

Appendix E

pH and Constituent Leaching as a Function of LS (SR003 test results)

<u>Fly Ash Comparisons</u>	<u>E-1</u>
pH titration	E-2
Mercury	E-3
Aluminum	E-4
Antimony	E-5
Arsenic	E-6
Barium	E-7
Boron	E-8
Cadmium	E-9
Chromium	E-10
Cobalt	E-11
Lead	E-12
Molybdenum	E-13
Selenium	E-14
Thallium	E-15
<u>Gypsum Comparisons</u>	<u>E-16</u>
pH titration	E-17
Mercury	E-18
Aluminum	E-19
Antimony	E-20
Arsenic	E-21
Barium	E-22
Boron	E-23
Cadmium	E-24
Chromium	E-25
Cobalt	E-26
Lead	E-27
Molybdenum	E-28
Selenium	E-29
Thallium	E-30

<u>Scrubber Sludge Comparisons</u>	<u>E-31</u>
pH titration	E-32
Mercury	E-33
Aluminum	E-34
Antimony	E-35
Arsenic	E-36
Barium	E-37
Boron	E-38
Cadmium	E-39
Chromium	E-40
Cobalt	E-41
Lead	E-42
Molybdenum	E-43
Selenium	E-44
Thallium	E-45
<u>Fixated Stabilized Sludge Comparisons</u>	<u>E-46</u>
pH titration	E-47
Mercury	E-49
Aluminum	E-51
Antimony	E-53
Arsenic	E-55
Barium	E-57
Boron	E-59
Cadmium	E-61
Chromium	E-63
Cobalt	E-65
Lead	E-67
Molybdenum	E-69
Selenium	E-71
Thallium	E-73
<u>Table of Outliers</u>	<u>E-75</u>

Fly Ash Comparisons (FA)

Facility A

Coal: low sulfur bituminous
APC: NO+SNCR+FF

CFA
(SNCR Off)

AFA
(SNCR On)

Facility B

Coal: low sulfur bituminous
APC: NO+SCR+ESP(CS) [Mg lime]

DFA
(SCR Off)

BFA
(SCR On)

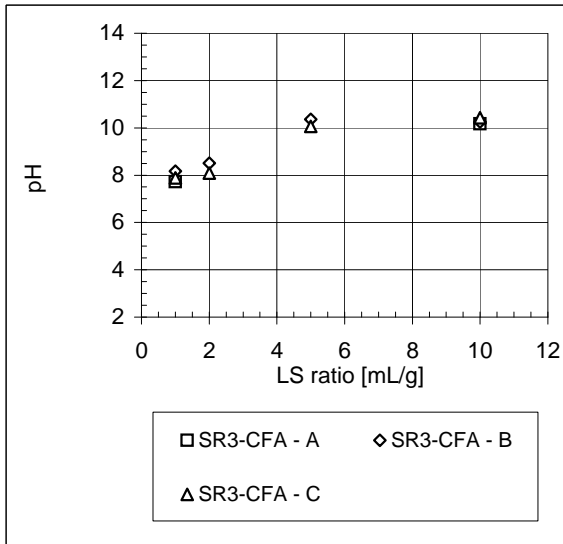
Facility K

Coal: sub- bituminous
APC: NO+SCR+ESP(CS) [Mg lime]

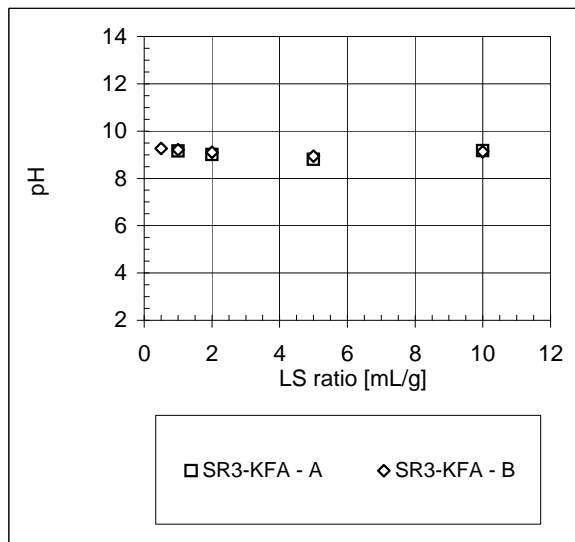
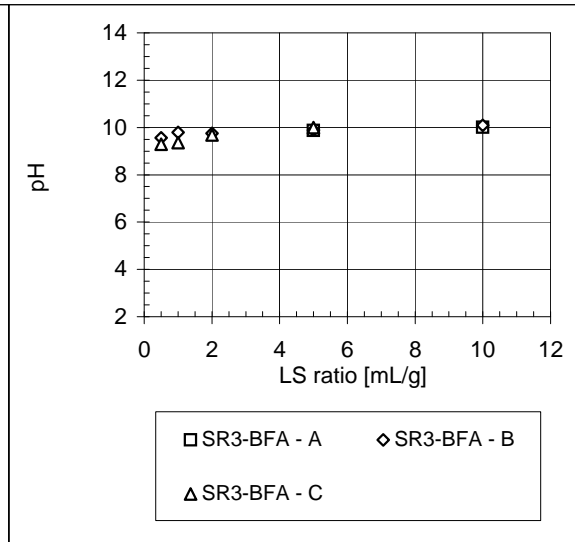
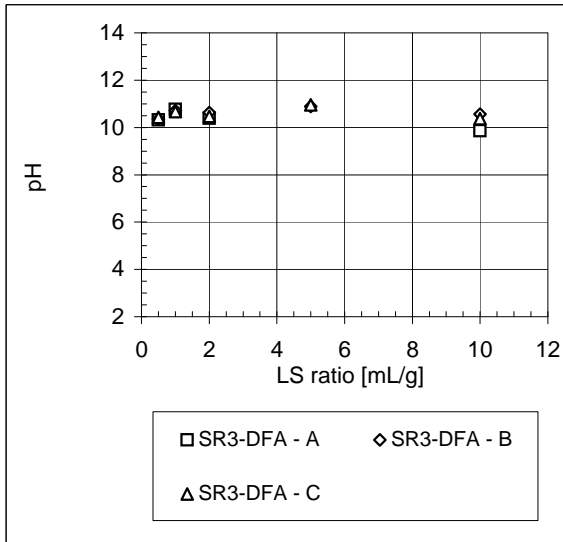
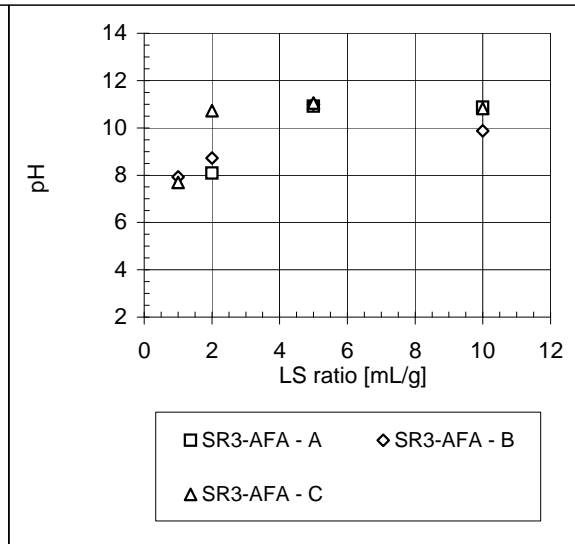
KFA
(SCR On)

Fly Ash Comparisons

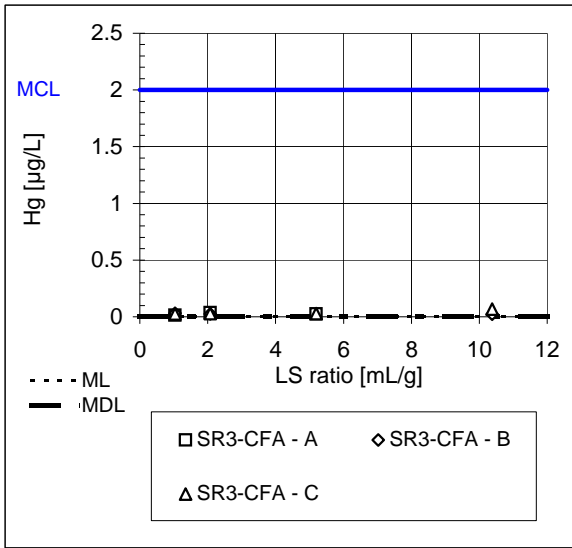
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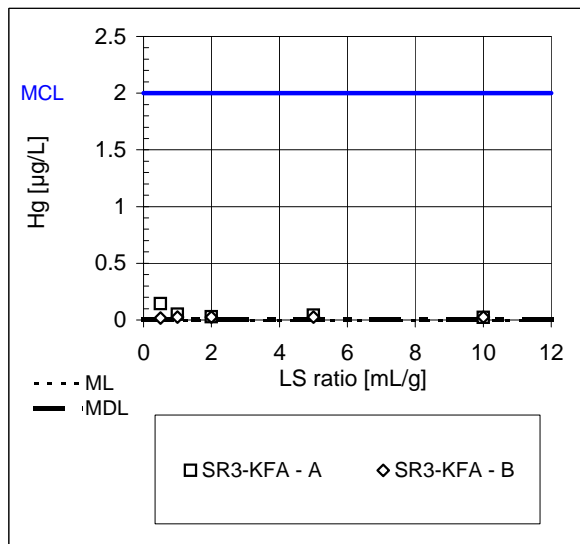
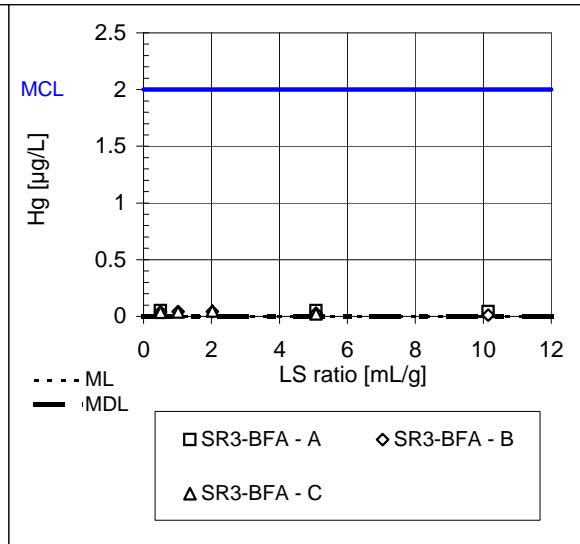
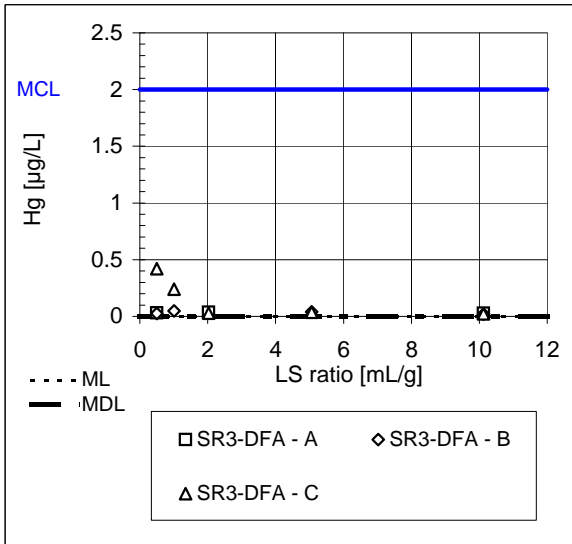
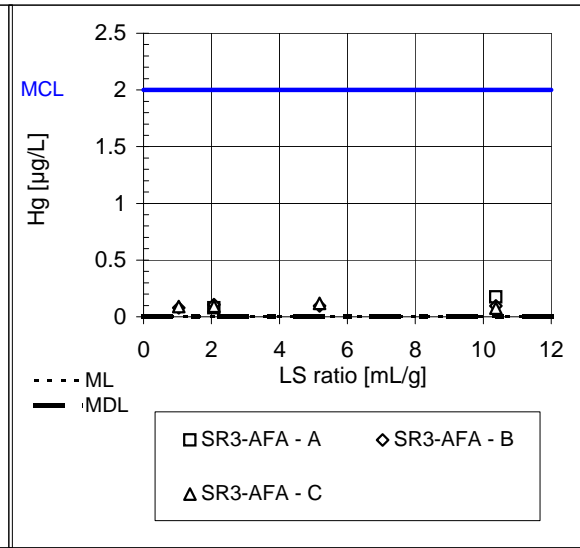
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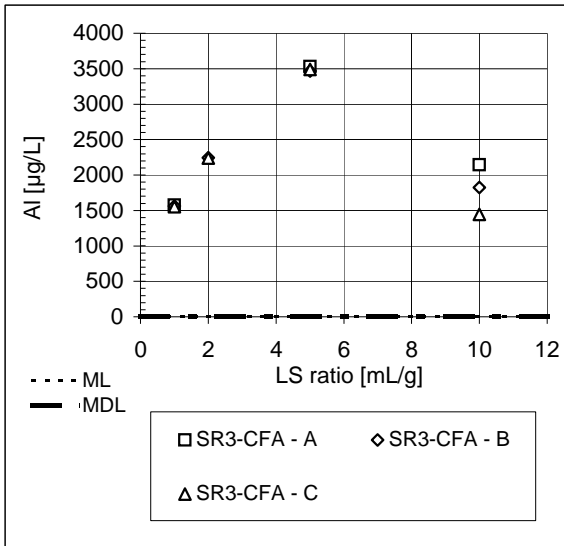
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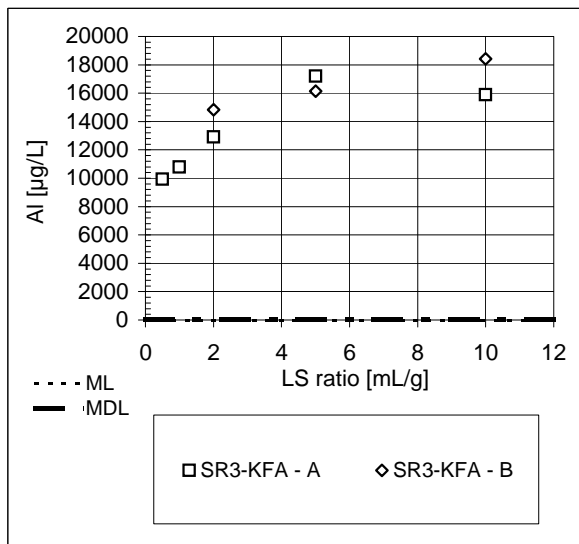
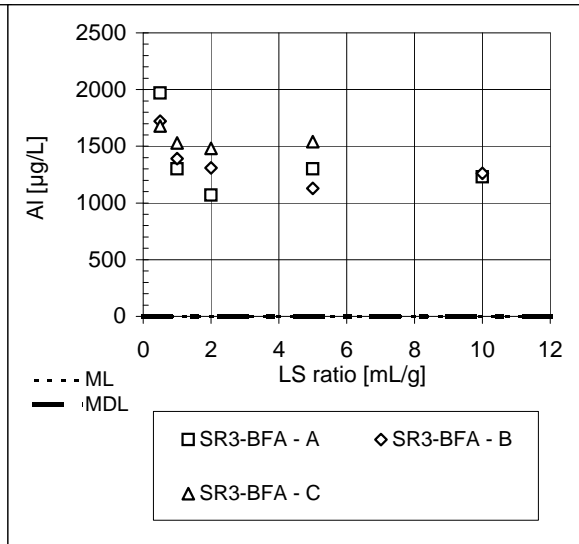
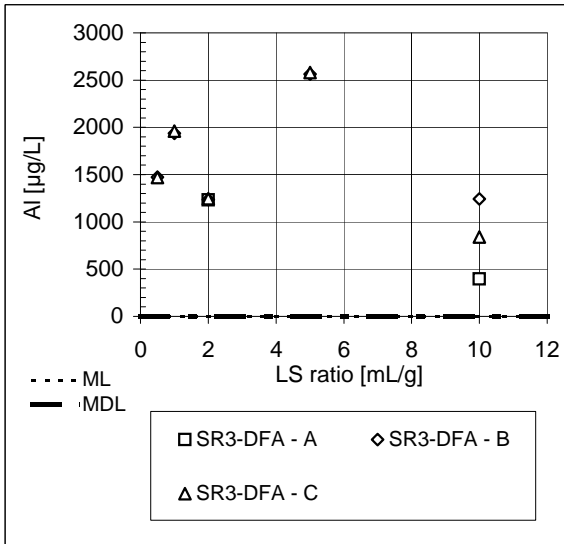
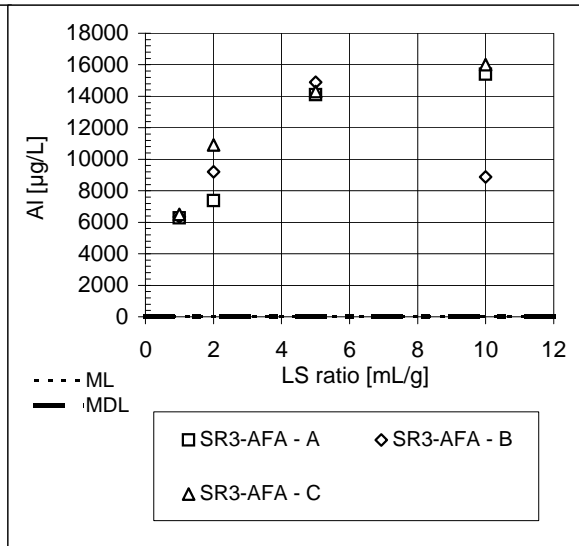
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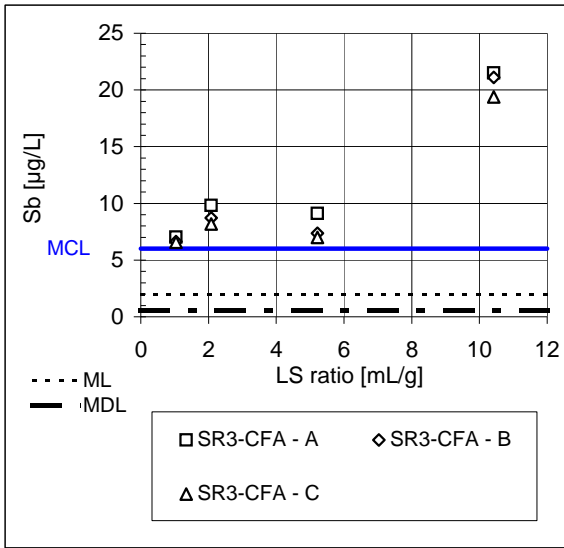
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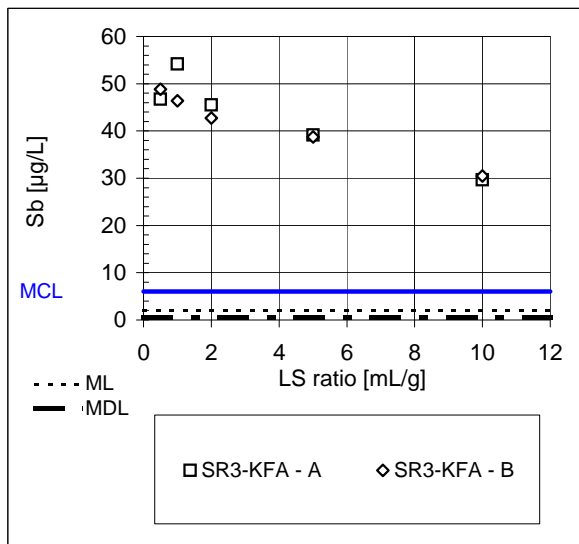
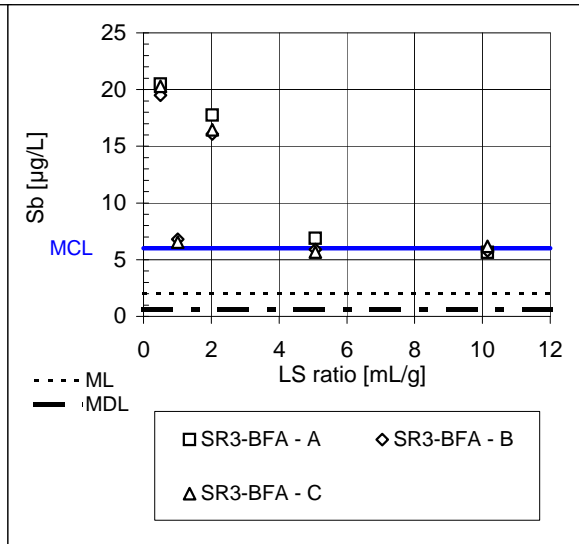
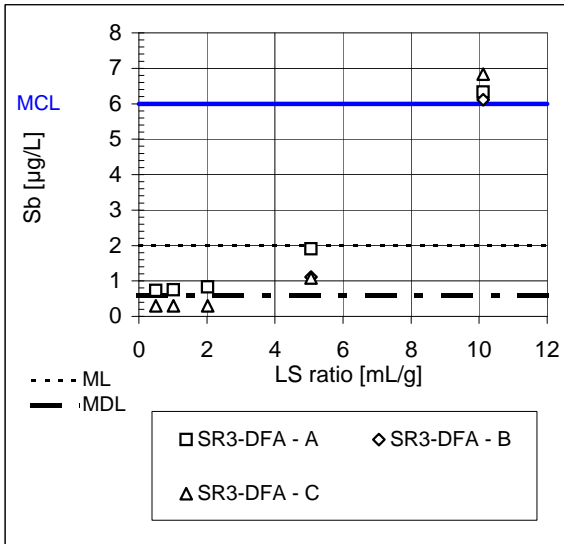
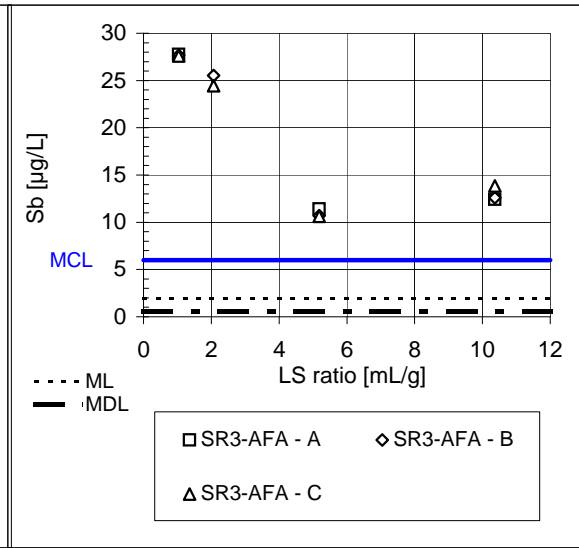
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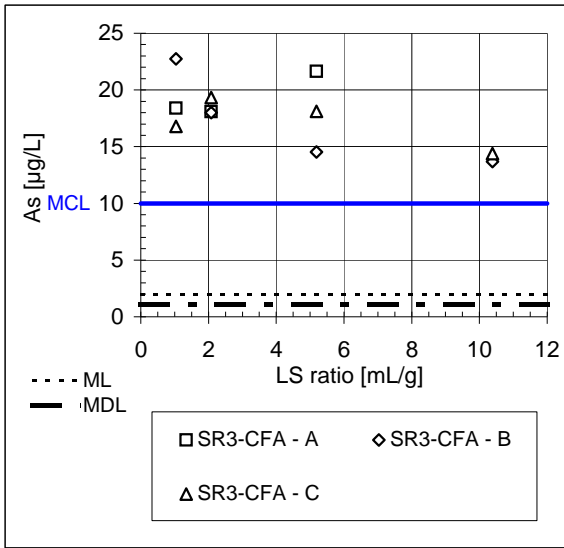
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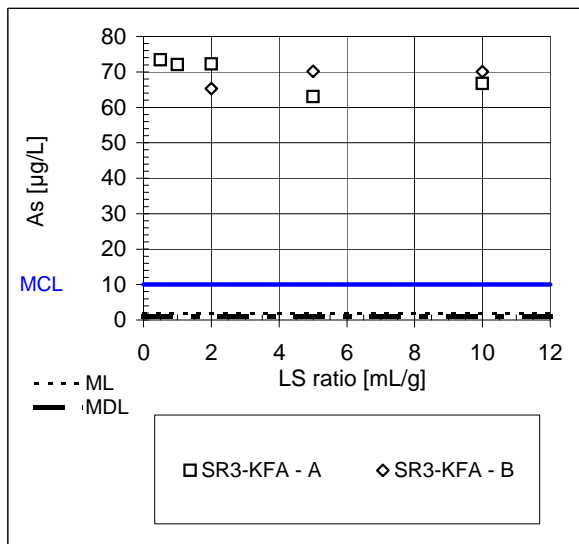
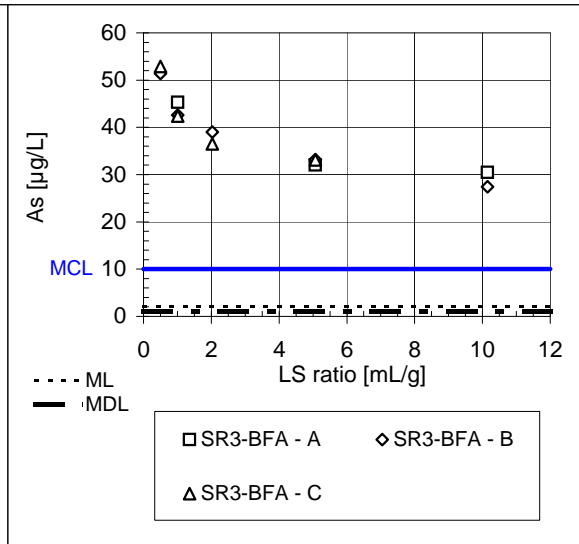
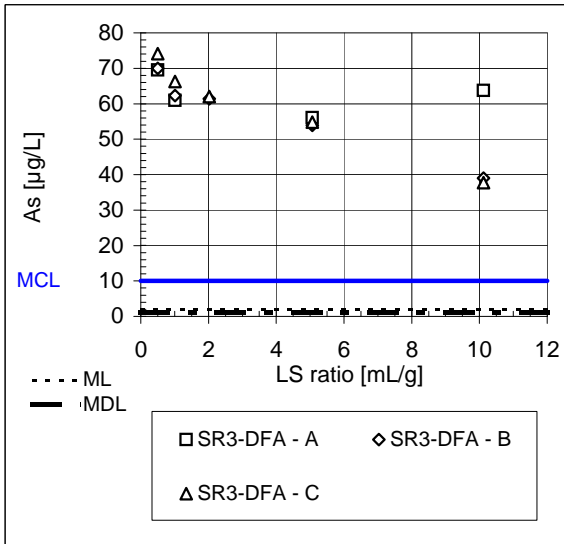
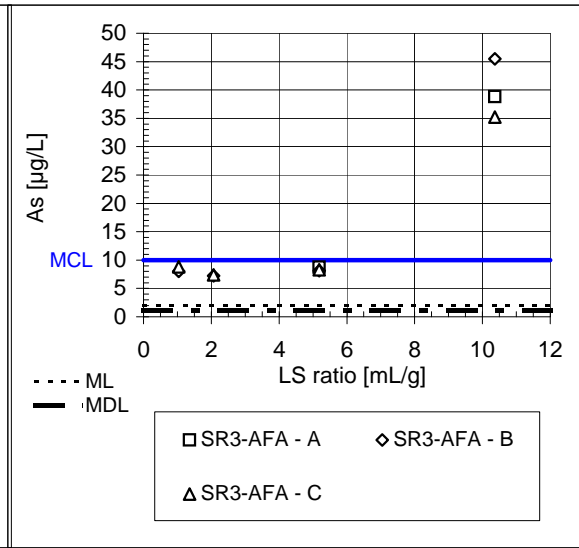
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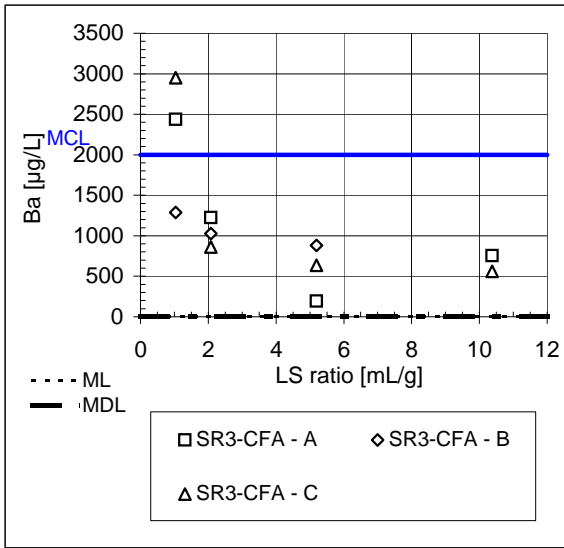
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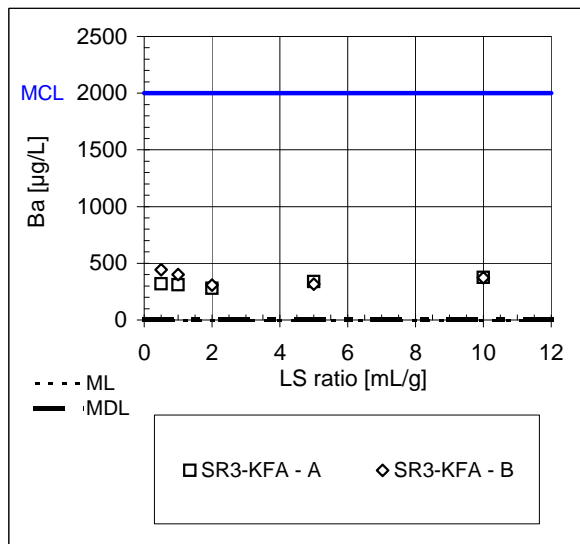
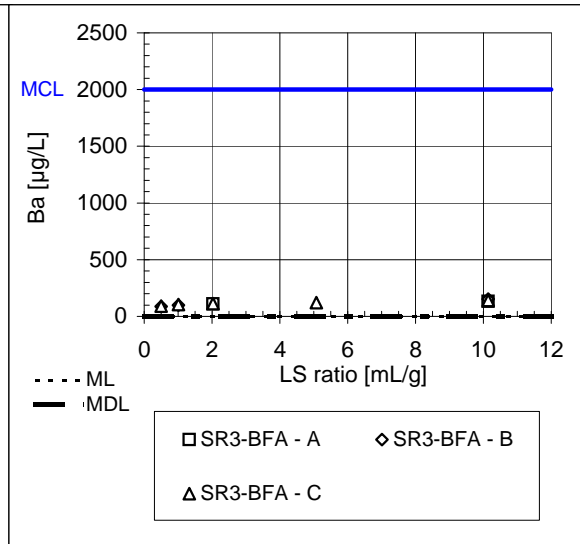
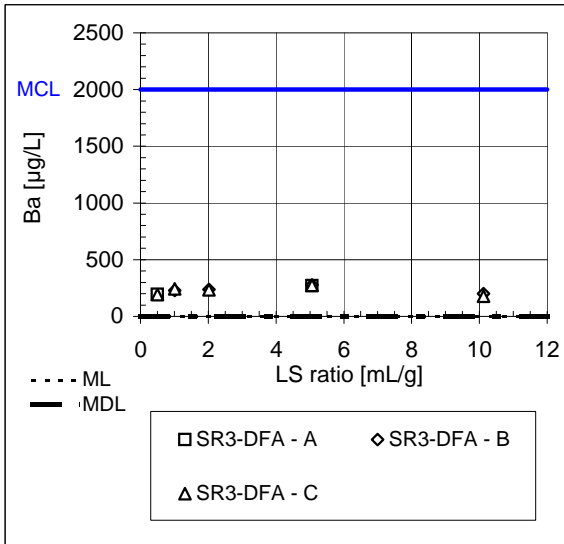
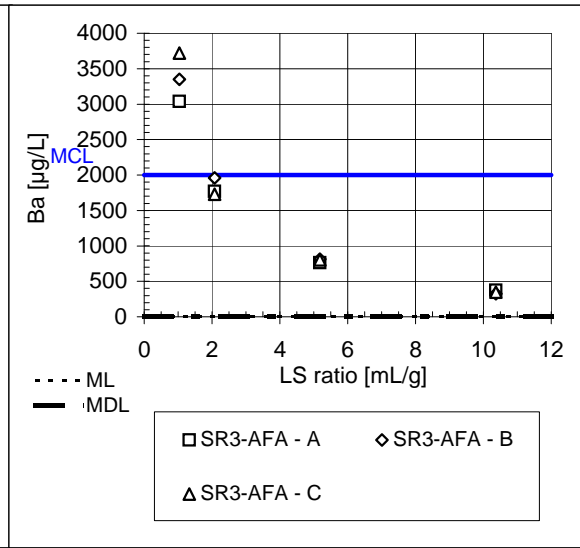
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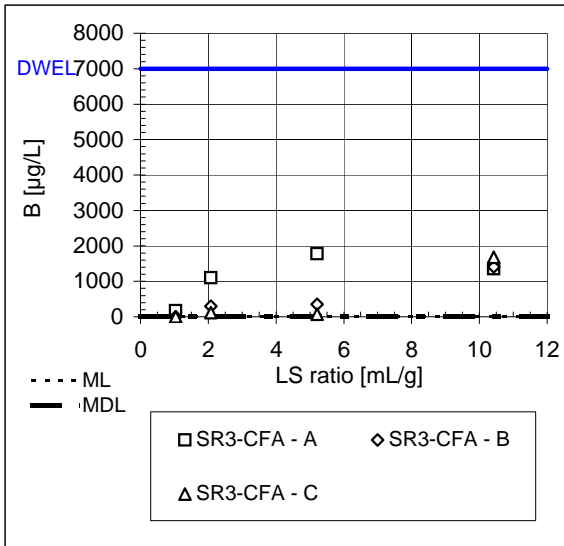
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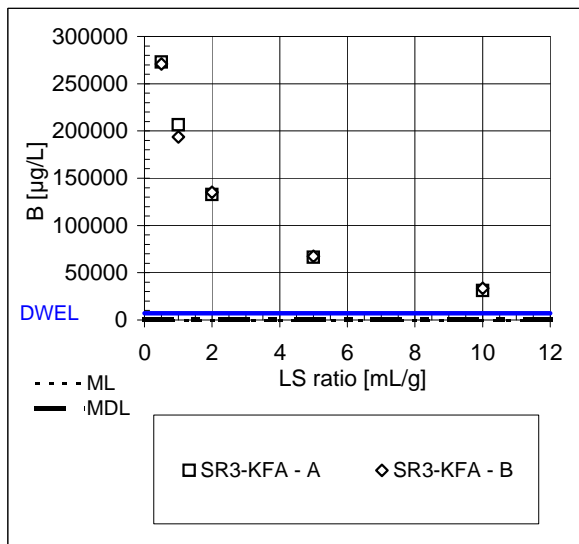
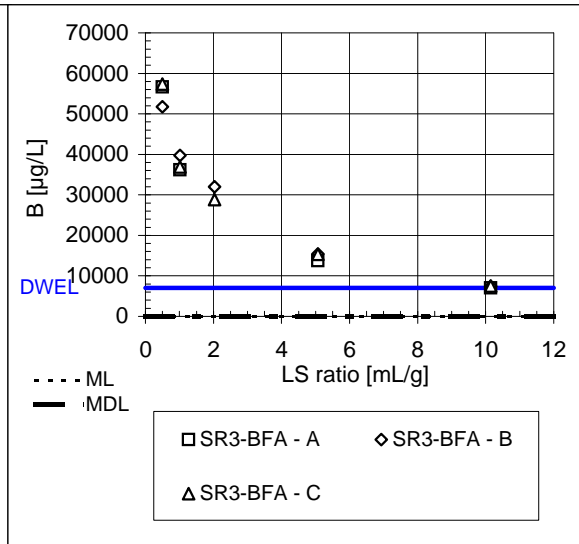
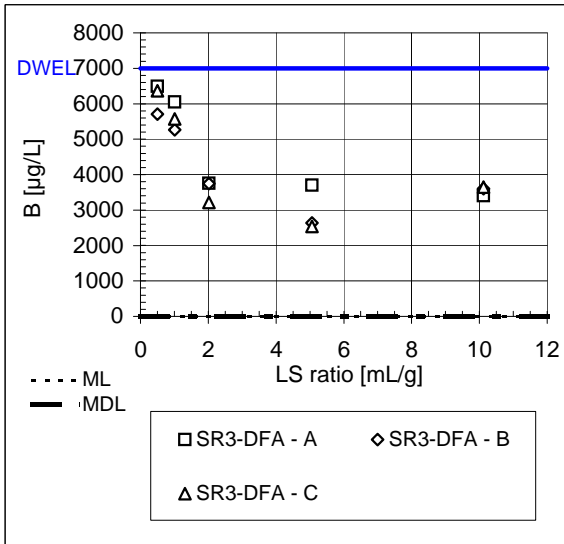
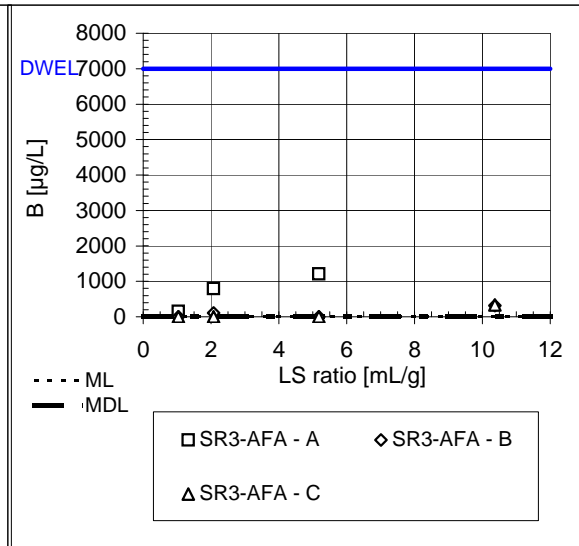
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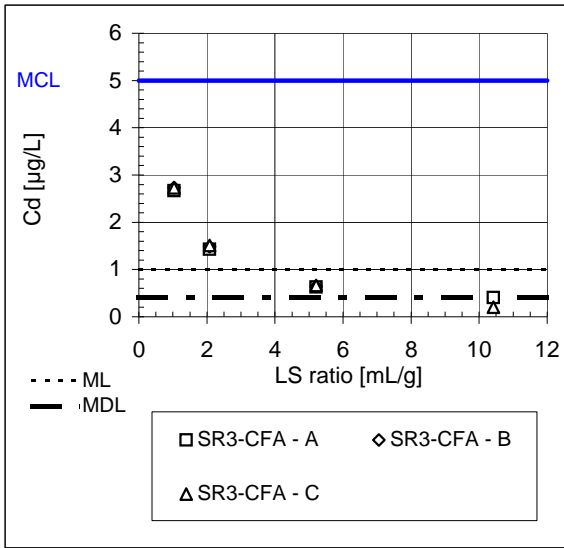
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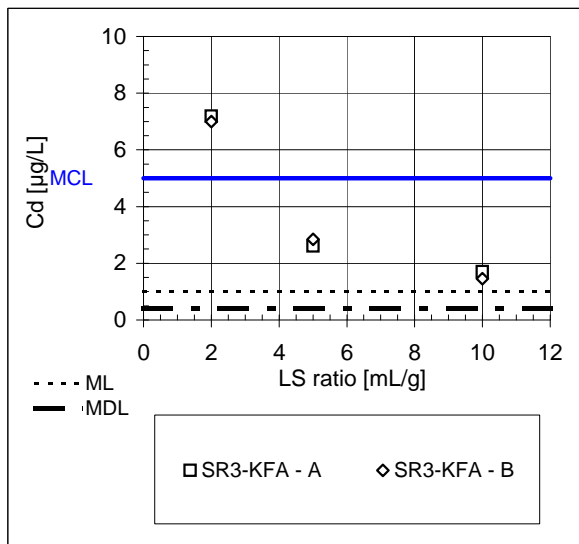
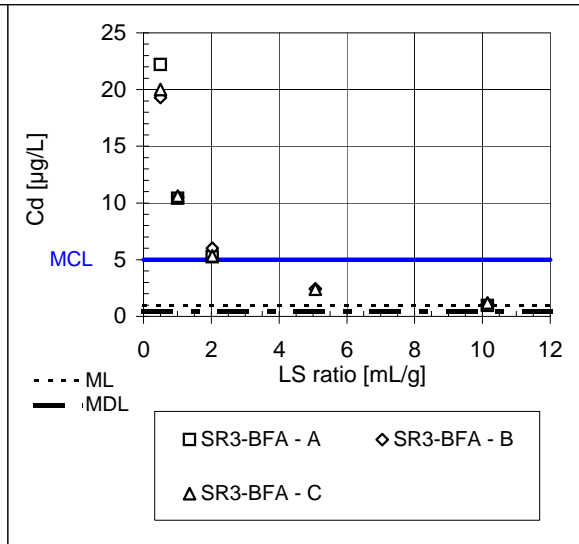
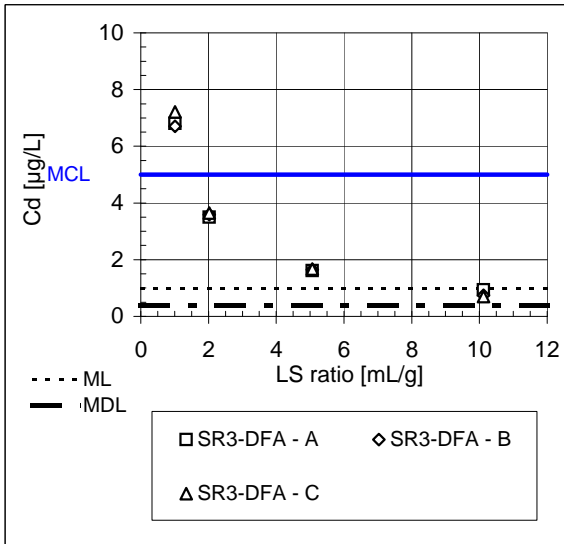
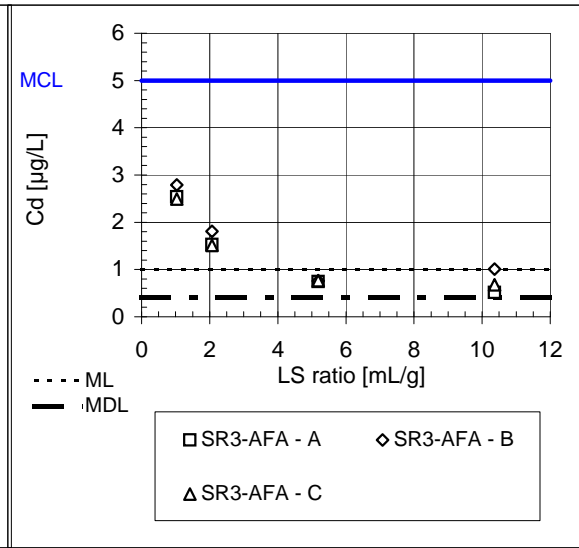
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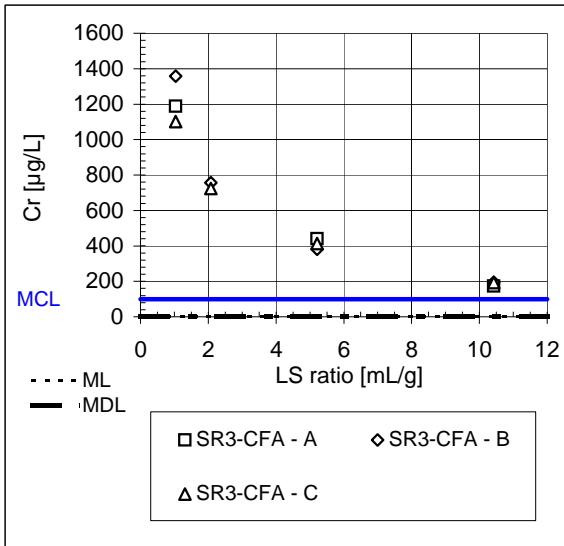
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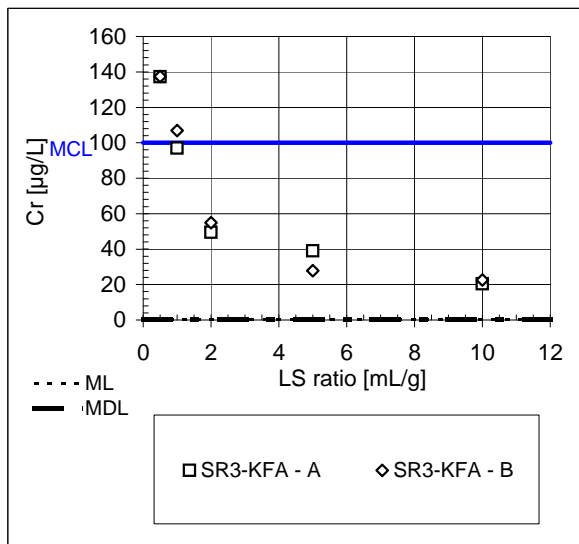
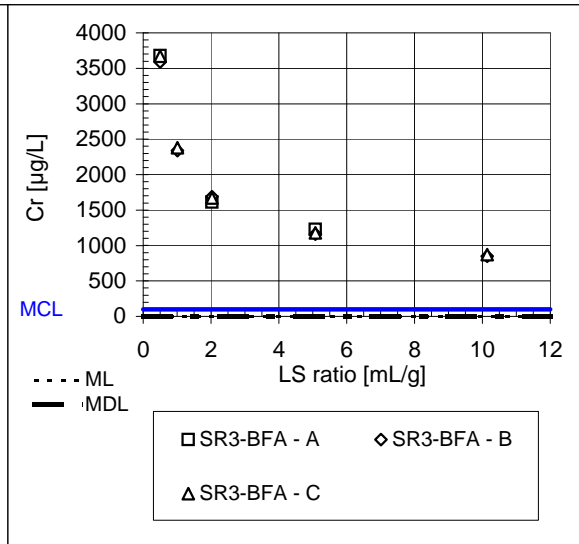
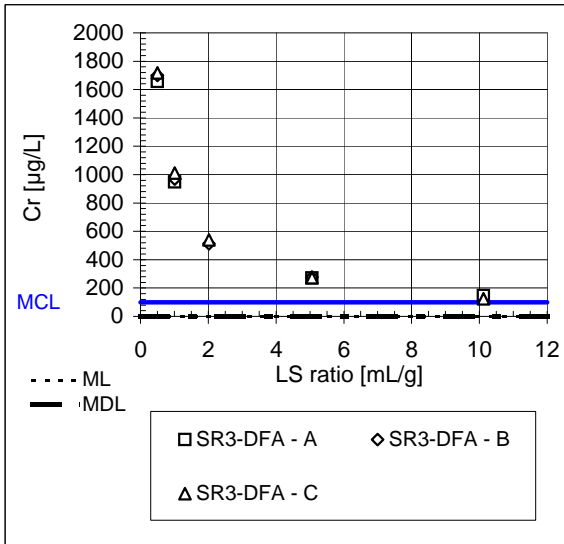
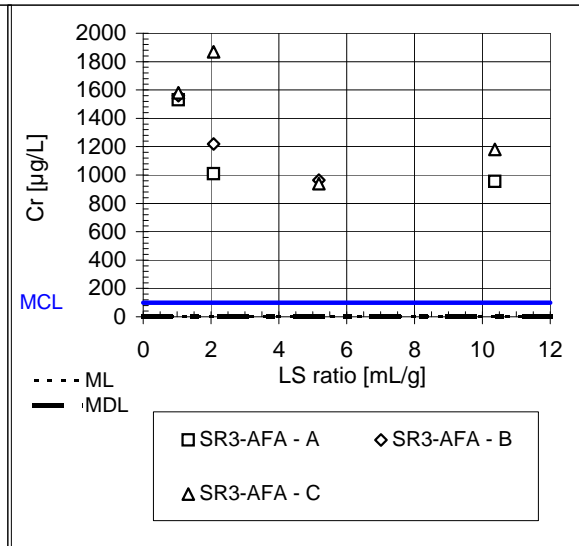
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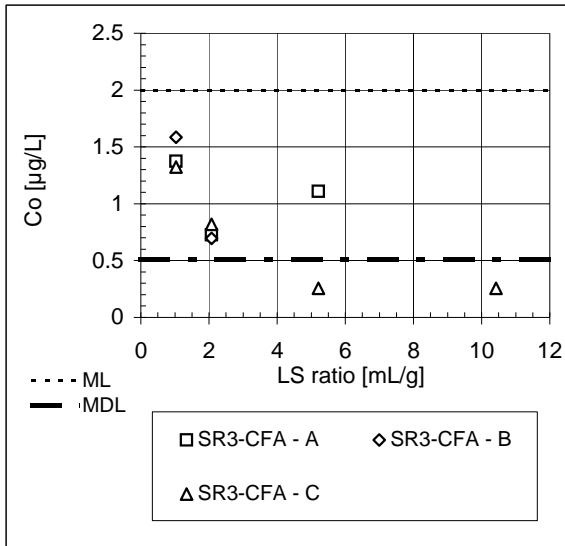
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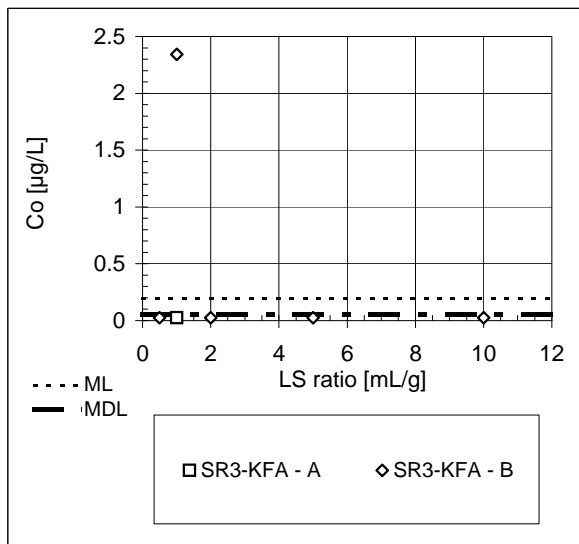
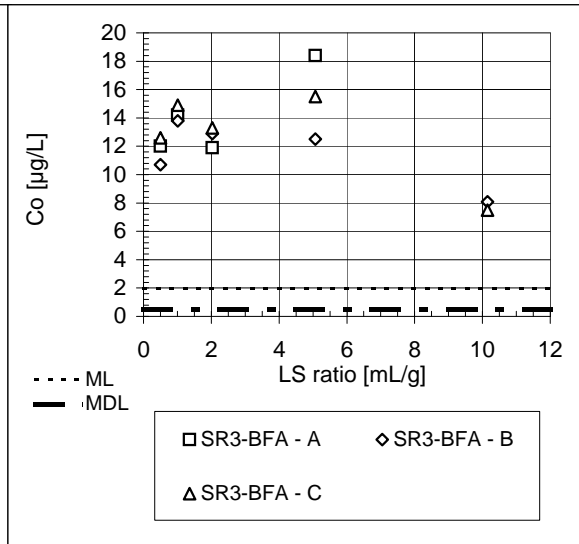
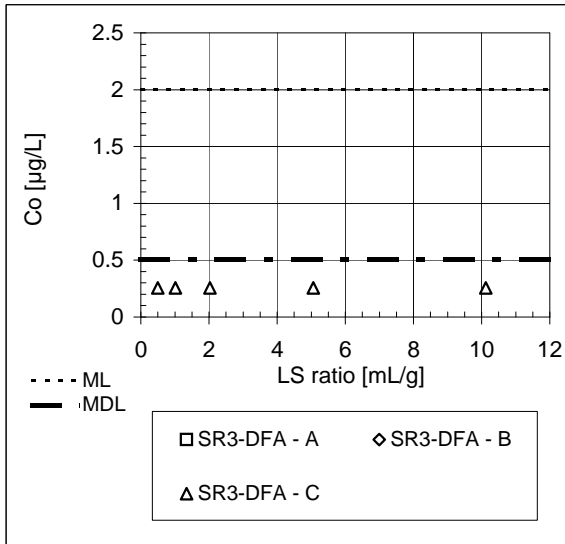
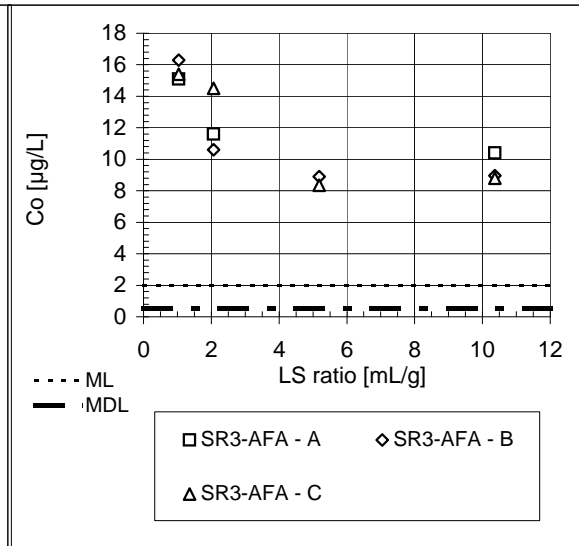
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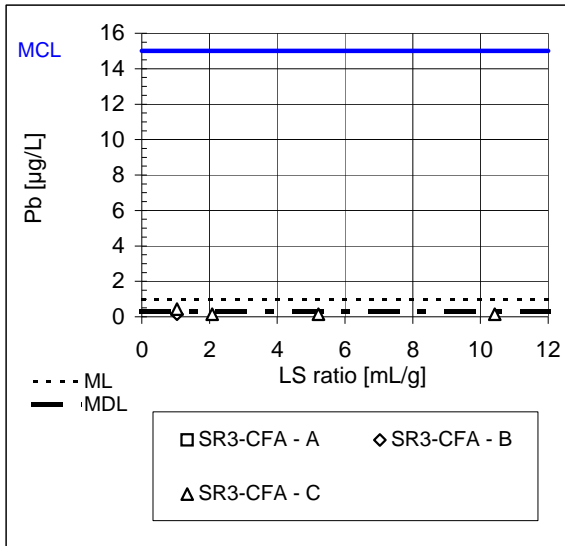
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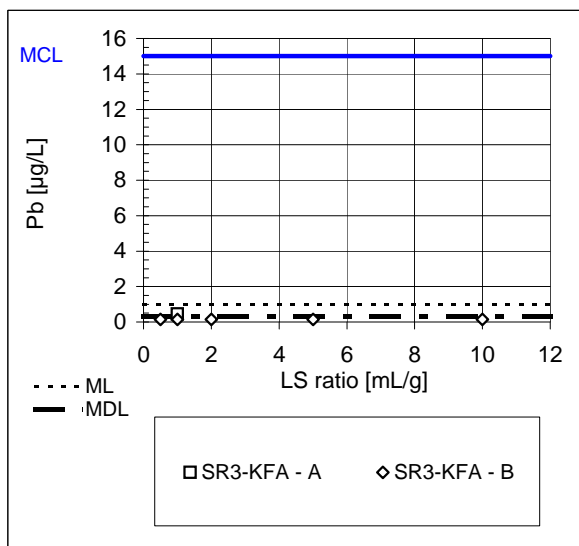
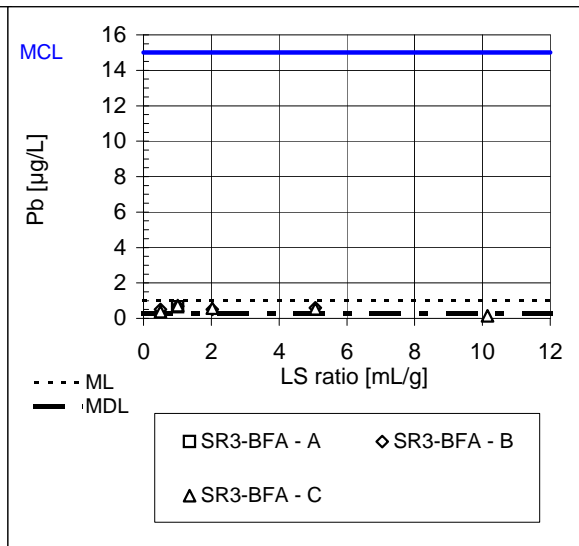
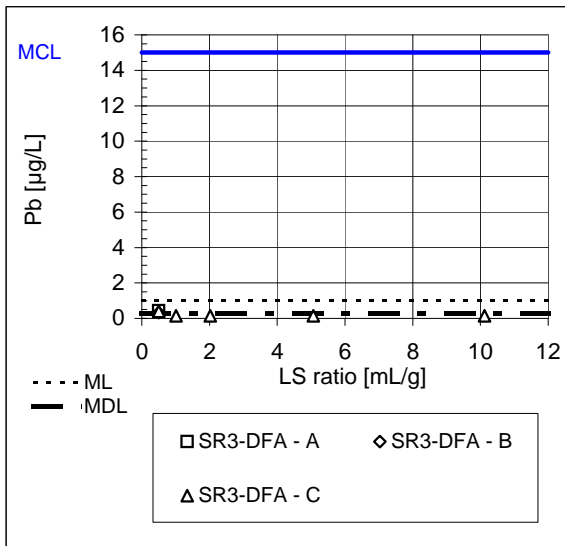
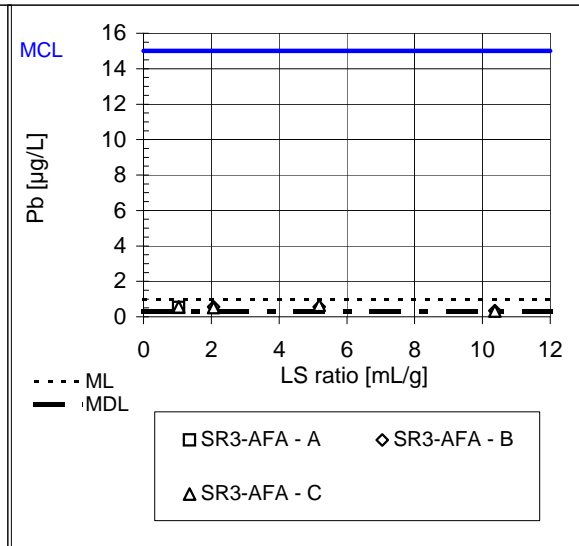
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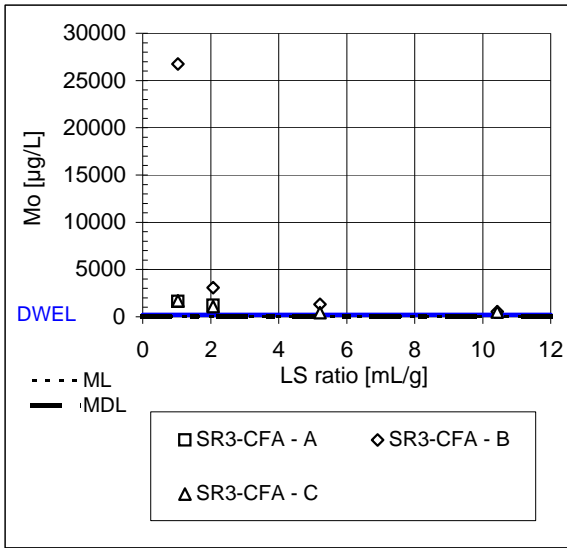
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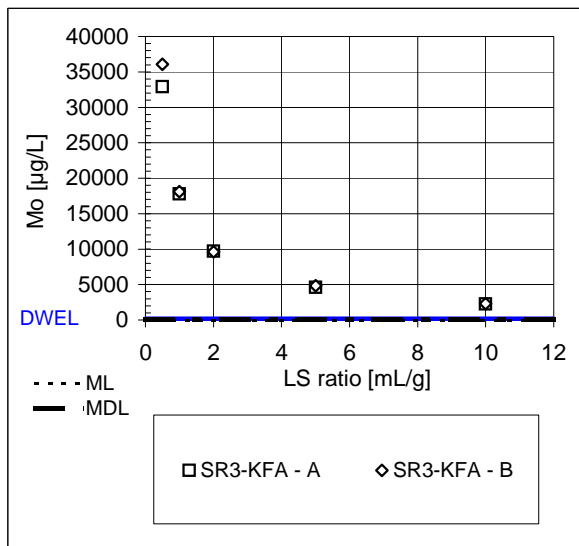
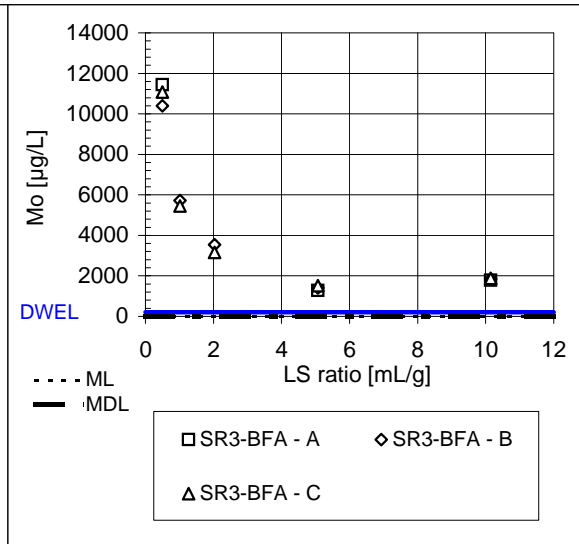
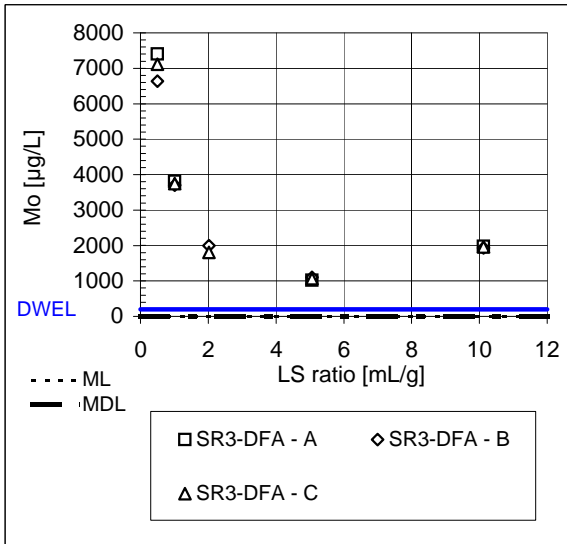
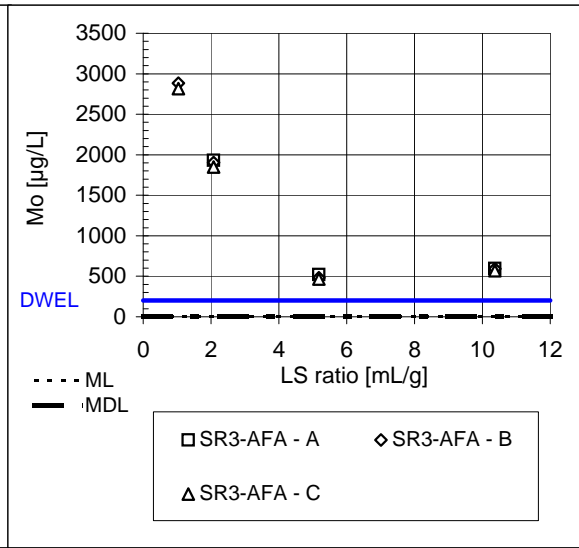
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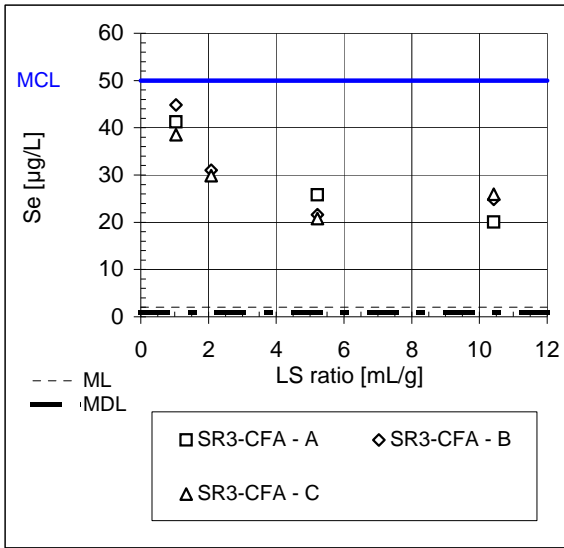
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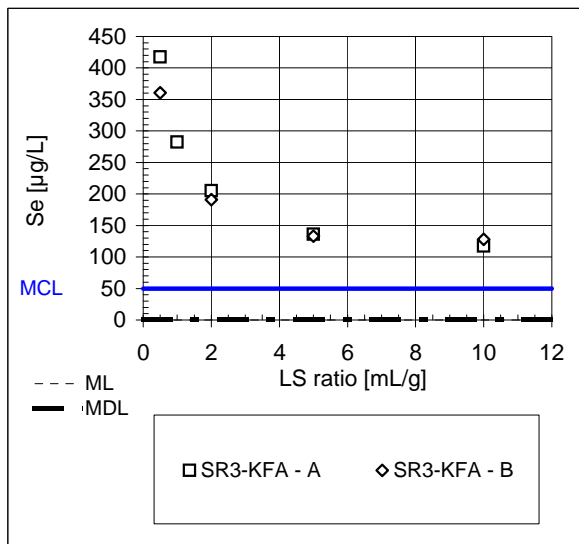
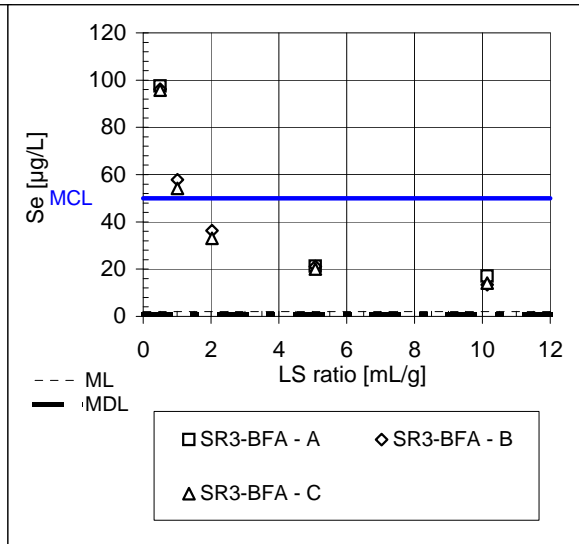
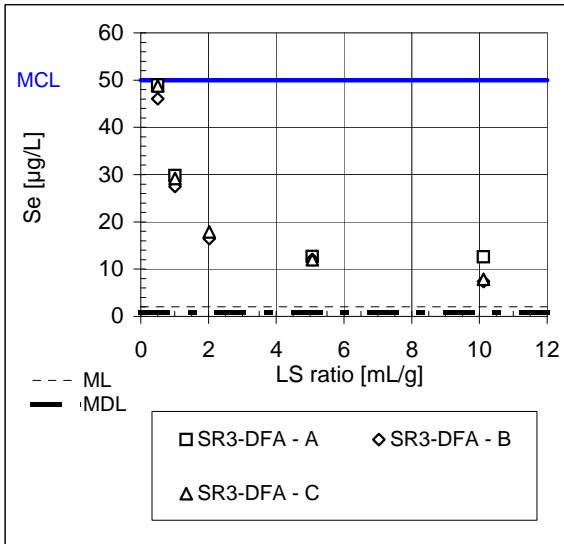
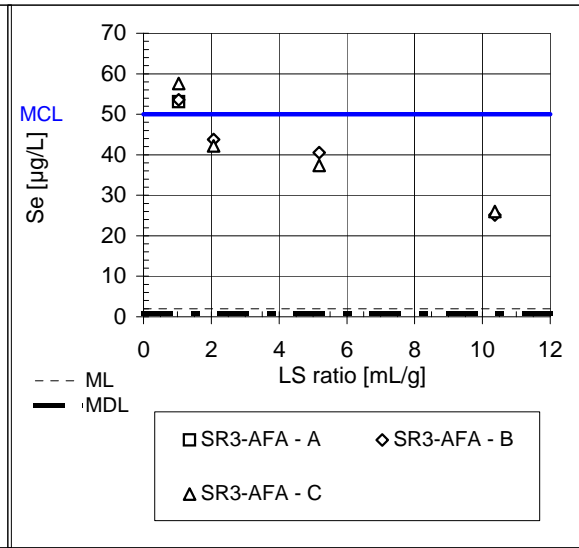
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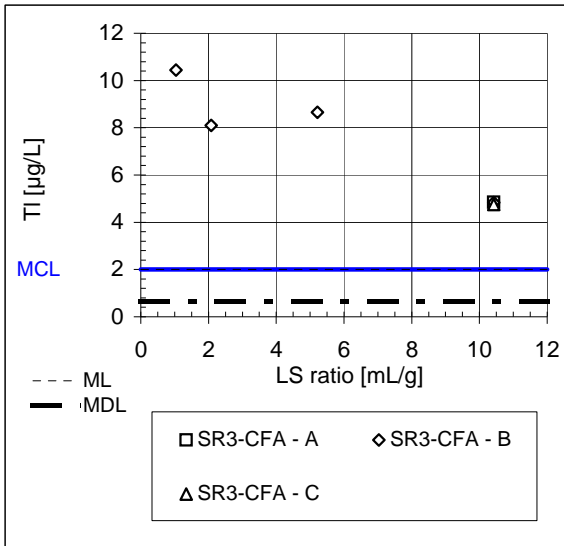
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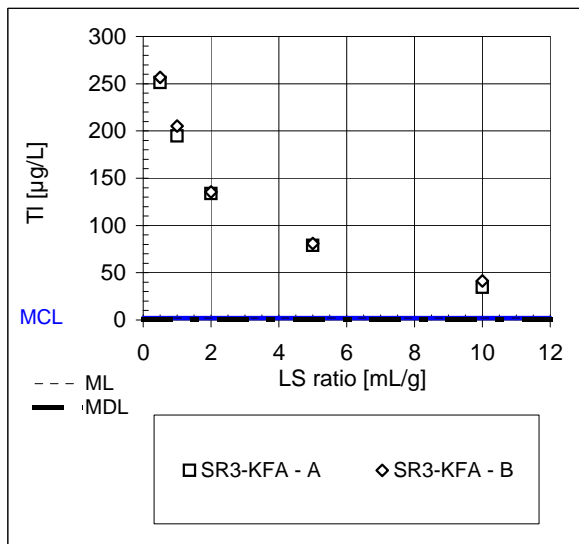
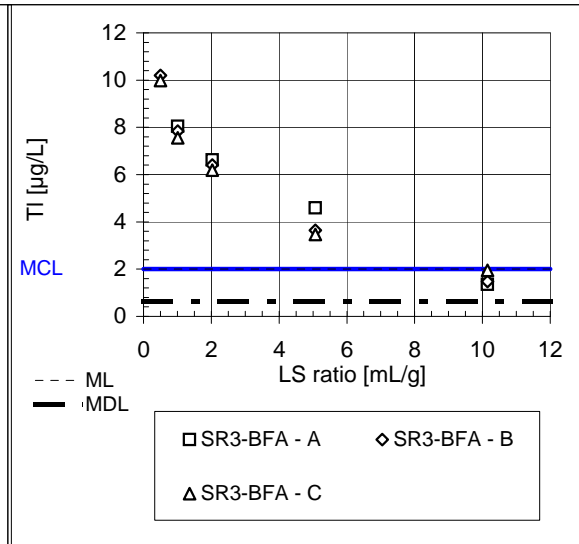
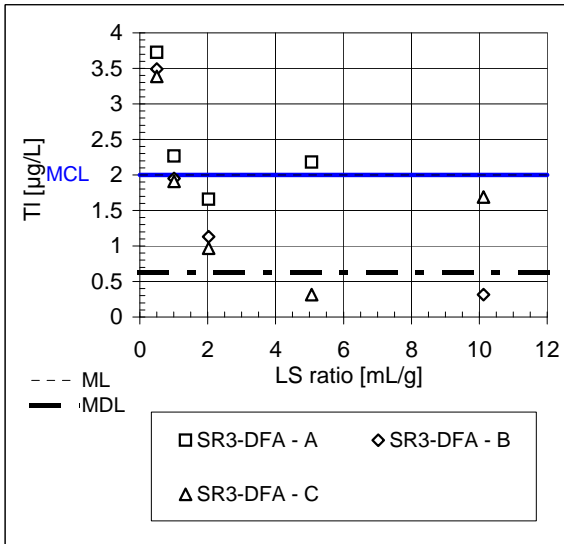
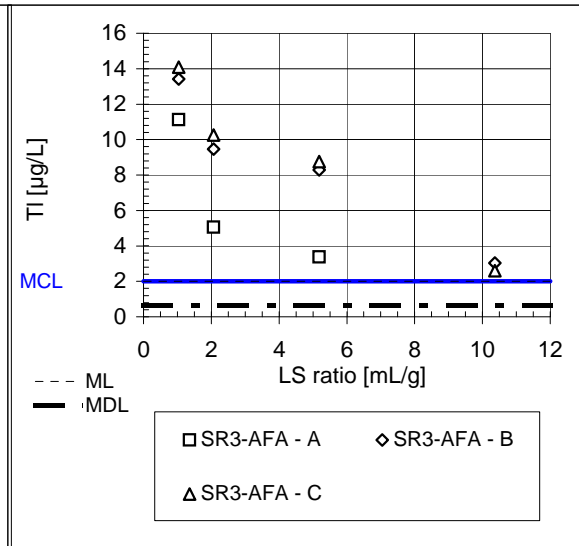
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On



Gypsum (Gyp-U, Gyp-W) Comparisons

Facility N

Coal: bituminous

APC: FO+SCR+ESP(CS)

Gyp-U

Gyp-W

NAU
(unwashed)

NAW
(washed)

Facility O

Coal: bituminous

APC: FO+SCR+ESP(CS)

OAU
(unwashed)

OAW
(washed)

Facility P

Coal: bituminous

APC: FO+ SCR & SNCR +ESP(CS)

PAD (U)
(unwashed)

QAU
(unwashed)

Facility Q

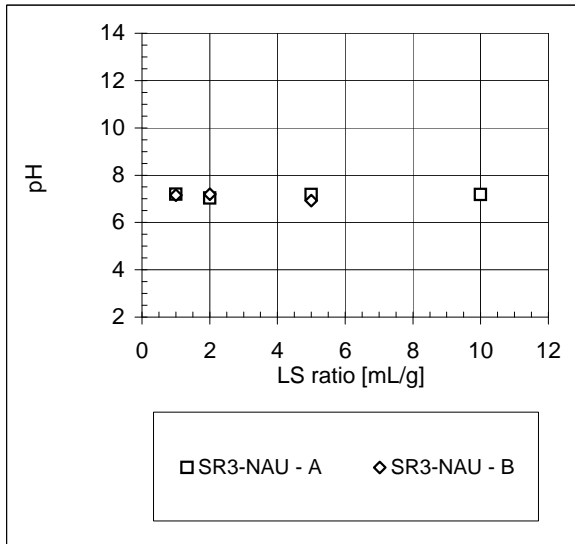
Coal: sub-bituminous

APC: FO+SCR+ESP(CS)

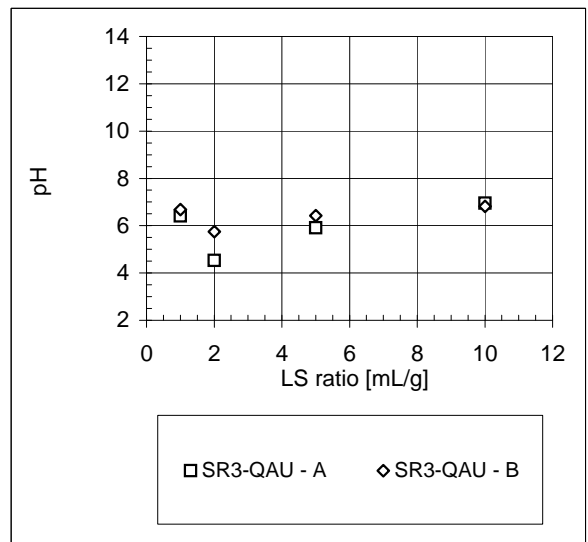
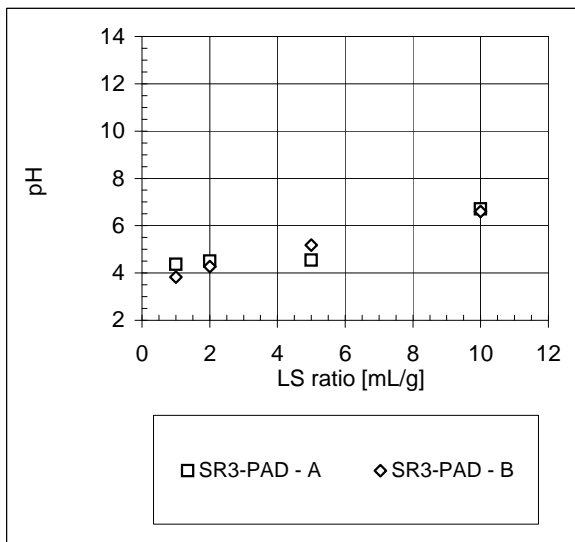
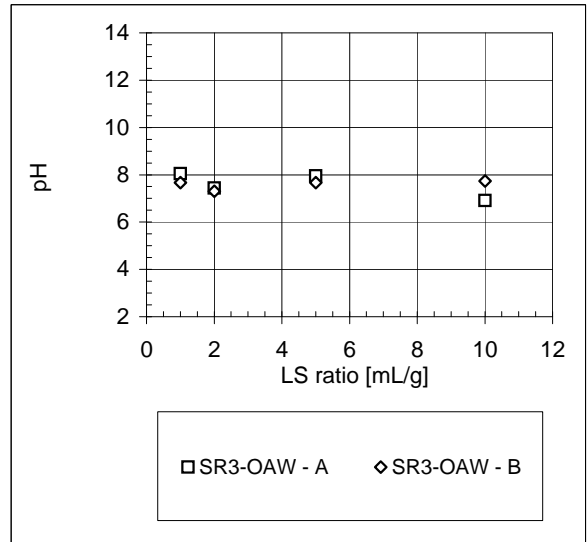
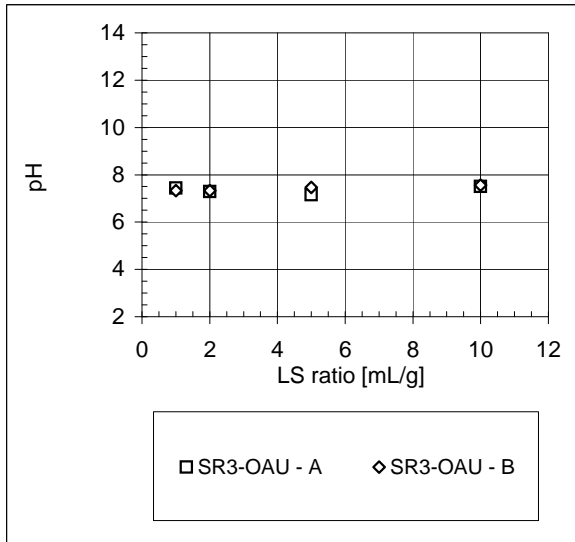
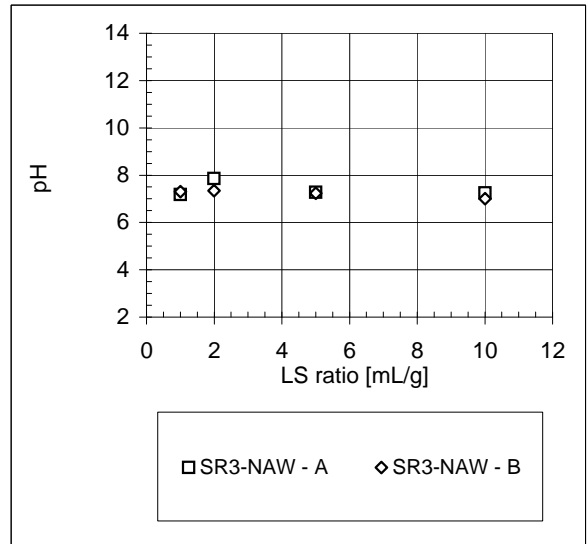


Gypsum Comparison

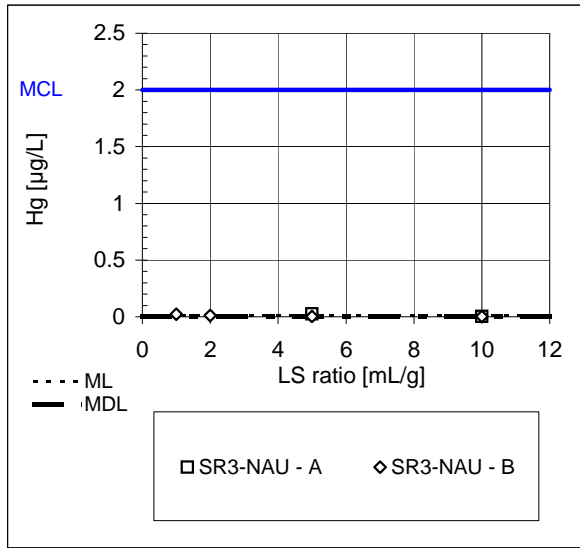
Gyp-U



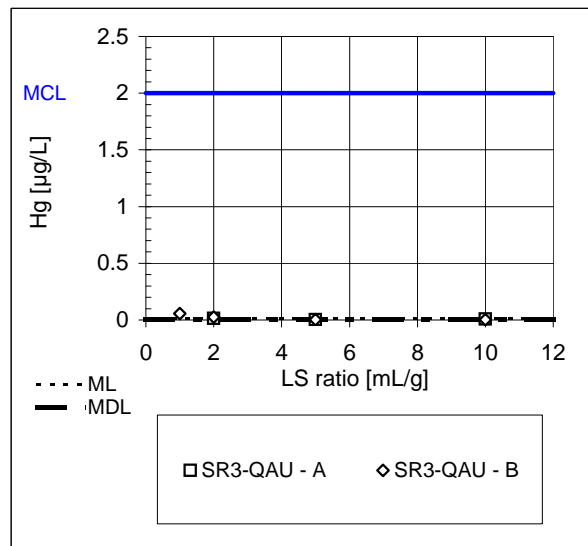
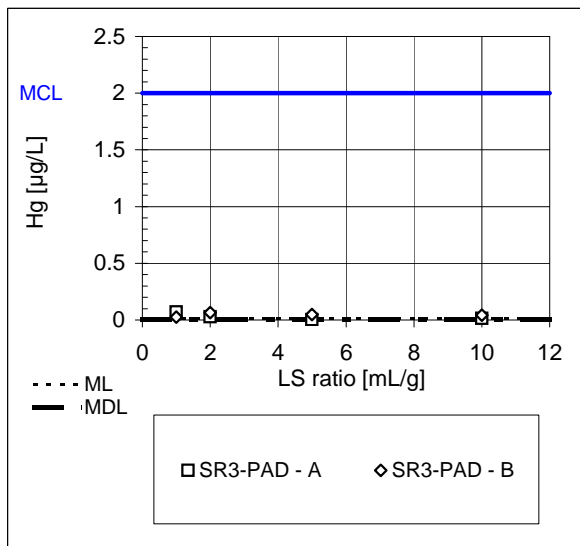
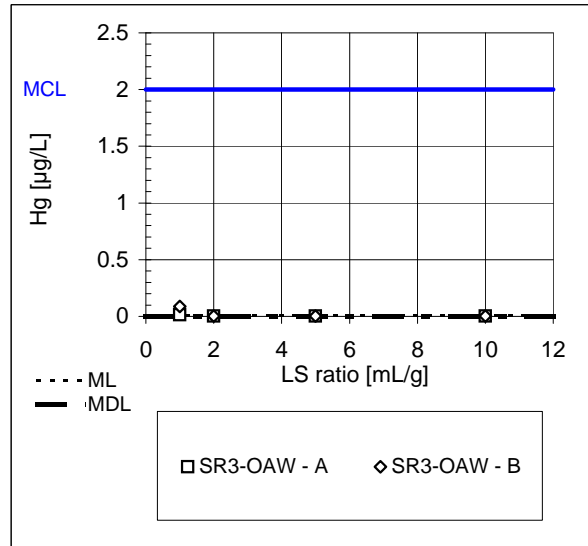
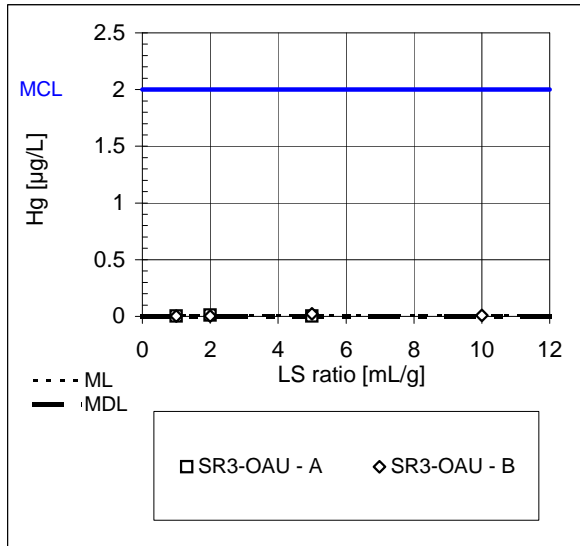
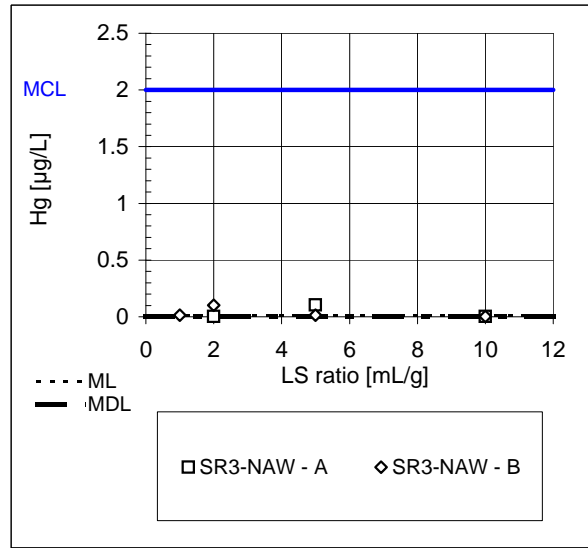
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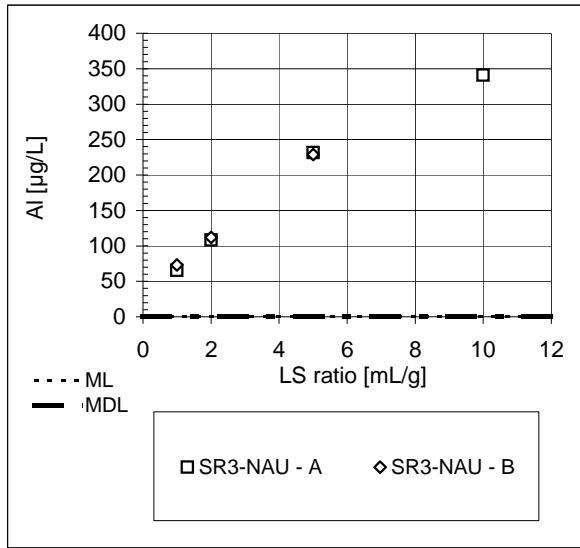
Gyp-U



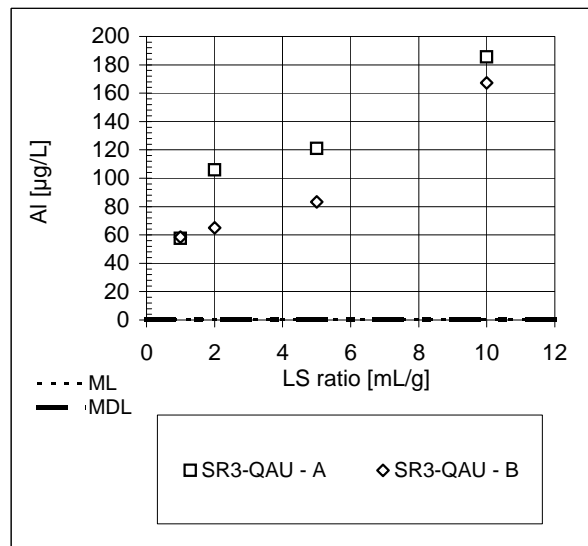
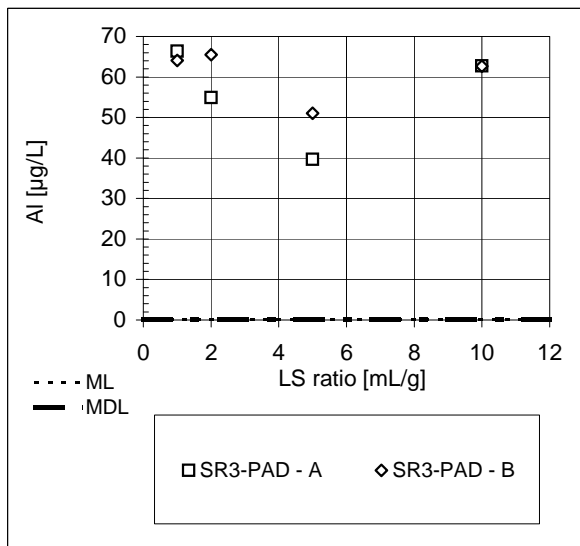
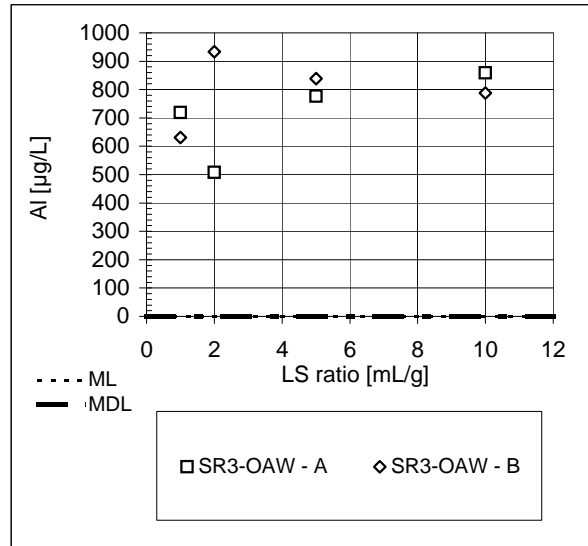
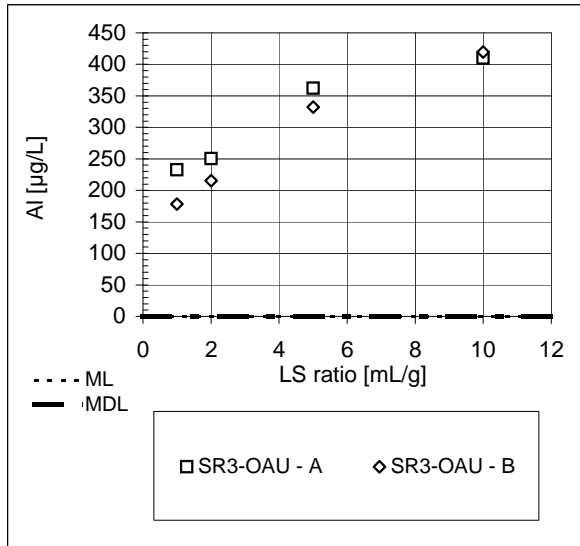
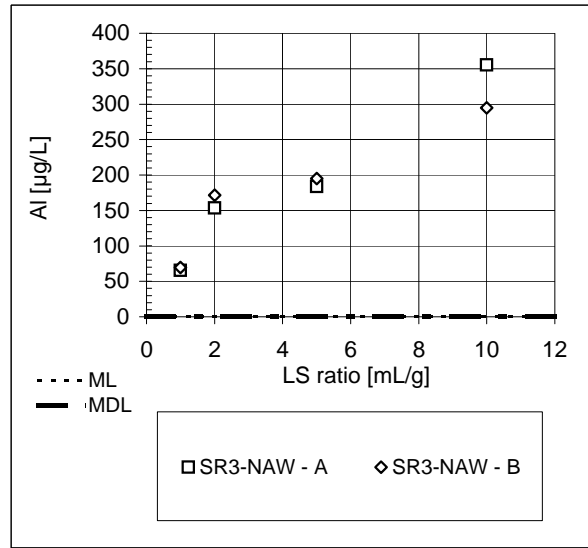
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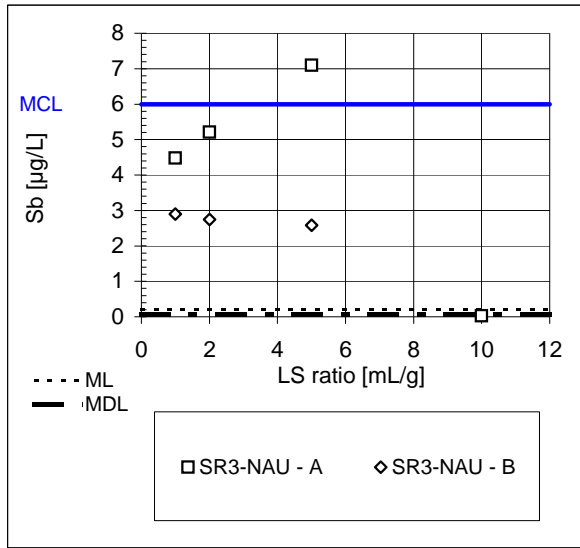
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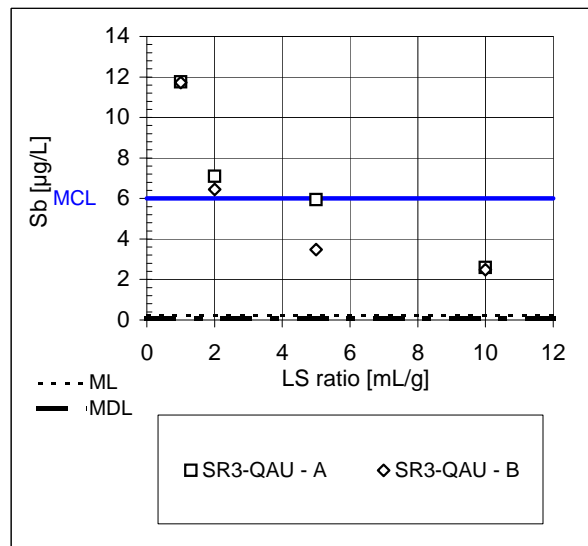
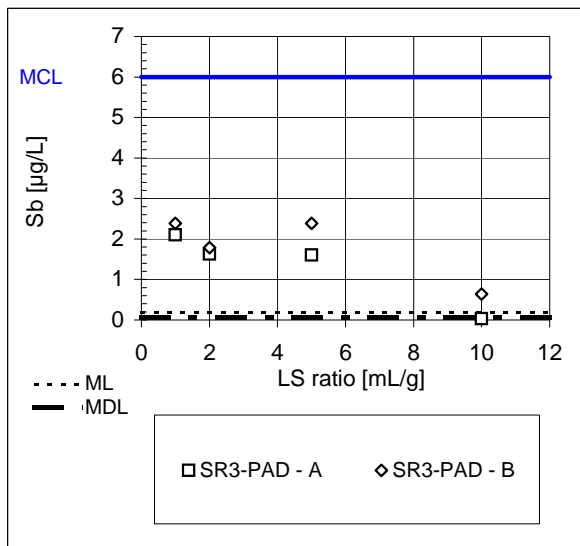
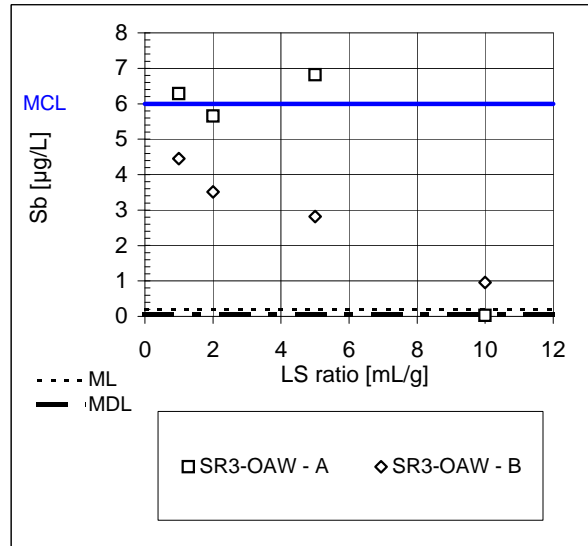
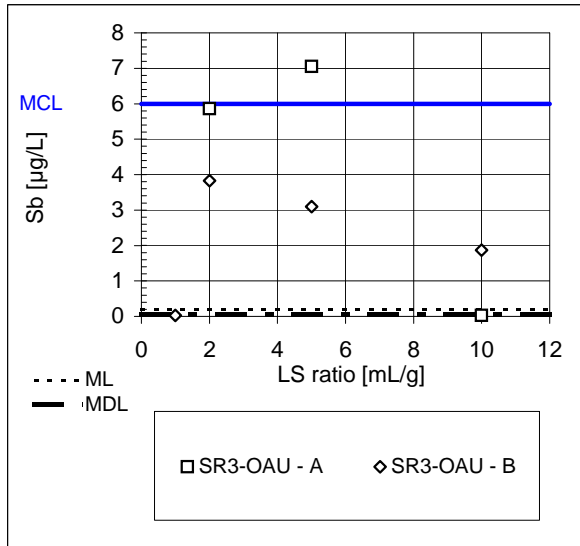
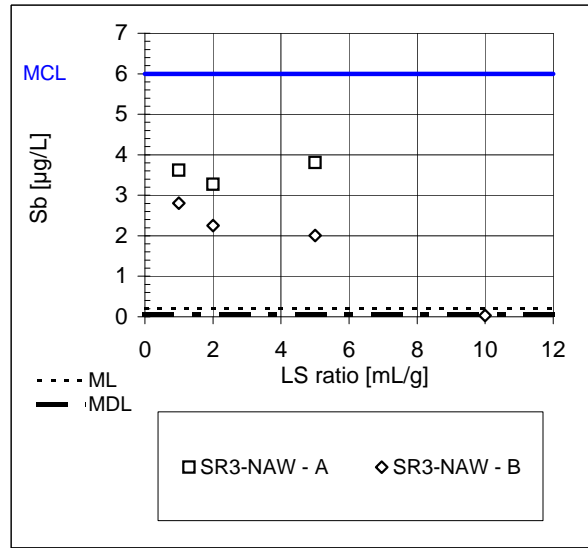
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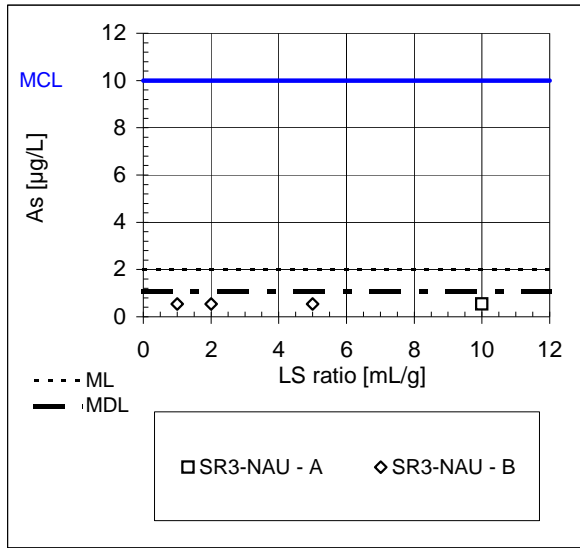
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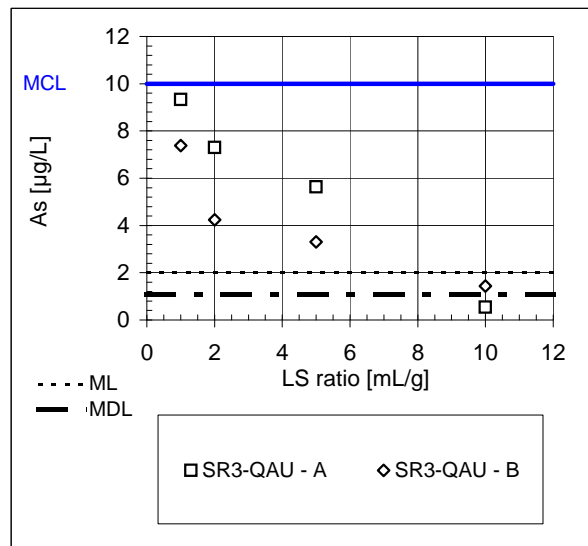
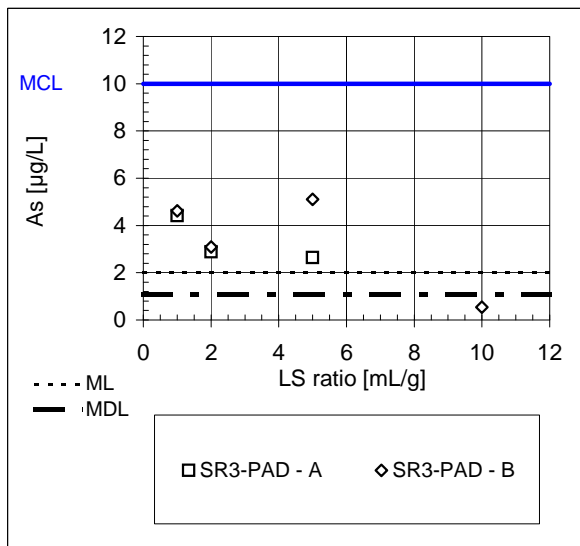
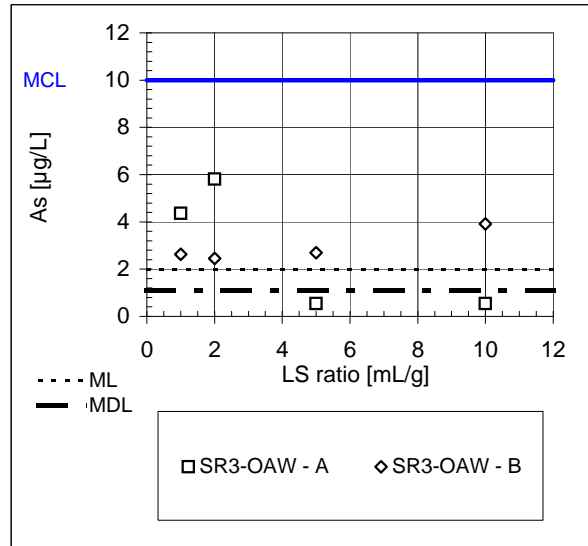
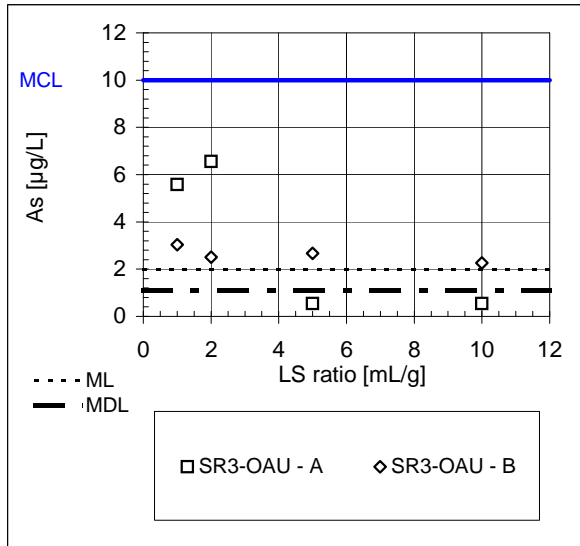
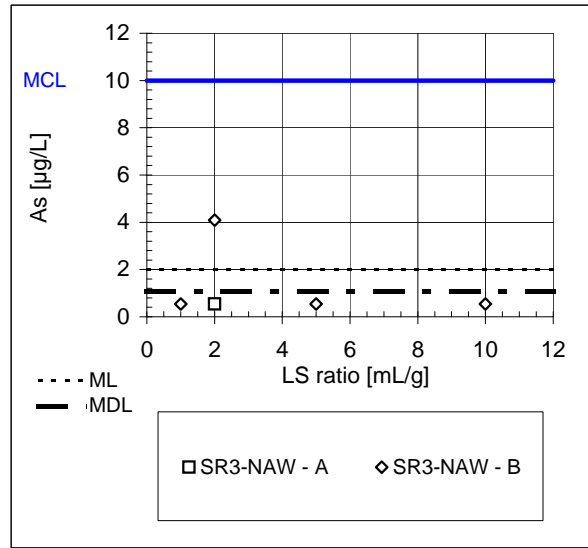
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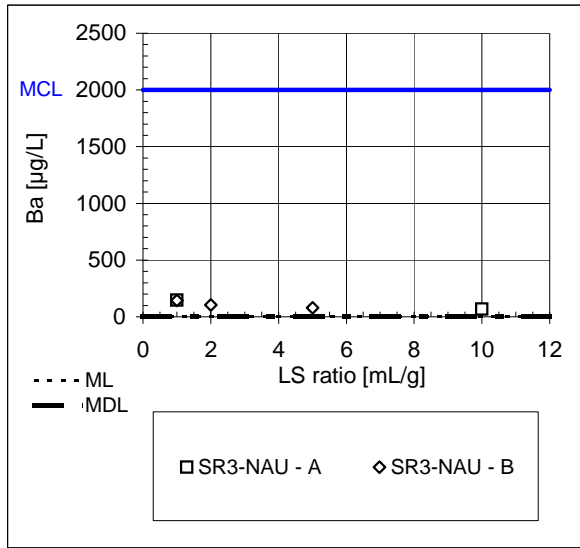
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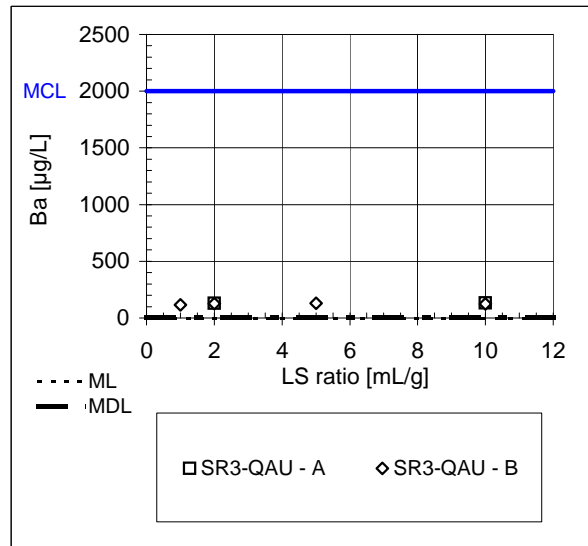
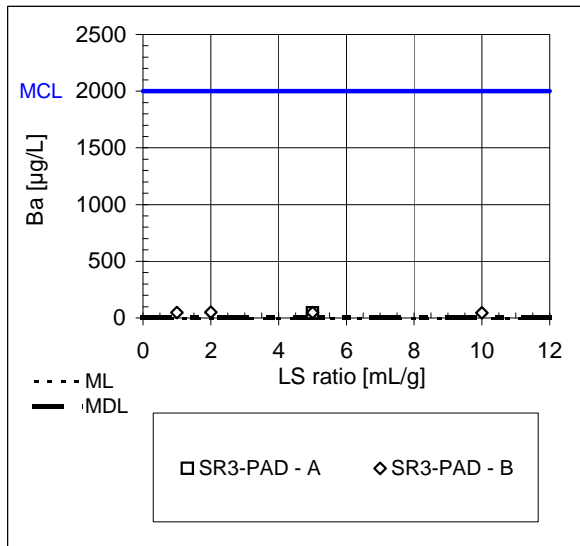
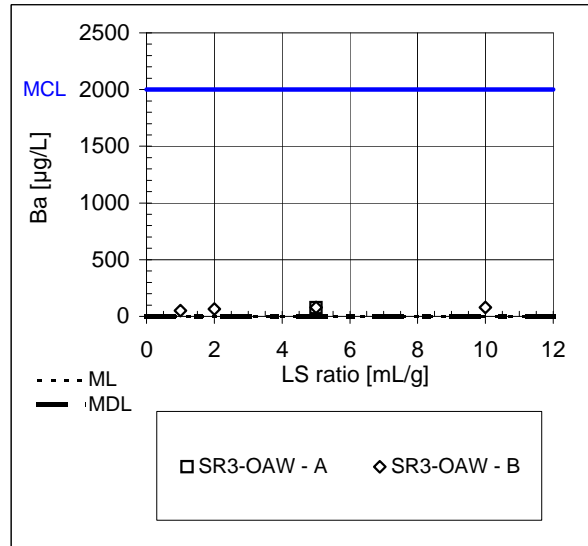
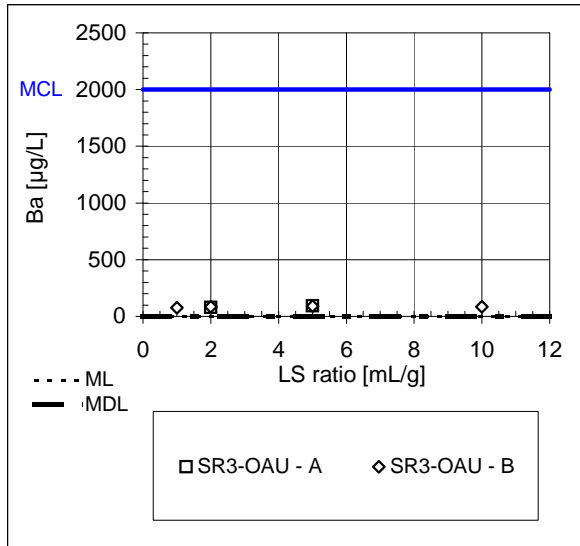
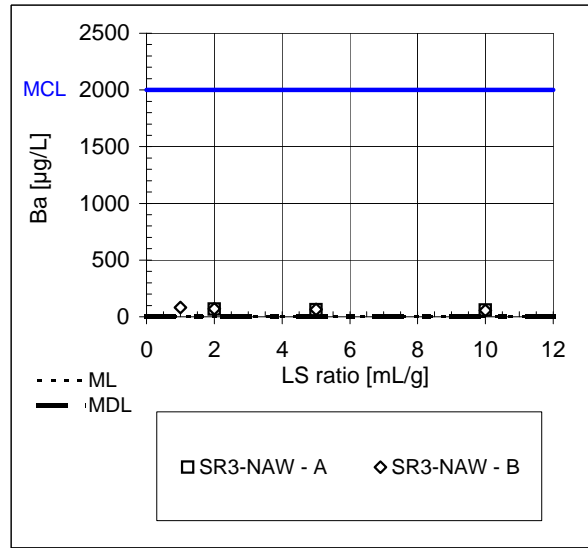
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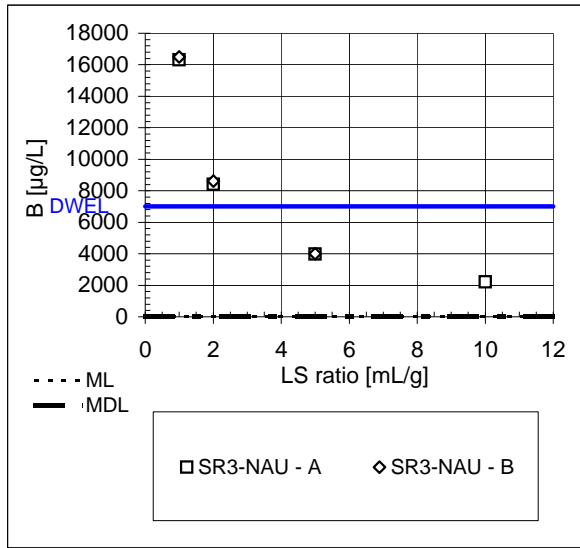
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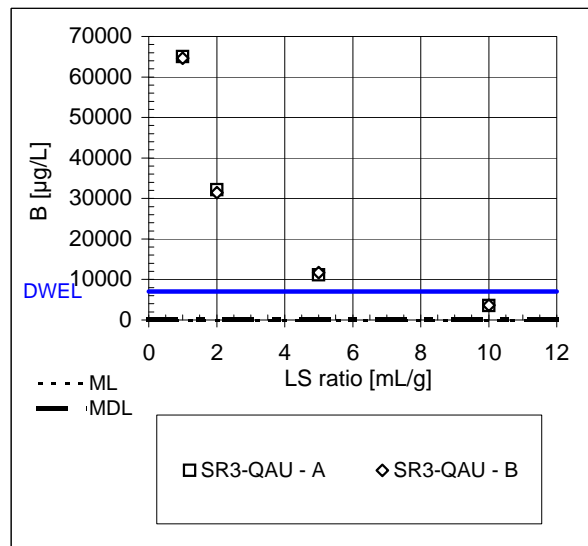
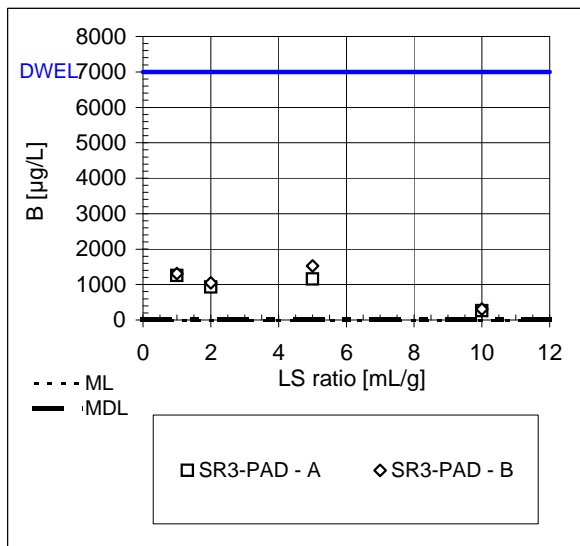
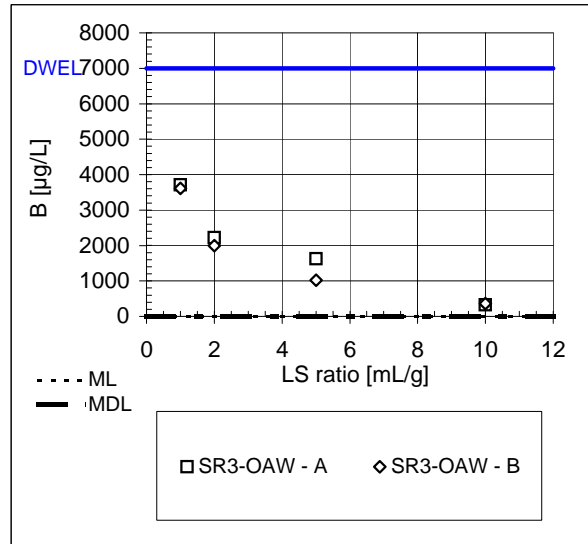
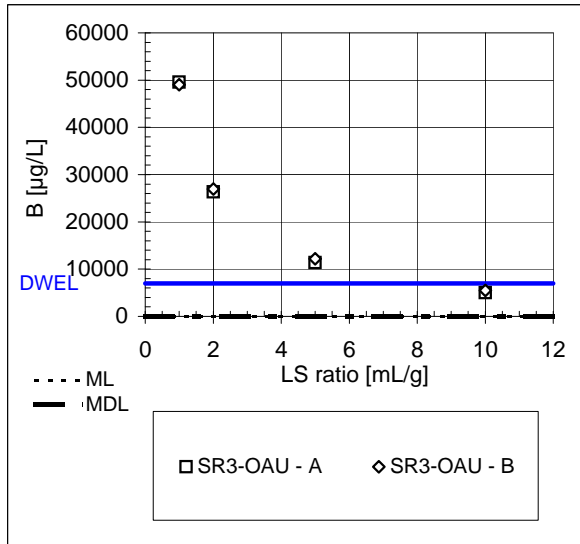
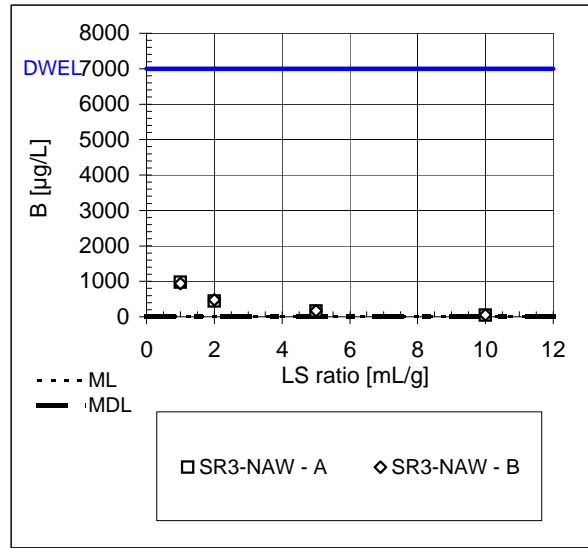
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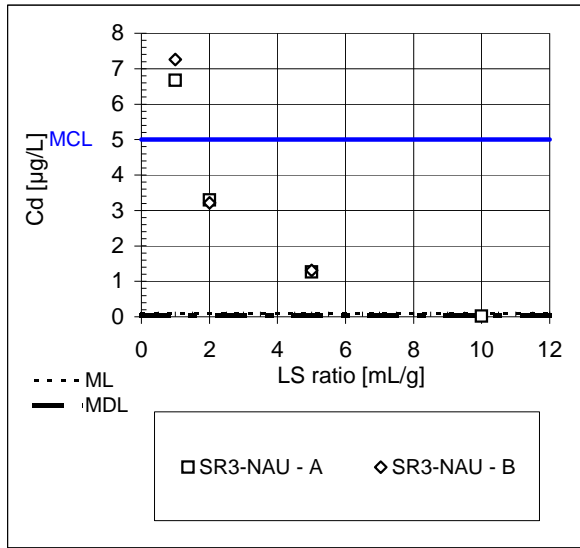
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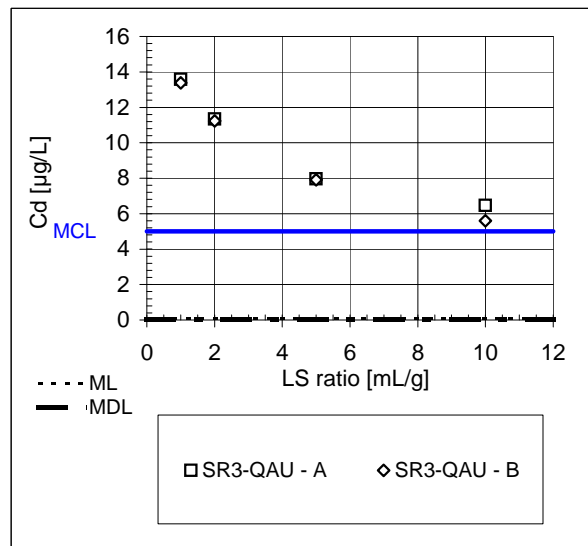
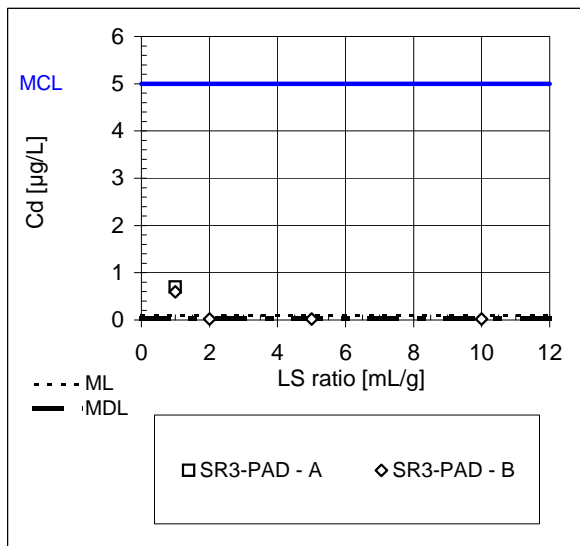
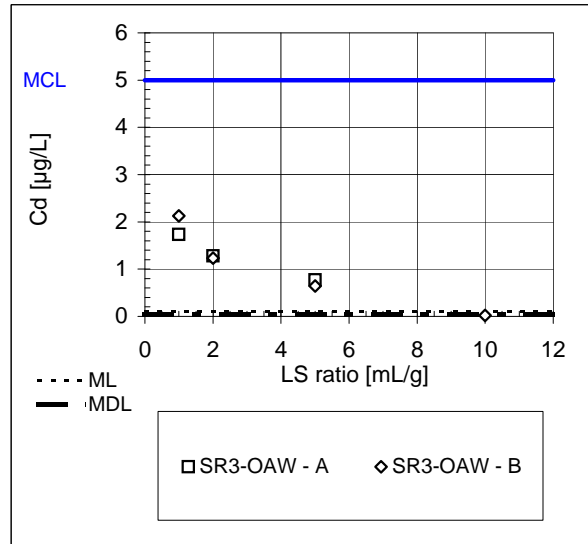
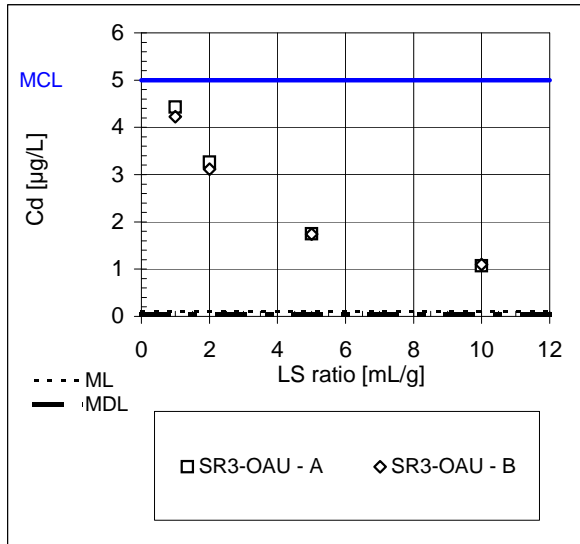
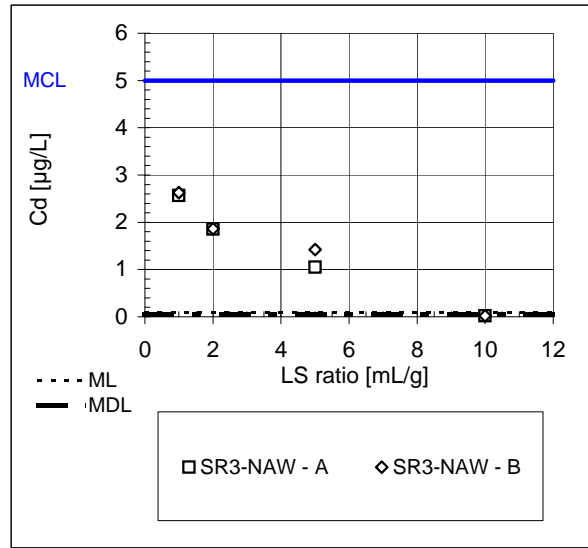
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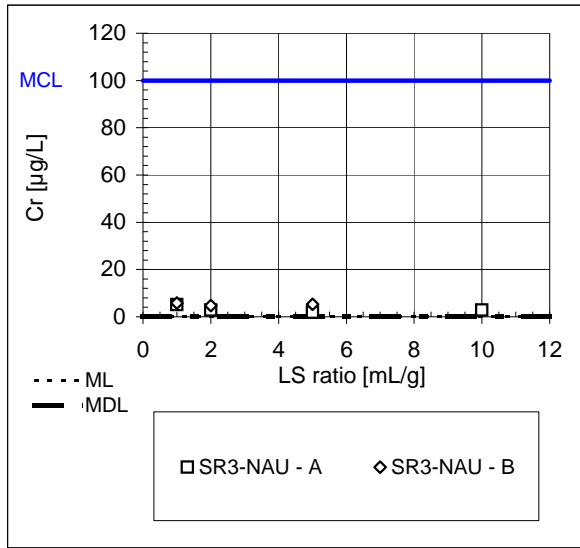
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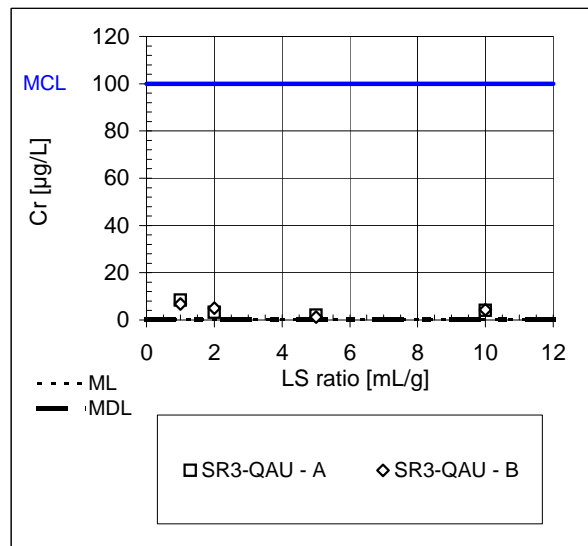
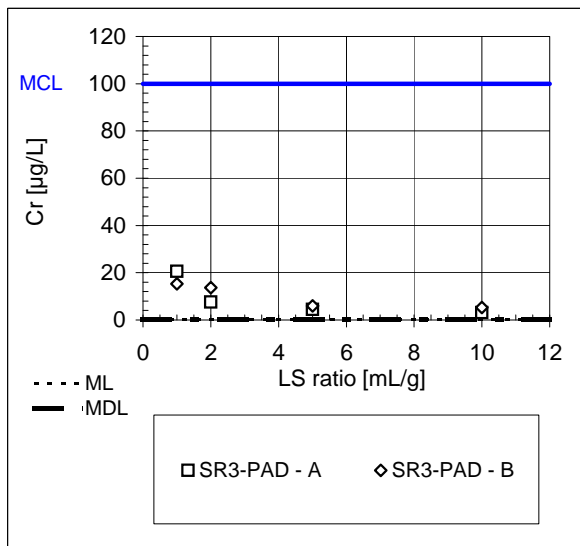
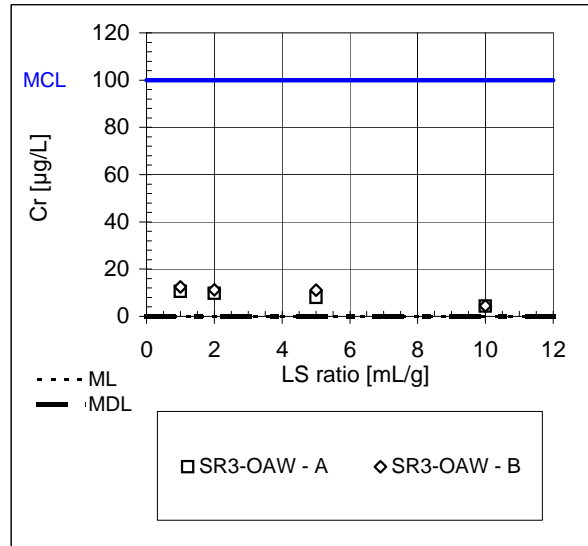
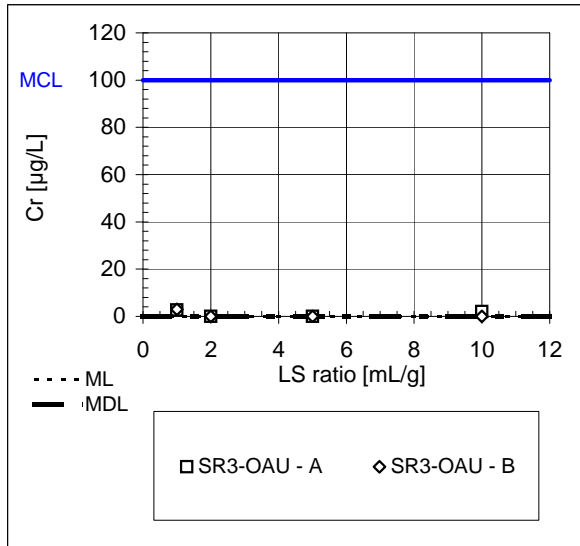
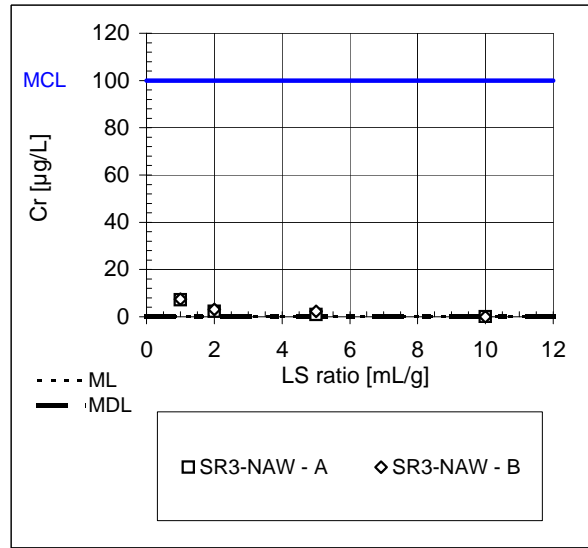
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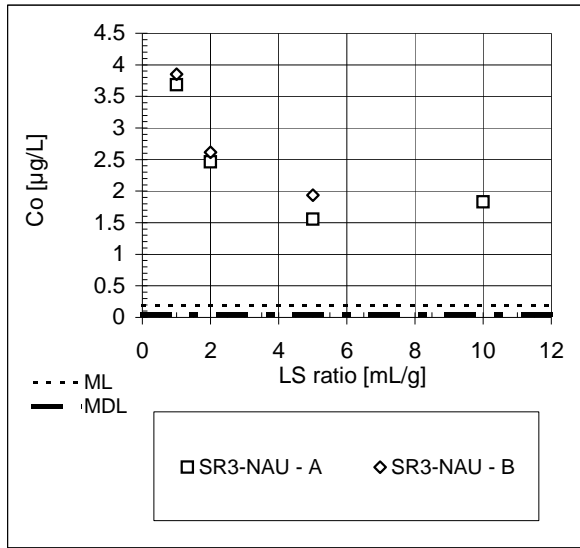
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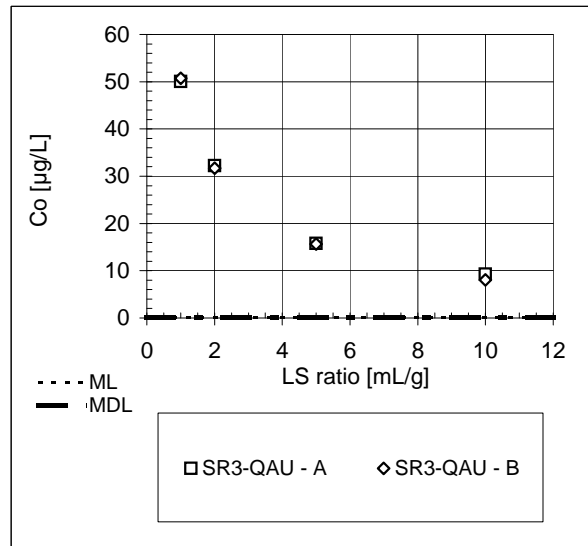
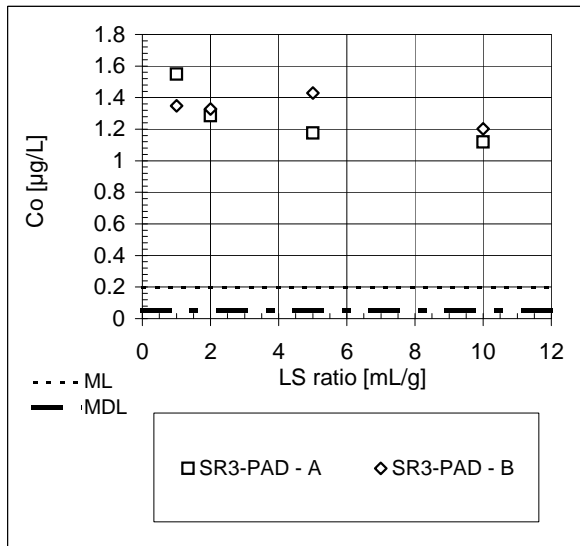
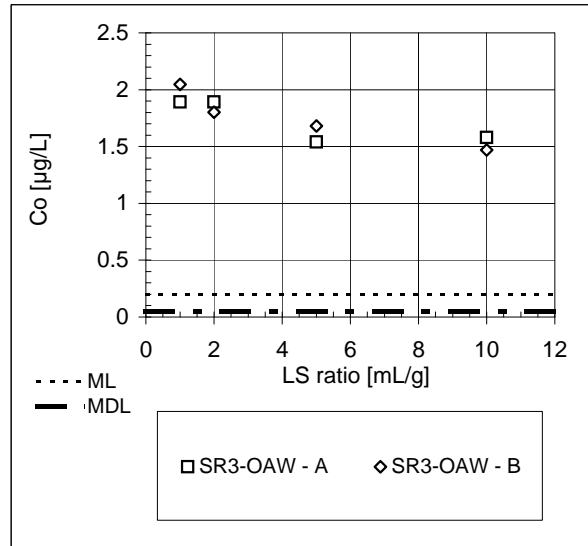
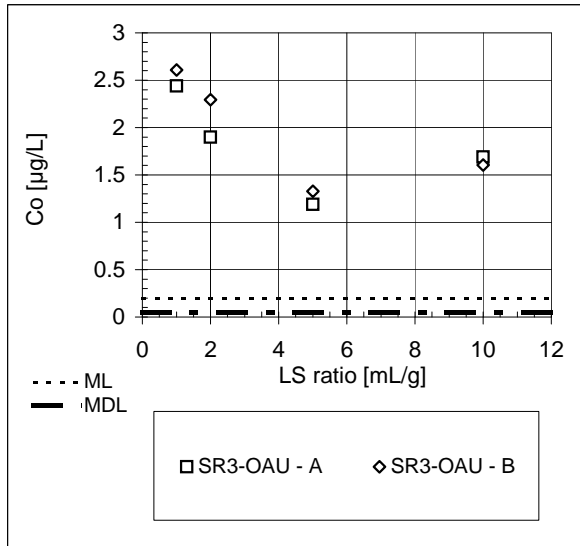
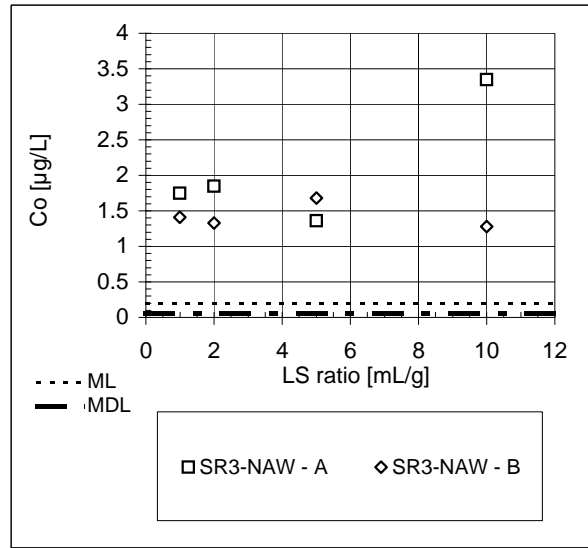
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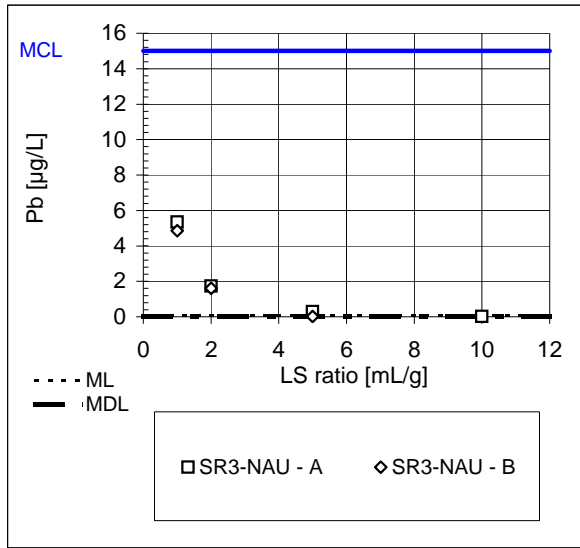
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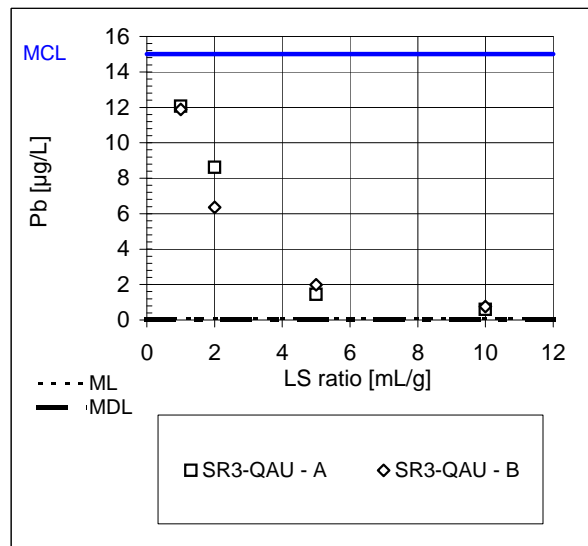
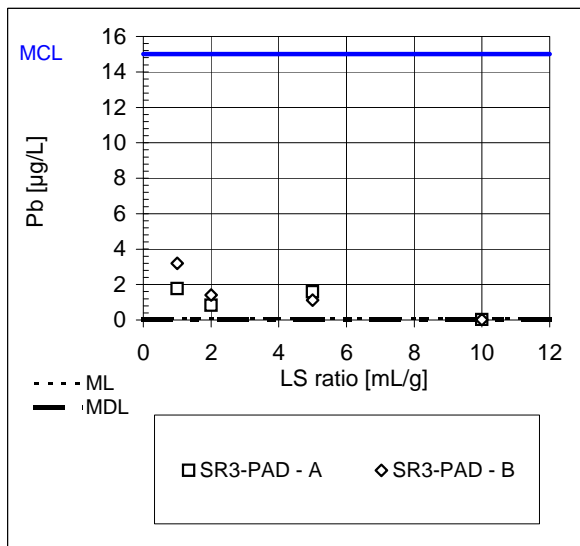
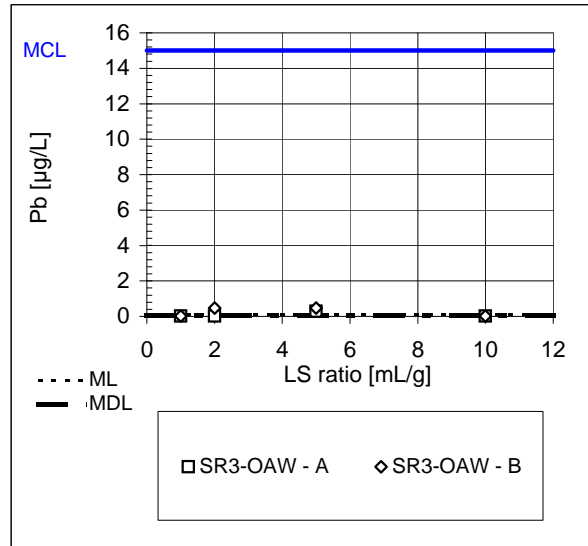
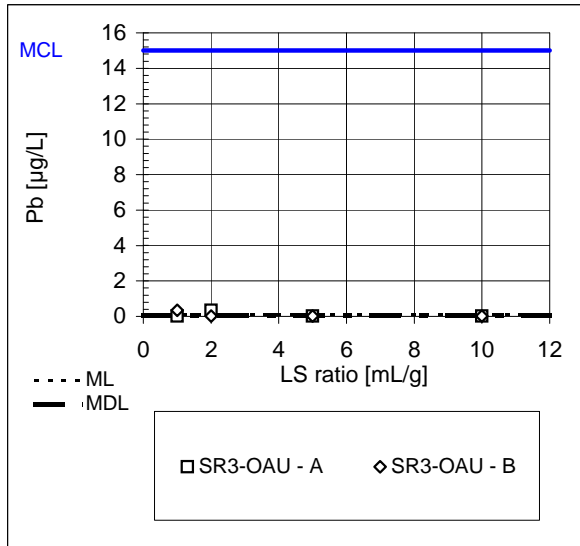
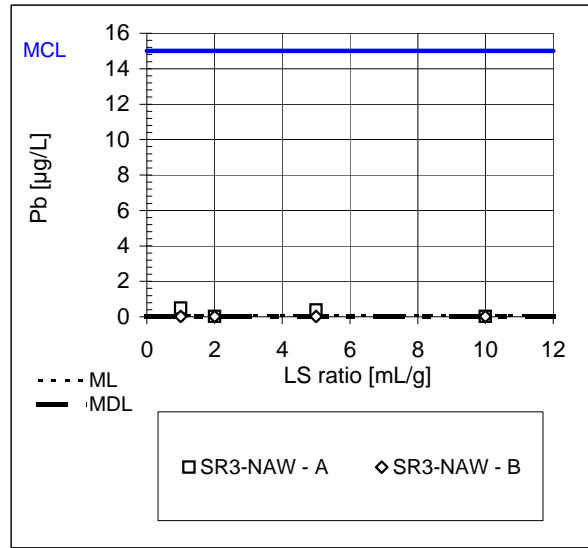
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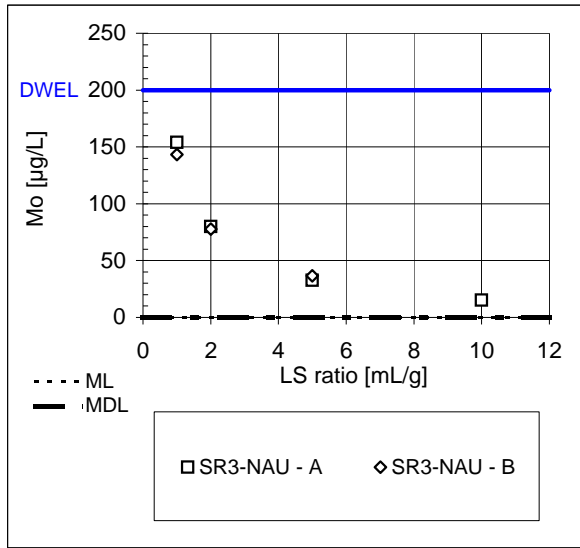
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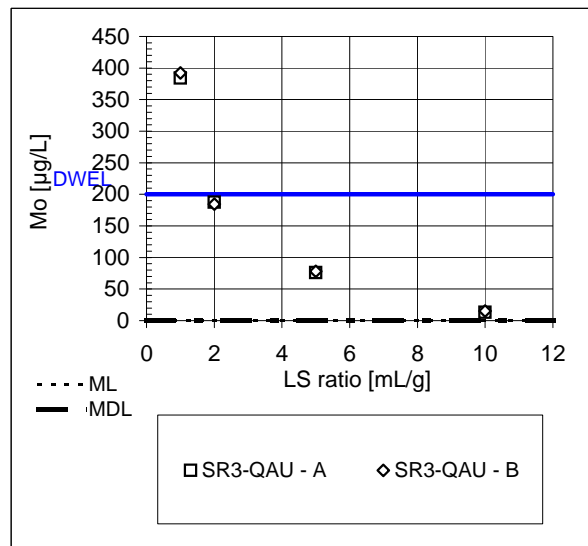
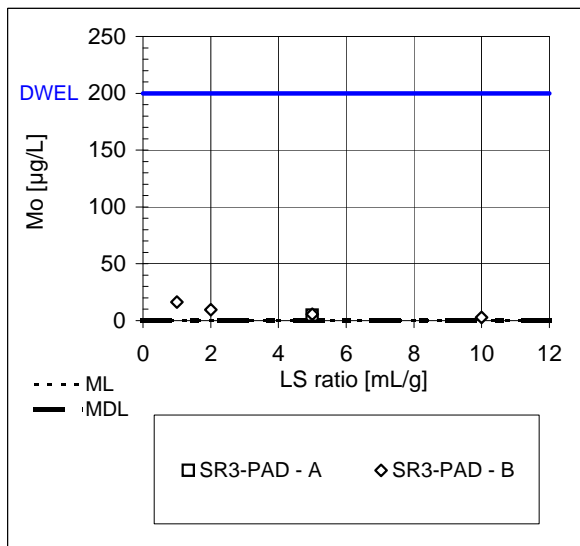
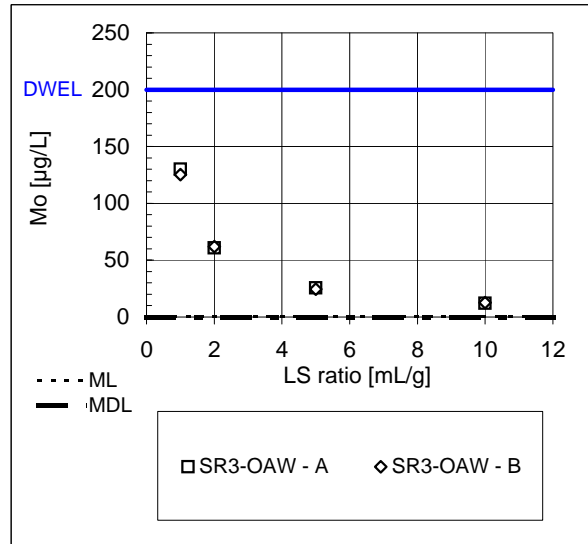
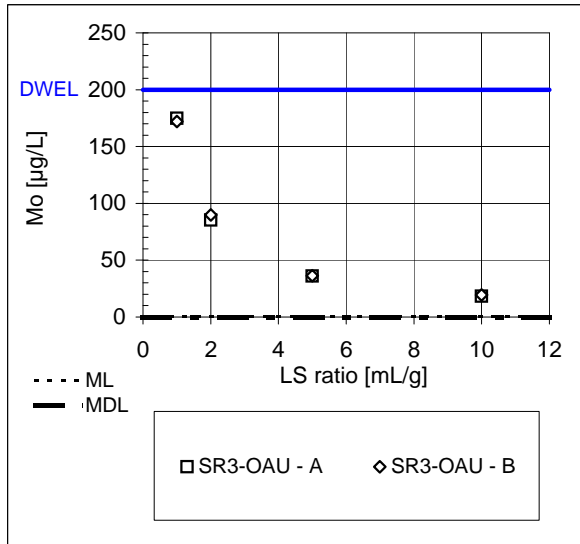
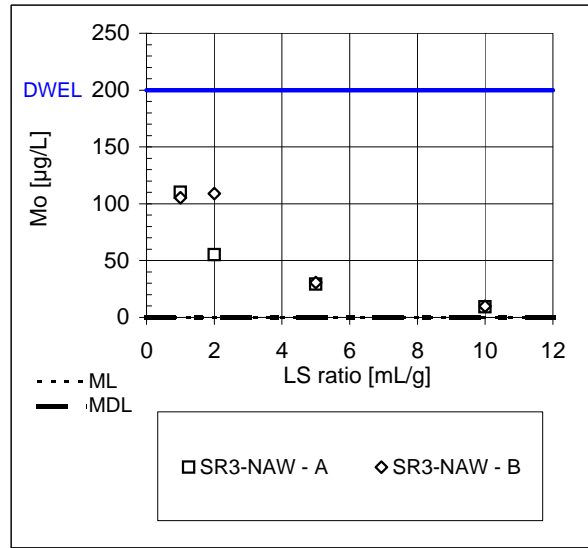
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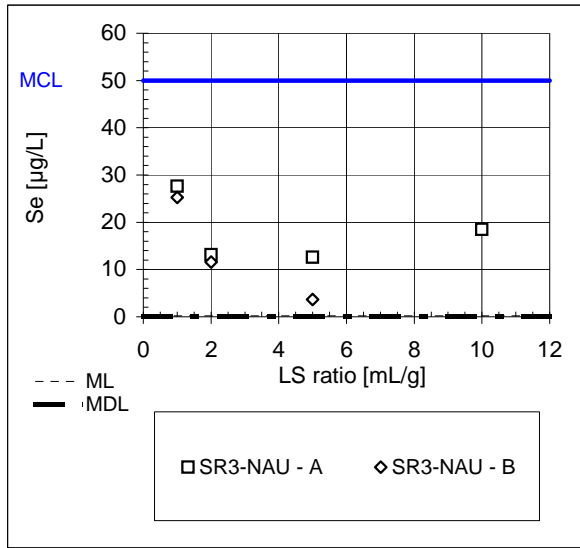
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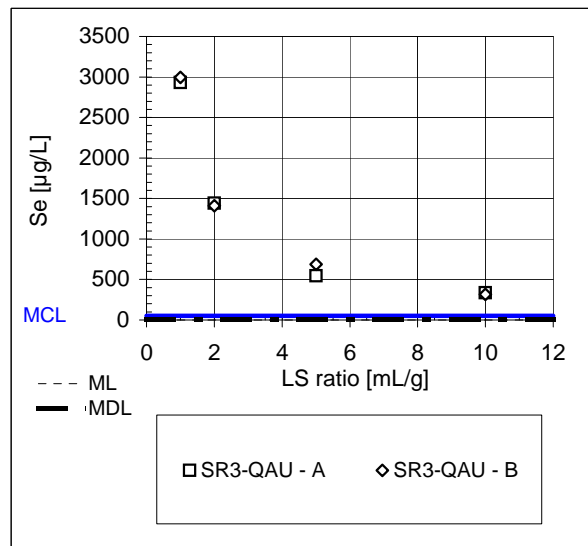
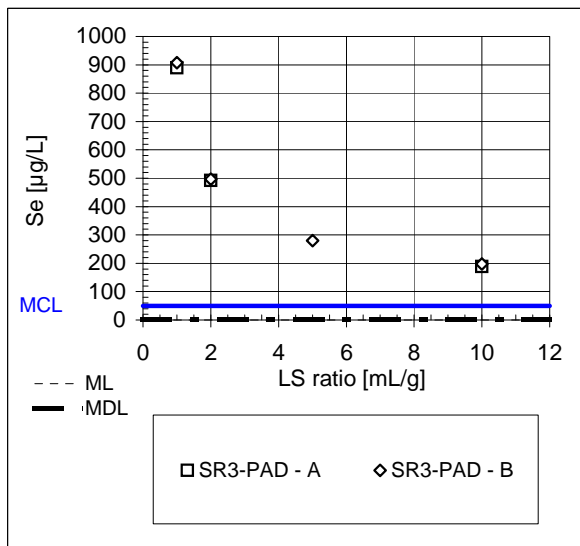
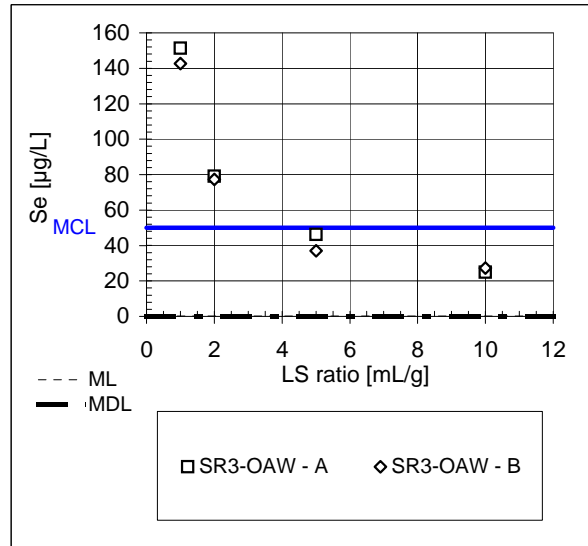
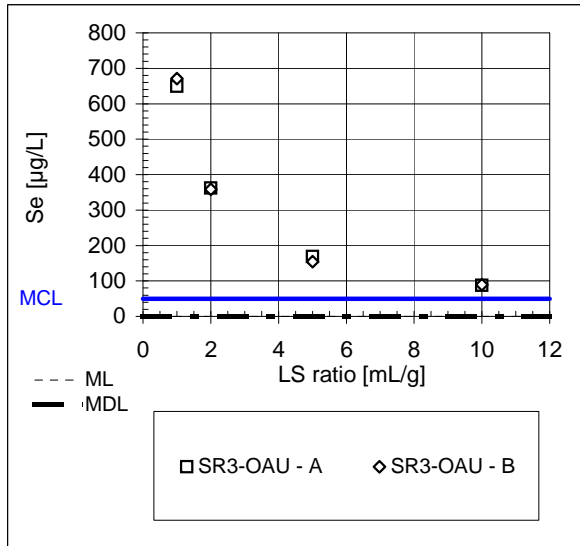
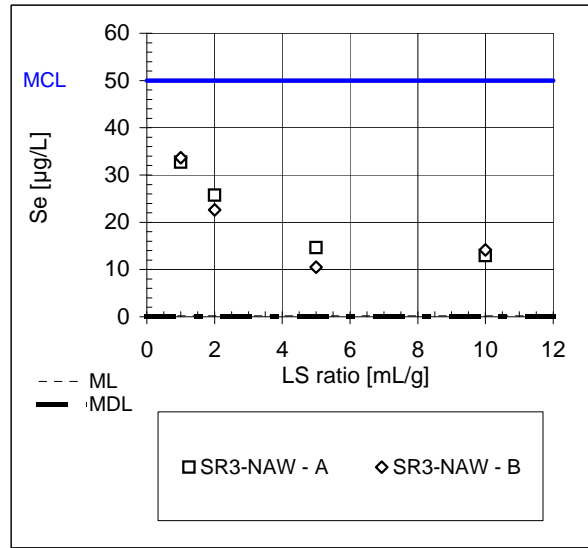
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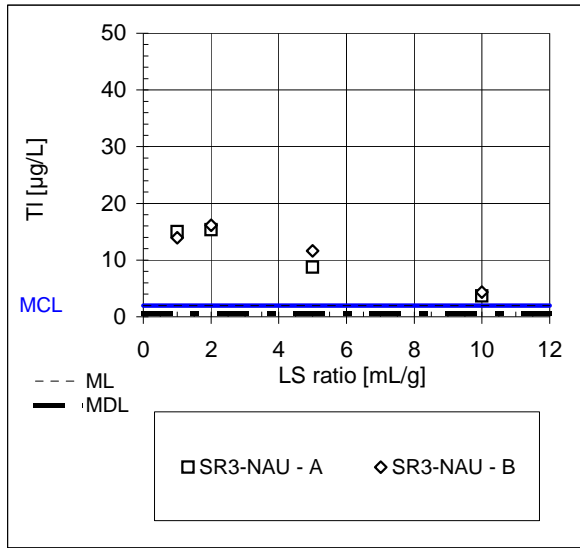
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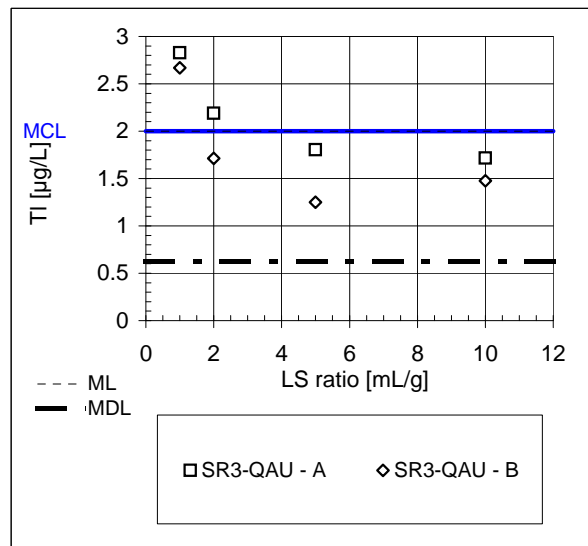
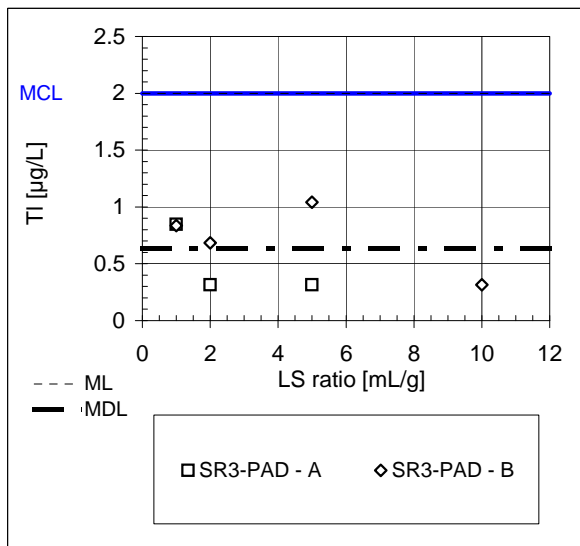
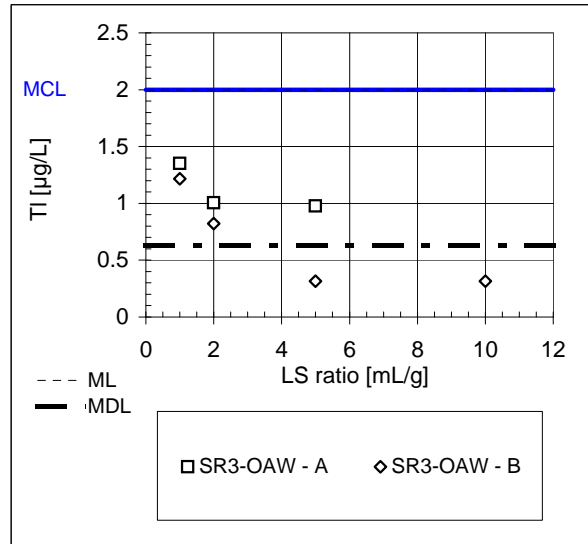
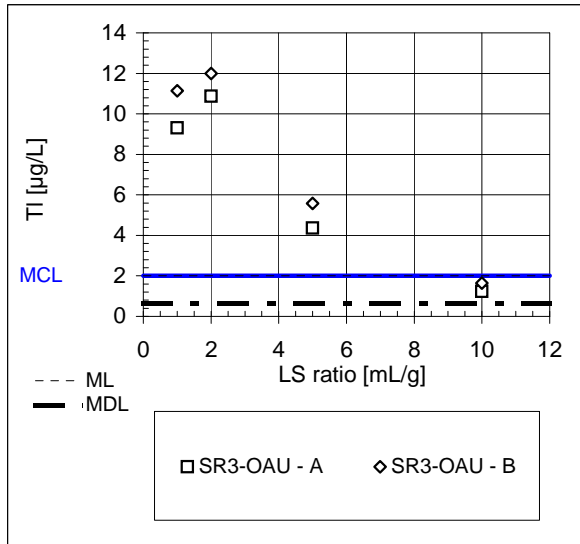
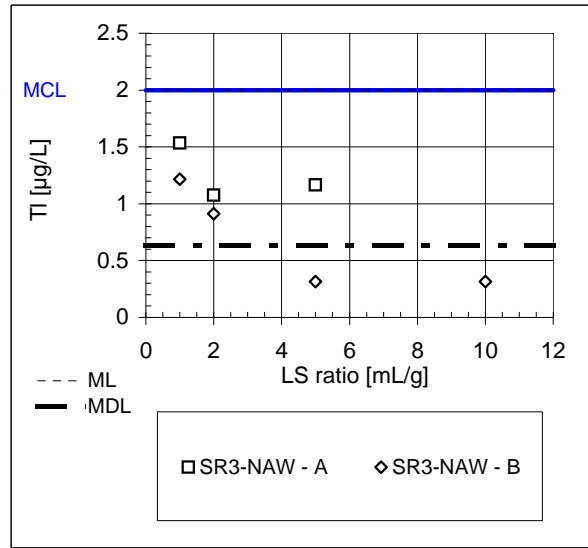
Gyp-W



Gyp-U



Gyp-W



Scrubber Sludge (ScS) Comparisons

Facility A

Coal: low sulfur bituminous
APC: NO+SNCR+FF

CGD (SNCR Off)	AGD (SNCR On)
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Facility B

Coal: low sulfur bituminous
APC: NO+SCR+ESP(CS) [Mg lime]

DGD (SCR Off)	BGD (SCR On)
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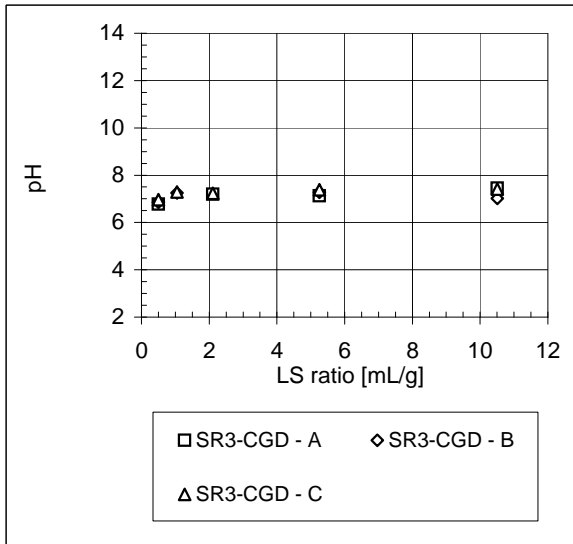
Facility K

Coal: sub- bituminous
APC: NO+SCR+ESP(CS) [Mg lime]

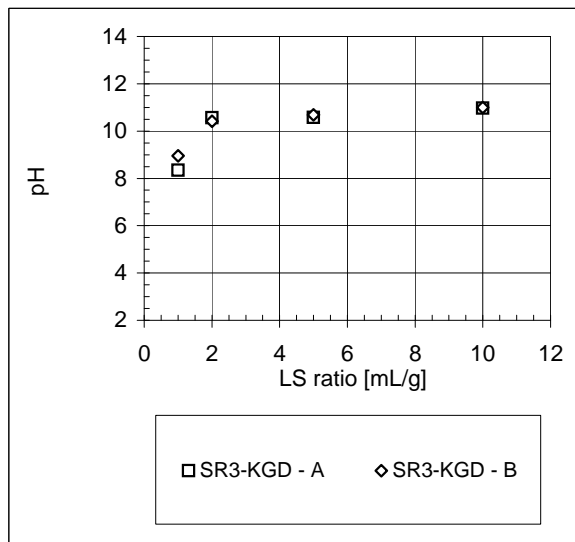
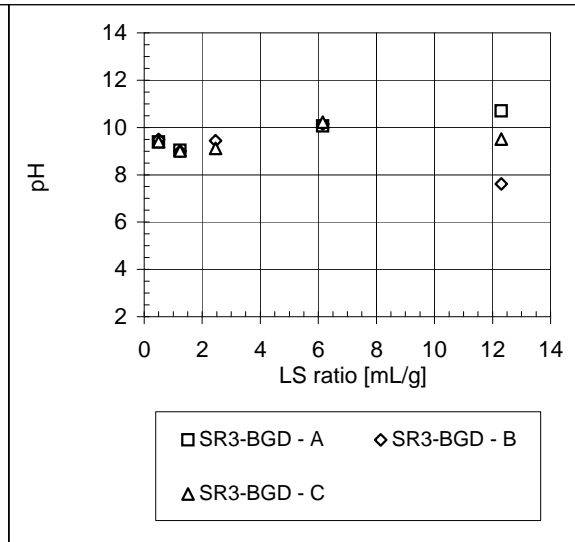
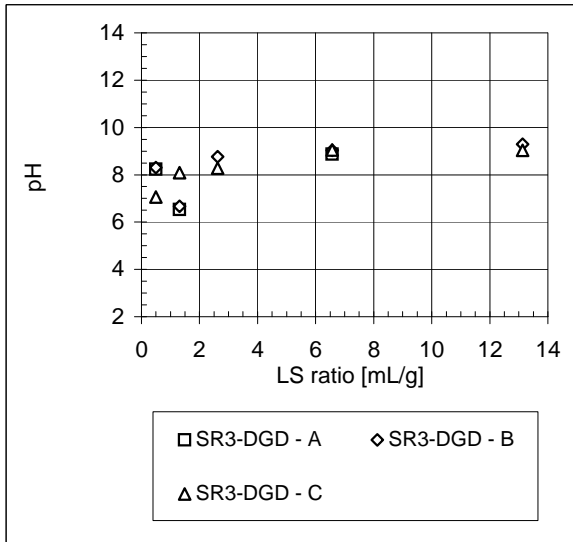
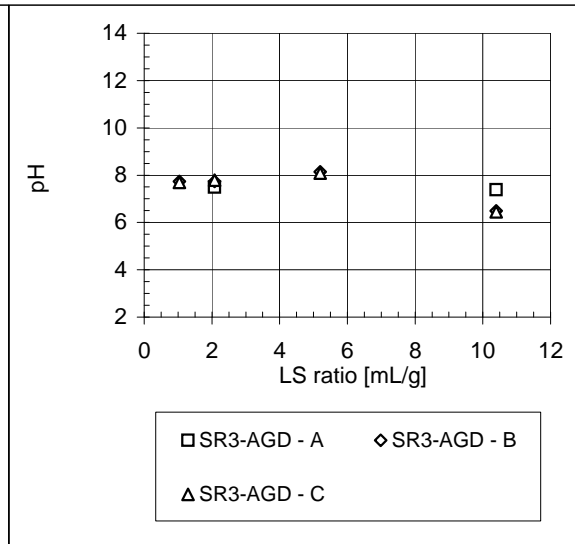
KGD (SCR On)

Scrubber Sludge Comparisons

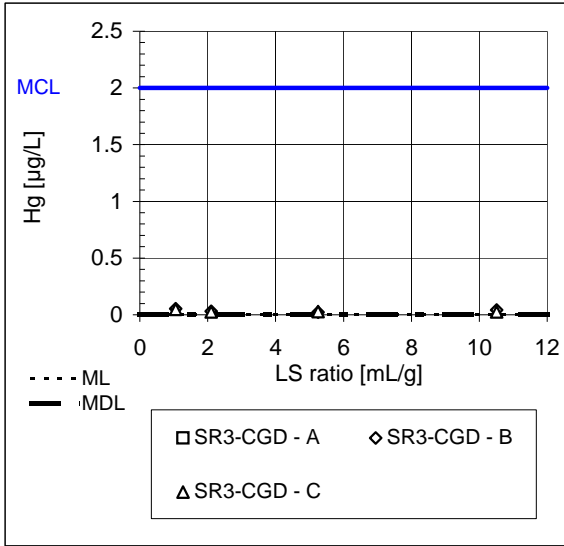
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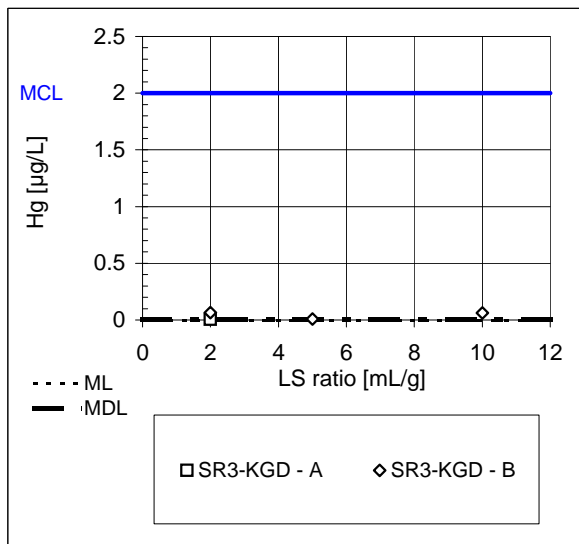
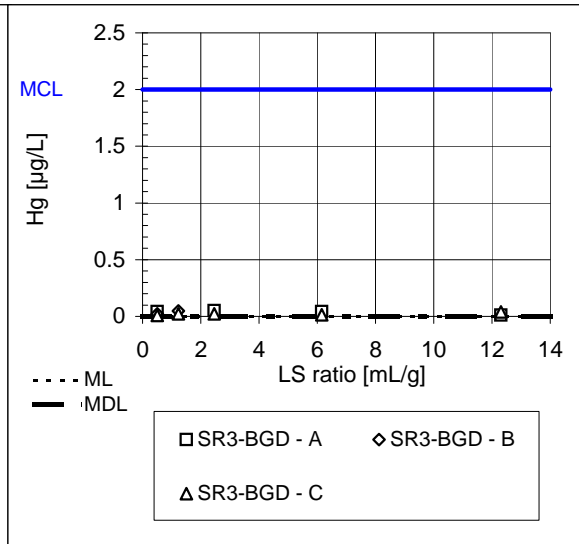
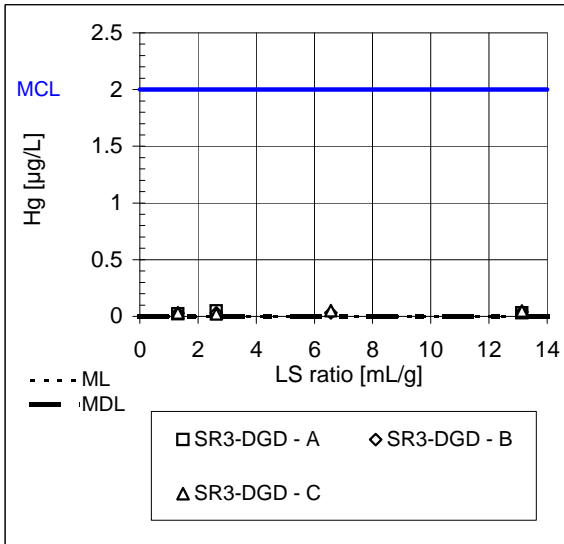
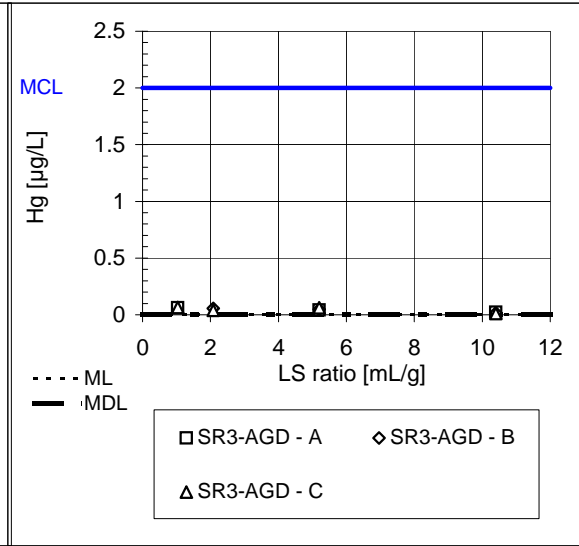
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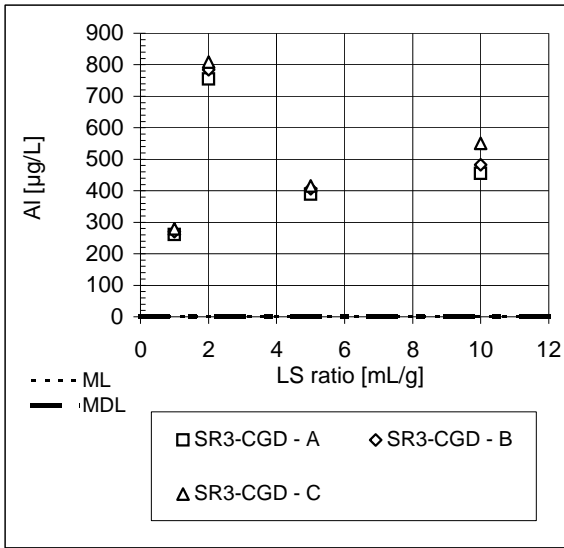
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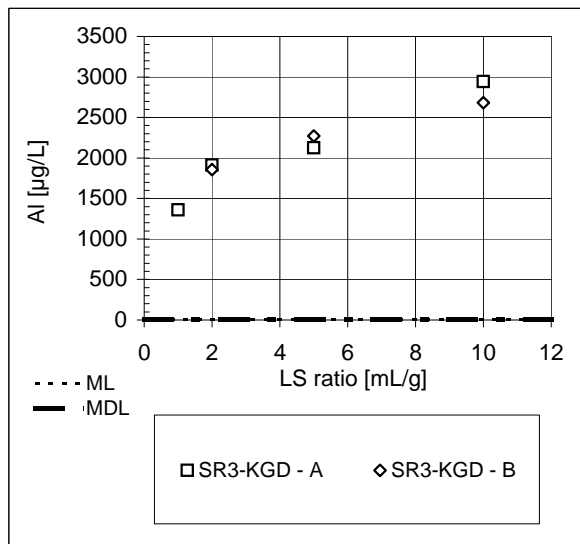
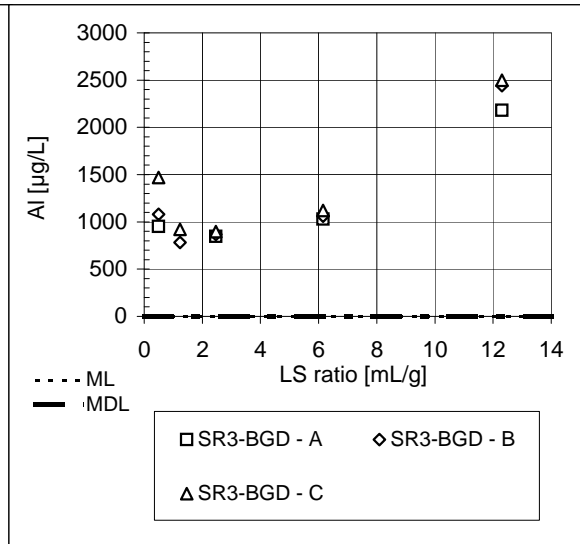
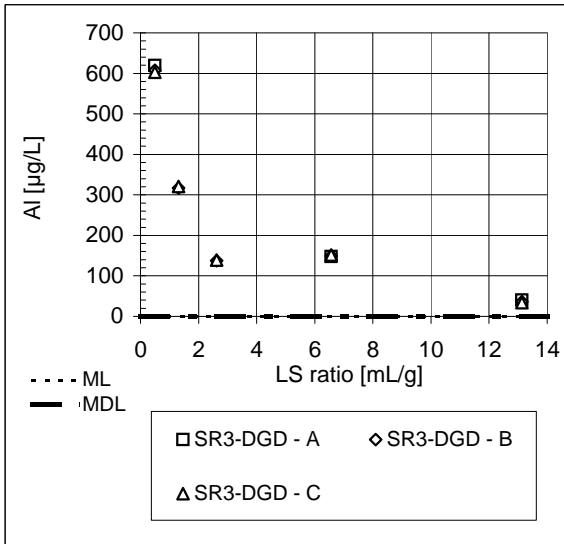
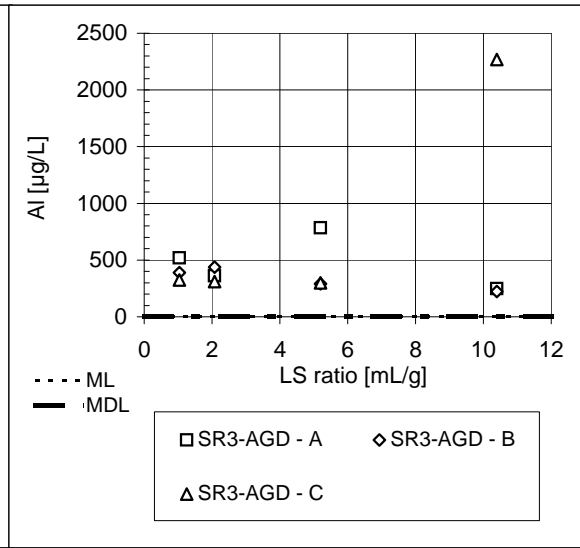
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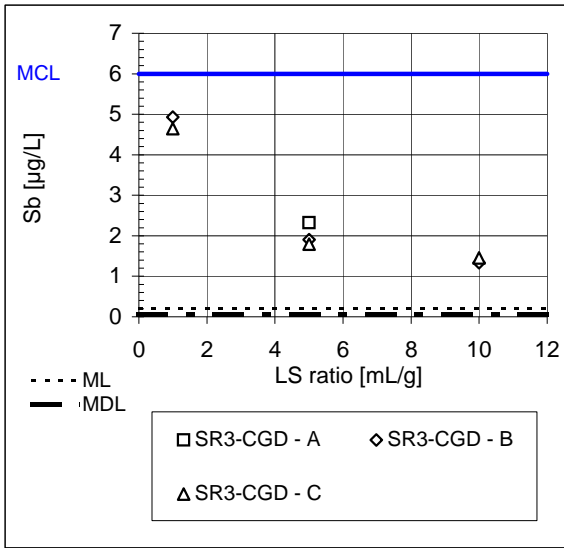
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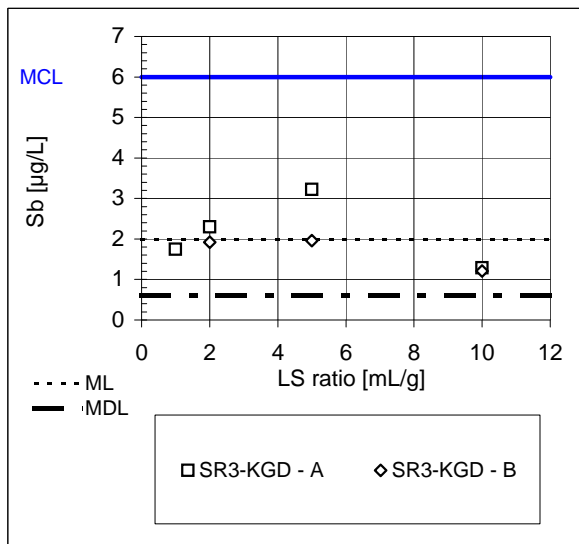
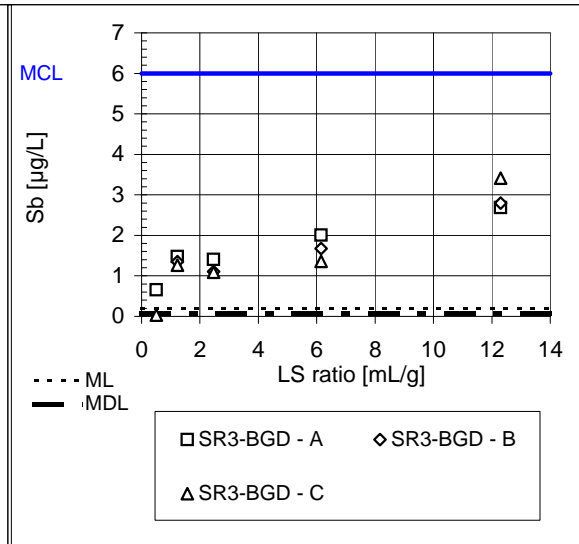
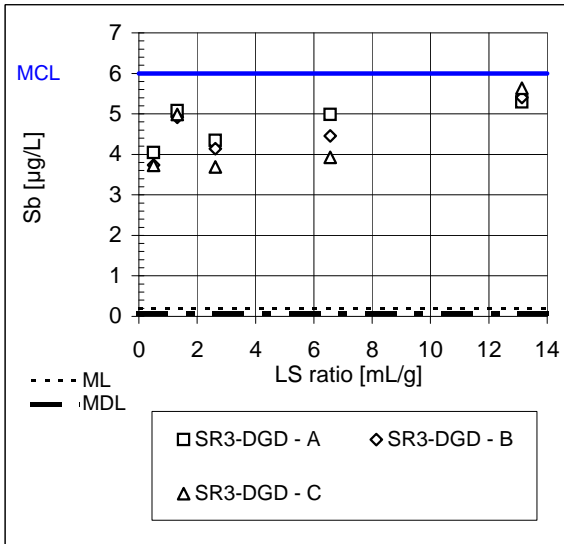
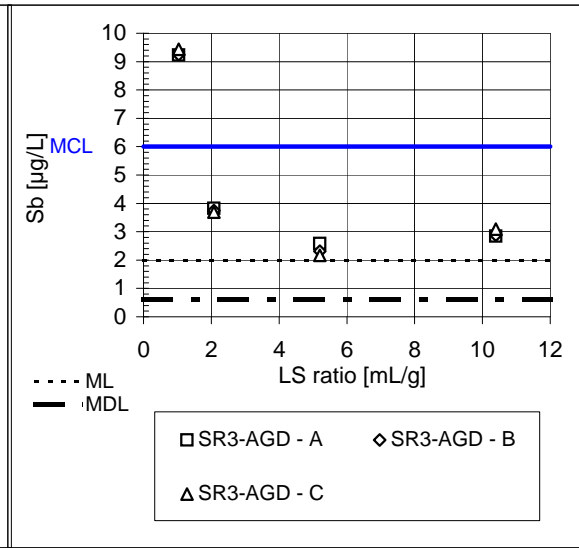
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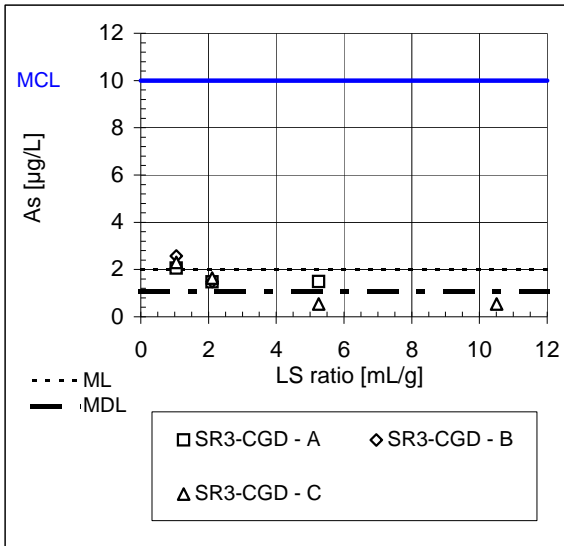
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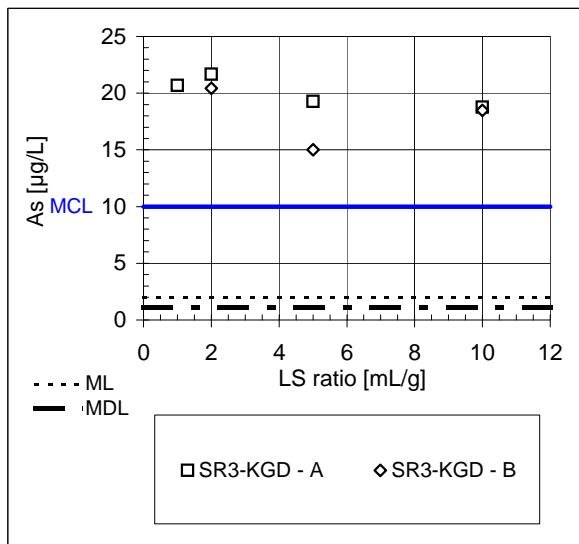
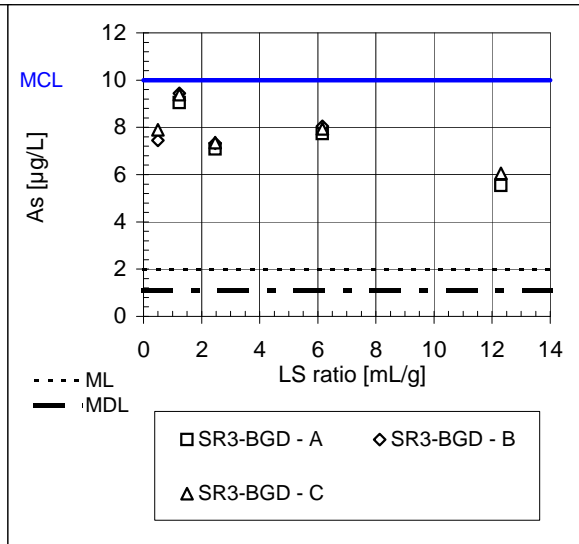
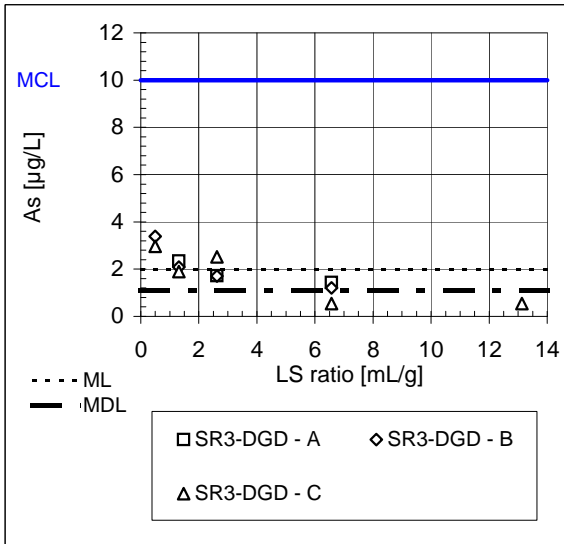
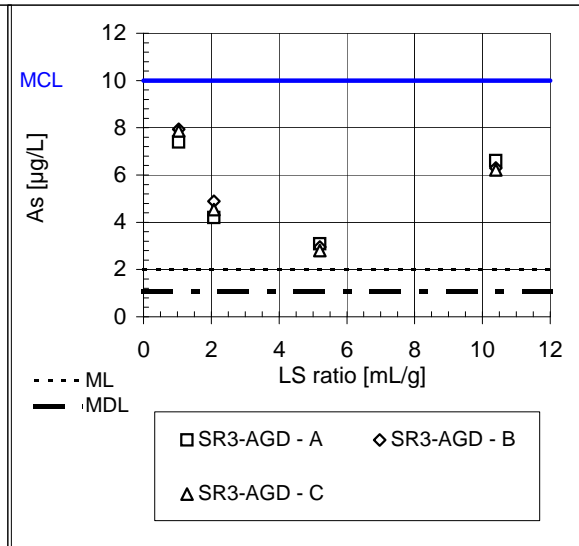
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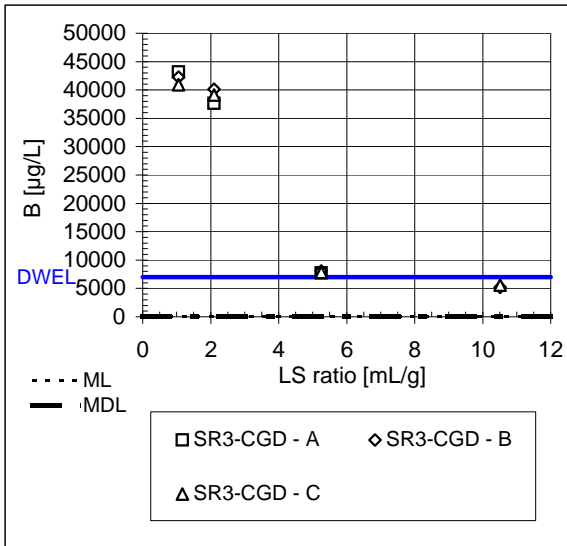
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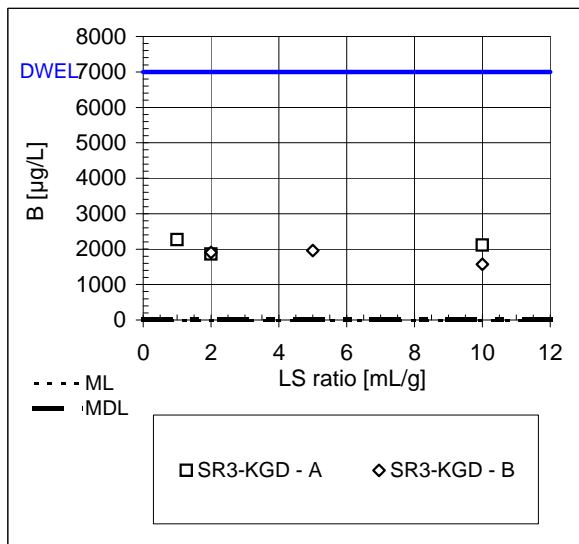
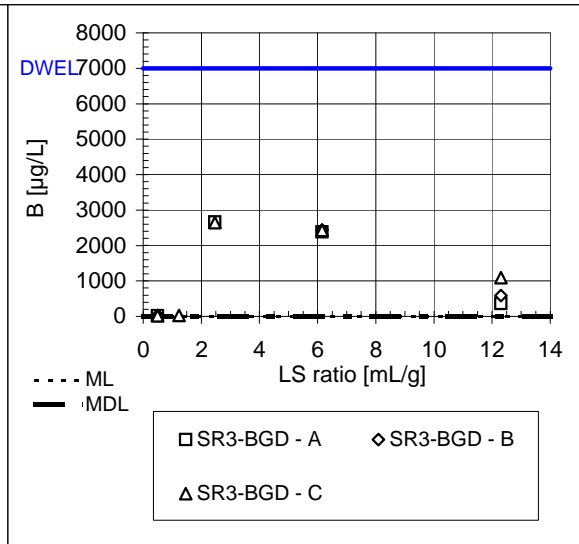
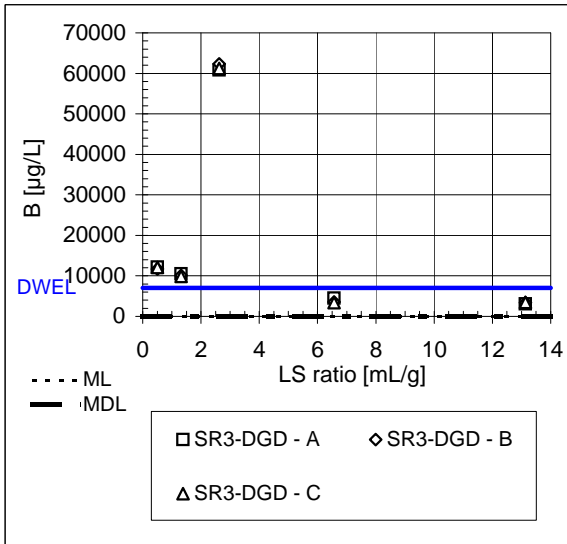
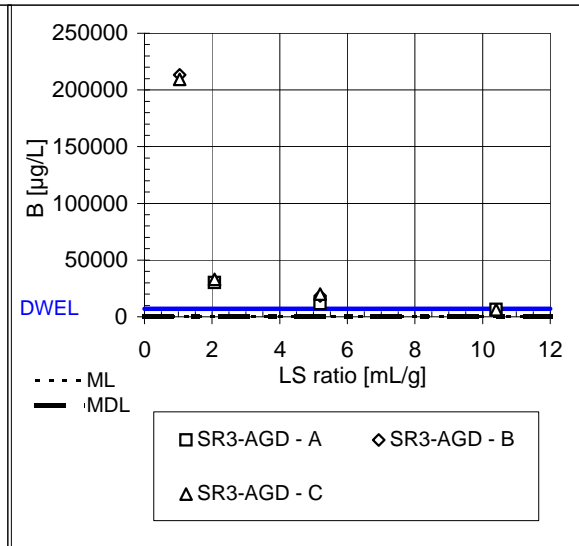
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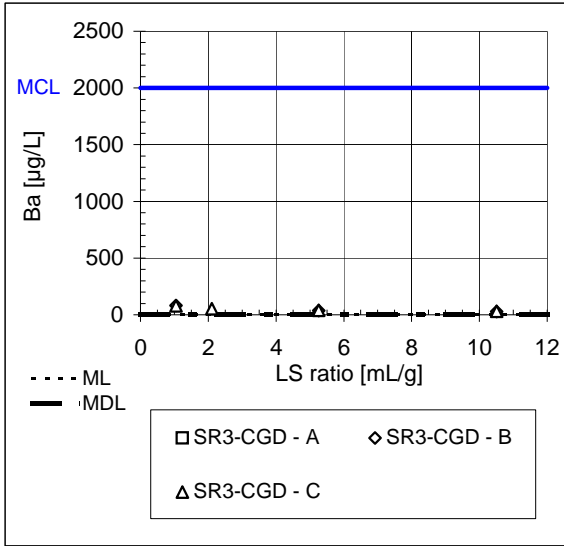
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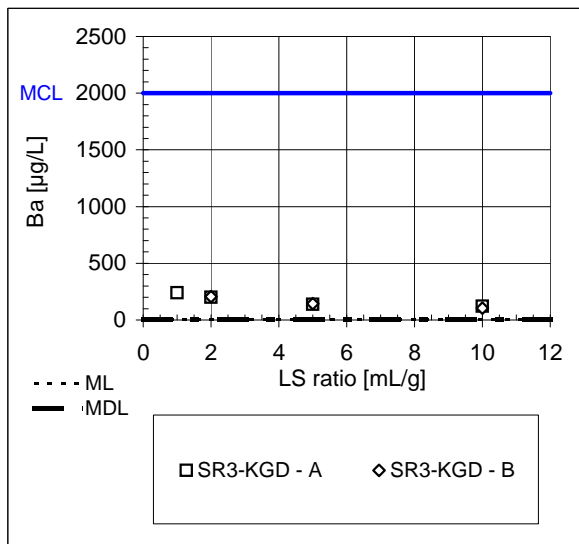
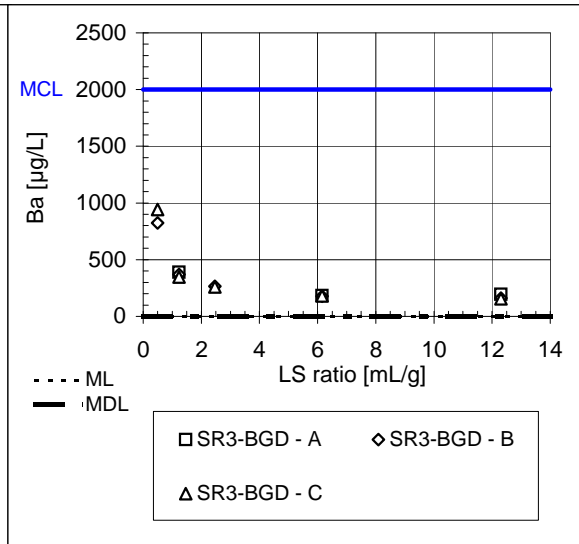
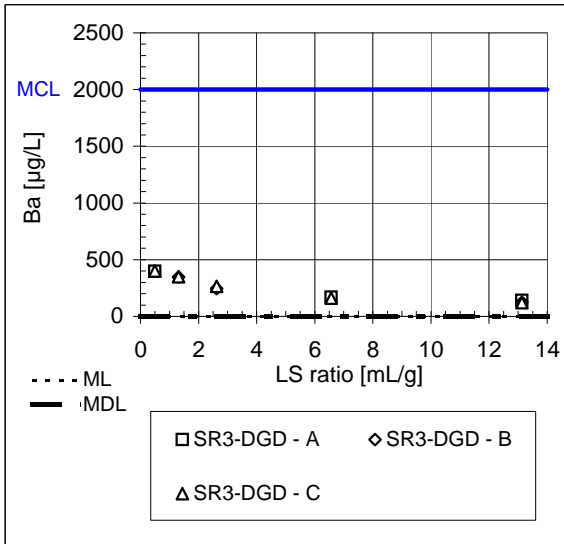
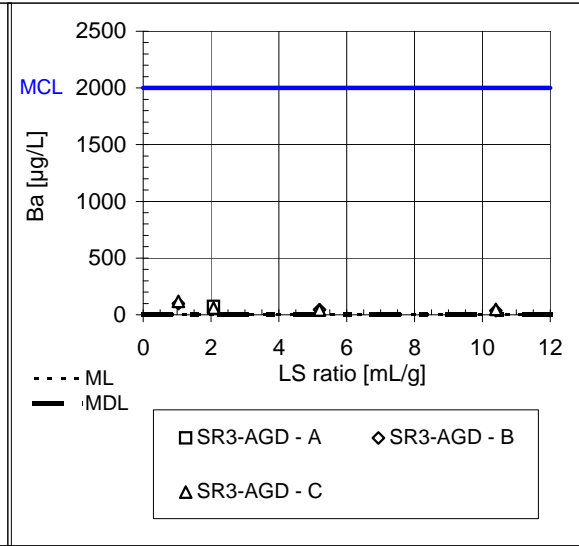
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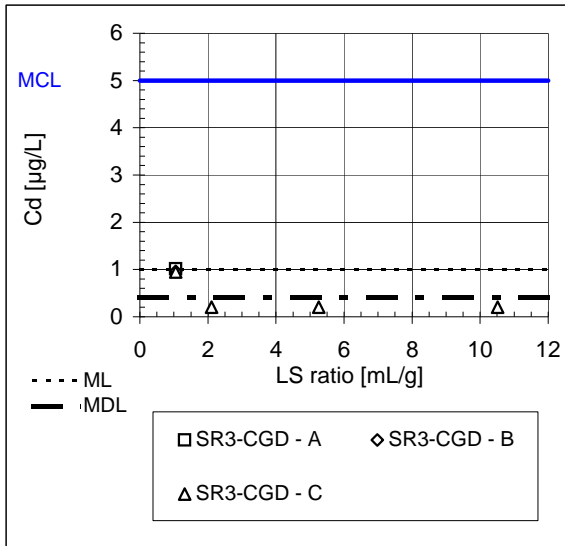
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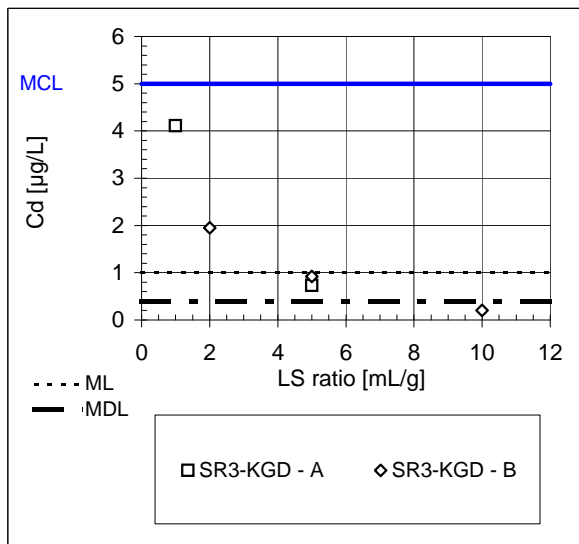
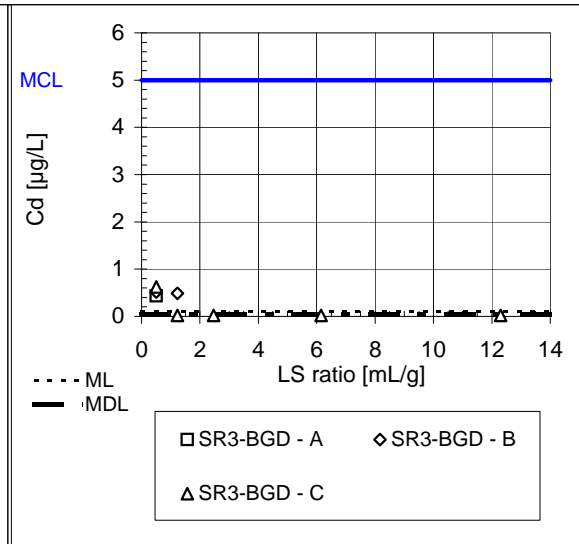
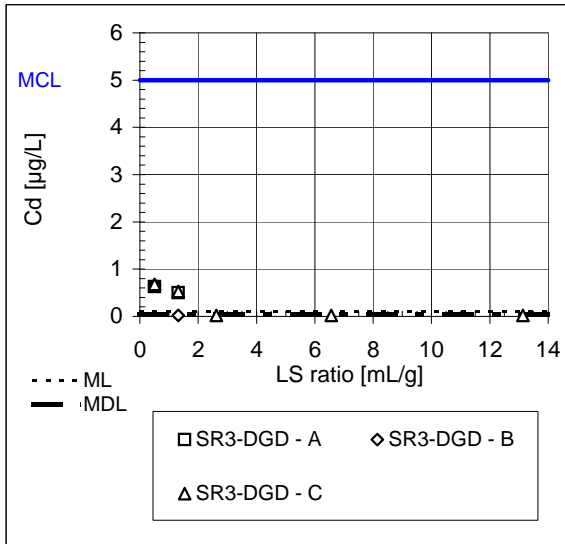
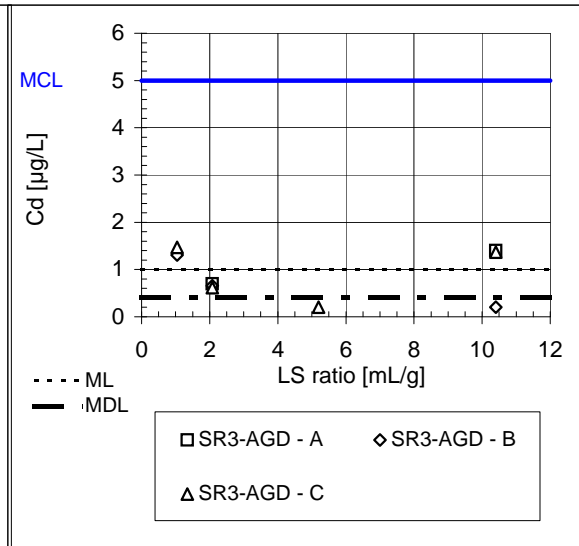
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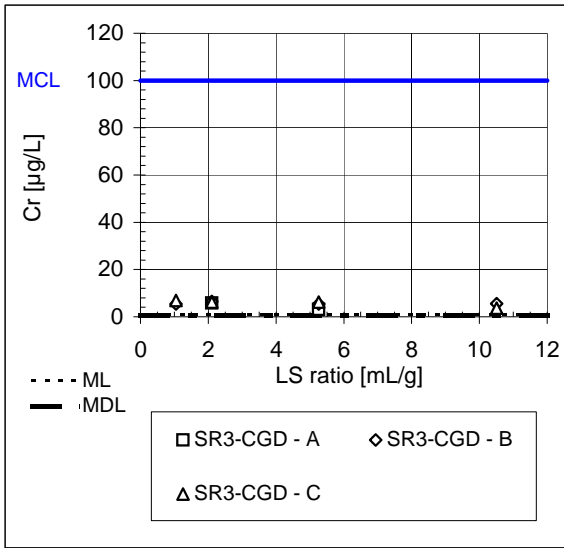
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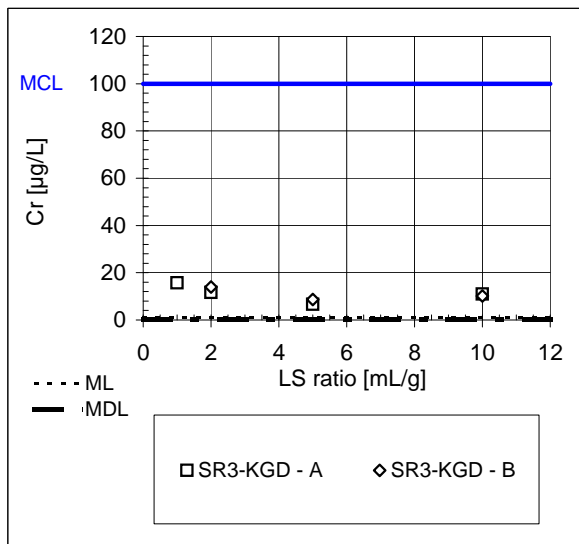
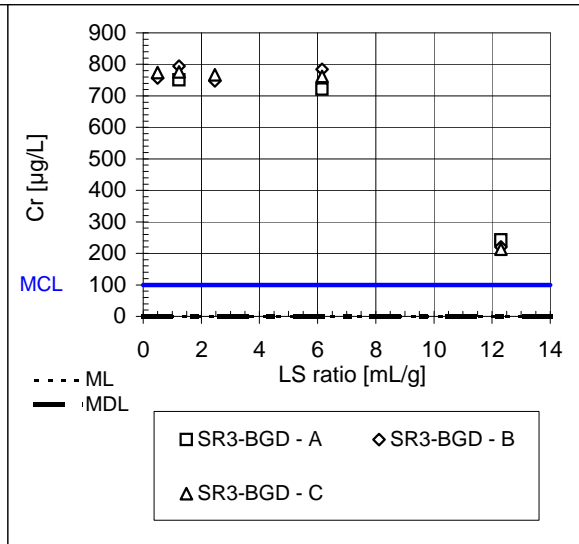
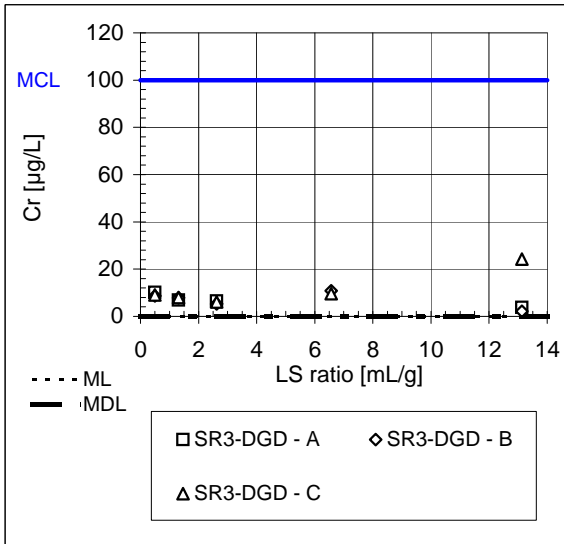
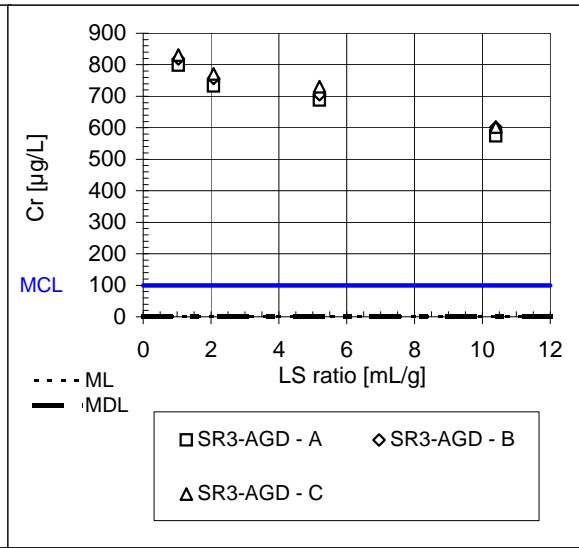
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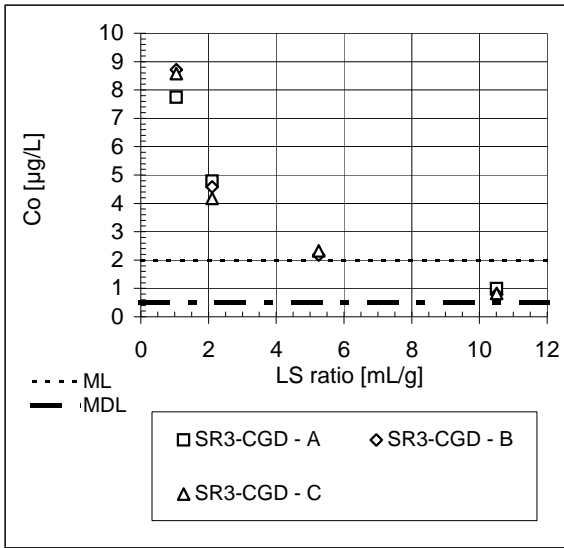
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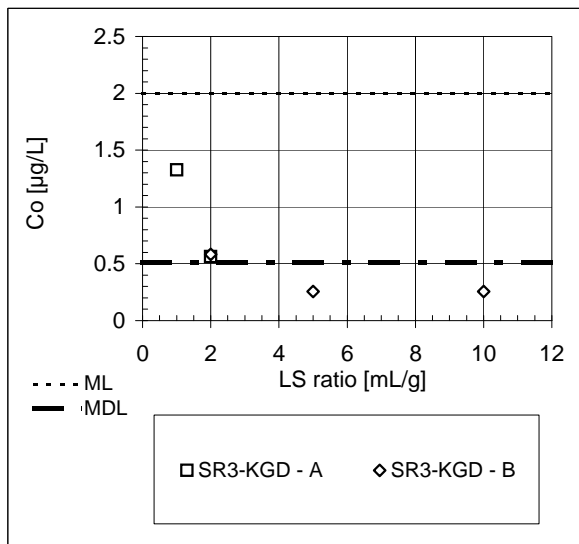
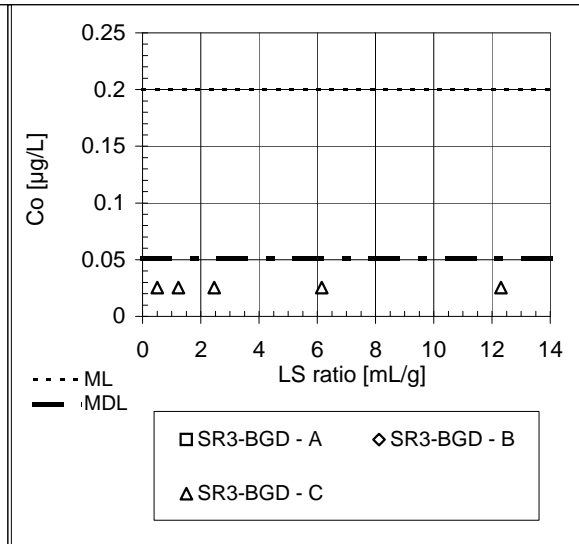
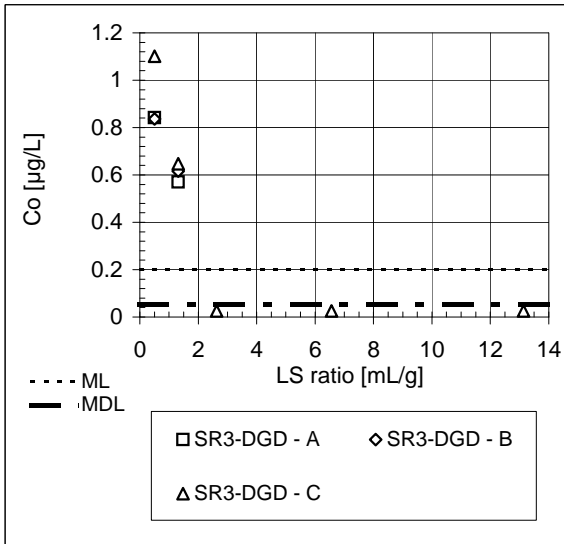
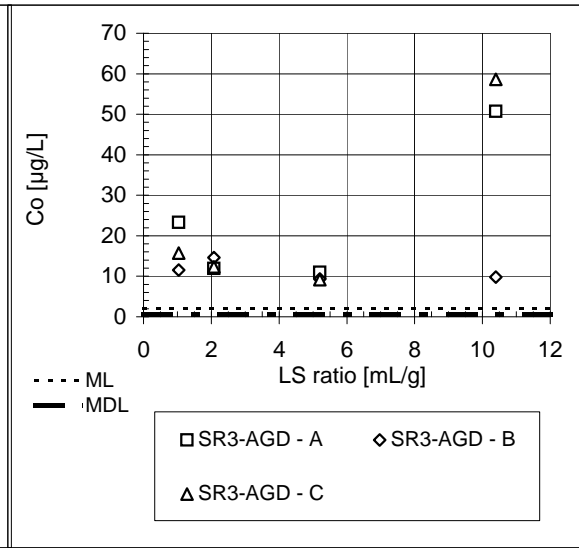
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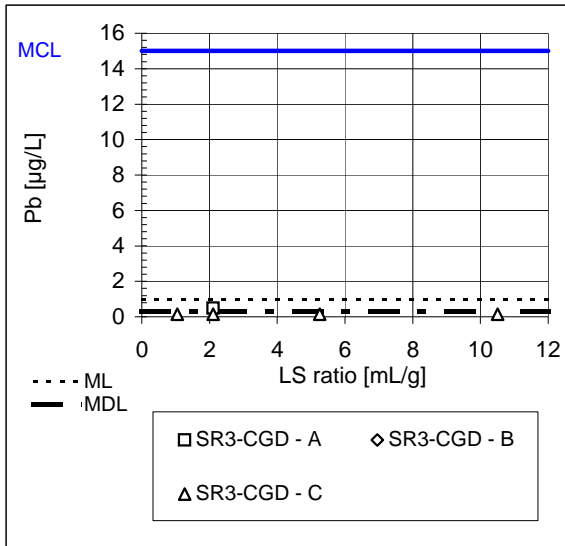
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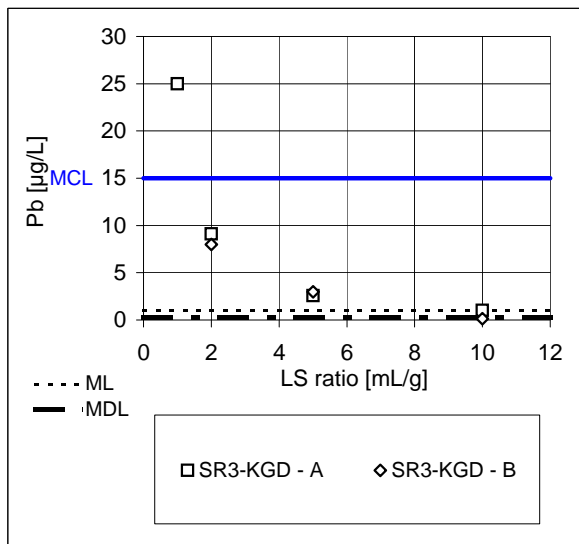
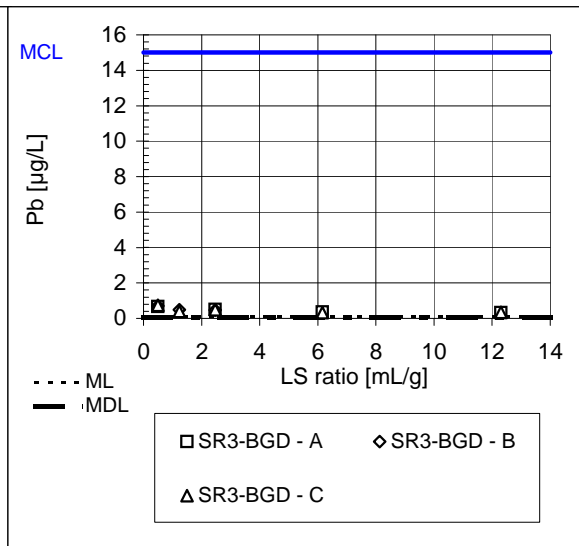
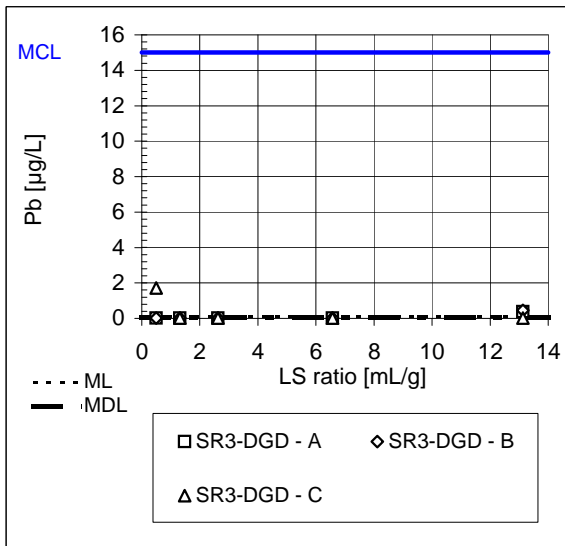
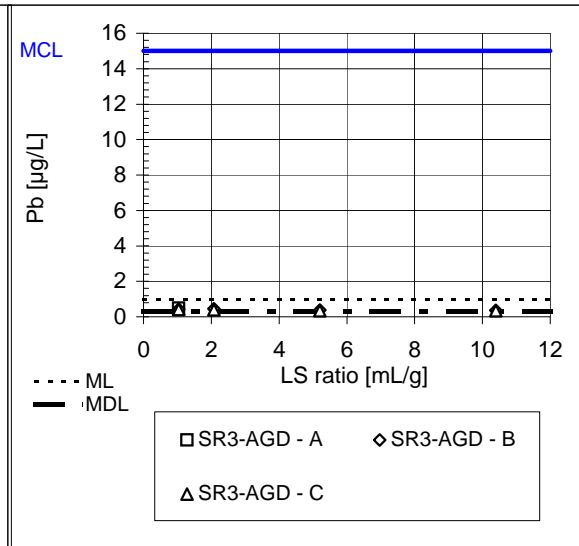
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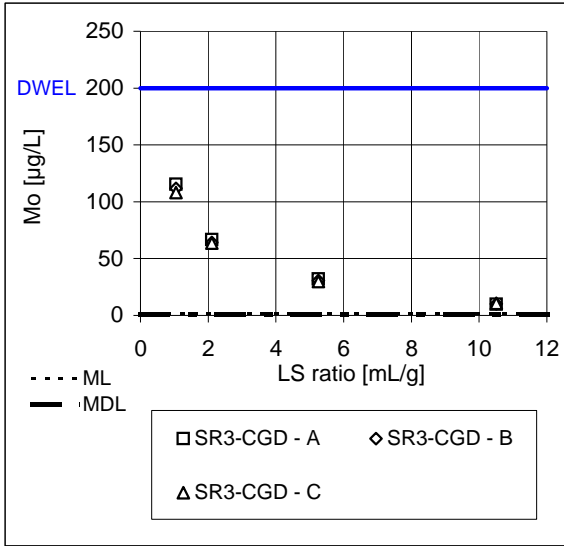
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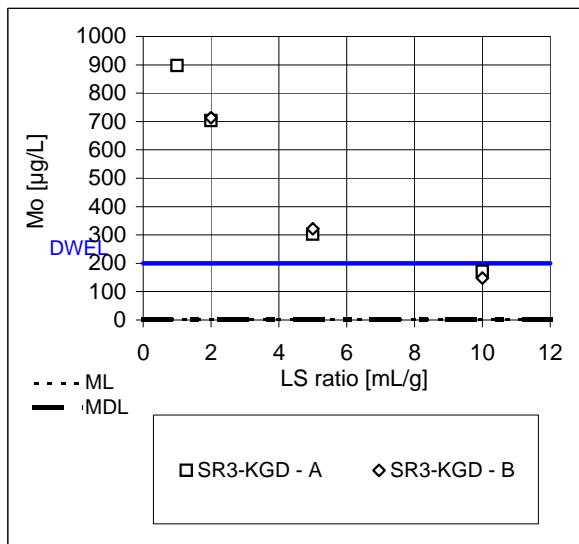
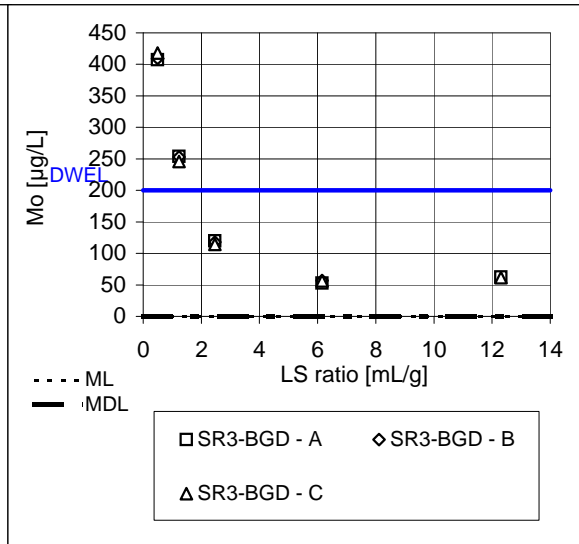
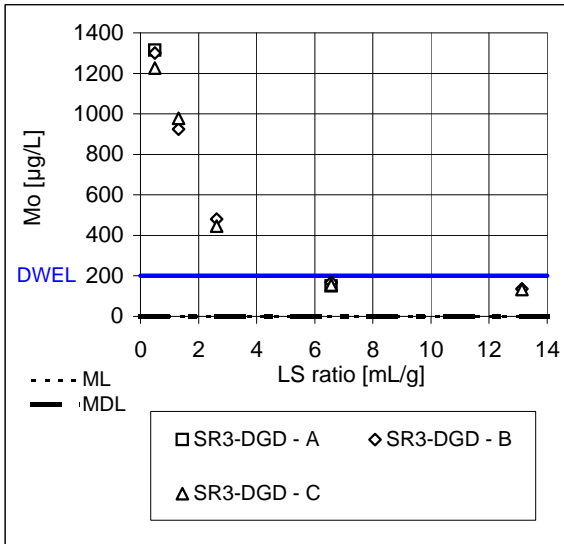
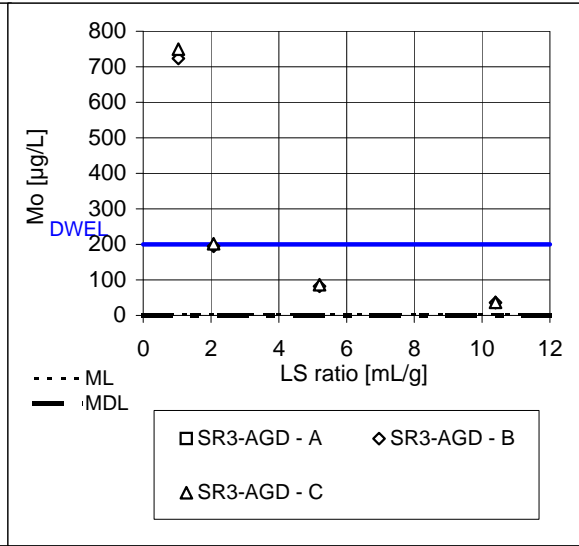
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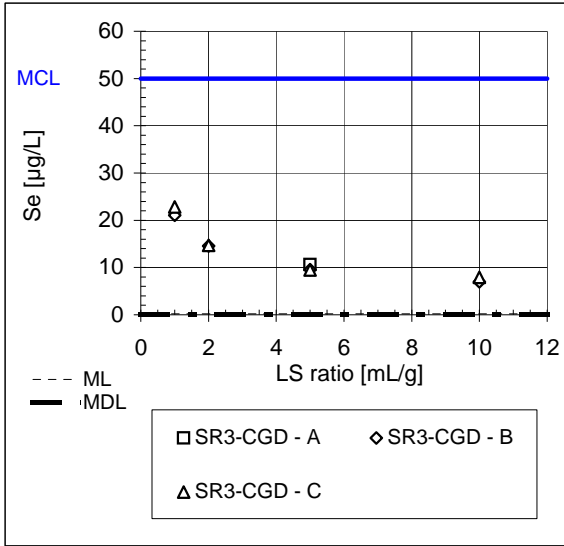
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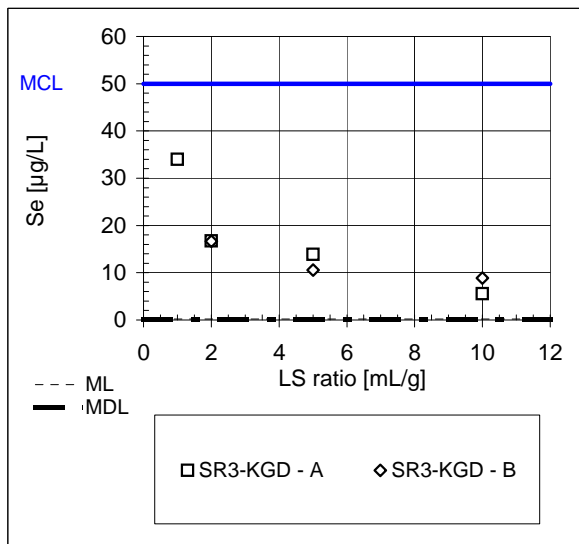
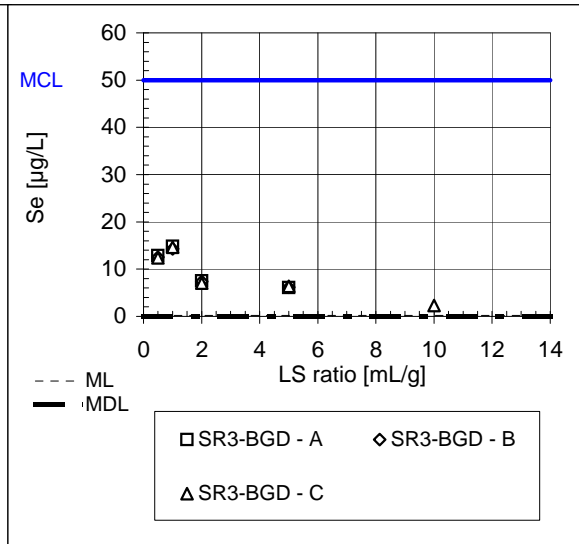
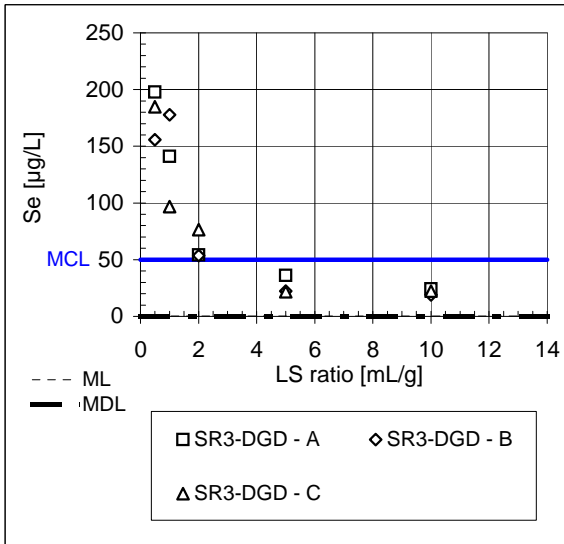
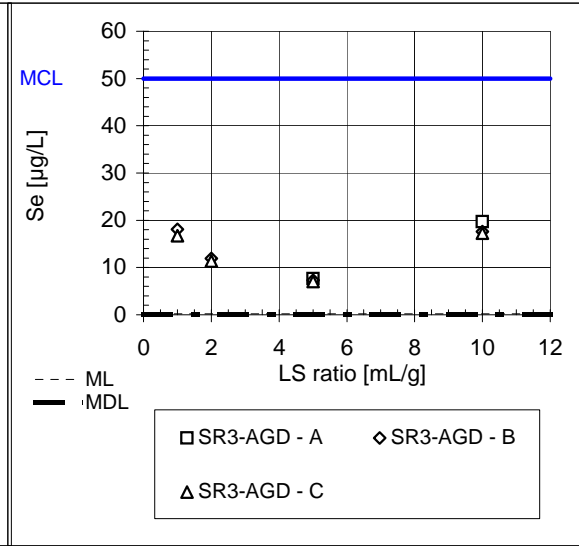
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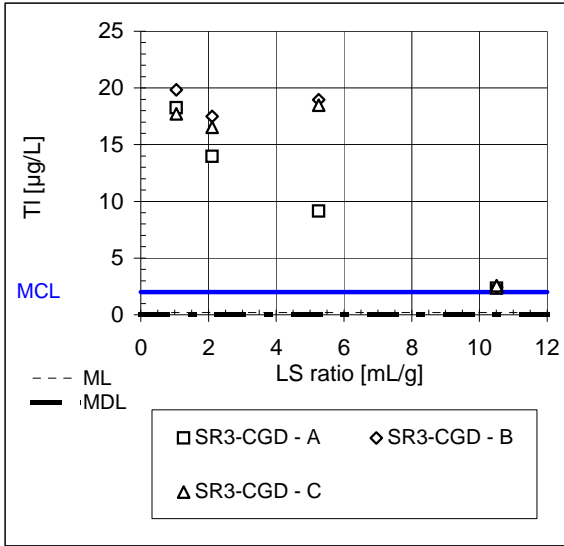
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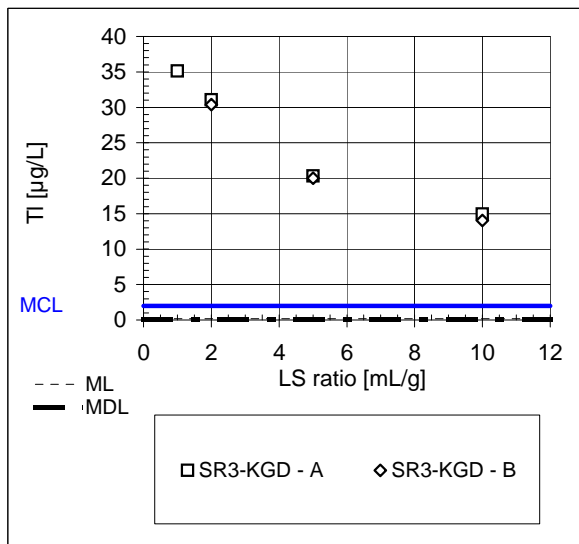
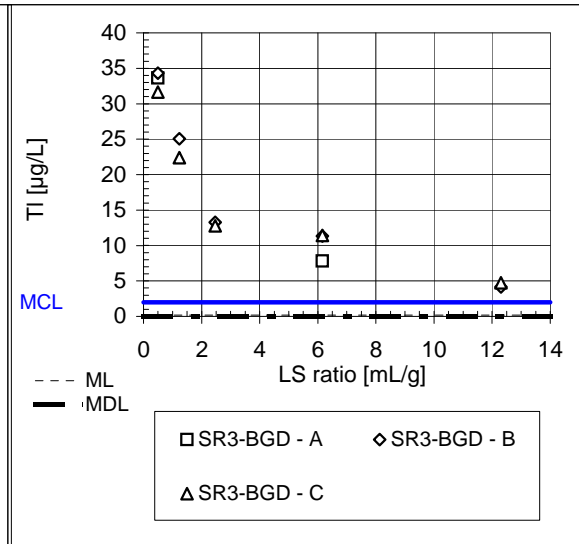
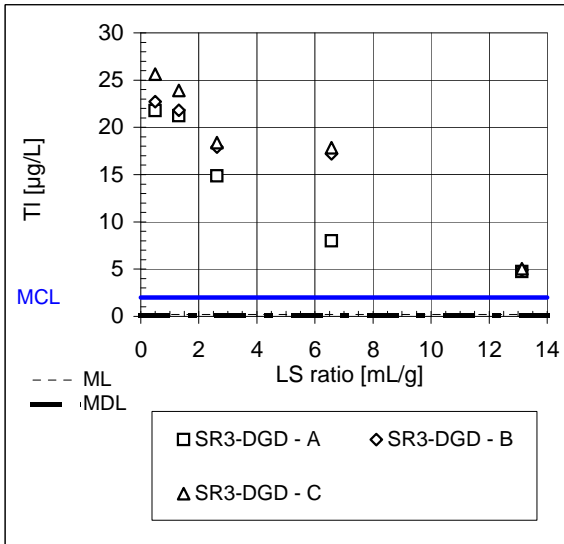
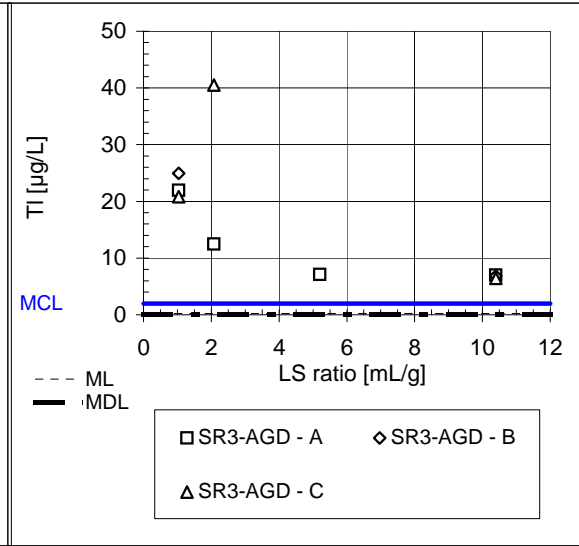
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Off



On



Fixated Scrubber Sludge (FSS, FSSL) Comparisons

FSS: Fly Ash + Scrubber Sludge (FA+ScS)

Facility A (FSS)

Coal: low sulfur bituminous

APC: NO+SNCR+FF

CCC
(SNCR Off)

ACC
(SNCR On)

page break

FSSL: Fly Ash + Scrubber Sludge + Lime (FA+ScS+lime)

Facility B (FSSL)

Coal: low sulfur bituminous

APC: NO+SCR+ESP(CS) [Mg lime]

DCC
(SCR Off)

BCC
(SCR On)

Facility K (FSSL)

Coal: sub-bituminous

APC: NO+SCR+ESP(CS) [Mg lime]

KCC
(SCR On)

Facility M (FSSL)

Coal: bituminous

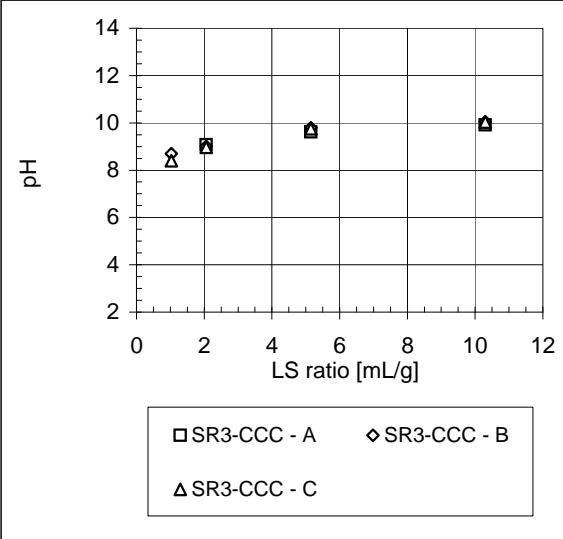
APC: IO+SCR+ESP(CS)

MAD
(SCR Off)

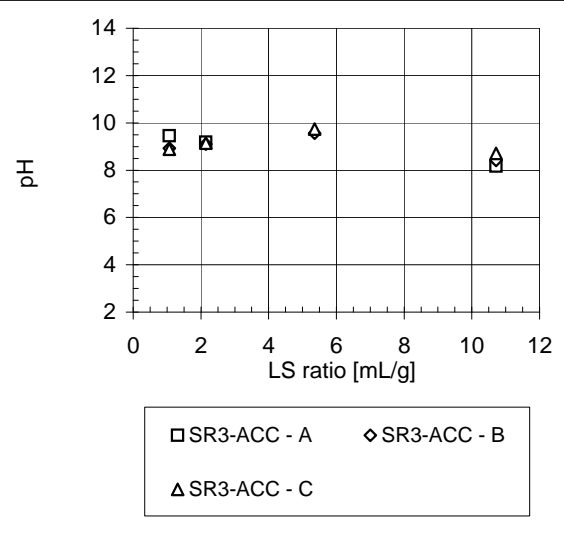
MAS
(SCR On)

Fixated Scrubber Sludge Comparisons

Off

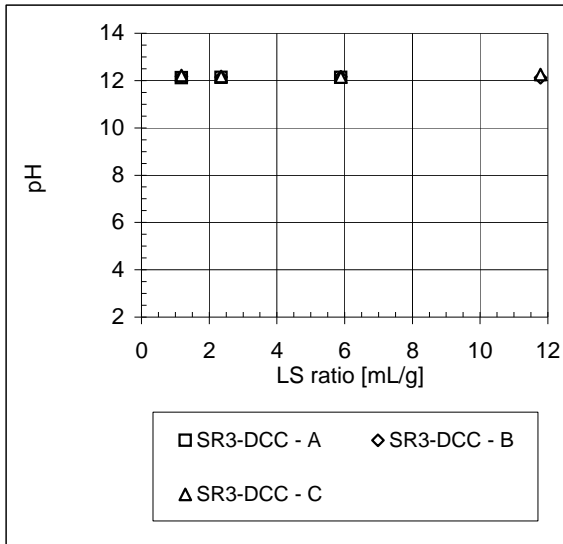


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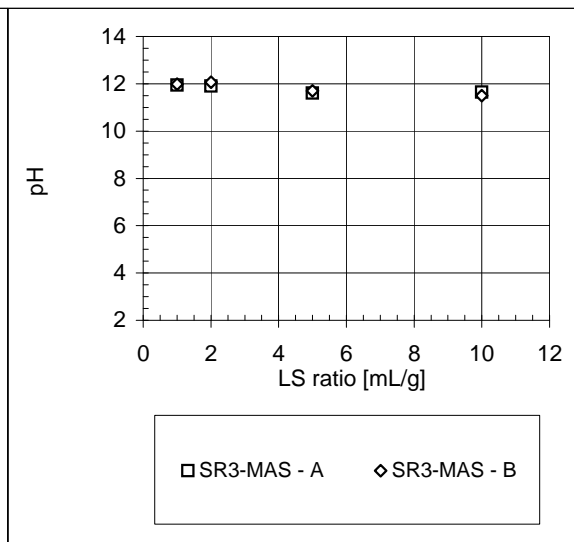
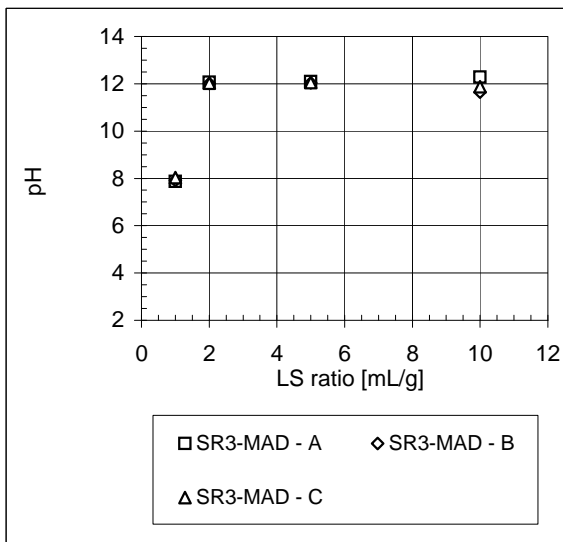
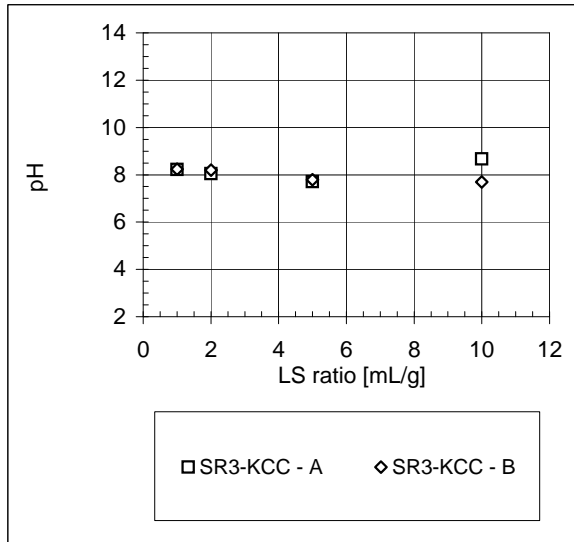
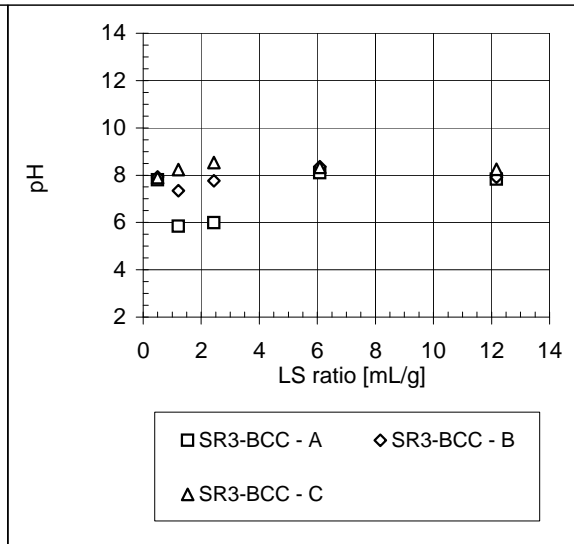


Fixated Scrubber Sludge Comparisons

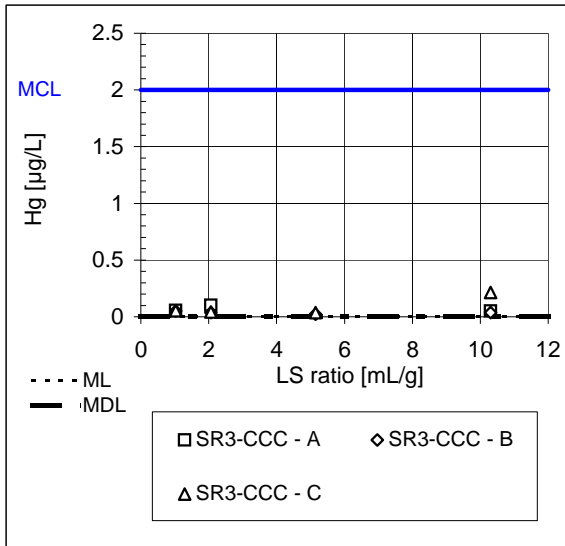
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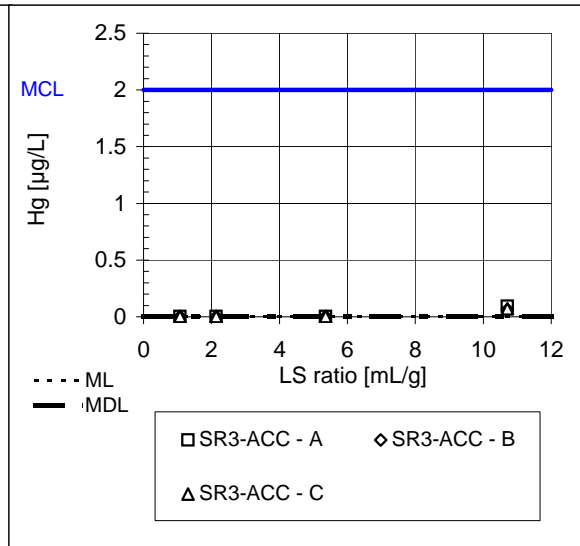
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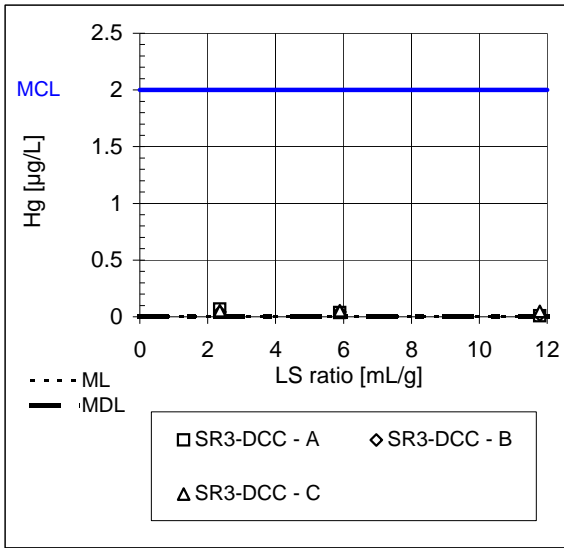
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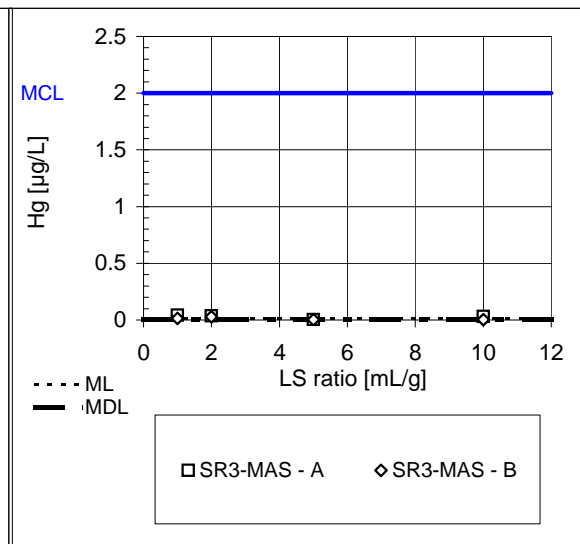
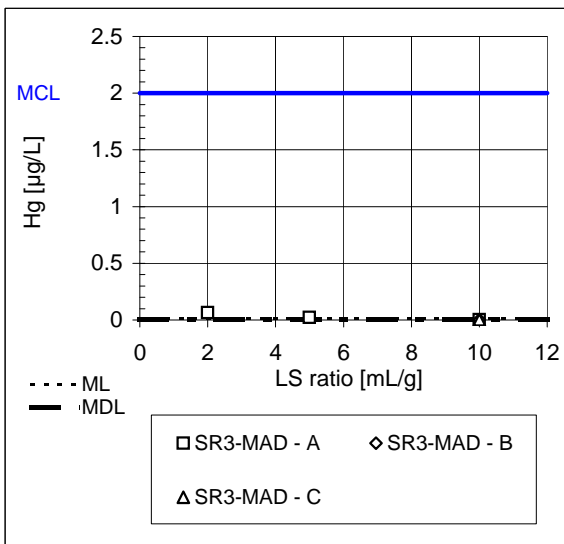
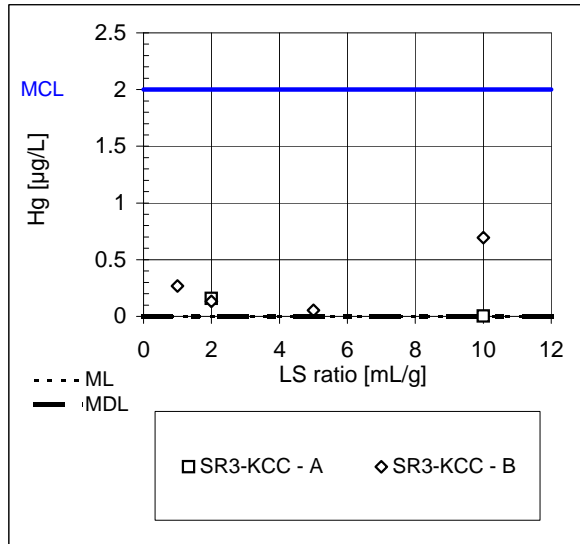
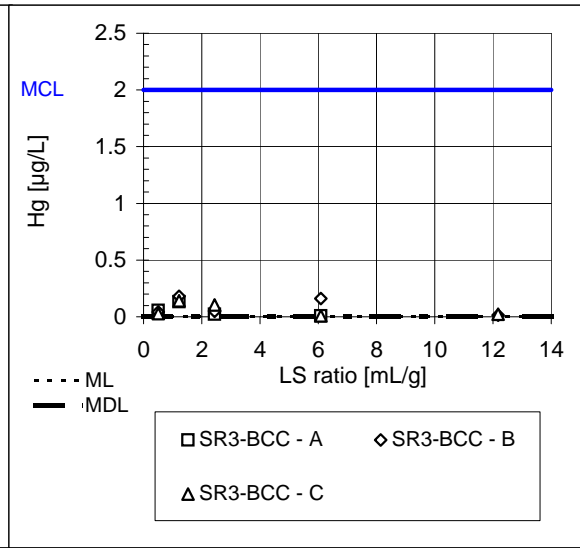
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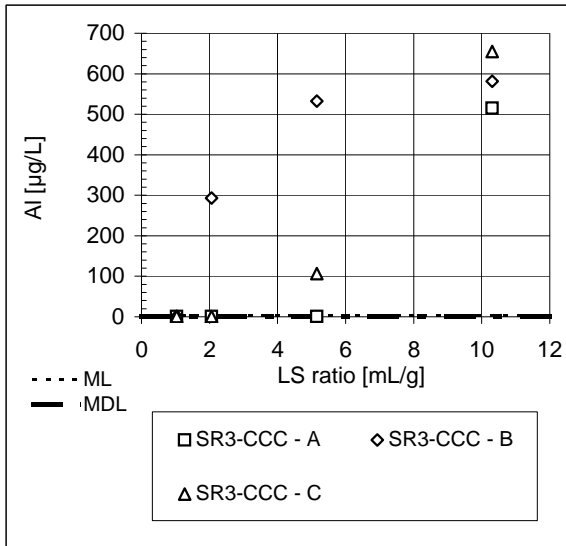
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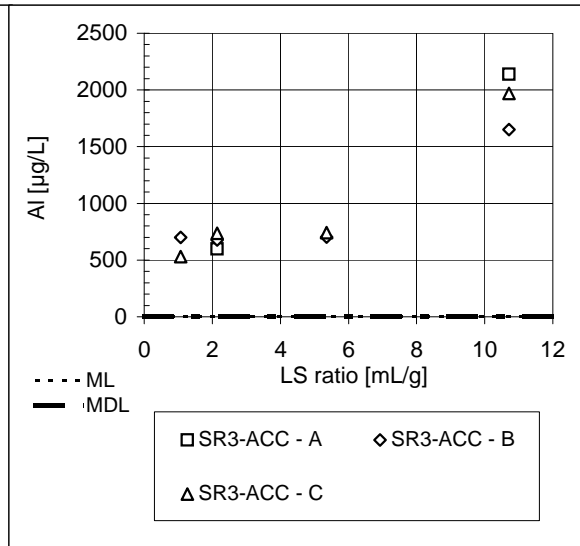
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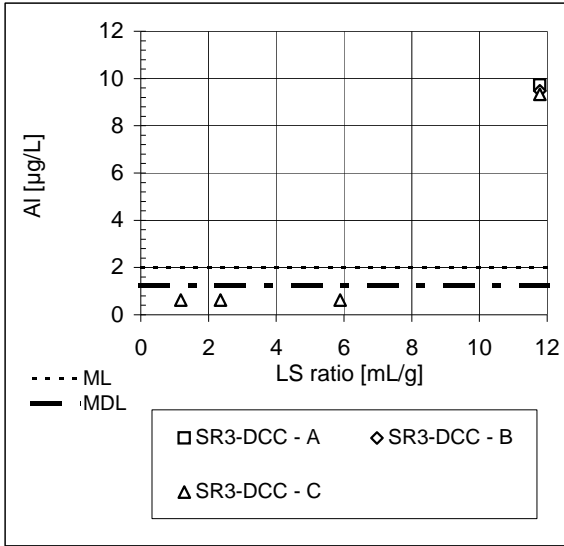
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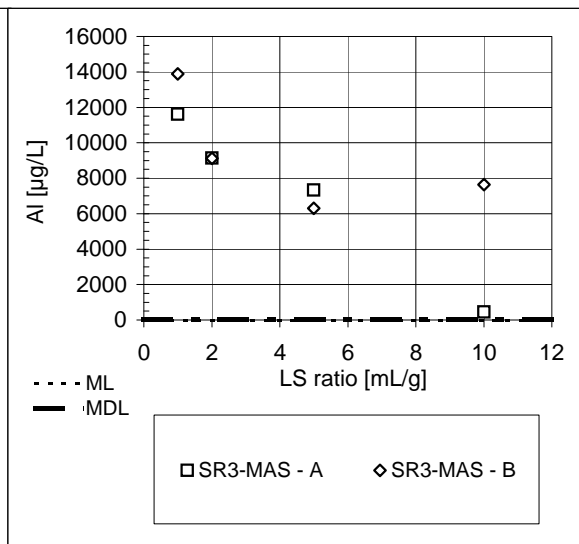
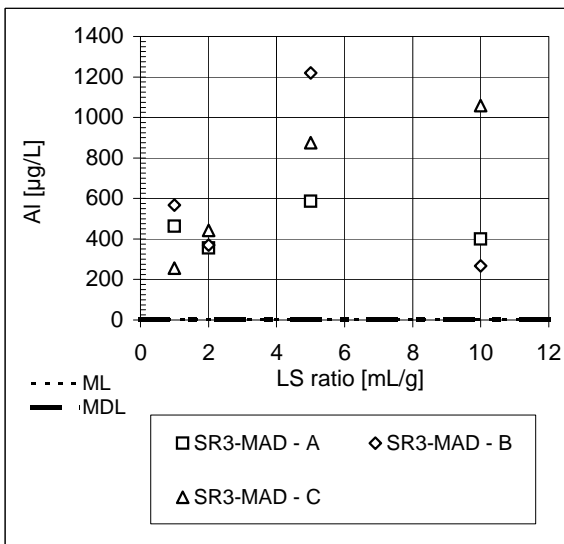
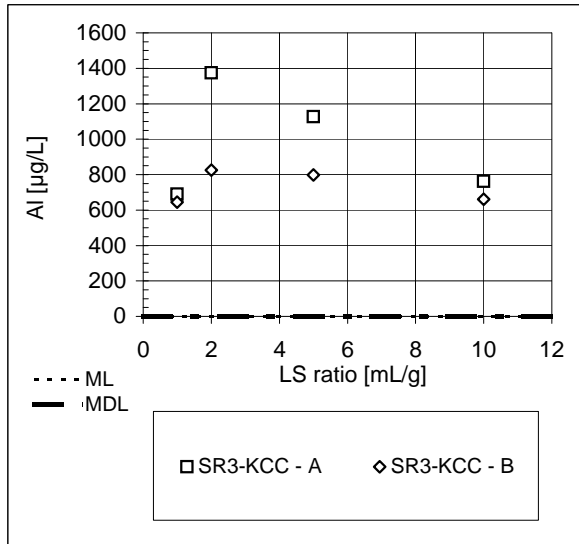
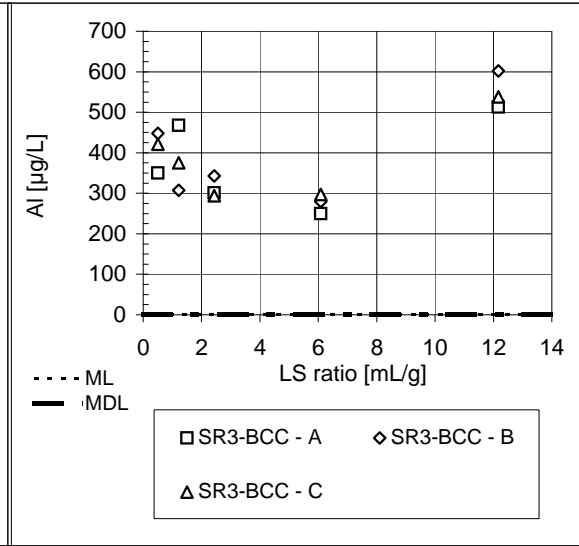
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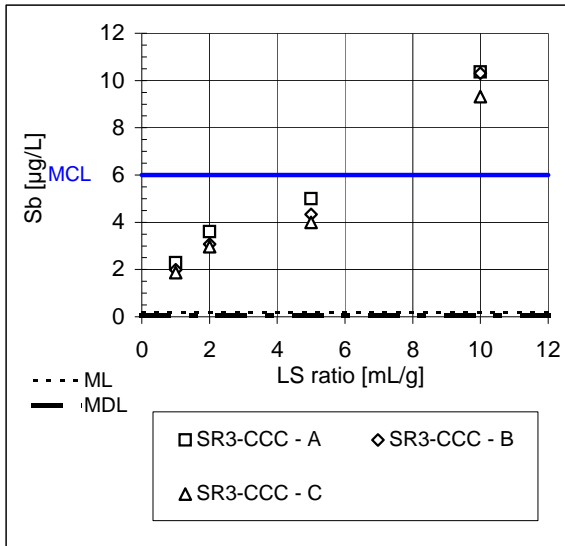
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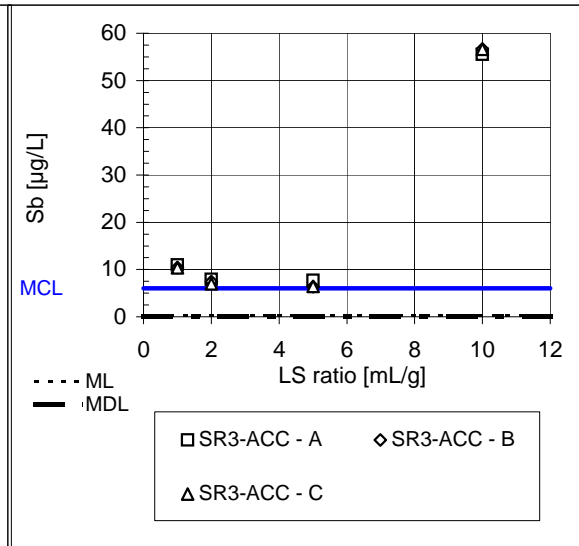
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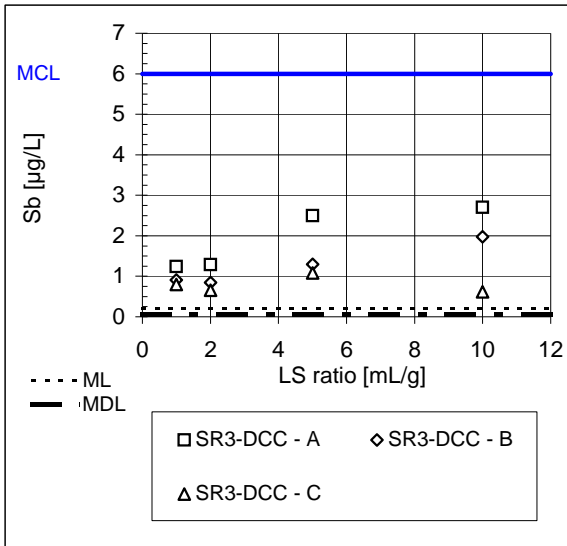
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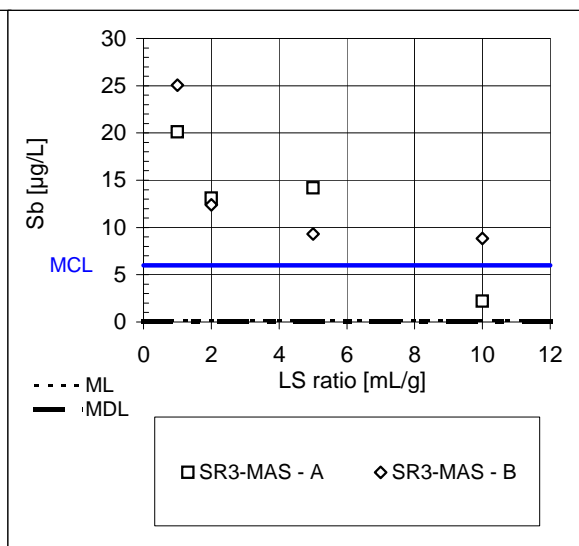
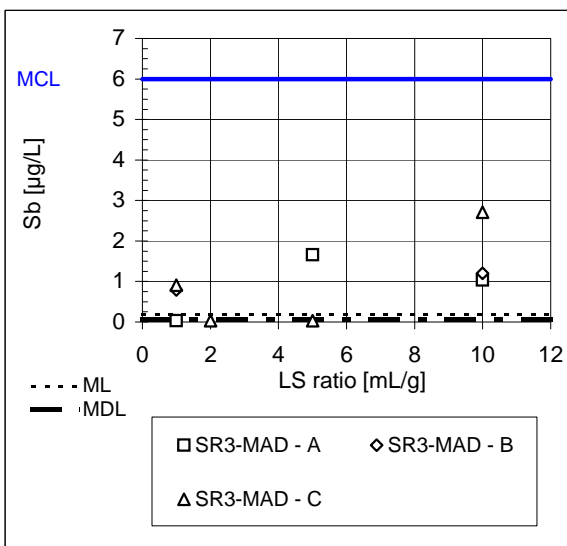
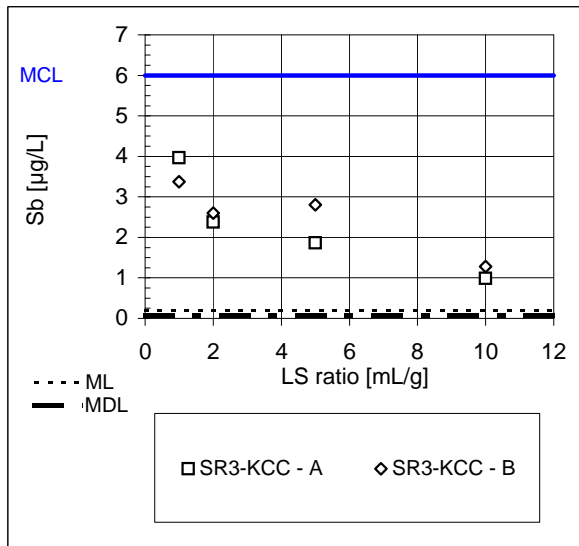
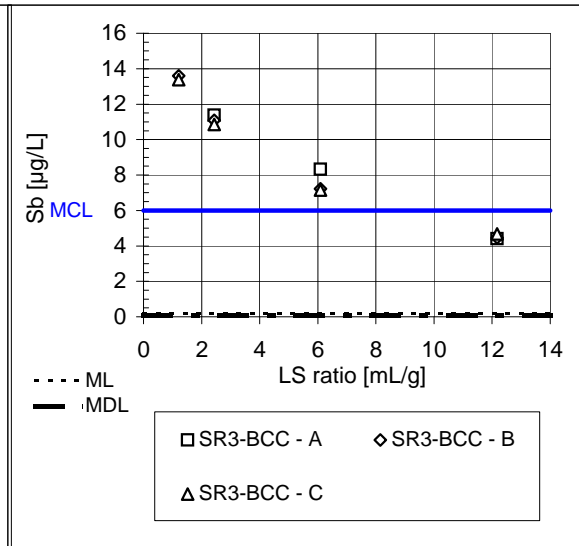
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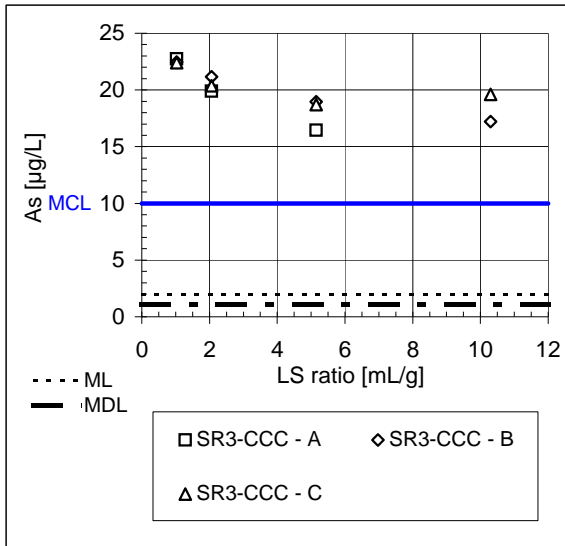
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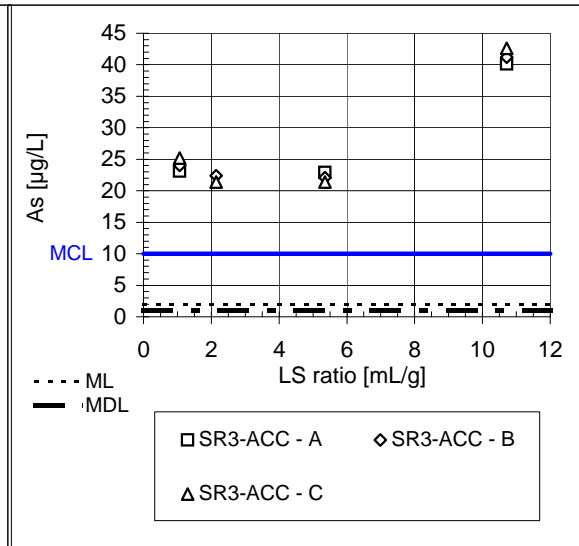
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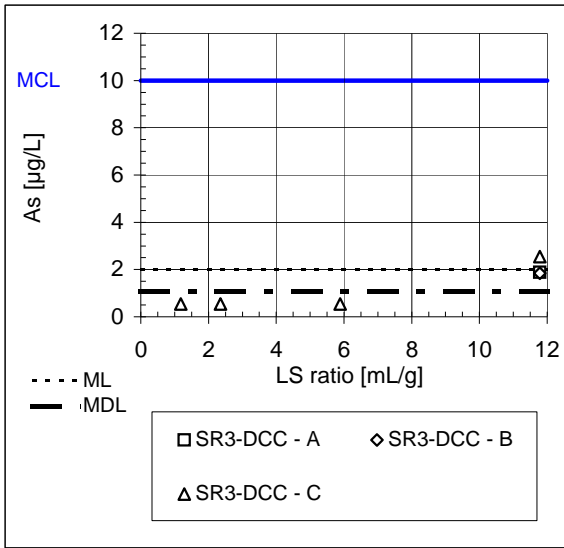
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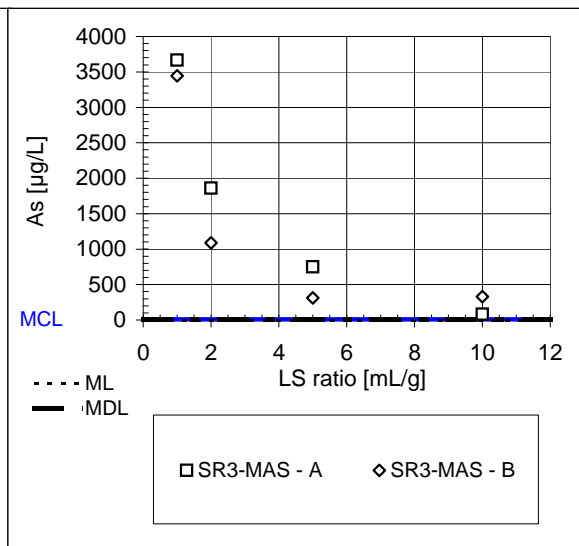
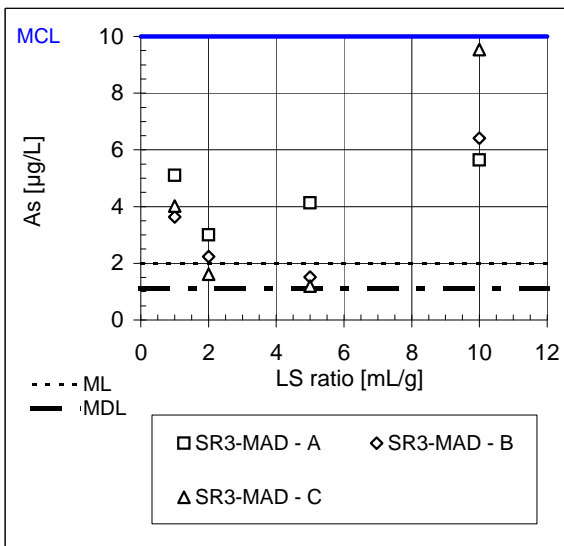
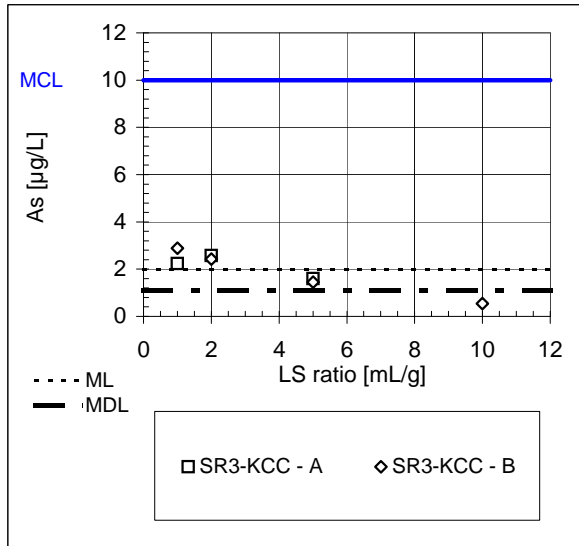
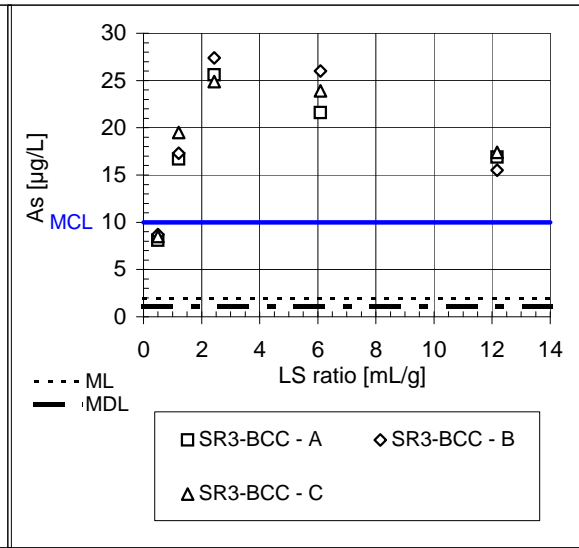
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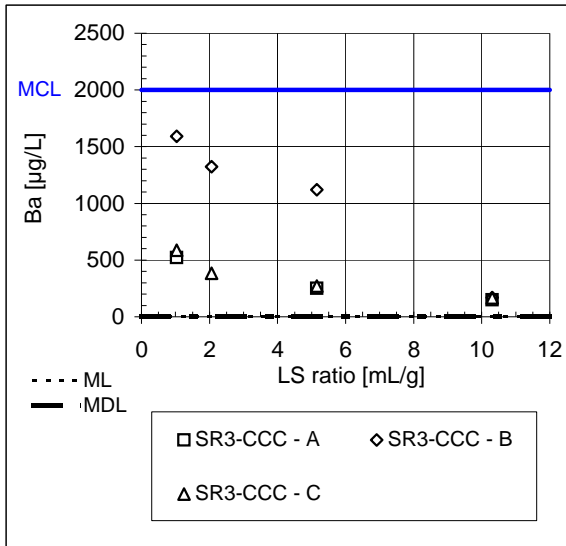
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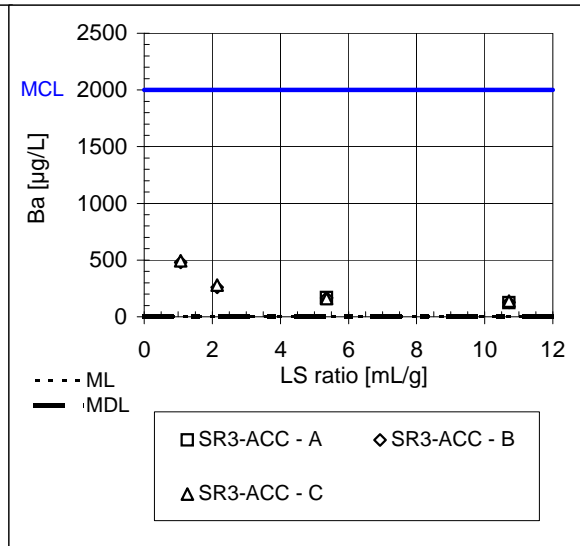
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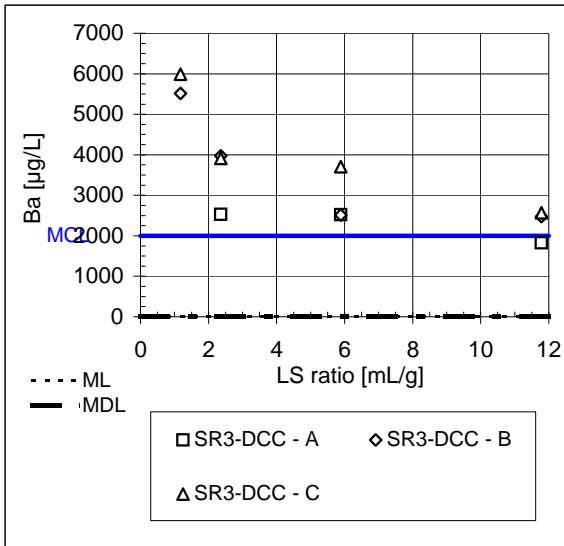
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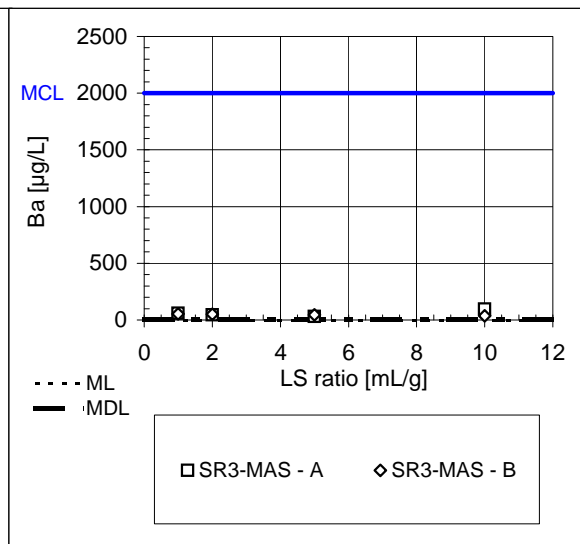
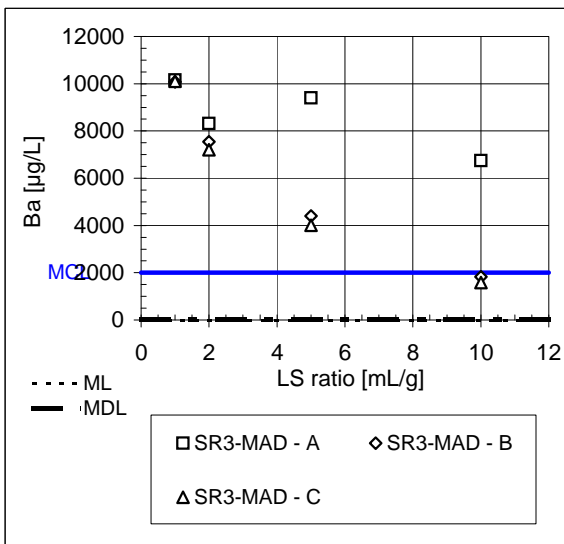
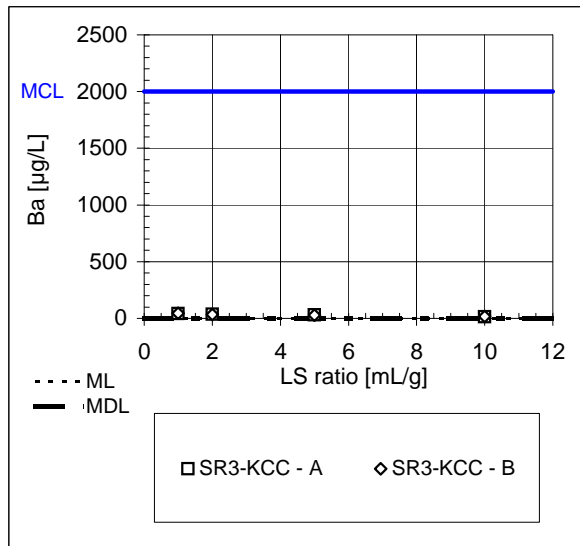
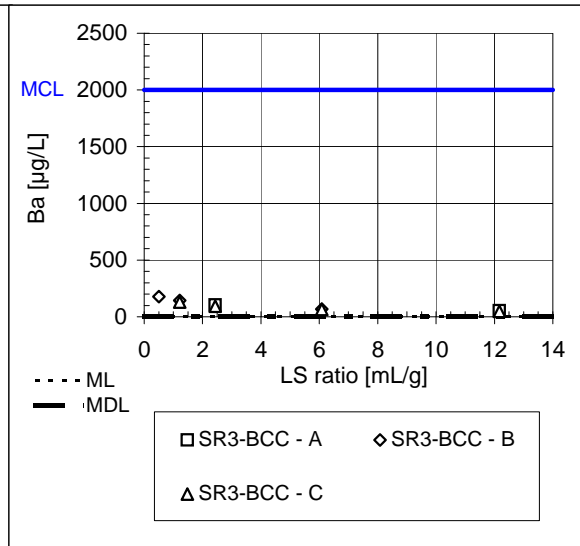
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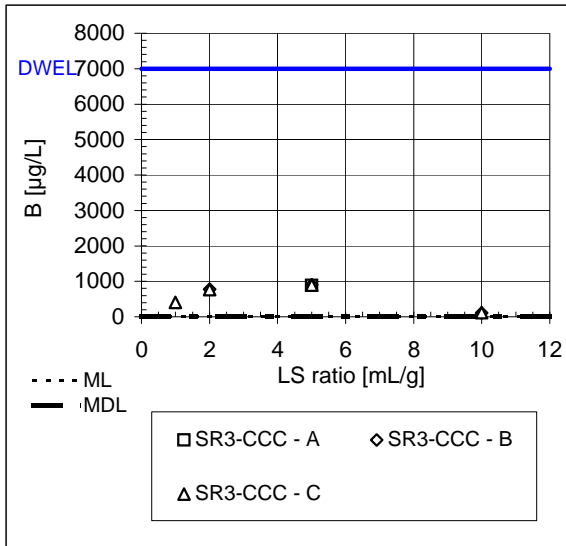
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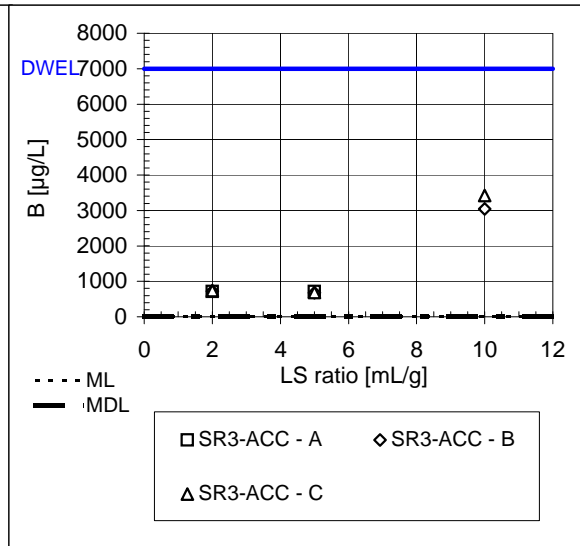
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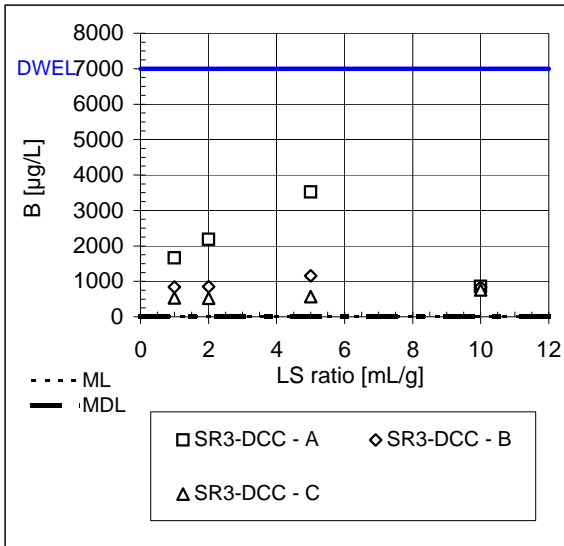
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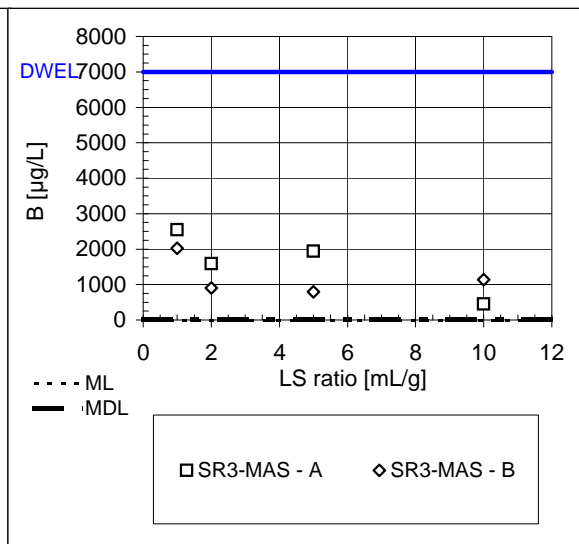
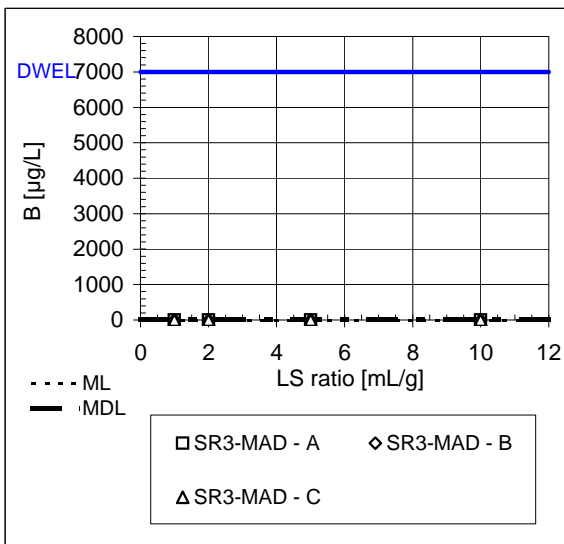
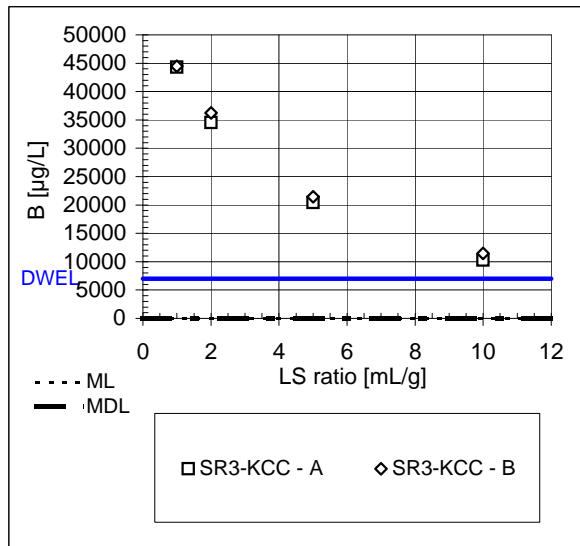
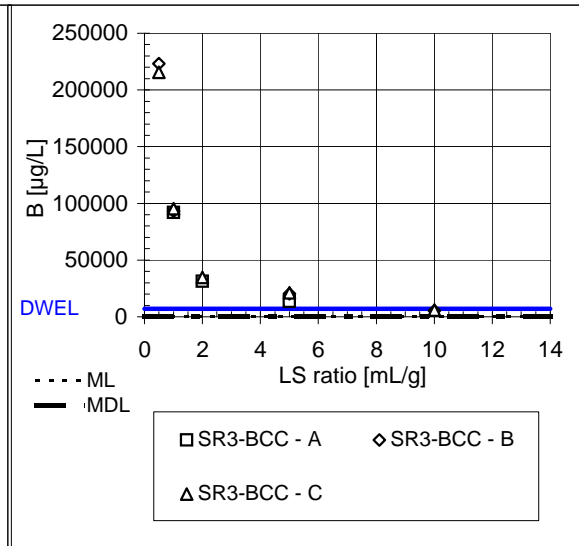
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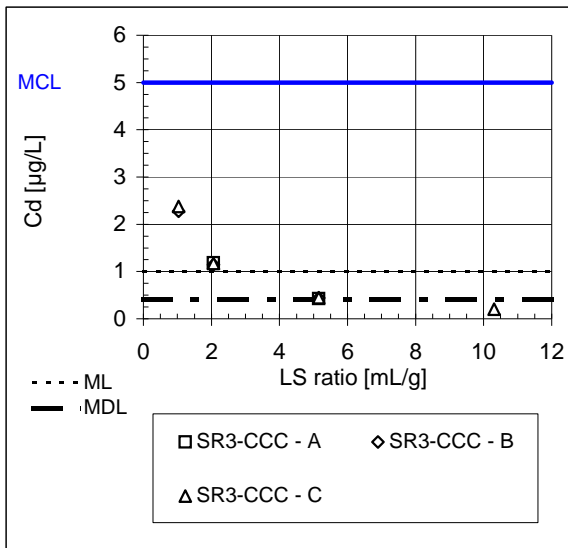
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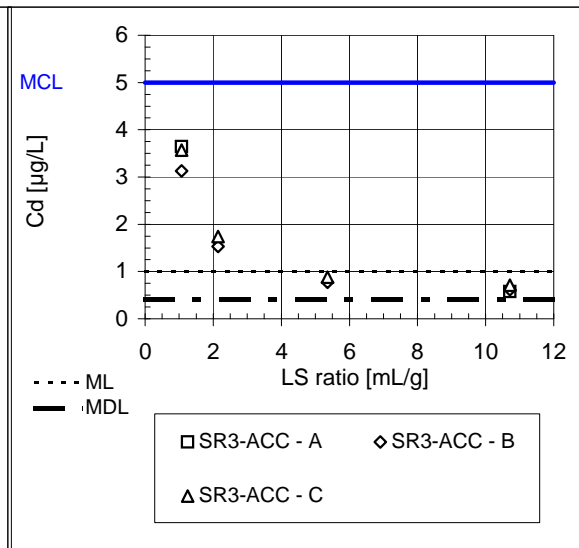
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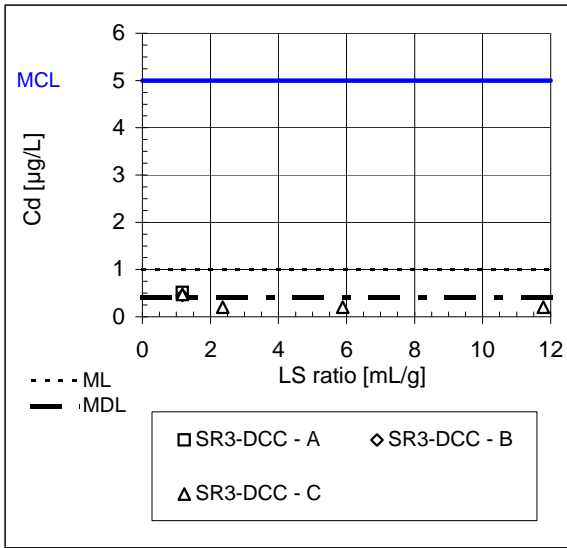
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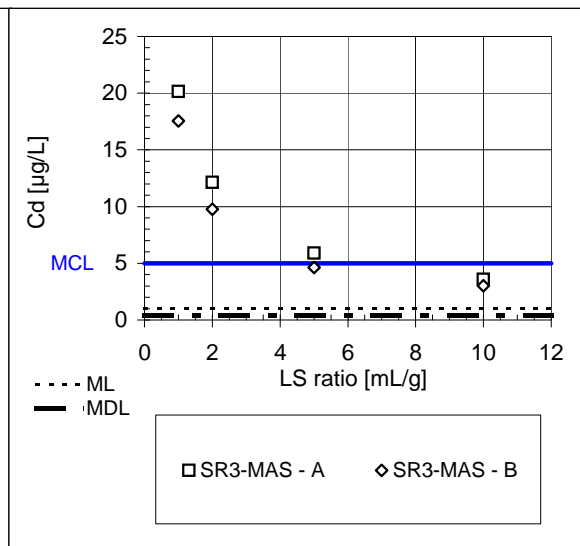
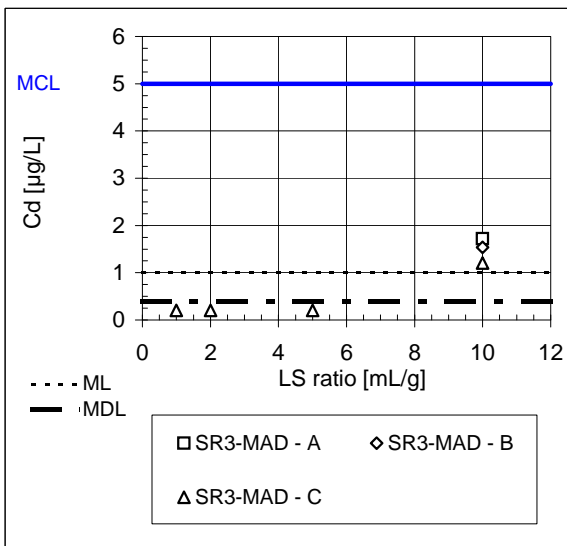
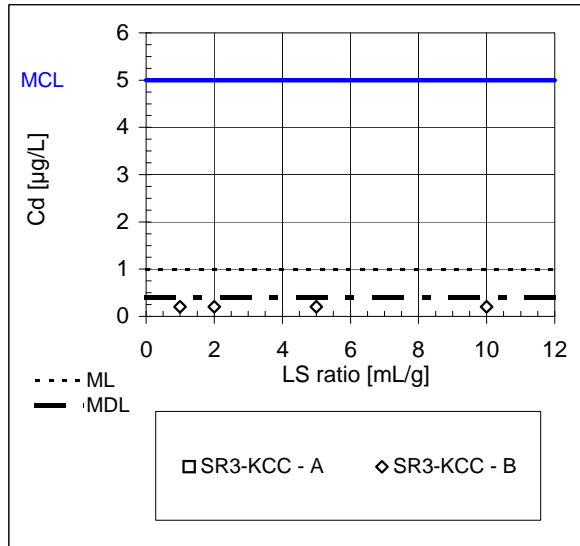
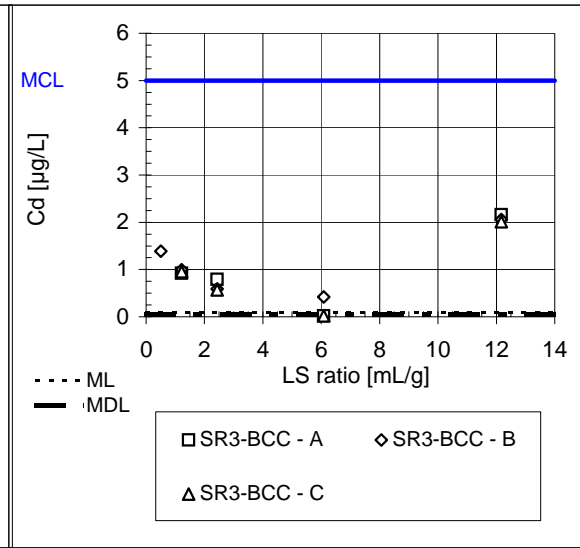
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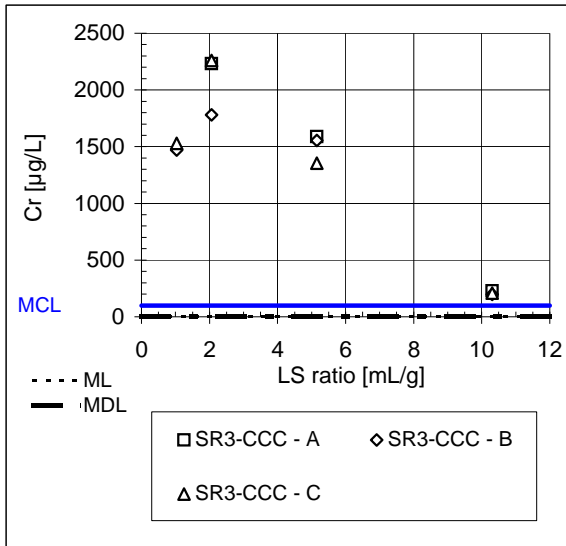
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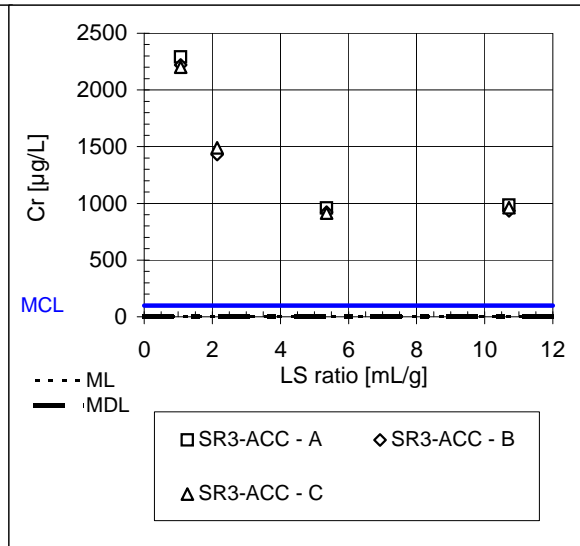
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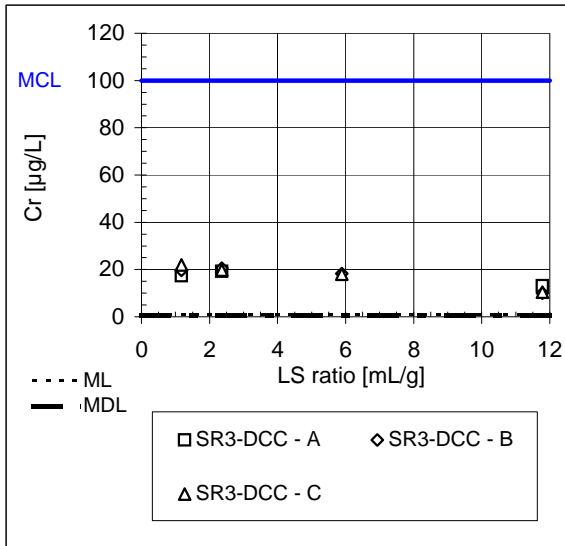
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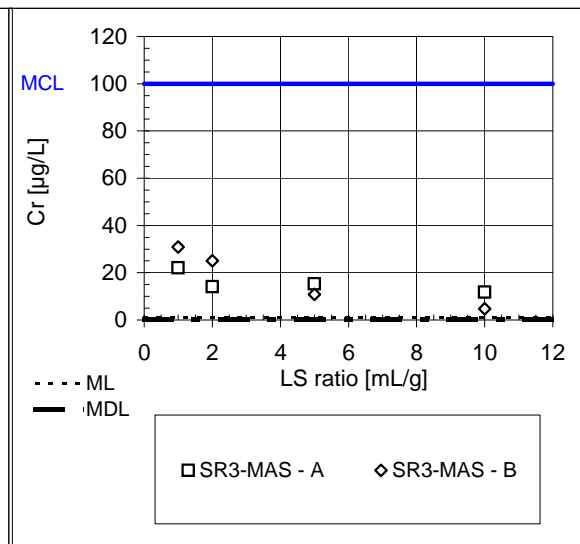
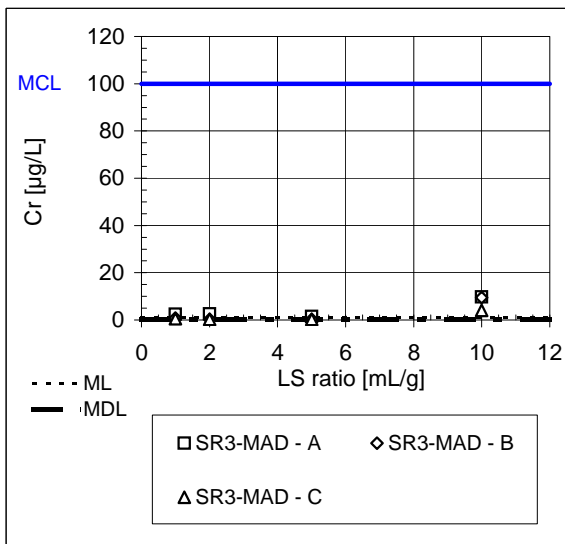
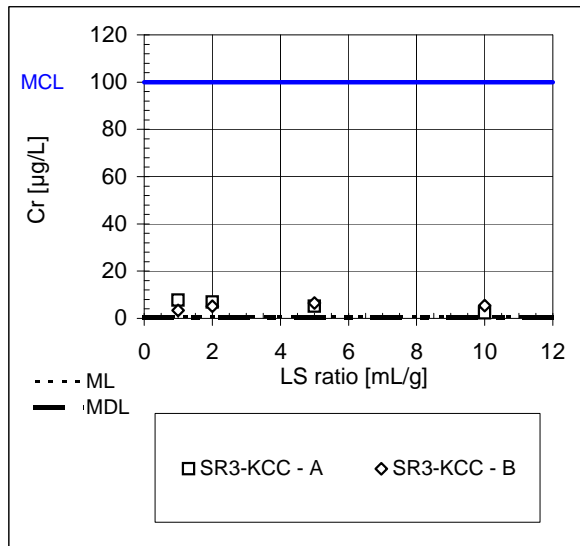
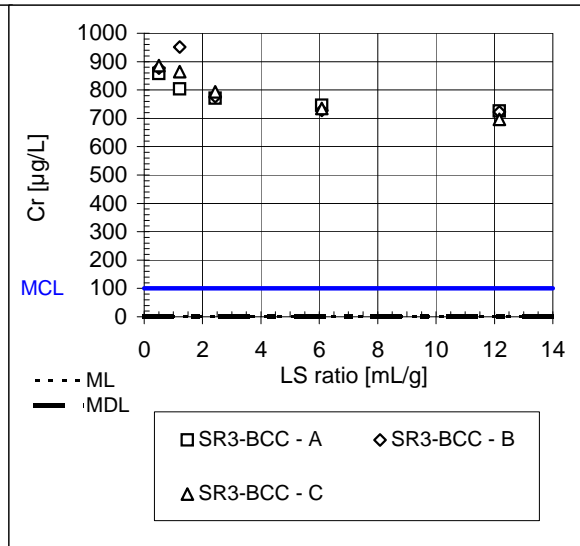
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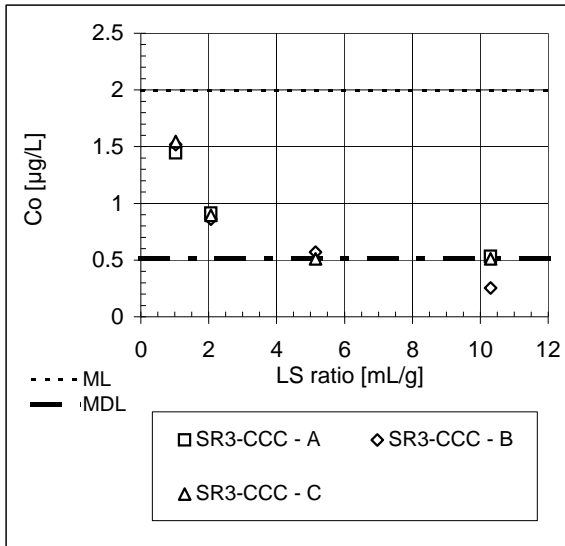
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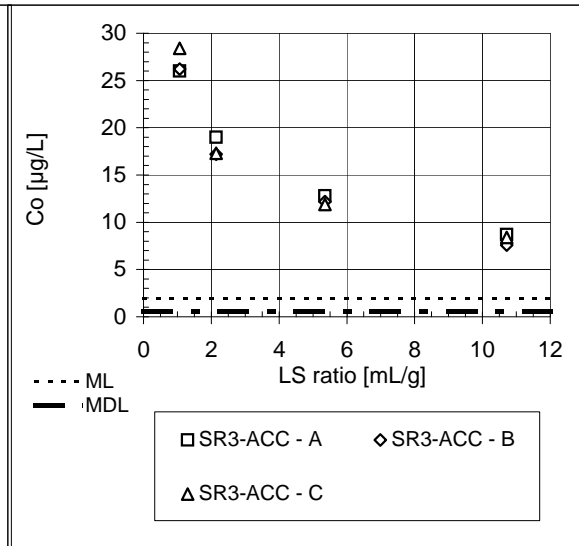
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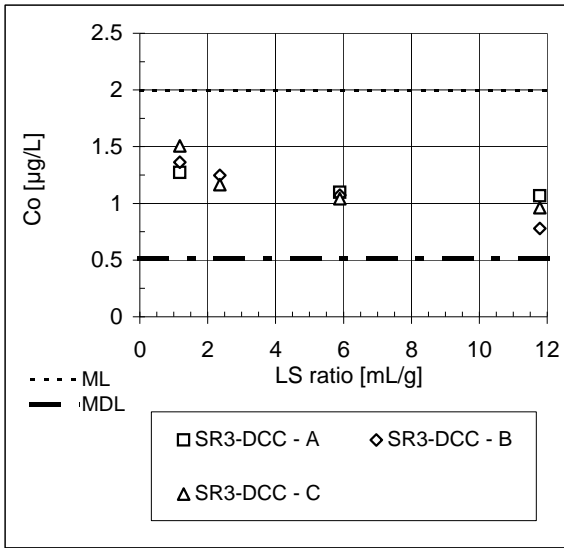
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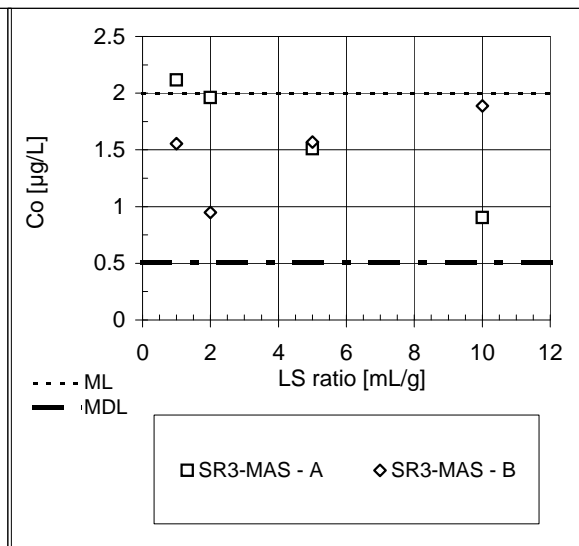
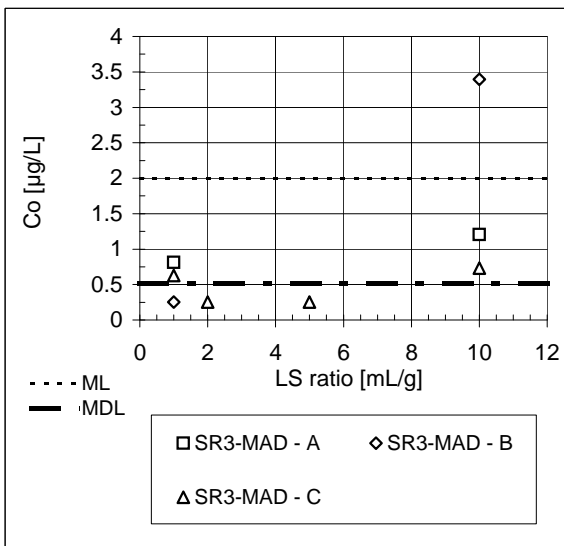
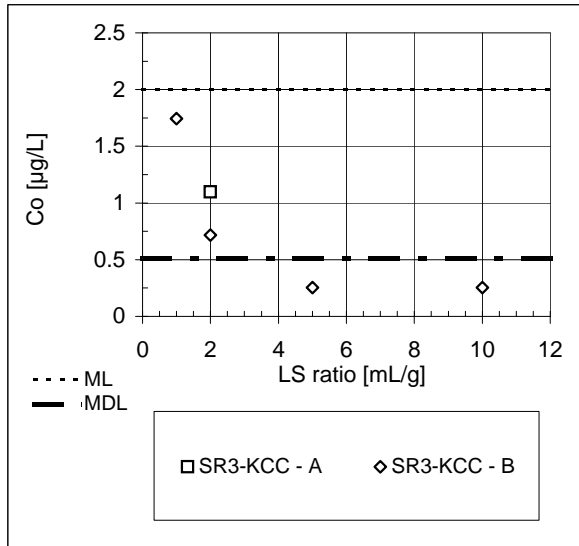
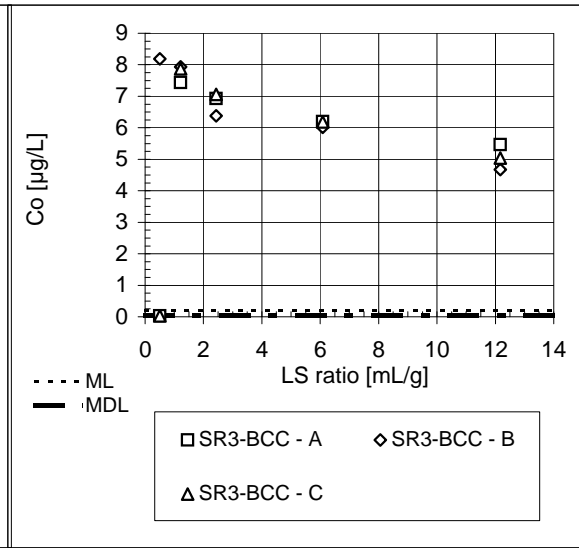
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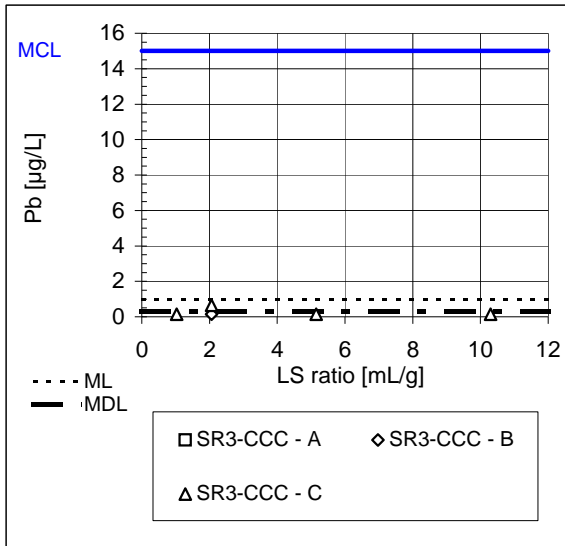
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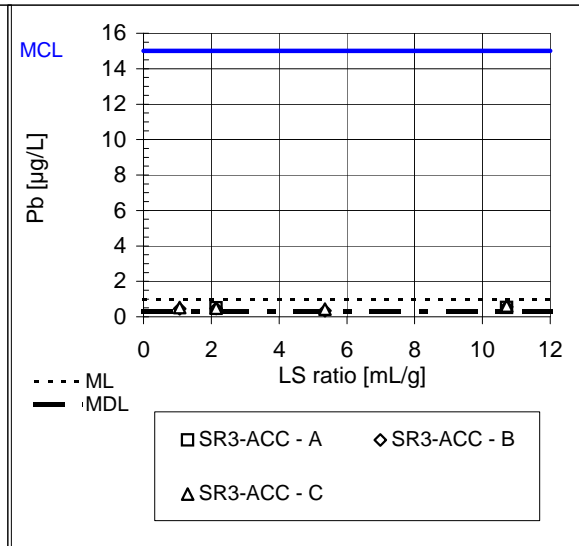
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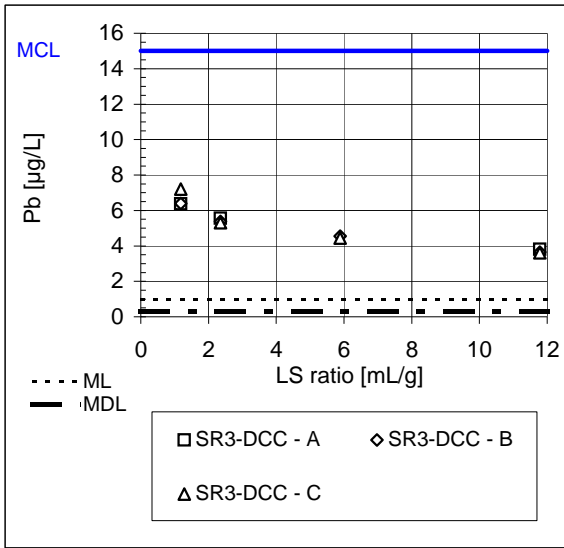
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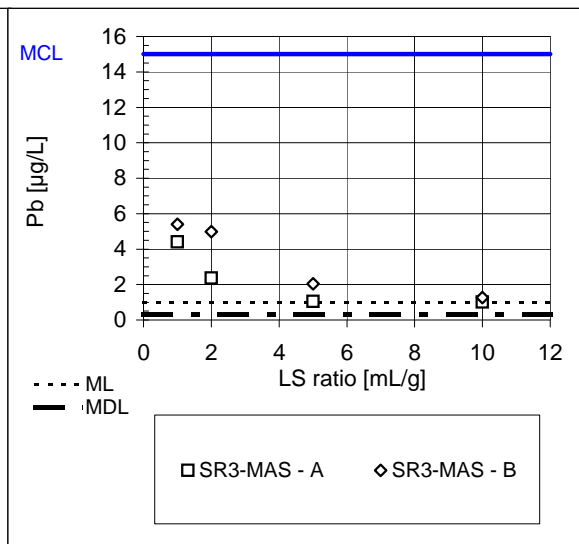
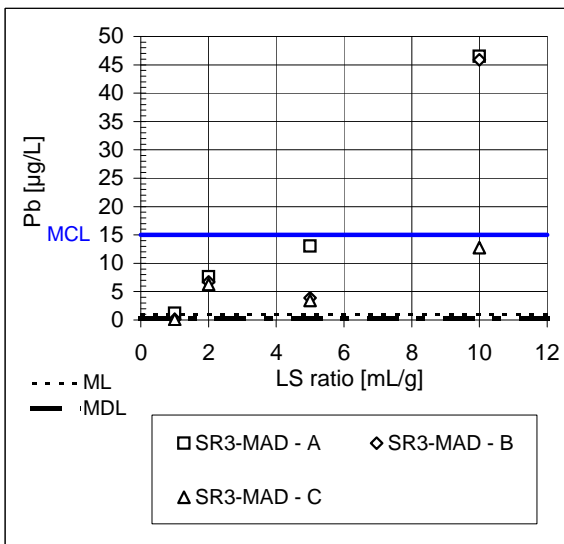
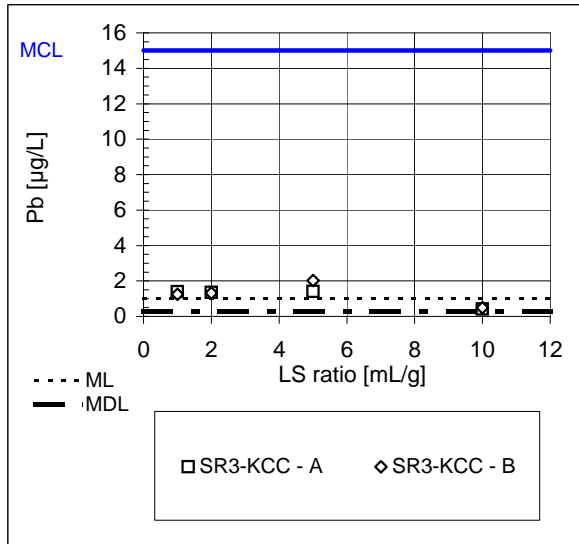
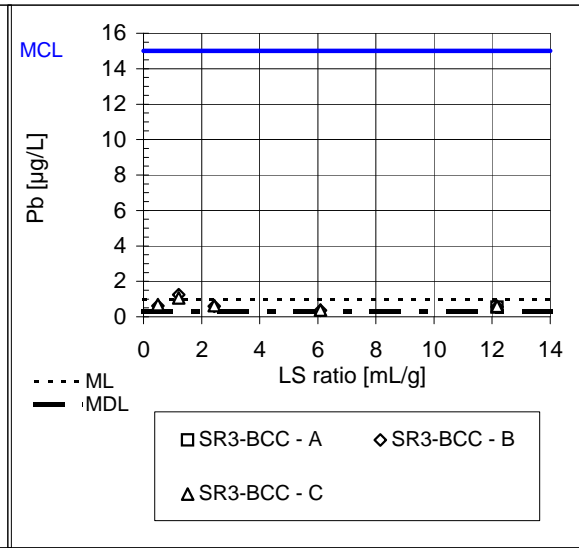
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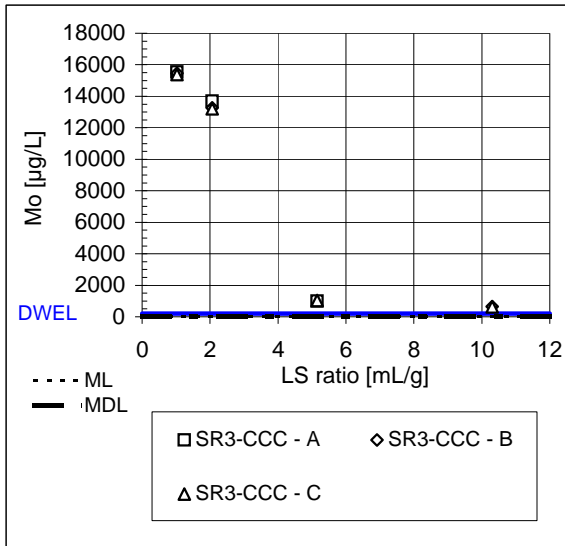
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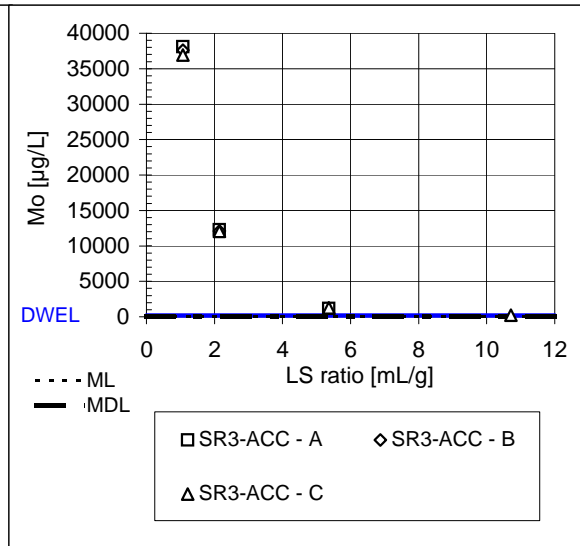
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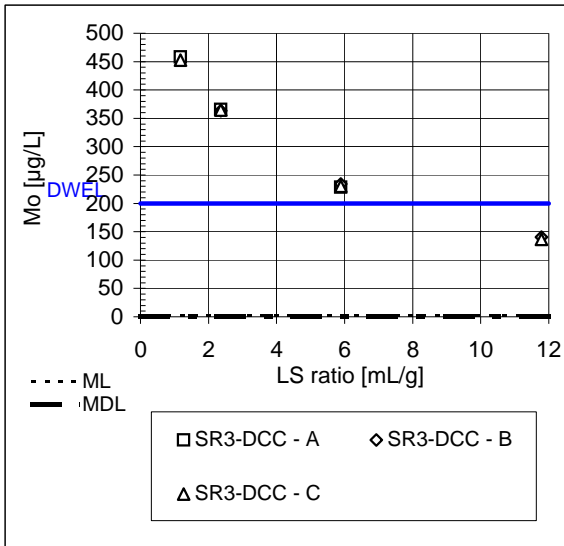
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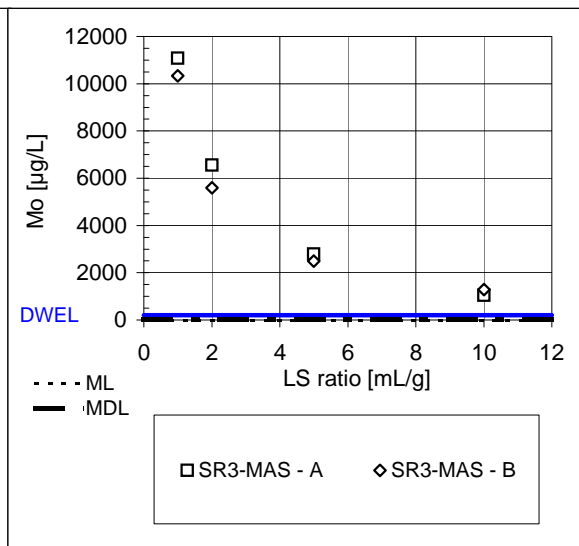
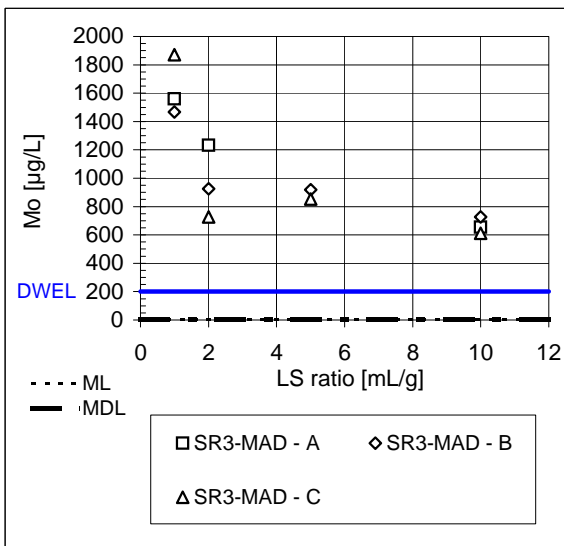
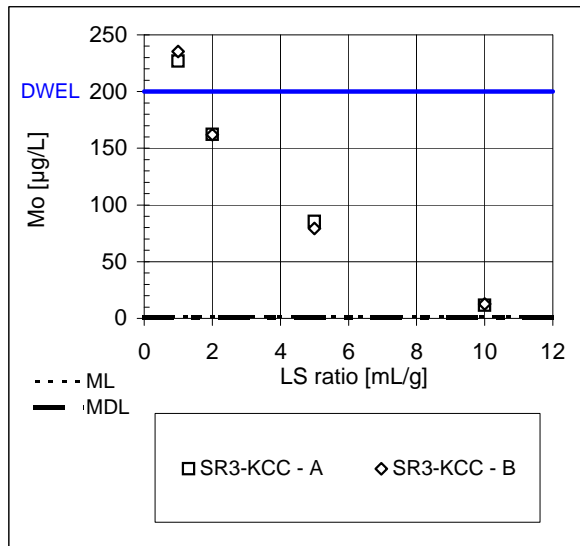
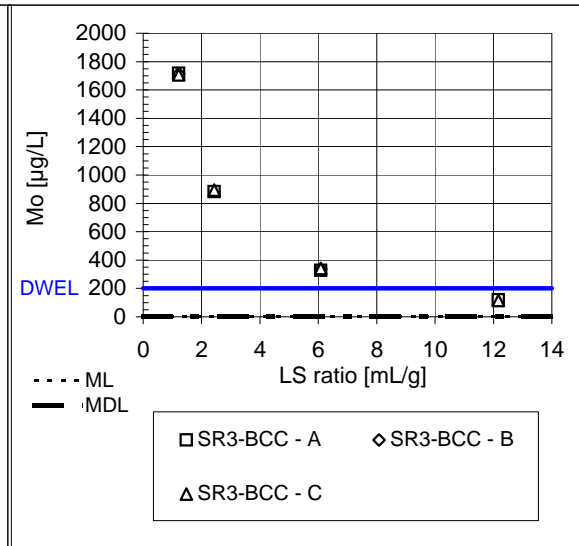
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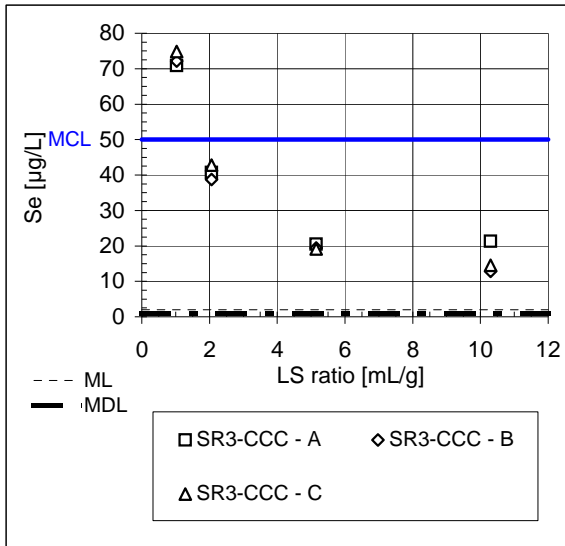
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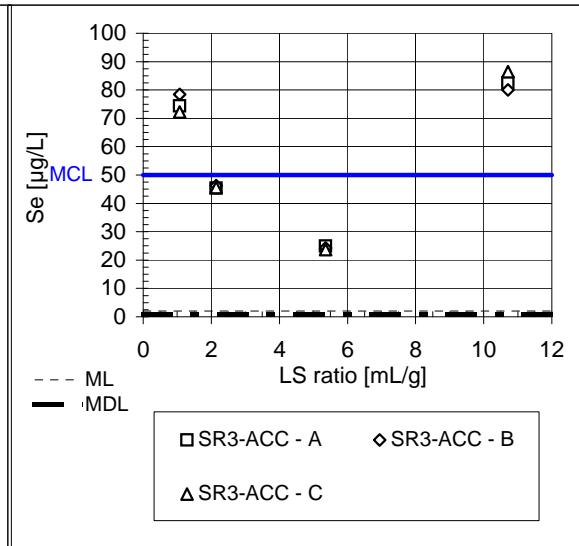
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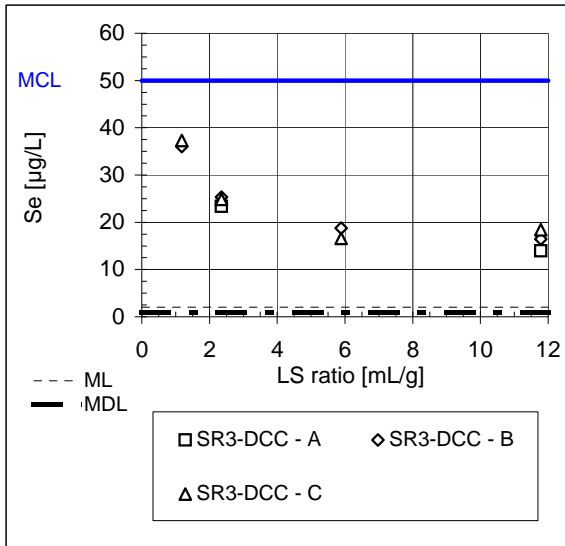
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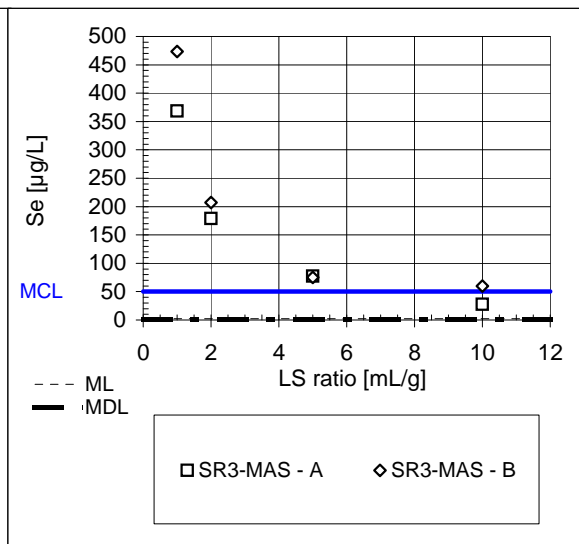
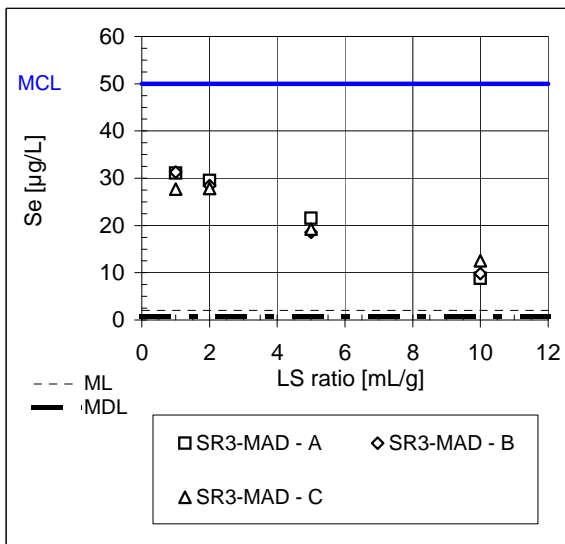
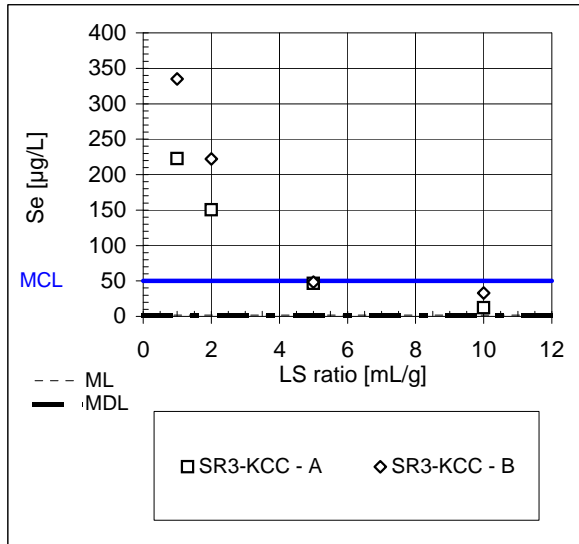
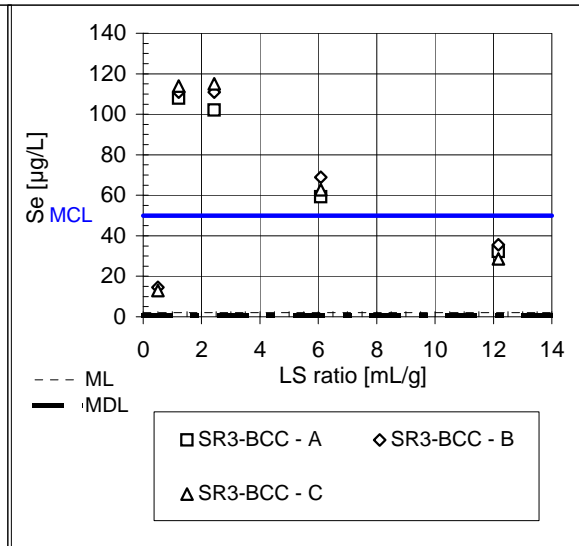
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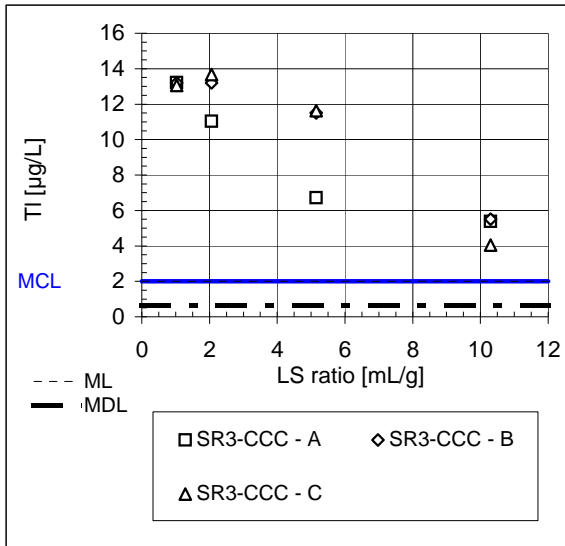
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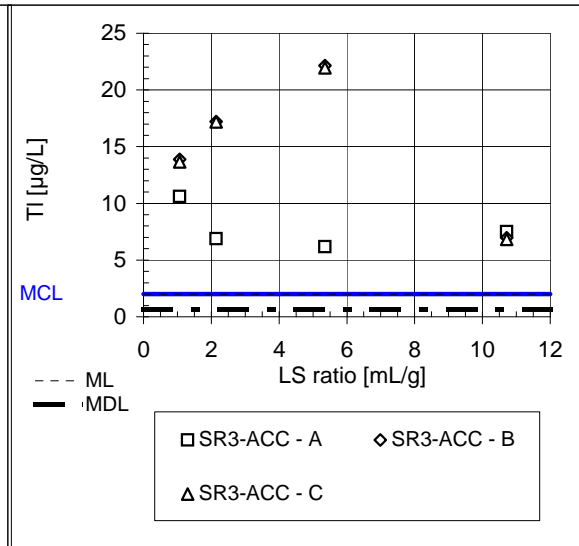
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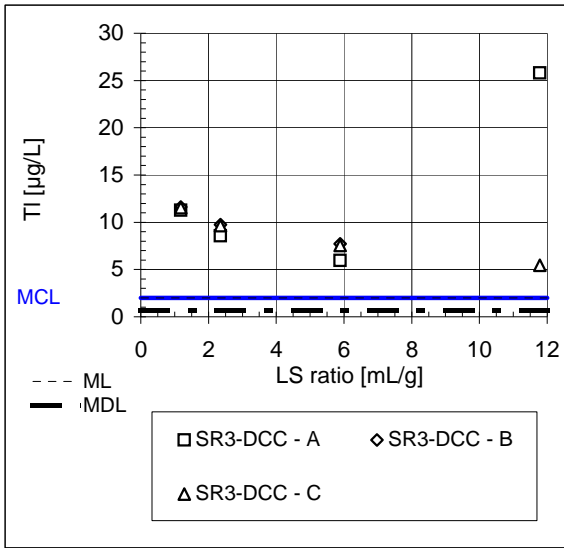
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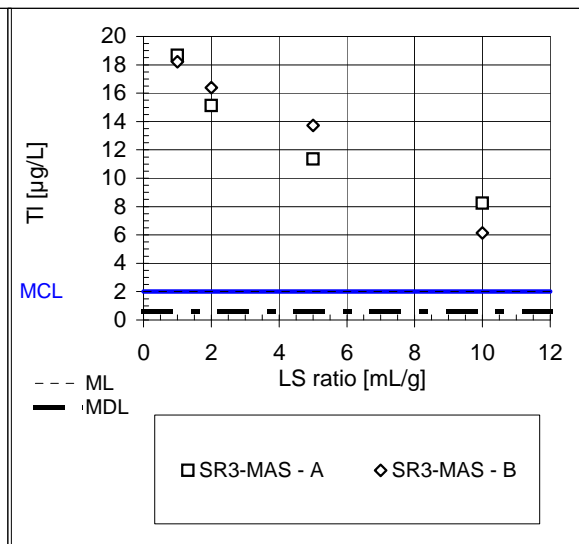
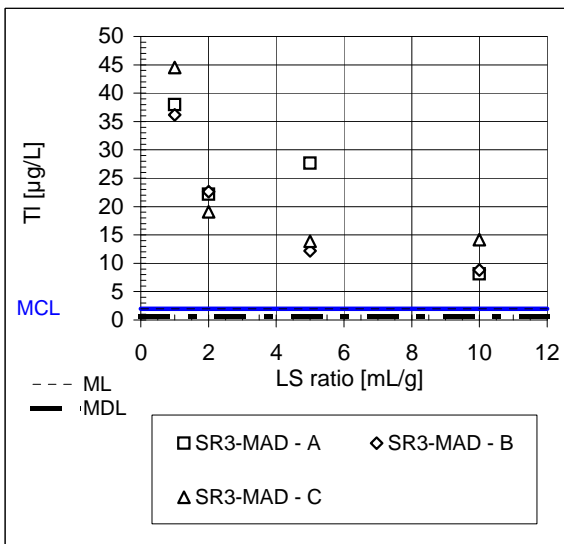
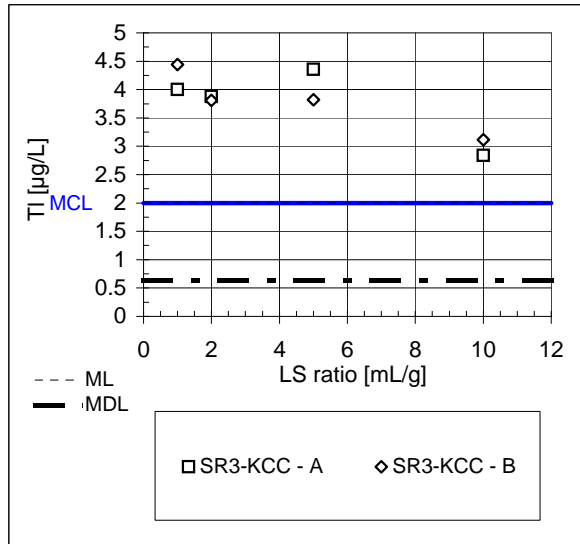
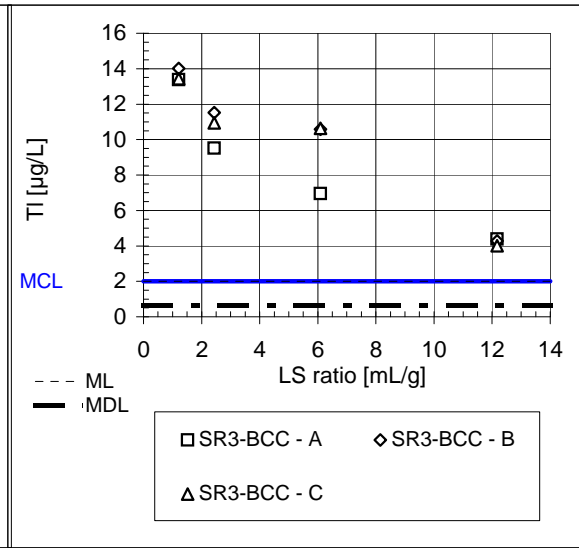
On



Off



On



SR003.1 outliers resulting from inconsistency in constituent concentration.

Material	Replicate	Element	pH [S.I.]	Conc. [$\mu\text{g/L}$]
AFA	C	Cr	10.7	1870
KFA	B	As	9.21	2710
KFA	B	As	9.27	22.0
KFA	B	Al	9.27	970
KFA	B	Al	9.21	24474
KFA	B	Se	9.21	15847
CGD	A	Sb	7.19	95.2
CGD	B	Sb	7.23	94.7
CGD	C	Sb	7.23	94.6