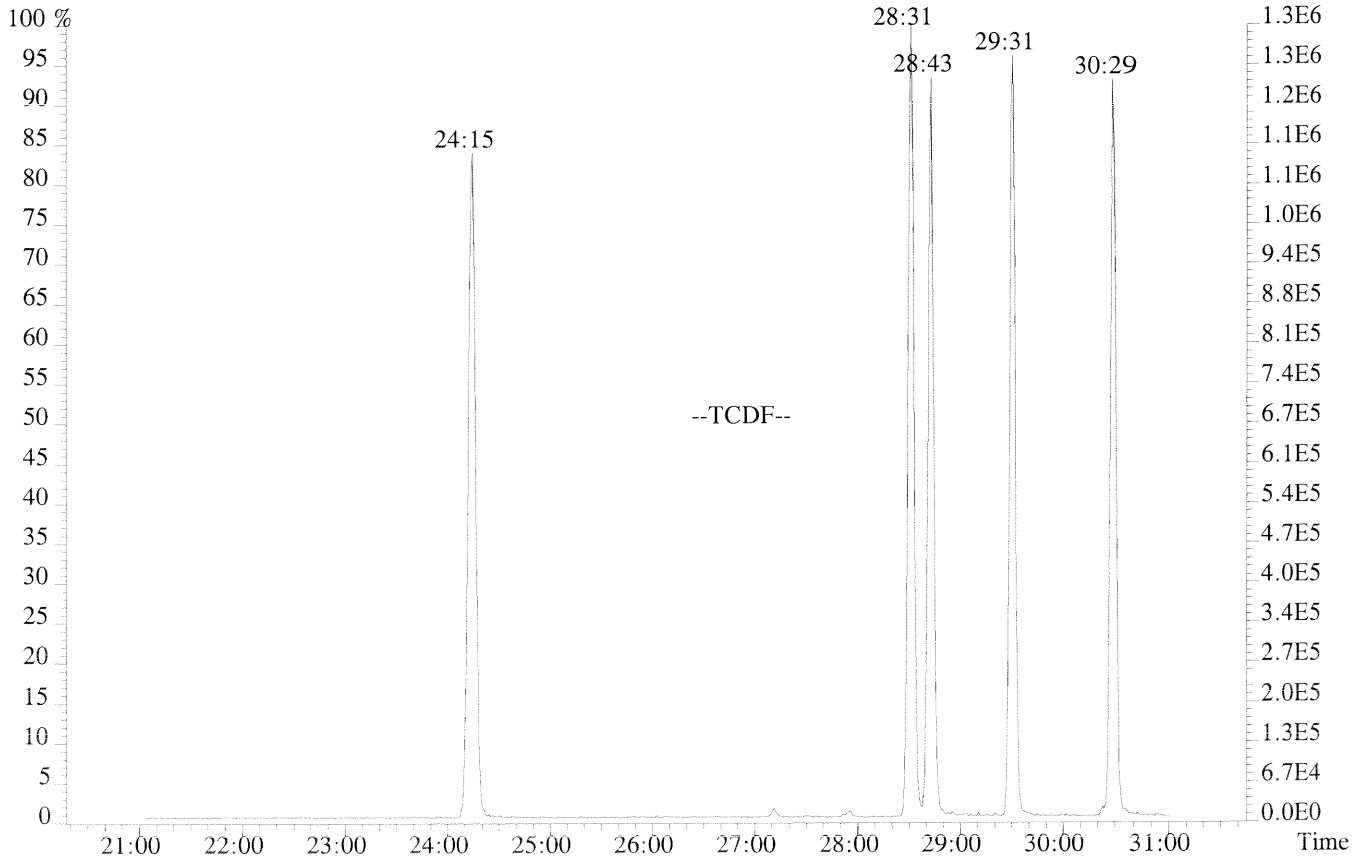
% Valley 2378-TCDD: 6 %

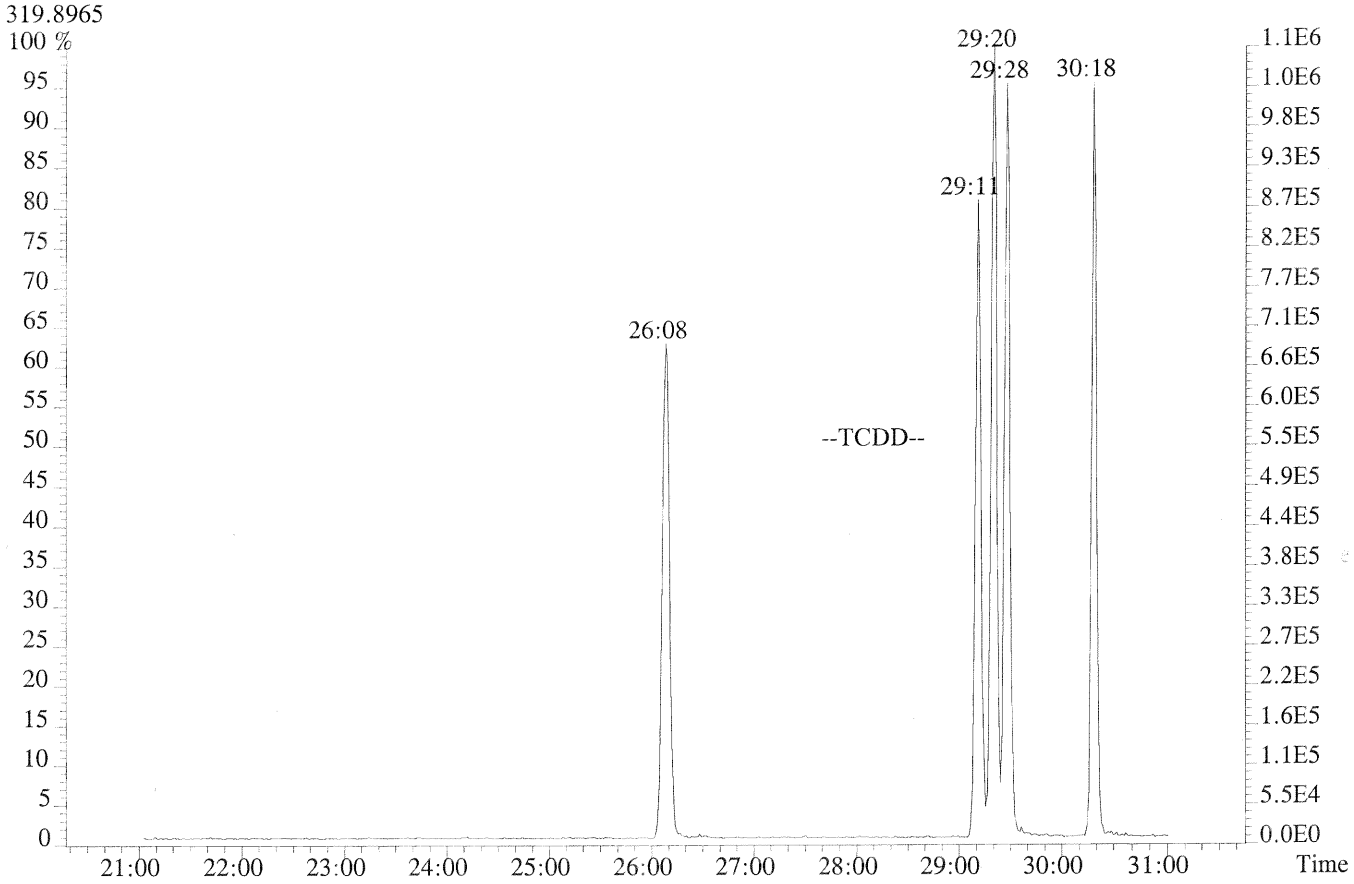
File:U149170 #1-627 Acq:21-MAY-2014 13:12:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





File:U149170 #1-627 Acq:21-MAY-2014 13:12:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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Sample#1 Exp:WINDOW DEFINE
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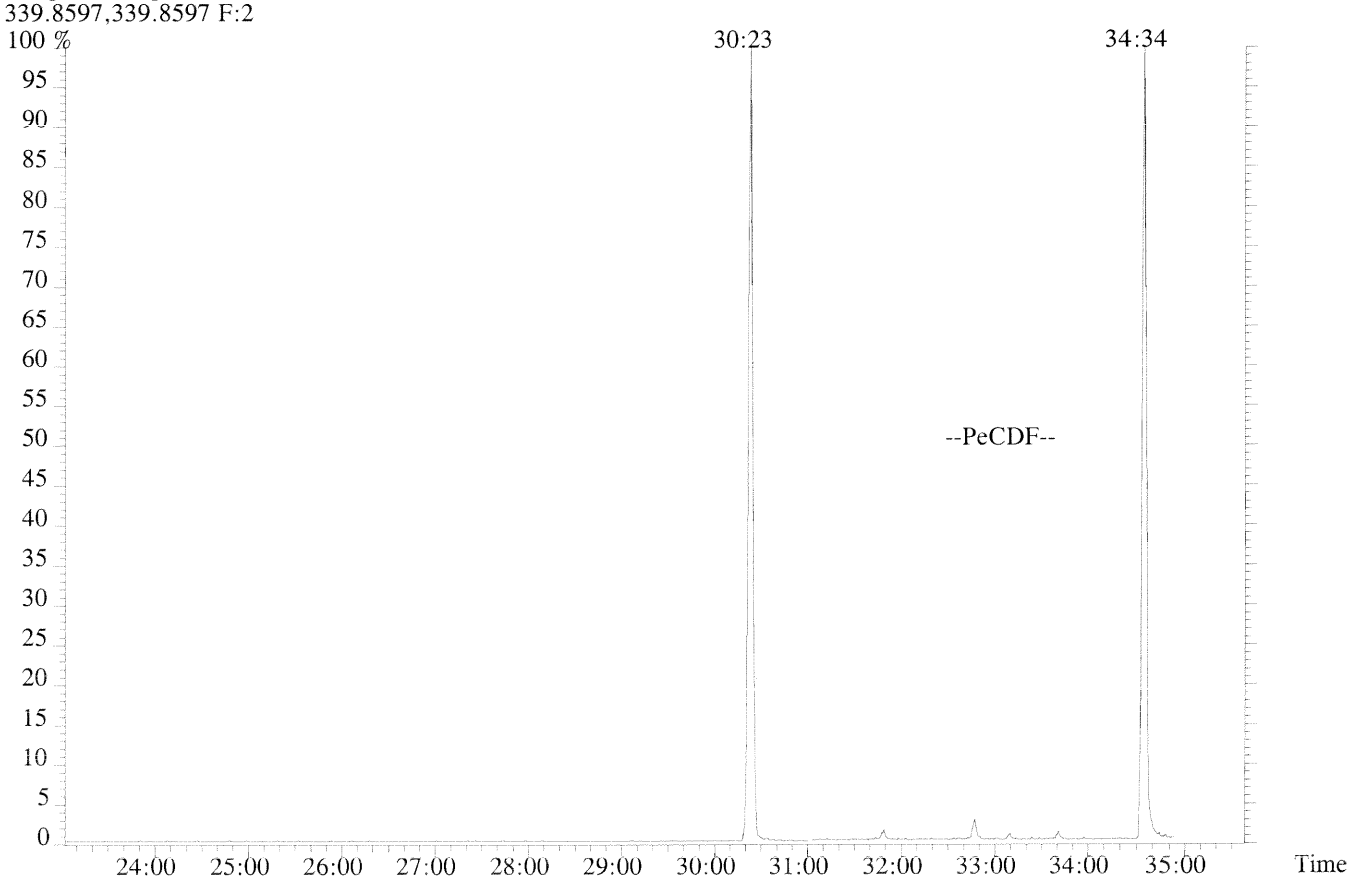
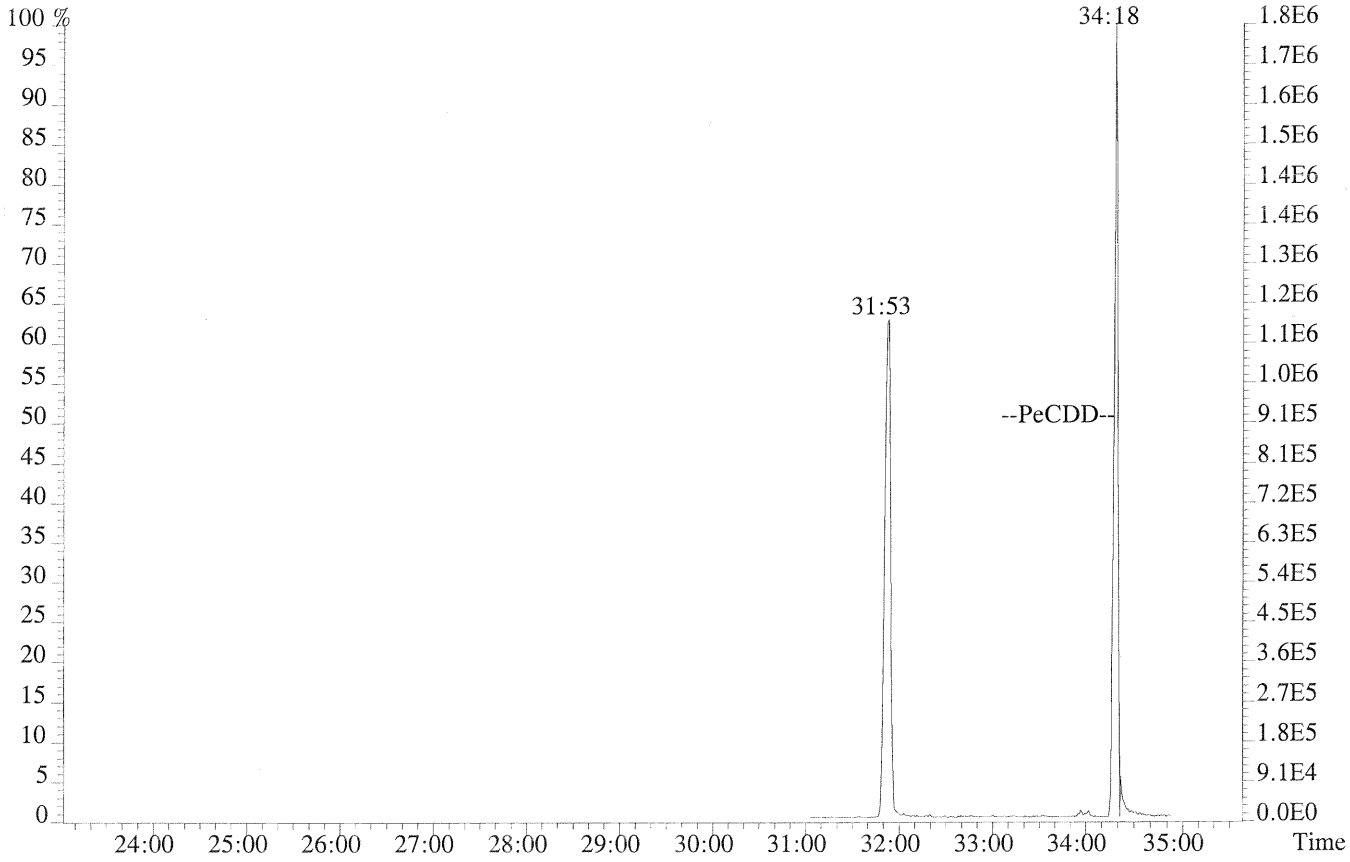
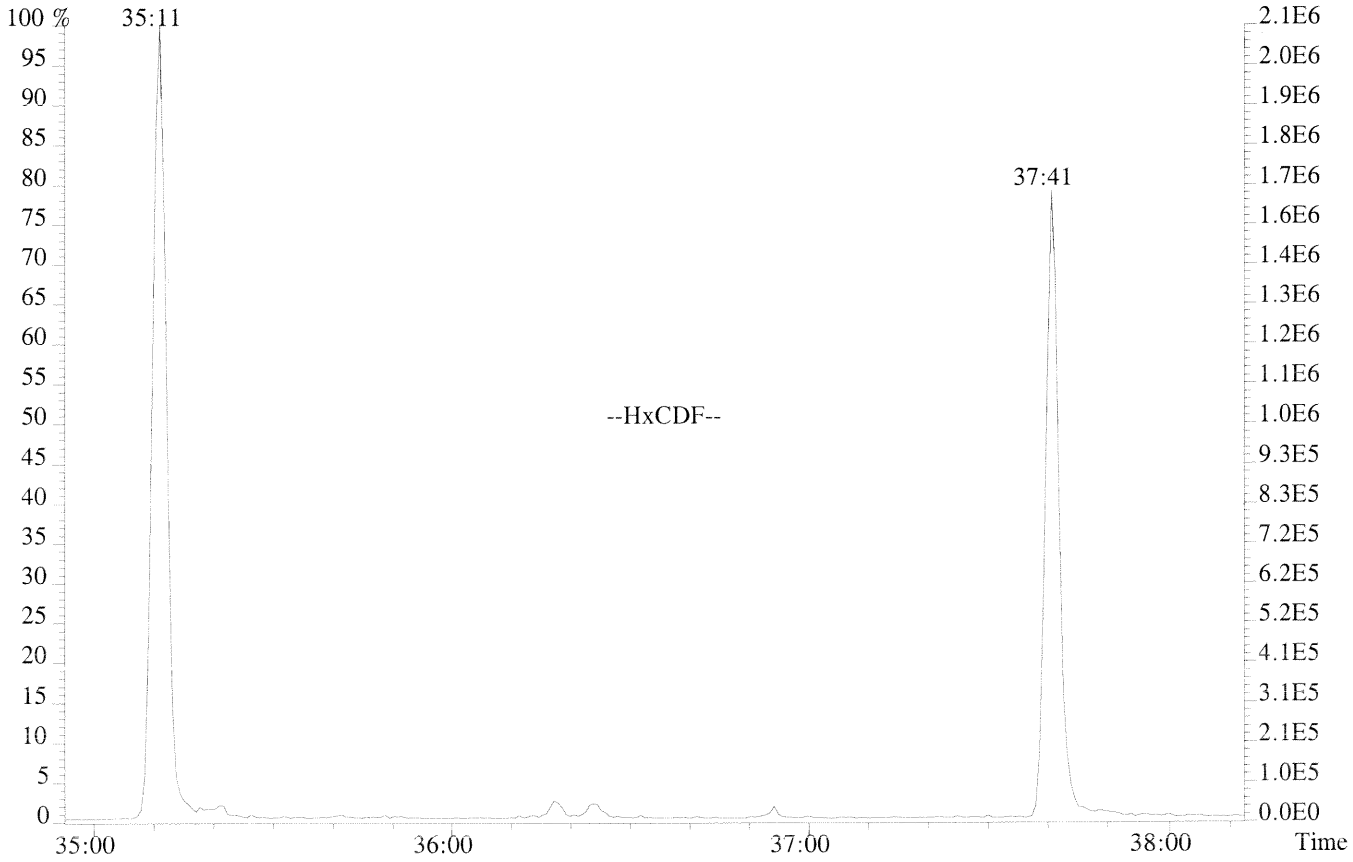
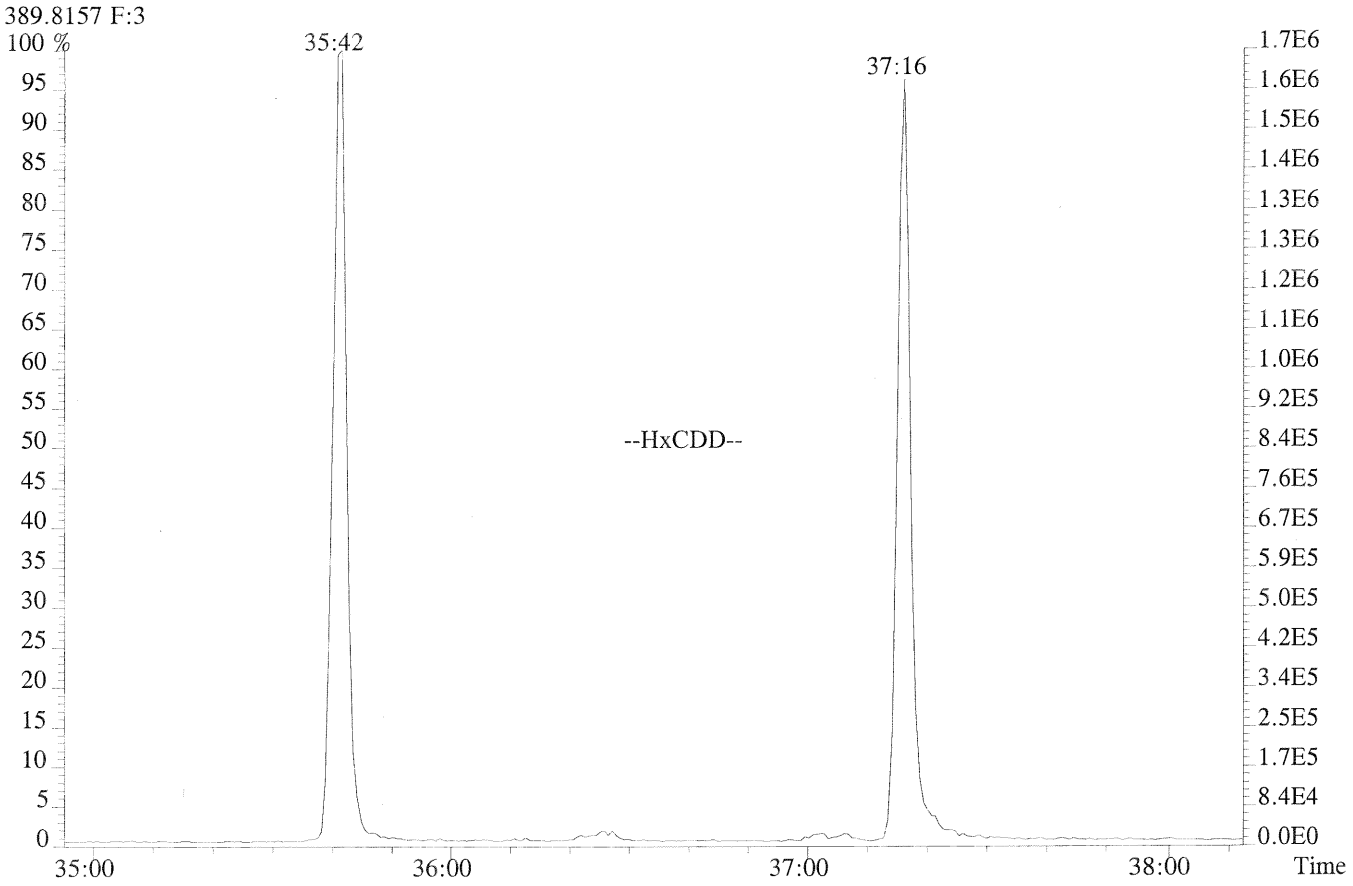


355.8546 F:2



File:U149170 #1-299 Acq:21-MAY-2014 13:12:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





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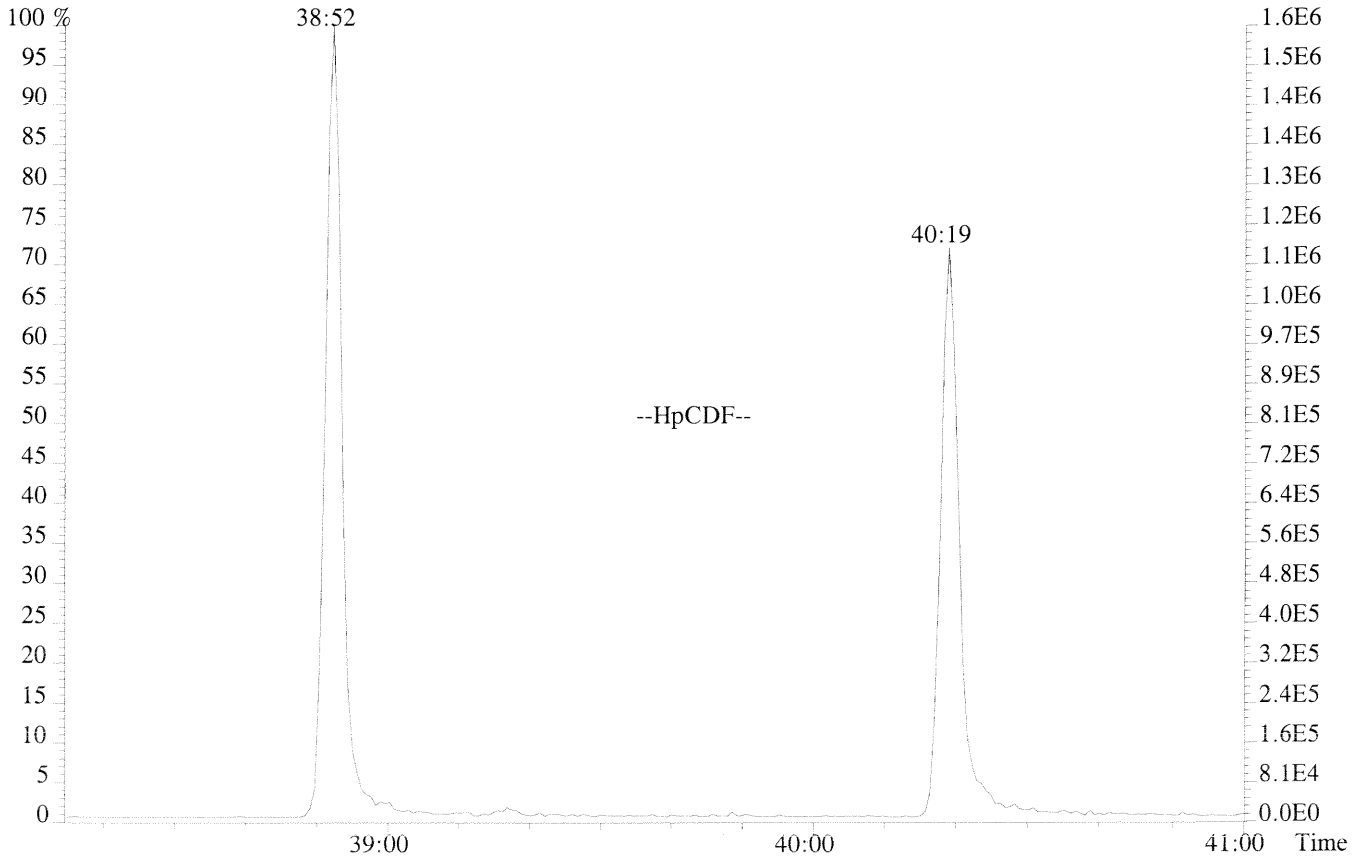
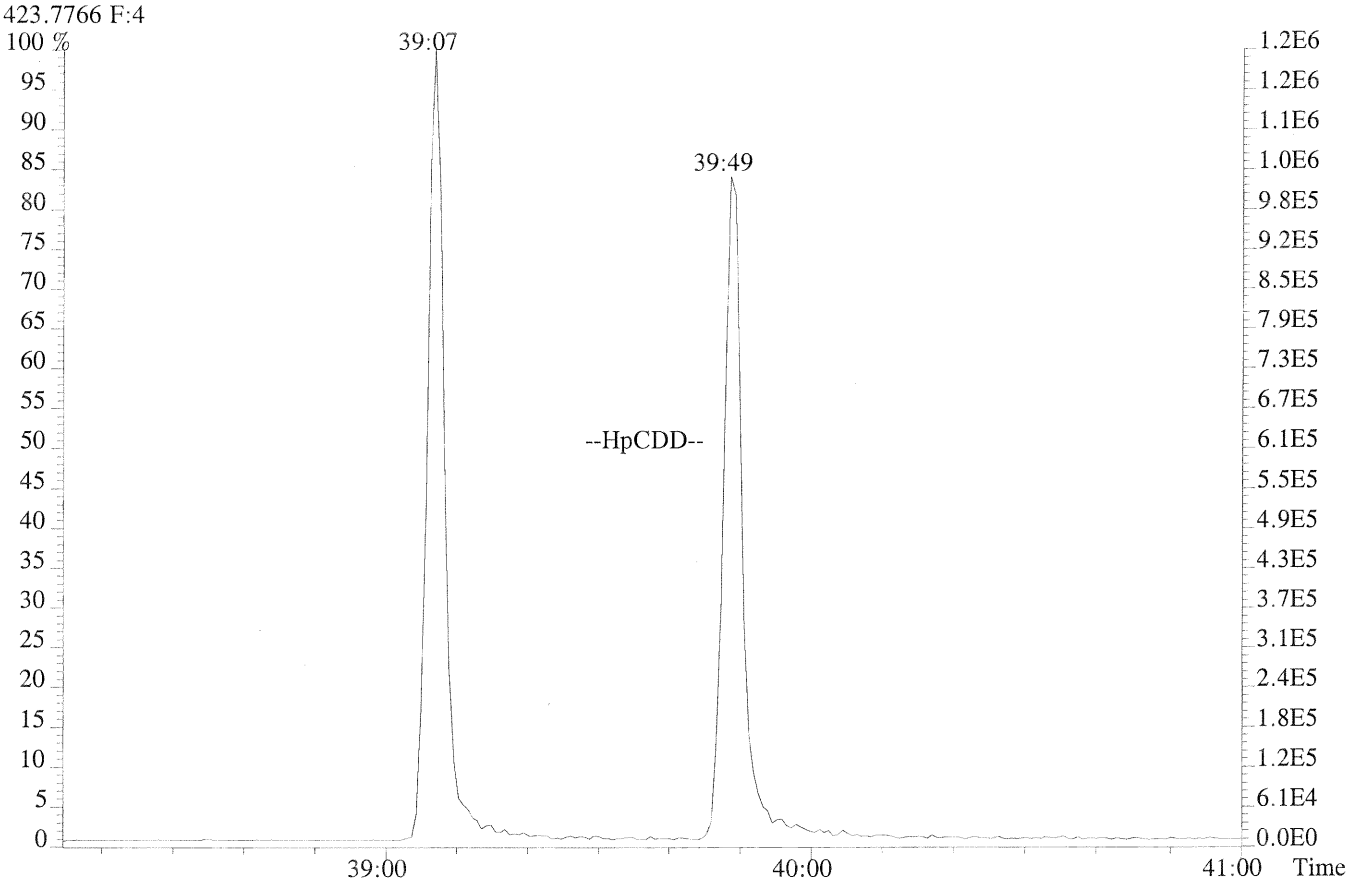
Sample#1 Exp:WINDOW DEFINE





ALS ENVIRONMENTAL
Sample Response Summary
Method 1613B/8290A

CLIENT ID.
CS0.5

Run #1 Filename U149172 Samp: 1 Inj: 1 Acquired: 21-MAY-14 14:47:46
Processed: 23-MAY-14 08:49:33 Sample ID: 66807

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	5.557e+01	9.248e+01	0.60	no	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:47	5.363e+02	3.535e+02	1.52	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	5.041e+02	3.294e+02	1.53	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	4.616e+02	3.470e+02	1.33	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:24	4.816e+02	3.775e+02	1.28	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:54	4.119e+02	3.741e+02	1.10	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	3.911e+02	3.086e+02	1.27	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	4.070e+02	4.094e+02	0.99	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	3.646e+02	3.384e+02	1.08	yes	no	1.359
10	Unk	OCDF	42:53	5.092e+02	5.736e+02	0.89	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:28	4.397e+01	5.843e+01	0.75	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:57	3.638e+02	2.152e+02	1.69	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:01	3.015e+02	2.353e+02	1.28	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	3.210e+02	2.554e+02	1.26	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	3.285e+02	2.863e+02	1.15	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	3.125e+02	3.172e+02	0.99	yes	no	1.065
17	Unk	OCDD	42:40	4.443e+02	5.457e+02	0.81	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	2.605e+04	3.228e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	4.494e+04	2.836e+04	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	4.447e+04	2.806e+04	1.59	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:17	1.819e+04	3.557e+04	0.51	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:23	2.074e+04	4.017e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:53	1.933e+04	3.716e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	1.796e+04	3.394e+04	0.53	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	1.408e+04	3.112e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.269e+04	2.801e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	1.771e+04	2.294e+04	0.77	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	2.878e+04	1.824e+04	1.58	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	2.272e+04	1.714e+04	1.33	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:06	2.428e+04	1.869e+04	1.30	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	2.247e+04	2.096e+04	1.07	yes	no	0.936
32	IS	13C-OCDD	42:38	3.077e+04	3.409e+04	0.90	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	1.846e+04	2.375e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	2.499e+04	2.020e+04	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	9.659e+01				no	1.044

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

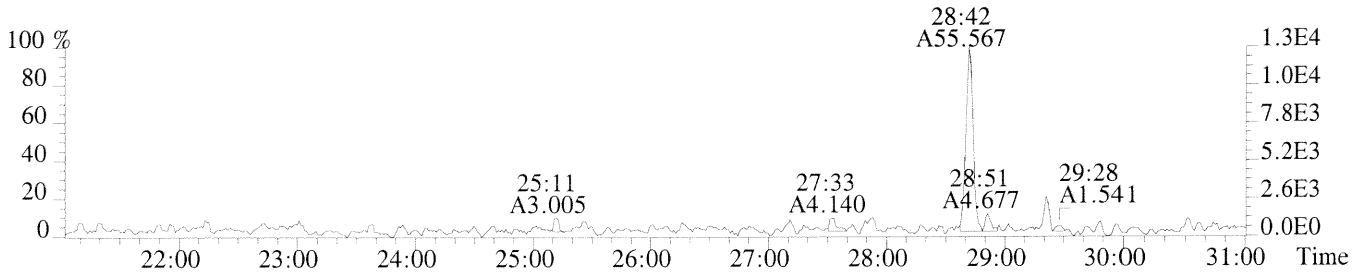
CLIENT ID.
CS0.5

Run #1 Filename U149172 Samp: 1 Inj: 1 Acquired: 21-MAY-14 14:47:46
Processed: 22-MAY-14 12:57:491 LAB. ID: 66807

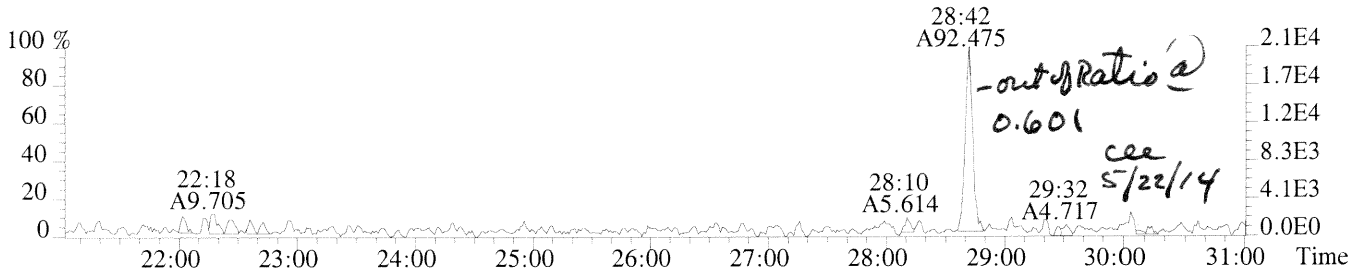
Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
2,3,7,8-TCDF	1.26e+04	5.92e+02	2.1e+01	2.02e+04	8.76e+02	2.3e+01
1,2,3,7,8-PeCDF	1.03e+05	7.84e+02	1.3e+02	6.62e+04	1.22e+03	5.4e+01
2,3,4,7,8-PeCDF	1.04e+05	7.84e+02	1.3e+02	6.34e+04	1.22e+03	5.2e+01
1,2,3,4,7,8-HxCDF	1.03e+05	1.12e+03	9.2e+01	7.37e+04	1.03e+03	7.1e+01
1,2,3,6,7,8-HxCDF	9.85e+04	1.12e+03	8.8e+01	8.12e+04	1.03e+03	7.9e+01
2,3,4,6,7,8-HxCDF	8.70e+04	1.12e+03	7.8e+01	7.98e+04	1.03e+03	7.7e+01
1,2,3,7,8,9-HxCDF	7.90e+04	1.12e+03	7.1e+01	6.50e+04	1.03e+03	6.3e+01
1,2,3,4,6,7,8-HpCDF	8.08e+04	1.71e+03	4.7e+01	8.82e+04	8.56e+02	1.0e+02
1,2,3,4,7,8,9-HpCDF	6.85e+04	1.71e+03	4.0e+01	6.29e+04	8.56e+02	7.3e+01
OCDF	8.40e+04	8.20e+02	1.0e+02	9.04e+04	8.60e+02	1.1e+02
2,3,7,8-TCDD	1.02e+04	8.48e+02	1.2e+01	1.22e+04	7.12e+02	1.7e+01
1,2,3,7,8-PeCDD	7.43e+04	1.07e+03	6.9e+01	4.58e+04	8.60e+02	5.3e+01
1,2,3,4,7,8-HxCDD	6.75e+04	6.80e+02	9.9e+01	5.33e+04	6.84e+02	7.8e+01
1,2,3,6,7,8-HxCDD	6.54e+04	6.80e+02	9.6e+01	5.48e+04	6.84e+02	8.0e+01
1,2,3,7,8,9-HxCDD	6.66e+04	6.80e+02	9.8e+01	5.83e+04	6.84e+02	8.5e+01
1,2,3,4,6,7,8-HpCDD	6.21e+04	1.22e+03	5.1e+01	6.08e+04	1.15e+03	5.3e+01
OCDD	7.04e+04	7.12e+02	9.9e+01	9.07e+04	7.24e+02	1.3e+02
13C-2,3,7,8-TCDF	5.72e+06	1.02e+03	5.6e+03	7.12e+06	9.44e+02	7.5e+03
13C-1,2,3,7,8-PeCDF	8.73e+06	5.76e+02	1.5e+04	5.60e+06	1.02e+03	5.5e+03
13C-2,3,4,7,8-PeCDF	9.27e+06	5.76e+02	1.6e+04	5.79e+06	1.02e+03	5.7e+03
13C-1,2,3,4,7,8-HxCDF	3.95e+06	5.76e+02	6.9e+03	7.62e+06	1.25e+03	6.1e+03
13C-1,2,3,6,7,8-HxCDF	4.33e+06	5.76e+02	7.5e+03	8.36e+06	1.25e+03	6.7e+03
13C-2,3,4,6,7,8-HxCDF	4.16e+06	5.76e+02	7.2e+03	7.89e+06	1.25e+03	6.3e+03
13C-1,2,3,7,8,9-HxCDF	3.62e+06	5.76e+02	6.3e+03	6.96e+06	1.25e+03	5.6e+03
13C-1,2,3,4,6,7,8-HpCDF	2.89e+06	1.77e+03	1.6e+03	6.51e+06	4.66e+03	1.4e+03
13C-1,2,3,4,7,8,9-HpCDF	2.33e+06	1.77e+03	1.3e+03	5.16e+06	4.66e+03	1.1e+03
13C-2,3,7,8-TCDD	4.02e+06	2.86e+03	1.4e+03	5.20e+06	1.56e+03	3.3e+03
13C-1,2,3,7,8-PeCDD	5.89e+06	7.80e+02	7.6e+03	3.75e+06	6.16e+02	6.1e+03
13C-1,2,3,4,7,8-HxCDD	5.13e+06	7.84e+02	6.5e+03	3.91e+06	8.56e+02	4.6e+03
13C-1,2,3,6,7,8-HxCDD	5.09e+06	7.84e+02	6.5e+03	3.96e+06	8.56e+02	4.6e+03
13C-1,2,3,4,6,7,8-HpCDD	4.33e+06	1.01e+03	4.3e+03	3.96e+06	7.36e+02	5.4e+03
13C-OCDD	5.12e+06	5.04e+02	1.0e+04	5.59e+06	6.36e+02	8.8e+03
13C-1,2,3,4-TCDD	4.11e+06	2.86e+03	1.4e+03	5.30e+06	1.56e+03	3.4e+03
13C-1,2,3,7,8,9-HxCDD	5.20e+06	7.84e+02	6.6e+03	4.03e+06	8.56e+02	4.7e+03
37Cl-2,3,7,8-TCDD	2.11e+04	9.04e+02	2.3e+01			

ENVIRONMENTAL
450 Stancliff Rd., Suite 115
uston, TX 77099
ffice:(713)266-1599. Fax:(713)266-0130

File:U149172 #1-627 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,T)

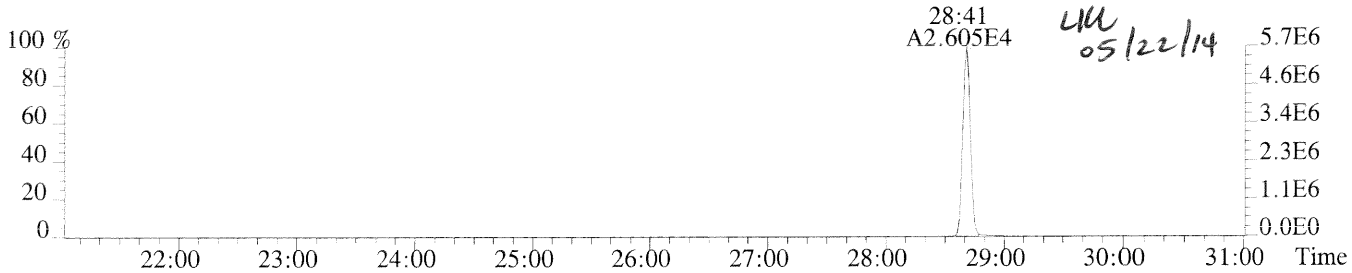


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



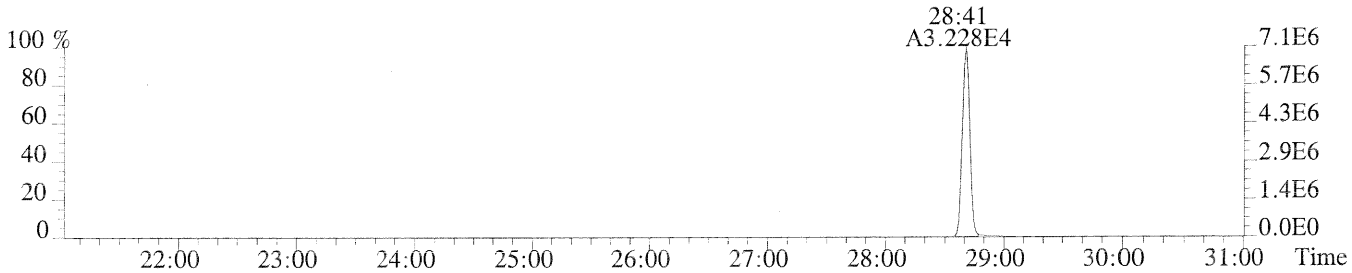
-out Ratio @
0.601
cee
5/22/14

315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)

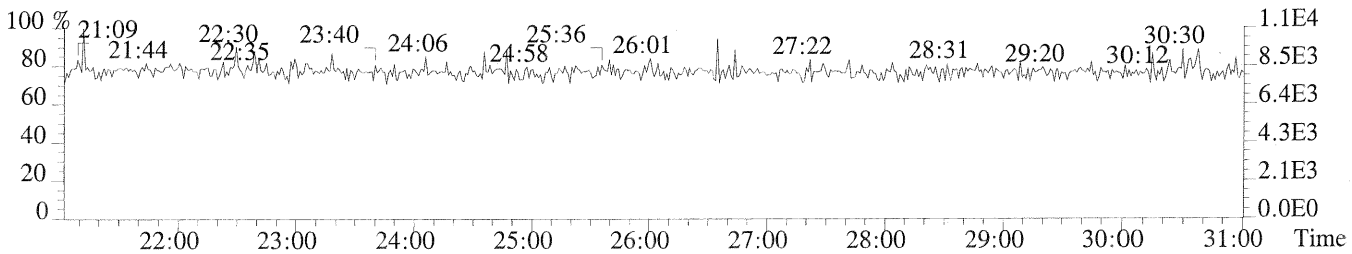


LLL
05/22/14

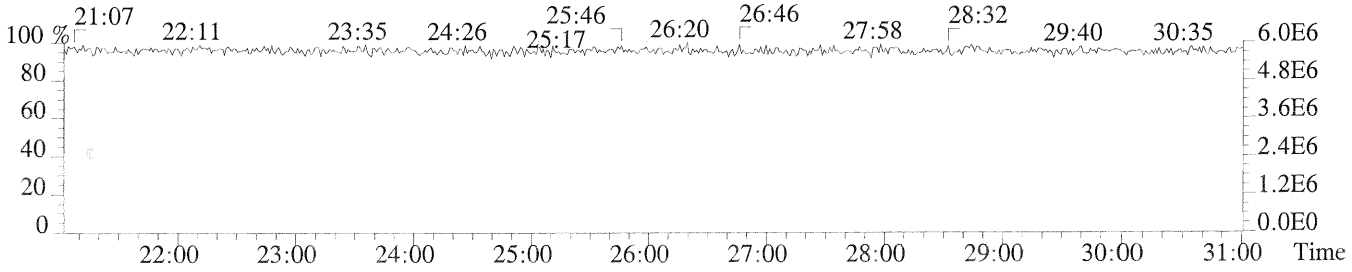
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



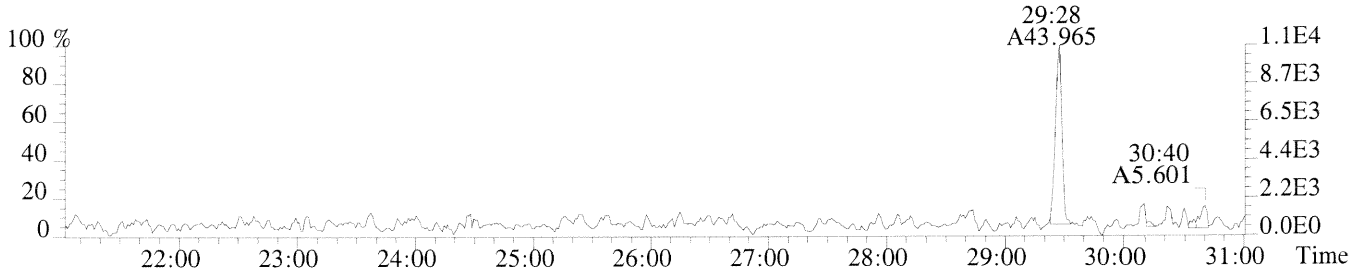
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



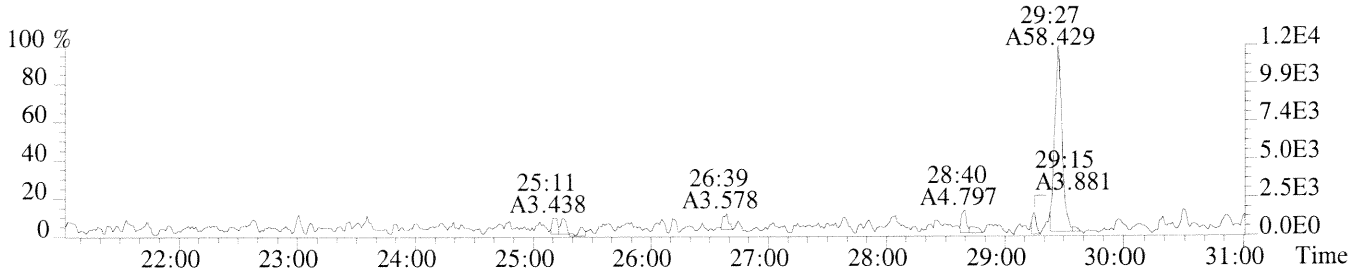
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



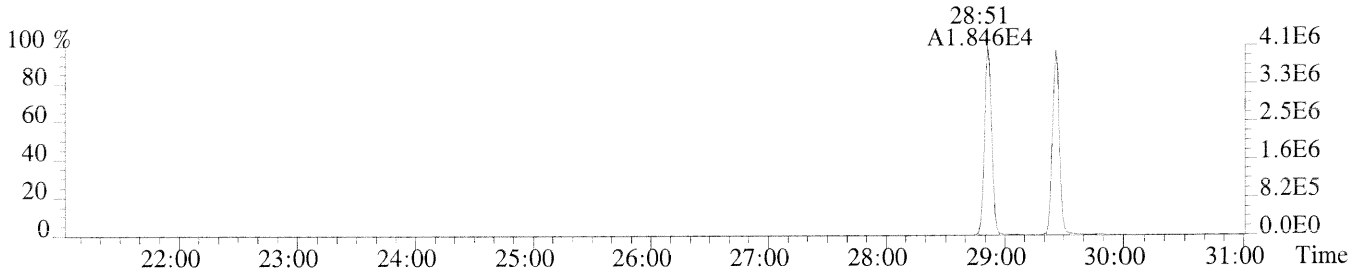
File:U149172 #1-627 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



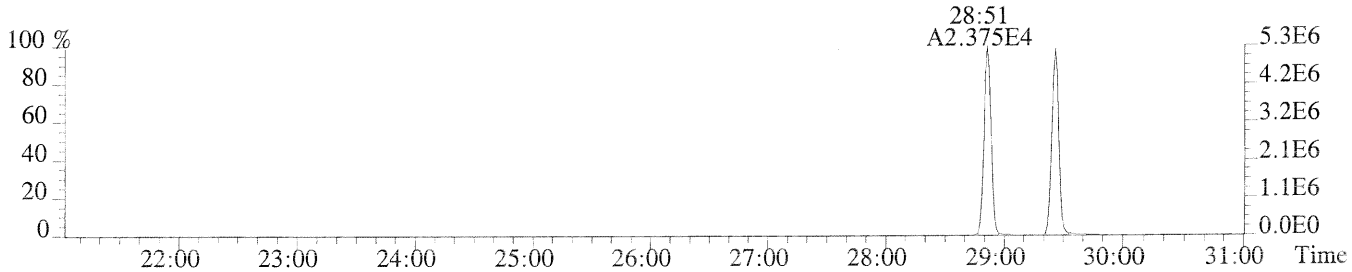
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



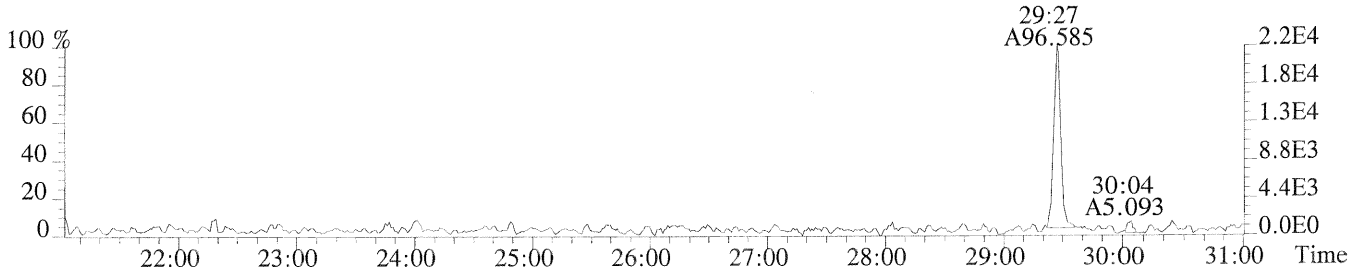
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2856.0,1.00%,F,T)



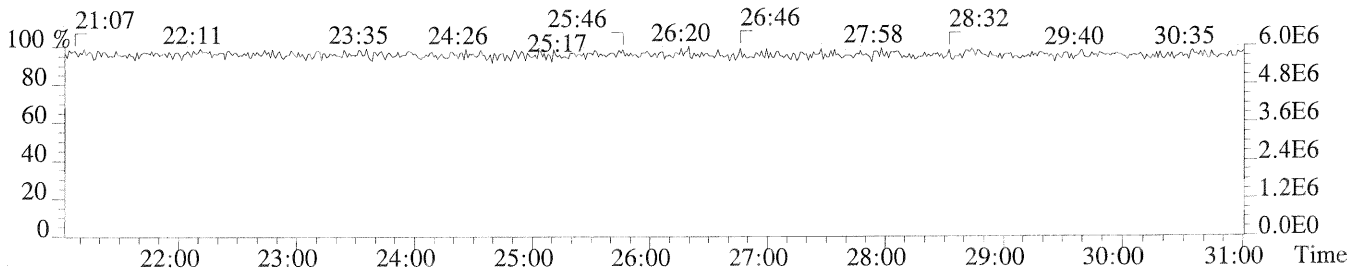
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1560.0,1.00%,F,T)



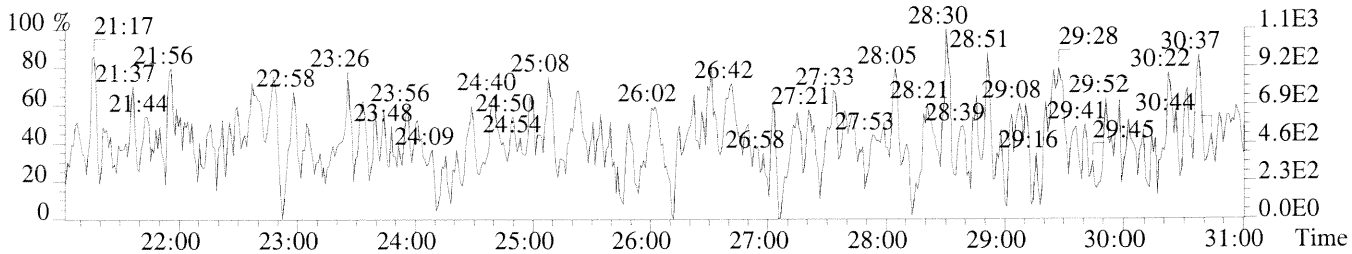
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



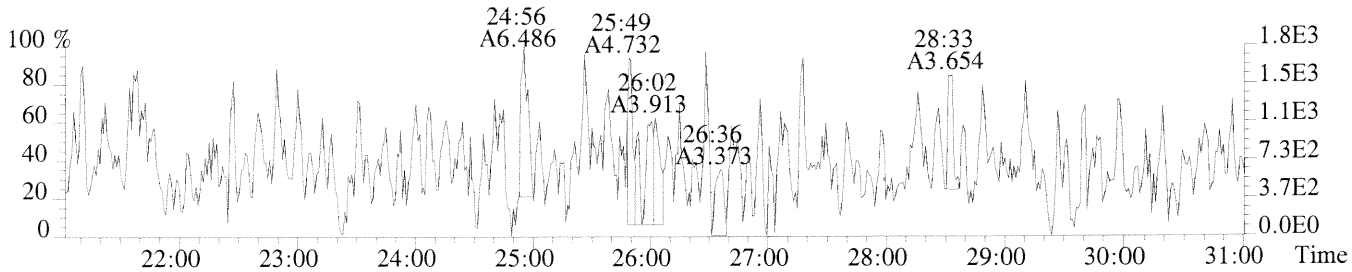
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



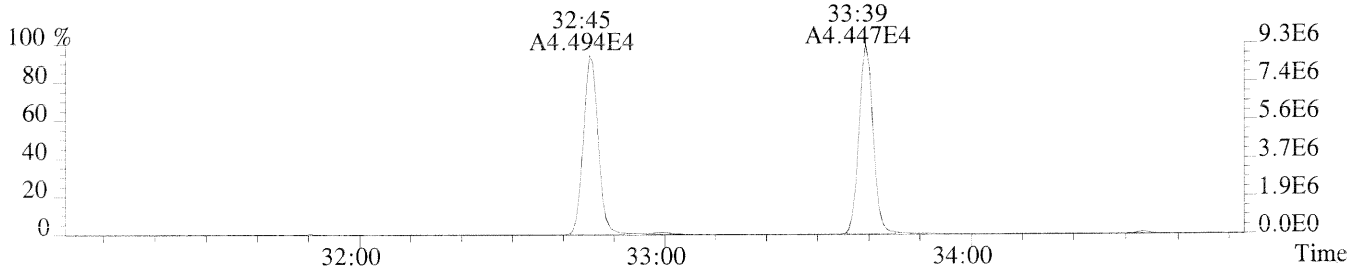
File:U149172 #1-627 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,T)



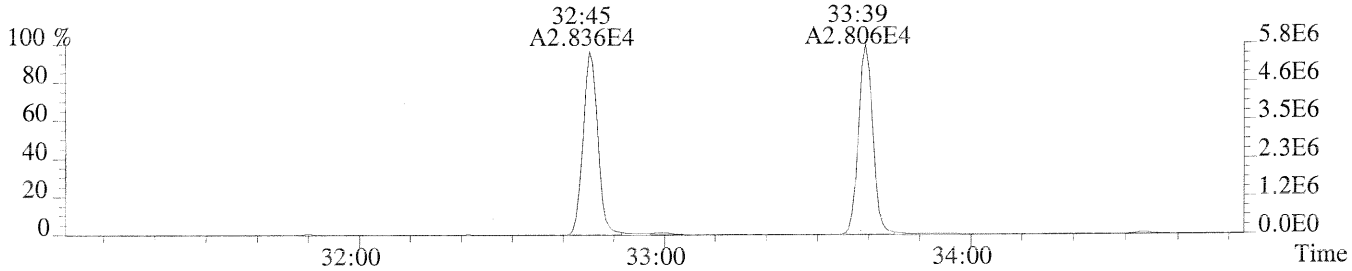
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



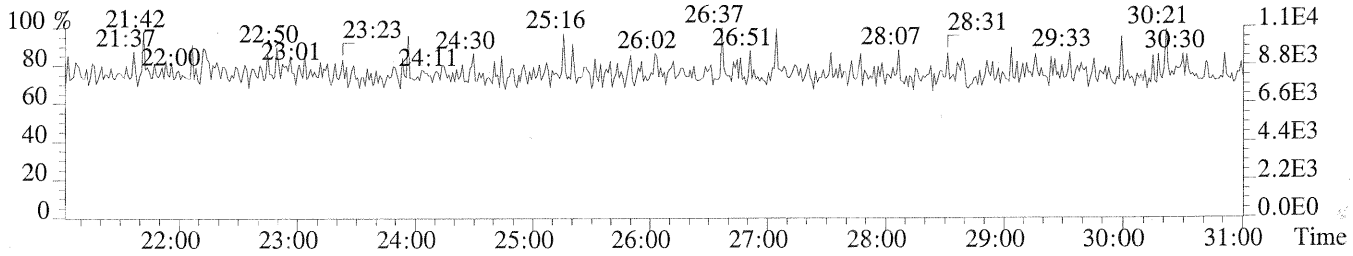
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



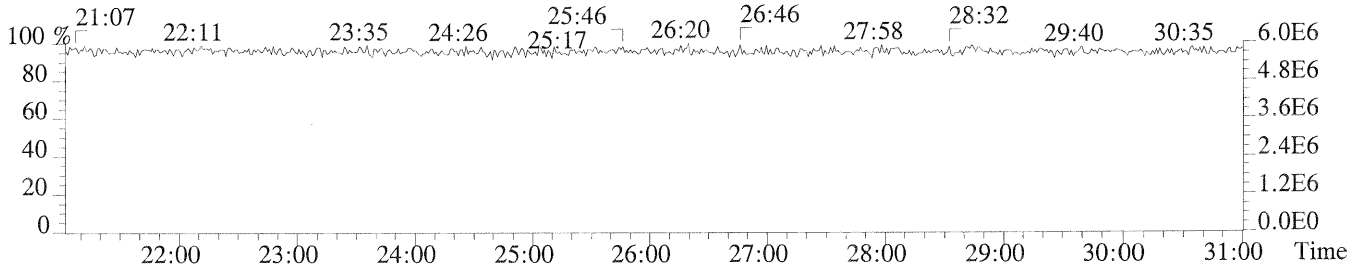
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

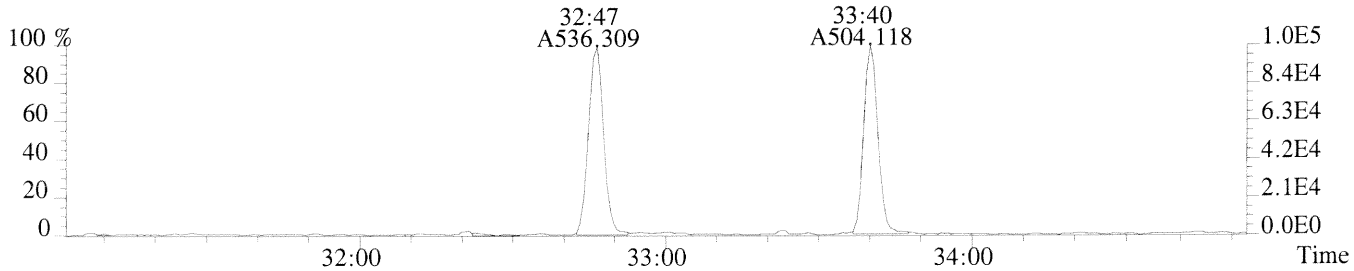


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

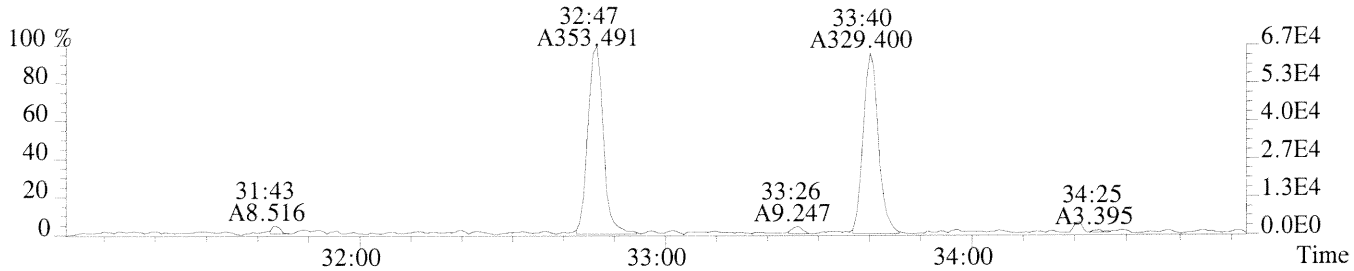


File:U149172 #1-349 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5

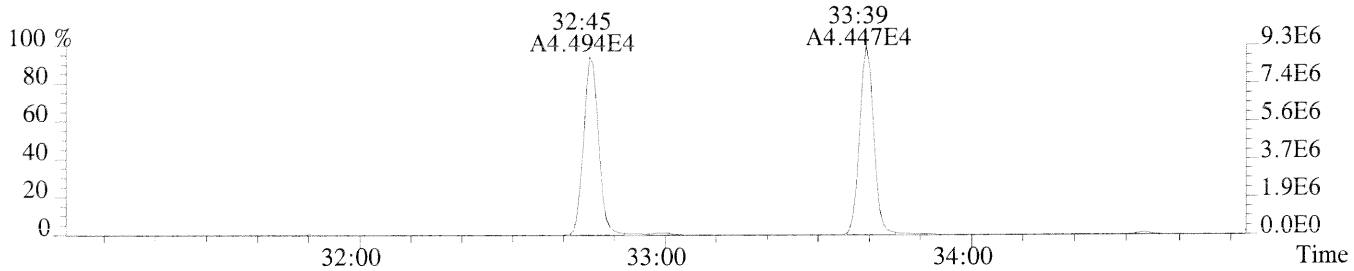
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,T)



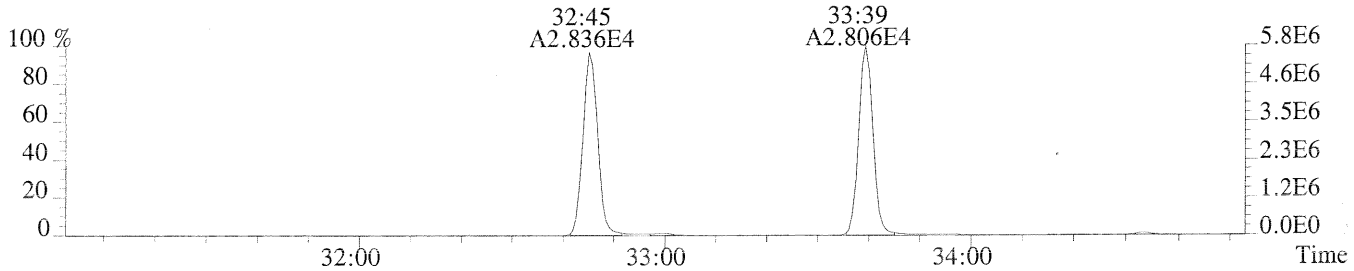
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)



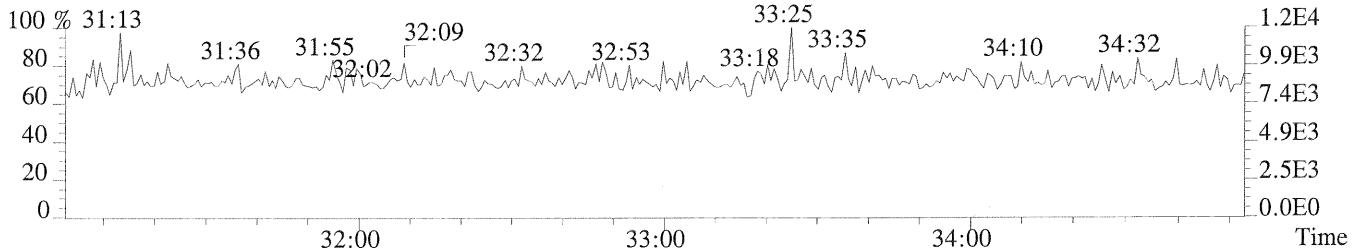
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



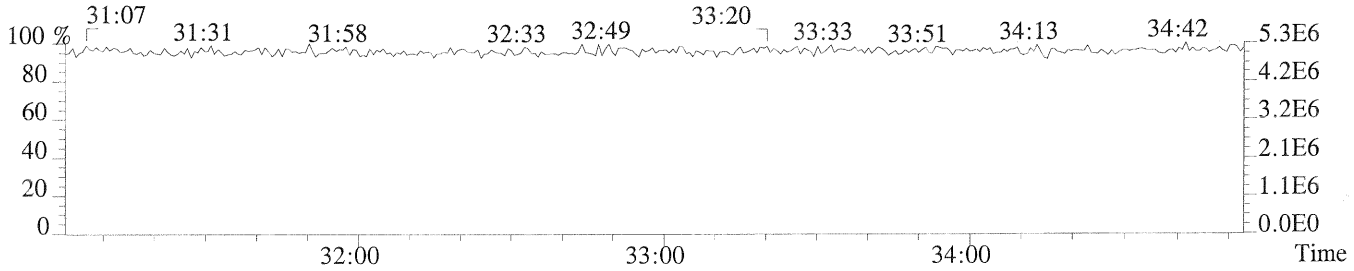
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



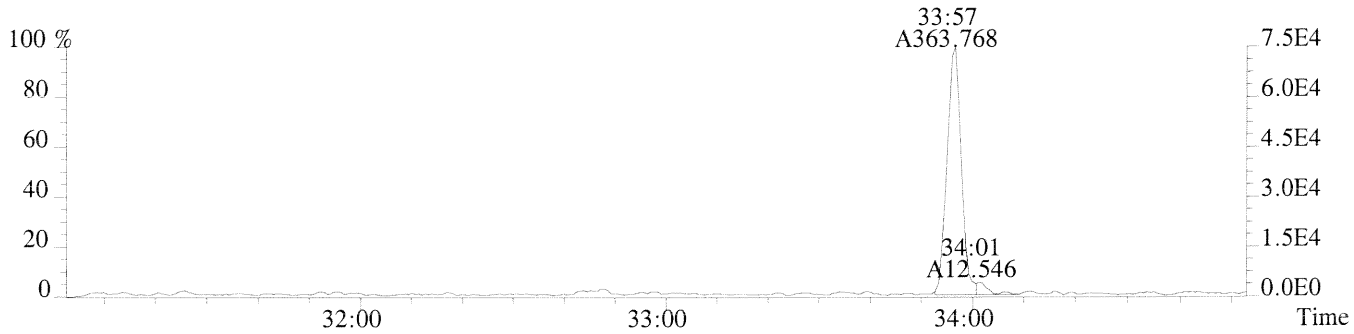
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



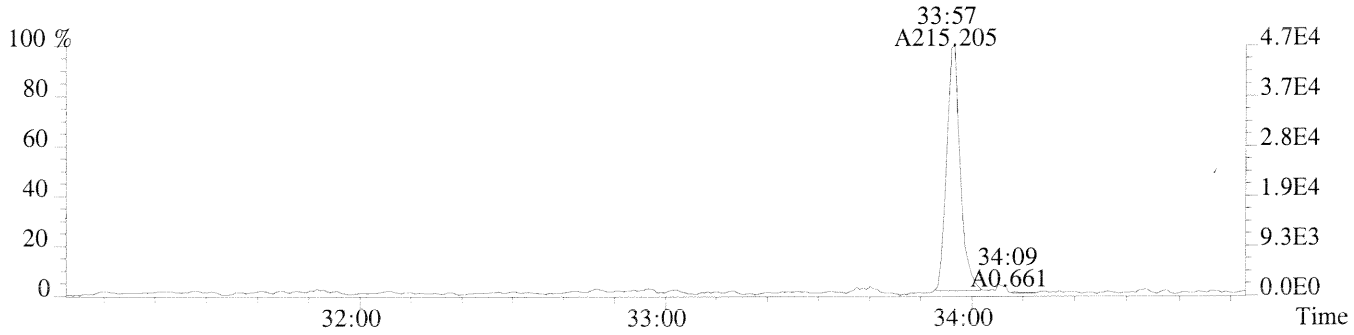
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



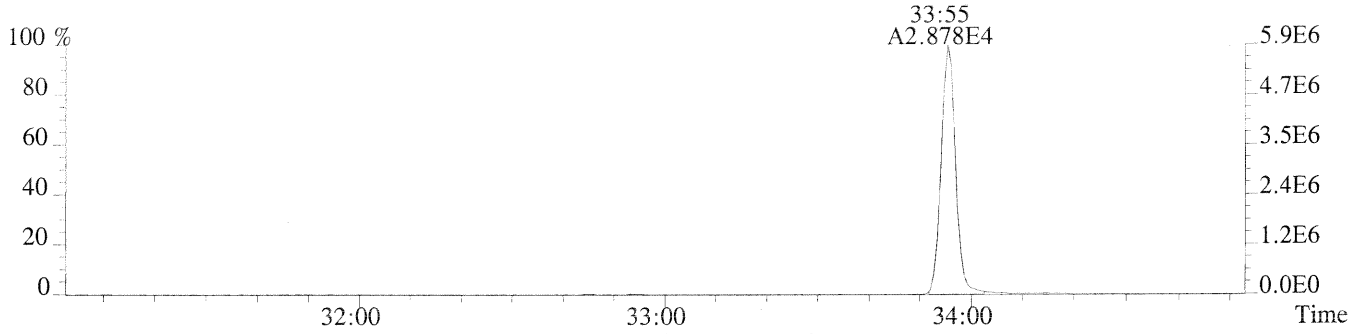
File:U149172 #1-349 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,T)



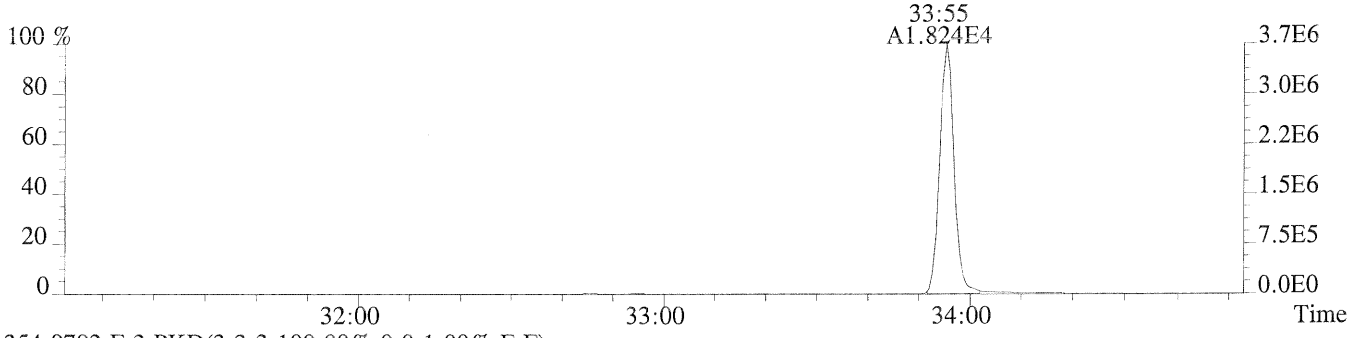
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



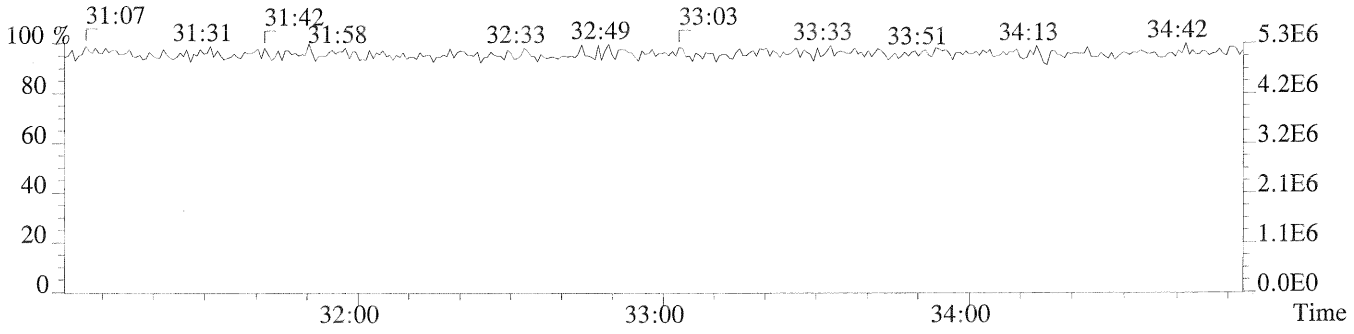
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,T)



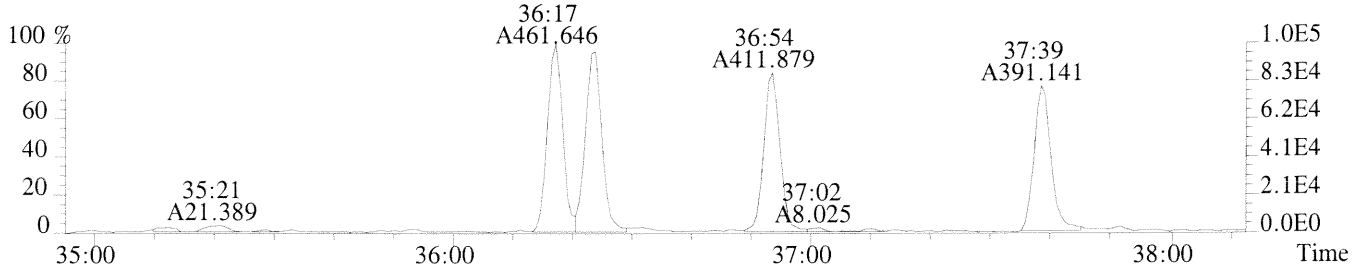
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



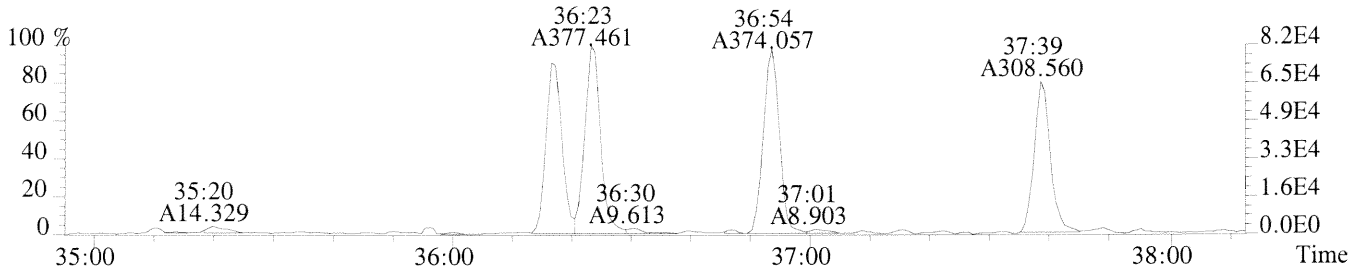
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



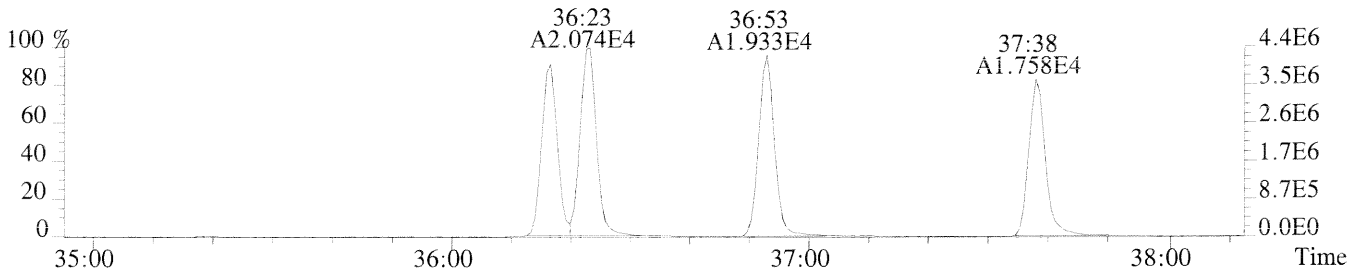
File:U149172 #1-299 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



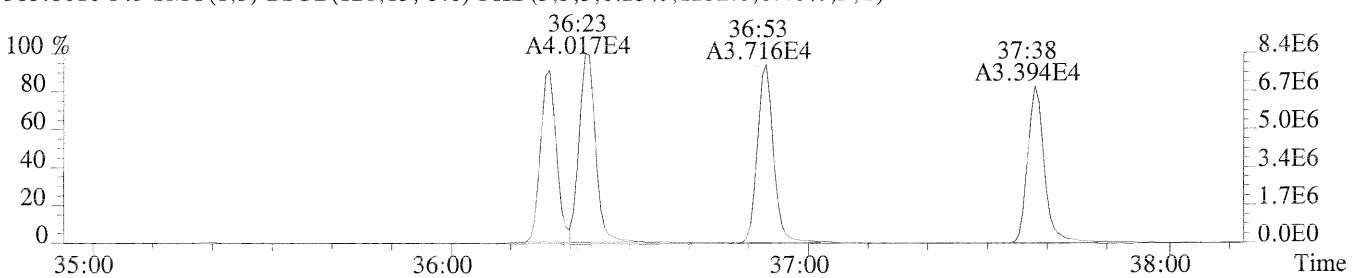
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,T)



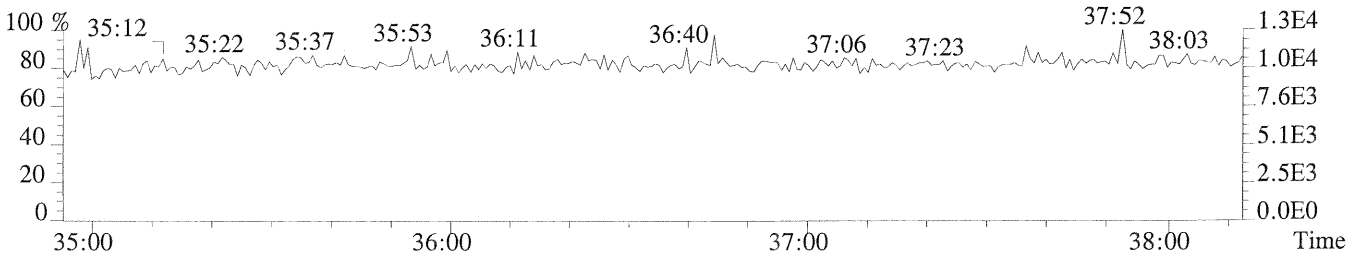
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,T)



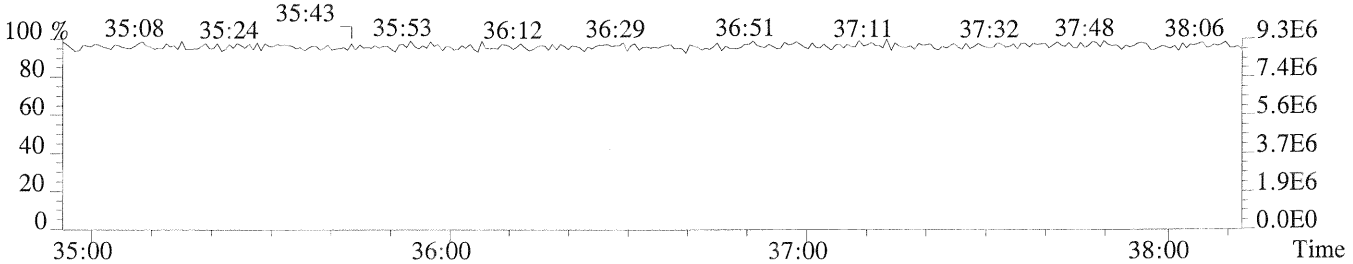
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



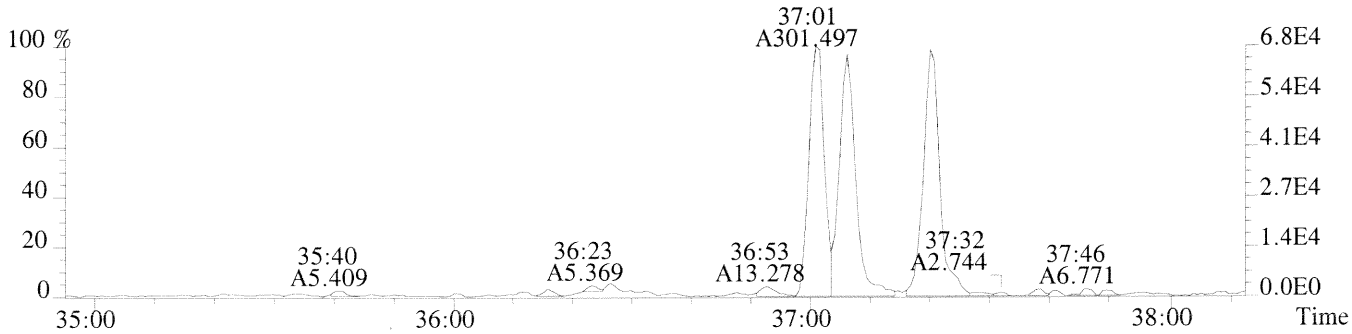
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



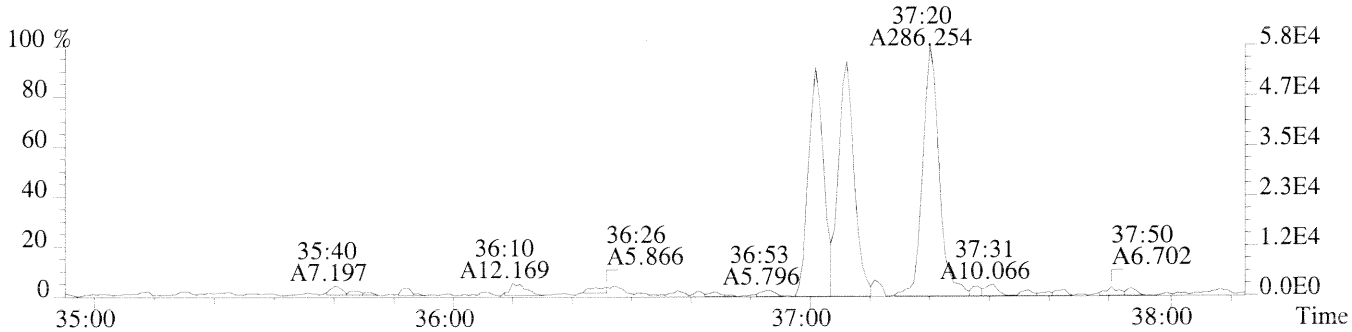
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



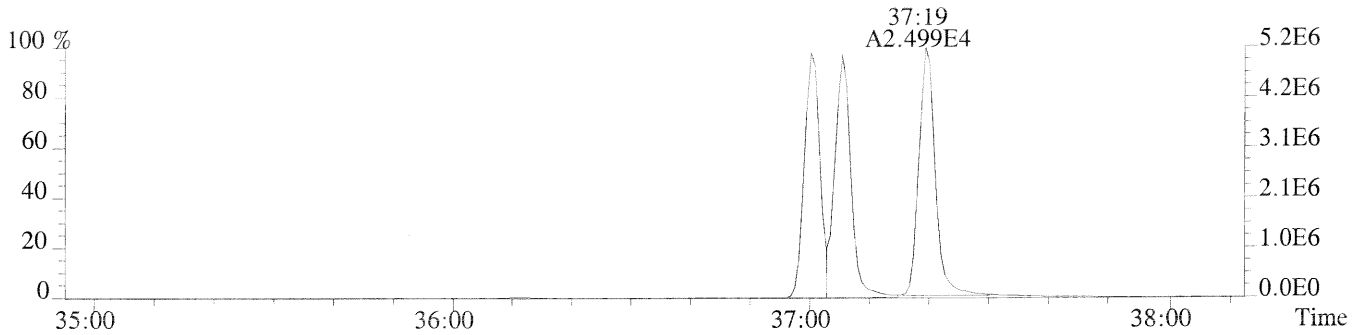
File:U149172 #1-299 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,680.0,0.40%,F,T)



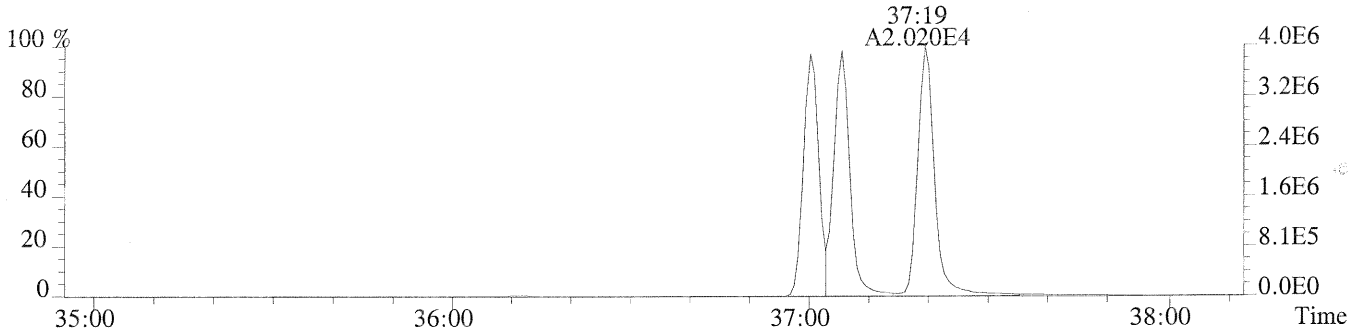
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



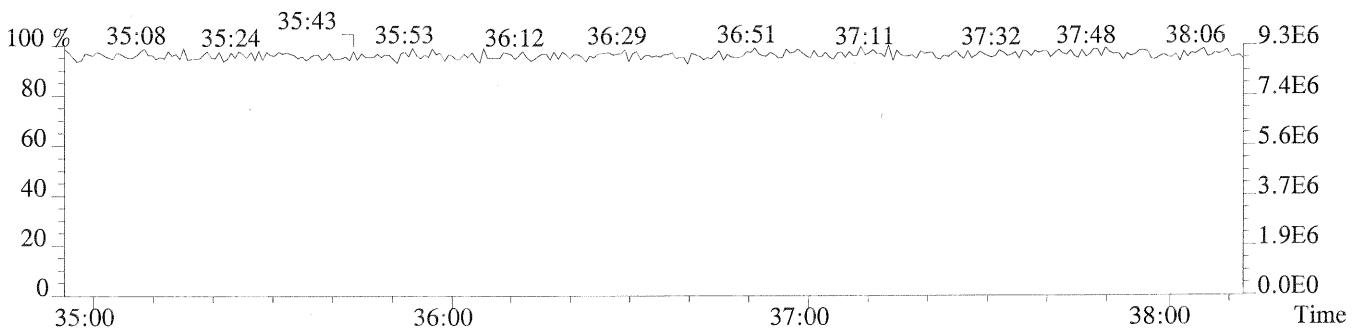
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.40%,F,T)



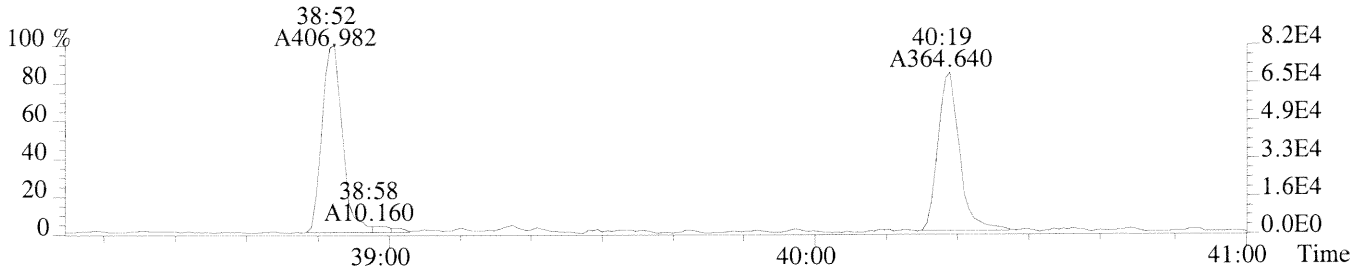
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



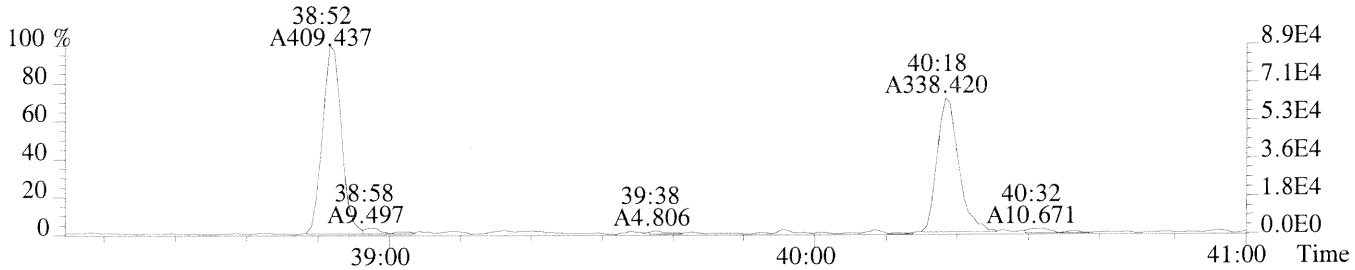
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



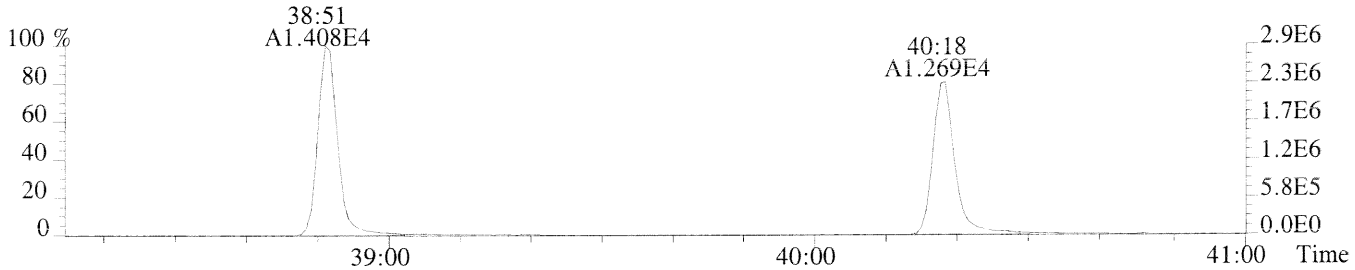
File:U149172 #1-251 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1712.0,0.50%,F,T)



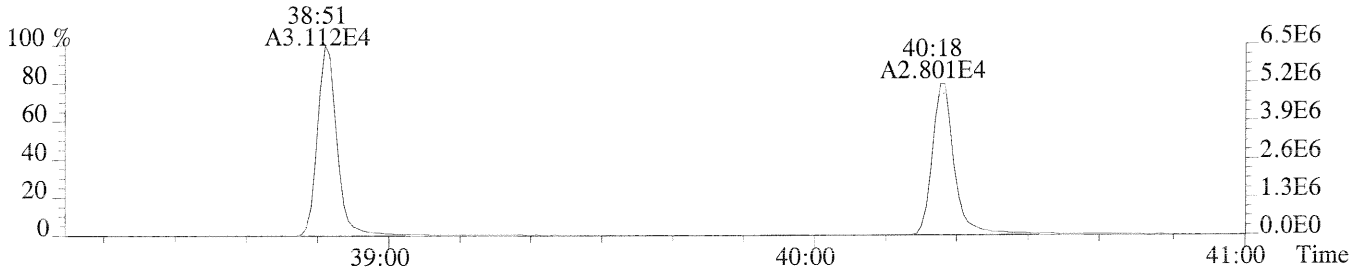
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.50%,F,T)



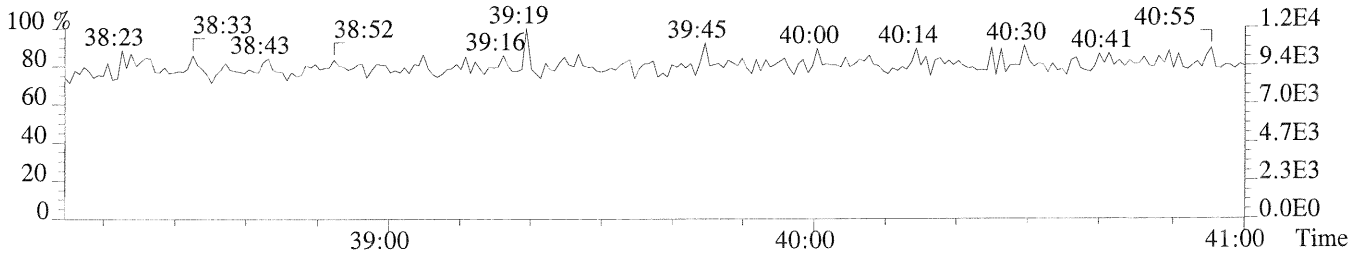
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1772.0,0.50%,F,T)



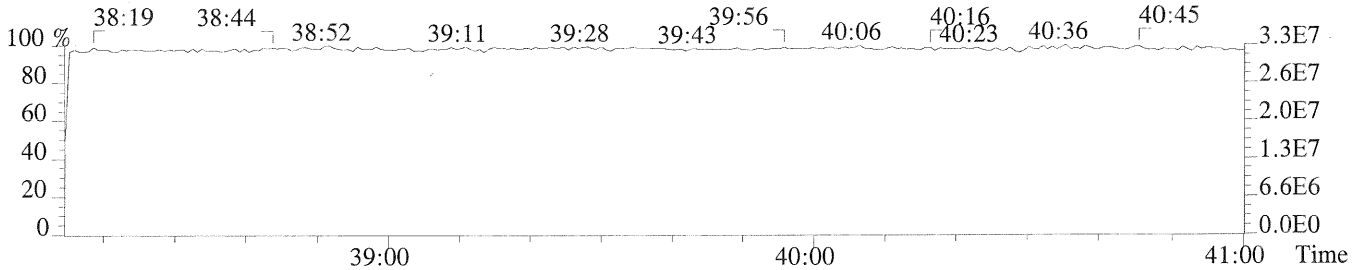
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4656.0,0.50%,F,T)



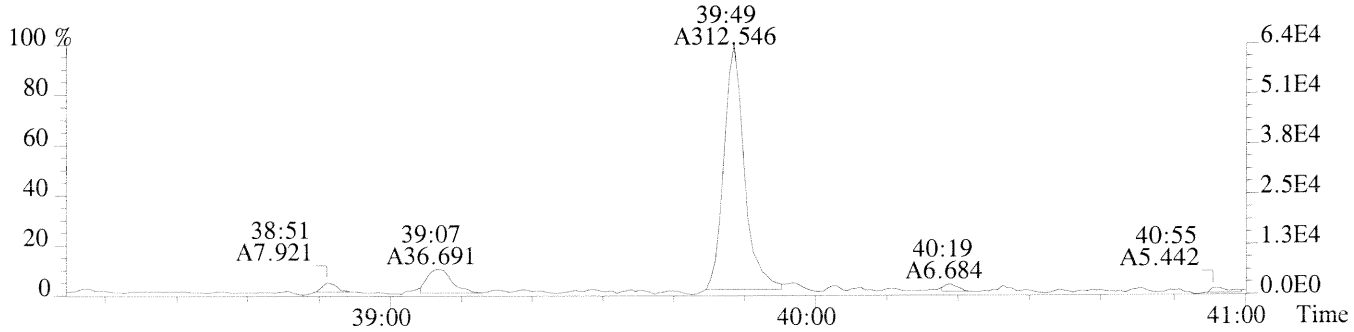
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



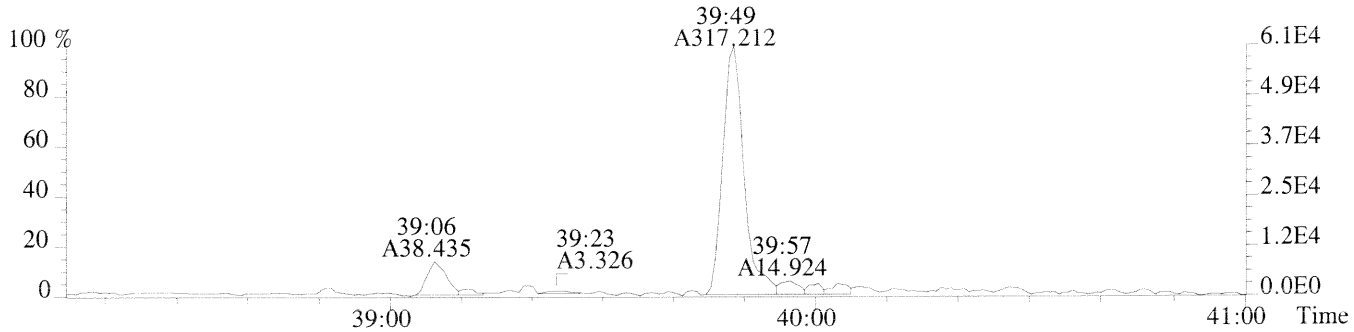
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



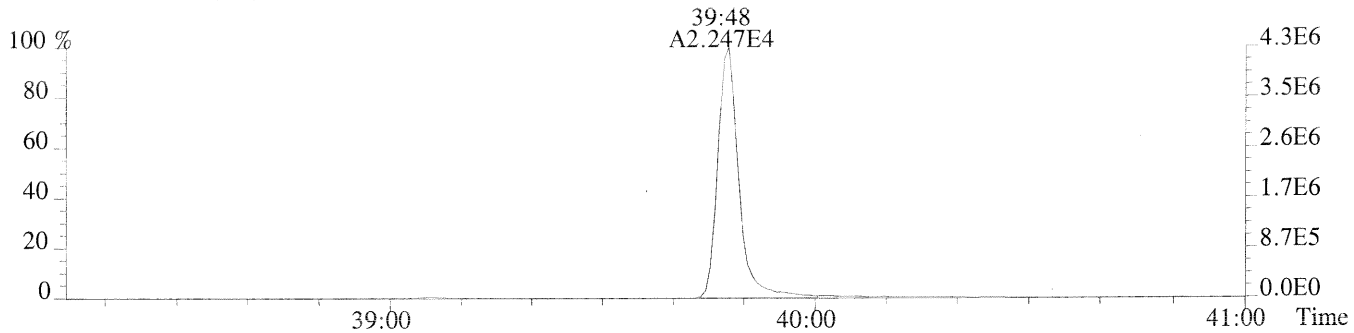
File:U149172 #1-251 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



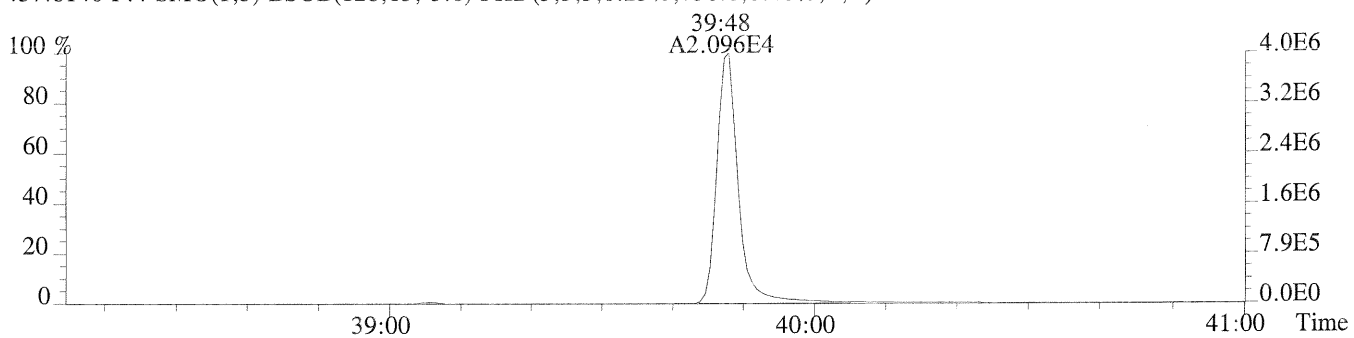
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,T)



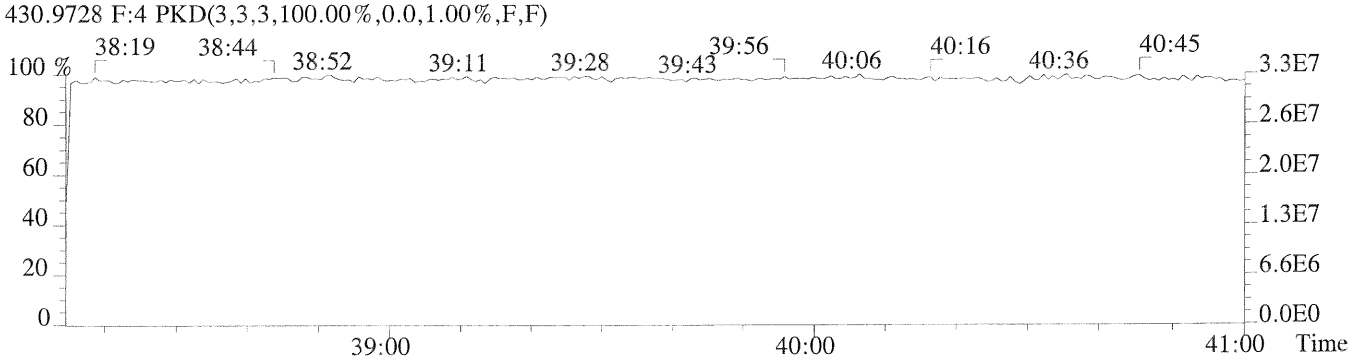
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.40%,F,T)



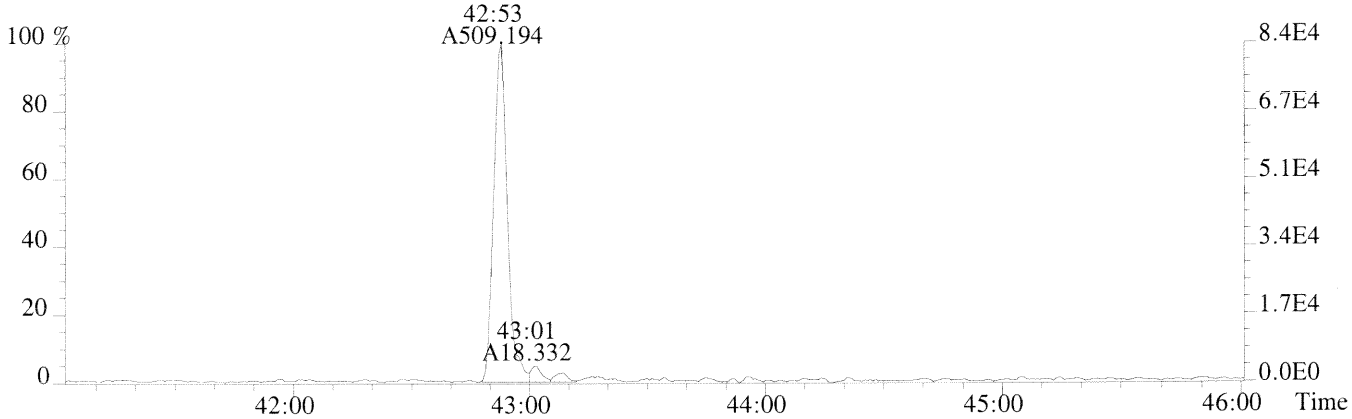
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



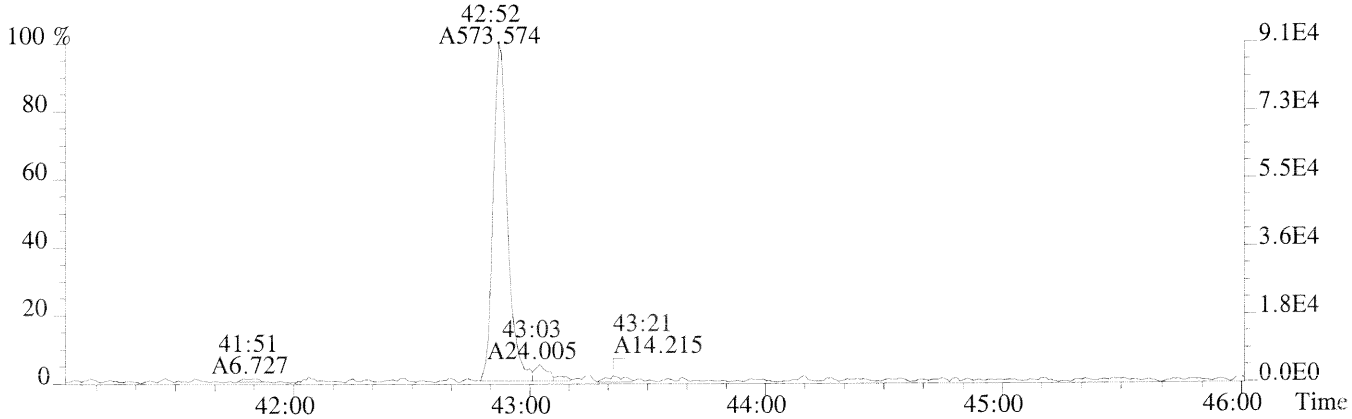
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



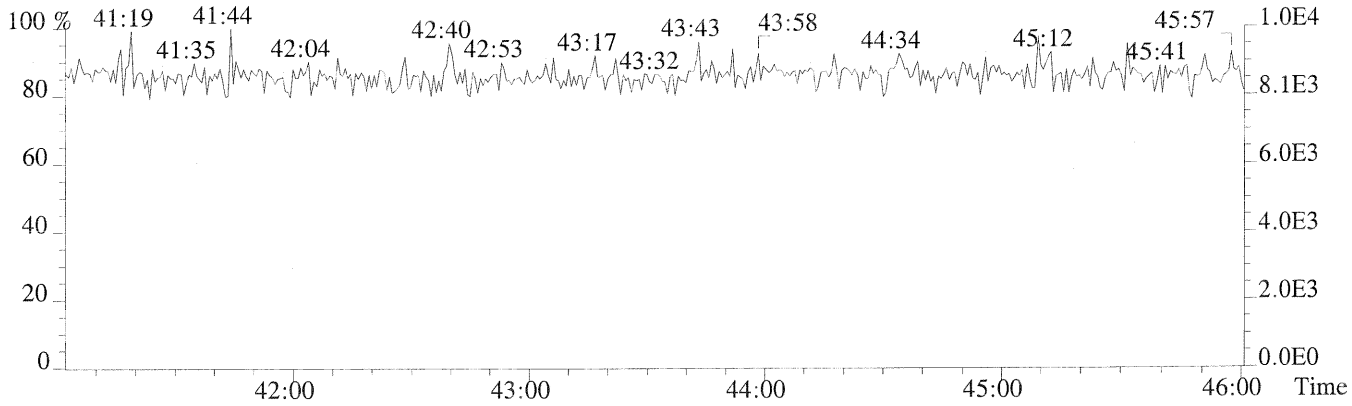
File:U149172 #1-452 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,820.0,0.40%,F,T)



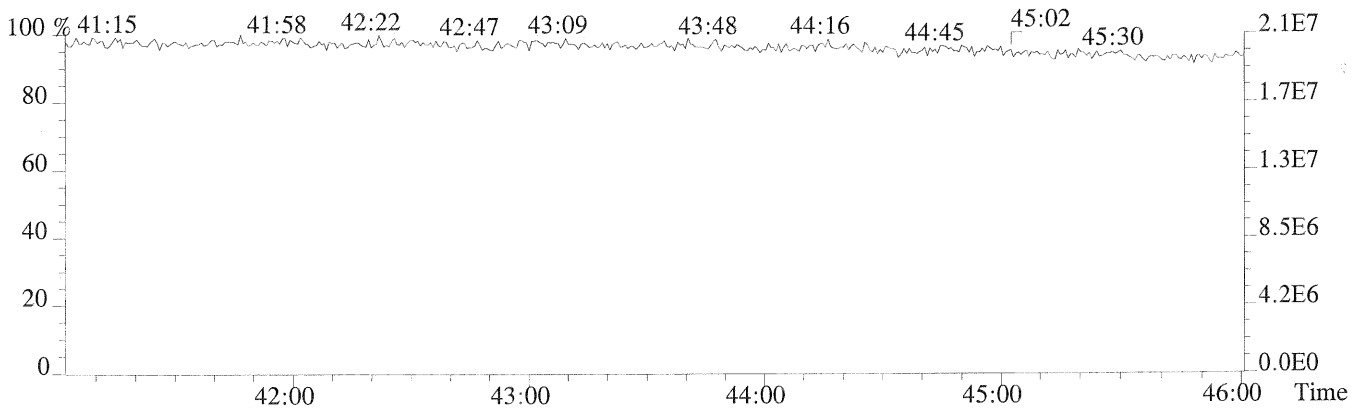
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



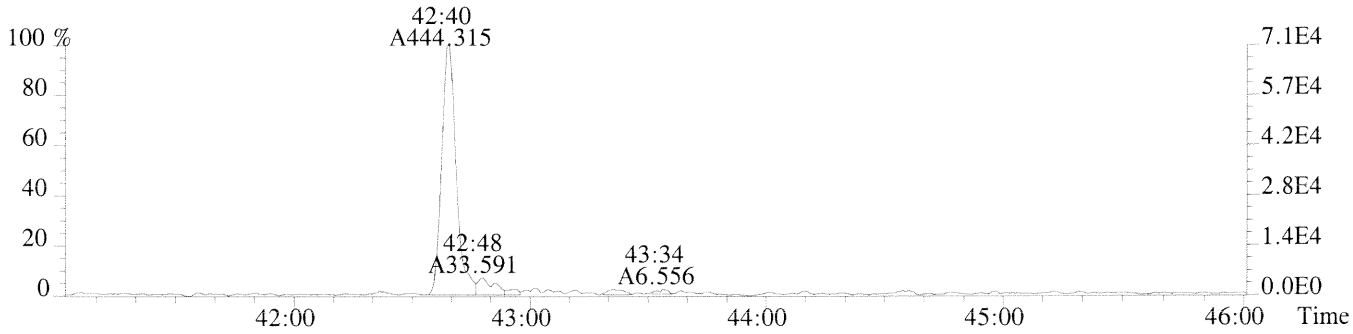
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



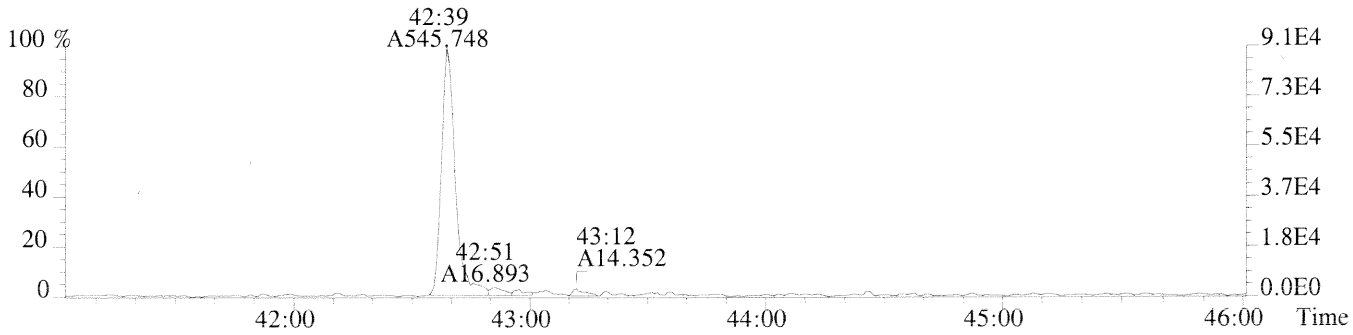
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



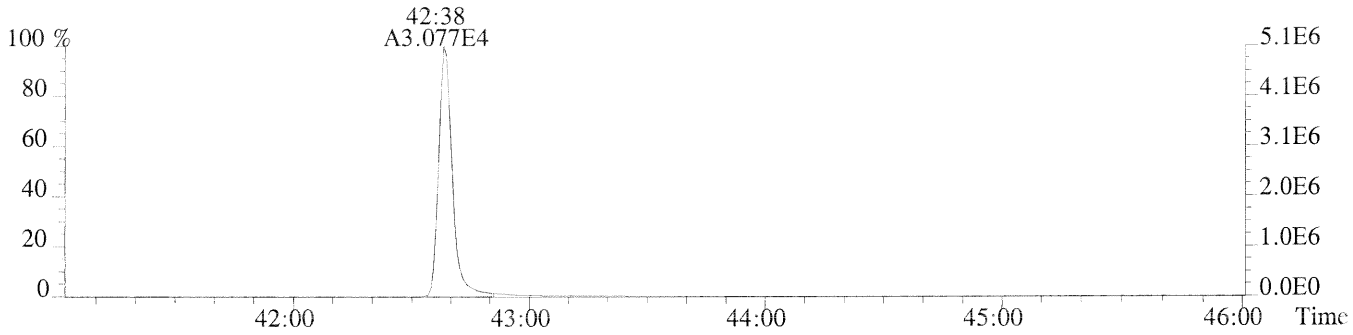
File:U149172 #1-452 Acq:21-MAY-2014 14:47:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5 HRCC0.5/CS0.5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,712.0,0.40%,F,T)



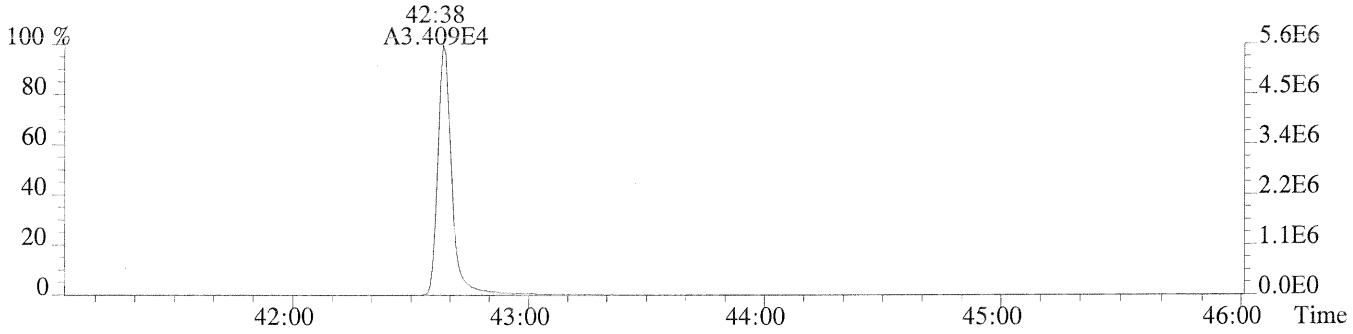
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,724.0,0.40%,F,T)



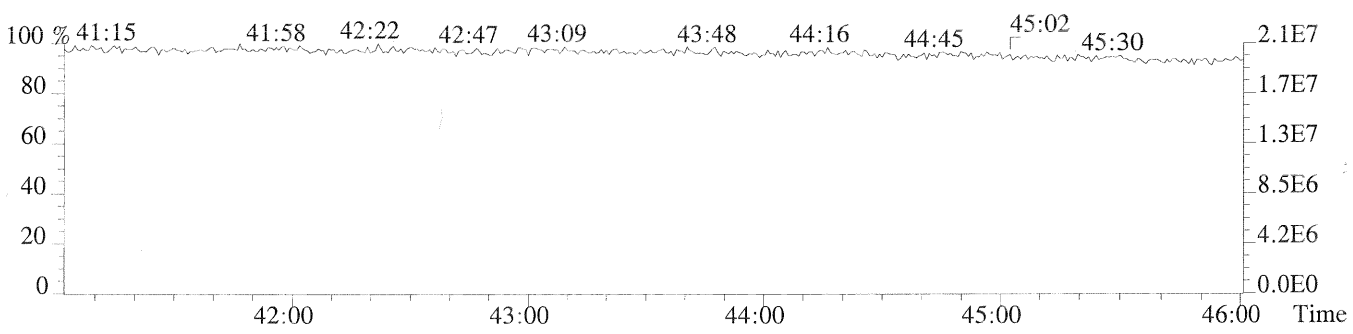
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,504.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,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.
CS1

Run #2 Filename U149173 Samp: 1 Inj: 1 Acquired: 21-MAY-14 15:39:21
Processed: 23-MAY-14 08:49:33 Sample ID: 66798

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	1.179e+02	1.687e+02	0.70	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:47	1.169e+03	7.600e+02	1.54	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	1.062e+03	6.910e+02	1.54	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	9.883e+02	7.868e+02	1.26	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:24	1.026e+03	8.352e+02	1.23	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:54	9.387e+02	7.880e+02	1.19	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	8.906e+02	6.832e+02	1.30	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	8.672e+02	8.273e+02	1.05	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	7.275e+02	6.813e+02	1.07	yes	no	1.359
10	Unk	OCDF	42:53	1.164e+03	1.227e+03	0.95	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:27	1.098e+02	1.361e+02	0.81	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:56	7.820e+02	4.871e+02	1.61	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:01	6.500e+02	4.886e+02	1.33	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	7.367e+02	5.730e+02	1.29	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	7.324e+02	6.057e+02	1.21	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	5.920e+02	6.400e+02	0.93	yes	no	1.065
17	Unk	OCDD	42:39	9.958e+02	1.092e+03	0.91	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	2.728e+04	3.345e+04	0.82	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	4.674e+04	2.954e+04	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	4.622e+04	2.881e+04	1.60	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:17	1.865e+04	3.642e+04	0.51	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:23	2.168e+04	4.244e+04	0.51	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:53	1.992e+04	3.926e+04	0.51	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	1.854e+04	3.569e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	1.438e+04	3.176e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.345e+04	2.910e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	1.855e+04	2.355e+04	0.79	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	2.963e+04	1.903e+04	1.56	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	2.338e+04	1.772e+04	1.32	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:05	2.540e+04	1.947e+04	1.30	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	2.299e+04	2.118e+04	1.09	yes	no	0.936
32	IS	13C-OCDD	42:38	3.268e+04	3.542e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	1.925e+04	2.464e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	2.713e+04	2.096e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.988e+02				no	1.044

ENVIRONMENTAL
19450 Stancliff Road, Suite 115
Houston, TX 77099
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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
CS1

Run #2 Filename U149173 Samp: 1 Inj: 1 Acquired: 21-MAY-14 15:39:21
Processed: 22-MAY-14 12:57:501 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	2.34e+04	7.16e+02	3.3e+01	3.42e+04	1.43e+03	2.4e+01
4	1,2,3,7,8-PeCDF	2.23e+05	6.84e+02	3.3e+02	1.41e+05	1.22e+03	1.2e+02
5	2,3,4,7,8-PeCDF	2.09e+05	6.84e+02	3.1e+02	1.42e+05	1.22e+03	1.2e+02
6	1,2,3,4,7,8-HxCDF	2.08e+05	1.06e+03	2.0e+02	1.66e+05	8.60e+02	1.9e+02
8	1,2,3,6,7,8-HxCDF	2.10e+05	1.06e+03	2.0e+02	1.65e+05	8.60e+02	1.9e+02
9	2,3,4,6,7,8-HxCDF	1.91e+05	1.06e+03	1.8e+02	1.62e+05	8.60e+02	1.9e+02
7	1,2,3,7,8,9-HxCDF	1.85e+05	1.06e+03	1.7e+02	1.33e+05	8.60e+02	1.5e+02
8	1,2,3,4,6,7,8-HpCDF	1.73e+05	1.26e+03	1.4e+02	1.73e+05	1.41e+03	1.2e+02
9	1,2,3,4,7,8,9-HpCDF	1.40e+05	1.26e+03	1.1e+02	1.24e+05	1.41e+03	8.8e+01
10	OCDF	1.75e+05	7.28e+02	2.4e+02	1.87e+05	6.88e+02	2.7e+02
11	2,3,7,8-TCDD	2.37e+04	7.12e+02	3.3e+01	3.04e+04	7.36e+02	4.1e+01
12	1,2,3,7,8-PeCDD	1.60e+05	9.40e+02	1.7e+02	9.26e+04	7.28e+02	1.3e+02
13	1,2,3,4,7,8-HxCDD	1.36e+05	7.56e+02	1.8e+02	1.06e+05	8.40e+02	1.3e+02
14	1,2,3,6,7,8-HxCDD	1.44e+05	7.56e+02	1.9e+02	1.17e+05	8.40e+02	1.4e+02
15	1,2,3,7,8,9-HxCDD	1.44e+05	7.56e+02	1.9e+02	1.26e+05	8.40e+02	1.5e+02
16	1,2,3,4,6,7,8-HpCDD	1.17e+05	9.92e+02	1.2e+02	1.12e+05	6.72e+02	1.7e+02
17	OCDD	1.56e+05	5.52e+02	2.8e+02	1.69e+05	7.40e+02	2.3e+02
18	13C-2,3,7,8-TCDF	5.98e+06	6.88e+02	8.7e+03	7.27e+06	9.56e+02	7.6e+03
19	13C-1,2,3,7,8-PeCDF	8.87e+06	5.88e+02	1.5e+04	5.66e+06	8.20e+02	6.9e+03
20	13C-2,3,4,7,8-PeCDF	9.39e+06	5.88e+02	1.6e+04	5.93e+06	8.20e+02	7.2e+03
21	13C-1,2,3,4,7,8-HxCDF	4.00e+06	8.76e+02	4.6e+03	7.63e+06	1.10e+03	7.0e+03
22	13C-1,2,3,6,7,8-HxCDF	4.42e+06	8.76e+02	5.0e+03	8.53e+06	1.10e+03	7.8e+03
23	13C-2,3,4,6,7,8-HxCDF	4.18e+06	8.76e+02	4.8e+03	8.17e+06	1.10e+03	7.5e+03
24	13C-1,2,3,7,8,9-HxCDF	3.60e+06	8.76e+02	4.1e+03	7.21e+06	1.10e+03	6.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.86e+06	3.00e+03	9.5e+02	6.40e+06	4.20e+03	1.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.39e+06	3.00e+03	8.0e+02	5.23e+06	4.20e+03	1.2e+03
27	13C-2,3,7,8-TCDD	4.18e+06	2.69e+03	1.6e+03	5.24e+06	1.72e+03	3.0e+03
28	13C-1,2,3,7,8-PeCDD	5.90e+06	7.20e+02	8.2e+03	3.79e+06	7.04e+02	5.4e+03
29	13C-1,2,3,4,7,8-HxCDD	5.26e+06	1.18e+03	4.4e+03	4.03e+06	7.80e+02	5.2e+03
30	13C-1,2,3,6,7,8-HxCDD	5.12e+06	1.18e+03	4.3e+03	3.96e+06	7.80e+02	5.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.22e+06	7.96e+02	5.3e+03	3.94e+06	8.48e+02	4.6e+03
32	13C-OCDD	5.18e+06	8.40e+02	6.2e+03	5.67e+06	6.00e+02	9.4e+03
33	13C-1,2,3,4-TCDD	4.21e+06	2.69e+03	1.6e+03	5.42e+06	1.72e+03	3.1e+03
34	13C-1,2,3,7,8,9-HxCDD	5.28e+06	1.18e+03	4.5e+03	4.11e+06	7.80e+02	5.3e+03
35	37Cl-2,3,7,8-TCDD	4.49e+04	1.12e+03	4.0e+01			

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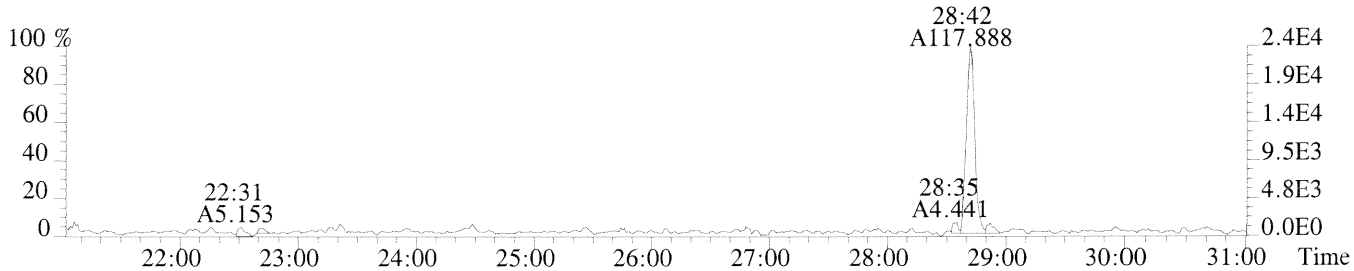
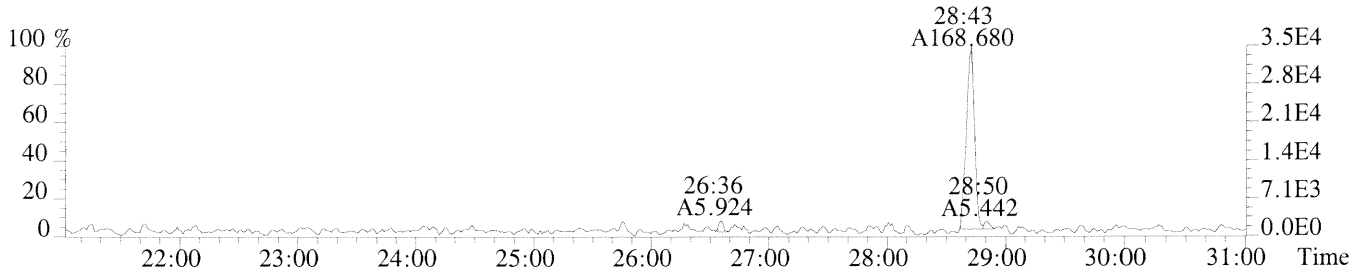
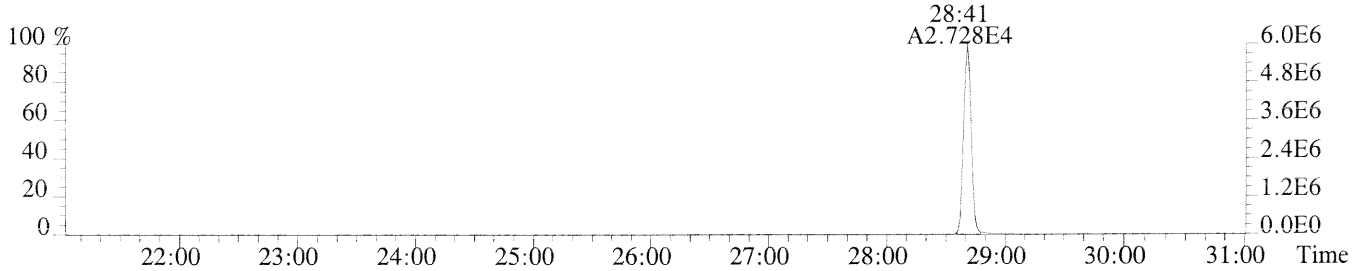
File:U149173 #1-627 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



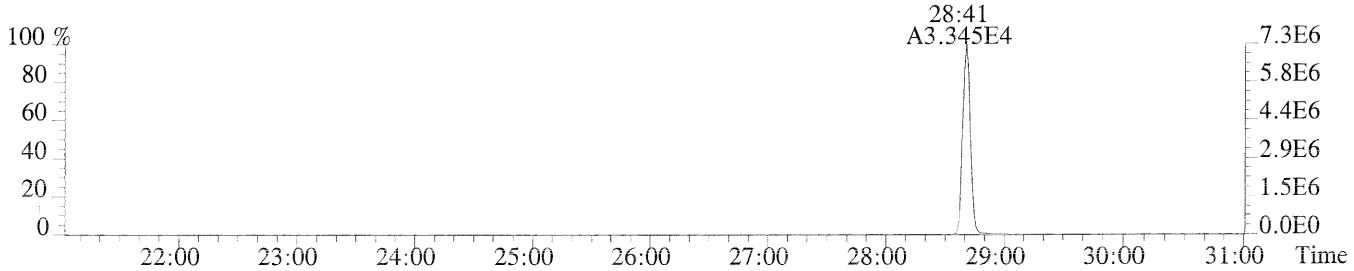
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1432.0,1.00%,F,T)



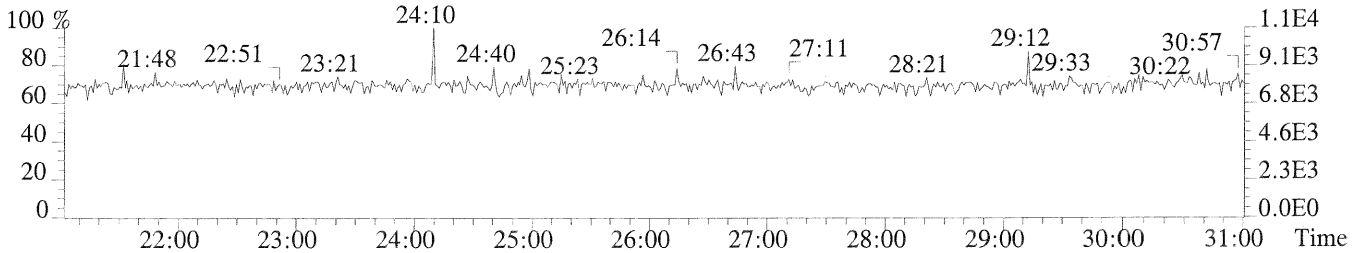
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



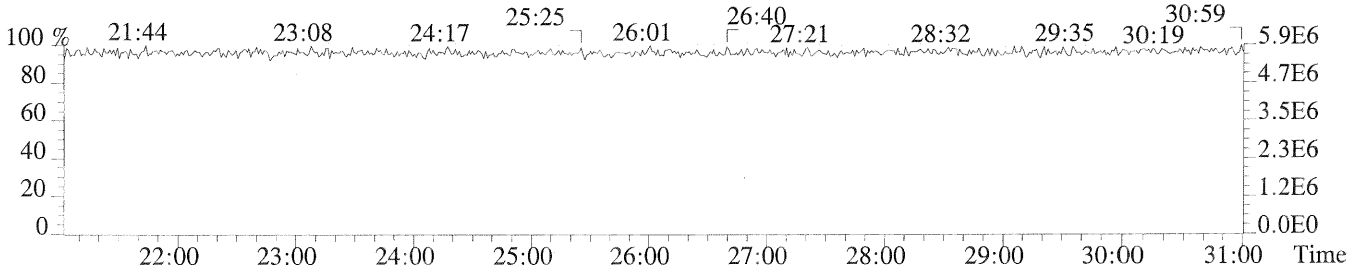
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,T)



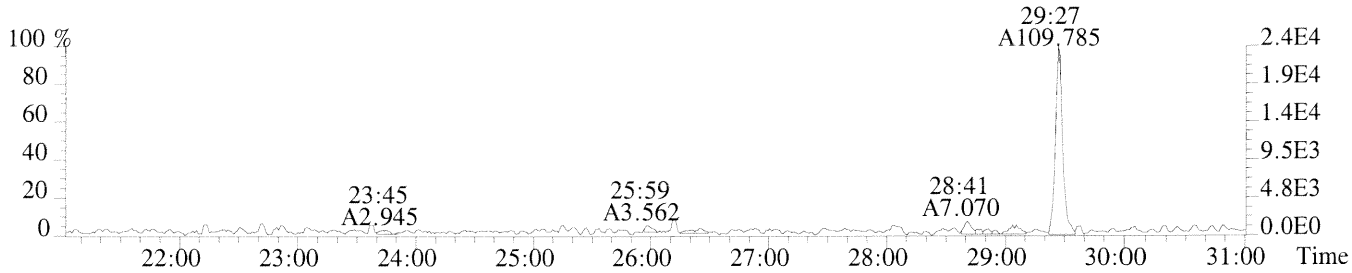
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



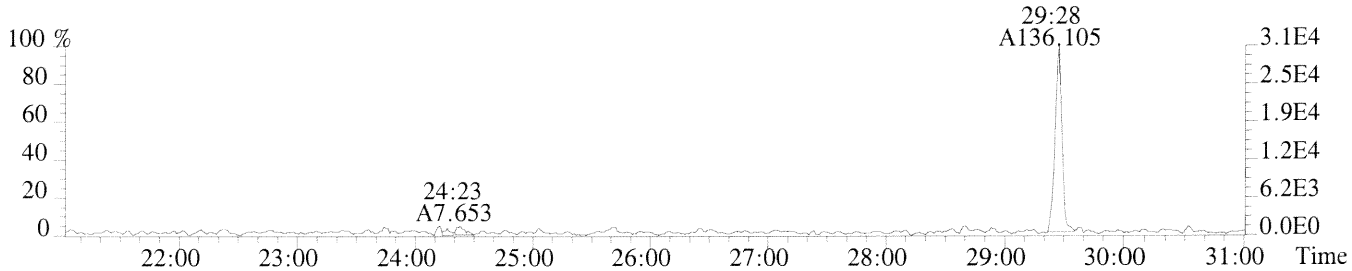
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



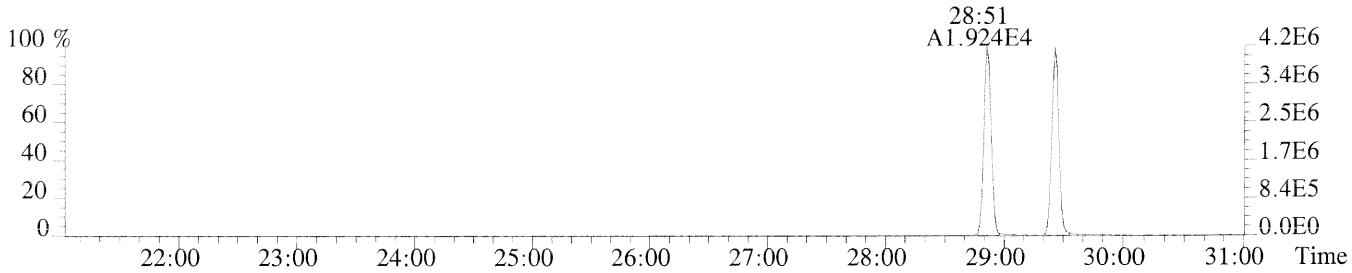
File:U149173 #1-627 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



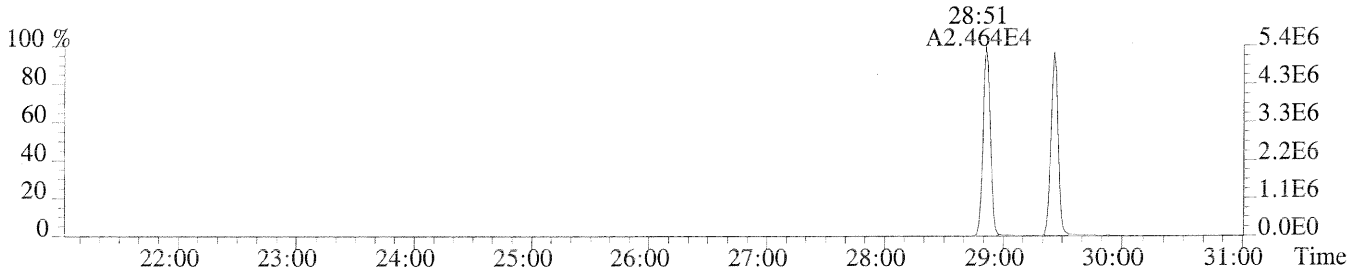
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



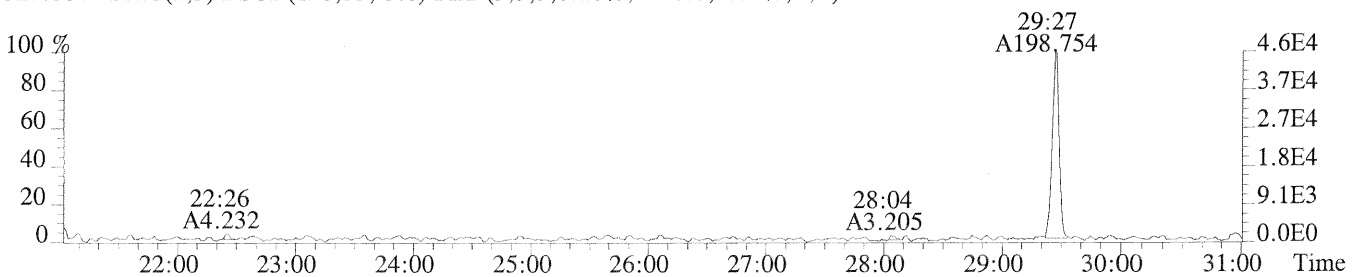
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2692.0,1.00%,F,T)



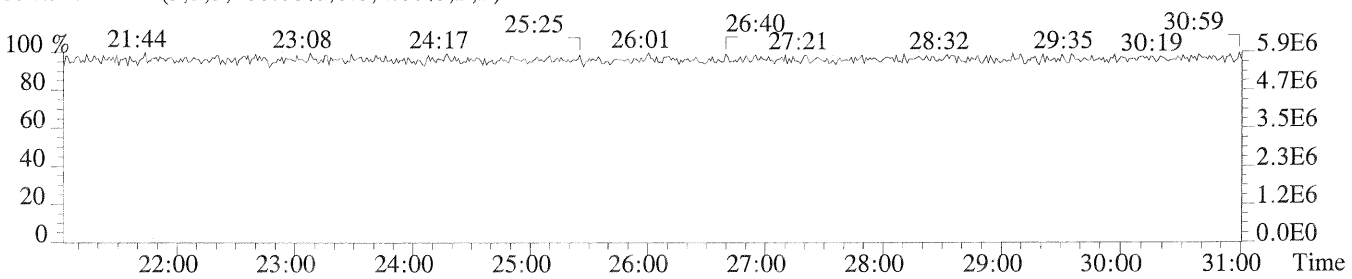
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



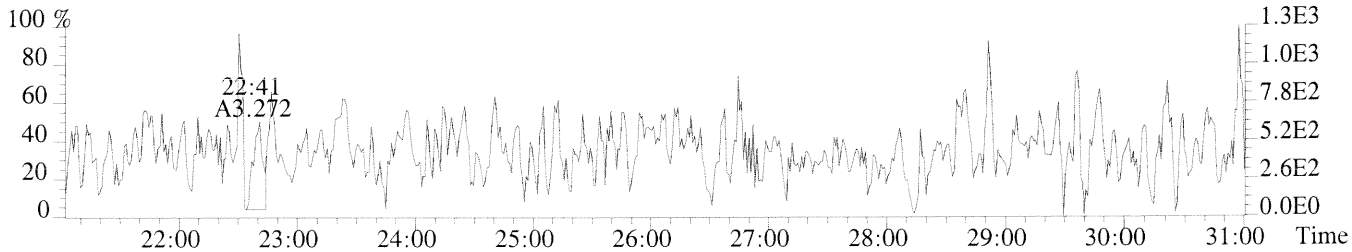
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,T)



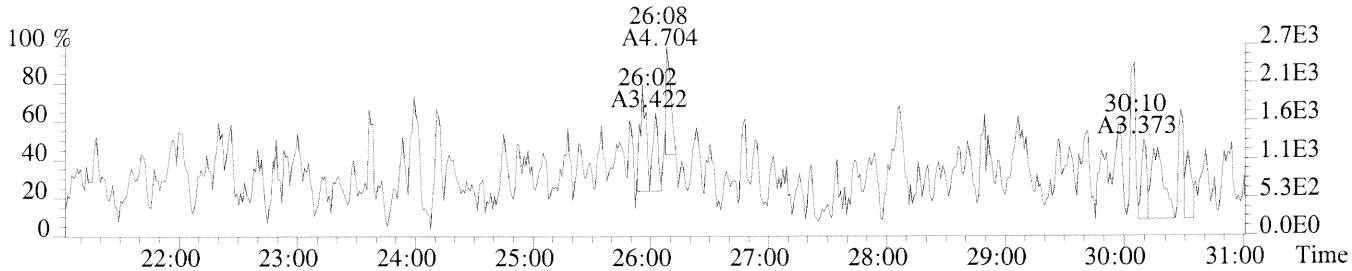
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



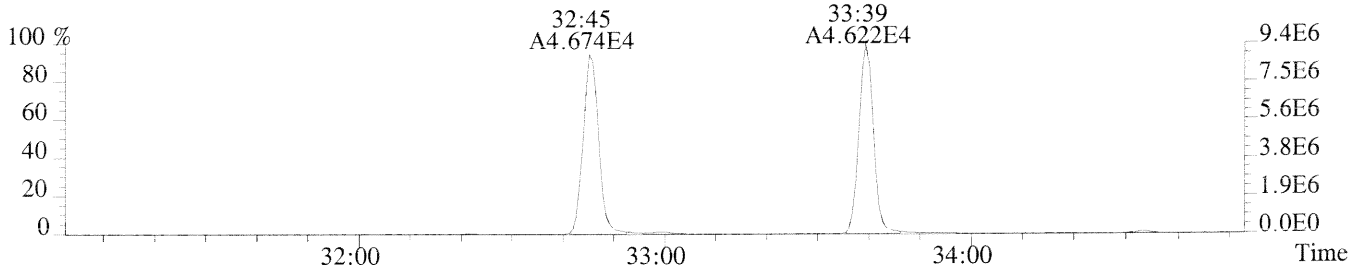
File:U149173 #1-627 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



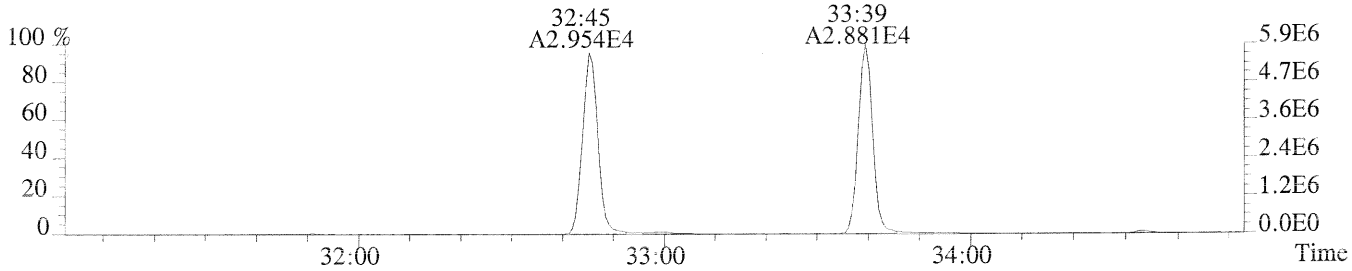
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



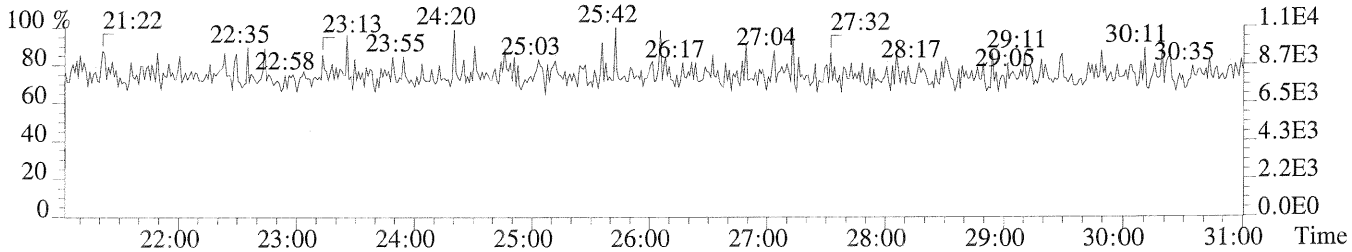
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



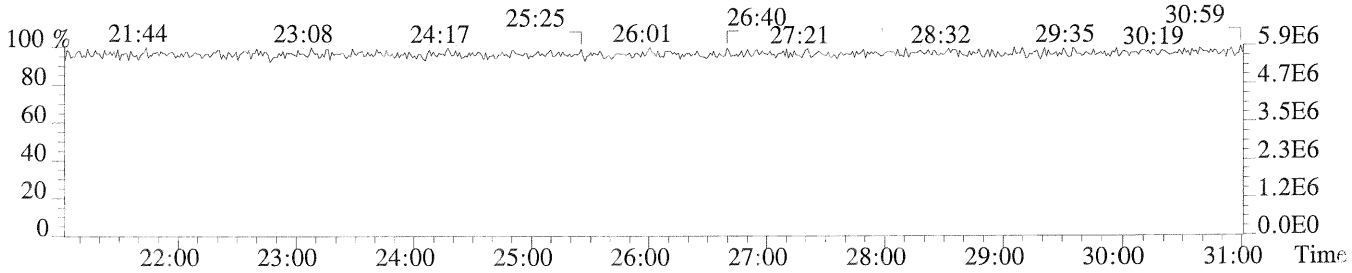
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

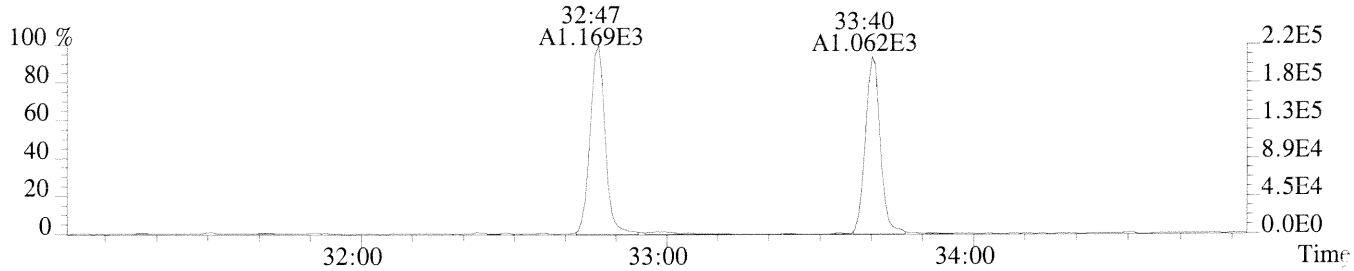


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

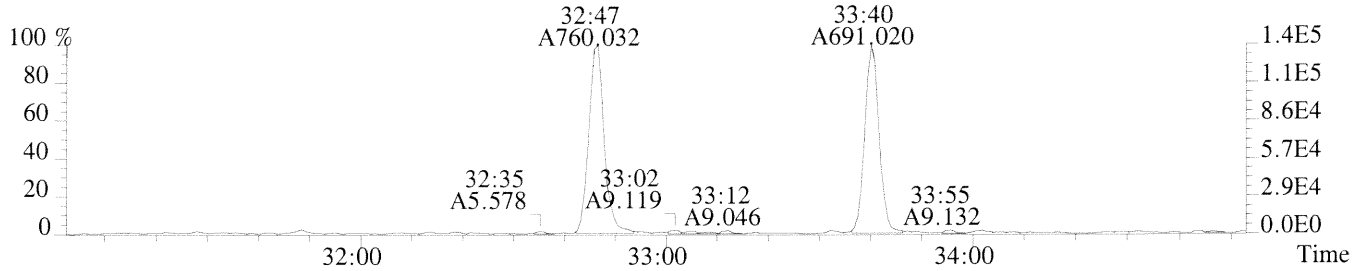


File:U149173 #1-349 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1

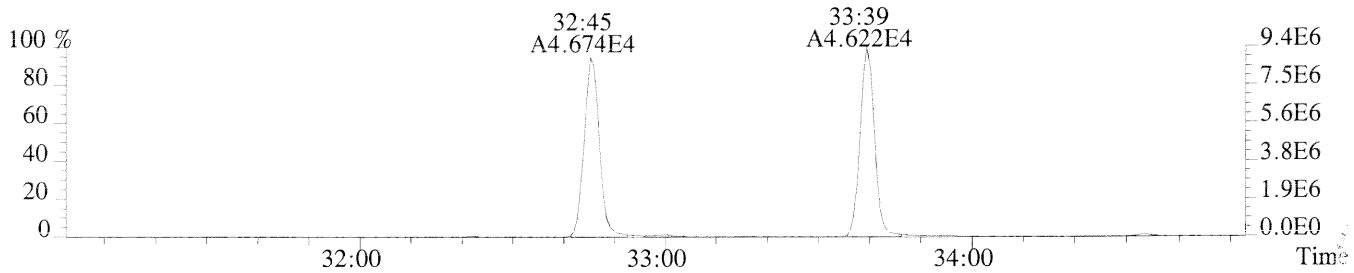
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



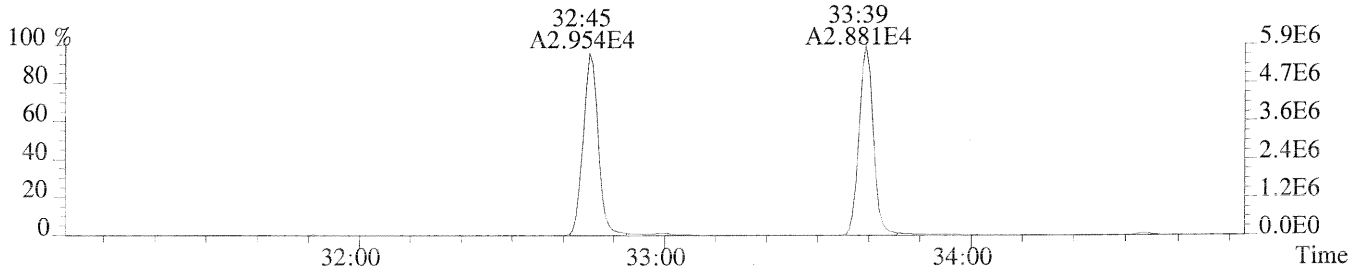
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)



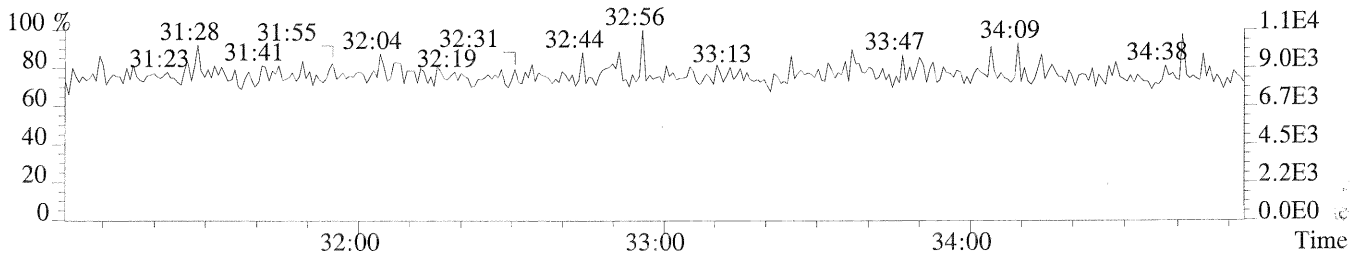
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



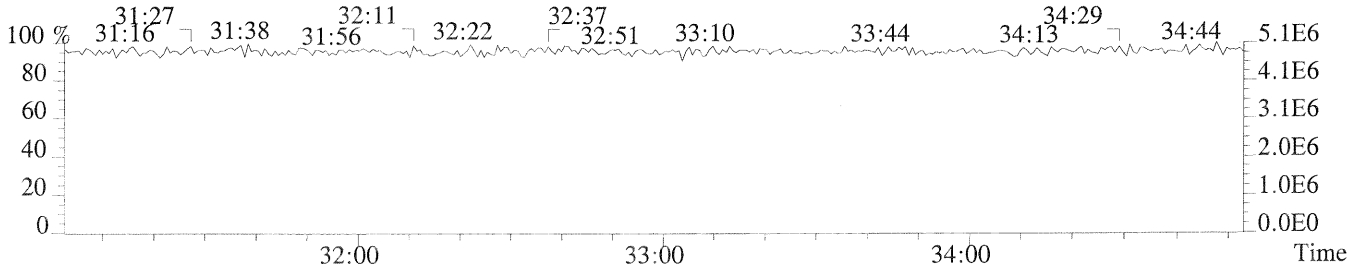
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



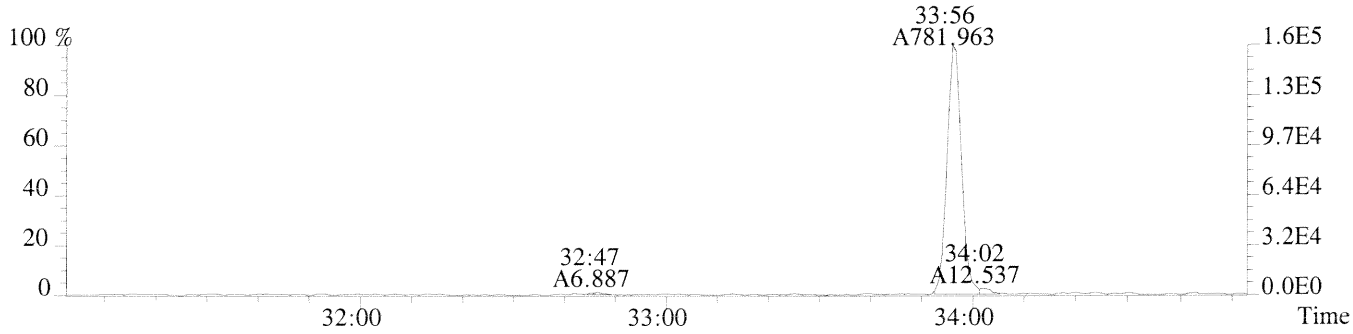
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



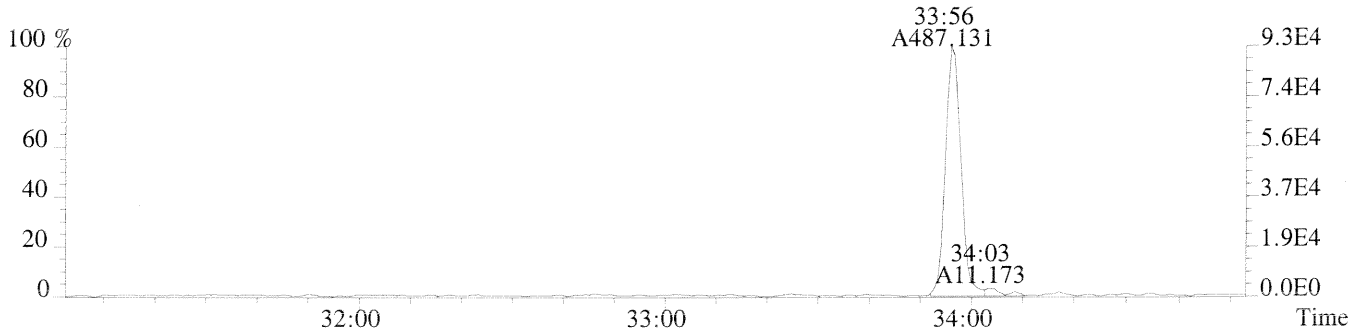
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



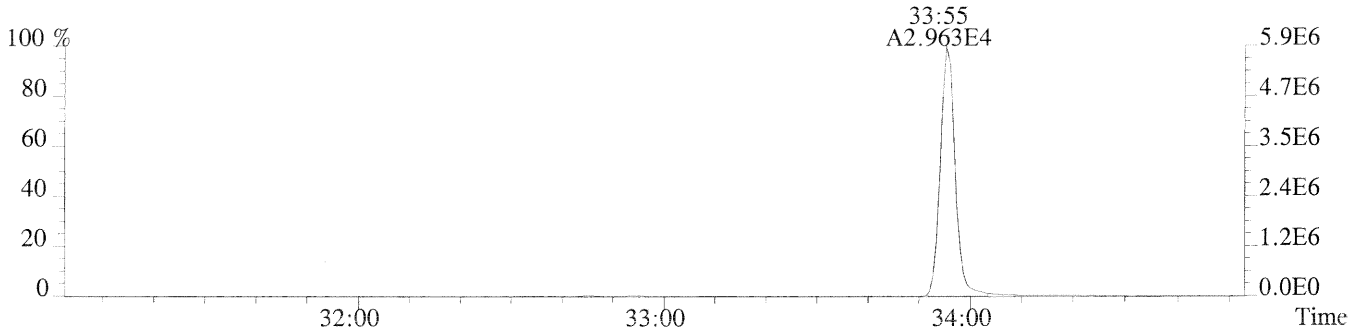
File:U149173 #1-349 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



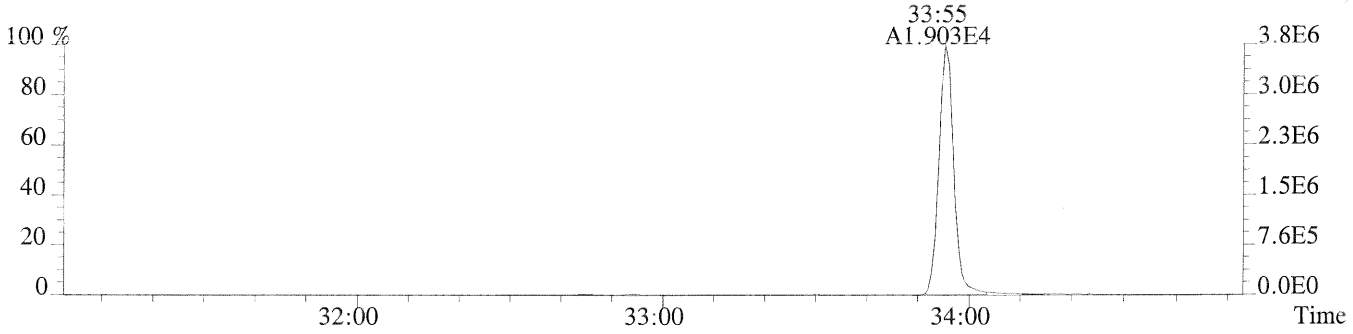
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



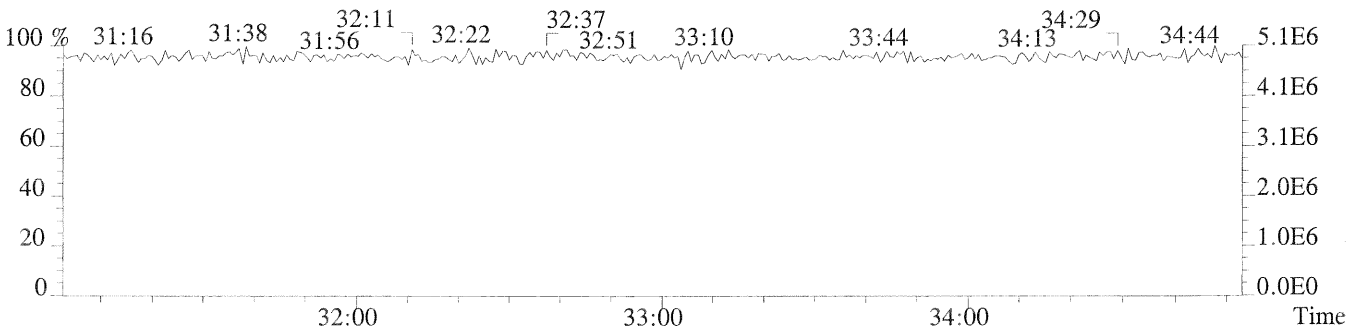
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)

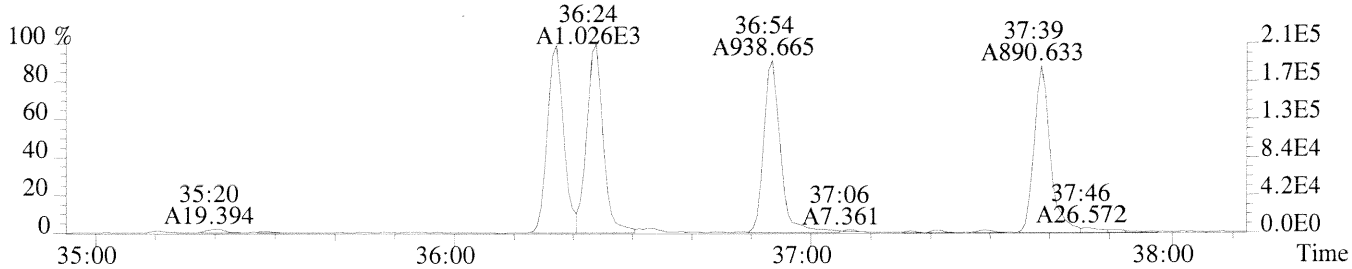


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

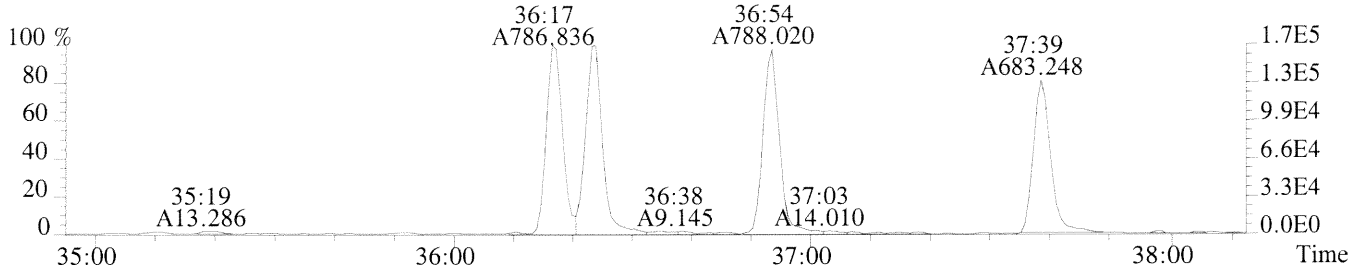


File:U149173 #1-299 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1

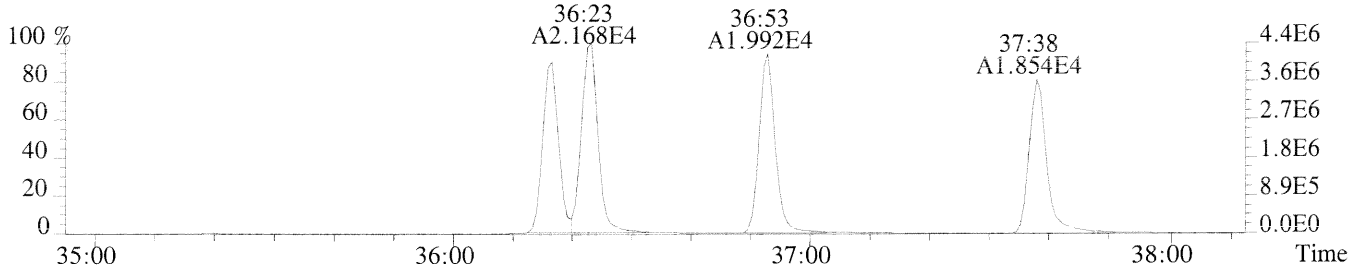
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



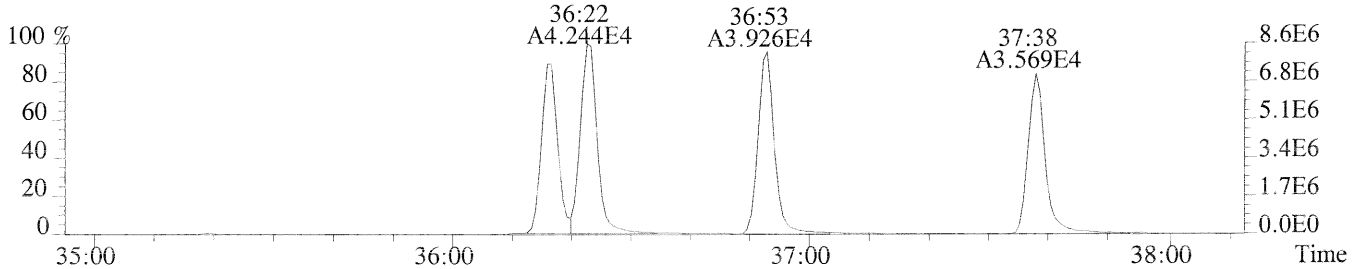
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



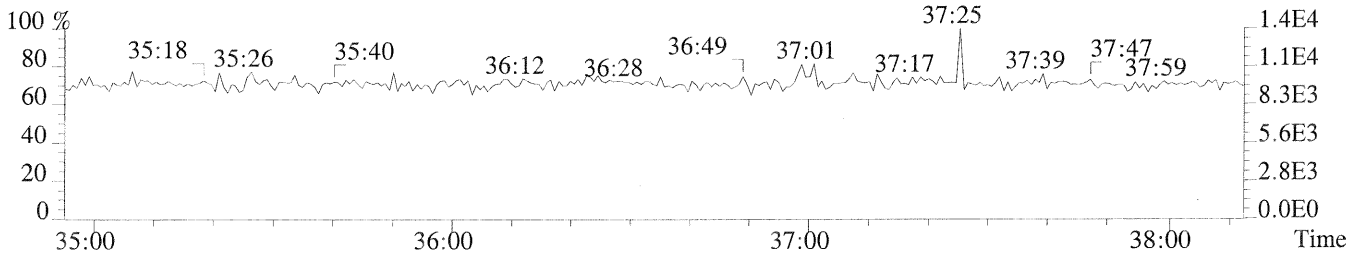
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



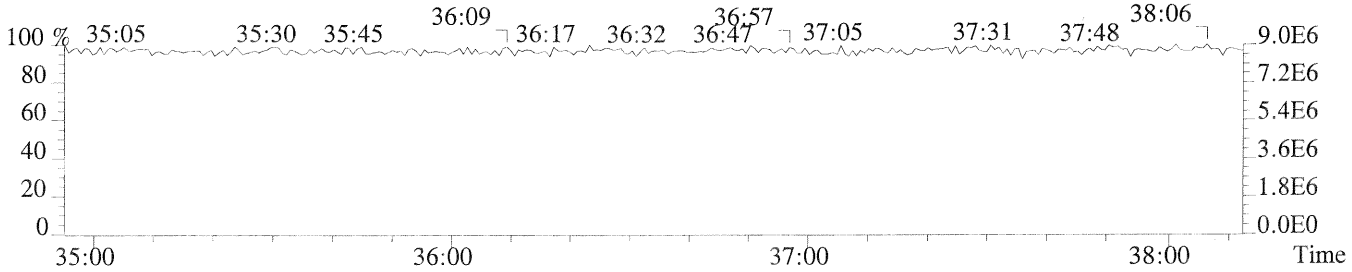
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1096.0,0.40%,F,T)



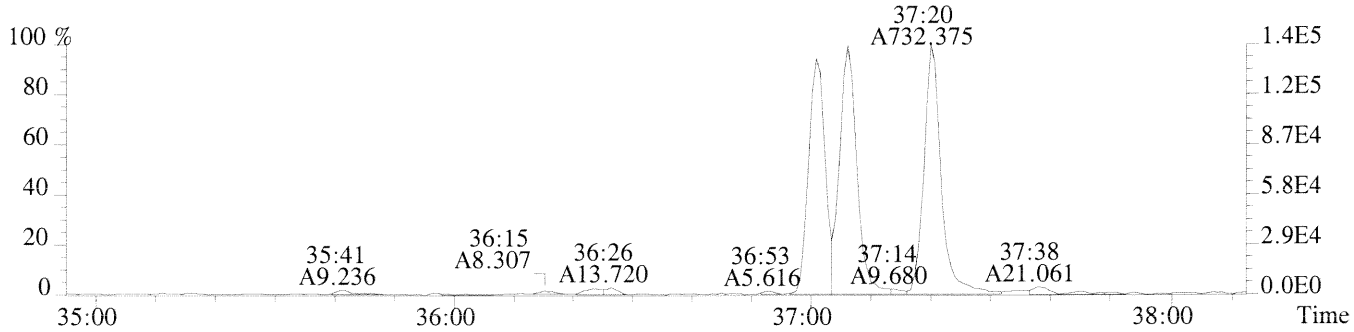
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



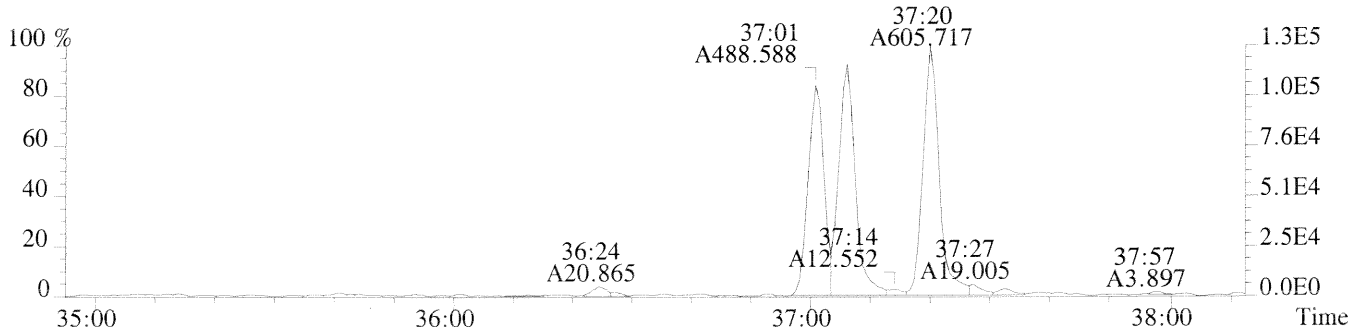
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



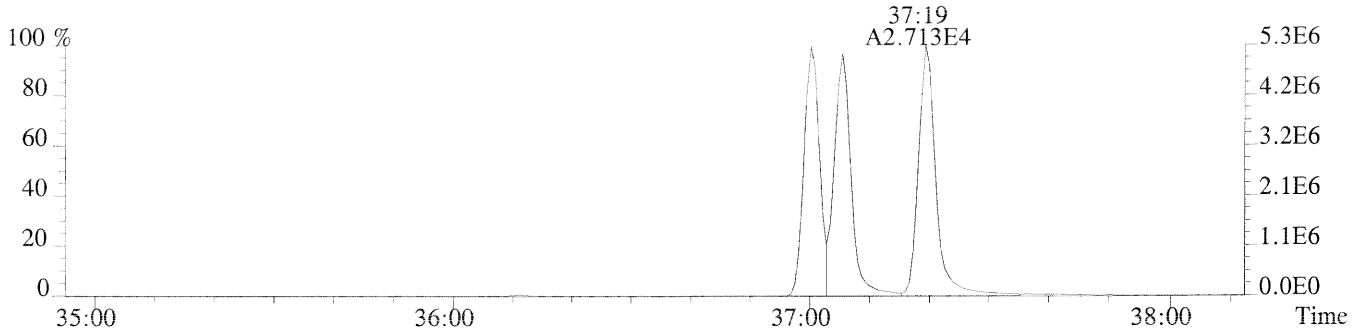
File:U149173 #1-299 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



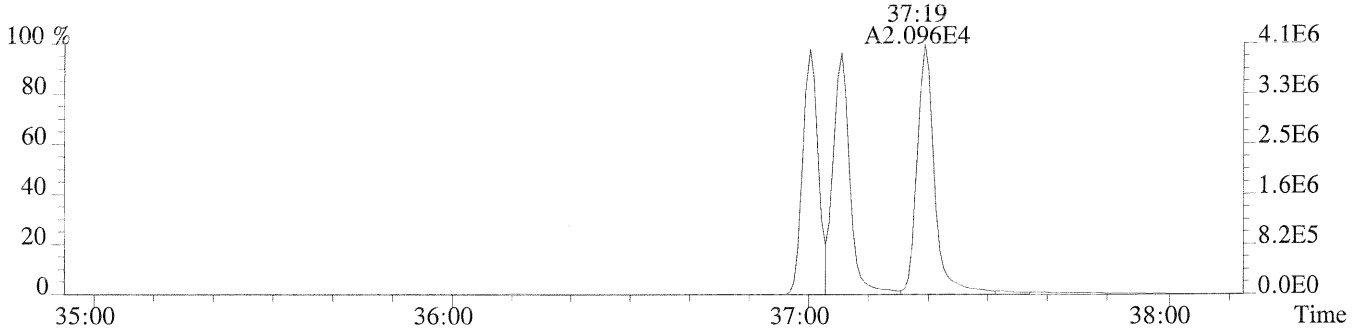
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



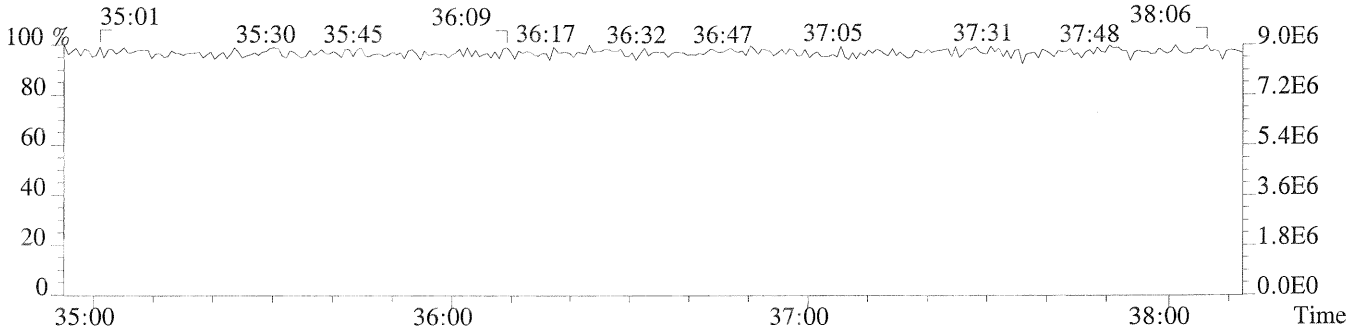
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,780.0,0.40%,F,T)

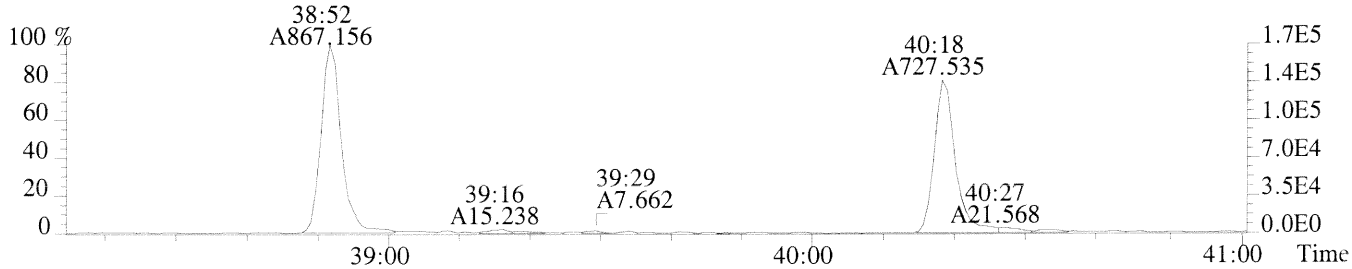


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

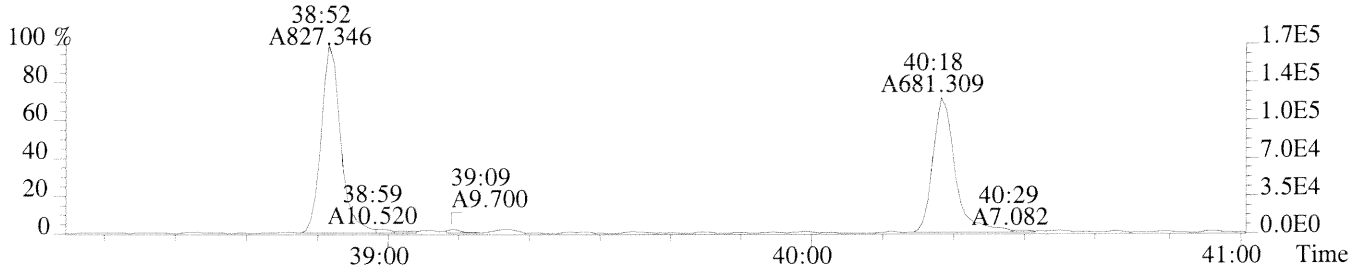


File:U149173 #1-252 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1

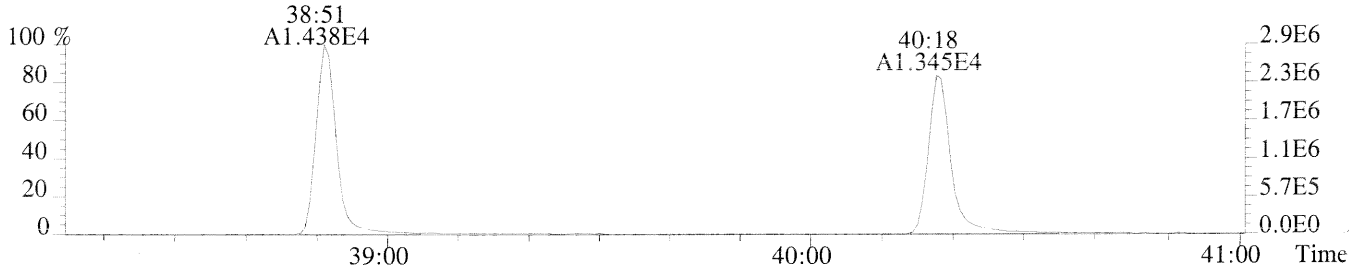
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.50%,F,T)



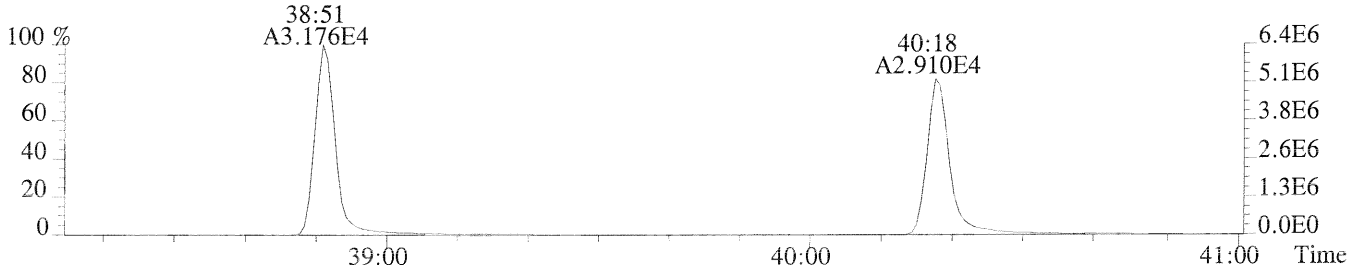
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.50%,F,T)



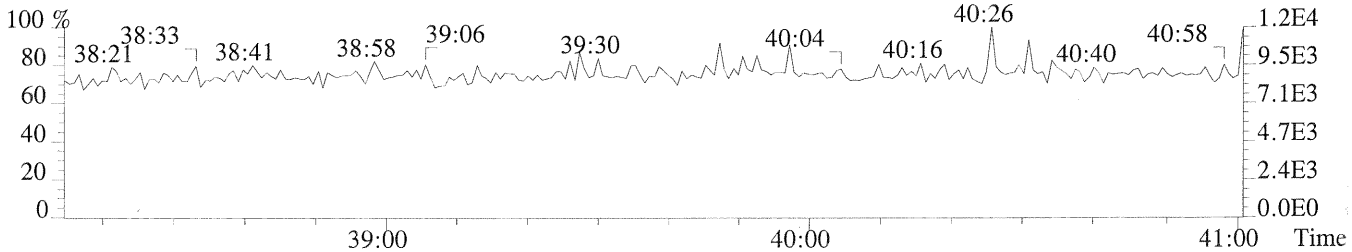
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.50%,F,T)



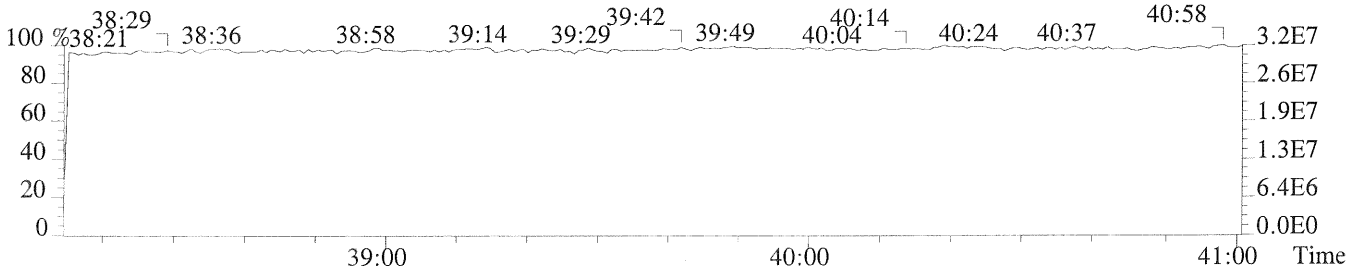
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4196.0,0.50%,F,T)



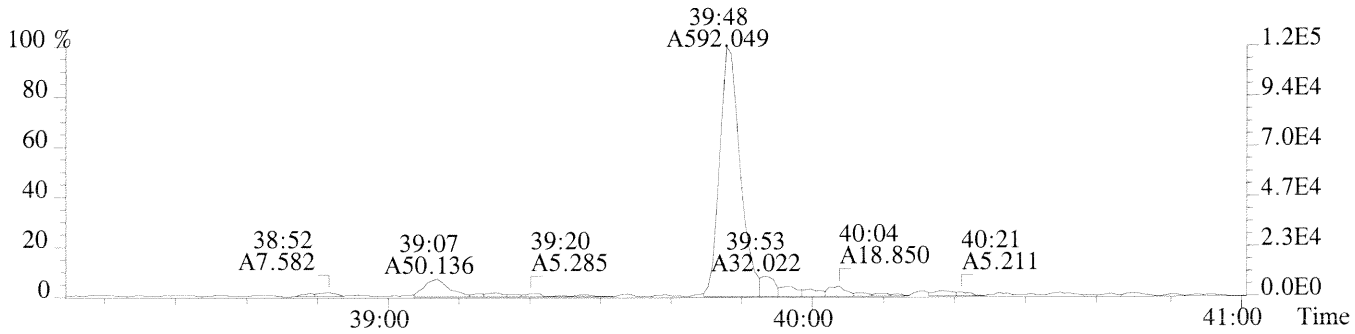
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



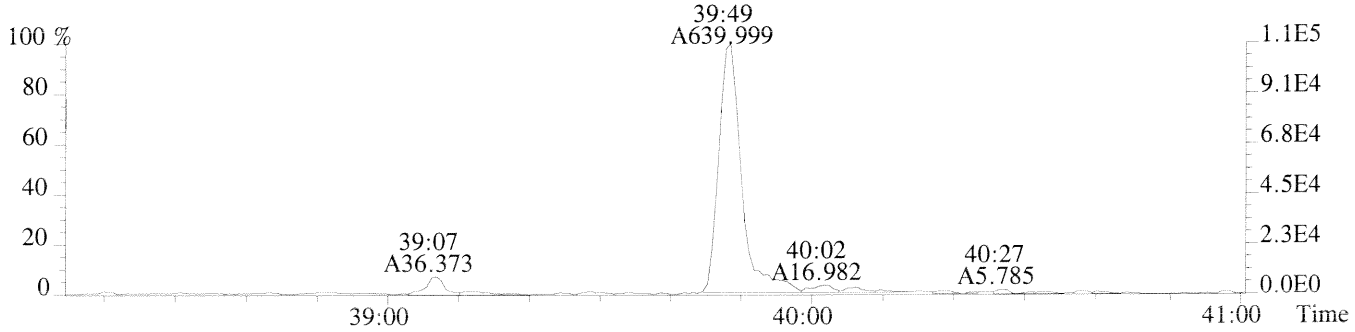
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



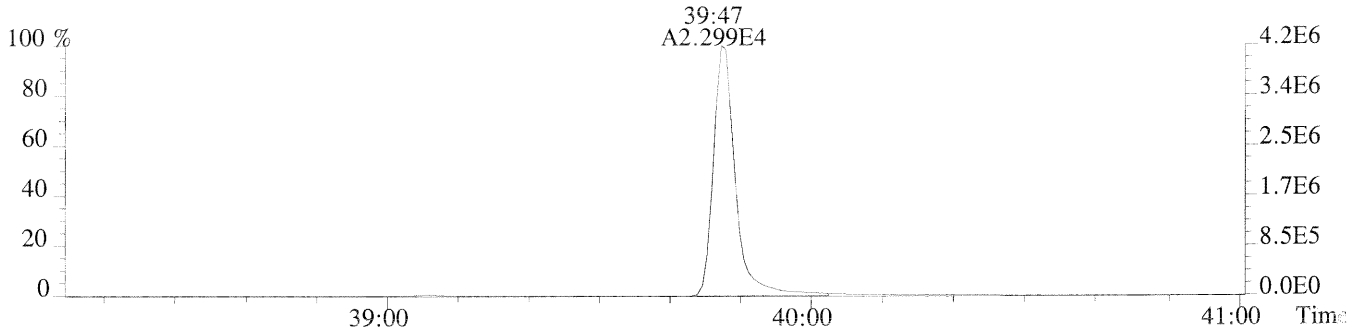
File:U149173 #1-252 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,992.0,0.40%,F,T)



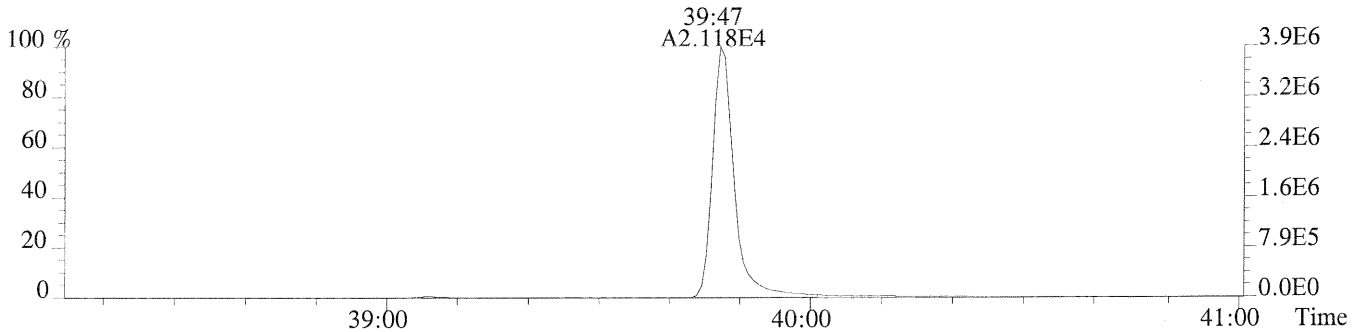
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,T)



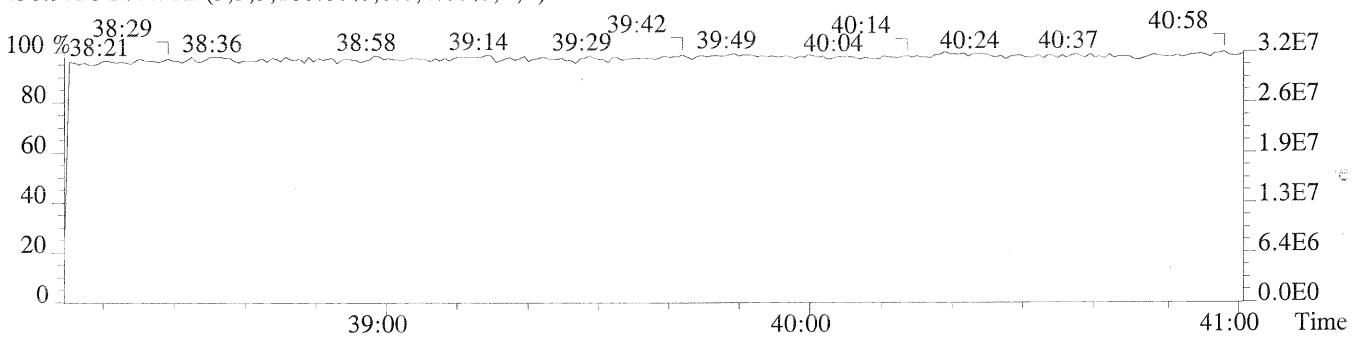
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,796.0,0.40%,F,T)



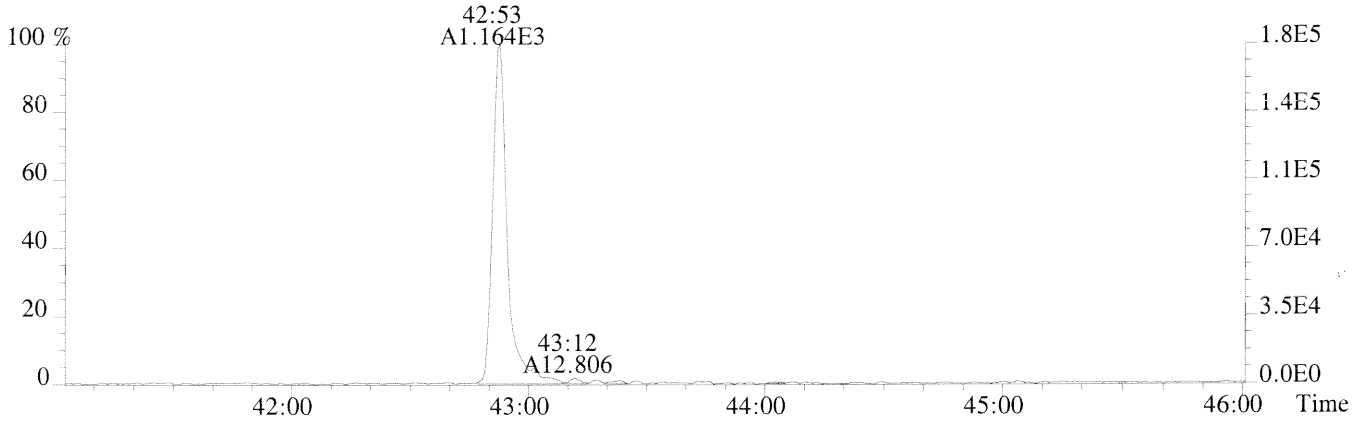
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



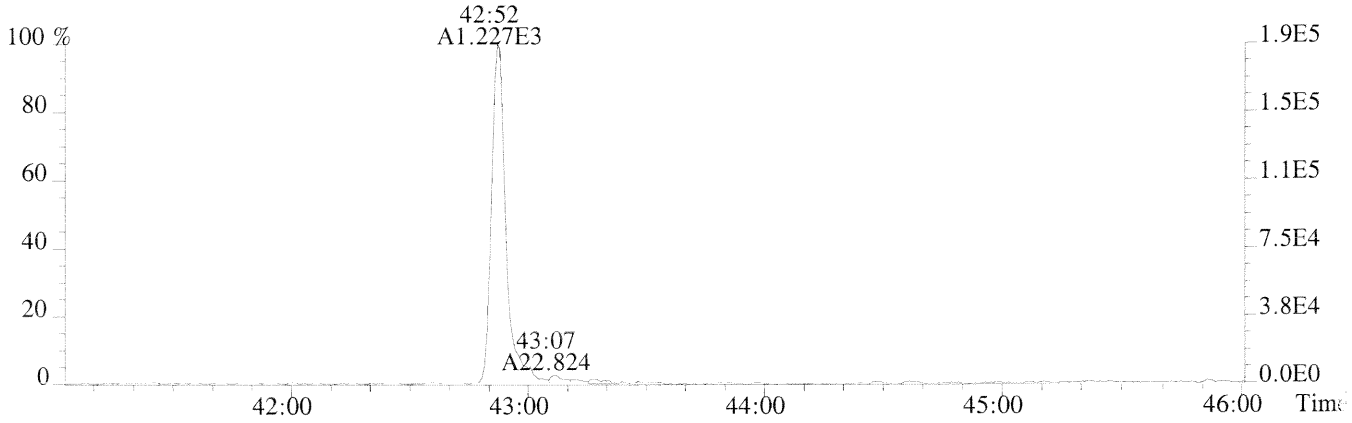
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



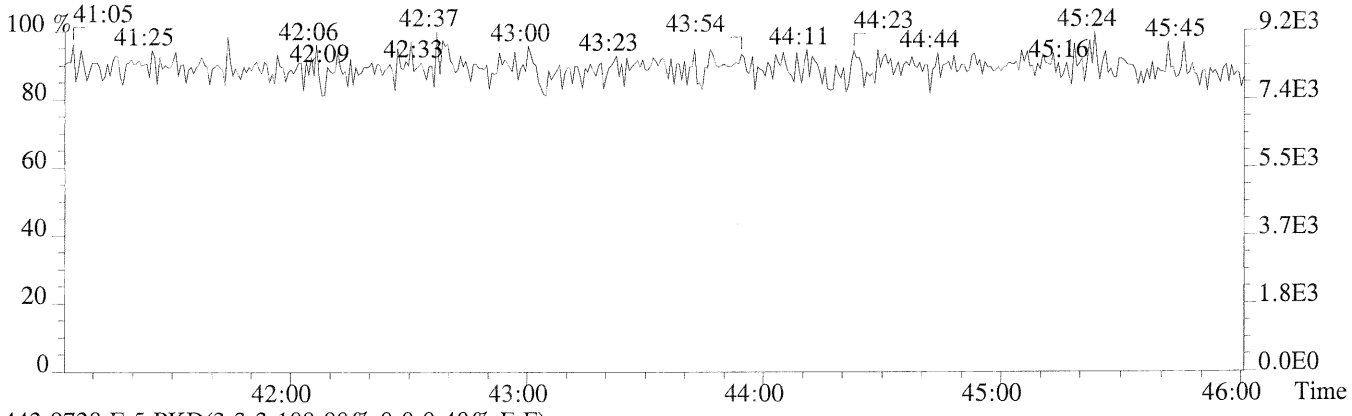
File:U149173 #1-451 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



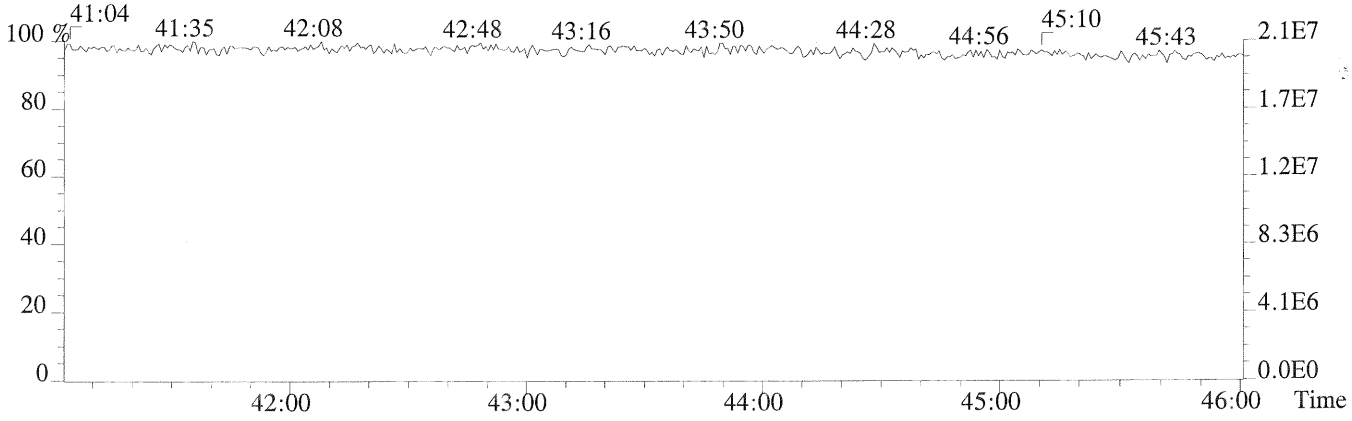
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,688.0,0.40%,F,T)



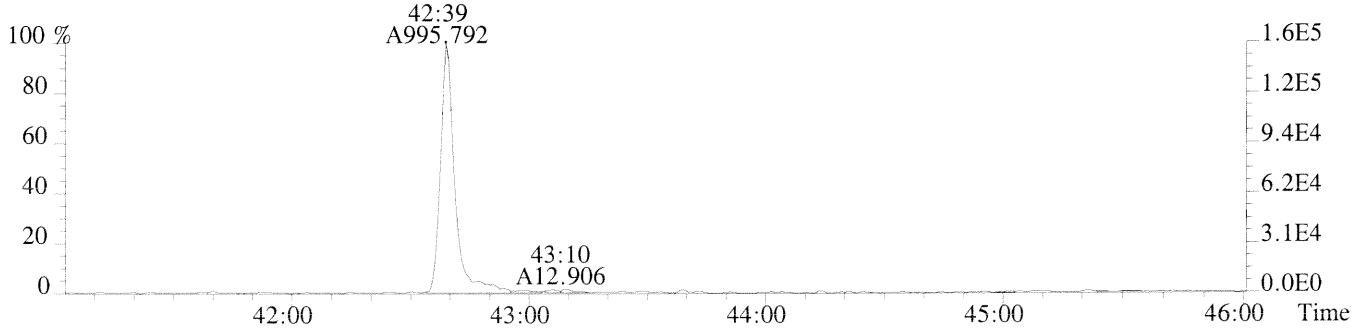
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



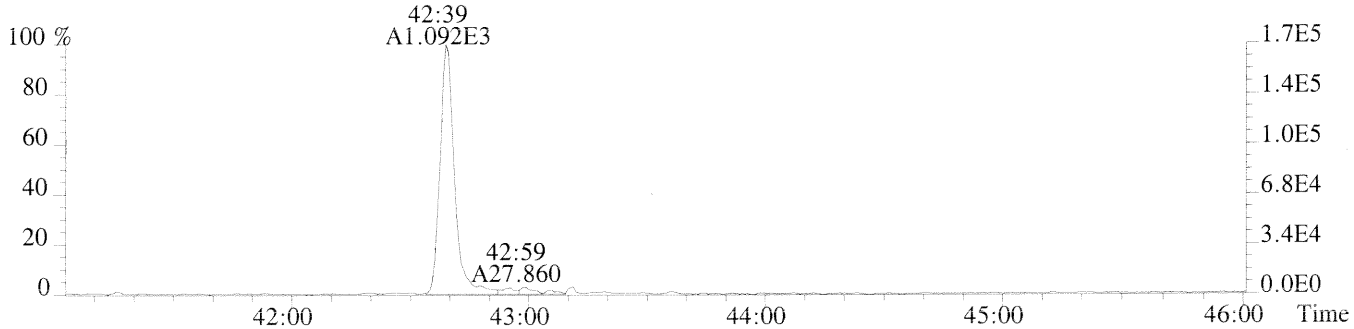
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



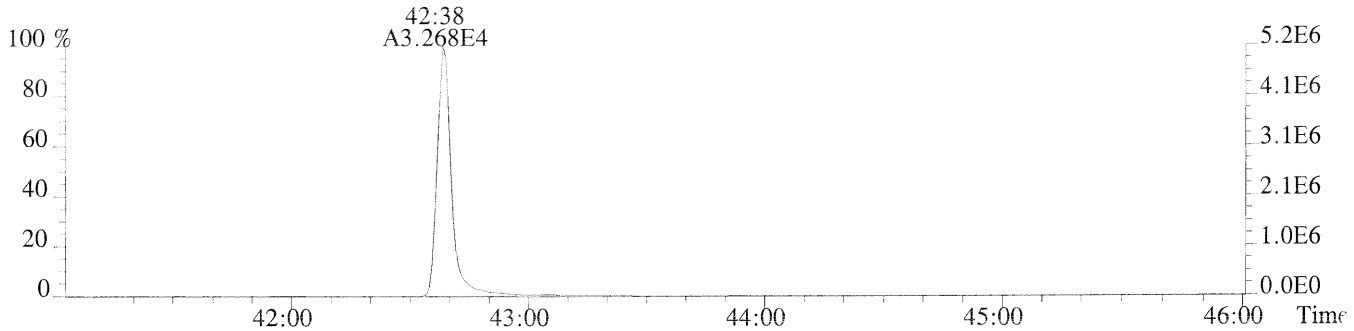
File:U149173 #1-451 Acq:21-MAY-2014 15:39:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1 HRCC1/CS1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,T)



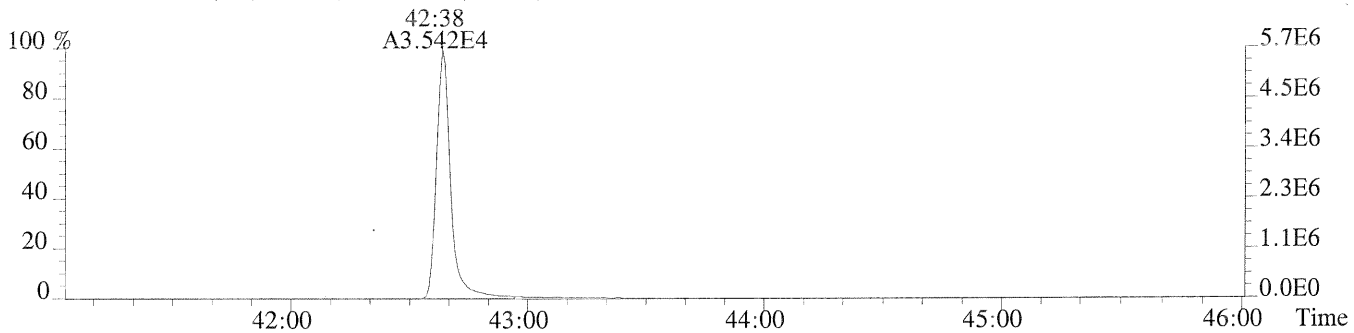
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,740.0,0.40%,F,T)



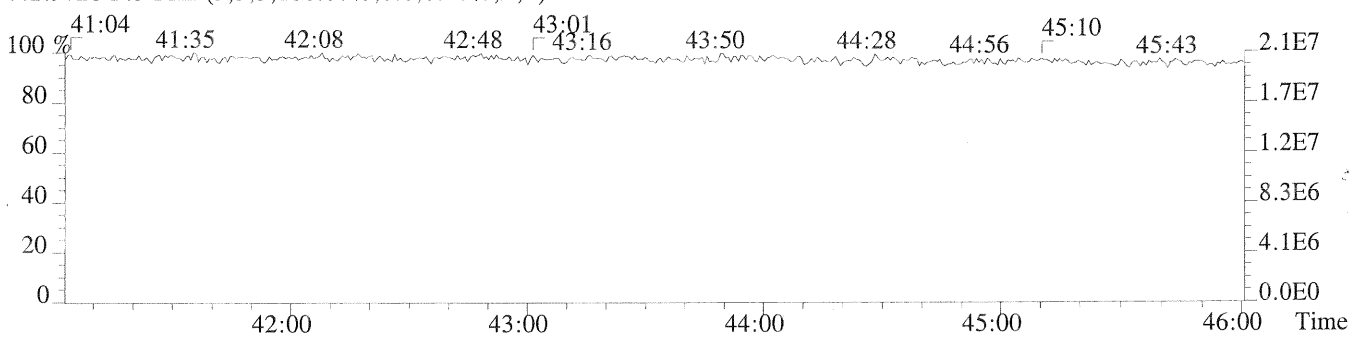
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,840.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,600.0,0.40%,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.
CS2

Run #3 Filename U149174 Samp: 1 Inj: 1 Acquired: 21-MAY-14 16:26:42
Processed: 23-MAY-14 08:49:33 Sample ID: D12-90-3B

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	7.173e+02	9.138e+02	0.78	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:46	6.731e+03	4.287e+03	1.57	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	6.261e+03	4.040e+03	1.55	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	5.431e+03	4.389e+03	1.24	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:23	6.018e+03	4.904e+03	1.23	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:53	5.417e+03	4.397e+03	1.23	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	5.268e+03	4.113e+03	1.28	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	4.368e+03	4.263e+03	1.02	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	3.945e+03	3.863e+03	1.02	yes	no	1.359
10	Unk	OCDF	42:52	5.979e+03	6.721e+03	0.89	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:27	5.507e+02	6.624e+02	0.83	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:56	4.497e+03	2.804e+03	1.60	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:01	3.801e+03	3.101e+03	1.23	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	3.984e+03	3.207e+03	1.24	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	4.289e+03	3.414e+03	1.26	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	3.234e+03	3.185e+03	1.02	yes	no	1.065
17	Unk	OCDD	42:39	5.245e+03	6.029e+03	0.87	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	4.031e+04	4.984e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	6.882e+04	4.355e+04	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	6.783e+04	4.301e+04	1.58	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:16	2.780e+04	5.354e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:22	3.286e+04	6.308e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:52	2.954e+04	5.780e+04	0.51	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	2.714e+04	5.261e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	1.941e+04	4.308e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.824e+04	3.992e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	2.783e+04	3.573e+04	0.78	yes	no	1.053
29	IS	13C-1,2,3,7,8-PeCDD	33:55	4.407e+04	2.796e+04	1.58	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	3.544e+04	2.678e+04	1.32	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:05	3.681e+04	2.812e+04	1.31	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	3.203e+04	2.985e+04	1.07	yes	no	0.936
32	IS	13C-OCDD	42:38	4.619e+04	5.030e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	2.848e+04	3.637e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	3.996e+04	3.100e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.272e+03				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
CS2

Run #3 Filename U149174 Samp: 1 Inj: 1 Acquired: 21-MAY-14 16:26:42
Processed: 22-MAY-14 12:57:501 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	1.57e+05	6.52e+02	2.4e+02	1.92e+05	1.14e+03	1.7e+02
2	1,2,3,7,8-PeCDF	1.31e+06	8.68e+02	1.5e+03	8.58e+05	1.04e+03	8.2e+02
3	2,3,4,7,8-PeCDF	1.27e+06	8.68e+02	1.5e+03	8.17e+05	1.04e+03	7.9e+02
4	1,2,3,4,7,8-HxCDF	1.18e+06	8.80e+02	1.3e+03	9.47e+05	8.52e+02	1.1e+03
5	1,2,3,6,7,8-HxCDF	1.25e+06	8.80e+02	1.4e+03	1.03e+06	8.52e+02	1.2e+03
6	2,3,4,6,7,8-HxCDF	1.13e+06	8.80e+02	1.3e+03	9.32e+05	8.52e+02	1.1e+03
7	1,2,3,7,8,9-HxCDF	1.06e+06	8.80e+02	1.2e+03	8.19e+05	8.52e+02	9.6e+02
8	1,2,3,4,6,7,8-HpCDF	8.92e+05	1.52e+03	5.9e+02	8.68e+05	1.02e+03	8.5e+02
9	1,2,3,4,7,8,9-HpCDF	7.27e+05	1.52e+03	4.8e+02	7.32e+05	1.02e+03	7.2e+02
10	OCDF	9.02e+05	5.12e+02	1.8e+03	1.03e+06	7.16e+02	1.4e+03
11	2,3,7,8-TCDD	1.21e+05	4.56e+02	2.7e+02	1.52e+05	8.08e+02	1.9e+02
12	1,2,3,7,8-PeCDD	9.12e+05	9.12e+02	1.0e+03	5.86e+05	6.92e+02	8.5e+02
13	1,2,3,4,7,8-HxCDD	8.45e+05	7.20e+02	1.2e+03	6.82e+05	1.06e+03	6.4e+02
14	1,2,3,6,7,8-HxCDD	8.18e+05	7.20e+02	1.1e+03	6.59e+05	1.06e+03	6.2e+02
15	1,2,3,7,8,9-HxCDD	8.47e+05	7.20e+02	1.2e+03	6.69e+05	1.06e+03	6.3e+02
16	1,2,3,4,6,7,8-HpCDD	6.21e+05	8.52e+02	7.3e+02	6.02e+05	5.44e+02	1.1e+03
17	OCDD	8.52e+05	6.56e+02	1.3e+03	9.85e+05	6.04e+02	1.6e+03
18	13C-2,3,7,8-TCDF	8.51e+06	1.32e+03	6.4e+03	1.05e+07	7.32e+02	1.4e+04
19	13C-1,2,3,7,8-PeCDF	1.33e+07	6.48e+02	2.1e+04	8.51e+06	7.24e+02	1.2e+04
20	13C-2,3,4,7,8-PeCDF	1.37e+07	6.48e+02	2.1e+04	8.54e+06	7.24e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	6.07e+06	9.28e+02	6.5e+03	1.17e+07	9.32e+02	1.3e+04
22	13C-1,2,3,6,7,8-HxCDF	6.79e+06	9.28e+02	7.3e+03	1.31e+07	9.32e+02	1.4e+04
23	13C-2,3,4,6,7,8-HxCDF	6.19e+06	9.28e+02	6.7e+03	1.21e+07	9.32e+02	1.3e+04
24	13C-1,2,3,7,8,9-HxCDF	5.49e+06	9.28e+02	5.9e+03	1.05e+07	9.32e+02	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	3.97e+06	2.66e+03	1.5e+03	8.82e+06	2.68e+03	3.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.37e+06	2.66e+03	1.3e+03	7.46e+06	2.68e+03	2.8e+03
27	13C-2,3,7,8-TCDD	6.31e+06	2.53e+03	2.5e+03	8.08e+06	1.46e+03	5.5e+03
28	13C-1,2,3,7,8-PeCDD	8.97e+06	6.88e+02	1.3e+04	5.66e+06	7.00e+02	8.1e+03
29	13C-1,2,3,4,7,8-HxCDD	7.90e+06	9.72e+02	8.1e+03	5.86e+06	1.07e+03	5.5e+03
30	13C-1,2,3,6,7,8-HxCDD	7.46e+06	9.72e+02	7.7e+03	5.64e+06	1.07e+03	5.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.11e+06	7.72e+02	7.9e+03	5.68e+06	8.00e+02	7.1e+03
32	13C-OCDD	7.33e+06	6.72e+02	1.1e+04	7.97e+06	5.92e+02	1.3e+04
33	13C-1,2,3,4-TCDD	6.32e+06	2.53e+03	2.5e+03	8.05e+06	1.46e+03	5.5e+03
34	13C-1,2,3,7,8,9-HxCDD	8.10e+06	9.72e+02	8.3e+03	6.21e+06	1.07e+03	5.8e+03
35	37Cl-2,3,7,8-TCDD	2.84e+05	1.29e+03	2.2e+02			

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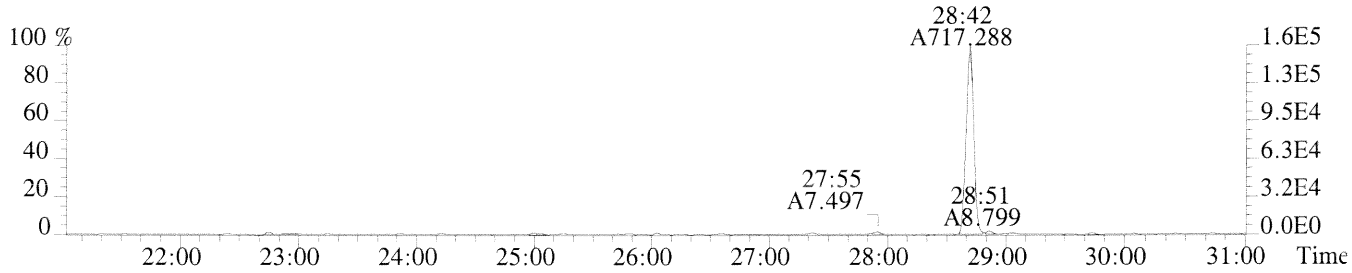
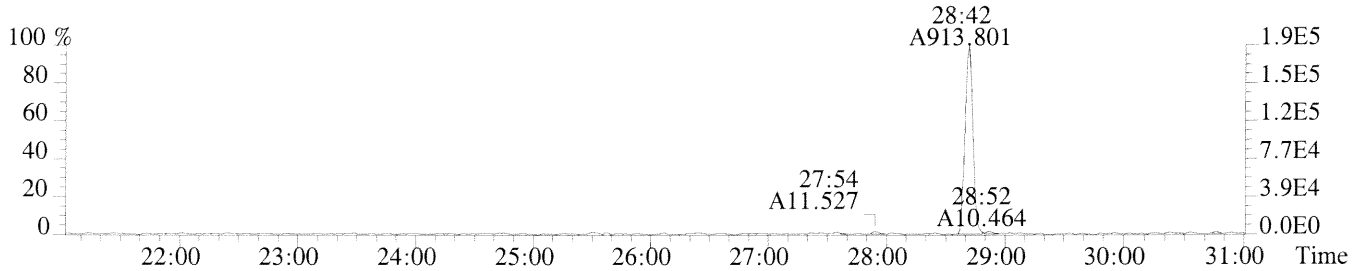
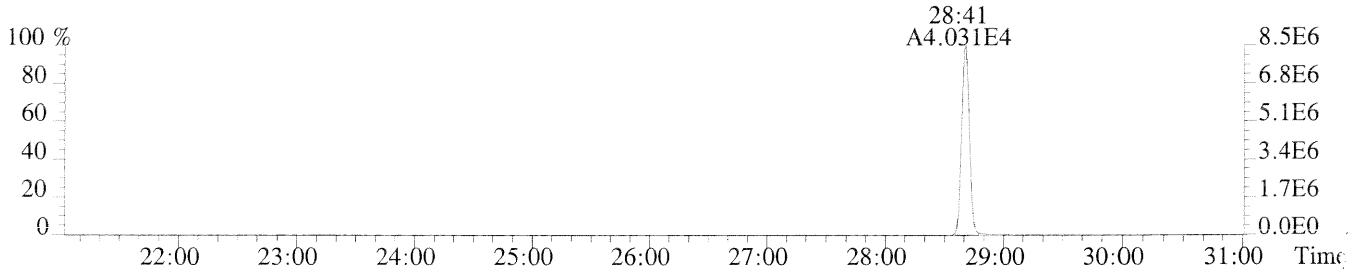
File:U149174 #1-627 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



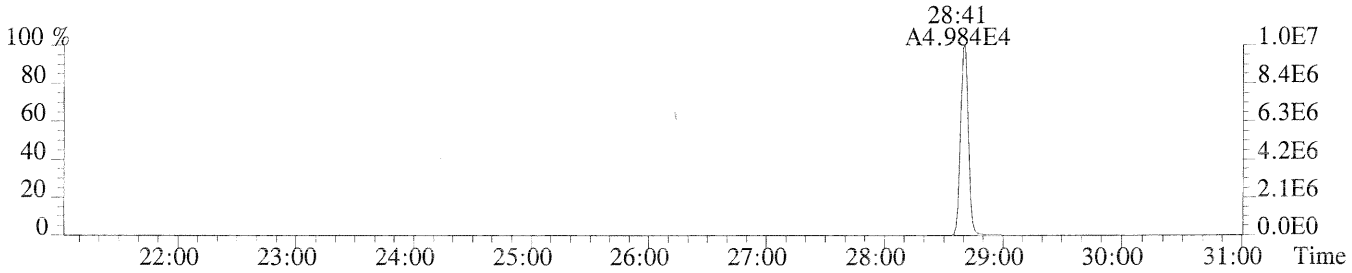
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



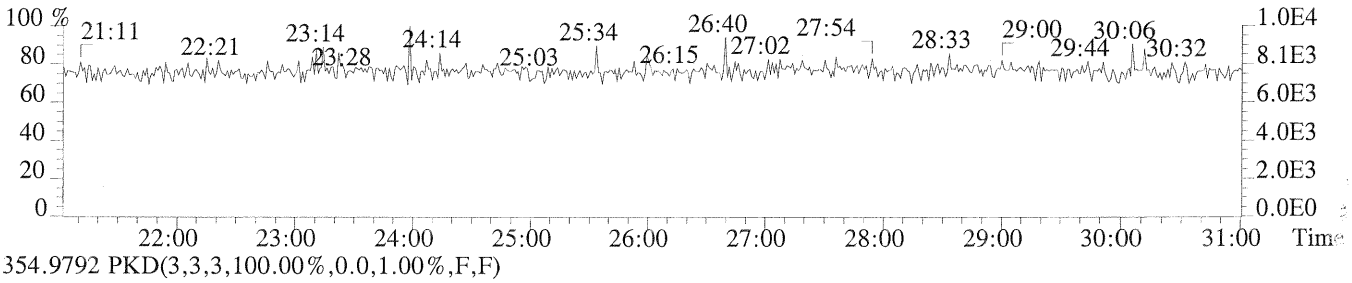
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



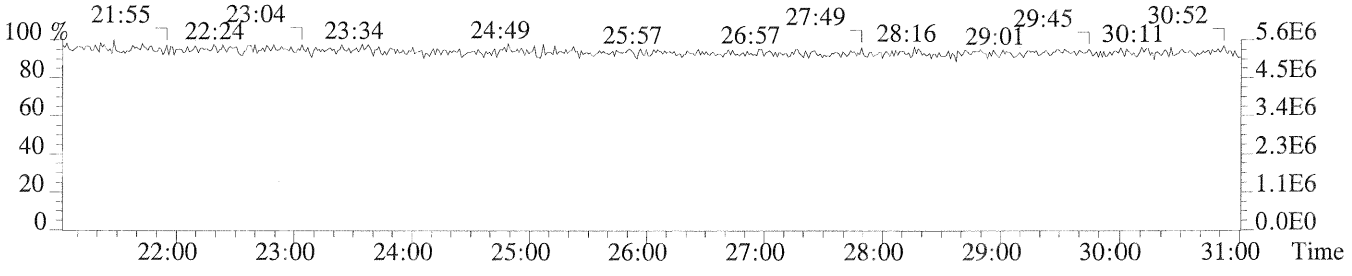
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



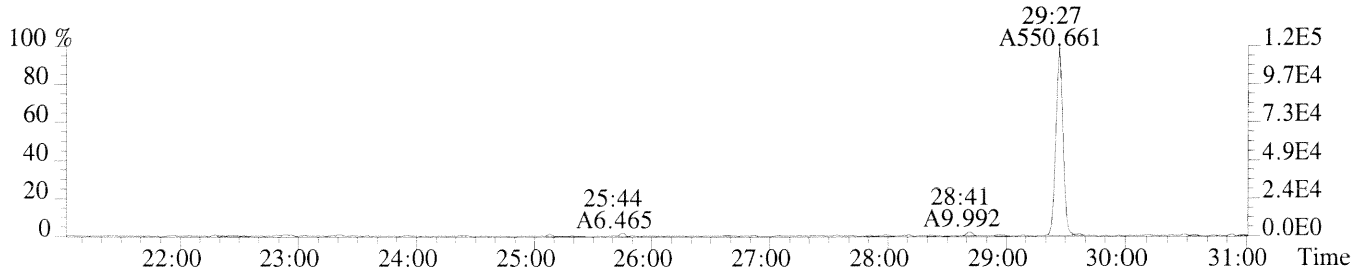
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



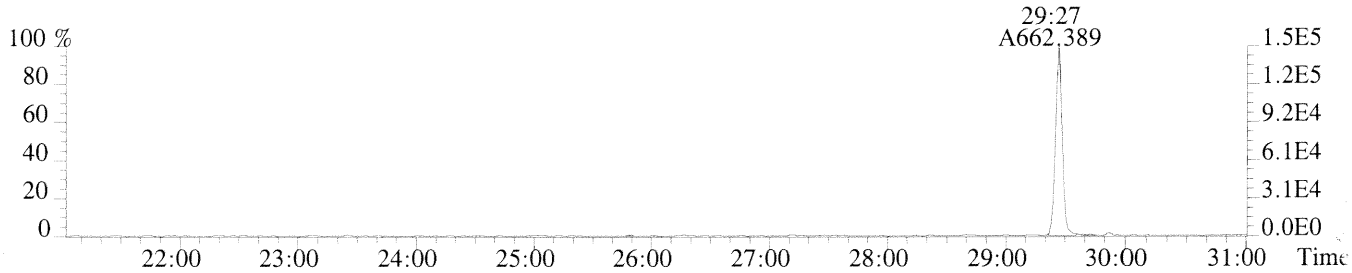
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



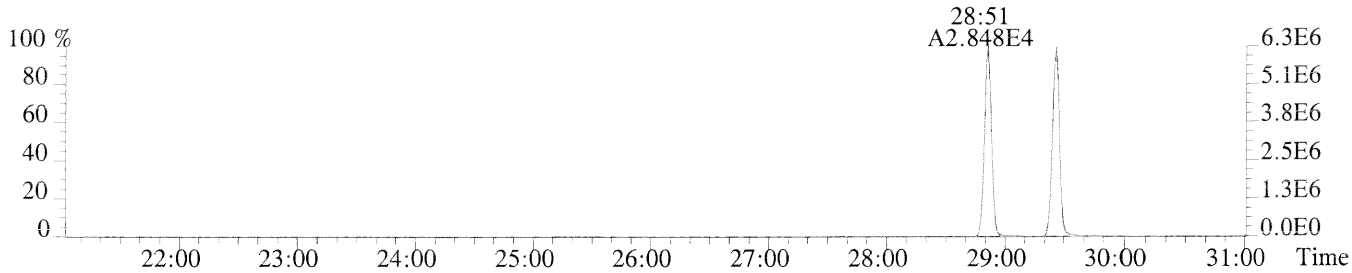
File:U149174 #1-627 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,456.0,1.00%,F,T)



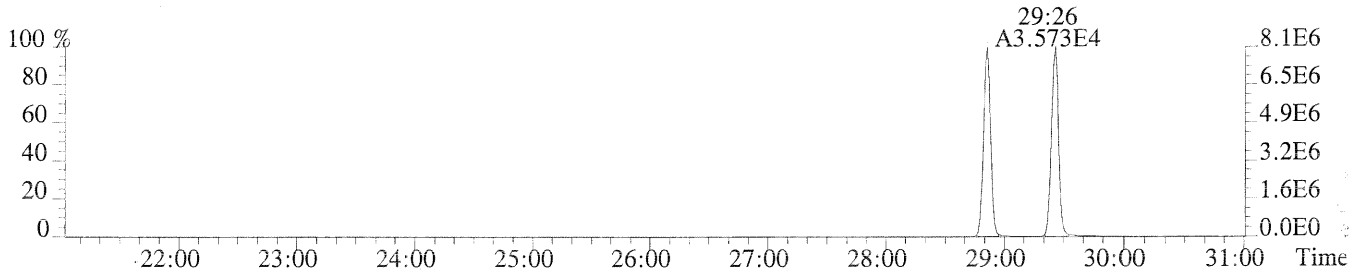
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



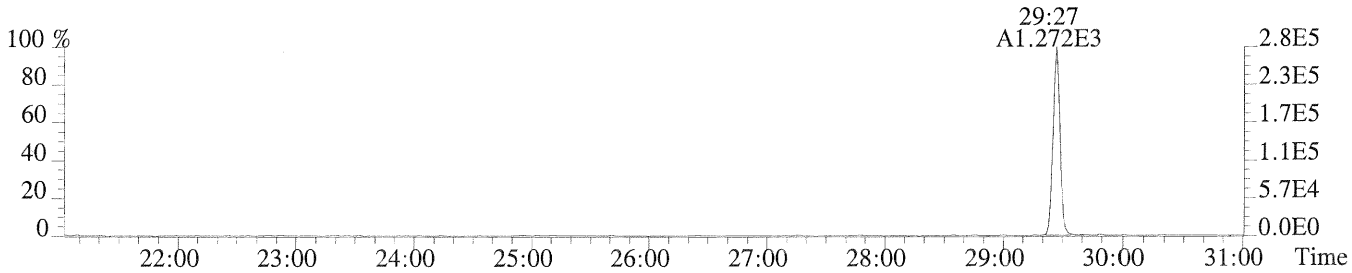
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2528.0,1.00%,F,T)



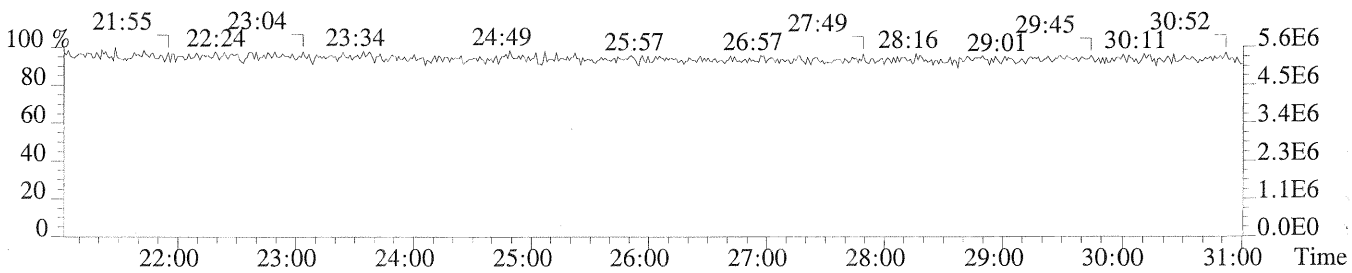
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)

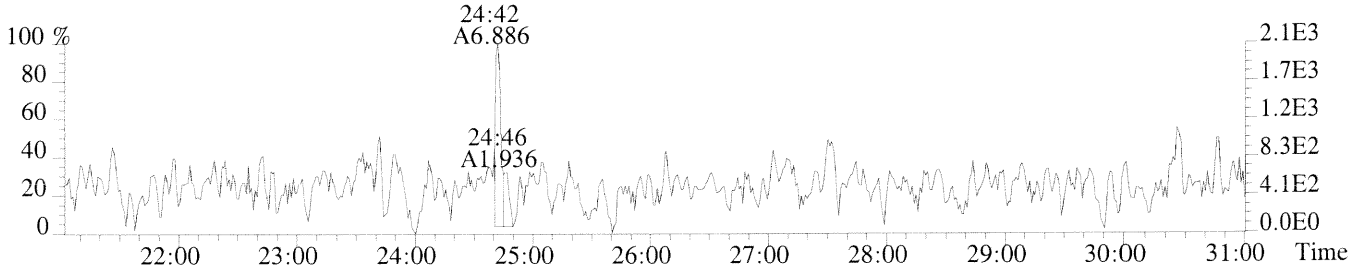


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

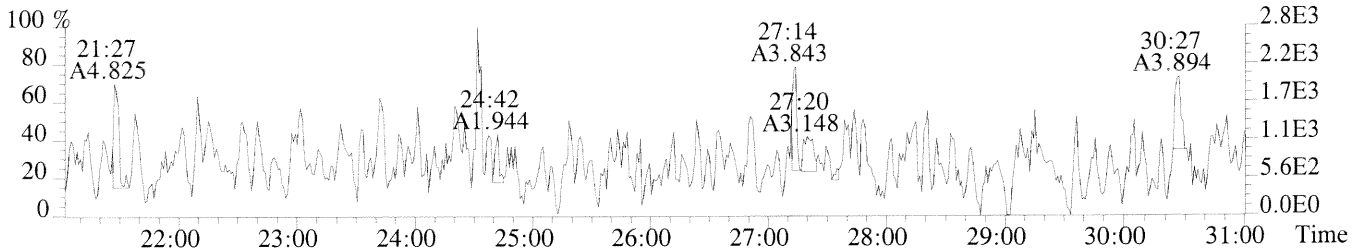


File:U149174 #1-627 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2

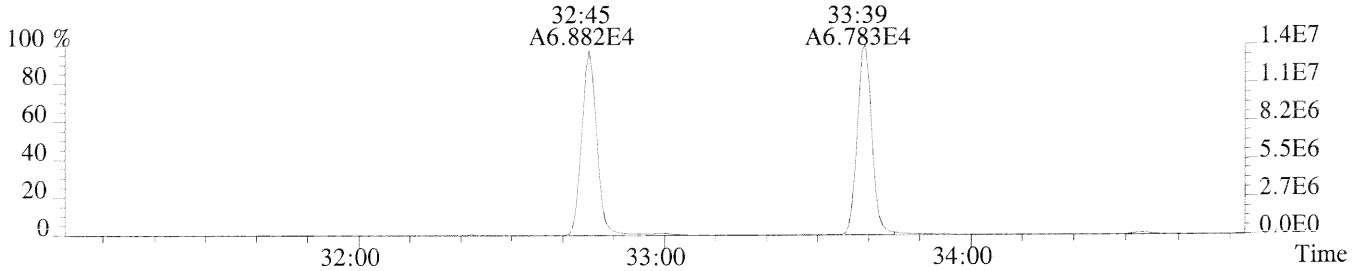
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)



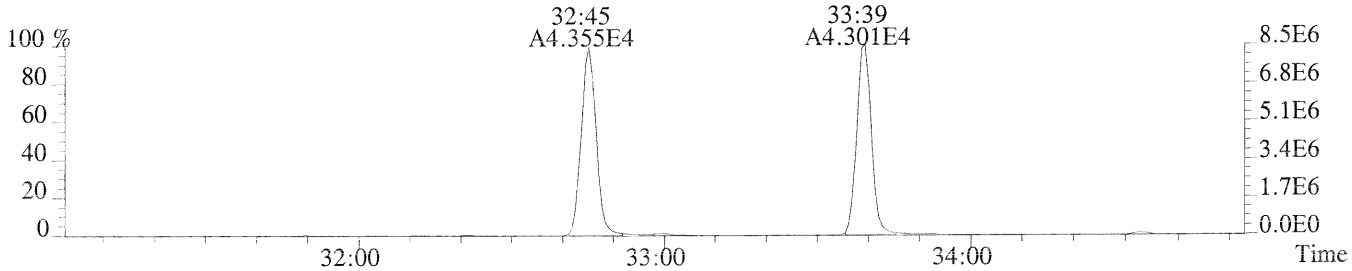
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



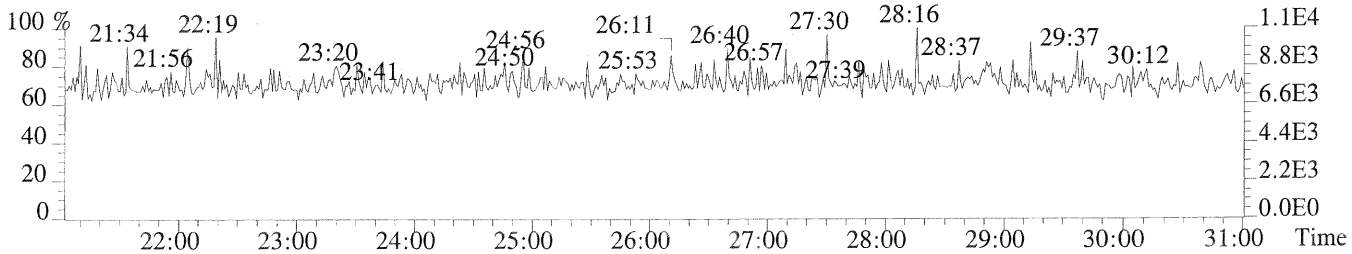
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



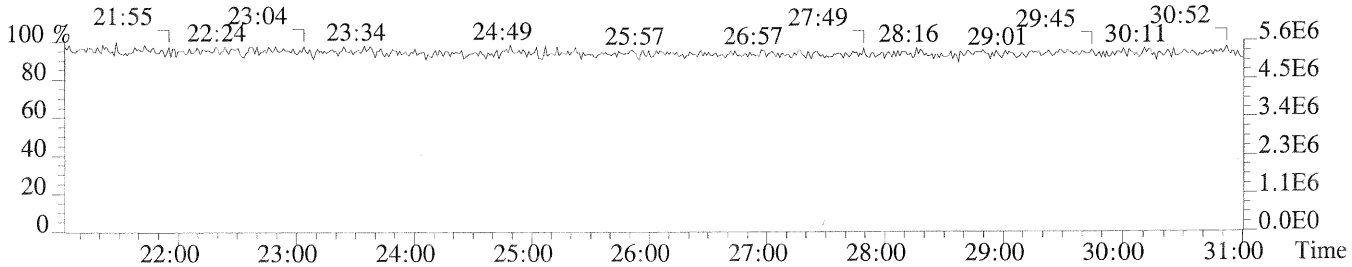
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

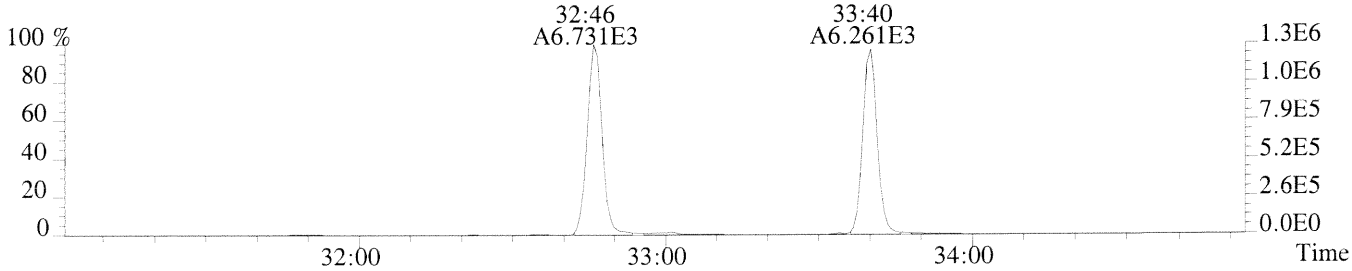


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

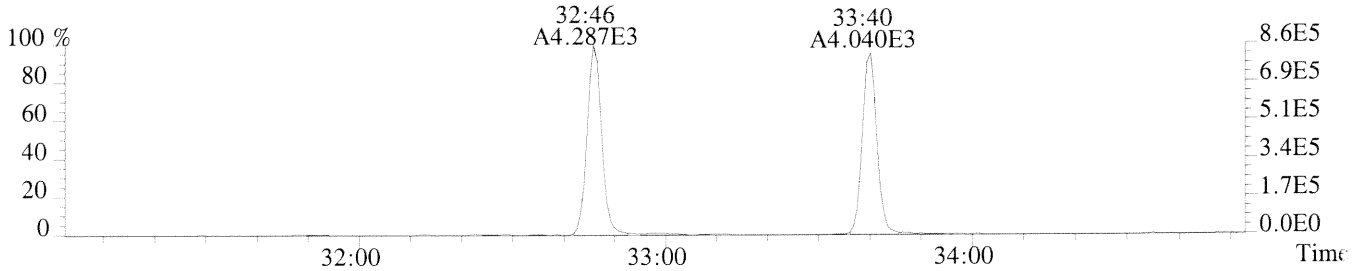


File:U149174 #1-349 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2

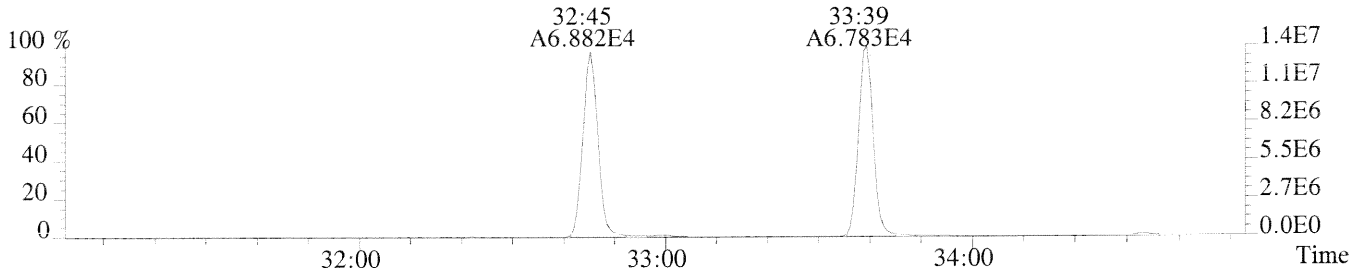
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,T)



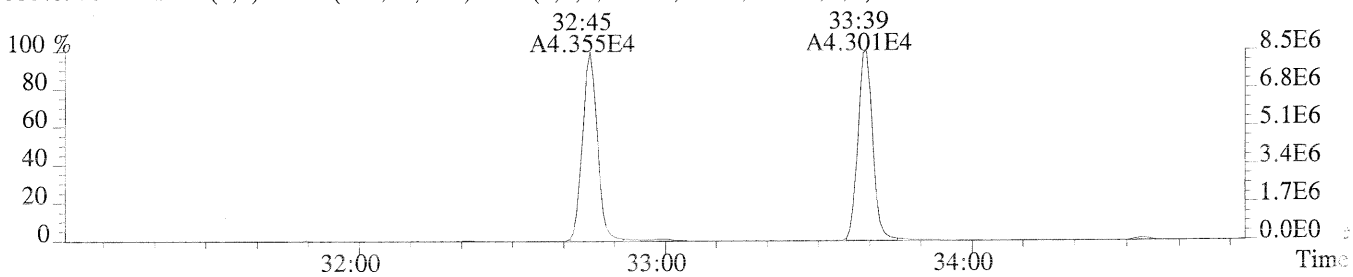
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,T)



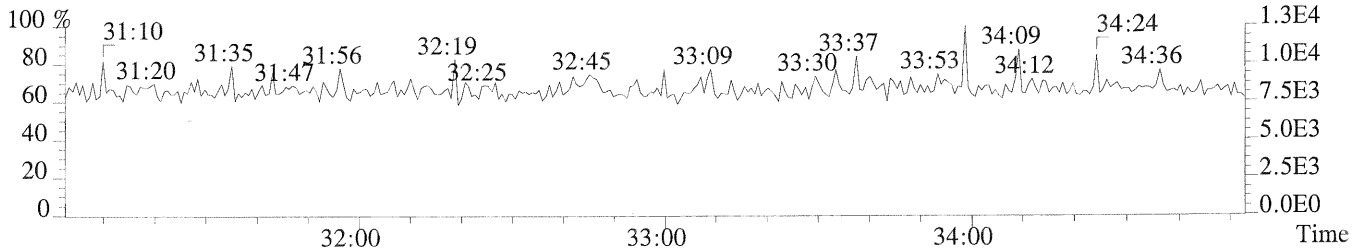
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,T)



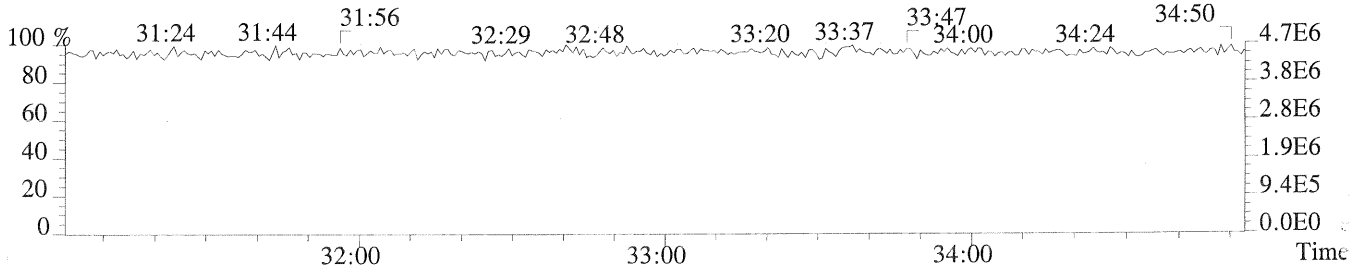
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,T)



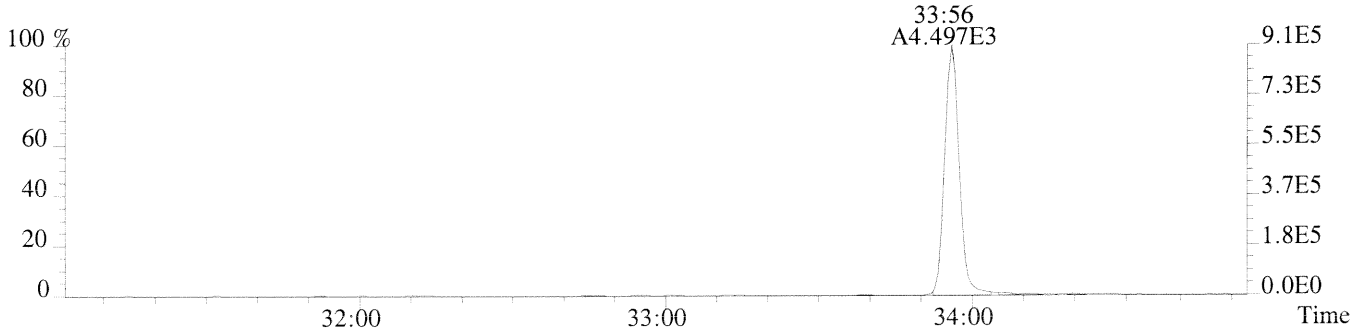
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



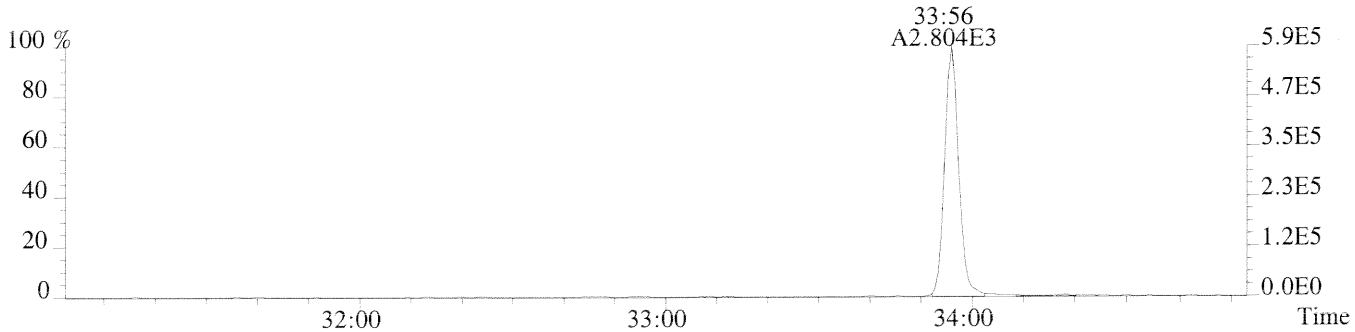
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



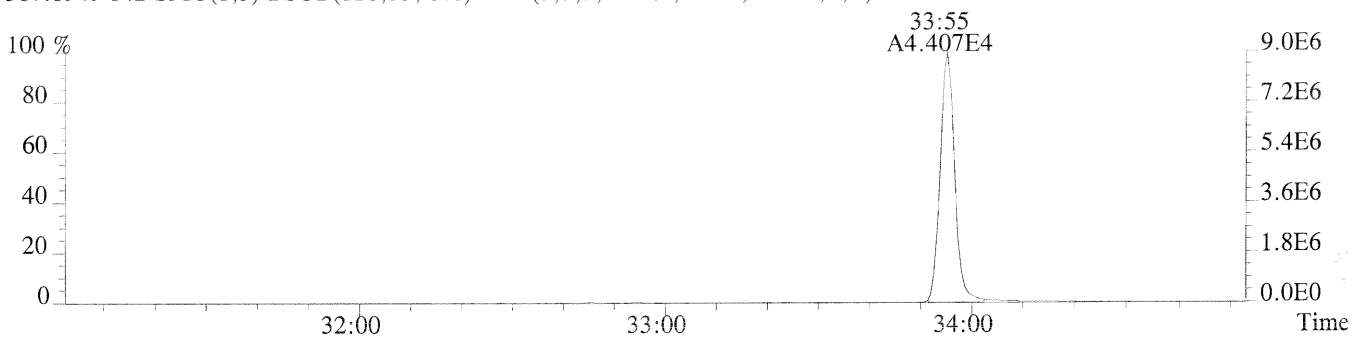
File:U149174 #1-349 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



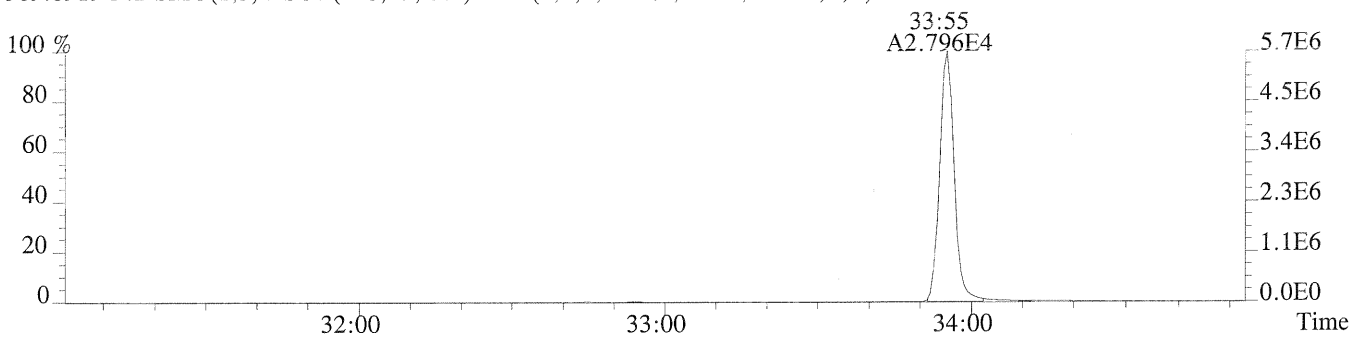
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



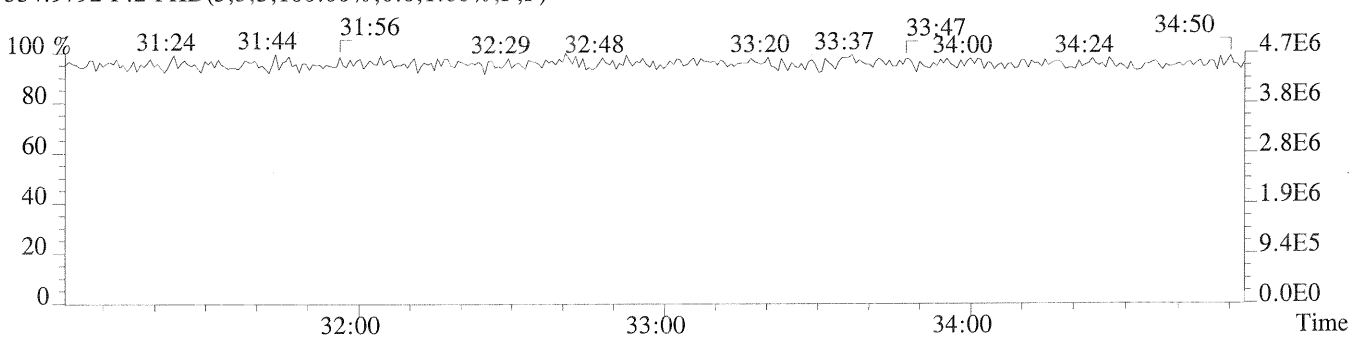
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)

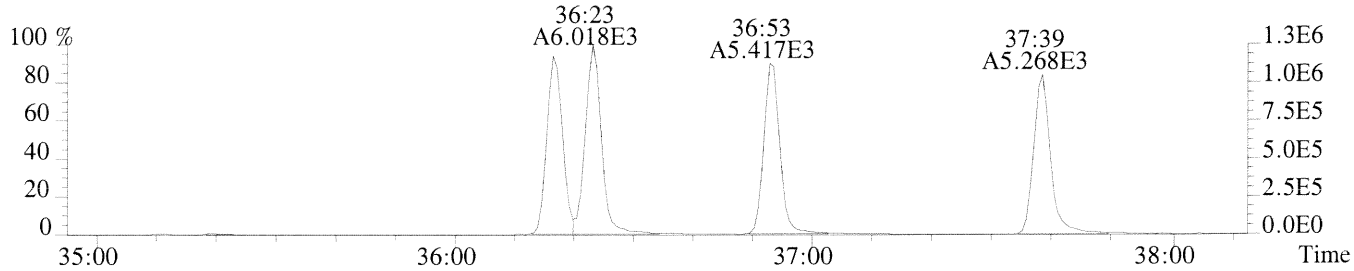


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

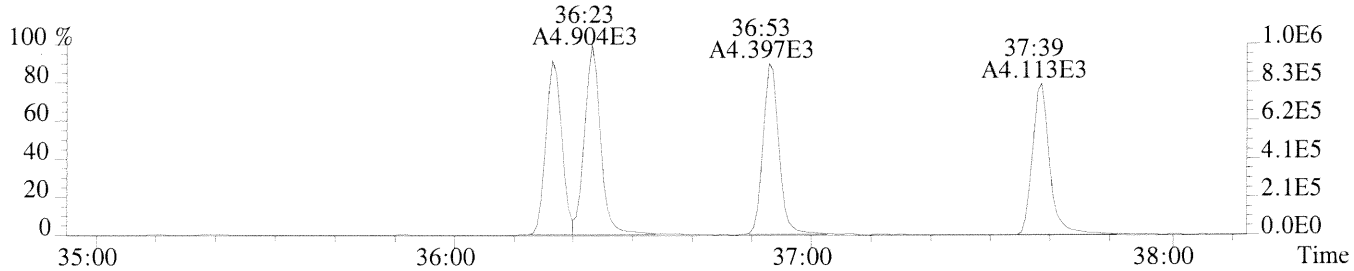


File:U149174 #1-299 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2

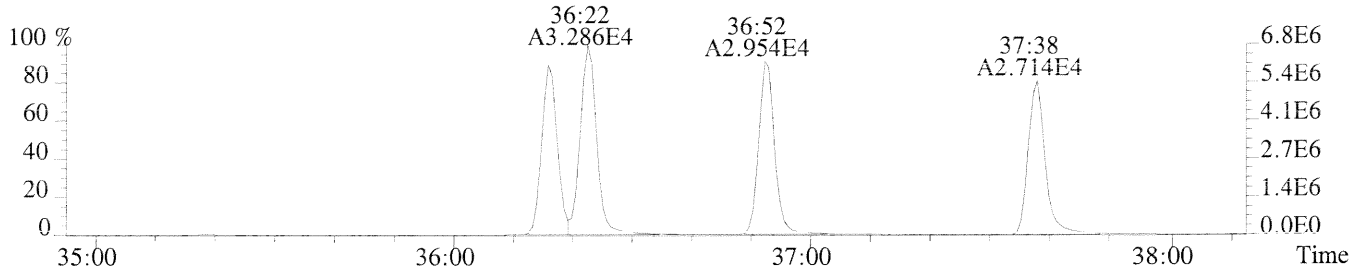
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,T)



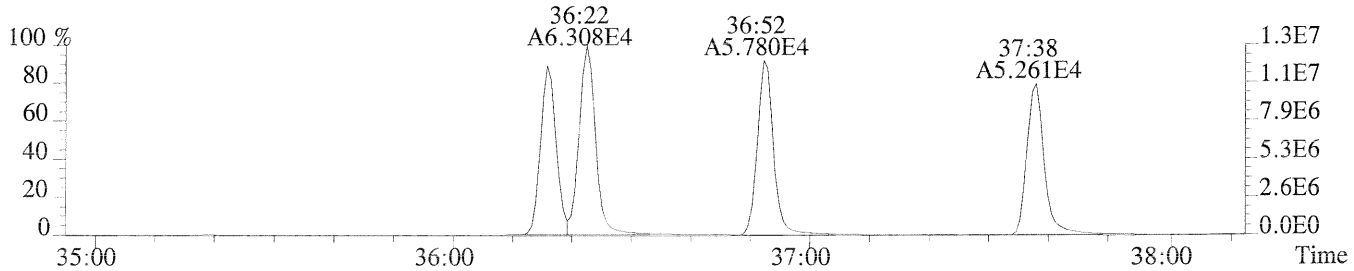
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



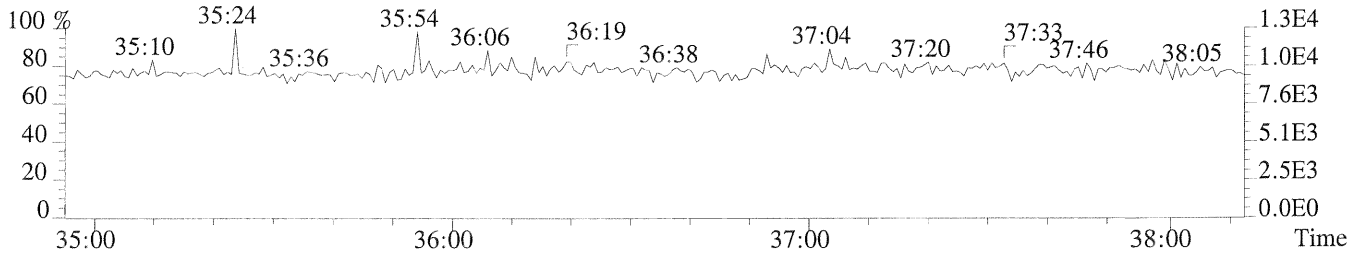
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,T)



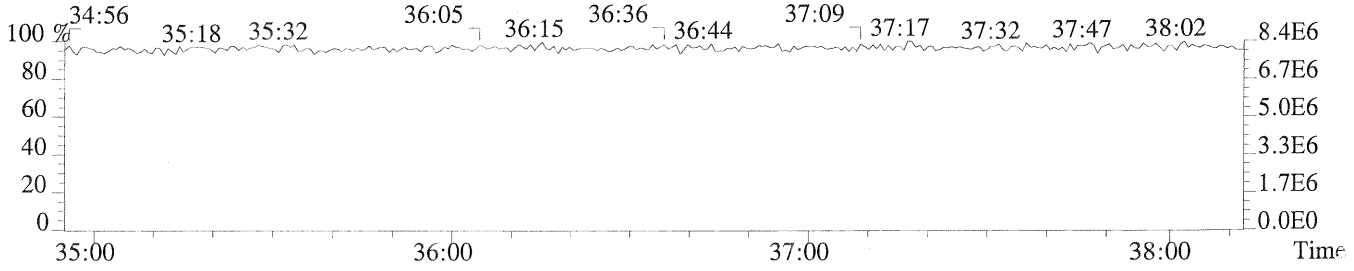
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



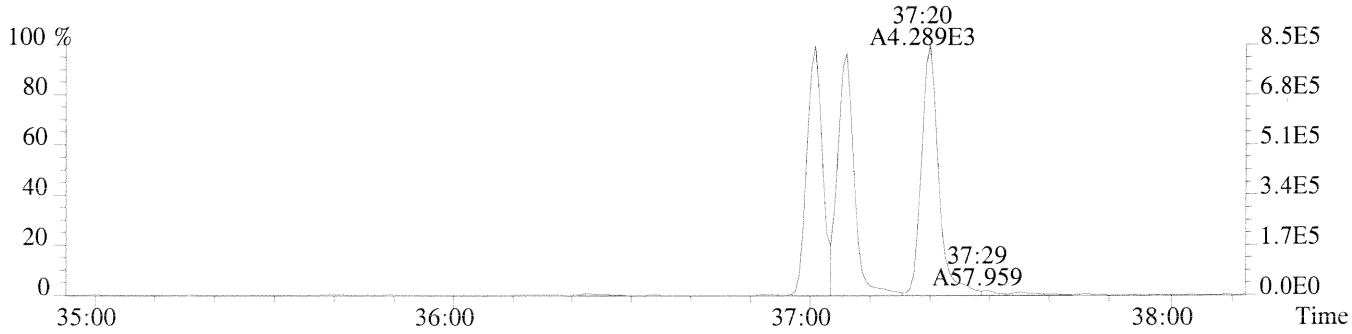
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



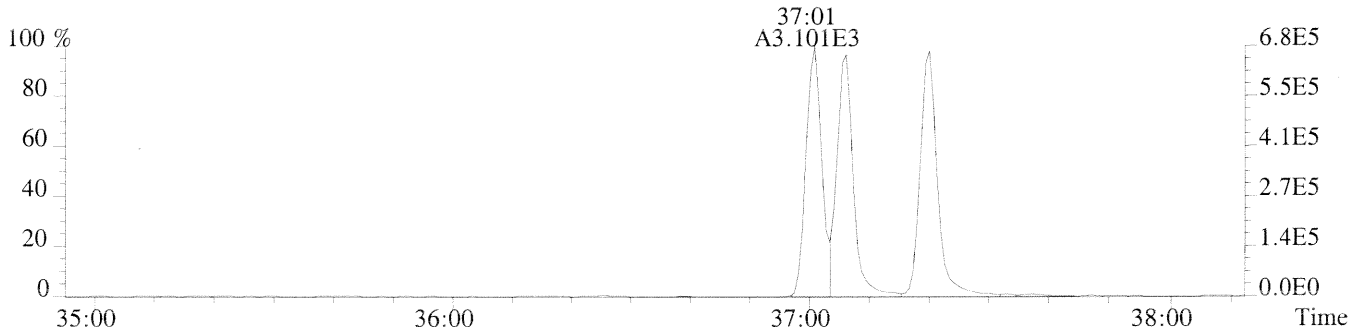
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



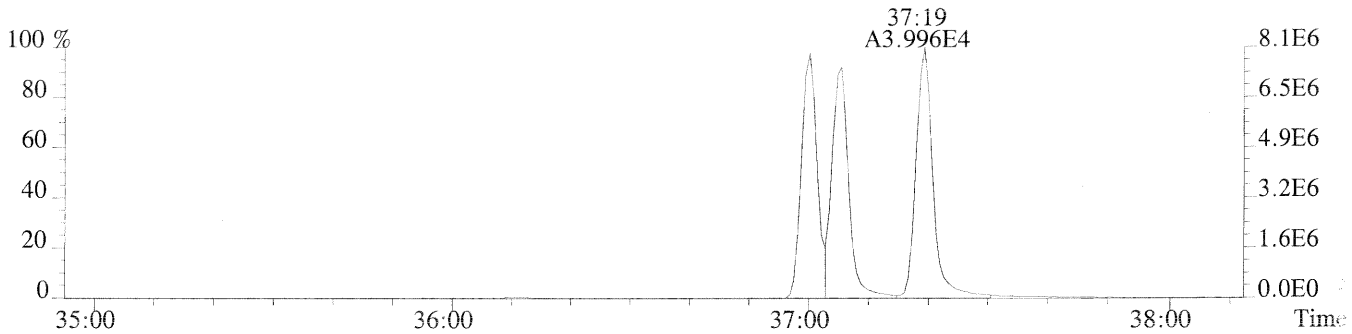
File:U149174 #1-299 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



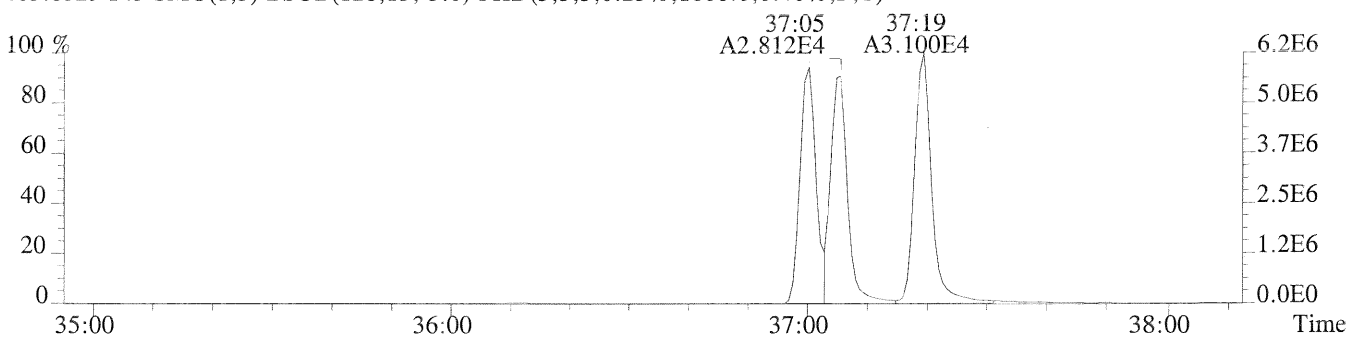
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



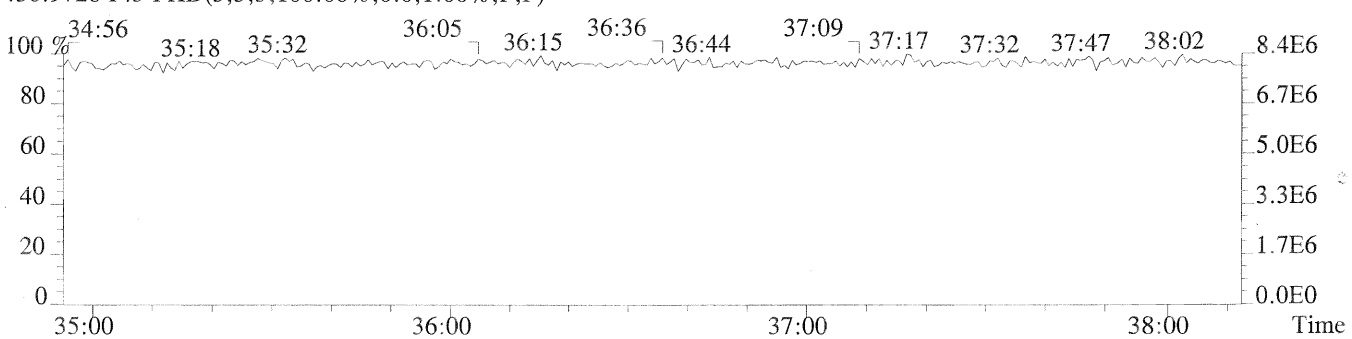
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,T)

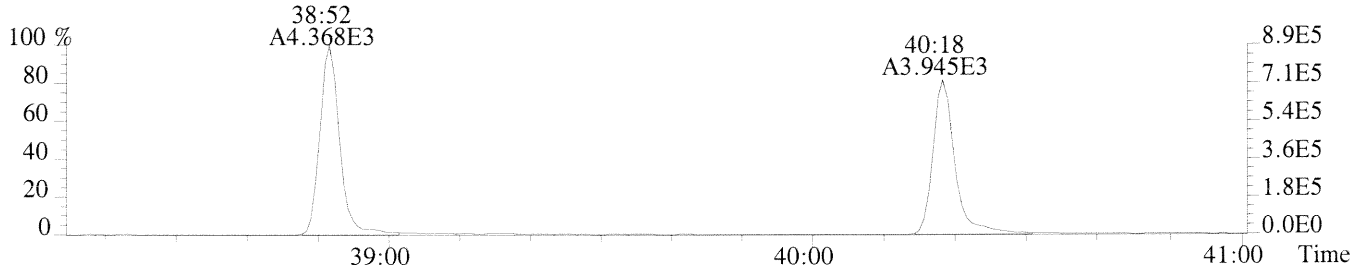


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

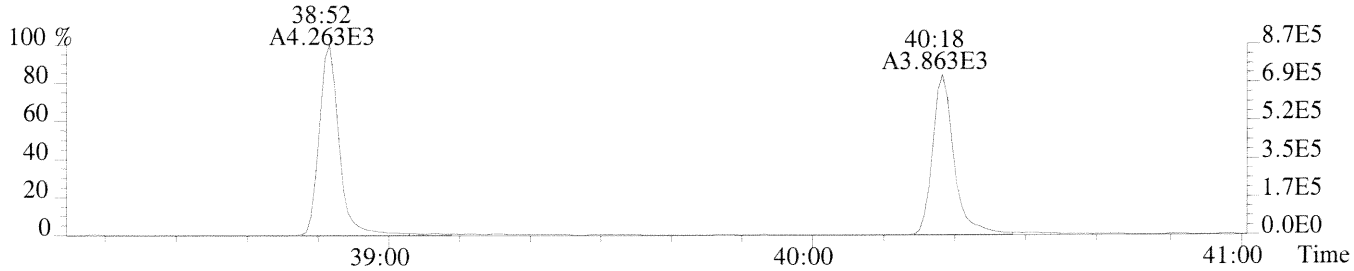


File:U149174 #1-252 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2

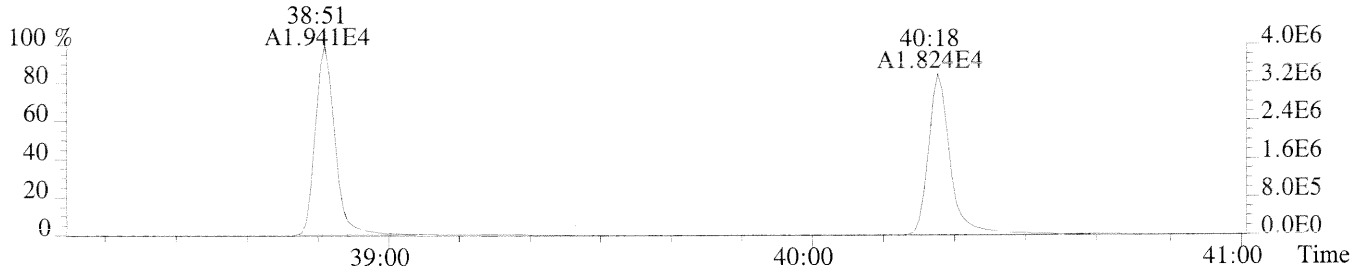
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1524.0,0.50%,F,T)



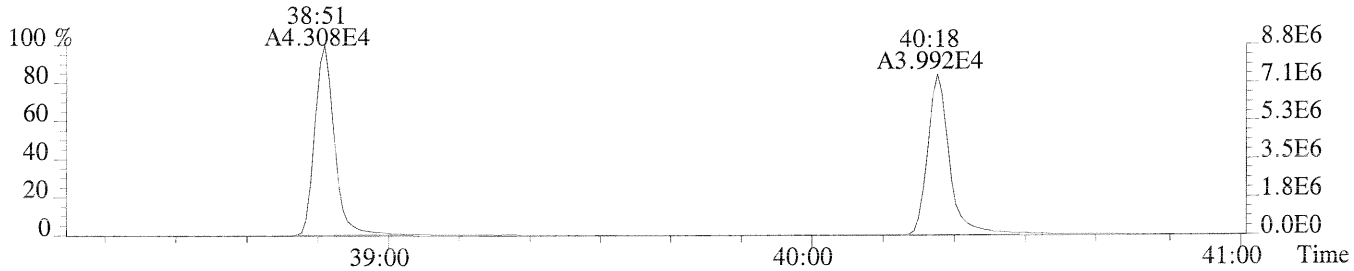
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.50%,F,T)



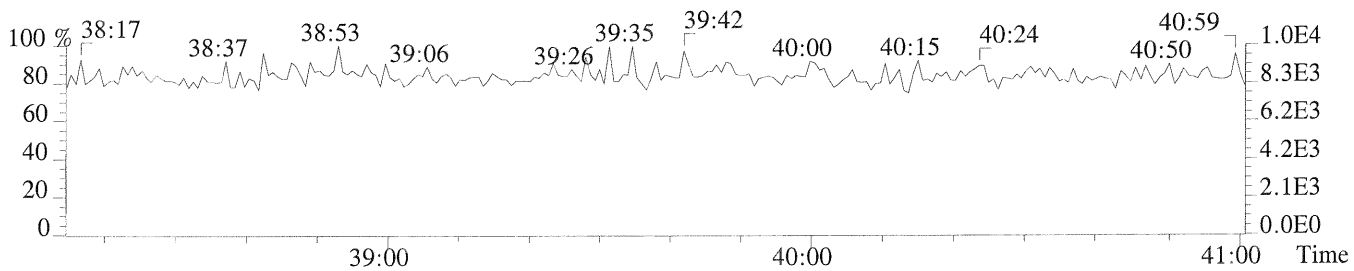
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2664.0,0.50%,F,T)



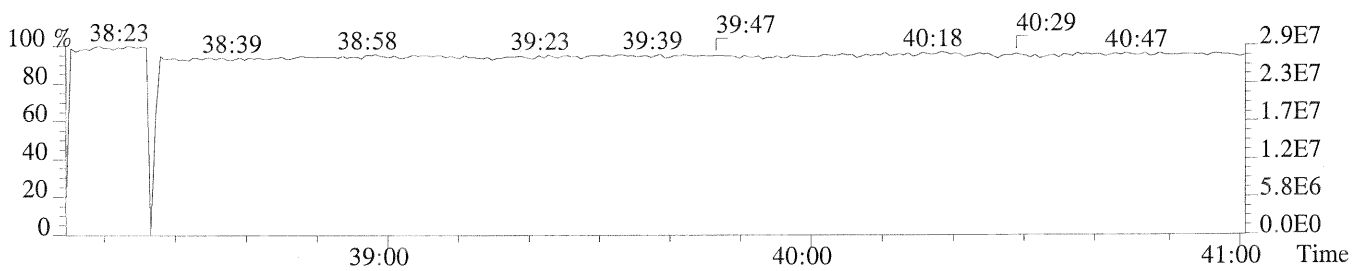
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2676.0,0.50%,F,T)



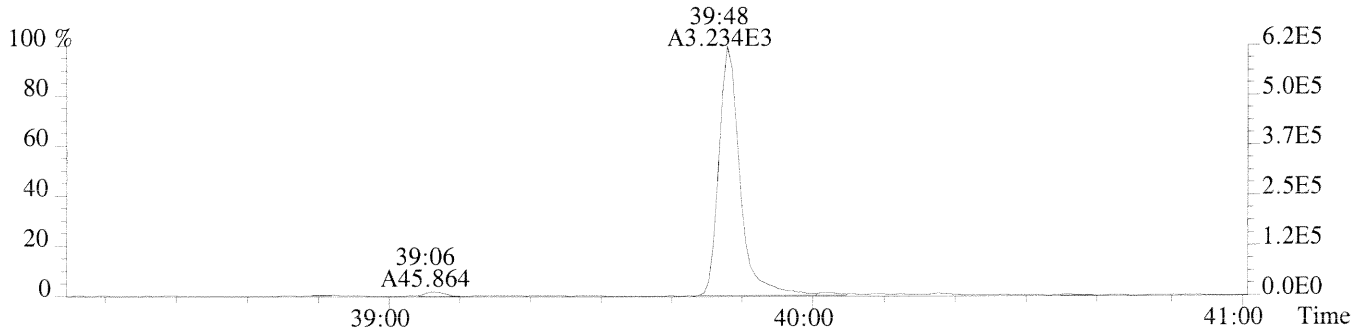
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



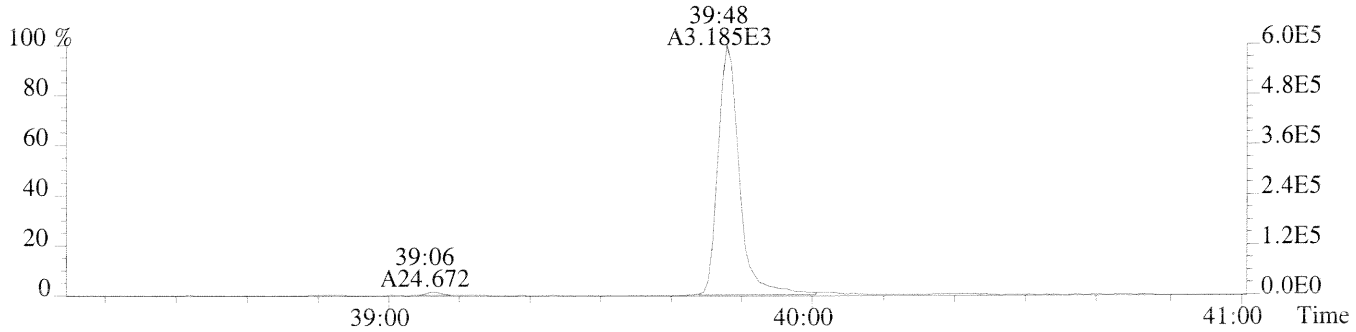
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



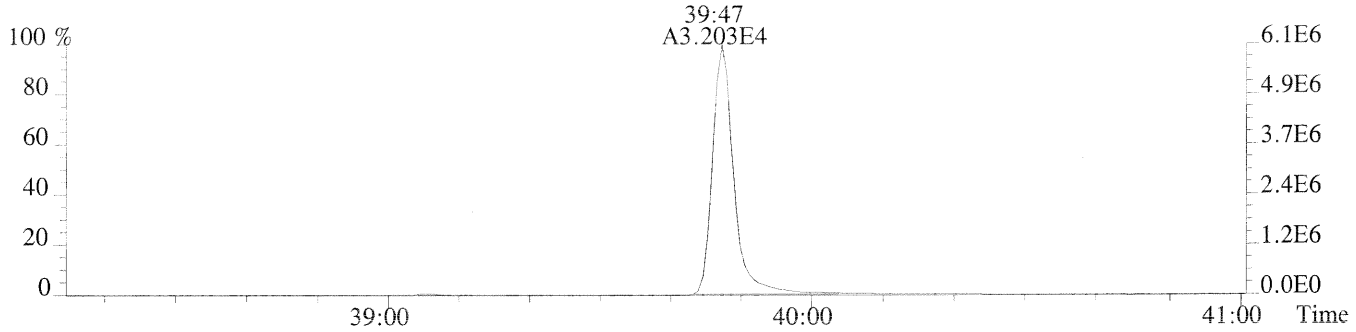
File:U149174 #1-252 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



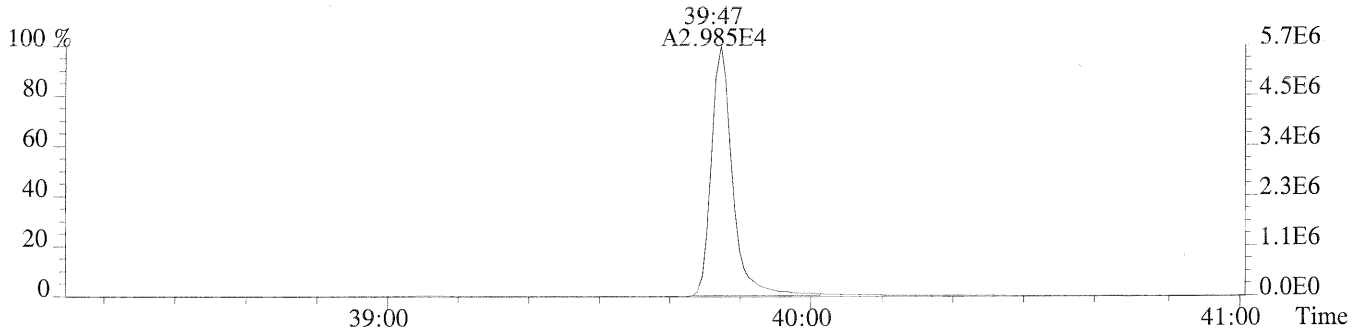
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,544.0,0.40%,F,T)



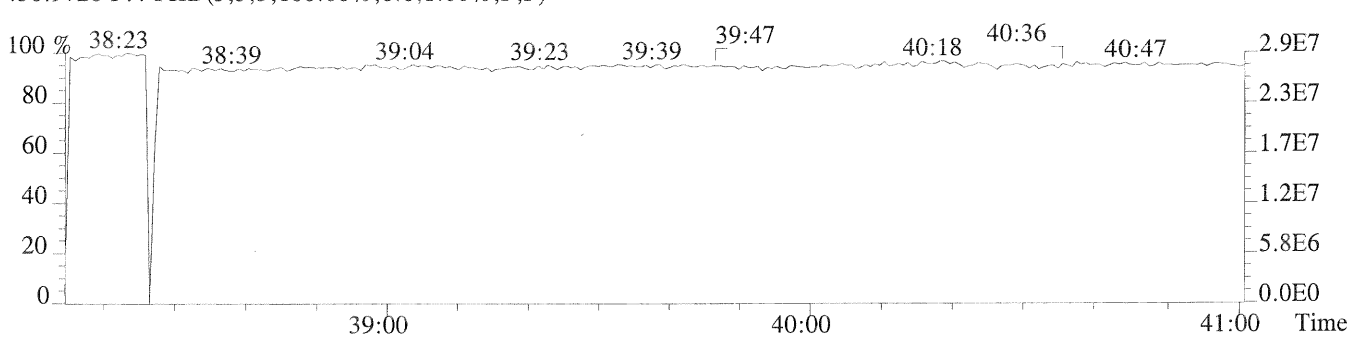
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



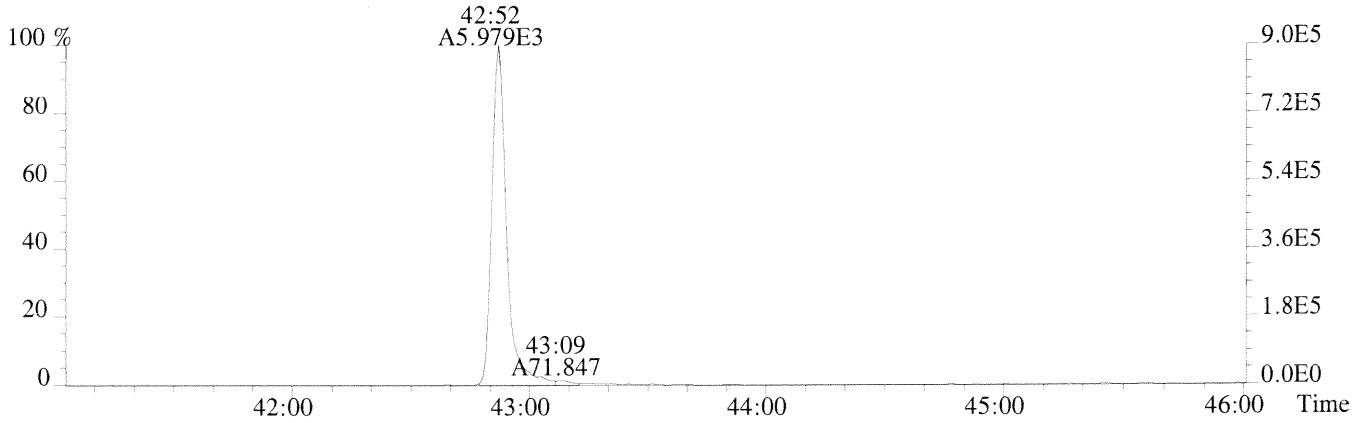
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



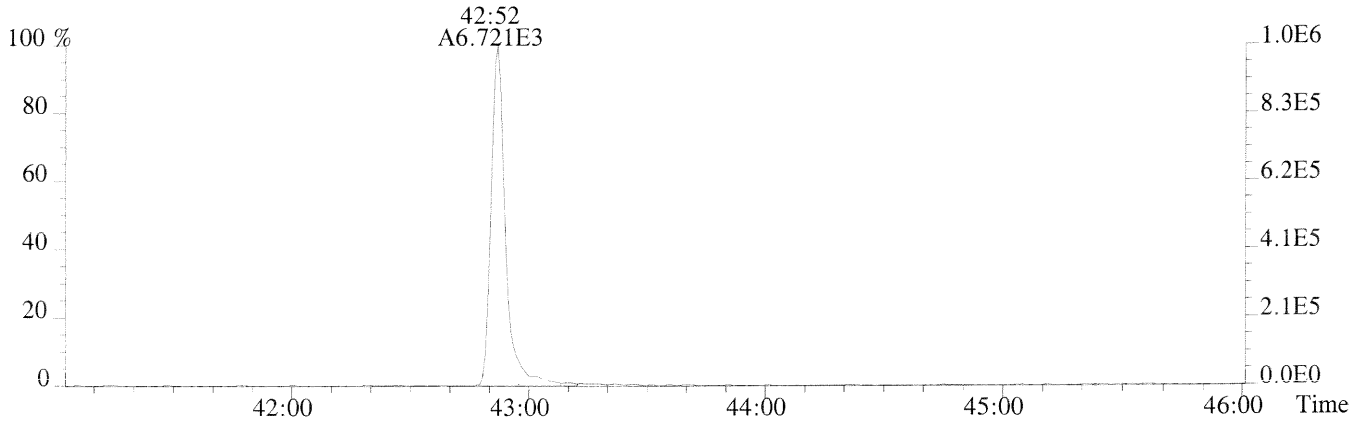
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



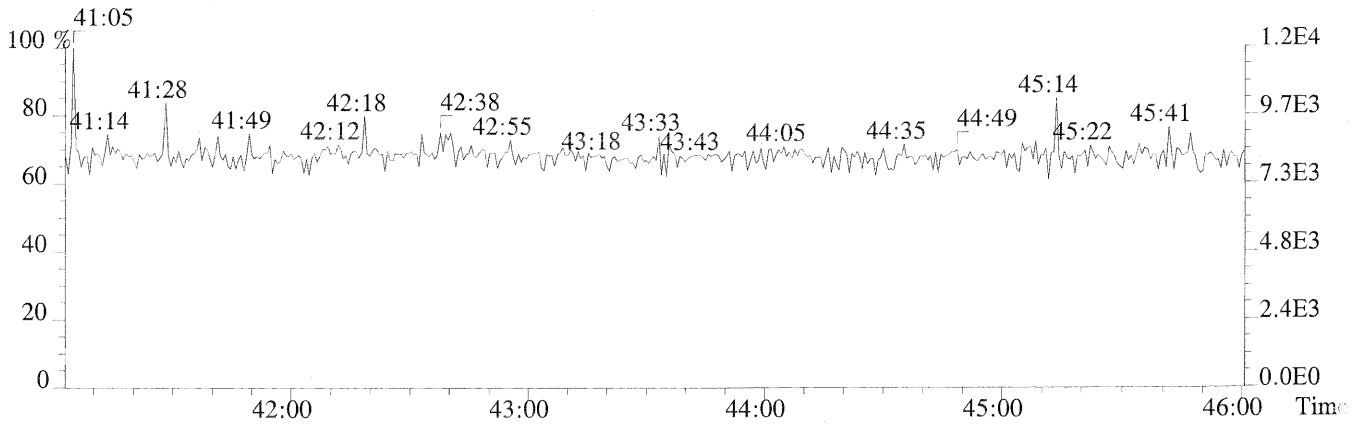
File:U149174 #1-451 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



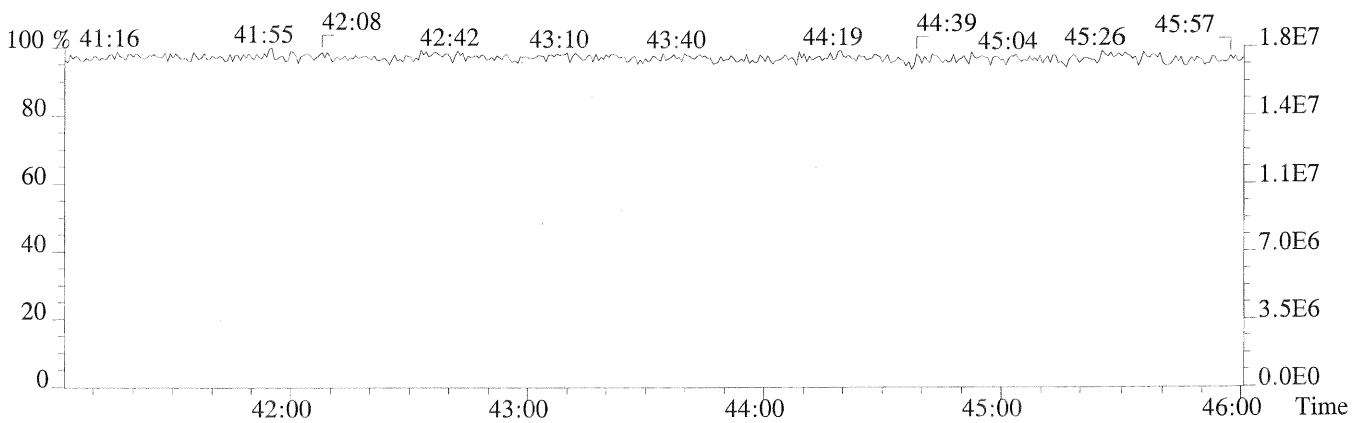
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,716.0,0.40%,F,T)



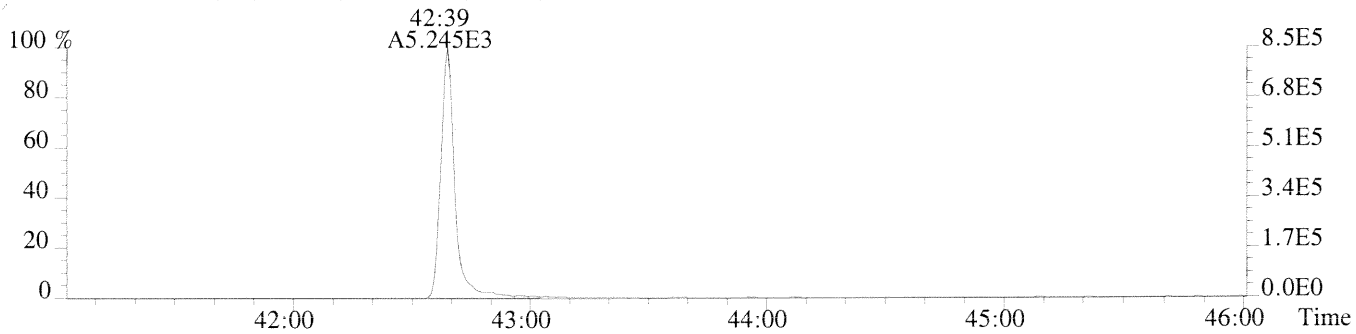
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



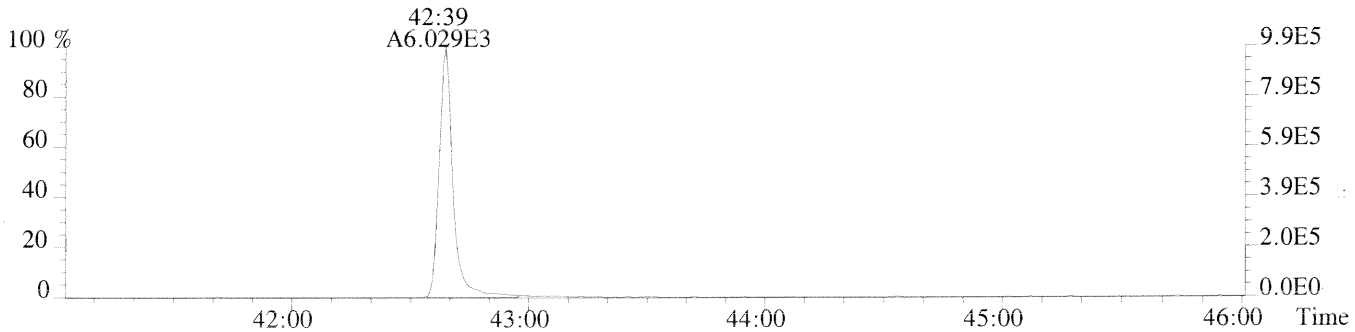
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



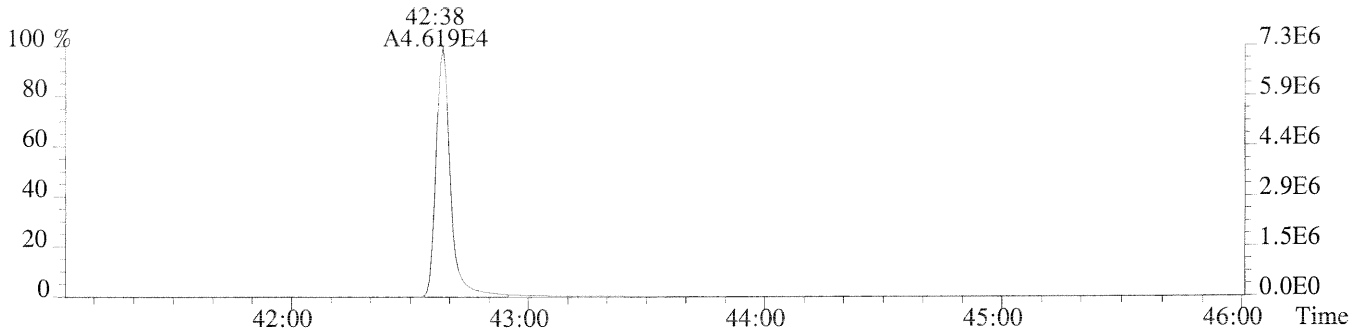
File:U149174 #1-451 Acq:21-MAY-2014 16:26:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2 HRCC2/CS2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,656.0,0.40%,F,T)



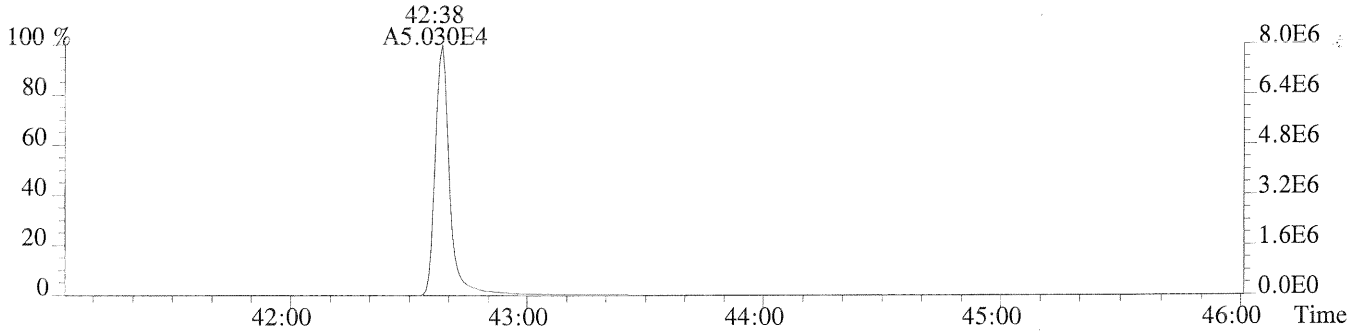
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,604.0,0.40%,F,T)



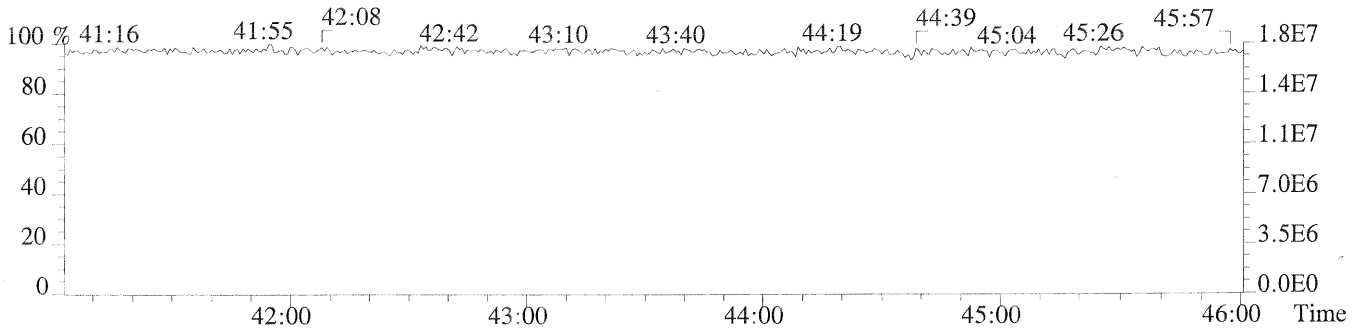
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,672.0,0.40%,F,T)



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.
CS3

Run #4 Filename U149175 Samp: 1 Inj: 1 Acquired: 21-MAY-14 17:15:15
Processed: 23-MAY-14 08:49:34 Sample ID: 63383

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	3.971e+03	5.230e+03	0.76	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:47	3.840e+04	2.475e+04	1.55	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	3.562e+04	2.299e+04	1.55	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	3.153e+04	2.597e+04	1.21	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:24	3.393e+04	2.809e+04	1.21	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:54	3.144e+04	2.571e+04	1.22	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	3.024e+04	2.392e+04	1.26	yes	yes	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	2.875e+04	2.777e+04	1.04	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	2.464e+04	2.360e+04	1.04	yes	no	1.359
10	Unk	OCDF	42:53	3.841e+04	4.248e+04	0.90	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:27	3.140e+03	3.908e+03	0.80	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:57	2.584e+04	1.642e+04	1.57	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:01	2.186e+04	1.747e+04	1.25	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	2.412e+04	1.910e+04	1.26	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	2.508e+04	2.018e+04	1.24	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	2.005e+04	1.902e+04	1.05	yes	no	1.065
17	Unk	OCDD	42:39	3.313e+04	3.722e+04	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	4.479e+04	5.480e+04	0.82	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	7.925e+04	4.989e+04	1.59	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	7.732e+04	4.928e+04	1.57	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:17	3.244e+04	6.145e+04	0.53	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:23	3.750e+04	7.115e+04	0.53	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:53	3.446e+04	6.596e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	3.163e+04	6.162e+04	0.51	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:52	2.454e+04	5.436e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	2.289e+04	5.021e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	3.148e+04	4.044e+04	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	5.038e+04	3.187e+04	1.58	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	3.969e+04	3.060e+04	1.30	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:05	4.358e+04	3.347e+04	1.30	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	3.934e+04	3.661e+04	1.07	yes	no	0.936
32	IS	13C-OCDD	42:38	5.722e+04	6.193e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	3.188e+04	4.060e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	4.682e+04	3.637e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	7.264e+03				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
CS3

Run #4 Filename U149175 Samp: 1 Inj: 1 Acquired: 21-MAY-14 17:15:15
Processed: 22-MAY-14 12:57:511 LAB. ID: 63383

Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
2,3,7,8-TCDF	8.79e+05	7.76e+02	1.1e+03	1.14e+06	1.31e+03	8.7e+02
1,2,3,7,8-PeCDF	7.43e+06	5.40e+02	1.4e+04	4.75e+06	1.38e+03	3.4e+03
2,3,4,7,8-PeCDF	7.18e+06	5.40e+02	1.3e+04	4.64e+06	1.38e+03	3.4e+03
1,2,3,4,7,8-HxCDF	6.88e+06	9.20e+02	7.5e+03	5.61e+06	8.48e+02	6.6e+03
1,2,3,6,7,8-HxCDF	6.93e+06	9.20e+02	7.5e+03	5.69e+06	8.48e+02	6.7e+03
2,3,4,6,7,8-HxCDF	6.89e+06	9.20e+02	7.5e+03	5.58e+06	8.48e+02	6.6e+03
1,2,3,7,8,9-HxCDF	6.10e+06	9.20e+02	6.6e+03	4.91e+06	8.48e+02	5.8e+03
1,2,3,4,6,7,8-HpCDF	5.94e+06	3.42e+03	1.7e+03	5.81e+06	2.42e+03	2.4e+03
1,2,3,4,7,8,9-HpCDF	4.55e+06	3.42e+03	1.3e+03	4.40e+06	2.42e+03	1.8e+03
OCDF	6.12e+06	6.12e+02	1.0e+04	6.69e+06	6.24e+02	1.1e+04
2,3,7,8-TCDD	7.00e+05	7.44e+02	9.4e+02	8.73e+05	8.40e+02	1.0e+03
1,2,3,7,8-PeCDD	5.13e+06	6.52e+02	7.9e+03	3.27e+06	6.64e+02	4.9e+03
1,2,3,4,7,8-HxCDD	4.97e+06	8.56e+02	5.8e+03	3.97e+06	1.32e+03	3.0e+03
1,2,3,6,7,8-HxCDD	4.99e+06	8.56e+02	5.8e+03	3.98e+06	1.32e+03	3.0e+03
1,2,3,7,8,9-HxCDD	5.02e+06	8.56e+02	5.9e+03	4.05e+06	1.32e+03	3.1e+03
1,2,3,4,6,7,8-HpCDD	3.88e+06	7.40e+02	5.2e+03	3.66e+06	1.05e+03	3.5e+03
OCDD	5.38e+06	7.80e+02	6.9e+03	6.18e+06	6.04e+02	1.0e+04
13C-2,3,7,8-TCDF	9.70e+06	1.06e+03	9.1e+03	1.19e+07	9.32e+02	1.3e+04
13C-1,2,3,7,8-PeCDF	1.50e+07	7.76e+02	1.9e+04	9.54e+06	7.48e+02	1.3e+04
13C-2,3,4,7,8-PeCDF	1.56e+07	7.76e+02	2.0e+04	1.00e+07	7.48e+02	1.3e+04
13C-1,2,3,4,7,8-HxCDF	7.06e+06	8.36e+02	8.4e+03	1.32e+07	1.12e+03	1.2e+04
13C-1,2,3,6,7,8-HxCDF	7.57e+06	8.36e+02	9.1e+03	1.44e+07	1.12e+03	1.3e+04
13C-2,3,4,6,7,8-HxCDF	7.50e+06	8.36e+02	9.0e+03	1.43e+07	1.12e+03	1.3e+04
13C-1,2,3,7,8,9-HxCDF	6.33e+06	8.36e+02	7.6e+03	1.23e+07	1.12e+03	1.1e+04
13C-1,2,3,4,6,7,8-HpCDF	5.05e+06	3.49e+03	1.4e+03	1.11e+07	3.25e+03	3.4e+03
13C-1,2,3,4,7,8,9-HpCDF	4.19e+06	3.49e+03	1.2e+03	9.20e+06	3.25e+03	2.8e+03
13C-2,3,7,8-TCDD	7.05e+06	2.57e+03	2.7e+03	9.12e+06	1.34e+03	6.8e+03
13C-1,2,3,7,8-PeCDD	1.01e+07	7.32e+02	1.4e+04	6.43e+06	4.80e+02	1.3e+04
13C-1,2,3,4,7,8-HxCDD	8.91e+06	8.88e+02	1.0e+04	6.95e+06	7.36e+02	9.4e+03
13C-1,2,3,6,7,8-HxCDD	8.89e+06	8.88e+02	1.0e+04	6.85e+06	7.36e+02	9.3e+03
13C-1,2,3,4,6,7,8-HpCDD	7.46e+06	8.60e+02	8.7e+03	6.90e+06	7.96e+02	8.7e+03
13C-OCDD	9.15e+06	5.68e+02	1.6e+04	1.02e+07	6.72e+02	1.5e+04
13C-1,2,3,4-TCDD	7.06e+06	2.57e+03	2.7e+03	9.04e+06	1.34e+03	6.8e+03
13C-1,2,3,7,8,9-HxCDD	9.14e+06	8.88e+02	1.0e+04	7.20e+06	7.36e+02	9.8e+03
37Cl-2,3,7,8-TCDD	1.63e+06	1.16e+03	1.4e+03			

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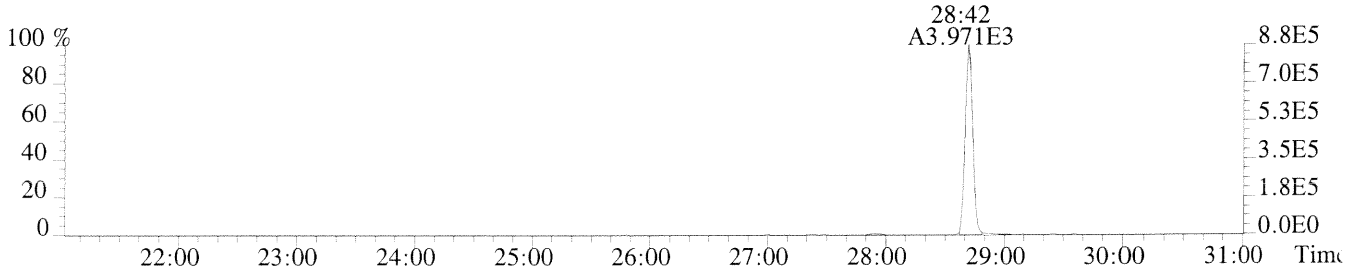
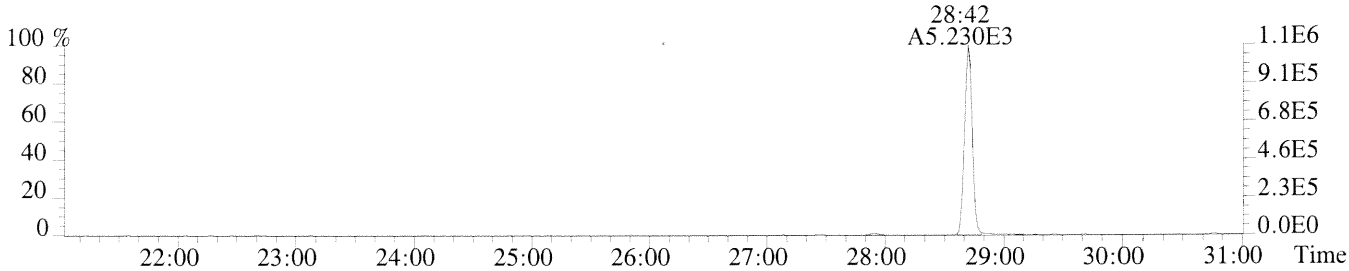
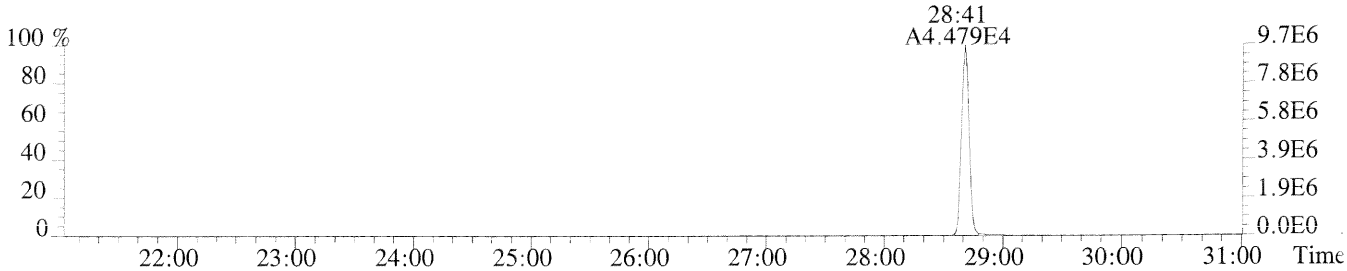
File:U149175 #1-627 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



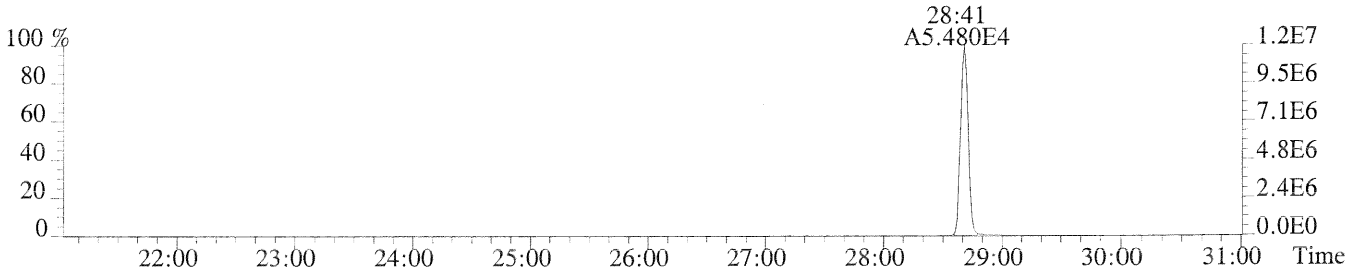
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



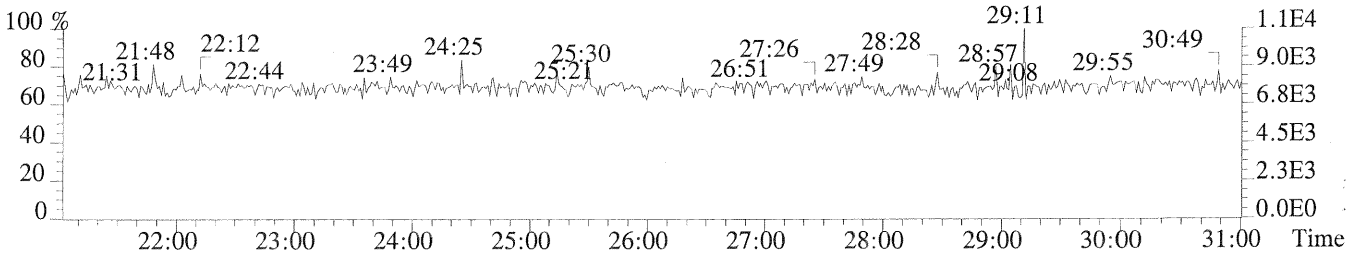
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



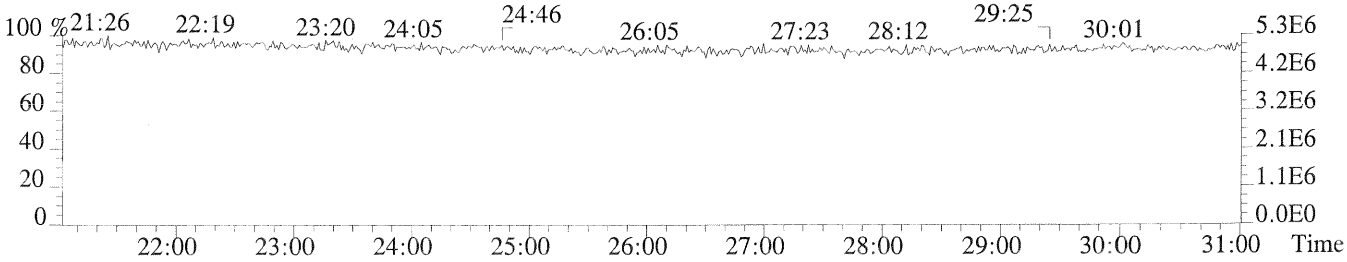
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



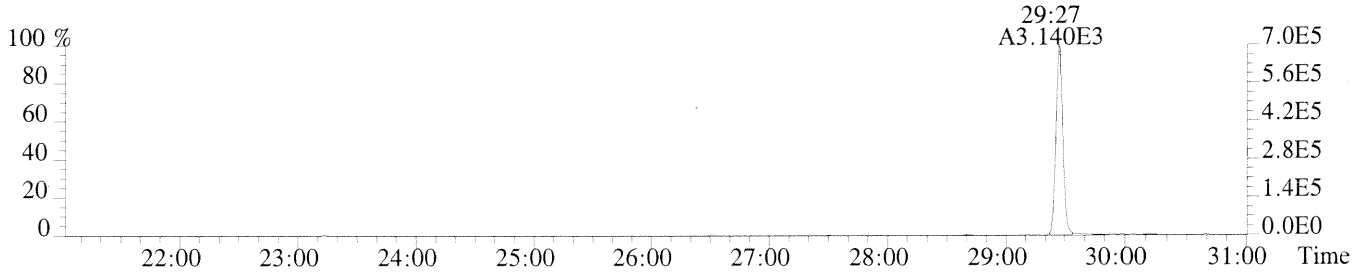
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



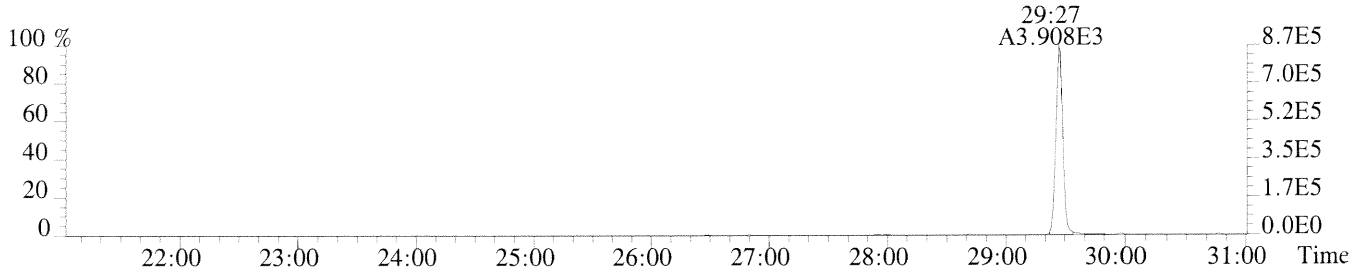
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



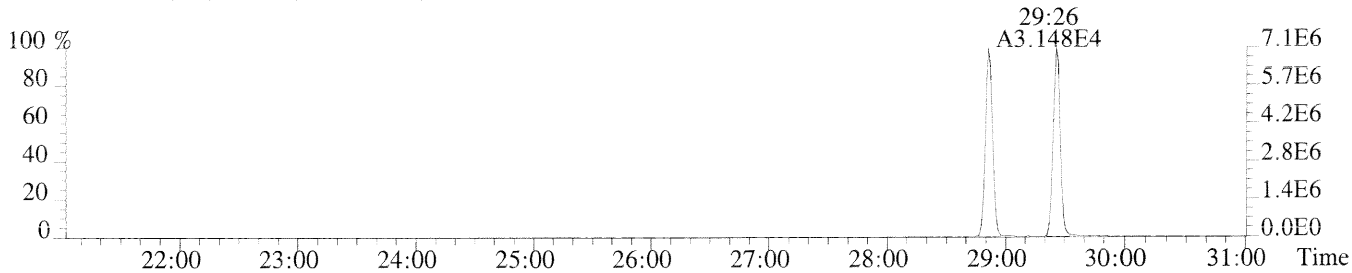
File:U149175 #1-627 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



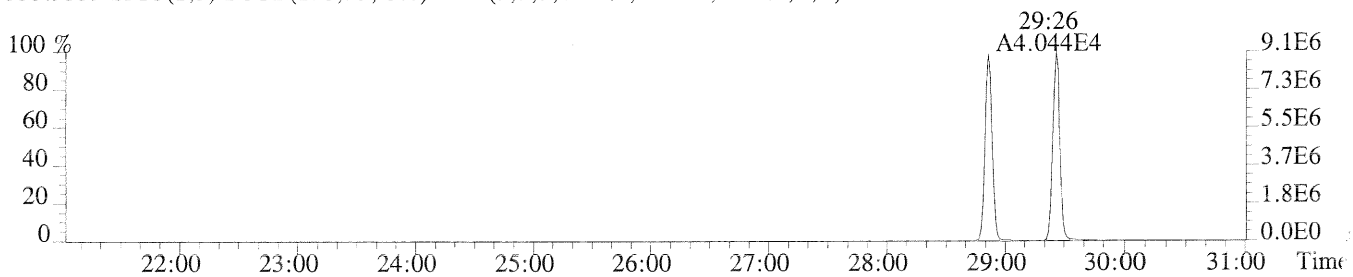
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



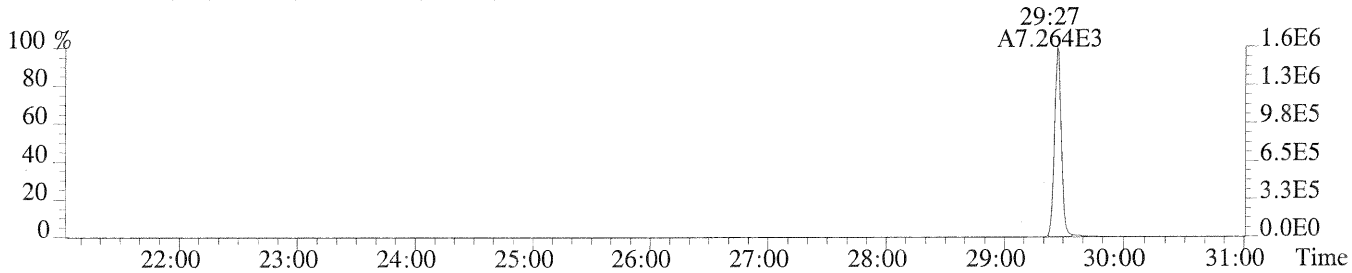
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2572.0,1.00%,F,T)



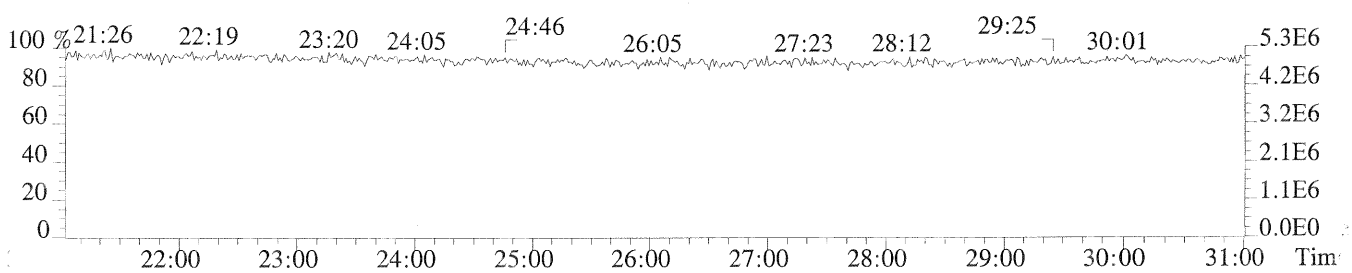
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



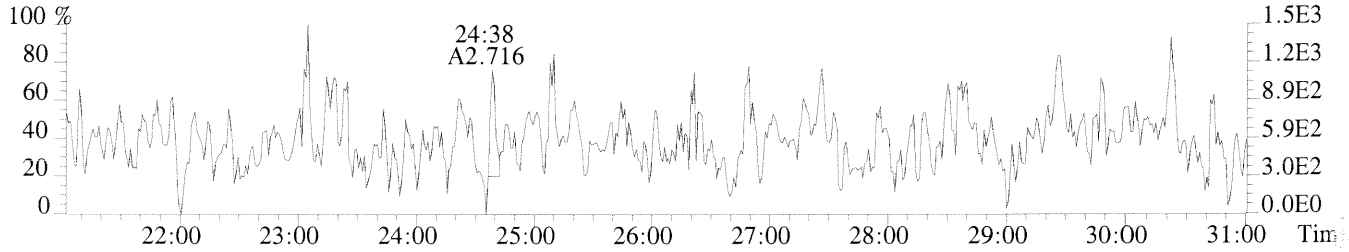
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1156.0,1.00%,F,T)



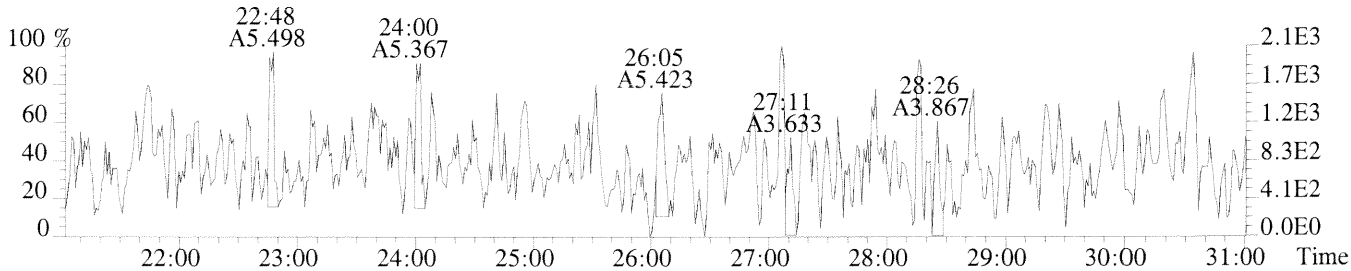
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



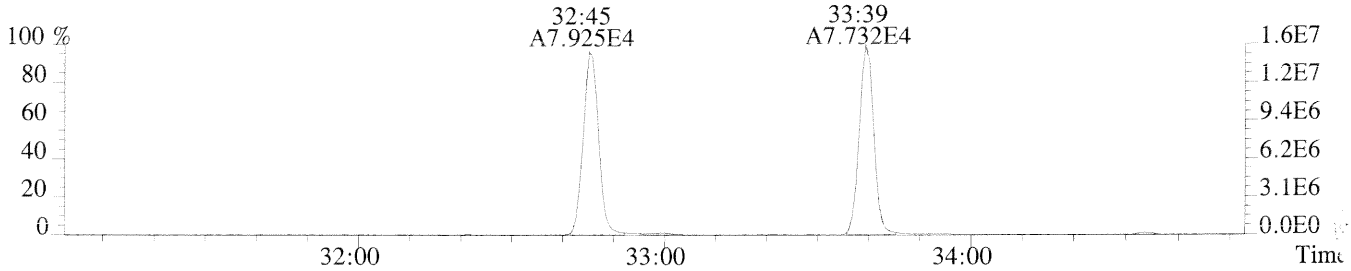
File:U149175 #1-627 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



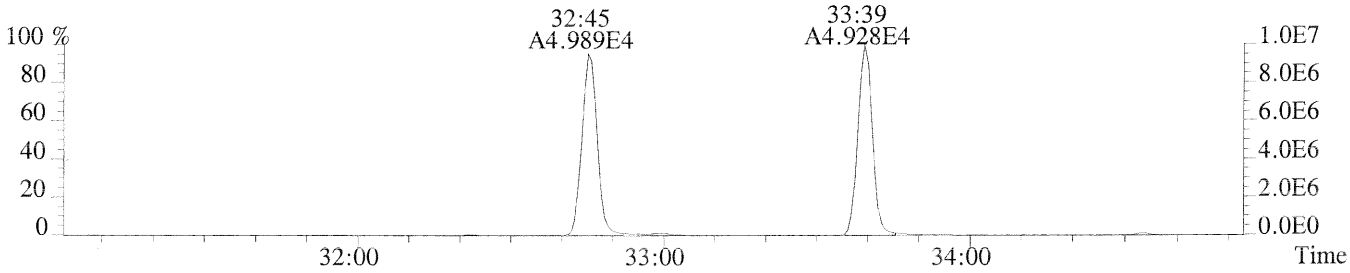
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



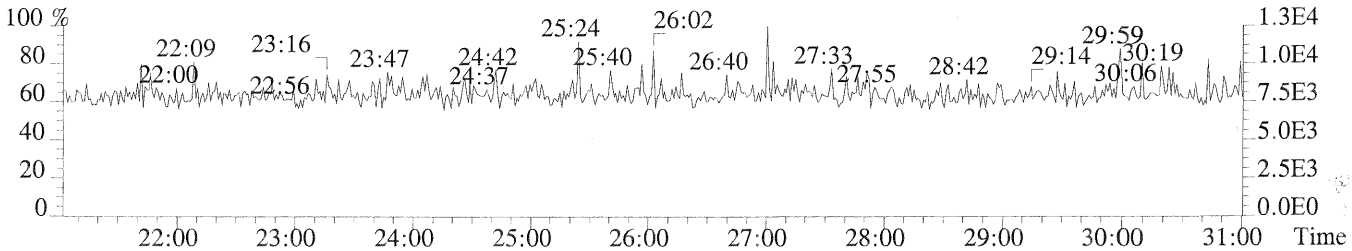
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



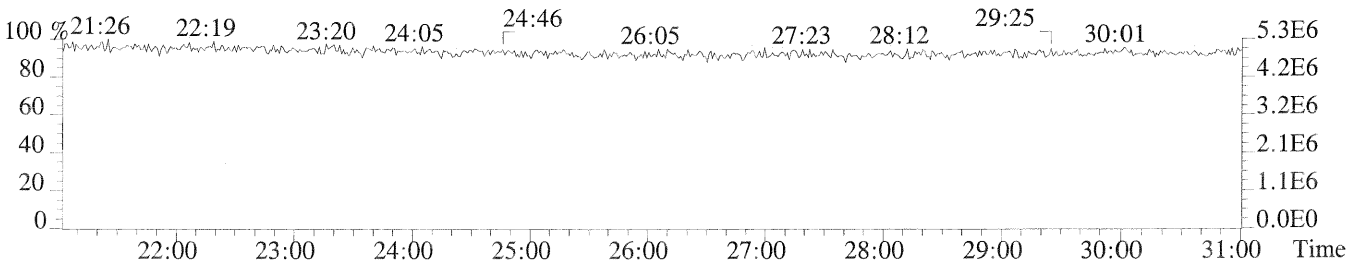
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,748.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

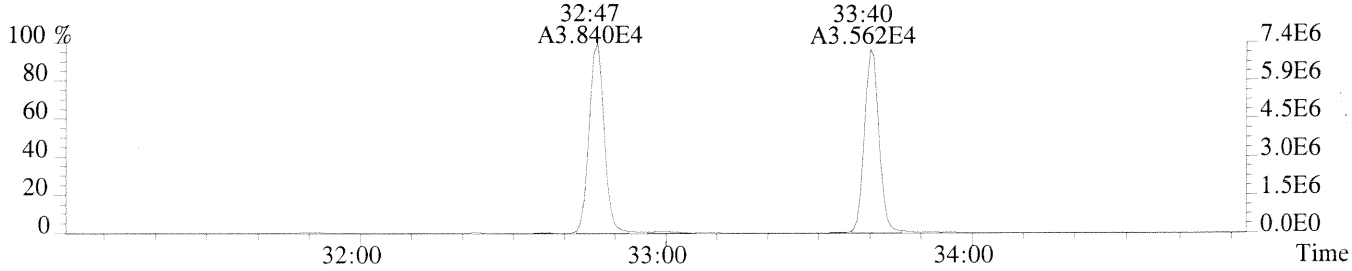


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

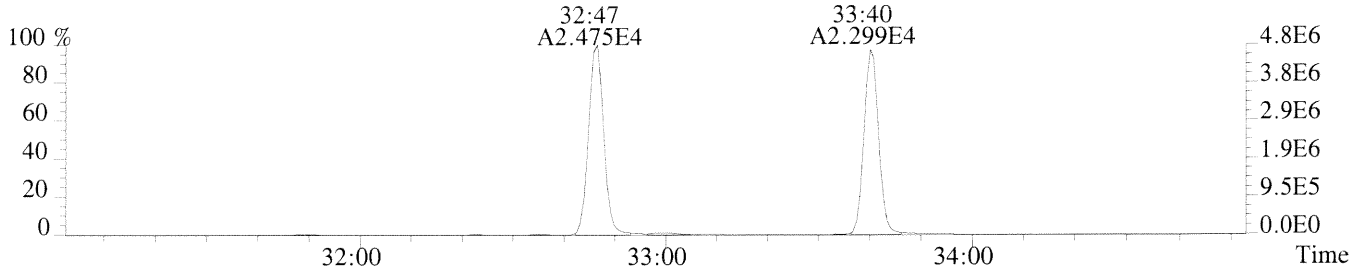


File:U149175 #1-349 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3

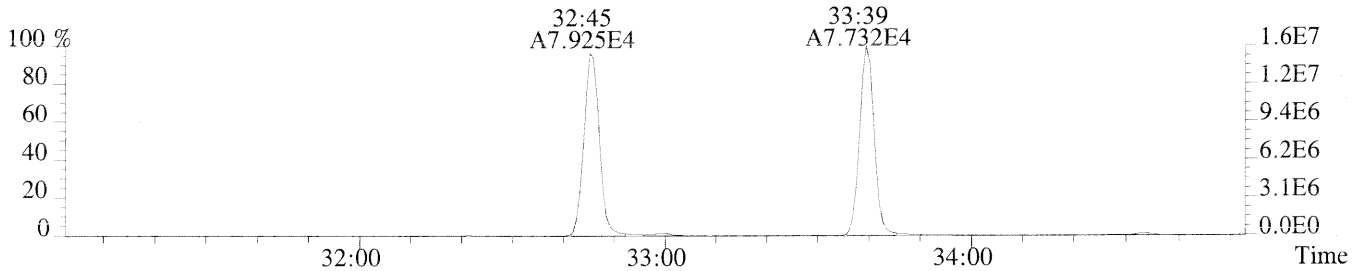
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)



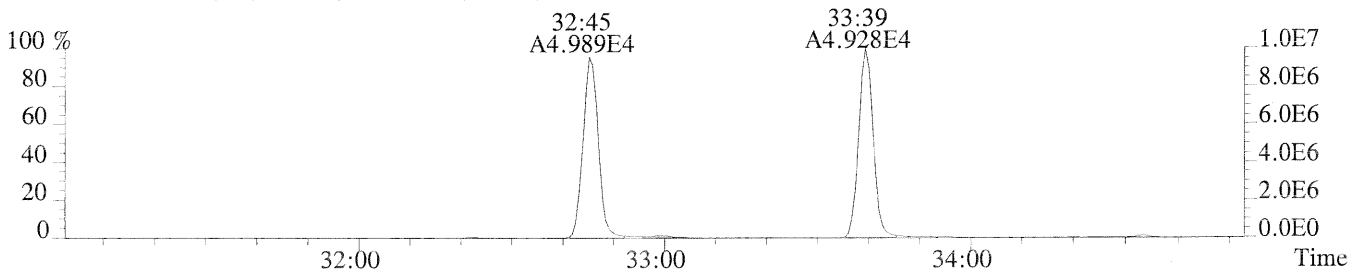
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



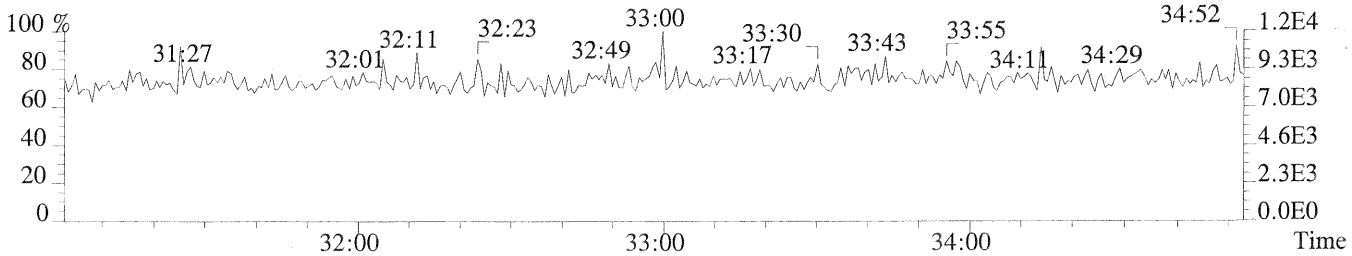
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



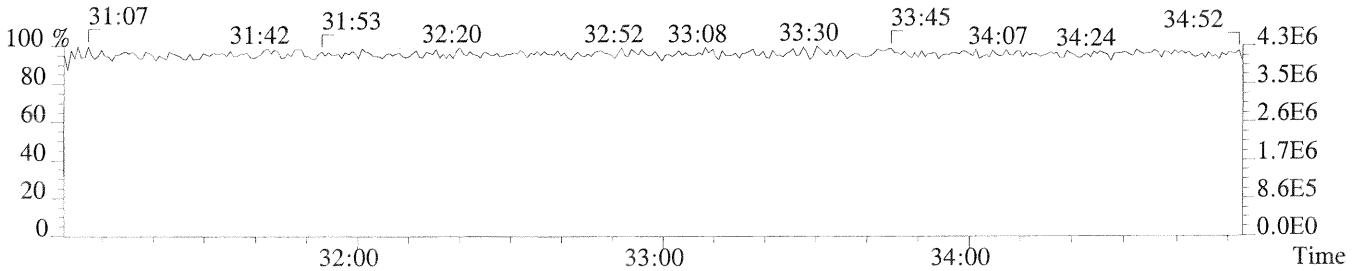
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,748.0,1.00%,F,T)



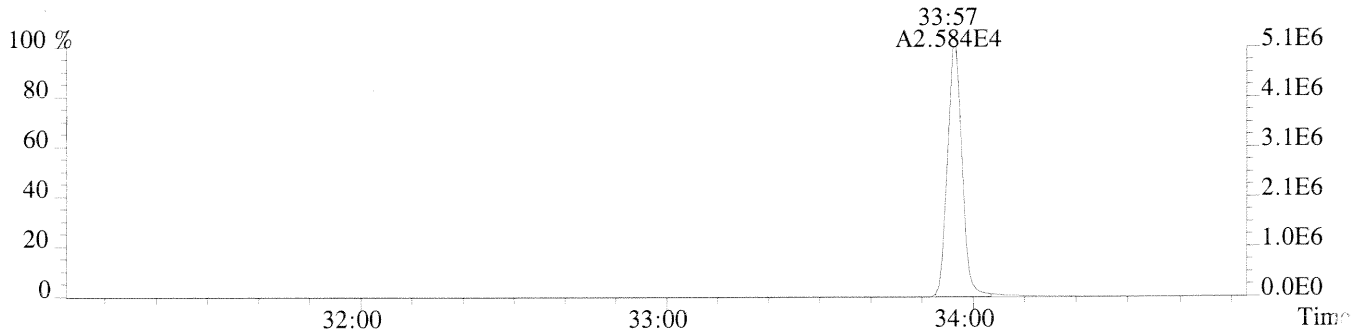
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



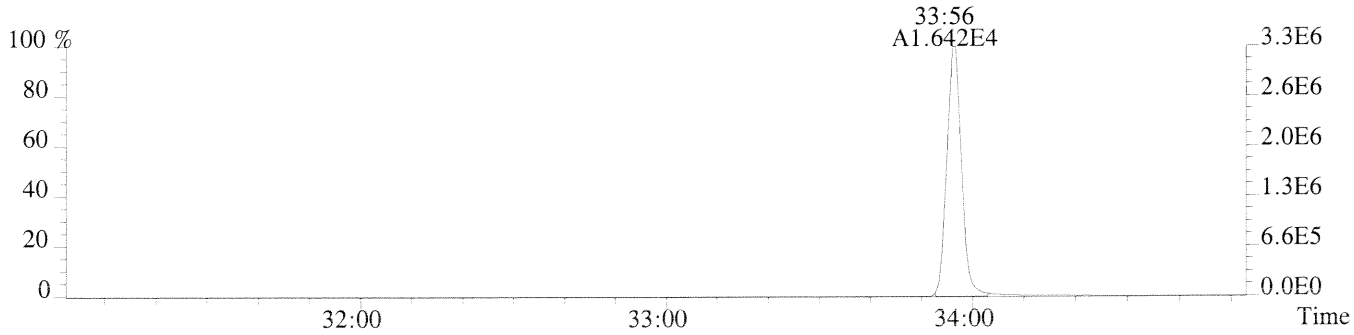
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



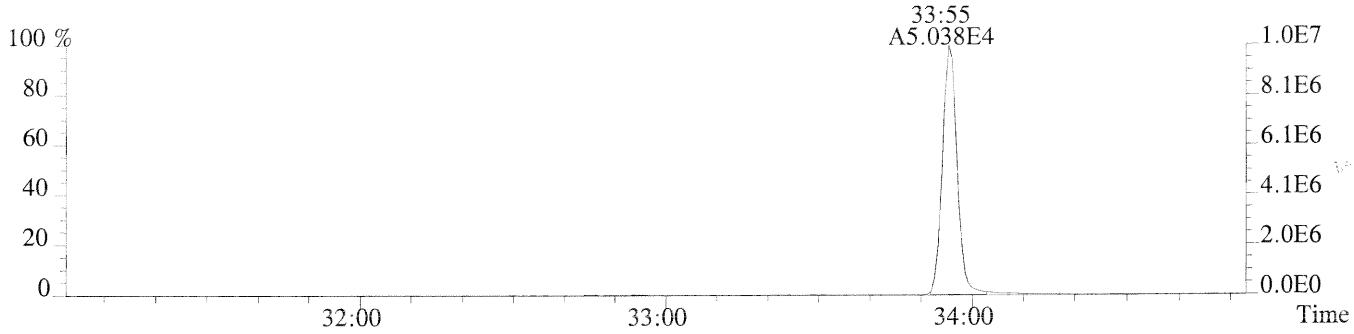
File:U149175 #1-349 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



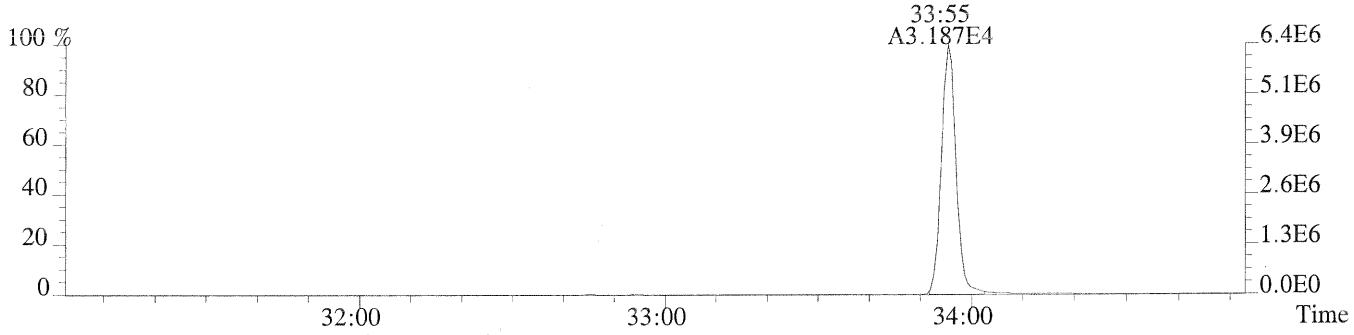
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



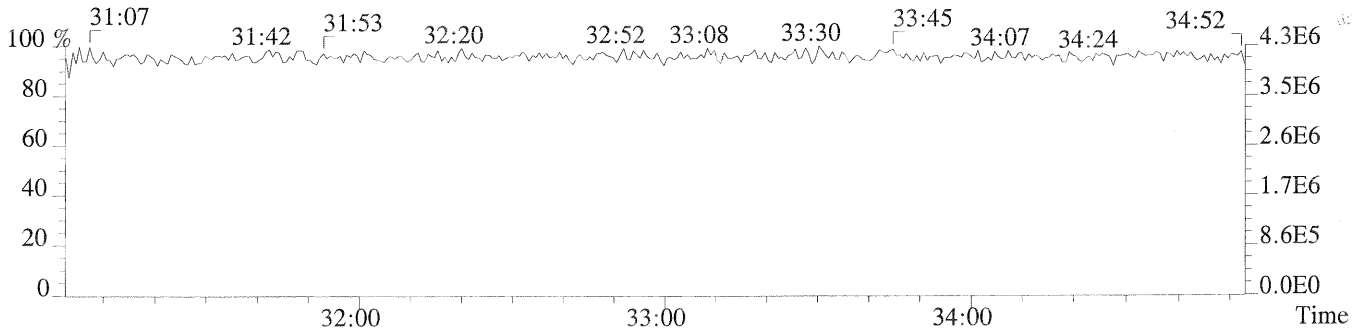
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)

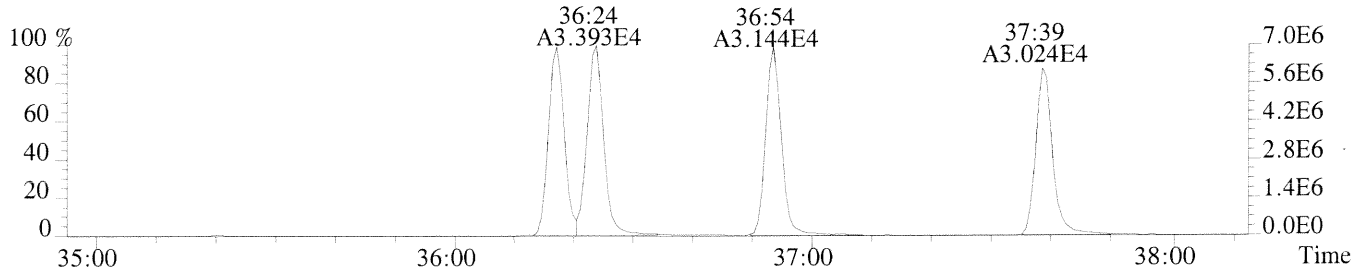


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

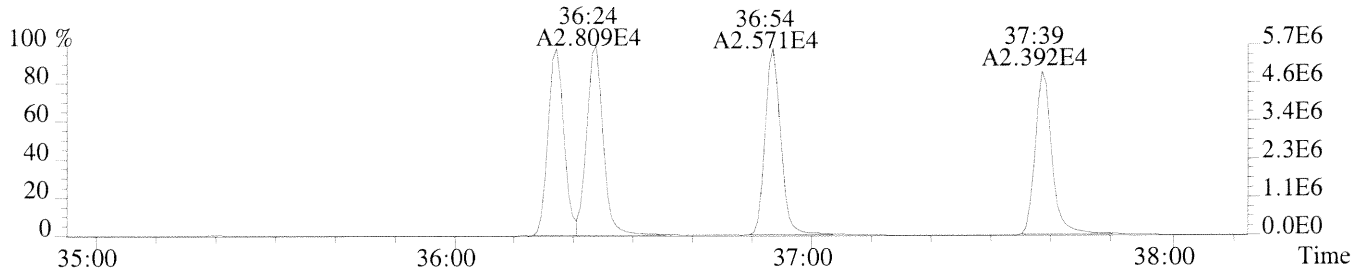


File:U149175 #1-299 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3

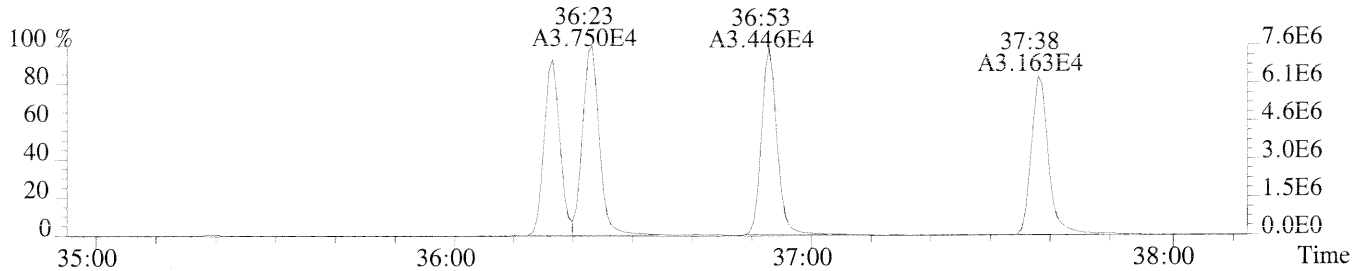
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,920.0,0.40%,F,T)



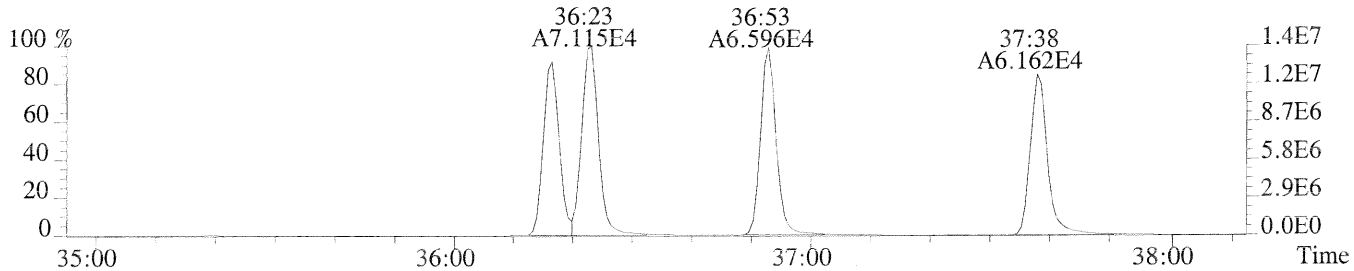
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



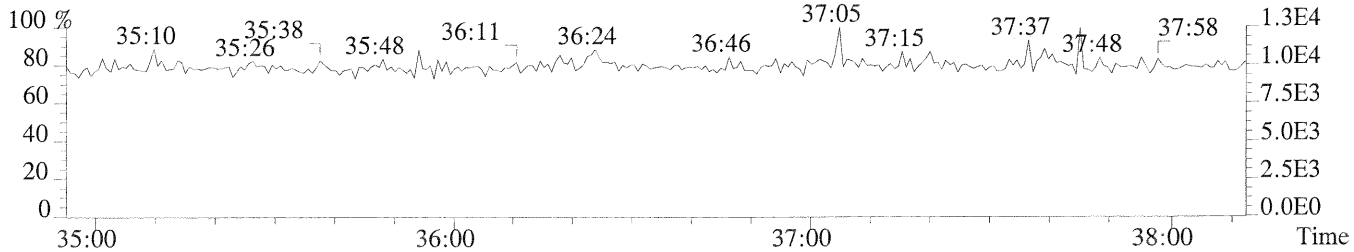
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



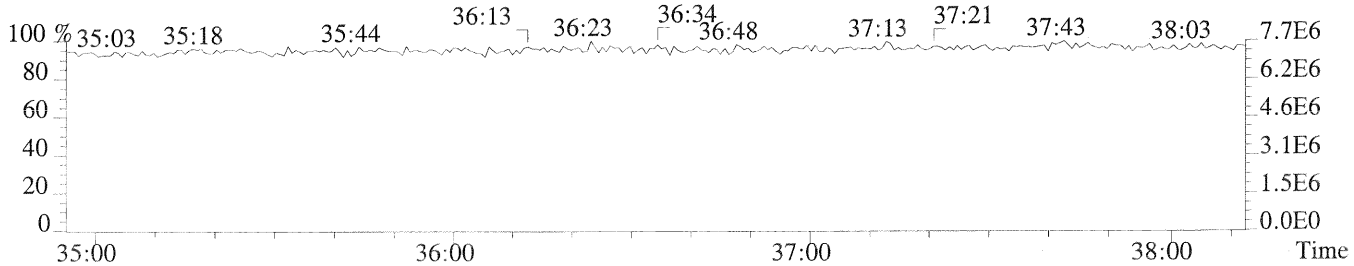
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,T)



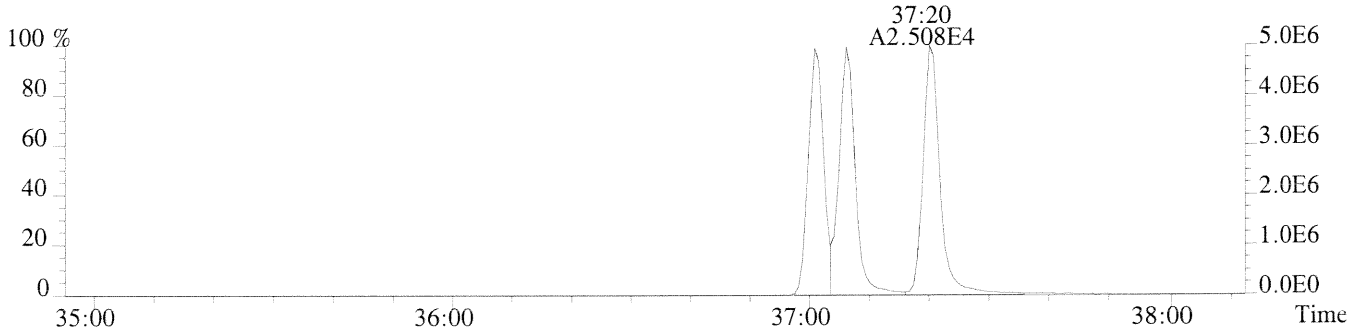
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



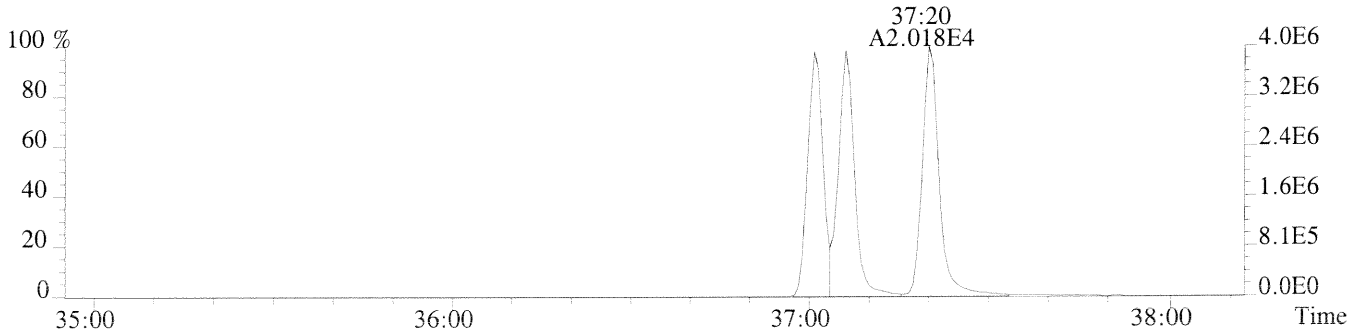
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



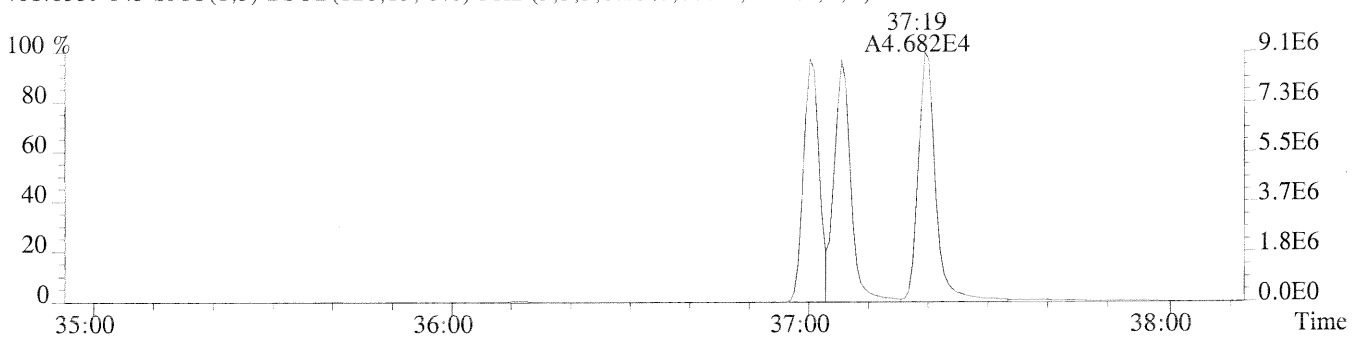
File:U149175 #1-299 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



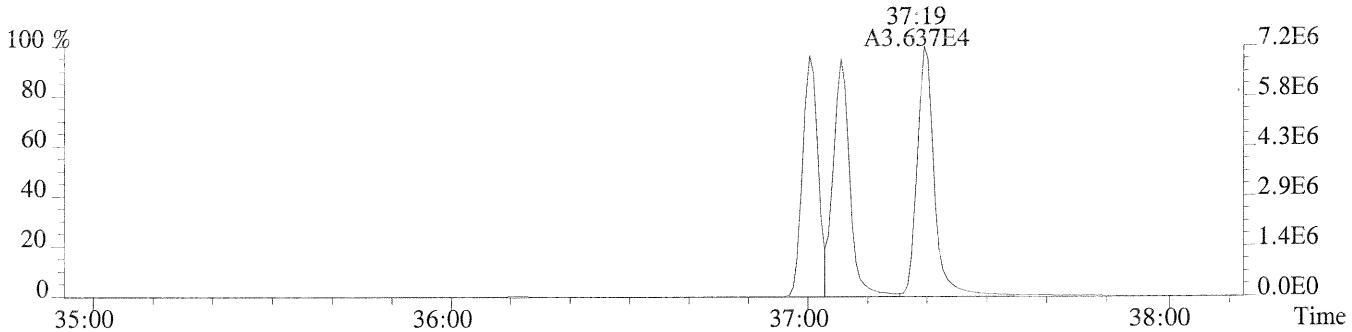
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,T)



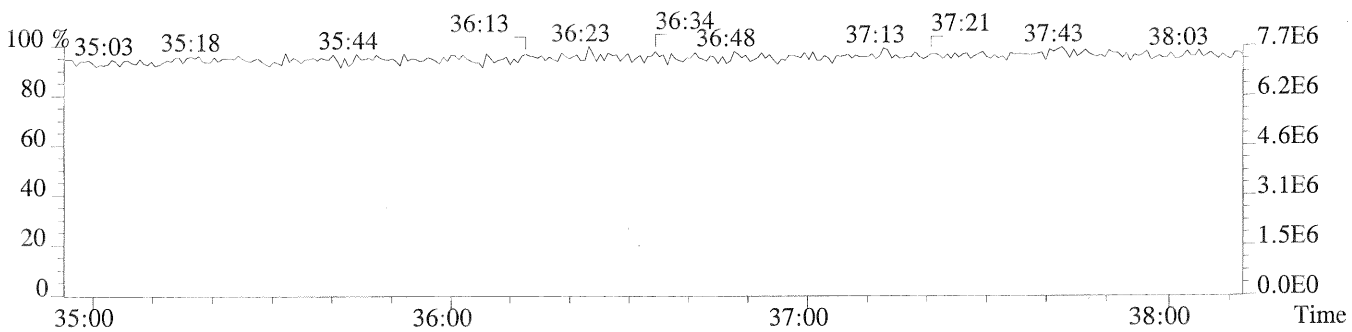
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)

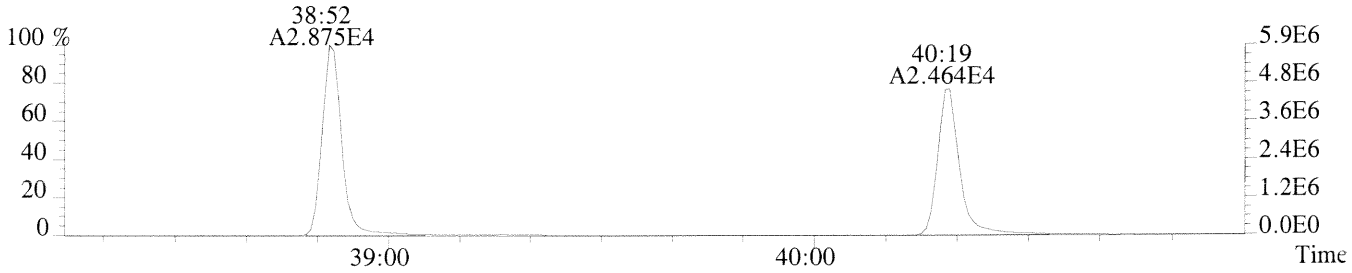


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

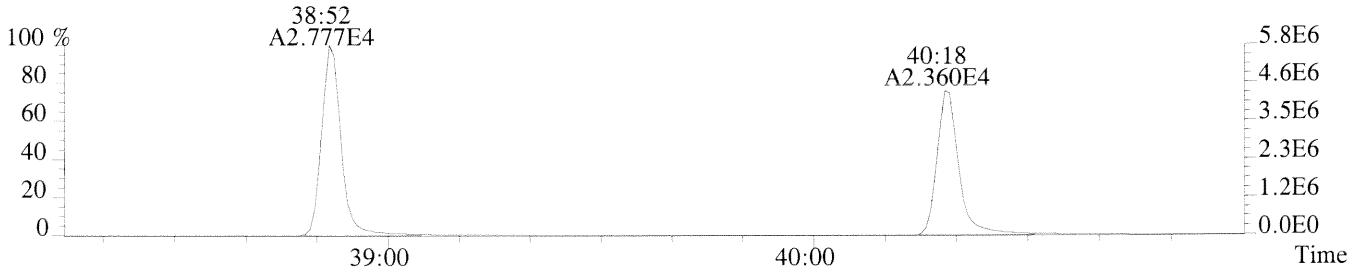


File:U149175 #1-251 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:CS3 HRCC3/CS3

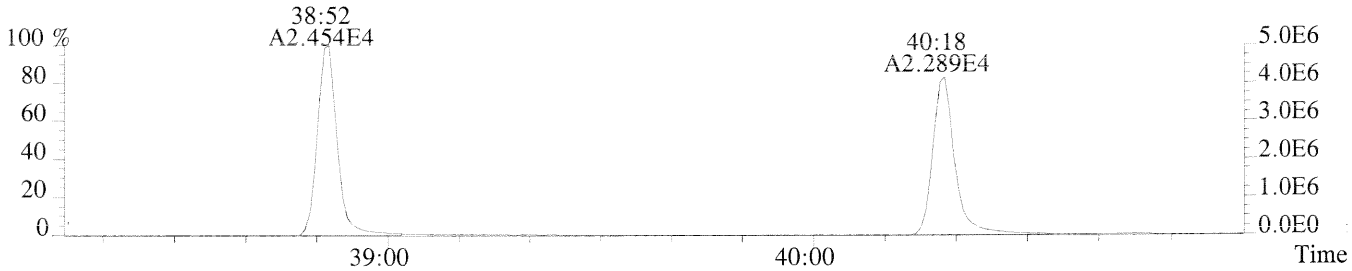
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3420.0,0.50%,F,T)



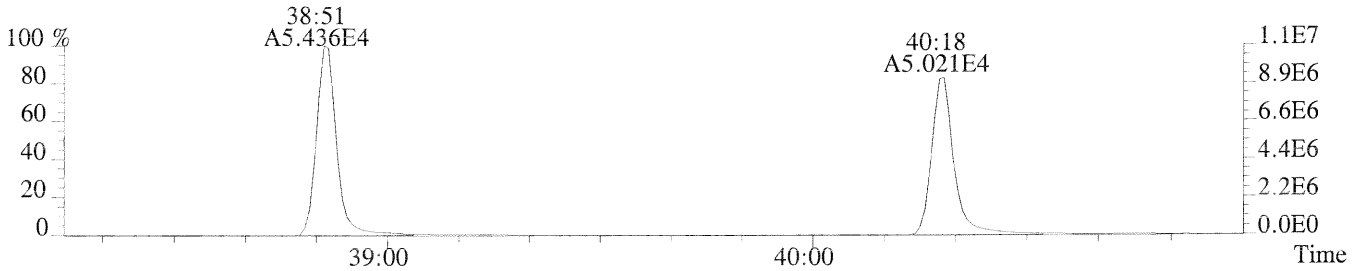
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2416.0,0.50%,F,T)



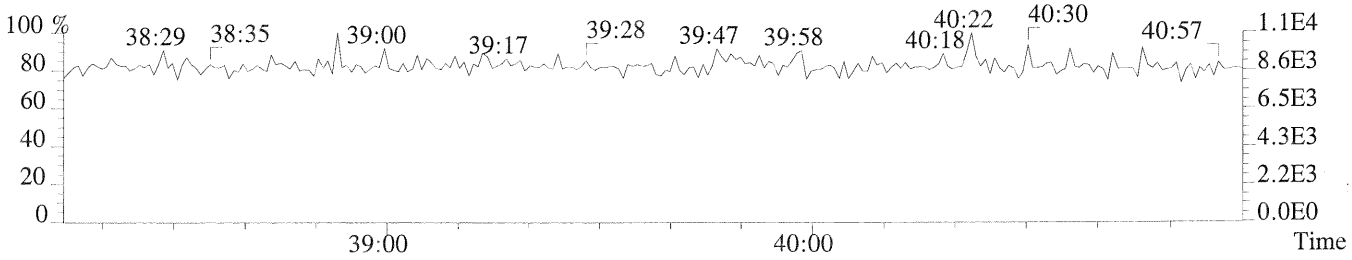
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3492.0,0.50%,F,T)



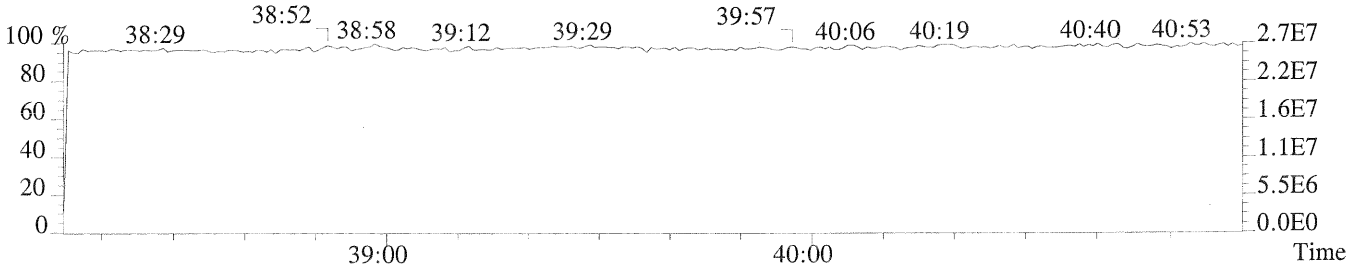
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3248.0,0.50%,F,T)



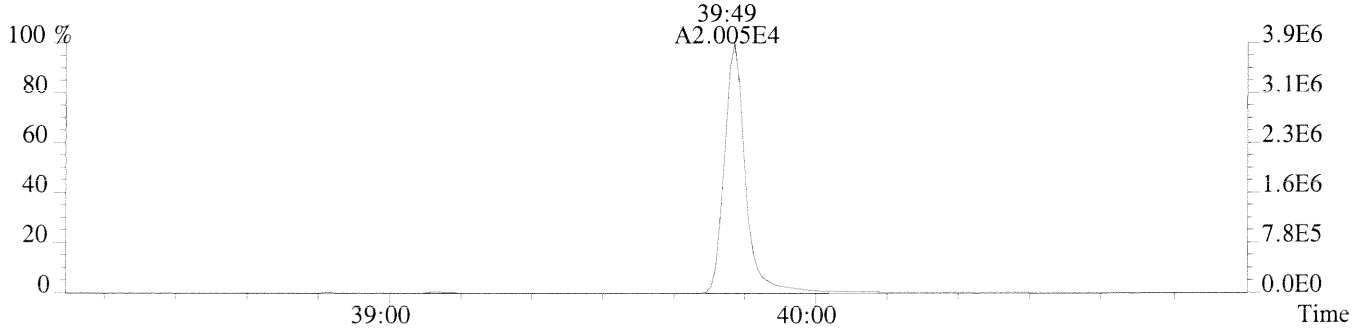
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



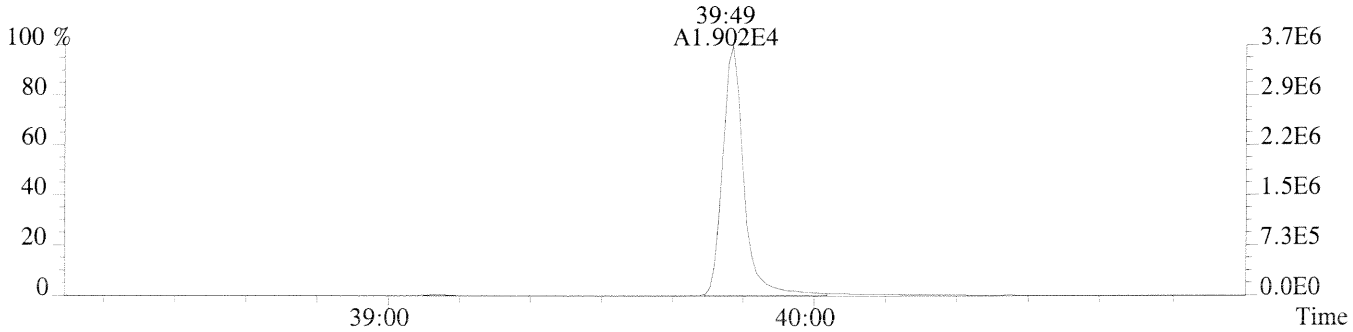
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



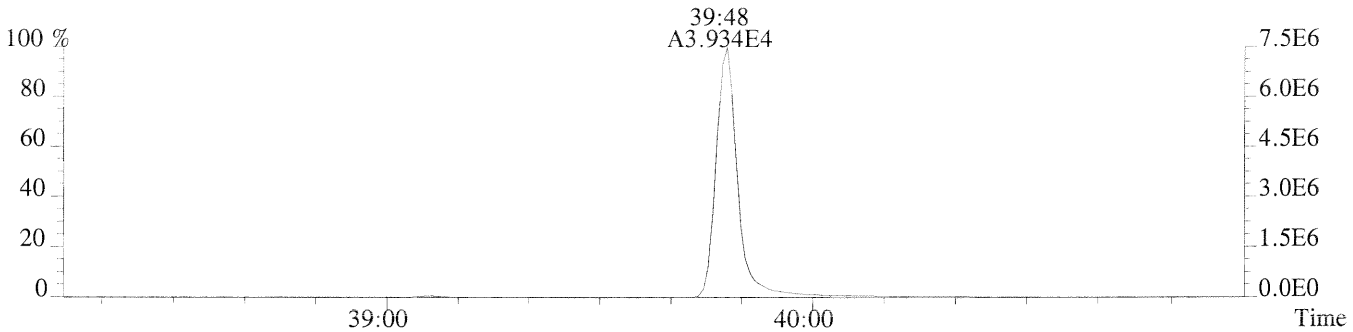
File:U149175 #1-251 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,740.0,0.40%,F,T)



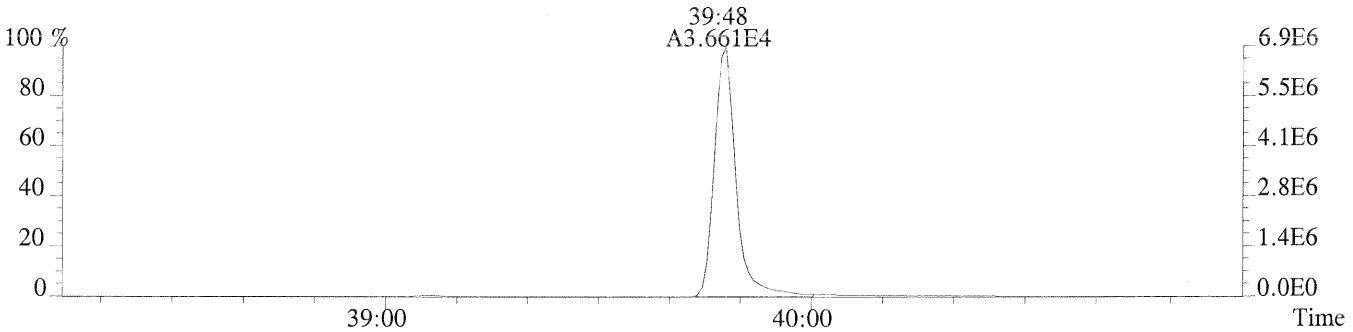
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



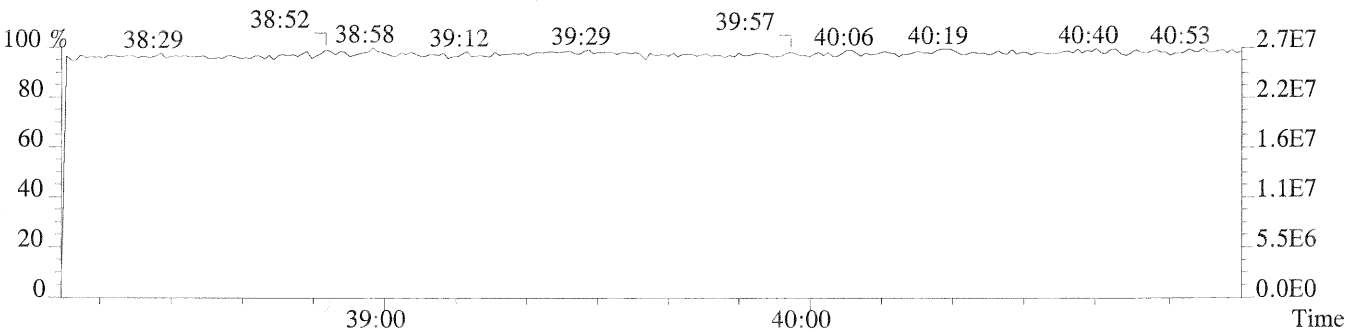
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



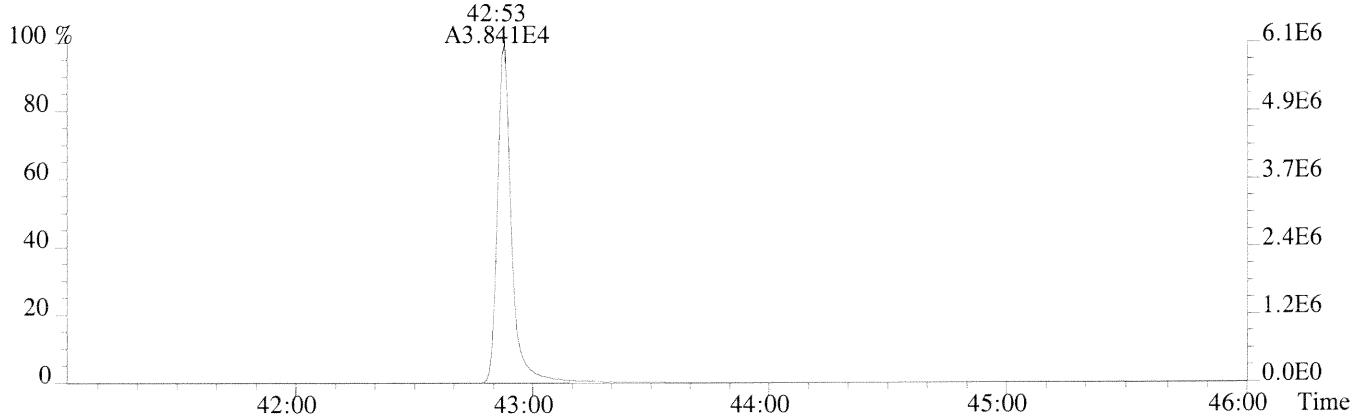
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,796.0,0.40%,F,T)



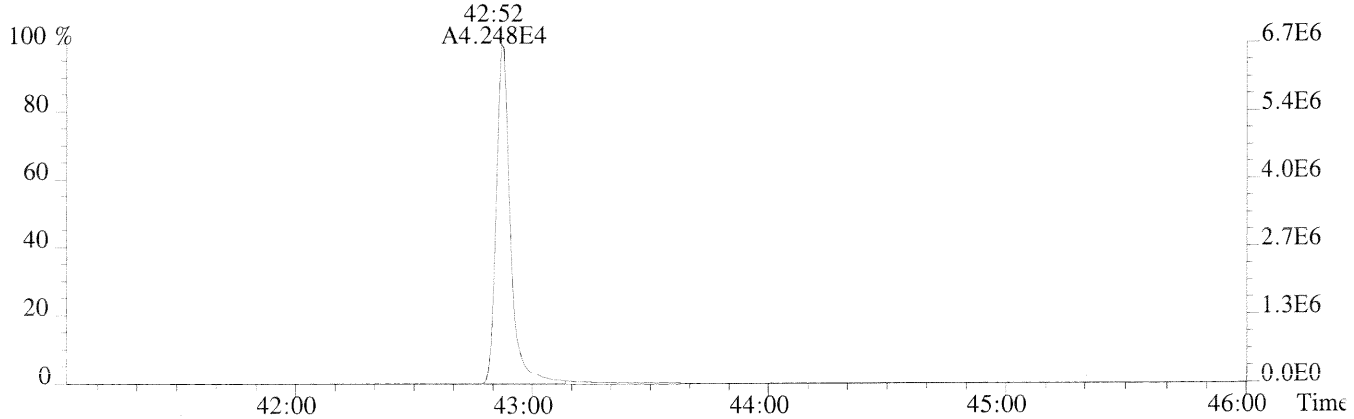
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



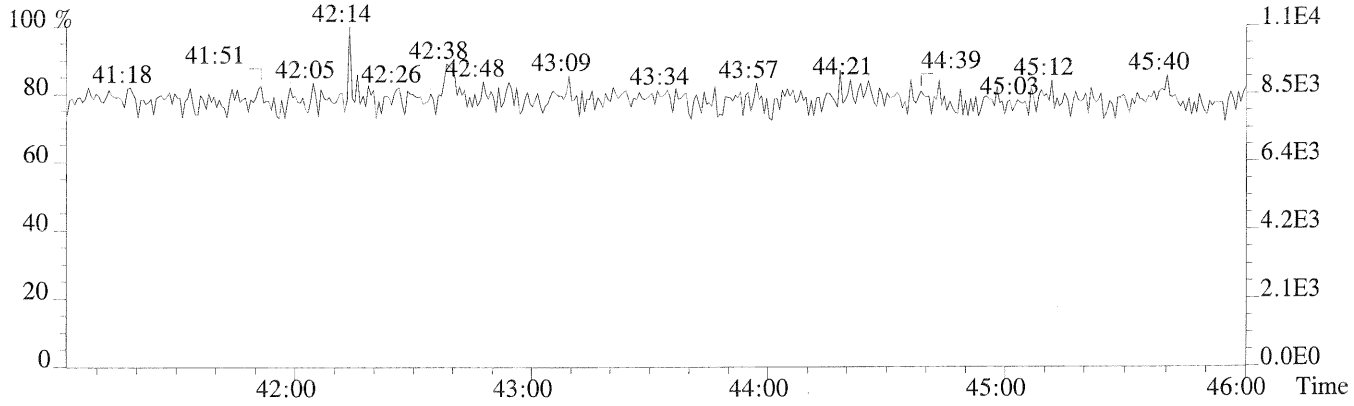
File:U149175 #1-451 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,612.0,0.40%,F,T)



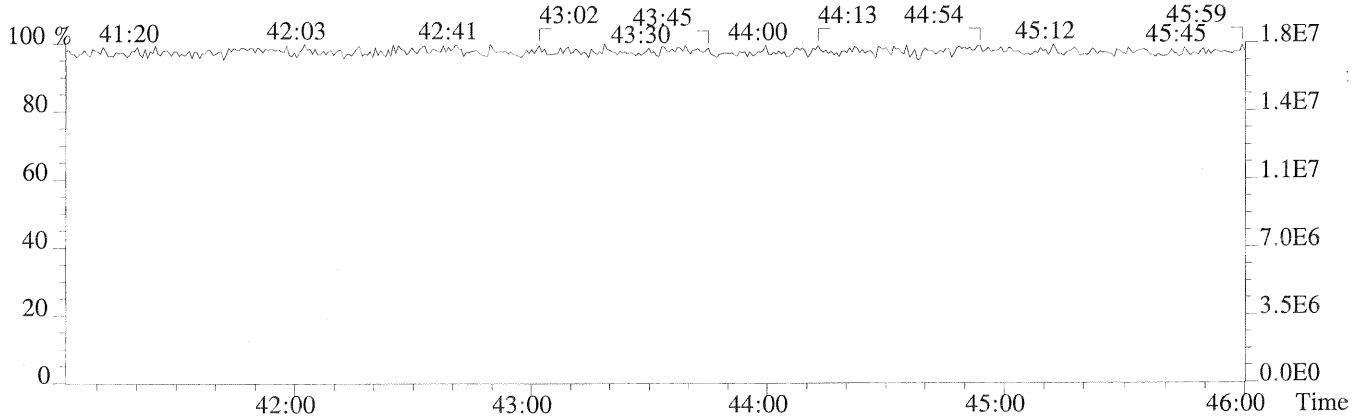
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,T)



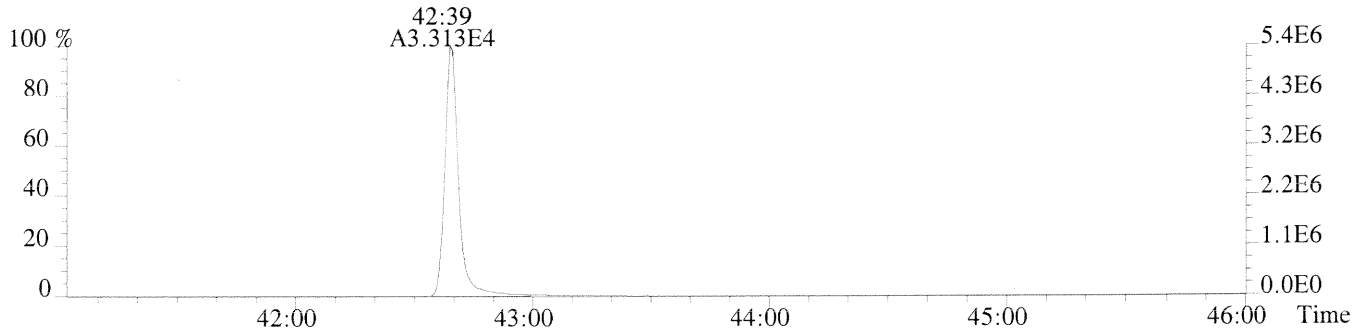
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



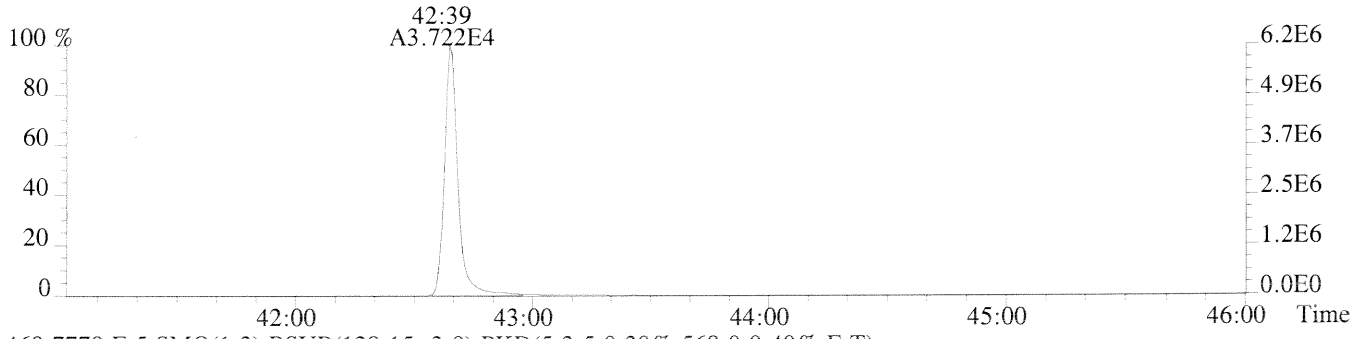
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



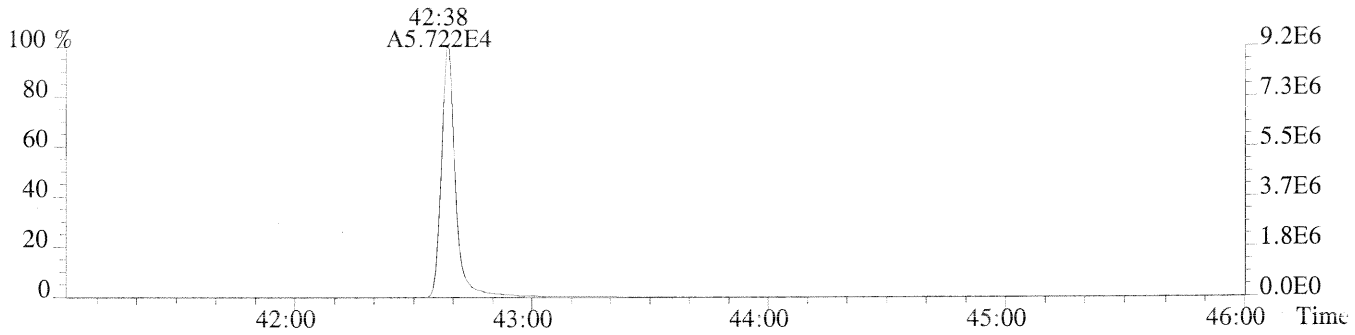
File:U149175 #1-451 Acq:21-MAY-2014 17:15:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3 HRCC3/CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,T)



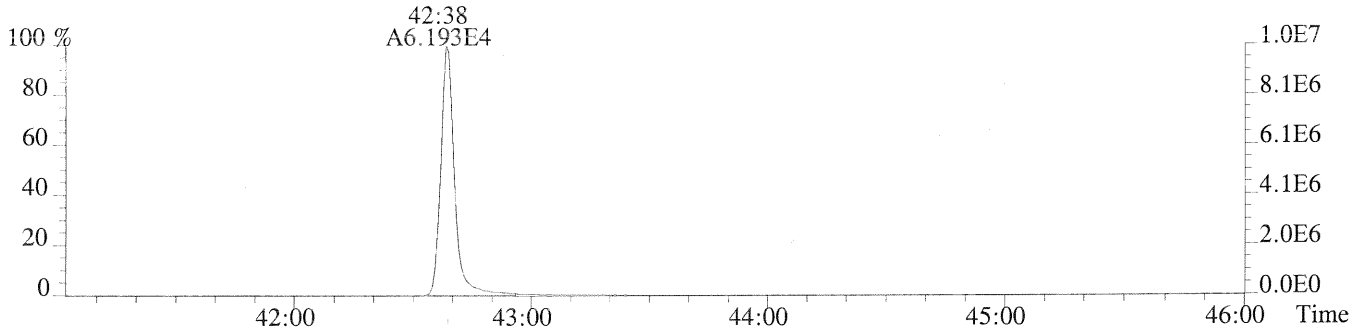
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,604.0,0.40%,F,T)



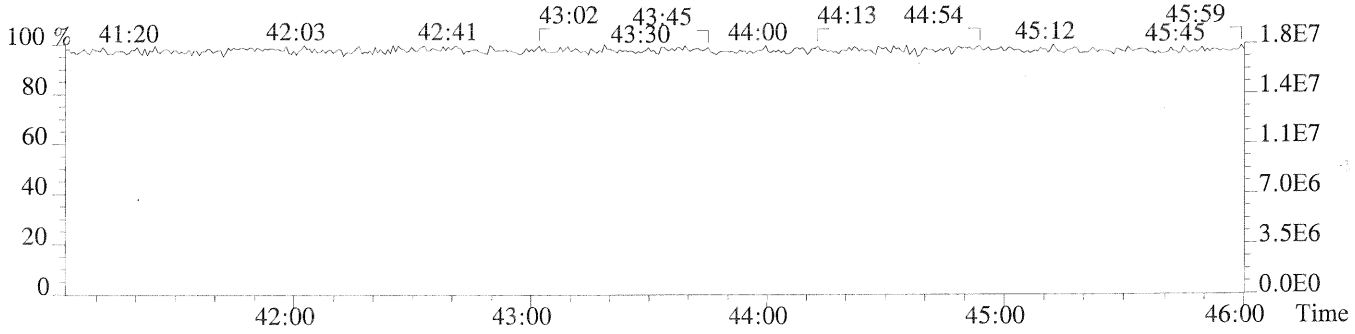
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,672.0,0.40%,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.
CS4

Run #5 Filename U149176 Samp: 1 Inj: 1 Acquired: 21-MAY-14 18:03:46
Processed: 23-MAY-14 08:49:34 Sample ID: D12-90-3D

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	1.281e+04	1.683e+04	0.76	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:46	1.486e+05	9.488e+04	1.57	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	1.343e+05	8.695e+04	1.55	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	1.275e+05	1.018e+05	1.25	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:23	1.386e+05	1.120e+05	1.24	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:53	1.262e+05	1.025e+05	1.23	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	1.191e+05	9.858e+04	1.21	yes	yes	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	1.152e+05	1.116e+05	1.03	yes	yes	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	1.018e+05	9.893e+04	1.03	yes	yes	1.359
10	Unk	OCDF	42:52	1.600e+05	1.777e+05	0.90	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:27	1.155e+04	1.438e+04	0.80	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:56	1.029e+05	6.424e+04	1.60	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:00	8.824e+04	7.079e+04	1.25	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:05	9.700e+04	7.789e+04	1.25	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	1.003e+05	8.079e+04	1.24	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:48	8.069e+04	7.758e+04	1.04	yes	no	1.065
17	Unk	OCDD	42:39	1.347e+05	1.520e+05	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:40	3.514e+04	4.374e+04	0.80	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	7.529e+04	4.771e+04	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	7.208e+04	4.560e+04	1.58	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:16	3.172e+04	6.087e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:22	3.706e+04	7.109e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:52	3.377e+04	6.515e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	3.111e+04	6.109e+04	0.51	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	2.455e+04	5.440e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	2.310e+04	5.027e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	2.837e+04	3.705e+04	0.77	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	4.941e+04	3.137e+04	1.57	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	3.923e+04	2.993e+04	1.31	yes	yes	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:05	4.286e+04	3.276e+04	1.31	yes	yes	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:47	3.985e+04	3.688e+04	1.08	yes	no	0.936
32	IS	13C-OCDD	42:38	5.752e+04	6.284e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	2.043e+04	2.631e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	4.399e+04	3.478e+04	1.26	yes	yes	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	2.668e+04				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
CS4

#5 Filename U149176 Samp: 1 Inj: 1 Acquired: 21-MAY-14 18:03:46
Processed: 22-MAY-14 12:57:511 LAB. ID: D12-90-3D

Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
2,3,7,8-TCDF	2.72e+06	7.76e+02	3.5e+03	3.55e+06	1.07e+03	3.3e+03
1,2,3,7,8-PeCDF	2.96e+07	6.16e+02	4.8e+04	1.89e+07	1.46e+03	1.3e+04
2,3,4,7,8-PeCDF	2.67e+07	6.16e+02	4.3e+04	1.74e+07	1.46e+03	1.2e+04
1,2,3,4,7,8-HxCDF	2.81e+07	1.45e+03	1.9e+04	2.23e+07	1.00e+03	2.2e+04
1,2,3,6,7,8-HxCDF	2.93e+07	1.45e+03	2.0e+04	2.37e+07	1.00e+03	2.4e+04
2,3,4,6,7,8-HxCDF	2.80e+07	1.45e+03	1.9e+04	2.28e+07	1.00e+03	2.3e+04
1,2,3,7,8,9-HxCDF	2.45e+07	1.45e+03	1.7e+04	2.01e+07	1.00e+03	2.0e+04
1,2,3,4,6,7,8-HpCDF	2.41e+07	5.82e+03	4.1e+03	2.31e+07	1.34e+04	1.7e+03
1,2,3,4,7,8,9-HpCDF	1.96e+07	5.82e+03	3.4e+03	1.89e+07	1.34e+04	1.4e+03
OCDF	2.73e+07	5.88e+02	4.6e+04	3.00e+07	9.52e+02	3.1e+04
2,3,7,8-TCDD	2.60e+06	8.56e+02	3.0e+03	3.24e+06	6.52e+02	5.0e+03
1,2,3,7,8-PeCDD	2.11e+07	5.16e+02	4.1e+04	1.30e+07	7.04e+02	1.9e+04
1,2,3,4,7,8-HxCDD	2.00e+07	8.08e+02	2.5e+04	1.63e+07	7.00e+02	2.3e+04
1,2,3,6,7,8-HxCDD	2.00e+07	8.08e+02	2.5e+04	1.63e+07	7.00e+02	2.3e+04
1,2,3,7,8,9-HxCDD	2.02e+07	8.08e+02	2.5e+04	1.62e+07	7.00e+02	2.3e+04
1,2,3,4,6,7,8-HpCDD	1.62e+07	8.44e+02	1.9e+04	1.56e+07	1.16e+03	1.4e+04
OCDD	2.26e+07	7.00e+02	3.2e+04	2.53e+07	6.48e+02	3.9e+04
13C-2,3,7,8-TCDF	7.46e+06	1.03e+03	7.3e+03	9.29e+06	7.28e+02	1.3e+04
13C-1,2,3,7,8-PeCDF	1.45e+07	1.14e+03	1.3e+04	9.16e+06	9.92e+02	9.2e+03
13C-2,3,4,7,8-PeCDF	1.46e+07	1.14e+03	1.3e+04	9.28e+06	9.92e+02	9.4e+03
13C-1,2,3,4,7,8-HxCDF	6.96e+06	8.00e+02	8.7e+03	1.33e+07	4.80e+02	2.8e+04
13C-1,2,3,6,7,8-HxCDF	7.93e+06	8.00e+02	9.9e+03	1.51e+07	4.80e+02	3.2e+04
13C-2,3,4,6,7,8-HxCDF	7.38e+06	8.00e+02	9.2e+03	1.43e+07	4.80e+02	3.0e+04
13C-1,2,3,7,8,9-HxCDF	6.36e+06	8.00e+02	8.0e+03	1.21e+07	4.80e+02	2.5e+04
13C-1,2,3,4,6,7,8-HpCDF	5.23e+06	2.16e+03	2.4e+03	1.14e+07	3.80e+03	3.0e+03
13C-1,2,3,4,7,8,9-HpCDF	4.42e+06	2.16e+03	2.0e+03	9.58e+06	3.80e+03	2.5e+03
13C-2,3,7,8-TCDD	6.25e+06	2.46e+03	2.5e+03	8.07e+06	1.19e+03	6.8e+03
13C-1,2,3,7,8-PeCDD	9.86e+06	8.40e+02	1.2e+04	6.33e+06	8.04e+02	7.9e+03
13C-1,2,3,4,7,8-HxCDD	8.86e+06	1.16e+03	7.6e+03	6.89e+06	6.20e+02	1.1e+04
13C-1,2,3,6,7,8-HxCDD	8.86e+06	1.16e+03	7.6e+03	6.89e+06	6.20e+02	1.1e+04
13C-1,2,3,4,6,7,8-HpCDD	7.80e+06	8.20e+02	9.5e+03	7.25e+06	5.76e+02	1.3e+04
13C-OCDD	9.51e+06	6.88e+02	1.4e+04	1.04e+07	5.40e+02	1.9e+04
13C-1,2,3,4-TCDD	4.49e+06	2.46e+03	1.8e+03	5.73e+06	1.19e+03	4.8e+03
13C-1,2,3,7,8,9-HxCDD	9.11e+06	1.16e+03	7.9e+03	7.06e+06	6.20e+02	1.1e+04
37Cl-2,3,7,8-TCDD	5.98e+06	9.12e+02	6.6e+03			

ENVIRONMENTAL
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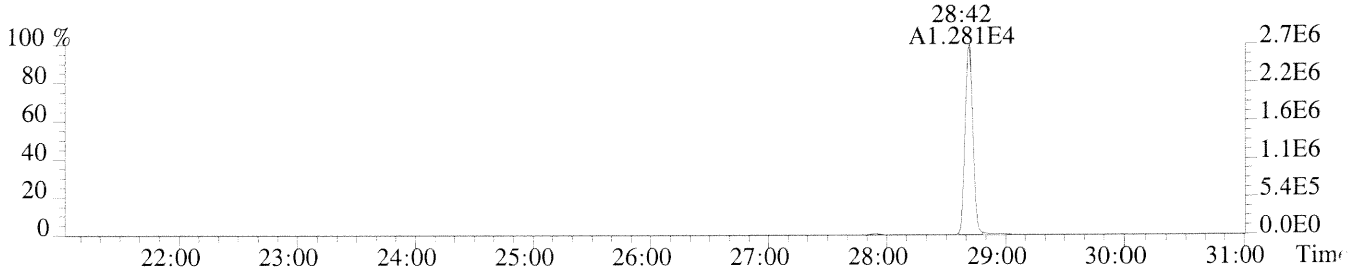
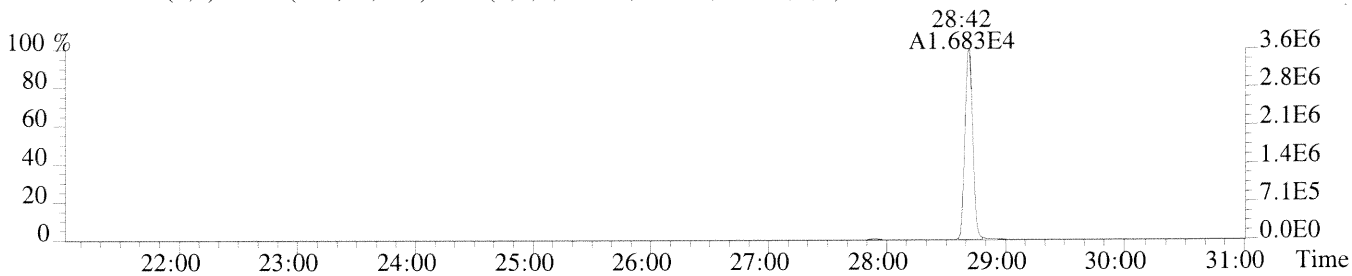
File:U149176 #1-627 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4

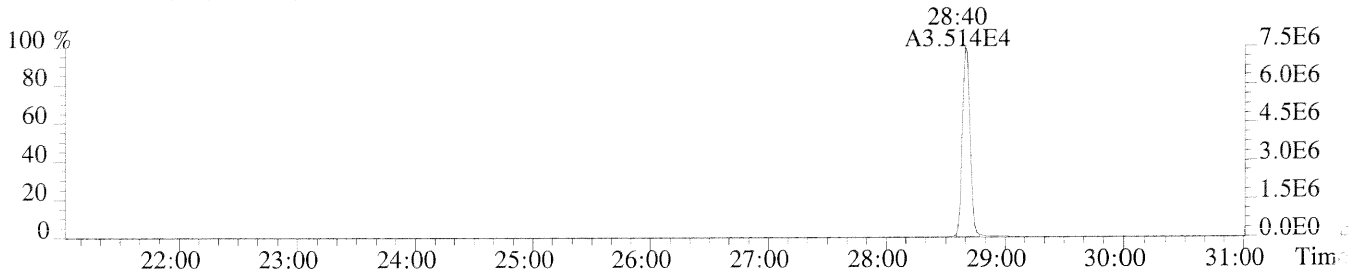
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



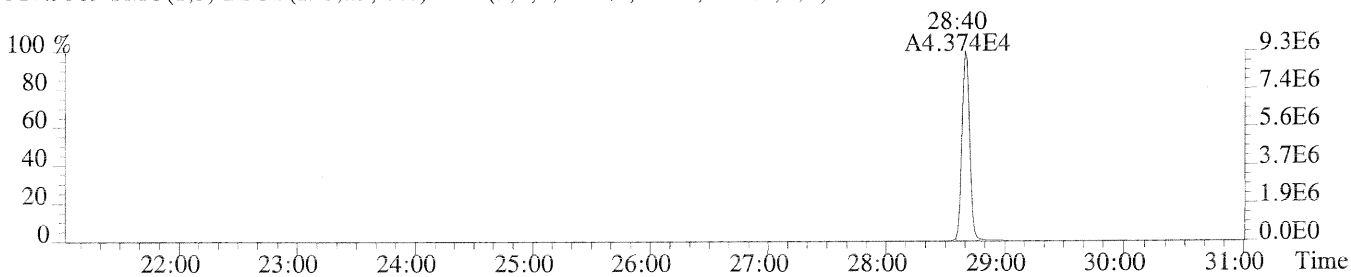
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,T)



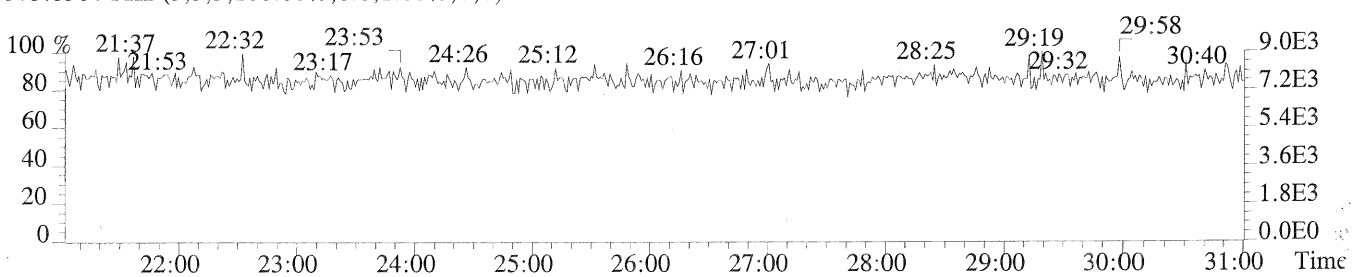
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1028.0,1.00%,F,T)



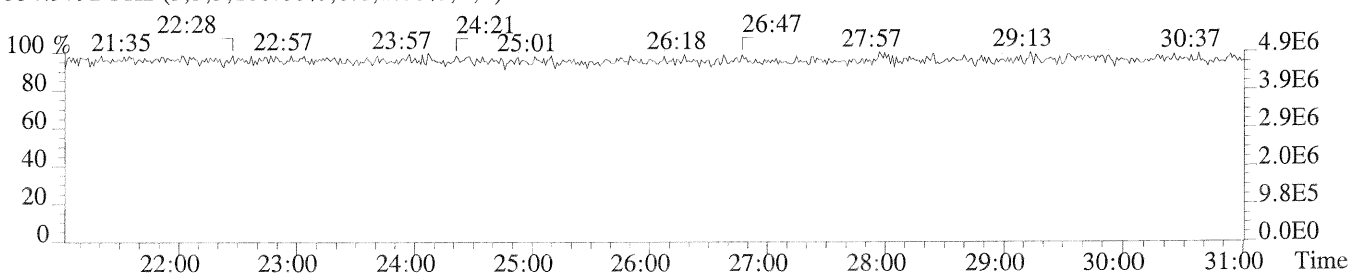
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

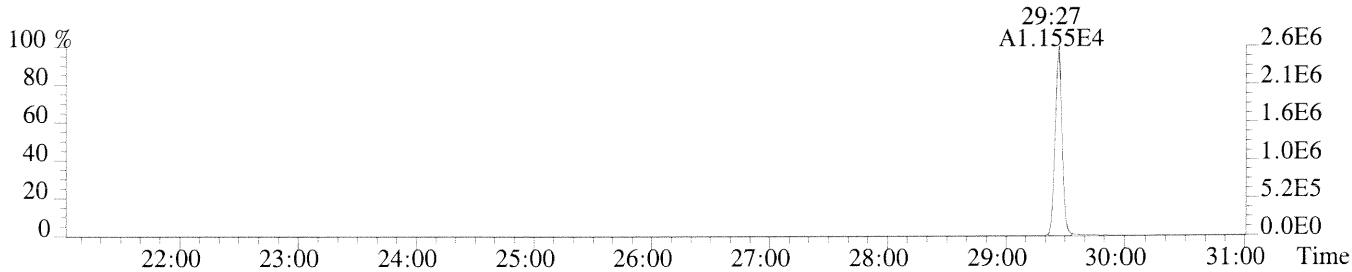


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

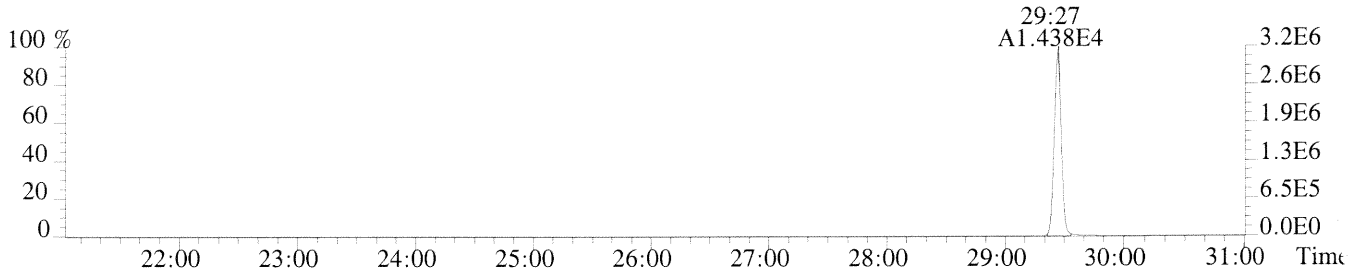


File:U149176 #1-627 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4

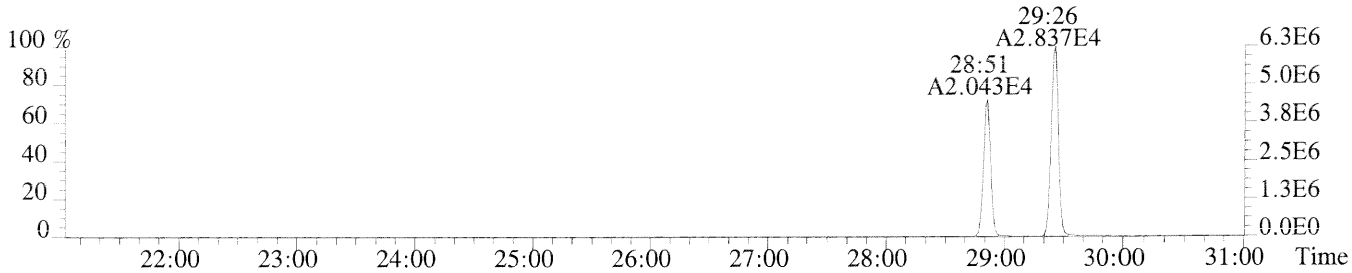
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



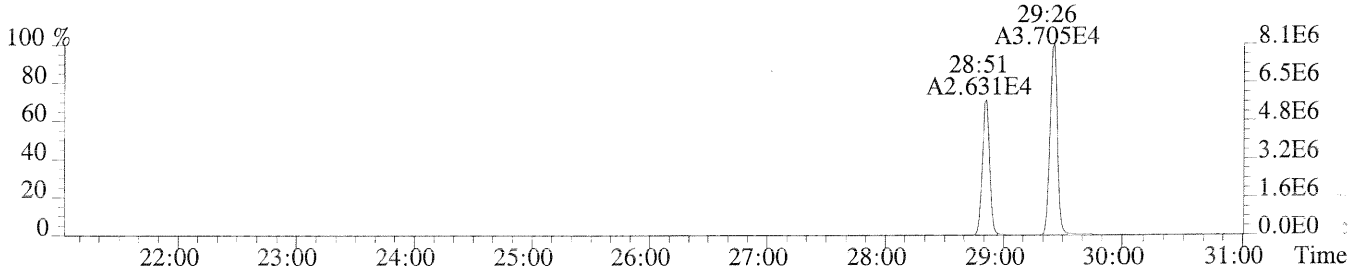
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



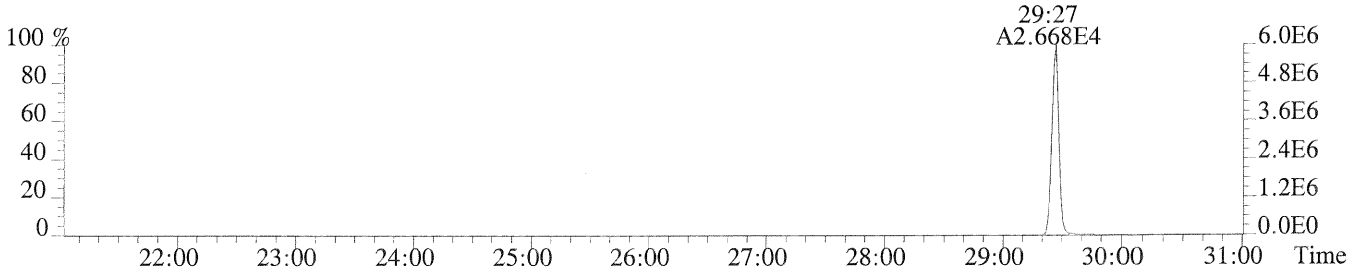
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2456.0,1.00%,F,T)



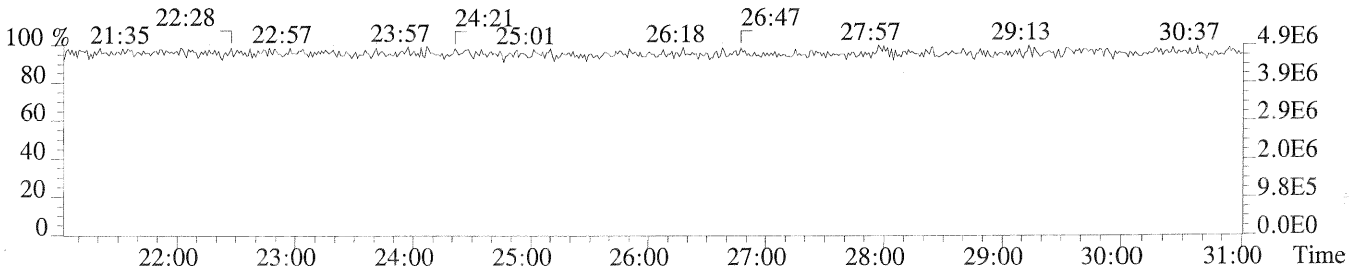
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1192.0,1.00%,F,T)



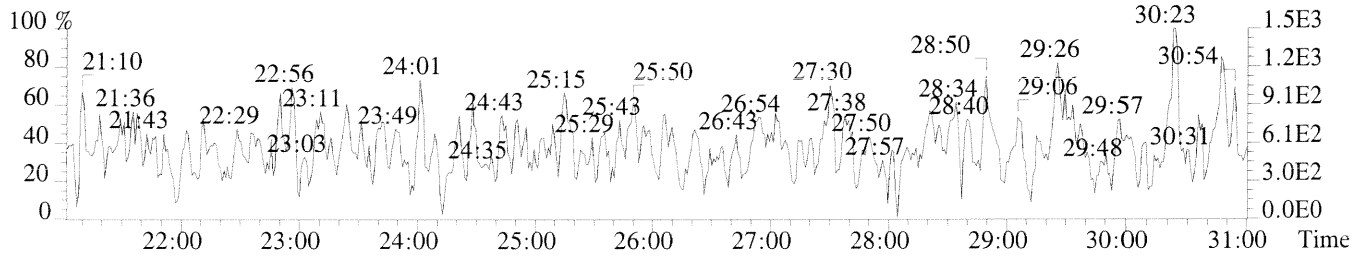
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



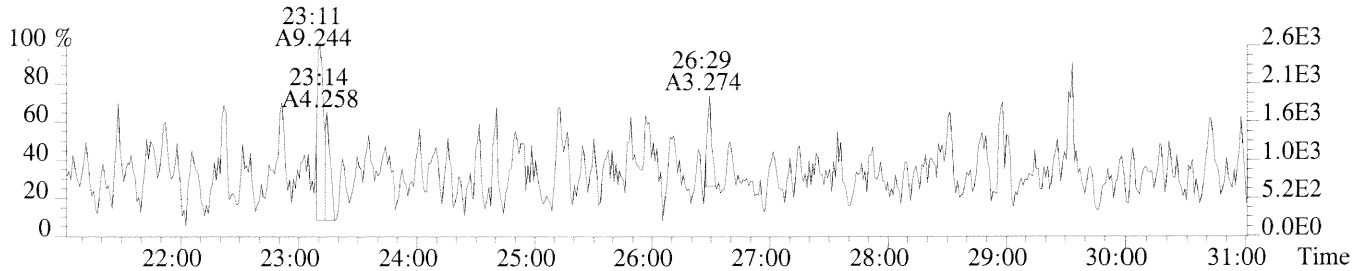
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



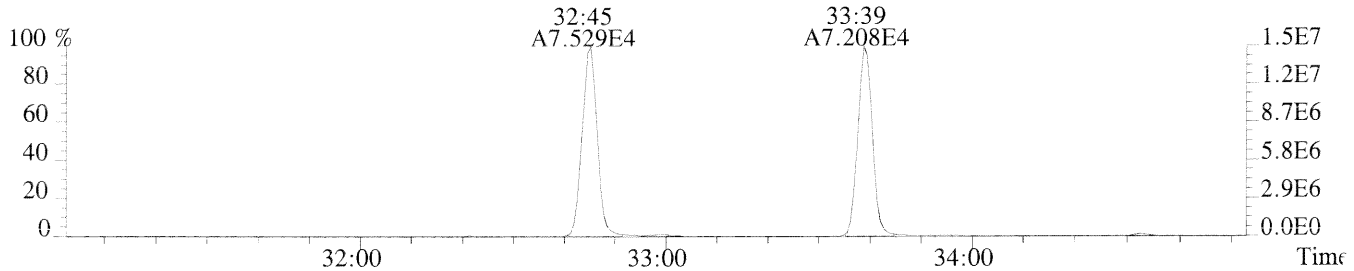
File:U149176 #1-627 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



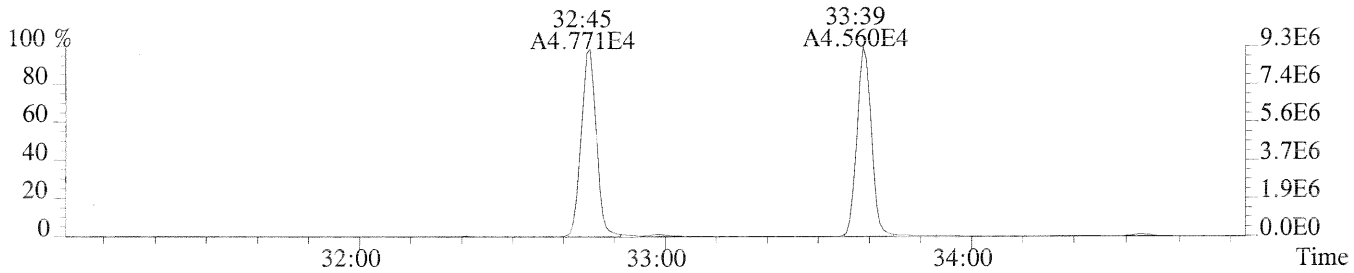
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



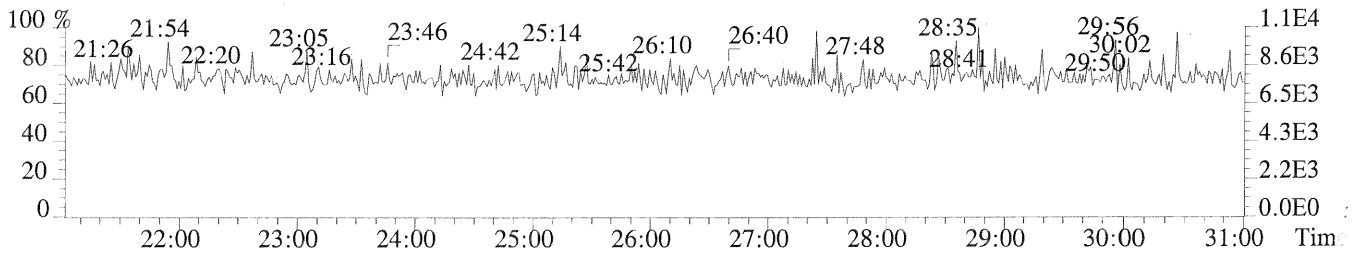
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,T)



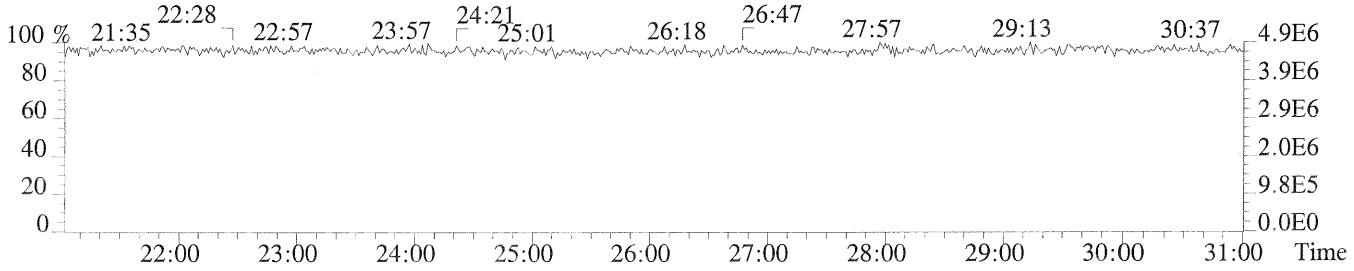
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

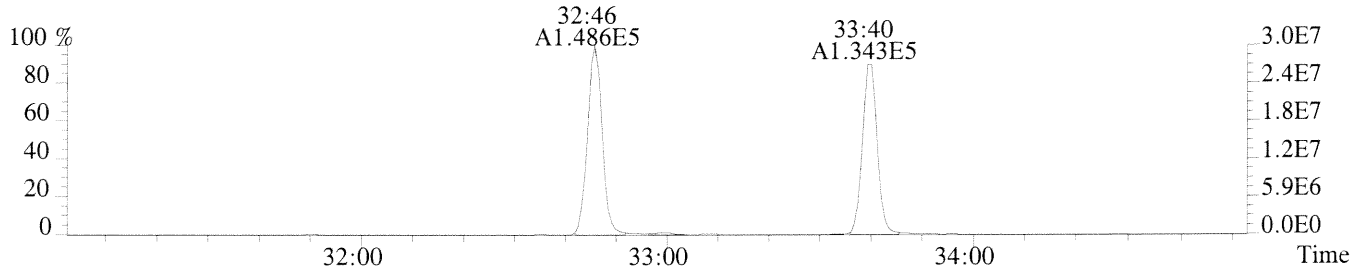


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

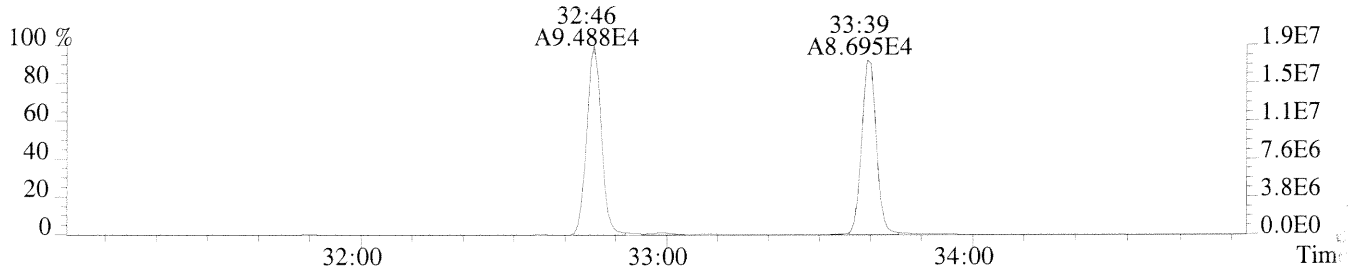


File:U149176 #1-349 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4

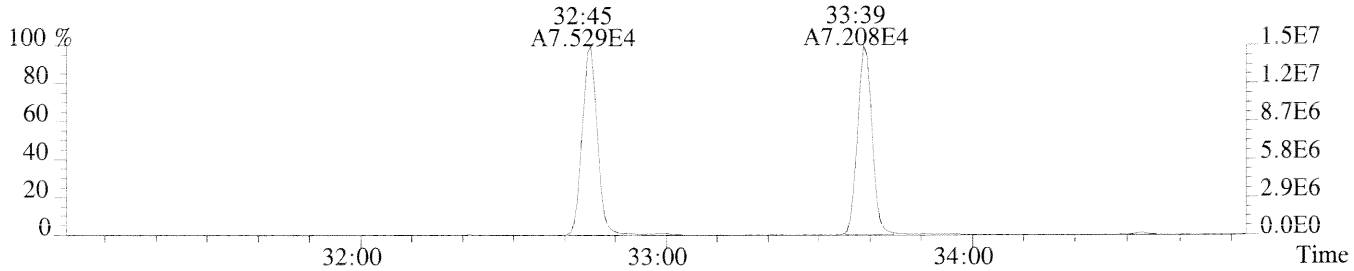
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,T)



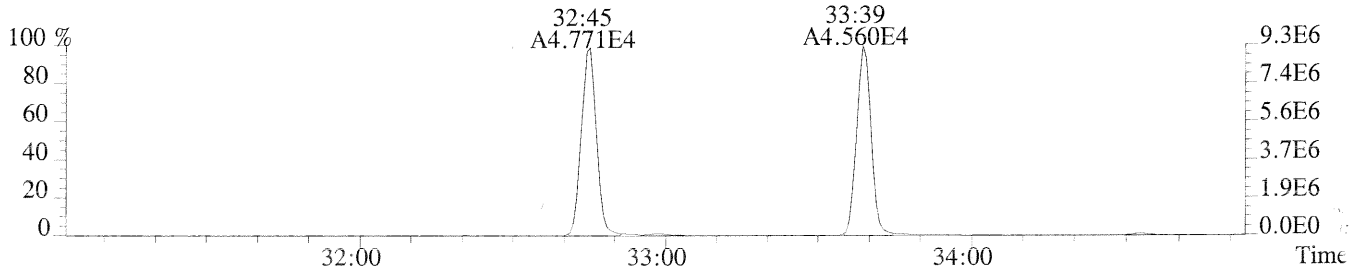
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



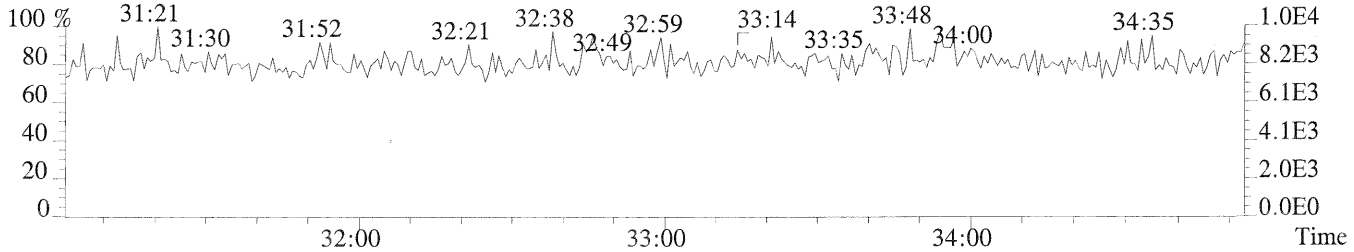
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,T)



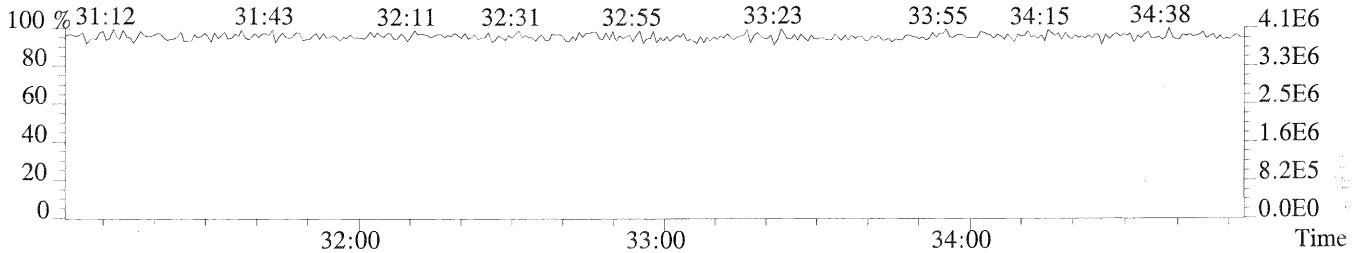
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



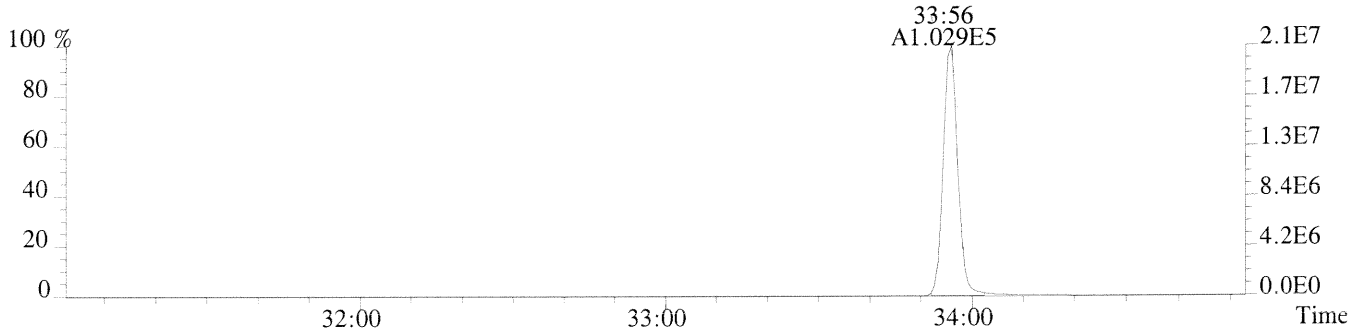
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



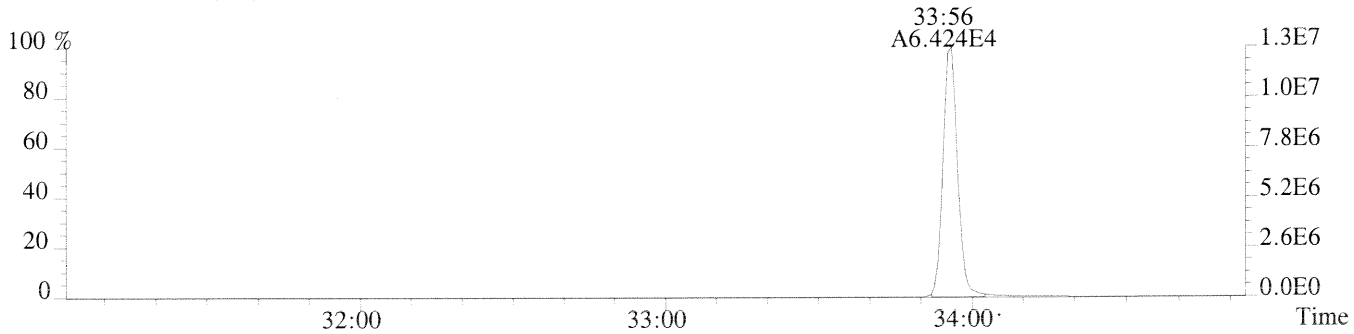
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



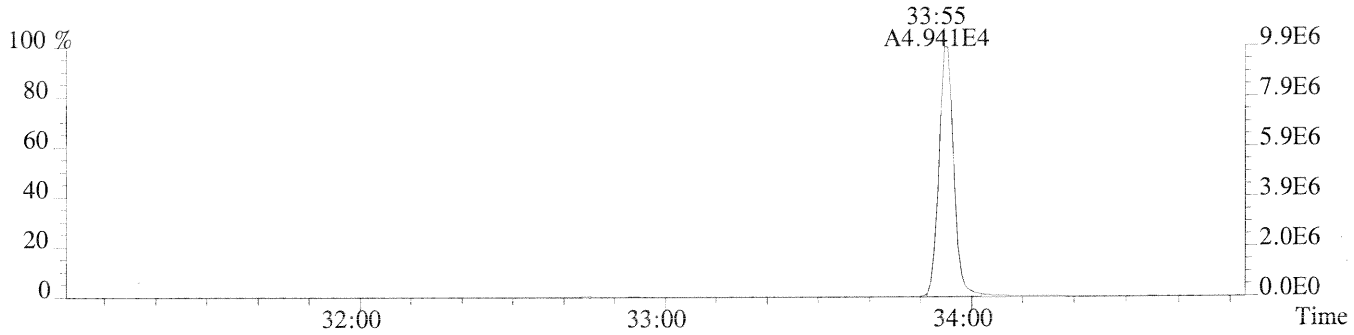
File:U149176 #1-349 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



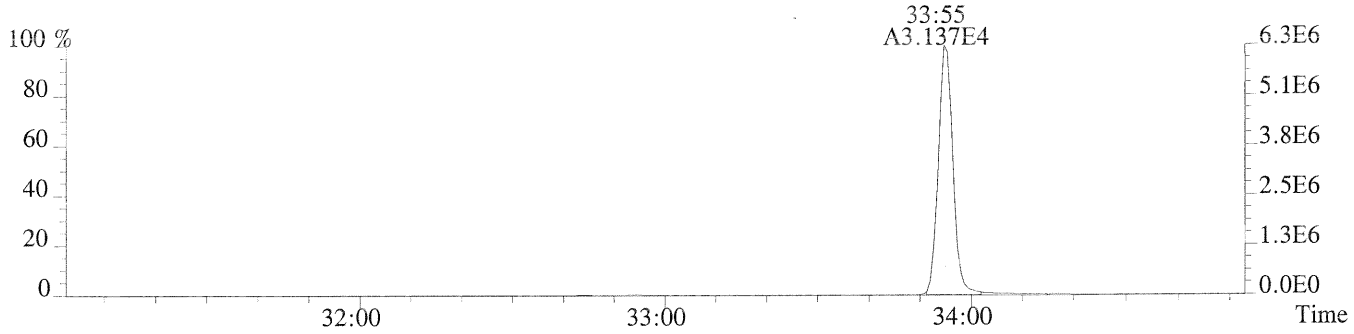
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



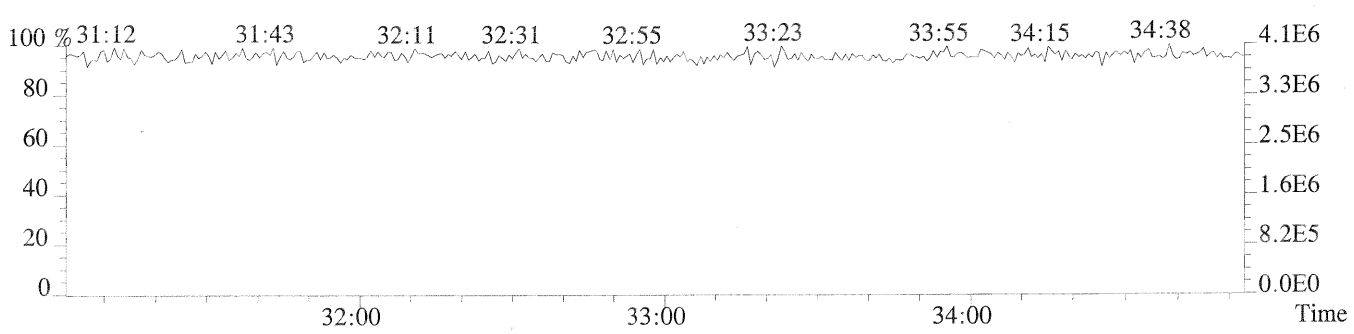
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)

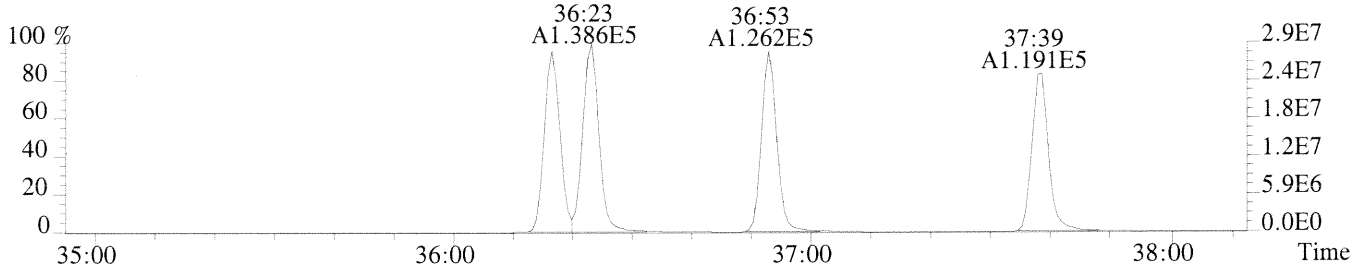


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

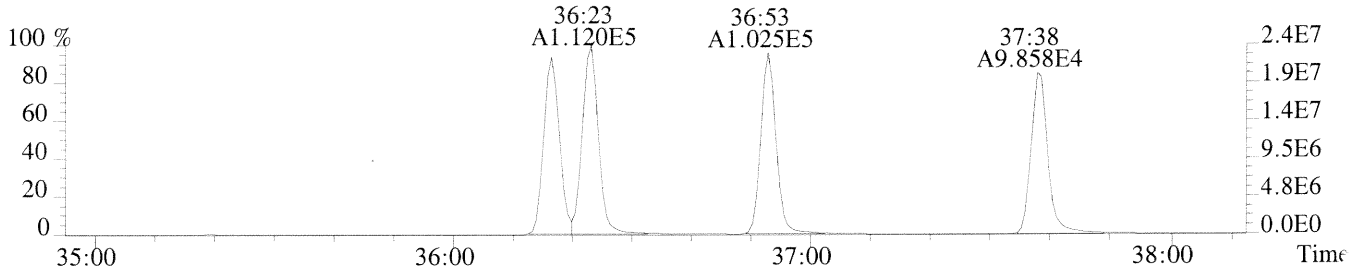


File:U149176 #1-299 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4

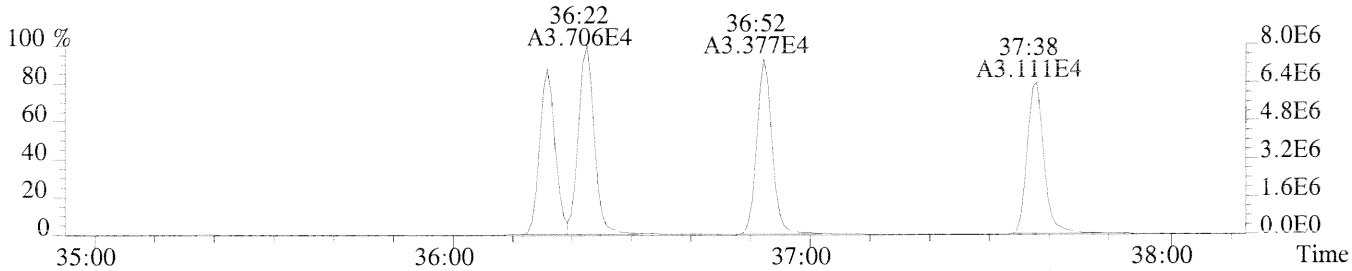
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.40%,F,T)



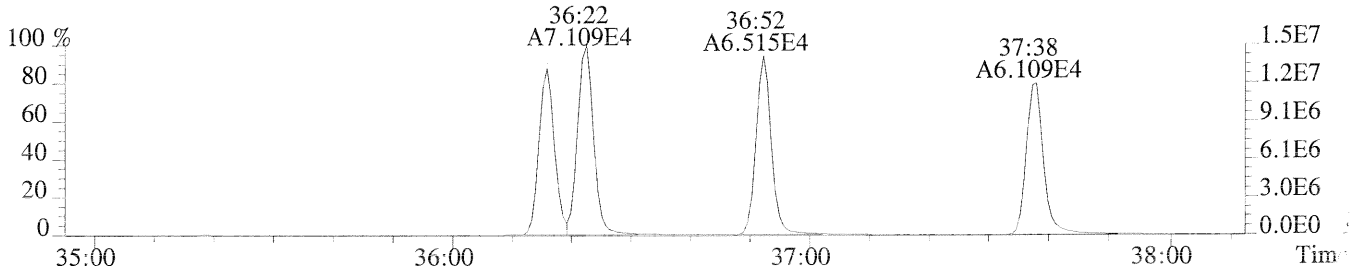
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



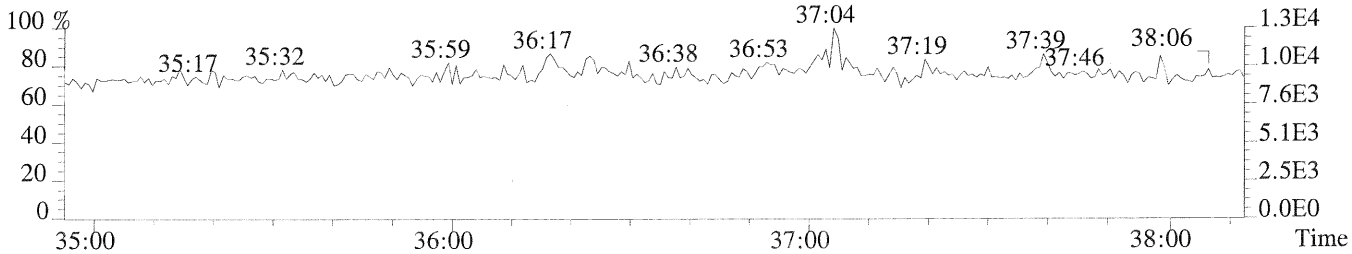
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



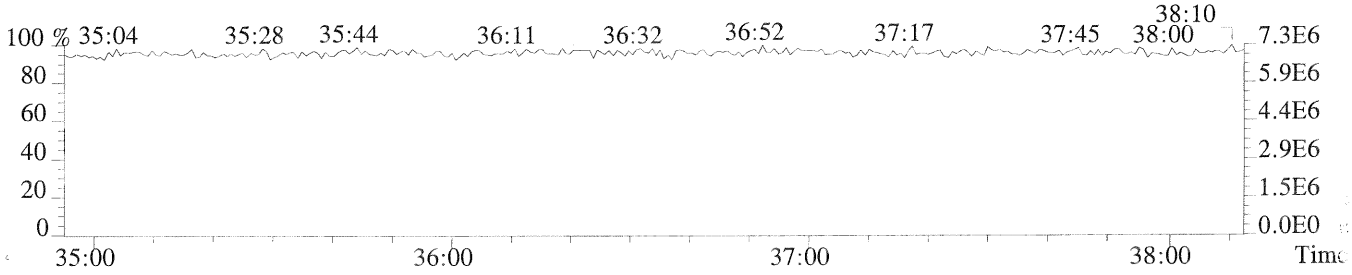
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,480.0,0.40%,F,T)



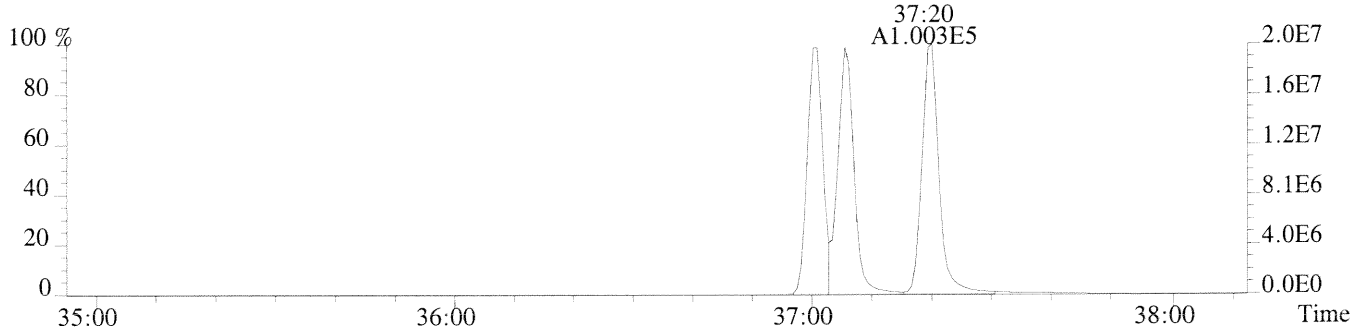
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



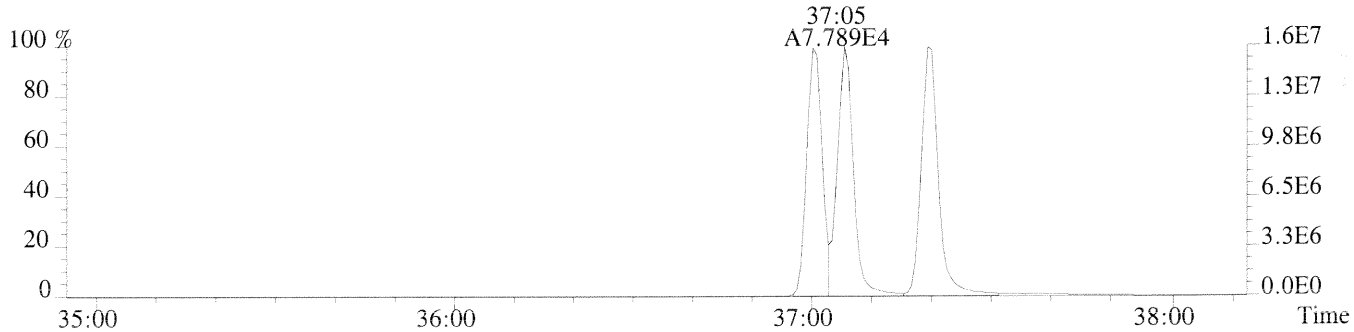
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



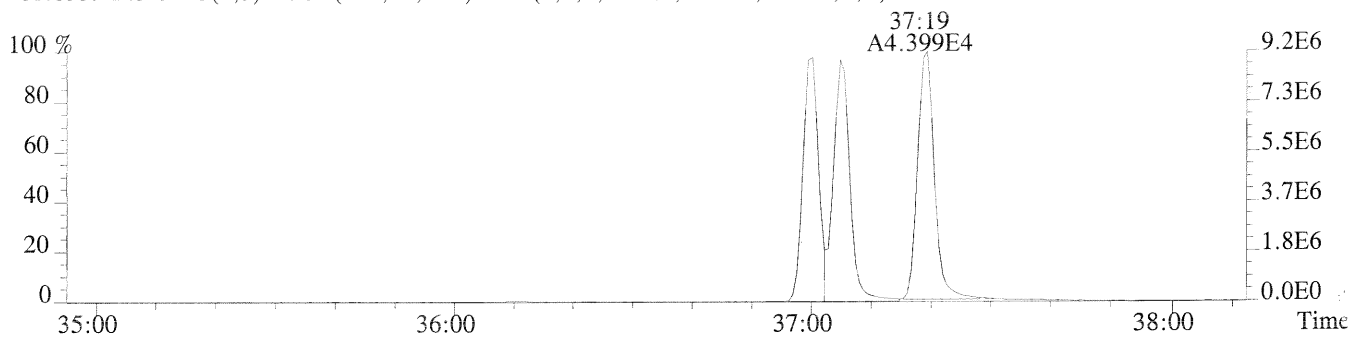
File:U149176 #1-299 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,808.0,0.40%,F,T)



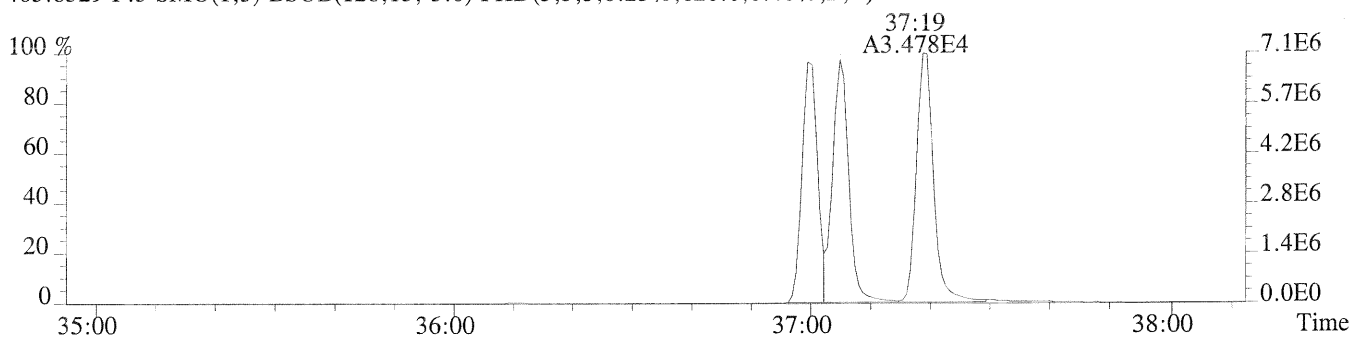
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



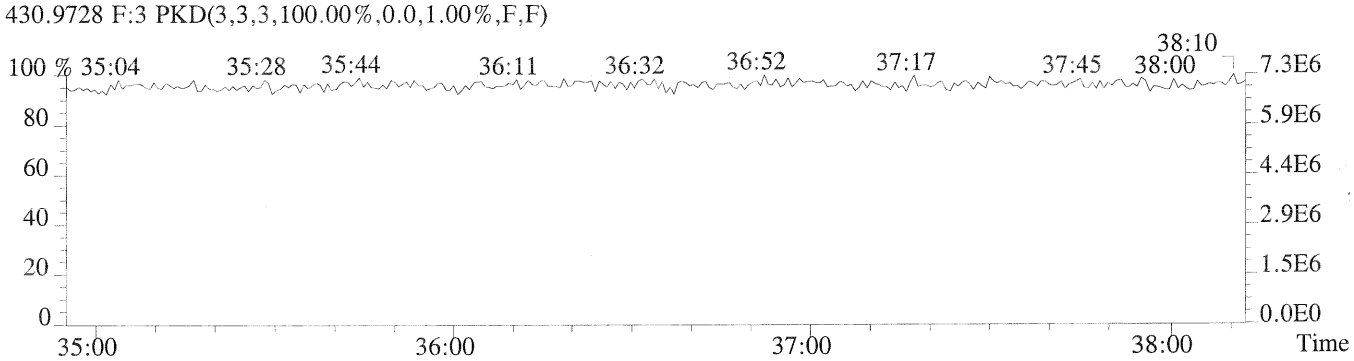
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1160.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)

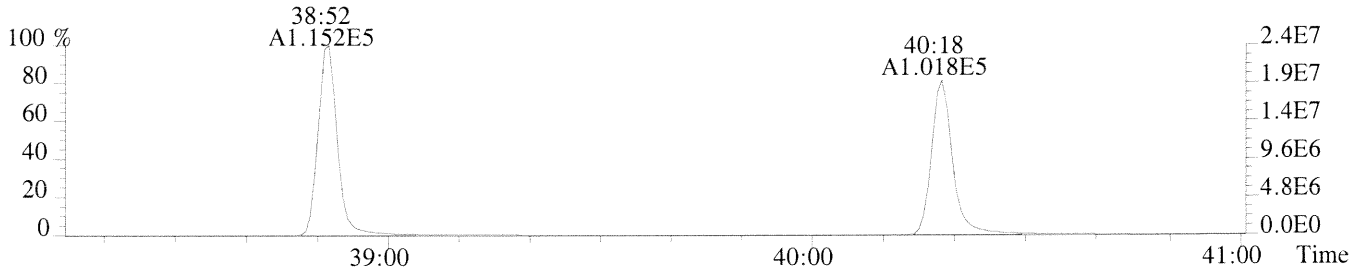


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

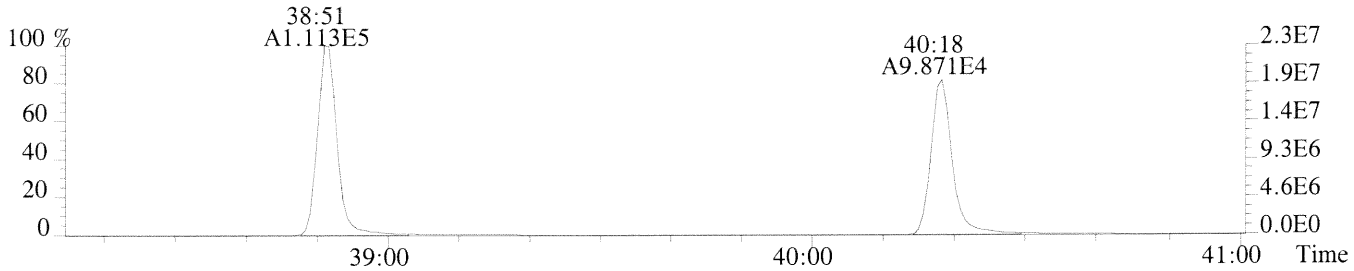


File:U149176 #1-252 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4

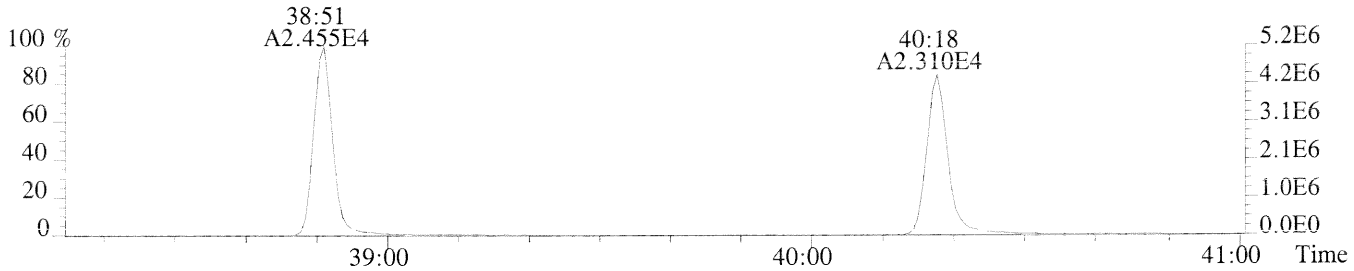
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5824.0,0.50%,F,T)



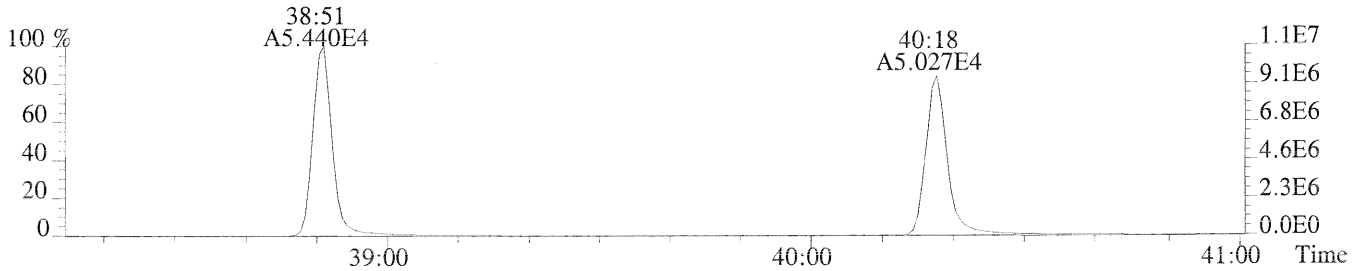
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,13432.0,0.50%,F,T)



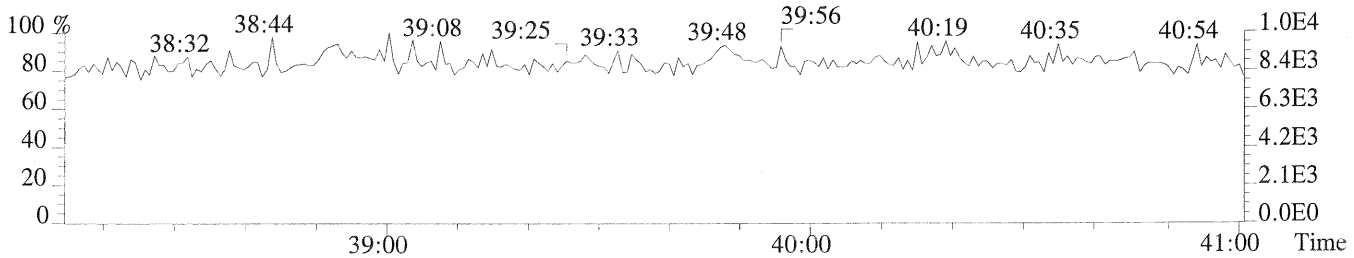
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2160.0,0.50%,F,T)



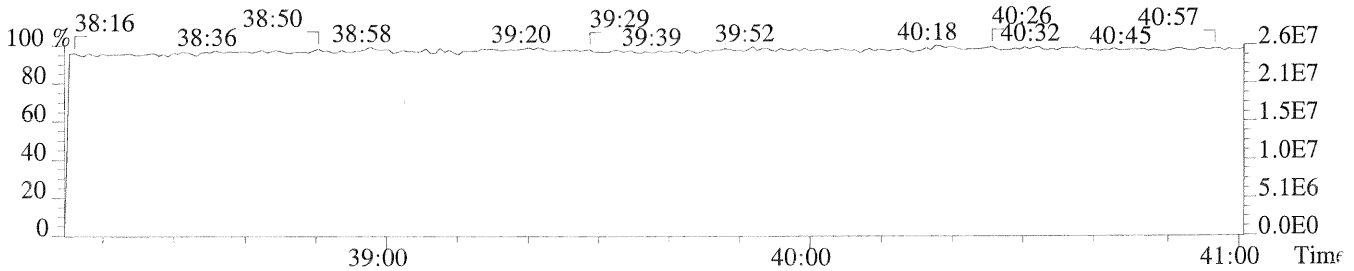
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3800.0,0.50%,F,T)



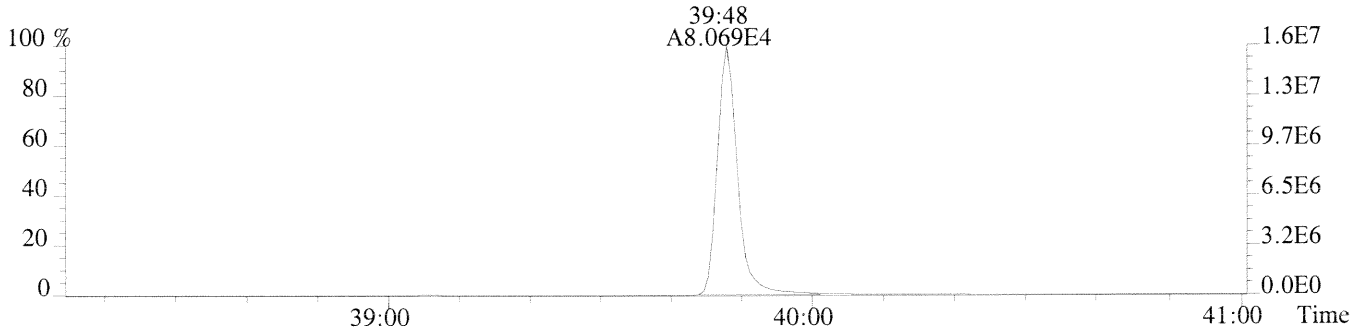
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



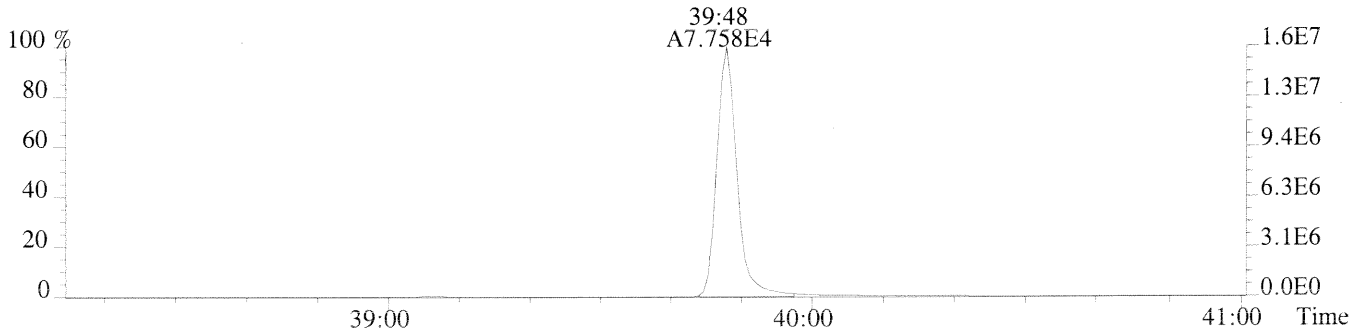
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



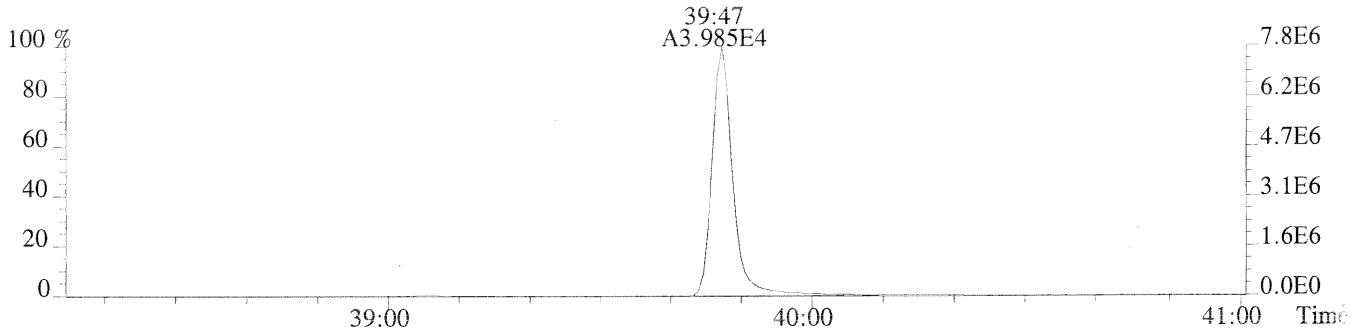
File:U149176 #1-252 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,844.0,0.40%,F,T)



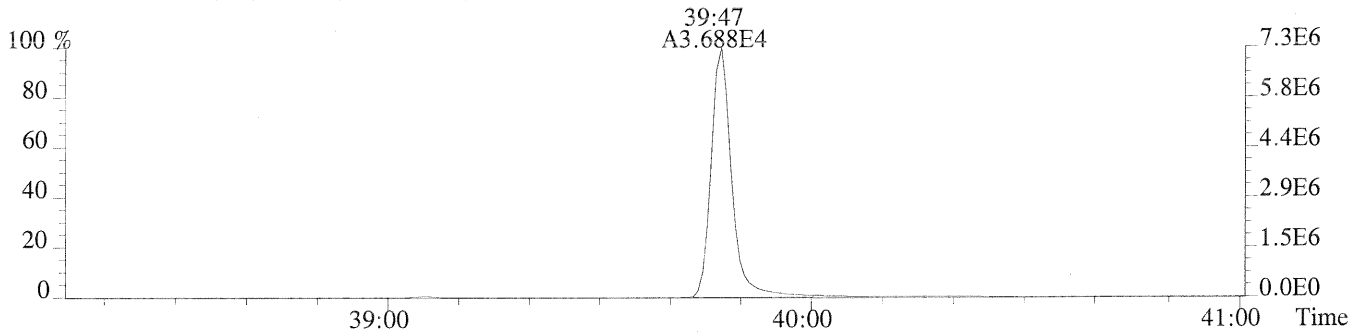
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



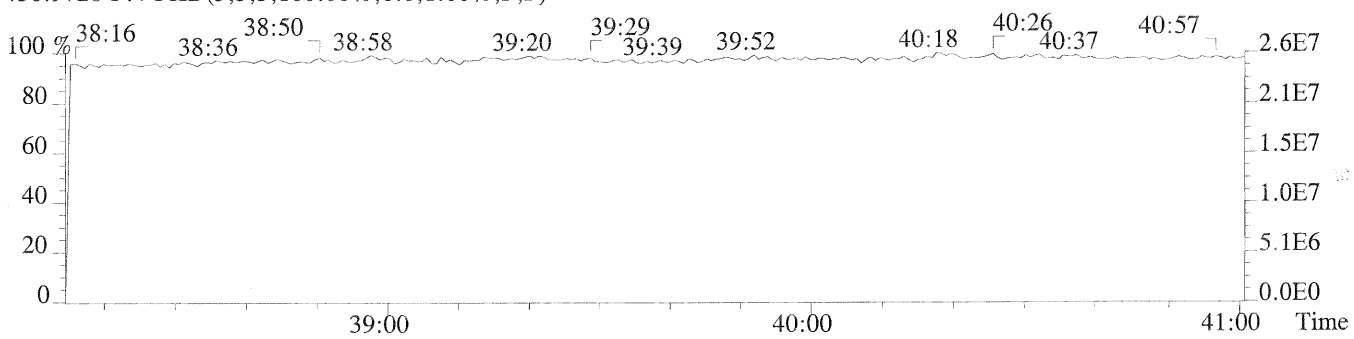
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)



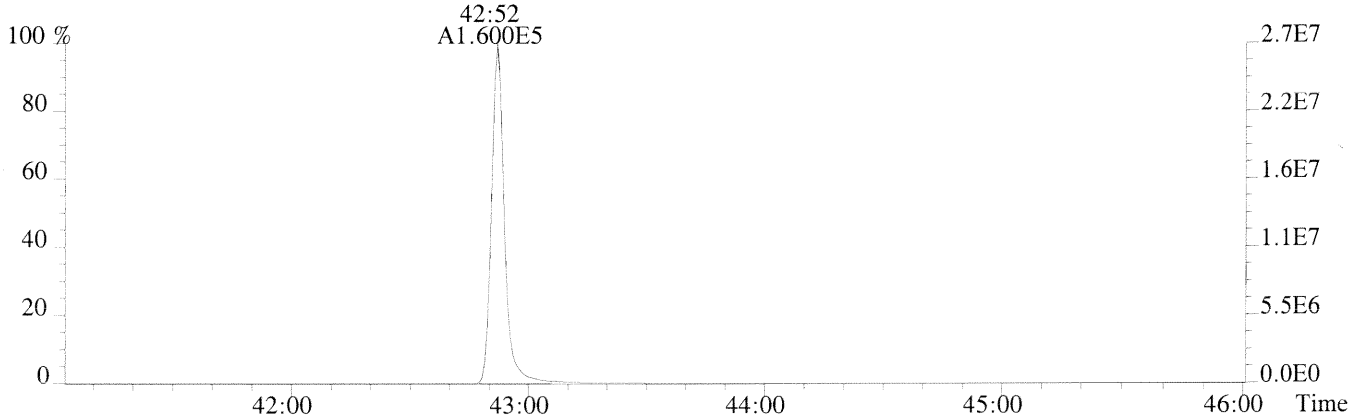
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,T)



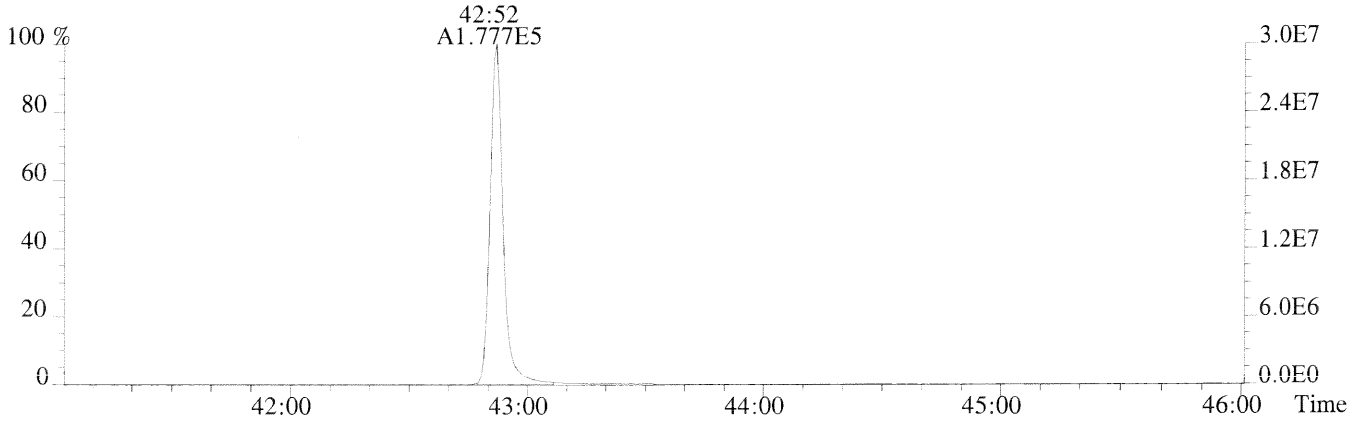
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



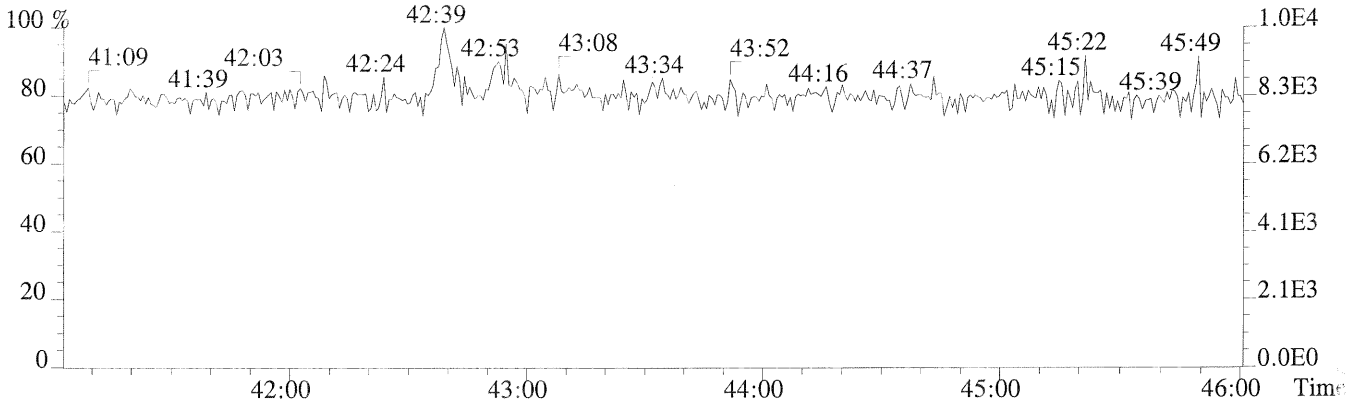
File:U149176 #1-451 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



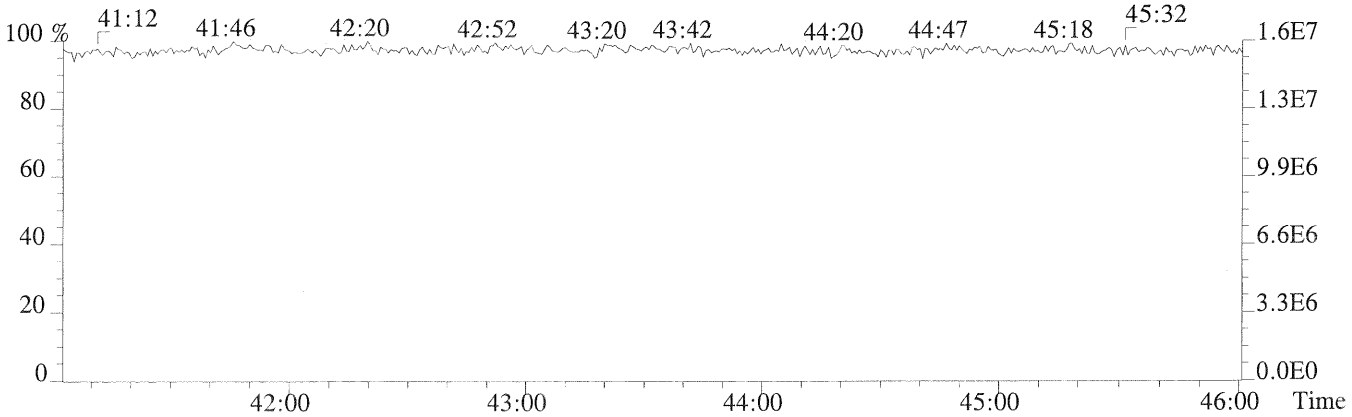
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,952.0,0.40%,F,T)



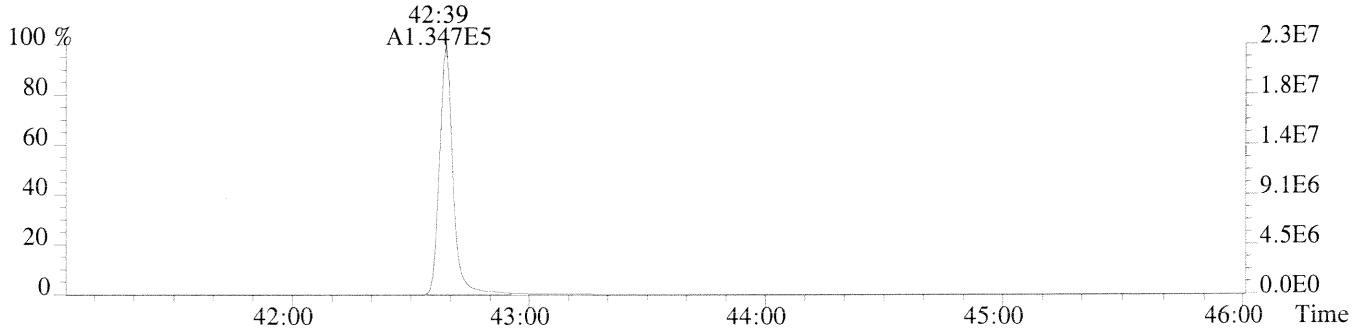
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



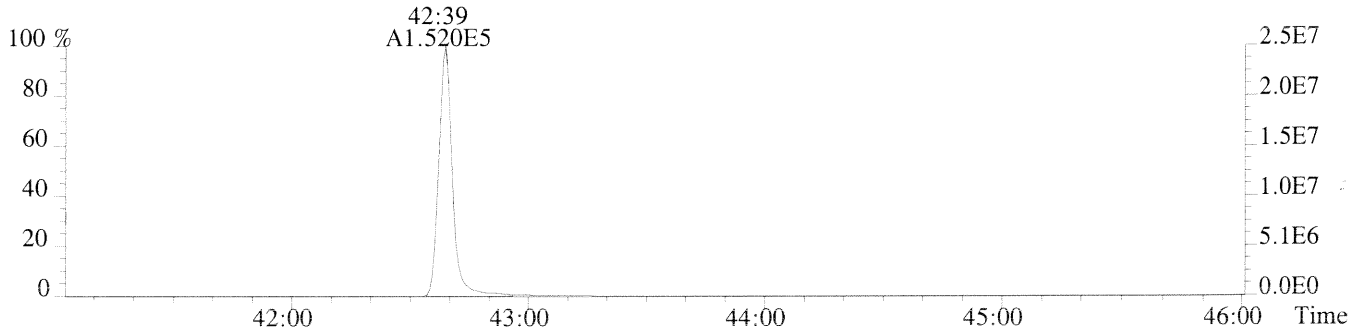
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



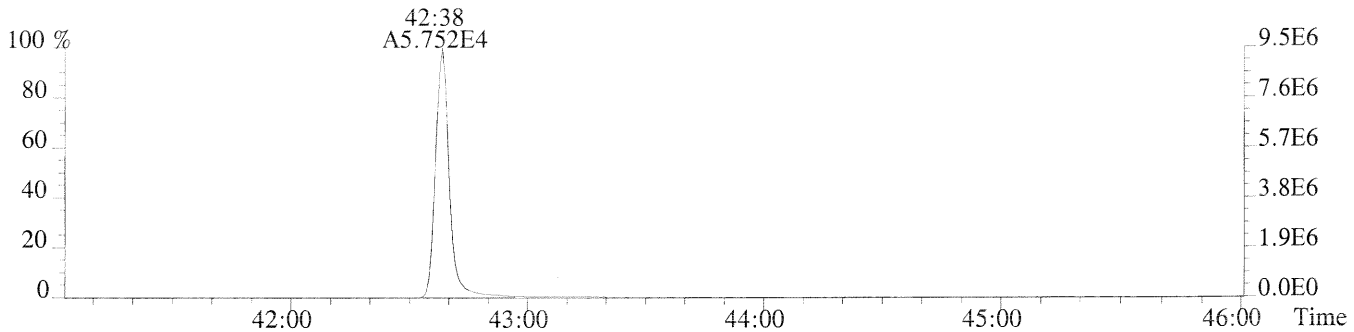
File:U149176 #1-451 Acq:21-MAY-2014 18:03:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4 HRCC4/CS4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,700.0,0.40%,F,T)



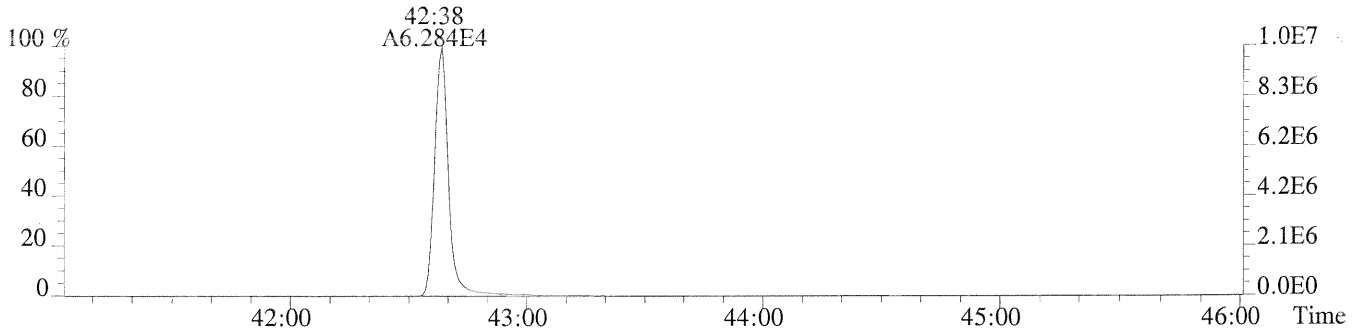
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



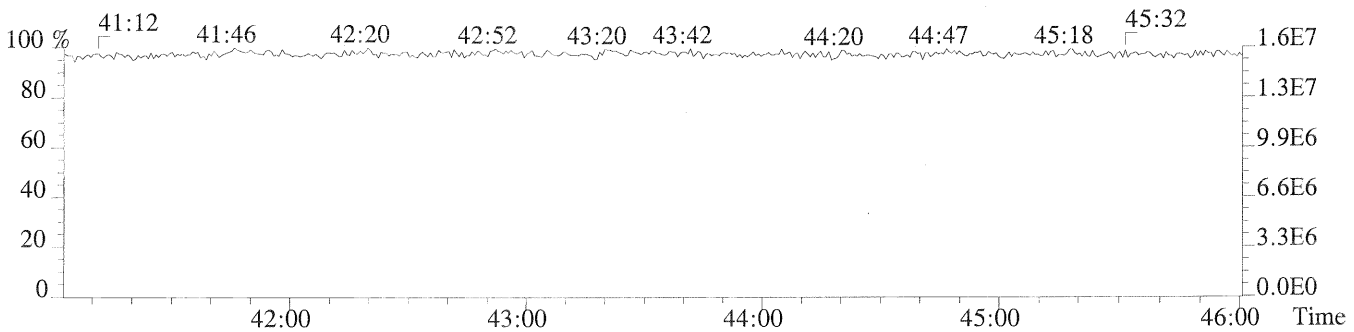
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,688.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,540.0,0.40%,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.
CS5

Run #6 Filename U149177 Samp: 1 Inj: 1 Acquired: 21-MAY-14 18:52:20
Processed: 23-MAY-14 08:49:35 Sample ID: 66799

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	6.477e+04	8.559e+04	0.76	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:47	6.184e+05	3.977e+05	1.55	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	6.261e+05	4.054e+05	1.54	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	5.594e+05	4.532e+05	1.23	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:23	5.909e+05	4.768e+05	1.24	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:54	5.328e+05	4.390e+05	1.21	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	5.117e+05	4.037e+05	1.27	yes	yes	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	4.911e+05	4.744e+05	1.04	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:18	4.314e+05	4.178e+05	1.03	yes	no	1.359
10	Unk	OCDF	42:53	7.080e+05	7.806e+05	0.91	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:27	5.122e+04	6.435e+04	0.80	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:56	4.515e+05	2.846e+05	1.59	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:01	4.188e+05	3.355e+05	1.25	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	3.956e+05	3.174e+05	1.25	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:20	4.304e+05	3.452e+05	1.25	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	3.517e+05	3.351e+05	1.05	yes	no	1.065
17	Unk	OCDD	42:40	5.810e+05	6.606e+05	0.88	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	3.569e+04	4.429e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	6.665e+04	4.263e+04	1.56	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	6.356e+04	4.036e+04	1.57	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:17	2.895e+04	5.572e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:23	3.123e+04	5.975e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:53	2.948e+04	5.742e+04	0.51	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:38	2.751e+04	5.265e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:51	2.168e+04	4.763e+04	0.46	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.879e+04	4.117e+04	0.46	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	2.591e+04	3.312e+04	0.78	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	4.302e+04	2.721e+04	1.58	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:00	3.438e+04	2.660e+04	1.29	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:06	3.994e+04	3.108e+04	1.29	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	3.490e+04	3.262e+04	1.07	yes	no	0.936
32	IS	13C-OCDD	42:39	5.549e+04	6.033e+04	0.92	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	2.515e+04	3.233e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:19	3.836e+04	3.056e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.191e+05				no	1.044

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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
CS5

#6 Filename U149177 Samp: 1 Inj: 1 Acquired: 21-MAY-14 18:52:20
Processed: 22-MAY-14 12:57:511 LAB. ID: 66799

Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
2,3,7,8-TCDF	1.42e+07	6.76e+02	2.1e+04	1.87e+07	9.88e+02	1.9e+04
1,2,3,7,8-PeCDF	1.24e+08	5.76e+02	2.1e+05	7.92e+07	1.09e+03	7.3e+04
2,3,4,7,8-PeCDF	1.32e+08	5.76e+02	2.3e+05	8.60e+07	1.09e+03	7.9e+04
1,2,3,4,7,8-HxCDF	1.23e+08	3.77e+03	3.3e+04	9.91e+07	1.85e+03	5.4e+04
1,2,3,6,7,8-HxCDF	1.27e+08	3.77e+03	3.4e+04	1.04e+08	1.85e+03	5.6e+04
2,3,4,6,7,8-HxCDF	1.21e+08	3.77e+03	3.2e+04	9.81e+07	1.85e+03	5.3e+04
1,2,3,7,8,9-HxCDF	1.14e+08	3.77e+03	3.0e+04	9.22e+07	1.85e+03	5.0e+04
1,2,3,4,6,7,8-HpCDF	1.10e+08	2.34e+04	4.7e+03	1.07e+08	2.15e+04	5.0e+03
1,2,3,4,7,8,9-HpCDF	8.73e+07	2.34e+04	3.7e+03	8.51e+07	2.15e+04	4.0e+03
OCDF	1.29e+08	6.48e+02	2.0e+05	1.43e+08	8.08e+02	1.8e+05
2,3,7,8-TCDD	1.17e+07	7.08e+02	1.6e+04	1.48e+07	7.56e+02	2.0e+04
1,2,3,7,8-PeCDD	9.48e+07	7.92e+02	1.2e+05	6.00e+07	7.32e+02	8.2e+04
1,2,3,4,7,8-HxCDD	9.93e+07	7.00e+02	1.4e+05	7.93e+07	6.88e+02	1.2e+05
1,2,3,6,7,8-HxCDD	8.75e+07	7.00e+02	1.2e+05	7.03e+07	6.88e+02	1.0e+05
1,2,3,7,8,9-HxCDD	9.60e+07	7.00e+02	1.4e+05	7.74e+07	6.88e+02	1.1e+05
1,2,3,4,6,7,8-HpCDD	7.26e+07	4.12e+03	1.8e+04	6.82e+07	2.00e+03	3.4e+04
OCDD	1.06e+08	7.60e+02	1.4e+05	1.20e+08	4.76e+02	2.5e+05
13C-2,3,7,8-TCDF	7.76e+06	6.64e+02	1.2e+04	9.62e+06	9.56e+02	1.0e+04
13C-1,2,3,7,8-PeCDF	1.32e+07	6.44e+02	2.0e+04	8.50e+06	8.96e+02	9.5e+03
13C-2,3,4,7,8-PeCDF	1.33e+07	6.44e+02	2.1e+04	8.48e+06	8.96e+02	9.5e+03
13C-1,2,3,4,7,8-HxCDF	6.34e+06	9.56e+02	6.6e+03	1.21e+07	1.38e+03	8.8e+03
13C-1,2,3,6,7,8-HxCDF	6.72e+06	9.56e+02	7.0e+03	1.28e+07	1.38e+03	9.3e+03
13C-2,3,4,6,7,8-HxCDF	6.63e+06	9.56e+02	6.9e+03	1.28e+07	1.38e+03	9.3e+03
13C-1,2,3,7,8,9-HxCDF	5.98e+06	9.56e+02	6.3e+03	1.15e+07	1.38e+03	8.4e+03
13C-1,2,3,4,6,7,8-HpCDF	4.70e+06	1.58e+03	3.0e+03	1.04e+07	2.46e+03	4.2e+03
13C-1,2,3,4,7,8,9-HpCDF	3.72e+06	1.58e+03	2.4e+03	8.08e+06	2.46e+03	3.3e+03
13C-2,3,7,8-TCDD	5.86e+06	1.95e+03	3.0e+03	7.48e+06	1.45e+03	5.2e+03
13C-1,2,3,7,8-PeCDD	9.00e+06	9.24e+02	9.7e+03	5.71e+06	6.76e+02	8.5e+03
13C-1,2,3,4,7,8-HxCDD	7.98e+06	1.38e+03	5.8e+03	6.23e+06	1.05e+03	5.9e+03
13C-1,2,3,6,7,8-HxCDD	8.82e+06	1.38e+03	6.4e+03	6.89e+06	1.05e+03	6.6e+03
13C-1,2,3,4,6,7,8-HpCDD	7.14e+06	1.31e+03	5.5e+03	6.58e+06	9.60e+02	6.8e+03
13C-OCDD	9.90e+06	6.80e+02	1.5e+04	1.08e+07	6.36e+02	1.7e+04
13C-1,2,3,4-TCDD	5.58e+06	1.95e+03	2.9e+03	7.16e+06	1.45e+03	4.9e+03
13C-1,2,3,7,8,9-HxCDD	8.34e+06	1.38e+03	6.0e+03	6.53e+06	1.05e+03	6.2e+03
37Cl-2,3,7,8-TCDD	2.73e+07	1.06e+03	2.6e+04			

ENVIRONMENTAL
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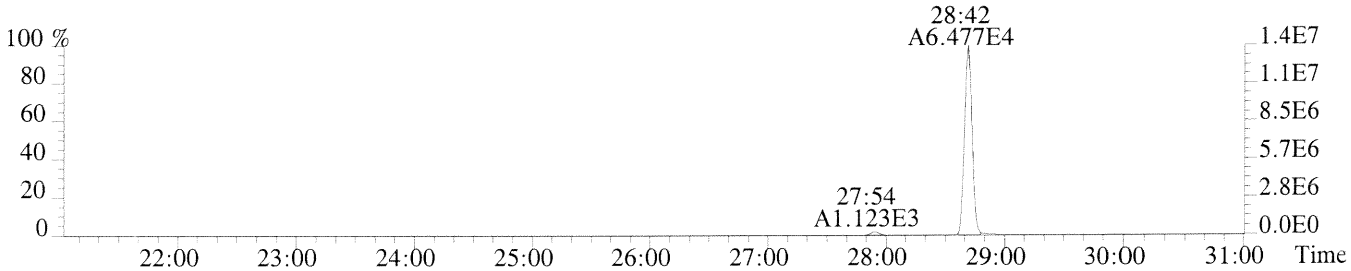
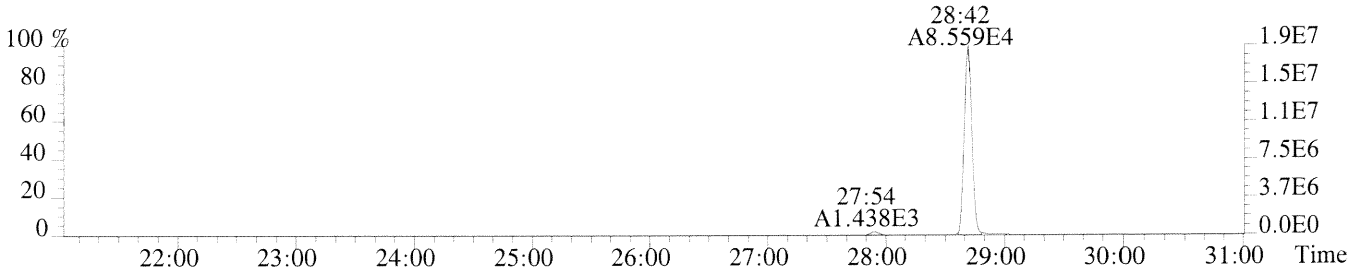
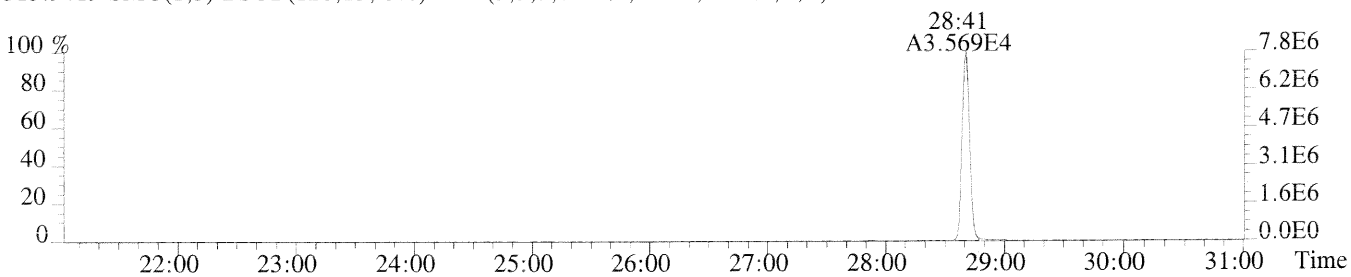
File:U149177 #1-627 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)



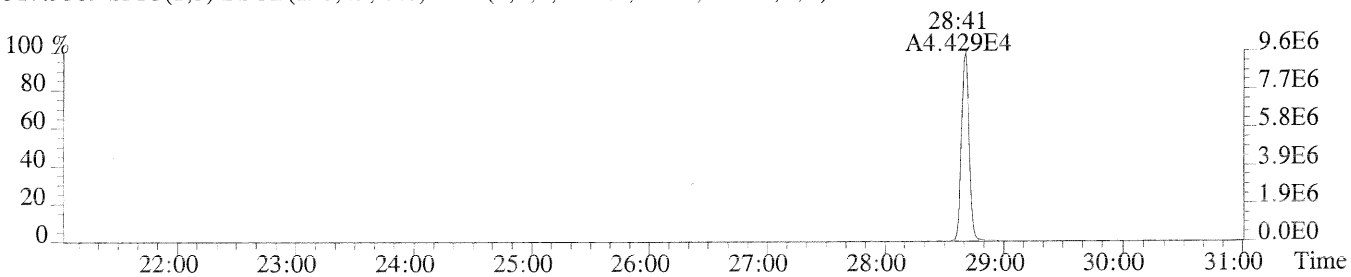
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



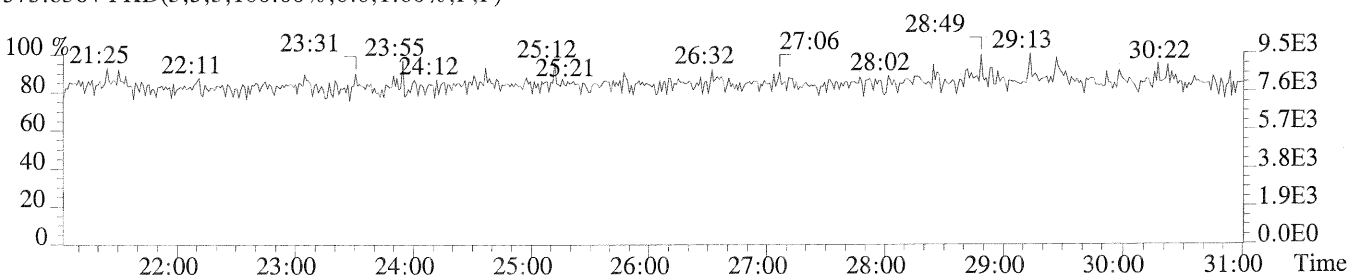
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



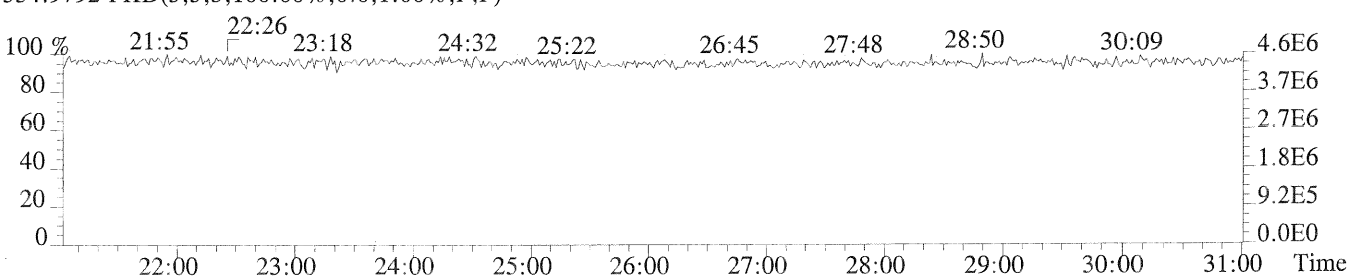
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,T)



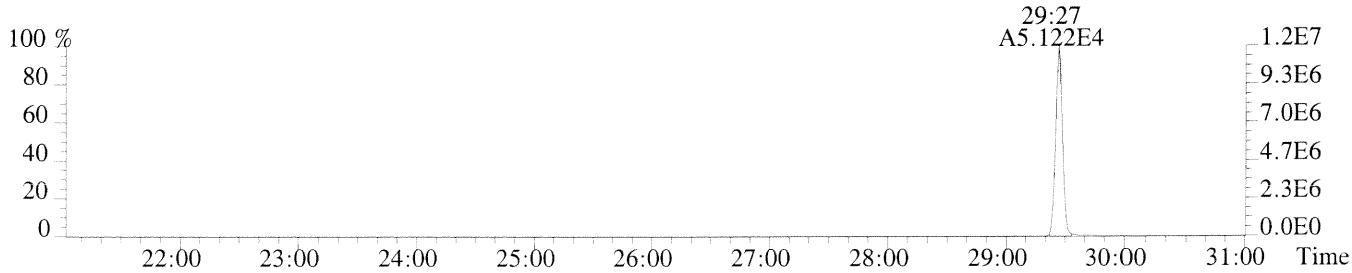
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



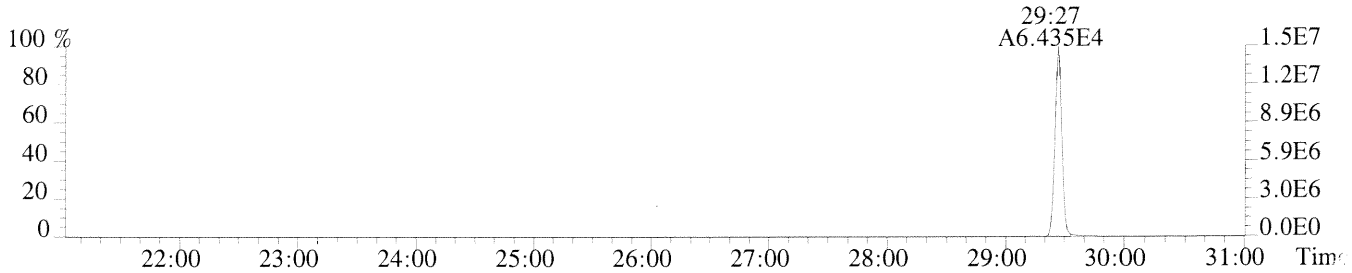
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



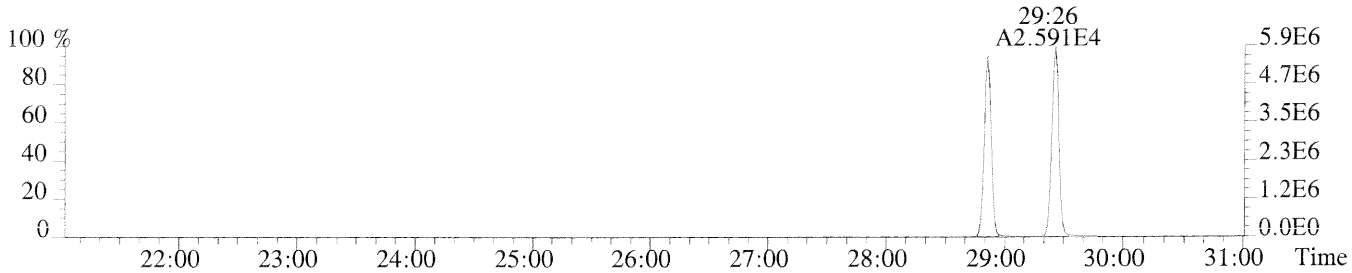
File:U149177 #1-627 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



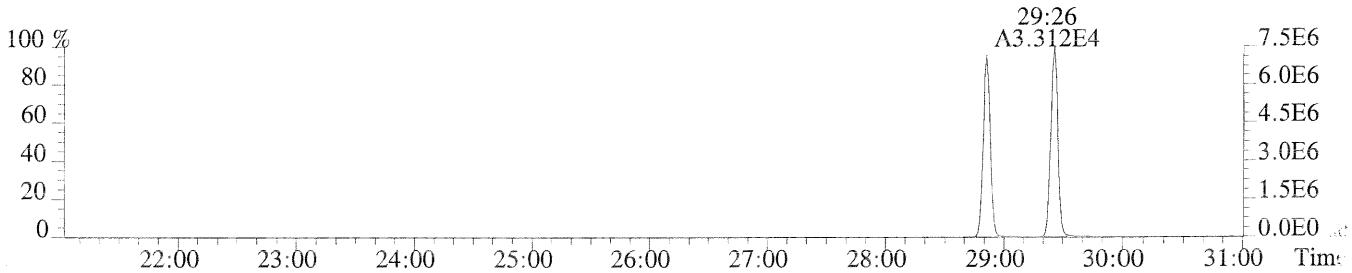
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



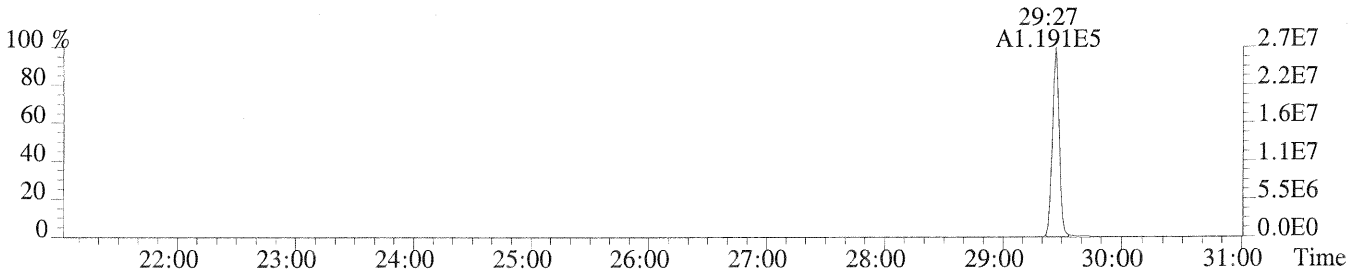
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1952.0,1.00%,F,T)



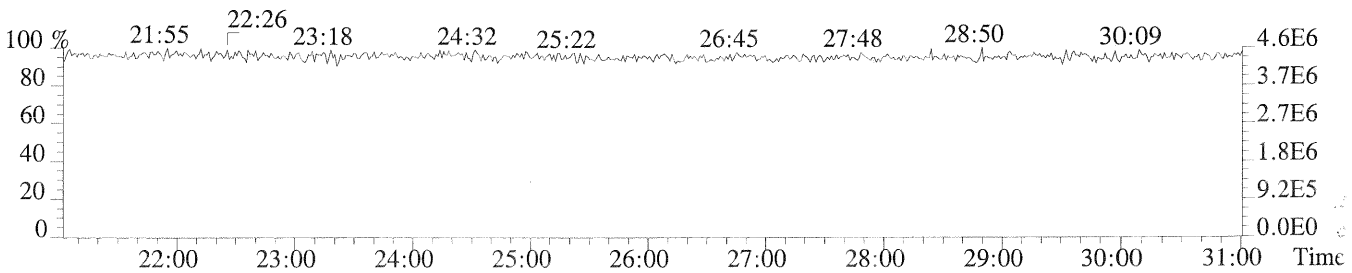
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



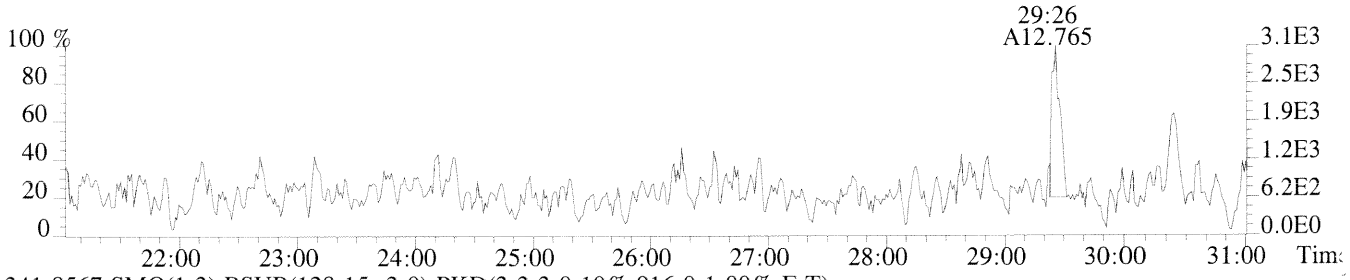
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



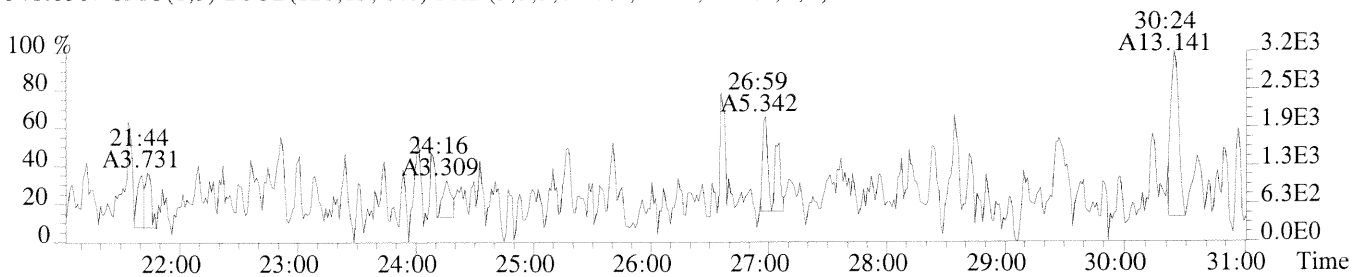
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



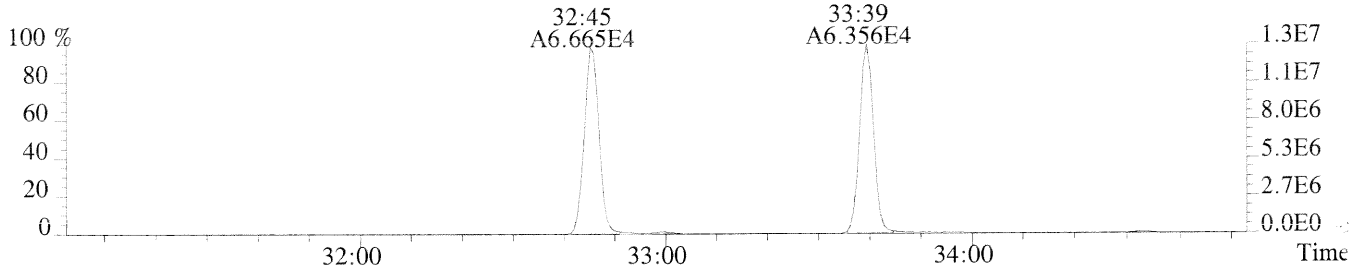
File:U149177 #1-627 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)



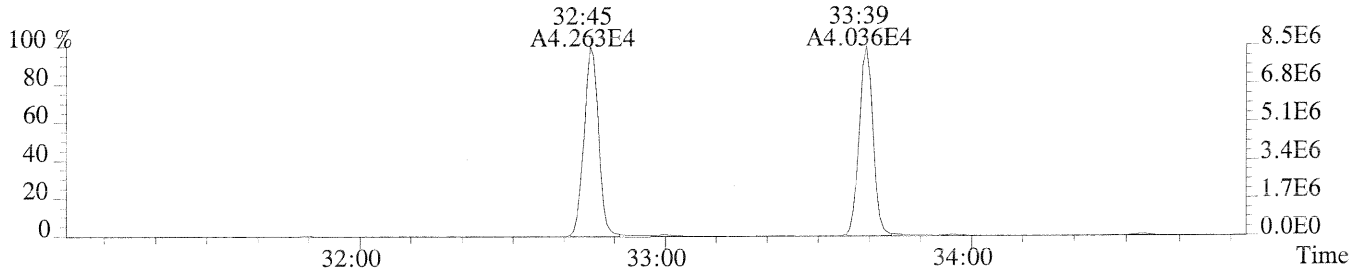
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,916.0,1.00%,F,T)



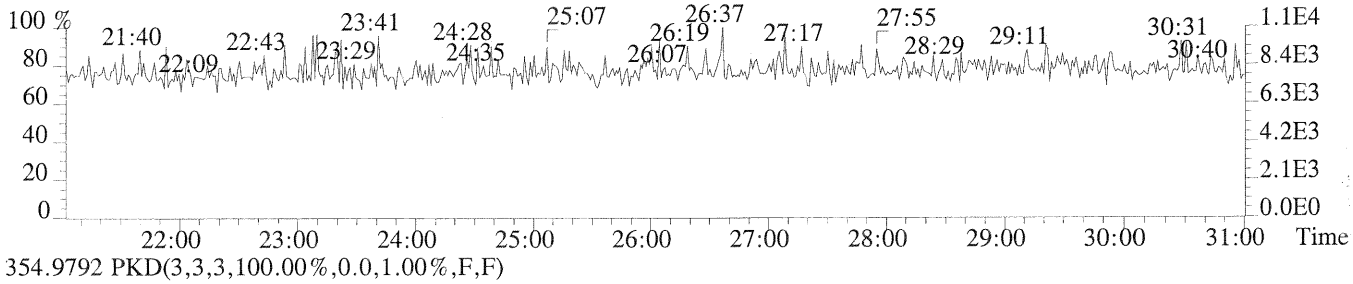
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



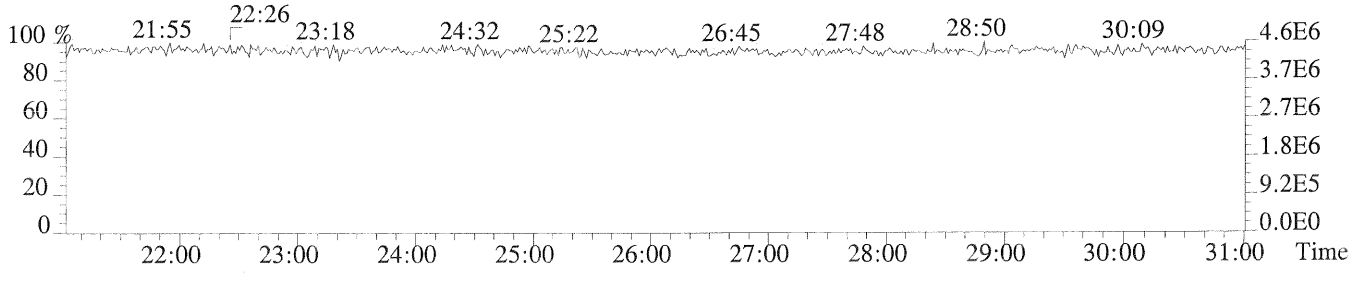
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



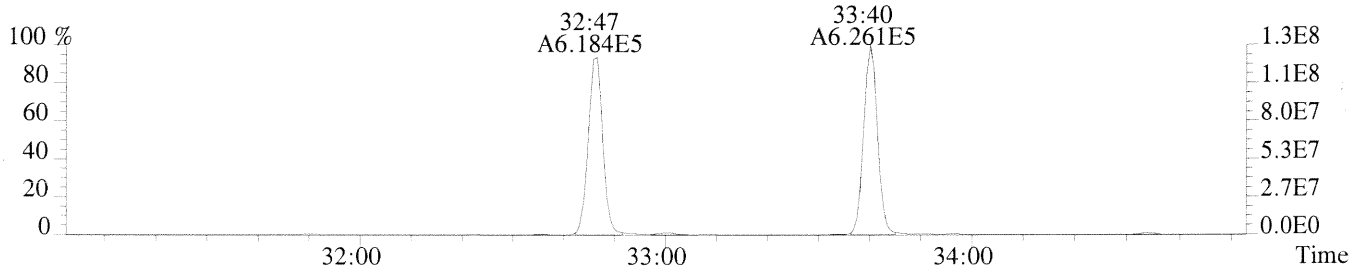
409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



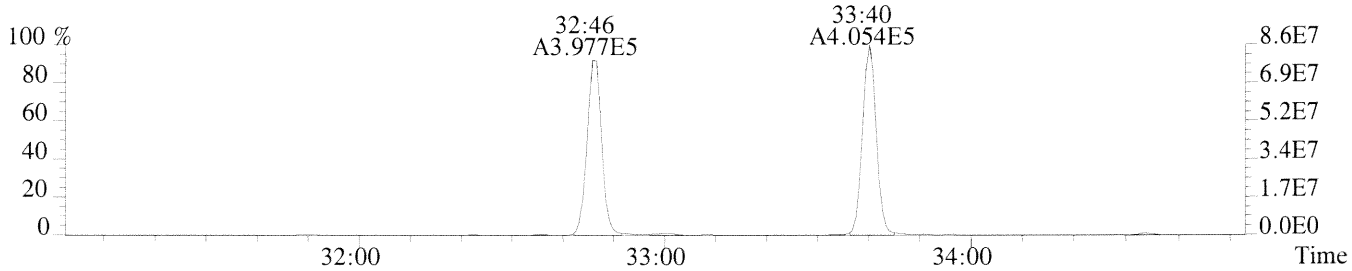
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



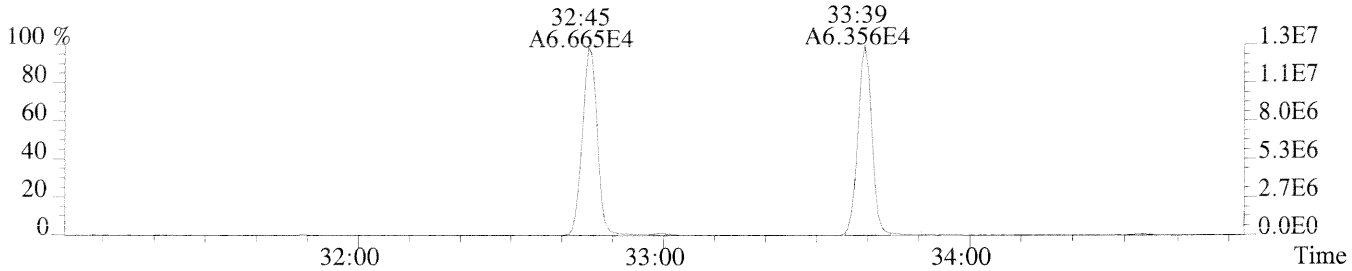
File:U149177 #1-349 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,T)



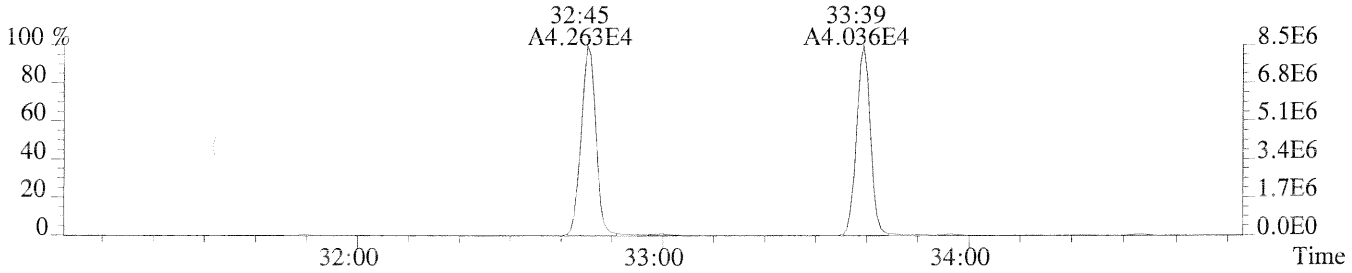
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



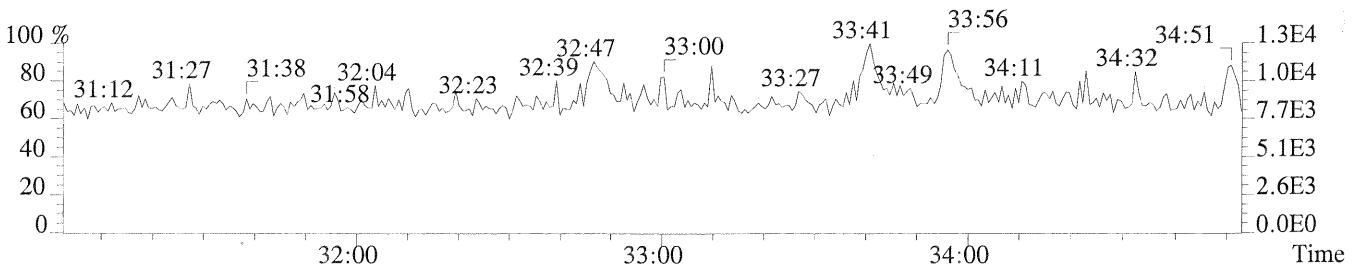
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



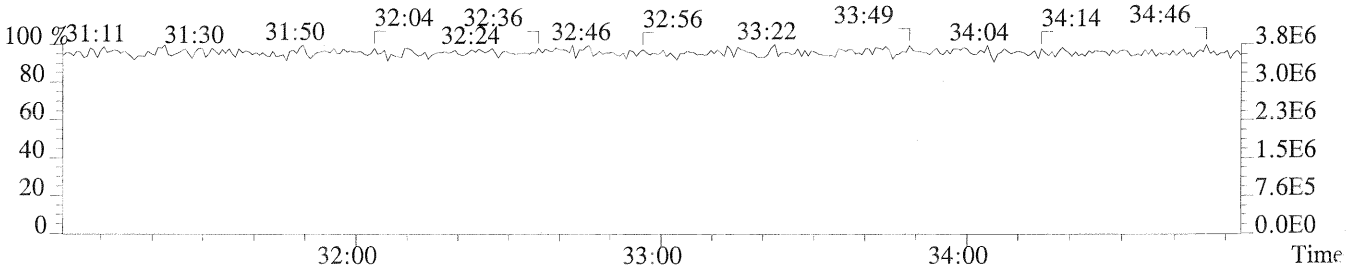
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



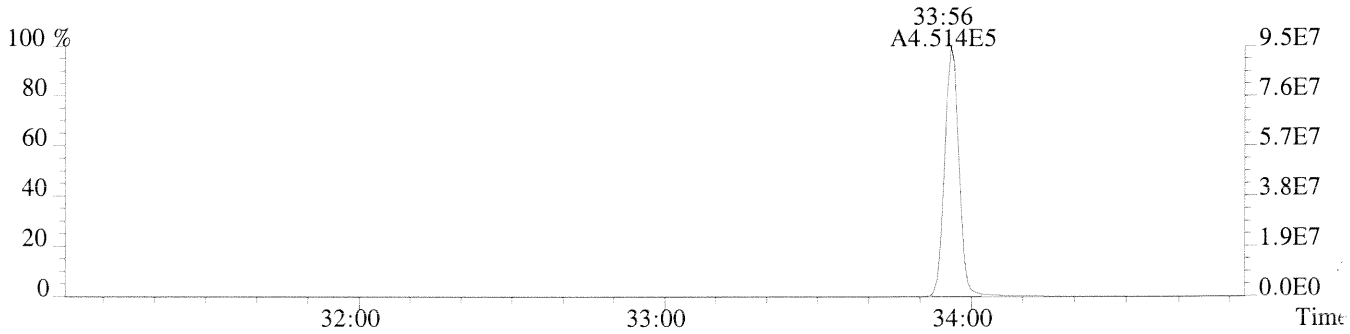
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



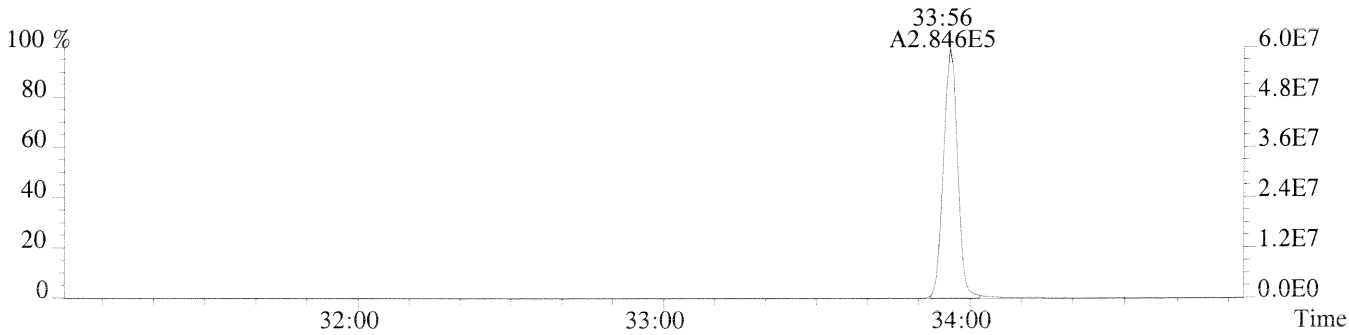
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



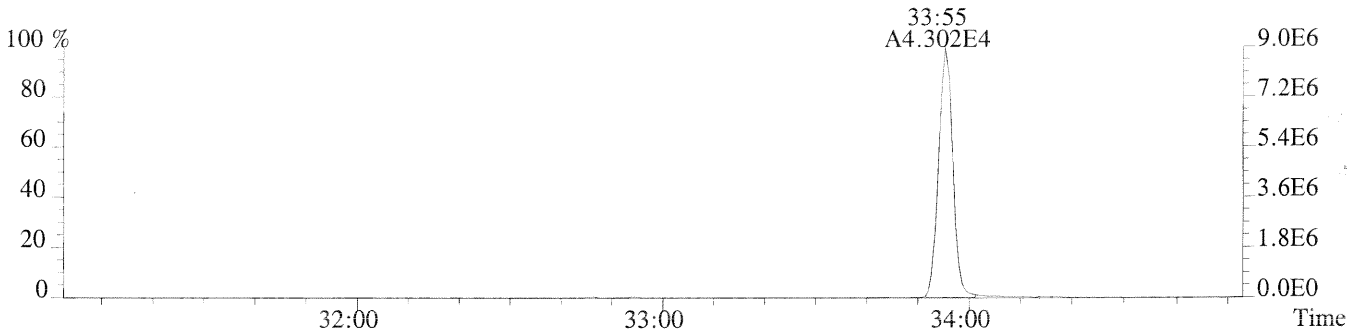
File:U149177 #1-349 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



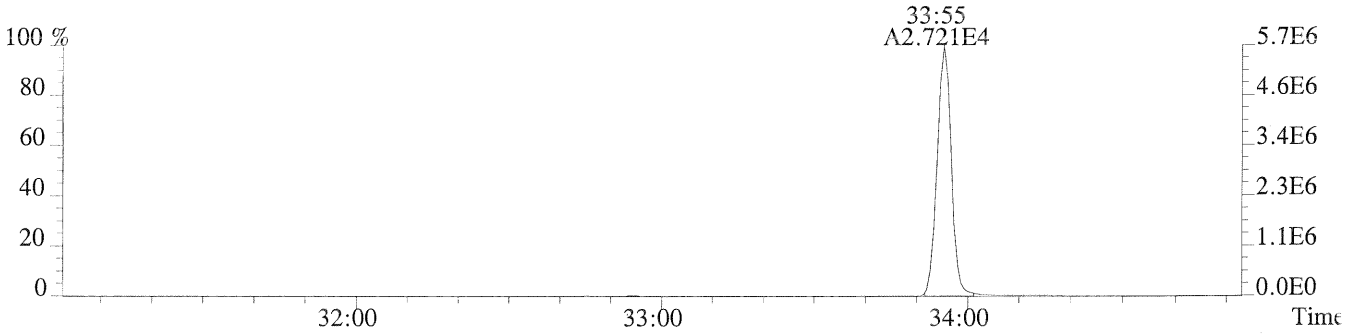
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



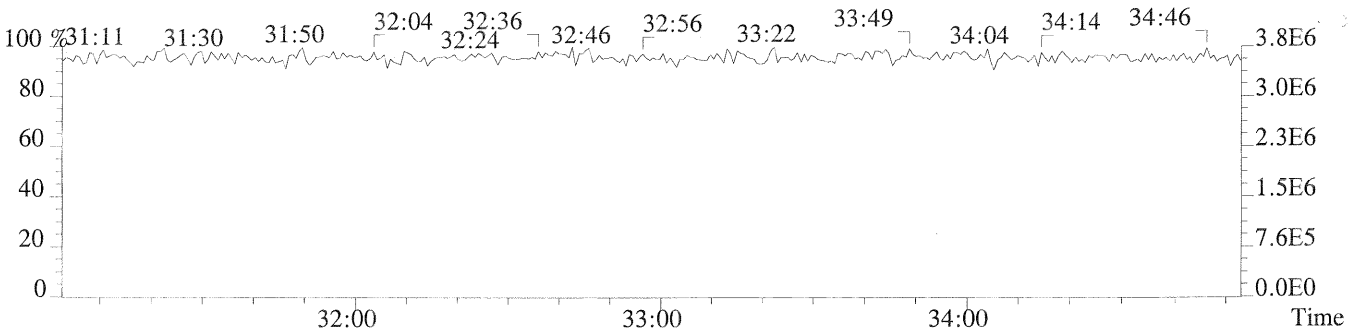
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)

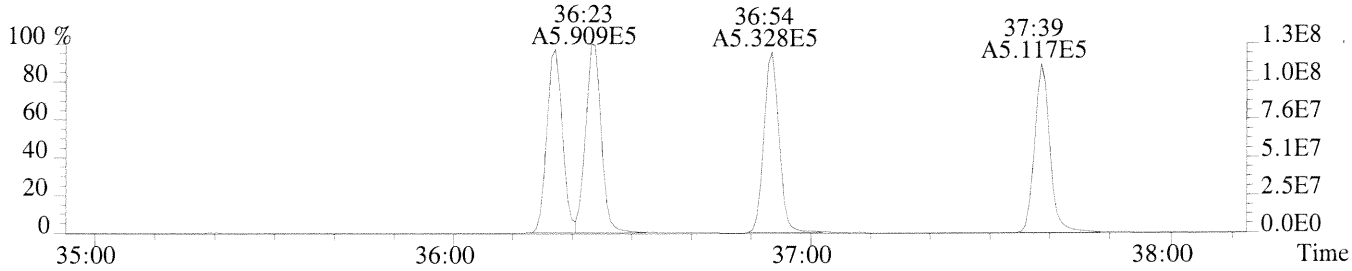


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

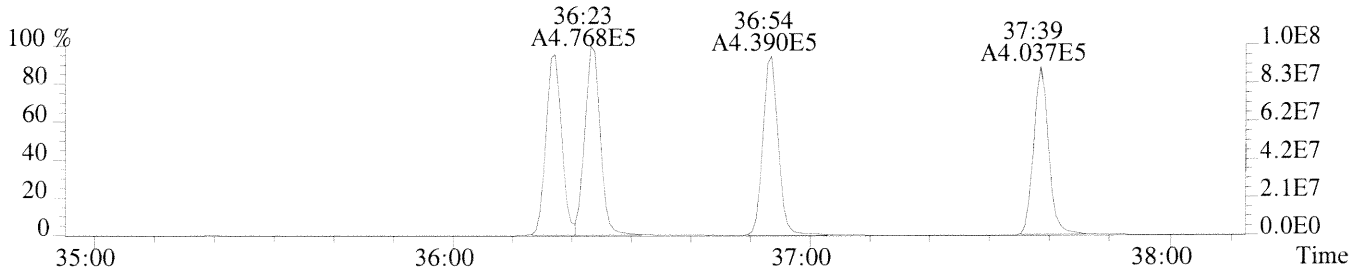


File:U149177 #1-299 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5

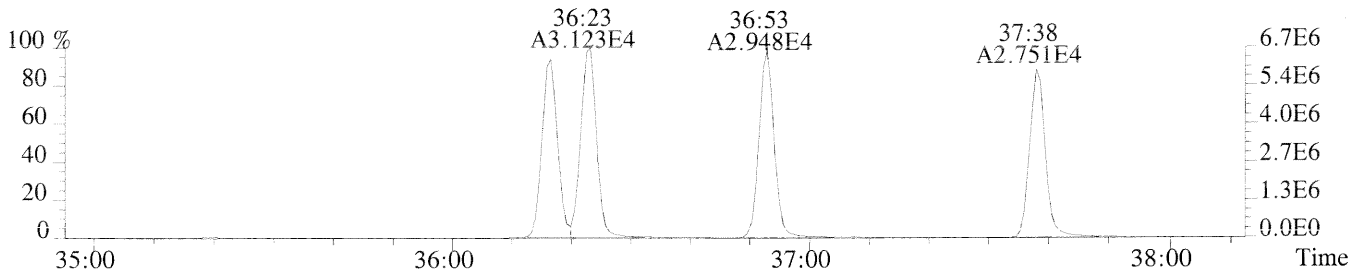
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3772.0,0.40%,F,T)



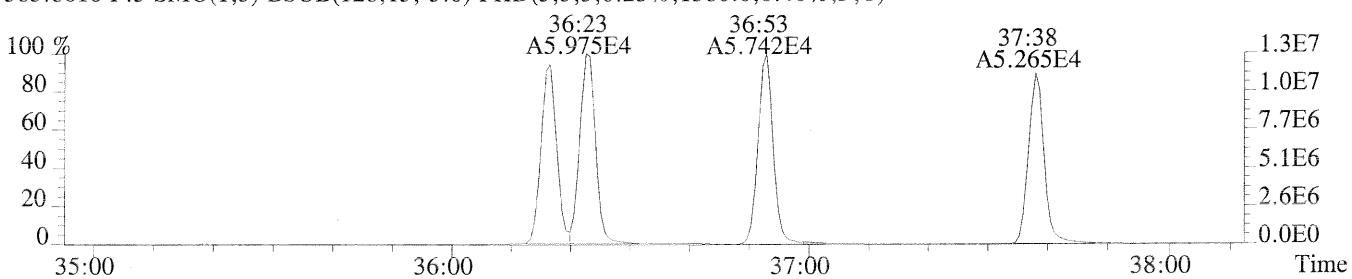
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1852.0,0.40%,F,T)



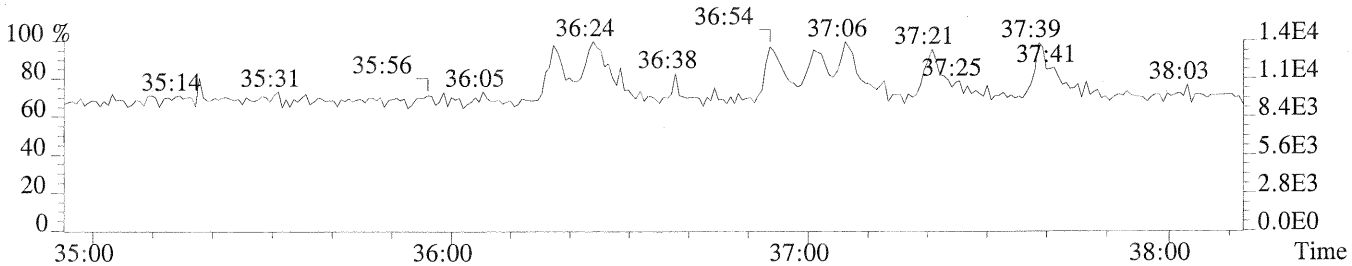
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



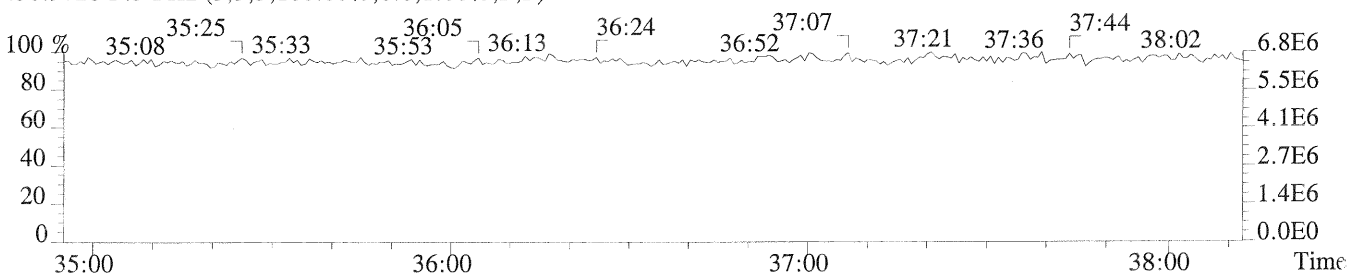
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1380.0,0.40%,F,T)



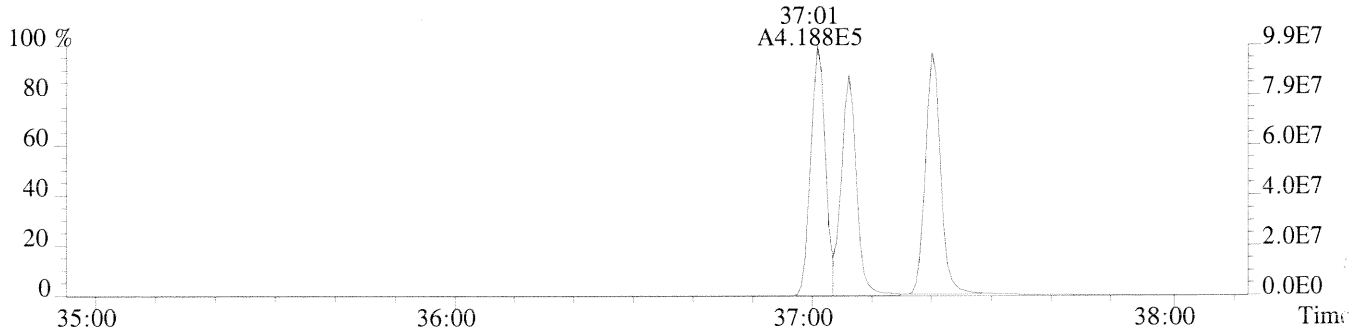
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



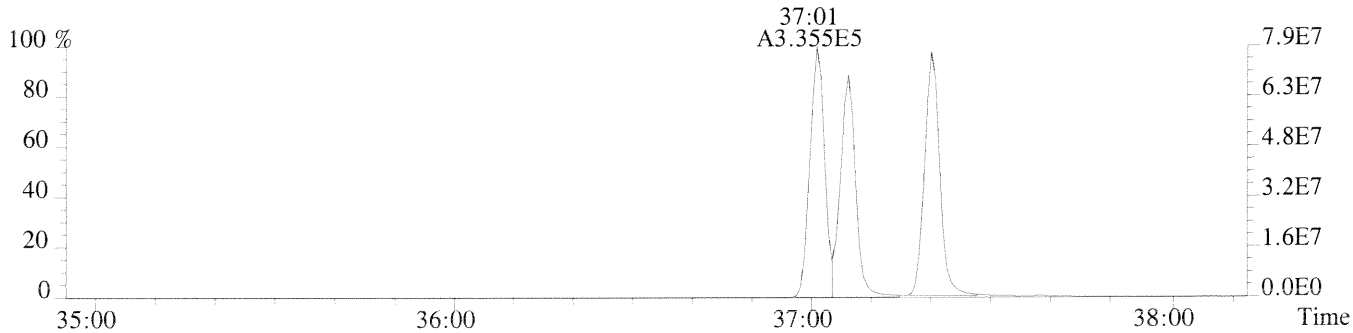
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



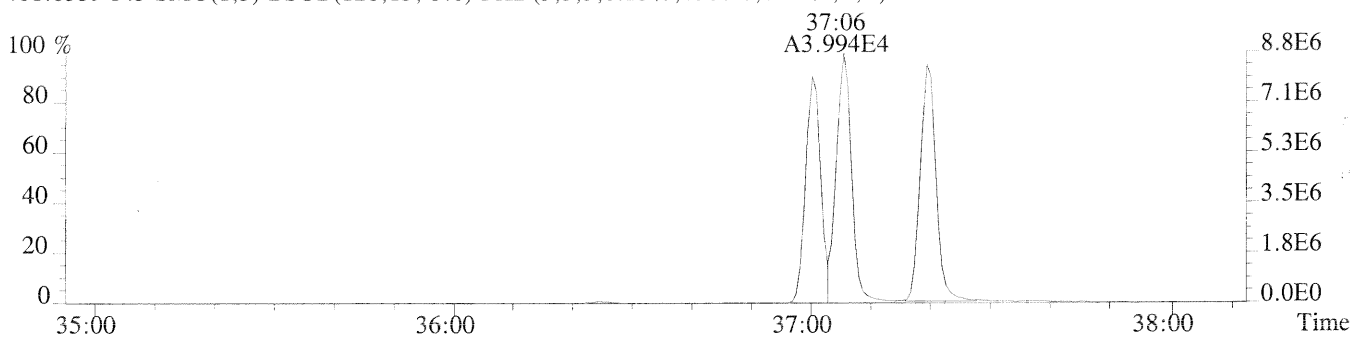
File:U149177 #1-299 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



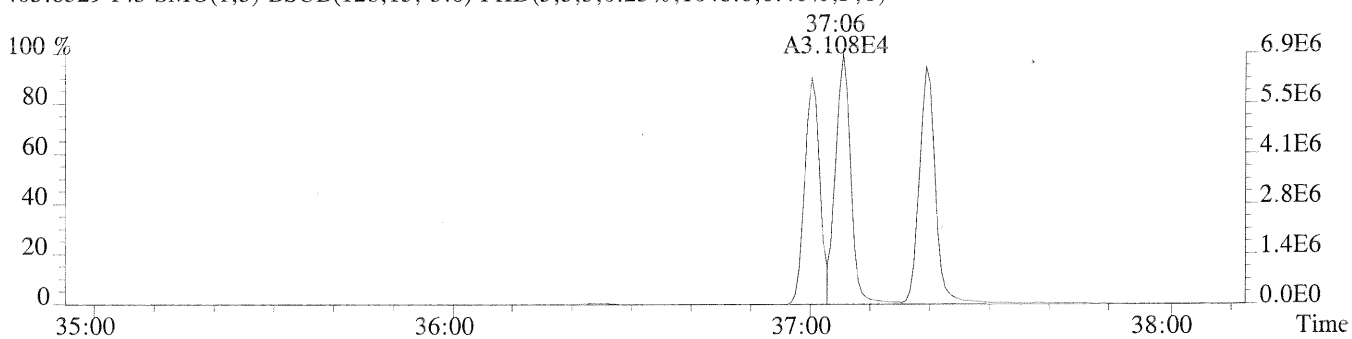
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



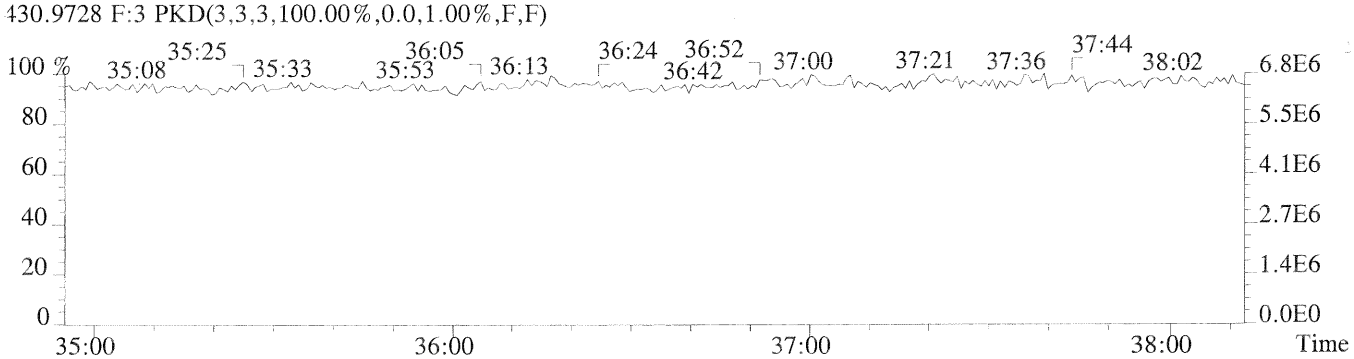
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1380.0,0.40%,F,T)



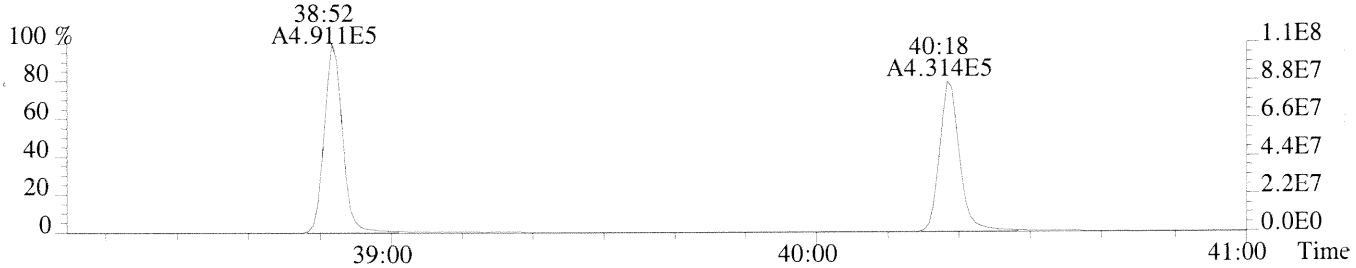
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



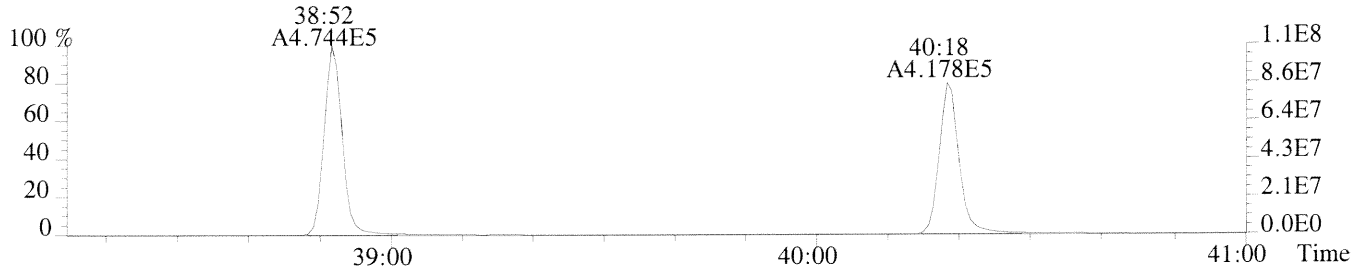
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



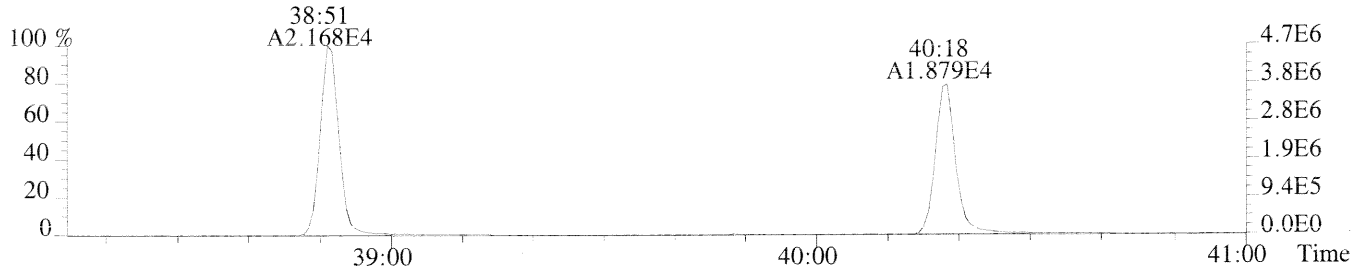
File:U149177 #1-251 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,23428.0,0.50%,F,T)



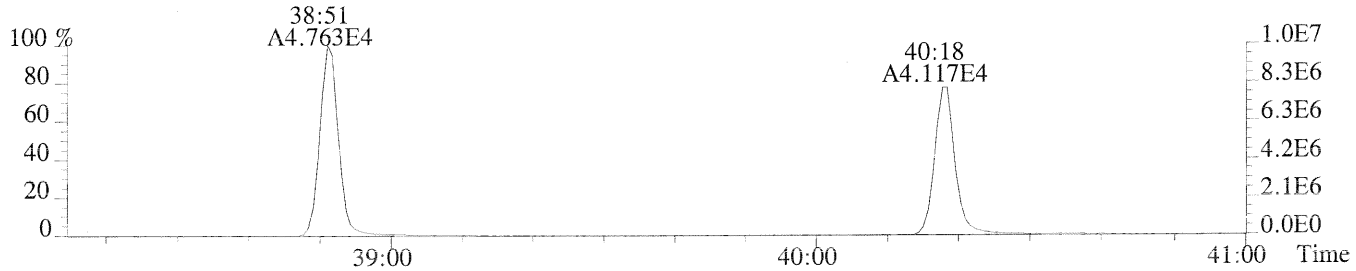
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21516.0,0.50%,F,T)



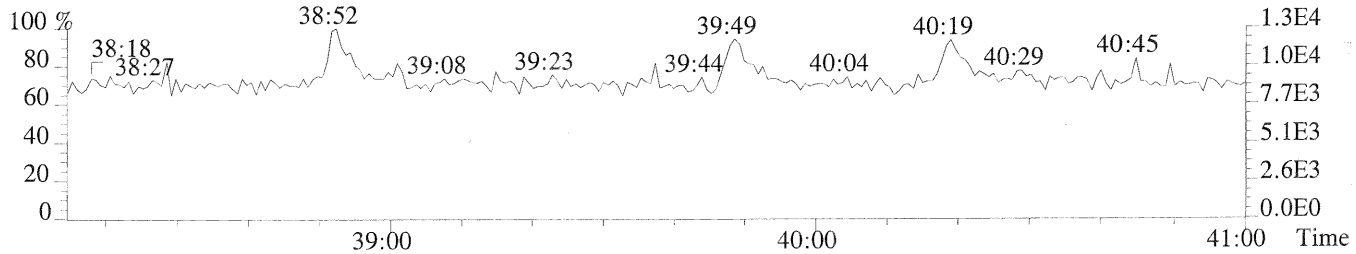
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1576.0,0.50%,F,T)



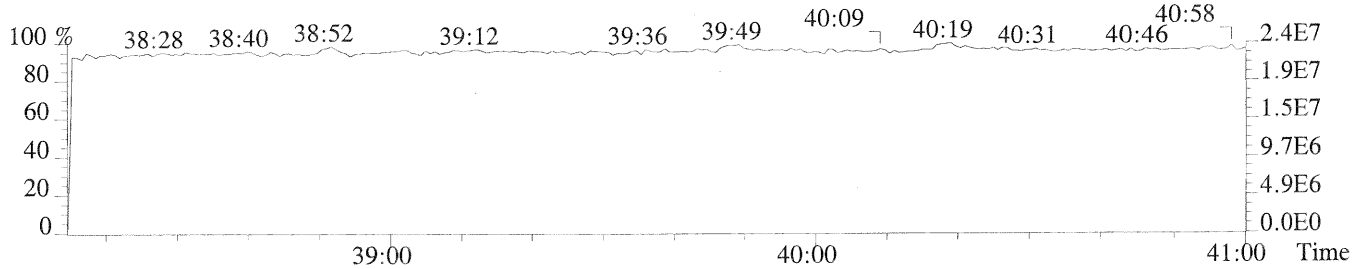
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2460.0,0.50%,F,T)



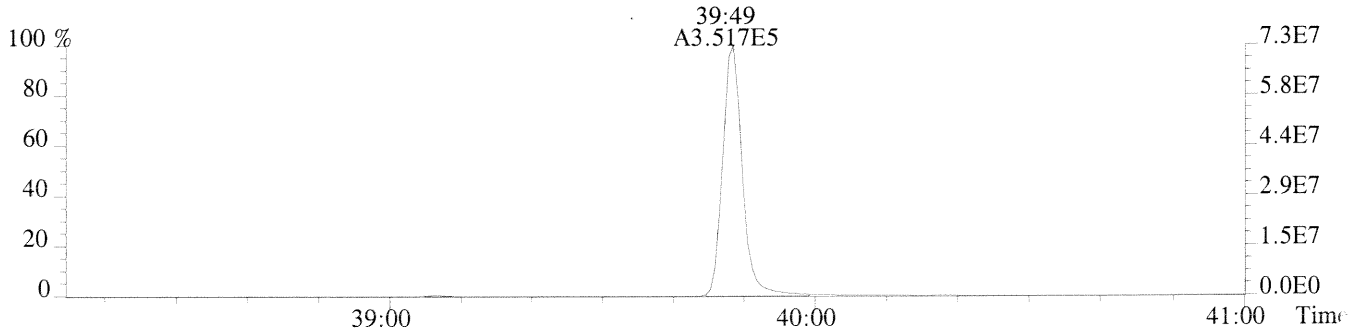
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



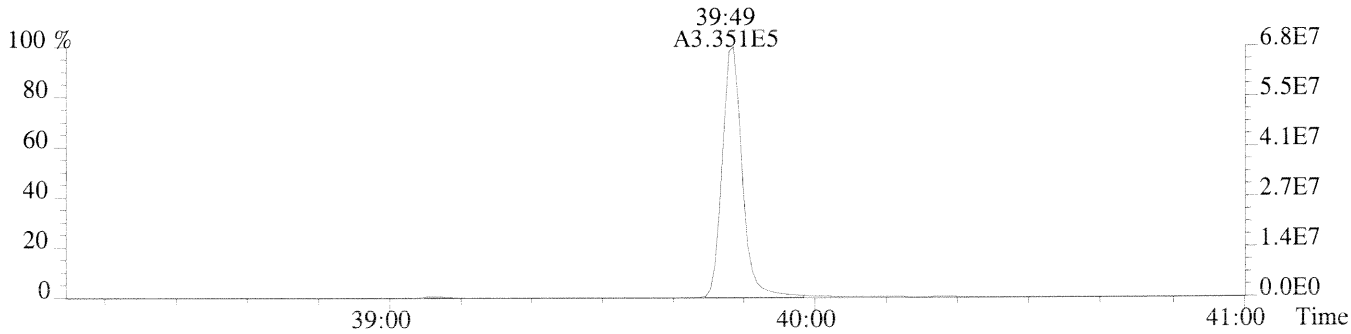
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



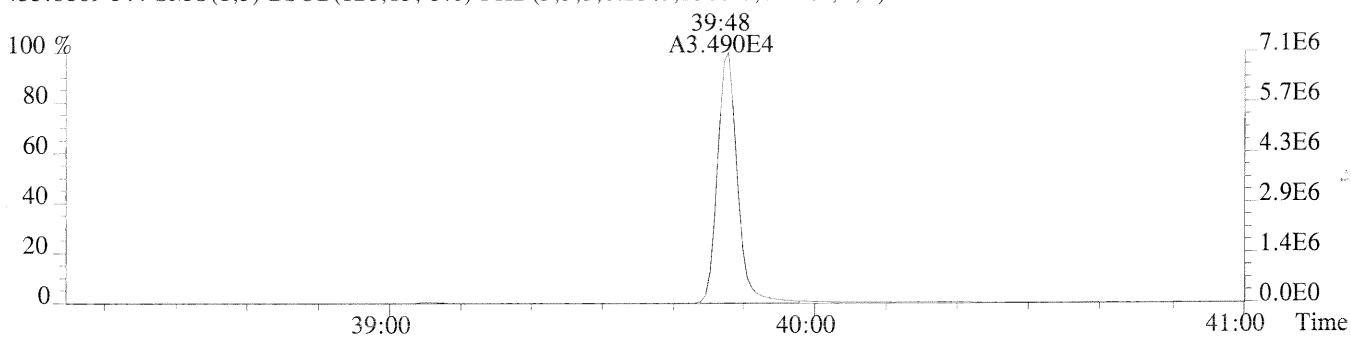
File:U149177 #1-251 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4124.0,0.40%,F,T)



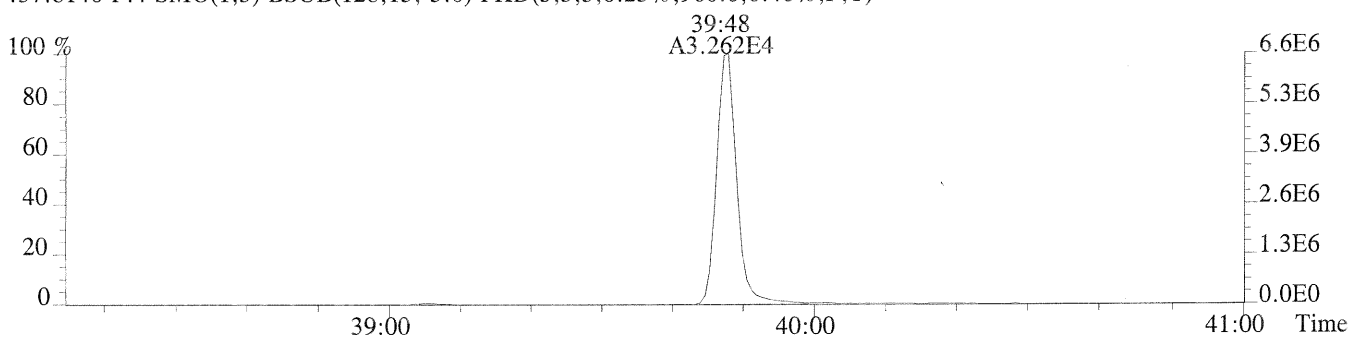
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1996.0,0.40%,F,T)



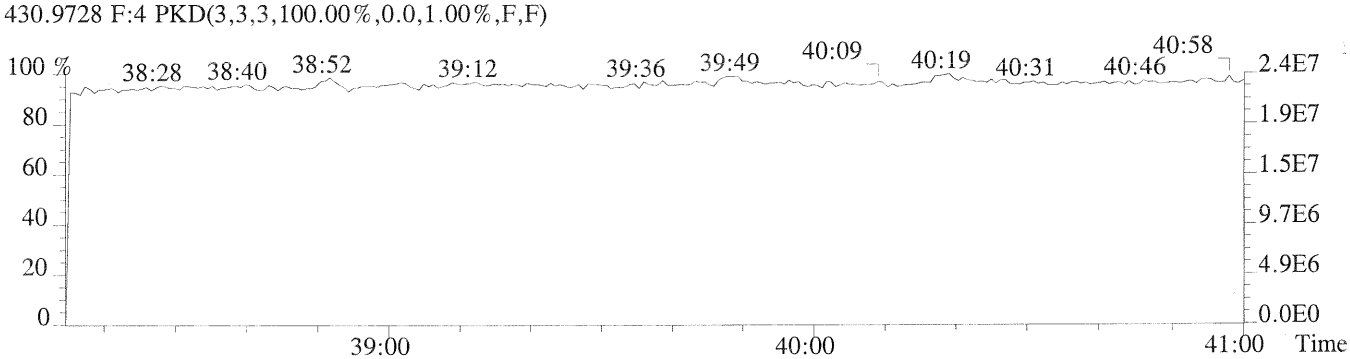
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



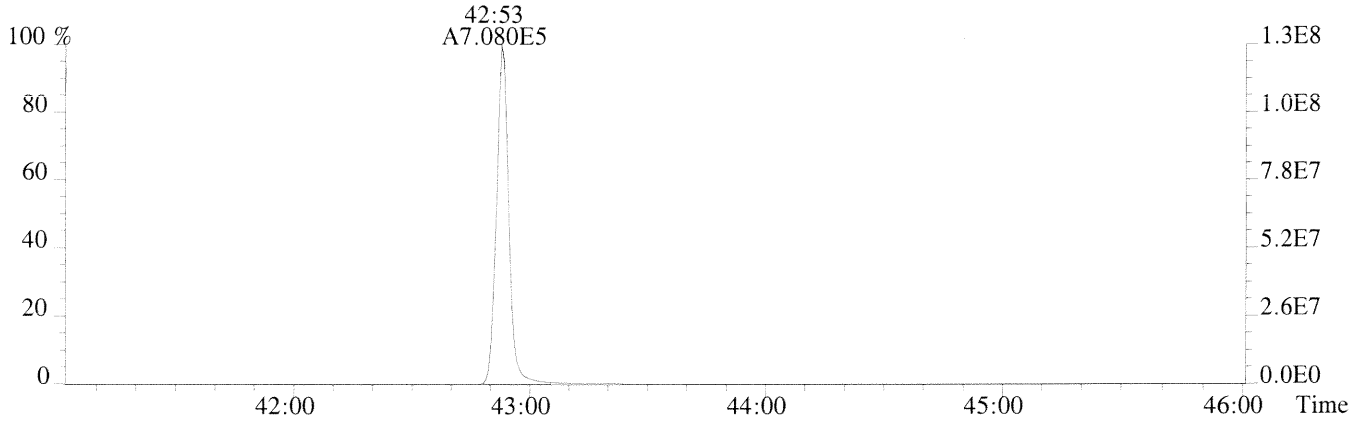
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,960.0,0.40%,F,T)



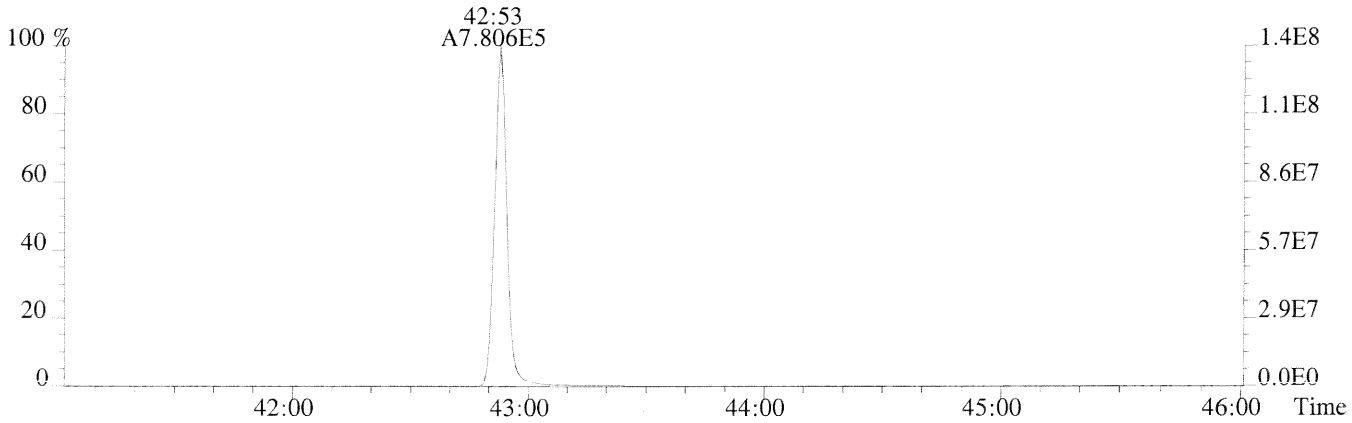
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



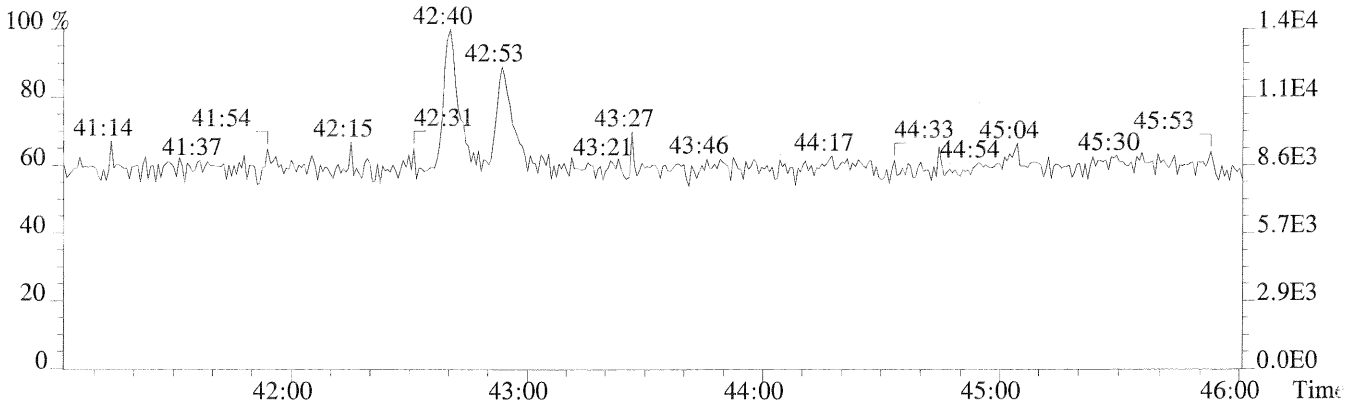
File:U149177 #1-452 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



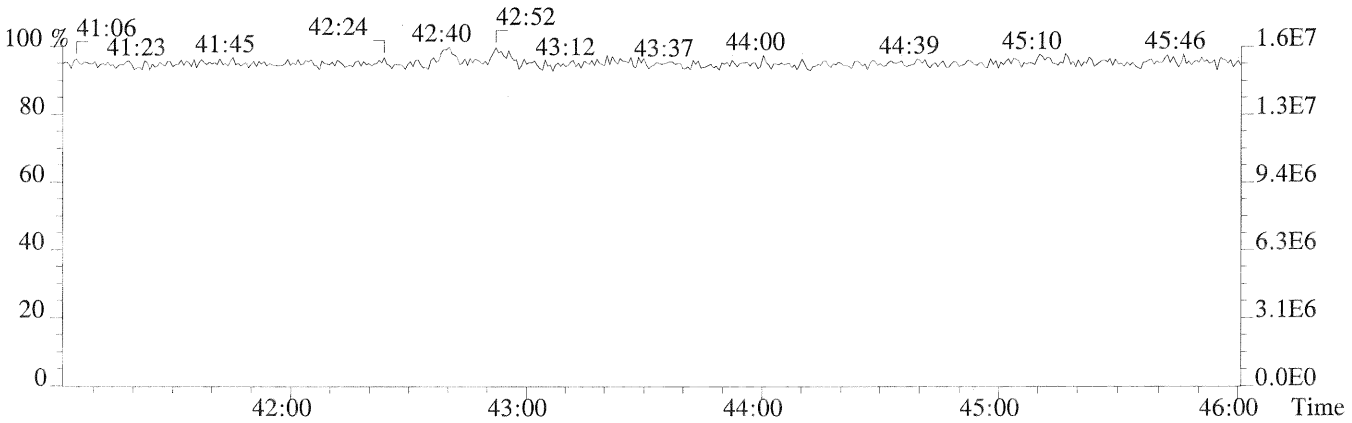
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,808.0,0.40%,F,T)



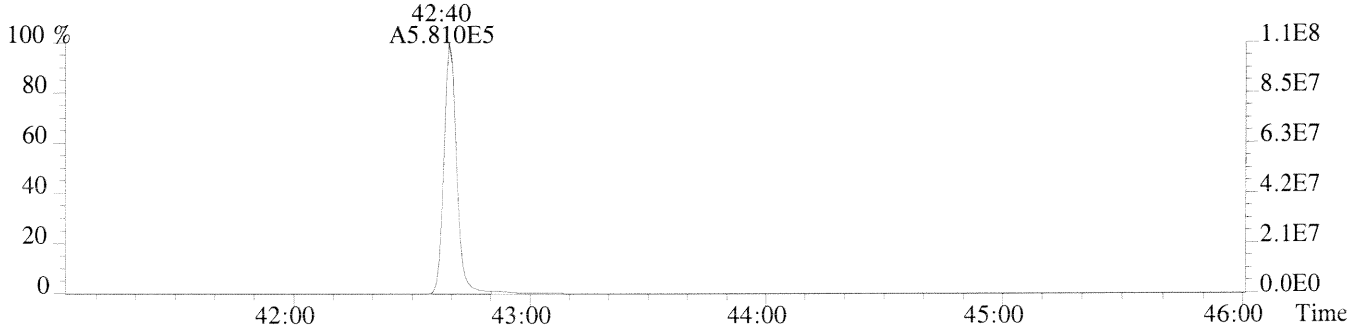
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



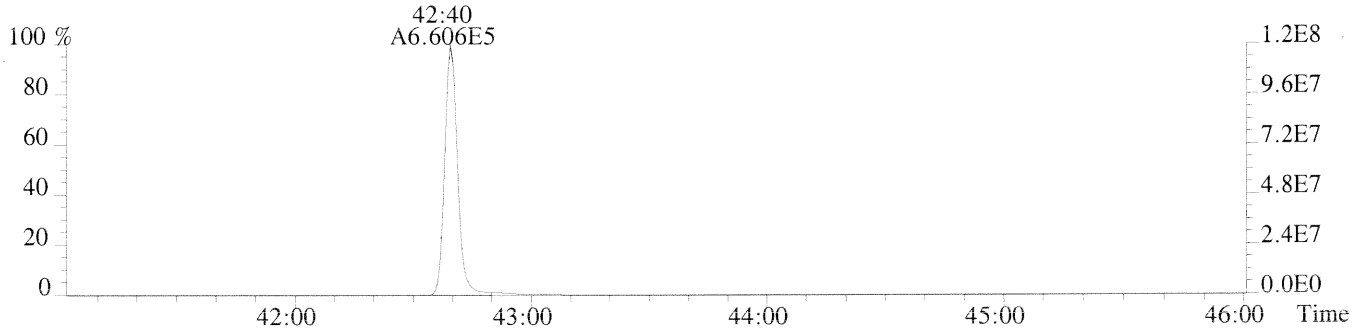
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



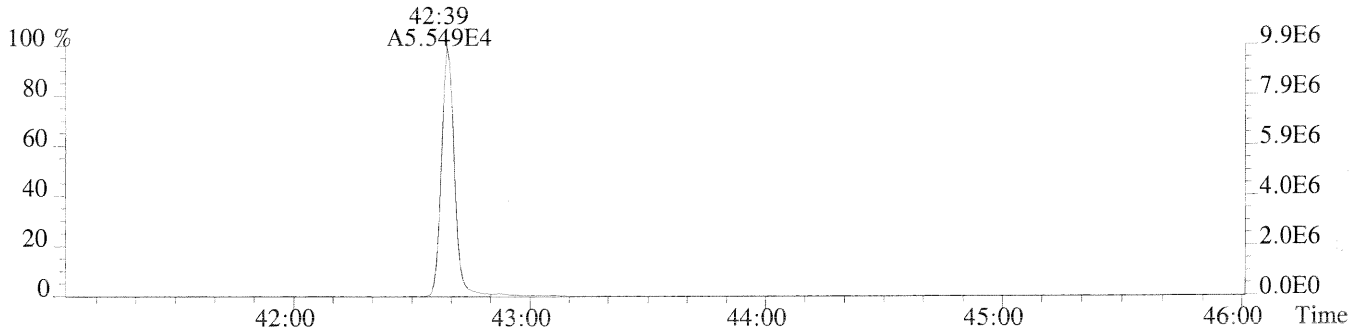
File:U149177 #1-452 Acq:21-MAY-2014 18:52:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5 HRCC5/CS5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



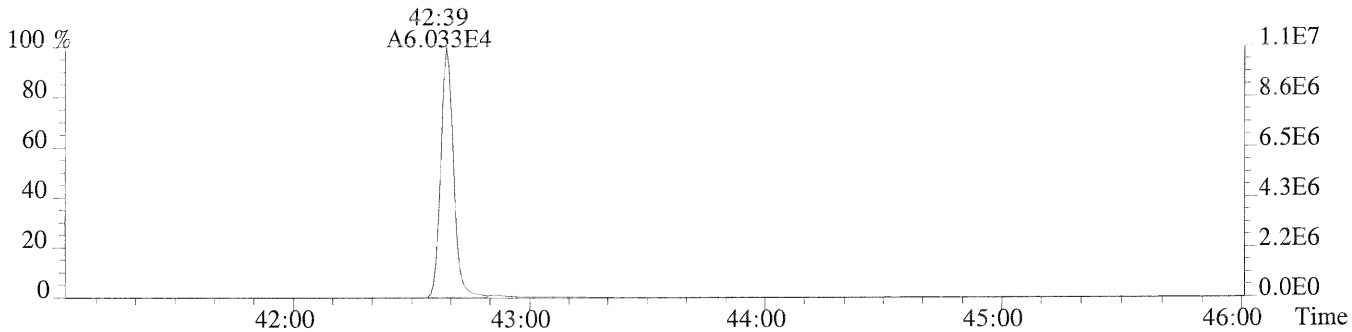
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,476.0,0.40%,F,T)



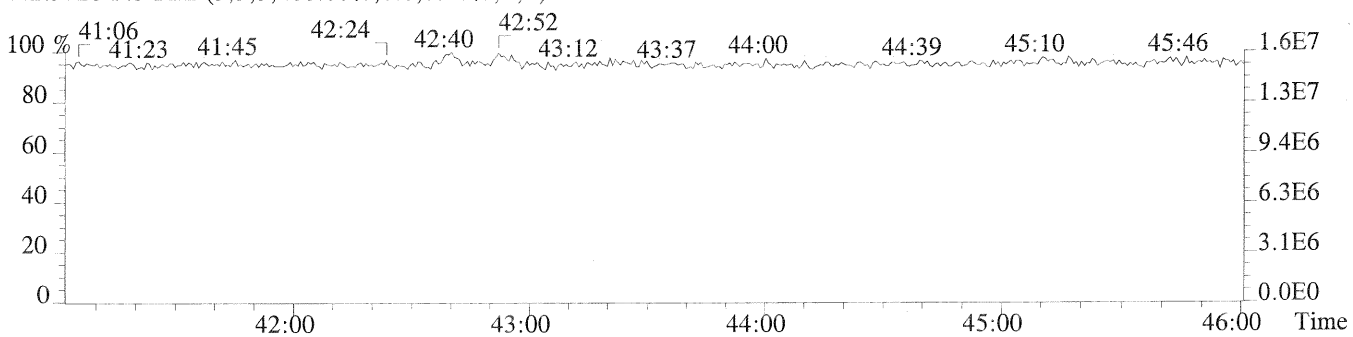
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,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: 05/21/2014

Instrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149179 Analysis Date: 21-MAY-14 Time: 20:29:24

	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	0.84	0.65-0.89	9.5	7.8 - 12.9	-4.7
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	53	39 - 65	5.5
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	48	39 - 64	-4.8
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	46	39 - 64	-7.3
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	44	41 - 61	-11.4
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	48	43 - 58	-4.4
OCDD	M+2/M+4	0.89	0.76-1.02	92	79 - 126	-8.4
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	9.2	8.4 - 12.0	-8.1
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	46	41 - 60	-8.9
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	49	41 - 61	-2.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	45	45 - 56	-10.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	46	44 - 57	-7.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	46	45 - 56	-8.2
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	48	44 - 57	-4.1
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	46	45 - 55	-7.2
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	50	43 - 58	-0.7
OCDF	M+2/M+4	0.92	0.76-1.02	92	63 - 159	-7.8

(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: 05/21/2014

IInstrument ID: E-HRMS-01 GC Column ID: DB-5MSUI

VER Data Filename: U149179 Analysis Date: 21-MAY-14 Time: 20:29:24

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%D (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	93	82 - 121	-6.9
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	93	62 - 160	-7.1
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	103	85 - 117	2.8
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	112	85 - 118	11.9
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88-1.20	99	72 - 138	-1.2
13C-OCDD	M+2/M+4	0.90	0.76-1.02	211	96 - 415	5.4
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	110	71 - 140	9.9
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	104	76 - 130	4.2
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	104	77 - 130	4.3
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	106	76 - 131	5.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	102	70 - 143	2.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	107	74 - 135	7.1
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	104	73 - 137	4.4
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	111	78 - 129	10.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	101	77 - 129	0.7
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-2.2

(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 beginnning 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.
ICV 2ND SOURCE

Run #7 Filename U149179 Samp: 1 Inj: 1 Acquired: 21-MAY-14 20:29:24
Processed: 23-MAY-14 09:02:35 Sample ID: 60287

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:42	2.175e+03	2.910e+03	0.75	yes	no	0.944
2	Unk	1,2,3,7,8-PeCDF	32:47	2.020e+04	1.286e+04	1.57	yes	no	0.977
3	Unk	2,3,4,7,8-PeCDF	33:40	2.030e+04	1.303e+04	1.56	yes	no	0.940
4	Unk	1,2,3,4,7,8-HxCDF	36:17	1.738e+04	1.402e+04	1.24	yes	no	1.226
5	Unk	1,2,3,6,7,8-HxCDF	36:24	1.842e+04	1.501e+04	1.23	yes	no	1.150
6	Unk	2,3,4,6,7,8-HxCDF	36:54	1.777e+04	1.478e+04	1.20	yes	no	1.136
7	Unk	1,2,3,7,8,9-HxCDF	37:39	1.660e+04	1.323e+04	1.26	yes	no	1.150
8	Unk	1,2,3,4,6,7,8-HpCDF	38:52	1.653e+04	1.611e+04	1.03	yes	no	1.426
9	Unk	1,2,3,4,7,8,9-HpCDF	40:19	1.413e+04	1.349e+04	1.05	yes	no	1.359
10	Unk	OCDF	42:53	2.136e+04	2.333e+04	0.92	yes	no	1.350
11	Unk	2,3,7,8-TCDD	29:28	1.608e+03	1.909e+03	0.84	yes	no	1.013
12	Unk	1,2,3,7,8-PeCDD	33:57	1.419e+04	8.895e+03	1.59	yes	no	1.025
13	Unk	1,2,3,4,7,8-HxCDD	37:02	1.236e+04	9.928e+03	1.24	yes	no	1.133
14	Unk	1,2,3,6,7,8-HxCDD	37:06	1.399e+04	1.121e+04	1.25	yes	no	1.105
15	Unk	1,2,3,7,8,9-HxCDD	37:21	1.351e+04	1.088e+04	1.24	yes	no	1.217
16	Unk	1,2,3,4,6,7,8-HpCDD	39:49	1.111e+04	1.062e+04	1.05	yes	no	1.065
17	Unk	OCDD	42:40	1.819e+04	2.051e+04	0.89	yes	no	1.177
18	IS	13C-2,3,7,8-TCDF	28:41	2.617e+04	3.242e+04	0.81	yes	no	1.435
19	IS	13C-1,2,3,7,8-PeCDF	32:45	4.557e+04	2.877e+04	1.58	yes	no	1.920
20	IS	13C-2,3,4,7,8-PeCDF	33:39	4.424e+04	2.815e+04	1.57	yes	no	1.868
21	IS	13C-1,2,3,4,7,8-HxCDF	36:17	1.947e+04	3.753e+04	0.52	yes	no	1.169
22	IS	13C-1,2,3,6,7,8-HxCDF	36:23	2.160e+04	4.149e+04	0.52	yes	no	1.339
23	IS	13C-2,3,4,6,7,8-HxCDF	36:53	2.049e+04	3.924e+04	0.52	yes	no	1.239
24	IS	13C-1,2,3,7,8,9-HxCDF	37:39	1.937e+04	3.711e+04	0.52	yes	no	1.142
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:52	1.527e+04	3.402e+04	0.45	yes	no	0.966
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:18	1.278e+04	2.817e+04	0.45	yes	no	0.881
27	IS	13C-2,3,7,8-TCDD	29:26	1.576e+04	2.066e+04	0.76	yes	no	1.053
28	IS	13C-1,2,3,7,8-PeCDD	33:55	2.618e+04	1.649e+04	1.59	yes	no	1.236
29	IS	13C-1,2,3,4,7,8-HxCDD	37:01	2.319e+04	1.812e+04	1.28	yes	no	0.870
30	IS	13C-1,2,3,6,7,8-HxCDD	37:06	2.761e+04	2.161e+04	1.28	yes	no	0.953
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:48	2.225e+04	2.044e+04	1.09	yes	no	0.936
32	IS	13C-OCDD	42:39	3.403e+04	3.773e+04	0.90	yes	no	0.738
33	RS/RT	13C-1,2,3,4-TCDD	28:51	1.629e+04	2.085e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:20	2.634e+04	1.982e+04	1.33	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	3.793e+03				no	1.044

ALS ENVIRONMENTAL
10450 Stancliff Road, Suite 115
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1613RESP

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary
Method 1613b/8290A

CLIENT ID.
ICV 2ND SOURCE

Run #7 Filename U149179 Samp: 1 Inj: 1 Acquired: 21-MAY-14 20:29:24
Processed: 23-MAY-14 09:02:351 LAB. ID: 60287

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.62e+05	7.40e+02	6.2e+02	6.24e+05	1.23e+03	5.1e+02
2	1,2,3,7,8-PeCDF	3.94e+06	7.36e+02	5.3e+03	2.48e+06	8.36e+02	3.0e+03
3	2,3,4,7,8-PeCDF	4.12e+06	7.36e+02	5.6e+03	2.64e+06	8.36e+02	3.2e+03
4	1,2,3,4,7,8-HxCDF	3.76e+06	1.53e+03	2.5e+03	3.08e+06	1.28e+03	2.4e+03
5	1,2,3,6,7,8-HxCDF	3.86e+06	1.53e+03	2.5e+03	3.10e+06	1.28e+03	2.4e+03
6	2,3,4,6,7,8-HxCDF	3.84e+06	1.53e+03	2.5e+03	3.18e+06	1.28e+03	2.5e+03
7	1,2,3,7,8,9-HxCDF	3.33e+06	1.53e+03	2.2e+03	2.60e+06	1.28e+03	2.0e+03
8	1,2,3,4,6,7,8-HpCDF	3.49e+06	2.08e+03	1.7e+03	3.31e+06	1.44e+03	2.3e+03
9	1,2,3,4,7,8,9-HpCDF	2.68e+06	2.08e+03	1.3e+03	2.52e+06	1.44e+03	1.7e+03
10	OCDF	3.43e+06	6.24e+02	5.5e+03	3.76e+06	8.48e+02	4.4e+03
11	2,3,7,8-TCDD	3.47e+05	6.32e+02	5.5e+02	4.10e+05	5.88e+02	7.0e+02
12	1,2,3,7,8-PeCDD	2.86e+06	7.08e+02	4.0e+03	1.79e+06	5.56e+02	3.2e+03
13	1,2,3,4,7,8-HxCDD	2.86e+06	7.40e+02	3.9e+03	2.24e+06	1.23e+03	1.8e+03
14	1,2,3,6,7,8-HxCDD	2.75e+06	7.40e+02	3.7e+03	2.25e+06	1.23e+03	1.8e+03
15	1,2,3,7,8,9-HxCDD	2.65e+06	7.40e+02	3.6e+03	2.13e+06	1.23e+03	1.7e+03
16	1,2,3,4,6,7,8-HpCDD	2.16e+06	1.08e+03	2.0e+03	2.04e+06	1.25e+03	1.6e+03
17	OCDD	2.97e+06	5.52e+02	5.4e+03	3.34e+06	7.92e+02	4.2e+03
18	13C-2,3,7,8-TCDF	5.77e+06	7.48e+02	7.7e+03	7.09e+06	8.00e+02	8.9e+03
19	13C-1,2,3,7,8-PeCDF	8.63e+06	7.96e+02	1.1e+04	5.51e+06	8.28e+02	6.7e+03
20	13C-2,3,4,7,8-PeCDF	9.07e+06	7.96e+02	1.1e+04	5.80e+06	8.28e+02	7.0e+03
21	13C-1,2,3,4,7,8-HxCDF	4.24e+06	7.24e+02	5.9e+03	8.14e+06	9.04e+02	9.0e+03
22	13C-1,2,3,6,7,8-HxCDF	4.43e+06	7.24e+02	6.1e+03	8.46e+06	9.04e+02	9.4e+03
23	13C-2,3,4,6,7,8-HxCDF	4.38e+06	7.24e+02	6.0e+03	8.41e+06	9.04e+02	9.3e+03
24	13C-1,2,3,7,8,9-HxCDF	3.85e+06	7.24e+02	5.3e+03	7.31e+06	9.04e+02	8.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.21e+06	3.34e+03	9.6e+02	7.04e+06	2.44e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.37e+06	3.34e+03	7.1e+02	5.32e+06	2.44e+03	2.2e+03
27	13C-2,3,7,8-TCDD	3.50e+06	2.24e+03	1.6e+03	4.61e+06	1.42e+03	3.3e+03
28	13C-1,2,3,7,8-PeCDD	5.21e+06	6.64e+02	7.8e+03	3.34e+06	7.32e+02	4.6e+03
29	13C-1,2,3,4,7,8-HxCDD	5.30e+06	7.64e+02	6.9e+03	4.08e+06	8.20e+02	5.0e+03
30	13C-1,2,3,6,7,8-HxCDD	5.42e+06	7.64e+02	7.1e+03	4.27e+06	8.20e+02	5.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.34e+06	7.44e+02	5.8e+03	3.98e+06	7.48e+02	5.3e+03
32	13C-OCDD	5.56e+06	5.68e+02	9.8e+03	6.16e+06	6.76e+02	9.1e+03
33	13C-1,2,3,4-TCDD	3.54e+06	2.24e+03	1.6e+03	4.52e+06	1.42e+03	3.2e+03
34	13C-1,2,3,7,8,9-HxCDD	5.21e+06	7.64e+02	6.8e+03	4.02e+06	8.20e+02	4.9e+03
35	37Cl-2,3,7,8-TCDD	8.24e+05	9.76e+02	8.4e+02			

ALS ENVIRONMENTAL
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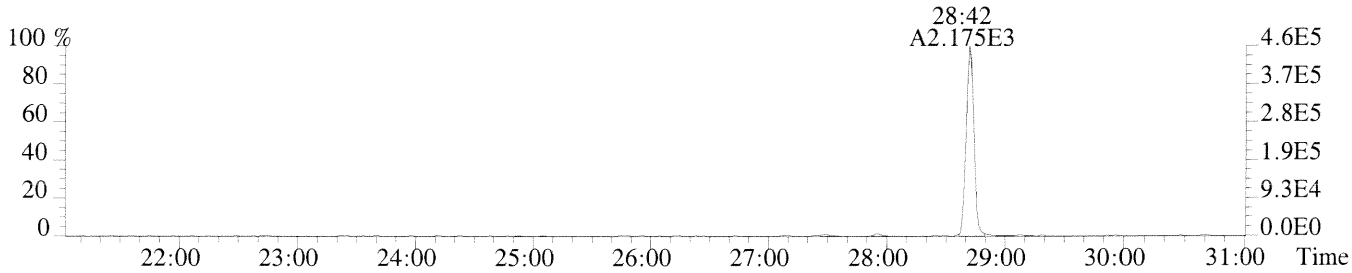
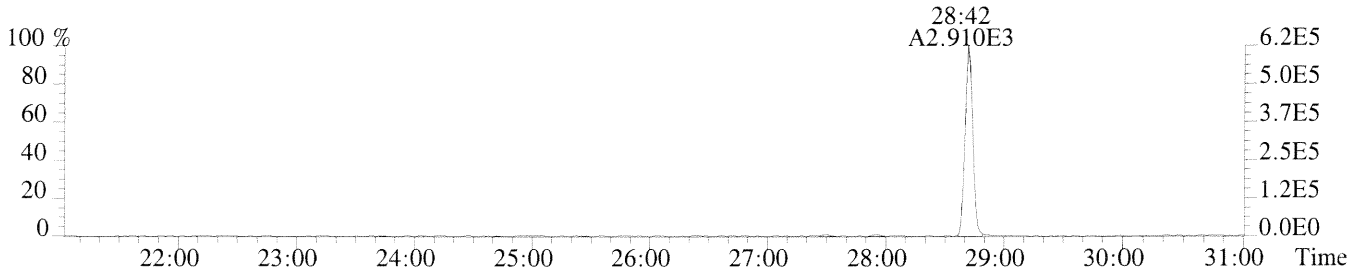
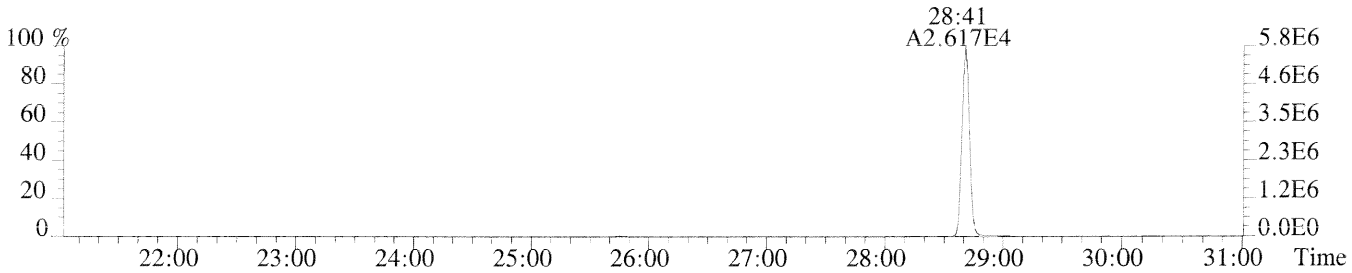
File:U149179 #1-627 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



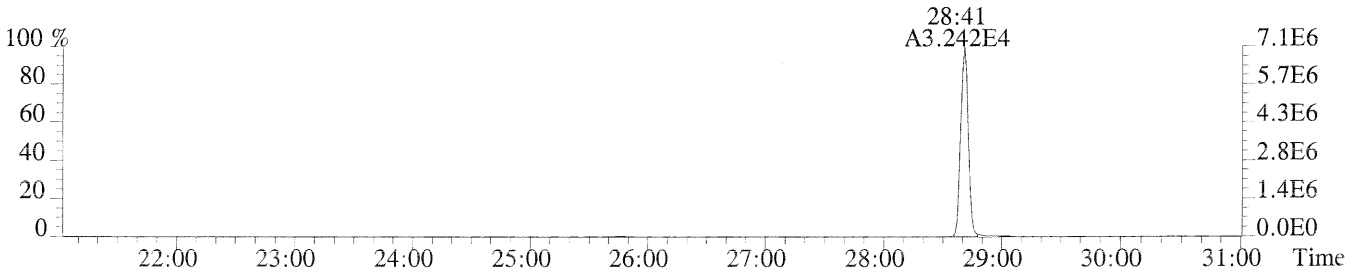
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1232.0,1.00%,F,T)



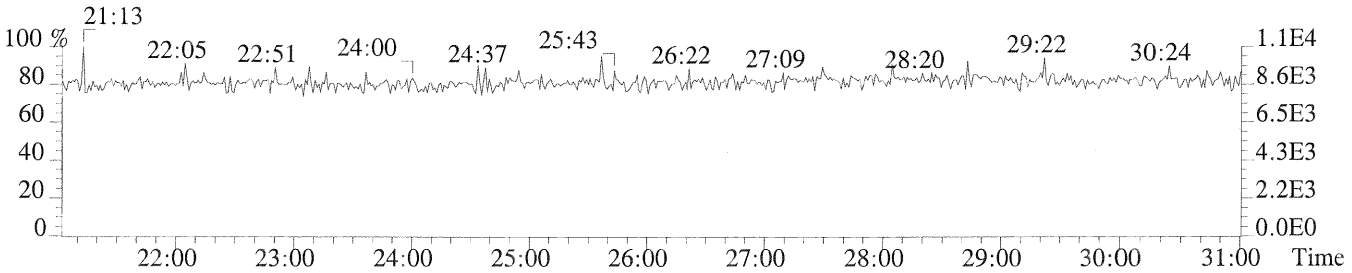
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,748.0,1.00%,F,T)



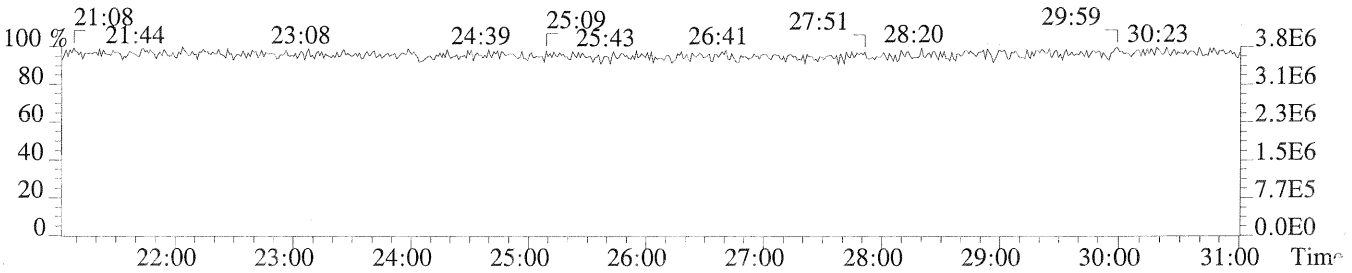
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,T)



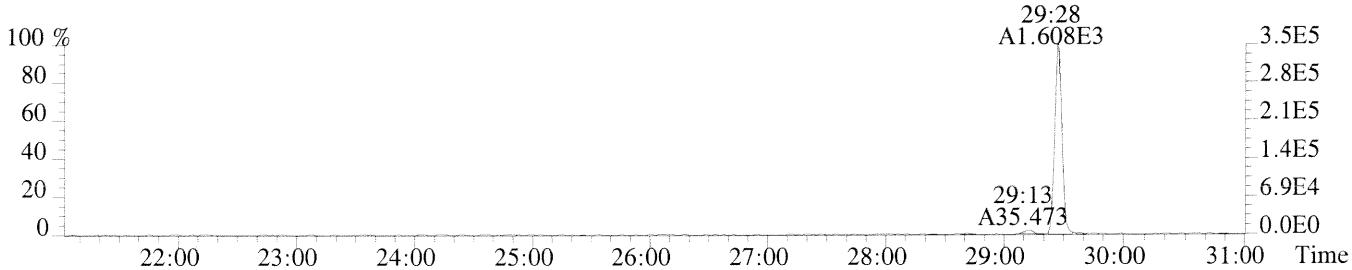
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



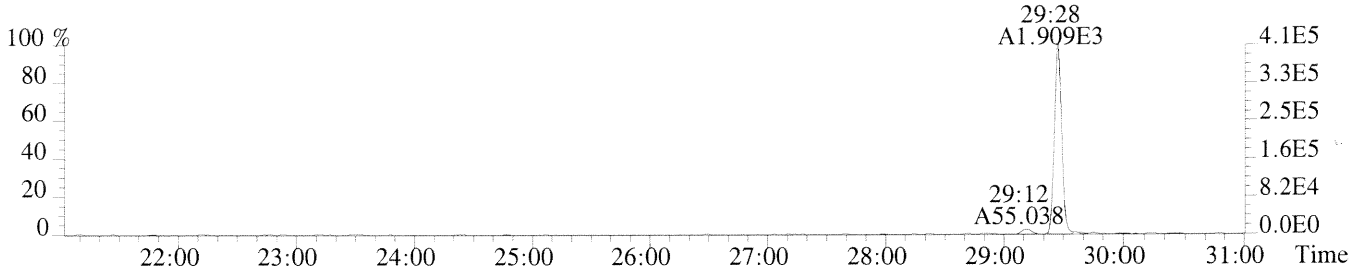
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



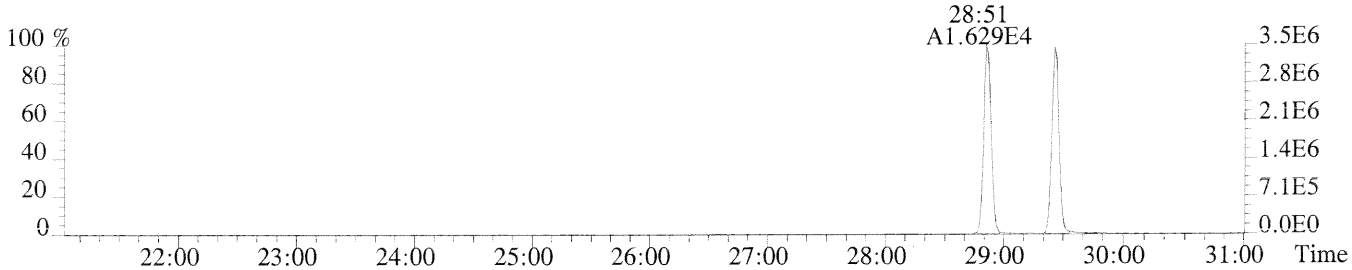
File:U149179 #1-627 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



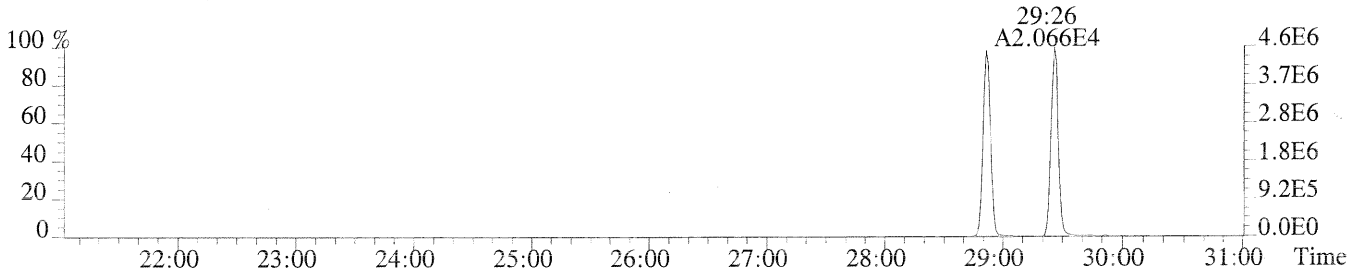
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



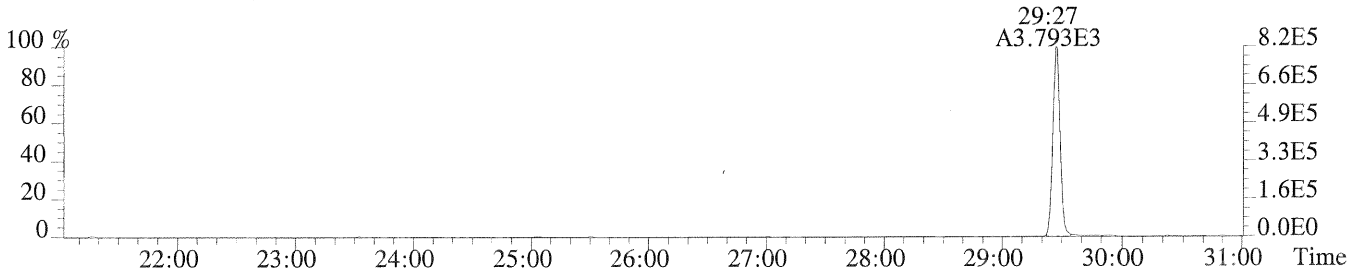
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,T)



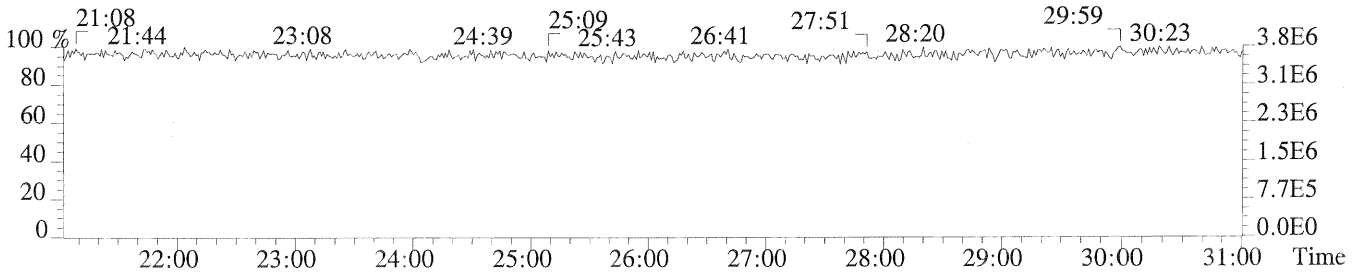
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



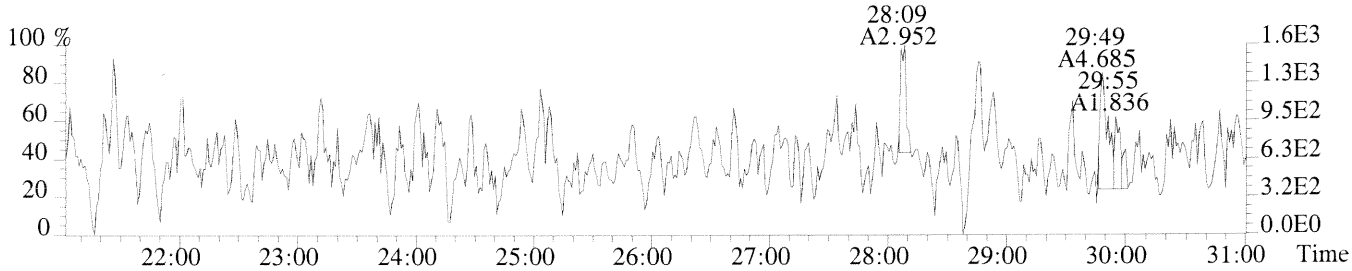
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



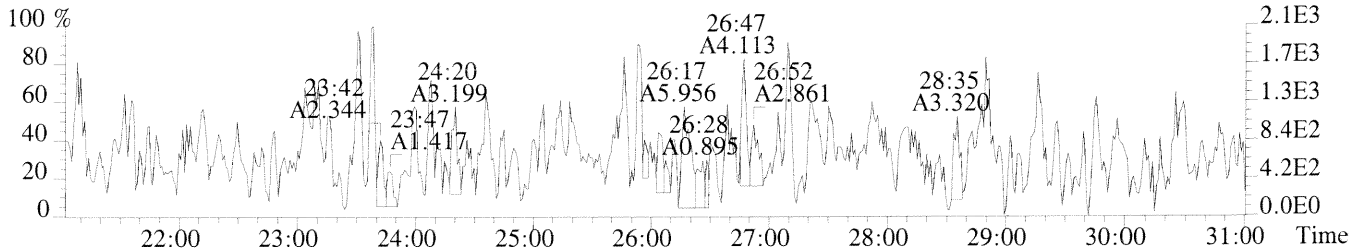
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



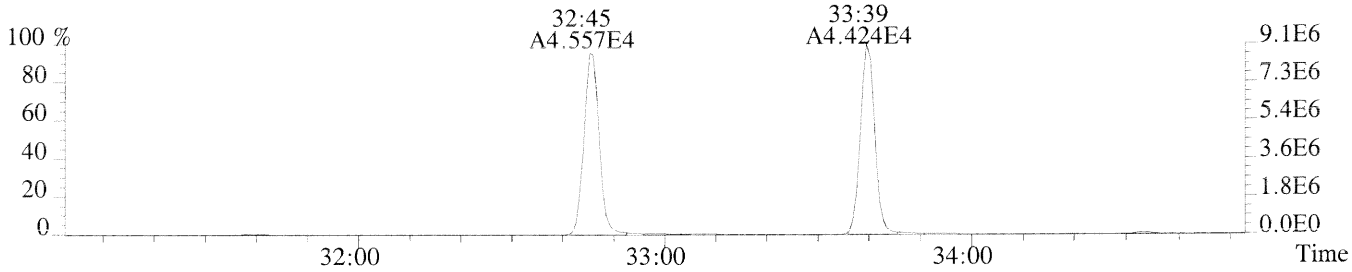
File:U149179 #1-627 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



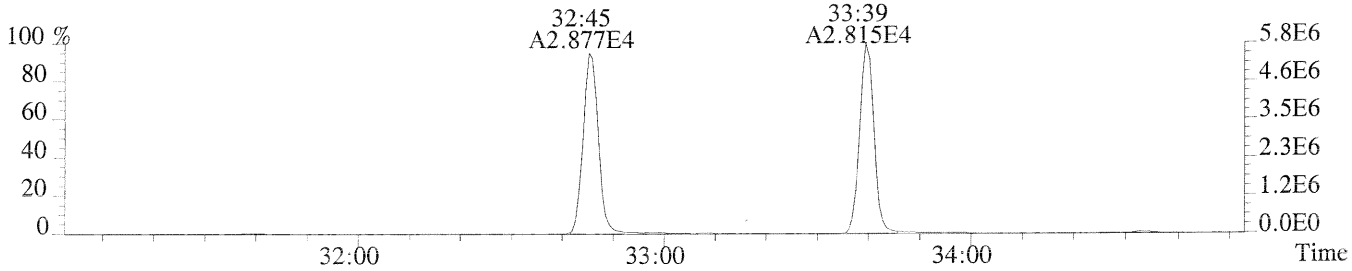
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



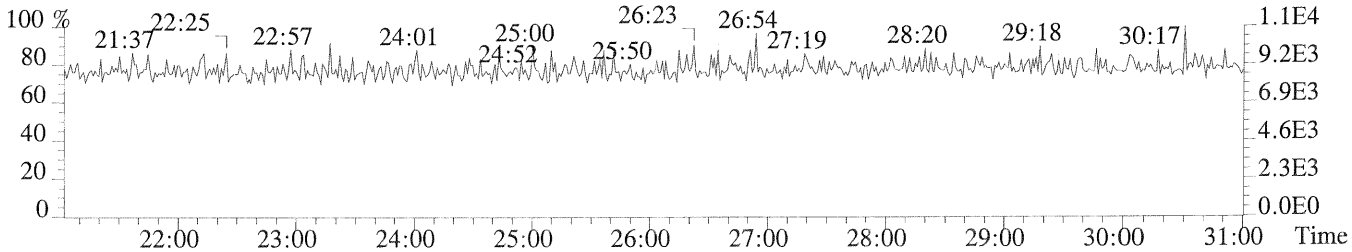
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



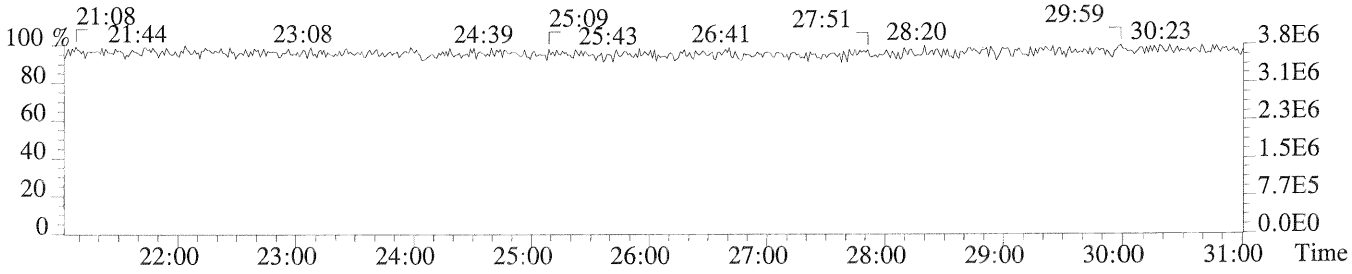
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



409.7974 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

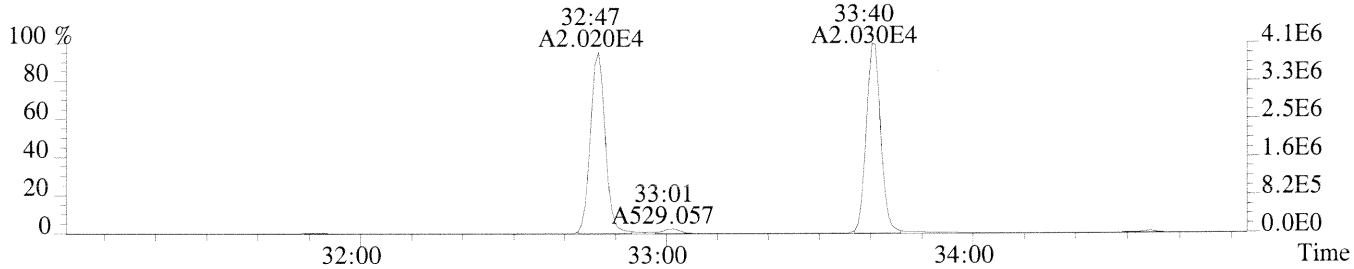


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

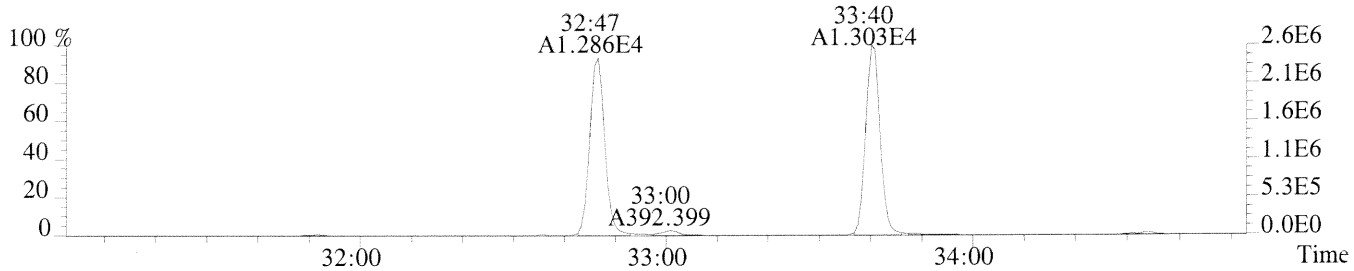


File:U149179 #1-349 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE

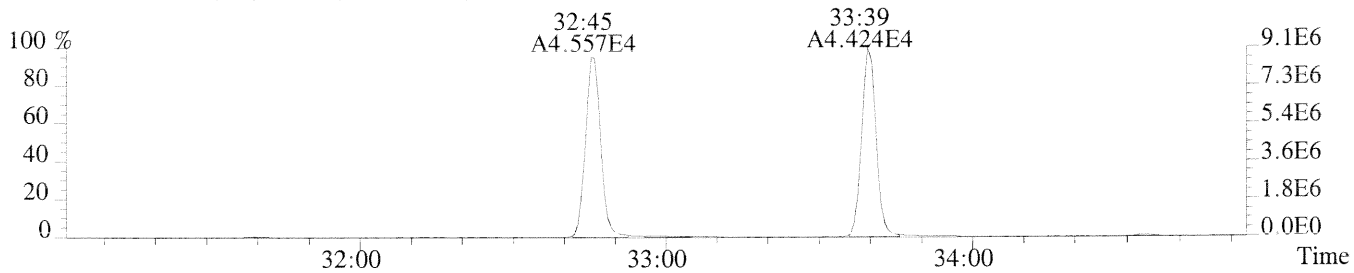
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



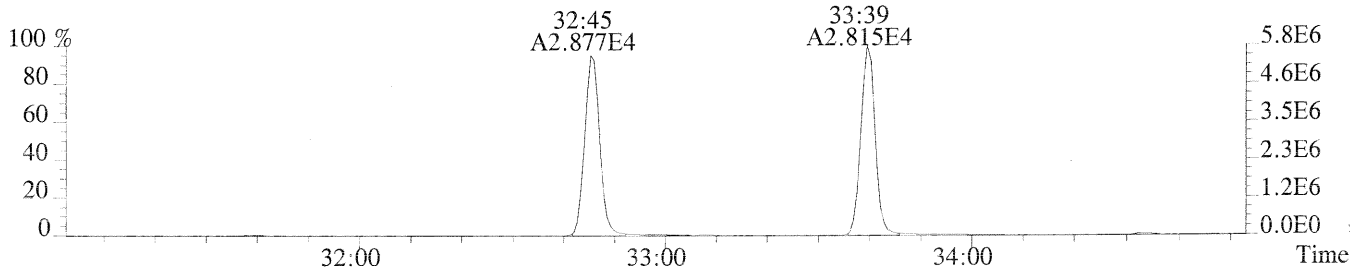
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,T)



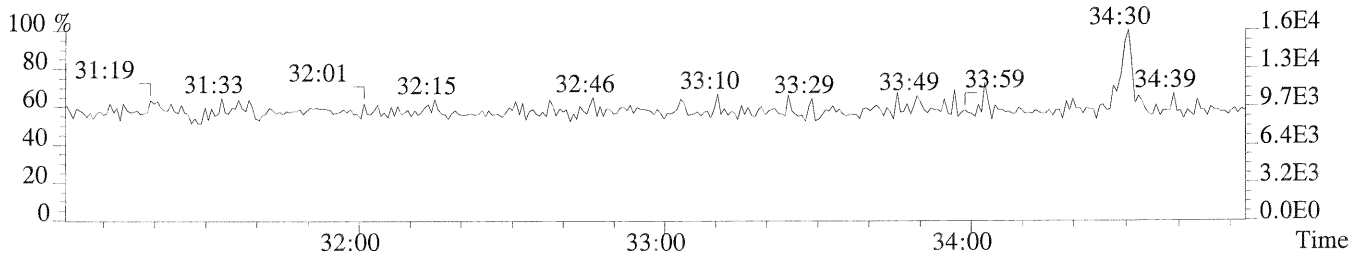
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



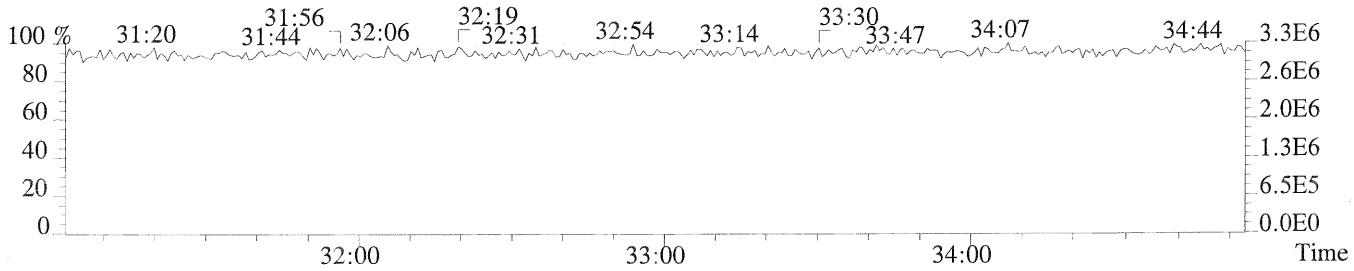
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



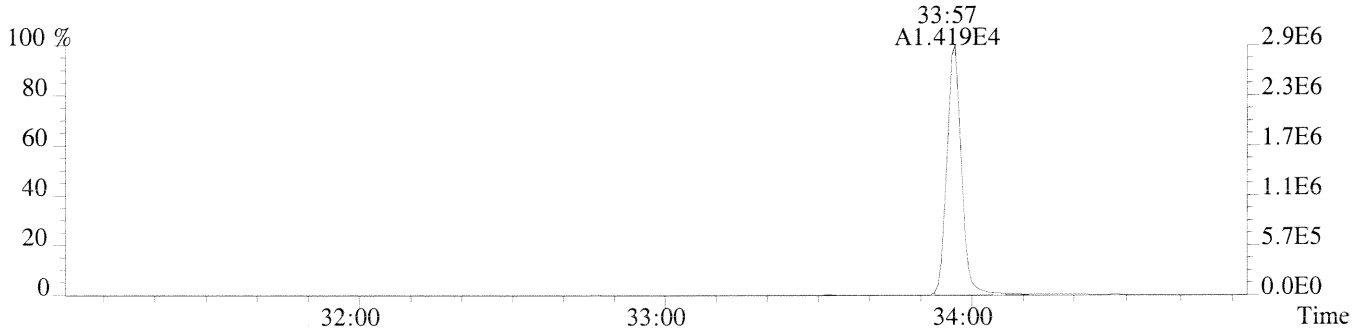
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



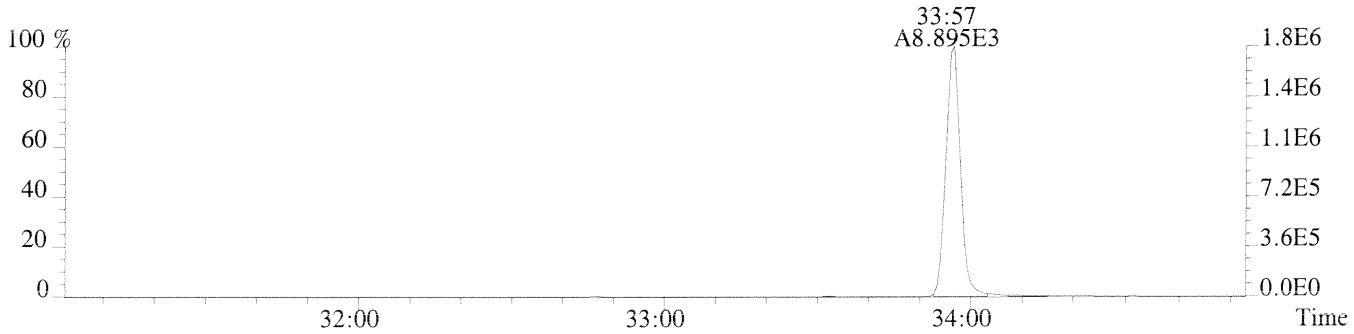
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



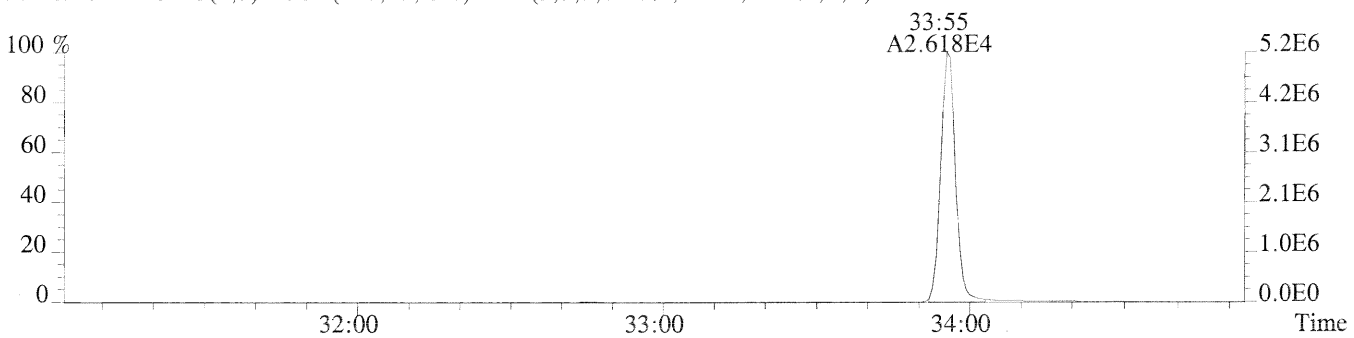
File:U149179 #1-349 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



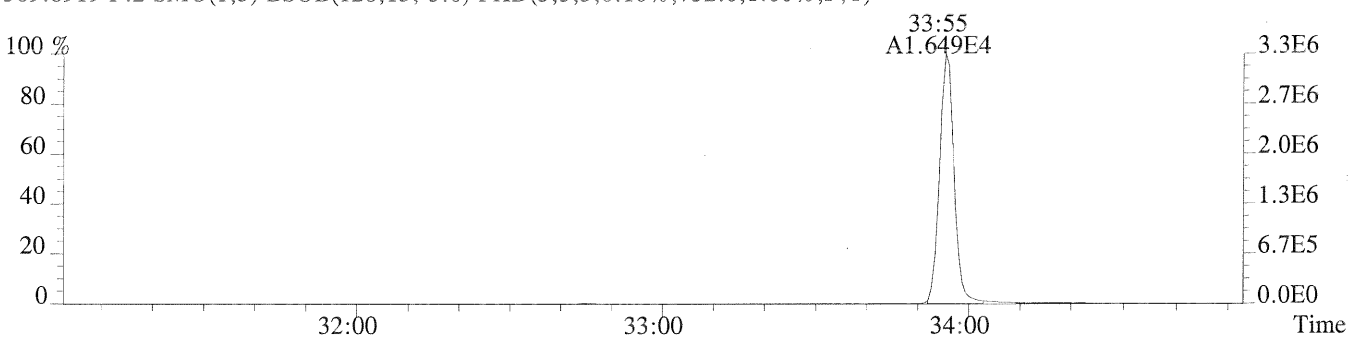
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



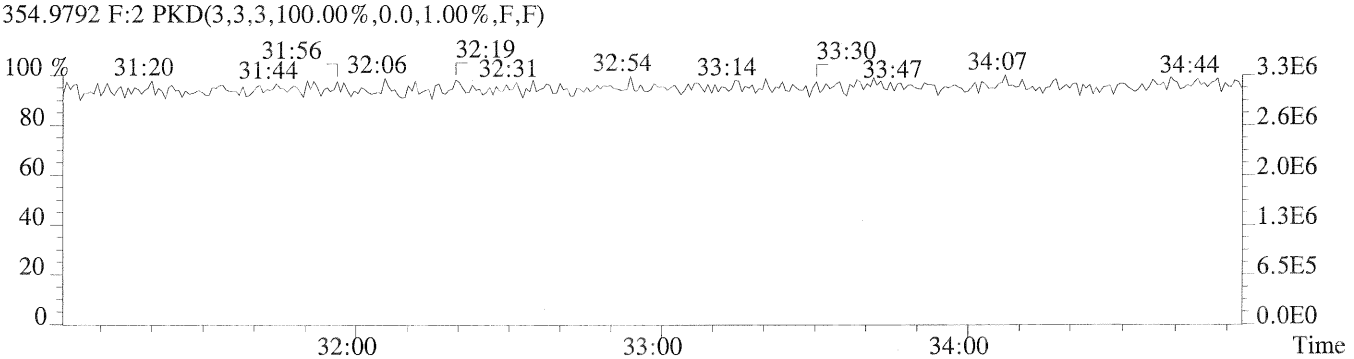
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)

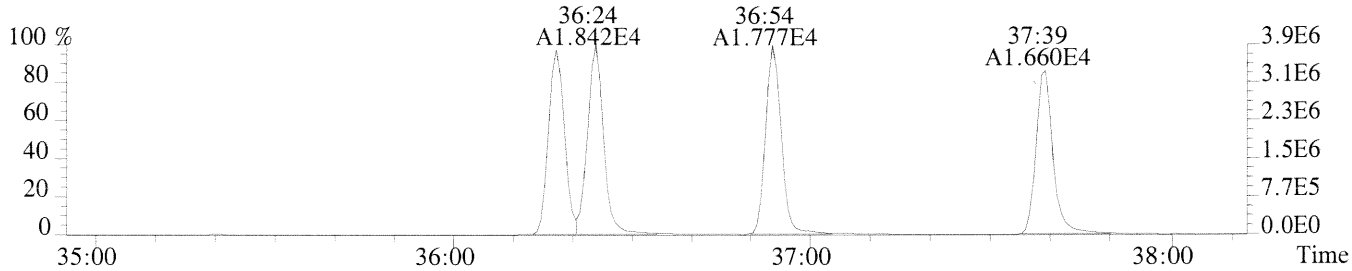


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

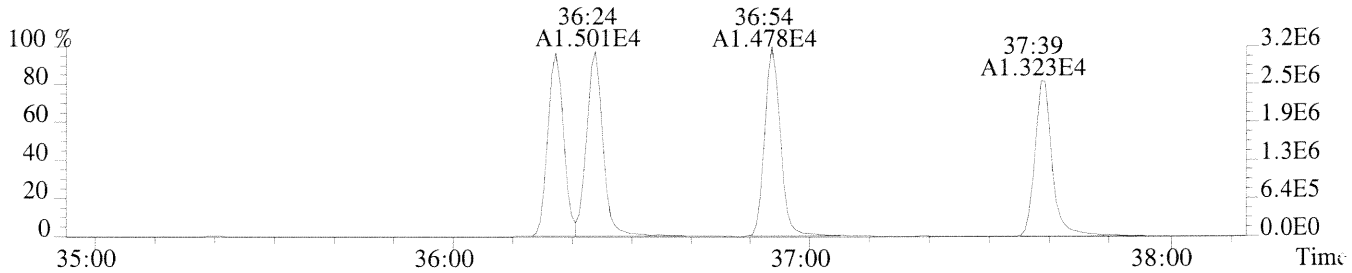


File:U149179 #1-299 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE

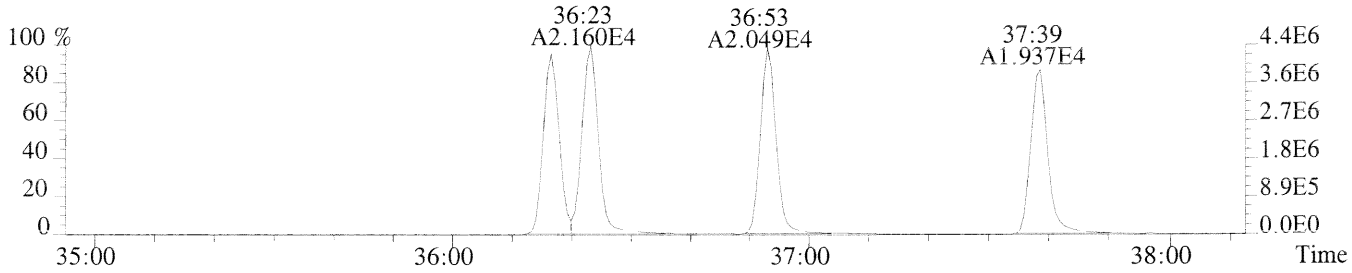
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1528.0,0.40%,F,T)



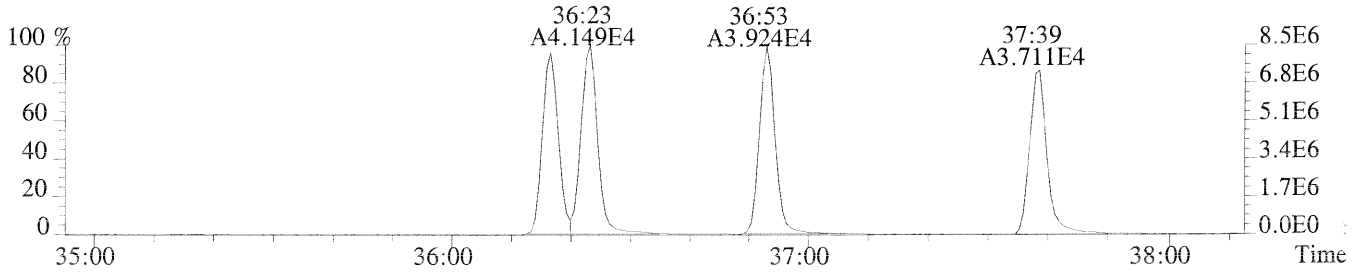
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1280.0,0.40%,F,T)



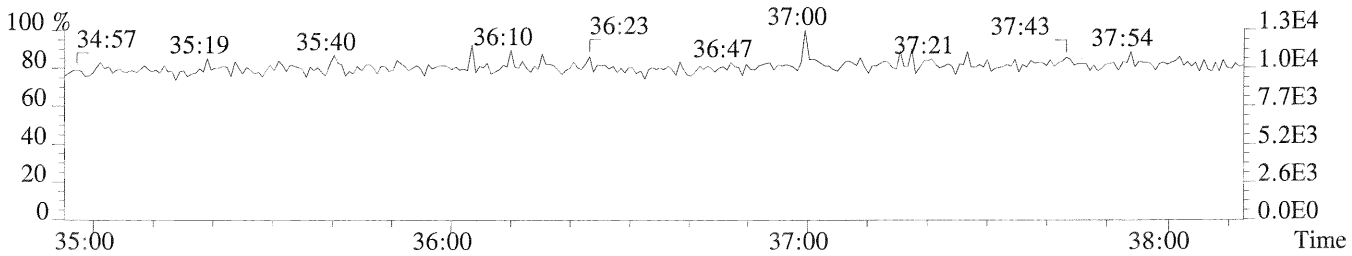
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



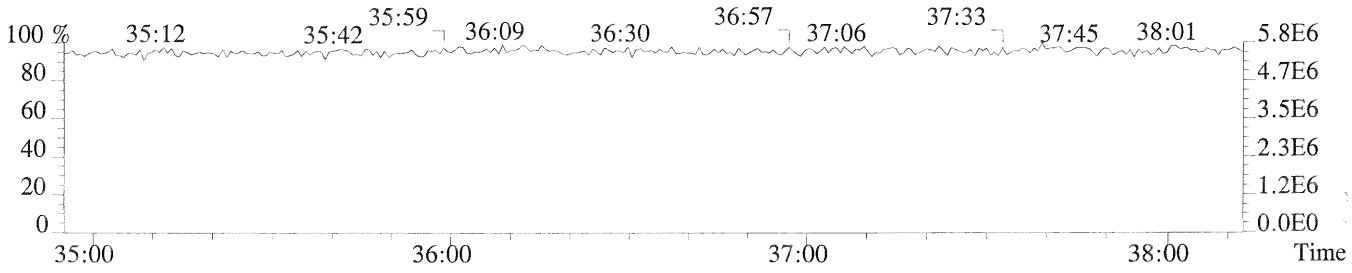
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



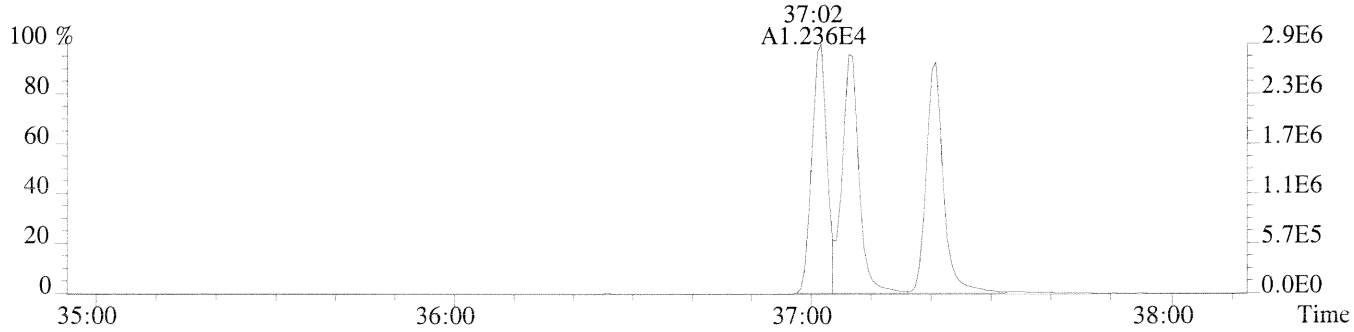
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



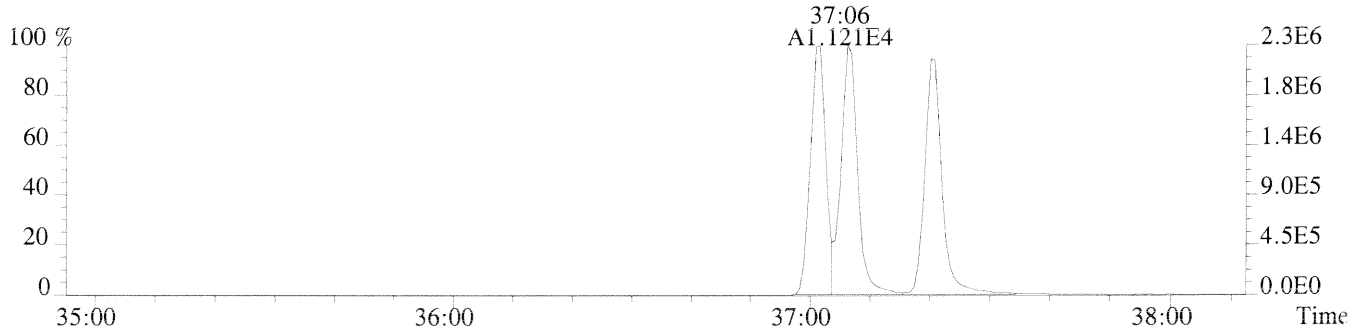
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



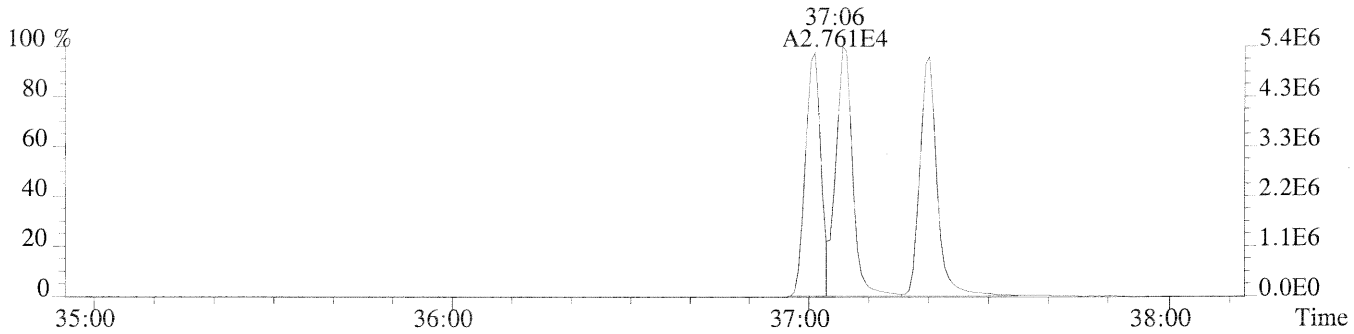
File:U149179 #1-299 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,740.0,0.40%,F,T)



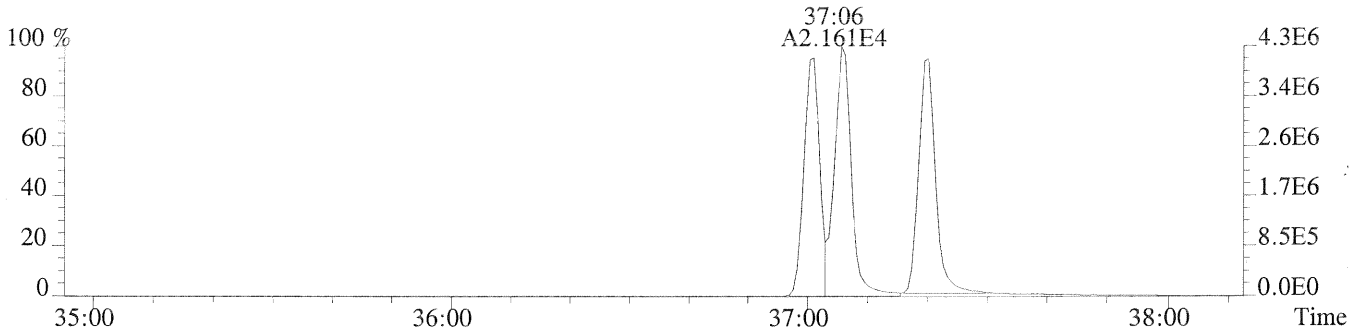
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,T)



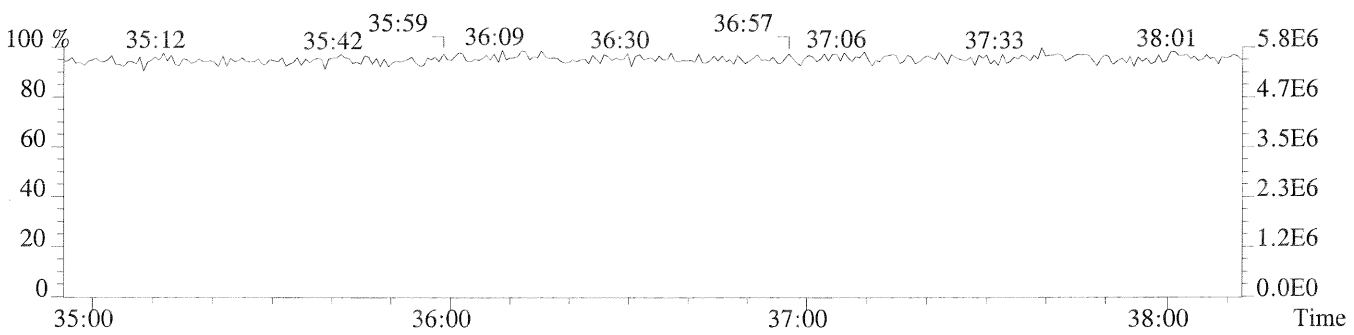
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,764.0,0.40%,F,T)



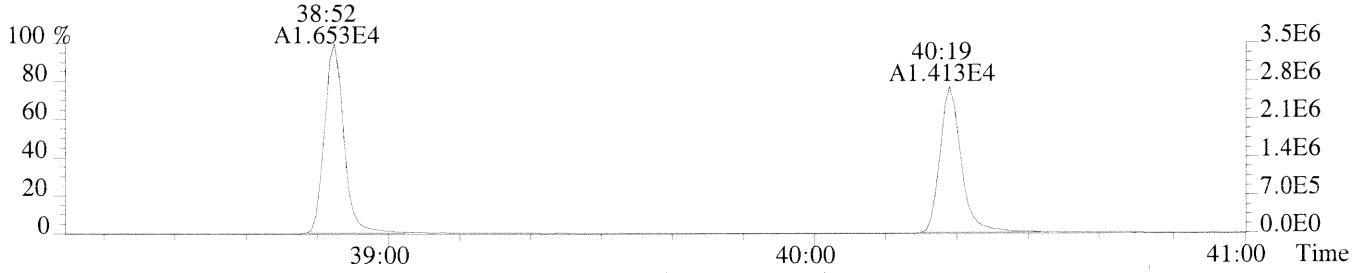
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)



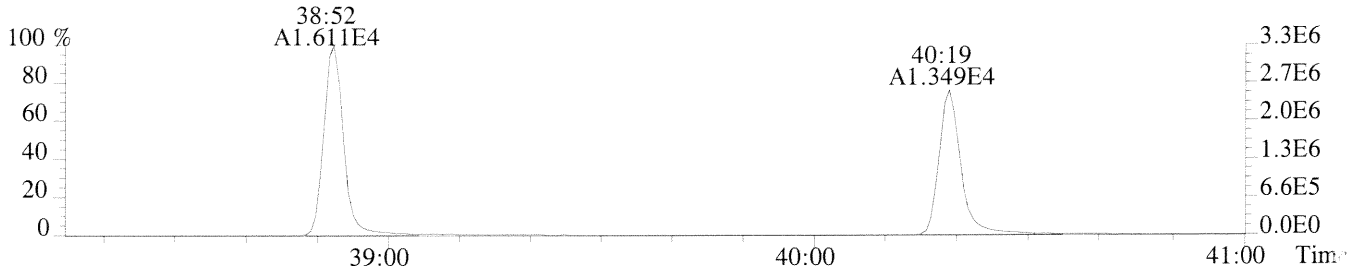
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



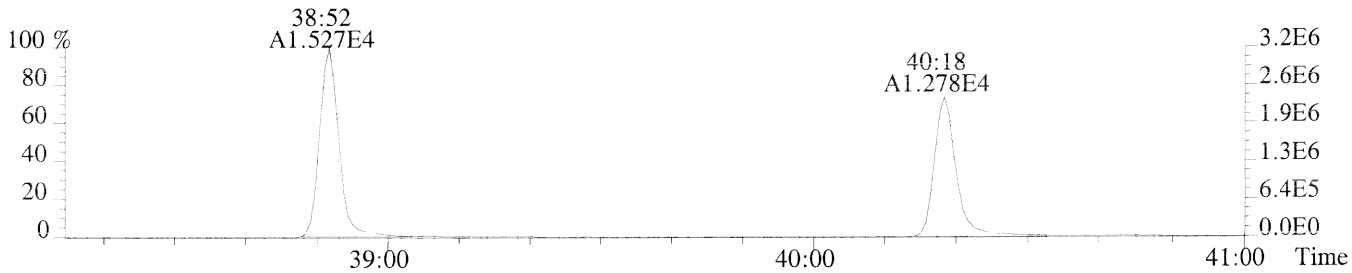
File:U149179 #1-251 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2076.0,0.50%,F,T)



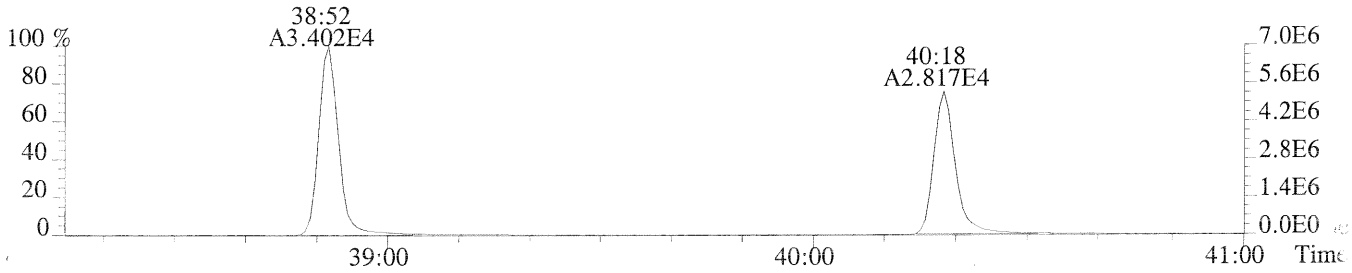
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.50%,F,T)



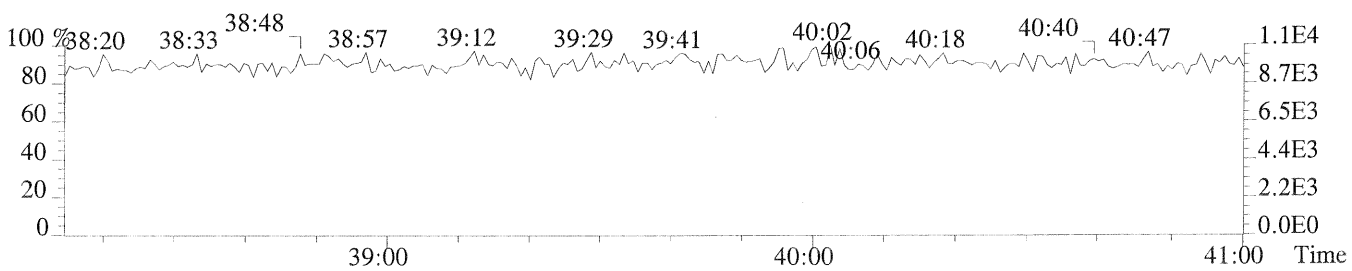
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3340.0,0.50%,F,T)



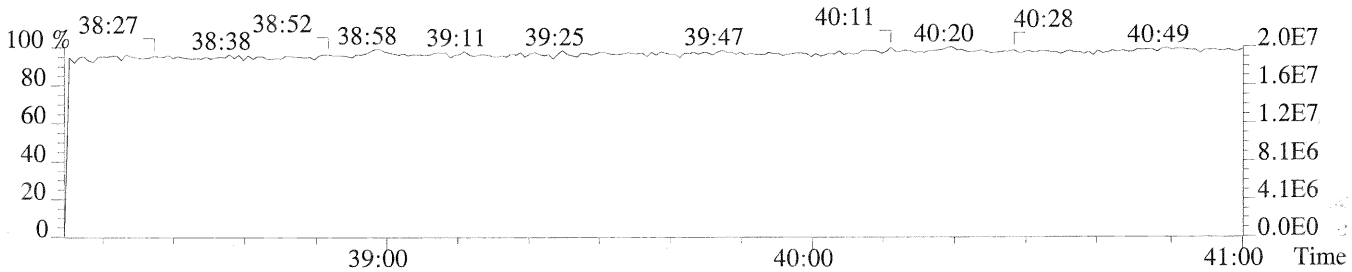
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2444.0,0.50%,F,T)



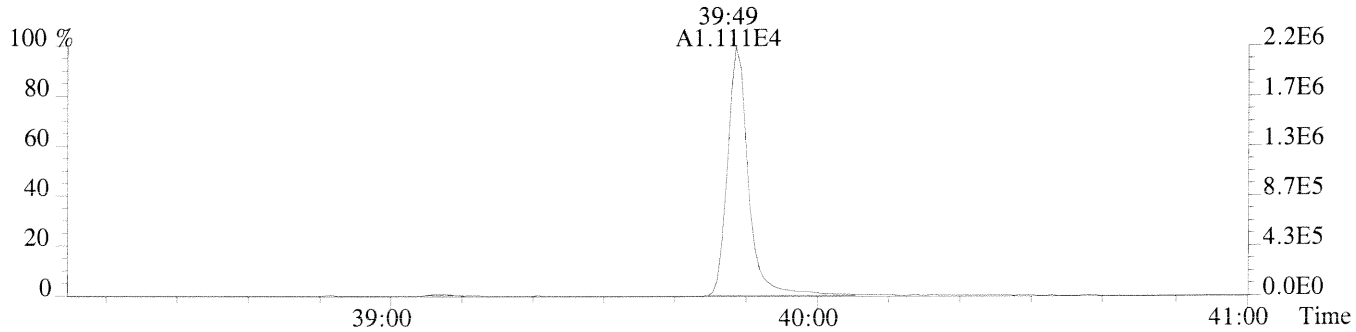
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



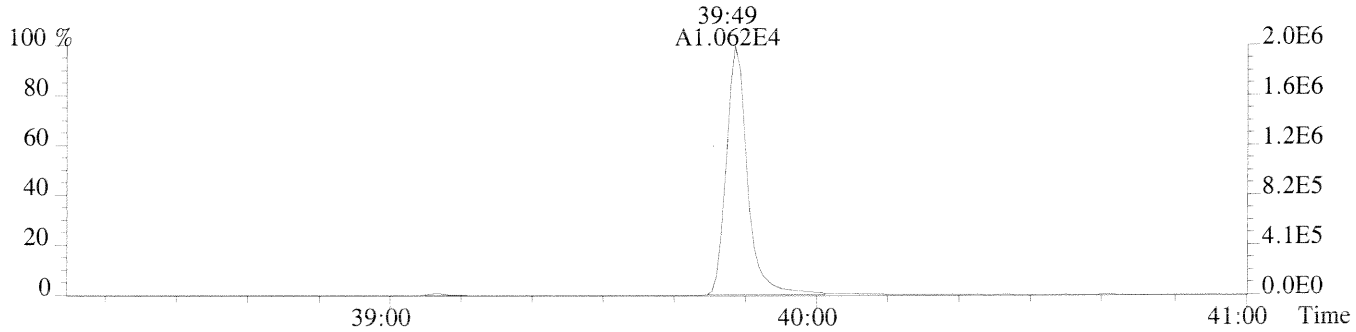
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



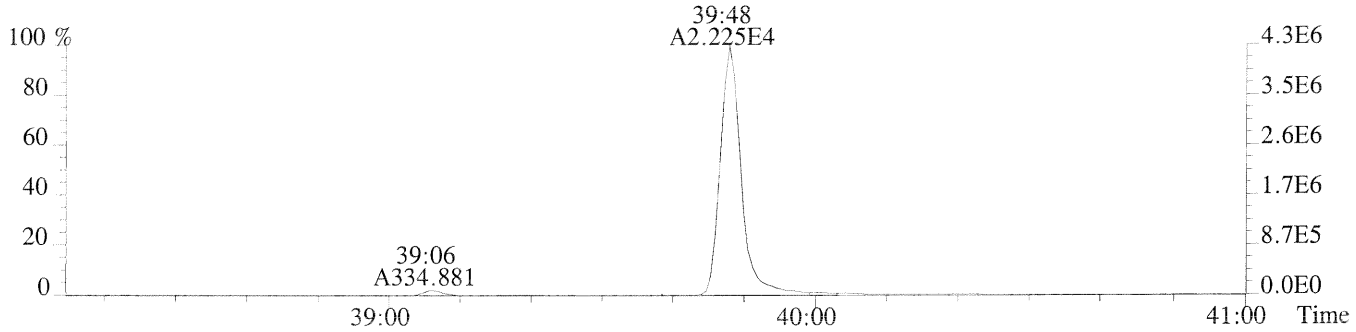
File:U149179 #1-251 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1080.0,0.40%,F,T)



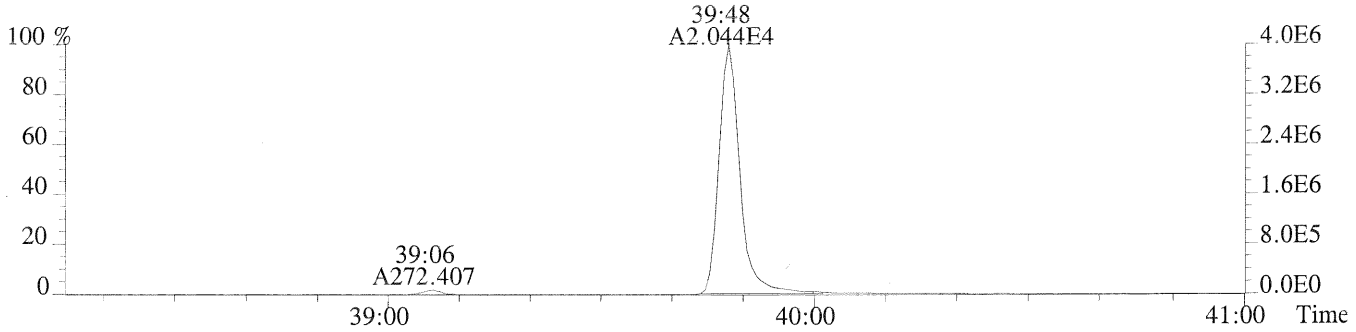
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



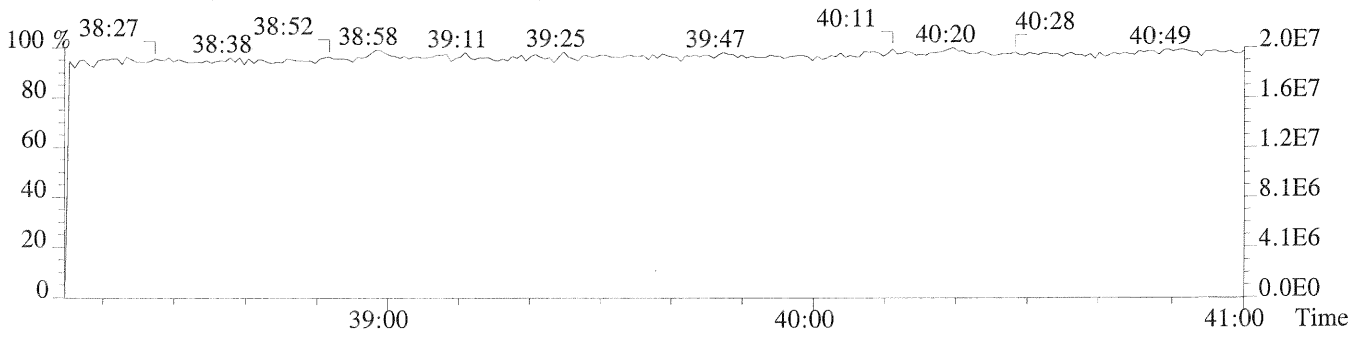
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,T)



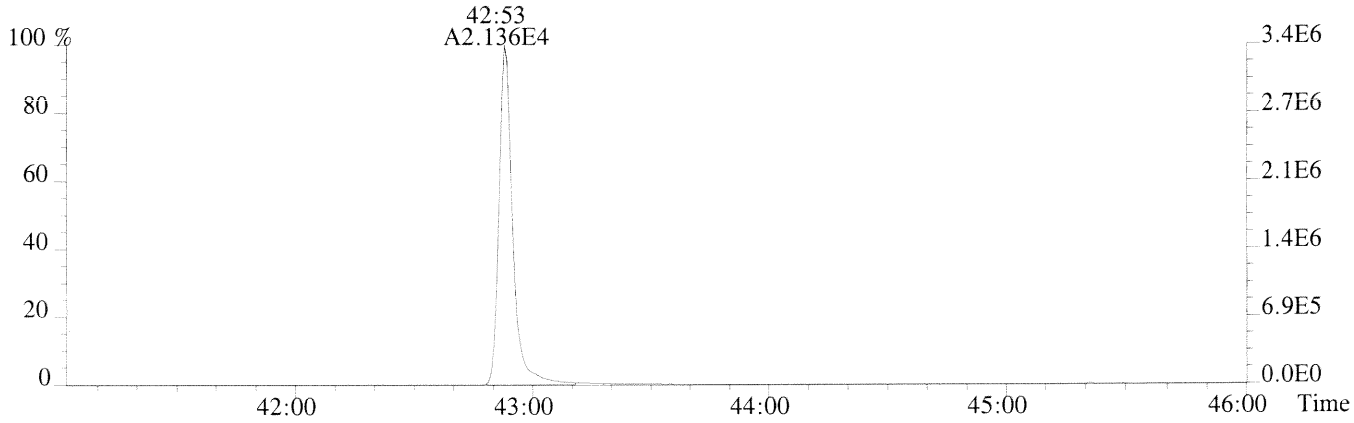
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,748.0,0.40%,F,T)



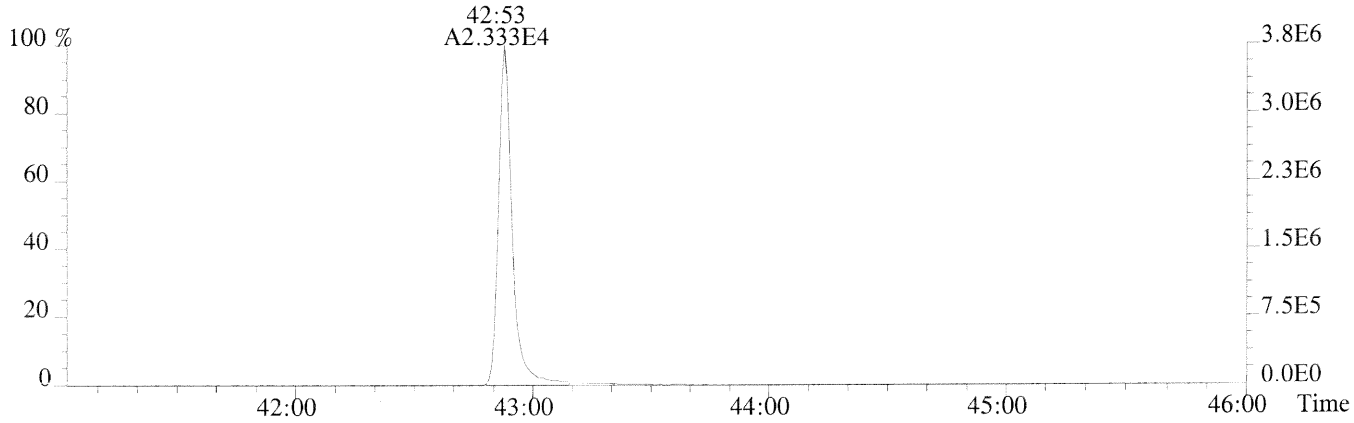
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



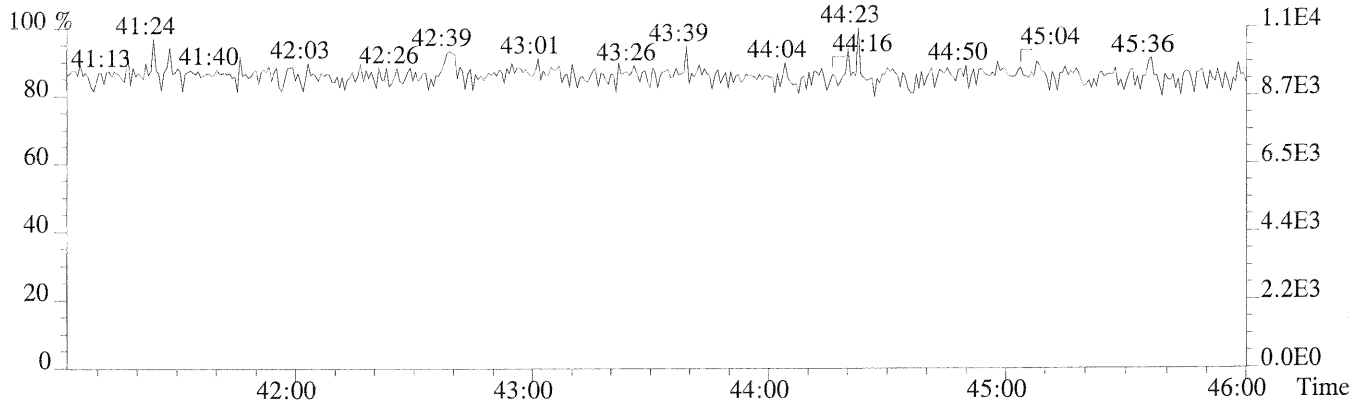
File:U149179 #1-451 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,T)



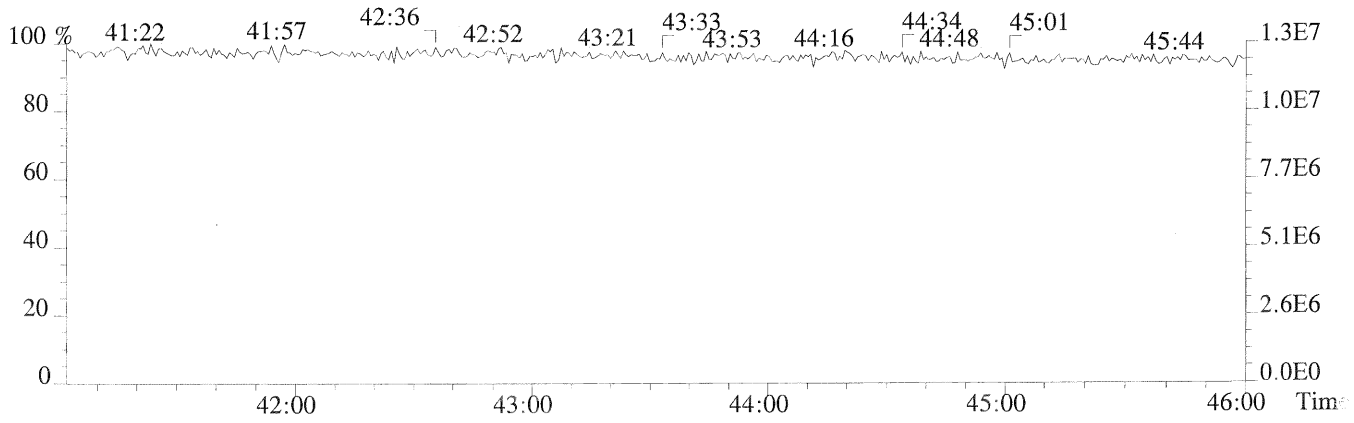
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,848.0,0.40%,F,T)



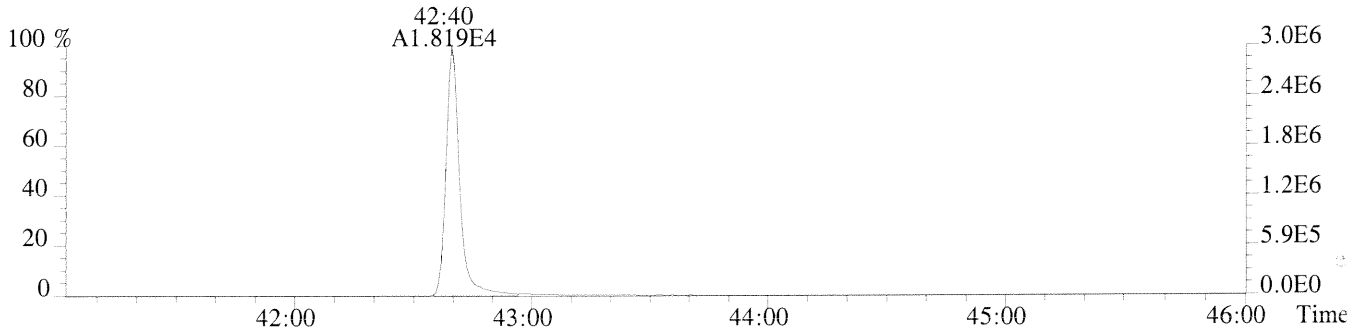
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



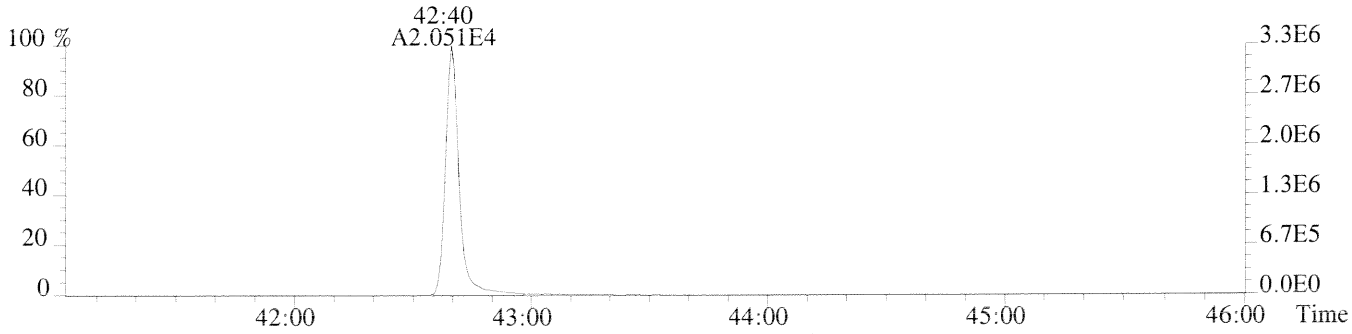
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



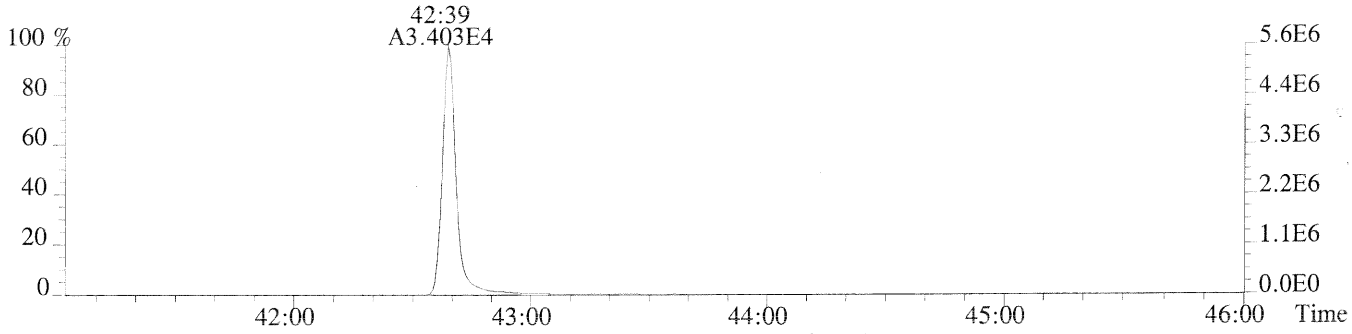
File:U149179 #1-451 Acq:21-MAY-2014 20:29:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICV 2ND SOURCE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,T)



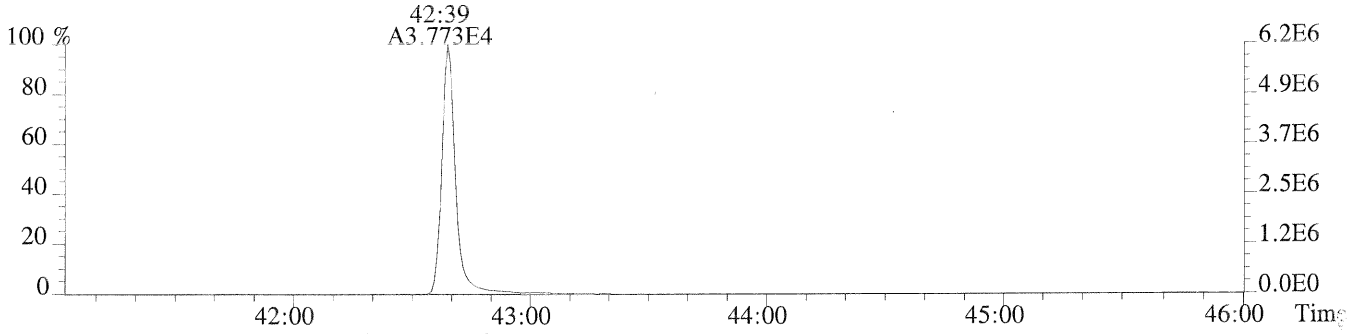
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,792.0,0.40%,F,T)



469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,676.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)